New Jersey
ACCUTEST LABORATORIES

08/19/15

Technical Report for

Stantec Consulting Services Inc.

MHIC-Tank 616-619, Marcus Hook, PA

Accutest Job Number: JB99969

Sampling Date: 07/23/15

Report to:

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Total number of pages in report: **977**

Nancy Cole
Laboratory Director

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.

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Accutest Laboratories

Sample Summary

Stantec Consulting Services Inc.

MHIC-Tank 616-619, Marcus Hook, PA

Job No: JB99969

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB99969-1	07/23/15	08:00	DH/CD	07/24/15	SO	Soil	MH-619-5-3
JB99969-2	07/23/15	08:15	DH/CD	07/24/15	SO	Soil	MH-619-4-3
JB99969-3	07/23/15	08:25	DH/CD	07/24/15	SO	Soil	MH-619-7-2
JB99969-4	07/23/15	08:40	DH/CD	07/24/15	SO	Soil	MH-619-3-3
JB99969-5	07/23/15	08:50	DH/CD	07/24/15	SO	Soil	MH-619-2-3
JB99969-6	07/23/15	09:00	DH/CD	07/24/15	SO	Soil	MH-619-1-3
JB99969-7	07/23/15	09:10	DH/CD	07/24/15	SO	Soil	MH-618-5-3
JB99969-8	07/23/15	09:20	DH/CD	07/24/15	SO	Soil	MH-618-4-3
JB99969-9	07/23/15	09:30	DH/CD	07/24/15	SO	Soil	MH-618-7-2
JB99969-10	07/23/15	10:40	DH/CD	07/24/15	SO	Soil	MH-618-2-3
JB99969-11	07/23/15	11:00	DH/CD	07/24/15	SO	Soil	MH-618-6-5
JB99969-12	07/23/15	11:10	DH/CD	07/24/15	SO	Soil	MH-618-3-3
JB99969-13	07/23/15	11:25	DH/CD	07/24/15	SO	Soil	MH-617-4-3

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

Sample Summary
(continued)

Stantec Consulting Services Inc.

MHIC-Tank 616-619, Marcus Hook, PA

Job No: JB99969

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB99969-14	07/23/15	11:40	DH/CD	07/24/15	SO	Soil	MH-617-5-3
JB99969-15	07/23/15	11:50	DH/CD	07/24/15	SO	Soil	MH-617-3-3
JB99969-16	07/23/15	12:05	DH/CD	07/24/15	SO	Soil	MH-617-2-3
JB99969-17	07/23/15	12:15	DH/CD	07/24/15	SO	Soil	MH-617-1-3
JB99969-18	07/23/15	12:30	DH/CD	07/24/15	SO	Soil	MH-617-7-2
JB99969-19	07/23/15	12:40	DH/CD	07/24/15	SO	Soil	MH-616-7-2
JB99969-20	07/23/15	12:50	DH/CD	07/24/15	SO	Soil	MH-616-1-3
JB99969-21	07/23/15	13:05	DH/CD	07/24/15	SO	Soil	MH-616-2-3
JB99969-22	07/23/15	13:15	DH/CD	07/24/15	SO	Soil	MH-616-3-3
JB99969-23	07/23/15	13:30	DH/CD	07/24/15	SO	Soil	MH-616-4-3
JB99969-24	07/23/15	13:40	DH/CD	07/24/15	SO	Soil	MH-616-6-5
JB99969-25	07/23/15	13:50	DH/CD	07/24/15	SO	Soil	MH-616-5-3
JB99969-26	07/23/15	13:50	DH/CD	07/24/15	SO	Trip Blank Soil	TB-20150723

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

Sample Summary
(continued)

Stantec Consulting Services Inc.

Job No: JB99969

MHIC-Tank 616-619, Marcus Hook, PA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB99969-26A	07/23/15	13:50	DH/CD	07/24/15	AQ	Trip Blank Soil	TB-20150723

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**	JB99969
Site:	MHIC-Tank 616-619, Marcus Hook, PA	**Report Date**	8/11/2015 3:24:28 PM

On 07/24/2015, 25 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.4 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB99969 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:** V3V889

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99985-26MS, JB99434-24DUP were used as the QC samples indicated.
- Sample(s) JB99969-8 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range. Estimated value. Data reported from low level run due to sample non-homogeneity.
- RPD(s) for Duplicate for Toluene are outside control limits. High RPD due to possible sample analyzed from different vials.

Matrix: SO **Batch ID:** V3V891

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99971-10MS, JB99971-13DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for Toluene are outside control limits. High RPD due to low concentration of hit

Matrix: SO **Batch ID:** VC7427

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB99969-3MS, JB99969-2DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99969-13, JB99969-5 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range. Estimated value. Data reported from low level run due to sample non-homogeneity.
- RPD(s) for Duplicate for Benzene, Toluene are outside control limits. Outside control limits due to sample non-homogeneity.

Matrix: SO **Batch ID:** VC7430

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC625-2DUP, JC625-3MS were used as the QC samples indicated.

Matrix: SO **Batch ID:** VC7433

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC158-1DUP, JC158-2MS were used as the QC samples indicated.

Matrix: SO **Batch ID:** VD9527

- All method blanks for this batch meet method specific criteria.
- Sample(s) JC823-6MS, JC823-6MSD were used as the QC samples indicated.

Volatiles by GCMS By Method SW846 8260C

Matrix: SO **Batch ID:** VD9527

- JB99969-15: Sample analyzed outside the holding time but the original run within holding time.
- JC823-6MS for 4-Bromofluorobenzene: Outside control limits due to matrix interference.
- JC823-6MSD for 4-Bromofluorobenzene: Outside control limits due to matrix interference.

Matrix: SO **Batch ID:** VE9987

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99889-6MS, JB99889-6MSD were used as the QC samples indicated.
- JB99969-14 for Toluene-D8: Outside control limits due to matrix interference.

Matrix: SO **Batch ID:** VE9988

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99969-17MS, JB99969-17MSD were used as the QC samples indicated.
- JB99969-17: Diluted due to high concentration of target compound.

Matrix: SO **Batch ID:** VE9990

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB99969-10MS, JB99969-10MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike/Matrix Spike Duplicate Recovery(s) for Benzene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- JB99969-8: Confirmation run

Matrix: SO **Batch ID:** VE9991

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99969-21MS, JB99969-21MSD were used as the QC samples indicated.
- JB99969-13: Confirmation run.
- JB99969-5: Confirmation run.

Matrix: SO **Batch ID:** VE9993

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC603-2MS, JC603-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB99969-25: Data reported from mediume level per client's request due to no encores available for reanalysis.
- JB99969-22: Data reported from mediume level per client's request due to no encores available for reanalysis.

Matrix: SO **Batch ID:** VV6551

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC197-6MS, JC197-7DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for Duplicate for Benzene, Toluene are outside control limits. High RPD due to possible sample analyzed from different vials.

Extractables by GCMS By Method SW846 8270D

Matrix: SO **Batch ID:** OP85880

- All samples were extracted within the recommended method holding time.
- Sample(s) JC179-1MS, JC179-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Anthracene are outside control limits. Outside control limits due to matrix interference and dilution.
- Matrix Spike Duplicate Recovery(s) for Anthracene, Naphthalene are outside control limits. Outside control limits due to matrix interference and dilution.
- Matrix Spike/Matrix Spike Duplicate Recovery(s) for Fluorene, Phenanthrene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MS/MSD for Naphthalene are outside control limits. Outside control limits due to matrix interference and dilution.
- JB99969-13: Confirmation run for internal standard areas.
- JB99969-14: Confirmation run for internal standard areas.
- OP85880-MSD: Elevated detection limit due to high final volume of viscous extract and dilution.
- OP85880-MS: Elevated detection limit due to high final volume of viscous extract and dilution.
- OP85880-MSD for 2-Fluorobiphenyl: Outside control limits due to dilution.

Matrix: SO **Batch ID:** OP85881

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99604-18MS, JB99604-18MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** OP85890

- All samples were extracted within the recommended method holding time.
- Sample(s) JB99970-1MS, JB99970-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: SO **Batch ID:** OP86008

- All samples were extracted within the recommended method holding time.
- Sample(s) JC383-1MS, JC383-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8011

Matrix: AQ **Batch ID:** F:OP57086

- The data for SW846 8011 meets quality control requirements.
- JB99969-26A: Analysis performed at Accutest Laboratories, Orlando FL.

Volatiles by GC By Method SW846 8011M

Matrix: SO **Batch ID:** F:OP57065

- The data for SW846 8011M meets quality control requirements.
- JB99969-6: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-9: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-18: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-17: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-8: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-16: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-7: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-15: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-19: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-5: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-4: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-3: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-2: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-20: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-14: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-13: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-12: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-11: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-10: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-1: Analysis performed at Accutest Laboratories, Orlando FL.

Matrix: SO **Batch ID:** F:OP57066

- The data for SW846 8011M meets quality control requirements.
- JB99969-25: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-24: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-23: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-22: Analysis performed at Accutest Laboratories, Orlando FL.
- JB99969-21: Analysis performed at Accutest Laboratories, Orlando FL.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP88007

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99969-1MS, JB99969-1MSD, JB99969-1SDL were used as the QC samples for metals.

Matrix: SO **Batch ID:** MP88016

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB99969-7MS, JB99969-7MSD, JB99969-7SDL were used as the QC samples for metals.

Wet Chemistry By Method SM2540 G-97

Matrix: SO	**Batch ID:** GN29615

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

Matrix: SO	**Batch ID:** GN29620

- 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:** JB99969

Site: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA **Report Date** 8/5/2015 6:55:04 PM

25 Sample(s), 1 Trip Blank(s) were collected on 07/23/2015 and were received at Accutest on 07/29/2015 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of JB99969. 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: AQ **Batch ID:** OP57086

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.

OP57086-BS: Insufficient sample for MS/MSD.

Volatiles by GC By Method SW846 8011M

Matrix: SO **Batch ID:** OP57065

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) JB99969-20MS, JB99969-20MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** OP57066

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) JB99715-1MS, JB99715-1MSD were used as the QC samples indicated.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: August 5, 2015

Kim Benham, Client Services (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
GDD2458-IC2458	GCVOA	DD83443.D	1,2-Dibromoethane, 4-Bromofluorobenzene
GDD2459-CC2458	GCVOA	DD83482.D	1,2-Dibromoethane
JB99969-14	GCVOA	DD83503.D	4-Bromofluorobenzene
JB99969-23	GCVOA	DD83518.D	4-Bromofluorobenzene
JB99969-24	GCVOA	DD83521.D	4-Bromofluorobenzene
JB99969-3	GCVOA	DD83490.D	4-Bromofluorobenzene
OP57066-MS	GCVOA	DD83527.D	4-Bromofluorobenzene
OP57066-MSD	GCVOA	DD83528.D	1,2-Dibromo-3-chloropropane, 4-Bromofluorobenzene

8 Manual Integrations were found for JB99969

Summary of Hits

Job Number: JB99969
Account: Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Collected: 07/23/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB99969-1	**MH-619-5-3**					
Benzene		0.300	0.061	0.016	mg/kg	SW846 8260C
Toluene		0.0010 J	0.0012	0.00025	mg/kg	SW846 8260C
Xylene (total)		0.0017	0.0012	0.00032	mg/kg	SW846 8260C
Lead		9.2	2.4	0.29	mg/kg	SW846 6010C
JB99969-2	**MH-619-4-3**					
Benzene		1.26	0.057	0.015	mg/kg	SW846 8260C
Toluene		0.0015	0.00097	0.00020	mg/kg	SW846 8260C
Naphthalene		0.00055 J	0.0048	0.00018	mg/kg	SW846 8260C
Phenanthrene		0.0571	0.040	0.0086	mg/kg	SW846 8270D
Pyrene		0.0174 J	0.040	0.0091	mg/kg	SW846 8270D
Lead		18.8	2.4	0.29	mg/kg	SW846 6010C
JB99969-3	**MH-619-7-2**					
Benzene		0.145	0.00048	0.00013	mg/kg	SW846 8260C
Toluene		0.0010	0.00095	0.00020	mg/kg	SW846 8260C
Lead		11.5	2.4	0.29	mg/kg	SW846 6010C
JB99969-4	**MH-619-3-3**					
Benzene		0.0664	0.051	0.014	mg/kg	SW846 8260C
Toluene		0.0055	0.0011	0.00022	mg/kg	SW846 8260C
Benzo(a)anthracene		0.0240 J	0.038	0.0073	mg/kg	SW846 8270D
Benzo(a)pyrene		0.0202 J	0.038	0.0091	mg/kg	SW846 8270D
Benzo(b)fluoranthene		0.0283 J	0.038	0.0074	mg/kg	SW846 8270D
Chrysene		0.0267 J	0.038	0.0093	mg/kg	SW846 8270D
Pyrene		0.0184 J	0.038	0.0085	mg/kg	SW846 8270D
Lead		54.6	2.4	0.28	mg/kg	SW846 6010C
JB99969-5	**MH-619-2-3**					
Benzene [a]		0.436 E	0.00050	0.00013	mg/kg	SW846 8260C
Toluene		0.0122	0.0010	0.00021	mg/kg	SW846 8260C
Lead		11.1	2.3	0.27	mg/kg	SW846 6010C
JB99969-6	**MH-619-1-3**					
Benzene		0.134	0.053	0.014	mg/kg	SW846 8260C
Toluene		0.0062	0.00093	0.00019	mg/kg	SW846 8260C
Ethylbenzene		0.00051 J	0.00093	0.00015	mg/kg	SW846 8260C
Xylene (total)		0.0030	0.00093	0.00026	mg/kg	SW846 8260C

Summary of Hits

Job Number: JB99969
Account: Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Collected: 07/23/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
1,2,4-Trimethylbenzene		0.00031 J	0.0019	0.00019	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.00033 J	0.0019	0.00018	mg/kg	SW846 8260C
Lead		15.6	2.2	0.26	mg/kg	SW846 6010C
JB99969-7	**MH-618-5-3**					
Benzene		1.32	0.061	0.016	mg/kg	SW846 8260C
Toluene		0.0185	0.0011	0.00023	mg/kg	SW846 8260C
Ethylbenzene		0.0033	0.0011	0.00018	mg/kg	SW846 8260C
Xylene (total)		0.0243	0.0011	0.00030	mg/kg	SW846 8260C
Isopropylbenzene		0.00039 J	0.0022	0.00012	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.0035	0.0022	0.00022	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.00045 J	0.0022	0.00021	mg/kg	SW846 8260C
Benzo(a)anthracene		0.0195 J	0.038	0.0074	mg/kg	SW846 8270D
Benzo(a)pyrene		0.0161 J	0.038	0.0092	mg/kg	SW846 8270D
Chrysene		0.0171 J	0.038	0.0094	mg/kg	SW846 8270D
Phenanthrene		0.0953	0.038	0.0081	mg/kg	SW846 8270D
Pyrene		0.0516	0.038	0.0086	mg/kg	SW846 8270D
Lead		3.5	2.4	0.29	mg/kg	SW846 6010C
JB99969-8	**MH-618-4-3**					
Benzene [a]		2.83 E	0.00055	0.00015	mg/kg	SW846 8260C
Toluene		0.0209	0.0011	0.00023	mg/kg	SW846 8260C
Lead		6.9	2.4	0.28	mg/kg	SW846 6010C
JB99969-9	**MH-618-7-2**					
Benzene		4380	24	6.4	mg/kg	SW846 8260C
Toluene		73.4	9.6	2.0	mg/kg	SW846 8260C
Ethylbenzene		0.141	0.096	0.016	mg/kg	SW846 8260C
Xylene (total)		0.891	0.096	0.026	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.124 J	0.19	0.019	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.0409 J	0.19	0.018	mg/kg	SW846 8260C
Benzo(g,h,i)perylene		0.0179 J	0.037	0.012	mg/kg	SW846 8270D
Phenanthrene		0.0805	0.037	0.0080	mg/kg	SW846 8270D
Pyrene		0.100	0.037	0.0085	mg/kg	SW846 8270D
Lead		16.0	2.2	0.27	mg/kg	SW846 6010C
JB99969-10	**MH-618-2-3**					
Benzene		860	5.9	1.6	mg/kg	SW846 8260C
Toluene		1.81 J	3.0	0.62	mg/kg	SW846 8260C
Lead		8.7	2.5	0.30	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB99969
Account: Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Collected: 07/23/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB99969-11	**MH-618-6-5**					
Benzene		62.3	0.62	0.16	mg/kg	SW846 8260C
Toluene		0.0508	0.0010	0.00021	mg/kg	SW846 8260C
Xylene (total)		0.00050 J	0.0010	0.00028	mg/kg	SW846 8260C
Lead		5.4	2.4	0.28	mg/kg	SW846 6010C
JB99969-12	**MH-618-3-3**					
Benzene		0.417	0.063	0.017	mg/kg	SW846 8260C
Toluene		0.0448	0.0011	0.00022	mg/kg	SW846 8260C
Lead		9.0	2.0	0.24	mg/kg	SW846 6010C
JB99969-13	**MH-617-4-3**					
Benzene [b]		0.331 E	0.00044	0.00012	mg/kg	SW846 8260C
Toluene		0.0030	0.00088	0.00018	mg/kg	SW846 8260C
Xylene (total)		0.00032 J	0.00088	0.00024	mg/kg	SW846 8260C
Naphthalene		0.00093 J	0.0044	0.00017	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.00031 J	0.0018	0.00018	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.00032 J	0.0018	0.00017	mg/kg	SW846 8260C
Lead		113	2.0	0.24	mg/kg	SW846 6010C
JB99969-14	**MH-617-5-3**					
Benzene		3660	11	2.8	mg/kg	SW846 8260C
Toluene		16600	110	22	mg/kg	SW846 8260C
Ethylbenzene		34.0	21	3.4	mg/kg	SW846 8260C
Xylene (total)		108	21	5.8	mg/kg	SW846 8260C
Isopropylbenzene		0.143 J	0.21	0.011	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		1.44	0.21	0.021	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.463	0.21	0.020	mg/kg	SW846 8260C
Phenanthrene		0.0513	0.038	0.0080	mg/kg	SW846 8270D
Lead		21.3	2.2	0.27	mg/kg	SW846 6010C
JB99969-15	**MH-617-3-3**					
Benzene [c]		1.03	0.053	0.014	mg/kg	SW846 8260C
Toluene		0.0069	0.00085	0.00018	mg/kg	SW846 8260C
Isopropylbenzene		0.0013 J	0.0017	0.000090	mg/kg	SW846 8260C
Lead		28.7	2.1	0.25	mg/kg	SW846 6010C
JB99969-16	**MH-617-2-3**					
Benzene		0.0469	0.00045	0.00012	mg/kg	SW846 8260C

Summary of Hits

Job Number: JB99969
Account: Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Collected: 07/23/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Toluene		0.0012	0.00089	0.00019	mg/kg	SW846 8260C
Lead		27.5	2.2	0.27	mg/kg	SW846 6010C
JB99969-17	**MH-617-1-3**					
Benzene [d]		4.33	0.051	0.014	mg/kg	SW846 8260C
Toluene [d]		0.0251 J	0.10	0.021	mg/kg	SW846 8260C
Anthracene		0.0561	0.038	0.0085	mg/kg	SW846 8270D
Fluorene		0.111	0.038	0.029	mg/kg	SW846 8270D
Phenanthrene		0.303	0.038	0.0081	mg/kg	SW846 8270D
Pyrene		0.0499	0.038	0.0086	mg/kg	SW846 8270D
Lead		38.3	2.2	0.26	mg/kg	SW846 6010C
JB99969-18	**MH-617-7-2**					
Benzene		0.0389	0.00055	0.00015	mg/kg	SW846 8260C
Toluene		0.0083	0.0011	0.00023	mg/kg	SW846 8260C
Ethylbenzene		0.00025 J	0.0011	0.00018	mg/kg	SW846 8260C
Xylene (total)		0.0011	0.0011	0.00030	mg/kg	SW846 8260C
Isopropylbenzene		0.00062 J	0.0022	0.00012	mg/kg	SW846 8260C
Fluorene		0.0951	0.040	0.030	mg/kg	SW846 8270D
Phenanthrene		0.0292 J	0.040	0.0085	mg/kg	SW846 8270D
Lead		170	2.4	0.29	mg/kg	SW846 6010C
JB99969-19	**MH-616-7-2**					
Benzene		2.61	0.054	0.014	mg/kg	SW846 8260C
Toluene		411	2.1	0.45	mg/kg	SW846 8260C
Ethylbenzene		1.48	0.11	0.018	mg/kg	SW846 8260C
Xylene (total)		27.4	0.11	0.029	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.386	0.21	0.021	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.149 J	0.21	0.021	mg/kg	SW846 8260C
Lead		670	2.2	0.27	mg/kg	SW846 6010C
JB99969-20	**MH-616-1-3**					
Benzene		0.0301	0.00054	0.00014	mg/kg	SW846 8260C
Toluene		0.156	0.0011	0.00023	mg/kg	SW846 8260C
Ethylbenzene		0.00080 J	0.0011	0.00018	mg/kg	SW846 8260C
Xylene (total)		0.0277	0.0011	0.00030	mg/kg	SW846 8260C
Lead		8.3	2.3	0.27	mg/kg	SW846 6010C
JB99969-21	**MH-616-2-3**					
Benzene		0.0353	0.00050	0.00013	mg/kg	SW846 8260C

Summary of Hits

Job Number: JB99969
Account: Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Collected: 07/23/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Toluene		0.0393	0.0010	0.00021	mg/kg	SW846 8260C
Xylene (total)		0.0075	0.0010	0.00027	mg/kg	SW846 8260C
Isopropylbenzene		0.00029 J	0.0020	0.00011	mg/kg	SW846 8260C
Naphthalene		0.0023 J	0.0050	0.00019	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.00080 J	0.0020	0.00020	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.00033 J	0.0020	0.00019	mg/kg	SW846 8260C
Lead		8.3	2.5	0.29	mg/kg	SW846 6010C
JB99969-22	**MH-616-3-3**					
Lead		10.7	2.5	0.29	mg/kg	SW846 6010C
JB99969-23	**MH-616-4-3**					
Benzene		0.0290 J	0.055	0.015	mg/kg	SW846 8260C
Toluene		1.00	0.11	0.023	mg/kg	SW846 8260C
Ethylbenzene		0.389	0.11	0.018	mg/kg	SW846 8260C
Xylene (total)		4.66	0.11	0.030	mg/kg	SW846 8260C
Isopropylbenzene		0.0687 J	0.22	0.012	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.532	0.22	0.022	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.167 J	0.22	0.021	mg/kg	SW846 8260C
Lead		70.4	2.4	0.29	mg/kg	SW846 6010C
JB99969-24	**MH-616-6-5**					
Benzene		0.0347	0.00056	0.00015	mg/kg	SW846 8260C
Toluene		0.0019	0.0011	0.00023	mg/kg	SW846 8260C
Lead		6.0	2.5	0.30	mg/kg	SW846 6010C
JB99969-25	**MH-616-5-3**					
Benzene [e]		0.0409 J	0.057	0.015	mg/kg	SW846 8260C
Lead		6.3	2.3	0.28	mg/kg	SW846 6010C
JB99969-26	**TB-20150723**					
Benzene		0.0015	0.00050	0.00013	mg/kg	SW846 8260C
JB99969-26A	**TB-20150723**					

No hits reported in this sample.

(a) Estimated value. Data reported from low level run due to sample non-homogeneity.
(b) Estimated value reported from the low level run due to sample non-homogeniety.
(c) Sample analyzed outside the holding time but the original run within holding time.

Summary of Hits

Job Number: JB99969
Account: Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Collected: 07/23/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method

(d) Diluted due to high concentration of target compound.
(e) Data reported from mediume level per client's request due to no encores available for reanalysis.

New Jersey

ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-619-5-3		
Lab Sample ID:	JB99969-1	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	81.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202361.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2	E228012.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.2 g		
Run #2	5.5 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.300 [a]	0.061	0.016	mg/kg	
108-88-3	Toluene	0.0010	0.0012	0.00025	mg/kg	J
100-41-4	Ethylbenzene	ND	0.0012	0.00019	mg/kg	
1330-20-7	Xylene (total)	0.0017	0.0012	0.00032	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0012	0.00018	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0012	0.00016	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0024	0.00013	mg/kg	
91-20-3	Naphthalene	ND	0.0059	0.00022	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0024	0.00023	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	100%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	103%	99%	68-124%
2037-26-5	Toluene-D8	102%	99%	77-125%
460-00-4	4-Bromofluorobenzene	102%	103%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-619-5-3		
Lab Sample ID:	JB99969-1	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116473.D	1	07/31/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.041	0.0092	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.0079	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.0099	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.0081	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.014	mg/kg	
218-01-9	Chrysene	ND	0.041	0.010	mg/kg	
86-73-7	Fluorene	ND	0.041	0.031	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.0087	mg/kg	
129-00-0	Pyrene	ND	0.041	0.0092	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	100%		33-127%
321-60-8	2-Fluorobiphenyl	80%		41-121%
1718-51-0	Terphenyl-d14	54%		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:	MH-619-5-3		
Lab Sample ID:	JB99969-1	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	81.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83488.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.01 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	106%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-619-5-3		
Lab Sample ID:	JB99969-1	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	81.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	9.2	2.4	0.29	mg/kg	1	07/30/15	07/31/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37226
(2) Prep QC Batch: MP88007

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:	MH-619-4-3		
Lab Sample ID:	JB99969-2	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202362.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2	E228016.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.3 g		
Run #2	5.9 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.26 [a]	0.057	0.015	mg/kg	
108-88-3	Toluene	0.0015	0.00097	0.00020	mg/kg	
100-41-4	Ethylbenzene	ND	0.00097	0.00016	mg/kg	
1330-20-7	Xylene (total)	ND	0.00097	0.00027	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00097	0.00015	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00097	0.00013	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0019	0.00010	mg/kg	
91-20-3	Naphthalene	0.00055	0.0048	0.00018	mg/kg	J
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	102%	94%	70-122%
17060-07-0	1,2-Dichloroethane-D4	110%	100%	68-124%
2037-26-5	Toluene-D8	102%	98%	77-125%
460-00-4	4-Bromofluorobenzene	102%	104%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-619-4-3		
Lab Sample ID:	JB99969-2	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116474.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.040	0.0090	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.0078	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.0097	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.0080	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.013	mg/kg	
218-01-9	Chrysene	ND	0.040	0.0099	mg/kg	
86-73-7	Fluorene	ND	0.040	0.031	mg/kg	
85-01-8	Phenanthrene	0.0571	0.040	0.0086	mg/kg	
129-00-0	Pyrene	0.0174	0.040	0.0091	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	111%		33-127%
321-60-8	2-Fluorobiphenyl	91%		41-121%
1718-51-0	Terphenyl-d14	110%		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:	MH-619-4-3		
Lab Sample ID:	JB99969-2	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83489.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.03 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00025	0.000085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	115%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-619-4-3		
Lab Sample ID:	JB99969-2	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	18.8	2.4	0.29	mg/kg	1	07/30/15	07/31/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37226
(2) Prep QC Batch: MP88007

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:	MH-619-7-2		
Lab Sample ID:	JB99969-3	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	83.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202363.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2							

	Initial Weight
Run #1	6.3 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.145	0.00048	0.00013	mg/kg	
108-88-3	Toluene	0.0010	0.00095	0.00020	mg/kg	
100-41-4	Ethylbenzene	ND	0.00095	0.00015	mg/kg	
1330-20-7	Xylene (total)	ND	0.00095	0.00026	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00095	0.00015	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00095	0.00013	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	102%		70-122%
17060-07-0	1,2-Dichloroethane-D4	105%		68-124%
2037-26-5	Toluene-D8	103%		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:	MH-619-7-2		
Lab Sample ID:	JB99969-3	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116475.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.039	0.0088	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.039	0.0076	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.039	0.0095	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.039	0.0078	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.039	0.013	mg/kg	
218-01-9	Chrysene	ND	0.039	0.0097	mg/kg	
86-73-7	Fluorene	ND	0.039	0.030	mg/kg	
85-01-8	Phenanthrene	ND	0.039	0.0084	mg/kg	
129-00-0	Pyrene	ND	0.039	0.0089	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	100%		33-127%
321-60-8	2-Fluorobiphenyl	93%		41-121%
1718-51-0	Terphenyl-d14	100%		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:	MH-619-7-2		
Lab Sample ID:	JB99969-3	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	83.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83490.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00025	0.000083	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	108%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-619-7-2		
Lab Sample ID:	JB99969-3	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	83.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	11.5	2.4	0.29	mg/kg	1	07/30/15	07/31/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37226
(2) Prep QC Batch: MP88007

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:	MH-619-3-3		
Lab Sample ID:	JB99969-4	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	84.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202364.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2	E228019.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.5 g		
Run #2	6.3 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0664 [a]	0.051	0.014	mg/kg	
108-88-3	Toluene	0.0055	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	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00014	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	0.00020	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	102%	99%	68-124%
2037-26-5	Toluene-D8	100%	99%	77-125%
460-00-4	4-Bromofluorobenzene	103%	102%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-619-3-3		
Lab Sample ID:	JB99969-4	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116476.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.038	0.0085	mg/kg	
56-55-3	Benzo(a)anthracene	0.0240	0.038	0.0073	mg/kg	J
50-32-8	Benzo(a)pyrene	0.0202	0.038	0.0091	mg/kg	J
205-99-2	Benzo(b)fluoranthene	0.0283	0.038	0.0074	mg/kg	J
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.013	mg/kg	
218-01-9	Chrysene	0.0267	0.038	0.0093	mg/kg	J
86-73-7	Fluorene	ND	0.038	0.029	mg/kg	
85-01-8	Phenanthrene	ND	0.038	0.0081	mg/kg	
129-00-0	Pyrene	0.0184	0.038	0.0085	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	108%		33-127%
321-60-8	2-Fluorobiphenyl	80%		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:	MH-619-3-3		
Lab Sample ID:	JB99969-4	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	84.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83491.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.06 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000082	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-619-3-3		
Lab Sample ID:	JB99969-4	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	84.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	54.6	2.4	0.28	mg/kg	1	07/30/15	07/31/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37226
(2) Prep QC Batch: MP88007

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:	MH-619-2-3		
Lab Sample ID:	JB99969-5	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	85.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202368.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2 [a]	E228017.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.8 g		
Run #2	5.9 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene [b]	0.436	0.00050	0.00013	mg/kg	E
108-88-3	Toluene	0.0122	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	0.00028	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00015	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00014	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	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	100%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	100%	100%	68-124%
2037-26-5	Toluene-D8	101%	98%	77-125%
460-00-4	4-Bromofluorobenzene	103%	104%	72-130%

(a) Confirmation run.
(b) Estimated value. Data reported from low level run due to sample non-homogeneity.

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:	MH-619-2-3		
Lab Sample ID:	JB99969-5	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116477.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.038	0.0085	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.038	0.0073	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.038	0.0091	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.0074	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.013	mg/kg	
218-01-9	Chrysene	ND	0.038	0.0093	mg/kg	
86-73-7	Fluorene	ND	0.038	0.029	mg/kg	
85-01-8	Phenanthrene	ND	0.038	0.0080	mg/kg	
129-00-0	Pyrene	ND	0.038	0.0085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	105%		33-127%
321-60-8	2-Fluorobiphenyl	91%		41-121%
1718-51-0	Terphenyl-d14	118%		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:	MH-619-2-3		
Lab Sample ID:	JB99969-5	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	85.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83492.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.04 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000081	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	117%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-619-2-3		
Lab Sample ID:	JB99969-5	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	85.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	11.1	2.3	0.27	mg/kg	1	07/30/15	07/31/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37226
(2) Prep QC Batch: MP88007

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:	MH-619-1-3		
Lab Sample ID:	JB99969-6	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	87.7
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202369.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2	E228018.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.1 g		
Run #2	5.8 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.134 [a]	0.053	0.014	mg/kg	
108-88-3	Toluene	0.0062	0.00093	0.00019	mg/kg	
100-41-4	Ethylbenzene	0.00051	0.00093	0.00015	mg/kg	J
1330-20-7	Xylene (total)	0.0030	0.00093	0.00026	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00093	0.00014	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00093	0.00013	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	0.00031	0.0019	0.00019	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.00033	0.0019	0.00018	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	95%	70-122%
17060-07-0	1,2-Dichloroethane-D4	98%	99%	68-124%
2037-26-5	Toluene-D8	103%	98%	77-125%
460-00-4	4-Bromofluorobenzene	104%	104%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-619-1-3		
Lab Sample ID:	JB99969-6	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.7
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116478.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.037	0.0083	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.037	0.0072	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.037	0.0090	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.037	0.0073	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.037	0.012	mg/kg	
218-01-9	Chrysene	ND	0.037	0.0092	mg/kg	
86-73-7	Fluorene	ND	0.037	0.028	mg/kg	
85-01-8	Phenanthrene	ND	0.037	0.0079	mg/kg	
129-00-0	Pyrene	ND	0.037	0.0084	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	88%		33-127%
321-60-8	2-Fluorobiphenyl	77%		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:	MH-619-1-3		
Lab Sample ID:	JB99969-6	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	87.7
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83493.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.03 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000079	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	108%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-619-1-3		
Lab Sample ID:	JB99969-6	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	87.7
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	15.6	2.2	0.26	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-618-5-3		
Lab Sample ID:	JB99969-7	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V21454.D	1	08/03/15	TDN	n/a	n/a	V3V891
Run #2	E227953.D	1	07/31/15	TDN	n/a	n/a	VE9988

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.3 g		
Run #2	5.2 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.32 [a]	0.061	0.016	mg/kg	
108-88-3	Toluene	0.0185	0.0011	0.00023	mg/kg	
100-41-4	Ethylbenzene	0.0033	0.0011	0.00018	mg/kg	
1330-20-7	Xylene (total)	0.0243	0.0011	0.00030	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00017	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00015	mg/kg	
98-82-8	Isopropylbenzene	0.00039	0.0022	0.00012	mg/kg	J
91-20-3	Naphthalene	ND	0.0055	0.00021	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.0035	0.0022	0.00022	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.00045	0.0022	0.00021	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	95%	70-122%
17060-07-0	1,2-Dichloroethane-D4	100%	100%	68-124%
2037-26-5	Toluene-D8	97%	97%	77-125%
460-00-4	4-Bromofluorobenzene	97%	103%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-618-5-3		
Lab Sample ID:	JB99969-7	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116479.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.038	0.0086	mg/kg	
56-55-3	Benzo(a)anthracene	0.0195	0.038	0.0074	mg/kg	J
50-32-8	Benzo(a)pyrene	0.0161	0.038	0.0092	mg/kg	J
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.0075	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.013	mg/kg	
218-01-9	Chrysene	0.0171	0.038	0.0094	mg/kg	J
86-73-7	Fluorene	ND	0.038	0.029	mg/kg	
85-01-8	Phenanthrene	0.0953	0.038	0.0081	mg/kg	
129-00-0	Pyrene	0.0516	0.038	0.0086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		33-127%
321-60-8	2-Fluorobiphenyl	51%		41-121%
1718-51-0	Terphenyl-d14	60%		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:	MH-618-5-3		
Lab Sample ID:	JB99969-7	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83494.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000081	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-618-5-3		
Lab Sample ID:	JB99969-7	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	3.5	2.4	0.29	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-618-4-3		
Lab Sample ID:	JB99969-8	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V21416.D	1	07/31/15	TDN	n/a	n/a	V3V889
Run #2 [a]	E227988.D	1	08/03/15	TDN	n/a	n/a	VE9990

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.6 g		
Run #2	5.6 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene [b]	2.83	0.00055	0.00015	mg/kg	E
108-88-3	Toluene	0.0209	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	0.00030	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00017	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00015	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0022	0.00012	mg/kg	
91-20-3	Naphthalene	ND	0.0055	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	102%	95%	70-122%
17060-07-0	1,2-Dichloroethane-D4	98%	99%	68-124%
2037-26-5	Toluene-D8	95%	98%	77-125%
460-00-4	4-Bromofluorobenzene	97%	102%	72-130%

(a) Confirmation run.
(b) Estimated value. Data reported from low level run due to sample non-homogeneity.

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:	MH-618-4-3		
Lab Sample ID:	JB99969-8	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116480.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.041	0.0092	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.0080	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.0099	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.0081	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.014	mg/kg	
218-01-9	Chrysene	ND	0.041	0.010	mg/kg	
86-73-7	Fluorene	ND	0.041	0.031	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.0088	mg/kg	
129-00-0	Pyrene	ND	0.041	0.0093	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	92%		33-127%
321-60-8	2-Fluorobiphenyl	79%		41-121%
1718-51-0	Terphenyl-d14	107%		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:	MH-618-4-3		
Lab Sample ID:	JB99969-8	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83497.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.01 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	116%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-618-4-3		
Lab Sample ID:	JB99969-8	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	6.9	2.4	0.28	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-618-7-2		
Lab Sample ID:	JB99969-9	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	86.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E227927.D	1	07/30/15	TDN	n/a	n/a	VE9987
Run #2	E227968.D	1	07/31/15	TDN	n/a	n/a	VE9988
Run #3	E227995.D	1	08/03/15	TDN	n/a	n/a	VE9990

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.5 g	10.0 ml	100 ul
Run #2	6.5 g	10.0 ml	1.0 ul
Run #3	6.5 g	10.0 ml	0.20 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4380 [a]	24	6.4	mg/kg	
108-88-3	Toluene	73.4 [b]	9.6	2.0	mg/kg	
100-41-4	Ethylbenzene	0.141	0.096	0.016	mg/kg	
1330-20-7	Xylene (total)	0.891	0.096	0.026	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.096	0.015	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.096	0.013	mg/kg	
98-82-8	Isopropylbenzene	ND	0.19	0.010	mg/kg	
91-20-3	Naphthalene	ND	0.48	0.018	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.124	0.19	0.019	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.0409	0.19	0.018	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	99%	95%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	78%	100%	100%	68-124%
2037-26-5	Toluene-D8	87%	96%	99%	77-125%
460-00-4	4-Bromofluorobenzene	104%	102%	103%	72-130%

(a) Result is from Run# 3
(b) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-618-7-2		
Lab Sample ID:	JB99969-9	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116481.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.037	0.0084	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.037	0.0072	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.037	0.0090	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.037	0.0074	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.0179	0.037	0.012	mg/kg	J
218-01-9	Chrysene	ND	0.037	0.0092	mg/kg	
86-73-7	Fluorene	ND	0.037	0.028	mg/kg	
85-01-8	Phenanthrene	0.0805	0.037	0.0080	mg/kg	
129-00-0	Pyrene	0.100	0.037	0.0085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	92%		33-127%
321-60-8	2-Fluorobiphenyl	67%		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:	MH-618-7-2		
Lab Sample ID:	JB99969-9	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	86.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83498.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.06 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000080	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	109%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-618-7-2		
Lab Sample ID:	JB99969-9	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	86.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	16.0	2.2	0.27	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-618-2-3		
Lab Sample ID:	JB99969-10	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E227990.D	1	08/03/15	TDN	n/a	n/a	VE9990
Run #2	E227989.D	1	08/03/15	TDN	n/a	n/a	VE9990

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.8 g	10.0 ml	4.0 ul
Run #2	5.8 g	10.0 ml	1.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	860 [a]	5.9	1.6	mg/kg	
108-88-3	Toluene	1.81	3.0	0.62	mg/kg	J
100-41-4	Ethylbenzene	ND	3.0	0.48	mg/kg	
1330-20-7	Xylene (total)	ND	3.0	0.81	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	3.0	0.45	mg/kg	
107-06-2	1,2-Dichloroethane	ND	3.0	0.40	mg/kg	
98-82-8	Isopropylbenzene	ND	5.9	0.31	mg/kg	
91-20-3	Naphthalene	ND	15	0.56	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.9	0.59	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.9	0.57	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	98%	70-122%
17060-07-0	1,2-Dichloroethane-D4	103%	103%	68-124%
2037-26-5	Toluene-D8	98%	98%	77-125%
460-00-4	4-Bromofluorobenzene	101%	104%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-618-2-3		
Lab Sample ID:	JB99969-10	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P45566.D	1	08/04/15	AD	08/03/15	OP86008	E3P2036
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.041	0.0092	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.0079	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.0099	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.0081	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.014	mg/kg	
218-01-9	Chrysene	ND	0.041	0.010	mg/kg	
86-73-7	Fluorene	ND	0.041	0.031	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.0087	mg/kg	
129-00-0	Pyrene	ND	0.041	0.0093	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	93%		33-127%
321-60-8	2-Fluorobiphenyl	70%		41-121%
1718-51-0	Terphenyl-d14	85%		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:	MH-618-2-3		
Lab Sample ID:	JB99969-10	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83499.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.06 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	106%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-618-2-3		
Lab Sample ID:	JB99969-10	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	80.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.7	2.5	0.30	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-618-6-5		
Lab Sample ID:	JB99969-11	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	82.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202371.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2	E228021.D	1	08/04/15	TDN	n/a	n/a	VE9991
Run #3	E228020.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.0 g		
Run #2	5.4 g	10.0 ml	10.0 ul
Run #3	5.4 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	62.3 [a]	0.62	0.16	mg/kg	
108-88-3	Toluene	0.0508	0.0010	0.00021	mg/kg	
100-41-4	Ethylbenzene	ND	0.0010	0.00016	mg/kg	
1330-20-7	Xylene (total)	0.00050	0.0010	0.00028	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00015	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00014	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	Run# 3	Limits
1868-53-7	Dibromofluoromethane	100%	98%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	92%	101%	101%	68-124%
2037-26-5	Toluene-D8	90%	100%	96%	77-125%
460-00-4	4-Bromofluorobenzene	104%	103%	103%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-618-6-5		
Lab Sample ID:	JB99969-11	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116482.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.040	0.0091	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.0078	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.0097	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.0080	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.013	mg/kg	
218-01-9	Chrysene	ND	0.040	0.010	mg/kg	
86-73-7	Fluorene	ND	0.040	0.031	mg/kg	
85-01-8	Phenanthrene	ND	0.040	0.0086	mg/kg	
129-00-0	Pyrene	ND	0.040	0.0091	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	98%		33-127%
321-60-8	2-Fluorobiphenyl	78%		41-121%
1718-51-0	Terphenyl-d14	92%		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:	MH-618-6-5		
Lab Sample ID:	JB99969-11	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	82.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83500.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.02 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00025	0.000085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-618-6-5		
Lab Sample ID:	JB99969-11	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	82.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	5.4	2.4	0.28	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-618-3-3		
Lab Sample ID:	JB99969-12	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	79.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202372.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2	E228022.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.9 g		
Run #2	5.5 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.417 [a]	0.063	0.017	mg/kg	
108-88-3	Toluene	0.0448	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	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00014	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	101%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	104%	100%	68-124%
2037-26-5	Toluene-D8	97%	100%	77-125%
460-00-4	4-Bromofluorobenzene	103%	101%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-618-3-3		
Lab Sample ID:	JB99969-12	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116483.D	1	08/01/15	SD	07/28/15	OP85880	EM4865
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.040	0.0091	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.0078	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.0097	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.0080	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.013	mg/kg	
218-01-9	Chrysene	ND	0.040	0.0099	mg/kg	
86-73-7	Fluorene	ND	0.040	0.031	mg/kg	
85-01-8	Phenanthrene	ND	0.040	0.0086	mg/kg	
129-00-0	Pyrene	ND	0.040	0.0091	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		33-127%
321-60-8	2-Fluorobiphenyl	70%		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:	MH-618-3-3		
Lab Sample ID:	JB99969-12	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	79.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83501.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.00 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000088	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-618-3-3		
Lab Sample ID:	JB99969-12	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	79.8
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	9.0	2.0	0.24	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-617-4-3		
Lab Sample ID:	JB99969-13	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	94.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202373.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2 [a]	E228023.D	1	08/04/15	TDN	n/a	n/a	VE9991

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.0 g		
Run #2	6.3 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene [b]	0.331	0.00044	0.00012	mg/kg	E
108-88-3	Toluene	0.0030	0.00088	0.00018	mg/kg	
100-41-4	Ethylbenzene	ND	0.00088	0.00014	mg/kg	
1330-20-7	Xylene (total)	0.00032	0.00088	0.00024	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.00088	0.00013	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00088	0.00012	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0018	0.000093	mg/kg	
91-20-3	Naphthalene	0.00093	0.0044	0.00017	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	0.00031	0.0018	0.00018	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.00032	0.0018	0.00017	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	105%	98%	68-124%
2037-26-5	Toluene-D8	100%	98%	77-125%
460-00-4	4-Bromofluorobenzene	104%	103%	72-130%

(a) Confirmation run.
(b) Estimated value reported from the low level run due to sample non-homogeniety.

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:	MH-617-4-3		
Lab Sample ID:	JB99969-13	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	94.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116522.D	1	08/02/15	AD	07/28/15	OP85880	EM4866
Run #2 [a]	M116484.D	1	08/01/15	SD	07/28/15	OP85880	EM4865

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.035	0.0079	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.035	0.0068	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.035	0.0085	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.035	0.0069	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.035	0.012	mg/kg	
218-01-9	Chrysene	ND	0.035	0.0086	mg/kg	
86-73-7	Fluorene	ND	0.035	0.027	mg/kg	
85-01-8	Phenanthrene	ND	0.035	0.0075	mg/kg	
129-00-0	Pyrene	ND	0.035	0.0079	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	97%	113%	33-127%
321-60-8	2-Fluorobiphenyl	86%	82%	41-121%
1718-51-0	Terphenyl-d14	88%	81%	44-137%

(a) Confirmation run for internal standard areas.

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:	MH-617-4-3		
Lab Sample ID:	JB99969-13	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	94.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83502.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.01 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00022	0.000074	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	108%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-617-4-3		
Lab Sample ID:	JB99969-13	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	94.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	113	2.0	0.24	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-617-5-3		
Lab Sample ID:	JB99969-14	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	87.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E227935.D	1	07/31/15	TDN	n/a	n/a	VE9987
Run #2	E227969.D	1	07/31/15	TDN	n/a	n/a	VE9988
Run #3	E227996.D	1	08/03/15	TDN	n/a	n/a	VE9990

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.8 g	10.0 ml	100 ul
Run #2	5.8 g	10.0 ml	0.50 ul
Run #3	5.8 g	10.0 ml	0.10 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3660 [a]	11	2.8	mg/kg	
108-88-3	Toluene	16600 [b]	110	22	mg/kg	
100-41-4	Ethylbenzene	34.0 [a]	21	3.4	mg/kg	
1330-20-7	Xylene (total)	108 [a]	21	5.8	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.11	0.016	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.11	0.014	mg/kg	
98-82-8	Isopropylbenzene	0.143	0.21	0.011	mg/kg	J
91-20-3	Naphthalene	ND	0.53	0.020	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	1.44	0.21	0.021	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.463	0.21	0.020	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	90%	95%	97%	70-122%
17060-07-0	1,2-Dichloroethane-D4	77%	100%	100%	68-124%
2037-26-5	Toluene-D8	54% [c]	99%	101%	77-125%
460-00-4	4-Bromofluorobenzene	105%	101%	101%	72-130%

(a) Result is from Run# 2
(b) Result is from Run# 3
(c) Outside control limits due to matrix interference.

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-617-5-3		
Lab Sample ID:	JB99969-14	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116523.D	1	08/02/15	AD	07/28/15	OP85880	EM4866
Run #2 [a]	M116485.D	1	08/01/15	SD	07/28/15	OP85880	EM4865

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.038	0.0084	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.038	0.0073	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.038	0.0091	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.0074	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.012	mg/kg	
218-01-9	Chrysene	ND	0.038	0.0092	mg/kg	
86-73-7	Fluorene	ND	0.038	0.028	mg/kg	
85-01-8	Phenanthrene	0.0513	0.038	0.0080	mg/kg	
129-00-0	Pyrene	ND	0.038	0.0085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	99%	101%	33-127%
321-60-8	2-Fluorobiphenyl	86%	94%	41-121%
1718-51-0	Terphenyl-d14	90%	110%	44-137%

(a) Confirmation run for internal standard areas.

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:	MH-617-5-3		
Lab Sample ID:	JB99969-14	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	87.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83503.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000079	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-617-5-3		
Lab Sample ID:	JB99969-14	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	87.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	21.3	2.2	0.27	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-617-3-3		
Lab Sample ID:	JB99969-15	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	96.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202557.D	1	08/06/15	MM	n/a	n/a	VC7433
Run #2 [a]	D232890.D	1	08/07/15	BM	n/a	n/a	VD9527

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.1 g		
Run #2	5.0 g	10.0 ml	100 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.03 [b]	0.053	0.014	mg/kg	
108-88-3	Toluene	0.0069	0.00085	0.00018	mg/kg	
100-41-4	Ethylbenzene	ND	0.00085	0.00014	mg/kg	
1330-20-7	Xylene (total)	ND	0.00085	0.00023	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00085	0.00013	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00085	0.00011	mg/kg	
98-82-8	Isopropylbenzene	0.0013	0.0017	0.000090	mg/kg	J
91-20-3	Naphthalene	ND	0.0042	0.00016	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0017	0.00017	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0017	0.00016	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	97%	92%	68-124%
2037-26-5	Toluene-D8	97%	97%	77-125%
460-00-4	4-Bromofluorobenzene	87%	96%	72-130%

(a) Sample analyzed outside the holding time but the original run within holding time.
(b) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-617-3-3		
Lab Sample ID:	JB99969-15	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	96.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M116531.D	1	08/03/15	AP	07/28/15	OP85880	EM4867
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.035	0.0077	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.035	0.0067	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.035	0.0083	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.035	0.0068	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.035	0.011	mg/kg	
218-01-9	Chrysene	ND	0.035	0.0085	mg/kg	
86-73-7	Fluorene	ND	0.035	0.026	mg/kg	
85-01-8	Phenanthrene	ND	0.035	0.0073	mg/kg	
129-00-0	Pyrene	ND	0.035	0.0078	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		33-127%
321-60-8	2-Fluorobiphenyl	65%		41-121%
1718-51-0	Terphenyl-d14	85%		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:	MH-617-3-3		
Lab Sample ID:	JB99969-15	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	96.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83504.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.06 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00021	0.000072	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	121%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-617-3-3		
Lab Sample ID:	JB99969-15	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	96.6
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	28.7	2.1	0.25	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-617-2-3		
Lab Sample ID:	JB99969-16	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V154658.D	1	08/05/15	PR	n/a	n/a	VV6551
Run #2							

	Initial Weight
Run #1	6.4 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0469	0.00045	0.00012	mg/kg	
108-88-3	Toluene	0.0012	0.00089	0.00019	mg/kg	
100-41-4	Ethylbenzene	ND	0.00089	0.00015	mg/kg	
1330-20-7	Xylene (total)	ND	0.00089	0.00024	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00089	0.00014	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00089	0.00012	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0018	0.000095	mg/kg	
91-20-3	Naphthalene	ND	0.0045	0.00017	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0018	0.00018	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0018	0.00017	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-122%
17060-07-0	1,2-Dichloroethane-D4	96%		68-124%
2037-26-5	Toluene-D8	105%		77-125%
460-00-4	4-Bromofluorobenzene	104%		72-130%

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:	MH-617-2-3		
Lab Sample ID:	JB99969-16	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M76186.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.038	0.0085	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.038	0.0073	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.038	0.0092	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.0075	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.013	mg/kg	
218-01-9	Chrysene	ND	0.038	0.0094	mg/kg	
86-73-7	Fluorene	ND	0.038	0.029	mg/kg	
85-01-8	Phenanthrene	ND	0.038	0.0081	mg/kg	
129-00-0	Pyrene	ND	0.038	0.0086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	60%		33-127%
321-60-8	2-Fluorobiphenyl	69%		41-121%
1718-51-0	Terphenyl-d14	89%		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:	MH-617-2-3		
Lab Sample ID:	JB99969-16	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83505.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.04 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000079	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	112%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-617-2-3		
Lab Sample ID:	JB99969-16	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	27.5	2.2	0.27	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-617-1-3		
Lab Sample ID:	JB99969-17	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E227955.D	1	07/31/15	TDN	n/a	n/a	VE9988
Run #2							

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4.33	0.051	0.014	mg/kg	
108-88-3	Toluene	0.0251	0.10	0.021	mg/kg	J
100-41-4	Ethylbenzene	ND	0.10	0.017	mg/kg	
1330-20-7	Xylene (total)	ND	0.10	0.028	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.10	0.016	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.10	0.014	mg/kg	
98-82-8	Isopropylbenzene	ND	0.21	0.011	mg/kg	
91-20-3	Naphthalene	ND	0.51	0.019	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.21	0.020	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.21	0.020	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	100%		68-124%
2037-26-5	Toluene-D8	98%		77-125%
460-00-4	4-Bromofluorobenzene	101%		72-130%

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

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:	MH-617-1-3		
Lab Sample ID:	JB99969-17	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M76187.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	0.0561	0.038	0.0085	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.038	0.0074	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.038	0.0092	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.0075	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.013	mg/kg	
218-01-9	Chrysene	ND	0.038	0.0094	mg/kg	
86-73-7	Fluorene	0.111	0.038	0.029	mg/kg	
85-01-8	Phenanthrene	0.303	0.038	0.0081	mg/kg	
129-00-0	Pyrene	0.0499	0.038	0.0086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	87%		33-127%
321-60-8	2-Fluorobiphenyl	91%		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:	MH-617-1-3		
Lab Sample ID:	JB99969-17	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83506.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.00 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000080	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	115%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-617-1-3		
Lab Sample ID:	JB99969-17	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	87.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	38.3	2.2	0.26	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-617-7-2		
Lab Sample ID:	JB99969-18	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	81.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202376.D	1	07/31/15	MM	n/a	n/a	VC7427
Run #2							

	Initial Weight
Run #1	5.6 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0389	0.00055	0.00015	mg/kg	
108-88-3	Toluene	0.0083	0.0011	0.00023	mg/kg	
100-41-4	Ethylbenzene	0.00025	0.0011	0.00018	mg/kg	J
1330-20-7	Xylene (total)	0.0011	0.0011	0.00030	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00017	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00015	mg/kg	
98-82-8	Isopropylbenzene	0.00062	0.0022	0.00012	mg/kg	J
91-20-3	Naphthalene	ND	0.0055	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	102%		70-122%
17060-07-0	1,2-Dichloroethane-D4	104%		68-124%
2037-26-5	Toluene-D8	102%		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:	MH-617-7-2		
Lab Sample ID:	JB99969-18	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M76188.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.040	0.0090	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.0077	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.0096	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.0079	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.013	mg/kg	
218-01-9	Chrysene	ND	0.040	0.0098	mg/kg	
86-73-7	Fluorene	0.0951	0.040	0.030	mg/kg	
85-01-8	Phenanthrene	0.0292	0.040	0.0085	mg/kg	J
129-00-0	Pyrene	ND	0.040	0.0090	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	104%		33-127%
321-60-8	2-Fluorobiphenyl	56%		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:	MH-617-7-2		
Lab Sample ID:	JB99969-18	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	81.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83509.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00025	0.000085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-617-7-2		
Lab Sample ID:	JB99969-18	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	81.4
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	170	2.4	0.29	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-616-7-2		
Lab Sample ID:	JB99969-19	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	86.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E227937.D	1	07/31/15	TDN	n/a	n/a	VE9987
Run #2	E227994.D	1	08/03/15	TDN	n/a	n/a	VE9990

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.8 g	10.0 ml	100 ul
Run #2	5.8 g	10.0 ml	5.0 ul

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.61	0.054	0.014	mg/kg	
108-88-3	Toluene	411 [a]	2.1	0.45	mg/kg	
100-41-4	Ethylbenzene	1.48	0.11	0.018	mg/kg	
1330-20-7	Xylene (total)	27.4	0.11	0.029	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.11	0.016	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.11	0.014	mg/kg	
98-82-8	Isopropylbenzene	ND	0.21	0.011	mg/kg	
91-20-3	Naphthalene	ND	0.54	0.020	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.386	0.21	0.021	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.149	0.21	0.021	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	96%	103%	68-124%
2037-26-5	Toluene-D8	99%	101%	77-125%
460-00-4	4-Bromofluorobenzene	106%	102%	72-130%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH-616-7-2		
Lab Sample ID:	JB99969-19	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M76189.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.038	0.0085	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.038	0.0073	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.038	0.0092	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.0075	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.013	mg/kg	
218-01-9	Chrysene	ND	0.038	0.0094	mg/kg	
86-73-7	Fluorene	ND	0.038	0.029	mg/kg	
85-01-8	Phenanthrene	ND	0.038	0.0081	mg/kg	
129-00-0	Pyrene	ND	0.038	0.0086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		33-127%
321-60-8	2-Fluorobiphenyl	63%		41-121%
1718-51-0	Terphenyl-d14	65%		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:	MH-616-7-2		
Lab Sample ID:	JB99969-19	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	86.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83510.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000080	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	112%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-616-7-2		
Lab Sample ID:	JB99969-19	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	86.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	670	2.2	0.27	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-616-1-3		
Lab Sample ID:	JB99969-20	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202486.D	1	08/04/15	MM	n/a	n/a	VC7430
Run #2							

	Initial Weight
Run #1	5.4 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0301	0.00054	0.00014	mg/kg	
108-88-3	Toluene	0.156	0.0011	0.00023	mg/kg	
100-41-4	Ethylbenzene	0.00080	0.0011	0.00018	mg/kg	J
1330-20-7	Xylene (total)	0.0277	0.0011	0.00030	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00017	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00015	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0022	0.00012	mg/kg	
91-20-3	Naphthalene	ND	0.0054	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	96%		68-124%
2037-26-5	Toluene-D8	100%		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:	MH-616-1-3		
Lab Sample ID:	JB99969-20	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M76190.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.039	0.0088	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.039	0.0075	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.039	0.0094	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.039	0.0077	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.039	0.013	mg/kg	
218-01-9	Chrysene	ND	0.039	0.0096	mg/kg	
86-73-7	Fluorene	ND	0.039	0.030	mg/kg	
85-01-8	Phenanthrene	ND	0.039	0.0083	mg/kg	
129-00-0	Pyrene	ND	0.039	0.0088	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		33-127%
321-60-8	2-Fluorobiphenyl	72%		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:	MH-616-1-3		
Lab Sample ID:	JB99969-20	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83511.D	1	07/31/15	AFL	07/31/15	F:OP57065	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.00 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00025	0.000082	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	115%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-616-1-3		
Lab Sample ID:	JB99969-20	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	85.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.3	2.3	0.27	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-616-2-3		
Lab Sample ID:	JB99969-21	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202559.D	1	08/06/15	MM	n/a	n/a	VC7433
Run #2							

	Initial Weight
Run #1	6.2 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0353	0.00050	0.00013	mg/kg	
108-88-3	Toluene	0.0393	0.0010	0.00021	mg/kg	
100-41-4	Ethylbenzene	ND	0.0010	0.00016	mg/kg	
1330-20-7	Xylene (total)	0.0075	0.0010	0.00027	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00015	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00013	mg/kg	
98-82-8	Isopropylbenzene	0.00029	0.0020	0.00011	mg/kg	J
91-20-3	Naphthalene	0.0023	0.0050	0.00019	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	0.00080	0.0020	0.00020	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.00033	0.0020	0.00019	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		70-122%
17060-07-0	1,2-Dichloroethane-D4	91%		68-124%
2037-26-5	Toluene-D8	98%		77-125%
460-00-4	4-Bromofluorobenzene	98%		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:	MH-616-2-3		
Lab Sample ID:	JB99969-21	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P51017.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.040	0.0090	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.0077	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.0097	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.0079	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.013	mg/kg	
218-01-9	Chrysene	ND	0.040	0.0099	mg/kg	
86-73-7	Fluorene	ND	0.040	0.030	mg/kg	
85-01-8	Phenanthrene	ND	0.040	0.0085	mg/kg	
129-00-0	Pyrene	ND	0.040	0.0091	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	90%		33-127%
321-60-8	2-Fluorobiphenyl	94%		41-121%
1718-51-0	Terphenyl-d14	97%		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:	MH-616-2-3		
Lab Sample ID:	JB99969-21	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83516.D	1	07/31/15	AFL	07/31/15	F:OP57066	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.05 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-616-2-3		
Lab Sample ID:	JB99969-21	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	8.3	2.5	0.29	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-616-3-3		
Lab Sample ID:	JB99969-22	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E228080.D	1	08/06/15	TDN	n/a	n/a	VE9993
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.7 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.052	0.014	mg/kg	
108-88-3	Toluene	ND	0.10	0.022	mg/kg	
100-41-4	Ethylbenzene	ND	0.10	0.017	mg/kg	
1330-20-7	Xylene (total)	ND	0.10	0.029	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.10	0.016	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.10	0.014	mg/kg	
98-82-8	Isopropylbenzene	ND	0.21	0.011	mg/kg	
91-20-3	Naphthalene	ND	0.52	0.020	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.21	0.021	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.21	0.020	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	97%		77-125%
460-00-4	4-Bromofluorobenzene	104%		72-130%

(a) Data reported from mediume level per client's request due to no encores available for reanalysis.

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:	MH-616-3-3		
Lab Sample ID:	JB99969-22	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P51018.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.040	0.0090	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.0078	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.0097	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.0079	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.013	mg/kg	
218-01-9	Chrysene	ND	0.040	0.0099	mg/kg	
86-73-7	Fluorene	ND	0.040	0.030	mg/kg	
85-01-8	Phenanthrene	ND	0.040	0.0086	mg/kg	
129-00-0	Pyrene	ND	0.040	0.0091	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	90%		33-127%
321-60-8	2-Fluorobiphenyl	96%		41-121%
1718-51-0	Terphenyl-d14	97%		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:	MH-616-3-3		
Lab Sample ID:	JB99969-22	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83517.D	1	07/31/15	AFL	07/31/15	F:OP57066	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000086	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	113%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-616-3-3		
Lab Sample ID:	JB99969-22	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	80.5
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	10.7	2.5	0.29	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-616-4-3		
Lab Sample ID:	JB99969-23	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	86.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E228011.D	1	08/04/15	TDN	n/a	n/a	VE9991
Run #2							

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0290	0.055	0.015	mg/kg	J
108-88-3	Toluene	1.00	0.11	0.023	mg/kg	
100-41-4	Ethylbenzene	0.389	0.11	0.018	mg/kg	
1330-20-7	Xylene (total)	4.66	0.11	0.030	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.11	0.017	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.11	0.015	mg/kg	
98-82-8	Isopropylbenzene	0.0687	0.22	0.012	mg/kg	J
91-20-3	Naphthalene	ND	0.55	0.021	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.532	0.22	0.022	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.167	0.22	0.021	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	102%		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:	MH-616-4-3		
Lab Sample ID:	JB99969-23	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P51023.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.038	0.0085	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.038	0.0073	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.038	0.0091	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.0074	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.012	mg/kg	
218-01-9	Chrysene	ND	0.038	0.0093	mg/kg	
86-73-7	Fluorene	ND	0.038	0.029	mg/kg	
85-01-8	Phenanthrene	ND	0.038	0.0080	mg/kg	
129-00-0	Pyrene	ND	0.038	0.0085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		33-127%
321-60-8	2-Fluorobiphenyl	73%		41-121%
1718-51-0	Terphenyl-d14	76%		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:	MH-616-4-3		
Lab Sample ID:	JB99969-23	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	86.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83518.D	1	07/31/15	AFL	07/31/15	F:OP57066	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.07 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00024	0.000080	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-616-4-3		
Lab Sample ID:	JB99969-23	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	86.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	70.4	2.4	0.29	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-616-6-5		
Lab Sample ID:	JB99969-24	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	80.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202484.D	1	08/04/15	MM	n/a	n/a	VC7430
Run #2							

	Initial Weight
Run #1	5.6 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0347	0.00056	0.00015	mg/kg	
108-88-3	Toluene	0.0019	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	0.00030	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00017	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00015	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	93%		70-122%
17060-07-0	1,2-Dichloroethane-D4	94%		68-124%
2037-26-5	Toluene-D8	98%		77-125%
460-00-4	4-Bromofluorobenzene	100%		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:	MH-616-6-5		
Lab Sample ID:	JB99969-24	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P51019.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191
Run #2							

	Initial Weight	Final Volume
Run #1	31.8 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.039	0.0088	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.039	0.0076	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.039	0.0094	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.039	0.0077	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.039	0.013	mg/kg	
218-01-9	Chrysene	ND	0.039	0.0096	mg/kg	
86-73-7	Fluorene	ND	0.039	0.030	mg/kg	
85-01-8	Phenanthrene	ND	0.039	0.0083	mg/kg	
129-00-0	Pyrene	ND	0.039	0.0089	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%		33-127%
321-60-8	2-Fluorobiphenyl	86%		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:	MH-616-6-5		
Lab Sample ID:	JB99969-24	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	80.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83521.D	1	08/01/15	AFL	07/31/15	F:OP57066	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.02 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000087	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	126%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-616-6-5		
Lab Sample ID:	JB99969-24	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	80.3
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	6.0	2.5	0.30	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	MH-616-5-3		
Lab Sample ID:	JB99969-25	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E228081.D	1	08/06/15	TDN	n/a	n/a	VE9993
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.9 g	10.0 ml	100 ul
Run #2			

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0409	0.057	0.015	mg/kg	J
108-88-3	Toluene	ND	0.11	0.024	mg/kg	
100-41-4	Ethylbenzene	ND	0.11	0.019	mg/kg	
1330-20-7	Xylene (total)	ND	0.11	0.031	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.11	0.017	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.11	0.015	mg/kg	
98-82-8	Isopropylbenzene	ND	0.23	0.012	mg/kg	
91-20-3	Naphthalene	ND	0.57	0.022	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.23	0.023	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.23	0.022	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	98%		68-124%
2037-26-5	Toluene-D8	97%		77-125%
460-00-4	4-Bromofluorobenzene	103%		72-130%

(a) Data reported from mediume level per client's request due to no encores available for reanalysis.

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:	MH-616-5-3		
Lab Sample ID:	JB99969-25	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P51020.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	0.040	0.0089	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.0076	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.0095	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.0078	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.013	mg/kg	
218-01-9	Chrysene	ND	0.040	0.0097	mg/kg	
86-73-7	Fluorene	ND	0.040	0.030	mg/kg	
85-01-8	Phenanthrene	ND	0.040	0.0084	mg/kg	
129-00-0	Pyrene	ND	0.040	0.0089	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		33-127%
321-60-8	2-Fluorobiphenyl	79%		41-121%
1718-51-0	Terphenyl-d14	89%		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:	MH-616-5-3		
Lab Sample ID:	JB99969-25	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
Method:	SW846 8011M SW846 8011 M	**Percent Solids:**	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83522.D	1	08/01/15	AFL	07/31/15	F:OP57066	F:GDD2459
Run #2							

	Initial Weight	Final Volume
Run #1	5.01 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000085	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	112%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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:	MH-616-5-3		
Lab Sample ID:	JB99969-25	**Date Sampled:**	07/23/15
Matrix:	SO - Soil	**Date Received:**	07/24/15
		Percent Solids:	82.0
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	6.3	2.3	0.28	mg/kg	1	07/30/15	07/31/15	MS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA37224
(2) Prep QC Batch: MP88016

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:	TB-20150723		
Lab Sample ID:	JB99969-26	**Date Sampled:**	07/23/15
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/24/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C202482.D	1	08/04/15	MM	n/a	n/a	VC7430
Run #2							

	Initial Weight
Run #1	5.0 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0015	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	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00013	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	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	97%		70-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	99%		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:	TB-20150723		
Lab Sample ID:	JB99969-26A	**Date Sampled:**	07/23/15
Matrix:	AQ - Trip Blank Soil	**Date Received:**	07/24/15
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	MHIC-Tank 616-619, Marcus Hook, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	DD83547.D	1	08/03/15	AFL	08/03/15	F:OP57086	F:GDD2460
Run #2							

	Initial Volume	Final Volume
Run #1	39.1 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.018	0.0090	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		63-137%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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

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

SCC
STB/SSTB

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 #: JB99969

Client / Reporting Information

Company Name: Stantec
Street Address: 1060 Andrew Dr
City / State / Zip: West Chester, Pa
Project Contact / E-mail: Jennifer Menges / Jennifer.Menges@stantec.com
Phone #: 610-840-2500 Fax #: 610-840-2501
Sampler(s) Name(s) / Phone #: D Hopkins / C Dubinski

Project Information

Project Name: MHIC-Tank 616-619
Street:
City / State: Marcus Hook Pa
Project #:
Client Purchase Order #:
Project Manager: Jennifer Menges

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	Metals via SW846 6010B/C-LD *	VOCs via SW846 8260B *	SVOCs via SW846 8270C/D-LD *	VOCs via SW846 8011-LD (EDB only) *	LAB USE ONLY
1	MH-619-5-3	1681 1976 1977	7/23/15	0800	DH/CD	Soil	6					3	2	1		X	X	X	X	B3
2	MH-619-4-3	1676 1977 1978		0815												X	X	X	X	E7T1
3	MH-619-7-2	1688 1979 1980		0825												X	X	X	X	14C1
4	MH-619-3-3	1671 1975 1976		0840												X	X	X	X	40110
5	MH-619-2-3	1678 1976 1977		0850												X	X	X	X	
6	MH-619-1-3	1687 1982 1983		0900												X	X	X	X	V730
7	MH-[redacted]618-5-3	1678 1972 1973		0910												X	X	X	X	40106
8	MH-618-4-3	1686 1977 1978		0920												X	X	X	X	
9	MH-618-7-2	1682 1970 1971		0930												X	X	X	X	SUB
10	MH-618-2-3	1679 1969 1970		1040												X	X	X	X	
11	MH-618-6-5	1677 1971 1972		1100												X	X	X	X	
12	MH-618-3-3	1710 1982 1983		1110												X	X	X	X	

Turnaround Time (Business days)

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

Approved By (Accutest PM): / Date:
INITIAL ASESSMENT JA 7/24
LABEL VERIFICATION JM

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"
- NJ Data of Known Quality Protocol Reporting
- NYASP Category A
- NYASP Category B
- State Forms
- 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 constituents of concern for soil

D.I. slurry voc vials frozen storage

Date: 7/24/15 Time: 21:01 Initials: JM

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	7/23/15 1550	1	2	7/24/15 1551	2
3	7/23/15 1810	3	4		4
5		5			

Custody Seal #: ☐ Intact ☐ Not intact
Preserved where applicable ☐
On Ice ☑ Cooler Temp. 3.1 CG 1.2C

JB99969: Chain of Custody
Page 1 of 8

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 #: JB99969

Client / Reporting Information

Company Name: StantecC
Street Address: 10060 Andrew Dr
City State Zip: West Chester, Pa
Project Contact: Jennifer Menges
E-mail: Jennifer.Menges@stantec.com
Phone #: 610-840-2500
Fax #: 610-840-2501
Sampler(s) Name(s): D Hopkins / C Dubinski
Phone #:

Project Information

Project Name: MHIC-Tank 616-619
Street:
City State: Marcus Hook, Pa
Project #:
Client Purchase Order #:
Project Manager: Jennifer Menges

Billing Information (if different from Report to)

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

Requested Analysis (see TEST CODE sheet)

Metals via SW846 6010B/CLDA*
VOCs via SW846 8260B*
SVOCs via SW846 8270C/PAH*
VOCs via SW846 8011-LD (EDB)*

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	Metals	VOCs	SVOCs	VOCs	LAB USE ONLY
13	MH-617-4-3	1707, 1907, 1916	7/23/15	1125	DH CD	Soil	6					3	2	1		X	X	X	X	
14	MH-617-5-3	1697, 1905, 1915		1140												X	X	X	X	
15	MH-617-3-3	1693, 1928, 1929		1150												X	X	X	X	
16	MH-617-2-3	1679, 3744, 3791		1205												X	X	X	X	
17	MH-617-1-3	1691, 1898, 1908		1215												X	X	X	X	
18	MH-617-7-2	1678, 3792, 3797		1230												X	X	X	X	
19	MH-616-7-2	1708, 1892, 1897		1240												X	X	X	X	
20	MH-616-1-3	1180, 3723, 3728		1250												X	X	X	X	
21	MH-616-2-3	1676, 1917, 1922		1305												X	X	X	X	
22	MH-616-3-3	1689, 1921, 1917		1315												X	X	X	X	
23	MH-616-4-3	1690, 1905, 1914		1330												X	X	X	X	
24	MH-616-6-5	1706, 1901, 1918		1340												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 _____

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)
- [ ] 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 constituents of concern for soil

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	7/23/15 1550	1	2	7/24/15 1155	2
3	7/24/15 1810	3	4		4
5		5			

Custody Seal # ☐ Intact ☐ Not intact
Preserved where applicable ☐
On Ice ☑ Cooler Temp. 3.1 C-1G 1.2 C-1G

5.1
5

JB99969: Chain of Custody
Page 2 of 8

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 #: JB99969

Client / Reporting Information

Company Name: Stantec
Street Address: 10060 Andrew Dr
City / State / Zip: West Chester, Pa
Project Contact / E-mail: Jennifer Menges / jennifer.menges@stantec.com
Phone # / Fax #: 610-840-2500 / 610-840-2501
Sampler(s) Name(s) / Phone #: D Hopkins / C Dubinski

Project Information

Project Name: MHIC Tank 6016-6019
Street:
City / State: Marcus Hook / Pa
Project #:
Client Purchase Order #:
Project Manager: Jennifer Menges

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	Metals via SW846 6010B/C-LD *	VOCs via SW846 8260B *	SVOCs via SW846 8270C/D-LD *	VOCs via SW846 8011-LD(EDB) *	LAB USE ONLY
25	MH-6016-5-3	1024 1049 1050	7/23/15	1350	DH CD	Soil	6					3	2	1		X	X	X	X	
26	TB-20150723	104	7/23/15	—	✓	TB	3	2					1				X		X	

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)
- [ ] 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 constituents of concern for soil

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	7/23/15 1550	1	2	7/24/15 1455	2
3	7/23/15 1810	3	4		4
5		5			

Custody Seal #: [ ] Intact [ ] Not intact
Preserved where applicable: [ ]
On Ice: [x] Cooler Temp. 3.1 C19 1.2 C19

5.1 5

JB99969: Chain of Custody
Page 3 of 8

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB99969 **Client:** **Project:**

Date / Time Received: 7/24/2015 6:10:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.7); Cooler 2: (1.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.4); Cooler 2: (0.9);

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

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

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

JB99969

Constituents of Concern for Soil
~~Sunoco Philadelphia Refinery~~
~~Philadelphia~~, Pennsylvania
Marcus Hook

METALS	CAS No.	Method
Lead (total)	7439-92-1	SW846 6010B/C-LD

VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
1,2-Dichloroethane ✓	107-06-2	SW846 8260B/C-LD
1,2,4-Trimethylbenzene ✓	95-63-6	
1,3,5-Trimethylbenzene ✓	108-67-8	
Benzene ✓	71-43-2	
Cumene ✓	98-82-8	
Ethylbenzene ✓	100-41-4	
Methyl tertiary butyl ether ✓	1634-04-4	
Toluene ✓	108-88-3	
Xylenes (total) ✓	1330-20-7	
Ethylene dibromide ✓	106-93-4	SW846 8011-LD

SEMI-VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
Anthracene ✓	120-12-7	SW846 8270C/D-LD
Benzo(a)anthracene ✓	56-55-3	
Benzo (g,h,i) perylene ✓	191-24-2	
Benzo(a)pyrene ✓	50-32-8	
Benzo(b)fluoranthene ✓	205-99-2	
Chrysene ✓	218-01-9	
Fluorene ✓	86-73-7	
Naphthalene** ✓	91-20-3	
Phenanthrene ✓	85-01-8	
Pyrene ✓	129-00-0	

**For tank investigations, Naphthalene is to be run using analytical method SW846 8260 and should be appropriately marked on the chain of custody.

Notes:

As indicated by the "LD", all samples are to be analyzed using the lowest dilution possible.

Job Change Order: JB99969

Requested Date:	8/6/2015	**Received Date:**	7/24/2015
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	8/7/2015
Project Description:	MHIC-Tank 616-619, Marcus Hook, PA	**Deliverable:**	REDT2
CSR:	mariem	**TAT (Days):**	14

==========

Sample #: JB99969-22

Dept:

Change:
Please revise matrix code to SME; LL analysis was not able to be completed due to issues during analysis.

MH-616-3-3

==========

==========

Sample #: JB99969-25

Dept:

Change:
Please revise matrix code to SME; LL analysis was not able to be completed due to issues during analysis.

MH-616-5-3

==========

Above Changes Per:

Date/Time: 8/6/2015 3:54:58 PM

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

ACCUTEST LABORATORIES

Job Change Order: JB99969

Requested Date:	8/14/2015	**Received Date:**	7/24/2015
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	8/7/2015
Project Description:	MHIC-Tank 616-619, Marcus Hook, PA	**Deliverable:**	REDT2
CSR:	mariem	**TAT (Days):**	14

==========

Sample #: JB99969-1 to 25

Dept:

Change:
Please delete Naphthalene from the 8270 data.

==========

==========

Sample #: JB99969-1 to 26

Dept:

Change:
Please add VMS+NAP; please add to the original report.

==========

Above Changes Per: L. Votta

Date/Time: 8/14/2015 12:24:50 PM

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

ACCUTEST LABORATORIES

Job Change Order: JB99969

Requested Date:	8/14/2015	**Received Date:**	7/24/2015
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	8/7/2015
Project Description:	MHIC-Tank 616-619, Marcus Hook, PA	**Deliverable:**	REDT2
CSR:	mariem	**TAT (Days):**	14

==========

Sample #: JB99969-1 to 25

Dept:

Change:
Please delete Naphthalene from the 8270 data.

==========

==========

Sample #: JB99969-1 to 26

Dept:

Change:
Please add VMS+NAP; please add to the original report.

==========

Above Changes Per: L. Votta

Date/Time: 8/14/2015 12:24:50 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: JB99969

MHIC-Tank 616-619, Marcus Hook, PA

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-1 Collected: 23-JUL-15 08:00 By: DH/CD Received: 24-JUL-15 By: AS MH-619-5-3						
JB99969-1	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-1	SW846 6010C	31-JUL-15 14:08	BS	30-JUL-15	FP	PB
JB99969-1	SW846 8260C	31-JUL-15 14:31	MM			V8260SL
JB99969-1	SW846 8011M	31-JUL-15 15:37	AFL	31-JUL-15	AFL	V8011EDB
JB99969-1	SW846 8270D	31-JUL-15 23:50	SD	28-JUL-15	HK	B8270SL
JB99969-1	SW846 8260C	04-AUG-15 11:11	TDN			V8260SL
JB99969-2 Collected: 23-JUL-15 08:15 By: DH/CD Received: 24-JUL-15 By: AS MH-619-4-3						
JB99969-2	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-2	SW846 8260C	31-JUL-15 15:09	MM			V8260SL
JB99969-2	SW846 6010C	31-JUL-15 15:11	BS	30-JUL-15	FP	PB
JB99969-2	SW846 8011M	31-JUL-15 15:52	AFL	31-JUL-15	AFL	V8011EDB
JB99969-2	SW846 8270D	01-AUG-15 00:19	SD	28-JUL-15	HK	B8270SL
JB99969-2	SW846 8260C	04-AUG-15 13:14	TDN			V8260SL
JB99969-3 Collected: 23-JUL-15 08:25 By: DH/CD Received: 24-JUL-15 By: AS MH-619-7-2						
JB99969-3	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-3	SW846 6010C	31-JUL-15 15:14	BS	30-JUL-15	FP	PB
JB99969-3	SW846 8260C	31-JUL-15 15:37	MM			V8260SL
JB99969-3	SW846 8011M	31-JUL-15 16:08	AFL	31-JUL-15	AFL	V8011EDB
JB99969-3	SW846 8270D	01-AUG-15 00:47	SD	28-JUL-15	HK	B8270SL
JB99969-4 Collected: 23-JUL-15 08:40 By: DH/CD Received: 24-JUL-15 By: AS MH-619-3-3						
JB99969-4	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-4	SW846 6010C	31-JUL-15 15:17	BS	30-JUL-15	FP	PB
JB99969-4	SW846 8260C	31-JUL-15 16:06	MM			V8260SL
JB99969-4	SW846 8011M	31-JUL-15 16:23	AFL	31-JUL-15	AFL	V8011EDB
JB99969-4	SW846 8270D	01-AUG-15 01:16	SD	28-JUL-15	HK	B8270SL
JB99969-4	SW846 8260C	04-AUG-15 14:46	TDN			V8260SL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

MHIC-Tank 616-619, Marcus Hook, PA

Job No: JB99969

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-5 Collected: 23-JUL-15 08:50 By: DH/CD Received: 24-JUL-15 By: AS MH-619-2-3						
JB99969-5	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-5	SW846 6010C	31-JUL-15 15:20	BS	30-JUL-15	FP	PB
JB99969-5	SW846 8011M	31-JUL-15 16:39	AFL	31-JUL-15	AFL	V8011EDB
JB99969-5	SW846 8260C	31-JUL-15 18:01	MM			V8260SL
JB99969-5	SW846 8270D	01-AUG-15 01:45	SD	28-JUL-15	HK	B8270SL
JB99969-5	SW846 8260C	04-AUG-15 13:45	TDN			V8260SL
JB99969-6 Collected: 23-JUL-15 09:00 By: DH/CD Received: 24-JUL-15 By: AS MH-619-1-3						
JB99969-6	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-6	SW846 6010C	31-JUL-15 16:50	MS	30-JUL-15	MO	PB
JB99969-6	SW846 8011M	31-JUL-15 16:54	AFL	31-JUL-15	AFL	V8011EDB
JB99969-6	SW846 8260C	31-JUL-15 18:29	MM			V8260SL
JB99969-6	SW846 8270D	01-AUG-15 02:13	SD	28-JUL-15	HK	B8270SL
JB99969-6	SW846 8260C	04-AUG-15 14:15	TDN			V8260SL
JB99969-7 Collected: 23-JUL-15 09:10 By: DH/CD Received: 24-JUL-15 By: AS MH-618-5-3						
JB99969-7	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-7	SW846 8260C	31-JUL-15 11:55	TDN			V8260SL
JB99969-7	SW846 6010C	31-JUL-15 16:38	MS	30-JUL-15	MO	PB
JB99969-7	SW846 8011M	31-JUL-15 17:09	AFL	31-JUL-15	AFL	V8011EDB
JB99969-7	SW846 8270D	01-AUG-15 02:42	SD	28-JUL-15	HK	B8270SL
JB99969-7	SW846 8260C	03-AUG-15 12:17	TDN			V8260SL
JB99969-8 Collected: 23-JUL-15 09:20 By: DH/CD Received: 24-JUL-15 By: AS MH-618-4-3						
JB99969-8	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-8	SW846 6010C	31-JUL-15 17:13	MS	30-JUL-15	MO	PB
JB99969-8	SW846 8011M	31-JUL-15 17:55	AFL	31-JUL-15	AFL	V8011EDB
JB99969-8	SW846 8260C	31-JUL-15 18:29	TDN			V8260SL
JB99969-8	SW846 8270D	01-AUG-15 03:11	SD	28-JUL-15	HK	B8270SL
JB99969-8	SW846 8260C	03-AUG-15 11:23	TDN			V8260SL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

MHIC-Tank 616-619, Marcus Hook, PA

Job No: JB99969

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-9 Collected: 23-JUL-15 09:30 By: DH/CD Received: 24-JUL-15 By: AS MH-618-7-2						
JB99969-9	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-9	SW846 8260C	30-JUL-15 18:05	TDN			V8260SL
JB99969-9	SW846 6010C	31-JUL-15 17:19	MS	30-JUL-15	MO	PB
JB99969-9	SW846 8011M	31-JUL-15 18:10	AFL	31-JUL-15	AFL	V8011EDB
JB99969-9	SW846 8260C	31-JUL-15 20:05	TDN			V8260SL
JB99969-9	SW846 8270D	01-AUG-15 03:40	SD	28-JUL-15	HK	B8270SL
JB99969-9	SW846 8260C	03-AUG-15 15:09	TDN			V8260SL
JB99969-10 Collected: 23-JUL-15 10:40 By: DH/CD Received: 24-JUL-15 By: AS MH-618-2-3						
JB99969-10	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-10	SW846 6010C	31-JUL-15 17:25	MS	30-JUL-15	MO	PB
JB99969-10	SW846 8011M	31-JUL-15 18:26	AFL	31-JUL-15	AFL	V8011EDB
JB99969-10	SW846 8260C	03-AUG-15 11:54	TDN			V8260SL
JB99969-10	SW846 8260C	03-AUG-15 12:25	TDN			V8260SL
JB99969-10	SW846 8270D	04-AUG-15 04:12	AD	03-AUG-15	HB	B8270SL
JB99969-11 Collected: 23-JUL-15 11:00 By: DH/CD Received: 24-JUL-15 By: AS MH-618-6-5						
JB99969-11	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-11	SW846 6010C	31-JUL-15 17:31	MS	30-JUL-15	MO	PB
JB99969-11	SW846 8011M	31-JUL-15 18:41	AFL	31-JUL-15	AFL	V8011EDB
JB99969-11	SW846 8260C	31-JUL-15 19:25	MM			V8260SL
JB99969-11	SW846 8270D	01-AUG-15 04:08	SD	28-JUL-15	HK	B8270SL
JB99969-11	SW846 8260C	04-AUG-15 15:16	TDN			V8260SL
JB99969-11	SW846 8260C	04-AUG-15 15:47	TDN			V8260SL
JB99969-12 Collected: 23-JUL-15 11:10 By: DH/CD Received: 24-JUL-15 By: AS MH-618-3-3						
JB99969-12	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-12	SW846 6010C	31-JUL-15 17:37	MS	30-JUL-15	MO	PB
JB99969-12	SW846 8011M	31-JUL-15 18:56	AFL	31-JUL-15	AFL	V8011EDB
JB99969-12	SW846 8260C	31-JUL-15 19:54	MM			V8260SL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

MHIC-Tank 616-619, Marcus Hook, PA

Job No: JB99969

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-12	SW846 8270D	01-AUG-15 04:37	SD	28-JUL-15	HK	B8270SL
JB99969-12	SW846 8260C	04-AUG-15 16:17	TDN			V8260SL
JB99969-13	Collected: 23-JUL-15 11:25 By: DH/CD		Received: 24-JUL-15 By: AS			
MH-617-4-3						
JB99969-13	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-13	SW846 6010C	31-JUL-15 17:43	MS	30-JUL-15	MO	PB
JB99969-13	SW846 8011M	31-JUL-15 19:12	AFL	31-JUL-15	AFL	V8011EDB
JB99969-13	SW846 8260C	31-JUL-15 20:22	MM			V8260SL
JB99969-13	SW846 8270D	01-AUG-15 05:06	SD	28-JUL-15	HK	B8270SL
JB99969-13	SW846 8270D	02-AUG-15 02:15	AD	28-JUL-15	HK	B8270SL
JB99969-13	SW846 8260C	04-AUG-15 16:47	TDN			V8260SL
JB99969-14	Collected: 23-JUL-15 11:40 By: DH/CD		Received: 24-JUL-15 By: AS			
MH-617-5-3						
JB99969-14	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-14	SW846 8260C	31-JUL-15 00:35	TDN			V8260SL
JB99969-14	SW846 6010C	31-JUL-15 17:49	MS	30-JUL-15	MO	PB
JB99969-14	SW846 8011M	31-JUL-15 19:27	AFL	31-JUL-15	AFL	V8011EDB
JB99969-14	SW846 8260C	31-JUL-15 20:36	TDN			V8260SL
JB99969-14	SW846 8270D	01-AUG-15 05:35	SD	28-JUL-15	HK	B8270SL
JB99969-14	SW846 8270D	02-AUG-15 02:43	AD	28-JUL-15	HK	B8270SL
JB99969-14	SW846 8260C	03-AUG-15 15:39	TDN			V8260SL
JB99969-15	Collected: 23-JUL-15 11:50 By: DH/CD		Received: 24-JUL-15 By: AS			
MH-617-3-3						
JB99969-15	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-15	SW846 6010C	31-JUL-15 17:55	MS	30-JUL-15	MO	PB
JB99969-15	SW846 8011M	31-JUL-15 19:42	AFL	31-JUL-15	AFL	V8011EDB
JB99969-15	SW846 8270D	03-AUG-15 12:20	AP	28-JUL-15	HK	B8270SL
JB99969-15	SW846 8260C	06-AUG-15 16:52	MM			V8260SL
JB99969-15	SW846 8260C	07-AUG-15 13:14	BM			V8260SL
JB99969-16	Collected: 23-JUL-15 12:05 By: DH/CD		Received: 24-JUL-15 By: AS			
MH-617-2-3						
JB99969-16	SM2540 G-97	28-JUL-15 17:00	KP			%SOL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB99969

MHIC-Tank 616-619, Marcus Hook, PA

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-16	SW846 8270D	29-JUL-15 18:02	AN	28-JUL-15	HK	B8270SL
JB99969-16	SW846 6010C	31-JUL-15 18:56	MS	30-JUL-15	MO	PB
JB99969-16	SW846 8011M	31-JUL-15 19:57	AFL	31-JUL-15	AFL	V8011EDB
JB99969-16	SW846 8260C	05-AUG-15 17:55	PR			V8260SL
JB99969-17 Collected: 23-JUL-15 12:15 By: DH/CD Received: 24-JUL-15 By: AS MH-617-1-3						
JB99969-17	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-17	SW846 8270D	29-JUL-15 18:29	AN	28-JUL-15	HK	B8270SL
JB99969-17	SW846 8260C	31-JUL-15 12:56	TDN			V8260SL
JB99969-17	SW846 6010C	31-JUL-15 19:02	MS	30-JUL-15	MO	PB
JB99969-17	SW846 8011M	31-JUL-15 20:13	AFL	31-JUL-15	AFL	V8011EDB
JB99969-18 Collected: 23-JUL-15 12:30 By: DH/CD Received: 24-JUL-15 By: AS MH-617-7-2						
JB99969-18	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-18	SW846 8270D	29-JUL-15 18:56	AN	28-JUL-15	HK	B8270SL
JB99969-18	SW846 6010C	31-JUL-15 19:08	MS	30-JUL-15	MO	PB
JB99969-18	SW846 8011M	31-JUL-15 20:58	AFL	31-JUL-15	AFL	V8011EDB
JB99969-18	SW846 8260C	31-JUL-15 21:48	MM			V8260SL
JB99969-19 Collected: 23-JUL-15 12:40 By: DH/CD Received: 24-JUL-15 By: AS MH-616-7-2						
JB99969-19	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-19	SW846 8270D	29-JUL-15 19:23	AN	28-JUL-15	HK	B8270SL
JB99969-19	SW846 8260C	31-JUL-15 01:37	TDN			V8260SL
JB99969-19	SW846 6010C	31-JUL-15 19:14	MS	30-JUL-15	MO	PB
JB99969-19	SW846 8011M	31-JUL-15 21:13	AFL	31-JUL-15	AFL	V8011EDB
JB99969-19	SW846 8260C	03-AUG-15 14:39	TDN			V8260SL
JB99969-20 Collected: 23-JUL-15 12:50 By: DH/CD Received: 24-JUL-15 By: AS MH-616-1-3						
JB99969-20	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-20	SW846 8270D	29-JUL-15 19:50	AN	28-JUL-15	HK	B8270SL
JB99969-20	SW846 6010C	31-JUL-15 19:20	MS	30-JUL-15	MO	PB
JB99969-20	SW846 8011M	31-JUL-15 21:29	AFL	31-JUL-15	AFL	V8011EDB

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB99969

MHIC-Tank 616-619, Marcus Hook, PA

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-20	SW846 8260C	04-AUG-15 19:46	MM			V8260SL
JB99969-21 Collected: 23-JUL-15 13:05 By: DH/CD Received: 24-JUL-15 By: AS MH-616-2-3						
JB99969-21	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-21	SW846 8270D	29-JUL-15 21:28	AD	29-JUL-15	AQ	B8270SL
JB99969-21	SW846 6010C	31-JUL-15 19:26	MS	30-JUL-15	MO	PB
JB99969-21	SW846 8011M	31-JUL-15 22:45	AFL	31-JUL-15	AFL	V8011EDB
JB99969-21	SW846 8260C	06-AUG-15 17:49	MM			V8260SL
JB99969-22 Collected: 23-JUL-15 13:15 By: DH/CD Received: 24-JUL-15 By: AS MH-616-3-3						
JB99969-22	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-22	SW846 8270D	29-JUL-15 21:49	AD	29-JUL-15	AQ	B8270SL
JB99969-22	SW846 6010C	31-JUL-15 19:32	MS	30-JUL-15	MO	PB
JB99969-22	SW846 8011M	31-JUL-15 23:00	AFL	31-JUL-15	AFL	V8011EDB
JB99969-22	SW846 8260C	06-AUG-15 17:29	TDN			V8260SL
JB99969-23 Collected: 23-JUL-15 13:30 By: DH/CD Received: 24-JUL-15 By: AS MH-616-4-3						
JB99969-23	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-23	SW846 8270D	29-JUL-15 23:36	AD	29-JUL-15	AQ	B8270SL
JB99969-23	SW846 6010C	31-JUL-15 19:38	MS	30-JUL-15	MO	PB
JB99969-23	SW846 8011M	31-JUL-15 23:15	AFL	31-JUL-15	AFL	V8011EDB
JB99969-23	SW846 8260C	04-AUG-15 10:40	TDN			V8260SL
JB99969-24 Collected: 23-JUL-15 13:40 By: DH/CD Received: 24-JUL-15 By: AS MH-616-6-5						
JB99969-24	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-24	SW846 8270D	29-JUL-15 22:10	AD	29-JUL-15	AQ	B8270SL
JB99969-24	SW846 6010C	31-JUL-15 19:44	MS	30-JUL-15	MO	PB
JB99969-24	SW846 8011M	01-AUG-15 00:01	AFL	31-JUL-15	AFL	V8011EDB
JB99969-24	SW846 8260C	04-AUG-15 18:49	MM			V8260SL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

MHIC-Tank 616-619, Marcus Hook, PA

Job No: JB99969

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-25	Collected: 23-JUL-15 13:50 By: DH/CD		Received: 24-JUL-15 By: AS			
MH-616-5-3						
JB99969-25	SM2540 G-97	28-JUL-15 17:00	KP			%SOL
JB99969-25	SW846 8270D	29-JUL-15 22:32	AD	29-JUL-15	AQ	B8270SL
JB99969-25	SW846 6010C	31-JUL-15 20:02	MS	30-JUL-15	MO	PB
JB99969-25	SW846 8011M	01-AUG-15 00:16	AFL	31-JUL-15	AFL	V8011EDB
JB99969-25	SW846 8260C	06-AUG-15 17:59	TDN			V8260SL
JB99969-26	Collected: 23-JUL-15 13:50 By: DH/CD		Received: 24-JUL-15 By: AS			
TB-20150723						
JB99969-26	SW846 8260C	04-AUG-15 17:53	MM			V8260SL
JB99969-26A	Collected: 23-JUL-15 13:50 By: DH/CD		Received: 24-JUL-15 By: AS			
TB-20150723						
JB99969-26A	SW846 8011	03-AUG-15 18:08	AFL	03-AUG-15	AFL	V8011EDB

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-1.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-1.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-1.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-1.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-1.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-1.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-1.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-1.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-1.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-1.1
JB99969-1.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-1.1
JB99969-1.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-1.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-1.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-1.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-1.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-1.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:09	Digestate from JB99969-1.1
JB99969-1.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:09	Digestate from JB99969-1.1
JB99969-1.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:09	Return to Storage
JB99969-1.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-1.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-1.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-1.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-1.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-1.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-1.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-1.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-1.5	Secured Storage	Mihir Mehta	07/31/15 14:07	Retrieve from Storage
JB99969-1.5	Mihir Mehta	GCMSC	07/31/15 14:07	Load on Instrument
JB99969-1.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-1.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-2.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-2.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-2.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-2.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-2.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-2.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-2.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-2.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-2.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-2.1
JB99969-2.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-2.1
JB99969-2.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-2.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-2.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-2.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-2.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-2.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:09	Digestate from JB99969-2.1
JB99969-2.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:09	Digestate from JB99969-2.1
JB99969-2.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:09	Return to Storage
JB99969-2.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-2.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-2.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-2.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-2.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-2.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-2.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-2.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-2.5	Secured Storage	Mihir Mehta	07/31/15 14:07	Retrieve from Storage
JB99969-2.5	Mihir Mehta	GCMSC	07/31/15 14:07	Load on Instrument
JB99969-2.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-2.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-3.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-3.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-3.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-3.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-3.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-3.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-3.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-3.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-3.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-3.1
JB99969-3.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-3.1
JB99969-3.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-3.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-3.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-3.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-3.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-3.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:09	Digestate from JB99969-3.1
JB99969-3.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:09	Digestate from JB99969-3.1
JB99969-3.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:09	Return to Storage
JB99969-3.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-3.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-3.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-3.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-3.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-3.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-3.5	Secured Storage	Mihir Mehta	07/31/15 14:07	Retrieve from Storage
JB99969-3.5	Mihir Mehta	GCMSC	07/31/15 14:07	Load on Instrument
JB99969-3.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-3.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-4.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-4.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-4.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-4.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-4.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-4.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-4.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-4.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-4.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-4.1
JB99969-4.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-4.1
JB99969-4.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-4.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-4.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-4.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-4.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-4.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:09	Digestate from JB99969-4.1
JB99969-4.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:09	Digestate from JB99969-4.1
JB99969-4.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:09	Return to Storage
JB99969-4.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-4.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-4.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-4.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-4.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-4.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-4.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-4.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-4.4	Secured Storage	Thien Nguyen	08/05/15 08:40	Retrieve from Storage
JB99969-4.4	Thien Nguyen	Secured Storage	08/05/15 08:40	Return to Storage
JB99969-4.5	Secured Storage	Mihir Mehta	07/31/15 14:07	Retrieve from Storage
JB99969-4.5	Mihir Mehta	GCMSC	07/31/15 14:07	Load on Instrument
JB99969-4.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-4.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-5.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-5.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-5.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-5.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-5.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-5.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-5.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-5.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-5.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-5.1
JB99969-5.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-5.1
JB99969-5.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-5.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-5.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-5.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-5.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-5.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:09	Digestate from JB99969-5.1
JB99969-5.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:09	Digestate from JB99969-5.1
JB99969-5.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:09	Return to Storage
JB99969-5.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-5.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-5.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-5.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-5.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-5.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-5.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-5.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-5.4	Secured Storage	Thien Nguyen	08/05/15 08:40	Retrieve from Storage
JB99969-5.4	Thien Nguyen	Secured Storage	08/05/15 08:40	Return to Storage
JB99969-5.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-5.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-5.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-5.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-6.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-6.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-6.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-6.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-6.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-6.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-6.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-6.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-6.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-6.1
JB99969-6.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-6.1
JB99969-6.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-6.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-6.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-6.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-6.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-6.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-6.1
JB99969-6.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-6.1
JB99969-6.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-6.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-6.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-6.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-6.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-6.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-6.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-6.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-6.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-6.4	Secured Storage	Thien Nguyen	08/05/15 08:40	Retrieve from Storage
JB99969-6.4	Thien Nguyen	Secured Storage	08/05/15 08:40	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-6.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-6.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-6.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-6.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-7.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-7.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-7.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-7.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-7.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-7.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-7.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-7.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-7.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-7.1
JB99969-7.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-7.1
JB99969-7.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-7.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-7.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-7.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-7.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-7.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-7.1
JB99969-7.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-7.1
JB99969-7.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-7.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-7.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-7.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-7.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-7.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-7.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-7.4	Secured Storage	Thien Nguyen	07/30/15 09:29	Retrieve from Storage
JB99969-7.4	Thien Nguyen	Secured Storage	07/30/15 09:29	Return to Storage
JB99969-7.5	Secured Storage	Thien Nguyen	07/31/15 13:11	Retrieve from Storage
JB99969-7.5	Thien Nguyen	GCMS3V	07/31/15 13:11	Load on Instrument
JB99969-7.5	GCMS3V	Thien Nguyen	08/03/15 09:07	Unload from Instrument
JB99969-7.5	Thien Nguyen		08/03/15 09:08	Depleted
JB99969-7.6	Secured Storage	Thien Nguyen	08/03/15 10:00	Retrieve from Storage
JB99969-7.6	Thien Nguyen	GCMS3V	08/03/15 10:00	Load on Instrument

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-7.6	GCMS3V	Thien Nguyen	08/04/15 10:11	Unload from Instrument
JB99969-7.6	Thien Nguyen		08/04/15 10:11	Depleted
JB99969-8.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-8.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-8.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-8.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-8.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-8.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-8.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-8.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-8.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-8.1
JB99969-8.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-8.1
JB99969-8.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-8.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-8.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-8.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-8.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-8.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-8.1
JB99969-8.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-8.1
JB99969-8.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-8.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-8.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-8.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-8.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-8.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-8.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-8.4	Secured Storage	Thien Nguyen	07/30/15 09:29	Retrieve from Storage
JB99969-8.4	Thien Nguyen	Secured Storage	07/30/15 09:29	Return to Storage
JB99969-8.4	Secured Storage	Thien Nguyen	08/03/15 10:20	Retrieve from Storage
JB99969-8.4	Thien Nguyen	Secured Staging Area	08/03/15 10:20	Return to Storage
JB99969-8.4	Secured Staging Area	Thien Nguyen	08/03/15 11:58	Retrieve from Storage
JB99969-8.4	Thien Nguyen	Secured Storage	08/03/15 11:58	Return to Storage
JB99969-8.5	Secured Storage	Thien Nguyen	07/31/15 13:11	Retrieve from Storage
JB99969-8.5	Thien Nguyen	GCMS3V	07/31/15 13:11	Load on Instrument
JB99969-8.5	GCMS3V	Thien Nguyen	08/03/15 09:07	Unload from Instrument
JB99969-8.5	Thien Nguyen		08/03/15 09:08	Depleted

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-8.6	Secured Storage	Thien Nguyen	08/03/15 10:00	Retrieve from Storage
JB99969-8.6	Thien Nguyen	GCMS3V	08/03/15 10:00	Load on Instrument
JB99969-8.6	GCMS3V	Thien Nguyen	08/04/15 10:11	Unload from Instrument
JB99969-8.6	Thien Nguyen		08/04/15 10:11	Depleted
JB99969-9.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-9.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-9.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-9.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-9.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-9.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-9.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-9.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-9.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-9.1
JB99969-9.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-9.1
JB99969-9.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-9.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-9.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-9.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-9.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-9.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-9.1
JB99969-9.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-9.1
JB99969-9.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-9.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-9.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-9.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-9.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-9.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-9.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-9.4	Secured Storage	Thien Nguyen	07/30/15 09:29	Retrieve from Storage
JB99969-9.4	Thien Nguyen	Secured Storage	07/30/15 09:29	Return to Storage
JB99969-9.4	Secured Storage	Thien Nguyen	08/03/15 10:20	Retrieve from Storage
JB99969-9.4	Thien Nguyen	Secured Staging Area	08/03/15 10:20	Return to Storage
JB99969-9.4	Secured Staging Area	Thien Nguyen	08/03/15 11:58	Retrieve from Storage
JB99969-9.4	Thien Nguyen	Secured Storage	08/03/15 11:58	Return to Storage
JB99969-10.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-10.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-10.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-10.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-10.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-10.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-10.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-10.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-10.1	Secured Storage	Arielle Cocozza	08/03/15 03:50	Retrieve from Storage
JB99969-10.1	Arielle Cocozza	Humarah Bano	08/03/15 07:22	Custody Transfer
JB99969-10.1	Humarah Bano	Secured Storage	08/03/15 10:50	Return to Storage
JB99969-10.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-10.1
JB99969-10.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-10.1
JB99969-10.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-10.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-10.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-10.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-10.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-10.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-10.1
JB99969-10.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-10.1
JB99969-10.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-10.1.3	Humarah Bano	Organics Prep	08/03/15 07:37	Extract from JB99969-10.1
JB99969-10.1.3	Organics Prep	Humarah Bano	08/03/15 15:22	Extract from JB99969-10.1
JB99969-10.1.3	Humarah Bano	Extract Storage	08/03/15 15:23	Return to Storage
JB99969-10.1.3	Extract Storage	Sara Davis	08/03/15 23:36	Retrieve from Storage
JB99969-10.1.3	Sara Davis	GCMS3P	08/03/15 23:36	Load on Instrument
JB99969-10.1.3	GCMS3P	Samta Patel	08/04/15 14:37	Unload from Instrument
JB99969-10.1.3	Samta Patel	Extract Freezer	08/04/15 14:37	Return to Storage
JB99969-10.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-10.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-10.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-10.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-10.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-10.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-10.4	Secured Storage	Thien Nguyen	07/30/15 09:29	Retrieve from Storage
JB99969-10.4	Thien Nguyen	Secured Storage	07/30/15 09:29	Return to Storage
JB99969-10.4	Secured Storage	Thien Nguyen	08/03/15 10:20	Retrieve from Storage
JB99969-10.4	Thien Nguyen	Secured Staging Area	08/03/15 10:20	Return to Storage
JB99969-10.4	Secured Staging Area	Thien Nguyen	08/03/15 11:58	Retrieve from Storage
JB99969-10.4	Thien Nguyen	Secured Storage	08/03/15 11:58	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-11.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-11.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-11.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-11.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-11.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-11.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-11.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-11.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-11.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-11.1
JB99969-11.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-11.1
JB99969-11.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-11.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-11.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-11.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-11.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-11.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-11.1
JB99969-11.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-11.1
JB99969-11.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-11.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-11.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-11.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-11.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-11.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-11.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-11.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-11.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-11.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-11.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-11.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-11.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-12.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-12.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-12.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-12.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-12.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-12.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-12.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-12.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-12.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-12.1
JB99969-12.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-12.1
JB99969-12.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-12.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-12.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-12.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-12.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-12.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-12.1
JB99969-12.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-12.1
JB99969-12.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-12.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-12.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-12.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-12.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-12.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-12.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-12.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-12.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-12.4	Secured Storage	Thien Nguyen	08/05/15 08:40	Retrieve from Storage
JB99969-12.4	Thien Nguyen	Secured Storage	08/05/15 08:40	Return to Storage
JB99969-12.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-12.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-12.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-12.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-13.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-13.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-13.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-13.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-13.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-13.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-13.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-13.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-13.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-13.1
JB99969-13.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-13.1
JB99969-13.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-13.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-13.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-13.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-13.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-13.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-13.1
JB99969-13.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-13.1
JB99969-13.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-13.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-13.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-13.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-13.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-13.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-13.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-13.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-13.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-13.4	Secured Storage	Thien Nguyen	08/05/15 08:40	Retrieve from Storage
JB99969-13.4	Thien Nguyen	Secured Storage	08/05/15 08:40	Return to Storage
JB99969-13.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-13.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-13.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-13.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-14.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-14.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-14.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-14.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-14.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-14.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-14.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-14.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-14.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-14.1
JB99969-14.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-14.1
JB99969-14.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-14.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-14.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-14.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-14.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-14.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-14.1
JB99969-14.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-14.1
JB99969-14.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-14.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-14.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-14.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-14.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-14.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-14.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-14.4	Secured Storage	Thien Nguyen	07/30/15 09:29	Retrieve from Storage
JB99969-14.4	Thien Nguyen	Secured Storage	07/30/15 09:29	Return to Storage
JB99969-14.4	Secured Storage	Thien Nguyen	08/03/15 10:20	Retrieve from Storage
JB99969-14.4	Thien Nguyen	Secured Staging Area	08/03/15 10:20	Return to Storage
JB99969-14.4	Secured Staging Area	Thien Nguyen	08/03/15 11:58	Retrieve from Storage
JB99969-14.4	Thien Nguyen	Secured Storage	08/03/15 11:58	Return to Storage
JB99969-15.1	Secured Storage	Luis Villanueva	07/28/15 13:48	Retrieve from Storage
JB99969-15.1	Luis Villanueva	Secured Staging Area	07/28/15 13:48	Return to Storage
JB99969-15.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:21	Retrieve from Storage
JB99969-15.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-15.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-15.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-15.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-15.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-15.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:21	Extract from JB99969-15.1
JB99969-15.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-15.1
JB99969-15.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-15.1.1	Extract Storage	Sara Davis	07/31/15 23:55	Retrieve from Storage
JB99969-15.1.1	Sara Davis	GCMSM	07/31/15 23:55	Load on Instrument
JB99969-15.1.1	GCMSM	Sara Davis	08/04/15 22:15	Unload from Instrument
JB99969-15.1.1	Sara Davis	Extract Freezer	08/04/15 22:15	Return to Storage
JB99969-15.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-15.1
JB99969-15.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-15.1
JB99969-15.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-15.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-15.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-15.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-15.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-15.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-15.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-15.4	Secured Storage	Benjamin Mendez	08/07/15 15:26	Retrieve from Storage
JB99969-15.4	Benjamin Mendez	Secured Storage	08/07/15 15:27	Return to Storage
JB99969-15.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-15.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-15.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-15.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-15.6	Secured Storage	Mihir Mehta	08/06/15 14:53	Retrieve from Storage
JB99969-15.6	Mihir Mehta	GCMSC	08/06/15 14:53	Load on Instrument
JB99969-15.6	GCMSC	Mihir Mehta	08/07/15 14:59	Unload from Instrument
JB99969-15.6	Mihir Mehta		08/07/15 15:00	Depleted
JB99969-16.1	Secured Storage	Christopher Hall	07/28/15 15:18	Retrieve from Storage
JB99969-16.1	Christopher Hall	Secured Staging Area	07/28/15 15:18	Return to Storage
JB99969-16.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:20	Retrieve from Storage
JB99969-16.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-16.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-16.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-16.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-16.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-16.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:20	Extract from JB99969-16.1
JB99969-16.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-16.1
JB99969-16.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-16.1.1	Extract Storage	Ashley Noble	07/29/15 13:41	Retrieve from Storage
JB99969-16.1.1	Ashley Noble	GCMS2M	07/29/15 13:41	Load on Instrument
JB99969-16.1.1	GCMS2M	Ashley Noble	07/30/15 10:07	Unload from Instrument
JB99969-16.1.1	Ashley Noble	Extract Freezer	07/30/15 10:07	Return to Storage
JB99969-16.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-16.1
JB99969-16.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-16.1
JB99969-16.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-16.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-16.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-16.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-16.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-16.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-16.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-16.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-16.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-16.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-16.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-16.6	Secured Storage	Dana Tryon	08/05/15 16:01	Retrieve from Storage
JB99969-16.6	Dana Tryon	GCMSV	08/05/15 16:01	Load on Instrument
JB99969-16.6	GCMSV	Payal Rana	08/06/15 09:16	Unload from Instrument
JB99969-16.6	Payal Rana		08/06/15 09:17	Depleted
JB99969-17.1	Secured Storage	Christopher Hall	07/28/15 15:18	Retrieve from Storage
JB99969-17.1	Christopher Hall	Secured Staging Area	07/28/15 15:18	Return to Storage
JB99969-17.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:20	Retrieve from Storage
JB99969-17.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-17.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-17.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-17.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-17.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-17.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:20	Extract from JB99969-17.1
JB99969-17.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-17.1
JB99969-17.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-17.1.1	Extract Storage	Ashley Noble	07/29/15 13:41	Retrieve from Storage
JB99969-17.1.1	Ashley Noble	GCMS2M	07/29/15 13:41	Load on Instrument
JB99969-17.1.1	GCMS2M	Ashley Noble	07/30/15 10:07	Unload from Instrument
JB99969-17.1.1	Ashley Noble	Extract Freezer	07/30/15 10:07	Return to Storage
JB99969-17.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-17.1
JB99969-17.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-17.1
JB99969-17.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-17.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-17.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-17.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-17.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-17.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-17.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-17.4	Secured Storage	Thien Nguyen	07/30/15 09:29	Retrieve from Storage
JB99969-17.4	Thien Nguyen	Secured Storage	07/30/15 09:29	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-18.1	Secured Storage	Christopher Hall	07/28/15 15:18	Retrieve from Storage
JB99969-18.1	Christopher Hall	Secured Staging Area	07/28/15 15:18	Return to Storage
JB99969-18.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:20	Retrieve from Storage
JB99969-18.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-18.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-18.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-18.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-18.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-18.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:20	Extract from JB99969-18.1
JB99969-18.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-18.1
JB99969-18.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-18.1.1	Extract Storage	Ashley Noble	07/29/15 13:41	Retrieve from Storage
JB99969-18.1.1	Ashley Noble	GCMS2M	07/29/15 13:41	Load on Instrument
JB99969-18.1.1	GCMS2M	Ashley Noble	07/30/15 10:07	Unload from Instrument
JB99969-18.1.1	Ashley Noble	Extract Freezer	07/30/15 10:07	Return to Storage
JB99969-18.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-18.1
JB99969-18.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-18.1
JB99969-18.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-18.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-18.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-18.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-18.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-18.2	Secured Storage	Sahara Feliciano	08/05/15 12:28	Retrieve from Storage
JB99969-18.2	Sahara Feliciano	Secured Staging Area	08/05/15 12:28	Return to Storage
JB99969-18.2	Secured Staging Area	Mihir Mehta	08/05/15 13:42	Retrieve from Storage
JB99969-18.2	Mihir Mehta	VOA Prep Storage	08/05/15 16:35	Return to Storage
JB99969-18.2	VOA Prep Storage	Mihir Mehta	08/10/15 10:56	Retrieve from Storage
JB99969-18.2	Mihir Mehta	Secured Staging Area	08/10/15 10:56	Return to Storage
JB99969-18.2	Secured Staging Area	Shirley Grzybowski	08/12/15 14:08	Retrieve from Storage
JB99969-18.2	Shirley Grzybowski	Secured Storage	08/12/15 14:08	Return to Storage
JB99969-18.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-18.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-18.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-18.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-18.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-18.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-18.6	Secured Storage	Mihir Mehta	08/04/15 15:42	Retrieve from Storage
JB99969-18.6	Mihir Mehta	GCMSC	08/04/15 15:42	Load on Instrument

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
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Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-18.6	GCMSC	Mihir Mehta	08/05/15 08:05	Unload from Instrument
JB99969-18.6	Mihir Mehta		08/05/15 08:05	Depleted
JB99969-19.1	Secured Storage	Christopher Hall	07/28/15 15:18	Retrieve from Storage
JB99969-19.1	Christopher Hall	Secured Staging Area	07/28/15 15:18	Return to Storage
JB99969-19.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:20	Retrieve from Storage
JB99969-19.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-19.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-19.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-19.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-19.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-19.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:20	Extract from JB99969-19.1
JB99969-19.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-19.1
JB99969-19.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-19.1.1	Extract Storage	Ashley Noble	07/29/15 13:41	Retrieve from Storage
JB99969-19.1.1	Ashley Noble	GCMS2M	07/29/15 13:41	Load on Instrument
JB99969-19.1.1	GCMS2M	Ashley Noble	07/30/15 10:07	Unload from Instrument
JB99969-19.1.1	Ashley Noble	Extract Freezer	07/30/15 10:07	Return to Storage
JB99969-19.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-19.1
JB99969-19.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-19.1
JB99969-19.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-19.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-19.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-19.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-19.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-19.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-19.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-19.4	Secured Storage	Thien Nguyen	07/30/15 09:29	Retrieve from Storage
JB99969-19.4	Thien Nguyen	Secured Storage	07/30/15 09:29	Return to Storage
JB99969-19.4	Secured Storage	Thien Nguyen	08/03/15 10:20	Retrieve from Storage
JB99969-19.4	Thien Nguyen	Secured Staging Area	08/03/15 10:20	Return to Storage
JB99969-19.4	Secured Staging Area	Thien Nguyen	08/03/15 11:58	Retrieve from Storage
JB99969-19.4	Thien Nguyen	Secured Storage	08/03/15 11:58	Return to Storage
JB99969-20.1	Secured Storage	Christopher Hall	07/28/15 15:18	Retrieve from Storage
JB99969-20.1	Christopher Hall	Secured Staging Area	07/28/15 15:18	Return to Storage
JB99969-20.1	Secured Staging Area	Harpreet Kaur	07/28/15 15:20	Retrieve from Storage
JB99969-20.1	Harpreet Kaur	Secured Storage	07/28/15 23:07	Return to Storage
JB99969-20.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-20.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-20.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-20.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-20.1.1	Harpreet Kaur	Organics Prep	07/28/15 15:20	Extract from JB99969-20.1
JB99969-20.1.1	Organics Prep	Harpreet Kaur	07/28/15 23:07	Extract from JB99969-20.1
JB99969-20.1.1	Harpreet Kaur	Extract Storage	07/28/15 23:07	Return to Storage
JB99969-20.1.1	Extract Storage	Ashley Noble	07/29/15 13:41	Retrieve from Storage
JB99969-20.1.1	Ashley Noble	GCMS2M	07/29/15 13:41	Load on Instrument
JB99969-20.1.1	GCMS2M	Ashley Noble	07/30/15 10:07	Unload from Instrument
JB99969-20.1.1	Ashley Noble	Extract Freezer	07/30/15 10:07	Return to Storage
JB99969-20.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-20.1
JB99969-20.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-20.1
JB99969-20.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-20.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-20.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-20.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-20.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-20.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-20.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-20.5	Secured Storage	Mihir Mehta	08/04/15 15:42	Retrieve from Storage
JB99969-20.5	Mihir Mehta	GCMSC	08/04/15 15:42	Load on Instrument
JB99969-20.5	GCMSC	Mihir Mehta	08/05/15 08:05	Unload from Instrument
JB99969-20.5	Mihir Mehta		08/05/15 08:05	Depleted
JB99969-20.6	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-20.6	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-20.6	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-20.6	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-21.1	Secured Storage	Humarah Bano	07/29/15 07:26	Retrieve from Storage
JB99969-21.1	Humarah Bano	Secured Storage	07/29/15 10:06	Return to Storage
JB99969-21.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-21.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-21.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-21.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-21.1.1	Humarah Bano	Organics Prep	07/29/15 07:33	Extract from JB99969-21.1
JB99969-21.1.1	Organics Prep	Nida Rizvi	07/29/15 15:56	Extract from JB99969-21.1
JB99969-21.1.1	Nida Rizvi	Extract Storage	07/29/15 15:56	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-21.1.1	Extract Storage	Ashley Dye	07/29/15 17:56	Retrieve from Storage
JB99969-21.1.1	Ashley Dye	GCMS2P	07/29/15 17:56	Load on Instrument
JB99969-21.1.1	GCMS2P	Samta Patel	08/04/15 14:41	Unload from Instrument
JB99969-21.1.1	Samta Patel	Extract Freezer	08/04/15 14:41	Return to Storage
JB99969-21.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-21.1
JB99969-21.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-21.1
JB99969-21.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-21.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-21.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-21.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-21.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-21.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-21.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-21.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-21.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-21.5	Secured Storage	Mihir Mehta	08/06/15 14:53	Retrieve from Storage
JB99969-21.5	Mihir Mehta	GCMSC	08/06/15 14:53	Load on Instrument
JB99969-21.5	GCMSC	Mihir Mehta	08/07/15 14:59	Unload from Instrument
JB99969-21.5	Mihir Mehta		08/07/15 15:00	Depleted
JB99969-21.6	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-21.6	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-21.6	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-21.6	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-22.1	Secured Storage	Humarah Bano	07/29/15 07:26	Retrieve from Storage
JB99969-22.1	Humarah Bano	Secured Storage	07/29/15 10:06	Return to Storage
JB99969-22.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-22.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-22.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-22.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-22.1.1	Humarah Bano	Organics Prep	07/29/15 07:33	Extract from JB99969-22.1
JB99969-22.1.1	Organics Prep	Nida Rizvi	07/29/15 15:56	Extract from JB99969-22.1
JB99969-22.1.1	Nida Rizvi	Extract Storage	07/29/15 15:56	Return to Storage
JB99969-22.1.1	Extract Storage	Ashley Dye	07/29/15 17:56	Retrieve from Storage
JB99969-22.1.1	Ashley Dye	GCMS2P	07/29/15 17:56	Load on Instrument
JB99969-22.1.1	GCMS2P	Samta Patel	08/04/15 14:41	Unload from Instrument
JB99969-22.1.1	Samta Patel	Extract Freezer	08/04/15 14:41	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-22.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-22.1
JB99969-22.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-22.1
JB99969-22.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-22.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-22.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-22.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-22.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-22.2	Secured Storage	Sahara Feliciano	08/05/15 12:28	Retrieve from Storage
JB99969-22.2	Sahara Feliciano	Secured Staging Area	08/05/15 12:28	Return to Storage
JB99969-22.2	Secured Staging Area	Mihir Mehta	08/05/15 13:42	Retrieve from Storage
JB99969-22.2	Mihir Mehta	VOA Prep Storage	08/05/15 16:35	Return to Storage
JB99969-22.2	VOA Prep Storage	Mihir Mehta	08/10/15 10:56	Retrieve from Storage
JB99969-22.2	Mihir Mehta	Secured Staging Area	08/10/15 10:56	Return to Storage
JB99969-22.2	Secured Staging Area	Shirley Grzybowski	08/12/15 14:08	Retrieve from Storage
JB99969-22.2	Shirley Grzybowski	Secured Storage	08/12/15 14:08	Return to Storage
JB99969-22.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-22.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-22.4	Secured Storage	Thien Nguyen	08/06/15 14:17	Retrieve from Storage
JB99969-22.4	Thien Nguyen	Secured Storage	08/06/15 14:17	Return to Storage
JB99969-22.5	Secured Storage	Mihir Mehta	08/04/15 15:42	Retrieve from Storage
JB99969-22.5	Mihir Mehta	GCMSC	08/04/15 15:42	Load on Instrument
JB99969-22.5	GCMSC	Mihir Mehta	08/05/15 08:05	Unload from Instrument
JB99969-22.5	Mihir Mehta		08/05/15 08:05	Depleted
JB99969-22.6	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-22.6	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-22.6	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-22.6	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-23.1	Secured Storage	Humarah Bano	07/29/15 07:26	Retrieve from Storage
JB99969-23.1	Humarah Bano	Secured Storage	07/29/15 10:06	Return to Storage
JB99969-23.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-23.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-23.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-23.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-23.1.1	Humarah Bano	Organics Prep	07/29/15 07:33	Extract from JB99969-23.1
JB99969-23.1.1	Organics Prep	Nida Rizvi	07/29/15 15:56	Extract from JB99969-23.1
JB99969-23.1.1	Nida Rizvi	Extract Storage	07/29/15 15:56	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-23.1.1	Extract Storage	Ashley Dye	07/29/15 17:56	Retrieve from Storage
JB99969-23.1.1	Ashley Dye	GCMS2P	07/29/15 17:56	Load on Instrument
JB99969-23.1.1	GCMS2P	Samta Patel	08/04/15 14:41	Unload from Instrument
JB99969-23.1.1	Samta Patel	Extract Freezer	08/04/15 14:41	Return to Storage
JB99969-23.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-23.1
JB99969-23.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-23.1
JB99969-23.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-23.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-23.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-23.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-23.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-23.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-23.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-23.4	Secured Storage	Thien Nguyen	08/04/15 09:25	Retrieve from Storage
JB99969-23.4	Thien Nguyen	Secured Storage	08/04/15 09:25	Return to Storage
JB99969-23.5	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-23.5	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-23.5	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-23.5	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-24.1	Secured Storage	Humarah Bano	07/29/15 07:26	Retrieve from Storage
JB99969-24.1	Humarah Bano	Secured Storage	07/29/15 10:06	Return to Storage
JB99969-24.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-24.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-24.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-24.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-24.1.1	Humarah Bano	Organics Prep	07/29/15 07:33	Extract from JB99969-24.1
JB99969-24.1.1	Organics Prep	Nida Rizvi	07/29/15 15:56	Extract from JB99969-24.1
JB99969-24.1.1	Nida Rizvi	Extract Storage	07/29/15 15:56	Return to Storage
JB99969-24.1.1	Extract Storage	Ashley Dye	07/29/15 17:56	Retrieve from Storage
JB99969-24.1.1	Ashley Dye	GCMS2P	07/29/15 17:56	Load on Instrument
JB99969-24.1.1	GCMS2P	Samta Patel	08/04/15 14:41	Unload from Instrument
JB99969-24.1.1	Samta Patel	Extract Freezer	08/04/15 14:41	Return to Storage
JB99969-24.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-24.1
JB99969-24.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-24.1
JB99969-24.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-24.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-24.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-24.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-24.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-24.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-24.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-24.5	Secured Storage	Mihir Mehta	08/04/15 15:42	Retrieve from Storage
JB99969-24.5	Mihir Mehta	GCMSC	08/04/15 15:42	Load on Instrument
JB99969-24.5	GCMSC	Mihir Mehta	08/05/15 08:05	Unload from Instrument
JB99969-24.5	Mihir Mehta		08/05/15 08:05	Depleted
JB99969-24.6	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-24.6	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-24.6	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-24.6	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-25.1	Secured Storage	Humarah Bano	07/29/15 07:26	Retrieve from Storage
JB99969-25.1	Humarah Bano	Secured Storage	07/29/15 10:06	Return to Storage
JB99969-25.1	Secured Storage	Alfredo Crespo	07/30/15 07:35	Retrieve from Storage
JB99969-25.1	Alfredo Crespo	Secured Staging Area	07/30/15 07:35	Return to Storage
JB99969-25.1	Secured Staging Area	Michael Obasidey	07/30/15 09:56	Retrieve from Storage
JB99969-25.1	Michael Obasidey	Secured Storage	07/30/15 12:11	Return to Storage
JB99969-25.1.1	Humarah Bano	Organics Prep	07/29/15 07:33	Extract from JB99969-25.1
JB99969-25.1.1	Organics Prep	Nida Rizvi	07/29/15 15:56	Extract from JB99969-25.1
JB99969-25.1.1	Nida Rizvi	Extract Storage	07/29/15 15:56	Return to Storage
JB99969-25.1.1	Extract Storage	Ashley Dye	07/29/15 17:56	Retrieve from Storage
JB99969-25.1.1	Ashley Dye	GCMS2P	07/29/15 17:56	Load on Instrument
JB99969-25.1.1	GCMS2P	Samta Patel	08/04/15 14:41	Unload from Instrument
JB99969-25.1.1	Samta Patel	Extract Freezer	08/04/15 14:41	Return to Storage
JB99969-25.1.2	Michael Obasidey	Metals Digestion	07/30/15 12:10	Digestate from JB99969-25.1
JB99969-25.1.2	Metals Digestion	Michael Obasidey	07/30/15 12:10	Digestate from JB99969-25.1
JB99969-25.1.2	Michael Obasidey	Metals Digestate Storage	07/30/15 12:10	Return to Storage
JB99969-25.2	Secured Storage	Todd Shoemaker	07/28/15 13:38	Retrieve from Storage
JB99969-25.2	Todd Shoemaker	Secured Staging Area	07/28/15 13:39	Return to Storage
JB99969-25.2	Secured Staging Area	Kruti Patel	07/28/15 14:30	Retrieve from Storage
JB99969-25.2	Kruti Patel	Secured Storage	07/28/15 15:49	Return to Storage
JB99969-25.2	Secured Storage	Sahara Feliciano	08/05/15 12:28	Retrieve from Storage
JB99969-25.2	Sahara Feliciano	Secured Staging Area	08/05/15 12:28	Return to Storage
JB99969-25.2	Secured Staging Area	Mihir Mehta	08/05/15 13:42	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Received: 07/24/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB99969-25.2	Mihir Mehta	VOA Prep Storage	08/05/15 16:35	Return to Storage
JB99969-25.2	VOA Prep Storage	Mihir Mehta	08/10/15 10:56	Retrieve from Storage
JB99969-25.2	Mihir Mehta	Secured Staging Area	08/10/15 10:56	Return to Storage
JB99969-25.2	Secured Staging Area	Shirley Grzybowski	08/12/15 14:08	Retrieve from Storage
JB99969-25.2	Shirley Grzybowski	Secured Storage	08/12/15 14:08	Return to Storage
JB99969-25.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-25.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract
JB99969-25.4	Secured Storage	Thien Nguyen	08/06/15 14:17	Retrieve from Storage
JB99969-25.4	Thien Nguyen	Secured Storage	08/06/15 14:17	Return to Storage
JB99969-25.5	Secured Storage	Mihir Mehta	08/04/15 15:42	Retrieve from Storage
JB99969-25.5	Mihir Mehta	GCMSC	08/04/15 15:42	Load on Instrument
JB99969-25.5	GCMSC	Mihir Mehta	08/05/15 08:05	Unload from Instrument
JB99969-25.5	Mihir Mehta		08/05/15 08:05	Depleted
JB99969-25.6	Secured Storage	Mihir Mehta	07/31/15 15:42	Retrieve from Storage
JB99969-25.6	Mihir Mehta	GCMSC	07/31/15 15:42	Load on Instrument
JB99969-25.6	GCMSC	Mihir Mehta	08/03/15 08:41	Unload from Instrument
JB99969-25.6	Mihir Mehta	Secured Storage	08/03/15 08:41	Return to Storage
JB99969-26.1	Secured Storage	Mihir Mehta	08/04/15 15:42	Retrieve from Storage
JB99969-26.1	Mihir Mehta	GCMSC	08/04/15 15:42	Load on Instrument
JB99969-26.1	GCMSC	Mihir Mehta	08/05/15 08:05	Unload from Instrument
JB99969-26.1	Mihir Mehta		08/05/15 08:05	Depleted
JB99969-26.3	Secured Storage	Bernadette Vassilatos	07/28/15 11:19	Retrieve from Storage
JB99969-26.3	Bernadette Vassilatos		07/28/15 11:19	Subcontract

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9987-MB1	E227909.D	1	07/30/15	TDN	n/a	n/a	VE9987

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

JB99969-9

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	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	
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	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	104%	68-124%
2037-26-5	Toluene-D8	98%	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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9987-MB2	E227934.D	1	07/31/15	TDN	n/a	n/a	VE9987

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

JB99969-14, JB99969-19

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	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	
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	94%	70-122%
17060-07-0	1,2-Dichloroethane-D4	97%	68-124%
2037-26-5	Toluene-D8	97%	77-125%
460-00-4	4-Bromofluorobenzene	101%	72-130%

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V889-MB1	3V21397.D	1	07/31/15	TDN	n/a	n/a	V3V889

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

JB99969-8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	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	
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	85%	68-124%
2037-26-5	Toluene-D8	97%	77-125%
460-00-4	4-Bromofluorobenzene	98%	72-130%

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

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9988-MB1	E227950.D	1	07/31/15	TDN	n/a	n/a	VE9988

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

JB99969-7, JB99969-9, JB99969-14, JB99969-17

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	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	95%	70-122%
17060-07-0	1,2-Dichloroethane-D4	100%	68-124%
2037-26-5	Toluene-D8	99%	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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC7427-MB1	C202358.D	1	07/31/15	MM	n/a	n/a	VC7427

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

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-11, JB99969-12, JB99969-13, JB99969-18

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	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	
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	90%	70-122%
17060-07-0	1,2-Dichloroethane-D4	90%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	104%	72-130%

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V891-MB1	3V21448.D	1	08/03/15	TDN	n/a	n/a	V3V891

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

JB99969-7

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.13	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.16	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	97%	70-122%
17060-07-0	1,2-Dichloroethane-D4	93%	68-124%
2037-26-5	Toluene-D8	97%	77-125%
460-00-4	4-Bromofluorobenzene	99%	72-130%

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

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9990-MB1	E227984.D	1	08/03/15	TDN	n/a	n/a	VE9990

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

JB99969-9, JB99969-10, JB99969-14, JB99969-19

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	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	95%	70-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	99%	77-125%
460-00-4	4-Bromofluorobenzene	100%	72-130%

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

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9991-MB1	E228007.D	1	08/04/15	TDN	n/a	n/a	VE9991

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

JB99969-1, JB99969-2, JB99969-4, JB99969-6, JB99969-11, JB99969-12, JB99969-23

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	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	95%	70-122%
17060-07-0	1,2-Dichloroethane-D4	98%	68-124%
2037-26-5	Toluene-D8	99%	77-125%
460-00-4	4-Bromofluorobenzene	99%	72-130%

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

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC7430-MB	C202470.D	1	08/04/15	MM	n/a	n/a	VC7430

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

JB99969-20, JB99969-24, JB99969-26

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	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	
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	90%	70-122%
17060-07-0	1,2-Dichloroethane-D4	89%	68-124%
2037-26-5	Toluene-D8	101%	77-125%
460-00-4	4-Bromofluorobenzene	103%	72-130%

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

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV6551-MB	V154645.D	1	08/05/15	PR	n/a	n/a	VV6551

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

JB99969-16

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	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	
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	103%	70-122%
17060-07-0	1,2-Dichloroethane-D4	100%	68-124%
2037-26-5	Toluene-D8	99%	77-125%
460-00-4	4-Bromofluorobenzene	95%	72-130%

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

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9993-MB1	E228062.D	1	08/06/15	TDN	n/a	n/a	VE9993

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

JB99969-22, JB99969-25

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	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	98%	70-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	98%	77-125%
460-00-4	4-Bromofluorobenzene	97%	72-130%

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

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC7433-MB1	C202546.D	1	08/06/15	MM	n/a	n/a	VC7433

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

JB99969-15, JB99969-21

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	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	
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	94%	70-122%
17060-07-0	1,2-Dichloroethane-D4	94%	68-124%
2037-26-5	Toluene-D8	99%	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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD9527-MB	D232885.D	1	08/07/15	BM	n/a	n/a	VD9527

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

JB99969-15

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	94%	68-124%
2037-26-5	Toluene-D8	98%	77-125%
460-00-4	4-Bromofluorobenzene	97%	72-130%

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

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9987-BS	E227910.D	1	07/30/15	TDN	n/a	n/a	VE9987

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

JB99969-9, JB99969-14, JB99969-19

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2570	103	77-122
107-06-2	1,2-Dichloroethane	2500	2940	118	77-140
100-41-4	Ethylbenzene	2500	2610	104	75-121
98-82-8	Isopropylbenzene	2500	2760	110	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	4470	89	77-121
91-20-3	Naphthalene	2500	2110	84	74-126
95-63-6	1,2,4-Trimethylbenzene	2500	2910	116	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2780	111	72-124
1330-20-7	Xylene (total)	7500	7990	107	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	70-122%
17060-07-0	1,2-Dichloroethane-D4	105%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	103%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V889-BS	3V21398.D	1	07/31/15	TDN	n/a	n/a	V3V889

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

JB99969-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	46.5	93	77-122
107-06-2	1,2-Dichloroethane	50	45.4	91	77-140
100-41-4	Ethylbenzene	50	46.8	94	75-121
98-82-8	Isopropylbenzene	50	48.3	97	70-126
1634-04-4	Methyl Tert Butyl Ether	100	82.0	82	77-121
91-20-3	Naphthalene	50	52.2	104	74-126
108-88-3	Toluene	50	46.0	92	75-123
95-63-6	1,2,4-Trimethylbenzene	50	48.3	97	75-126
108-67-8	1,3,5-Trimethylbenzene	50	47.5	95	72-124
1330-20-7	Xylene (total)	150	146	97	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	70-122%
17060-07-0	1,2-Dichloroethane-D4	102%	68-124%
2037-26-5	Toluene-D8	98%	77-125%
460-00-4	4-Bromofluorobenzene	95%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9988-BS	E227951.D	1	07/31/15	TDN	n/a	n/a	VE9988

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

JB99969-7, JB99969-9, JB99969-14, JB99969-17

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2420	97	77-122
107-06-2	1,2-Dichloroethane	2500	2800	112	77-140
100-41-4	Ethylbenzene	2500	2470	99	75-121
98-82-8	Isopropylbenzene	2500	2580	103	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	4150	83	77-121
91-20-3	Naphthalene	2500	2000	80	74-126
108-88-3	Toluene	2500	2340	94	75-123
95-63-6	1,2,4-Trimethylbenzene	2500	2730	109	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2600	104	72-124
1330-20-7	Xylene (total)	7500	7680	102	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	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	101%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC7427-BS	C202359.D	1	07/31/15	MM	n/a	n/a	VC7427

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

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-11, JB99969-12, JB99969-13, JB99969-18

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	46.4	93	77-122
107-06-2	1,2-Dichloroethane	50	50.6	101	77-140
100-41-4	Ethylbenzene	50	50.0	100	75-121
98-82-8	Isopropylbenzene	50	52.6	105	70-126
1634-04-4	Methyl Tert Butyl Ether	100	91.4	91	77-121
91-20-3	Naphthalene	50	49.5	99	74-126
108-88-3	Toluene	50	48.8	98	75-123
95-63-6	1,2,4-Trimethylbenzene	50	52.7	105	75-126
108-67-8	1,3,5-Trimethylbenzene	50	51.1	102	72-124
1330-20-7	Xylene (total)	150	155	103	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	70-122%
17060-07-0	1,2-Dichloroethane-D4	101%	68-124%
2037-26-5	Toluene-D8	99%	77-125%
460-00-4	4-Bromofluorobenzene	101%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V891-BS	3V21449.D	1	08/03/15	TDN	n/a	n/a	V3V891

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

JB99969-7

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
107-06-2	1,2-Dichloroethane	50	45.8	92	77-140
100-41-4	Ethylbenzene	50	48.0	96	75-121
98-82-8	Isopropylbenzene	50	48.0	96	70-126
1634-04-4	Methyl Tert Butyl Ether	100	81.7	82	77-121
91-20-3	Naphthalene	50	47.9	96	74-126
108-88-3	Toluene	50	47.3	95	75-123
95-63-6	1,2,4-Trimethylbenzene	50	49.1	98	75-126
108-67-8	1,3,5-Trimethylbenzene	50	48.0	96	72-124
1330-20-7	Xylene (total)	150	149	99	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	70-122%
17060-07-0	1,2-Dichloroethane-D4	98%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	96%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9990-BS	E227985.D	1	08/03/15	TDN	n/a	n/a	VE9990

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

JB99969-9, JB99969-10, JB99969-14, JB99969-19

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2470	99	77-122
107-06-2	1,2-Dichloroethane	2500	2810	112	77-140
100-41-4	Ethylbenzene	2500	2510	100	75-121
98-82-8	Isopropylbenzene	2500	2580	103	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	4200	84	77-121
91-20-3	Naphthalene	2500	2070	83	74-126
108-88-3	Toluene	2500	2360	94	75-123
95-63-6	1,2,4-Trimethylbenzene	2500	2720	109	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2610	104	72-124
1330-20-7	Xylene (total)	7500	7810	104	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	99%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9991-BS	E228008.D	1	08/04/15	TDN	n/a	n/a	VE9991

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

JB99969-1, JB99969-2, JB99969-4, JB99969-6, JB99969-11, JB99969-12, JB99969-23

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2450	98	77-122
107-06-2	1,2-Dichloroethane	2500	2760	110	77-140
100-41-4	Ethylbenzene	2500	2480	99	75-121
98-82-8	Isopropylbenzene	2500	2600	104	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	4150	83	77-121
91-20-3	Naphthalene	2500	2070	83	74-126
108-88-3	Toluene	2500	2370	95	75-123
95-63-6	1,2,4-Trimethylbenzene	2500	2710	108	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2640	106	72-124
1330-20-7	Xylene (total)	7500	7750	103	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	70-122%
17060-07-0	1,2-Dichloroethane-D4	101%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	99%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC7430-BS	C202471.D	1	08/04/15	MM	n/a	n/a	VC7430

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

JB99969-20, JB99969-24, JB99969-26

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	46.8	94	77-122
107-06-2	1,2-Dichloroethane	50	50.9	102	77-140
100-41-4	Ethylbenzene	50	50.1	100	75-121
98-82-8	Isopropylbenzene	50	55.2	110	70-126
1634-04-4	Methyl Tert Butyl Ether	100	89.1	89	77-121
91-20-3	Naphthalene	50	52.9	106	74-126
108-88-3	Toluene	50	46.7	93	75-123
95-63-6	1,2,4-Trimethylbenzene	50	53.4	107	75-126
108-67-8	1,3,5-Trimethylbenzene	50	52.7	105	72-124
1330-20-7	Xylene (total)	150	156	104	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	70-122%
17060-07-0	1,2-Dichloroethane-D4	104%	68-124%
2037-26-5	Toluene-D8	96%	77-125%
460-00-4	4-Bromofluorobenzene	102%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV6551-BS	V154646.D	1	08/05/15	PR	n/a	n/a	VV6551

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

JB99969-16

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	54.2	108	77-122
107-06-2	1,2-Dichloroethane	50	55.6	111	77-140
100-41-4	Ethylbenzene	50	56.4	113	75-121
98-82-8	Isopropylbenzene	50	59.6	119	70-126
1634-04-4	Methyl Tert Butyl Ether	100	102	102	77-121
91-20-3	Naphthalene	50	46.9	94	74-126
108-88-3	Toluene	50	56.8	114	75-123
95-63-6	1,2,4-Trimethylbenzene	50	60.1	120	75-126
108-67-8	1,3,5-Trimethylbenzene	50	59.5	119	72-124
1330-20-7	Xylene (total)	150	173	115	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	94%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9993-BS	E228064.D	1	08/06/15	TDN	n/a	n/a	VE9993

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

JB99969-22, JB99969-25

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2570	103	77-122
107-06-2	1,2-Dichloroethane	2500	2790	112	77-140
100-41-4	Ethylbenzene	2500	2600	104	75-121
98-82-8	Isopropylbenzene	2500	2750	110	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	4210	84	77-121
91-20-3	Naphthalene	2500	2160	86	74-126
108-88-3	Toluene	2500	2480	99	75-123
95-63-6	1,2,4-Trimethylbenzene	2500	2840	114	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2760	110	72-124
1330-20-7	Xylene (total)	7500	8090	108	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	70-122%
17060-07-0	1,2-Dichloroethane-D4	101%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	98%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC7433-BS	C202547.D	1	08/06/15	MM	n/a	n/a	VC7433

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

JB99969-15, JB99969-21

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	48.2	96	77-122
107-06-2	1,2-Dichloroethane	50	51.0	102	77-140
100-41-4	Ethylbenzene	50	51.4	103	75-121
98-82-8	Isopropylbenzene	50	54.6	109	70-126
1634-04-4	Methyl Tert Butyl Ether	100	93.1	93	77-121
91-20-3	Naphthalene	50	53.0	106	74-126
108-88-3	Toluene	50	49.5	99	75-123
95-63-6	1,2,4-Trimethylbenzene	50	54.2	108	75-126
108-67-8	1,3,5-Trimethylbenzene	50	52.9	106	72-124
1330-20-7	Xylene (total)	150	161	107	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	70-122%
17060-07-0	1,2-Dichloroethane-D4	98%	68-124%
2037-26-5	Toluene-D8	97%	77-125%
460-00-4	4-Bromofluorobenzene	104%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD9527-BS	D232886.D	1	08/07/15	BM	n/a	n/a	VD9527

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

JB99969-15

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2230	89	77-122

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	70-122%
17060-07-0	1,2-Dichloroethane-D4	94%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	97%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99985-26MS	3V21410.D	1	07/31/15	TDN	n/a	n/a	V3V889
JB99985-26	3V21400.D	1	07/31/15	TDN	n/a	n/a	V3V889

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

JB99969-8

CAS No.	Compound	JB99985-26 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		69.3	56.9	82	48-136
107-06-2	1,2-Dichloroethane	ND		69.3	54.4	79	56-140
100-41-4	Ethylbenzene	ND		69.3	55.7	80	34-145
98-82-8	Isopropylbenzene	ND		69.3	54.9	79	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		69.3	49.6	72	54-129
91-20-3	Naphthalene	ND		69.3	47.8	69	12-160
108-88-3	Toluene	0.47	J	69.3	51.9	74	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		69.3	52.4	76	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		69.3	53.4	77	26-150
1330-20-7	Xylene (total)	ND		208	171	82	34-146

CAS No.	Surrogate Recoveries	MS	JB99985-26	Limits
1868-53-7	Dibromofluoromethane	98%	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	95%	96%	68-124%
2037-26-5	Toluene-D8	98%	97%	77-125%
460-00-4	4-Bromofluorobenzene	95%	100%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99969-3MS	C202366.D	1	07/31/15	MM	n/a	n/a	VC7427
JB99969-3	C202363.D	1	07/31/15	MM	n/a	n/a	VC7427

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

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-11, JB99969-12, JB99969-13, JB99969-18

CAS No.	Compound	JB99969-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	145		46.1	198	115	48-136
107-06-2	1,2-Dichloroethane	ND		46.1	38.3	83	56-140
100-41-4	Ethylbenzene	ND		46.1	35.2	76	34-145
98-82-8	Isopropylbenzene	ND		46.1	37.4	81	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		46.1	37.5	81	54-129
91-20-3	Naphthalene	ND		46.1	38.6	84	12-160
108-88-3	Toluene	1.0		46.1	35.9	76	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		46.1	34.6	75	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		46.1	35.6	77	26-150
1330-20-7	Xylene (total)	ND		138	109	79	34-146

CAS No.	Surrogate Recoveries	MS	JB99969-3	Limits
1868-53-7	Dibromofluoromethane	104%	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	105%	105%	68-124%
2037-26-5	Toluene-D8	98%	103%	77-125%
460-00-4	4-Bromofluorobenzene	102%	102%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99971-10MS	3V21457.D	1	08/03/15	TDN	n/a	n/a	V3V891
JB99971-10	3V21452.D	1	08/03/15	TDN	n/a	n/a	V3V891

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

JB99969-7

CAS No.	Compound	JB99971-10 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
107-06-2	1,2-Dichloroethane	ND		61.1	50.5	83	56-140
100-41-4	Ethylbenzene	ND		61.1	55.9	91	34-145
98-82-8	Isopropylbenzene	ND		61.1	58.4	96	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		61.1	45.9	75	54-129
91-20-3	Naphthalene	ND		61.1	51.3	84	12-160
108-88-3	Toluene	1.0	J	61.1	52.4	84	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		61.1	57.0	93	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		61.1	58.1	95	26-150
1330-20-7	Xylene (total)	ND		183	172	94	34-146

CAS No.	Surrogate Recoveries	MS	JB99971-10	Limits
1868-53-7	Dibromofluoromethane	98%	100%	70-122%
17060-07-0	1,2-Dichloroethane-D4	96%	98%	68-124%
2037-26-5	Toluene-D8	99%	99%	77-125%
460-00-4	4-Bromofluorobenzene	96%	98%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC625-3MS	C202479.D	1	08/04/15	MM	n/a	n/a	VC7430
JC625-3	C202475.D	1	08/04/15	MM	n/a	n/a	VC7430

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

JB99969-20, JB99969-24, JB99969-26

CAS No.	Compound	JC625-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		45.3	34.4	76	48-136
107-06-2	1,2-Dichloroethane	ND		45.3	39.5	87	56-140
100-41-4	Ethylbenzene	ND		45.3	37.2	82	34-145
98-82-8	Isopropylbenzene	ND		45.3	39.6	87	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		45.3	36.4	80	54-129
91-20-3	Naphthalene	ND		45.3	41.0	90	12-160
108-88-3	Toluene	ND		45.3	35.4	78	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		45.3	37.5	83	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		45.3	38.4	85	26-150
1330-20-7	Xylene (total)	ND		136	116	85	34-146

CAS No.	Surrogate Recoveries	MS	JC625-3	Limits
1868-53-7	Dibromofluoromethane	98%	95%	70-122%
17060-07-0	1,2-Dichloroethane-D4	96%	95%	68-124%
2037-26-5	Toluene-D8	97%	98%	77-125%
460-00-4	4-Bromofluorobenzene	102%	100%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC197-6MS	V154656.D	1	08/05/15	PR	n/a	n/a	VV6551
JC197-6	V154651.D	1	08/05/15	PR	n/a	n/a	VV6551

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

JB99969-16

CAS No.	Compound	JC197-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		58.6	36.8	63	48-136
107-06-2	1,2-Dichloroethane	ND		58.6	34.6	59	56-140
100-41-4	Ethylbenzene	ND		58.6	33.6	57	34-145
98-82-8	Isopropylbenzene	ND		58.6	34.0	58	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		58.6	32.4	55	54-129
91-20-3	Naphthalene	0.29	J	58.6	11.8	20	12-160
108-88-3	Toluene	0.33	J	58.6	37.0	63	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		58.6	26.0	44	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		58.6	28.9	49	26-150
1330-20-7	Xylene (total)	ND		176	95.0	54	34-146

CAS No.	Surrogate Recoveries	MS	JC197-6	Limits
1868-53-7	Dibromofluoromethane	106%	107%	70-122%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	68-124%
2037-26-5	Toluene-D8	99%	99%	77-125%
460-00-4	4-Bromofluorobenzene	94%	98%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC158-2MS	C202553.D	1	08/06/15	MM	n/a	n/a	VC7433
JC158-2	C202550.D	1	08/06/15	MM	n/a	n/a	VC7433

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

JB99969-15, JB99969-21

CAS No.	Compound	JC158-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		67.4	48.8	72	48-136
107-06-2	1,2-Dichloroethane	ND		67.4	55.2	82	56-140
100-41-4	Ethylbenzene	ND		67.4	52.3	78	34-145
98-82-8	Isopropylbenzene	ND		67.4	55.7	83	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		67.4	51.6	77	54-129
91-20-3	Naphthalene	ND		67.4	59.1	88	12-160
108-88-3	Toluene	ND		67.4	49.5	73	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		67.4	53.1	79	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		67.4	54.2	80	26-150
1330-20-7	Xylene (total)	ND		202	162	80	34-146

CAS No.	Surrogate Recoveries	MS	JC158-2	Limits
1868-53-7	Dibromofluoromethane	96%	94%	70-122%
17060-07-0	1,2-Dichloroethane-D4	97%	99%	68-124%
2037-26-5	Toluene-D8	96%	96%	77-125%
460-00-4	4-Bromofluorobenzene	103%	101%	72-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99889-6MS	E227914.D	1	07/30/15	TDN	n/a	n/a	VE9987
JB99889-6MSD	E227915.D	1	07/30/15	TDN	n/a	n/a	VE9987
JB99889-6	E227912.D	1	07/30/15	TDN	n/a	n/a	VE9987

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

JB99969-9, JB99969-14, JB99969-19

CAS No.	Compound	JB99889-6 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	81.8		3540	3200	88	3540	3170	87	1	48-136/30
107-06-2	1,2-Dichloroethane	ND		3540	3720	105	3540	3700	104	1	56-140/24
100-41-4	Ethylbenzene	6730		3540	9610	81	3540	9690	84	1	34-145/29
98-82-8	Isopropylbenzene	1080		3540	4400	94	3540	4350	92	1	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND		3540	3150	89	3540	3140	89	0	54-129/25
91-20-3	Naphthalene	3890		3540	6730	80	3540	6810	82	1	12-160/33
95-63-6	1,2,4-Trimethylbenzene	21300	E	3540	24300	85	3540	24500	90	1	23-152/31
108-67-8	1,3,5-Trimethylbenzene	5770		3540	9430	103	3540	9470	104	0	26-150/32
1330-20-7	Xylene (total)	21700		10600	30400	82	10600	30800	86	1	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JB99889-6	Limits
1868-53-7	Dibromofluoromethane	100%	101%	101%	70-122%
17060-07-0	1,2-Dichloroethane-D4	109%	106%	108%	68-124%
2037-26-5	Toluene-D8	102%	102%	101%	77-125%
460-00-4	4-Bromofluorobenzene	100%	100%	98%	72-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99969-17MS	E227962.D	1	07/31/15	TDN	n/a	n/a	VE9988
JB99969-17MSD	E227963.D	1	07/31/15	TDN	n/a	n/a	VE9988
JB99969-17 [a]	E227955.D	1	07/31/15	TDN	n/a	n/a	VE9988

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

JB99969-7, JB99969-9, JB99969-14, JB99969-17

CAS No.	Compound	JB99969-17 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	4330		5130	8830	88	5130	9120	93	3	48-136/30
107-06-2	1,2-Dichloroethane	ND		5130	5540	108	5130	5660	110	2	56-140/24
100-41-4	Ethylbenzene	ND		5130	5030	98	5130	5150	100	2	34-145/29
98-82-8	Isopropylbenzene	ND		5130	5180	101	5130	5350	104	3	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND		5130	4500	88	5130	4430	86	2	54-129/25
91-20-3	Naphthalene	ND		5130	4460	87	5130	4510	88	1	12-160/33
108-88-3	Toluene	25.1	J	5130	4700	91	5130	4810	93	2	40-141/30
95-63-6	1,2,4-Trimethylbenzene	ND		5130	5310	104	5130	5380	105	1	23-152/31
108-67-8	1,3,5-Trimethylbenzene	ND		5130	5280	103	5130	5430	106	3	26-150/32
1330-20-7	Xylene (total)	ND		15400	15200	99	15400	15500	101	2	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JB99969-17	Limits
1868-53-7	Dibromofluoromethane	95%	95%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	100%	100%	100%	68-124%
2037-26-5	Toluene-D8	99%	98%	98%	77-125%
460-00-4	4-Bromofluorobenzene	100%	102%	101%	72-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99969-10MS	E228000.D	1	08/03/15	TDN	n/a	n/a	VE9990
JB99969-10MSD	E228001.D	1	08/03/15	TDN	n/a	n/a	VE9990
JB99969-10	E227989.D	1	08/03/15	TDN	n/a	n/a	VE9990
JB99969-10	E227990.D	1	08/03/15	TDN	n/a	n/a	VE9990

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

JB99969-9, JB99969-10, JB99969-14, JB99969-19

CAS No.	Compound	JB99969-10 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	860000		148000	836000	-16* [a]	148000	850000	-7* [a]	2	48-136/30
107-06-2	1,2-Dichloroethane	ND [b]		148000	180000	121	148000	182000	123	1	56-140/24
100-41-4	Ethylbenzene	ND [b]		148000	147000	99	148000	151000	102	3	34-145/29
98-82-8	Isopropylbenzene	ND [b]		148000	156000	105	148000	155000	105	1	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND [b]		148000	130000	88	148000	134000	90	3	54-129/25
91-20-3	Naphthalene	ND [b]		148000	128000	86	148000	130000	88	2	12-160/33
108-88-3	Toluene	1810 [b]	J	148000	140000	93	148000	142000	95	1	40-141/30
95-63-6	1,2,4-Trimethylbenzene	ND [b]		148000	155000	105	148000	158000	107	2	23-152/31
108-67-8	1,3,5-Trimethylbenzene	ND [b]		148000	156000	105	148000	158000	107	1	26-150/32
1330-20-7	Xylene (total)	ND [b]		445000	450000	101	445000	461000	104	2	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JB99969-10	JB99969-10	Limits
1868-53-7	Dibromofluoromethane	97%	98%	98%	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	102%	102%	103%	103%	68-124%
2037-26-5	Toluene-D8	99%	99%	98%	98%	77-125%
460-00-4	4-Bromofluorobenzene	100%	101%	104%	101%	72-130%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99969-21MS	E228013.D	1	08/04/15	TDN	n/a	n/a	VE9991
JB99969-21MSD	E228014.D	1	08/04/15	TDN	n/a	n/a	VE9991
JB99969-21 [a]	E228010.D	1	08/04/15	TDN	n/a	n/a	VE9991

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

JB99969-1, JB99969-2, JB99969-4, JB99969-6, JB99969-11, JB99969-12, JB99969-23

CAS No.	Compound	JB99969-21 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		6150	5700	93	6150	5660	92	1	48-136/30
107-06-2	1,2-Dichloroethane	ND		6150	6560	107	6150	6520	106	1	56-140/24
100-41-4	Ethylbenzene	ND		6150	5730	93	6150	5720	93	0	34-145/29
98-82-8	Isopropylbenzene	ND		6150	6030	98	6150	5860	95	3	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND		6150	5330	87	6150	5400	88	1	54-129/25
91-20-3	Naphthalene	ND		6150	5230	85	6150	5350	87	2	12-160/33
108-88-3	Toluene	33.4	J	6150	5560	90	6150	5500	89	1	40-141/30
95-63-6	1,2,4-Trimethylbenzene	ND		6150	6250	102	6150	6170	100	1	23-152/31
108-67-8	1,3,5-Trimethylbenzene	ND		6150	6240	101	6150	6150	100	1	26-150/32
1330-20-7	Xylene (total)	ND		18500	17700	96	18500	17700	96	0	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JB99969-21	Limits
1868-53-7	Dibromofluoromethane	97%	98%		70-122%
17060-07-0	1,2-Dichloroethane-D4	101%	103%		68-124%
2037-26-5	Toluene-D8	100%	99%		77-125%
460-00-4	4-Bromofluorobenzene	101%	100%		72-130%

(a) Sample used for QC purposes only.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC603-2MS	E228077.D	1	08/06/15	TDN	n/a	n/a	VE9993
JC603-2MSD	E228078.D	1	08/06/15	TDN	n/a	n/a	VE9993
JC603-2	E228069.D	1	08/06/15	TDN	n/a	n/a	VE9993

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

JB99969-22, JB99969-25

CAS No.	Compound	JC603-2 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		6170	5570	90	6170	5770	94	4	48-136/30
107-06-2	1,2-Dichloroethane	ND		6170	6420	104	6170	6490	105	1	56-140/24
100-41-4	Ethylbenzene	ND		6170	5760	93	6170	5970	97	4	34-145/29
98-82-8	Isopropylbenzene	ND		6170	5990	97	6170	6180	100	3	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND		6170	5270	85	6170	5240	85	1	54-129/25
91-20-3	Naphthalene	ND		6170	4780	77	6170	4880	79	2	12-160/33
108-88-3	Toluene	ND		6170	5440	88	6170	5590	91	3	40-141/30
95-63-6	1,2,4-Trimethylbenzene	ND		6170	6220	101	6170	6330	103	2	23-152/31
108-67-8	1,3,5-Trimethylbenzene	ND		6170	6190	100	6170	6340	103	2	26-150/32
1330-20-7	Xylene (total)	ND		18500	17700	96	18500	18300	99	3	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JC603-2	Limits
1868-53-7	Dibromofluoromethane	97%	96%	97%	70-122%
17060-07-0	1,2-Dichloroethane-D4	99%	98%	99%	68-124%
2037-26-5	Toluene-D8	99%	99%	102%	77-125%
460-00-4	4-Bromofluorobenzene	100%	101%	100%	72-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC823-6MS	D232896.D	1	08/07/15	BM	n/a	n/a	VD9527
JC823-6MSD	D232897.D	1	08/07/15	BM	n/a	n/a	VD9527
JC823-6	D232899.D	1	08/07/15	BM	n/a	n/a	VD9527

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

JB99969-15

CAS No.	Compound	JC823-6 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		3290	3010	92	3290	2980	91	1	48-136/30

CAS No.	Surrogate Recoveries	MS	MSD	JC823-6	Limits
1868-53-7	Dibromofluoromethane	96%	96%	97%	70-122%
17060-07-0	1,2-Dichloroethane-D4	92%	92%	92%	68-124%
2037-26-5	Toluene-D8	101%	102%	99%	77-125%
460-00-4	4-Bromofluorobenzene	157%* [a]	160%* [a]	113%	72-130%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99434-24DUP	3V21403.D	1	07/31/15	TDN	n/a	n/a	V3V889
JB99434-24	3V21405.D	1	07/31/15	TDN	n/a	n/a	V3V889

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

JB99969-8

CAS No.	Compound	JB99434-24 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	17
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
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		0.55	J	200* [a]	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	JB99434-24	Limits
1868-53-7	Dibromofluoromethane	100%	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	98%	103%	68-124%
2037-26-5	Toluene-D8	97%	97%	77-125%
460-00-4	4-Bromofluorobenzene	98%	98%	72-130%

(a) High RPD due to possible sample analyzed from different vials.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99969-2DUP	C202365.D	1	07/31/15	MM	n/a	n/a	VC7427
JB99969-2	C202362.D	1	07/31/15	MM	n/a	n/a	VC7427

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

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-11, JB99969-12, JB99969-13, JB99969-18

CAS No.	Compound	JB99969-2 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	679	E	450	E	41* [a]	17
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
98-82-8	Isopropylbenzene	ND		ND		nc	22
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30
91-20-3	Naphthalene	0.55	J	0.50	J	10	30
108-88-3	Toluene	1.5		4.3		97* [a]	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	JB99969-2	Limits
1868-53-7	Dibromofluoromethane	95%	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	102%	110%	68-124%
2037-26-5	Toluene-D8	97%	102%	77-125%
460-00-4	4-Bromofluorobenzene	103%	102%	72-130%

(a) High RPD due to possible sample analyzed from different vials.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB99971-13DUP	3V21459.D	1	08/03/15	TDN	n/a	n/a	V3V891
JB99971-13	3V21453.D	1	08/03/15	TDN	n/a	n/a	V3V891

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

JB99969-7

CAS No.	Compound	JB99971-13 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
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	0.31	J	0.65	J	71* [a]	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	JB99971-13	Limits
1868-53-7	Dibromofluoromethane	99%	100%	70-122%
17060-07-0	1,2-Dichloroethane-D4	97%	97%	68-124%
2037-26-5	Toluene-D8	99%	97%	77-125%
460-00-4	4-Bromofluorobenzene	100%	98%	72-130%

(a) High RPD due to low concentration of hit

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC625-2DUP	C202478.D	1	08/04/15	MM	n/a	n/a	VC7430
JC625-2	C202474.D	1	08/04/15	MM	n/a	n/a	VC7430

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

JB99969-20, JB99969-24, JB99969-26

CAS No.	Compound	JC625-2 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	17
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
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	JC625-2	Limits
1868-53-7	Dibromofluoromethane	94%	97%	70-122%
17060-07-0	1,2-Dichloroethane-D4	97%	99%	68-124%
2037-26-5	Toluene-D8	106%	104%	77-125%
460-00-4	4-Bromofluorobenzene	103%	102%	72-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC197-7DUP	V154655.D	1	08/05/15	PR	n/a	n/a	VV6551
JC197-7	V154652.D	1	08/05/15	PR	n/a	n/a	VV6551

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

JB99969-16

CAS No.	Compound	JC197-7 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	0.29	J	0.23	J	23* [a]	17
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
98-82-8	Isopropylbenzene	ND		ND		nc	22
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30
91-20-3	Naphthalene	0.33	J	0.39	J	17	30
108-88-3	Toluene	0.27	J	ND		200* [a]	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	JC197-7	Limits
1868-53-7	Dibromofluoromethane	103%	104%	70-122%
17060-07-0	1,2-Dichloroethane-D4	105%	101%	68-124%
2037-26-5	Toluene-D8	99%	98%	77-125%
460-00-4	4-Bromofluorobenzene	96%	95%	72-130%

(a) High RPD due to possible sample analyzed from different vials.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC158-1DUP	C202552.D	1	08/06/15	MM	n/a	n/a	VC7433
JC158-1	C202549.D	1	08/06/15	MM	n/a	n/a	VC7433

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

JB99969-15, JB99969-21

CAS No.	Compound	JC158-1 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	17
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
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	JC158-1	Limits
1868-53-7	Dibromofluoromethane	91%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	95%	99%	68-124%
2037-26-5	Toluene-D8	96%	96%	77-125%
460-00-4	4-Bromofluorobenzene	101%	102%	72-130%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: V3V880-BFB
Lab File ID: 3V21208.D
Instrument ID: GCMS3V
Injection Date: 07/22/15
Injection Time: 14:35

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16597	16.6		Pass
75	30.0 - 60.0% of mass 95	44224	44.2		Pass
95	Base peak, 100% relative abundance	100077	100.0		Pass
96	5.0 - 9.0% of mass 95	6839	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	83685	83.6		Pass
175	5.0 - 9.0% of mass 174	6321	6.32	(7.55) [a]	Pass
176	95.0 - 101.0% of mass 174	81331	81.3	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	5489	5.48	(6.75) [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
V3V880-IC880	3V21210.D	07/22/15	15:44	01:09	Initial cal 0.5
V3V880-IC880	3V21211.D	07/22/15	16:12	01:37	Initial cal 1
V3V880-IC880	3V21212.D	07/22/15	16:41	02:06	Initial cal 2
V3V880-IC880	3V21213.D	07/22/15	17:09	02:34	Initial cal 4
V3V880-IC880	3V21214.D	07/22/15	20:28	05:53	Initial cal 8
V3V880-IC880	3V21215.D	07/22/15	20:57	06:22	Initial cal 20
V3V880-ICC880	3V21216.D	07/22/15	21:25	06:50	Initial cal 50
V3V880-IC880	3V21217.D	07/22/15	21:53	07:18	Initial cal 100
V3V880-IC880	3V21218.D	07/22/15	22:22	07:47	Initial cal 200
V3V880-ICV880	3V21221.D	07/22/15	23:47	09:12	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: V3V889-BFB
Lab File ID: 3V21394.D
Instrument ID: GCMS3V
Injection Date: 07/31/15
Injection Time: 06:45

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14061	17.0		Pass
75	30.0 - 60.0% of mass 95	37176	44.8		Pass
95	Base peak, 100% relative abundance	82941	100.0		Pass
96	5.0 - 9.0% of mass 95	5629	6.79		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	74216	89.5		Pass
175	5.0 - 9.0% of mass 174	5707	6.88	(7.69) [a]	Pass
176	95.0 - 101.0% of mass 174	72280	87.1	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	4876	5.88	(6.75) [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
V3V889-CC880	3V21395.D	07/31/15	07:37	00:52	Continuing cal 50
V3V889-MB1	3V21397.D	07/31/15	08:42	01:57	Method Blank
V3V889-BS	3V21398.D	07/31/15	09:16	02:31	Blank Spike
JB99985-26	3V21400.D	07/31/15	10:14	03:29	(used for QC only; not part of job JB99969)
ZZZZZZ	3V21401.D	07/31/15	10:42	03:57	(unrelated sample)
ZZZZZZ	3V21402.D	07/31/15	11:23	04:38	(unrelated sample)
JB99434-24DUP	3V21403.D	07/31/15	11:51	05:06	Duplicate
JB99434-24	3V21405.D	07/31/15	12:35	05:50	(used for QC only; not part of job JB99969)
ZZZZZZ	3V21406.D	07/31/15	13:04	06:19	(unrelated sample)
ZZZZZZ	3V21407.D	07/31/15	13:33	06:48	(unrelated sample)
ZZZZZZ	3V21408.D	07/31/15	14:01	07:16	(unrelated sample)
ZZZZZZ	3V21409.D	07/31/15	14:29	07:44	(unrelated sample)
JB99985-26MS	3V21410.D	07/31/15	14:57	08:12	Matrix Spike
ZZZZZZ	3V21412.D	07/31/15	15:54	09:09	(unrelated sample)
ZZZZZZ	3V21413.D	07/31/15	17:05	10:20	(unrelated sample)
ZZZZZZ	3V21414.D	07/31/15	17:33	10:48	(unrelated sample)
ZZZZZZ	3V21415.D	07/31/15	18:01	11:16	(unrelated sample)
JB99969-8	3V21416.D	07/31/15	18:29	11:44	MH-618-4-3

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: V3V891-BFB
Lab File ID: 3V21445.D
Instrument ID: GCMS3V
Injection Date: 08/03/15
Injection Time: 06:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13527	16.8		Pass
75	30.0 - 60.0% of mass 95	35597	44.2		Pass
95	Base peak, 100% relative abundance	80528	100.0		Pass
96	5.0 - 9.0% of mass 95	5635	7.00		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	73261	91.0		Pass
175	5.0 - 9.0% of mass 174	5466	6.79	(7.46) [a]	Pass
176	95.0 - 101.0% of mass 174	71184	88.4	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	4596	5.71	(6.46) [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
V3V891-CC880	3V21446.D	08/03/15	07:41	00:47	Continuing cal 50
V3V891-MB1	3V21448.D	08/03/15	08:53	01:59	Method Blank
V3V891-BS	3V21449.D	08/03/15	09:29	02:35	Blank Spike
ZZZZZZ	3V21451.D	08/03/15	10:48	03:54	(unrelated sample)
JB99971-10	3V21452.D	08/03/15	11:17	04:23	(used for QC only; not part of job JB99969)
JB99971-13	3V21453.D	08/03/15	11:45	04:51	(used for QC only; not part of job JB99969)
JB99969-7	3V21454.D	08/03/15	12:17	05:23	MH-618-5-3
JB99971-10MS	3V21457.D	08/03/15	14:00	07:06	Matrix Spike
JB99971-13DUP	3V21459.D	08/03/15	14:57	08:03	Duplicate
ZZZZZZ	3V21460.D	08/03/15	15:25	08:31	(unrelated sample)
ZZZZZZ	3V21461.D	08/03/15	15:54	09:00	(unrelated sample)
ZZZZZZ	3V21462.D	08/03/15	16:22	09:28	(unrelated sample)
ZZZZZZ	3V21463.D	08/03/15	16:50	09:56	(unrelated sample)
ZZZZZZ	3V21464.D	08/03/15	17:18	10:24	(unrelated sample)
ZZZZZZ	3V21465.D	08/03/15	17:46	10:52	(unrelated sample)
ZZZZZZ	3V21466.D	08/03/15	18:15	11:21	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VC7426-BFB
Lab File ID: C202339.D
Instrument ID: GCMSC
Injection Date: 07/31/15
Injection Time: 00:33

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	27402	17.9		Pass
75	30.0 - 60.0% of mass 95	73237	47.9		Pass
95	Base peak, 100% relative abundance	153024	100.0		Pass
96	5.0 - 9.0% of mass 95	10579	6.91		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	118224	77.3		Pass
175	5.0 - 9.0% of mass 174	9507	6.21	(8.04) [a]	Pass
176	95.0 - 101.0% of mass 174	115152	75.3	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	8122	5.31	(7.05) [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
VC7426-IC7426	C202340.D	07/31/15	01:11	00:38	Initial cal 0.2
VC7426-IC7426	C202341.D	07/31/15	01:40	01:07	Initial cal 0.5
VC7426-IC7426	C202342.D	07/31/15	02:08	01:35	Initial cal 1
VC7426-IC7426	C202343.D	07/31/15	02:36	02:03	Initial cal 2
VC7426-IC7426	C202344.D	07/31/15	03:05	02:32	Initial cal 4
VC7426-IC7426	C202345.D	07/31/15	03:33	03:00	Initial cal 8
VC7426-IC7426	C202346.D	07/31/15	04:01	03:28	Initial cal 20
VC7426-ICC7426	C202347.D	07/31/15	04:30	03:57	Initial cal 50
VC7426-IC7426	C202348.D	07/31/15	04:58	04:25	Initial cal 100
VC7426-IC7426	C202349.D	07/31/15	05:27	04:54	Initial cal 200
VC7426-ICV7426	C202352.D	07/31/15	06:52	06:19	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VC7427-BFB
Lab File ID: C202355.D
Instrument ID: GCMSC
Injection Date: 07/31/15
Injection Time: 10:13

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	27208	18.4		Pass
75	30.0 - 60.0% of mass 95	70072	47.5		Pass
95	Base peak, 100% relative abundance	147541	100.0		Pass
96	5.0 - 9.0% of mass 95	9883	6.70		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	114688	77.7		Pass
175	5.0 - 9.0% of mass 174	9052	6.14	(7.89) [a]	Pass
176	95.0 - 101.0% of mass 174	109824	74.4	(95.8) [a]	Pass
177	5.0 - 9.0% of mass 176	7443	5.04	(6.78) [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
VC7427-CC7426	C202356.D	07/31/15	11:00	00:47	Continuing cal 20
VC7427-MB1	C202358.D	07/31/15	12:10	01:57	Method Blank
VC7427-BS	C202359.D	07/31/15	13:01	02:48	Blank Spike
JB99969-1	C202361.D	07/31/15	14:31	04:18	MH-619-5-3
JB99969-2	C202362.D	07/31/15	15:09	04:56	MH-619-4-3
JB99969-3	C202363.D	07/31/15	15:37	05:24	MH-619-7-2
JB99969-4	C202364.D	07/31/15	16:06	05:53	MH-619-3-3
JB99969-2DUP	C202365.D	07/31/15	16:36	06:23	Duplicate
JB99969-3MS	C202366.D	07/31/15	17:04	06:51	Matrix Spike
JB99969-5	C202368.D	07/31/15	18:01	07:48	MH-619-2-3
JB99969-6	C202369.D	07/31/15	18:29	08:16	MH-619-1-3
JB99969-11	C202371.D	07/31/15	19:25	09:12	MH-618-6-5
JB99969-12	C202372.D	07/31/15	19:54	09:41	MH-618-3-3
JB99969-13	C202373.D	07/31/15	20:22	10:09	MH-617-4-3
JB99969-18	C202376.D	07/31/15	21:48	11:35	MH-617-7-2

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VC7430-BFB
Lab File ID: C202465.D
Instrument ID: GCMSC
Injection Date: 08/04/15
Injection Time: 08:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	21240	18.2		Pass
75	30.0 - 60.0% of mass 95	55069	47.2		Pass
95	Base peak, 100% relative abundance	116586	100.0		Pass
96	5.0 - 9.0% of mass 95	8235	7.06		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	90994	78.0		Pass
175	5.0 - 9.0% of mass 174	7336	6.29	(8.06) [a]	Pass
176	95.0 - 101.0% of mass 174	88581	76.0	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	6131	5.26	(6.92) [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
VC7430-CC7426	C202466.D	08/04/15	08:59	00:56	Continuing cal 50
VC7429-MB2	C202468.D	08/04/15	10:05	02:02	Method Blank
JB99967-12DUP	C202469.D	08/04/15	10:51	02:48	Duplicate
VC7430-MB	C202470.D	08/04/15	11:32	03:29	Method Blank
VC7430-BS	C202471.D	08/04/15	12:14	04:11	Blank Spike
ZZZZZZ	C202473.D	08/04/15	13:40	05:37	(unrelated sample)
JC625-2	C202474.D	08/04/15	14:08	06:05	(used for QC only; not part of job JB99969)
JC625-3	C202475.D	08/04/15	14:36	06:33	(used for QC only; not part of job JB99969)
ZZZZZZ	C202476.D	08/04/15	15:04	07:01	(unrelated sample)
ZZZZZZ	C202477.D	08/04/15	15:32	07:29	(unrelated sample)
JC625-2DUP	C202478.D	08/04/15	16:01	07:58	Duplicate
JC625-3MS	C202479.D	08/04/15	16:29	08:26	Matrix Spike
JB99969-26	C202482.D	08/04/15	17:53	09:50	TB-20150723
JB99969-24	C202484.D	08/04/15	18:49	10:46	MH-616-6-5
JB99969-20	C202486.D	08/04/15	19:46	11:43	MH-616-1-3

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VC7433-BFB
Lab File ID: C202542.D
Instrument ID: GCMSC
Injection Date: 08/06/15
Injection Time: 08:48

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	22744	17.4		Pass
75	30.0 - 60.0% of mass 95	60533	46.2		Pass
95	Base peak, 100% relative abundance	131080	100.0		Pass
96	5.0 - 9.0% of mass 95	8944	6.82		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	108554	82.8		Pass
175	5.0 - 9.0% of mass 174	8382	6.39	(7.72) [a]	Pass
176	95.0 - 101.0% of mass 174	105458	80.5	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	6969	5.32	(6.61) [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
VC7433-CC7426	C202543.D	08/06/15	09:23	00:35	Continuing cal 20
VC7433-MB1	C202546.D	08/06/15	11:13	02:25	Method Blank
VC7433-BS	C202547.D	08/06/15	11:51	03:03	Blank Spike
JC158-1	C202549.D	08/06/15	12:49	04:01	(used for QC only; not part of job JB99969)
JC158-2	C202550.D	08/06/15	13:18	04:30	(used for QC only; not part of job JB99969)
ZZZZZZ	C202551.D	08/06/15	13:47	04:59	(unrelated sample)
JC158-1DUP	C202552.D	08/06/15	14:28	05:40	Duplicate
JC158-2MS	C202553.D	08/06/15	14:57	06:09	Matrix Spike
JB99969-15	C202557.D	08/06/15	16:52	08:04	MH-617-3-3
JB99969-21	C202559.D	08/06/15	17:49	09:01	MH-616-2-3
ZZZZZZ	C202562.D	08/06/15	19:15	10:27	(unrelated sample)
ZZZZZZ	C202563.D	08/06/15	19:43	10:55	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VD9526-BFB
Lab File ID: D232867.D
Instrument ID: GCMSD
Injection Date: 08/06/15
Injection Time: 10:09

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	23229	19.6		Pass
75	30.0 - 60.0% of mass 95	58274	49.1		Pass
95	Base peak, 100% relative abundance	118656	100.0		Pass
96	5.0 - 9.0% of mass 95	7988	6.73		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	91346	77.0		Pass
175	5.0 - 9.0% of mass 174	6994	5.89	(7.66) [a]	Pass
176	95.0 - 101.0% of mass 174	89096	75.1	(97.5) [a]	Pass
177	5.0 - 9.0% of mass 176	6074	5.12	(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
VD9526-IC9526	D232868.D	08/06/15	10:42	00:33	Initial cal 0.2
VD9526-IC9526	D232869.D	08/06/15	11:12	01:03	Initial cal 0.5
VD9526-IC9526	D232870.D	08/06/15	11:43	01:34	Initial cal 1.0
VD9526-IC9526	D232871.D	08/06/15	12:13	02:04	Initial cal 2.0
VD9526-IC9526	D232872.D	08/06/15	12:44	02:35	Initial cal 4.0
VD9526-IC9526	D232873.D	08/06/15	13:14	03:05	Initial cal 8.0
VD9526-IC9526	D232874.D	08/06/15	13:44	03:35	Initial cal 20
VD9526-ICC9526	D232875.D	08/06/15	14:15	04:06	Initial cal 50
VD9526-IC9526	D232876.D	08/06/15	14:45	04:36	Initial cal 100
VD9526-IC9526	D232877.D	08/06/15	15:16	05:07	Initial cal 200
VD9526-ICV9526	D232880.D	08/06/15	16:47	06:38	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VD9527-BFB
Lab File ID: D232882.D
Instrument ID: GCMSD
Injection Date: 08/07/15
Injection Time: 09:00

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	19666	18.4		Pass
75	30.0 - 60.0% of mass 95	50568	47.4		Pass
95	Base peak, 100% relative abundance	106618	100.0		Pass
96	5.0 - 9.0% of mass 95	7420	6.96		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	85202	79.9		Pass
175	5.0 - 9.0% of mass 174	6444	6.04	(7.56) [a]	Pass
176	95.0 - 101.0% of mass 174	82072	77.0	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	5634	5.28	(6.86) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VD9527-CC9526	D232883.D	08/07/15	09:30	00:30	Continuing cal 20
ZZZZZZ	D232885A.D	08/07/15	10:31	01:31	(unrelated sample)
VD9527-MB	D232885.D	08/07/15	10:31	01:31	Method Blank
VD9527-BS	D232886.D	08/07/15	11:01	02:01	Blank Spike
ZZZZZZ	D232888.D	08/07/15	12:02	03:02	(unrelated sample)
ZZZZZZ	D232889.D	08/07/15	12:44	03:44	(unrelated sample)
JB99969-15	D232890.D	08/07/15	13:14	04:14	MH-617-3-3
ZZZZZZ	D232891.D	08/07/15	13:45	04:45	(unrelated sample)
ZZZZZZ	D232892.D	08/07/15	14:15	05:15	(unrelated sample)
ZZZZZZ	D232894.D	08/07/15	15:16	06:16	(unrelated sample)
ZZZZZZ	D232895.D	08/07/15	15:47	06:47	(unrelated sample)
JC823-6MS	D232896.D	08/07/15	16:17	07:17	Matrix Spike
JC823-6MSD	D232897.D	08/07/15	16:48	07:48	Matrix Spike Duplicate
JC823-6	D232899.D	08/07/15	17:49	08:49	(used for QC only; not part of job JB99969)
ZZZZZZ	D232900.D	08/07/15	18:19	09:19	(unrelated sample)
ZZZZZZ	D232901.D	08/07/15	18:50	09:50	(unrelated sample)
ZZZZZZ	D232903.D	08/07/15	19:51	10:51	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9972-BFB
Lab File ID: E227496.D
Instrument ID: GCMSE
Injection Date: 07/15/15
Injection Time: 09:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13969	19.7		Pass
75	30.0 - 60.0% of mass 95	34989	49.3		Pass
95	Base peak, 100% relative abundance	70928	100.0		Pass
96	5.0 - 9.0% of mass 95	4943	6.97		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	58954	83.1		Pass
175	5.0 - 9.0% of mass 174	4442	6.26	(7.53) [a]	Pass
176	95.0 - 101.0% of mass 174	56789	80.1	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	3975	5.60	(7.00) [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
VE9972-IC9972	E227497.D	07/15/15	09:55	00:38	Initial cal 0.2
VE9972-IC9972	E227498.D	07/15/15	10:26	01:09	Initial cal 0.5
VE9972-IC9972	E227499.D	07/15/15	10:56	01:39	Initial cal 1
VE9972-IC9972	E227501.D	07/15/15	11:57	02:40	Initial cal 4
VE9972-IC9972	E227502.D	07/15/15	12:28	03:11	Initial cal 8
VE9972-IC9972	E227503.D	07/15/15	12:59	03:42	Initial cal 20
VE9972-ICC9972	E227504.D	07/15/15	13:30	04:13	Initial cal 50
VE9972-IC9972	E227505.D	07/15/15	14:01	04:44	Initial cal 100
VE9972-IC9972	E227506.D	07/15/15	14:31	05:14	Initial cal 200
VE9972-IC9972	E227510.D	07/15/15	16:34	07:17	Initial cal 2
VE9972-ICV9972	E227511.D	07/15/15	17:05	07:48	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9987-BFB
Lab File ID: E227905.D
Instrument ID: GCMSE
Injection Date: 07/30/15
Injection Time: 06:42

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18480	22.8		Pass
75	30.0 - 60.0% of mass 95	43256	53.5		Pass
95	Base peak, 100% relative abundance	80885	100.0		Pass
96	5.0 - 9.0% of mass 95	5457	6.75		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	67984	84.1		Pass
175	5.0 - 9.0% of mass 174	5483	6.78	(8.07) [a]	Pass
176	95.0 - 101.0% of mass 174	65738	81.3	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	4424	5.47	(6.73) [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
VE9987-CC9972	E227907.D	07/30/15	07:53	01:11	Continuing cal 20
VE9987-MB1	E227909.D	07/30/15	08:54	02:12	Method Blank
ZZZZZZ	E227909.D	07/30/15	08:54	02:12	(unrelated sample)
VE9987-BS	E227910.D	07/30/15	09:25	02:43	Blank Spike
JB99889-6	E227912.D	07/30/15	10:26	03:44	(used for QC only; not part of job JB99969)
ZZZZZZ	E227913.D	07/30/15	10:57	04:15	(unrelated sample)
JB99889-6MS	E227914.D	07/30/15	11:27	04:45	Matrix Spike
JB99889-6MSD	E227915.D	07/30/15	11:58	05:16	Matrix Spike Duplicate
ZZZZZZ	E227917.D	07/30/15	12:59	06:17	(unrelated sample)
ZZZZZZ	E227918.D	07/30/15	13:29	06:47	(unrelated sample)
ZZZZZZ	E227919.D	07/30/15	14:00	07:18	(unrelated sample)
ZZZZZZ	E227920.D	07/30/15	14:31	07:49	(unrelated sample)
ZZZZZZ	E227921.D	07/30/15	15:01	08:19	(unrelated sample)
ZZZZZZ	E227923.D	07/30/15	16:02	09:20	(unrelated sample)
ZZZZZZ	E227924.D	07/30/15	16:33	09:51	(unrelated sample)
JB99969-9	E227927.D	07/30/15	18:05	11:23	MH-618-7-2

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9987-BFB
Lab File ID: E227931.D
Instrument ID: GCMSE
Injection Date: 07/30/15
Injection Time: 22:24

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18445	23.5		Pass
75	30.0 - 60.0% of mass 95	41354	52.7		Pass
95	Base peak, 100% relative abundance	78520	100.0		Pass
96	5.0 - 9.0% of mass 95	5145	6.55		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	67592	86.1		Pass
175	5.0 - 9.0% of mass 174	5140	6.55	(7.60) [a]	Pass
176	95.0 - 101.0% of mass 174	66018	84.1	(97.7) [a]	Pass
177	5.0 - 9.0% of mass 176	4361	5.55	(6.61) [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
VE9987-CC9972	E227932.D	07/30/15	23:03	00:39	Continuing cal 50
VE9987-MB2	E227934.D	07/31/15	00:05	01:41	Method Blank
JB99969-14	E227935.D	07/31/15	00:35	02:11	MH-617-5-3
JB99969-19	E227937.D	07/31/15	01:37	03:13	MH-616-7-2

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9988-BFB
Lab File ID: E227947.D
Instrument ID: GCMSE
Injection Date: 07/31/15
Injection Time: 08:49

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	20581	22.4		Pass
75	30.0 - 60.0% of mass 95	48354	52.7		Pass
95	Base peak, 100% relative abundance	91786	100.0		Pass
96	5.0 - 9.0% of mass 95	6461	7.04		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	78413	85.4		Pass
175	5.0 - 9.0% of mass 174	6044	6.58	(7.71) [a]	Pass
176	95.0 - 101.0% of mass 174	77338	84.3	(98.6) [a]	Pass
177	5.0 - 9.0% of mass 176	4896	5.33	(6.33) [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
VE9988-CC9972	E227948.D	07/31/15	09:20	00:31	Continuing cal 50
VE9988-MB1	E227950.D	07/31/15	10:23	01:34	Method Blank
VE9988-BS	E227951.D	07/31/15	10:54	02:05	Blank Spike
JB99969-7	E227953.D	07/31/15	11:55	03:06	MH-618-5-3
JB99969-17	E227955.D	07/31/15	12:56	04:07	MH-617-1-3
ZZZZZZ	E227956.D	07/31/15	13:27	04:38	(unrelated sample)
ZZZZZZ	E227957.D	07/31/15	13:57	05:08	(unrelated sample)
ZZZZZZ	E227958.D	07/31/15	14:28	05:39	(unrelated sample)
ZZZZZZ	E227959.D	07/31/15	14:58	06:09	(unrelated sample)
ZZZZZZ	E227961.D	07/31/15	16:00	07:11	(unrelated sample)
ZZZZZZ	E227961A.D	07/31/15	16:31	07:42	(unrelated sample)
JB99969-17MS	E227962.D	07/31/15	17:01	08:12	Matrix Spike
JB99969-17MSD	E227963.D	07/31/15	17:32	08:43	Matrix Spike Duplicate
ZZZZZZ	E227965.D	07/31/15	18:33	09:44	(unrelated sample)
ZZZZZZ	E227966.D	07/31/15	19:04	10:15	(unrelated sample)
ZZZZZZ	E227967.D	07/31/15	19:34	10:45	(unrelated sample)
JB99969-9	E227968.D	07/31/15	20:05	11:16	MH-618-7-2
JB99969-14	E227969.D	07/31/15	20:36	11:47	MH-617-5-3

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9990-BFB
Lab File ID: E227981.D
Instrument ID: GCMSE
Injection Date: 08/03/15
Injection Time: 07:40

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18456	22.2		Pass
75	30.0 - 60.0% of mass 95	43850	52.7		Pass
95	Base peak, 100% relative abundance	83274	100.0		Pass
96	5.0 - 9.0% of mass 95	5561	6.68		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	68512	82.3		Pass
175	5.0 - 9.0% of mass 174	5752	6.91	(8.40) [a]	Pass
176	95.0 - 101.0% of mass 174	66869	80.3	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	4446	5.34	(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
VE9990-CC9972	E227982.D	08/03/15	08:14	00:34	Continuing cal 50
ZZZZZZ	E227984.D	08/03/15	09:21	01:41	(unrelated sample)
VE9990-MB1	E227984.D	08/03/15	09:21	01:41	Method Blank
VE9990-BS	E227985.D	08/03/15	09:52	02:12	Blank Spike
ZZZZZZ	E227987.D	08/03/15	10:53	03:13	(unrelated sample)
JB99969-8	E227988.D	08/03/15	11:23	03:43	MH-618-4-3
JB99969-10	E227989.D	08/03/15	11:54	04:14	MH-618-2-3
JB99969-10	E227990.D	08/03/15	12:25	04:45	MH-618-2-3
JB99969-19	E227994.D	08/03/15	14:39	06:59	MH-616-7-2
JB99969-9	E227995.D	08/03/15	15:09	07:29	MH-618-7-2
JB99969-14	E227996.D	08/03/15	15:39	07:59	MH-617-5-3
ZZZZZZ	E227997.D	08/03/15	16:10	08:30	(unrelated sample)
ZZZZZZ	E227998.D	08/03/15	16:40	09:00	(unrelated sample)
JB99969-10MS	E228000.D	08/03/15	17:41	10:01	Matrix Spike
JB99969-10MSD	E228001.D	08/03/15	18:12	10:32	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9991-BFB
Lab File ID: E228004.D
Instrument ID: GCMSE
Injection Date: 08/04/15
Injection Time: 06:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	31392	22.5		Pass
75	30.0 - 60.0% of mass 95	73578	52.6		Pass
95	Base peak, 100% relative abundance	139810	100.0		Pass
96	5.0 - 9.0% of mass 95	9323	6.67		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	120272	86.0		Pass
175	5.0 - 9.0% of mass 174	9539	6.82	(7.93) [a]	Pass
176	95.0 - 101.0% of mass 174	116773	83.5	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	7439	5.32	(6.37) [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
VE9991-CC9972	E228005.D	08/04/15	07:29	00:32	Continuing cal 20
VE9991-MB1	E228007.D	08/04/15	08:34	01:37	Method Blank
VE9991-BS	E228008.D	08/04/15	09:04	02:07	Blank Spike
JB99969-21	E228010.D	08/04/15	10:10	03:13	MH-616-2-3
JB99969-23	E228011.D	08/04/15	10:40	03:43	MH-616-4-3
JB99969-1	E228012.D	08/04/15	11:11	04:14	MH-619-5-3
JB99969-21MS	E228013.D	08/04/15	11:41	04:44	Matrix Spike
JB99969-21MSD	E228014.D	08/04/15	12:12	05:15	Matrix Spike Duplicate
JB99969-2	E228016.D	08/04/15	13:14	06:17	MH-619-4-3
JB99969-5	E228017.D	08/04/15	13:45	06:48	MH-619-2-3
JB99969-6	E228018.D	08/04/15	14:15	07:18	MH-619-1-3
JB99969-4	E228019.D	08/04/15	14:46	07:49	MH-619-3-3
JB99969-11	E228020.D	08/04/15	15:16	08:19	MH-618-6-5
JB99969-11	E228021.D	08/04/15	15:47	08:50	MH-618-6-5
JB99969-12	E228022.D	08/04/15	16:17	09:20	MH-618-3-3
JB99969-13	E228023.D	08/04/15	16:47	09:50	MH-617-4-3

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9993-BFB
Lab File ID: E228059.D
Instrument ID: GCMSE
Injection Date: 08/06/15
Injection Time: 06:49

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	47757	22.1		Pass
75	30.0 - 60.0% of mass 95	111168	51.4		Pass
95	Base peak, 100% relative abundance	216128	100.0		Pass
96	5.0 - 9.0% of mass 95	14886	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	186112	86.1		Pass
175	5.0 - 9.0% of mass 174	13945	6.45	(7.49) [a]	Pass
176	95.0 - 101.0% of mass 174	180501	83.5	(97.0) [a]	Pass
177	5.0 - 9.0% of mass 176	12201	5.65	(6.76) [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
VE9993-CC9972	E228060.D	08/06/15	07:30	00:41	Continuing cal 50
ZZZZZZ	E228062.D	08/06/15	08:38	01:49	(unrelated sample)
VE9993-MB1	E228062.D	08/06/15	08:38	01:49	Method Blank
ZZZZZZ	E228063.D	08/06/15	09:08	02:19	(unrelated sample)
VE9993-BS	E228064.D	08/06/15	09:39	02:50	Blank Spike
ZZZZZZ	E228068.D	08/06/15	11:21	04:32	(unrelated sample)
JC603-2	E228069.D	08/06/15	11:52	05:03	(used for QC only; not part of job JB99969)
ZZZZZZ	E228070.D	08/06/15	12:22	05:33	(unrelated sample)
ZZZZZZ	E228071.D	08/06/15	12:53	06:04	(unrelated sample)
ZZZZZZ	E228072.D	08/06/15	13:24	06:35	(unrelated sample)
ZZZZZZ	E228075.D	08/06/15	14:56	08:07	(unrelated sample)
JC603-2MS	E228077.D	08/06/15	15:57	09:08	Matrix Spike
JC603-2MSD	E228078.D	08/06/15	16:28	09:39	Matrix Spike Duplicate
JB99969-22	E228080.D	08/06/15	17:29	10:40	MH-616-3-3
JB99969-25	E228081.D	08/06/15	17:59	11:10	MH-616-5-3
ZZZZZZ	E228082.D	08/06/15	18:29	11:40	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VV6502-BFB
Lab File ID: V153278.D
Instrument ID: GCMSV
Injection Date: 06/09/15
Injection Time: 09:53

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16884	19.3		Pass
75	30.0 - 60.0% of mass 95	42674	48.7		Pass
95	Base peak, 100% relative abundance	87597	100.0		Pass
96	5.0 - 9.0% of mass 95	6033	6.89		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 150.0% of mass 95	80218	91.6		Pass
175	5.0 - 9.0% of mass 174	6111	6.98	(7.62) [a]	Pass
176	95.0 - 101.0% of mass 174	77421	88.4	(96.5) [a]	Pass
177	5.0 - 9.0% of mass 176	5125	5.85	(6.62) [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
VV6502-IC6502	V153281.D	06/09/15	11:26	01:33	Initial cal 1
VV6502-IC6502	V153282.D	06/09/15	11:54	02:01	Initial cal 2
VV6502-IC6502	V153283.D	06/09/15	12:23	02:30	Initial cal 4
VV6502-IC6502	V153284.D	06/09/15	12:52	02:59	Initial cal 20
VV6502-ICC6502	V153285.D	06/09/15	13:20	03:27	Initial cal 50
VV6502-IC6502	V153286.D	06/09/15	13:49	03:56	Initial cal 100
VV6502-IC6502	V153287.D	06/09/15	14:18	04:25	Initial cal 200
VV6502-IC6502	V153290.D	06/09/15	15:45	05:52	Initial cal 8
VV6502-IC6502	V153291.D	06/09/15	17:32	07:39	Initial cal 0.5
VV6502-ICV6502	V153292.D	06/09/15	18:00	08:07	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VV6551-BFB
Lab File ID: V154641.D
Instrument ID: GCMSV
Injection Date: 08/05/15
Injection Time: 09:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	20394	18.8		Pass
75	30.0 - 60.0% of mass 95	51709	47.6		Pass
95	Base peak, 100% relative abundance	108573	100.0		Pass
96	5.0 - 9.0% of mass 95	7227	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	94930	87.4		Pass
175	5.0 - 9.0% of mass 174	6759	6.23	(7.12) [a]	Pass
176	95.0 - 101.0% of mass 174	93378	86.0	(98.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5943	5.47	(6.36) [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
VV6551-CC6502	V154643.D	08/05/15	10:16	01:15	Continuing cal 50
VV6551-MB	V154645.D	08/05/15	11:18	02:17	Method Blank
VV6551-BS	V154646.D	08/05/15	11:59	02:58	Blank Spike
ZZZZZZ	V154648.D	08/05/15	13:06	04:05	(unrelated sample)
ZZZZZZ	V154649.D	08/05/15	13:35	04:34	(unrelated sample)
JC197-6	V154651.D	08/05/15	14:35	05:34	(used for QC only; not part of job JB99969)
JC197-7	V154652.D	08/05/15	15:04	06:03	(used for QC only; not part of job JB99969)
ZZZZZZ	V154653.D	08/05/15	15:32	06:31	(unrelated sample)
JC197-7DUP	V154655.D	08/05/15	16:29	07:28	Duplicate
JC197-6MS	V154656.D	08/05/15	16:57	07:56	Matrix Spike
JB99969-16	V154658.D	08/05/15	17:55	08:54	MH-617-2-3

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	V3V889-CC880	**Injection Date:**	07/31/15
Lab File ID:	3V21395.D	**Injection Time:**	07:37
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	102236	7.27	274951	9.75	344961	10.71	283177	13.93	180960	16.29
Upper Limit [a]	204472	7.77	549902	10.25	689922	11.21	566354	14.43	361920	16.79
Lower Limit [b]	51118	6.77	137476	9.25	172481	10.21	141589	13.43	90480	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
V3V889-MB1	57316	7.28	257826	9.75	316586	10.71	254994	13.93	151249	16.29
V3V889-BS	102799	7.28	266430	9.75	337450	10.71	276293	13.93	176154	16.29
JB99985-26	87973	7.28	287684	9.75	358681	10.71	292865	13.93	173239	16.29
ZZZZZZ	87586	7.29	281984	9.75	355705	10.71	290984	13.93	171748	16.29
ZZZZZZ	103392	7.28	278075	9.75	348191	10.71	283437	13.93	158695	16.29
JB99434-24DUP	89983	7.28	276208	9.75	350739	10.71	286404	13.93	175877	16.29
JB99434-24	111793	7.28	285788	9.75	360312	10.71	302459	13.93	184783	16.29
ZZZZZZ	97763	7.29	282916	9.75	359421	10.71	299130	13.93	182913	16.29
ZZZZZZ	84439	7.28	266569	9.75	330606	10.71	272756	13.93	160673	16.29
ZZZZZZ	88908	7.29	277201	9.75	345212	10.71	285003	13.93	172812	16.29
ZZZZZZ	85578	7.28	264095	9.75	330488	10.71	274565	13.93	163937	16.29
JB99985-26MS	80775	7.28	282530	9.75	350440	10.71	287120	13.93	178188	16.29
ZZZZZZ	93356	7.29	269749	9.75	338807	10.71	280013	13.93	152358	16.29
ZZZZZZ	96480	7.29	300418	9.75	377885	10.71	310860	13.93	180171	16.29
ZZZZZZ	94542	7.28	273327	9.75	342605	10.71	295113	13.93	175078	16.29
ZZZZZZ	103109	7.29	275876	9.75	350196	10.71	300987	13.93	183539	16.29
JB99969-8	90029	7.28	279110	9.75	352436	10.71	286512	13.93	175423	16.29

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

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

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	V3V891-CC880	**Injection Date:**	08/03/15
Lab File ID:	3V21446.D	**Injection Time:**	07:41
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	94766	7.28	262389	9.75	324291	10.71	276296	13.93	175764	16.29
Upper Limit [a]	189532	7.78	524778	10.25	648582	11.21	552592	14.43	351528	16.79
Lower Limit [b]	47383	6.78	131195	9.25	162146	10.21	138148	13.43	87882	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
V3V891-MB1	87661	7.28	275018	9.75	342212	10.71	286532	13.93	171422	16.29
V3V891-BS	90675	7.28	263518	9.75	332043	10.71	281479	13.93	180841	16.29
ZZZZZZ	81373	7.28	262282	9.75	326854	10.71	276394	13.93	165172	16.29
JB99971-10	101305	7.28	271341	9.75	338027	10.71	288378	13.93	175040	16.29
JB99971-13	94780	7.28	278223	9.75	346938	10.71	294222	13.93	176647	16.29
JB99969-7	106016	7.28	283075	9.75	354203	10.71	296862	13.93	184917	16.29
JB99971-10MS	79187	7.28	283322	9.75	356516	10.71	297557	13.93	179561	16.29
JB99971-13DUP	88395	7.28	279128	9.75	352248	10.71	300474	13.93	173026	16.29
ZZZZZZ	91978	7.28	279696	9.75	351050	10.71	297770	13.93	178370	16.29
ZZZZZZ	97797	7.29	280566	9.75	351998	10.71	301061	13.93	178033	16.29
ZZZZZZ	91971	7.28	271314	9.75	341148	10.71	289342	13.93	173313	16.29
ZZZZZZ	98241	7.28	273352	9.75	345241	10.71	298696	13.93	175360	16.29
ZZZZZZ	87467	7.28	270876	9.75	340639	10.71	285253	13.93	170905	16.29
ZZZZZZ	104277	7.28	274949	9.75	345902	10.71	295641	13.93	181446	16.29
ZZZZZZ	95937	7.29	279630	9.75	351684	10.71	300988	13.93	179477	16.29

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

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

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VC7427-CC7426	**Injection Date:**	07/31/15
Lab File ID:	C202356.D	**Injection Time:**	11:00
Instrument ID:	GCMSC	**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	107160	8.11	360402	10.81	482818	11.76	448456	14.80	237194	16.82
Upper Limit [a]	214320	8.61	720804	11.31	965636	12.26	896912	15.30	474388	17.32
Lower Limit [b]	53580	7.61	180201	10.31	241409	11.26	224228	14.30	118597	16.32

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VC7427-MB1	70735	8.12	385752	10.81	504464	11.77	435424	14.81	206990	16.83
VC7427-BS	106912	8.12	426374	10.81	572472	11.77	499716	14.81	266130	16.82
JB99969-1	113161	8.11	424992	10.81	575790	11.76	522416	14.80	268075	16.82
JB99969-2	135995	8.11	438612	10.81	610152	11.77	560098	14.80	285379	16.82
JB99969-3	116036	8.12	405574	10.81	549457	11.77	520343	14.81	270369	16.83
JB99969-4	103344	8.12	427601	10.81	591125	11.77	525299	14.81	260424	16.83
JB99969-2DUP	126972	8.12	529599	10.81	710721	11.77	596684	14.81	296015	16.83
JB99969-3MS	113923	8.12	447471	10.82	603415	11.77	512412	14.81	270704	16.83
JB99969-5	100459	8.13	417035	10.82	559413	11.77	508186	14.81	257517	16.83
JB99969-6	93921	8.12	412764	10.82	557068	11.77	516255	14.81	260571	16.83
JB99969-11	93056	8.12	450797	10.82	666029	11.77	530041	14.81	263690	16.83
JB99969-12	106932	8.12	429467	10.81	595967	11.77	515381	14.81	258676	16.82
JB99969-13	105007	8.12	404564	10.81	565049	11.77	506920	14.81	253796	16.83
JB99969-18	115150	8.12	424756	10.81	572691	11.77	534103	14.81	261510	16.83

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VC7430-CC7426	**Injection Date:**	08/04/15
Lab File ID:	C202466.D	**Injection Time:**	08:59
Instrument ID:	GCMSC	**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	109413	8.11	430824	10.81	565016	11.77	472461	14.80	248687	16.82
Upper Limit [a]	218826	8.61	861648	11.31	1130032	12.27	944922	15.30	497374	17.32
Lower Limit [b]	54707	7.61	215412	10.31	282508	11.27	236231	14.30	124344	16.32

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VC7429-MB2	62685	8.11	410438	10.81	517488	11.77	444105	14.81	220581	16.83
JB99967-12DUP	119521	8.11	464232	10.81	614727	11.77	535699	14.81	274847	16.83
VC7430-MB	81989	8.12	414348	10.81	534798	11.77	461475	14.81	227503	16.83
VC7430-BS	99313	8.12	413393	10.81	540230	11.77	437439	14.81	227683	16.83
ZZZZZZ	112178	8.11	402801	10.81	555236	11.76	512919	14.80	230738	16.82
JC625-2	87720	8.11	335202	10.81	447288	11.77	407600	14.81	206278	16.83
JC625-3	93919	8.12	433963	10.81	564070	11.77	468027	14.81	244993	16.83
ZZZZZZ	94463	8.12	442656	10.81	592102	11.77	512260	14.81	256860	16.83
ZZZZZZ	93744	8.12	440594	10.81	567862	11.77	482968	14.81	248680	16.82
JC625-2DUP	96285	8.12	399920	10.81	543395	11.77	505563	14.81	250641	16.83
JC625-3MS	102383	8.12	446466	10.81	586992	11.77	490280	14.81	258546	16.83
JB99969-26	97233	8.12	381054	10.82	504855	11.77	437138	14.81	226043	16.83
JB99969-24	89565	8.13	428629	10.81	557450	11.77	463008	14.81	241468	16.83
JB99969-20	77389	8.13	388901	10.82	501785	11.77	438187	14.81	229685	16.83

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VC7433-CC7426	**Injection Date:**	08/06/15
Lab File ID:	C202543.D	**Injection Time:**	09:23
Instrument ID:	GCMSC	**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	97482	8.11	423005	10.81	550551	11.77	466793	14.80	245645	16.82
Upper Limit [a]	194964	8.61	846010	11.31	1101102	12.27	933586	15.30	491290	17.32
Lower Limit [b]	48741	7.61	211503	10.31	275276	11.27	233397	14.30	122823	16.32

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VC7433-MB1	93548	8.11	427553	10.81	544202	11.76	473193	14.80	245148	16.82
VC7433-BS	106995	8.11	426612	10.81	549529	11.76	474645	14.80	252146	16.82
JC158-1	114829	8.12	463551	10.81	598201	11.77	499576	14.80	261854	16.82
JC158-2	113611	8.12	457739	10.81	588329	11.77	488558	14.81	262242	16.83
ZZZZZZ	105946	8.12	483486	10.81	641180	11.77	522645	14.81	264909	16.83
JC158-1DUP	108228	8.12	485903	10.81	642648	11.77	519966	14.81	266692	16.83
JC158-2MS	113483	8.12	475028	10.81	618314	11.77	513469	14.81	269902	16.83
JB99969-15	120695	8.12	490165	10.81	626176	11.77	534468	14.81	343926	16.83
JB99969-21	99412	8.12	477593	10.81	626391	11.77	531065	14.81	292426	16.83
ZZZZZZ	110988	8.12	505860	10.81	642385	11.77	533244	14.81	282771	16.82
ZZZZZZ	109073	8.12	460617	10.81	588304	11.77	525894	14.81	280203	16.83

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VD9527-CC9526	**Injection Date:**	08/07/15
Lab File ID:	D232883.D	**Injection Time:**	09:30
Instrument ID:	GCMSD	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	126253	7.97	288228	10.15	416768	11.08	388535	14.41	245978	16.99
Upper Limit [a]	252506	8.47	576456	10.65	833536	11.58	777070	14.91	491956	17.49
Lower Limit [b]	63127	7.47	144114	9.65	208384	10.58	194268	13.91	122989	16.49

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
ZZZZZZ	121012	8.00	270239	10.14	386442	11.07	363726	14.41	233681	16.99
VD9527-MB	121012	8.00	270239	10.14	386442	11.07	363726	14.41	233681	16.99
VD9527-BS	125088	7.98	271811	10.15	391509	11.08	376783	14.41	238724	16.99
ZZZZZZ	124539	7.97	272458	10.15	381916	11.08	359657	14.41	229637	16.99
ZZZZZZ	116567	7.97	241036	10.15	342865	11.08	316866	14.41	218393	16.99
JB99969-15 [c]	122751	8.00	269919	10.14	379906	11.08	353092	14.41	229628	16.99
ZZZZZZ	116517	8.00	258323	10.15	365511	11.08	345492	14.41	236882	16.99
ZZZZZZ	129316	8.00	266739	10.15	379234	11.08	372269	14.41	295458	16.99
ZZZZZZ	139787	8.04	252533	10.14	360533	11.08	344124	14.41	231450	16.99
ZZZZZZ	112333	7.99	253755	10.14	360869	11.08	343637	14.41	227536	16.99
JC823-6MS	107325	7.99	252750	10.15	363630	11.08	362019	14.41	252839	16.99
JC823-6MSD	110451	7.99	257834	10.14	368251	11.08	367532	14.41	251606	16.99
JC823-6	110244	7.99	256980	10.15	364687	11.08	351214	14.41	248745	16.99
ZZZZZZ	112798	7.98	251810	10.15	359468	11.08	356372	14.41	242379	16.99
ZZZZZZ	112732	7.97	252399	10.15	355264	11.07	339061	14.41	235082	16.99
ZZZZZZ	115495	7.99	241202	10.15	341465	11.08	321020	14.41	223740	16.99

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) Sample analyzed outside the holding time but the original run within holding time.

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VE9987-CC9972	**Injection Date:**	07/30/15
Lab File ID:	E227907.D	**Injection Time:**	07:53
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	114140	7.92	243186	10.12	323513	11.05	296065	14.38	175434	16.94
Upper Limit [a]	228280	8.42	486372	10.62	647026	11.55	592130	14.88	350868	17.44
Lower Limit [b]	57070	7.42	121593	9.62	161757	10.55	148033	13.88	87717	16.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE9987-MB1	120021	7.94	244627	10.12	332314	11.04	292596	14.38	176914	16.94
ZZZZZZ	120021	7.94	244627	10.12	332314	11.04	292596	14.38	176914	16.94
VE9987-BS	128033	7.93	247357	10.12	342817	11.05	306892	14.38	186063	16.94
JB99889-6	124388	7.96	238188	10.12	331960	11.04	305309	14.38	192120	16.94
ZZZZZZ	133033	7.96	256374	10.12	352871	11.05	321099	14.38	191742	16.94
JB99889-6MS	139596	7.95	260825	10.12	362357	11.04	333904	14.38	206307	16.94
JB99889-6MSD	145368	7.94	272503	10.12	376109	11.05	341887	14.38	212922	16.94
ZZZZZZ	141191	7.96	255237	10.12	355922	11.04	340009	14.38	225864	16.94
ZZZZZZ	147631	7.96	270875	10.12	366469	11.04	330226	14.38	203923	16.94
ZZZZZZ	144307	7.95	266046	10.12	358884	11.05	312346	14.38	191189	16.94
ZZZZZZ	140902	7.95	258037	10.12	347302	11.05	318015	14.38	193910	16.94
ZZZZZZ	141711	7.96	255592	10.12	350407	11.05	328508	14.38	222065	16.94
ZZZZZZ	150220	7.94	267607	10.12	357096	11.04	319334	14.38	191144	16.94
ZZZZZZ	140268	7.95	262305	10.12	366785	11.05	328231	14.38	211475	16.94
JB99969-9	148632	7.95	298232	10.12	490541	11.06	350056	14.38	203084	16.94

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VE9987-CC9972	**Injection Date:**	07/30/15
Lab File ID:	E227932.D	**Injection Time:**	23:03
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	134718	7.94	258392	10.12	347756	11.05	307524	14.38	189374	16.94
Upper Limit [a]	269436	8.44	516784	10.62	695512	11.55	615048	14.88	378748	17.44
Lower Limit [b]	67359	7.44	129196	9.62	173878	10.55	153762	13.88	94687	16.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE9987-MB2	126495	7.95	256435	10.12	338242	11.05	292982	14.38	178046	16.94
JB99969-14	130950	7.94	350036	10.13	587353	11.07	461189	14.38	235417	16.94
JB99969-19	143796	7.94	297583	10.12	409846	11.05	363358	14.38	208018	16.94

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VE9988-CC9972	**Injection Date:**	07/31/15
Lab File ID:	E227948.D	**Injection Time:**	09:20
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	143843	7.92	270259	10.12	361023	11.05	319510	14.38	193364	16.94
Upper Limit [a]	287686	8.42	540518	10.62	722046	11.55	639020	14.88	386728	17.44
Lower Limit [b]	71922	7.42	135130	9.62	180512	10.55	159755	13.88	96682	16.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE9988-MB1	140364	7.94	261423	10.12	344834	11.04	308863	14.38	183964	16.94
VE9988-BS	147113	7.93	274356	10.12	372838	11.05	327583	14.38	201284	16.94
JB99969-7	140725	7.95	264817	10.12	351703	11.04	310577	14.38	183022	16.94
JB99969-17 [c]	135161	7.94	248010	10.12	328230	11.04	286438	14.38	174322	16.94
ZZZZZZ	140974	7.92	260719	10.12	343927	11.05	319595	14.38	193964	16.94
ZZZZZZ	158111	7.96	265480	10.12	353977	11.05	323813	14.38	199475	16.94
ZZZZZZ	135579	7.96	269725	10.12	372097	11.04	323264	14.38	214574	16.94
ZZZZZZ	145786	7.94	282973	10.12	379793	11.04	347834	14.38	230312	16.94
ZZZZZZ	152812	7.92	301410	10.12	399833	11.05	353051	14.38	219348	16.94
ZZZZZZ	152512	7.95	286902	10.12	385722	11.04	358501	14.38	241723	16.94
JB99969-17MS	160177	7.95	292302	10.12	392611	11.04	345938	14.38	215828	16.94
JB99969-17MSD	163495	7.95	305916	10.12	407372	11.04	359830	14.38	220269	16.94
ZZZZZZ	154066	7.95	286298	10.12	382279	11.05	347837	14.38	212402	16.94
ZZZZZZ	174428	7.96	298449	10.12	407144	11.04	381378	14.38	261306	16.94
ZZZZZZ	169293	7.94	307556	10.12	408722	11.05	363579	14.38	227643	16.94
JB99969-9	162404	7.93	303286	10.12	409850	11.05	348193	14.38	213398	16.94
JB99969-14	157707	7.93	287662	10.12	390798	11.04	350781	14.38	211678	16.94

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

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

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VE9990-CC9972	**Injection Date:**	08/03/15
Lab File ID:	E227982.D	**Injection Time:**	08:14
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	145067	7.92	265049	10.12	354342	11.05	312166	14.38	196694	16.95
Upper Limit [a]	290134	8.42	530098	10.62	708684	11.55	624332	14.88	393388	17.45
Lower Limit [b]	72534	7.42	132525	9.62	177171	10.55	156083	13.88	98347	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
ZZZZZZ	139616	7.95	278100	10.12	367449	11.05	321536	14.38	197242	16.95
VE9990-MB1	139616	7.95	278100	10.12	367449	11.05	321536	14.38	197242	16.95
VE9990-BS	151003	7.93	283467	10.12	384600	11.05	336317	14.38	209623	16.95
ZZZZZZ	141486	7.94	278348	10.12	369041	11.04	321402	14.37	193509	16.94
JB99969-8 [c]	143740	7.94	277760	10.12	369648	11.04	326280	14.38	192124	16.94
JB99969-10	145879	7.93	275229	10.12	375864	11.05	328004	14.38	195565	16.94
JB99969-10	138690	7.93	261325	10.12	357563	11.05	308515	14.38	184841	16.95
JB99969-19	142728	7.93	263515	10.12	354324	11.05	326332	14.38	191504	16.94
JB99969-9	139883	7.93	272350	10.12	367034	11.05	324241	14.38	189352	16.94
JB99969-14	142182	7.93	268746	10.12	358330	11.04	318053	14.38	190984	16.94
ZZZZZZ	144570	7.94	266496	10.12	365363	11.04	330002	14.38	208669	16.94
ZZZZZZ	152403	7.93	285670	10.12	381029	11.05	352240	14.38	217140	16.94
JB99969-10MS	157128	7.94	291466	10.12	399006	11.05	347417	14.38	212696	16.94
JB99969-10MSD	154116	7.93	282306	10.12	385237	11.04	341775	14.38	211812	16.94

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

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

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VE9991-CC9972	**Injection Date:**	08/04/15
Lab File ID:	E228005.D	**Injection Time:**	07:29
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	143123	7.92	277347	10.12	366006	11.05	326555	14.38	201460	16.95
Upper Limit [a]	286246	8.42	554694	10.62	732012	11.55	653110	14.88	402920	17.45
Lower Limit [b]	71562	7.42	138674	9.62	183003	10.55	163278	13.88	100730	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
VE9991-MB1	139047	7.96	291020	10.12	386595	11.04	335595	14.38	203694	16.94
VE9991-BS	150977	7.94	294708	10.12	398618	11.05	351865	14.38	215636	16.94
JB99969-21 [c]	139161	7.95	271721	10.12	355301	11.04	314445	14.38	197925	16.94
JB99969-23	142585	7.95	296913	10.12	398591	11.05	360931	14.38	213976	16.94
JB99969-1	148526	7.95	295097	10.12	388992	11.05	345039	14.38	206215	16.94
JB99969-21MS	151520	7.96	292223	10.12	398909	11.04	361687	14.38	217022	16.94
JB99969-21MSD	155828	7.96	296995	10.12	404340	11.04	363969	14.38	224516	16.94
JB99969-2	155705	7.94	310126	10.12	410698	11.05	362906	14.38	214757	16.94
JB99969-5 [d]	144980	7.94	300153	10.12	398574	11.05	354194	14.38	210519	16.94
JB99969-6	141613	7.95	293049	10.12	388330	11.04	341997	14.38	201747	16.94
JB99969-4	145838	7.94	286722	10.12	380817	11.04	343064	14.38	202637	16.94
JB99969-11	149048	7.94	292205	10.12	409076	11.05	351204	14.38	204219	16.94
JB99969-11	142551	7.93	286055	10.12	387512	11.05	348770	14.38	206902	16.94
JB99969-12	141403	7.94	281601	10.12	376839	11.05	338292	14.38	201439	16.94
JB99969-13 [d]	147681	7.95	284823	10.12	382358	11.05	337481	14.37	199751	16.94

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) Sample used for QC purposes only.
(d) Confirmation run.

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VE9993-CC9972	**Injection Date:**	08/06/15
Lab File ID:	E228060.D	**Injection Time:**	07:30
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	150468	7.93	290659	10.12	391541	11.05	348098	14.38	215662	16.94
Upper Limit [a]	300936	8.43	581318	10.62	783082	11.55	696196	14.88	431324	17.44
Lower Limit [b]	75234	7.43	145330	9.62	195771	10.55	174049	13.88	107831	16.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
ZZZZZZ	144911	7.95	301239	10.12	407451	11.05	353742	14.38	214432	16.94
VE9993-MB1	144911	7.95	301239	10.12	407451	11.05	353742	14.38	214432	16.94
ZZZZZZ	151078	7.93	306132	10.12	413157	11.05	357622	14.38	214943	16.94
VE9993-BS	157762	7.93	301957	10.12	412480	11.05	367130	14.38	226142	16.94
ZZZZZZ	126269	7.98	263430	10.12	351044	11.04	329924	14.38	199910	16.94
JC603-2	107853	7.96	270212	10.12	363937	11.04	338848	14.38	201704	16.94
ZZZZZZ	130833	7.97	260435	10.12	351364	11.05	319104	14.38	192012	16.94
ZZZZZZ	128762	7.97	266265	10.12	356147	11.04	334054	14.38	199219	16.94
ZZZZZZ	126100	7.95	270348	10.12	366447	11.05	326837	14.38	202476	16.94
ZZZZZZ	145856	7.96	288201	10.12	383631	11.05	378950	14.38	263706	16.94
JC603-2MS	151494	7.95	324449	10.12	440141	11.04	391730	14.38	237862	16.94
JC603-2MSD	151116	7.95	329321	10.12	441246	11.05	387031	14.38	235686	16.94
JB99969-22 [c]	137925	7.93	328497	10.12	437861	11.05	380599	14.38	225284	16.94
JB99969-25 [c]	135530	7.95	321132	10.12	429013	11.04	378721	14.38	221641	16.94
ZZZZZZ	139526	7.94	328218	10.12	441798	11.05	383376	14.38	228584	16.94

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) Data reported from mediume level per client's request due to no encores available for reanalysis.

Volatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	VV6551-CC6502	**Injection Date:**	08/05/15
Lab File ID:	V154643.D	**Injection Time:**	10:16
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	197716	7.72	448714	9.95	552315	10.90	466656	14.32	259646	16.92
Upper Limit [a]	395432	8.22	897428	10.45	1104630	11.40	933312	14.82	519292	17.42
Lower Limit [b]	98858	7.22	224357	9.45	276158	10.40	233328	13.82	129823	16.42

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VV6551-MB	204765	7.73	473174	9.95	571842	10.90	478393	14.32	269089	16.92
VV6551-BS	188740	7.73	456509	9.95	575914	10.90	467728	14.32	264702	16.92
ZZZZZZ	217684	7.73	469192	9.95	583282	10.90	496059	14.32	287842	16.92
ZZZZZZ	200163	7.73	422898	9.95	515766	10.90	399419	14.32	165683	16.92
JC197-6	207787	7.73	484974	9.95	592572	10.91	493881	14.32	290837	16.92
JC197-7	192107	7.72	492037	9.95	600594	10.90	494970	14.32	282084	16.92
ZZZZZZ	208980	7.72	486879	9.95	600053	10.90	498600	14.32	294865	16.92
JC197-7DUP	216282	7.71	475266	9.95	579934	10.90	489229	14.32	281907	16.92
JC197-6MS	185094	7.73	473765	9.95	594322	10.90	497682	14.32	270253	16.92
JB99969-16	213795	7.73	504168	9.95	603249	10.90	529677	14.32	414913	16.92

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

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

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB99969-1	C202361.D	100	103	102	102
JB99969-1	E228012.D	96	99	99	103
JB99969-2	E228016.D	94	100	98	104
JB99969-2	C202362.D	102	110	102	102
JB99969-3	C202363.D	102	105	103	102
JB99969-4	E228019.D	96	99	99	102
JB99969-4	C202364.D	101	102	100	103
JB99969-5	E228017.D	96	100	98	104
JB99969-5	C202368.D	100	100	101	103
JB99969-6	E228018.D	95	99	98	104
JB99969-6	C202369.D	98	98	103	104
JB99969-7	3V21454.D	101	100	97	97
JB99969-7	E227953.D	95	100	97	103
JB99969-8	3V21416.D	102	98	95	97
JB99969-8	E227988.D	95	99	98	102
JB99969-9	E227968.D	95	100	96	102
JB99969-9	E227927.D	99	78	87	104
JB99969-9	E227995.D	96	100	99	103
JB99969-10	E227990.D	99	103	98	101
JB99969-10	E227989.D	98	103	98	104
JB99969-11	E228021.D	98	101	100	103
JB99969-11	E228020.D	96	101	96	103
JB99969-11	C202371.D	100	92	90	104
JB99969-12	E228022.D	96	100	100	101
JB99969-12	C202372.D	101	104	97	103
JB99969-13	E228023.D	96	98	98	103
JB99969-13	C202373.D	101	105	100	104
JB99969-14	E227969.D	95	100	99	101
JB99969-14	E227935.D	90	77	54* [a]	105
JB99969-14	E227996.D	97	100	101	101
JB99969-15	D232890.D	96	92	97	96
JB99969-15	C202557.D	93	97	97	87
JB99969-16	V154658.D	100	96	105	104
JB99969-17	E227955.D	96	100	98	101
JB99969-18	C202376.D	102	104	102	105
JB99969-19	E227994.D	99	103	101	102
JB99969-19	E227937.D	91	96	99	106
JB99969-20	C202486.D	97	96	100	102
JB99969-21	E228010.D				
JB99969-21	C202559.D	89	91	98	98

Volatile Surrogate Recovery Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

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

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB99969-22	E228080.D	94	98	97	104
JB99969-23	E228011.D	96	101	102	101
JB99969-24	C202484.D	93	94	98	100
JB99969-25	E228081.D	96	98	97	103
JB99969-26	C202482.D	97	99	99	101
JB99434-24DUP	3V21403.D	100	98	97	98
JB99889-6MS	E227914.D	100	109	102	100
JB99889-6MSD	E227915.D	101	106	102	100
JB99969-10MS	E228000.D	97	102	99	100
JB99969-10MSD	E228001.D	98	102	99	101
JB99969-17MS	E227962.D	95	100	99	100
JB99969-17MSD	E227963.D	95	100	98	102
JB99969-21MS	E228013.D	97	101	100	101
JB99969-21MSD	E228014.D	98	103	99	100
JB99969-2DUP	C202365.D	95	102	97	103
JB99969-3MS	C202366.D	104	105	98	102
JB99971-10MS	3V21457.D	98	96	99	96
JB99971-13DUP	3V21459.D	99	97	99	100
JB99985-26MS	3V21410.D	98	95	98	95
JC158-1DUP	C202552.D	91	95	96	101
JC158-2MS	C202553.D	96	97	96	103
JC197-6MS	V154656.D	106	107	99	94
JC197-7DUP	V154655.D	103	105	99	96
JC603-2MS	E228077.D	97	99	99	100
JC603-2MSD	E228078.D	96	98	99	101
JC625-2DUP	C202478.D	94	97	106	103
JC625-3MS	C202479.D	98	96	97	102
JC823-6MS	D232896.D	96	92	101	157* [a]
JC823-6MSD	D232897.D	96	92	102	160* [a]
V3V889-BS	3V21398.D	101	102	98	95
V3V889-MB1	3V21397.D	93	85	97	98
V3V891-BS	3V21449.D	100	98	100	96
V3V891-MB1	3V21448.D	97	93	97	99
VC7427-BS	C202359.D	100	101	99	101
VC7427-MB1	C202358.D	90	90	100	104
VC7430-BS	C202471.D	98	104	96	102
VC7430-MB	C202470.D	90	89	101	103
VC7433-BS	C202547.D	98	98	97	104
VC7433-MB1	C202546.D	94	94	99	102
VD9527-BS	D232886.D	97	94	100	97

Volatile Surrogate Recovery Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

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

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
VD9527-MB	D232885.D	96	94	98	97
VE9987-BS	E227910.D	101	105	100	103
VE9987-MB1	E227909.D	99	104	98	102
VE9987-MB2	E227934.D	94	97	97	101
VE9988-BS	E227951.D	99	103	99	101
VE9988-MB1	E227950.D	95	100	99	102
VE9990-BS	E227985.D	98	103	99	99
VE9990-MB1	E227984.D	95	99	99	100
VE9991-BS	E228008.D	97	101	100	99
VE9991-MB1	E228007.D	95	98	99	99
VE9993-BS	E228064.D	98	101	100	98
VE9993-MB1	E228062.D	98	99	98	97
VV6551-BS	V154646.D	104	110	100	94
VV6551-MB	V154645.D	103	100	99	95

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%

(a) Outside control limits due to matrix interference.

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: V3V880-ICC880
Lab FileID: 3V21216.D

Response Factor Report MS3V

```
Method       : C:\MSDCHEM\1\METHODS\M3V880.M (RTE Integrator)
Title        : SW-846 Method 8260
Last Update  : Fri Jul 24 11:47:16 2015
Response via : Initial Calibration

Calibration Files
4   =3V21213.D   0.5 =3V21210.D   8   =3V21214.D   50  =3V21216.D
100 =3V21217.D   1   =3V21211.D   200 =3V21218.D   20  =3V21215.D
2   =3V21212.D       =
```

Compound	4	0.5	8	50	100	1	200	20	2	Avg	%RSD
1) I Tert Butyl Alcohol-d9 ----------ISTD----------											
2) 1,4-dioxane	0.093		0.094	0.098	0.094		0.103	0.092		0.096	4.05
3) Ethanol										0.000	-1.00
4) tertiary butyl alcohol	1.319		1.221	1.241	1.193	1.136	1.254	1.158	1.282	1.226	5.03
5) I pentafluorobenzene ----------ISTD----------											
6) chlorodifluoromethane	0.523	0.693	0.601	0.655	0.615	0.728	0.642	0.610	0.660	0.636	9.28
7) dichlorodifluoromethane	0.504		0.641	0.748	0.695	0.625	0.701	0.688	0.579	0.648	12.03
8) chloromethane	0.642		0.728	0.751	0.729	0.880	0.756	0.689	0.753	0.741	9.21
9) vinyl chloride	0.504		0.649	0.720	0.696	0.640	0.719	0.657	0.599	0.648	11.00
10) bromomethane	0.459		0.454	0.466	0.415		0.300	0.440		0.422	14.81
11) chloroethane	0.238		0.285	0.307	0.291		0.279	0.285	0.280	0.281	7.48
12) trichlorofluoromethane	0.518	0.665	0.682	0.741	0.703	0.714	0.705	0.695	0.638	0.674	9.70
13) ethyl ether	0.191		0.192	0.207	0.206		0.214	0.171		0.197	7.88
14) 2-chloropropane	0.648		0.728	0.794	0.783		0.788	0.705	0.838	0.755	8.55
15) acrolein	0.062	0.060	0.061	0.061	0.061	0.064	0.061	0.051	0.059	0.060	6.15
16) 1,1-dichloroethene	0.525	0.644	0.635	0.718	0.702	0.712	0.706	0.647	0.622	0.657	9.41
17) acetone			0.032	0.029	0.030		0.031	0.025		0.029	9.34
18) allyl chloride	0.176		0.200	0.221	0.220	0.199	0.221	0.190	0.186	0.202	8.67
19) acetonitrile	0.030		0.030	0.029	0.029		0.030	0.026	0.030	0.029	5.68
20) iodomethane	0.764	0.922	0.837	0.961	0.948	0.877	0.966	0.848	0.829	0.884	7.92
21) iso-butyl alcohol	0.013		0.014	0.012	0.012		0.012	0.011	0.013	0.012	9.33
22) carbon disulfide	1.299	1.783	1.550	1.759	1.710	1.695	1.728	1.591	1.551	1.630	9.30
23) methylene chloride											

Initial Calibration Summary

Job Number: JB99969 **Sample:** V3V880-ICC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21216.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
            0.484       0.502 0.532 0.527 0.630 0.532 0.474 0.562   0.530    9.31
24)  1-chloropropane
            0.954       0.884 0.801 0.770       0.770 0.757         0.823    9.65
25)  methyl acetate
            0.267       0.254 0.239 0.236       0.242 0.211 0.259   0.244    7.55
26)  methyl tert butyl ether
            1.199 1.330 1.210 1.260 1.271 1.320 1.306 1.076 1.232   1.245    6.31
27)  trans-1,2-dichloroethene
            0.566 0.704 0.633 0.725 0.719 0.678 0.722 0.658 0.651   0.673    7.76
28)  di-isopropyl ether
            1.331 1.503 1.375 1.529 1.505 1.483 1.597 1.334 1.392   1.450    6.52
29)  ethyl tert-butyl ether
            1.296 1.372 1.343 1.476 1.478 1.376 1.565 1.282 1.292   1.387    7.15
30)  2-butanone
                        0.030 0.033 0.034       0.036 0.026         0.032   11.53
31)  1,1-dichloroethane
            0.705 0.807 0.768 0.874 0.858 0.818 0.870 0.772 0.783   0.806    6.93
32)  chloroprene
            0.400 0.500 0.484 0.572 0.560 0.514 0.583 0.512 0.478   0.511   11.03
33)  acrylonitrile
            0.113       0.118 0.117 0.117 0.114 0.118 0.100 0.108   0.113    5.65
34)  vinyl acetate
                        0.036 0.044 0.044       0.046 0.037         0.041   11.31
35)  ethyl acetate
            0.041       0.038 0.039 0.038       0.039 0.034         0.038    6.22
36)  2,2-dichloropropane
            0.581       0.633 0.701 0.685       0.719 0.624 0.704   0.664    7.77
37)  cis-1,2-dichloroethene
            0.439       0.454 0.507 0.510 0.617 0.513 0.447 0.542   0.504   11.74
38)  propionitrile
            0.043 0.037 0.045 0.043 0.044 0.040 0.044 0.037 0.039   0.041    7.45
39)  methyl acrylate
                        0.037 0.042 0.043       0.045 0.034         0.040   11.58
40)  bromochloromethane
            0.213       0.219 0.238 0.242 0.219 0.245 0.208 0.218   0.225    6.23
41)  tetrahydrofuran
            0.108       0.106 0.107 0.108       0.108 0.081 0.105   0.103    9.49
42)  chloroform
            0.722 0.950 0.748 0.831 0.834 0.906 0.846 0.738 0.797   0.819    9.37
43)  dibromofluoromethane (s)
            0.442 0.432 0.443 0.446 0.452 0.442 0.442 0.435 0.439   0.442    1.32
44)  1,2-dichloroethane-d4 (s)
            0.380 0.373 0.389 0.386 0.389 0.383 0.386 0.370 0.381   0.382    1.80
45)  freon 113
            0.232       0.304 0.341 0.312       0.321 0.329 0.276   0.302   12.29
46)  methacrylonitrile
            0.170       0.169 0.170 0.174       0.178 0.144 0.181   0.169    7.05
47)  1,1,1-trichloroethane
            0.569 0.775 0.653 0.737 0.724 0.739 0.739 0.662 0.668   0.696    9.14
48)  tert-amyl methyl ether
            1.270       1.272 1.343 1.338 1.502 1.414 1.153 1.300   1.324    7.86

49) I   1,4-difluorobenzene   ----------------ISTD---------------------
50)  epichlorohydrin
            0.020       0.019 0.019 0.019       0.020 0.016 0.017   0.019    7.52
51)  n-butyl alcohol
            0.008       0.008 0.008 0.008 0.007 0.008 0.007 0.006   0.007    8.84
52)  cyclohexane
            0.347 0.461 0.447 0.489 0.465 0.490 0.467 0.454 0.413   0.448    9.88
53)  carbon tetrachloride
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** V3V880-ICC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21216.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
            0.374 0.519 0.451 0.507 0.492 0.496 0.500 0.464 0.454   0.473    9.36
54)  1,1-dichloropropene
            0.331       0.382 0.435 0.429 0.427 0.430 0.402 0.373   0.401    9.17
55)  hexane
            0.263       0.324 0.359 0.327       0.342 0.391 0.353   0.337   11.74
56)  ISOOCTANE
            0.799 1.070 1.041 1.234 1.139 1.062 1.231 1.265 0.919   1.084   14.23
57)  benzene
            1.120 1.459 1.205 1.328 1.311 1.407 1.325 1.215 1.256   1.292    8.13
58)  heptane
            0.133       0.178 0.204 0.185 0.178 0.196 0.228 0.159   0.183   15.73
59)  isopropyl acetate
            0.586 0.750 0.608 0.633 0.605 0.693 0.636 0.591 0.569   0.630    9.14
60)  1,2-dichloroethane
            0.370 0.375 0.386 0.403 0.405 0.375 0.407 0.358 0.376   0.384    4.50
61)  trichloroethene
            0.269 0.376 0.302 0.337 0.334 0.345 0.341 0.314 0.310   0.325    9.39
62)  ethyl acrylate
                                                                    0.000   -1.00
63)  2-nitropropane
            0.462 0.500 0.457 0.483 0.479 0.469 0.511 0.417 0.455   0.470    5.86
64)  2-chloroethyl vinyl ether
            0.121 0.111 0.123 0.133 0.131 0.116 0.139 0.113 0.117   0.123    7.93
65)  methyl methacrylate
            0.131       0.137 0.143 0.145       0.153 0.122 0.127   0.137    7.94
66)  1,2-dichloropropane
            0.306 0.307 0.313 0.346 0.345 0.334 0.352 0.307 0.326   0.326    5.73
67)  methylcyclohexane
            0.353 0.525 0.463 0.531 0.492 0.483 0.518 0.516 0.435   0.480   11.83
68)  dibromomethane
            0.194       0.187 0.199 0.201 0.190 0.201 0.176 0.184   0.192    4.72
69)  bromodichloromethane
            0.401 0.456 0.411 0.461 0.463 0.438 0.475 0.404 0.416   0.436    6.58
70)  cis-1,3-dichloropropene
            0.444 0.449 0.453 0.503 0.506 0.482 0.524 0.442 0.455   0.473    6.60
71)  toluene-d8 (s)
            1.114 1.115 1.109 1.112 1.108 1.081 1.110 1.111 1.107   1.108    0.92
72)  4-methyl-2-pentanone
            0.088       0.092 0.095 0.094       0.096 0.081 0.076   0.089    8.86
73)  toluene
            1.152       1.175 1.254 1.235 1.726 1.261 1.139 1.438   1.297   15.19
74)  3-methyl-1-butanol
            0.006       0.007 0.007 0.007       0.008 0.006 0.006   0.007   11.20
75)  trans-1,3-dichloropropene
            0.403 0.422 0.400 0.427 0.429 0.398 0.443 0.369 0.386   0.409    5.74
76)  ethyl methacrylate
            0.272       0.279 0.297 0.303 0.277 0.315 0.252 0.241   0.280    8.93
77)  1,1,2-trichloroethane
            0.212       0.213 0.219 0.220 0.212 0.224 0.194 0.210   0.213    4.21
78)  2-hexanone
            0.075       0.081 0.081 0.081       0.083 0.069         0.078    6.94

79) I   chlorobenzene-d5      ----------------ISTD---------------------
80)  tetrachloroethene
            0.341 0.593 0.355 0.395 0.405 0.463 0.402 0.380 0.388   0.413   18.32
81)  1,3-dichloropropane
            0.443 0.457 0.443 0.463 0.466 0.490 0.466 0.410 0.446   0.454    4.83
82)  butyl acetate
            0.167       0.181 0.174 0.173       0.173 0.155 0.171   0.171    4.65
83)  dibromochloromethane
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** V3V880-ICC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21216.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
            0.355 0.340 0.371 0.404 0.414 0.384 0.421 0.345 0.366   0.378    7.91
 84)  1,2-dibromoethane
            0.290       0.294 0.306 0.312 0.304 0.315 0.268 0.292   0.298    5.08
 85)  n-Butyl ether
                                                                    0.000   -1.00
 86)  chlorobenzene
            0.912 1.075 0.944 1.038 1.033 1.104 1.046 0.941 1.015   1.012    6.48
 87)  1,1,1,2-tetrachloroethane
            0.370 0.361 0.395 0.437 0.441 0.398 0.443 0.382 0.392   0.402    7.68
 88)  ethylbenzene
            1.413 1.930 1.560 1.748 1.738 1.812 1.719 1.611 1.638   1.685    8.93
 89)  m,p-xylene
            0.537 0.709 0.587 0.658 0.650 0.682 0.643 0.609 0.609   0.632    8.24
 90)  o-xylene
            0.568 0.711 0.618 0.708 0.708 0.667 0.702 0.632 0.628   0.660    7.79
 91)  styrene
            0.892 0.989 0.966 1.133 1.139 0.986 1.147 0.994 0.939   1.021    9.27
 92)  bromoform
            0.262       0.270 0.290 0.295 0.268 0.305 0.250 0.259   0.275    7.05

 93) I   1,4-dichlorobenzene-d ----------------ISTD--------------------
 94)  isopropylbenzene
            2.309 3.134 2.455 2.821 2.832 2.937 2.902 2.612 2.664   2.740    9.34
 95)  4-bromofluorobenzene (s)
            0.899 0.926 0.882 0.878 0.872 0.911 0.882 0.887 0.912   0.894    2.06
 96)  bromobenzene
            0.753 0.847 0.756 0.799 0.796 0.871 0.816 0.733 0.787   0.795    5.65
 97)  cyclohexanone
            0.058       0.052 0.045 0.049 0.066 0.074 0.052 0.054   0.056   16.95
 98)  1,1,2,2-tetrachloroethane
            0.809 0.844 0.814 0.785 0.780 0.886 0.802 0.710 0.797   0.803    5.96
 99)  trans-1,4-dichloro-2-butene
            0.162       0.167 0.173 0.177       0.184 0.152 0.162   0.168    6.37
100)  1,2,3-trichloropropane
            0.168       0.172 0.160 0.159       0.158 0.145 0.165   0.161    5.53
101)  n-propylbenzene
            2.767 3.847 3.023 3.396 3.323 3.575 3.350 3.271 3.327   3.320    9.20
102)  2-chlorotoluene
            0.656 0.788 0.689 0.756 0.749 0.790 0.754 0.712 0.749   0.738    6.03
103)  4-chlorotoluene
            2.029 2.652 2.068 2.249 2.244 2.478 2.304 2.115 2.246   2.265    8.76
104)  1,3,5-trimethylbenzene
            2.124 2.839 2.290 2.607 2.582 2.535 2.615 2.405 2.393   2.488    8.44
105)  tert-butylbenzene
            1.617 2.108 1.767 2.062 2.067 2.000 2.158 1.876 1.819   1.942    9.34
106)  pentachloroethane
            0.465       0.478 0.550 0.538 0.546 0.576 0.461 0.501   0.514    8.53
107)  1,2,4-trimethylbenzene
            2.197 3.043 2.326 2.643 2.642 2.670 2.727 2.455 2.555   2.584    9.47
108)  sec-butylbenzene
            2.620 3.542 2.945 3.414 3.359 3.300 3.456 3.161 3.000   3.200    9.29
109)  1,3-dichlorobenzene
            1.509 1.885 1.547 1.662 1.651 1.737 1.721 1.574 1.638   1.658    6.86
110)  p-isopropyltoluene
            2.137 2.837 2.414 2.783 2.797 2.717 2.890 2.643 2.465   2.632    9.37
111)  1,4-dichlorobenzene
            1.551 1.827 1.537 1.659 1.653 1.817 1.708 1.544 1.702   1.666    6.60
112)  1,2-dichlorobenzene
            1.522 1.735 1.530 1.653 1.669 1.705 1.701 1.512 1.631   1.629    5.28
113)  n-butylbenzene
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** V3V880-ICC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21216.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
            1.149 1.466 1.273 1.543 1.536 1.388 1.583 1.501 1.343   1.420   10.14
114)  1,2-dibromo-3-chloropropane
            0.156       0.144 0.140 0.142       0.145 0.122 0.164   0.145    9.15
115)  1,3,5-TRICHLOROBENZENE
            1.223 1.448 1.216 1.453 1.458 1.427 1.498 1.348 1.378   1.383    7.44
116)  1,2,4-trichlorobenzene
            0.995 1.026 0.959 1.213 1.247 1.060 1.291 1.056 1.027   1.097   10.98
117)  hexachlorobutadiene
            0.602 0.783 0.676 0.778 0.765 0.758 0.792 0.770 0.687   0.735    8.82
118)  naphthalene
            1.740 1.663 1.780 2.117 2.229 1.753 2.307 1.756 1.661   1.890   13.43
119)  1,2,3-trichlorobenzene
            0.883 0.929 0.903 1.072 1.106 0.920 1.136 0.920 0.896   0.974   10.32
120)  hexachloroethane
            0.527       0.557 0.656 0.670       0.707 0.592 0.615   0.618   10.38
121)  Benzyl chloride
            1.226       1.123 1.167 1.185 1.408 1.302 1.040 1.275   1.216    9.38
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M3V880.M          Fri Jul 24 11:56:46 2015   GCMS3V
```

6.9.1

6

Initial Calibration Verification

Job Number: JB99969 **Sample:** V3V880-ICV880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21221.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3V21221.D Vial: 14
Acq On : 22 Jul 2015 11:47 pm Operator: thienn
Sample : icv880-50 Inst : MS3V
Misc : MS88185,V3V880,5,,,,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3V880.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Jul 24 11:47:16 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	101	0.00	7.28
2		1,4-dioxane	0.096	0.095	1.0	98	0.00	11.47
3		Ethanol		----------NA----------				
4	M	tertiary butyl alcohol	1.226	1.276	-4.1	104	-0.01	7.42
5	I	pentafluorobenzene	1.000	1.000	0.0	96	0.00	9.75
6		chlorodifluoromethane	0.636	0.502	21.1	74	0.00	3.58
7		dichlorodifluoromethane	0.648	0.718	-10.8	93	-0.01	3.56
8		chloromethane	0.741	0.720	2.8	92	-0.01	3.88
9		vinyl chloride	0.648	0.689	-6.3	92	0.00	4.15
10		bromomethane	0.422	0.444	-5.2	92	-0.01	4.83
11		chloroethane	0.281	0.293	-4.3	92	0.00	5.02
12		trichlorofluoromethane	0.674	0.716	-6.2	93	0.00	5.51
13		ethyl ether	0.197	0.211	-7.1	98	0.00	5.96
14		2-chloropropane	0.755	0.850	-12.6	103	0.00	6.18
15		acrolein	0.060	0.065	-8.3	103	0.00	6.27
16		1,1-dichloroethene	0.657	0.685	-4.3	92	0.00	6.42
17		acetone	0.029	0.031	-6.9	105	0.01	6.54
18		allyl chloride	0.202	0.235	-16.3	102	0.00	7.04
19		acetonitrile	0.029	0.031	-6.9	101	0.00	7.05
20		iodomethane	0.884	0.940	-6.3	94	0.00	6.73
21		iso-butyl alcohol	0.012	0.012	0.0	101	0.00	10.11
22		carbon disulfide	1.630	1.728	-6.0	95	0.00	6.85
23		methylene chloride	0.530	0.538	-1.5	98	0.00	7.27
24		1-chloropropane	0.823	0.808	1.8	97	0.00	7.28
25		methyl acetate	0.244	0.220	9.8	89	0.00	7.04
26		methyl tert butyl ether	1.245	1.244	0.1	95	0.00	7.63
27		trans-1,2-dichloroethene	0.673	0.699	-3.9	93	0.00	7.68
28		di-isopropyl ether	1.450	1.496	-3.2	94	0.00	8.32
29		ethyl tert-butyl ether	1.387	1.454	-4.8	95	0.00	8.84
30		2-butanone	0.032	0.035	-9.4	100	0.00	9.15
31	M	1,1-dichloroethane	0.806	0.871	-8.1	96	0.00	8.33
32		chloroprene	0.511	0.481	5.9	81	0.00	8.44
33		acrylonitrile	0.113	0.123	-8.8	102	0.00	7.67
34		vinyl acetate	0.041	0.047	-14.6	101	0.00	8.34
35		ethyl acetate	0.038	0.039	-2.6	97	0.00	9.16
36		2,2-dichloropropane	0.664	0.701	-5.6	96	0.00	9.16
37		cis-1,2-dichloroethene	0.504	0.501	0.6	95	0.00	9.16
38		propionitrile	0.041	0.043	-4.9	96	0.00	9.28
39		methyl acrylate	0.040	0.043	-7.5	98	0.00	9.25
40		bromochloromethane	0.225	0.239	-6.2	97	0.00	9.50
41		tetrahydrofuran	0.103	0.113	-9.7	102	0.00	9.54

Initial Calibration Verification

Job Number: JB99969 **Sample:** V3V880-ICV880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21221.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42		chloroform	0.819	0.838	-2.3	97	0.00	9.58
43	S	dibromofluoromethane (s)	0.442	0.447	-1.1	97	0.00	9.80
44	S	1,2-dichloroethane-d4 (s)	0.382	0.387	-1.3	97	0.00	10.24
45		freon 113	0.302	0.319	-5.6	90	0.00	6.41
46		methacrylonitrile	0.169	0.178	-5.3	101	0.00	9.46
47		1,1,1-trichloroethane	0.696	0.728	-4.6	95	0.00	9.82
48		tert-amyl methyl ether	1.324	1.305	1.4	94	0.00	10.35
49	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	10.71
50		epichlorohydrin	0.019	0.022	-15.8	113	0.00	12.03
51		n-butyl alcohol	0.007	0.008	-14.3	104	0.00	10.90
52	M	cyclohexane	0.448	0.483	-7.8	95	0.00	9.88
53		carbon tetrachloride	0.473	0.498	-5.3	95	0.00	10.03
54		1,1-dichloropropene	0.401	0.432	-7.7	95	0.00	10.01
55		hexane	0.337	0.320	5.0	86	0.00	8.00
56		ISOOCTANE	1.084	1.040	4.1	81	0.00	10.28
57	M	benzene	1.292	1.332	-3.1	96	0.00	10.29
58		heptane	0.183	0.164	10.4	116	0.00	10.48
59		isopropyl acetate	0.630	0.658	-4.4	100	0.00	10.26
60		1,2-dichloroethane	0.384	0.415	-8.1	99	0.00	10.34
61		trichloroethene	0.325	0.333	-2.5	95	0.00	11.05
62		ethyl acrylate		----------NA----------				
63		2-nitropropane	0.470	0.533	-13.4	106	0.00	11.90
64		2-chloroethyl vinyl ether	0.123	0.146	-18.7	105	0.00	11.90
65		methyl methacrylate	0.137	0.151	-10.2	102	0.00	11.36
66		1,2-dichloropropane	0.326	0.354	-8.6	98	0.00	11.34
67		methylcyclohexane	0.480	0.459	4.4	83	0.00	11.26
68		dibromomethane	0.192	0.200	-4.2	97	0.00	11.51
69		bromodichloromethane	0.436	0.465	-6.7	97	0.00	11.65
70		cis-1,3-dichloropropene	0.473	0.504	-6.6	96	0.00	12.11
71	S	toluene-d8 (s)	1.108	1.112	-0.4	96	0.00	12.39
72		4-methyl-2-pentanone	0.089	0.100	-12.4	101	0.00	12.22
73		toluene	1.297	1.288	0.7	99	0.00	12.46
74		3-methyl-1-butanol	0.007	0.008	-14.3	105	0.00	12.27
75		trans-1,3-dichloropropene	0.409	0.420	-2.7	94	0.00	12.69
76		ethyl methacrylate	0.280	0.308	-10.0	100	0.00	12.68
77		1,1,2-trichloroethane	0.213	0.226	-6.1	99	0.00	12.91
78		2-hexanone	0.078	0.086	-10.3	101	0.00	13.08
79	I	chlorobenzene-d5	1.000	1.000	0.0	99	0.00	13.93
80		tetrachloroethene	0.413	0.381	7.7	95	0.00	13.05
81		1,3-dichloropropane	0.454	0.461	-1.5	98	0.00	13.08
82		butyl acetate	0.171	0.184	-7.6	104	0.00	13.16
83		dibromochloromethane	0.378	0.403	-6.6	98	0.00	13.35
84		1,2-dibromoethane	0.298	0.310	-4.0	100	0.00	13.50
85		n-Butyl ether		----------NA----------				
86		chlorobenzene	1.012	1.035	-2.3	98	0.00	13.96
87		1,1,1,2-tetrachloroethane	0.402	0.417	-3.7	94	0.00	14.03
88		ethylbenzene	1.685	1.698	-0.8	96	0.00	14.02
89		m,p-xylene	0.632	0.650	-2.8	97	0.00	14.13
90		o-xylene	0.660	0.697	-5.6	97	0.00	14.56
91		styrene	1.021	1.135	-11.2	99	0.00	14.58
92		bromoform	0.275	0.293	-6.5	100	0.00	14.86
93	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	16.29
94		isopropylbenzene	2.740	2.659	3.0	95	0.00	14.91
95	S	4-bromofluorobenzene (s)	0.894	0.878	1.8	101	0.00	15.13
96		bromobenzene	0.795	0.796	-0.1	100	0.00	15.32
97		cyclohexanone	0.056	0.048	14.3	108	0.00	15.11
98		1,1,2,2-tetrachloroethane	0.803	0.769	4.2	99	0.00	15.25

Initial Calibration Verification

Job Number: JB99969 **Sample:** V3V880-ICV880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21221.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

99	trans-1,4-dichloro-2-bute	0.168	0.171	-1.8	99	0.00	15.30
100	1,2,3-trichloropropane	0.161	0.157	2.5	99	0.00	15.33
101	n-propylbenzene	3.320	3.411	-2.7	101	0.00	15.33
102	2-chlorotoluene	0.738	0.732	0.8	98	0.00	15.48
103	4-chlorotoluene	2.265	2.211	2.4	99	0.00	15.58
104	1,3,5-trimethylbenzene	2.488	2.454	1.4	95	0.00	15.48
105	tert-butylbenzene	1.942	1.939	0.2	95	0.00	15.83
106	pentachloroethane	0.514	0.537	-4.5	98	0.00	15.92
107	1,2,4-trimethylbenzene	2.584	2.667	-3.2	102	0.00	15.88
108	sec-butylbenzene	3.200	3.185	0.5	94	0.00	16.05
109	1,3-dichlorobenzene	1.658	1.631	1.6	99	0.00	16.23
110	p-isopropyltoluene	2.632	2.714	-3.1	98	0.00	16.16
111	1,4-dichlorobenzene	1.666	1.635	1.9	99	0.00	16.32
112	1,2-dichlorobenzene	1.629	1.637	-0.5	100	0.00	16.70
113	n-butylbenzene	1.420	1.501	-5.7	98	0.00	16.56
114	1,2-dibromo-3-chloropropa	0.145	0.142	2.1	102	0.00	17.44
115	1,3,5-TRICHLOROBENZENE	1.383	1.397	-1.0	97	0.00	17.60
116	1,2,4-trichlorobenzene	1.097	1.161	-5.8	96	0.00	18.17
117	hexachlorobutadiene	0.735	0.749	-1.9	97	0.00	18.27
118	naphthalene	1.890	2.086	-10.4	99	0.00	18.44
119	1,2,3-trichlorobenzene	0.974	1.047	-7.5	98	0.00	18.66
120	hexachloroethane	0.618	0.618	0.0	95	0.00	16.93
121	Benzyl chloride	1.216	1.148	5.6	99	0.00	16.44

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3V21216.D M3V880.M Fri Jul 24 12:00:23 2015 GCMS3V

6.9.2

6

Continuing Calibration Summary

Job Number: JB99969 **Sample:** V3V889-CC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21395.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3V21395.D Vial: 2
Acq On : 31 Jul 2015 7:37 am Operator: thienn
Sample : cc880-50 Inst : MS3V
Misc : MS88748,V3V889,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3V880.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Jul 24 11:47:16 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	96	0.00	7.27
2		1,4-dioxane	0.096	0.087	9.4	85	0.00	11.47
3		Ethanol		----------NA----------				
4	M	tertiary butyl alcohol	1.226	1.109	9.5	86	-0.02	7.41
5	I	pentafluorobenzene	1.000	1.000	0.0	95	0.00	9.75
6		chlorodifluoromethane	0.636	0.649	-2.0	94	0.00	3.58
7		dichlorodifluoromethane	0.648	0.764	-17.9	97	0.00	3.57
8		chloromethane	0.741	0.687	7.3	87	0.00	3.89
9		vinyl chloride	0.648	0.688	-6.2	91	0.00	4.15
10		bromomethane	0.422	0.450	-6.6	92	0.00	4.83
11		chloroethane	0.281	0.287	-2.1	89	0.00	5.02
12		trichlorofluoromethane	0.674	0.744	-10.4	95	0.00	5.51
13		ethyl ether	0.197	0.173	12.2	79	0.00	5.96
14		2-chloropropane	0.755	0.722	4.4	86	0.00	6.18
15		acrolein	0.060	0.057	5.0	89	0.00	6.27
16		1,1-dichloroethene	0.657	0.648	1.4	86	-0.01	6.42
17		acetone	0.029	0.030	-3.4	99	0.00	6.52
18		allyl chloride	0.202	0.189	6.4	81	0.00	7.03
19		acetonitrile	0.029	0.026	10.3	83	0.00	7.04
20		iodomethane	0.884	0.843	4.6	83	0.00	6.73
21		iso-butyl alcohol	0.012	0.011	8.3	91	0.00	10.10
22		carbon disulfide	1.630	1.589	2.5	86	0.00	6.85
23		methylene chloride	0.530	0.454	14.3	81	-0.01	7.26
24		1-chloropropane	0.823	0.718	12.8	85	-0.01	7.28
25		methyl acetate	0.244	0.216	11.5	86	-0.01	7.03
26		methyl tert butyl ether	1.245	1.050	15.7	79	0.00	7.63
27		trans-1,2-dichloroethene	0.673	0.634	5.8	83	0.00	7.67
28		di-isopropyl ether	1.450	1.289	11.1	80	-0.01	8.31
29		ethyl tert-butyl ether	1.387	1.246	10.2	80	0.00	8.84
30		2-butanone	0.032	0.031	3.1	89	0.00	9.15
31	M	1,1-dichloroethane	0.806	0.743	7.8	81	0.00	8.33
32		chloroprene	0.511	0.526	-2.9	87	0.00	8.44
33		acrylonitrile	0.113	0.100	11.5	81	0.00	7.67
34		vinyl acetate	0.041	0.040	2.4	85	0.00	8.34
35		ethyl acetate	0.038	0.038	0.0	92	0.00	9.17
36		2,2-dichloropropane	0.664	0.673	-1.4	91	0.00	9.15
37		cis-1,2-dichloroethene	0.504	0.440	12.7	83	0.00	9.16
38		propionitrile	0.041	0.037	9.8	82	0.00	9.27
39		methyl acrylate	0.040	0.036	10.0	80	0.00	9.25
40		bromochloromethane	0.225	0.208	7.6	83	0.00	9.50
41		tetrahydrofuran	0.103	0.092	10.7	82	0.00	9.54

Continuing Calibration Summary

Job Number: JB99969 **Sample:** V3V889-CC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21395.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42		chloroform	0.819	0.712	13.1	81	0.00	9.58
43	S	dibromofluoromethane (s)	0.442	0.440	0.5	94	0.00	9.79
44	S	1,2-dichloroethane-d4 (s)	0.382	0.379	0.8	93	0.00	10.24
45		freon 113	0.302	0.345	-14.2	96	0.00	6.40
46		methacrylonitrile	0.169	0.362	-114.2#	203#	0.15	9.61
47		1,1,1-trichloroethane	0.696	0.667	4.2	86	0.00	9.82
48		tert-amyl methyl ether	1.324	1.129	14.7	80	0.00	10.34
49	I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.00	10.71
50		epichlorohydrin	0.019	0.017	10.5	86	0.00	12.02
51		n-butyl alcohol	0.007	0.007	0.0	87	0.00	10.90
52	M	cyclohexane	0.448	0.472	-5.4	90	0.00	9.87
53		carbon tetrachloride	0.473	0.477	-0.8	88	0.00	10.03
54		1,1-dichloropropene	0.401	0.404	-0.7	87	0.00	10.01
55		hexane	0.337	0.349	-3.6	91	0.00	8.00
56		ISOOCTANE	1.084	1.153	-6.4	87	0.00	10.28
57	M	benzene	1.292	1.192	7.7	84	0.00	10.29
58		heptane	0.183	0.206	-12.6	94	0.00	10.48
59		isopropyl acetate	0.630	0.558	11.4	82	0.00	10.26
60		1,2-dichloroethane	0.384	0.344	10.4	80	0.00	10.34
61		trichloroethene	0.325	0.312	4.0	86	0.00	11.05
62		ethyl acrylate		----------NA----------				
63		2-nitropropane	0.470	0.412	12.3	79	0.00	11.90
64		2-chloroethyl vinyl ether	0.123	0.113	8.1	79	0.00	11.90
65		methyl methacrylate	0.137	0.120	12.4	78	0.00	11.36
66		1,2-dichloropropane	0.326	0.292	10.4	79	0.00	11.34
67		methylcyclohexane	0.480	0.516	-7.5	91	0.00	11.25
68		dibromomethane	0.192	0.173	9.9	81	0.00	11.51
69		bromodichloromethane	0.436	0.393	9.9	79	0.00	11.65
70		cis-1,3-dichloropropene	0.473	0.427	9.7	79	0.00	12.11
71	S	toluene-d8 (s)	1.108	1.086	2.0	91	0.00	12.39
72		4-methyl-2-pentanone	0.089	0.078	12.4	77	0.00	12.22
73		toluene	1.297	1.100	15.2	82	0.00	12.46
74		3-methyl-1-butanol	0.007	0.007	0.0	84	0.00	12.26
75		trans-1,3-dichloropropene	0.409	0.362	11.5	79	0.00	12.69
76		ethyl methacrylate	0.280	0.242	13.6	76	0.00	12.68
77		1,1,2-trichloroethane	0.213	0.186	12.7	79	0.00	12.90
78		2-hexanone	0.078	0.069	11.5	79	0.00	13.08
79	I	chlorobenzene-d5	1.000	1.000	0.0	90	0.00	13.93
80		tetrachloroethene	0.413	0.387	6.3	89	0.00	13.04
81		1,3-dichloropropane	0.454	0.391	13.9	76	0.00	13.08
82		butyl acetate	0.171	0.152	11.1	79	0.00	13.16
83		dibromochloromethane	0.378	0.358	5.3	80	0.00	13.35
84		1,2-dibromoethane	0.298	0.269	9.7	80	0.00	13.49
85		n-Butyl ether		----------NA----------				
86		chlorobenzene	1.012	0.926	8.5	81	0.00	13.96
87		1,1,1,2-tetrachloroethane	0.402	0.387	3.7	80	0.00	14.03
88		ethylbenzene	1.685	1.588	5.8	82	0.00	14.02
89		m,p-xylene	0.632	0.604	4.4	83	0.00	14.13
90		o-xylene	0.660	0.636	3.6	81	0.00	14.56
91		styrene	1.021	0.990	3.0	79	0.00	14.58
92		bromoform	0.275	0.255	7.3	79	0.00	14.86
93	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	90	0.00	16.29
94		isopropylbenzene	2.740	2.652	3.2	85	0.00	14.91
95	S	4-bromofluorobenzene (s)	0.894	0.842	5.8	87	0.00	15.13
96		bromobenzene	0.795	0.714	10.2	81	0.00	15.32
97		cyclohexanone	0.056	0.080	-42.9#	161	0.00	15.10
98		1,1,2,2-tetrachloroethane	0.803	0.678	15.6	78	0.00	15.25

Continuing Calibration Summary

Job Number: JB99969 **Sample:** V3V889-CC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21395.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

99	trans-1,4-dichloro-2-bute	0.168	0.148	11.9	77	0.00	15.30
100	1,2,3-trichloropropane	0.161	0.135	16.1	76	0.00	15.32
101	n-propylbenzene	3.320	3.112	6.3	83	0.00	15.33
102	2-chlorotoluene	0.738	0.688	6.8	82	0.00	15.48
103	4-chlorotoluene	2.265	1.991	12.1	80	0.00	15.58
104	1,3,5-trimethylbenzene	2.488	2.395	3.7	83	0.00	15.48
105	tert-butylbenzene	1.942	2.225	-14.6	98	0.00	15.83
106	pentachloroethane	0.514	0.515	-0.2	85	0.00	15.92
107	1,2,4-trimethylbenzene	2.584	2.390	7.5	82	0.00	15.88
108	sec-butylbenzene	3.200	3.214	-0.4	85	0.00	16.04
109	1,3-dichlorobenzene	1.658	1.531	7.7	83	0.00	16.23
110	p-isopropyltoluene	2.632	2.630	0.1	85	0.00	16.16
111	1,4-dichlorobenzene	1.666	1.505	9.7	82	0.00	16.31
112	1,2-dichlorobenzene	1.629	1.486	8.8	81	0.00	16.70
113	n-butylbenzene	1.420	1.429	-0.6	84	0.00	16.57
114	1,2-dibromo-3-chloropropa	0.145	0.117	19.3	76	0.00	17.44
115	1,3,5-TRICHLOROBENZENE	1.383	1.410	-2.0	88	0.00	17.59
116	1,2,4-trichlorobenzene	1.097	1.144	-4.3	85	0.00	18.17
117	hexachlorobutadiene	0.735	0.762	-3.7	89	0.00	18.27
118	naphthalene	1.890	1.832	3.1	78	0.00	18.44
119	1,2,3-trichlorobenzene	0.974	0.986	-1.2	83	0.00	18.66
120	hexachloroethane	0.618	0.600	2.9	83	0.00	16.93
121	Benzyl chloride	1.216	1.299	-6.8	101	0.00	16.43

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3V21216.D M3V880.M Fri Jul 31 12:47:31 2015 GCMS3V

6.9.3

6

Continuing Calibration Summary

Job Number: JB99969 **Sample:** V3V891-CC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21446.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3v\V3V891\3V21446.D Vial: 2
Acq On : 3 Aug 2015 7:41 am Operator: thienn
Sample : cc880-50 Inst : MS3V
Misc : MS88866,V3V891,5,,,,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3V880.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Jul 24 11:47:16 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	89	0.00	7.28
2		1,4-dioxane	0.096	0.093	3.1	84	0.00	11.47
3		Ethanol		----------NA----------				
4	M	tertiary butyl alcohol	1.226	1.127	8.1	81	-0.02	7.41
5	I	pentafluorobenzene	1.000	1.000	0.0	91	0.00	9.75
6		chlorodifluoromethane	0.636	0.687	-8.0	95	0.00	3.58
7		dichlorodifluoromethane	0.648	0.752	-16.0	91	0.00	3.57
8		chloromethane	0.741	0.748	-0.9	90	0.00	3.89
9		vinyl chloride	0.648	0.722	-11.4	91	0.00	4.15
10		bromomethane	0.422	0.480	-13.7	93	-0.01	4.83
11		chloroethane	0.281	0.306	-8.9	90	0.00	5.01
12		trichlorofluoromethane	0.674	0.775	-15.0	95	-0.01	5.50
13		ethyl ether	0.197	0.176	10.7	77	0.00	5.96
14		2-chloropropane	0.755	0.740	2.0	85	0.00	6.18
15		acrolein	0.060	0.056	6.7	83	0.00	6.27
16		1,1-dichloroethene	0.657	0.681	-3.7	86	-0.01	6.42
17		acetone	0.029	0.030	-3.4	94	0.00	6.53
18		allyl chloride	0.202	0.200	1.0	82	0.00	7.03
19		acetonitrile	0.029	0.026	10.3	80	0.00	7.04
20		iodomethane	0.884	0.896	-1.4	85	0.00	6.73
21		iso-butyl alcohol	0.012	0.011	8.3	84	0.00	10.10
22		carbon disulfide	1.630	1.700	-4.3	88	0.00	6.85
23		methylene chloride	0.530	0.484	8.7	83	-0.01	7.26
24		1-chloropropane	0.823	0.747	9.2	85	-0.01	7.28
25		methyl acetate	0.244	0.209	14.3	79	-0.01	7.03
26		methyl tert butyl ether	1.245	1.077	13.5	78	-0.01	7.63
27		trans-1,2-dichloroethene	0.673	0.670	0.4	84	0.00	7.67
28		di-isopropyl ether	1.450	1.296	10.6	77	0.00	8.32
29		ethyl tert-butyl ether	1.387	1.260	9.2	77	-0.01	8.84
30		2-butanone	0.032	0.031	3.1	85	-0.01	9.15
31	M	1,1-dichloroethane	0.806	0.790	2.0	82	0.00	8.33
32		chloroprene	0.511	0.525	-2.7	83	0.00	8.44
33		acrylonitrile	0.113	0.102	9.7	79	0.00	7.66
34		vinyl acetate	0.041	0.039	4.9	79	0.00	8.33
35		ethyl acetate	0.038	0.036	5.3	83	0.00	9.17
36		2,2-dichloropropane	0.664	0.721	-8.6	93	0.00	9.15
37		cis-1,2-dichloroethene	0.504	0.465	7.7	83	0.00	9.16
38		propionitrile	0.041	0.038	7.3	80	0.00	9.28
39		methyl acrylate	0.040	0.036	10.0	79	0.00	9.25
40		bromochloromethane	0.225	0.219	2.7	83	0.00	9.50
41		tetrahydrofuran	0.103	0.092	10.7	78	0.00	9.54

Continuing Calibration Summary

Job Number: JB99969 **Sample:** V3V891-CC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21446.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42		chloroform	0.819	0.755	7.8	82	0.00	9.58
43	S	dibromofluoromethane (s)	0.442	0.439	0.7	89	0.00	9.79
44	S	1,2-dichloroethane-d4 (s)	0.382	0.392	-2.6	92	0.00	10.24
45		freon 113	0.302	0.351	-16.2	93	0.00	6.40
46		methacrylonitrile	0.169	0.361	-113.6#	193	0.14	9.60
47		1,1,1-trichloroethane	0.696	0.715	-2.7	88	0.00	9.82
48		tert-amyl methyl ether	1.324	1.142	13.7	77	0.00	10.34
49	I	1,4-difluorobenzene	1.000	1.000	0.0	88	0.00	10.71
50		epichlorohydrin	0.019	0.017	10.5	81	0.00	12.02
51		n-butyl alcohol	0.007	0.007	0.0	80	0.00	10.90
52	M	cyclohexane	0.448	0.490	-9.4	88	0.00	9.87
53		carbon tetrachloride	0.473	0.520	-9.9	90	0.00	10.03
54		1,1-dichloropropene	0.401	0.427	-6.5	86	0.00	10.01
55		hexane	0.337	0.339	-0.6	83	-0.01	8.00
56		ISOOCTANE	1.084	1.148	-5.9	81	0.00	10.28
57	M	benzene	1.292	1.272	1.5	84	0.00	10.29
58		heptane	0.183	0.201	-9.8	86	0.00	10.48
59		isopropyl acetate	0.630	0.573	9.0	79	0.00	10.26
60		1,2-dichloroethane	0.384	0.364	5.2	79	0.00	10.34
61		trichloroethene	0.325	0.330	-1.5	86	0.00	11.05
62		ethyl acrylate		----------NA----------				
63		2-nitropropane	0.470	0.406	13.6	74	0.00	11.90
64		2-chloroethyl vinyl ether	0.123	0.111	9.8	73	0.00	11.90
65		methyl methacrylate	0.137	0.125	8.8	77	0.00	11.36
66		1,2-dichloropropane	0.326	0.308	5.5	78	0.00	11.33
67		methylcyclohexane	0.480	0.516	-7.5	85	0.00	11.25
68		dibromomethane	0.192	0.182	5.2	80	0.00	11.50
69		bromodichloromethane	0.436	0.411	5.7	78	0.00	11.64
70		cis-1,3-dichloropropene	0.473	0.451	4.7	79	0.00	12.11
71	S	toluene-d8 (s)	1.108	1.110	-0.2	87	0.00	12.39
72		4-methyl-2-pentanone	0.089	0.081	9.0	75	0.00	12.21
73		toluene	1.297	1.310	-1.0	91	0.00	12.46
74		3-methyl-1-butanol	0.007	0.006	14.3	78	0.00	12.26
75		trans-1,3-dichloropropene	0.409	0.389	4.9	80	0.00	12.69
76		ethyl methacrylate	0.280	0.255	8.9	75	0.00	12.68
77		1,1,2-trichloroethane	0.213	0.197	7.5	79	0.00	12.90
78		2-hexanone	0.078	0.071	9.0	76	0.00	13.08
79	I	chlorobenzene-d5	1.000	1.000	0.0	88	0.00	13.93
80		tetrachloroethene	0.413	0.404	2.2	90	0.00	13.04
81		1,3-dichloropropane	0.454	0.406	10.6	77	0.00	13.08
82		butyl acetate	0.171	0.148	13.5	75	0.00	13.16
83		dibromochloromethane	0.378	0.372	1.6	81	0.00	13.35
84		1,2-dibromoethane	0.298	0.278	6.7	80	0.00	13.49
85		n-Butyl ether		----------NA----------				
86		chlorobenzene	1.012	0.981	3.1	83	0.00	13.96
87		1,1,1,2-tetrachloroethane	0.402	0.406	-1.0	82	0.00	14.03
88		ethylbenzene	1.685	1.681	0.2	85	0.00	14.02
89		m,p-xylene	0.632	0.642	-1.6	86	0.00	14.13
90		o-xylene	0.660	0.661	-0.2	82	0.00	14.56
91		styrene	1.021	1.040	-1.9	81	0.00	14.58
92		bromoform	0.275	0.266	3.3	81	0.00	14.86
93	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	88	0.00	16.29
94		isopropylbenzene	2.740	2.778	-1.4	86	0.00	14.91
95	S	4-bromofluorobenzene (s)	0.894	0.850	4.9	85	0.00	15.13
96		bromobenzene	0.795	0.763	4.0	84	0.00	15.32
97		cyclohexanone	0.056	0.076	-35.7#	148	0.00	15.10
98		1,1,2,2-tetrachloroethane	0.803	0.707	12.0	79	0.00	15.25

Continuing Calibration Summary

Job Number: JB99969 **Sample:** V3V891-CC880
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V21446.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

99	trans-1,4-dichloro-2-bute	0.168	0.154	8.3	78	0.00	15.30
100	1,2,3-trichloropropane	0.161	0.146	9.3	80	0.00	15.32
101	n-propylbenzene	3.320	3.307	0.4	86	0.00	15.33
102	2-chlorotoluene	0.738	0.726	1.6	84	0.00	15.48
103	4-chlorotoluene	2.265	2.112	6.8	82	0.00	15.58
104	1,3,5-trimethylbenzene	2.488	2.492	-0.2	84	0.00	15.49
105	tert-butylbenzene	1.942	1.997	-2.8	85	0.00	15.83
106	pentachloroethane	0.514	0.530	-3.1	85	0.00	15.92
107	1,2,4-trimethylbenzene	2.584	2.521	2.4	84	0.00	15.88
108	sec-butylbenzene	3.200	3.323	-3.8	85	0.00	16.04
109	1,3-dichlorobenzene	1.658	1.590	4.1	84	0.00	16.23
110	p-isopropyltoluene	2.632	2.782	-5.7	88	0.00	16.16
111	1,4-dichlorobenzene	1.666	1.591	4.5	84	0.00	16.31
112	1,2-dichlorobenzene	1.629	1.546	5.1	82	0.00	16.70
113	n-butylbenzene	1.420	1.469	-3.5	84	0.00	16.57
114	1,2-dibromo-3-chloropropa	0.145	0.124	14.5	78	0.00	17.44
115	1,3,5-TRICHLOROBENZENE	1.383	1.477	-6.8	89	0.00	17.59
116	1,2,4-trichlorobenzene	1.097	1.191	-8.6	86	0.00	18.17
117	hexachlorobutadiene	0.735	0.789	-7.3	89	0.00	18.27
118	naphthalene	1.890	1.908	-1.0	79	0.00	18.44
119	1,2,3-trichlorobenzene	0.974	1.025	-5.2	84	0.00	18.66
120	hexachloroethane	0.618	0.622	-0.6	83	0.00	16.93
121	Benzyl chloride	1.216	1.275	-4.9	96	0.00	16.43

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3V21216.D M3V880.M Tue Aug 04 12:54:18 2015 DATAREVIW

6.9.4

6

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VC7426-ICC7426
Lab FileID: C202347.D

Response Factor Report MSC

```
Method       : C:\MSDCHEM\1\METHODS\MC7426.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Calibration Files
4   =c202344.D   2   =c202343.D   20  =c202346.D   50  =c202347.D
100 =c202348.D   1   =c202342.D   200 =c202349.D   0.5 =c202341.D
8   =c202345.D   0.2 =c202340.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
     0.083 0.082 0.090 0.084 0.081       0.078       0.081        0.083    4.52
3)  tertiary butyl alcohol
     1.027 0.966 1.084 1.037 1.003 1.114 0.897       1.012        1.017    6.60
4)  ethanol
                                                                 0.000#  -1.00

5) I   pentafluorobenzene    ----------------ISTD---------------------
6)  chlorotrifluoroethene
                                                                 0.000#  -1.00
7)  chlorodifluoromethane
     0.349 0.405 0.383 0.399 0.353 0.395 0.349 0.349 0.395        0.375    6.56
8)  dichlorodifluoromethane
     0.645 0.655 0.650 0.654 0.558 0.660 0.595 0.404 0.724        0.616   14.89
9)  chloromethane
     0.648 0.718 0.631 0.628 0.586 0.730 0.567 0.782 0.707        0.666   10.75
10)  vinyl chloride
     0.638 0.704 0.666 0.667 0.613 0.748 0.607 0.602 0.734 0.674  0.665    7.76
11)  1,3-Butadiene
                                                                 0.000#  -1.00
12)  acetaldehyde
                                                                 0.000#  -1.00
13)  bromomethane
     0.391 0.443 0.405 0.406 0.379 0.430 0.368 0.452 0.439 0.478  0.419    8.39
14)  chloroethane
     0.315 0.330 0.323 0.331 0.304 0.343 0.300 0.312 0.364 0.285  0.321    7.06
15)  VINYL BROMIDE
                                                                 0.000#  -1.00
16)  trichlorofluoromethane
     0.664 0.681 0.677 0.668 0.592 0.727 0.618 0.486 0.727        0.649   11.60
17)  pentane
                                                                 0.000#  -1.00
18)  ethyl ether
     0.188 0.192 0.187 0.198 0.195 0.206 0.185 0.130 0.192        0.186   11.77
19)  2-chloropropane
     0.818 0.770 0.832 0.825 0.774 0.913 0.753 0.811 0.880        0.820    6.33
20)  acrolein
     0.033 0.035 0.037 0.040 0.040 0.035 0.036 0.025 0.039        0.035   12.63
21)  1,1-dichloroethene
     0.649 0.638 0.677 0.679 0.631 0.728 0.629 0.622 0.728 0.552  0.653    8.05
22)  isopropyl alcohol
                                                                 0.000#  -1.00
23)  acetone
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VC7426-ICC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202347.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
                  0.017 0.018 0.019       0.017       0.018        0.018    5.00
24)  allyl chloride
      0.225 0.223 0.222 0.222 0.209 0.237 0.205       0.224        0.221    4.51
25)  acetonitrile
      0.021 0.024 0.020 0.021 0.019       0.018       0.021        0.020    8.52
26)  iodomethane
      0.644 0.669 0.690 0.714 0.671 0.713 0.650 0.563 0.741        0.673    7.76
27)  iso-butyl alcohol
                                                                   0.000#  -1.00
28)  carbon disulfide
      1.487 1.431 1.560 1.563 1.456 1.642 1.420 1.370 1.660        1.510    6.72
29)  methylene chloride
      0.436 0.507 0.444 0.452 0.421 0.595 0.398 0.646 0.469        0.485   17.15
30)  1-chloropropane
      0.048 0.056 0.043 0.041 0.039       0.038       0.046        0.044   14.41
31)  methyl acetate
      0.139 0.142 0.146 0.150 0.150       0.138       0.152        0.145    4.02
32)  methyl tert butyl ether
      0.875 0.943 0.920 0.962 0.922 0.994 0.847 0.921 0.940 1.039  0.936    5.86
33)  trans-1,2-dichloroethene
      0.631 0.649 0.655 0.671 0.627 0.714 0.625 0.632 0.710 0.612  0.653    5.47
34)  di-isopropyl ether
      1.171 1.199 1.254 1.277 1.231 1.238 1.161 1.146 1.228 1.316  1.222    4.38
35)  ethyl tert-butyl ether
      1.092 1.113 1.190 1.220 1.176 1.119 1.095 1.023 1.206 1.080  1.131    5.64
36)  2-butanone
      0.015       0.022 0.023 0.023       0.023       0.019        0.021   16.06
37)  1,1-dichloroethane
      0.733 0.718 0.756 0.767 0.733 0.805 0.726 0.713 0.798 0.806  0.756    4.82
38)  chloroprene
      0.551 0.549 0.583 0.607 0.588 0.565 0.598 0.475 0.598        0.568    7.16
39)  acrylonitrile
      0.069 0.068 0.074 0.076 0.076 0.061 0.070 0.049 0.076        0.069   13.06
40)  vinyl acetate
      0.031       0.037 0.039 0.041       0.041       0.035        0.037   10.60
41)  ethyl acetate
      0.022       0.023 0.022 0.024       0.022       0.024        0.023    3.97
42)  2,2-dichloropropane
      0.604 0.617 0.630 0.627 0.582 0.709 0.567 0.633 0.662        0.626    6.76
43)  cis-1,2-dichloroethene
      0.475 0.514 0.466 0.475 0.452 0.550 0.448 0.703 0.492 0.408  0.498   16.35
44)  methyl acrylate
      0.121 0.081 0.138 0.142 0.154       0.148       0.126        0.130   18.80
45)  propionitrile
      0.024 0.026 0.027 0.027 0.028 0.027 0.025       0.027        0.026    4.55
46)  bromochloromethane
      0.167 0.164 0.170 0.176 0.171 0.188 0.165 0.141 0.182        0.169    7.76
47)  tetrahydrofuran
      0.079 0.078 0.073 0.073 0.071       0.064       0.075        0.073    6.85
48)  chloroform
      0.658 0.681 0.683 0.702 0.672 0.757 0.667 0.665 0.705 0.644  0.683    4.66
49)  t-butyl formate
      0.210 0.210 0.231 0.250 0.250 0.209 0.232       0.238        0.229    7.57
50)  dibromofluoromethane (s)
      0.372 0.383 0.374 0.395 0.381 0.384 0.380 0.366 0.394 0.374  0.380    2.48
51)  1,2-dichloroethane-d4 (s)
      0.331 0.334 0.323 0.335 0.338 0.336 0.335 0.322 0.341 0.336  0.333    1.81
52)  freon 113
      0.268 0.293 0.285 0.289 0.252 0.286 0.267       0.302        0.280    5.88
53)  methacrylonitrile
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VC7426-ICC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202347.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
      0.064 0.065 0.074 0.077 0.080       0.076       0.068        0.072    8.82
54)  cyclohexane
      0.694 0.642 0.716 0.707 0.636 0.755 0.672 0.644 0.753 0.589  0.681    7.93
55)  1,1,1-trichloroethane
      0.608 0.584 0.645 0.652 0.616 0.653 0.605 0.578 0.676        0.624    5.42
56)  tert-amyl alcohol
                                                                   0.000#  -1.00
57)  2,2,4-trimethylpentane
      1.588 1.669 1.675 1.682 1.484 1.679 1.708 1.397 1.741 1.466  1.609    7.38
58)  tert-amyl methyl ether
      0.935 1.062 1.008 1.044 1.024 1.010 0.954 1.247 1.030        1.035    8.62

59) I   1,4-difluorobenzene   ----------------ISTD---------------------
60)  epichlorohydrin
      0.011 0.011 0.013 0.012 0.012       0.011       0.012        0.012    6.85
61)  n-butyl alcohol
      0.004 0.004 0.004 0.004 0.004 0.004 0.004       0.004        0.004#   4.37
62)  carbon tetrachloride
      0.368 0.351 0.384 0.393 0.363 0.407 0.366 0.333 0.407        0.375    6.73
63)  1,1-dichloropropene
      0.394 0.368 0.391 0.397 0.379 0.408 0.404 0.359 0.403        0.389    4.39
64)  hexane
      0.386 0.451 0.365 0.347 0.319 0.547 0.396       0.377        0.399   17.85
65)  benzene
      1.210 1.176 1.193 1.207 1.158 1.325 1.166 1.343 1.236 1.607  1.262   10.82
66)  heptane
      0.198 0.204 0.208 0.191 0.179 0.215 0.236 0.176 0.199        0.201    9.14
67)  isopropyl acetate ***This compound dose not meet initial calibration criteria

      0.119       0.077 0.067 0.068       0.062       0.090        0.080   26.17
            ----- Linear regression -----  Coefficient =  0.9986
              Response Ratio = 0.00621 + 0.06137 *A

68)  1,2-dichloroethane
      0.262 0.274 0.277 0.281 0.272 0.296 0.266 0.255 0.256        0.271    4.81
69)  ethyl acrylate
                                                                   0.000#  -1.00
70)  trichloroethene
      0.267 0.268 0.279 0.279 0.276 0.291 0.283 0.266 0.280 0.251  0.274    4.08
71)  2-chloroethyl vinyl ether
      0.088 0.084 0.096 0.088 0.091 0.085 0.086 0.082 0.087        0.088    4.75
72)  2-Nitropropane
      0.056 0.059 0.057 0.053 0.053       0.049       0.054        0.054    5.58
73)  methylcyclohexane
      0.539 0.553 0.559 0.554 0.484 0.533 0.521 0.415 0.588 0.424  0.517   11.24
74)  tert-amyl ethyl ether
                                                                   0.000#  -1.00
75)  methyl methacrylate
      0.095 0.093 0.103 0.091 0.101 0.092 0.095       0.089        0.095    5.10
76)  1,2-dichloropropane
      0.251 0.254 0.258 0.257 0.253 0.272 0.250 0.258 0.256        0.257    2.52
77)  dibromomethane
      0.114 0.115 0.117 0.120 0.117 0.121 0.111 0.092 0.114        0.113    7.44
78)  bromodichloromethane
      0.307 0.305 0.325 0.326 0.323 0.322 0.318 0.299 0.304 0.324  0.315    3.27
79)  cis-1,3-dichloropropene
      0.366 0.382 0.383 0.362 0.365 0.393 0.356 0.375 0.358 0.364  0.370    3.27
80)  toluene-d8 (s)
      1.212 1.252 1.258 1.225 1.194 1.259 1.184 1.231 1.255 1.232  1.230    2.18
81)  4-methyl-2-pentanone
```

```
      0.058 0.057 0.059 0.057 0.059 0.048 0.054       0.055        0.056    6.64
 82)  toluene
      0.712 0.710 0.741 0.708 0.688 0.796 0.689 0.738 0.725 0.818  0.733    5.91
 83)  3-methyl-1-butanol
      0.007 0.007 0.007 0.007 0.007 0.006 0.006       0.007        0.007#   6.14
 84)  trans-1,3-dichloropropene
      0.298 0.313 0.317 0.301 0.298 0.333 0.286 0.304 0.300        0.306    4.51
 85)  ethyl methacrylate
      0.202 0.218 0.223 0.213 0.220 0.219 0.208 0.184 0.219        0.212    5.79
 86)  1,1,2-trichloroethane
      0.136 0.145 0.149 0.139 0.137 0.157 0.130 0.130 0.139        0.140    6.26
 87)  2-hexanone
      0.052 0.058 0.052 0.049 0.050 0.049 0.046       0.054        0.051    7.34

 88) I   chlorobenzene-d5      ----------------ISTD---------------------
 89)  cyclohexanone
                                                                   0.000#  -1.00
 90)  tetrachloroethene
      0.325 0.288 0.381 0.314 0.326 0.340 0.352 0.317 0.313        0.329    8.12
 91)  1,3-dichloropropane
      0.343 0.340 0.348 0.326 0.338 0.366 0.328 0.328 0.323        0.338    4.09
 92)  butyl acetate
      0.128 0.121 0.126 0.115 0.120 0.126 0.112 0.115 0.120        0.120    4.68
 93)  3,3-dimethyl-1-butanol
      0.018 0.016 0.018 0.019 0.020 0.018 0.018 0.016 0.018        0.018    6.73
 94)  dibromochloromethane
      0.217 0.216 0.235 0.232 0.247 0.232 0.243 0.210 0.219        0.228    5.75
 95)  1,2-dibromoethane
      0.178 0.177 0.187 0.183 0.191 0.175 0.184 0.153 0.174        0.178    6.16
 96)  n-butyl ether
      1.460 1.420 1.471 1.429 1.450 1.588 1.494 1.591 1.410        1.479    4.58
 97)  chlorobenzene
      0.848 0.832 0.866 0.850 0.850 0.943 0.851 0.848 0.843 0.899  0.863    3.85
 98)  1,1,1,2-tetrachloroethane
      0.284 0.288 0.298 0.313 0.318 0.307 0.319 0.270 0.298        0.299    5.51
 99)  ethylbenzene
      1.606 1.537 1.627 1.599 1.594 1.766 1.641 1.697 1.590 1.821  1.648    5.33
100)  m,p-xylene
      0.596 0.589 0.623 0.623 0.618 0.644 0.645 0.611 0.615 0.648  0.621    3.21
101)  o-xylene
      0.601 0.582 0.628 0.630 0.635 0.611 0.655 0.612 0.611 0.615  0.618    3.25
102)  styrene
      0.856 0.858 0.939 0.984 0.995 0.926 1.027 0.897 0.892 0.984  0.936    6.42
103)  bromoform
      0.130 0.130 0.136 0.143 0.153 0.128 0.151 0.091 0.132        0.132   13.72

104) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
105)  isopropylbenzene
      3.004 2.842 3.199 2.989 2.979 3.252 2.997 3.005 2.990 3.134  3.039    3.98
106)  4-bromofluorobenzene (s)
      0.751 0.749 0.762 0.751 0.741 0.755 0.715 0.759 0.758 0.750  0.749    1.80
107)  bromobenzene
      0.641 0.655 0.682 0.654 0.645 0.731 0.629 0.691 0.647 0.777  0.675    6.93
108)  1,1,2,2-tetrachloroethane
      0.497 0.487 0.503 0.466 0.473 0.527 0.437 0.492 0.475 0.492  0.485    4.99
109)  trans-1,4-dichloro-2-butene
      0.133 0.133 0.130 0.125 0.128 0.158 0.123       0.124        0.132    8.65
110)  1,2,3-trichloropropane
      0.131 0.135 0.135 0.127 0.129 0.126 0.120       0.132        0.129    3.97
111)  n-propylbenzene
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VC7426-ICC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202347.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
       3.481 3.450 3.630 3.477 3.357 3.940 3.445 3.933 3.542 4.722  3.698   11.15
112)  4-ethyltoluene
                                                                    0.000#  -1.00
113)  2-chlorotoluene
       0.695 0.719 0.727 0.707 0.685 0.746 0.692 0.777 0.713 0.780  0.724    4.67
114)  4-chlorotoluene
       2.104 2.146 2.145 2.146 2.079 2.470 2.105 2.698 2.105 3.063  2.306   14.49
115)  1,3,5-trimethylbenzene
       2.538 2.501 2.665 2.555 2.567 2.819 2.664 2.813 2.571 2.933  2.663    5.47
116)  tert-butylbenzene
       0.552 0.512 0.571 0.542 0.558 0.617 0.590 0.601 0.531 0.561  0.564    5.73
117)  pentachloroethane
       0.375 0.350 0.327 0.404 0.412 0.397 0.412 0.338 0.366        0.376    8.66
118)  1,2,4-trimethylbenzene
       2.468 2.520 2.623 2.547 2.520 2.862 2.619 2.928 2.558 3.272  2.692    9.43
119)  sec-butylbenzene
       3.491 3.328 3.594 3.317 3.386 3.777 3.604 3.717 3.469 3.812  3.550    5.09
120)  1,3-dichlorobenzene
       1.318 1.426 1.389 1.384 1.363 1.506 1.397 1.556 1.378        1.413    5.23
121)  p-isopropyltoluene
       2.833 2.832 2.951 2.813 2.827 3.269 3.037 3.218 2.904        2.965    5.88
122)  1,4-dichlorobenzene
       1.289 1.388 1.340 1.349 1.318 1.551 1.359 1.574 1.325        1.388    7.40
123)  benzyl chloride
       0.757 0.772 0.751 0.722 0.742 0.848 0.721 0.968 0.725        0.778   10.43
124)  p-diethylbenzene
                                                                    0.000#  -1.00
125)  1,2-dichlorobenzene
       1.260 1.329 1.303 1.301 1.277 1.406 1.280 1.378 1.288        1.314    3.73
126)  n-butylbenzene
       1.403 1.444 1.493 1.505 1.468 1.632 1.642 1.562 1.527        1.519    5.33
127)  1,2,4,5-tetramethylbenzene
                                                                    0.000#  -1.00
128)  1,2-dibromo-3-chloropropane
       0.098 0.109 0.108 0.105 0.107 0.130 0.099       0.104        0.108    9.17
129)  1,3,5-trichlorobenzene
       1.008 1.163 1.097 1.141 1.113 1.251 1.157 1.249 1.140        1.147    6.51
130)  1,2,4-trichlorobenzene
       0.873 0.958 0.964 0.981 0.963 1.119 0.943 1.079 0.950        0.981    7.54
131)  hexachlorobutadiene
       0.578 0.583 0.617 0.588 0.584 0.673 0.629 0.622 0.630        0.611    5.10
132)  naphthalene
       1.791 1.916 1.923 1.883 1.936 2.216 1.733 2.164 1.868        1.937    8.17
133)  1,2,3-trichlorobenzene
       0.830 0.938 0.911 0.869 0.885 1.016 0.840 1.025 0.897        0.912    7.64
134)  hexachloroethane
       0.476 0.492 0.512 0.530 0.544 0.589 0.584 0.394 0.466        0.510   12.05
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MC7426.M          Thu Aug 06 10:26:58 2015   C
```

6.9.5

6

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: VC7426-ICV7426
Lab FileID: C202352.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\c202352.D Vial: 16
Acq On : 31 Jul 2015 6:52 am Operator: mihirm
Sample : icv7426-50 Inst : MSC
Misc : MS88785,VC7426,5,,,,1 Multiplr: 1.00
MS Integration Params: ethanol.P

Method : C:\msdchem\1\METHODS\MC7426.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Jul 31 08:53:23 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	107	0.00	8.12
2	M	1,4-dioxane	0.083	0.086	-3.6	109	0.00	12.51
3	M	tertiary butyl alcohol	1.017	1.011	0.6	105	0.00	8.27
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	112	0.00	10.81
6	M	chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.375	0.341	9.1	96	0.00	3.96
8	M	dichlorodifluoromethane	0.616	0.608	1.3	104	0.00	3.92
9	M	chloromethane	0.666	0.579	13.1	103	0.00	4.35
10	M	vinyl chloride	0.665	0.644	3.2	108	0.00	4.62
11		1,3-Butadiene		----------NA----------				
12	M	acetaldehyde		----------NA----------				
13	M	bromomethane	0.419	0.402	4.1	111	0.00	5.40
14	M	chloroethane	0.321	0.367	-14.3	125	0.00	5.61
15		VINYL BROMIDE		----------NA----------				
16	M	trichlorofluoromethane	0.649	0.641	1.2	108	0.00	6.12
17		pentane		----------NA----------				
18	M	ethyl ether	0.186	0.188	-1.1	106	0.00	6.68
19	m	2-chloropropane	0.820	0.781	4.8	106	0.00	6.91
20	M	acrolein	0.035	0.041	-17.1	115	0.00	7.03
21	M	1,1-dichloroethene	0.653	0.649	0.6	107	0.00	7.18
22	M	isopropyl alcohol		----------NA----------				
23	M	acetone	0.018	0.017	5.6	108	0.00	7.31
24	M	allyl chloride	0.221	0.231	-4.5	117	0.00	7.88
25	M	acetonitrile	0.020	0.019	5.0	103	0.00	7.90
26	M	iodomethane	0.673	0.663	1.5	104	0.00	7.53
27	M	iso-butyl alcohol		----------NA----------				
28	M	carbon disulfide	1.510	1.506	0.3	108	0.00	7.65
29	M	methylene chloride	0.485	0.410	15.5	102	0.00	8.13
30	m	1-chloropropane	0.044	0.041	6.8	112	0.00	8.16
31	M	methyl acetate	0.145	0.135	6.9	101	0.00	7.88
32	M	methyl tert butyl ether	0.936	0.849	9.3	99	0.00	8.51
33	M	trans-1,2-dichloroethene	0.653	0.627	4.0	105	0.00	8.59
34	M	di-isopropyl ether	1.222	1.166	4.6	102	0.00	9.28
35	M	ethyl tert-butyl ether	1.131	1.101	2.7	101	0.00	9.85
36	M	2-butanone	0.021	0.022	-4.8	110	0.00	10.21
37	M	1,1-dichloroethane	0.756	0.746	1.3	109	0.00	9.33
38	M	chloroprene	0.568	0.608	-7.0	112	0.00	9.45
39	M	acrylonitrile	0.069	0.068	1.4	100	0.00	8.61
40	M	vinyl acetate	0.037	0.043	-16.2	122	0.00	9.34
41	M	ethyl acetate	0.023	0.024	-4.3	120	0.00	10.22

Initial Calibration Verification

Job Number: JB99969 **Sample:** VC7426-ICV7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202352.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	2,2-dichloropropane	0.626	0.607	3.0	109	0.00	10.19
43	M	cis-1,2-dichloroethene	0.498	0.452	9.2	107	0.00	10.22
44	m	methyl acrylate	0.130	0.146	-12.3	115	0.00	10.31
45	M	propionitrile	0.026	0.025	3.8	102	0.00	10.36
46	M	bromochloromethane	0.169	0.166	1.8	106	0.00	10.58
47	M	tetrahydrofuran	0.073	0.070	4.1	108	0.00	10.60
48	M	chloroform	0.683	0.674	1.3	108	0.00	10.65
49	m	t-butyl formate	0.229	0.241	-5.2	108	0.00	10.66
50	S	dibromofluoromethane (s)	0.380	0.369	2.9	105	0.00	10.87
51	S	1,2-dichloroethane-d4 (s)	0.333	0.323	3.0	108	0.00	11.31
52	M	freon 113	0.280	0.300	-7.1	116	0.00	7.12
53	M	methacrylonitrile	0.072	0.076	-5.6	110	0.00	10.54
54		cyclohexane	0.681	0.709	-4.1	112	0.00	10.92
55	M	1,1,1-trichloroethane	0.624	0.642	-2.9	110	0.00	10.88
56		tert-amyl alcohol		----------NA----------				
57		2,2,4-trimethylpentane	1.609	1.611	-0.1	107	0.00	11.32
58	M	tert-amyl methyl ether	1.035	0.959	7.3	103	0.00	11.38
59	I	1,4-difluorobenzene	1.000	1.000	0.0	113	0.00	11.77
60	M	epichlorohydrin	0.012	0.013	-8.3	120	0.00	13.06
61	M	n-butyl alcohol	0.004	0.004#	0.0	114	0.00	11.95
62	M	carbon tetrachloride	0.375	0.385	-2.7	110	0.00	11.08
63	M	1,1-dichloropropene	0.389	0.409	-5.1	116	0.00	11.07
64	M	hexane	0.399	0.322	19.3	105	0.00	8.95
65	M	benzene	1.262	1.191	5.6	111	0.00	11.36
66	M	heptane	0.201	0.224	-11.4	132	0.00	11.51
		----------	True	Calc.	% Drift	----------		
67	M	isopropyl acetate	50.000	50.520	-1.0	114	0.00	11.31
		----------	AvgRF	CCRF	% Dev	----------		
68	M	1,2-dichloroethane	0.271	0.276	-1.8	111	0.00	11.41
69		ethyl acrylate		----------NA----------				
70	M	trichloroethene	0.274	0.282	-2.9	114	0.00	12.10
71	M	2-chloroethyl vinyl ether	0.088	0.105	-19.3	134	0.00	12.92
72		2-Nitropropane	0.054	0.058	-7.4	123	0.00	12.92
73	M	methylcyclohexane	0.517	0.561	-8.5	114	0.00	12.28
74		tert-amyl ethyl ether		----------NA----------				
75	M	methyl methacrylate	0.095	0.103	-8.4	128	0.00	12.39
76	M	1,2-dichloropropane	0.257	0.262	-1.9	115	0.00	12.38
77	M	dibromomethane	0.113	0.116	-2.7	109	0.00	12.55
78	M	bromodichloromethane	0.315	0.322	-2.2	111	0.00	12.69
79	M	cis-1,3-dichloropropene	0.370	0.374	-1.1	117	0.00	13.12
80	S	toluene-d8 (s)	1.230	1.212	1.5	112	0.00	13.38
81	M	4-methyl-2-pentanone	0.056	0.058	-3.6	115	0.00	13.22
82	M	toluene	0.733	0.716	2.3	114	0.00	13.45
83	M	3-methyl-1-butanol	0.007	0.007#	0.0	111	0.00	13.27
84	M	trans-1,3-dichloropropene	0.306	0.296	3.3	111	0.00	13.67
85	M	ethyl methacrylate	0.212	0.218	-2.8	115	0.00	13.65
86	M	1,1,2-trichloroethane	0.140	0.141	-0.7	115	0.00	13.88
87	M	2-hexanone	0.051	0.051	0.0	118	0.00	14.03
88	I	chlorobenzene-d5	1.000	1.000	0.0	109	0.00	14.81
89	M	cyclohexanone		----------NA----------				
90	M	tetrachloroethene	0.329	0.342	-4.0	119	0.00	14.00
91	M	1,3-dichloropropane	0.338	0.336	0.6	113	0.00	14.04
92	M	butyl acetate	0.120	0.122	-1.7	116	0.00	14.09
93	m	3,3-dimethyl-1-butanol	0.018	0.017	5.6	100	0.00	14.20
94	M	dibromochloromethane	0.228	0.239	-4.8	112	0.00	14.30
95	M	1,2-dibromoethane	0.178	0.186	-4.5	111	0.00	14.43

Initial Calibration Verification

Job Number: JB99969 **Sample:** VC7426-ICV7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202352.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

96	M	n-butyl ether	1.479	1.437	2.8	110	0.00	14.72
97	M	chlorobenzene	0.863	0.868	-0.6	111	0.00	14.83
98	M	1,1,1,2-tetrachloroethane	0.299	0.299	0.0	104	0.00	14.89
99	M	ethylbenzene	1.648	1.628	1.2	111	0.00	14.87
100	M	m,p-xylene	0.621	0.632	-1.8	111	0.00	14.97
101	M	o-xylene	0.618	0.636	-2.9	110	0.00	15.34
102	M	styrene	0.936	0.969	-3.5	107	0.00	15.36
103	M	bromoform	0.132	0.141	-6.8	108	0.00	15.62
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.82
105	M	isopropylbenzene	3.039	3.163	-4.1	111	0.00	15.63
106	S	4-bromofluorobenzene (s)	0.749	0.759	-1.3	105	0.00	15.83
107	M	bromobenzene	0.675	0.665	1.5	106	0.00	16.01
108	M	1,1,2,2-tetrachloroethane	0.485	0.470	3.1	105	0.00	15.94
109	M	trans-1,4-dichloro-2-bute	0.132	0.124	6.1	104	0.00	15.97
110	M	1,2,3-trichloropropane	0.129	0.129	0.0	106	0.00	16.01
111	M	n-propylbenzene	3.698	3.784	-2.3	114	0.00	15.99
112	M	4-ethyltoluene		----------NA----------				
113	M	2-chlorotoluene	0.724	0.717	1.0	106	0.00	16.13
114	M	4-chlorotoluene	2.306	2.134	7.5	104	0.00	16.22
115	M	1,3,5-trimethylbenzene	2.663	2.641	0.8	108	0.00	16.11
116	M	tert-butylbenzene	0.564	0.578	-2.5	111	0.00	16.41
117	M	pentachloroethane	0.376	0.415	-10.4	107	0.00	16.51
118	M	1,2,4-trimethylbenzene	2.692	2.703	-0.4	111	0.00	16.45
119	M	sec-butylbenzene	3.550	3.597	-1.3	113	0.00	16.59
120	M	1,3-dichlorobenzene	1.413	1.364	3.5	103	0.00	16.78
121	M	p-isopropyltoluene	2.965	3.022	-1.9	112	0.00	16.69
122	M	1,4-dichlorobenzene	1.388	1.330	4.2	103	0.00	16.84
123		benzyl chloride	0.778	0.764	1.8	111	0.00	16.95
124		p-diethylbenzene		----------NA----------				
125	M	1,2-dichlorobenzene	1.314	1.300	1.1	104	0.00	17.18
126	M	n-butylbenzene	1.519	1.571	-3.4	109	0.00	17.03
127		1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.108	0.106	1.9	106	0.00	17.82
129	m	1,3,5-trichlorobenzene	1.147	1.120	2.4	103	0.00	17.93
130	M	1,2,4-trichlorobenzene	0.981	0.956	2.5	102	0.00	18.47
131	M	hexachlorobutadiene	0.611	0.633	-3.6	112	0.00	18.53
132	M	naphthalene	1.937	1.885	2.7	105	0.00	18.72
133	M	1,2,3-trichlorobenzene	0.912	0.874	4.2	105	0.00	18.92
134	M	hexachloroethane	0.510	0.550	-7.8	108	0.00	17.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
c202347.D MC7426.M Fri Jul 31 08:58:40 2015 C

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7427-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202356.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\c202356.D                    Vial: 20
Acq On    : 31 Jul 2015  11:00 am                     Operator: mihirm
Sample    : cc7426-20                                 Inst    : MSC
Misc      : MS88785,VC7427,5,,,,1                     Multiplr: 1.00
MS Integration Params: ethanol.P

Method       : C:\msdchem\1\METHODS\MC7426.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Fri Jul 31 08:53:23 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	111	0.00	8.11
2	M	1,4-dioxane	0.083	0.083	0.0	101	0.00	12.51
3	M	tertiary butyl alcohol	1.017	1.031	-1.4	105	0.00	8.26
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	89	0.00	10.81
6	M	chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.375	0.432	-15.2	101	0.00	3.96
8	M	dichlorodifluoromethane	0.616	0.750	-21.8#	103	0.00	3.92
9	M	chloromethane	0.666	0.689	-3.5	98	0.00	4.35
10	M	vinyl chloride	0.665	0.758	-14.0	102	0.00	4.62
11		1,3-Butadiene		----------NA----------				
12	M	acetaldehyde		----------NA----------				
13	M	bromomethane	0.419	0.434	-3.6	96	0.00	5.40
14	M	chloroethane	0.321	0.362	-12.8	100	0.00	5.61
15		VINYL BROMIDE		----------NA----------				
16	M	trichlorofluoromethane	0.649	0.768	-18.3	101	0.00	6.13
17		pentane		----------NA----------				
18	M	ethyl ether	0.186	0.198	-6.5	94	0.00	6.67
19	m	2-chloropropane	0.820	0.907	-10.6	98	0.00	6.91
20	M	acrolein	0.035	0.045	-28.6#	109	0.00	7.04
21	M	1,1-dichloroethene	0.653	0.760	-16.4	100	0.00	7.18
22	M	isopropyl alcohol		----------NA----------				
23	M	acetone	0.018	0.029	-61.1#	152	0.00	7.31
24	M	allyl chloride	0.221	0.235	-6.3	95	0.00	7.88
25	M	acetonitrile	0.020	0.022	-10.0	96	0.00	7.90
26	M	iodomethane	0.673	0.753	-11.9	98	0.00	7.53
27	M	iso-butyl alcohol		----------NA----------				
28	M	carbon disulfide	1.510	1.767	-17.0	101	0.00	7.65
29	M	methylene chloride	0.485	0.474	2.3	96	0.00	8.13
30	m	1-chloropropane	0.044	0.044	0.0	91	0.00	8.15
31	M	methyl acetate	0.145	0.158	-9.0	97	0.00	7.89
32	M	methyl tert butyl ether	0.936	0.992	-6.0	96	0.00	8.51
33	M	trans-1,2-dichloroethene	0.653	0.721	-10.4	98	0.00	8.59
34	M	di-isopropyl ether	1.222	1.249	-2.2	89	0.00	9.28
35	M	ethyl tert-butyl ether	1.131	1.187	-5.0	89	0.00	9.84
36	M	2-butanone	0.021	0.030	-42.9#	119	0.00	10.21
37	M	1,1-dichloroethane	0.756	0.795	-5.2	94	0.00	9.33
38	M	chloroprene	0.568	0.621	-9.3	95	0.00	9.45
39	M	acrylonitrile	0.069	0.081	-17.4	98	0.00	8.61
40	M	vinyl acetate	0.037	0.040	-8.1	98	0.00	9.34
41	M	ethyl acetate	0.023	0.025	-8.7	96	0.00	10.23

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7427-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202356.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	2,2-dichloropropane	0.626	0.756	-20.8#	107	0.00	10.19
43	M	cis-1,2-dichloroethene	0.498	0.491	1.4	94	0.00	10.22
44	m	methyl acrylate	0.130	0.149	-14.6	97	0.00	10.30
45	M	propionitrile	0.026	0.030	-15.4	100	0.00	10.36
46	M	bromochloromethane	0.169	0.183	-8.3	96	0.00	10.57
47	M	tetrahydrofuran	0.073	0.079	-8.2	97	0.00	10.60
48	M	chloroform	0.683	0.704	-3.1	92	0.00	10.64
49	m	t-butyl formate	0.229	0.253	-10.5	98	0.00	10.66
50	S	dibromofluoromethane (s)	0.380	0.398	-4.7	95	0.00	10.87
51	S	1,2-dichloroethane-d4 (s)	0.333	0.352	-5.7	97	0.00	11.31
52	M	freon 113	0.280	0.322	-15.0	101	0.00	7.12
53	M	methacrylonitrile	0.072	0.079	-9.7	94	0.00	10.54
54		cyclohexane	0.681	0.814	-19.5	102	0.00	10.92
55	M	1,1,1-trichloroethane	0.624	0.707	-13.3	98	0.00	10.87
56		tert-amyl alcohol		----------NA----------				
57		2,2,4-trimethylpentane	1.609	1.824	-13.4	97	0.00	11.31
58	M	tert-amyl methyl ether	1.035	1.031	0.4	92	0.00	11.38
59	I	1,4-difluorobenzene	1.000	1.000	0.0	89	0.00	11.76
60	M	epichlorohydrin	0.012	0.015	-25.0#	101	0.00	13.06
61	M	n-butyl alcohol	0.004	0.005#	-25.0#	106	0.00	11.95
62	M	carbon tetrachloride	0.375	0.426	-13.6	99	0.00	11.08
63	M	1,1-dichloropropene	0.389	0.426	-9.5	97	0.00	11.07
64	M	hexane	0.399	0.445	-11.5	109	0.00	8.94
65	M	benzene	1.262	1.239	1.8	93	0.00	11.36
66	M	heptane	0.201	0.218	-8.5	94	0.00	11.51
		----------	True	Calc.	% Drift	----------		
67	M	isopropyl acetate	20.000	20.347	-1.7	91	0.00	11.31
		----------	AvgRF	CCRF	% Dev	----------		
68	M	1,2-dichloroethane	0.271	0.280	-3.3	90	0.00	11.41
69		ethyl acrylate		----------NA----------				
70	M	trichloroethene	0.274	0.296	-8.0	95	0.00	12.09
71	M	2-chloroethyl vinyl ether	0.088	0.097	-10.2	90	0.00	12.92
72		2-Nitropropane	0.054	0.059	-9.3	92	0.00	12.92
73	M	methylcyclohexane	0.517	0.611	-18.2	98	0.00	12.28
74		tert-amyl ethyl ether		----------NA----------				
75	M	methyl methacrylate	0.095	0.101	-6.3	87	0.00	12.39
76	M	1,2-dichloropropane	0.257	0.260	-1.2	90	0.00	12.38
77	M	dibromomethane	0.113	0.123	-8.8	93	0.00	12.55
78	M	bromodichloromethane	0.315	0.325	-3.2	89	0.00	12.68
79	M	cis-1,3-dichloropropene	0.370	0.393	-6.2	92	0.00	13.12
80	S	toluene-d8 (s)	1.230	1.252	-1.8	89	0.00	13.38
81	M	4-methyl-2-pentanone	0.056	0.064	-14.3	98	0.00	13.22
82	M	toluene	0.733	0.756	-3.1	91	0.00	13.45
83	M	3-methyl-1-butanol	0.007	0.008#	-14.3	107	0.00	13.26
84	M	trans-1,3-dichloropropene	0.306	0.333	-8.8	94	0.00	13.67
85	M	ethyl methacrylate	0.212	0.235	-10.8	94	0.00	13.65
86	M	1,1,2-trichloroethane	0.140	0.149	-6.4	89	0.00	13.88
87	M	2-hexanone	0.051	0.073	-43.1#	125	0.00	14.03
88	I	chlorobenzene-d5	1.000	1.000	0.0	92	0.00	14.80
89	M	cyclohexanone		----------NA----------				
90	M	tetrachloroethene	0.329	0.345	-4.9	84	0.00	13.99
91	M	1,3-dichloropropane	0.338	0.340	-0.6	90	0.00	14.04
92	M	butyl acetate	0.120	0.131	-9.2	96	0.00	14.09
93	m	3,3-dimethyl-1-butanol	0.018	0.021	-16.7	108	0.00	14.20
94	M	dibromochloromethane	0.228	0.234	-2.6	92	0.00	14.29
95	M	1,2-dibromoethane	0.178	0.190	-6.7	94	0.00	14.43

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7427-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202356.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

96	M	n-butyl ether	1.479	1.469	0.7	92	0.00	14.72
97	M	chlorobenzene	0.863	0.878	-1.7	94	0.00	14.83
98	M	1,1,1,2-tetrachloroethane	0.299	0.300	-0.3	93	0.00	14.89
99	M	ethylbenzene	1.648	1.659	-0.7	94	0.00	14.87
100	M	m,p-xylene	0.621	0.650	-4.7	96	0.00	14.96
101	M	o-xylene	0.618	0.627	-1.5	92	0.00	15.34
102	M	styrene	0.936	0.963	-2.9	95	0.00	15.36
103	M	bromoform	0.132	0.143	-8.3	97	0.00	15.62
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	95	0.00	16.82
105	M	isopropylbenzene	3.039	3.210	-5.6	96	0.00	15.63
106	S	4-bromofluorobenzene (s)	0.749	0.765	-2.1	96	0.00	15.83
107	M	bromobenzene	0.675	0.685	-1.5	96	0.00	16.01
108	M	1,1,2,2-tetrachloroethane	0.485	0.519	-7.0	98	0.00	15.94
109	M	trans-1,4-dichloro-2-bute	0.132	0.152	-15.2	112	0.00	15.97
110	M	1,2,3-trichloropropane	0.129	0.143	-10.9	101	0.00	16.00
111	M	n-propylbenzene	3.698	3.824	-3.4	100	0.00	15.99
112	M	4-ethyltoluene		----------NA----------				
113	M	2-chlorotoluene	0.724	0.754	-4.1	99	0.00	16.13
114	M	4-chlorotoluene	2.306	2.299	0.3	102	0.00	16.21
115	M	1,3,5-trimethylbenzene	2.663	2.745	-3.1	98	0.00	16.11
116	M	tert-butylbenzene	0.564	0.556	1.4	93	0.00	16.41
117	M	pentachloroethane	0.376	0.404	-7.4	118	0.00	16.51
118	M	1,2,4-trimethylbenzene	2.692	2.749	-2.1	100	0.00	16.45
119	M	sec-butylbenzene	3.550	3.730	-5.1	99	0.00	16.59
120	M	1,3-dichlorobenzene	1.413	1.504	-6.4	103	0.00	16.77
121	M	p-isopropyltoluene	2.965	3.228	-8.9	104	0.00	16.68
122	M	1,4-dichlorobenzene	1.388	1.455	-4.8	104	0.00	16.84
123		benzyl chloride	0.778	1.173	-50.8#	149	0.00	16.95
124		p-diethylbenzene		----------NA----------				
125	M	1,2-dichlorobenzene	1.314	1.360	-3.5	100	0.00	17.18
126	M	n-butylbenzene	1.519	1.755	-15.5	112	0.00	17.03
127		1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.108	0.115	-6.5	102	0.00	17.82
129	m	1,3,5-trichlorobenzene	1.147	1.342	-17.0	117	0.00	17.93
130	M	1,2,4-trichlorobenzene	0.981	1.146	-16.8	113	0.00	18.47
131	M	hexachlorobutadiene	0.611	0.718	-17.5	111	0.00	18.53
132	M	naphthalene	1.937	2.086	-7.7	103	0.00	18.72
133	M	1,2,3-trichlorobenzene	0.912	1.015	-11.3	106	0.00	18.92
134	M	hexachloroethane	0.510	0.512	-0.4	95	0.00	17.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
c202346.D MC7426.M Mon Aug 03 11:29:00 2015 C

6.9.7

6

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7430-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202466.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\c202466.D Vial: 1
Acq On : 4 Aug 2015 8:59 am Operator: mihirm
Sample : cc7426-50 Inst : MSC
Misc : MS88817,VC7430,5,,,,1 Multiplr: 1.00
MS Integration Params: ethanol.P

Method : C:\MSDCHEM\1\METHODS\MC7426.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Aug 04 10:32:19 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	116	0.00	8.11
2	M	1,4-dioxane	0.083	0.095	-14.5	131	0.00	12.50
3	M	tertiary butyl alcohol	1.017	1.117	-9.8	125	0.00	8.26
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	114	0.00	10.81
6	M	chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.375	0.345	8.0	99	0.00	3.96
8	M	dichlorodifluoromethane	0.616	0.608	1.3	106	0.00	3.91
9	M	chloromethane	0.666	0.558	16.2	101	0.00	4.35
10	M	vinyl chloride	0.665	0.602	9.5	103	0.00	4.62
11		1,3-Butadiene		----------NA----------				
12	M	acetaldehyde		----------NA----------				
13	M	bromomethane	0.419	0.359	14.3	101	0.00	5.40
14	M	chloroethane	0.321	0.301	6.2	104	0.00	5.61
15		VINYL BROMIDE		----------NA----------				
16	M	trichlorofluoromethane	0.649	0.638	1.7	109	0.00	6.12
17		pentane		----------NA----------				
18	M	ethyl ether	0.186	0.197	-5.9	114	0.00	6.67
19	m	2-chloropropane	0.820	0.771	6.0	107	0.00	6.91
20	M	acrolein	0.035	0.039	-11.4	113	-0.01	7.03
21	M	1,1-dichloroethene	0.653	0.626	4.1	105	-0.01	7.17
22	M	isopropyl alcohol		----------NA----------				
23	M	acetone	0.018	0.018	0.0	118	0.00	7.32
24	M	allyl chloride	0.221	0.203	8.1	104	0.00	7.87
25	M	acetonitrile	0.020	0.019	5.0	108	0.00	7.89
26	M	iodomethane	0.673	0.648	3.7	104	0.00	7.53
27	M	iso-butyl alcohol		----------NA----------				
28	M	carbon disulfide	1.510	1.401	7.2	102	-0.01	7.65
29	M	methylene chloride	0.485	0.408	15.9	103	0.00	8.13
30	m	1-chloropropane	0.044	0.037	15.9	103	-0.01	8.15
31	M	methyl acetate	0.145	0.161	-11.0	122	0.00	7.88
32	M	methyl tert butyl ether	0.936	0.928	0.9	110	0.00	8.51
33	M	trans-1,2-dichloroethene	0.653	0.607	7.0	103	0.00	8.59
34	M	di-isopropyl ether	1.222	1.182	3.3	106	0.00	9.28
35	M	ethyl tert-butyl ether	1.131	1.140	-0.8	107	-0.01	9.84
36	M	2-butanone	0.021	0.024	-14.3	120	0.00	10.21
37	M	1,1-dichloroethane	0.756	0.729	3.6	108	0.00	9.33
38	M	chloroprene	0.568	0.566	0.4	107	0.00	9.44
39	M	acrylonitrile	0.069	0.079	-14.5	118	-0.01	8.61
40	M	vinyl acetate	0.037	0.043	-16.2	124	0.00	9.34
41	M	ethyl acetate	0.023	0.027	-17.4	139	-0.01	10.22

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7430-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202466.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	2,2-dichloropropane	0.626	0.570	8.9	104	0.00	10.19
43	M	cis-1,2-dichloroethene	0.498	0.438	12.0	105	0.00	10.21
44	m	methyl acrylate	0.130	0.157	-20.8#	126	-0.01	10.30
45	M	propionitrile	0.026	0.028	-7.7	117	0.00	10.35
46	M	bromochloromethane	0.169	0.168	0.6	109	0.00	10.57
47	M	tetrahydrofuran	0.073	0.076	-4.1	118	0.00	10.60
48	M	chloroform	0.683	0.660	3.4	107	0.00	10.64
49	m	t-butyl formate	0.229	0.237	-3.5	108	-0.01	10.65
50	S	dibromofluoromethane (s)	0.380	0.369	2.9	107	0.00	10.87
51	S	1,2-dichloroethane-d4 (s)	0.333	0.349	-4.8	119	0.00	11.31
52	M	freon 113	0.280	0.269	3.9	106	0.00	7.12
53	M	methacrylonitrile	0.072	0.081	-12.5	120	0.00	10.54
54		cyclohexane	0.681	0.673	1.2	109	-0.01	10.91
55	M	1,1,1-trichloroethane	0.624	0.602	3.5	105	0.00	10.87
56		tert-amyl alcohol		----------NA----------				
57		2,2,4-trimethylpentane	1.609	1.584	1.6	108	0.00	11.31
58	M	tert-amyl methyl ether	1.035	1.010	2.4	110	0.00	11.38
59	I	1,4-difluorobenzene	1.000	1.000	0.0	113	0.00	11.77
60	M	epichlorohydrin	0.012	0.013	-8.3	121	0.00	13.05
61	M	n-butyl alcohol	0.004	0.005#	-25.0#	135	0.00	11.95
62	M	carbon tetrachloride	0.375	0.370	1.3	106	0.00	11.07
63	M	1,1-dichloropropene	0.389	0.391	-0.5	111	0.00	11.07
64	M	hexane	0.399	0.361	9.5	117	0.00	8.94
65	M	benzene	1.262	1.167	7.5	109	0.00	11.36
66	M	heptane	0.201	0.207	-3.0	122	0.00	11.51
		----------	True	Calc.	% Drift	----------		
67	M	isopropyl acetate	50.000	55.958	-11.9	125	0.00	11.31
		----------	AvgRF	CCRF	% Dev	----------		
68	M	1,2-dichloroethane	0.271	0.284	-4.8	114	0.00	11.40
69		ethyl acrylate		----------NA----------				
70	M	trichloroethene	0.274	0.274	0.0	111	-0.01	12.09
71	M	2-chloroethyl vinyl ether	0.088	0.097	-10.2	124	0.00	12.92
72		2-Nitropropane	0.054	0.056	-3.7	120	0.00	12.92
73	M	methylcyclohexane	0.517	0.535	-3.5	109	0.00	12.27
74		tert-amyl ethyl ether		----------NA----------				
75	M	methyl methacrylate	0.095	0.104	-9.5	130	0.00	12.39
76	M	1,2-dichloropropane	0.257	0.253	1.6	111	0.00	12.38
77	M	dibromomethane	0.113	0.121	-7.1	114	0.00	12.54
78	M	bromodichloromethane	0.315	0.322	-2.2	112	0.00	12.68
79	M	cis-1,3-dichloropropene	0.370	0.369	0.3	115	0.00	13.12
80	S	toluene-d8 (s)	1.230	1.203	2.2	111	0.00	13.38
81	M	4-methyl-2-pentanone	0.056	0.062	-10.7	123	0.00	13.22
82	M	toluene	0.733	0.687	6.3	109	0.00	13.44
83	M	3-methyl-1-butanol	0.007	0.008#	-14.3	129	0.00	13.26
84	M	trans-1,3-dichloropropene	0.306	0.304	0.7	114	0.00	13.67
85	M	ethyl methacrylate	0.212	0.227	-7.1	120	0.00	13.64
86	M	1,1,2-trichloroethane	0.140	0.144	-2.9	117	0.00	13.88
87	M	2-hexanone	0.051	0.058	-13.7	134	0.00	14.03
88	I	chlorobenzene-d5	1.000	1.000	0.0	105	0.00	14.80
89	M	cyclohexanone		----------NA----------				
90	M	tetrachloroethene	0.329	0.334	-1.5	112	0.00	13.99
91	M	1,3-dichloropropane	0.338	0.357	-5.6	115	0.00	14.04
92	M	butyl acetate	0.120	0.131	-9.2	120	0.00	14.09
93	m	3,3-dimethyl-1-butanol	0.018	0.022	-22.2#	125	-0.01	14.20
94	M	dibromochloromethane	0.228	0.249	-9.2	113	0.00	14.29
95	M	1,2-dibromoethane	0.178	0.198	-11.2	114	0.00	14.43

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7430-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202466.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

96	M	n-butyl ether	1.479	1.429	3.4	105	0.00	14.72
97	M	chlorobenzene	0.863	0.857	0.7	106	0.00	14.83
98	M	1,1,1,2-tetrachloroethane	0.299	0.316	-5.7	106	0.00	14.89
99	M	ethylbenzene	1.648	1.608	2.4	106	0.00	14.87
100	M	m,p-xylene	0.621	0.618	0.5	104	0.00	14.96
101	M	o-xylene	0.618	0.626	-1.3	104	0.00	15.34
102	M	styrene	0.936	0.961	-2.7	103	0.00	15.35
103	M	bromoform	0.132	0.152	-15.2	112	0.00	15.62
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	16.82
105	M	isopropylbenzene	3.039	3.156	-3.8	106	0.00	15.63
106	S	4-bromofluorobenzene (s)	0.749	0.762	-1.7	102	0.00	15.83
107	M	bromobenzene	0.675	0.676	-0.1	104	0.00	16.01
108	M	1,1,2,2-tetrachloroethane	0.485	0.536	-10.5	116	0.00	15.94
109	M	trans-1,4-dichloro-2-bute	0.132	0.133	-0.8	107	0.00	15.96
110	M	1,2,3-trichloropropane	0.129	0.142	-10.1	113	0.00	16.00
111	M	n-propylbenzene	3.698	3.504	5.2	101	0.00	15.99
112	M	4-ethyltoluene		----------NA----------				
113	M	2-chlorotoluene	0.724	0.713	1.5	101	0.00	16.13
114	M	4-chlorotoluene	2.306	2.092	9.3	98	0.00	16.21
115	M	1,3,5-trimethylbenzene	2.663	2.633	1.1	104	0.00	16.11
116	M	tert-butylbenzene	0.564	0.584	-3.5	108	0.00	16.41
117	M	pentachloroethane	0.376	0.422	-12.2	105	0.00	16.51
118	M	1,2,4-trimethylbenzene	2.692	2.564	4.8	101	0.00	16.45
119	M	sec-butylbenzene	3.550	3.588	-1.1	109	0.00	16.59
120	M	1,3-dichlorobenzene	1.413	1.351	4.4	98	0.00	16.77
121	M	p-isopropyltoluene	2.965	2.929	1.2	105	0.00	16.68
122	M	1,4-dichlorobenzene	1.388	1.312	5.5	98	0.00	16.84
123		benzyl chloride	0.778	0.760	2.3	106	0.00	16.94
124		p-diethylbenzene		----------NA----------				
125	M	1,2-dichlorobenzene	1.314	1.310	0.3	101	0.00	17.17
126	M	n-butylbenzene	1.519	1.451	4.5	97	0.00	17.03
127		1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.108	0.117	-8.3	112	0.00	17.82
129	m	1,3,5-trichlorobenzene	1.147	1.054	8.1	93	0.00	17.93
130	M	1,2,4-trichlorobenzene	0.981	0.939	4.3	96	0.00	18.46
131	M	hexachlorobutadiene	0.611	0.616	-0.8	105	0.00	18.53
132	M	naphthalene	1.937	2.077	-7.2	111	0.00	18.72
133	M	1,2,3-trichlorobenzene	0.912	0.914	-0.2	106	0.00	18.92
134	M	hexachloroethane	0.510	0.558	-9.4	106	0.00	17.37

(#) = Out of Range SPCC's out = 0 CCC's out = 0
c202347.D MC7426.M Tue Aug 04 11:44:10 2015 C

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7433-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202543.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\c202543.D Vial: 37
Acq On : 6 Aug 2015 9:23 am Operator: mihirm
Sample : cc7426-20 Inst : MSC
Misc : MS88903,VC7433,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MC7426.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Aug 04 10:32:19 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	101	0.00	8.11
2	M	1,4-dioxane	0.083	0.083	0.0	92	0.00	12.50
3	M	tertiary butyl alcohol	1.017	1.035	-1.8	96	0.00	8.27
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	105	0.00	10.81
6	M	chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.375	0.370	1.3	102	0.00	3.95
8	M	dichlorodifluoromethane	0.616	0.644	-4.5	104	0.00	3.92
9	M	chloromethane	0.666	0.544	18.3	90	0.00	4.35
10	M	vinyl chloride	0.665	0.616	7.4	97	0.00	4.62
11		1,3-Butadiene		----------NA----------				
12	M	acetaldehyde		----------NA----------				
13	M	bromomethane	0.419	0.364	13.1	94	0.00	5.40
14	M	chloroethane	0.321	0.307	4.4	100	-0.01	5.60
15		VINYL BROMIDE		----------NA----------				
16	M	trichlorofluoromethane	0.649	0.704	-8.5	109	0.00	6.12
17		pentane		----------NA----------				
18	M	ethyl ether	0.186	0.180	3.2	101	0.00	6.67
19	m	2-chloropropane	0.820	0.756	7.8	95	0.00	6.91
20	M	acrolein	0.035	0.035	0.0	102	0.00	7.03
21	M	1,1-dichloroethene	0.653	0.626	4.1	97	-0.01	7.17
22	M	isopropyl alcohol		----------NA----------				
23	M	acetone	0.018	0.021	-16.7	130	0.00	7.32
24	M	allyl chloride	0.221	0.200	9.5	95	0.00	7.87
25	M	acetonitrile	0.020	0.019	5.0	97	0.00	7.90
26	M	iodomethane	0.673	0.631	6.2	96	0.00	7.53
27	M	iso-butyl alcohol		----------NA----------				
28	M	carbon disulfide	1.510	1.439	4.7	97	-0.01	7.65
29	M	methylene chloride	0.485	0.395	18.6	93	0.00	8.13
30	m	1-chloropropane	0.044	0.040	9.1	98	0.00	8.15
31	M	methyl acetate	0.145	0.134	7.6	96	0.00	7.88
32	M	methyl tert butyl ether	0.936	0.844	9.8	96	0.00	8.51
33	M	trans-1,2-dichloroethene	0.653	0.605	7.4	97	0.00	8.59
34	M	di-isopropyl ether	1.222	1.114	8.8	93	0.00	9.28
35	M	ethyl tert-butyl ether	1.131	1.064	5.9	94	0.00	9.84
36	M	2-butanone	0.021	0.023	-9.5	109	0.00	10.21
37	M	1,1-dichloroethane	0.756	0.693	8.3	96	0.00	9.33
38	M	chloroprene	0.568	0.552	2.8	100	0.00	9.44
39	M	acrylonitrile	0.069	0.068	1.4	95	0.00	8.61
40	M	vinyl acetate	0.037	0.039	-5.4	110	0.00	9.34
41	M	ethyl acetate	0.023	0.023	0.0	103	0.00	10.22

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7433-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202543.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	2,2-dichloropropane	0.626	0.635	-1.4	106	0.00	10.19
43	M	cis-1,2-dichloroethene	0.498	0.430	13.7	97	0.00	10.21
44	m	methyl acrylate	0.130	0.129	0.8	98	0.00	10.31
45	M	propionitrile	0.026	0.024	7.7	96	0.00	10.36
46	M	bromochloromethane	0.169	0.161	4.7	99	0.00	10.58
47	M	tetrahydrofuran	0.073	0.067	8.2	97	0.00	10.61
48	M	chloroform	0.683	0.638	6.6	98	0.00	10.64
49	m	t-butyl formate	0.229	0.217	5.2	98	-0.01	10.65
50	S	dibromofluoromethane (s)	0.380	0.370	2.6	104	0.00	10.87
51	S	1,2-dichloroethane-d4 (s)	0.333	0.323	3.0	105	0.00	11.31
52	M	freon 113	0.280	0.282	-0.7	104	0.00	7.12
53	M	methacrylonitrile	0.072	0.071	1.4	100	0.00	10.54
54		cyclohexane	0.681	0.697	-2.3	102	0.00	10.92
55	M	1,1,1-trichloroethane	0.624	0.612	1.9	100	0.00	10.87
56		tert-amyl alcohol		----------NA----------				
57		2,2,4-trimethylpentane	1.609	1.554	3.4	97	0.00	11.32
58	M	tert-amyl methyl ether	1.035	0.932	10.0	97	0.00	11.38
59	I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00	11.77
60	M	epichlorohydrin	0.012	0.013	-8.3	99	0.00	13.05
61	M	n-butyl alcohol	0.004	0.004#	0.0	101	0.00	11.95
62	M	carbon tetrachloride	0.375	0.384	-2.4	102	0.00	11.08
63	M	1,1-dichloropropene	0.389	0.405	-4.1	106	0.00	11.07
64	M	hexane	0.399	0.359	10.0	100	0.00	8.94
65	M	benzene	1.262	1.166	7.6	100	0.00	11.36
66	M	heptane	0.201	0.211	-5.0	103	0.00	11.51
		----------	True	Calc.	% Drift	----------		
67	M	isopropyl acetate	20.000	19.386	3.1	99	0.00	11.32
		----------	AvgRF	CCRF	% Dev	----------		
68	M	1,2-dichloroethane	0.271	0.260	4.1	96	0.00	11.40
69		ethyl acrylate		----------NA----------				
70	M	trichloroethene	0.274	0.281	-2.6	103	0.00	12.09
71	M	2-chloroethyl vinyl ether	0.088	0.089	-1.1	94	0.00	12.92
72		2-Nitropropane	0.054	0.051	5.6	93	0.00	12.92
73	M	methylcyclohexane	0.517	0.542	-4.8	99	0.00	12.27
74		tert-amyl ethyl ether		----------NA----------				
75	M	methyl methacrylate	0.095	0.093	2.1	92	0.00	12.39
76	M	1,2-dichloropropane	0.257	0.246	4.3	97	0.00	12.38
77	M	dibromomethane	0.113	0.113	0.0	98	0.00	12.54
78	M	bromodichloromethane	0.315	0.302	4.1	95	0.00	12.68
79	M	cis-1,3-dichloropropene	0.370	0.362	2.2	96	0.00	13.12
80	S	toluene-d8 (s)	1.230	1.199	2.5	97	0.00	13.38
81	M	4-methyl-2-pentanone	0.056	0.055	1.8	96	0.00	13.22
82	M	toluene	0.733	0.703	4.1	97	0.00	13.45
83	M	3-methyl-1-butanol	0.007	0.007#	0.0	99	0.00	13.26
84	M	trans-1,3-dichloropropene	0.306	0.300	2.0	96	0.00	13.67
85	M	ethyl methacrylate	0.212	0.202	4.7	92	0.00	13.65
86	M	1,1,2-trichloroethane	0.140	0.137	2.1	93	0.00	13.88
87	M	2-hexanone	0.051	0.052	-2.0	101	0.00	14.04
88	I	chlorobenzene-d5	1.000	1.000	0.0	96	0.00	14.80
89	M	cyclohexanone		----------NA----------				
90	M	tetrachloroethene	0.329	0.356	-8.2	90	0.00	13.99
91	M	1,3-dichloropropane	0.338	0.332	1.8	92	0.00	14.05
92	M	butyl acetate	0.120	0.128	-6.7	98	0.00	14.09
93	m	3,3-dimethyl-1-butanol	0.018	0.019	-5.6	98	0.00	14.20
94	M	dibromochloromethane	0.228	0.229	-0.4	94	0.00	14.29
95	M	1,2-dibromoethane	0.178	0.180	-1.1	92	0.00	14.43

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VC7433-CC7426
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C202543.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

96	M	n-butyl ether	1.479	1.463	1.1	96	0.00	14.72
97	M	chlorobenzene	0.863	0.866	-0.3	96	0.00	14.83
98	M	1,1,1,2-tetrachloroethane	0.299	0.304	-1.7	98	0.00	14.89
99	M	ethylbenzene	1.648	1.662	-0.8	98	0.00	14.87
100	M	m,p-xylene	0.621	0.649	-4.5	100	0.00	14.96
101	M	o-xylene	0.618	0.633	-2.4	97	0.00	15.34
102	M	styrene	0.936	0.939	-0.3	96	0.00	15.35
103	M	bromoform	0.132	0.135	-2.3	95	0.00	15.62
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	16.82
105	M	isopropylbenzene	3.039	3.261	-7.3	101	0.00	15.64
106	S	4-bromofluorobenzene (s)	0.749	0.770	-2.8	100	0.00	15.83
107	M	bromobenzene	0.675	0.680	-0.7	98	0.00	16.01
108	M	1,1,2,2-tetrachloroethane	0.485	0.494	-1.9	97	0.00	15.94
109	M	trans-1,4-dichloro-2-bute	0.132	0.135	-2.3	103	0.00	15.97
110	M	1,2,3-trichloropropane	0.129	0.137	-6.2	100	0.00	16.00
111	M	n-propylbenzene	3.698	3.829	-3.5	104	0.00	15.99
112	M	4-ethyltoluene		----------NA----------				
113	M	2-chlorotoluene	0.724	0.747	-3.2	101	0.00	16.13
114	M	4-chlorotoluene	2.306	2.250	2.4	104	0.00	16.22
115	M	1,3,5-trimethylbenzene	2.663	2.745	-3.1	102	0.00	16.11
116	M	tert-butylbenzene	0.564	0.591	-4.8	102	0.00	16.41
117	M	pentachloroethane	0.376	0.414	-10.1	125	0.00	16.51
118	M	1,2,4-trimethylbenzene	2.692	2.741	-1.8	103	0.00	16.45
119	M	sec-butylbenzene	3.550	3.806	-7.2	105	0.00	16.59
120	M	1,3-dichlorobenzene	1.413	1.474	-4.3	105	0.00	16.78
121	M	p-isopropyltoluene	2.965	3.222	-8.7	108	0.00	16.68
122	M	1,4-dichlorobenzene	1.388	1.427	-2.8	105	0.00	16.84
123		benzyl chloride	0.778	1.130	-45.2#	149	0.00	16.94
124		p-diethylbenzene		----------NA----------				
125	M	1,2-dichlorobenzene	1.314	1.342	-2.1	102	0.00	17.17
126	M	n-butylbenzene	1.519	1.721	-13.3	114	0.00	17.03
127		1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.108	0.104	3.7	95	0.00	17.82
129	m	1,3,5-trichlorobenzene	1.147	1.313	-14.5	118	0.00	17.93
130	M	1,2,4-trichlorobenzene	0.981	1.129	-15.1	116	0.00	18.47
131	M	hexachlorobutadiene	0.611	0.717	-17.3	115	0.00	18.53
132	M	naphthalene	1.937	1.964	-1.4	101	0.00	18.72
133	M	1,2,3-trichlorobenzene	0.912	0.992	-8.8	108	0.00	18.93
134	M	hexachloroethane	0.510	0.532	-4.3	103	0.00	17.37

(#) = Out of Range SPCC's out = 0 CCC's out = 0
c202346.D MC7426.M Thu Aug 06 11:51:48 2015 C

Initial Calibration Summary

Job Number: JB99969 **Sample:** VD9526-ICC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232875.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Response Factor Report MSD

```
Method       : C:\MSDCHEM\1\METHODS\MD9526.M (RTE Integrator)
Title        : SW-846 Method 8260C
Last Update  : Mon Aug 10 14:31:58 2015
Response via : Initial Calibration

Calibration Files
4   =d232872.D   2   =d232871.D   0.5 =d232869.D   50  =d232875.D
100 =d232876.D   1   =d232870.D   200 =d232877.D   20  =d232874.D
8   =d232873.D   0.2 =d232868.D       =                =

Compound
        4     2     0.5   50    100   1     200   20    8     0.2    Avg   %RSD
-------------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.109 0.114       0.115 0.114 0.113 0.110 0.115 0.100        0.111    4.72
3)  tertiary butyl alcohol
     1.182 1.324       1.127 1.094       1.051 1.109 1.064        1.136    8.24

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  1,2-dichloro-1,2,2-trifluoroet
                                                                  0.000#  -1.00
6)  chlorodifluoromethane
     0.828 0.822       0.821 0.825 0.956 0.773 0.841 0.775        0.830    6.83
7)  dichlorodifluoromethane
     0.697 0.661 0.741 0.793 0.757 0.717 0.729 0.752 0.715        0.729    5.23
8)  chloromethane
     1.108 1.124       1.146 1.111 1.455 1.054 1.105 1.069        1.146   11.17
9)  1,3-butadiene
                                                                  0.000#  -1.00
10)  vinyl chloride
     1.006 1.023 1.268 1.103 1.066 1.223 1.015 1.054 1.014 1.114  1.089    8.39
11)  bromomethane
     0.531 0.534       0.559 0.520 0.683       0.555 0.532        0.559   10.06
12)  chloroethane
     0.449 0.459       0.486 0.461 0.544 0.414 0.466 0.441        0.465    8.17
13)  vinyl bromide
                                                                  0.000#  -1.00
14)  trichlorofluoromethane
     0.828 0.806 0.963 0.937 0.926 0.945       0.891 0.841        0.892    6.70
15)  pentane
                                                                  0.000#  -1.00
16)  ethyl ether
     0.299 0.277       0.271 0.278 0.318 0.265 0.278 0.256        0.280    7.04
17)  acrolein
     0.087 0.095       0.092       0.092       0.089 0.088        0.090    3.41
18)  chlorotrifluoroethene
                                                                  0.000#  -1.00
19)  2-chloropropane
     1.063 1.061       1.038 0.929 1.313 0.994 1.111 0.921        1.054   11.75
20)  1,1-dichloroethene
     0.842 0.775       0.771 0.784 0.809 0.747 0.790 0.758        0.784    3.81
21)  acetone
                       0.040 0.041       0.040 0.042 0.033        0.039    9.23
22)  allyl chloride
     1.504 1.493       1.370 1.377       1.313 1.394 1.341        1.399    5.22
23)  acetonitrile
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VD9526-ICC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232875.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
      0.047             0.042 0.042       0.040 0.043 0.039        0.042    6.66
24)  acetaldehyde
                                                                    0.000#  -1.00
25)  iodomethane
      0.901 0.831 1.144 0.867 0.885 0.843 0.839 0.868 0.817        0.888   11.20
26)  iso-butyl alcohol
      0.008             0.007 0.007       0.007 0.007 0.007        0.007#   6.57
27)  carbon disulfide
      1.984 1.901       1.846 1.860       1.754 1.868 1.783        1.857    4.08
28)  methylene chloride
      0.583 0.560       0.545 0.554 0.640 0.531 0.565 0.521        0.562    6.55
29)  1-chloropropane
      1.479             0.953 0.949       0.898 1.158 1.182        1.103   19.81
30)  methyl acetate
      0.076 0.059       0.076 0.077 0.055 0.078 0.077 0.068        0.071   12.90
31)  methyl tert butyl ether
      1.716 1.669       1.540 1.581 1.770 1.502 1.560 1.499        1.605    6.35
32)  trans-1,2-dichloroethene
      0.812 0.751       0.726 0.735 0.859 0.701 0.755 0.723        0.758    6.92
33)  di-isopropyl ether
      1.726 1.757       1.681 1.683 2.163 1.619 1.683 1.600        1.739   10.28
34)  ethyl tert-butyl ether
      1.721 1.787       1.728 1.764 2.140 1.710 1.701 1.614        1.771    8.91
35)  2-butanone
      0.051 0.035       0.053 0.053       0.052 0.050 0.044        0.048   13.43
36)  1,1-dichloroethane
      0.997 0.944 1.293 0.894 0.899 0.983 0.862 0.934 0.874        0.964   13.63
37)  chloroprene
      0.731 0.797       0.746 0.735 0.991 0.713 0.733 0.683        0.766   12.59
38)  acrylonitrile
      0.186 0.170 0.236 0.175 0.177 0.185 0.176 0.179 0.164        0.183   11.41
39)  vinyl acetate
      0.085 0.079       0.093 0.092 0.058 0.093 0.086 0.080        0.083   14.04
40)  ethyl acetate
      0.073 0.080       0.068 0.066 0.078 0.064 0.068 0.069        0.071    8.11
41)  2,2-dichloropropane
      0.895 0.836       0.775 0.776 0.962 0.725 0.798 0.750        0.814    9.77
42)  cis-1,2-dichloroethene
      0.952 0.925       0.871 0.880 1.010 0.845 0.895 0.848        0.903    6.24
43)  propionitrile
      0.072 0.066       0.070 0.072 0.067 0.069 0.070 0.064        0.069    4.07
44)  methyl acrylate
      0.061 0.044       0.064 0.067       0.066 0.062 0.054        0.060   13.72
45)  bromochloromethane
      0.270 0.250 0.351 0.247 0.254 0.261 0.249 0.254 0.241        0.264   12.78
46)  tetrahydrofuran
      0.058 0.051       0.060 0.062 0.050 0.062 0.060 0.057        0.058    7.99
47)  chloroform
      0.873 0.848 1.217 0.803 0.871 0.908 0.838 0.835 0.784 0.883  0.886   13.79
48)  dibromofluoromethane (s)
      0.444 0.439 0.441 0.441 0.438 0.443 0.436 0.443 0.441 0.454  0.442    1.09
49)  1,2-dichloroethane-d4 (s)
      0.510 0.511 0.507 0.494 0.501 0.510 0.512 0.494 0.506 0.518  0.506    1.55
50)  freon 113
      0.374 0.375       0.367 0.378 0.431 0.365 0.362 0.352        0.376    6.37
51)  methacrylonitrile
      0.288 0.287       0.264 0.268 0.338 0.263 0.267 0.251        0.278    9.69
52)  t-butyl formate
      0.505 0.519       0.527 0.543 0.624 0.526 0.508 0.474        0.528    8.27
53)  1,1,1-trichloroethane
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VD9526-ICC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232875.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
      0.800 0.728       0.737 0.756 0.804 0.725 0.738 0.692        0.747    5.12
54)  tert-amyl methyl ether
      1.654 1.771       1.595 1.639       1.585 1.584 1.505        1.619    5.10

55) I   1,4-difluorobenzene   ----------------ISTD--------------------
56)  cyclohexane
      0.632 0.614 0.815 0.647 0.662 0.603 0.649 0.582 0.556        0.640   11.54
57)  tert amyl alcohol
                                                                   0.000#  -1.00
58)  2,2,4-trimethylpentane
      1.268 1.379       1.113 1.279       1.257 1.196 1.151        1.235    7.20
59)  epichlorohydrin
      0.035 0.037       0.035 0.035 0.047 0.035 0.035 0.033        0.036   12.64
60)  n-butyl alcohol
      0.011 0.011       0.011 0.011 0.015 0.011 0.011 0.010        0.011   14.72
61)  carbon tetrachloride
      0.455 0.439 0.588 0.422 0.433 0.469 0.427 0.430 0.411        0.453   11.87
62)  1,1-dichloropropene
      0.492 0.469 0.658 0.445 0.445 0.513 0.438 0.452 0.434 0.431  0.478   14.39
63)  hexane
      0.430 0.470       0.375 0.393       0.386 0.401 0.401        0.408    7.91
64)  benzene
      1.480 1.461 2.078 1.348 1.350 1.589 1.292 1.400 1.318 1.453  1.477   15.53
65)  heptane
      0.242 0.268       0.213 0.226       0.218 0.228 0.224        0.231    7.96
66)  isopropyl acetate
      0.769 0.887       0.766 0.799 1.082 0.792 0.774 0.719        0.823   13.92
67)  1,2-dichloroethane
      0.445 0.418 0.554 0.407 0.417 0.437 0.409 0.419 0.396        0.433   11.00
68)  Ethyl Acrylate
                                                                   0.000#  -1.00
69)  trichloroethene
      0.350 0.338 0.468 0.328 0.331 0.361 0.328 0.336 0.315        0.351   13.11
70)  2-nitropropane
      0.519 0.528       0.497 0.506       0.489 0.502 0.469        0.501    3.88
71)  2-chloroethyl vinyl ether
      0.197 0.213       0.205 0.204 0.279 0.199 0.201 0.187        0.211   13.59
72)  methyl methacrylate
      0.078 0.067 0.081 0.082 0.089 0.070 0.090 0.080 0.072        0.079   10.35
73)  tert-amyl ethyl ether
                                                                   0.000#  -1.00
74)  1,2-dichloropropane
      0.380 0.362 0.525 0.351 0.354 0.375 0.348 0.357 0.337        0.377   15.22
75)  methylcyclohexane
      0.620 0.694       0.600 0.604 0.852 0.602 0.593 0.578        0.643   14.25
76)  dibromomethane
      0.209 0.213 0.271 0.215 0.205 0.211 0.202 0.221 0.185        0.215   10.86
77)  bromodichloromethane
      0.471 0.449 0.632 0.447 0.458 0.492 0.453 0.461 0.427        0.477   12.79
78)  cis-1,3-dichloropropene
      0.607 0.584 0.818 0.579 0.593 0.645 0.582 0.582 0.553        0.616   12.98
79)  toluene-d8 (s)
      1.201 1.198 1.201 1.222 1.229 1.190 1.245 1.196 1.200 1.182  1.206    1.62
80)  4-methyl-2-pentanone
      0.125 0.116 0.177 0.127 0.137 0.133 0.135 0.128 0.117        0.133   13.80
81)  toluene
      0.888 0.850 1.173 0.858 0.870 0.932 0.849 0.860 0.796        0.897   12.18
82)  3-methyl-1-butanol
      0.010 0.011 0.013 0.011 0.011 0.012 0.011 0.010 0.009        0.011    9.54
83)  trans-1,3-dichloropropene
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VD9526-ICC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232875.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
       0.559 0.547 0.726 0.526 0.541 0.601 0.530 0.528 0.500 0.504  0.556   11.89
 84)  ethyl methacrylate
       0.421 0.381 0.537 0.422 0.449 0.405 0.448 0.410 0.374        0.428   11.34
 85)  1,1,2-trichloroethane
       0.255 0.243 0.348 0.248 0.258 0.268 0.256 0.246 0.234        0.262   12.96
 86)  2-hexanone
       0.125 0.113       0.125 0.135 0.101 0.138 0.122 0.113        0.121   10.00

 87) I   chlorobenzene-d5      ----------------ISTD---------------------
 88)  tetrachloroethene
       0.379 0.356 0.493 0.365 0.369 0.411 0.358 0.373 0.345        0.383   11.74
 89)  1,3-dichloropropane
       0.552 0.537 0.747 0.536 0.547 0.598 0.527 0.542 0.491        0.564   13.10
 90)  butyl acetate
       0.230 0.239       0.226 0.234       0.232 0.225 0.212        0.228    3.75
 91)  3,3-dimethyl-1-butanol
       0.042 0.045       0.044 0.047 0.053 0.045 0.042 0.038        0.045   10.11
 92)  dibromochloromethane
       0.367 0.360 0.509 0.360 0.372 0.388 0.364 0.368 0.324        0.379   13.59
 93)  1,2-dibromoethane
       0.320 0.307 0.455 0.314 0.318 0.345 0.313 0.319 0.285        0.331   14.84
 94)  chlorobenzene
       1.047 1.005       0.999 1.007 1.113 0.977 1.022 0.912        1.010    5.65
 95)  1,1,1,2-tetrachloroethane
       0.396 0.380       0.388 0.400 0.411 0.384 0.395 0.355        0.389    4.32
 96)  ethylbenzene
       1.799 1.761 2.535 1.728 1.731 2.035 1.637 1.767 1.587 1.912  1.849   14.73
 97)  m,p-xylene
       0.691 0.681 0.972 0.672 0.677 0.740 0.644 0.689 0.611 0.603  0.698   14.95
 98)  o-xylene
       0.731 0.703 1.023 0.711 0.715 0.815 0.674 0.730 0.650 0.681  0.743   14.50
 99)  styrene
       1.192 1.160 1.689 1.204 1.214 1.295 1.156 1.223 1.072        1.245   14.21
100)  bromoform
       0.263 0.268       0.274 0.284 0.298 0.278 0.278 0.245        0.274    5.69

101) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
102)  isopropylbenzene
       3.139 3.139 4.596 3.062 3.064 3.485 2.922 3.120 2.866        3.266   16.17
103)  4-bromofluorobenzene (s)
       0.927 0.941 0.958 0.917 0.918 0.954 0.936 0.916 0.901 0.891  0.926    2.35
104)  bromobenzene
       0.798 0.788       0.780 0.802 0.909 0.794 0.780 0.734        0.798    6.23
105)  cyclohexanone
       0.024 0.028       0.021 0.021       0.021 0.022 0.019        0.022   12.68
106)  1,1,2,2-tetrachloroethane
       0.923 0.903       0.856 0.874 0.961 0.841 0.879 0.790        0.878    5.97
107)  trans-1,4-dichloro-2-butene
       0.289 0.274       0.253 0.257 0.313 0.256 0.254 0.240        0.267    8.92
108)  1,2,3-trichloropropane
       0.243 0.219       0.216 0.221 0.240 0.215 0.221 0.203        0.222    5.88
109)  n-propylbenzene
       3.902 3.786 5.660 3.531 3.513 4.244 3.311 3.617 3.356        3.880   18.75
110)  p-ethyltoluene
                                                                    0.000#  -1.00
111)  2-chlorotoluene
       0.780 0.760       0.750 0.767 0.845 0.755 0.757 0.692        0.763    5.50
112)  4-chlorotoluene
       2.587 2.549       2.348 2.377 2.752 2.308 2.371 2.270        2.445    6.81
113)  1,3,5-trimethylbenzene
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VD9526-ICC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232875.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
       2.982 2.813 4.180 2.785 2.796 3.034 2.630 2.823 2.608 2.636  2.929   15.77
114)  tert-butylbenzene
       2.451 2.413 3.565 2.346 2.324 2.609 2.176 2.389 2.259 2.110  2.464   16.71
115)  pentachloroethane
       0.547 0.526       0.527 0.540 0.567 0.526 0.532 0.492        0.532    4.03
116)  1,2,4-trimethylbenzene
       2.962 2.810 4.241 2.784 2.795 3.152 2.626 2.860 2.721 2.685  2.964   15.95
117)  sec-butylbenzene
       3.920 3.832       3.660 3.678 4.034 3.401 3.774 3.635        3.742    5.19
118)  1,3-dichlorobenzene
       1.719 1.637 2.464 1.628 1.647 1.815 1.586 1.658 1.542 1.566  1.726   15.69
119)  p-isopropyltoluene
       3.259 3.177       3.047 3.065 3.428 2.837 3.152 2.976        3.118    5.78
120)  1,4-dichlorobenzene
       1.754 1.709       1.660 1.684 1.880 1.603 1.682 1.597        1.696    5.34
121)  1,2,3-trimethylbenzene
                                                                    0.000#  -1.00
122)  Benzyl Chloride
       1.929 2.155       1.830 1.803       1.704 1.825 1.764        1.859    7.94
123)  p-diethylbenzene
                                                                    0.000#  -1.00
124)  INDANE
                                                                    0.000#  -1.00
125)  1,2-dichlorobenzene
       1.667 1.580       1.579 1.587 1.753 1.500 1.600 1.507        1.596    5.15
126)  n-butylbenzene
       1.730 1.656       1.608 1.613 1.732 1.516 1.651 1.580        1.636    4.46
127)  1,2,4,5-tetramethylbenzene
                                                                    0.000#  -1.00
128)  1,2-dibromo-3-chloropropane
       0.158 0.162 0.221 0.156 0.163 0.179 0.158 0.159 0.142        0.167   13.58
129)  1,3,5-trichlorobenzene
       1.205 1.131 1.644 1.201 1.214 1.217 1.150 1.204 1.109 1.104  1.218   12.82
130)  1,2,4-trichlorobenzene
       0.921 0.855 1.195 0.984 1.023 0.875 0.980 0.958 0.856 0.908  0.955   10.65
131)  hexachlorobutadiene
       0.523 0.521 0.780 0.513 0.532 0.566 0.501 0.517 0.485        0.549   16.32
132)  naphthalene
       1.776 1.623 2.412 1.950 2.052 1.713 1.947 1.918 1.670 1.780  1.884   12.29
133)  1,2,3-trichlorobenzene
       0.684 0.627 0.877 0.756 0.791 0.667 0.765 0.734 0.632        0.726   11.29
134)  hexachloroethane
       0.601 0.547       0.568 0.580       0.555 0.571 0.525        0.564    4.34
 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MD9526.M          Mon Aug 10 14:33:13 2015   RPT1
```

6.9.10

6

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: VD9526-ICV9526
Lab FileID: D232880.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\d232880.D Vial: 14
Acq On : 6 Aug 2015 4:47 pm Operator: benm
Sample : ICV9526-50 Inst : MSD
Misc : ms89010,vd9526,5.0,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MD9526.M (RTE Integrator)
Title : SW-846 Method 8260C
Last Update : Mon Aug 10 14:31:58 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	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	90	0.01	7.98
2	M	1,4-dioxane	0.111	0.119	-7.2	93	0.00	11.83
3	M	tertiary butyl alcohol	1.136	1.092	3.9	87	0.01	8.09
4	I	pentafluorobenzene	1.000	1.000	0.0	95	0.00	10.15
5	M	1,2-dichloro-1,2,2-triflu		----------NA----------				
6	M	chlorodifluoromethane	0.830	0.679	18.2	79	0.00	4.40
7	M	dichlorodifluoromethane	0.729	0.756	-3.7	91	0.00	4.38
8	M	chloromethane	1.146	1.093	4.6	91	0.00	4.79
9		1,3-butadiene		----------NA----------				
10	M	vinyl chloride	1.089	1.062	2.5	92	0.00	5.07
11	M	bromomethane	0.559	0.523	6.4	89	0.00	5.74
12	M	chloroethane	0.465	0.503	-8.2	99	0.00	5.91
13	M	vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.892	0.855	4.1	87	0.00	6.39
15		pentane		----------NA----------				
16	M	ethyl ether	0.280	0.262	6.4	92	0.00	6.79
17	M	acrolein	0.090	0.092	-2.2	95	0.00	7.12
18	M	chlorotrifluoroethene		----------NA----------				
19	M	2-chloropropane	1.054	0.996	5.5	91	0.00	7.02
20	M	1,1-dichloroethene	0.784	0.741	5.5	92	0.00	7.25
21	M	acetone	0.039	0.036	7.7	86	0.00	7.35
22	M	allyl chloride	1.399	1.345	3.9	93	0.00	7.80
23	M	acetonitrile	0.042	0.038	9.5	86	0.01	7.83
24	M	acetaldehyde		----------NA----------				
25	M	iodomethane	0.888	0.861	3.0	95	0.00	7.56
26	M	iso-butyl alcohol	0.007	0.007#	0.0	97	0.00	10.44
27	M	carbon disulfide	1.857	1.848	0.5	95	0.00	7.67
28	M	methylene chloride	0.562	0.536	4.6	94	0.00	8.00
29	M	1-chloropropane	1.103	1.056	4.3	106	0.00	8.02
30	M	methyl acetate	0.071	0.067	5.6	84	0.00	7.78
31	M	methyl tert butyl ether	1.605	1.410	12.1	87	0.00	8.29
32	M	trans-1,2-dichloroethene	0.758	0.690	9.0	91	0.00	8.36
33	M	di-isopropyl ether	1.739	1.545	11.2	88	0.00	8.86
34	M	ethyl tert-butyl ether	1.771	1.585	10.5	87	0.00	9.32
35	M	2-butanone	0.048	0.048	0.0	87	0.00	9.64
36	M	1,1-dichloroethane	0.964	0.883	8.4	94	0.00	8.94
37	M	chloroprene	0.766	0.664	13.3	85	0.00	9.02
38	M	acrylonitrile	0.183	0.163	10.9	89	0.00	8.36
39	M	vinyl acetate	0.083	0.089	-7.2	92	0.00	8.90
40	M	ethyl acetate	0.071	0.061	14.1	86	0.00	9.63
41	M	2,2-dichloropropane	0.814	0.784	3.7	96	0.00	9.66

Initial Calibration Verification

Job Number: JB99969 **Sample:** VD9526-ICV9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232880.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	cis-1,2-dichloroethene	0.903	0.844	6.5	92	0.00	9.67
43	M	propionitrile	0.069	0.062	10.1	84	0.00	9.78
44		methyl acrylate	0.060	0.060	0.0	90	0.00	9.72
45	M	bromochloromethane	0.264	0.242	8.3	93	0.00	9.99
46	M	tetrahydrofuran	0.058	0.056	3.4	89	0.00	10.02
47	M	chloroform	0.886	0.790	10.8	94	0.00	10.03
48	S	dibromofluoromethane (s)	0.442	0.436	1.4	94	0.00	10.24
49	S	1,2-dichloroethane-d4 (s)	0.506	0.487	3.8	94	0.00	10.67
50	M	freon 113	0.376	0.355	5.6	92	0.00	7.19
51	M	methacrylonitrile	0.278	0.244	12.2	88	0.00	9.94
52	m	t-butyl formate	0.528	0.509	3.6	92	0.00	10.06
53	M	1,1,1-trichloroethane	0.747	0.732	2.0	95	0.00	10.27
54	M	tert-amyl methyl ether	1.619	1.502	7.2	90	0.00	10.71
55	I	1,4-difluorobenzene	1.000	1.000	0.0	94	0.00	11.08
56	M	cyclohexane	0.640	0.619	3.3	90	0.00	10.32
57		tert amyl alcohol		----------NA----------				
58	M	2,2,4-trimethylpentane	1.235	1.082	12.4	92	0.00	10.65
59	M	epichlorohydrin	0.036	0.034	5.6	93	0.00	12.40
60	M	n-butyl alcohol	0.011	0.011	0.0	91	0.00	11.22
61	M	carbon tetrachloride	0.453	0.430	5.1	96	0.00	10.46
62	M	1,1-dichloropropene	0.478	0.455	4.8	96	0.00	10.44
63	M	hexane	0.408	0.378	7.4	95	0.00	8.60
64	M	benzene	1.477	1.351	8.5	95	0.00	10.72
65	M	heptane	0.231	0.210	9.1	93	0.00	10.82
66	M	isopropyl acetate	0.823	0.739	10.2	91	0.00	10.61
67	M	1,2-dichloroethane	0.433	0.403	6.9	93	0.00	10.76
68		Ethyl Acrylate		----------NA----------				
69	M	trichloroethene	0.351	0.331	5.7	95	0.00	11.42
70	M	2-nitropropane	0.501	0.479	4.4	91	0.00	11.69
71	M	2-chloroethyl vinyl ether	0.211	0.215	-1.9	99	0.00	12.24
72	M	methyl methacrylate	0.079	0.082	-3.8	94	0.00	11.68
73	M	tert-amyl ethyl ether		----------NA----------				
74	M	1,2-dichloropropane	0.377	0.351	6.9	94	0.00	11.71
75	M	methylcyclohexane	0.643	0.548	14.8	86	0.00	11.62
76	M	dibromomethane	0.215	0.206	4.2	91	0.00	11.89
77	M	bromodichloromethane	0.477	0.443	7.1	94	0.00	12.01
78	M	cis-1,3-dichloropropene	0.616	0.568	7.8	93	0.00	12.47
79	S	toluene-d8 (s)	1.206	1.211	-0.4	94	0.00	12.76
80	M	4-methyl-2-pentanone	0.133	0.126	5.3	93	0.00	12.57
81	M	toluene	0.897	0.842	6.1	93	0.00	12.84
82	M	3-methyl-1-butanol	0.011	0.010	9.1	89	0.00	12.59
83	M	trans-1,3-dichloropropene	0.556	0.493	11.3	89	0.00	13.07
84	M	ethyl methacrylate	0.428	0.400	6.5	89	0.00	13.02
85	M	1,1,2-trichloroethane	0.262	0.242	7.6	92	0.00	13.31
86	M	2-hexanone	0.121	0.119	1.7	90	0.00	13.47
87	I	chlorobenzene-d5	1.000	1.000	0.0	93	0.00	14.41
88	M	tetrachloroethene	0.383	0.375	2.1	96	0.00	13.46
89	M	1,3-dichloropropane	0.564	0.519	8.0	90	0.00	13.51
90	M	butyl acetate	0.228	0.215	5.7	89	0.00	13.52
91	m	3,3-dimethyl-1-butanol	0.045	0.038	15.6	82	0.00	13.66
92	M	dibromochloromethane	0.379	0.355	6.3	92	0.00	13.79
93	M	1,2-dibromoethane	0.331	0.303	8.5	90	0.00	13.97
94	M	chlorobenzene	1.010	1.006	0.4	94	0.00	14.45
95	M	1,1,1,2-tetrachloroethane	0.389	0.384	1.3	92	0.00	14.51
96	M	ethylbenzene	1.849	1.700	8.1	92	0.00	14.49
97	M	m,p-xylene	0.698	0.669	4.2	93	0.00	14.60
98	M	o-xylene	0.743	0.720	3.1	94	0.00	15.07
99	M	styrene	1.245	1.185	4.8	92	0.00	15.09

Initial Calibration Verification

Job Number: JB99969 **Sample:** VD9526-ICV9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232880.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.274	0.270	1.5	92	0.00	15.42
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	95	0.00	16.99
102	M	isopropylbenzene	3.266	2.982	8.7	93	0.00	15.44
103	S	4-bromofluorobenzene (s)	0.926	0.896	3.2	93	0.00	15.69
104	M	bromobenzene	0.798	0.766	4.0	93	0.00	15.92
105	M	cyclohexanone	0.022	0.017	22.7	78	0.00	15.69
106	M	1,1,2,2-tetrachloroethane	0.878	0.797	9.2	89	0.00	15.82
107	M	trans-1,4-dichloro-2-bute	0.267	0.236	11.6	89	0.00	15.86
108	M	1,2,3-trichloropropane	0.222	0.202	9.0	89	0.00	15.91
109	M	n-propylbenzene	3.880	3.603	7.1	97	0.00	15.89
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.763	0.736	3.5	93	0.00	16.08
112	M	4-chlorotoluene	2.445	2.289	6.4	93	0.00	16.19
113	M	1,3,5-trimethylbenzene	2.929	2.719	7.2	93	0.00	16.05
114	M	tert-butylbenzene	2.464	2.327	5.6	94	0.00	16.45
115	M	pentachloroethane	0.532	0.530	0.4	96	0.00	16.57
116	M	1,2,4-trimethylbenzene	2.964	2.866	3.3	98	0.00	16.50
117	M	sec-butylbenzene	3.742	3.633	2.9	94	0.00	16.69
118	M	1,3-dichlorobenzene	1.726	1.617	6.3	94	0.00	16.93
119	M	p-isopropyltoluene	3.118	3.064	1.7	96	0.00	16.81
120	M	1,4-dichlorobenzene	1.696	1.653	2.5	95	0.00	17.02
121		1,2,3-trimethylbenzene		----------NA----------				
122		Benzyl Chloride	1.859	1.966	-5.8	102	0.00	17.15
123	M	p-diethylbenzene		----------NA----------				
124		INDANE		----------NA----------				
125	M	1,2-dichlorobenzene	1.596	1.590	0.4	96	0.00	17.46
126	M	n-butylbenzene	1.636	1.637	-0.1	97	0.00	17.27
127	M	1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.167	0.152	9.0	93	0.00	18.33
129	M	1,3,5-trichlorobenzene	1.218	1.250	-2.6	99	0.00	18.50
130	M	1,2,4-trichlorobenzene	0.955	0.999	-4.6	97	0.00	19.24
131	M	hexachlorobutadiene	0.549	0.515	6.2	96	0.00	19.34
132	M	naphthalene	1.884	1.890	-0.3	92	0.00	19.58
133	M	1,2,3-trichlorobenzene	0.726	0.741	-2.1	93	0.00	19.86
134	M	hexachloroethane	0.564	0.577	-2.3	97	0.00	17.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d232875.D MD9526.M Mon Aug 10 14:33:05 2015 RPT1

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VD9527-CC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232883.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\d232883.D                    Vial: 3
Acq On    :  7 Aug 2015   9:30 am                     Operator: BenM
Sample    : cc9526-20                                 Inst    : MSD
Misc      : ms89010,vd9527,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MD9526.M (RTE Integrator)
Title        : SW-846 Method 8260C
Last Update  : Fri Aug 07 10:20:36 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	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	92	0.00	7.97
2	M	1,4-dioxane	0.111	0.114	-2.7	91	0.00	11.83
3	M	tertiary butyl alcohol	1.136	1.107	2.6	91	0.01	8.10
4	I	pentafluorobenzene	1.000	1.000	0.0	101	0.00	10.15
5	M	1,2-dichloro-1,2,2-triflu		----------NA----------				
6	M	chlorodifluoromethane	0.830	0.767	7.6	92	0.01	4.41
7	M	dichlorodifluoromethane	0.729	0.692	5.1	93	0.01	4.39
8	M	chloromethane	1.146	1.004	12.4	92	0.00	4.79
9		1,3-butadiene		----------NA----------				
10	M	vinyl chloride	1.089	0.964	11.5	92	0.00	5.06
11	M	bromomethane	0.559	0.524	6.3	95	0.00	5.74
12	M	chloroethane	0.465	0.427	8.2	93	0.00	5.91
13	M	vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.892	0.832	6.7	94	0.00	6.39
15		pentane		----------NA----------				
16	M	ethyl ether	0.280	0.262	6.4	95	0.00	6.79
17	M	acrolein	0.090	0.084	6.7	95	0.00	7.11
18	M	chlorotrifluoroethene		----------NA----------				
19	M	2-chloropropane	1.054	0.867	17.7	79	0.00	7.02
20	M	1,1-dichloroethene	0.784	0.716	8.7	91	0.00	7.25
21	M	acetone	0.039	0.033	15.4	79	0.00	7.34
22	M	allyl chloride	1.399	1.245	11.0	90	0.00	7.80
23	M	acetonitrile	0.042	0.036	14.3	84	0.00	7.82
24	M	acetaldehyde		----------NA----------				
25	M	iodomethane	0.888	0.828	6.8	96	0.00	7.56
26	M	iso-butyl alcohol	0.007	0.006#	14.3	91	0.00	10.44
27	M	carbon disulfide	1.857	1.712	7.8	92	0.00	7.67
28	M	methylene chloride	0.562	0.522	7.1	93	0.00	8.00
29	M	1-chloropropane	1.103	0.969	12.1	84	0.00	8.02
30	M	methyl acetate	0.071	0.071	0.0	94	0.00	7.77
31	M	methyl tert butyl ether	1.605	1.457	9.2	94	0.00	8.29
32	M	trans-1,2-dichloroethene	0.758	0.690	9.0	92	0.00	8.35
33	M	di-isopropyl ether	1.739	1.522	12.5	91	0.00	8.85
34	M	ethyl tert-butyl ether	1.771	1.576	11.0	94	0.00	9.32
35	M	2-butanone	0.048	0.044	8.3	88	0.00	9.65
36	M	1,1-dichloroethane	0.964	0.856	11.2	92	0.00	8.93
37	M	chloroprene	0.766	0.677	11.6	93	0.00	9.02
38	M	acrylonitrile	0.183	0.165	9.8	93	0.00	8.36
39	M	vinyl acetate	0.083	0.080	3.6	94	0.00	8.91
40	M	ethyl acetate	0.071	0.060	15.5	90	0.00	9.64
41	M	2,2-dichloropropane	0.814	0.746	8.4	94	0.00	9.66

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VD9527-CC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232883.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	cis-1,2-dichloroethene	0.903	0.825	8.6	93	0.00	9.67
43	M	propionitrile	0.069	0.064	7.2	93	0.00	9.78
44		methyl acrylate	0.060	0.060	0.0	98	0.00	9.72
45	M	bromochloromethane	0.264	0.246	6.8	98	0.00	9.99
46	M	tetrahydrofuran	0.058	0.057	1.7	95	0.00	10.02
47	M	chloroform	0.886	0.777	12.3	94	0.00	10.04
48	S	dibromofluoromethane (s)	0.442	0.431	2.5	98	0.00	10.24
49	S	1,2-dichloroethane-d4 (s)	0.506	0.472	6.7	96	0.00	10.67
50	M	freon 113	0.376	0.351	6.6	98	0.00	7.20
51	M	methacrylonitrile	0.278	0.251	9.7	95	0.00	9.94
52	m	t-butyl formate	0.528	0.463	12.3	92	0.00	10.05
53	M	1,1,1-trichloroethane	0.747	0.682	8.7	93	0.00	10.27
54	M	tert-amyl methyl ether	1.594	1.471	7.7	94	0.00	10.71
55	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.00	11.08
56	M	cyclohexane	0.640	0.616	3.8	105	0.00	10.32
57		tert amyl alcohol		----------NA----------				
58	M	2,2,4-trimethylpentane	1.235	1.152	6.7	96	0.00	10.66
59	M	epichlorohydrin	0.036	0.032	11.1	92	0.00	12.39
60	M	n-butyl alcohol	0.011	0.009#	18.2	88	0.00	11.22
61	M	carbon tetrachloride	0.453	0.407	10.2	94	0.00	10.46
62	M	1,1-dichloropropene	0.478	0.426	10.9	94	0.00	10.44
63	M	hexane	0.408	0.388	4.9	96	0.00	8.60
64	M	benzene	1.477	1.317	10.8	94	0.00	10.72
65	M	heptane	0.231	0.223	3.5	97	0.00	10.81
66	M	isopropyl acetate	0.823	0.719	12.6	92	0.00	10.62
67	M	1,2-dichloroethane	0.433	0.394	9.0	94	0.00	10.76
68		Ethyl Acrylate		----------NA----------				
69	M	trichloroethene	0.351	0.324	7.7	96	0.00	11.42
70	M	2-nitropropane	0.501	0.461	8.0	91	0.00	11.69
71	M	2-chloroethyl vinyl ether	0.211	0.187	11.4	92	0.00	12.24
72	M	methyl methacrylate	0.079	0.080	-1.3	99	0.00	11.68
73	M	tert-amyl ethyl ether		----------NA----------				
74	M	1,2-dichloropropane	0.377	0.339	10.1	94	0.00	11.71
75	M	methylcyclohexane	0.643	0.570	11.4	96	0.00	11.62
76	M	dibromomethane	0.215	0.200	7.0	90	0.00	11.89
77	M	bromodichloromethane	0.477	0.440	7.8	95	0.00	12.01
78	M	cis-1,3-dichloropropene	0.616	0.564	8.4	96	0.00	12.47
79	S	toluene-d8 (s)	1.206	1.189	1.4	99	0.00	12.76
80	M	4-methyl-2-pentanone	0.133	0.120	9.8	93	0.00	12.56
81	M	toluene	0.897	0.818	8.8	95	0.00	12.84
82	M	3-methyl-1-butanol	0.011	0.009#	18.2	89	0.00	12.59
83	M	trans-1,3-dichloropropene	0.556	0.512	7.9	96	0.00	13.07
84	M	ethyl methacrylate	0.428	0.391	8.6	95	0.00	13.02
85	M	1,1,2-trichloroethane	0.262	0.242	7.6	98	0.00	13.31
86	M	2-hexanone	0.121	0.112	7.4	91	0.00	13.47
87	I	chlorobenzene-d5	1.000	1.000	0.0	99	0.00	14.41
88	M	tetrachloroethene	0.383	0.369	3.7	98	0.00	13.46
89	M	1,3-dichloropropane	0.564	0.528	6.4	96	0.00	13.51
90	M	butyl acetate	0.228	0.213	6.6	94	0.00	13.52
91	m	3,3-dimethyl-1-butanol	0.045	0.038	15.6	89	0.00	13.66
92	M	dibromochloromethane	0.379	0.366	3.4	98	0.00	13.80
93	M	1,2-dibromoethane	0.331	0.317	4.2	98	0.00	13.97
94	M	chlorobenzene	1.010	1.000	1.0	97	0.00	14.44
95	M	1,1,1,2-tetrachloroethane	0.389	0.390	-0.3	98	0.00	14.51
96	M	ethylbenzene	1.849	1.702	8.0	95	0.00	14.49
97	M	m,p-xylene	0.698	0.667	4.4	96	0.00	14.60
98	M	o-xylene	0.743	0.705	5.1	96	0.00	15.07
99	M	styrene	1.245	1.176	5.5	95	0.00	15.09

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VD9527-CC9526
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D232883.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.274	0.274	0.0	97	0.00	15.42
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	16.99
102	M	isopropylbenzene	3.266	3.016	7.7	95	0.00	15.44
103	S	4-bromofluorobenzene (s)	0.926	0.916	1.1	99	0.00	15.69
104	M	bromobenzene	0.798	0.771	3.4	98	0.00	15.92
105	M	cyclohexanone	0.022	0.016	27.3#	73	0.00	15.69
106	M	1,1,2,2-tetrachloroethane	0.878	0.850	3.2	95	0.00	15.82
107	M	trans-1,4-dichloro-2-bute	0.267	0.247	7.5	96	0.00	15.86
108	M	1,2,3-trichloropropane	0.222	0.214	3.6	95	0.00	15.91
109	M	n-propylbenzene	3.880	3.467	10.6	95	0.00	15.89
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.763	0.744	2.5	97	0.00	16.08
112	M	4-chlorotoluene	2.445	2.307	5.6	96	0.00	16.19
113	M	1,3,5-trimethylbenzene	2.929	2.739	6.5	96	0.00	16.06
114	M	tert-butylbenzene	2.464	2.266	8.0	94	0.00	16.45
115	M	pentachloroethane	0.532	0.518	2.6	96	0.00	16.57
116	M	1,2,4-trimethylbenzene	2.964	2.751	7.2	95	0.00	16.50
117	M	sec-butylbenzene	3.742	3.625	3.1	95	0.00	16.68
118	M	1,3-dichlorobenzene	1.726	1.624	5.9	97	0.00	16.92
119	M	p-isopropyltoluene	3.118	3.058	1.9	96	0.00	16.81
120	M	1,4-dichlorobenzene	1.696	1.631	3.8	96	0.00	17.02
121		1,2,3-trimethylbenzene		----------NA----------				
122		Benzyl Chloride	1.859	1.834	1.3	99	0.00	17.15
123	M	p-diethylbenzene		----------NA----------				
124		INDANE		----------NA----------				
125	M	1,2-dichlorobenzene	1.596	1.562	2.1	96	0.00	17.46
126	M	n-butylbenzene	1.636	1.572	3.9	94	0.00	17.27
127	M	1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.167	0.151	9.6	93	0.00	18.33
129	M	1,3,5-trichlorobenzene	1.218	1.183	2.9	97	0.00	18.50
130	M	1,2,4-trichlorobenzene	0.955	0.956	-0.1	98	0.00	19.25
131	M	hexachlorobutadiene	0.549	0.513	6.6	98	0.00	19.35
132	M	naphthalene	1.884	1.792	4.9	92	0.00	19.58
133	M	1,2,3-trichlorobenzene	0.726	0.694	4.4	93	0.00	19.86
134	M	hexachloroethane	0.564	0.554	1.8	96	0.00	17.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d232874.D MD9526.M Fri Aug 07 14:54:52 2015 RPT1

Initial Calibration Summary

Job Number: JB99969 **Sample:** VE9972-ICC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227504.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Response Factor Report MSE

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Calibration Files

4	=E227501.D	2	=E227510.D	20	=E227503.D	50	=E227504.D
100	=E227505.D	1	=E227499.D	200	=E227506.D	0.5	=E227498.D
8	=E227502.D	0.2	=E227497.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	0.084	0.078	0.099	0.103	0.101		0.101		0.095		0.094	10.15
3) tertiary butyl alcohol	1.195	1.063	1.229	1.295	1.238		1.198		1.227		1.206	5.92
4) I pentafluorobenzene ----------ISTD----------												
5) chlorodifluoromethane	0.943	0.823	0.930	0.889	0.901	0.889	0.834	0.941	0.939		0.899	5.04
6) dichlorodifluoromethane	0.991	0.824	1.043	1.023	1.005	0.773	0.960		0.998		0.952	10.37
7) chloromethane	1.030	1.015	1.038	1.006	1.016	1.235	0.964	1.484	1.038		1.092	15.16
8) vinyl chloride	1.037	0.992	1.048	0.976	0.965	0.981	0.914	1.022	1.043		0.998	4.42
9) 1,3-Butadiene											0.000#	-1.00
10) bromomethane	0.750	0.578	0.675	0.585	0.571				0.684		0.641	11.49
11) chloroethane	0.449	0.424	0.465	0.441	0.445	0.435	0.394	0.404	0.468		0.436	5.74
12) vinyl bromide											0.000#	-1.00
13) trichlorofluoromethane	1.016	0.929	1.053	1.008	1.011	0.927	0.974		1.037		0.994	4.75
14) pentane											0.000#	-1.00
15) ethyl ether	0.302	0.265	0.315	0.294	0.292	0.309	0.289		0.277		0.293	5.57
16) 2-chloropropane	1.269	1.163	1.315	1.233	1.203	1.293	1.161	1.264	1.274		1.242	4.47
17) acrolein	0.114	0.112	0.128	0.120	0.122	0.118	0.118	0.110	0.120		0.118	4.51
18) 1,1-dichloroethene	1.005	0.840	1.077	1.018	0.996	0.944	0.960	0.925	1.024	0.925	0.971	6.89
19) acetone	0.036		0.055	0.053	0.053		0.052		0.049		0.050	13.76
20) allyl chloride	0.345	0.294	0.351	0.344	0.328		0.336		0.347		0.335	5.91
21) acetonitrile	0.052	0.064	0.061	0.056	0.055		0.052		0.058		0.057	8.15
22) iodomethane	1.062	0.921	1.179	1.107	1.104	0.974	1.085	1.030	1.128		1.066	7.50
23) iso-butyl alcohol												

Initial Calibration Summary

Job Number: JB99969 **Sample:** VE9972-ICC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227504.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
      0.006 0.004 0.007 0.007 0.007       0.007       0.007        0.007#  18.00
24)  carbon disulfide
      2.339 1.986 2.450 2.327 2.284 2.206 2.207 2.172 2.377 2.685  2.303    8.07
25)  methylene chloride
      0.698 0.614 0.739 0.681 0.675 0.711 0.653 0.670 0.705 0.825  0.697    8.09
26)  1-chloropropane
      1.768       1.346 1.207 1.149       1.107       1.490        1.345   18.65
27)  methyl acetate
      0.396 0.405 0.436 0.399 0.395 0.420 0.384       0.403        0.405    4.08
28)  methyl tert butyl ether
      1.855 1.680 2.041 1.892 1.897 1.840 1.857 2.059 1.964 2.248  1.933    8.00
29)  trans-1,2-dichloroethene
      0.895 0.815 0.972 0.908 0.891 0.842 0.868 0.855 0.931 0.827  0.881    5.54
30)  di-isopropyl ether
      1.831 1.640 2.006 1.913 1.914 1.831 1.853 1.862 1.892 2.360  1.910    9.61
31)  ethyl tert-butyl ether
      1.818 1.590 2.043 1.934 1.958 1.809 1.891 1.760 1.930 1.945  1.868    6.87
32)  2-butanone
      0.049       0.061 0.057 0.059       0.060       0.055        0.057    7.61
33)  1,1-dichloroethane
      1.017 0.894 1.119 1.055 1.034 0.966 1.022 0.938 1.057 1.121  1.022    7.16
34)  chloroprene
      0.727 0.618 0.760 0.740 0.740 0.693 0.738 0.656 0.741        0.712    6.66
35)  acrylonitrile
      0.205 0.192 0.227 0.215 0.212 0.192 0.206 0.171 0.213        0.204    8.08
36)  vinyl acetate
      0.067       0.078 0.077 0.076       0.075       0.069        0.074    6.35
37)  ethyl acetate
      0.060 0.057 0.074 0.071 0.069       0.069       0.065        0.067    9.31
38)  2,2-dichloropropane
      1.017 0.886 1.041 0.985 0.950 0.985 0.918 1.066 1.003        0.984    5.85
39)  cis-1,2-dichloroethene
      0.622 0.551 0.648 0.598 0.590 0.692 0.586 0.810 0.618 0.676  0.639   11.55
40)  methyl acrylate
      0.499 0.491 0.581 0.553 0.549       0.546       0.532        0.536    5.90
41)  propionitrile
      0.077 0.073 0.083 0.080 0.080 0.068 0.079 0.070 0.079        0.077    6.75
42)  bromochloromethane
      0.270 0.235 0.294 0.278 0.278 0.232 0.279 0.219 0.277        0.262   10.06
43)  tetrahydrofuran
      0.058       0.071 0.068 0.068       0.069       0.062        0.066    7.76
44)  chloroform
      0.938 0.867 0.998 0.933 0.926 0.893 0.926 0.916 0.943 1.053  0.939    5.58
45)  t-butyl formate
      0.540 0.452 0.585 0.567 0.579 0.476 0.566       0.545        0.539    9.09
46)  Iso-octane
      1.857 1.535 2.180 2.189 2.207 1.470 2.144       1.923        1.938   15.42
47)  dibromofluoromethane (s)
      0.446 0.453 0.452 0.455 0.459 0.442 0.456 0.444 0.449 0.447  0.450    1.26
48)  1,2-dichloroethane-d4 (s)
      0.551 0.552 0.560 0.585 0.565 0.535 0.566 0.539 0.554 0.535  0.554    2.83
49)  freon 113
      0.397 0.306 0.433 0.417 0.398 0.320 0.386       0.416        0.384   12.07
50)  methacrylonitrile
      0.188 0.167 0.206 0.199 0.197 0.140 0.200       0.188        0.186   11.74
51)  1,1,1-trichloroethane
      0.943 0.788 0.987 0.949 0.940 0.860 0.933 0.786 0.956 0.880  0.902    7.86
52)  Cyclohexane
      0.941 0.713 1.016 0.973 0.951 0.724 0.940       0.943        0.900   12.78
53)  tert-amyl methyl ether
```

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      1.720 1.616 1.926 1.806 1.846 1.766 1.802 1.878 1.812        1.797    5.05

54) I   1,4-difluorobenzene   ----------------ISTD--------------------
55)  tert amyl alcohol
                                                                   0.000#  -1.00
56)  epichlorohydrin
      0.031 0.029 0.036 0.036 0.036 0.025 0.036 0.025 0.035        0.032   14.76
57)  n-butyl alcohol
      0.010 0.010 0.012 0.012 0.012       0.012       0.011        0.011   10.01
58)  tert-amyl ethyl ether
                                                                   0.000#  -1.00
59)  carbon tetrachloride
      0.565 0.456 0.600 0.572 0.558 0.497 0.561 0.460 0.580        0.539    9.96
60)  1,1-dichloropropene
      0.485 0.423 0.514 0.493 0.472 0.452 0.478 0.436 0.500        0.472    6.39
61)  hexane
      0.366 0.276 0.396 0.375 0.356 0.277 0.349       0.366        0.345   12.91
62)  benzene
      1.500 1.337 1.578 1.464 1.431 1.423 1.412 1.471 1.513 1.925  1.505   10.71
63)  heptane
      0.216 0.172 0.238 0.234 0.220 0.161 0.214       0.215        0.209   13.26
64)  isopropyl acetate
      0.212       0.153 0.137 0.136       0.133       0.169        0.157   19.26
65)  1,2-dichloroethane
      0.492 0.468 0.531 0.496 0.480 0.458 0.479 0.475 0.511        0.488    4.59
66)  ethyl acrylate
                                                                   0.000#  -1.00
67)  trichloroethene
      0.360 0.332 0.389 0.369 0.363 0.328 0.366 0.328 0.366        0.356    6.00
68)  2-nitropropane
                                                                   0.000#  -1.00
69)  2-chloroethyl vinyl ether
      0.184 0.165 0.214 0.211 0.205 0.169 0.203 0.186 0.202        0.193    9.29
70)  methylcyclohexane
      0.637 0.514 0.695 0.674 0.661 0.562 0.648       0.641        0.629    9.63
71)  methyl methacrylate
      0.073 0.065 0.084 0.084 0.083       0.085       0.075        0.078    9.86
72)  1,2-dichloropropane
      0.371 0.330 0.400 0.380 0.371 0.339 0.369 0.387 0.380        0.370    6.04
73)  dibromomethane
      0.224 0.211 0.250 0.233 0.234 0.211 0.235 0.176 0.235        0.223    9.61
74)  bromodichloromethane
      0.481 0.428 0.532 0.514 0.514 0.473 0.520 0.447 0.503 0.483  0.490    6.82
75)  cis-1,3-dichloropropene
      0.561 0.520 0.618 0.595 0.596 0.524 0.604 0.512 0.573 0.544  0.565    6.79
76)  toluene-d8 (s)
      1.175 1.160 1.184 1.201 1.219 1.169 1.217 1.165 1.204 1.140  1.183    2.21
77)  4-methyl-2-pentanone
      0.140 0.126 0.163 0.153 0.155 0.122 0.156       0.143        0.145   10.30
78)  toluene
      0.866 0.767 0.909 0.877 0.862 0.836 0.876 0.981 0.878 1.159  0.901   11.67
79)  3-methyl-1-butanol
      0.016 0.016 0.020 0.020 0.020       0.020       0.018        0.019   10.97
80)  trans-1,3-dichloropropene
      0.525 0.469 0.570 0.557 0.544 0.476 0.540 0.430 0.525        0.515    9.03
81)  ethyl methacrylate
      0.385 0.367 0.475 0.465 0.452 0.344 0.457 0.319 0.432        0.411   14.11
82)  1,1,2-trichloroethane
      0.252 0.248 0.282 0.273 0.269 0.221 0.268 0.196 0.270        0.253   11.08
83)  2-hexanone
```

```
      0.015       0.023 0.025 0.024       0.025       0.021        0.022   16.84

 84) I   chlorobenzene-d5      ----------------ISTD--------------------
 85)  cyclohexanone
      0.036 0.034 0.040 0.034 0.027 0.045 0.025       0.032        0.034   19.18
 86)  tetrachloroethene
      0.410 0.373 0.418 0.408 0.402 0.383 0.412 0.376 0.408        0.399    4.23
 87)  1,3-dichloropropane
      0.587 0.533 0.622 0.588 0.567 0.509 0.569 0.566 0.588        0.570    5.78
 88)  butyl acetate
      0.243 0.209 0.265 0.247 0.240 0.212 0.236       0.261        0.239    8.43
 89)  3,3-dimethyl-1-butanol
      0.042 0.041 0.050 0.049 0.054 0.041 0.055 0.039 0.045        0.046   12.93
 90)  dibromochloromethane
      0.386 0.357 0.422 0.410 0.414 0.368 0.429 0.359 0.401        0.394    7.02
 91)  1,2-dibromoethane
      0.342 0.328 0.376 0.360 0.355 0.313 0.360 0.311 0.355        0.344    6.50
 92)  n-butyl ether
      1.803 1.607 1.980 1.861 1.808 1.638 1.778 1.598 1.856        1.770    7.37
 93)  chlorobenzene
      1.077 0.972 1.142 1.083 1.059 1.007 1.070 0.987 1.092 1.172  1.066    6.00
 94)  1,1,1,2-tetrachloroethane
      0.425 0.377 0.477 0.446 0.454 0.430 0.461 0.391 0.441 0.431  0.433    7.03
 95)  ethylbenzene
      1.928 1.731 2.046 1.912 1.857 1.832 1.862 1.827 1.973 2.386  1.935    9.33
 96)  m,p-xylene
      0.714 0.617 0.766 0.711 0.698 0.677 0.710 0.678 0.737 0.814  0.712    7.51
 97)  o-xylene
      0.732 0.652 0.798 0.755 0.751 0.702 0.756 0.709 0.763 0.821  0.744    6.52
 98)  butyl acrylate
                                                                   0.000#  -1.00
 99)  styrene
      1.156 0.987 1.287 1.226 1.195 1.102 1.207 1.030 1.200 1.141  1.153    7.94
100)  bromoform
      0.273 0.259 0.318 0.303 0.305 0.266 0.318 0.245 0.289        0.286    9.33

101) I   1,4-dichlorobenzene-d ----------------ISTD--------------------
102)  isopropylbenzene
      3.211 2.864 3.544 3.408 3.406 2.955 3.287 3.012 3.363 3.533  3.258    7.40
103)  4-bromofluorobenzene (s)
      0.896 0.902 0.892 0.891 0.876 0.891 0.843 0.895 0.901 0.895  0.888    1.95
104)  cis-1,4-dichloro-2-butene
                                                                   0.000#  -1.00
105)  bromobenzene
      0.814 0.795 0.893 0.835 0.821 0.793 0.809 0.847 0.859 0.912  0.838    4.82
106)  1,1,2,2-tetrachloroethane
      0.914 0.892 1.007 0.952 0.930 0.842 0.892 0.859 0.955 1.030  0.927    6.53
107)  trans-1,4-dichloro-2-butene
      0.258 0.218 0.298 0.275 0.274 0.212 0.266       0.275        0.260   11.48
108)  1,2,3-trichloropropane
      0.245 0.238 0.257 0.237 0.229 0.157 0.219       0.241        0.228   13.42
109)  n-propylbenzene
      3.889 3.410 4.197 3.938 3.844 3.517 3.664 3.788 3.992 4.408  3.865    7.72
110)  p-ethyltoluene
                                                                   0.000#  -1.00
111)  2-chlorotoluene
      0.799 0.730 0.874 0.814 0.803 0.772 0.789 0.784 0.837 0.734  0.794    5.49
112)  4-chlorotoluene
      2.406 2.188 2.608 2.467 2.388 2.308 2.342 2.455 2.500 3.235  2.490   11.47
113)  1,3,5-trimethylbenzene
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VE9972-ICC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227504.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
       2.776 2.492 3.049 2.927 2.958 2.626 2.873 2.565 2.872 2.787  2.793    6.48
114)  tert-butylbenzene
       0.522 0.453 0.600 0.591 0.613 0.510 0.619 0.499 0.558 0.520  0.548   10.25
115)  pentachloroethane
       0.494 0.457 0.577 0.553 0.578 0.455 0.587 0.453 0.511        0.518   10.93
116)  1,2,4-trimethylbenzene
       2.785 2.428 3.100 2.927 2.885 2.586 2.816 2.660 2.884 2.926  2.800    6.95
117)  sec-butylbenzene
       3.765 3.263 4.102 4.019 4.028 3.398 3.963 3.419 3.899 3.933  3.779    8.07
118)  1,3-dichlorobenzene
       1.724 1.567 1.850 1.728 1.709 1.594 1.721 1.722 1.732 1.929  1.728    6.08
119)  p-isopropyltoluene
       3.146 2.797 3.490 3.354 3.367 2.911 3.314 3.100 3.256 3.404  3.214    6.97
120)  1,4-dichlorobenzene
       1.738 1.674 1.869 1.748 1.729 1.707 1.741 1.744 1.776 2.231  1.796    8.97
121)  benzyl chloride
       1.738 1.614 1.975 1.859 1.844 1.848 1.788 2.052 1.819        1.838    6.89
122)  p-diethylbenzene
                                                                    0.000#  -1.00
123)  1,2-dichlorobenzene
       1.735 1.583 1.876 1.764 1.750 1.667 1.742 1.700 1.731 1.792  1.734    4.43
124)  n-butylbenzene
       1.701 1.491 1.864 1.787 1.755 1.518 1.713 1.489 1.740 1.922  1.698    8.99
125)  1,2,4,5-tetramethylbenzene
                                                                    0.000#  -1.00
126)  1,2-dibromo-3-chloropropane
       0.205 0.187 0.235 0.227 0.234 0.203 0.237       0.213        0.218    8.45
127)  1,3,5-trichlorobenzene
       1.501 1.394 1.671 1.581 1.602 1.389 1.612 1.389 1.563 1.848  1.555    9.33
128)  1,2,4-trichlorobenzene
       1.302 1.238 1.468 1.420 1.467 1.224 1.451 1.190 1.336        1.344    8.28
129)  hexachlorobutadiene
       0.669 0.643 0.718 0.707 0.711 0.559 0.713 0.623 0.692        0.671    7.97
130)  naphthalene
       2.877 2.993 3.311 3.206 3.311 2.837 3.227 2.979 2.980        3.080    6.00
131)  1,2,3-trichlorobenzene
       1.201 1.260 1.345 1.290 1.335 1.154 1.306 1.258 1.220        1.263    5.02
132)  hexachloroethane
       0.528 0.477 0.596 0.611 0.645 0.504 0.667 0.599 0.559        0.576   11.13
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          ME9972.M          Wed Jul 15 17:32:29 2015   RPT1
```

6.9.13

6

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VE9972-ICV9972
Lab FileID: E227511.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E227511.D Vial: 16
Acq On : 15 Jul 2015 5:05 pm Operator: ThienN
Sample : icv9972-50 Inst : MSE
Misc : MS87801,VE9972,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 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	0.02	7.96
2	M	1,4-dioxane	0.094	0.104	-10.6	100	0.00	11.80
3	M	tertiary butyl alcohol	1.206	1.333	-10.5	102	-0.01	8.06
4	I	pentafluorobenzene	1.000	1.000	0.0	97	0.00	10.12
5	M	chlorodifluoromethane	0.899	0.759	15.6	83	0.00	4.39
6	M	dichlorodifluoromethane	0.952	0.976	-2.5	92	0.00	4.37
7	M	chloromethane	1.092	0.998	8.6	96	0.00	4.74
8	M	vinyl chloride	0.998	0.964	3.4	96	0.00	5.04
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.641	0.583	9.0	97	0.00	5.72
11	M	chloroethane	0.436	0.441	-1.1	97	0.00	5.89
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.994	0.987	0.7	95	0.00	6.37
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.293	0.296	-1.0	97	0.00	6.78
16	m	2-chloropropane	1.242	1.383	-11.4	109	0.00	7.01
17	M	acrolein	0.118	0.125	-5.9	101	0.00	7.09
18	M	1,1-dichloroethene	0.971	0.995	-2.5	95	0.00	7.23
19	M	acetone	0.050	0.053	-6.0	98	0.00	7.32
20	M	allyl chloride	0.335	0.380	-13.4	107	0.00	7.78
21	M	acetonitrile	0.057	0.059	-3.5	103	0.00	7.78
22	M	iodomethane	1.066	1.096	-2.8	96	0.00	7.55
23	M	iso-butyl alcohol	0.007	0.007#	0.0	98	0.00	10.42
24	M	carbon disulfide	2.303	2.344	-1.8	98	0.00	7.66
25	M	methylene chloride	0.697	0.686	1.6	98	0.00	7.98
26	m	1-chloropropane	1.345	1.251	7.0	100	0.00	8.00
27	M	methyl acetate	0.405	0.398	1.7	97	0.00	7.74
28	M	methyl tert butyl ether	1.933	1.835	5.1	94	0.00	8.27
29	M	trans-1,2-dichloroethene	0.881	0.898	-1.9	96	0.00	8.34
30	M	di-isopropyl ether	1.910	1.962	-2.7	99	0.00	8.84
31	M	ethyl tert-butyl ether	1.868	1.968	-5.4	99	0.00	9.31
32	M	2-butanone	0.057	0.062	-8.8	104	0.00	9.61
33	M	1,1-dichloroethane	1.022	1.086	-6.3	100	0.00	8.91
34	M	chloroprene	0.712	0.717	-0.7	94	0.00	9.00
35	M	acrylonitrile	0.204	0.219	-7.4	99	0.00	8.31
36	M	vinyl acetate	0.074	0.087	-17.6	109	0.00	8.87
37	M	ethyl acetate	0.067	0.074	-10.4	101	0.00	9.60
38	M	2,2-dichloropropane	0.984	0.994	-1.0	98	0.00	9.64
39	M	cis-1,2-dichloroethene	0.639	0.604	5.5	98	0.00	9.64
40	m	methyl acrylate	0.536	0.557	-3.9	98	0.00	9.69
41	M	propionitrile	0.077	0.079	-2.6	96	0.00	9.73

Initial Calibration Verification

Job Number: JB99969 **Sample:** VE9972-ICV9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227511.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	bromochloromethane	0.262	0.279	-6.5	97	0.00	9.96
43	M	tetrahydrofuran	0.066	0.071	-7.6	101	0.00	9.99
44	M	chloroform	0.939	0.956	-1.8	99	0.00	10.01
45	m	t-butyl formate	0.539	0.615	-14.1	105	0.00	10.03
46	M	Iso-octane	1.938	2.130	-9.9	94	0.00	10.64
47	S	dibromofluoromethane (s)	0.450	0.458	-1.8	97	0.00	10.21
48	S	1,2-dichloroethane-d4 (s)	0.554	0.591	-6.7	98	0.00	10.63
49	M	freon 113	0.384	0.432	-12.5	100	0.00	7.18
50	M	methacrylonitrile	0.186	0.202	-8.6	98	0.00	9.90
51	M	1,1,1-trichloroethane	0.902	0.957	-6.1	98	0.00	10.26
52		Cyclohexane	0.900	0.956	-6.2	95	0.00	10.31
53	M	tert-amyl methyl ether	1.797	1.826	-1.6	98	0.00	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	98	0.00	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.032	0.039	-21.9	109	0.00	12.35
57	M	n-butyl alcohol	0.011	0.013	-18.2	104	0.00	11.18
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.539	0.559	-3.7	96	0.00	10.45
60	M	1,1-dichloropropene	0.472	0.507	-7.4	101	0.00	10.42
61	M	hexane	0.345	0.365	-5.8	96	0.00	8.59
62	M	benzene	1.505	1.488	1.1	100	0.00	10.69
63	M	heptane	0.209	0.229	-9.6	96	0.00	10.80
64	M	isopropyl acetate	0.157	0.139	11.5	100	0.00	10.58
65	M	1,2-dichloroethane	0.488	0.498	-2.0	99	0.00	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.356	0.378	-6.2	101	0.00	11.40
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.193	0.219	-13.5	102	0.00	12.20
70	M	methylcyclohexane	0.629	0.656	-4.3	96	0.00	11.60
71	M	methyl methacrylate	0.078	0.084	-7.7	98	0.00	11.65
72	M	1,2-dichloropropane	0.370	0.385	-4.1	100	0.00	11.68
73	M	dibromomethane	0.223	0.235	-5.4	99	0.00	11.86
74	M	bromodichloromethane	0.490	0.513	-4.7	98	0.00	11.98
75	M	cis-1,3-dichloropropene	0.565	0.588	-4.1	97	0.00	12.44
76	S	toluene-d8 (s)	1.183	1.171	1.0	96	0.00	12.73
77	M	4-methyl-2-pentanone	0.145	0.152	-4.8	98	0.00	12.52
78	M	toluene	0.901	0.849	5.8	95	0.00	12.81
79	M	3-methyl-1-butanol	0.019	0.021	-10.5	104	0.00	12.54
80	M	trans-1,3-dichloropropene	0.515	0.506	1.7	89	0.00	13.03
81	M	ethyl methacrylate	0.411	0.437	-6.3	92	0.00	12.99
82	M	1,1,2-trichloroethane	0.253	0.261	-3.2	94	0.00	13.27
83	M	2-hexanone	0.022	0.023	-4.5	94	0.00	13.43
84	I	chlorobenzene-d5	1.000	1.000	0.0	93	0.00	14.38
85	M	cyclohexanone	0.034	0.029	14.7	78	0.00	15.64
86	M	tetrachloroethene	0.399	0.413	-3.5	94	0.00	13.44
87	M	1,3-dichloropropane	0.570	0.579	-1.6	92	0.00	13.47
88	M	butyl acetate	0.239	0.263	-10.0	99	0.00	13.49
89	m	3,3-dimethyl-1-butanol	0.046	0.054	-17.4	103	0.00	13.61
90	M	dibromochloromethane	0.394	0.413	-4.8	94	0.00	13.76
91	M	1,2-dibromoethane	0.344	0.358	-4.1	93	0.00	13.93
92	M	n-butyl ether	1.770	1.879	-6.2	94	0.00	14.26
93	M	chlorobenzene	1.066	1.085	-1.8	93	0.00	14.41
94	M	1,1,1,2-tetrachloroethane	0.433	0.456	-5.3	95	0.00	14.48
95	M	ethylbenzene	1.935	1.922	0.7	94	0.00	14.45
96	M	m,p-xylene	0.712	0.716	-0.6	94	0.00	14.56
97	M	o-xylene	0.744	0.772	-3.8	95	0.00	15.04
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.153	1.246	-8.1	95	0.00	15.05

Initial Calibration Verification

Job Number: JB99969 **Sample:** VE9972-ICV9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227511.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.286	0.311	-8.7	96	0.00	15.38
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	16.95
102	M	isopropylbenzene	3.258	3.278	-0.6	95	0.00	15.40
103	S	4-bromofluorobenzene (s)	0.888	0.852	4.1	94	0.00	15.65
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.838	0.816	2.6	96	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	0.927	0.894	3.6	92	0.00	15.77
107	M	trans-1,4-dichloro-2-bute	0.260	0.273	-5.0	98	0.00	15.81
108	M	1,2,3-trichloropropane	0.228	0.224	1.8	93	0.00	15.86
109	M	n-propylbenzene	3.865	4.059	-5.0	102	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.794	0.788	0.8	95	0.00	16.04
112	M	4-chlorotoluene	2.490	2.405	3.4	96	0.00	16.15
113	M	1,3,5-trimethylbenzene	2.793	2.825	-1.1	95	0.00	16.02
114	M	tert-butylbenzene	0.548	0.581	-6.0	97	0.00	16.41
115	M	pentachloroethane	0.518	0.548	-5.8	98	0.00	16.53
116	M	1,2,4-trimethylbenzene	2.800	2.976	-6.3	100	0.00	16.46
117	M	sec-butylbenzene	3.779	3.899	-3.2	96	0.00	16.65
118	M	1,3-dichlorobenzene	1.728	1.710	1.0	97	0.00	16.88
119	M	p-isopropyltoluene	3.214	3.335	-3.8	98	0.00	16.77
120	M	1,4-dichlorobenzene	1.796	1.748	2.7	99	0.00	16.98
121		benzyl chloride	1.838	1.938	-5.4	103	0.00	17.11
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.734	1.776	-2.4	99	0.00	17.42
124	M	n-butylbenzene	1.698	1.831	-7.8	101	0.00	17.23
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.218	0.229	-5.0	100	0.00	18.28
127	m	1,3,5-trichlorobenzene	1.555	1.615	-3.9	101	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.344	1.420	-5.7	98	0.00	19.20
129	M	hexachlorobutadiene	0.671	0.686	-2.2	96	0.00	19.30
130	M	naphthalene	3.080	3.127	-1.5	96	0.00	19.52
131	M	1,2,3-trichlorobenzene	1.263	1.287	-1.9	98	0.00	19.81
132	M	hexachloroethane	0.576	0.619	-7.5	100	0.00	17.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E227504.D ME9972.M Wed Jul 15 17:32:10 2015 RPT1

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9987-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227907.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E227907.D Vial: 3
Acq On : 30 Jul 2015 7:53 am Operator: ThienN
Sample : CC9972-20 Inst : MSE
Misc : MS88475,VE9987,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 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	83	-0.02	7.92
2	M	1,4-dioxane	0.094	0.084	10.6	71	0.00	11.79
3	M	tertiary butyl alcohol	1.206	1.302	-8.0	88	-0.03	8.04
4	I	pentafluorobenzene	1.000	1.000	0.0	115	0.00	10.12
5	M	chlorodifluoromethane	0.899	1.020	-13.5	126	0.00	4.39
6	M	dichlorodifluoromethane	0.952	1.026	-7.8	113	0.00	4.37
7	M	chloromethane	1.092	1.115	-2.1	124	0.00	4.75
8	M	vinyl chloride	0.998	1.041	-4.3	114	0.00	5.03
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.641	0.598	6.7	102	0.00	5.72
11	M	chloroethane	0.436	0.465	-6.7	115	0.00	5.90
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.994	1.087	-9.4	119	0.01	6.39
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.293	0.298	-1.7	109	0.00	6.78
16	m	2-chloropropane	1.242	1.370	-10.3	120	0.00	7.00
17	M	acrolein	0.118	0.112	5.1	100	-0.01	7.08
18	M	1,1-dichloroethene	0.971	1.039	-7.0	111	0.00	7.23
19	M	acetone	0.050	0.045	10.0	94	0.00	7.31
20	M	allyl chloride	0.335	0.328	2.1	108	-0.01	7.76
21	M	acetonitrile	0.057	0.057	0.0	107	0.00	7.77
22	M	iodomethane	1.066	1.085	-1.8	106	-0.01	7.53
23	M	iso-butyl alcohol	0.007	0.007#	0.0	111	0.00	10.42
24	M	carbon disulfide	2.303	2.230	3.2	105	0.00	7.66
25	M	methylene chloride	0.697	0.659	5.5	103	-0.01	7.97
26	m	1-chloropropane	1.345	1.356	-0.8	116	0.00	7.99
27	M	methyl acetate	0.405	0.409	-1.0	108	0.00	7.75
28	M	methyl tert butyl ether	1.933	1.906	1.4	107	0.00	8.26
29	M	trans-1,2-dichloroethene	0.881	0.946	-7.4	112	0.00	8.33
30	M	di-isopropyl ether	1.910	2.120	-11.0	122	0.00	8.84
31	M	ethyl tert-butyl ether	1.868	1.966	-5.2	111	0.00	9.31
32	M	2-butanone	0.057	0.056	1.8	105	0.00	9.60
33	M	1,1-dichloroethane	1.022	1.102	-7.8	113	0.00	8.91
34	M	chloroprene	0.712	0.847	-19.0	128	0.00	9.00
35	M	acrylonitrile	0.204	0.208	-2.0	106	0.00	8.31
36	M	vinyl acetate	0.074	0.081	-9.5	118	0.00	8.87
37	M	ethyl acetate	0.067	0.068	-1.5	104	0.00	9.60
38	M	2,2-dichloropropane	0.984	1.112	-13.0	123	0.00	9.64
39	M	cis-1,2-dichloroethene	0.639	0.597	6.6	106	0.00	9.64
40	m	methyl acrylate	0.536	0.526	1.9	104	0.00	9.68
41	M	propionitrile	0.077	0.073	5.2	101	0.00	9.73

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9987-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227907.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	bromochloromethane	0.262	0.287	-9.5	112	0.00	9.96
43	M	tetrahydrofuran	0.066	0.062	6.1	100	0.00	9.99
44	M	chloroform	0.939	1.014	-8.0	117	0.00	10.00
45	m	t-butyl formate	0.539	0.572	-6.1	113	0.00	10.02
46	M	Iso-octane	1.938	2.069	-6.8	109	0.00	10.64
47	S	dibromofluoromethane (s)	0.450	0.458	-1.8	117	0.00	10.21
48	S	1,2-dichloroethane-d4 (s)	0.554	0.579	-4.5	119	0.00	10.63
49	M	freon 113	0.384	0.433	-12.8	115	0.00	7.19
50	M	methacrylonitrile	0.186	0.181	2.7	101	0.00	9.90
51	M	1,1,1-trichloroethane	0.902	0.980	-8.6	114	0.00	10.25
52		Cyclohexane	0.900	0.938	-4.2	106	0.00	10.31
53	M	tert-amyl methyl ether	1.797	1.760	2.1	105	0.00	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	109	0.00	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.032	0.033	-3.1	101	0.00	12.35
57	M	n-butyl alcohol	0.011	0.008#	27.3#	79	0.00	11.17
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.539	0.647	-20.0#	118	0.00	10.44
60	M	1,1-dichloropropene	0.472	0.560	-18.6	119	0.00	10.42
61	M	hexane	0.345	0.465	-34.8#	128	0.00	8.59
62	M	benzene	1.505	1.599	-6.2	111	0.00	10.69
63	M	heptane	0.209	0.265	-26.8#	122	0.00	10.80
64	M	isopropyl acetate	0.157	0.151	3.8	108	0.00	10.58
65	M	1,2-dichloroethane	0.488	0.598	-22.5#	123	0.00	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.356	0.395	-11.0	111	0.00	11.39
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.193	0.213	-10.4	109	0.00	12.19
70	M	methylcyclohexane	0.629	0.702	-11.6	111	0.00	11.60
71	M	methyl methacrylate	0.078	0.078	0.0	102	0.00	11.64
72	M	1,2-dichloropropane	0.370	0.411	-11.1	112	0.00	11.68
73	M	dibromomethane	0.223	0.248	-11.2	109	0.00	11.85
74	M	bromodichloromethane	0.490	0.541	-10.4	111	0.00	11.97
75	M	cis-1,3-dichloropropene	0.565	0.649	-14.9	115	0.00	12.43
76	S	toluene-d8 (s)	1.183	1.195	-1.0	110	0.00	12.73
77	M	4-methyl-2-pentanone	0.145	0.151	-4.1	101	0.00	12.52
78	M	toluene	0.901	0.923	-2.4	111	0.00	12.81
79	M	3-methyl-1-butanol	0.019	0.015	21.1#	84	0.00	12.54
80	M	trans-1,3-dichloropropene	0.515	0.595	-15.5	114	0.00	13.03
81	M	ethyl methacrylate	0.411	0.444	-8.0	102	0.00	12.98
82	M	1,1,2-trichloroethane	0.253	0.273	-7.9	106	0.00	13.27
83	M	2-hexanone	0.022	0.025	-13.6	115	0.00	13.43
84	I	chlorobenzene-d5	1.000	1.000	0.0	110	0.00	14.38
85	M	cyclohexanone	0.034	0.048	-41.2#	132	0.00	15.64
86	M	tetrachloroethene	0.399	0.435	-9.0	114	0.00	13.43
87	M	1,3-dichloropropane	0.570	0.614	-7.7	109	0.00	13.47
88	M	butyl acetate	0.239	0.259	-8.4	108	0.00	13.48
89	m	3,3-dimethyl-1-butanol	0.046	0.041	10.9	90	0.00	13.61
90	M	dibromochloromethane	0.394	0.424	-7.6	111	0.00	13.76
91	M	1,2-dibromoethane	0.344	0.353	-2.6	103	0.00	13.93
92	M	n-butyl ether	1.770	2.039	-15.2	113	0.00	14.25
93	M	chlorobenzene	1.066	1.148	-7.7	111	0.00	14.41
94	M	1,1,1,2-tetrachloroethane	0.433	0.471	-8.8	109	0.00	14.47
95	M	ethylbenzene	1.935	2.060	-6.5	111	0.00	14.45
96	M	m,p-xylene	0.712	0.758	-6.5	109	0.00	14.56
97	M	o-xylene	0.744	0.792	-6.5	109	0.00	15.03
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.153	1.248	-8.2	107	0.00	15.04

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9987-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227907.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.286	0.294	-2.8	102	0.00	15.37
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	106	0.00	16.94
102	M	isopropylbenzene	3.258	3.721	-14.2	112	0.00	15.40
103	S	4-bromofluorobenzene (s)	0.888	0.921	-3.7	110	0.00	15.65
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.838	0.908	-8.4	108	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	0.927	0.923	0.4	98	0.00	15.77
107	M	trans-1,4-dichloro-2-bute	0.260	0.298	-14.6	106	0.00	15.81
108	M	1,2,3-trichloropropane	0.228	0.241	-5.7	100	0.00	15.87
109	M	n-propylbenzene	3.865	4.267	-10.4	108	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.794	0.879	-10.7	107	0.00	16.04
112	M	4-chlorotoluene	2.490	2.659	-6.8	109	0.00	16.15
113	M	1,3,5-trimethylbenzene	2.793	3.206	-14.8	112	0.00	16.02
114	M	tert-butylbenzene	0.548	0.633	-15.5	112	0.00	16.40
115	M	pentachloroethane	0.518	0.598	-15.4	110	0.00	16.53
116	M	1,2,4-trimethylbenzene	2.800	3.207	-14.5	110	0.00	16.46
117	M	sec-butylbenzene	3.779	4.298	-13.7	111	0.00	16.64
118	M	1,3-dichlorobenzene	1.728	1.855	-7.3	107	0.00	16.88
119	M	p-isopropyltoluene	3.214	3.673	-14.3	112	0.00	16.77
120	M	1,4-dichlorobenzene	1.796	1.879	-4.6	107	0.00	16.97
121		benzyl chloride	1.838	1.945	-5.8	105	0.00	17.11
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.734	1.835	-5.8	104	0.00	17.41
124	M	n-butylbenzene	1.698	1.876	-10.5	107	0.00	17.23
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.218	0.187	14.2	85	0.00	18.28
127	m	1,3,5-trichlorobenzene	1.555	1.638	-5.3	104	0.00	18.45
128	M	1,2,4-trichlorobenzene	1.344	1.384	-3.0	100	0.00	19.20
129	M	hexachlorobutadiene	0.671	0.693	-3.3	103	0.00	19.30
130	M	naphthalene	3.080	2.681	13.0	86	0.00	19.52
131	M	1,2,3-trichlorobenzene	1.263	1.168	7.5	92	0.00	19.80
132	M	hexachloroethane	0.576	0.636	-10.4	114	0.00	17.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E227503.D ME9972.M Thu Jul 30 12:53:41 2015 RPT1

6.9.15 6

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9987-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227932.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E227932.D Vial: 7
Acq On : 30 Jul 2015 11:03 pm Operator: ThienN
Sample : cc9972-50 Inst : MSE
Misc : MS88644,VE9987,5.0,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 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	95	0.00	7.94
2	M	1,4-dioxane	0.094	0.096	-2.1	88	0.00	11.79
3	M	tertiary butyl alcohol	1.206	1.244	-3.2	91	-0.02	8.05
4	I	pentafluorobenzene	1.000	1.000	0.0	118	0.00	10.12
5	M	chlorodifluoromethane	0.899	0.892	0.8	118	0.00	4.39
6	M	dichlorodifluoromethane	0.952	0.923	3.0	106	0.00	4.38
7	M	chloromethane	1.092	0.945	13.5	111	0.00	4.75
8	M	vinyl chloride	0.998	0.906	9.2	109	0.00	5.03
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.641	0.503	21.5#	101	0.00	5.72
11	M	chloroethane	0.436	0.400	8.3	107	0.00	5.89
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.994	0.948	4.6	111	0.00	6.38
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.293	0.261	10.9	104	0.00	6.78
16	m	2-chloropropane	1.242	1.201	3.3	114	0.00	7.00
17	M	acrolein	0.118	0.095	19.5	93	-0.01	7.08
18	M	1,1-dichloroethene	0.971	0.925	4.7	107	0.00	7.23
19	M	acetone	0.050	0.045	10.0	101	-0.01	7.31
20	M	allyl chloride	0.335	0.291	13.1	99	-0.01	7.76
21	M	acetonitrile	0.057	0.053	7.0	111	0.00	7.77
22	M	iodomethane	1.066	0.965	9.5	102	0.00	7.54
23	M	iso-butyl alcohol	0.007	0.007#	0.0	115	-0.01	10.42
24	M	carbon disulfide	2.303	1.958	15.0	99	0.00	7.66
25	M	methylene chloride	0.697	0.580	16.8	100	0.00	7.97
26	m	1-chloropropane	1.345	1.197	11.0	117	-0.01	7.99
27	M	methyl acetate	0.405	0.397	2.0	117	0.00	7.74
28	M	methyl tert butyl ether	1.933	1.666	13.8	104	-0.01	8.26
29	M	trans-1,2-dichloroethene	0.881	0.835	5.2	108	0.00	8.33
30	M	di-isopropyl ether	1.910	1.999	-4.7	123	0.00	8.84
31	M	ethyl tert-butyl ether	1.868	1.869	-0.1	114	0.00	9.31
32	M	2-butanone	0.057	0.052	8.8	107	0.00	9.60
33	M	1,1-dichloroethane	1.022	1.002	2.0	112	0.00	8.90
34	M	chloroprene	0.712	0.812	-14.0	129	0.00	9.00
35	M	acrylonitrile	0.204	0.183	10.3	100	0.00	8.31
36	M	vinyl acetate	0.074	0.075	-1.4	114	0.00	8.87
37	M	ethyl acetate	0.067	0.064	4.5	107	0.00	9.59
38	M	2,2-dichloropropane	0.984	0.700	28.9#	84	0.00	9.64
39	M	cis-1,2-dichloroethene	0.639	0.541	15.3	106	0.00	9.64
40	m	methyl acrylate	0.536	0.490	8.6	104	0.00	9.68
41	M	propionitrile	0.077	0.069	10.4	101	0.00	9.73

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9987-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227932.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	bromochloromethane	0.262	0.261	0.4	110	0.00	9.96
43	M	tetrahydrofuran	0.066	0.056	15.2	98	0.00	9.99
44	M	chloroform	0.939	0.909	3.2	115	0.00	10.00
45	m	t-butyl formate	0.539	0.540	-0.2	112	0.00	10.02
46	M	Iso-octane	1.938	1.661	14.3	89	0.00	10.64
47	S	dibromofluoromethane (s)	0.450	0.437	2.9	113	0.00	10.21
48	S	1,2-dichloroethane-d4 (s)	0.554	0.558	-0.7	112	0.00	10.63
49	M	freon 113	0.384	0.386	-0.5	109	0.00	7.19
50	M	methacrylonitrile	0.186	0.175	5.9	103	0.00	9.89
51	M	1,1,1-trichloroethane	0.902	0.885	1.9	110	0.00	10.25
52		Cyclohexane	0.900	0.836	7.1	101	0.00	10.31
53	M	tert-amyl methyl ether	1.797	1.664	7.4	108	0.00	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	112	0.00	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.032	0.031	3.1	98	0.00	12.35
57	M	n-butyl alcohol	0.011	0.011	0.0	99	0.00	11.17
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.539	0.576	-6.9	112	0.00	10.44
60	M	1,1-dichloropropene	0.472	0.509	-7.8	115	0.00	10.42
61	M	hexane	0.345	0.374	-8.4	111	0.00	8.59
62	M	benzene	1.505	1.463	2.8	111	0.00	10.69
63	M	heptane	0.209	0.211	-1.0	101	0.00	10.80
64	M	isopropyl acetate	0.157	0.135	14.0	109	0.00	10.58
65	M	1,2-dichloroethane	0.488	0.538	-10.2	121	0.00	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.356	0.370	-3.9	112	0.00	11.39
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.193	0.206	-6.7	109	0.00	12.19
70	M	methylcyclohexane	0.629	0.627	0.3	104	0.00	11.60
71	M	methyl methacrylate	0.078	0.076	2.6	101	0.00	11.65
72	M	1,2-dichloropropane	0.370	0.381	-3.0	112	0.00	11.68
73	M	dibromomethane	0.223	0.224	-0.4	107	0.00	11.85
74	M	bromodichloromethane	0.490	0.516	-5.3	112	0.00	11.97
75	M	cis-1,3-dichloropropene	0.565	0.567	-0.4	106	0.00	12.44
76	S	toluene-d8 (s)	1.183	1.185	-0.2	110	0.00	12.73
77	M	4-methyl-2-pentanone	0.145	0.138	4.8	101	0.00	12.52
78	M	toluene	0.901	0.852	5.4	108	0.00	12.81
79	M	3-methyl-1-butanol	0.019	0.018	5.3	99	0.00	12.54
80	M	trans-1,3-dichloropropene	0.515	0.521	-1.2	104	0.00	13.03
81	M	ethyl methacrylate	0.411	0.417	-1.5	100	0.00	12.98
82	M	1,1,2-trichloroethane	0.253	0.248	2.0	101	0.00	13.27
83	M	2-hexanone	0.022	0.021	4.5	96	0.00	13.43
84	I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00	14.38
85	M	cyclohexanone	0.034	0.016	52.9#	50	0.00	15.64
86	M	tetrachloroethene	0.399	0.429	-7.5	113	0.00	13.43
87	M	1,3-dichloropropane	0.570	0.571	-0.2	104	0.00	13.47
88	M	butyl acetate	0.239	0.252	-5.4	109	0.00	13.48
89	m	3,3-dimethyl-1-butanol	0.046	0.049	-6.5	105	0.00	13.61
90	M	dibromochloromethane	0.394	0.409	-3.8	107	0.00	13.76
91	M	1,2-dibromoethane	0.344	0.332	3.5	99	0.00	13.93
92	M	n-butyl ether	1.770	1.953	-10.3	112	0.00	14.26
93	M	chlorobenzene	1.066	1.083	-1.6	107	0.00	14.41
94	M	1,1,1,2-tetrachloroethane	0.433	0.462	-6.7	111	0.00	14.47
95	M	ethylbenzene	1.935	1.918	0.9	107	0.00	14.45
96	M	m,p-xylene	0.712	0.722	-1.4	109	0.00	14.56
97	M	o-xylene	0.744	0.768	-3.2	109	0.00	15.03
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.153	1.214	-5.3	106	0.00	15.05

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9987-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227932.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.286	0.291	-1.7	103	0.00	15.37
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	108	0.00	16.94
102	M	isopropylbenzene	3.258	3.390	-4.1	108	0.00	15.40
103	S	4-bromofluorobenzene (s)	0.888	0.882	0.7	107	0.00	15.65
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.838	0.840	-0.2	109	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	0.927	0.821	11.4	93	0.00	15.77
107	M	trans-1,4-dichloro-2-bute	0.260	0.249	4.2	98	0.00	15.81
108	M	1,2,3-trichloropropane	0.228	0.209	8.3	95	0.00	15.86
109	M	n-propylbenzene	3.865	3.850	0.4	106	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.794	0.803	-1.1	107	0.00	16.04
112	M	4-chlorotoluene	2.490	2.418	2.9	106	0.00	16.15
113	M	1,3,5-trimethylbenzene	2.793	2.906	-4.0	107	0.00	16.01
114	M	tert-butylbenzene	0.548	0.610	-11.3	112	0.00	16.41
115	M	pentachloroethane	0.518	0.553	-6.8	108	0.00	16.53
116	M	1,2,4-trimethylbenzene	2.800	2.896	-3.4	107	0.00	16.46
117	M	sec-butylbenzene	3.779	3.924	-3.8	106	0.00	16.65
118	M	1,3-dichlorobenzene	1.728	1.711	1.0	107	0.00	16.88
119	M	p-isopropyltoluene	3.214	3.335	-3.8	107	0.00	16.77
120	M	1,4-dichlorobenzene	1.796	1.698	5.5	105	0.00	16.98
121		benzyl chloride	1.838	1.072	41.7#	62	0.00	17.11
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.734	1.690	2.5	104	0.00	17.41
124	M	n-butylbenzene	1.698	1.671	1.6	101	0.00	17.23
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.218	0.174	20.2#	83	0.00	18.28
127	m	1,3,5-trichlorobenzene	1.555	1.495	3.9	102	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.344	1.270	5.5	97	0.00	19.20
129	M	hexachlorobutadiene	0.671	0.639	4.8	98	0.00	19.30
130	M	naphthalene	3.080	2.368	23.1#	80	0.00	19.52
131	M	1,2,3-trichlorobenzene	1.263	1.055	16.5	88	0.00	19.80
132	M	hexachloroethane	0.576	0.619	-7.5	109	0.00	17.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E227504.D ME9972.M Fri Jul 31 11:45:22 2015 RPT1

6.9.16

6

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9988-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227948.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E227948.D Vial: 2
Acq On : 31 Jul 2015 9:20 am Operator: ThienN
Sample : cc9972-50 Inst : MSE
Misc : MS88817,VE9988,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 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	101	-0.02	7.92
2	M	1,4-dioxane	0.094	0.094	0.0	93	0.00	11.79
3	M	tertiary butyl alcohol	1.206	1.421	-17.8	111	-0.02	8.05
4	I	pentafluorobenzene	1.000	1.000	0.0	123	0.00	10.12
5	M	chlorodifluoromethane	0.899	1.025	-14.0	142	0.00	4.39
6	M	dichlorodifluoromethane	0.952	1.170	-22.9#	141	0.00	4.37
7	M	chloromethane	1.092	1.141	-4.5	139	0.02	4.76
8	M	vinyl chloride	0.998	1.055	-5.7	133	0.00	5.04
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.641	0.577	10.0	121	0.00	5.72
11	M	chloroethane	0.436	0.455	-4.4	127	0.00	5.89
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.994	1.112	-11.9	136	0.00	6.38
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.293	0.275	6.1	115	-0.01	6.77
16	m	2-chloropropane	1.242	1.282	-3.2	128	-0.01	7.00
17	M	acrolein	0.118	0.109	7.6	112	-0.01	7.08
18	M	1,1-dichloroethene	0.971	0.987	-1.6	119	0.00	7.23
19	M	acetone	0.050	0.045	10.0	105	-0.01	7.31
20	M	allyl chloride	0.335	0.296	11.6	106	0.00	7.77
21	M	acetonitrile	0.057	0.059	-3.5	129	0.00	7.77
22	M	iodomethane	1.066	1.035	2.9	115	0.00	7.54
23	M	iso-butyl alcohol	0.007	0.007#	0.0	124	0.00	10.42
24	M	carbon disulfide	2.303	2.122	7.9	112	0.00	7.66
25	M	methylene chloride	0.697	0.609	12.6	110	0.00	7.97
26	m	1-chloropropane	1.345	1.237	8.0	126	0.00	8.00
27	M	methyl acetate	0.405	0.429	-5.9	132	0.00	7.74
28	M	methyl tert butyl ether	1.933	1.757	9.1	114	0.00	8.26
29	M	trans-1,2-dichloroethene	0.881	0.868	1.5	118	0.00	8.33
30	M	di-isopropyl ether	1.910	2.087	-9.3	134	0.00	8.84
31	M	ethyl tert-butyl ether	1.868	1.978	-5.9	126	0.00	9.30
32	M	2-butanone	0.057	0.052	8.8	112	0.00	9.61
33	M	1,1-dichloroethane	1.022	1.019	0.3	119	0.00	8.91
34	M	chloroprene	0.712	0.858	-20.5#	143	0.00	9.00
35	M	acrylonitrile	0.204	0.194	4.9	111	0.00	8.31
36	M	vinyl acetate	0.074	0.077	-4.1	122	0.00	8.87
37	M	ethyl acetate	0.067	0.066	1.5	115	0.00	9.60
38	M	2,2-dichloropropane	0.984	1.029	-4.6	128	0.00	9.64
39	M	cis-1,2-dichloroethene	0.639	0.568	11.1	117	0.00	9.64
40	m	methyl acrylate	0.536	0.504	6.0	112	0.00	9.68
41	M	propionitrile	0.077	0.072	6.5	110	0.00	9.73

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9988-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227948.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	bromochloromethane	0.262	0.266	-1.5	118	0.00	9.96
43	M	tetrahydrofuran	0.066	0.062	6.1	112	0.00	9.99
44	M	chloroform	0.939	0.931	0.9	123	0.00	10.00
45	m	t-butyl formate	0.539	0.583	-8.2	126	0.00	10.02
46	M	Iso-octane	1.938	2.340	-20.7#	131	0.00	10.64
47	S	dibromofluoromethane (s)	0.450	0.440	2.2	119	0.00	10.21
48	S	1,2-dichloroethane-d4 (s)	0.554	0.570	-2.9	120	0.00	10.63
49	M	freon 113	0.384	0.469	-22.1#	138	0.00	7.18
50	M	methacrylonitrile	0.186	0.181	2.7	112	0.00	9.89
51	M	1,1,1-trichloroethane	0.902	0.945	-4.8	123	0.00	10.25
52		Cyclohexane	0.900	0.937	-4.1	118	0.00	10.31
53	M	tert-amyl methyl ether	1.797	1.758	2.2	120	0.00	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	116	0.00	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.032	0.035	-9.4	113	0.00	12.35
57	M	n-butyl alcohol	0.011	0.010	9.1	101	0.00	11.17
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.539	0.609	-13.0	123	0.00	10.45
60	M	1,1-dichloropropene	0.472	0.529	-12.1	125	0.00	10.42
61	M	hexane	0.345	0.482	-39.7#	149	0.00	8.59
62	M	benzene	1.505	1.492	0.9	118	0.00	10.69
63	M	heptane	0.209	0.276	-32.1#	137	0.00	10.80
64	M	isopropyl acetate	0.157	0.137	12.7	116	0.00	10.58
65	M	1,2-dichloroethane	0.488	0.544	-11.5	127	0.00	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.356	0.377	-5.9	118	0.00	11.40
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.193	0.207	-7.3	114	0.00	12.20
70	M	methylcyclohexane	0.629	0.748	-18.9	129	0.00	11.60
71	M	methyl methacrylate	0.078	0.078	0.0	107	0.00	11.65
72	M	1,2-dichloropropane	0.370	0.382	-3.2	117	0.00	11.68
73	M	dibromomethane	0.223	0.228	-2.2	114	0.00	11.85
74	M	bromodichloromethane	0.490	0.520	-6.1	117	0.00	11.98
75	M	cis-1,3-dichloropropene	0.565	0.600	-6.2	117	0.00	12.44
76	S	toluene-d8 (s)	1.183	1.179	0.3	114	0.00	12.73
77	M	4-methyl-2-pentanone	0.145	0.140	3.4	107	0.00	12.52
78	M	toluene	0.901	0.874	3.0	115	0.00	12.81
79	M	3-methyl-1-butanol	0.019	0.017	10.5	101	0.00	12.54
80	M	trans-1,3-dichloropropene	0.515	0.548	-6.4	114	0.00	13.03
81	M	ethyl methacrylate	0.411	0.418	-1.7	104	0.00	12.99
82	M	1,1,2-trichloroethane	0.253	0.252	0.4	107	0.00	13.27
83	M	2-hexanone	0.022	0.022	0.0	104	0.00	13.43
84	I	chlorobenzene-d5	1.000	1.000	0.0	111	0.00	14.38
85	M	cyclohexanone	0.034	0.022	35.3#	71	0.00	15.64
86	M	tetrachloroethene	0.399	0.441	-10.5	120	0.00	13.43
87	M	1,3-dichloropropane	0.570	0.583	-2.3	110	0.00	13.47
88	M	butyl acetate	0.239	0.258	-7.9	116	0.00	13.48
89	m	3,3-dimethyl-1-butanol	0.046	0.049	-6.5	112	0.00	13.61
90	M	dibromochloromethane	0.394	0.414	-5.1	112	0.00	13.76
91	M	1,2-dibromoethane	0.344	0.342	0.6	106	0.00	13.93
92	M	n-butyl ether	1.770	1.971	-11.4	118	0.00	14.26
93	M	chlorobenzene	1.066	1.096	-2.8	112	0.00	14.41
94	M	1,1,1,2-tetrachloroethane	0.433	0.468	-8.1	117	0.00	14.48
95	M	ethylbenzene	1.935	1.966	-1.6	114	0.00	14.45
96	M	m,p-xylene	0.712	0.732	-2.8	114	0.00	14.56
97	M	o-xylene	0.744	0.774	-4.0	114	0.00	15.03
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.153	1.213	-5.2	110	0.00	15.05

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9988-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227948.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.286	0.289	-1.0	106	0.00	15.38
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	110	0.00	16.94
102	M	isopropylbenzene	3.258	3.556	-9.1	115	0.00	15.40
103	S	4-bromofluorobenzene (s)	0.888	0.895	-0.8	111	0.00	15.65
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.838	0.854	-1.9	113	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	0.927	0.849	8.4	98	0.00	15.77
107	M	trans-1,4-dichloro-2-bute	0.260	0.280	-7.7	112	0.00	15.81
108	M	1,2,3-trichloropropane	0.228	0.221	3.1	103	0.00	15.86
109	M	n-propylbenzene	3.865	4.008	-3.7	112	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.794	0.825	-3.9	112	0.00	16.04
112	M	4-chlorotoluene	2.490	2.473	0.7	111	0.00	16.15
113	M	1,3,5-trimethylbenzene	2.793	3.046	-9.1	115	0.00	16.02
114	M	tert-butylbenzene	0.548	0.629	-14.8	117	0.00	16.41
115	M	pentachloroethane	0.518	0.586	-13.1	117	0.00	16.53
116	M	1,2,4-trimethylbenzene	2.800	3.011	-7.5	114	0.00	16.46
117	M	sec-butylbenzene	3.779	4.154	-9.9	114	0.00	16.65
118	M	1,3-dichlorobenzene	1.728	1.731	-0.2	111	0.00	16.88
119	M	p-isopropyltoluene	3.214	3.508	-9.1	115	0.00	16.77
120	M	1,4-dichlorobenzene	1.796	1.748	2.7	110	0.00	16.98
121		benzyl chloride	1.838	1.906	-3.7	113	0.00	17.11
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.734	1.736	-0.1	109	0.00	17.42
124	M	n-butylbenzene	1.698	1.789	-5.4	111	0.00	17.23
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.218	0.187	14.2	91	0.00	18.28
127	m	1,3,5-trichlorobenzene	1.555	1.626	-4.6	113	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.344	1.367	-1.7	106	0.00	19.20
129	M	hexachlorobutadiene	0.671	0.754	-12.4	118	0.00	19.30
130	M	naphthalene	3.080	2.541	17.5	87	0.00	19.52
131	M	1,2,3-trichlorobenzene	1.263	1.145	9.3	98	0.00	19.80
132	M	hexachloroethane	0.576	0.632	-9.7	114	0.00	17.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E227504.D ME9972.M Fri Jul 31 12:06:51 2015 RPT1

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9990-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227982.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E227982.D Vial: 3
Acq On : 3 Aug 2015 8:14 am Operator: ThienN
Sample : cc9972-50 Inst : MSE
Misc : MS85727,VE9990,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 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	102	-0.02	7.92
2	M	1,4-dioxane	0.094	0.098	-4.3	97	0.00	11.79
3	M	tertiary butyl alcohol	1.206	1.224	-1.5	96	-0.03	8.04
4	I	pentafluorobenzene	1.000	1.000	0.0	121	0.00	10.12
5	M	chlorodifluoromethane	0.899	1.004	-11.7	136	0.00	4.40
6	M	dichlorodifluoromethane	0.952	1.052	-10.5	124	0.00	4.37
7	M	chloromethane	1.092	1.088	0.4	130	0.00	4.75
8	M	vinyl chloride	0.998	1.001	-0.3	124	0.01	5.05
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.641	0.546	14.8	113	0.00	5.72
11	M	chloroethane	0.436	0.428	1.8	117	0.00	5.90
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.994	1.006	-1.2	120	0.00	6.38
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.293	0.274	6.5	112	0.00	6.78
16	m	2-chloropropane	1.242	1.279	-3.0	125	0.00	7.00
17	M	acrolein	0.118	0.106	10.2	106	-0.01	7.08
18	M	1,1-dichloroethene	0.971	0.982	-1.1	116	-0.01	7.23
19	M	acetone	0.050	0.056	-12.0	129	-0.02	7.30
20	M	allyl chloride	0.335	0.299	10.7	105	-0.01	7.77
21	M	acetonitrile	0.057	0.060	-5.3	130	-0.01	7.77
22	M	iodomethane	1.066	1.022	4.1	111	0.00	7.54
23	M	iso-butyl alcohol	0.007	0.007#	0.0	119	0.00	10.42
24	M	carbon disulfide	2.303	2.112	8.3	109	-0.01	7.66
25	M	methylene chloride	0.697	0.614	11.9	109	0.00	7.98
26	m	1-chloropropane	1.345	1.253	6.8	125	-0.01	7.99
27	M	methyl acetate	0.405	0.418	-3.2	126	-0.01	7.74
28	M	methyl tert butyl ether	1.933	1.751	9.4	112	0.00	8.26
29	M	trans-1,2-dichloroethene	0.881	0.881	0.0	117	0.00	8.33
30	M	di-isopropyl ether	1.910	2.072	-8.5	131	0.00	8.84
31	M	ethyl tert-butyl ether	1.868	1.918	-2.7	120	-0.01	9.30
32	M	2-butanone	0.057	0.059	-3.5	125	0.00	9.60
33	M	1,1-dichloroethane	1.022	1.028	-0.6	117	0.00	8.91
34	M	chloroprene	0.712	0.838	-17.7	137	0.00	9.00
35	M	acrylonitrile	0.204	0.202	1.0	113	-0.01	8.31
36	M	vinyl acetate	0.074	0.076	-2.7	118	-0.01	8.86
37	M	ethyl acetate	0.067	0.066	1.5	112	0.00	9.60
38	M	2,2-dichloropropane	0.984	1.036	-5.3	127	0.00	9.64
39	M	cis-1,2-dichloroethene	0.639	0.571	10.6	115	0.00	9.64
40	m	methyl acrylate	0.536	0.513	4.3	112	0.00	9.69
41	M	propionitrile	0.077	0.073	5.2	110	0.00	9.73

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9990-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227982.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	bromochloromethane	0.262	0.272	-3.8	118	0.00	9.96
43	M	tetrahydrofuran	0.066	0.061	7.6	108	0.00	9.99
44	M	chloroform	0.939	0.949	-1.1	123	0.00	10.00
45	m	t-butyl formate	0.539	0.567	-5.2	121	0.00	10.03
46	M	Iso-octane	1.938	2.219	-14.5	122	0.00	10.64
47	S	dibromofluoromethane (s)	0.450	0.448	0.4	119	0.00	10.21
48	S	1,2-dichloroethane-d4 (s)	0.554	0.571	-3.1	118	0.00	10.63
49	M	freon 113	0.384	0.432	-12.5	125	0.00	7.19
50	M	methacrylonitrile	0.186	0.182	2.2	110	0.00	9.89
51	M	1,1,1-trichloroethane	0.902	0.925	-2.5	118	0.00	10.25
52		Cyclohexane	0.900	0.897	0.3	111	0.00	10.31
53	M	tert-amyl methyl ether	1.797	1.716	4.5	115	0.00	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	114	0.00	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.032	0.034	-6.3	109	0.00	12.35
57	M	n-butyl alcohol	0.011	0.011	0.0	104	-0.01	11.17
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.539	0.604	-12.1	120	0.00	10.44
60	M	1,1-dichloropropene	0.472	0.527	-11.7	122	0.00	10.42
61	M	hexane	0.345	0.452	-31.0#	137	0.00	8.59
62	M	benzene	1.505	1.521	-1.1	118	0.00	10.69
63	M	heptane	0.209	0.263	-25.8#	128	0.00	10.80
64	M	isopropyl acetate	0.157	0.136	13.4	113	0.00	10.57
65	M	1,2-dichloroethane	0.488	0.559	-14.5	128	0.00	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.356	0.378	-6.2	116	0.00	11.40
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.193	0.207	-7.3	112	0.00	12.20
70	M	methylcyclohexane	0.629	0.694	-10.3	117	0.00	11.60
71	M	methyl methacrylate	0.078	0.076	2.6	103	0.00	11.65
72	M	1,2-dichloropropane	0.370	0.397	-7.3	119	0.00	11.68
73	M	dibromomethane	0.223	0.234	-4.9	114	0.00	11.85
74	M	bromodichloromethane	0.490	0.538	-9.8	119	0.00	11.97
75	M	cis-1,3-dichloropropene	0.565	0.623	-10.3	119	0.00	12.44
76	S	toluene-d8 (s)	1.183	1.186	-0.3	112	0.00	12.73
77	M	4-methyl-2-pentanone	0.145	0.145	0.0	108	0.00	12.52
78	M	toluene	0.901	0.874	3.0	113	0.00	12.81
79	M	3-methyl-1-butanol	0.019	0.018	5.3	103	0.00	12.54
80	M	trans-1,3-dichloropropene	0.515	0.569	-10.5	116	0.00	13.03
81	M	ethyl methacrylate	0.411	0.428	-4.1	105	-0.01	12.98
82	M	1,1,2-trichloroethane	0.253	0.262	-3.6	109	0.00	13.27
83	M	2-hexanone	0.022	0.024	-9.1	114	0.00	13.43
84	I	chlorobenzene-d5	1.000	1.000	0.0	109	0.00	14.38
85	M	cyclohexanone	0.034	0.068	-100.0#	215#	0.00	15.63
86	M	tetrachloroethene	0.399	0.436	-9.3	116	0.00	13.43
87	M	1,3-dichloropropane	0.570	0.598	-4.9	110	0.00	13.46
88	M	butyl acetate	0.239	0.255	-6.7	112	0.00	13.49
89	m	3,3-dimethyl-1-butanol	0.046	0.050	-8.7	111	0.00	13.61
90	M	dibromochloromethane	0.394	0.437	-10.9	116	0.00	13.75
91	M	1,2-dibromoethane	0.344	0.347	-0.9	105	0.00	13.93
92	M	n-butyl ether	1.770	2.031	-14.7	118	0.00	14.25
93	M	chlorobenzene	1.066	1.129	-5.9	113	0.00	14.41
94	M	1,1,1,2-tetrachloroethane	0.433	0.486	-12.2	118	0.00	14.48
95	M	ethylbenzene	1.935	1.987	-2.7	113	0.00	14.45
96	M	m,p-xylene	0.712	0.754	-5.9	115	0.00	14.56
97	M	o-xylene	0.744	0.802	-7.8	115	0.00	15.03
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.153	1.255	-8.8	111	0.00	15.05

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9990-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E227982.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.286	0.304	-6.3	109	0.00	15.38
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	112	0.00	16.95
102	M	isopropylbenzene	3.258	3.495	-7.3	115	0.00	15.40
103	S	4-bromofluorobenzene (s)	0.888	0.871	1.9	110	0.00	15.65
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.838	0.848	-1.2	114	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	0.927	0.864	6.8	102	0.00	15.77
107	M	trans-1,4-dichloro-2-bute	0.260	0.285	-9.6	116	0.00	15.81
108	M	1,2,3-trichloropropane	0.228	0.218	4.4	103	0.00	15.86
109	M	n-propylbenzene	3.865	3.975	-2.8	113	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.794	0.824	-3.8	114	0.00	16.04
112	M	4-chlorotoluene	2.490	2.465	1.0	112	0.00	16.14
113	M	1,3,5-trimethylbenzene	2.793	2.999	-7.4	115	0.00	16.01
114	M	tert-butylbenzene	0.548	0.620	-13.1	118	0.00	16.41
115	M	pentachloroethane	0.518	0.601	-16.0	122	0.00	16.53
116	M	1,2,4-trimethylbenzene	2.800	2.998	-7.1	115	0.00	16.46
117	M	sec-butylbenzene	3.779	4.090	-8.2	114	0.00	16.64
118	M	1,3-dichlorobenzene	1.728	1.762	-2.0	114	0.00	16.88
119	M	p-isopropyltoluene	3.214	3.495	-8.7	117	0.00	16.77
120	M	1,4-dichlorobenzene	1.796	1.766	1.7	113	0.00	16.97
121		benzyl chloride	1.838	1.907	-3.8	115	0.00	17.10
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.734	1.778	-2.5	113	0.00	17.42
124	M	n-butylbenzene	1.698	1.799	-5.9	113	0.00	17.23
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.218	0.194	11.0	96	0.00	18.27
127	m	1,3,5-trichlorobenzene	1.555	1.631	-4.9	116	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.344	1.438	-7.0	114	0.00	19.20
129	M	hexachlorobutadiene	0.671	0.729	-8.6	116	0.00	19.30
130	M	naphthalene	3.080	2.707	12.1	95	0.00	19.52
131	M	1,2,3-trichlorobenzene	1.263	1.208	4.4	105	0.00	19.80
132	M	hexachloroethane	0.576	0.646	-12.2	119	0.00	17.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E227504.D ME9972.M Mon Aug 03 15:16:24 2015 RPT1

6.9.18

6

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9991-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E228005.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E228005.D Vial: 2
Acq On : 4 Aug 2015 7:29 am Operator: ThienN
Sample : cc9972-20 Inst : MSE
Misc : MS88818,VE9991,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 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	104	-0.01	7.92
2	M	1,4-dioxane	0.094	0.100	-6.4	105	0.00	11.79
3	M	tertiary butyl alcohol	1.206	1.324	-9.8	112	-0.02	8.04
4	I	pentafluorobenzene	1.000	1.000	0.0	131	0.00	10.12
5	M	chlorodifluoromethane	0.899	1.029	-14.5	145	0.00	4.40
6	M	dichlorodifluoromethane	0.952	1.078	-13.2	136	0.00	4.37
7	M	chloromethane	1.092	1.133	-3.8	143	0.00	4.74
8	M	vinyl chloride	0.998	1.082	-8.4	136	0.00	5.04
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.641	0.566	11.7	110	0.00	5.72
11	M	chloroethane	0.436	0.463	-6.2	131	0.00	5.90
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.994	1.084	-9.1	135	0.02	6.39
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.293	0.289	1.4	120	0.00	6.78
16	m	2-chloropropane	1.242	1.384	-11.4	138	0.00	7.00
17	M	acrolein	0.118	0.117	0.8	120	0.00	7.08
18	M	1,1-dichloroethene	0.971	1.077	-10.9	131	0.00	7.23
19	M	acetone	0.050	0.052	-4.0	122	-0.01	7.31
20	M	allyl chloride	0.335	0.323	3.6	121	0.00	7.77
21	M	acetonitrile	0.057	0.061	-7.0	132	0.00	7.77
22	M	iodomethane	1.066	1.095	-2.7	122	0.00	7.54
23	M	iso-butyl alcohol	0.007	0.007#	0.0	135	0.00	10.42
24	M	carbon disulfide	2.303	2.298	0.2	123	0.00	7.67
25	M	methylene chloride	0.697	0.658	5.6	117	0.00	7.98
26	m	1-chloropropane	1.345	1.354	-0.7	132	0.00	7.99
27	M	methyl acetate	0.405	0.421	-4.0	127	0.00	7.75
28	M	methyl tert butyl ether	1.933	1.823	5.7	117	0.00	8.26
29	M	trans-1,2-dichloroethene	0.881	0.961	-9.1	130	0.00	8.33
30	M	di-isopropyl ether	1.910	2.114	-10.7	138	0.00	8.84
31	M	ethyl tert-butyl ether	1.868	1.964	-5.1	126	0.00	9.30
32	M	2-butanone	0.057	0.060	-5.3	129	0.00	9.60
33	M	1,1-dichloroethane	1.022	1.133	-10.9	133	0.00	8.91
34	M	chloroprene	0.712	0.857	-20.4#	148	0.00	9.00
35	M	acrylonitrile	0.204	0.207	-1.5	120	0.00	8.32
36	M	vinyl acetate	0.074	0.078	-5.4	131	0.00	8.88
37	M	ethyl acetate	0.067	0.065	3.0	115	0.00	9.60
38	M	2,2-dichloropropane	0.984	1.115	-13.3	141	0.00	9.64
39	M	cis-1,2-dichloroethene	0.639	0.612	4.2	124	0.00	9.64
40	m	methyl acrylate	0.536	0.528	1.5	119	0.00	9.69
41	M	propionitrile	0.077	0.077	0.0	122	0.00	9.73

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9991-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E228005.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	bromochloromethane	0.262	0.287	-9.5	128	0.00	9.96
43	M	tetrahydrofuran	0.066	0.063	4.5	115	0.01	10.00
44	M	chloroform	0.939	1.009	-7.5	133	0.00	10.01
45	m	t-butyl formate	0.539	0.562	-4.3	126	0.00	10.03
46	M	Iso-octane	1.938	2.202	-13.6	133	0.00	10.64
47	S	dibromofluoromethane (s)	0.450	0.446	0.9	130	0.00	10.21
48	S	1,2-dichloroethane-d4 (s)	0.554	0.563	-1.6	132	0.00	10.63
49	M	freon 113	0.384	0.443	-15.4	134	0.00	7.19
50	M	methacrylonitrile	0.186	0.183	1.6	116	0.00	9.90
51	M	1,1,1-trichloroethane	0.902	0.989	-9.6	131	0.00	10.25
52		Cyclohexane	0.900	0.956	-6.2	124	0.00	10.31
53	M	tert-amyl methyl ether	1.797	1.775	1.2	121	0.00	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	124	0.00	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.032	0.034	-6.3	117	0.00	12.35
57	M	n-butyl alcohol	0.011	0.011	0.0	112	0.00	11.17
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.539	0.662	-22.8#	136	0.00	10.45
60	M	1,1-dichloropropene	0.472	0.579	-22.7#	140	0.00	10.42
61	M	hexane	0.345	0.449	-30.1#	140	0.00	8.59
62	M	benzene	1.505	1.641	-9.0	129	0.00	10.69
63	M	heptane	0.209	0.272	-30.1#	141	0.00	10.80
64	M	isopropyl acetate	0.157	0.152	3.2	122	0.00	10.58
65	M	1,2-dichloroethane	0.488	0.591	-21.1#	138	0.00	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.356	0.405	-13.8	129	0.00	11.40
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.193	0.212	-9.8	122	0.00	12.20
70	M	methylcyclohexane	0.629	0.710	-12.9	126	0.00	11.60
71	M	methyl methacrylate	0.078	0.079	-1.3	117	0.00	11.65
72	M	1,2-dichloropropane	0.370	0.414	-11.9	128	0.00	11.68
73	M	dibromomethane	0.223	0.249	-11.7	123	0.00	11.86
74	M	bromodichloromethane	0.490	0.559	-14.1	130	0.00	11.97
75	M	cis-1,3-dichloropropene	0.565	0.650	-15.0	130	0.00	12.44
76	S	toluene-d8 (s)	1.183	1.186	-0.3	124	0.00	12.73
77	M	4-methyl-2-pentanone	0.145	0.145	0.0	110	0.00	12.53
78	M	toluene	0.901	0.935	-3.8	127	0.00	12.81
79	M	3-methyl-1-butanol	0.019	0.018	5.3	112	0.00	12.54
80	M	trans-1,3-dichloropropene	0.515	0.586	-13.8	127	0.00	13.03
81	M	ethyl methacrylate	0.411	0.432	-5.1	113	0.00	12.99
82	M	1,1,2-trichloroethane	0.253	0.268	-5.9	117	0.00	13.27
83	M	2-hexanone	0.022	0.023	-4.5	122	0.00	13.43
84	I	chlorobenzene-d5	1.000	1.000	0.0	121	0.00	14.38
85	M	cyclohexanone	0.034	0.060	-76.5#	183	0.00	15.63
86	M	tetrachloroethene	0.399	0.464	-16.3	135	0.00	13.43
87	M	1,3-dichloropropane	0.570	0.618	-8.4	121	0.00	13.47
88	M	butyl acetate	0.239	0.264	-10.5	121	0.00	13.48
89	m	3,3-dimethyl-1-butanol	0.046	0.047	-2.2	115	0.00	13.61
90	M	dibromochloromethane	0.394	0.438	-11.2	126	0.00	13.76
91	M	1,2-dibromoethane	0.344	0.362	-5.2	117	0.00	13.92
92	M	n-butyl ether	1.770	2.123	-19.9	130	0.00	14.25
93	M	chlorobenzene	1.066	1.168	-9.6	124	0.00	14.41
94	M	1,1,1,2-tetrachloroethane	0.433	0.498	-15.0	127	0.00	14.48
95	M	ethylbenzene	1.935	2.086	-7.8	124	0.00	14.45
96	M	m,p-xylene	0.712	0.805	-13.1	127	0.00	14.57
97	M	o-xylene	0.744	0.833	-12.0	127	0.00	15.03
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.153	1.288	-11.7	121	0.00	15.05

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9991-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E228005.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.286	0.306	-7.0	117	0.00	15.38
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	122	0.00	16.95
102	M	isopropylbenzene	3.258	3.724	-14.3	128	0.00	15.40
103	S	4-bromofluorobenzene (s)	0.888	0.884	0.5	121	0.00	15.65
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.838	0.909	-8.5	124	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	0.927	0.902	2.7	109	0.00	15.77
107	M	trans-1,4-dichloro-2-bute	0.260	0.296	-13.8	121	0.00	15.81
108	M	1,2,3-trichloropropane	0.228	0.233	-2.2	111	0.00	15.86
109	M	n-propylbenzene	3.865	4.303	-11.3	125	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.794	0.895	-12.7	125	0.00	16.04
112	M	4-chlorotoluene	2.490	2.639	-6.0	124	0.00	16.15
113	M	1,3,5-trimethylbenzene	2.793	3.209	-14.9	129	0.00	16.02
114	M	tert-butylbenzene	0.548	0.629	-14.8	128	0.00	16.41
115	M	pentachloroethane	0.518	0.600	-15.8	127	0.00	16.53
116	M	1,2,4-trimethylbenzene	2.800	3.194	-14.1	126	0.00	16.46
117	M	sec-butylbenzene	3.779	4.330	-14.6	129	0.00	16.64
118	M	1,3-dichlorobenzene	1.728	1.856	-7.4	123	0.00	16.88
119	M	p-isopropyltoluene	3.214	3.697	-15.0	129	0.00	16.77
120	M	1,4-dichlorobenzene	1.796	1.862	-3.7	122	0.00	16.98
121		benzyl chloride	1.838	1.965	-6.9	122	0.00	17.10
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.734	1.841	-6.2	120	0.00	17.42
124	M	n-butylbenzene	1.698	1.898	-11.8	124	0.00	17.23
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.218	0.190	12.8	99	0.00	18.28
127	m	1,3,5-trichlorobenzene	1.555	1.689	-8.6	123	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.344	1.434	-6.7	119	0.00	19.19
129	M	hexachlorobutadiene	0.671	0.768	-14.5	131	0.00	19.30
130	M	naphthalene	3.080	2.600	15.6	96	0.00	19.52
131	M	1,2,3-trichlorobenzene	1.263	1.216	3.7	111	0.00	19.80
132	M	hexachloroethane	0.576	0.646	-12.2	133	0.00	17.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E227503.D ME9972.M Tue Aug 04 13:40:24 2015 RPT1

6.9.19

6

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9993-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E228060.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E228060.D Vial: 2
Acq On : 6 Aug 2015 7:30 am Operator: ThienN
Sample : cc9972-50 Inst : MSE
Misc : MS88958,VE9993,5.0,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9972.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Wed Jul 15 17:24:08 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	106	-0.01	7.93
2	M	1,4-dioxane	0.094	0.094	0.0	96	0.00	11.79
3	M	tertiary butyl alcohol	1.206	1.231	-2.1	101	-0.02	8.05
4	I	pentafluorobenzene	1.000	1.000	0.0	132	0.00	10.12
5	M	chlorodifluoromethane	0.899	0.959	-6.7	143	0.00	4.40
6	M	dichlorodifluoromethane	0.952	1.088	-14.3	141	0.00	4.37
7	M	chloromethane	1.092	1.163	-6.5	153	0.01	4.75
8	M	vinyl chloride	0.998	1.064	-6.6	144	0.00	5.04
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.641	0.566	11.7	128	0.00	5.73
11	M	chloroethane	0.436	0.459	-5.3	138	0.00	5.90
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.994	1.054	-6.0	138	0.01	6.39
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.293	0.280	4.4	126	-0.01	6.77
16	m	2-chloropropane	1.242	1.287	-3.6	138	0.00	7.01
17	M	acrolein	0.118	0.101	14.4	111	-0.02	7.08
18	M	1,1-dichloroethene	0.971	1.011	-4.1	131	-0.01	7.23
19	M	acetone	0.050	0.046	8.0	115	-0.02	7.31
20	M	allyl chloride	0.335	0.303	9.6	117	0.00	7.77
21	M	acetonitrile	0.057	0.058	-1.8	137	-0.01	7.77
22	M	iodomethane	1.066	1.030	3.4	123	-0.01	7.54
23	M	iso-butyl alcohol	0.007	0.007#	0.0	131	-0.01	10.42
24	M	carbon disulfide	2.303	2.201	4.4	125	0.00	7.66
25	M	methylene chloride	0.697	0.627	10.0	122	0.00	7.98
26	m	1-chloropropane	1.345	1.234	8.3	135	-0.01	7.99
27	M	methyl acetate	0.405	0.411	-1.5	136	0.00	7.75
28	M	methyl tert butyl ether	1.933	1.735	10.2	121	0.00	8.26
29	M	trans-1,2-dichloroethene	0.881	0.890	-1.0	130	0.00	8.33
30	M	di-isopropyl ether	1.910	2.055	-7.6	142	0.00	8.84
31	M	ethyl tert-butyl ether	1.868	1.892	-1.3	129	0.00	9.30
32	M	2-butanone	0.057	0.055	3.5	128	-0.01	9.60
33	M	1,1-dichloroethane	1.022	1.050	-2.7	132	0.00	8.91
34	M	chloroprene	0.712	0.804	-12.9	144	0.00	9.00
35	M	acrylonitrile	0.204	0.202	1.0	124	0.00	8.32
36	M	vinyl acetate	0.074	0.076	-2.7	129	-0.01	8.86
37	M	ethyl acetate	0.067	0.063	6.0	118	0.00	9.60
38	M	2,2-dichloropropane	0.984	1.031	-4.8	138	-0.01	9.63
39	M	cis-1,2-dichloroethene	0.639	0.575	10.0	127	0.00	9.64
40	m	methyl acrylate	0.536	0.511	4.7	122	0.00	9.68
41	M	propionitrile	0.077	0.074	3.9	121	0.00	9.73

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9993-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E228060.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	M	bromochloromethane	0.262	0.272	-3.8	129	0.00	9.96
43	M	tetrahydrofuran	0.066	0.061	7.6	120	-0.01	9.98
44	M	chloroform	0.939	0.954	-1.6	135	0.00	10.00
45	m	t-butyl formate	0.539	0.542	-0.6	126	0.00	10.02
46	M	Iso-octane	1.938	2.196	-13.3	133	0.00	10.64
47	S	dibromofluoromethane (s)	0.450	0.447	0.7	130	0.00	10.21
48	S	1,2-dichloroethane-d4 (s)	0.554	0.560	-1.1	127	0.00	10.63
49	M	freon 113	0.384	0.432	-12.5	137	0.00	7.19
50	M	methacrylonitrile	0.186	0.178	4.3	119	0.00	9.89
51	M	1,1,1-trichloroethane	0.902	0.930	-3.1	130	0.00	10.25
52		Cyclohexane	0.900	0.927	-3.0	126	0.00	10.31
53	M	tert-amyl methyl ether	1.797	1.677	6.7	123	-0.01	10.68
54	I	1,4-difluorobenzene	1.000	1.000	0.0	126	0.00	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.032	0.033	-3.1	115	0.00	12.35
57	M	n-butyl alcohol	0.011	0.010	9.1	106	0.00	11.17
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.539	0.607	-12.6	133	0.00	10.44
60	M	1,1-dichloropropene	0.472	0.524	-11.0	134	0.00	10.42
61	M	hexane	0.345	0.430	-24.6#	144	0.00	8.59
62	M	benzene	1.505	1.526	-1.4	131	0.00	10.69
63	M	heptane	0.209	0.261	-24.9#	140	0.00	10.80
64	M	isopropyl acetate	0.157	0.133	15.3	122	0.00	10.57
65	M	1,2-dichloroethane	0.488	0.537	-10.0	136	0.00	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.356	0.378	-6.2	128	0.00	11.39
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.193	0.203	-5.2	121	0.00	12.20
70	M	methylcyclohexane	0.629	0.700	-11.3	130	0.00	11.60
71	M	methyl methacrylate	0.078	0.076	2.6	114	0.00	11.64
72	M	1,2-dichloropropane	0.370	0.400	-8.1	132	0.00	11.68
73	M	dibromomethane	0.223	0.233	-4.5	125	0.00	11.85
74	M	bromodichloromethane	0.490	0.534	-9.0	131	0.00	11.97
75	M	cis-1,3-dichloropropene	0.565	0.621	-9.9	131	0.00	12.44
76	S	toluene-d8 (s)	1.183	1.181	0.2	124	0.00	12.73
77	M	4-methyl-2-pentanone	0.145	0.145	0.0	120	0.00	12.52
78	M	toluene	0.901	0.885	1.8	127	0.00	12.81
79	M	3-methyl-1-butanol	0.019	0.018	5.3	110	0.00	12.54
80	M	trans-1,3-dichloropropene	0.515	0.567	-10.1	128	0.00	13.03
81	M	ethyl methacrylate	0.411	0.417	-1.5	113	0.00	12.99
82	M	1,1,2-trichloroethane	0.253	0.259	-2.4	119	0.00	13.27
83	M	2-hexanone	0.022	0.021	4.5	107	0.00	13.42
84	I	chlorobenzene-d5	1.000	1.000	0.0	121	0.00	14.38
85	M	cyclohexanone	0.034	0.053	-55.9#	187	0.00	15.63
86	M	tetrachloroethene	0.399	0.446	-11.8	132	0.00	13.43
87	M	1,3-dichloropropane	0.570	0.598	-4.9	123	0.00	13.46
88	M	butyl acetate	0.239	0.246	-2.9	121	0.00	13.48
89	m	3,3-dimethyl-1-butanol	0.046	0.048	-4.3	119	0.00	13.61
90	M	dibromochloromethane	0.394	0.427	-8.4	126	0.00	13.75
91	M	1,2-dibromoethane	0.344	0.348	-1.2	117	0.00	13.93
92	M	n-butyl ether	1.770	2.050	-15.8	133	0.00	14.25
93	M	chlorobenzene	1.066	1.132	-6.2	127	0.00	14.41
94	M	1,1,1,2-tetrachloroethane	0.433	0.487	-12.5	132	0.00	14.48
95	M	ethylbenzene	1.935	1.997	-3.2	126	0.00	14.45
96	M	m,p-xylene	0.712	0.756	-6.2	129	0.00	14.57
97	M	o-xylene	0.744	0.804	-8.1	129	0.00	15.03
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.153	1.250	-8.4	123	0.00	15.05

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VE9993-CC9972
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E228060.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

100	M	bromoform	0.286	0.301	-5.2	120	0.00	15.37
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	123	0.00	16.94
102	M	isopropylbenzene	3.258	3.576	-9.8	129	0.00	15.40
103	S	4-bromofluorobenzene (s)	0.888	0.869	2.1	120	0.00	15.65
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.838	0.847	-1.1	125	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	0.927	0.870	6.1	112	0.00	15.77
107	M	trans-1,4-dichloro-2-bute	0.260	0.277	-6.5	124	0.00	15.81
108	M	1,2,3-trichloropropane	0.228	0.216	5.3	112	0.00	15.86
109	M	n-propylbenzene	3.865	4.089	-5.8	128	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.794	0.852	-7.3	129	0.00	16.04
112	M	4-chlorotoluene	2.490	2.516	-1.0	126	0.00	16.14
113	M	1,3,5-trimethylbenzene	2.793	3.086	-10.5	130	0.00	16.01
114	M	tert-butylbenzene	0.548	0.643	-17.3	134	0.00	16.41
115	M	pentachloroethane	0.518	0.605	-16.8	134	0.00	16.53
116	M	1,2,4-trimethylbenzene	2.800	3.068	-9.6	129	0.00	16.46
117	M	sec-butylbenzene	3.779	4.270	-13.0	131	0.00	16.65
118	M	1,3-dichlorobenzene	1.728	1.774	-2.7	126	0.00	16.88
119	M	p-isopropyltoluene	3.214	3.614	-12.4	133	0.00	16.77
120	M	1,4-dichlorobenzene	1.796	1.774	1.2	125	0.00	16.98
121		benzyl chloride	1.838	1.868	-1.6	124	0.00	17.10
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.734	1.777	-2.5	124	0.00	17.42
124	M	n-butylbenzene	1.698	1.852	-9.1	128	0.00	17.23
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.218	0.188	13.8	102	0.00	18.28
127	m	1,3,5-trichlorobenzene	1.555	1.630	-4.8	127	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.344	1.432	-6.5	124	0.00	19.19
129	M	hexachlorobutadiene	0.671	0.726	-8.2	126	0.00	19.30
130	M	naphthalene	3.080	2.677	13.1	103	0.00	19.52
131	M	1,2,3-trichlorobenzene	1.263	1.217	3.6	116	0.00	19.80
132	M	hexachloroethane	0.576	0.666	-15.6	134	0.00	17.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E227504.D ME9972.M Thu Aug 06 12:52:27 2015 RPT1

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VV6502-ICC6502
Lab FileID: V153285.D

Response Factor Report MSV

```
Method       : C:\MSDCHEM\1\METHODS\MVS6502.M (RTE Integrator)
Title        : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update  : Fri Jun 12 14:36:27 2015
Response via : Initial Calibration

Calibration Files
1   =V153281.D   4   =V153283.D   100 =V153286.D   50  =V153285.D
20  =V153284.D   200 =V153287.D   8   =V153290.D   0.5 =V153291.D
2   =V153282.D       =

 Compound
           1     4     100   50    20    200   8     0.5   2       Avg    %RSD
-----------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  tertiary butyl alcohol
                1.549 1.502 1.484 1.665 1.455 1.820       1.291   1.538   10.86
3)  1,4-dioxane
                0.094 0.093 0.103 0.107 0.096 0.120       0.066   0.097   17.24

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  propene
                                                                  0.000   -1.00
6)  chlorodifluoromethane
                0.641 0.676 0.757 0.823 0.682 0.762       0.555   0.700   12.74
7)  dichlorodifluoromethane
                0.693 0.692 0.806 0.930 0.708 0.806       0.657   0.756   12.70
8)  chloromethane
          0.867 0.693 0.775 0.789 0.841 0.814 0.785       0.769   0.792    6.62
9)  vinyl chloride
          0.656 0.726 0.805 0.852 0.930 0.825 0.847       0.734   0.797   10.91
10)  bromomethane
          0.517 0.382 0.421 0.464 0.484 0.387 0.450       0.364   0.434   12.53
11)  chloroethane
          0.402 0.327 0.349 0.378 0.401 0.332 0.371       0.367   0.366    7.78
12)  trichlorofluoromethane
          0.792 0.685 0.719 0.788 0.867 0.710 0.815       0.716   0.762    8.28
13)  ethyl ether
          0.173 0.167 0.220 0.218 0.230 0.206 0.217       0.152   0.198   14.89
14)  2-chloropropane
          0.729 0.751 0.919 0.957 1.054 0.861 0.981       0.712   0.870   14.74
15)  acrolein
                0.047 0.064 0.062 0.063 0.059 0.063       0.044   0.057   14.29
16)  freon 113
          0.287 0.332 0.365 0.408 0.459 0.353 0.392       0.283   0.360   16.68
17)  1,1-dichloroethene
          0.483 0.528 0.697 0.719 0.804 0.656 0.730       0.492   0.639   19.08
18)  acetone
                0.154 0.122 0.114 0.158 0.119 0.157               0.137   15.40
19)  iso-butyl alcohol
                0.012 0.014 0.014 0.015 0.014 0.015       0.010   0.013   13.90
20)  allyl chloride
                0.202 0.237 0.242 0.263 0.233 0.263       0.162   0.229   15.70
21)  acetonitrile
                0.112 0.123 0.122 0.136 0.118 0.135       0.099   0.121   10.69
22)  iodomethane
          0.578 0.645 0.871 0.883 0.950 0.821 0.855       0.620   0.778   18.17
23)  carbon disulfide
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VV6502-ICC6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V153285.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
          1.208 1.332 1.771 1.809 2.056 1.661 1.774       1.259   1.609   19.02
24)  methylene chloride
          0.670 0.443 0.482 0.491 0.544 0.457 0.547       0.501   0.517   13.91
25)  1-chloropropane
                0.719 0.839 0.873 0.990 0.788 0.927       0.736   0.839   11.85
26)  methyl acetate
                0.257 0.269 0.252 0.267 0.253 0.282       0.233   0.259    6.00
27)  methyl tert butyl ether
          1.178 1.105 1.389 1.402 1.466 1.315 1.406       1.050   1.289   12.15
28)  trans-1,2-dichloroethene
          0.518 0.513 0.674 0.703 0.786 0.639 0.712       0.505   0.631   16.93
29)  di-isopropyl ether
          1.595 1.530 1.762 1.862 1.920 1.719 1.872       1.336   1.699   11.80
30)  2-butanone
                      0.040 0.038 0.042 0.039 0.041               0.040    4.11
31)  1,1-dichloroethane
          0.563 0.613 0.823 0.850 0.918 0.791 0.845       0.584   0.749   18.57
32)  chloroprene
          0.486 0.520 0.618 0.647 0.695 0.617 0.661       0.446   0.586   15.39
33)  acrylonitrile
                0.094 0.119 0.115 0.125 0.112 0.125       0.090   0.111   12.75
34)  vinyl acetate
                      0.050 0.051 0.052 0.049 0.051               0.051    2.12
35)  ethyl tert-butyl ether
          1.430 1.339 1.582 1.633 1.652 1.549 1.639       1.165   1.499   11.62
36)  ethyl acetate
                0.048 0.043 0.046 0.048 0.045 0.047               0.046    4.13
37)  2,2-dichloropropane
          0.614 0.627 0.790 0.849 0.902 0.756 0.830       0.620   0.749   15.27
38)  cis-1,2-dichloroethene
          0.499 0.384 0.464 0.481 0.518 0.454 0.520       0.325   0.456   15.05
39)  propionitrile
                0.037 0.046 0.044 0.048 0.044 0.048       0.039   0.044    9.92
40)  methyl acrylate
                                                                  0.000   -1.00
41)  methacrylonitrile
          0.099 0.081 0.123 0.114 0.125 0.121 0.128       0.093   0.110   15.66
42)  bromochloromethane
                0.157 0.206 0.205 0.221 0.200 0.215       0.128   0.190   18.04
43)  tetrahydrofuran
          0.157 0.108 0.123 0.118 0.127 0.117 0.131       0.105   0.123   13.19
44)  chloroform
          0.540 0.548 0.706 0.723 0.781 0.702 0.749       0.541   0.661   15.28
45)  tert-Butyl Formate
          0.278 0.302 0.361 0.358 0.354 0.357 0.365       0.247   0.328   13.97
46)  dibromofluoromethane (s)
          0.376 0.367 0.380 0.371 0.368 0.375 0.375 0.371 0.371   0.373    1.12
47)  1,2-dichloroethane-d4 (s)
          0.333 0.330 0.346 0.329 0.336 0.341 0.344 0.345 0.326   0.337    2.26
48)  1,1,1-trichloroethane
          0.503 0.568 0.747 0.782 0.838 0.722 0.775       0.542   0.685   18.59
49)  Cyclohexane
          0.604 0.603 0.768 0.847 0.939 0.739 0.829       0.570   0.737   18.19

50) I   1,4-difluorobenzene   ----------------ISTD---------------------
51)  methylcyclohexane
          0.603 0.645 0.697 0.794 0.878 0.686 0.766       0.553   0.703   15.12
52)  epichlorohydrin
                0.021 0.021 0.020 0.022 0.020 0.022       0.014   0.020   14.07
53)  n-butyl alcohol
```

```
                0.007 0.010 0.009 0.009 0.010 0.010              0.009   15.36
54)  carbon tetrachloride
                0.415 0.520 0.545 0.611 0.496 0.547      0.378   0.502   16.09
55)  1,1-dichloropropene
          0.309 0.343 0.426 0.437 0.497 0.421 0.451      0.309   0.399   17.51
56)  hexane
          0.572 0.468 0.430 0.486 0.611 0.440 0.516      0.463   0.498   12.86
57)  2,2,4-Trimethylpentane
                                                                 0.000   -1.00
58)  benzene
          1.034 1.051 1.332 1.373 1.523 1.313 1.427 1.739 1.038   1.315   18.35
59)  tert-amyl methyl ether
          1.286 1.039 1.170 1.197 1.233 1.142 1.304      0.930   1.163   10.83
60)  heptane
          0.212 0.221 0.242 0.275 0.339 0.242 0.276      0.196   0.250   18.30
61)  isopropyl acetate
                0.094 0.109 0.106 0.120 0.104 0.151              0.114   17.52
62)  1,2-dichloroethane
          0.300 0.278 0.351 0.353 0.391 0.348 0.373      0.270   0.333   13.45
63)  trichloroethene
          0.210 0.236 0.300 0.318 0.352 0.304 0.324      0.205   0.281   19.91
64)  2-chloroethyl vinyl ether
          0.050 0.046 0.050 0.050 0.050 0.053 0.054      0.035   0.048   12.09
65)  methyl methacrylate
          0.044 0.049 0.058 0.055 0.065 0.057 0.061      0.040   0.054   16.19
66)  1,2-dichloropropane
          0.228 0.266 0.334 0.343 0.368 0.325 0.351      0.257   0.309   16.61
67)  dibromomethane
          0.132 0.133 0.162 0.160 0.173 0.158 0.166      0.129   0.152   11.62
68)  bromodichloromethane
          0.305 0.326 0.407 0.417 0.457 0.402 0.417      0.306   0.379   15.40
69)  2-nitropropane
                0.082 0.067 0.067 0.073 0.066 0.082              0.073   10.14
70)  cis-1,3-dichloropropene
          0.400 0.379 0.472 0.488 0.523 0.471 0.511      0.365   0.451   13.55
71)  toluene-d8 (s)
          1.188 1.198 1.197 1.176 1.184 1.167 1.181 1.193 1.199   1.187    0.94
72)  4-methyl-2-pentanone
                0.093 0.116 0.106 0.122 0.111 0.116      0.119   0.112    8.72
73)  toluene
          0.689 0.639 0.795 0.806 0.908 0.776 0.827      0.624   0.758   13.03
74)  isoamyl alcohol
                0.016 0.016 0.015 0.016 0.016 0.018      0.010   0.015   15.46
75)  trans-1,3-dichloropropene
          0.402 0.345 0.404 0.402 0.447 0.388 0.423      0.351   0.396    8.66
76)  ethyl methacrylate
          0.400 0.278 0.333 0.315 0.351 0.318 0.344      0.304   0.330   11.11
77)  1,1,2-trichloroethane
          0.216 0.161 0.196 0.192 0.219 0.186 0.208      0.177   0.194   10.19
78)  2-hexanone
                0.087 0.092 0.096 0.099 0.087 0.094      0.097   0.093    5.05

79) I   chlorobenzene-d5      ----------------ISTD---------------------
80)  tetrachloroethene
                0.312 0.410 0.427 0.501 0.420 0.436      0.288   0.399   18.58
81)  1,3-dichloropropane
          0.424 0.380 0.463 0.473 0.528 0.454 0.488      0.375   0.448   11.73
82)  butyl acetate
          0.212 0.212 0.201 0.208 0.221 0.192 0.239      0.150   0.204   12.66
83)  3,3-Dimethyl-1-Butanol
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VV6502-ICC6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V153285.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
                0.035 0.039 0.038 0.038 0.040 0.042       0.023   0.037   17.18
 84)  dibromochloromethane
           0.380 0.283 0.354 0.348 0.393 0.352 0.368       0.289   0.346   11.51
 85)  1,2-dibromoethane
           0.278 0.218 0.273 0.266 0.296 0.265 0.299       0.232   0.266   10.70
 86)  chlorobenzene
           0.866 0.826 1.003 1.059 1.179 1.008 1.087       0.786   0.977   14.09
 87)  1,1,1,2-tetrachloroethane
           0.419 0.367 0.470 0.498 0.540 0.477 0.498       0.372   0.455   13.77
 88)  ethylbenzene
           1.547 1.470 1.843 1.973 2.214 1.837 1.987       1.419   1.786   15.77
 89)  m,p-xylene
           0.559 0.587 0.737 0.788 0.866 0.727 0.787 0.850 0.556   0.718   16.96
 90)  o-xylene
           0.652 0.634 0.824 0.880 0.946 0.818 0.866 0.913 0.597   0.792   16.46
 91)  styrene
           1.204 1.018 1.169 1.260 1.348 1.148 1.282       1.053   1.185    9.51
 92)  bromoform
                0.197 0.239 0.242 0.264 0.233 0.259       0.236   0.239    9.19
 93)  cyclohexanone -- This compound does not pass for this calibration --
                0.083 0.078 0.077 0.091 0.078 0.078       0.096   0.083    9.11
 94)  4-bromofluorobenzene (s)
           0.534 0.525 0.496 0.515 0.505 0.479 0.527 0.519 0.519   0.513    3.38

 95) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 96)  isopropylbenzene
                2.741 3.906 4.008 4.400 4.174 3.648       2.639   3.645   19.00
 97)  1,1,2,2-tetrachloroethane
                0.720 0.786 0.751 0.871 0.795 0.795       0.848   0.795    6.54
 98)  trans-1,4-dichloro-2-butene
                0.206 0.198 0.193 0.220 0.196 0.211       0.200   0.204    4.69
 99)  1,2,3-trichloropropane
                0.167 0.177 0.172 0.198 0.177 0.190       0.184   0.181    5.96
100)  bromobenzene
           0.808 0.667 0.792 0.804 0.918 0.831 0.842       0.705   0.796    9.89
101)  n-propylbenzene
           3.227 3.185 4.066 4.221 4.853 4.228 4.090       3.118   3.873   16.19
102)  2-chlorotoluene
           0.793 0.667 0.869 0.880 0.999 0.915 0.894       0.711   0.841   13.11
103)  4-chlorotoluene
           2.348 1.925 2.306 2.392 2.777 2.416 2.518       1.989   2.334   11.76
104)  1,3,5-trimethylbenzene
           2.434 2.345 3.313 3.345 3.783 3.578 3.134       2.252   3.023   19.72
105)  tert-butylbenzene
                                                                   0.000   -1.00
106)  pentachloroethane
           0.572 0.415 0.609 0.601 0.626 0.648 0.521       0.486   0.560   14.21
107)  1,2,4-trimethylbenzene
           2.729 2.405 3.171 3.272 3.717 3.315 3.177       2.358   3.018   15.76
108)  sec-butylbenzene
                                                                   0.000   -1.00
109)  p-isopropyltoluene
           2.774 2.702 3.747 3.812 4.397 3.926 3.567       2.558   3.435   19.57
110)  1,3-dichlorobenzene
           1.847 1.462 1.647 1.721 1.950 1.678 1.772       1.489   1.696    9.82
111)  1,4-dichlorobenzene
           2.015 1.447 1.616 1.693 1.929 1.637 1.768       1.505   1.701   11.52
112)  1,2-dichlorobenzene
           2.063 1.480 1.698 1.741 1.974 1.710 1.799       1.565   1.754   11.03
113)  Benzyl Chloride
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** VV6502-ICC6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V153285.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
                  1.555 1.437 1.495 1.586 1.413 1.540       1.238   1.467    8.08
114)  Indane
                                                                    0.000   -1.00
115)  n-butylbenzene
            1.552 1.470 1.880 2.017 2.387 1.917 1.902       1.348   1.809   18.64
116)  hexachloroethane
                                                                    0.000   -1.00
117)  1,2-dibromo-3-chloropropane
                  0.181 0.198 0.188 0.218 0.203 0.213       0.210   0.201    6.77
118)  1,3,5-trichlorobenzene
            1.859 1.441 1.678 1.785 2.073 1.815 1.780       1.382   1.727   13.02
119)  1,2,4-trichlorobenzene
            1.851 1.429 1.611 1.677 1.925 1.712 1.733       1.403   1.667   11.02
120)  hexachlorobutadiene
            0.693 0.653 0.826 0.862 1.053 0.924 0.829       0.611   0.806   18.34
121)  naphthalene
                  3.207 3.495 3.477 3.827 3.528 3.778       3.441   3.536    5.96
122)  1,2,3-trichlorobenzene
            2.168 1.446 1.649 1.706 1.892 1.754 1.770       1.504   1.736   13.04
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MVS6502.M         Fri Jun 12 14:40:24 2015   MSV
```

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: VV6502-ICV6502
Lab FileID: V153292.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\V153292.D Vial: 15
Acq On : 9 Jun 2015 6:00 pm Operator: payalr
Sample : icv6502-50 Inst : MSV
Misc : MS86139,VV6502,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MVS6502.M (RTE Integrator)
Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Jun 11 09:28:22 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	102	0.00	7.73
2		tertiary butyl alcohol	1.538	1.546	-0.5	107	0.00	7.86
3		1,4-dioxane	0.097	0.100	-3.1	100	0.00	11.68
4	I	pentafluorobenzene	1.000	1.000	0.0	96	0.00	9.95
5		propene		----------NA----------				
6		chlorodifluoromethane	0.700	0.495	29.3	63	0.00	4.35
7		dichlorodifluoromethane	0.756	0.826	-9.3	99	-0.02	4.33
8		chloromethane	0.792	0.840	-6.1	102	-0.01	4.67
9		vinyl chloride	0.797	0.911	-14.3	103	-0.02	4.94
10		bromomethane	0.434	0.458	-5.5	95	0.00	5.60
11		chloroethane	0.366	0.383	-4.6	97	0.00	5.76
12		trichlorofluoromethane	0.762	0.811	-6.4	99	0.01	6.21
13		ethyl ether	0.198	0.222	-12.1	98	-0.01	6.60
14		2-chloropropane	0.870	0.975	-12.1	98	-0.01	6.82
15		acrolein	0.057	0.064	-12.3	99	0.00	6.91
16		freon 113	0.360	0.333	7.5	78	-0.01	7.00
17		1,1-dichloroethene	0.639	0.743	-16.3	99	0.00	7.05
18		acetone	0.137	0.107	21.9	91	0.00	7.13
19		iso-butyl alcohol	0.013	0.015	-15.4	98	0.00	10.54
20		allyl chloride	0.229	0.267	-16.6	106	-0.01	7.58
21		acetonitrile	0.121	0.123	-1.7	97	0.00	7.58
22		iodomethane	0.778	0.901	-15.8	98	0.00	7.36
23		carbon disulfide	1.609	1.884	-17.1	100	0.00	7.48
24		methylene chloride	0.517	0.509	1.5	100	0.00	7.79
25		1-chloropropane	0.839	0.904	-7.7	100	0.00	7.81
26		methyl acetate	0.259	0.265	-2.3	101	0.00	7.56
27		methyl tert butyl ether	1.289	1.416	-9.8	97	0.00	8.07
28		trans-1,2-dichloroethene	0.631	0.726	-15.1	99	0.00	8.14
29		di-isopropyl ether	1.699	1.867	-9.9	96	0.00	8.65
30		2-butanone	0.040	0.039	2.5	98	0.00	9.43
31		1,1-dichloroethane	0.749	0.884	-18.0	100	0.00	8.72
32		chloroprene	0.586	0.581	0.9	86	0.00	8.82
33		acrylonitrile	0.111	0.129	-16.2	108	0.00	8.14
34		vinyl acetate	0.051	0.055	-7.8	103	0.00	8.68
35		ethyl tert-butyl ether	1.499	1.631	-8.8	96	0.00	9.12
36		ethyl acetate	0.046	0.048	-4.3	101	0.01	9.43
37		2,2-dichloropropane	0.749	0.830	-10.8	94	0.00	9.47
38		cis-1,2-dichloroethene	0.456	0.491	-7.7	98	0.00	9.47
39		propionitrile	0.044	0.048	-9.1	106	0.00	9.57
40		methyl acrylate		----------NA----------				
41		methacrylonitrile	0.110	0.128	-16.4	107	0.00	9.73

Initial Calibration Verification

Job Number: JB99969 **Sample:** VV6502-ICV6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V153292.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42		bromochloromethane	0.190	0.217	-14.2	102	0.00	9.80
43		tetrahydrofuran	0.123	0.130	-5.7	106	0.00	9.83
44		chloroform	0.661	0.775	-17.2	103	0.00	9.84
45		tert-Butyl Formate	0.328	0.348	-6.1	93	0.00	9.86
46	S	dibromofluoromethane (s)	0.373	0.377	-1.1	98	0.00	10.05
47	S	1,2-dichloroethane-d4 (s)	0.337	0.351	-4.2	102	0.00	10.48
48		1,1,1-trichloroethane	0.685	0.823	-20.1	101	0.00	10.09
49		Cyclohexane	0.737	0.853	-15.7	97	0.00	10.15
50	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	10.91
51		methylcyclohexane	0.703	0.633	10.0	76	0.00	11.48
52		epichlorohydrin	0.020	0.022	-10.0	105	0.00	12.24
53		n-butyl alcohol	0.009	0.010	-11.1	103	0.00	11.03
54		carbon tetrachloride	0.502	0.575	-14.5	101	0.00	10.29
55		1,1-dichloropropene	0.399	0.468	-17.3	102	0.00	10.26
56		hexane	0.498	0.470	5.6	92	0.00	8.40
57		2,2,4-Trimethylpentane		----------NA----------				
58		benzene	1.315	1.459	-11.0	102	0.00	10.54
59		tert-amyl methyl ether	1.163	1.206	-3.7	96	0.00	10.54
60		heptane	0.250	0.239	4.4	83	0.00	10.65
61		isopropyl acetate	0.114	0.113	0.9	102	-0.01	10.42
62		1,2-dichloroethane	0.333	0.385	-15.6	104	0.00	10.58
63		trichloroethene	0.281	0.330	-17.4	99	0.00	11.26
64		2-chloroethyl vinyl ether	0.048	0.057	-18.8	110	0.00	12.09
65		methyl methacrylate	0.054	0.062	-14.8	108	0.00	11.52
66		1,2-dichloropropane	0.309	0.359	-16.2	100	0.00	11.56
67		dibromomethane	0.152	0.176	-15.8	105	0.00	11.74
68		bromodichloromethane	0.379	0.444	-17.2	102	0.00	11.86
69		2-nitropropane	0.073	0.075	-2.7	107	0.00	12.10
70		cis-1,3-dichloropropene	0.451	0.520	-15.3	102	0.00	12.33
71	S	toluene-d8 (s)	1.187	1.178	0.8	96	0.00	12.64
72		4-methyl-2-pentanone	0.112	0.117	-4.5	105	0.00	12.43
73		toluene	0.758	0.848	-11.9	101	0.00	12.71
74		isoamyl alcohol	0.015	0.015	0.0	98	0.00	12.44
75		trans-1,3-dichloropropene	0.396	0.428	-8.1	102	0.00	12.95
76		ethyl methacrylate	0.330	0.348	-5.5	106	0.00	12.90
77		1,1,2-trichloroethane	0.194	0.205	-5.7	102	0.00	13.19
78		2-hexanone	0.093	0.103	-10.8	103	0.00	13.35
79	I	chlorobenzene-d5	1.000	1.000	0.0	98	0.00	14.32
80		tetrachloroethene	0.399	0.448	-12.3	102	0.00	13.35
81		1,3-dichloropropane	0.448	0.503	-12.3	104	0.00	13.39
82		butyl acetate	0.204	0.224	-9.8	105	0.00	13.42
83		3,3-Dimethyl-1-Butanol	0.037	0.039	-5.4	101	0.00	13.54
84		dibromochloromethane	0.346	0.377	-9.0	106	0.00	13.69
85		1,2-dibromoethane	0.266	0.296	-11.3	109	0.00	13.86
86		chlorobenzene	0.977	1.098	-12.4	101	0.00	14.36
87		1,1,1,2-tetrachloroethane	0.455	0.512	-12.5	101	0.00	14.43
88		ethylbenzene	1.786	2.015	-12.8	100	0.00	14.40
89		m,p-xylene	0.718	0.810	-12.8	100	0.00	14.51
90		o-xylene	0.792	0.913	-15.3	101	0.00	14.99
91		styrene	1.185	1.294	-9.2	100	0.00	15.01
92		bromoform	0.239	0.254	-6.3	102	0.00	15.34
93		cyclohexanone	0.083	0.044	47.0#	56	0.00	15.60
94	S	4-bromofluorobenzene (s)	0.513	0.496	3.3	94	0.00	15.62
95	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	16.93
96		isopropylbenzene	3.645	4.318	-18.5	99	0.00	15.36
97		1,1,2,2-tetrachloroethane	0.795	0.816	-2.6	100	0.00	15.74
98		trans-1,4-dichloro-2-bute	0.204	0.207	-1.5	99	0.00	15.79

Initial Calibration Verification

Job Number: JB99969 **Sample:** VV6502-ICV6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V153292.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

99	1,2,3-trichloropropane	0.181	0.190	-5.0	102	0.00	15.83
100	bromobenzene	0.796	0.863	-8.4	99	0.00	15.85
101	n-propylbenzene	3.873	4.479	-15.6	98	0.00	15.82
102	2-chlorotoluene	0.841	0.954	-13.4	100	0.00	16.01
103	4-chlorotoluene	2.334	2.527	-8.3	98	0.00	16.12
104	1,3,5-trimethylbenzene	3.023	3.635	-20.2	100	0.00	15.99
105	tert-butylbenzene		----------NA----------				
106	pentachloroethane	0.560	0.643	-14.8	99	0.00	16.51
107	1,2,4-trimethylbenzene	3.018	3.489	-15.6	98	0.00	16.43
108	sec-butylbenzene		----------NA----------				
109	p-isopropyltoluene	3.435	4.100	-19.4	99	0.00	16.75
110	1,3-dichlorobenzene	1.696	1.813	-6.9	97	0.00	16.86
111	1,4-dichlorobenzene	1.701	1.756	-3.2	96	0.00	16.96
112	1,2-dichlorobenzene	1.754	1.842	-5.0	98	0.00	17.40
113	Benzyl Chloride	1.467	1.277	13.0	79	0.00	17.09
114	Indane		----------NA----------				
115	n-butylbenzene	1.809	2.073	-14.6	95	0.00	17.21
116	hexachloroethane		----------NA----------				
117	1,2-dibromo-3-chloropropa	0.201	0.206	-2.5	101	0.00	18.27
118	1,3,5-trichlorobenzene	1.727	1.907	-10.4	99	0.00	18.45
119	1,2,4-trichlorobenzene	1.667	1.805	-8.3	99	0.00	19.20
120	hexachlorobutadiene	0.806	0.925	-14.8	99	0.00	19.31
121	naphthalene	3.536	3.816	-7.9	101	0.00	19.55
122	1,2,3-trichlorobenzene	1.736	1.856	-6.9	100	0.00	19.85

(#) = Out of Range SPCC's out = 0 CCC's out = 0
V153285.D MVS6502.M Thu Jun 11 09:34:41 2015 MSV

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VV6551-CC6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V154643.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\V154643.D Vial: 3
Acq On : 5 Aug 2015 10:16 am Operator: payalr
Sample : CC6502-50 Inst : MSV
Misc : MS88841,VV6551,5.0,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MVS6502.M (RTE Integrator)
Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Jun 12 14:36:27 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	118	-0.02	7.72
2		tertiary butyl alcohol	1.538	1.364	11.3	108	-0.02	7.84
3		1,4-dioxane	0.097	0.101	-4.1	116	0.00	11.67
4	I	pentafluorobenzene	1.000	1.000	0.0	112	-0.01	9.95
5		propene		----------NA----------				
6		chlorodifluoromethane	0.700	0.767	-9.6	113	0.00	4.35
7		dichlorodifluoromethane	0.756	0.787	-4.1	109	0.00	4.35
8		chloromethane	0.792	0.801	-1.1	114	0.00	4.68
9		vinyl chloride	0.797	0.863	-8.3	113	0.00	4.95
10		bromomethane	0.434	0.482	-11.1	116	0.00	5.60
11		chloroethane	0.366	0.367	-0.3	109	0.00	5.76
12		trichlorofluoromethane	0.762	0.817	-7.2	116	0.00	6.19
13		ethyl ether	0.198	0.211	-6.6	108	-0.01	6.60
14		2-chloropropane	0.870	0.929	-6.8	109	0.00	6.83
15		acrolein	0.057	0.069	-21.1#	125	-0.01	6.90
16		freon 113	0.360	0.375	-4.2	103	0.00	7.01
17		1,1-dichloroethene	0.639	0.789	-23.5#	123	0.00	7.05
18		acetone	0.137	0.120	12.4	118	-0.01	7.12
19		iso-butyl alcohol	0.013	0.014	-7.7	109	0.00	10.54
20		allyl chloride	0.229	0.252	-10.0	116	-0.01	7.58
21		acetonitrile	0.121	0.118	2.5	108	0.00	7.58
22		iodomethane	0.778	0.994	-27.8#	126	0.00	7.36
23		carbon disulfide	1.609	1.975	-22.7#	122	0.00	7.48
24		methylene chloride	0.517	0.527	-1.9	120	0.00	7.79
25		1-chloropropane	0.839	0.894	-6.6	115	-0.01	7.80
26		methyl acetate	0.259	0.237	8.5	105	0.00	7.56
27		methyl tert butyl ether	1.289	1.339	-3.9	107	0.00	8.08
28		trans-1,2-dichloroethene	0.631	0.733	-16.2	117	0.00	8.14
29		di-isopropyl ether	1.699	1.671	1.6	100	0.00	8.65
30		2-butanone	0.040	0.034	15.0	100	0.00	9.42
31		1,1-dichloroethane	0.749	0.867	-15.8	114	0.00	8.72
32		chloroprene	0.586	0.619	-5.6	107	-0.01	8.81
33		acrylonitrile	0.111	0.123	-10.8	119	0.00	8.13
34		vinyl acetate	0.051	0.050	2.0	111	-0.01	8.68
35		ethyl tert-butyl ether	1.499	1.485	0.9	102	-0.01	9.11
36		ethyl acetate	0.046	0.043	6.5	105	0.00	9.41
37		2,2-dichloropropane	0.749	0.687	8.3	91	-0.01	9.46
38		cis-1,2-dichloroethene	0.456	0.489	-7.2	114	0.00	9.47
39		propionitrile	0.044	0.045	-2.3	116	-0.01	9.56
40		methyl acrylate		----------NA----------				
41		methacrylonitrile	0.110	0.116	-5.5	113	-0.02	9.72

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VV6551-CC6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V154643.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42		bromochloromethane	0.190	0.215	-13.2	117	0.00	9.79
43		tetrahydrofuran	0.123	0.112	8.9	107	-0.01	9.82
44		chloroform	0.661	0.738	-11.6	114	-0.01	9.83
45		tert-Butyl Formate	0.328	0.359	-9.5	112	0.00	9.85
46	S	dibromofluoromethane (s)	0.373	0.387	-3.8	117	0.00	10.04
47	S	1,2-dichloroethane-d4 (s)	0.337	0.347	-3.0	118	-0.01	10.47
48		1,1,1-trichloroethane	0.685	0.862	-25.8#	123	0.00	10.09
49		Cyclohexane	0.737	0.874	-18.6	115	0.00	10.15
50	I	1,4-difluorobenzene	1.000	1.000	0.0	113	0.00	10.90
51		methylcyclohexane	0.703	0.680	3.3	97	0.00	11.47
52		epichlorohydrin	0.020	0.020	0.0	117	0.00	12.24
53		n-butyl alcohol	0.009	0.009	0.0	111	0.00	11.03
54		carbon tetrachloride	0.502	0.604	-20.3#	125	0.00	10.29
55		1,1-dichloropropene	0.399	0.457	-14.5	118	0.00	10.26
56		hexane	0.498	0.312	37.3#	72	-0.01	8.39
57		2,2,4-Trimethylpentane		----------NA----------				
58		benzene	1.315	1.375	-4.6	113	0.00	10.53
59		tert-amyl methyl ether	1.163	1.103	5.2	104	0.00	10.53
60		heptane	0.250	0.197	21.2#	81	-0.01	10.64
61		isopropyl acetate	0.114	0.102	10.5	109	-0.01	10.42
62		1,2-dichloroethane	0.333	0.361	-8.4	115	-0.01	10.57
63		trichloroethene	0.281	0.333	-18.5	118	-0.01	11.26
64		2-chloroethyl vinyl ether	0.048	0.050	-4.2	113	0.00	12.08
65		methyl methacrylate	0.054	0.059	-9.3	121	0.00	11.52
66		1,2-dichloropropane	0.309	0.335	-8.4	110	0.00	11.55
67		dibromomethane	0.152	0.170	-11.8	120	0.00	11.73
68		bromodichloromethane	0.379	0.422	-11.3	114	-0.01	11.85
69		2-nitropropane	0.073	0.072	1.4	121	-0.02	12.09
70		cis-1,3-dichloropropene	0.451	0.465	-3.1	107	-0.01	12.33
71	S	toluene-d8 (s)	1.187	1.212	-2.1	116	0.00	12.63
72		4-methyl-2-pentanone	0.112	0.111	0.9	117	0.00	12.42
73		toluene	0.758	0.865	-14.1	121	0.00	12.71
74		isoamyl alcohol	0.015	0.015	0.0	115	0.00	12.44
75		trans-1,3-dichloropropene	0.396	0.394	0.5	110	0.00	12.94
76		ethyl methacrylate	0.330	0.320	3.0	115	0.00	12.89
77		1,1,2-trichloroethane	0.194	0.196	-1.0	115	0.00	13.19
78		2-hexanone	0.093	0.091	2.2	107	0.00	13.35
79	I	chlorobenzene-d5	1.000	1.000	0.0	119	0.00	14.32
80		tetrachloroethene	0.399	0.444	-11.3	124	0.00	13.35
81		1,3-dichloropropane	0.448	0.447	0.2	113	0.00	13.38
82		butyl acetate	0.204	0.192	5.9	110	0.00	13.41
83		3,3-Dimethyl-1-Butanol	0.037	0.034	8.1	106	0.00	13.54
84		dibromochloromethane	0.346	0.360	-4.0	124	0.00	13.68
85		1,2-dibromoethane	0.266	0.273	-2.6	123	0.00	13.85
86		chlorobenzene	0.977	1.077	-10.2	122	0.00	14.35
87		1,1,1,2-tetrachloroethane	0.455	0.496	-9.0	119	0.00	14.41
88		ethylbenzene	1.786	2.004	-12.2	121	-0.01	14.39
89		m,p-xylene	0.718	0.808	-12.5	122	0.00	14.51
90		o-xylene	0.792	0.890	-12.4	121	0.00	14.98
91		styrene	1.185	1.214	-2.4	115	0.00	15.00
92		bromoform	0.239	0.247	-3.3	122	-0.01	15.33
93		cyclohexanone	0.083	0.015	81.9#	24#	0.00	15.60
94	S	4-bromofluorobenzene (s)	0.513	0.485	5.5	113	0.00	15.61
95	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	111	0.00	16.92
96		isopropylbenzene	3.645	4.318	-18.5	120	0.00	15.36
97		1,1,2,2-tetrachloroethane	0.795	0.808	-1.6	119	0.00	15.74
98		trans-1,4-dichloro-2-bute	0.204	0.179	12.3	103	0.00	15.78

Continuing Calibration Summary

Job Number: JB99969 **Sample:** VV6551-CC6502
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V154643.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

99	1,2,3-trichloropropane	0.181	0.187	-3.3	121	0.00	15.83
100	bromobenzene	0.796	0.847	-6.4	117	-0.01	15.84
101	n-propylbenzene	3.873	4.466	-15.3	117	0.00	15.82
102	2-chlorotoluene	0.841	0.971	-15.5	122	0.00	16.00
103	4-chlorotoluene	2.334	2.462	-5.5	114	0.00	16.11
104	1,3,5-trimethylbenzene	3.023	3.559	-17.7	118	0.00	15.98
105	tert-butylbenzene		----------NA----------				
106	pentachloroethane	0.560	0.644	-15.0	119	0.00	16.50
107	1,2,4-trimethylbenzene	3.018	3.450	-14.3	117	0.00	16.43
108	sec-butylbenzene		----------NA----------				
109	p-isopropyltoluene	3.435	4.014	-16.9	117	0.00	16.74
110	1,3-dichlorobenzene	1.696	1.756	-3.5	113	0.00	16.86
111	1,4-dichlorobenzene	1.701	1.702	-0.1	111	-0.01	16.95
112	1,2-dichlorobenzene	1.754	1.760	-0.3	112	0.00	17.40
113	Benzyl Chloride	1.467	0.959	34.6#	71	0.00	17.08
114	Indane		----------NA----------				
115	n-butylbenzene	1.809	2.028	-12.1	112	0.00	17.21
116	hexachloroethane		----------NA----------				
117	1,2-dibromo-3-chloropropa	0.201	0.205	-2.0	121	0.00	18.27
118	1,3,5-trichlorobenzene	1.727	1.791	-3.7	111	0.00	18.45
119	1,2,4-trichlorobenzene	1.667	1.675	-0.5	111	0.00	19.19
120	hexachlorobutadiene	0.806	0.849	-5.3	109	0.00	19.30
121	naphthalene	3.536	3.437	2.8	110	0.00	19.55
122	1,2,3-trichlorobenzene	1.736	1.691	2.6	110	0.00	19.85

(#) = Out of Range SPCC's out = 0 CCC's out = 0
V153285.D MVS6502.M Wed Aug 05 12:25:52 2015 MSV

6.9.23

6

New Jersey

ACCUTEST LABORATORIES

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202361.D
Acq On : 31 Jul 2015 2:31 pm
Operator : mihirm
Sample : jb99969-1
Misc : MS88818,VC7427,5.2,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 03 11:37:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.109	65	113161	500.00	ug/L	0.00
5) pentafluorobenzene	10.807	168	424992	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.764	114	575790	50.00	ug/L	0.00
88) chlorobenzene-d5	14.803	117	522416	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.822	152	268075	50.00	ug/L	0.00

System Monitoring Compounds						
50) dibromofluoromethane (s)	10.865	113	161697	50.02	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.04%			
51) 1,2-dichloroethane-d4 (s)	11.309	65	145541	51.39	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.78%			
80) toluene-d8 (s)	13.375	98	719755	50.80	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.60%			
106) 4-bromofluorobenzene (s)	15.834	174	205100	51.07	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.14%			

Target Compounds						Qvalue
65) benzene	11.351	78	3546125	243.98	ug/L	100
82) toluene	13.449	92	7296	0.86	ug/L	98
97) chlorobenzene	14.835	112	9187	1.02	ug/L	89
101) o-xylene	15.342	106	9080	1.41	ug/L	97

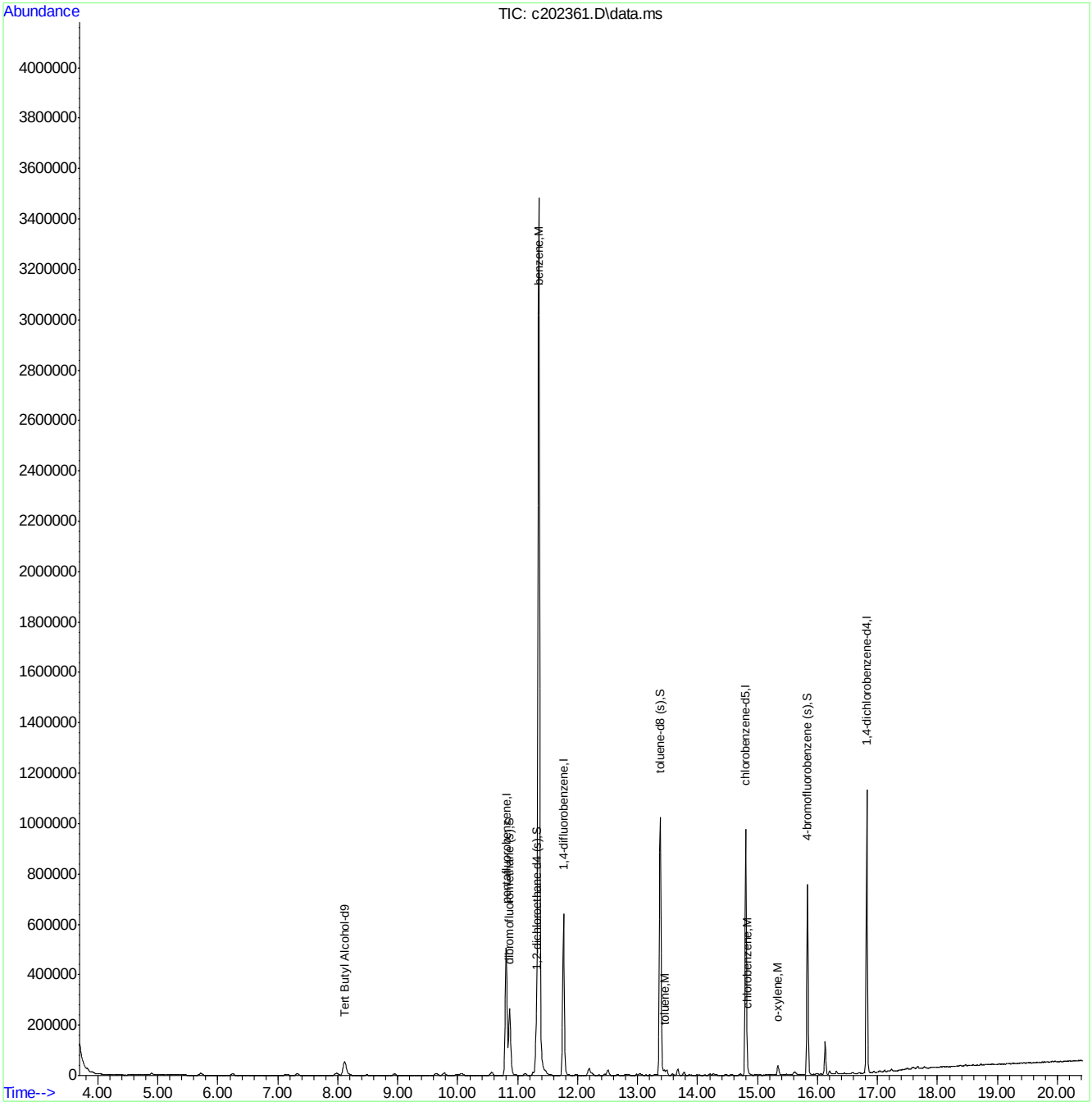
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ACCUTEST LABORATORIES JB99969

Quantitation Report (QT Reviewed)

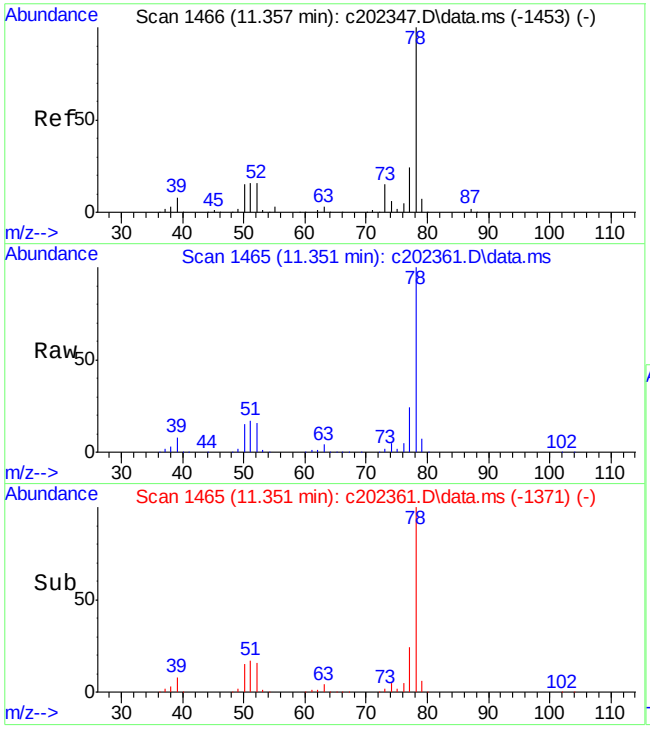
Data Path : C:\msdchem\1\DATA\
Data File : c202361.D
Acq On : 31 Jul 2015 2:31 pm
Operator : mihirm
Sample : jb99969-1
Misc : MS88818,VC7427,5.2,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 03 11:37:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



MC7426.M Mon Aug 03 11:43:37 2015 C

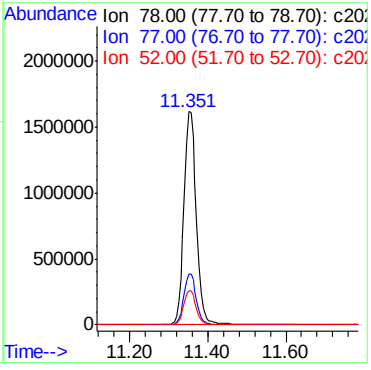
Page: 2

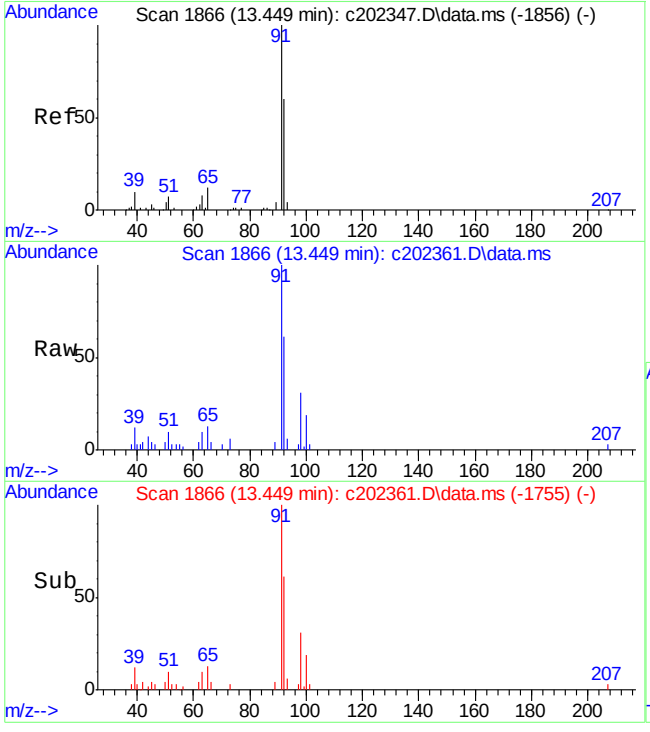


#65
benzene
Concen: 243.98 ug/L
RT: 11.351 min Scan# 1465
Delta R.T. -0.006 min
Lab File: c202361.D
Acq: 31 Jul 2015 2:31 pm

Tgt Ion: 78 Resp: 3546125

Ion	Ratio	Lower	Upper
78	100		
77	23.9	0.0	53.7
52	16.1	0.0	46.1

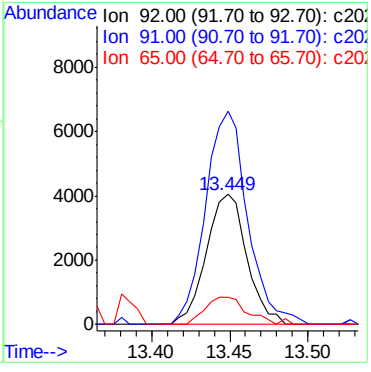


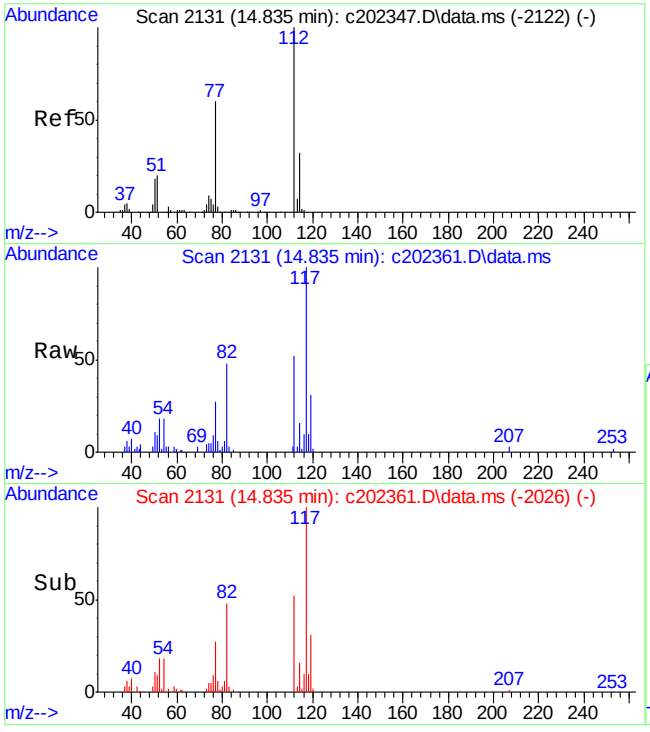


#82
toluene
Concen: 0.86 ug/L
RT: 13.449 min Scan# 1866
Delta R.T. -0.001 min
Lab File: c202361.D
Acq: 31 Jul 2015 2:31 pm

Tgt Ion: 92 Resp: 7296

Ion	Ratio	Lower	Upper
92	100		
91	164.2	137.2	197.2
65	21.0	0.0	49.7

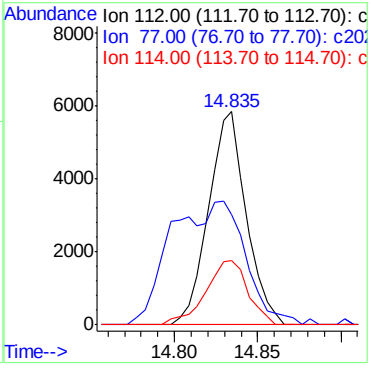


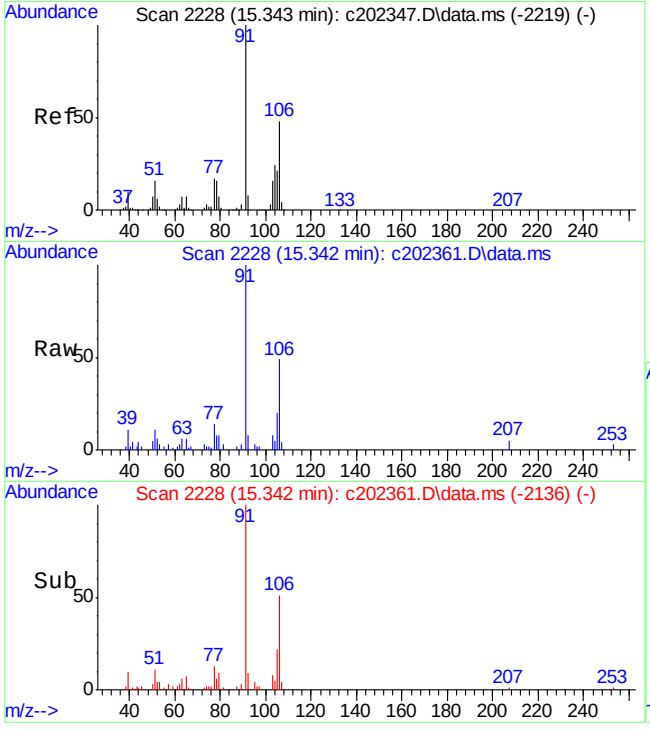


#97
chlorobenzene
Concen: 1.02 ug/L
RT: 14.835 min Scan# 2131
Delta R.T. -0.001 min
Lab File: c202361.D
Acq: 31 Jul 2015 2:31 pm

Tgt Ion:112 Resp: 9187

Ion	Ratio	Lower	Upper
112	100		
77	48.5	29.9	89.9
114	30.2	2.1	62.1

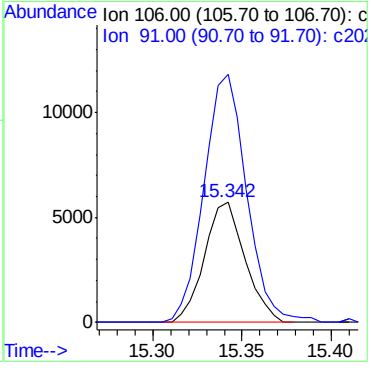




#101
o-xylene
Concen: 1.41 ug/L
RT: 15.342 min Scan# 2228
Delta R.T. -0.001 min
Lab File: c202361.D
Acq: 31 Jul 2015 2:31 pm

Tgt Ion:106 Resp: 9080

Ion	Ratio	Lower	Upper
106	100		
91	205.0	179.5	239.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228012.D
Acq On : 4 Aug 2015 11:11 am
Operator : ThienN
Sample : jb99969-1
Misc : MS88818,VE9991,5.5,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 04 13:47:53 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.948	65	148526	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	295097	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.049	114	388992	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	345039	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	206215	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	127317	47.90	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.80%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	162603	49.70	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.40%			
76) toluene-d8 (s)	12.728	98	456829	49.62	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.24%			
103) 4-bromofluorobenzene (s)	15.652	95	188106	51.35	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.70%			

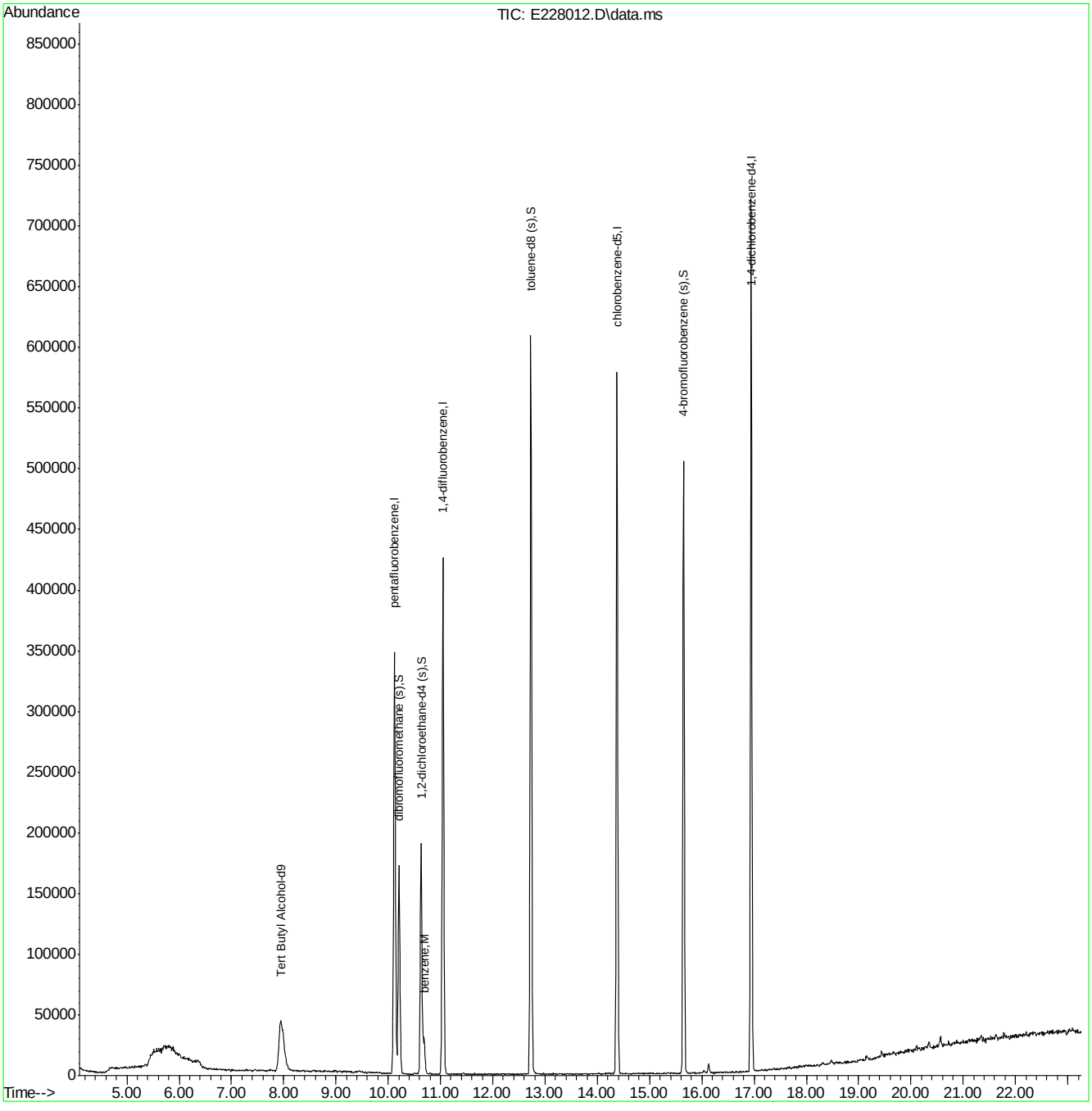
Target Compounds						Qvalue
62) benzene	10.688	78	28600	2.44	ug/L	97

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

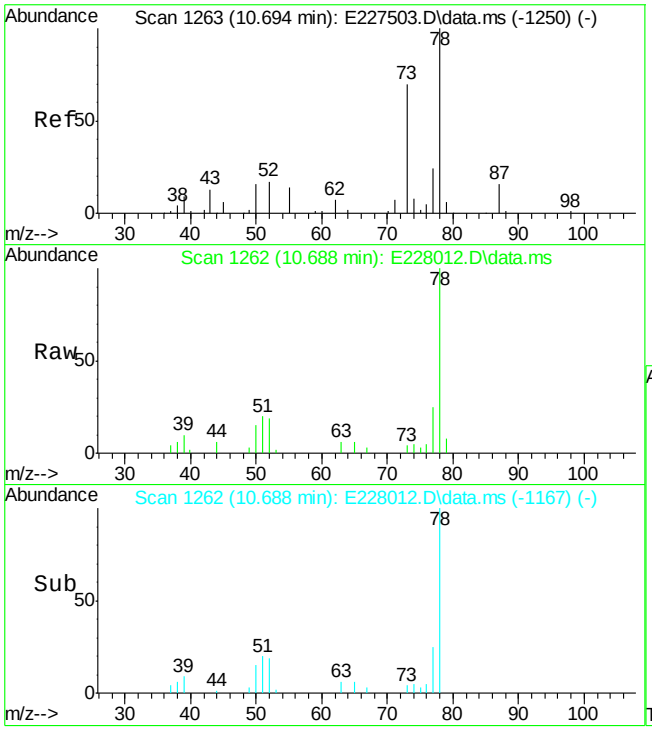
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228012.D
Acq On : 4 Aug 2015 11:11 am
Operator : ThienN
Sample : jb99969-1
Misc : MS88818,VE9991,5.5,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 04 13:47:53 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



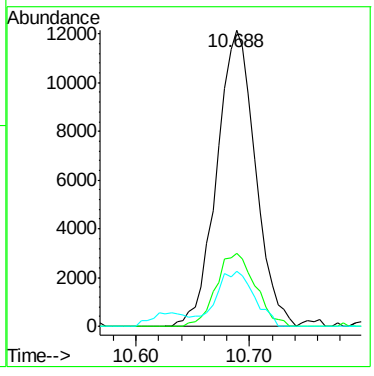
ME9972.M Tue Aug 04 13:48:07 2015 RPT1 Page: 2



#62
benzene
Concen: 2.44 ug/L
RT: 10.688 min Scan# 1262
Delta R.T. -0.001 min
Lab File: E228012.D
Acq: 4 Aug 2015 11:11 am

Tgt Ion: 78 Resp: 28600

Ion	Ratio	Lower	Upper
78	100		
77	24.8	0.0	53.9
52	18.7	0.0	46.9



7.1.2

7

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
08/19/15 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202362.D
Acq On : 31 Jul 2015 3:09 pm
Operator : mihirm
Sample : jb99969-2
Misc : MS88818,VC7427,6.3,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 19 15:51:53 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.110	65	135995	500.00	ug/L	0.00
5) pentafluorobenzene	10.809	168	438612	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.766	114	610152	50.00	ug/L	0.00
88) chlorobenzene-d5	14.805	117	560098	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.824	152	285379	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.867	113	170860	51.21	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.42%			
51) 1,2-dichloroethane-d4 (s)	11.311	65	161178	55.14	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 110.28%			
80) toluene-d8 (s)	13.377	98	762403	50.78	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.56%			
106) 4-bromofluorobenzene (s)	15.835	174	218599	51.13	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.26%			

Target Compounds

						Qvalue
43) cis-1,2-dichloroethene	10.223	96	2071	0.47	ug/L	91
54) cyclohexane	10.914	84	9923	1.66	ug/L #	4
64) hexane	8.942	57	10741	2.21	ug/L	95
65) benzene	11.358	78	10797482	701.04	ug/L	97
66) heptane	11.510	57	9050	3.69	ug/L	95
70) trichloroethene	12.096	95	1277	0.38	ug/L	94
73) methylcyclohexane	12.273	83	10152	1.61	ug/L	97
82) toluene	13.450	92	14165	1.58	ug/L	99
90) tetrachloroethene	13.999	166	1098	0.30	ug/L	76
97) chlorobenzene	14.831	112	65453	6.77	ug/L	98
132) naphthalene	18.722	128	6291m	0.57	ug/L	

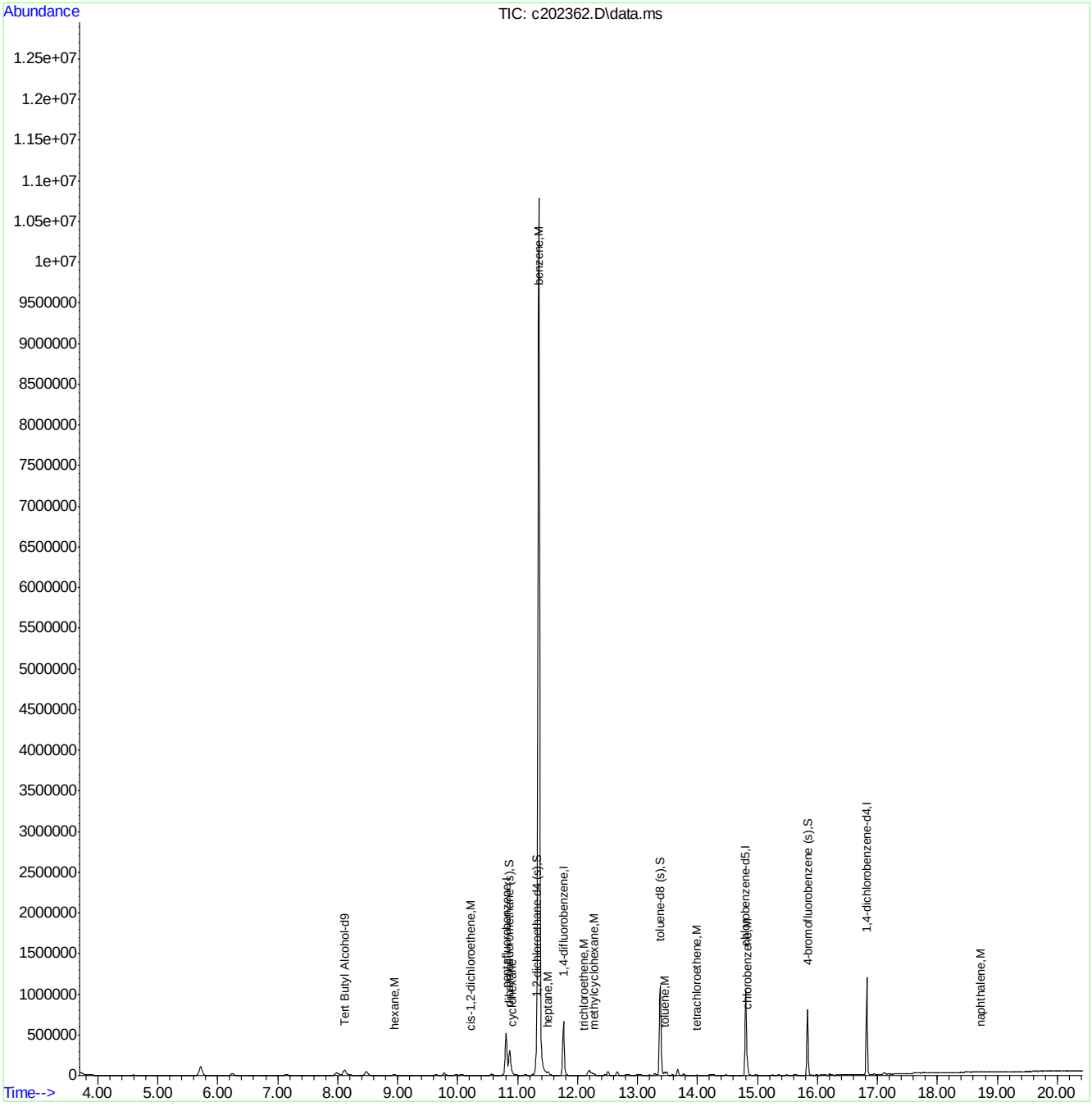
(#) = qualifier out of range (m) = manual integration (+) = signals summed

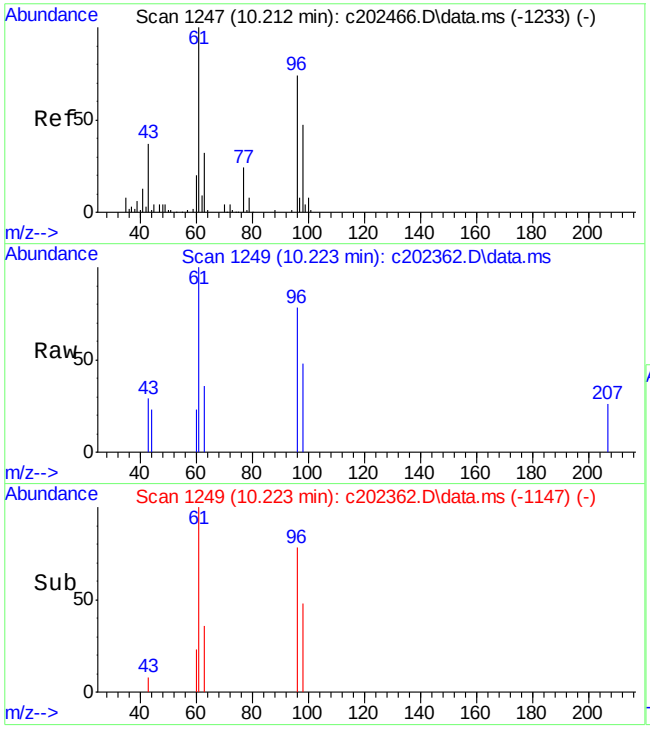
7.1.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202362.D
Acq On : 31 Jul 2015 3:09 pm
Operator : mihirm
Sample : jb99969-2
Misc : MS88818,VC7427,6.3,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 19 15:51:53 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

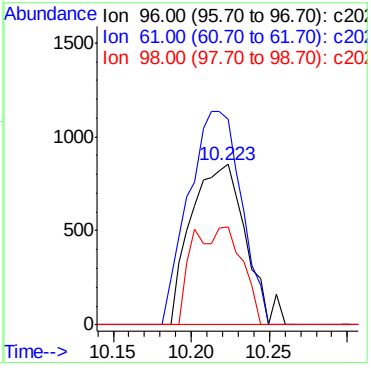


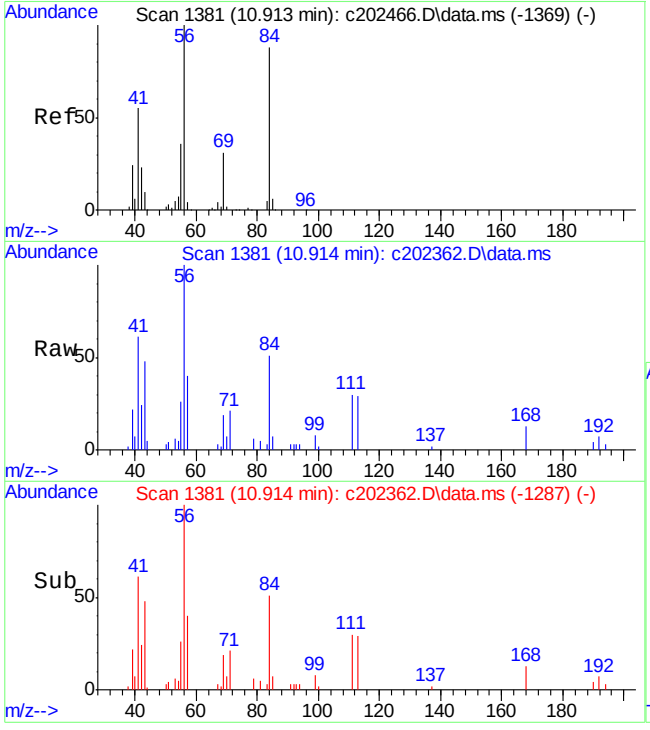


#43
cis-1,2-dichloroethene
Concen: 0.47 ug/L
RT: 10.223 min Scan# 1249
Delta R.T. 0.006 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 96 Resp: 2071

Ion	Ratio	Lower	Upper
96	100		
61	128.5	112.0	172.0
98	61.4	35.8	95.8

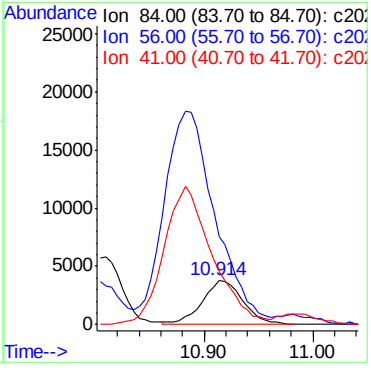


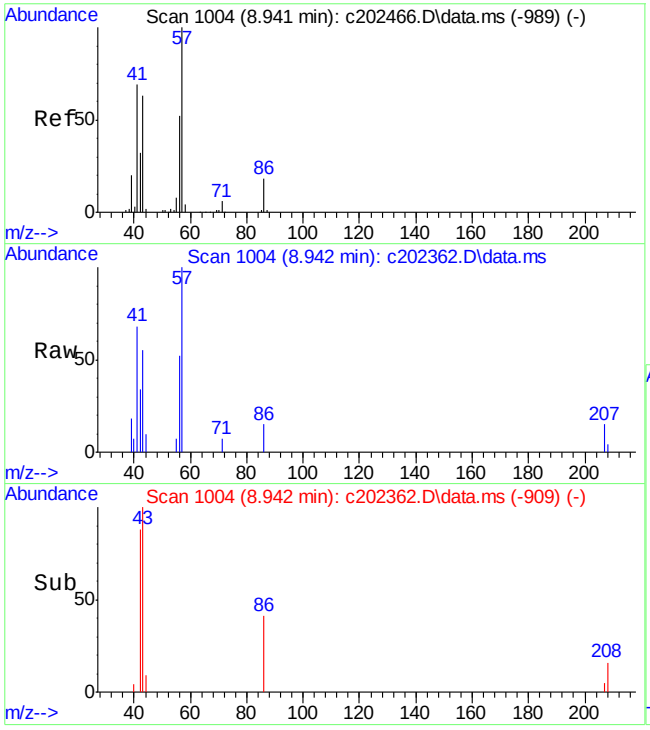


#54
cyclohexane
Concen: 1.66 ug/L
RT: 10.914 min Scan# 1381
Delta R.T. -0.010 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 84 Resp: 9923

Ion	Ratio	Lower	Upper
84	100		
56	0.0	78.9	146.5#
41	0.0	42.4	78.8#

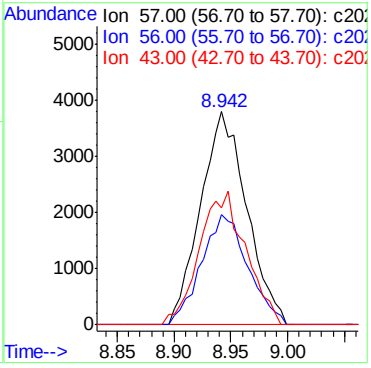


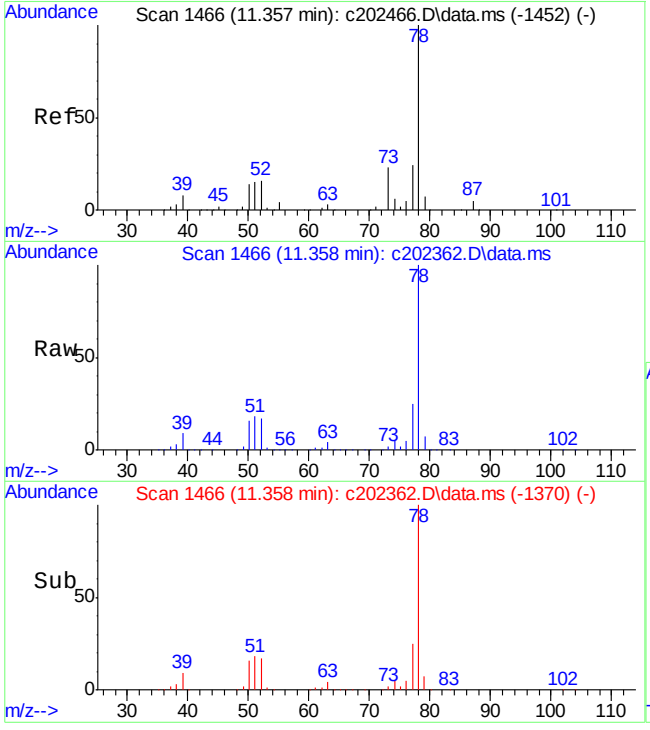


#64
hexane
Concen: 2.21 ug/L
RT: 8.942 min Scan# 1004
Delta R.T. -0.004 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 57 Resp: 10741

Ion	Ratio	Lower	Upper
57	100		
56	51.5	22.2	82.2
43	55.0	31.1	91.1

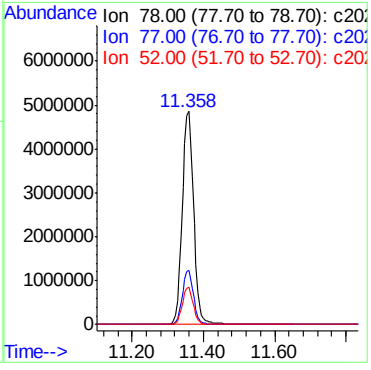


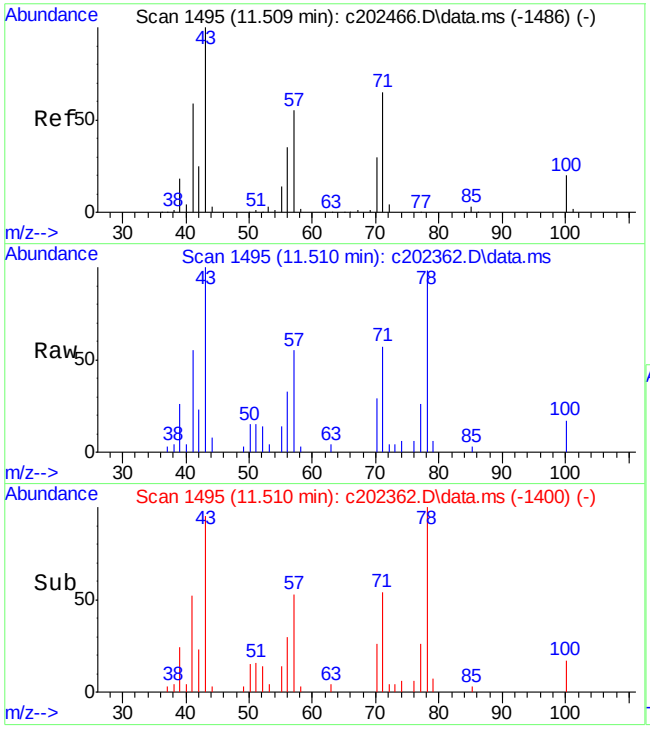


#65
benzene
Concen: 701.04 ug/L
RT: 11.358 min Scan# 1466
Delta R.T. 0.001 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 78 Resp:10797482

Ion	Ratio	Lower	Upper
78	100		
77	25.4	0.0	53.7
52	17.4	0.0	46.1

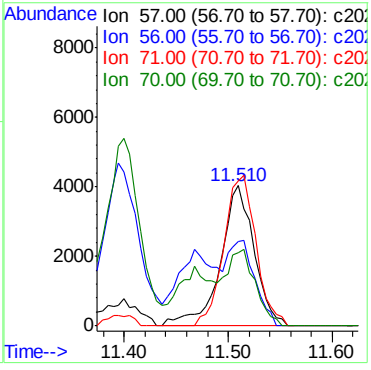


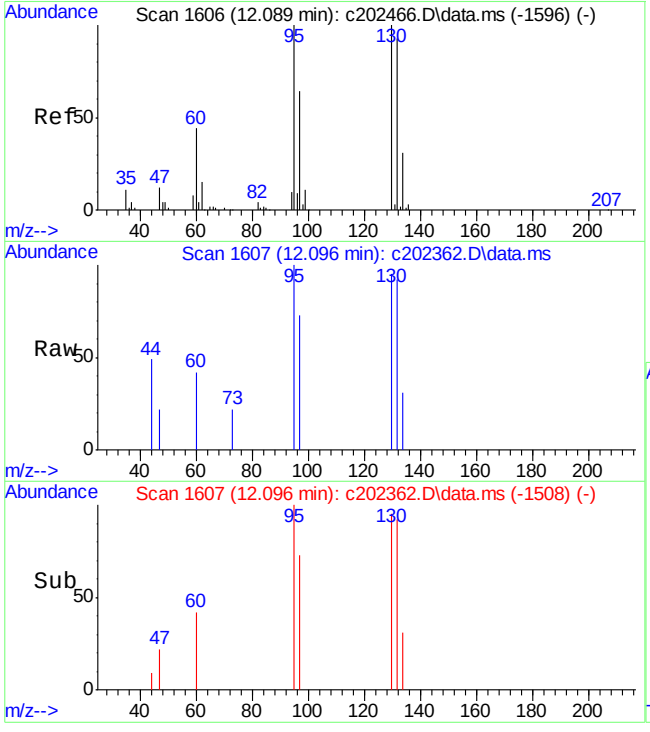


#66
heptane
Concen: 3.69 ug/L
RT: 11.510 min Scan# 1495
Delta R.T. -0.004 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 57 Resp: 9050

Ion	Ratio	Lower	Upper
57	100		
56	60.0	31.8	91.8
71	103.3	81.8	141.8
70	51.7	22.8	82.8

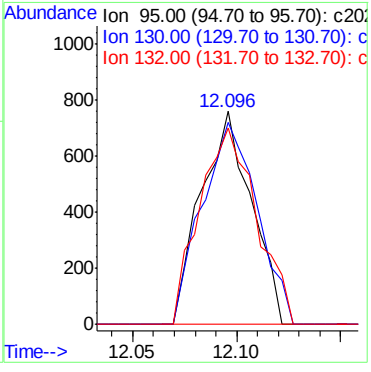


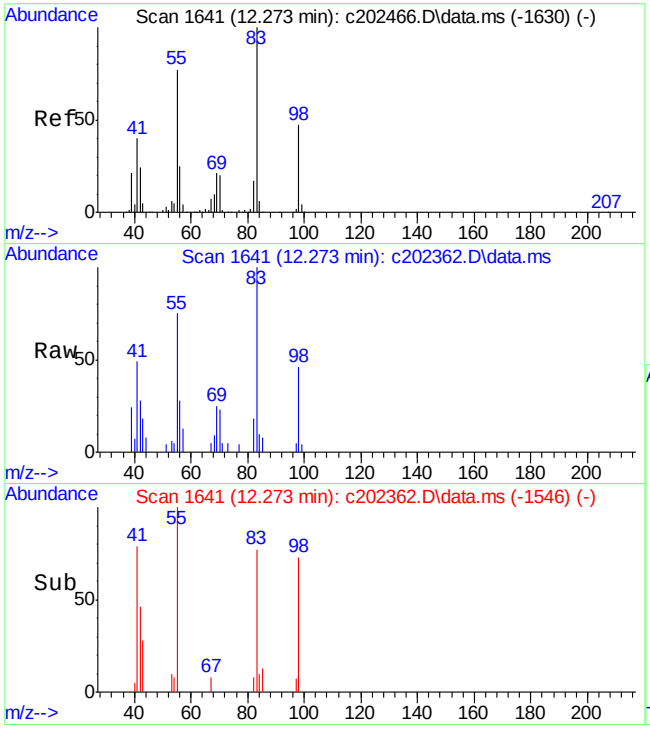


#70
trichloroethene
Concen: 0.38 ug/L
RT: 12.096 min Scan# 1607
Delta R.T. -0.004 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 95 Resp: 1277

Ion	Ratio	Lower	Upper
95	100		
130	94.9	71.7	131.7
132	92.2	67.5	127.5

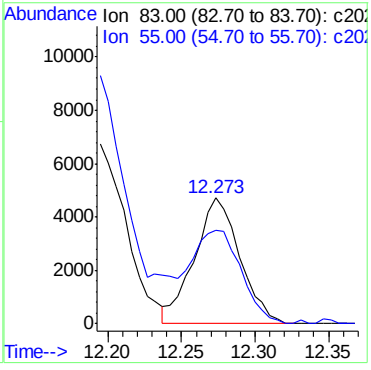


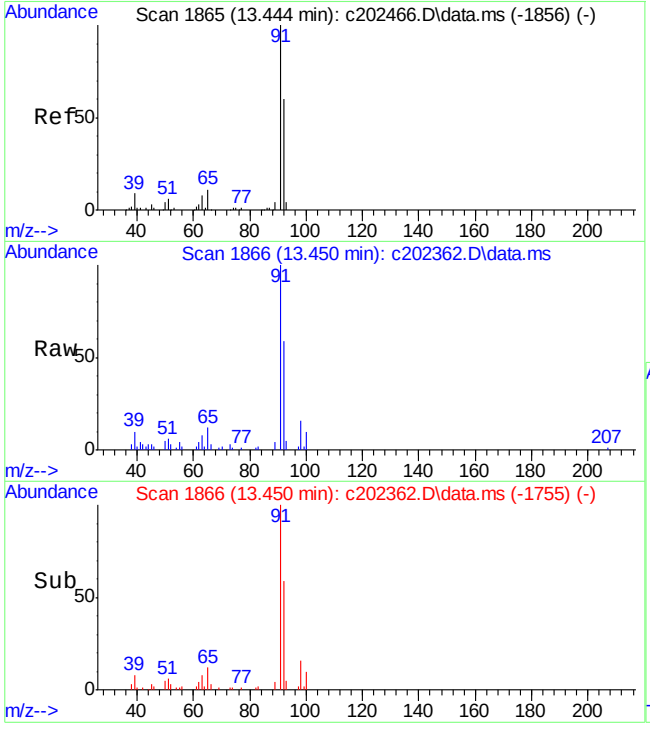


#73
methylcyclohexane
Concen: 1.61 ug/L
RT: 12.273 min Scan# 1641
Delta R.T. -0.004 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 83 Resp: 10152

Ion	Ratio	Lower	Upper
83	100		
55	80.4	54.6	101.4

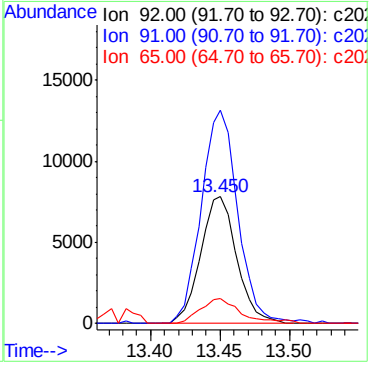


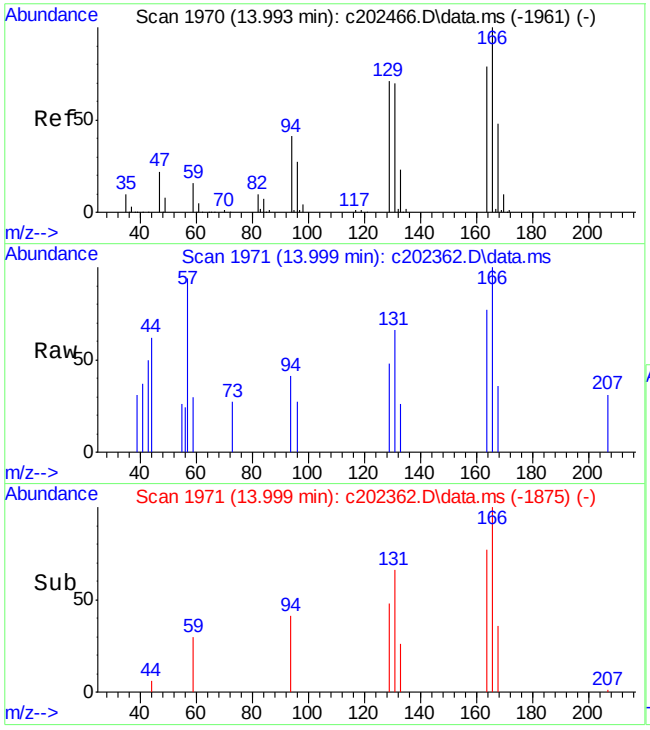


#82
toluene
Concen: 1.58 ug/L
RT: 13.450 min Scan# 1866
Delta R.T. 0.001 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion: 92 Resp: 14165

Ion	Ratio	Lower	Upper
92	100		
91	168.4	137.2	197.2
65	19.4	0.0	49.7

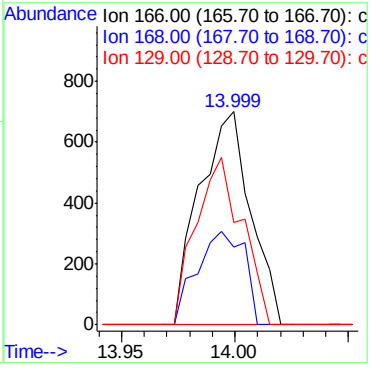


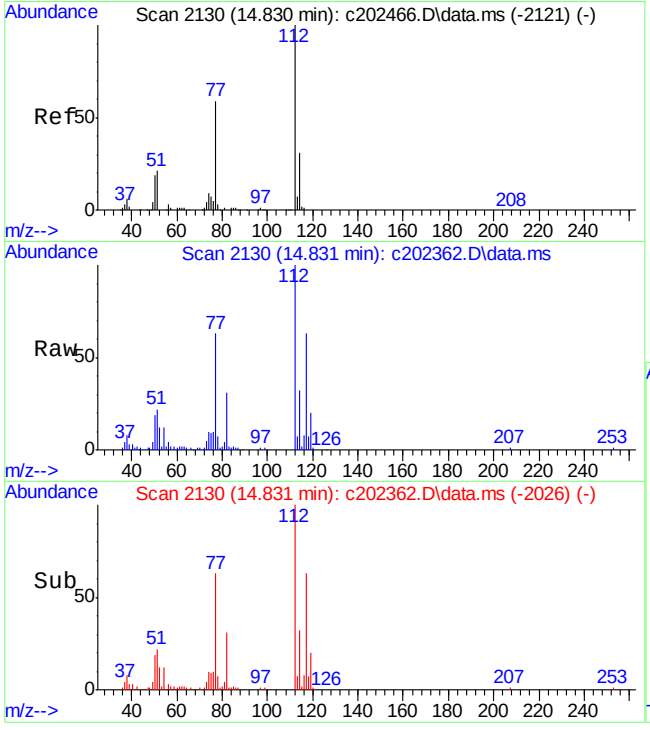


#90
tetrachloroethene
Concen: 0.30 ug/L
RT: 13.999 min Scan# 1971
Delta R.T. 0.001 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion:166 Resp: 1098

Ion	Ratio	Lower	Upper
166	100		
168	36.2	18.1	78.1
129	47.9	41.1	101.1

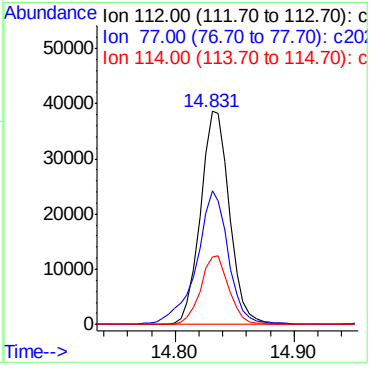


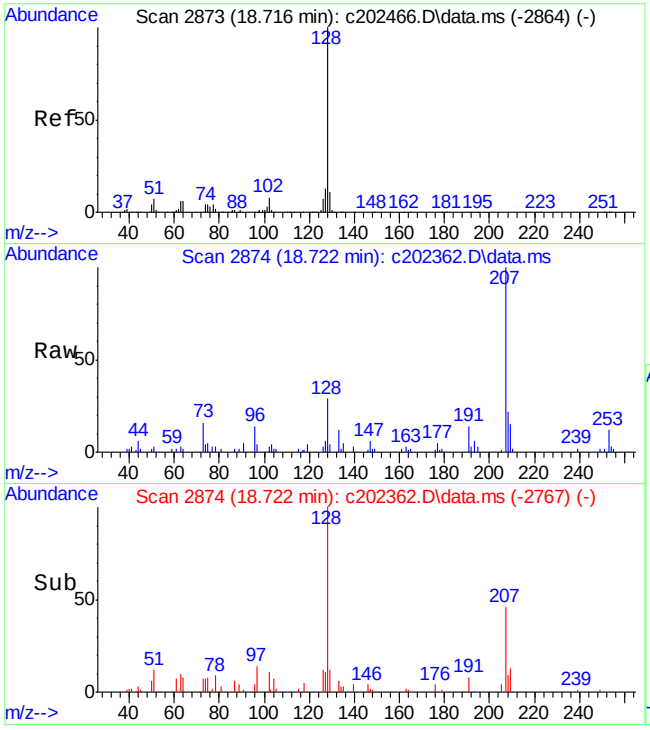


#97
chlorobenzene
Concen: 6.77 ug/L
RT: 14.831 min Scan# 2130
Delta R.T. -0.004 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion:112 Resp: 65453

Ion	Ratio	Lower	Upper
112	100		
77	62.6	29.9	89.9
114	31.9	2.1	62.1

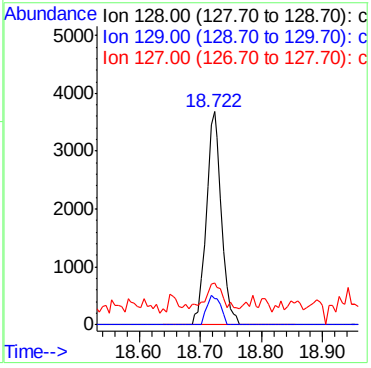




#132
naphthalene
Concen: 0.57 ug/L m
RT: 18.722 min Scan# 2874
Delta R.T. 0.001 min
Lab File: c202362.D
Acq: 31 Jul 2015 3:09 pm

Tgt Ion:128 Resp: 6291

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	40.7
127	19.6	0.0	43.0



7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228016.D
Acq On : 4 Aug 2015 1:14 pm
Operator : ThienN
Sample : jb99969-2
Misc : MS88818,VE9991,5.9,,100,10,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 04 13:50:49 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.943	65	155705	500.00	ug/L	0.00
4) pentafluorobenzene	10.119	168	310126	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	410698	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	362906	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	214757	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	131668	47.14	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 94.28%			
48) 1,2-dichloroethane-d4 (s)	10.626	65	172170	50.08	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.16%			
76) toluene-d8 (s)	12.729	98	477727	49.15	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.30%			
103) 4-bromofluorobenzene (s)	15.652	95	198815	52.12	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.24%			

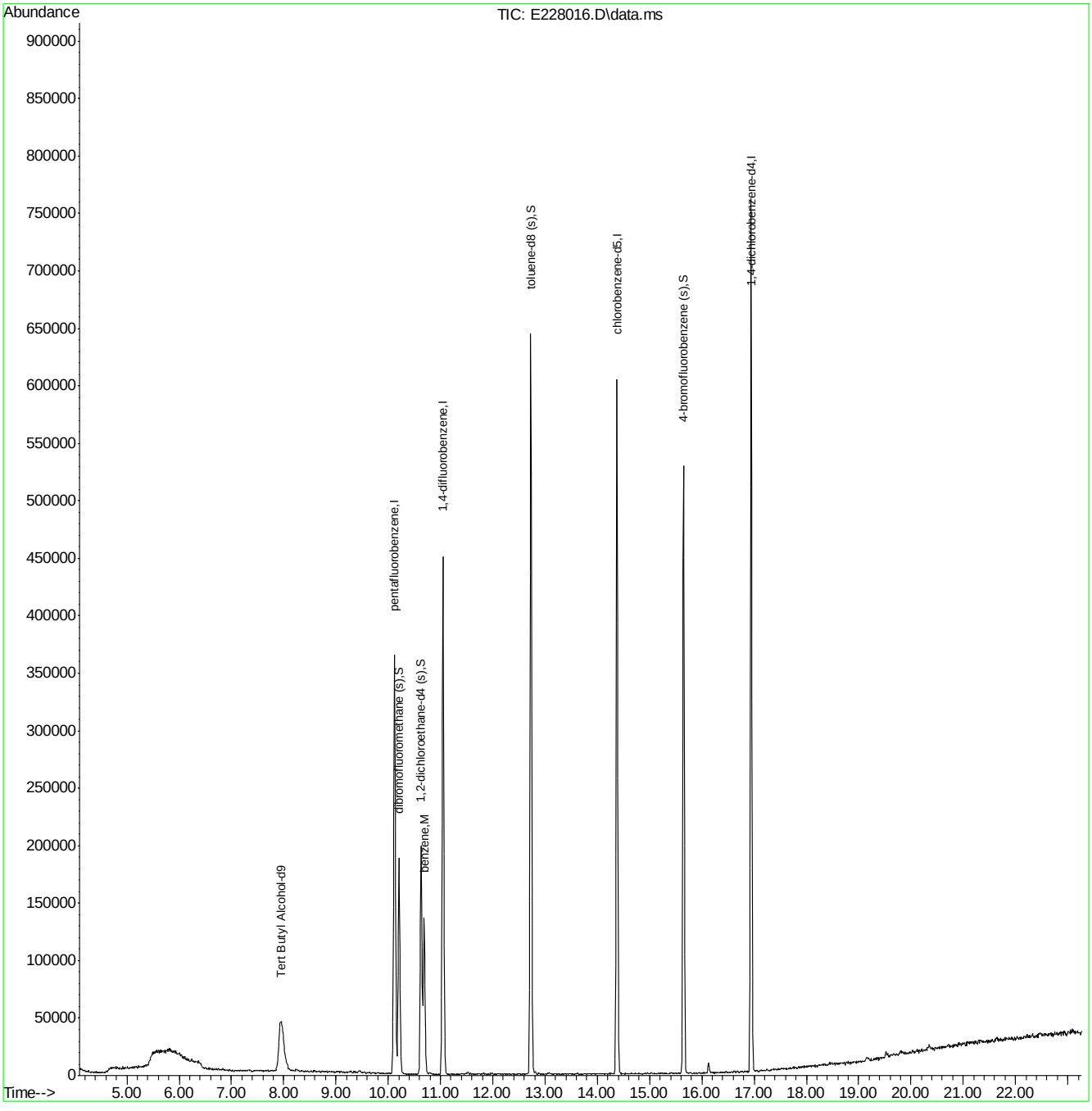
Target Compounds						Qvalue
62) benzene	10.689	78	136730	11.06	ug/L	98

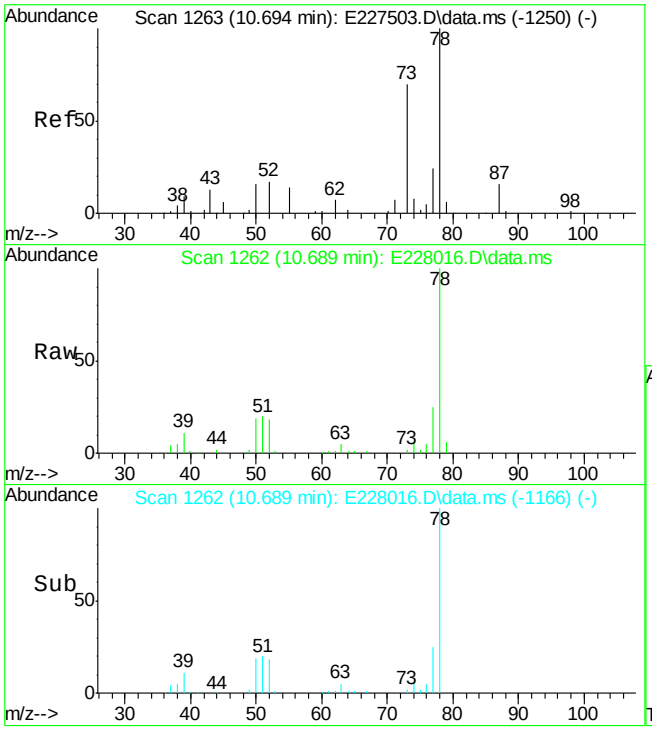
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228016.D
Acq On : 4 Aug 2015 1:14 pm
Operator : ThienN
Sample : jb99969-2
Misc : MS88818,VE9991,5.9,,100,10,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 04 13:50:49 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

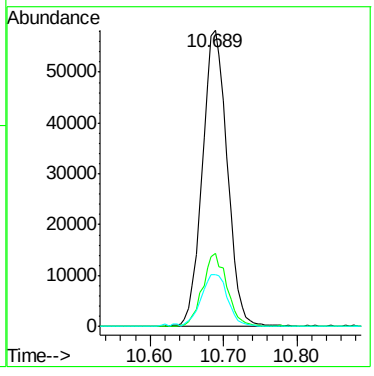




#62
benzene
Concen: 11.06 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.000 min
Lab File: E228016.D
Acq: 4 Aug 2015 1:14 pm

Tgt Ion: 78 Resp: 136730

Ion	Ratio	Lower	Upper
78	100		
77	24.7	0.0	53.9
52	17.6	0.0	46.9



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202363.D
Acq On : 31 Jul 2015 3:37 pm
Operator : mihirm
Sample : jb99969-3
Misc : MS88818,VC7427,6.3,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 03 11:49:31 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.118	65	116036	500.00	ug/L	0.00
5) pentafluorobenzene	10.811	168	405574	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.768	114	549457	50.00	ug/L	0.00
88) chlorobenzene-d5	14.807	117	520343	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	270369	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.869	113	157016	50.89	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.78%			
51) 1,2-dichloroethane-d4 (s)	11.318	65	142063	52.56	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.12%			
80) toluene-d8 (s)	13.379	98	695929	51.47	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.94%			
106) 4-bromofluorobenzene (s)	15.837	174	205898	50.84	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.68%			

Target Compounds

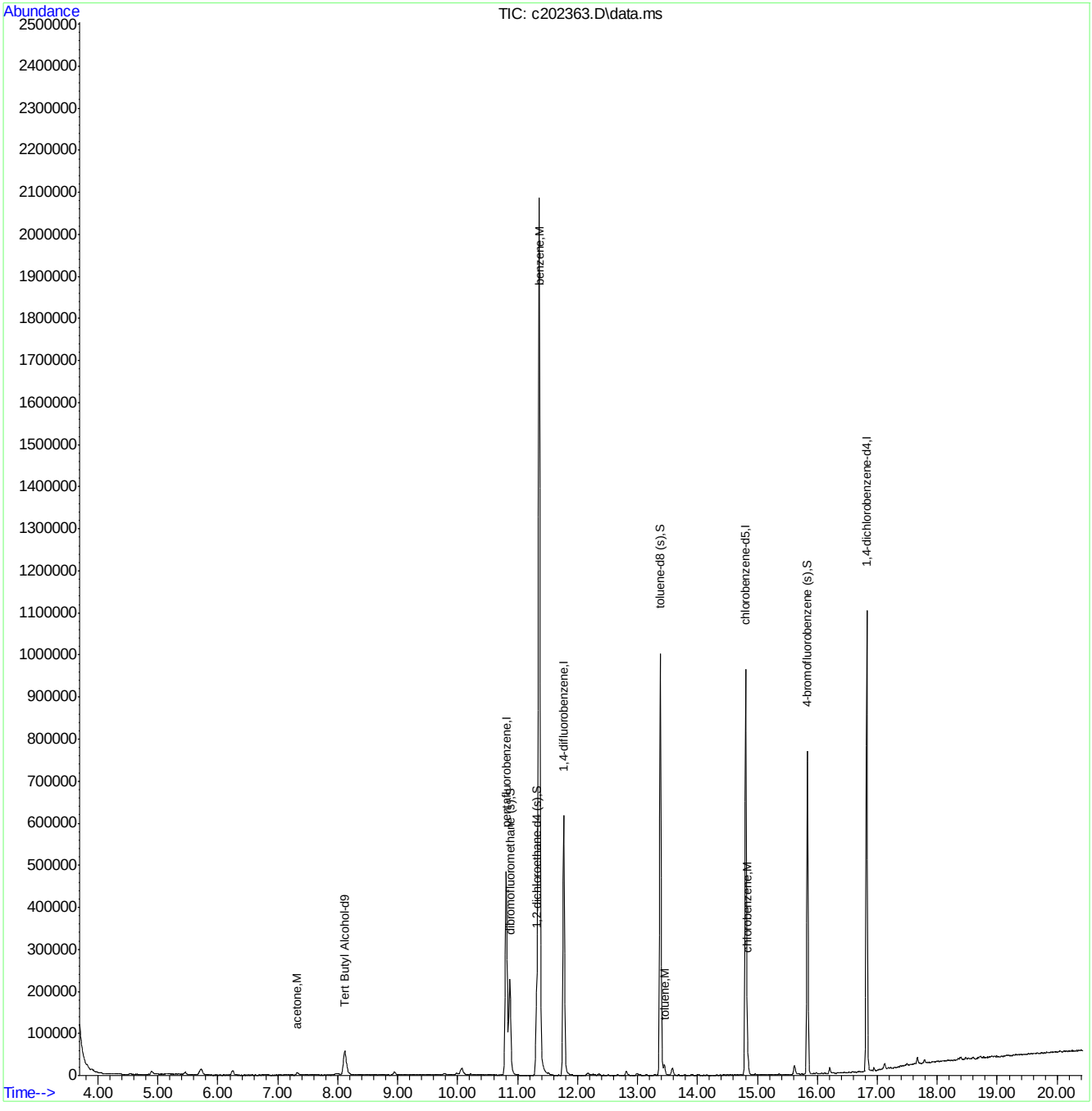
						Qvalue
23) acetone	7.323	58	3696	25.52	ug/L	91
65) benzene	11.360	78	2120317	152.87	ug/L	99
82) toluene	13.452	92	8890	1.10	ug/L	97
97) chlorobenzene	14.833	112	27112	3.02	ug/L	99

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

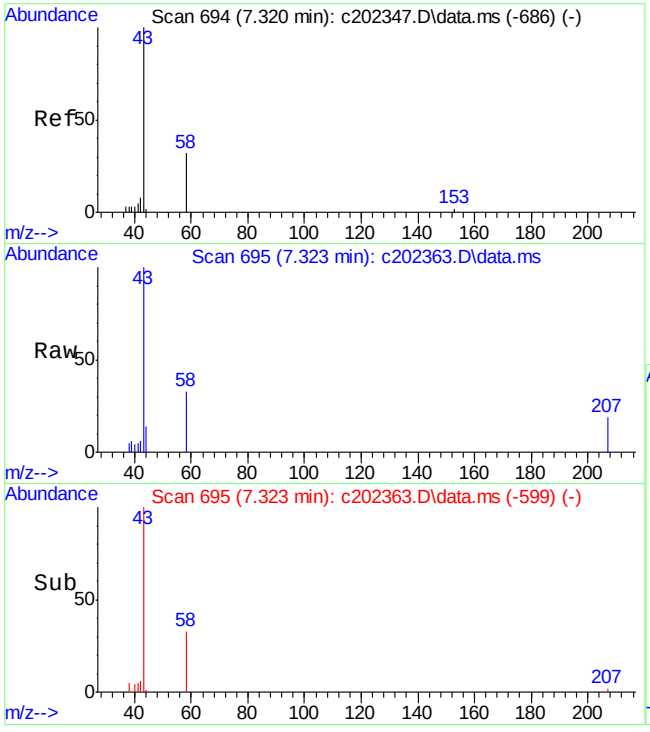
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202363.D
Acq On : 31 Jul 2015 3:37 pm
Operator : mihirm
Sample : jb99969-3
Misc : MS88818,VC7427,6.3,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 03 11:49:31 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



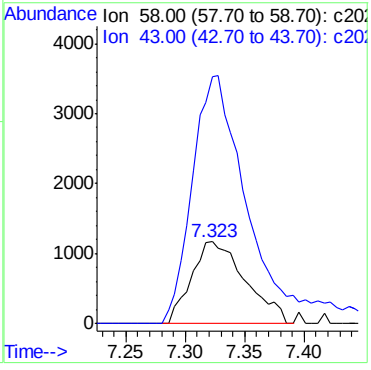
MC7426.M Mon Aug 03 11:49:38 2015 C

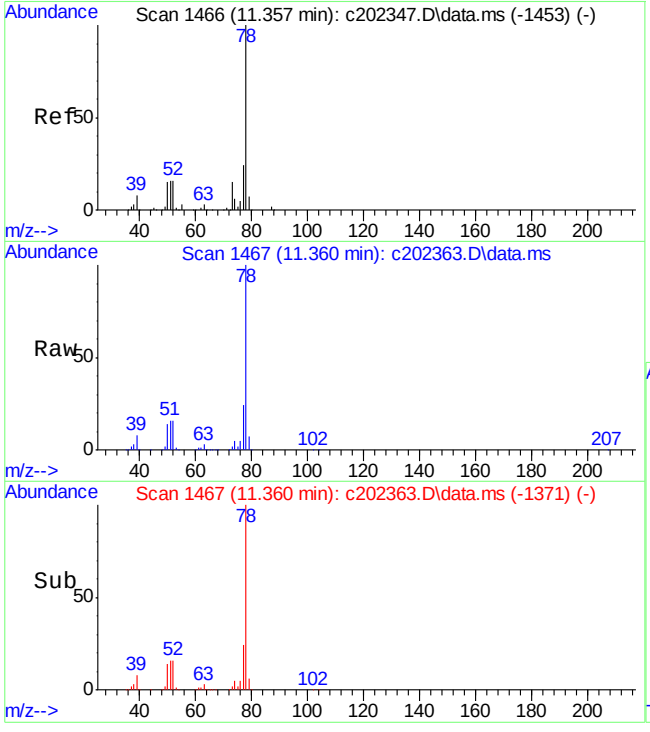


#23
acetone
Concen: 25.52 ug/L
RT: 7.323 min Scan# 695
Delta R.T. 0.004 min
Lab File: c202363.D
Acq: 31 Jul 2015 3:37 pm

Tgt Ion: 58 Resp: 3696

Ion	Ratio	Lower	Upper
58	100		
43	321.8	311.3	371.3

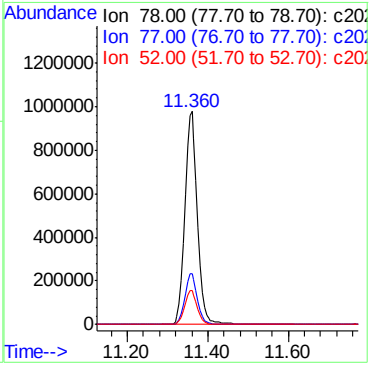


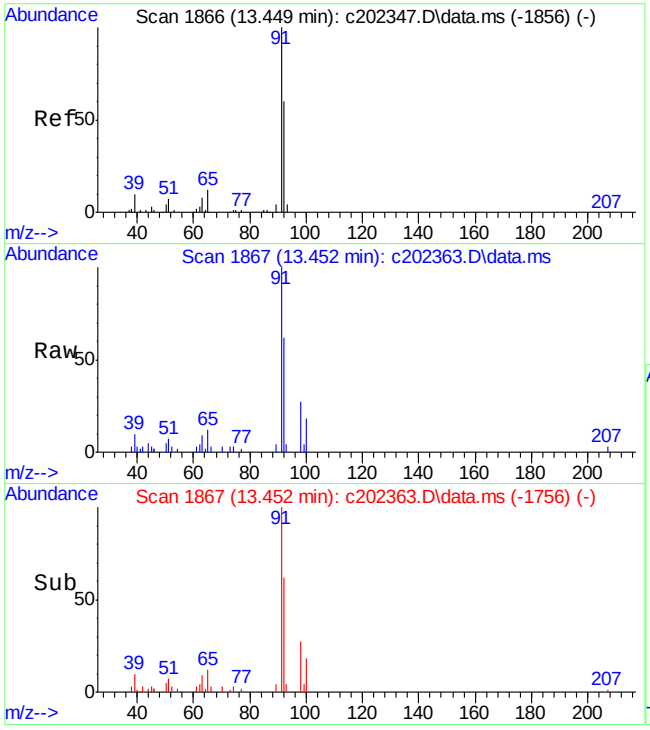


#65
benzene
Concen: 152.87 ug/L
RT: 11.360 min Scan# 1467
Delta R.T. 0.003 min
Lab File: c202363.D
Acq: 31 Jul 2015 3:37 pm

Tgt Ion: 78 Resp: 2120317

Ion	Ratio	Lower	Upper
78	100		
77	23.9	0.0	53.7
52	15.8	0.0	46.1

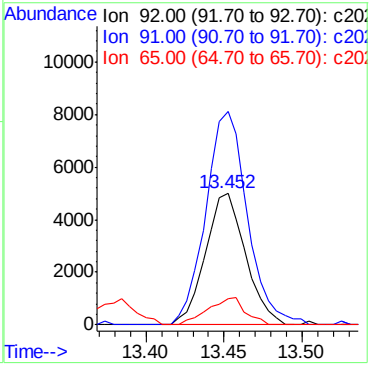


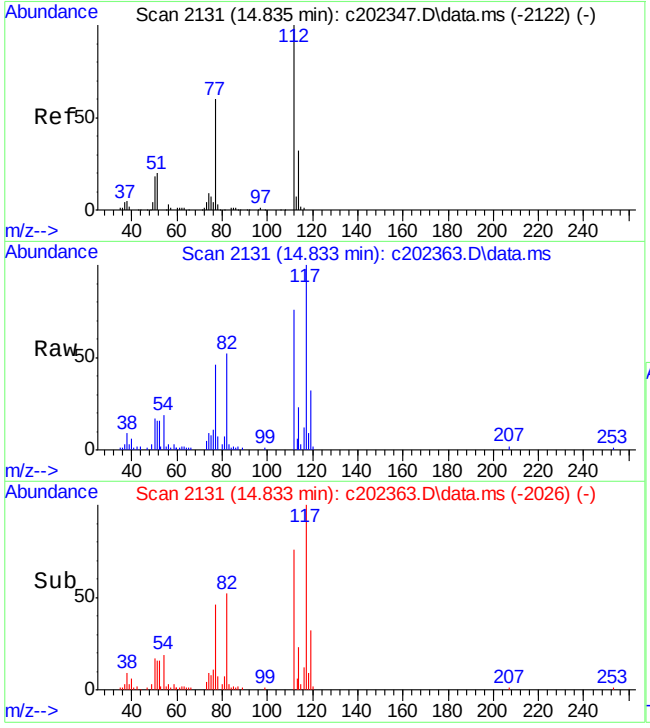


#82
toluene
Concen: 1.10 ug/L
RT: 13.452 min Scan# 1867
Delta R.T. 0.003 min
Lab File: c202363.D
Acq: 31 Jul 2015 3:37 pm

Tgt Ion: 92 Resp: 8890

Ion	Ratio	Lower	Upper
92	100		
91	162.0	137.2	197.2
65	19.8	0.0	49.7

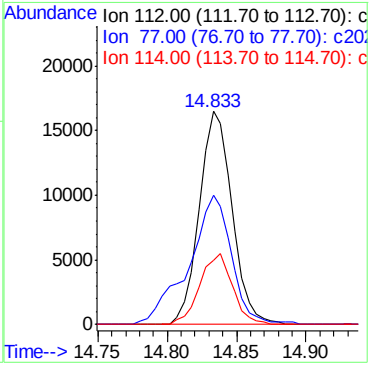




#97
chlorobenzene
Concen: 3.02 ug/L
RT: 14.833 min Scan# 2131
Delta R.T. -0.002 min
Lab File: c202363.D
Acq: 31 Jul 2015 3:37 pm

Tgt Ion:112 Resp: 27112

Ion	Ratio	Lower	Upper
112	100		
77	59.8	29.9	89.9
114	30.4	2.1	62.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202364.D
Acq On : 31 Jul 2015 4:06 pm
Operator : mihirm
Sample : jb99969-4
Misc : MS88818,VC7427,5.5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 03 11:43:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.118	65	103344	500.00	ug/L	0.00
5) pentafluorobenzene	10.812	168	427601	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.769	114	591125	50.00	ug/L	0.00
88) chlorobenzene-d5	14.807	117	525299	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	260424	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.869	113	164235	50.49	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.98%			
51) 1,2-dichloroethane-d4 (s)	11.319	65	145205	50.96	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.92%			
80) toluene-d8 (s)	13.380	98	724223	49.79	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.58%			
106) 4-bromofluorobenzene (s)	15.838	174	201229	51.58	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.16%			

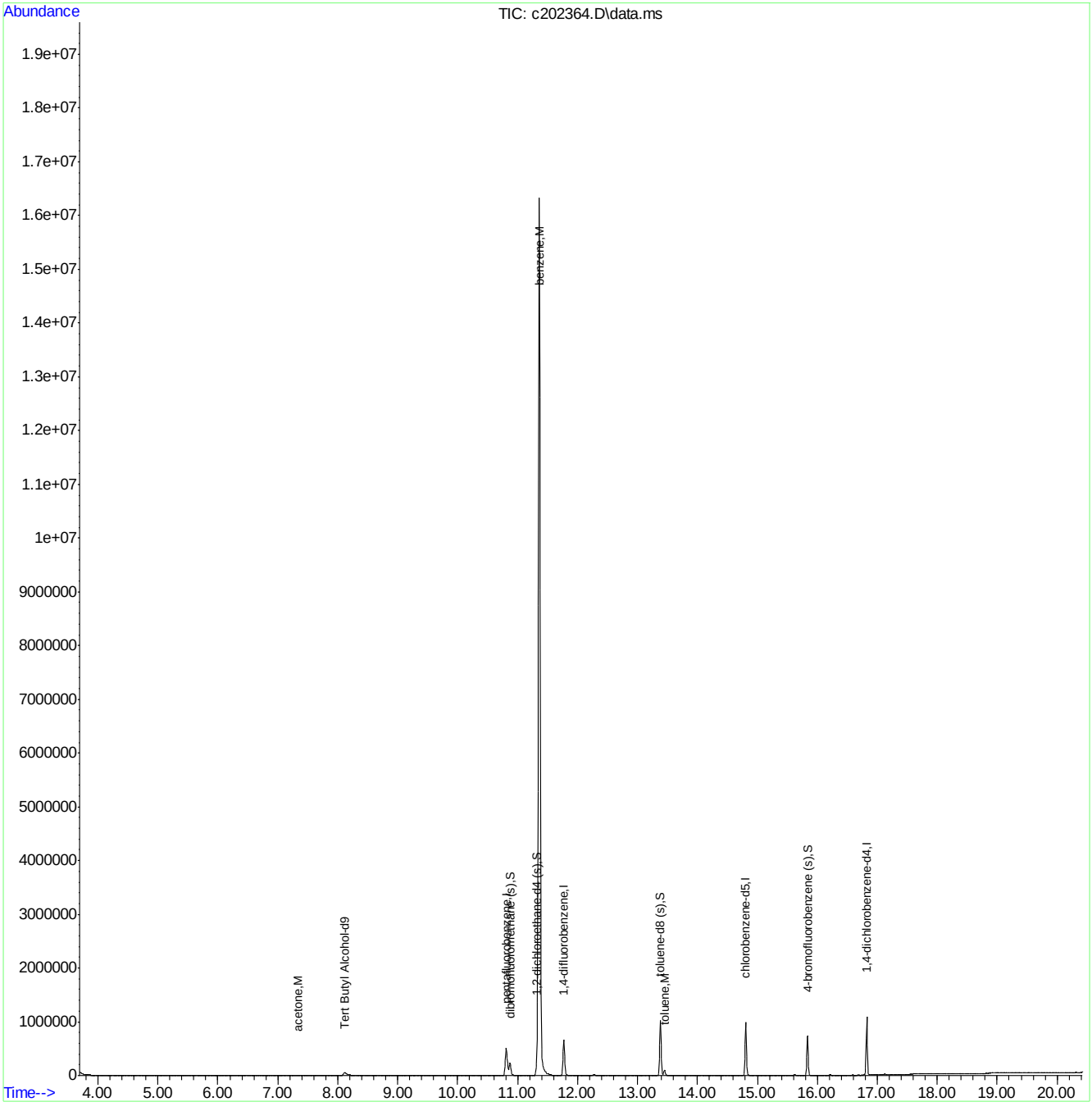
Target Compounds						Qvalue
23) acetone	7.334	58	843	5.52	ug/L #	61
65) benzene	11.361	78	15899047	1065.49	ug/L	92
82) toluene	13.453	92	44592	5.15	ug/L	98

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

Quantitation Report (QT Reviewed)

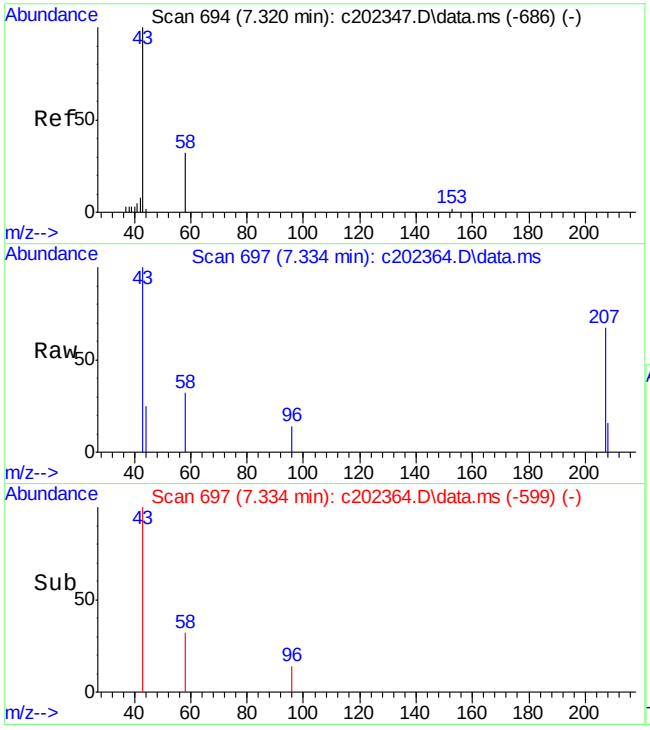
Data Path : C:\msdchem\1\DATA\
Data File : c202364.D
Acq On : 31 Jul 2015 4:06 pm
Operator : mihirm
Sample : jb99969-4
Misc : MS88818,VC7427,5.5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 03 11:43:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



MC7426.M Mon Aug 03 11:44:00 2015 C

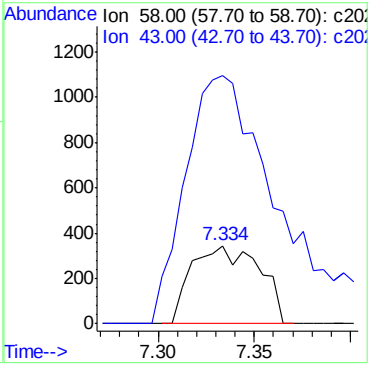
Page: 2

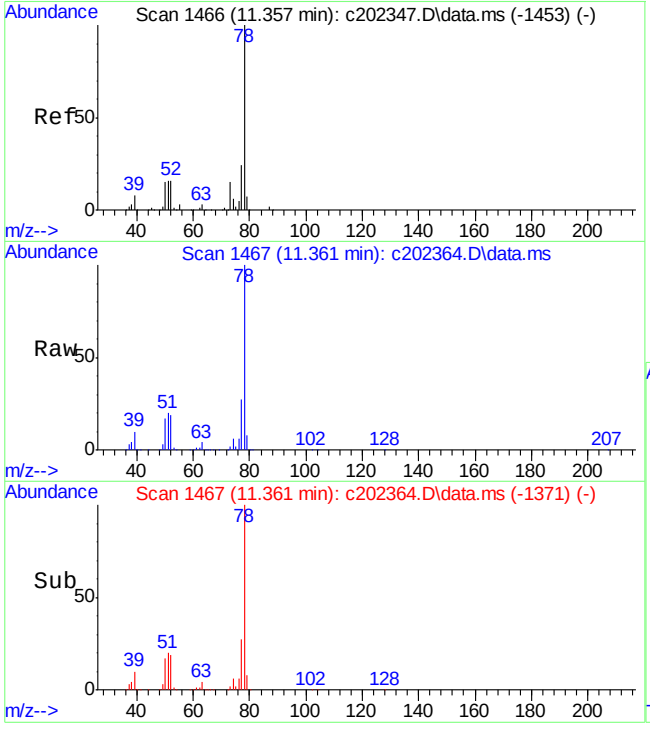


#23
acetone
Concen: 5.52 ug/L
RT: 7.334 min Scan# 697
Delta R.T. 0.015 min
Lab File: c202364.D
Acq: 31 Jul 2015 4:06 pm

Tgt Ion: 58 Resp: 843

Ion	Ratio	Lower	Upper
58	100		
43	424.4	311.3	371.3#

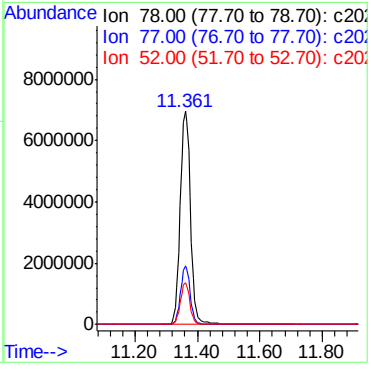


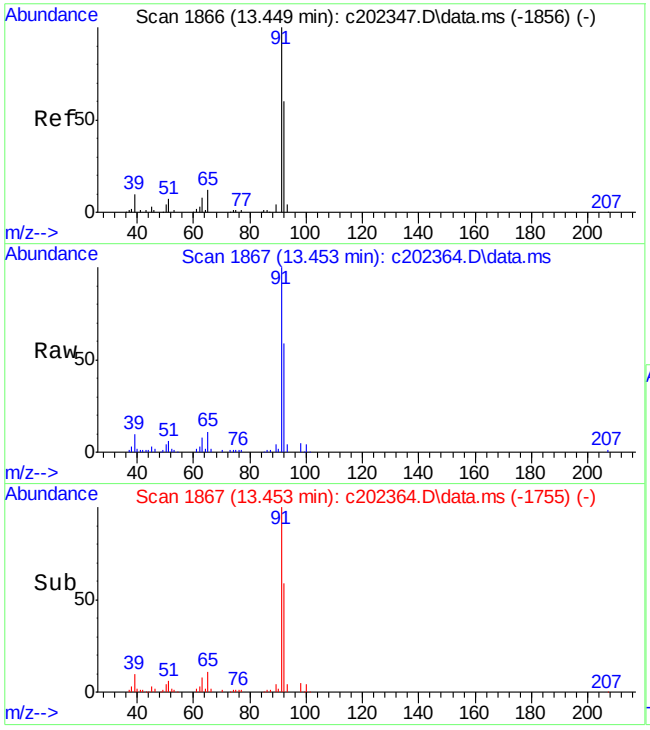


#65
benzene
Concen: 1065.49 ug/L
RT: 11.361 min Scan# 1467
Delta R.T. 0.003 min
Lab File: c202364.D
Acq: 31 Jul 2015 4:06 pm

Tgt Ion: 78 Resp:15899047

Ion	Ratio	Lower	Upper
78	100		
77	27.3	0.0	53.7
52	19.4	0.0	46.1

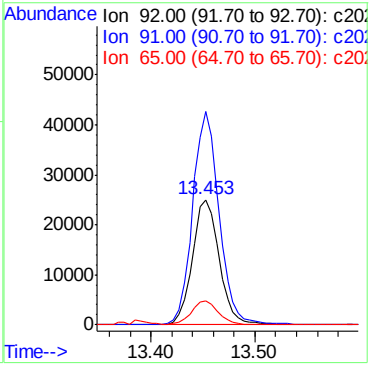




#82
toluene
Concen: 5.15 ug/L
RT: 13.453 min Scan# 1867
Delta R.T. 0.003 min
Lab File: c202364.D
Acq: 31 Jul 2015 4:06 pm

Tgt Ion: 92 Resp: 44592

Ion	Ratio	Lower	Upper
92	100		
91	170.4	137.2	197.2
65	19.2	0.0	49.7



7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228019.D
Acq On : 4 Aug 2015 2:46 pm
Operator : ThienN
Sample : jb99969-4
Misc : MS88818,VE9991,6.3,,100,10,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 04 15:59:49 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.943	65	145838	500.00	ug/L	0.00
4) pentafluorobenzene	10.119	168	286722	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.045	114	380817	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	343064	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	202637	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.203	113	124526	48.22	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.44%			
48) 1,2-dichloroethane-d4 (s)	10.626	65	156674	49.29	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.58%			
76) toluene-d8 (s)	12.729	98	444078	49.27	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.54%			
103) 4-bromofluorobenzene (s)	15.652	95	184195	51.17	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.34%			

Target Compounds

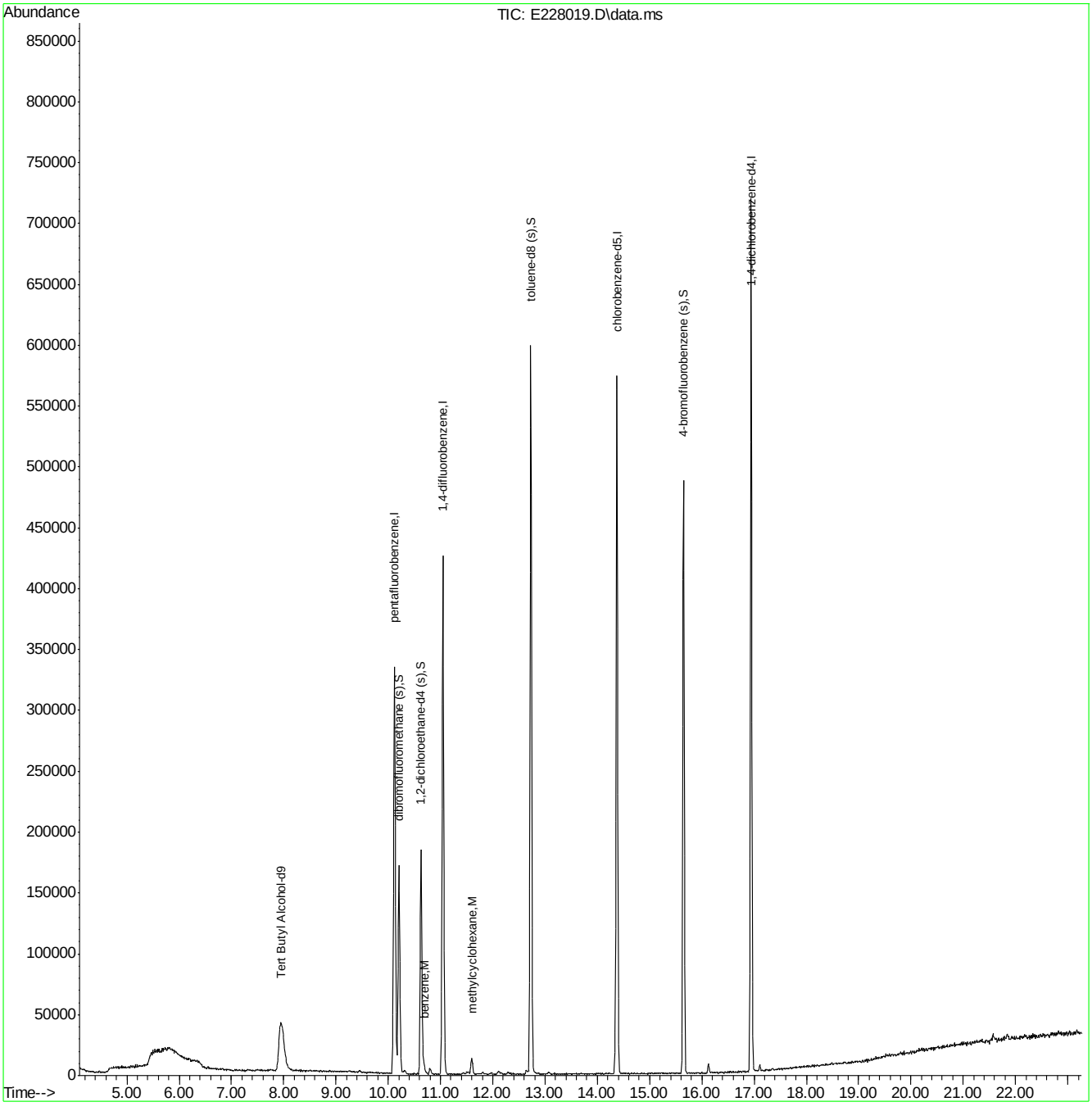
						Qvalue
62) benzene	10.694	78	7418	0.65	ug/L	96
70) methylcyclohexane	11.599	83	6088	1.27	ug/L	99

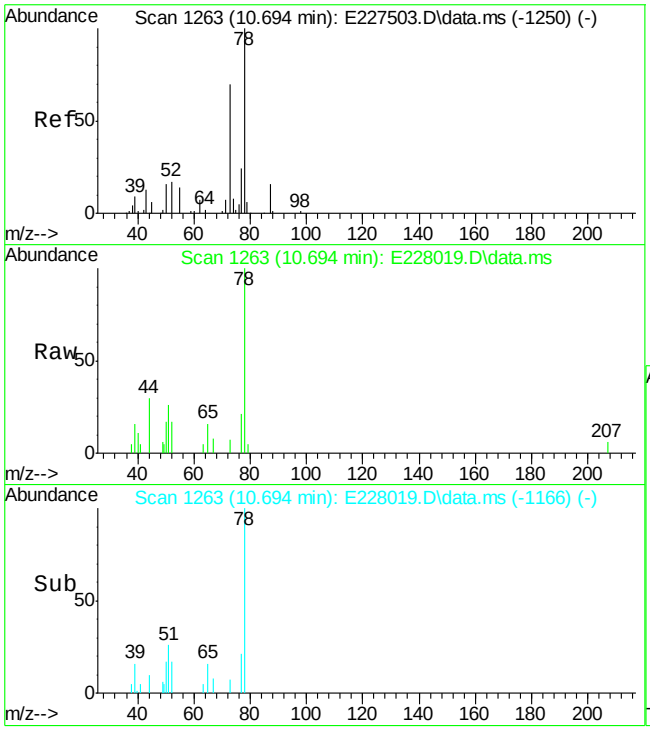
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228019.D
Acq On : 4 Aug 2015 2:46 pm
Operator : ThienN
Sample : jb99969-4
Misc : MS88818,VE9991,6.3,,100,10,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 04 15:59:49 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

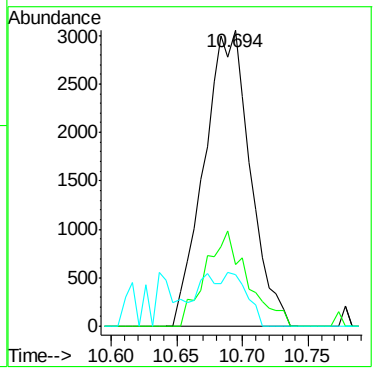


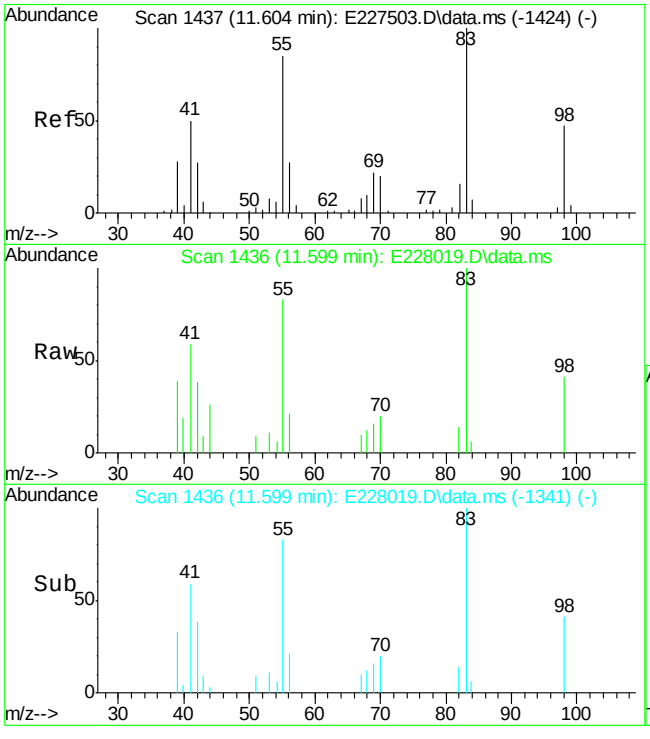


#62
benzene
Concen: 0.65 ug/L
RT: 10.694 min Scan# 1263
Delta R.T. 0.005 min
Lab File: E228019.D
Acq: 4 Aug 2015 2:46 pm

Tgt Ion: 78 Resp: 7418

Ion	Ratio	Lower	Upper
78	100		
77	20.8	0.0	53.9
52	17.3	0.0	46.9

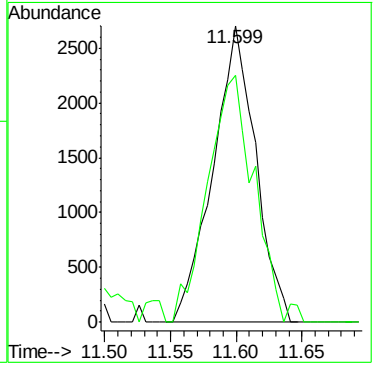




#70
methylcyclohexane
Concen: 1.27 ug/L
RT: 11.599 min Scan# 1436
Delta R.T. -0.006 min
Lab File: E228019.D
Acq: 4 Aug 2015 2:46 pm

Tgt Ion: 83 Resp: 6088

Ion	Ratio	Lower	Upper
83	100		
55	83.3	57.7	107.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202368.D
Acq On : 31 Jul 2015 6:01 pm
Operator : mihirm
Sample : jb99969-5
Misc : MS88818,VC7427,5.8,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 03 11:51:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.125	65	100459	500.00	ug/L	0.01
5) pentafluorobenzene	10.819	168	417035	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.771	114	559413	50.00	ug/L	0.00
88) chlorobenzene-d5	14.809	117	508186	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.828	152	257517	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.876	113	159190	50.18	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.36%			
51) 1,2-dichloroethane-d4 (s)	11.321	65	138611	49.87	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.74%			
80) toluene-d8 (s)	13.382	98	697241	50.65	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.30%			
106) 4-bromofluorobenzene (s)	15.840	174	198612	51.48	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.96%			

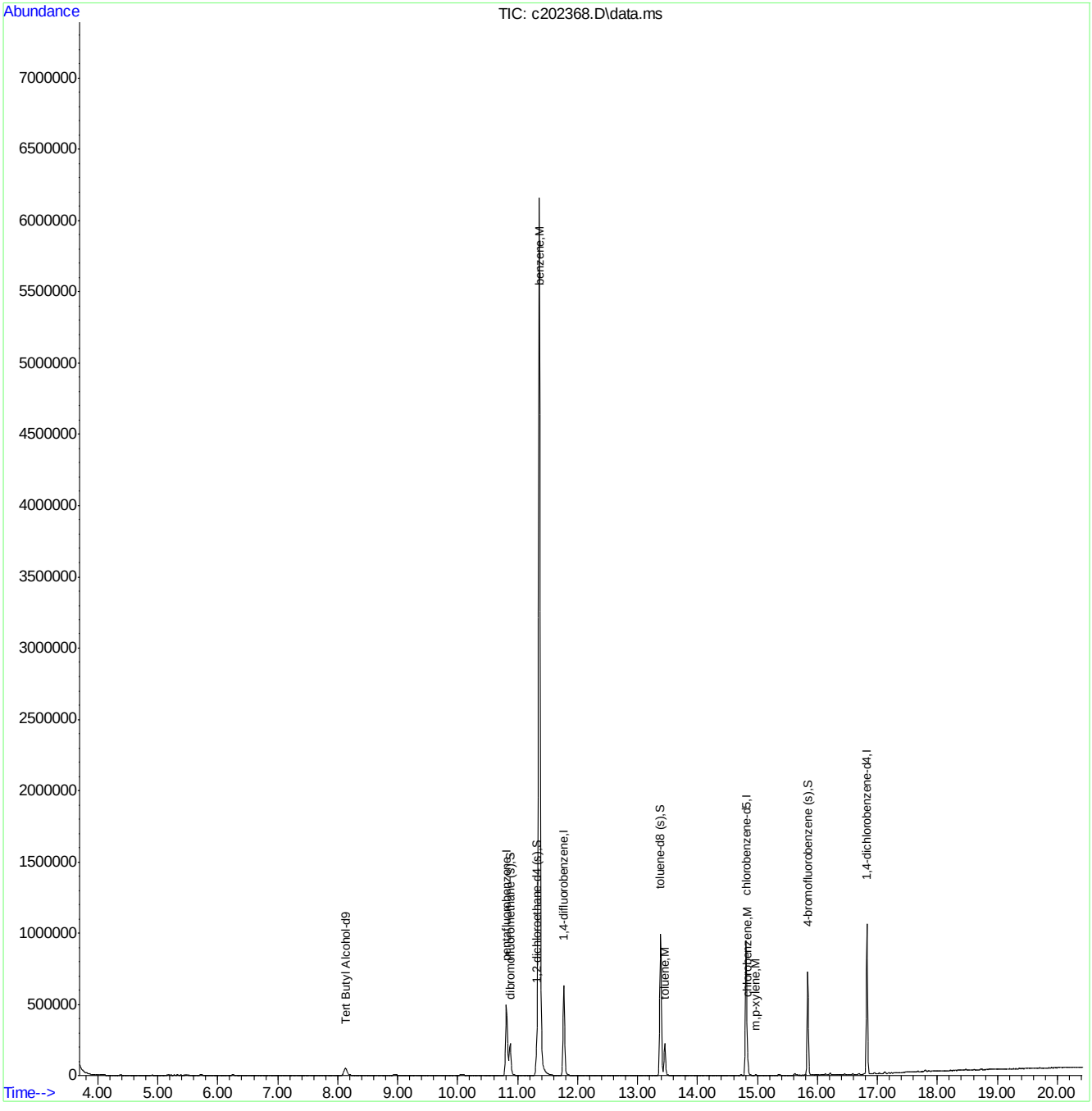
Target Compounds						Qvalue
65) benzene	11.363	78	6099398	431.93	ug/L	98
82) toluene	13.455	92	99452	12.13	ug/L	100
97) chlorobenzene	14.836	112	49138	5.60	ug/L	99
100) m,p-xylene	14.972	106	1462	0.23	ug/L	96

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

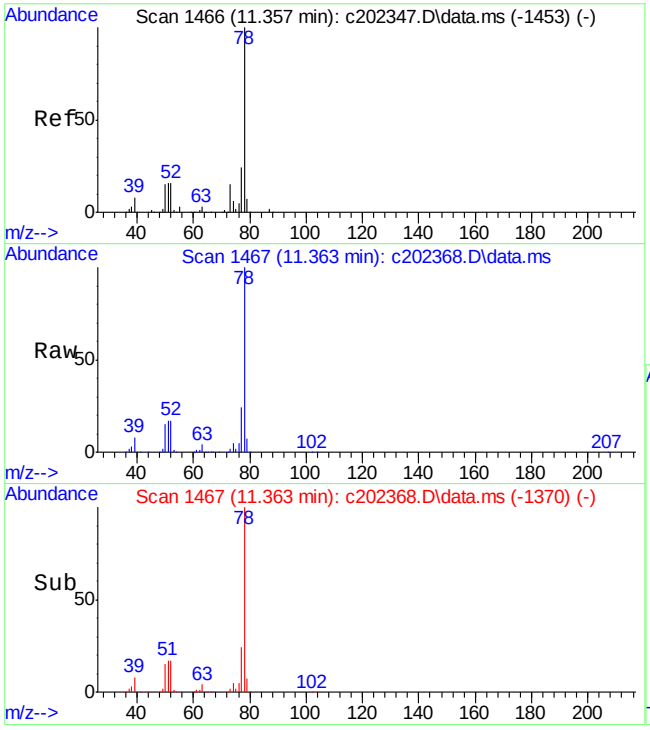
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202368.D
Acq On : 31 Jul 2015 6:01 pm
Operator : mihirm
Sample : jb99969-5
Misc : MS88818,VC7427,5.8,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 03 11:51:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



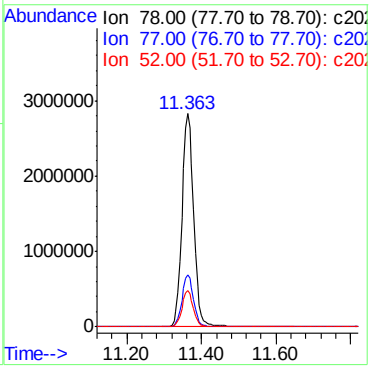
MC7426.M Mon Aug 03 11:51:30 2015 C

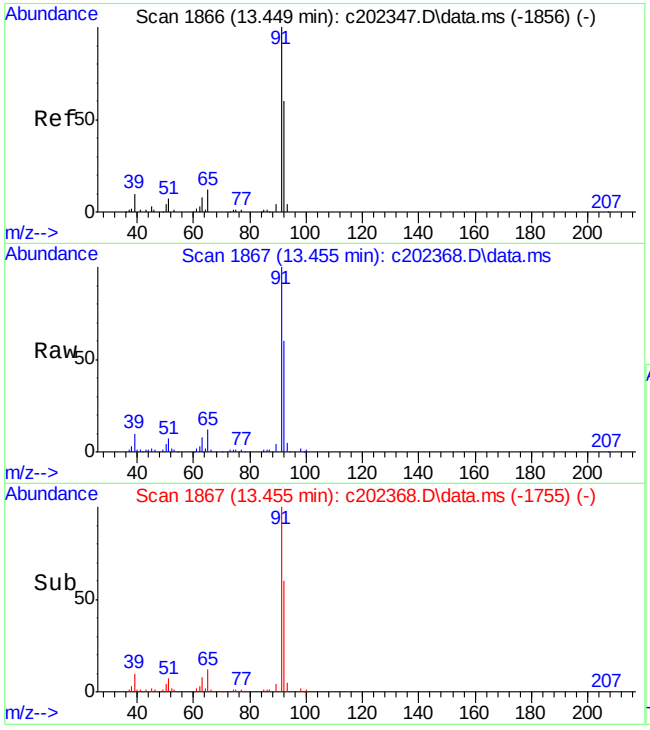


#65
benzene
Concen: 431.93 ug/L
RT: 11.363 min Scan# 1467
Delta R.T. 0.005 min
Lab File: c202368.D
Acq: 31 Jul 2015 6:01 pm

Tgt Ion: 78 Resp: 6099398

Ion	Ratio	Lower	Upper
78	100		
77	24.5	0.0	53.7
52	16.8	0.0	46.1

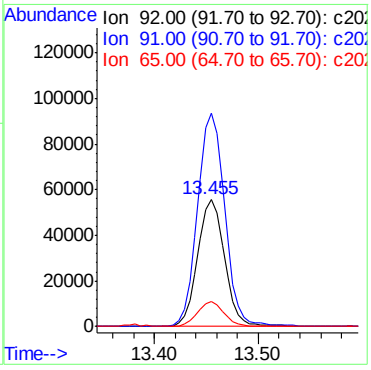


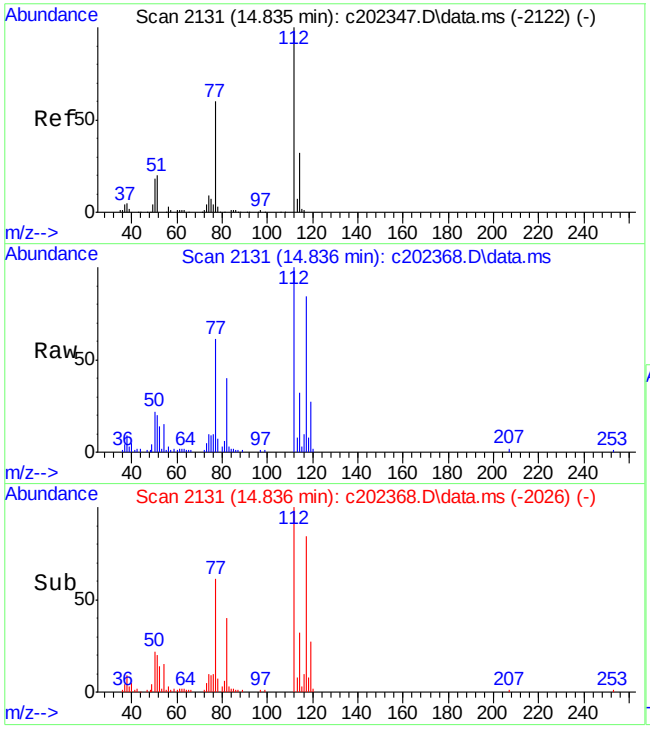


#82
toluene
Concen: 12.13 ug/L
RT: 13.455 min Scan# 1867
Delta R.T. 0.005 min
Lab File: c202368.D
Acq: 31 Jul 2015 6:01 pm

Tgt Ion: 92 Resp: 99452

Ion	Ratio	Lower	Upper
92	100		
91	167.3	137.2	197.2
65	19.4	0.0	49.7

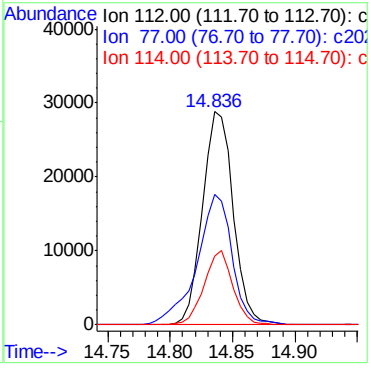


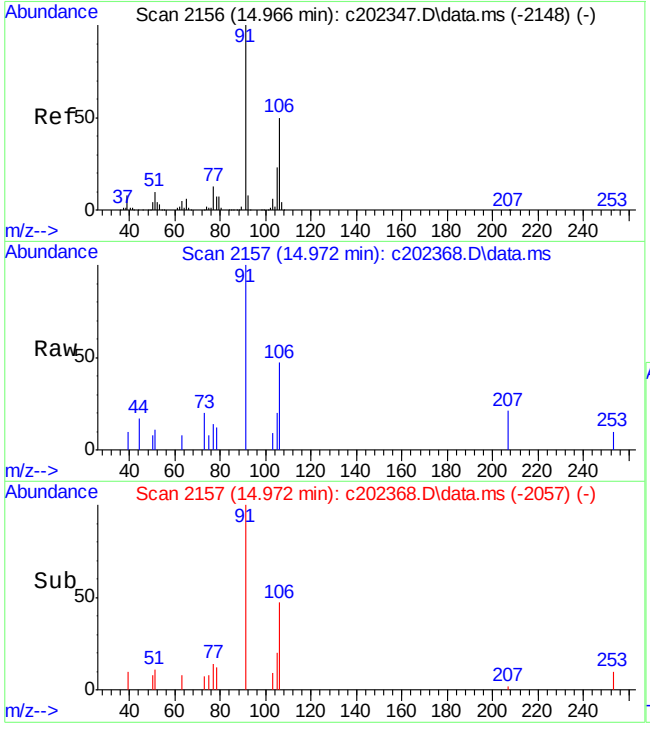


#97
chlorobenzene
Concen: 5.60 ug/L
RT: 14.836 min Scan# 2131
Delta R.T. 0.000 min
Lab File: c202368.D
Acq: 31 Jul 2015 6:01 pm

Tgt Ion:112 Resp: 49138

Ion	Ratio	Lower	Upper
112	100		
77	61.2	29.9	89.9
114	32.3	2.1	62.1

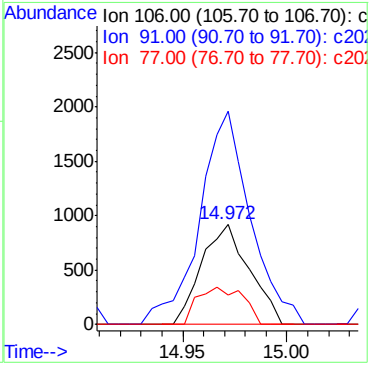




#100
m,p-xylene
Concen: 0.23 ug/L
RT: 14.972 min Scan# 2157
Delta R.T. 0.005 min
Lab File: c202368.D
Acq: 31 Jul 2015 6:01 pm

Tgt Ion:106 Resp: 1462

Ion	Ratio	Lower	Upper
106	100		
91	193.2	169.4	229.4
77	29.8	0.0	56.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228017.D
Acq On : 4 Aug 2015 1:45 pm
Operator : ThienN
Sample : jb99969-5cf
Misc : MS88818,VE9991,5.9,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 04 15:57:56 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.937	65	144980	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	300153	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.049	114	398574	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	354194	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	210519	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	129689	47.97	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.94%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	166234	49.96	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.92%			
76) toluene-d8 (s)	12.733	98	463049	49.08	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.16%			
103) 4-bromofluorobenzene (s)	15.652	95	194697	52.06	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.12%			

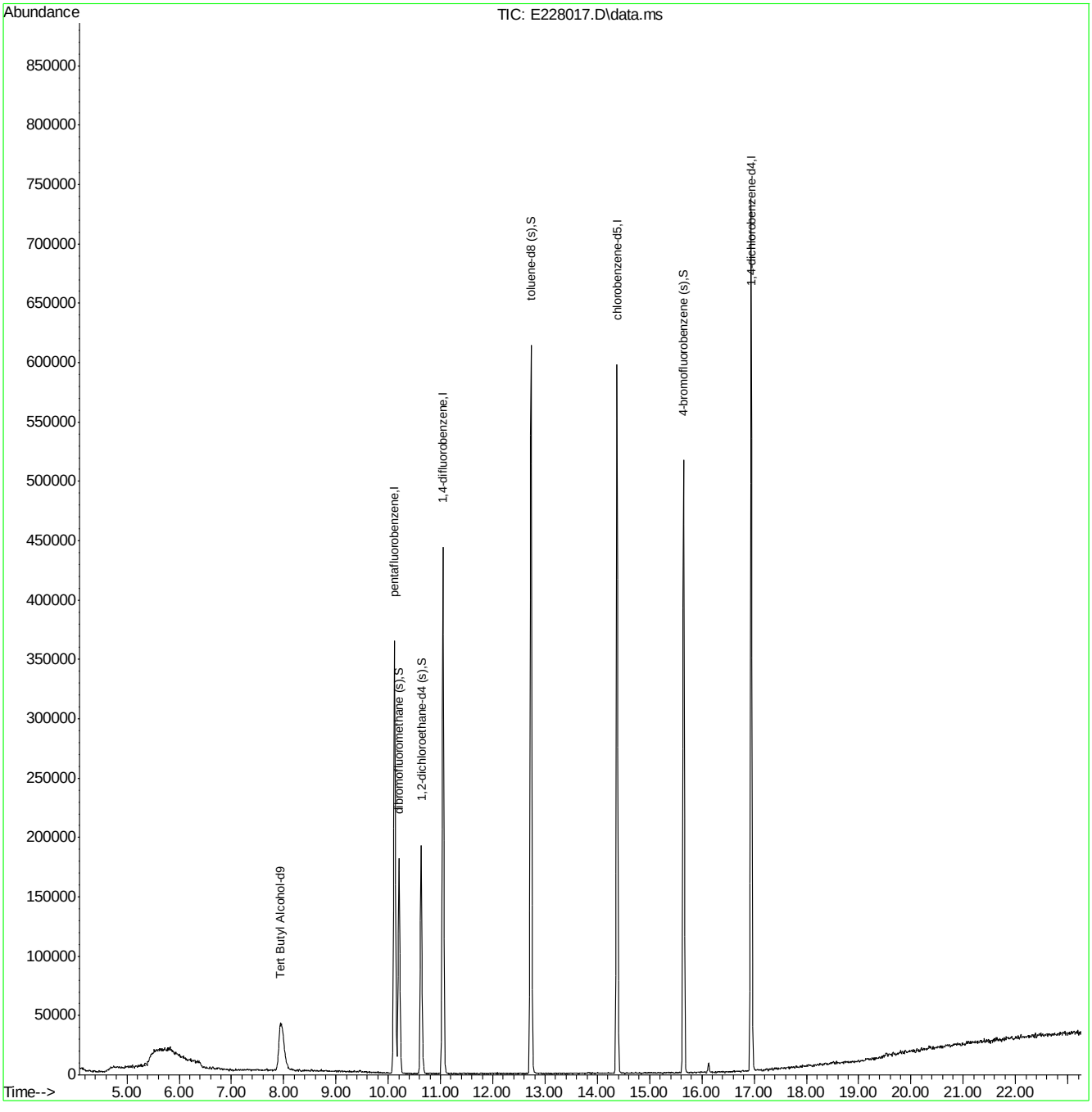
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228017.D
Acq On : 4 Aug 2015 1:45 pm
Operator : ThienN
Sample : jb99969-5cf
Misc : MS88818,VE9991,5.9,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 04 15:57:56 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202369.D
Acq On : 31 Jul 2015 6:29 pm
Operator : mihirm
Sample : jb99969-6
Misc : MS88818,VC7427,6.1,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 03 11:52:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.119	65	93921	500.00	ug/L	0.00
5) pentafluorobenzene	10.818	168	412764	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.775	114	557068	50.00	ug/L	0.00
88) chlorobenzene-d5	14.808	117	516255	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.827	152	260571	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.870	113	153429	48.86	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 97.72%			
51) 1,2-dichloroethane-d4 (s)	11.320	65	134722	48.98	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 97.96%			
80) toluene-d8 (s)	13.386	98	708990	51.72	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.44%			
106) 4-bromofluorobenzene (s)	15.839	174	202170	51.79	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.58%			

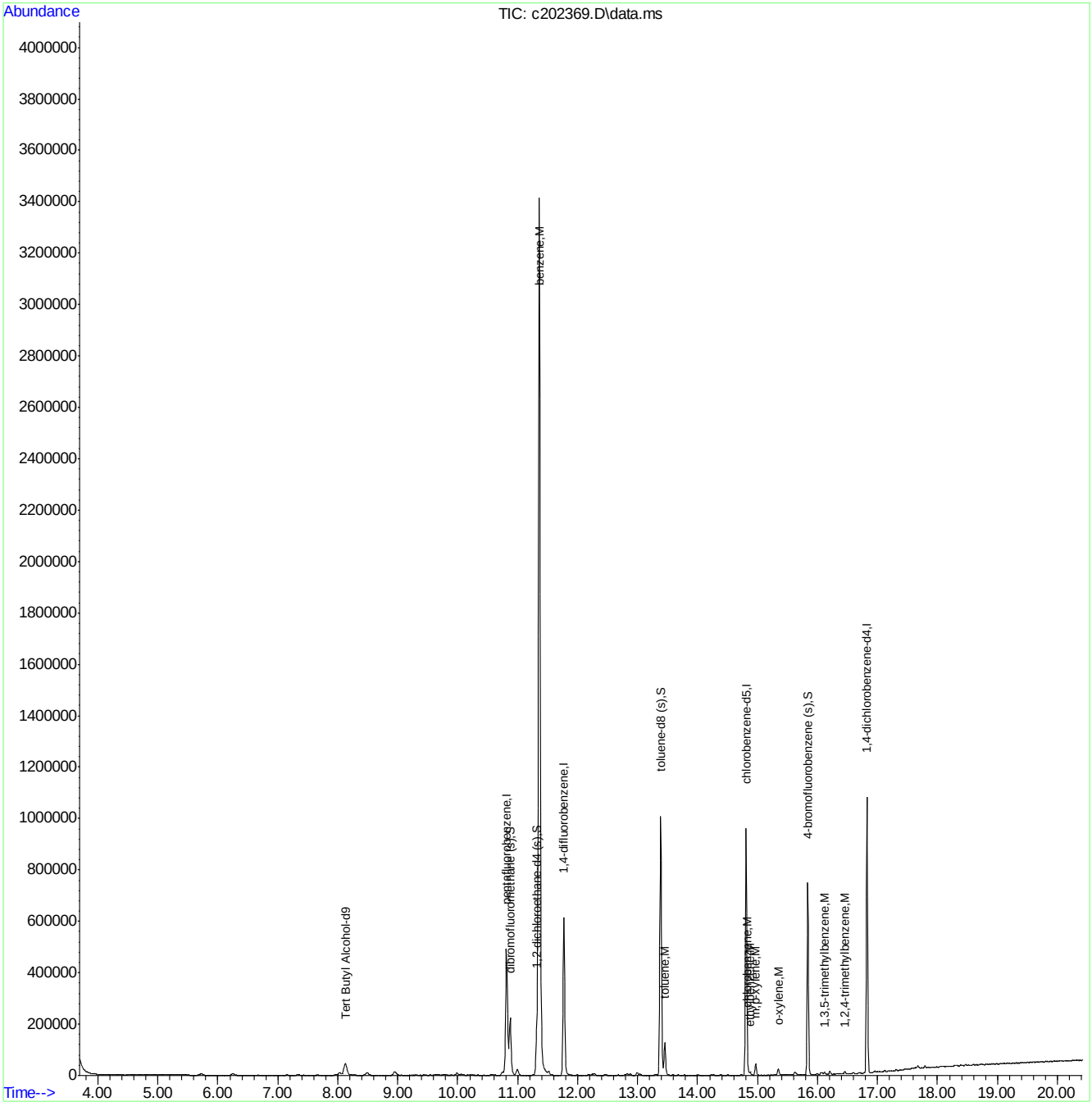
Target Compounds						Qvalue
65) benzene	11.362	78	3412239	242.66	ug/L	100
82) toluene	13.454	92	54463	6.67	ug/L	100
97) chlorobenzene	14.840	112	4220	0.47	ug/L	88
99) ethylbenzene	14.876	91	9365	0.55	ug/L	92
100) m,p-xylene	14.971	106	14203	2.21	ug/L	95
101) o-xylene	15.347	106	6193	0.97	ug/L	98
115) 1,3,5-trimethylbenzene	16.111	105	4855	0.35	ug/L	92
118) 1,2,4-trimethylbenzene	16.456	105	4711	0.34	ug/L	89

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

Quantitation Report (QT Reviewed)

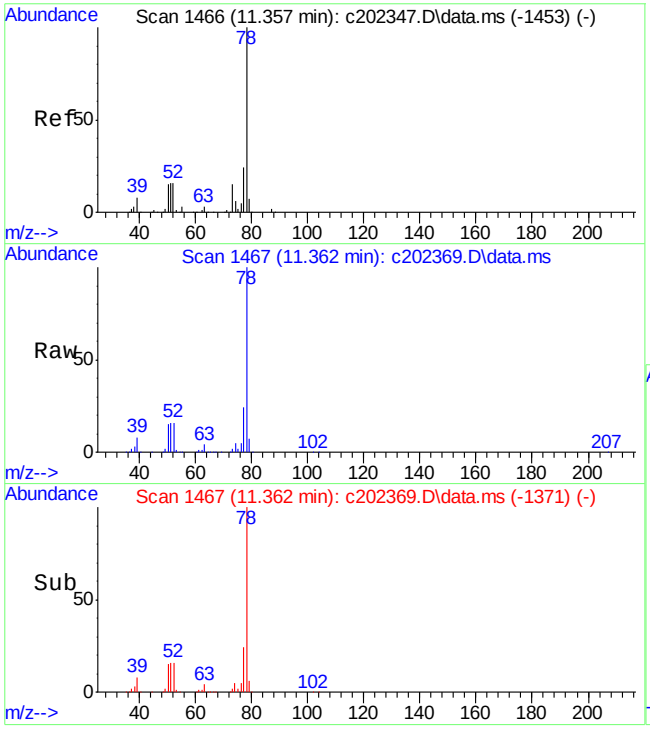
Data Path : C:\msdchem\1\DATA\
Data File : c202369.D
Acq On : 31 Jul 2015 6:29 pm
Operator : mihirm
Sample : jb99969-6
Misc : MS88818,VC7427,6.1,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 03 11:52:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



MC7426.M Mon Aug 03 11:52:46 2015 C

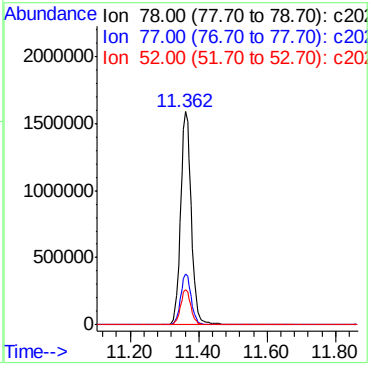
Page: 2

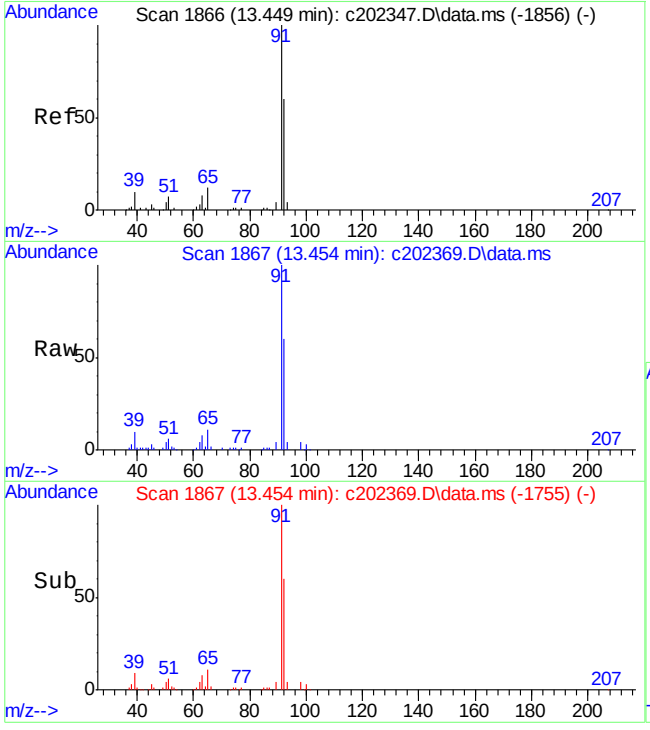


#65
benzene
Concen: 242.66 ug/L
RT: 11.362 min Scan# 1467
Delta R.T. 0.004 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion: 78 Resp: 3412239

Ion	Ratio	Lower	Upper
78	100		
77	23.8	0.0	53.7
52	16.2	0.0	46.1

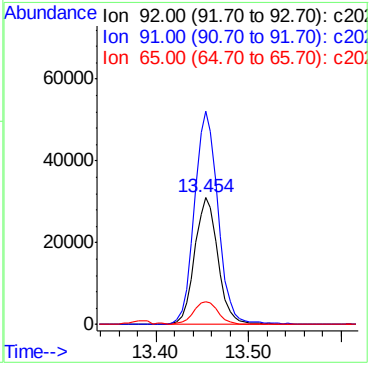


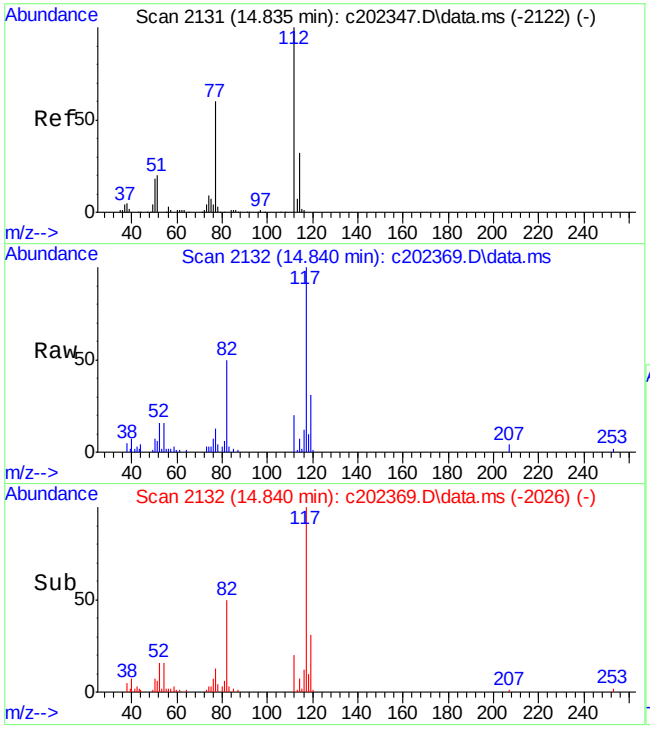


#82
toluene
Concen: 6.67 ug/L
RT: 13.454 min Scan# 1867
Delta R.T. 0.004 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion: 92 Resp: 54463

Ion	Ratio	Lower	Upper
92	100		
91	167.3	137.2	197.2
65	18.3	0.0	49.7

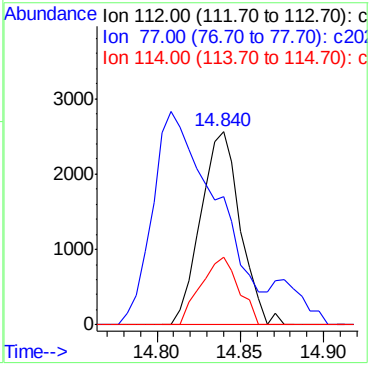


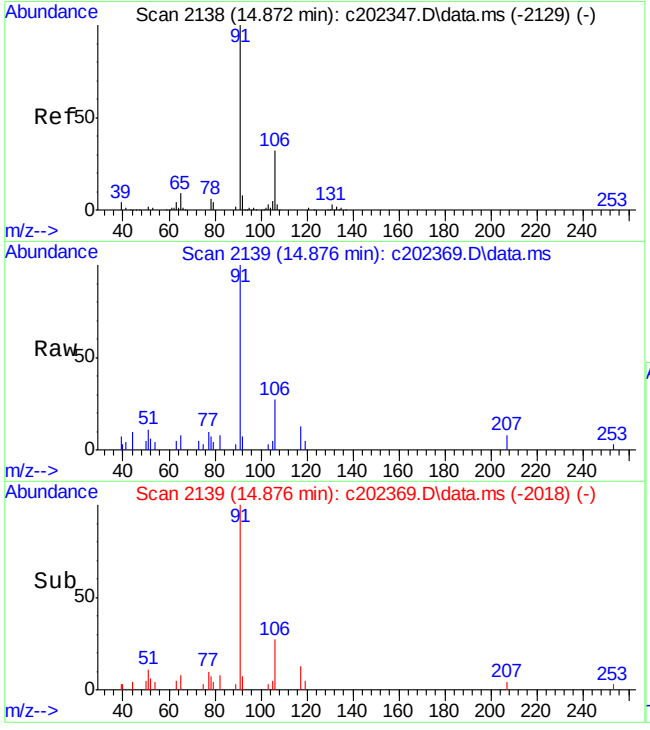


#97
chlorobenzene
Concen: 0.47 ug/L
RT: 14.840 min Scan# 2132
Delta R.T. 0.004 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion:112 Resp: 4220

Ion	Ratio	Lower	Upper
112	100		
77	47.7	29.9	89.9
114	34.8	2.1	62.1

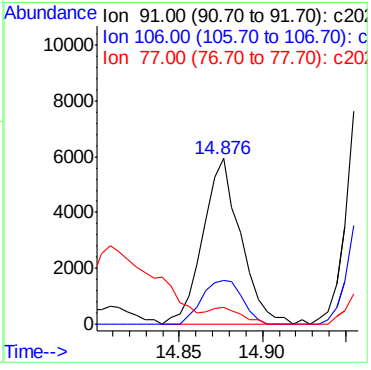


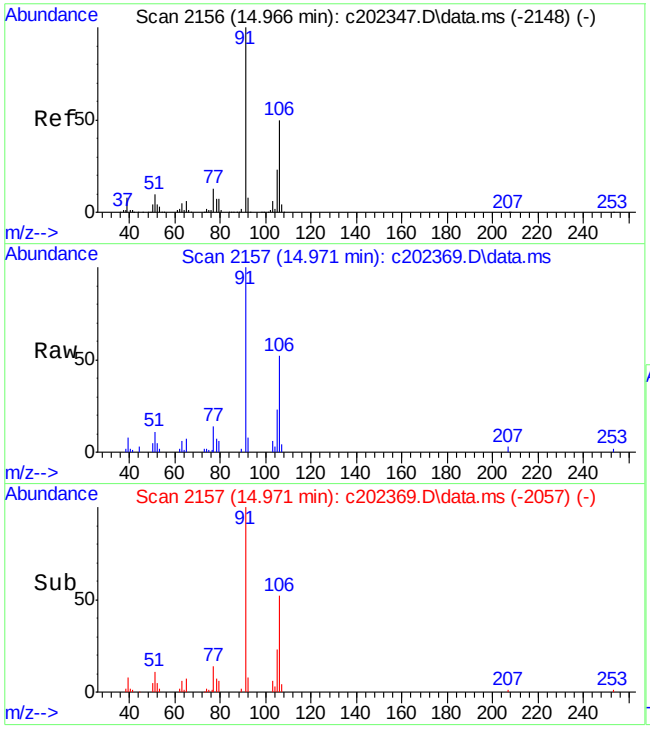


#99
ethylbenzene
Concen: 0.55 ug/L
RT: 14.876 min Scan# 2139
Delta R.T. 0.004 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion: 91 Resp: 9365

Ion	Ratio	Lower	Upper
91	100		
106	26.5	1.6	61.6
77	10.2	0.0	38.9

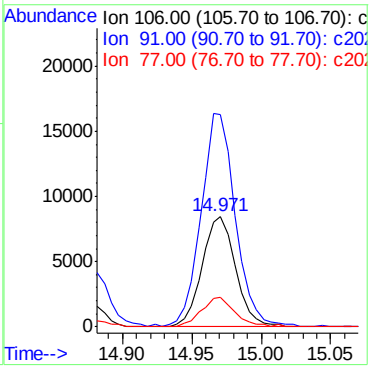


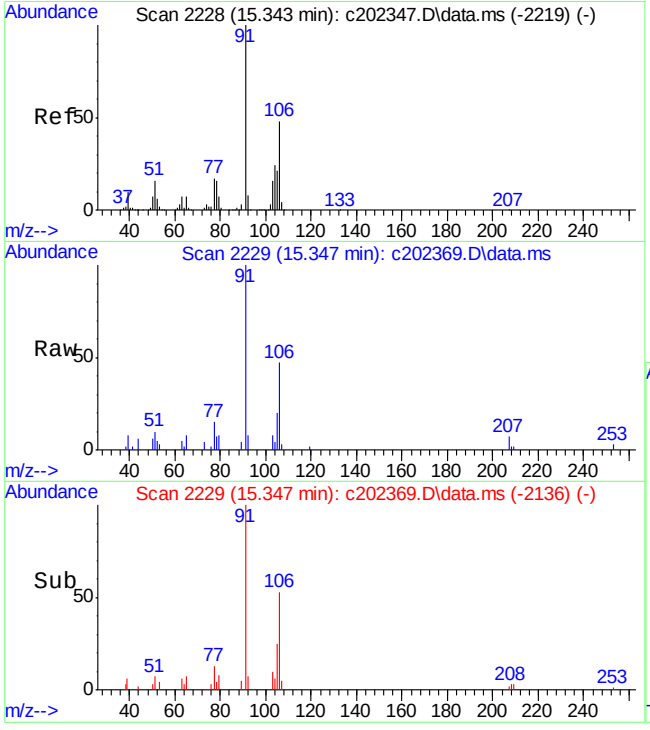


#100
m,p-xylene
Concen: 2.21 ug/L
RT: 14.971 min Scan# 2157
Delta R.T. 0.004 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion:106 Resp: 14203

Ion	Ratio	Lower	Upper
106	100		
91	191.4	169.4	229.4
77	26.2	0.0	56.6

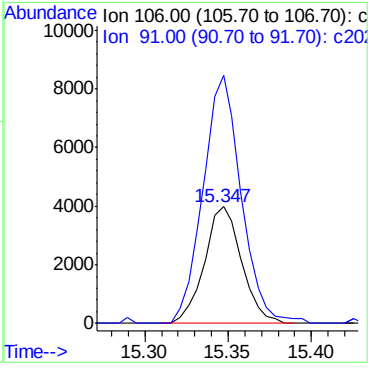


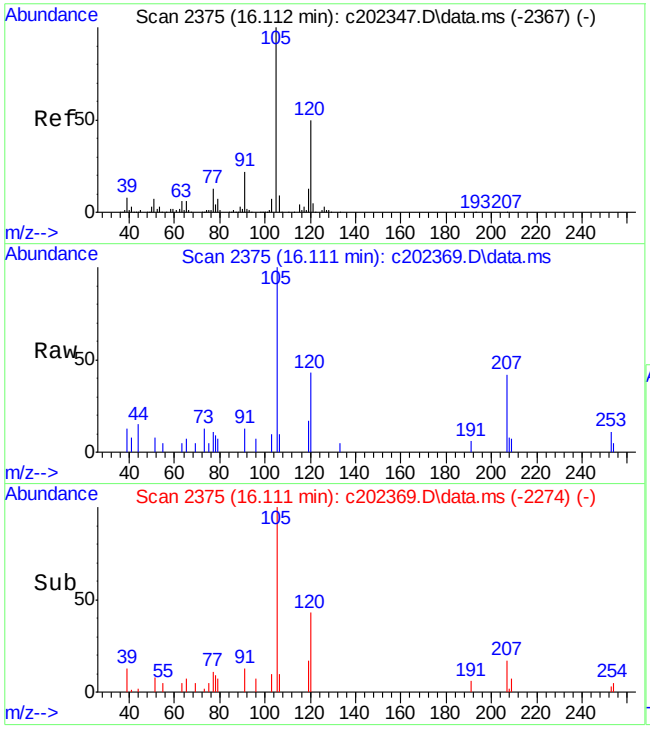


#101
o-xylene
Concen: 0.97 ug/L
RT: 15.347 min Scan# 2229
Delta R.T. 0.004 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion:106 Resp: 6193

Ion	Ratio	Lower	Upper
106	100		
91	212.4	179.5	239.5

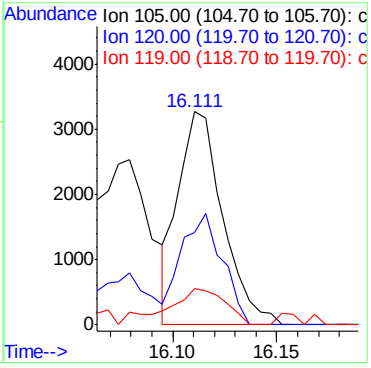


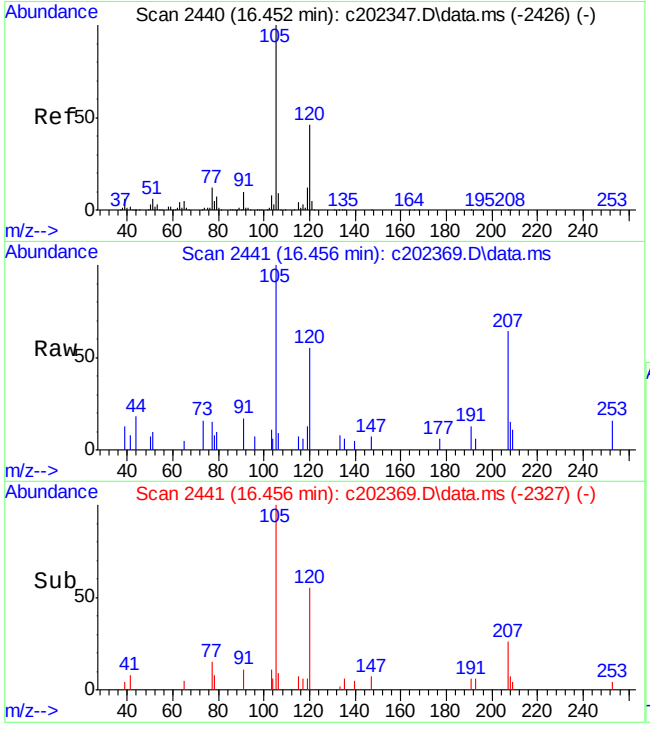


#115
1,3,5-trimethylbenzene
Concen: 0.35 ug/L
RT: 16.111 min Scan# 2375
Delta R.T. -0.001 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion:105 Resp: 4855

Ion	Ratio	Lower	Upper
105	100		
120	43.1	19.9	79.9
119	12.3	0.0	42.7

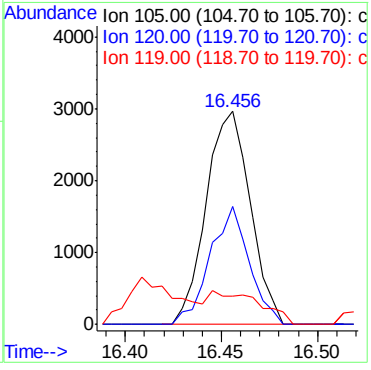




#118
1,2,4-trimethylbenzene
Concen: 0.34 ug/L
RT: 16.456 min Scan# 2441
Delta R.T. 0.004 min
Lab File: c202369.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion:105 Resp: 4711

Ion	Ratio	Lower	Upper
105	100		
120	55.4	16.4	76.4
119	13.4	0.0	42.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228018.D
Acq On : 4 Aug 2015 2:15 pm
Operator : ThienN
Sample : jb99969-6
Misc : MS88818,VE9991,5.8,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 04 15:59:00 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.948	65	141613	500.00	ug/L	0.00
4) pentafluorobenzene	10.119	168	293049	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.044	114	388330	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	341997	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	201747	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	124935	47.33	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 94.66%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	160892	49.52	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.04%			
76) toluene-d8 (s)	12.728	98	449607	48.92	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.84%			
103) 4-bromofluorobenzene (s)	15.652	95	186450	52.03	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.06%			

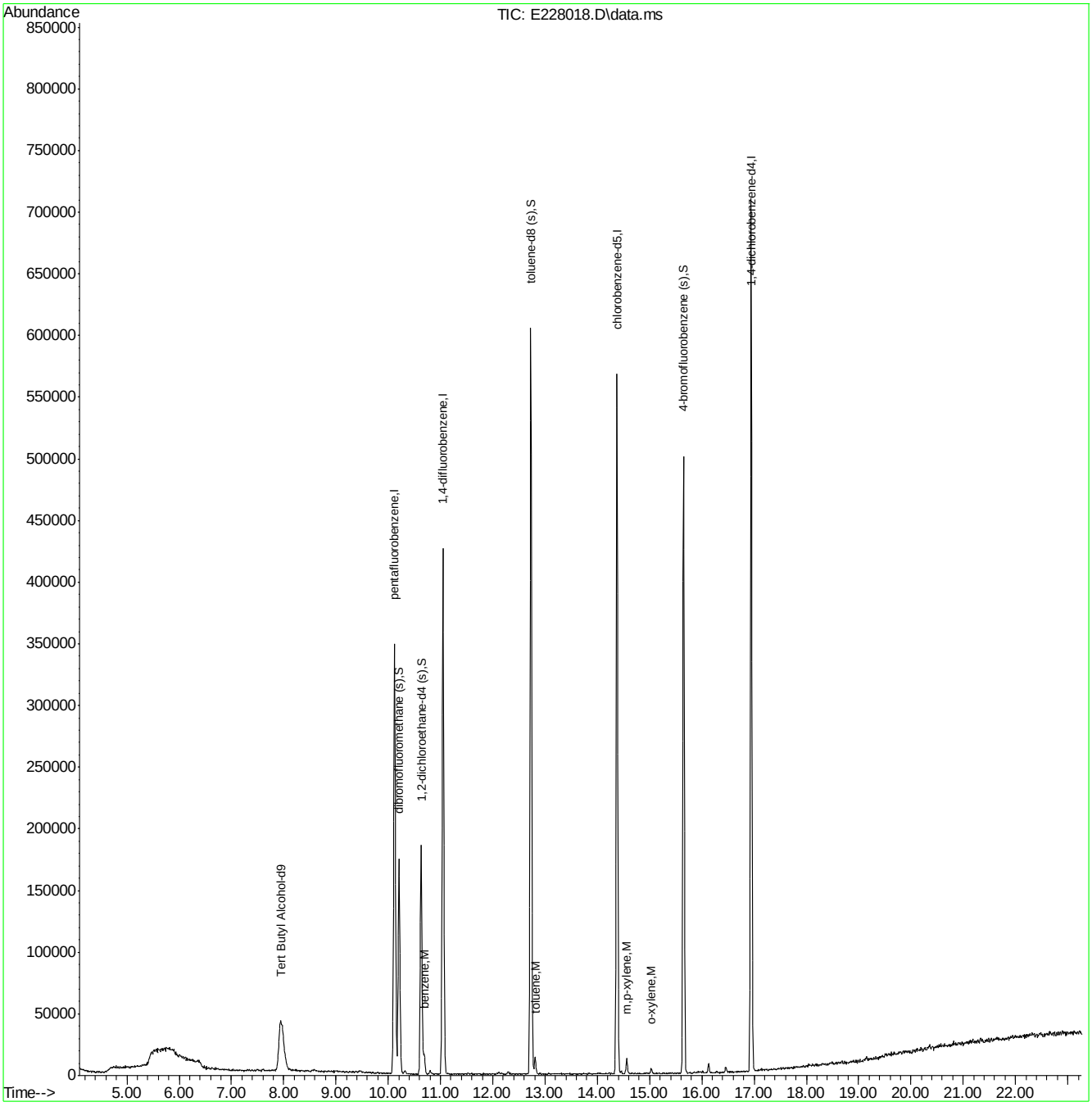
Target Compounds						Qvalue
62) benzene	10.689	78	14850	1.27	ug/L	91
78) toluene	12.812	92	6586	0.94	ug/L	99
96) m,p-xylene	14.564	106	3828	0.79	ug/L	97
97) o-xylene	15.035	106	1191	0.23	ug/L #	81

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

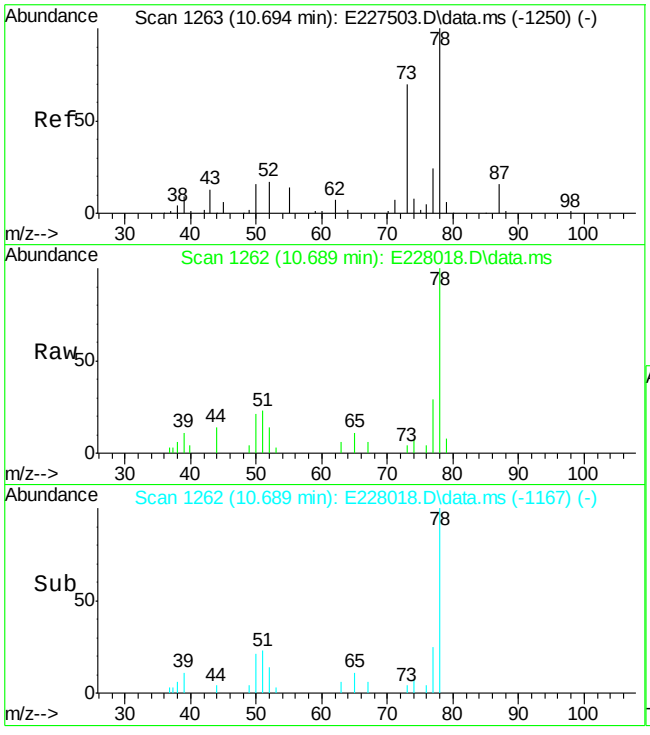
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228018.D
Acq On : 4 Aug 2015 2:15 pm
Operator : ThienN
Sample : jb99969-6
Misc : MS88818,VE9991,5.8,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 04 15:59:00 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



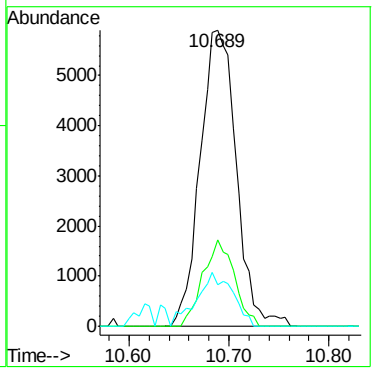
ME9972.M Tue Aug 04 15:59:08 2015 RPT1 Page: 2

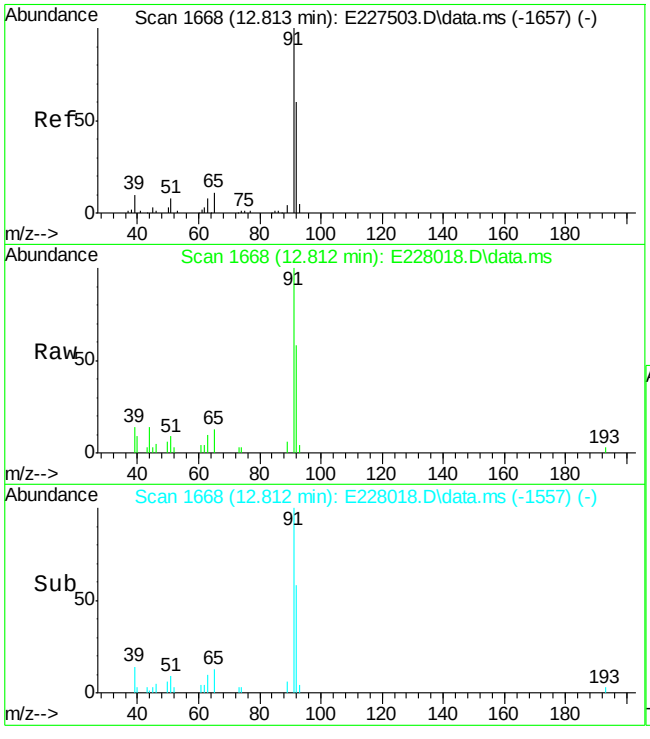


#62
benzene
Concen: 1.27 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.001 min
Lab File: E228018.D
Acq: 4 Aug 2015 2:15 pm

Tgt Ion: 78 Resp: 14850

Ion	Ratio	Lower	Upper
78	100		
77	29.0	0.0	53.9
52	14.2	0.0	46.9

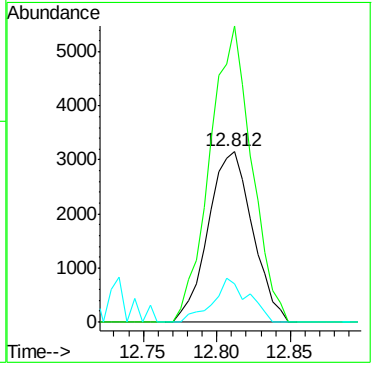


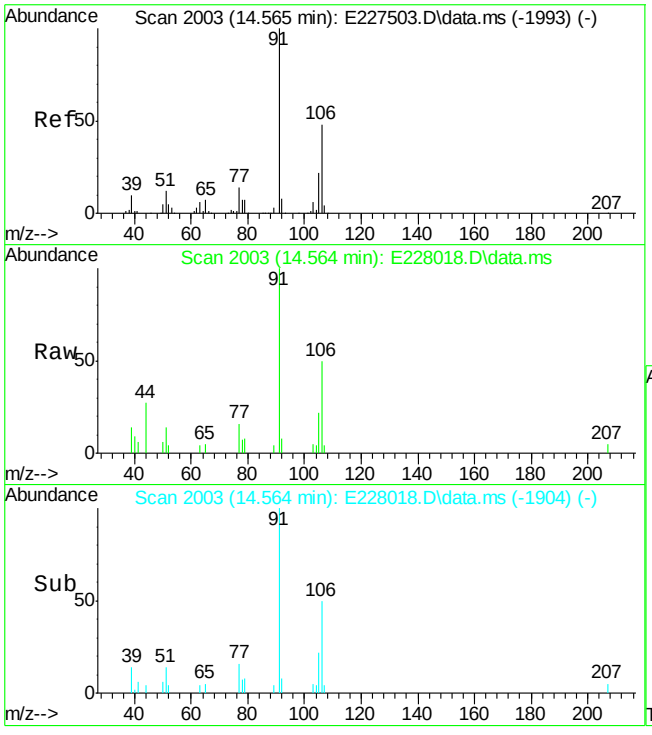


#78
toluene
Concen: 0.94 ug/L
RT: 12.812 min Scan# 1668
Delta R.T. -0.001 min
Lab File: E228018.D
Acq: 4 Aug 2015 2:15 pm

Tgt Ion: 92 Resp: 6586

Ion	Ratio	Lower	Upper
92	100		
91	173.4	141.7	201.7
65	22.3	0.0	50.9

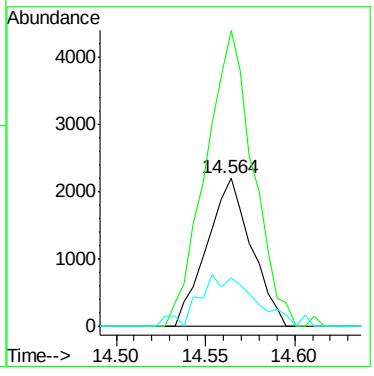


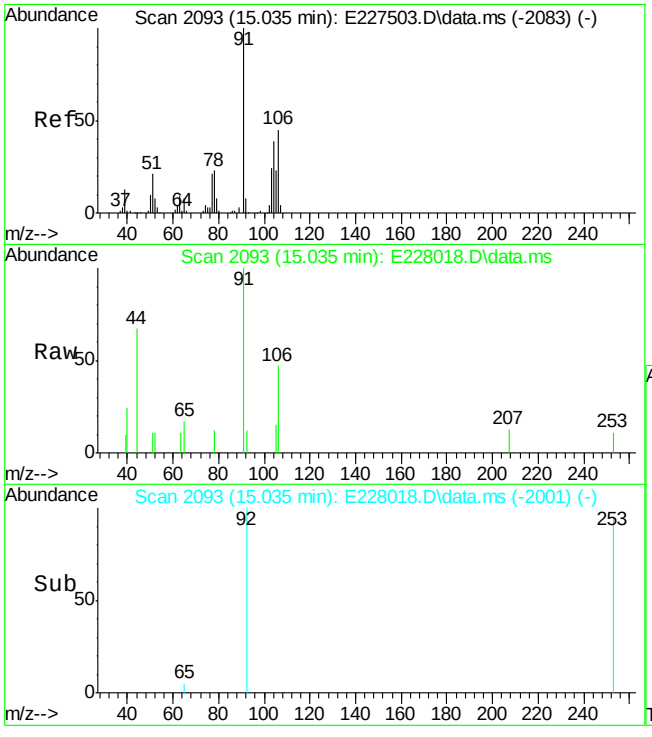


#96
m,p-xylene
Concen: 0.79 ug/L
RT: 14.564 min Scan# 2003
Delta R.T. -0.001 min
Lab File: E228018.D
Acq: 4 Aug 2015 2:15 pm

Tgt Ion:106 Resp: 3828

Ion	Ratio	Lower	Upper
106	100		
91	199.2	173.3	233.3
77	32.6	0.0	57.8

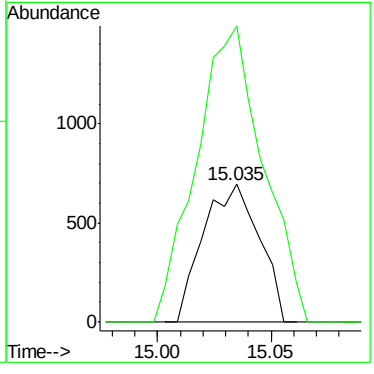




#97
o-xylene
Concen: 0.23 ug/L
RT: 15.035 min Scan# 2093
Delta R.T. -0.001 min
Lab File: E228018.D
Acq: 4 Aug 2015 2:15 pm

Tgt Ion:106 Resp: 1191

Ion	Ratio	Lower	Upper
106	100		
91	188.9	189.9	249.9#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3v\V3V891\
Data File : 3V21454.D
Acq On : 3 Aug 2015 12:17 pm
Operator : thienn
Sample : jb99969-7
Misc : MS88866,V3V891,5.3,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 04 12:59:06 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration

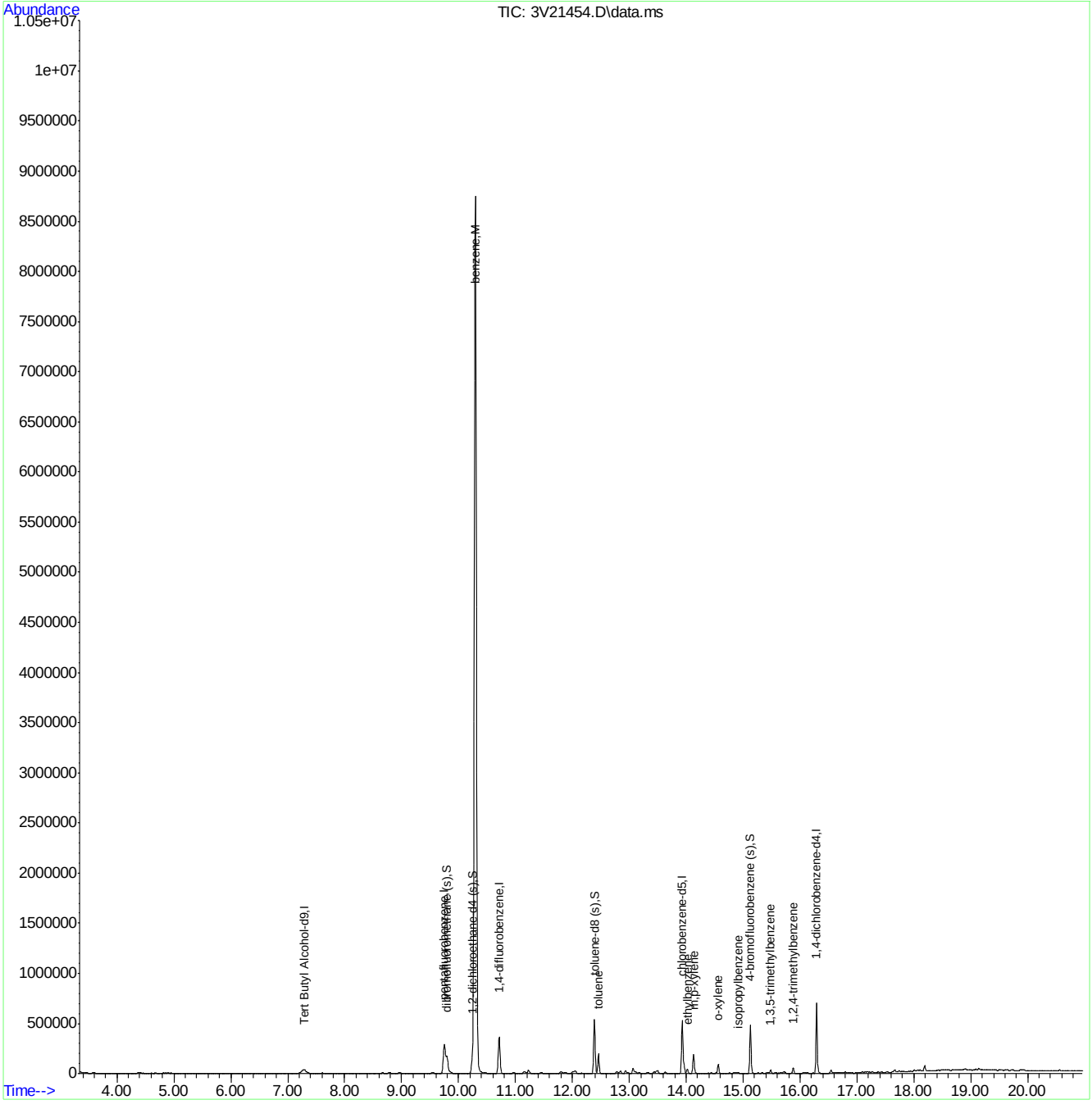
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.285	65	106016	500.00	ug/L	0.00
5) pentafluorobenzene	9.749	168	283075	50.00	ug/L	0.00
49) 1,4-difluorobenzene	10.714	114	354203	50.00	ug/L	0.00
79) chlorobenzene-d5	13.933	117	296862	50.00	ug/L	0.00
93) 1,4-dichlorobenzene-d4	16.292	152	184917	50.00	ug/L	0.00
System Monitoring Compounds						
43) dibromofluoromethane (s)	9.796	113	126576	50.64	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 101.28%			
44) 1,2-dichloroethane-d4 (s)	10.242	65	108569	50.22	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.44%			
71) toluene-d8 (s)	12.386	98	381709	48.65	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.30%			
95) 4-bromofluorobenzene (s)	15.128	95	159669	48.28	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 96.56%			
Target Compounds						Qvalue
57) benzene	10.294	78	10493902	1146.64	ug/L	99
73) toluene	12.460	91	153686	16.72	ug/L	99
88) ethylbenzene	14.017	91	29699	2.97	ug/L	97
89) m,p-xylene	14.132	106	56819	15.15	ug/L	98
90) o-xylene	14.562	106	26652	6.80	ug/L	97
94) isopropylbenzene	14.913	105	3606	0.36	ug/L	97
104) 1,3,5-trimethylbenzene	15.485	105	3745	0.41	ug/L	96
107) 1,2,4-trimethylbenzene	15.878	105	30483	3.19	ug/L	97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3v\V3V891\
Data File : 3V21454.D
Acq On : 3 Aug 2015 12:17 pm
Operator : thienn
Sample : jb99969-7
Misc : MS88866,V3V891,5.3,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 04 12:59:06 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration



M3V880.M Tue Aug 04 13:23:40 2015 DATAREVIW

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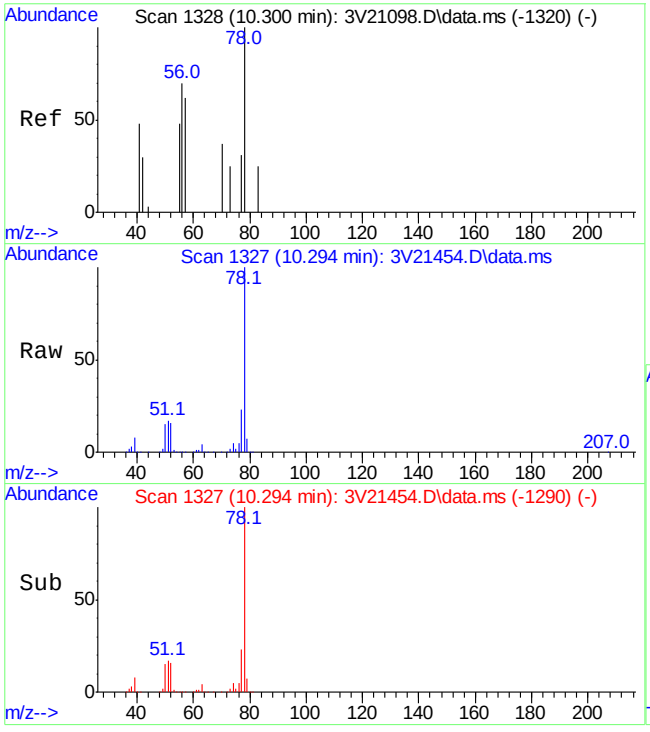
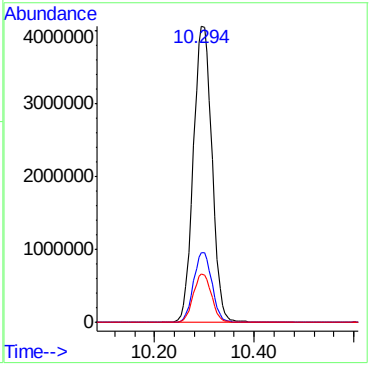
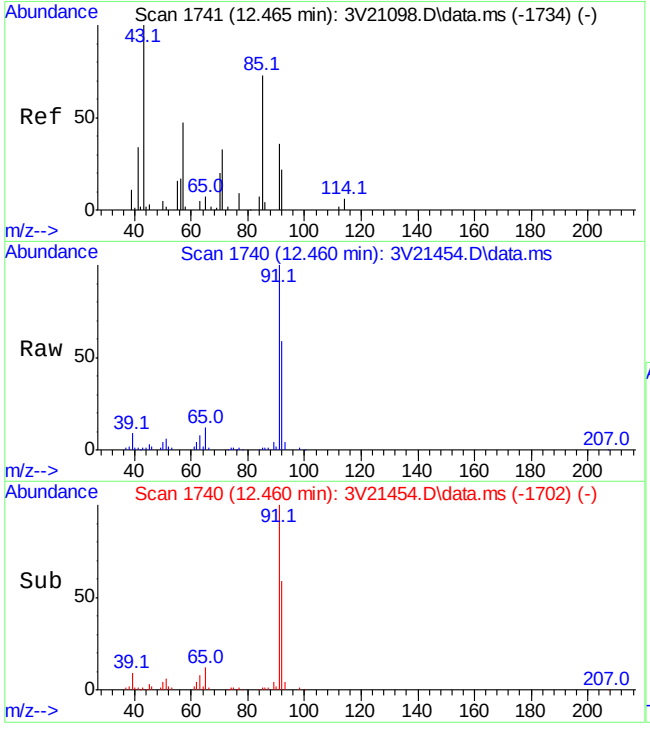


#57
benzene
Concen: 1146.64 ug/L
RT: 10.294 min Scan# 1327
Delta R.T. -0.005 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion: 78 Resp:10493902

Ion	Ratio	Lower	Upper
78	100		
77	23.5	0.0	53.3
52	16.3	0.0	45.8

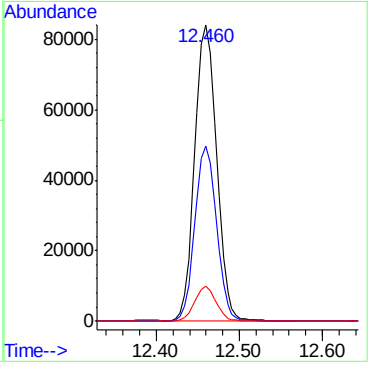


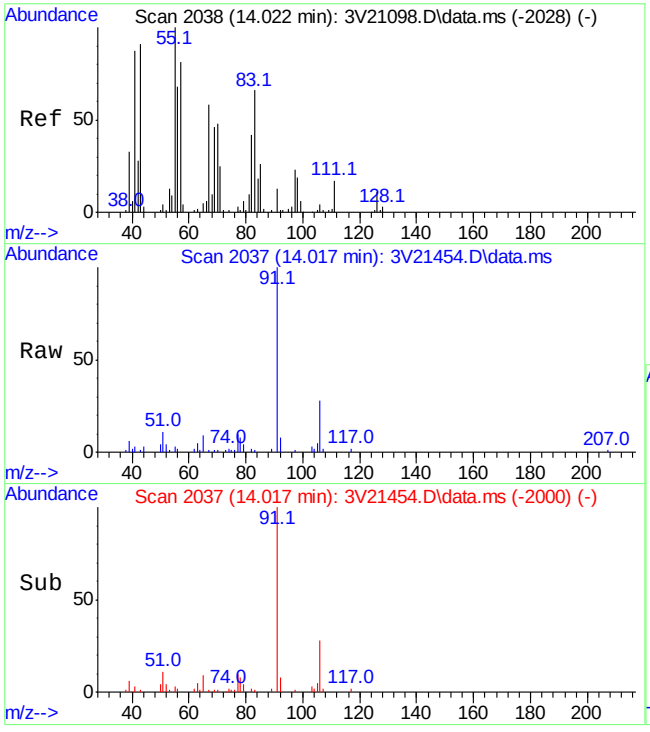


#73
toluene
Concen: 16.72 ug/L
RT: 12.460 min Scan# 1740
Delta R.T. -0.000 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion: 91 Resp: 153686

Ion	Ratio	Lower	Upper
91	100		
92	59.2	28.4	88.4
65	11.6	0.0	41.7

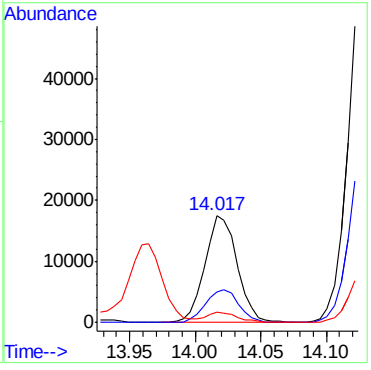


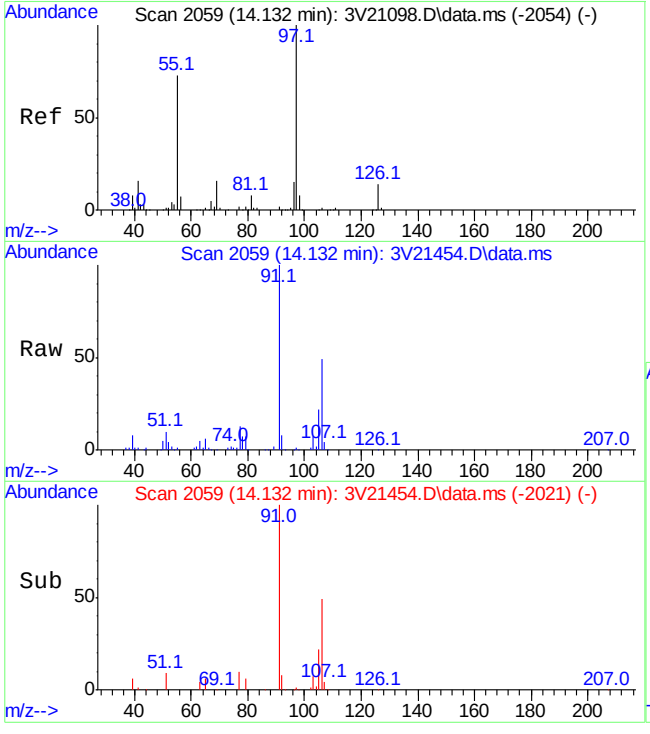


#88
ethylbenzene
Concen: 2.97 ug/L
RT: 14.017 min Scan# 2037
Delta R.T. -0.005 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion: 91 Resp: 29699

Ion	Ratio	Lower	Upper
91	100		
106	28.4	0.0	60.0
77	9.6	0.0	38.4

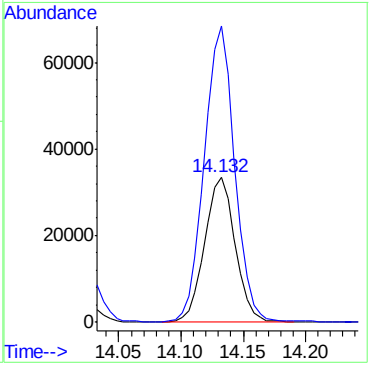


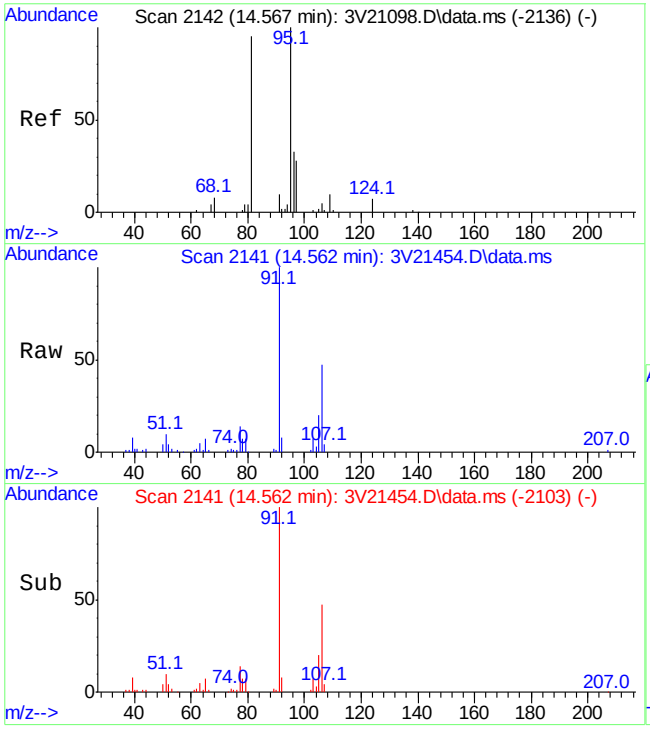


#89
m,p-xylene
Concen: 15.15 ug/L
RT: 14.132 min Scan# 2059
Delta R.T. -0.000 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion:106 Resp: 56819

Ion	Ratio	Lower	Upper
106	100		
91	203.9	144.9	269.1

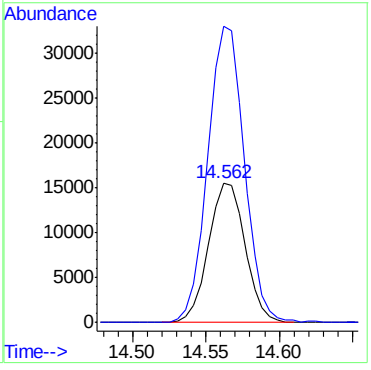


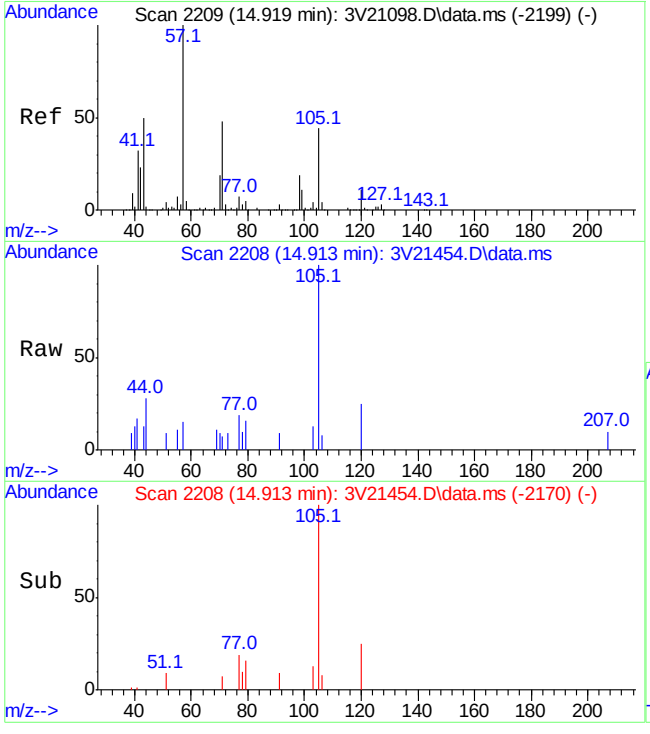


#90
o-xylene
Concen: 6.80 ug/L
RT: 14.562 min Scan# 2141
Delta R.T. -0.000 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion:106 Resp: 26652

Ion	Ratio	Lower	Upper
106	100		
91	212.4	151.9	282.1

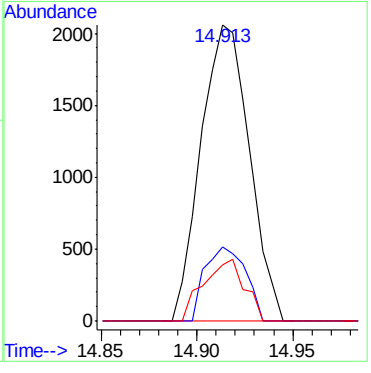


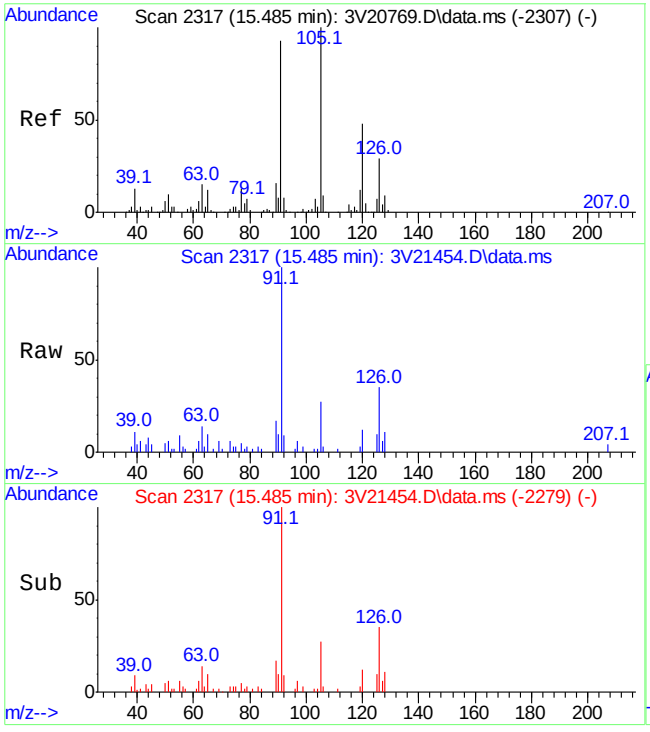


#94
isopropylbenzene
Concen: 0.36 ug/L
RT: 14.913 min Scan# 2208
Delta R.T. -0.000 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion:105 Resp: 3606

Ion	Ratio	Lower	Upper
105	100		
120	25.2	0.0	55.2
77	19.1	0.0	46.1

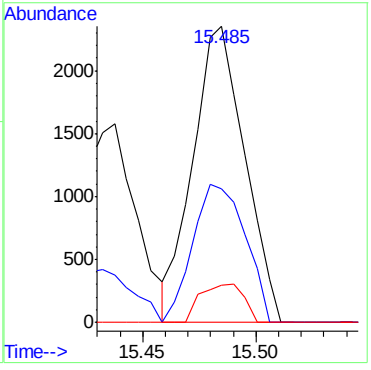


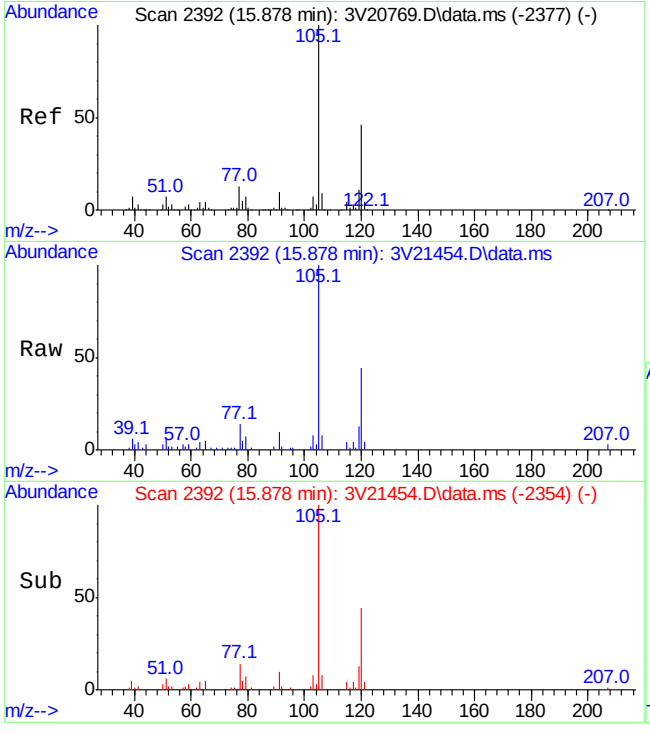


#104
1,3,5-trimethylbenzene
Concen: 0.41 ug/L
RT: 15.485 min Scan# 2317
Delta R.T. -0.000 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion:105 Resp: 3745

Ion	Ratio	Lower	Upper
105	100		
120	45.0	18.3	78.3
119	12.4	0.0	41.9

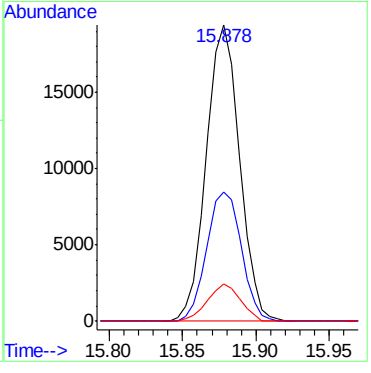




#107
1,2,4-trimethylbenzene
Concen: 3.19 ug/L
RT: 15.878 min Scan# 2392
Delta R.T. -0.000 min
Lab File: 3V21454.D
Acq: 3 Aug 2015 12:17 pm

Tgt Ion:105 Resp: 30483

Ion	Ratio	Lower	Upper
105	100		
120	43.6	15.6	75.6
119	12.6	0.0	41.3



7.1.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227953.D
Acq On : 31 Jul 2015 11:55 am
Operator : ThienN
Sample : jb99969-7
Misc : MS88818,VE9988,5.2,,100,10,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 31 12:21:24 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.949	65	140725	500.00	ug/L	0.01
4) pentafluorobenzene	10.119	168	264817	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.045	114	351703	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	310577	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	183022	50.00	ug/L	0.00

System Monitoring Compounds						
47) dibromofluoromethane (s)	10.208	113	113628	47.64	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.28%			
48) 1,2-dichloroethane-d4 (s)	10.626	65	146541	49.92	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.84%			
76) toluene-d8 (s)	12.729	98	403625	48.49	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 96.98%			
103) 4-bromofluorobenzene (s)	15.647	95	166774	51.30	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.60%			

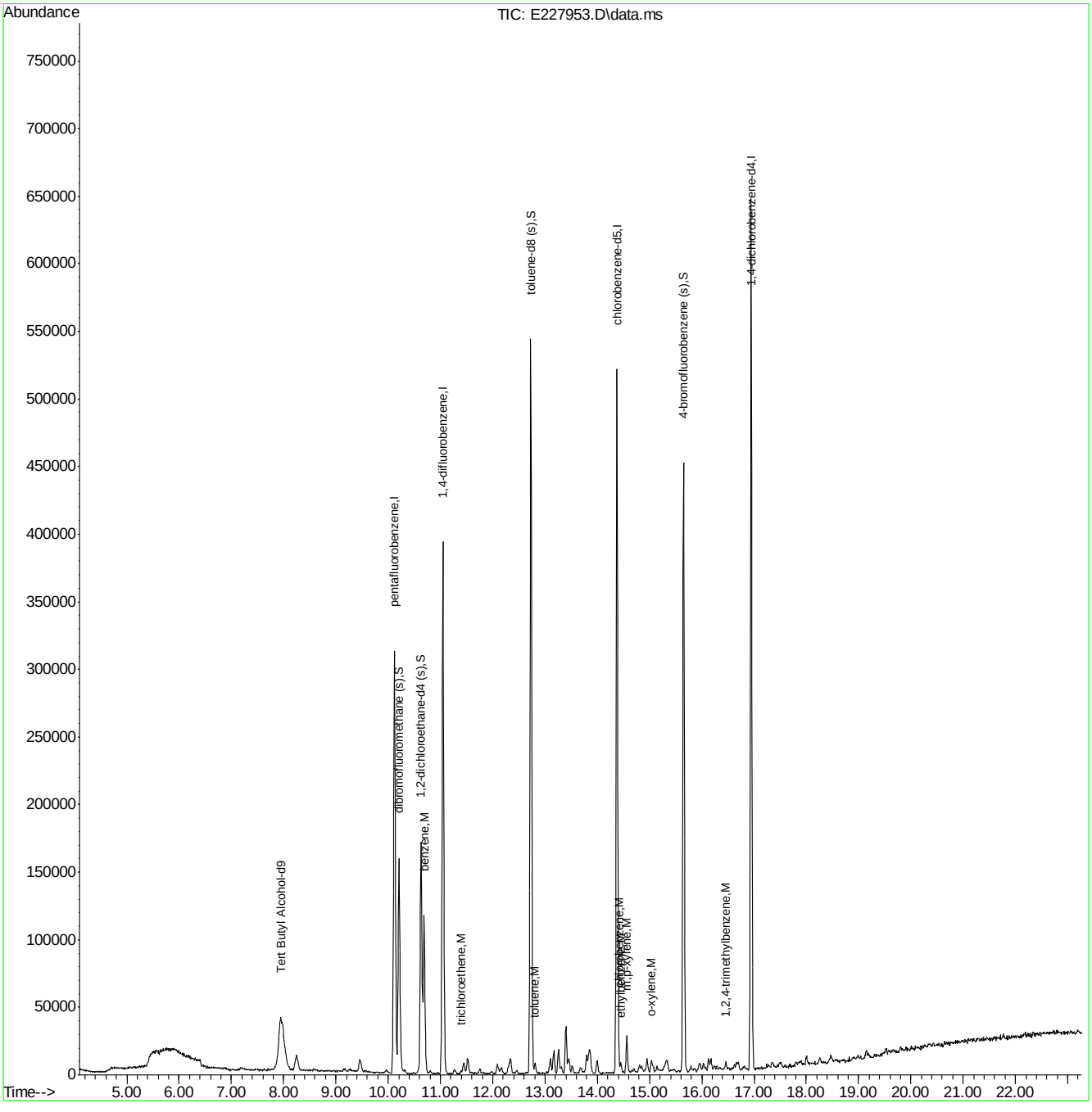
Target Compounds						Qvalue
62) benzene	10.684	78	115112	10.87	ug/L	98
67) trichloroethene	11.400	95	761	0.30	ug/L #	78
78) toluene	12.802	92	3779	0.60	ug/L	100
93) chlorobenzene	14.413	112	3040	0.46	ug/L	75
95) ethylbenzene	14.450	91	5013	0.42	ug/L	92
96) m,p-xylene	14.565	106	8407	1.90	ug/L	96
97) o-xylene	15.030	106	2445	0.53	ug/L	84
116) 1,2,4-trimethylbenzene	16.463	105	3330	0.32	ug/L	99

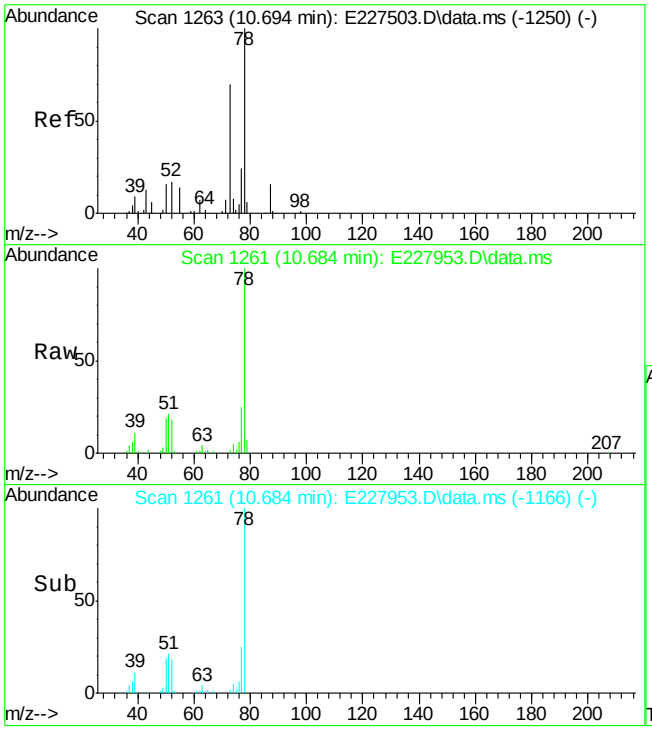
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227953.D
Acq On : 31 Jul 2015 11:55 am
Operator : ThienN
Sample : jb99969-7
Misc : MS88818,VE9988,5.2,,100,10,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 31 12:21:24 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

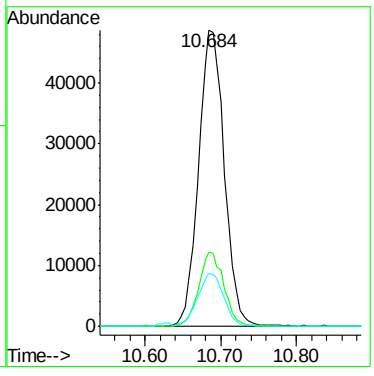


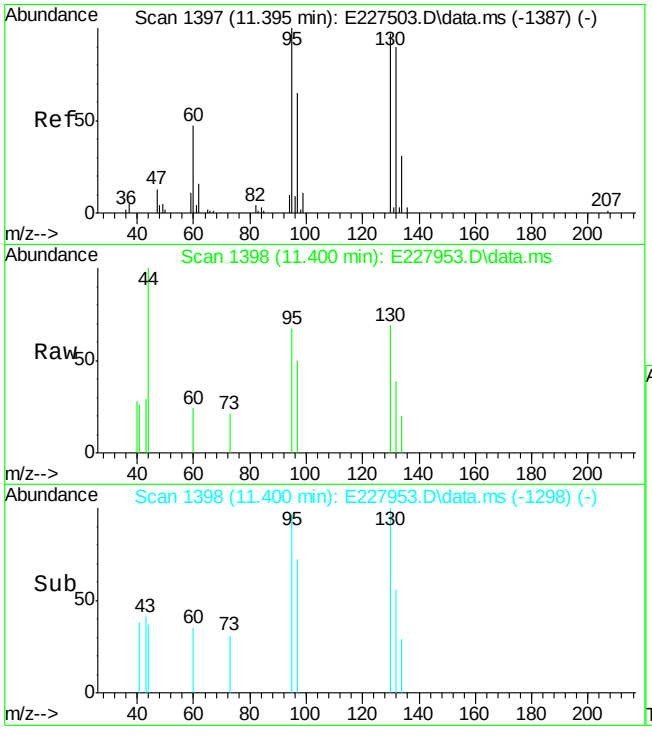


#62
benzene
Concen: 10.87 ug/L
RT: 10.684 min Scan# 1261
Delta R.T. -0.005 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion: 78 Resp: 115112

Ion	Ratio	Lower	Upper
78	100		
77	25.1	0.0	53.9
52	17.9	0.0	46.9

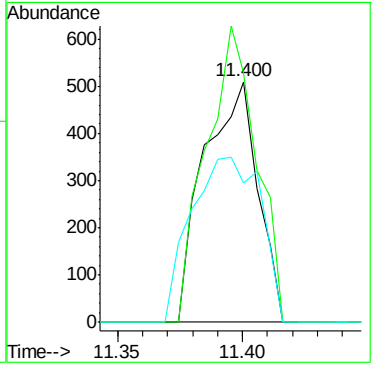


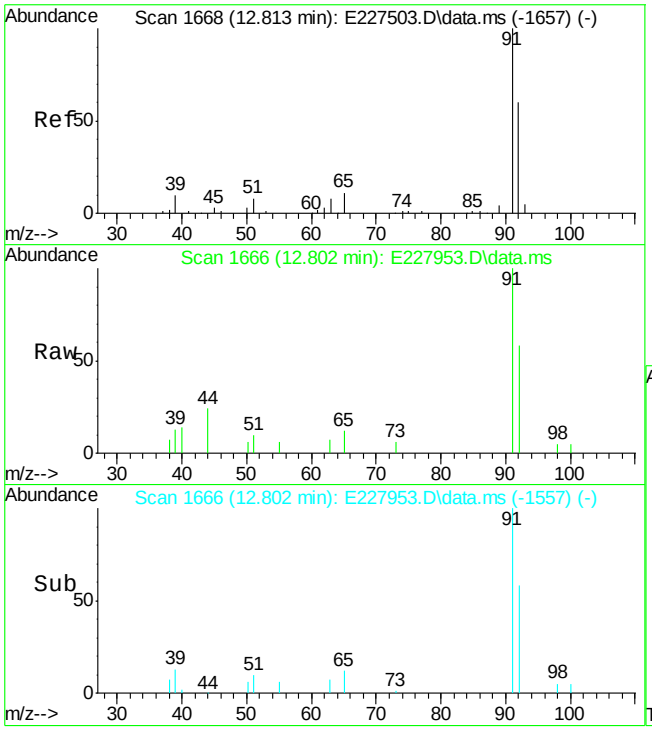


#67
trichloroethene
Concen: 0.30 ug/L
RT: 11.400 min Scan# 1398
Delta R.T. 0.005 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion: 95 Resp: 761

Ion	Ratio	Lower	Upper
95	100		
130	103.5	66.9	126.9
132	57.8	63.9	123.9#

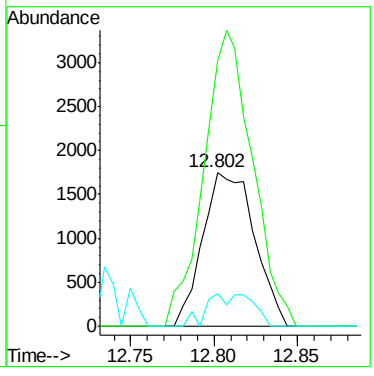


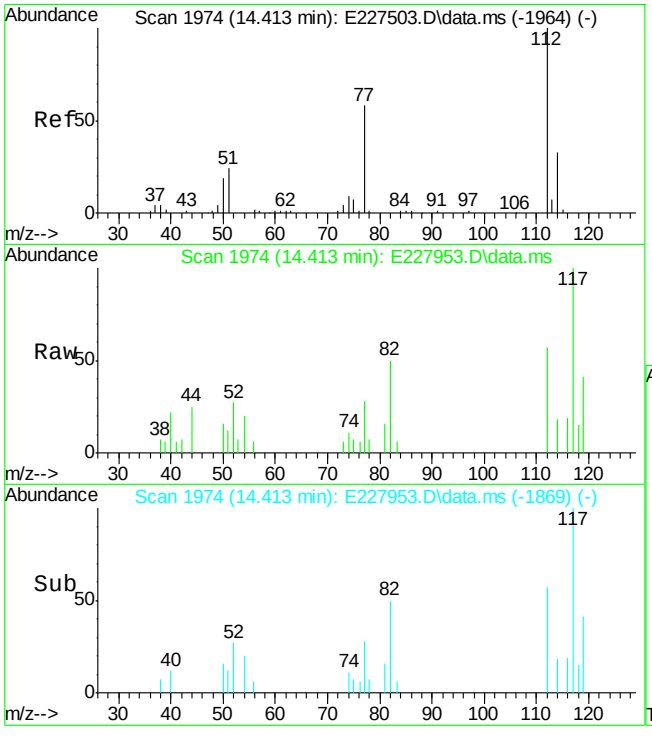


#78
toluene
Concen: 0.60 ug/L
RT: 12.802 min Scan# 1666
Delta R.T. -0.011 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion: 92 Resp: 3779

Ion	Ratio	Lower	Upper
92	100		
91	172.3	141.7	201.7
65	20.8	0.0	50.9

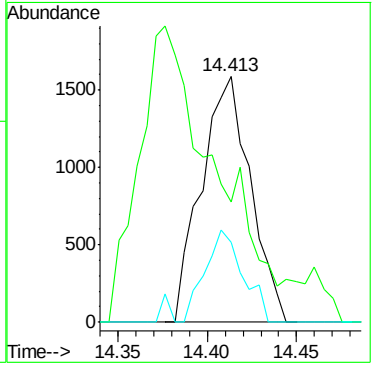


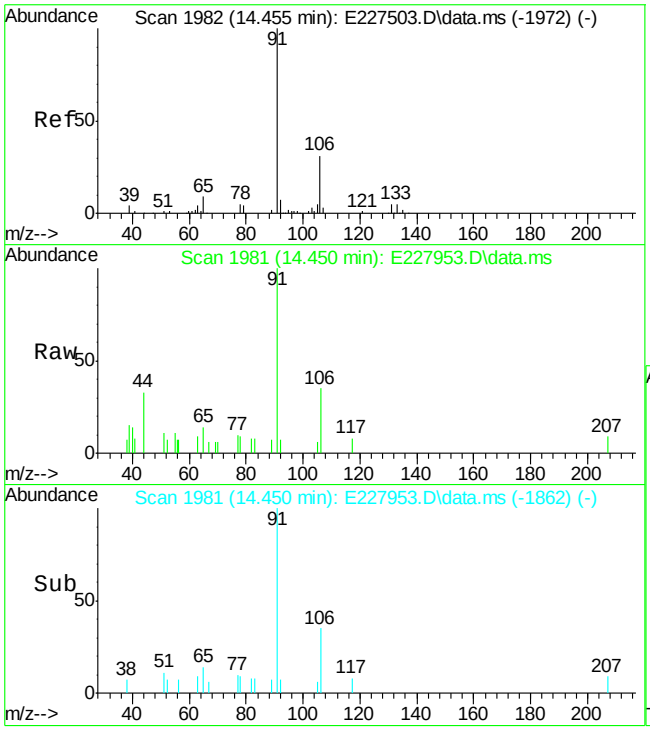


#93
chlorobenzene
Concen: 0.46 ug/L
RT: 14.413 min Scan# 1974
Delta R.T. -0.000 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion:112 Resp: 3040

Ion	Ratio	Lower	Upper
112	100		
77	32.3	30.2	90.2
114	32.5	1.5	61.5

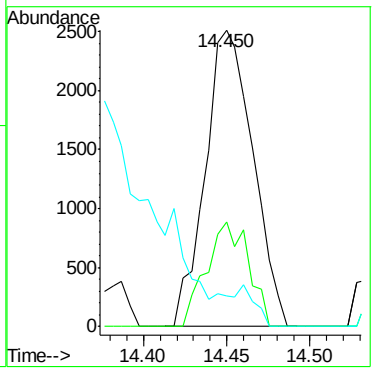


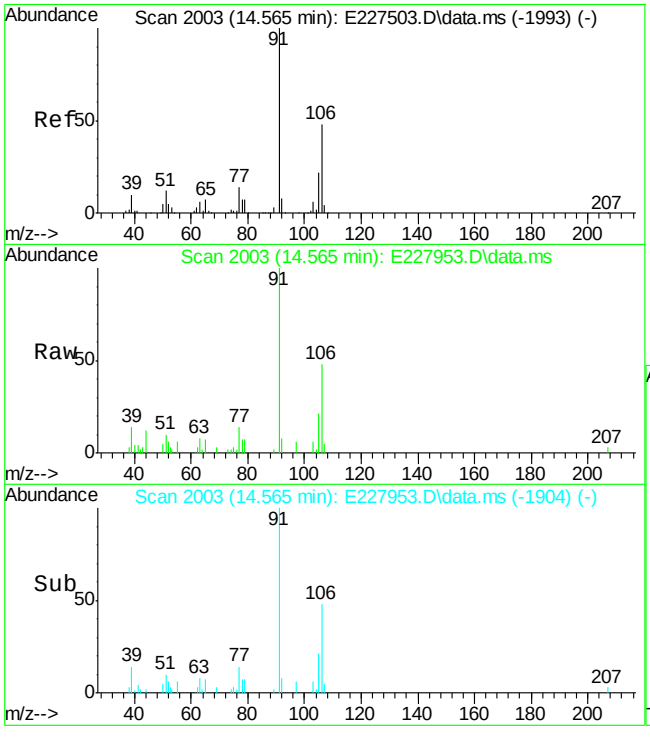


#95
ethylbenzene
Concen: 0.42 ug/L
RT: 14.450 min Scan# 1981
Delta R.T. -0.005 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion: 91 Resp: 5013

Ion	Ratio	Lower	Upper
91	100		
106	35.3	0.5	60.5
77	10.4	0.0	38.8

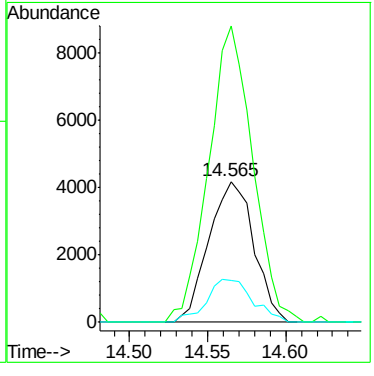


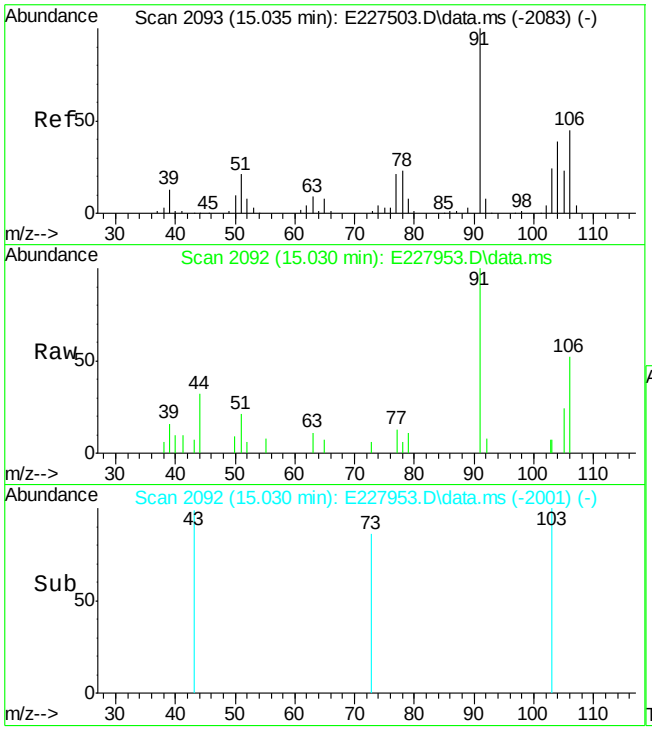


#96
m,p-xylene
Concen: 1.90 ug/L
RT: 14.565 min Scan# 2003
Delta R.T. -0.000 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion:106 Resp: 8407

Ion	Ratio	Lower	Upper
106	100		
91	210.3	173.3	233.3
77	29.8	0.0	57.8

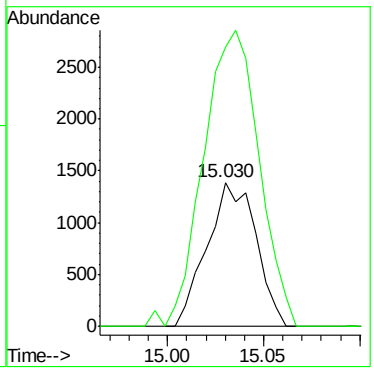


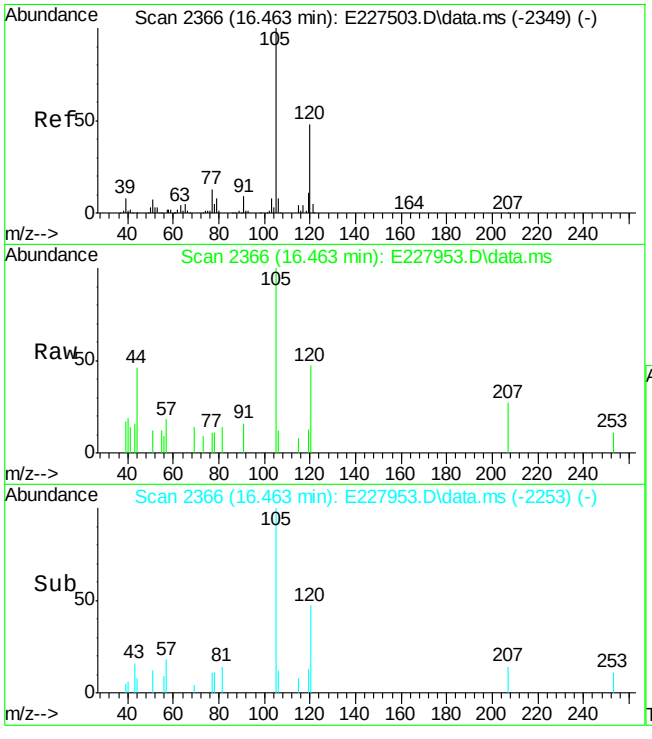


#97
o-xylene
Concen: 0.53 ug/L
RT: 15.030 min Scan# 2092
Delta R.T. -0.005 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion:106 Resp: 2445

Ion	Ratio	Lower	Upper
106	100		
91	193.9	189.9	249.9

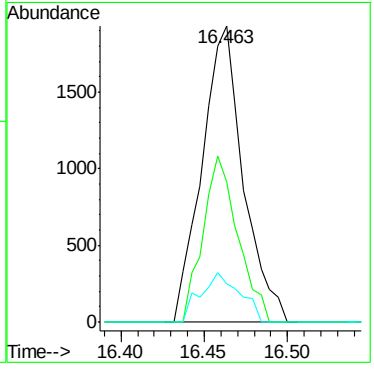




#116
1,2,4-trimethylbenzene
Concen: 0.32 ug/L
RT: 16.463 min Scan# 2366
Delta R.T. -0.000 min
Lab File: E227953.D
Acq: 31 Jul 2015 11:55 am

Tgt Ion:105 Resp: 3330

Ion	Ratio	Lower	Upper
105	100		
120	47.2	17.3	77.3
119	12.9	0.0	41.9



7.1.13

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3v\
Data File : 3V21416.D
Acq On : 31 Jul 2015 6:29 pm
Operator : thienn
Sample : jb99969-8
Misc : MS88818,V3V889,5.6,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 04 12:10:26 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.285	65	90029	500.00	ug/L	0.00
5) pentafluorobenzene	9.754	168	279110	50.00	ug/L	0.00
49) 1,4-difluorobenzene	10.714	114	352436	50.00	ug/L	0.00
79) chlorobenzene-d5	13.933	117	286512	50.00	ug/L	0.00
93) 1,4-dichlorobenzene-d4	16.292	152	175423	50.00	ug/L	0.00
System Monitoring Compounds						
43) dibromofluoromethane (s)	9.796	113	125455	50.90	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 101.80%			
44) 1,2-dichloroethane-d4 (s)	10.247	65	104670	49.11	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.22%			
71) toluene-d8 (s)	12.386	98	372672	47.73	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 95.46%			
95) 4-bromofluorobenzene (s)	15.128	95	151398	48.26	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 96.52%			
Target Compounds						Qvalue
57) benzene	10.300	78	23292309	2557.86	ug/L	96
73) toluene	12.460	91	173327	18.95	ug/L	100

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

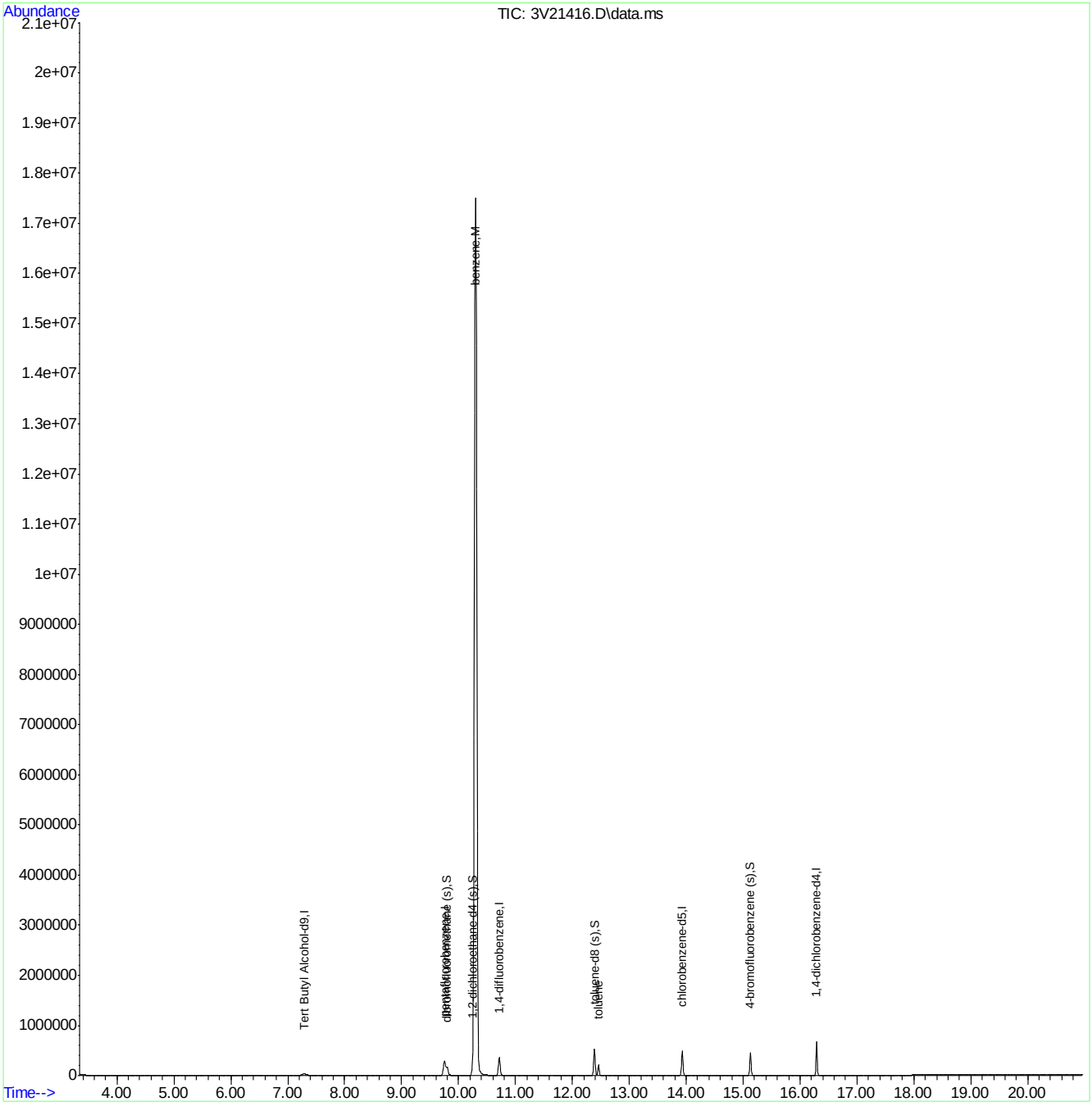
7.1.14

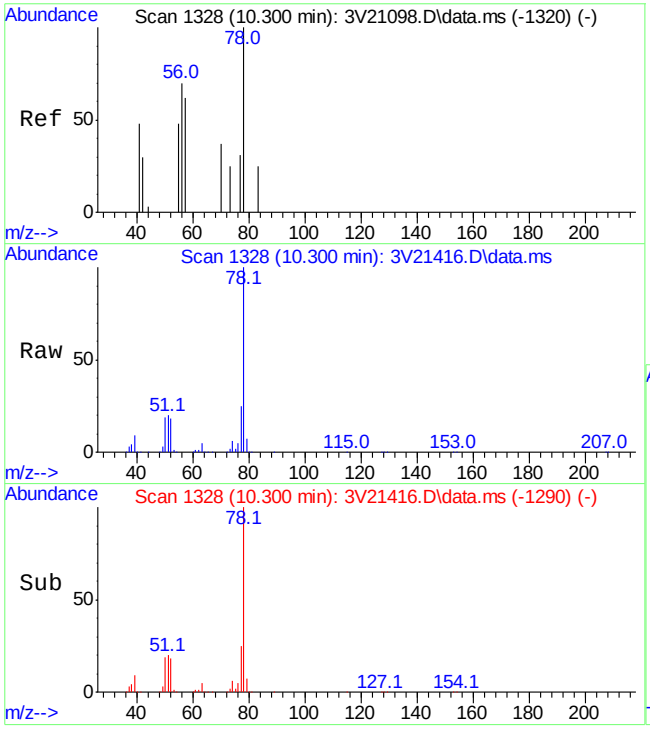
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3v\
Data File : 3V21416.D
Acq On : 31 Jul 2015 6:29 pm
Operator : thienn
Sample : jb99969-8
Misc : MS88818,V3V889,5.6,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 04 12:10:26 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration

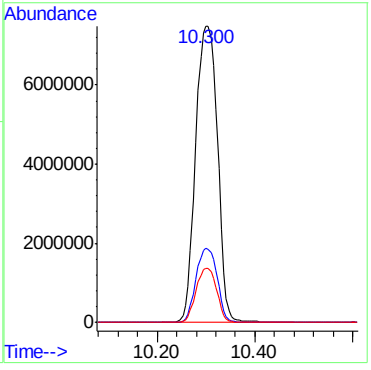


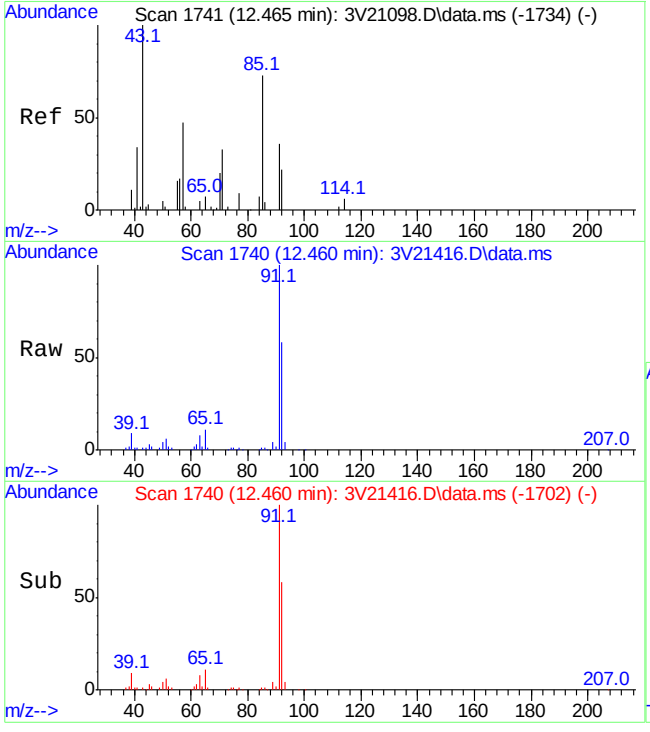


#57
benzene
Concen: 2557.86 ug/L
RT: 10.300 min Scan# 1328
Delta R.T. -0.000 min
Lab File: 3V21416.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion: 78 Resp:23292309

Ion	Ratio	Lower	Upper
78	100		
77	24.9	0.0	53.3
52	18.4	0.0	45.8

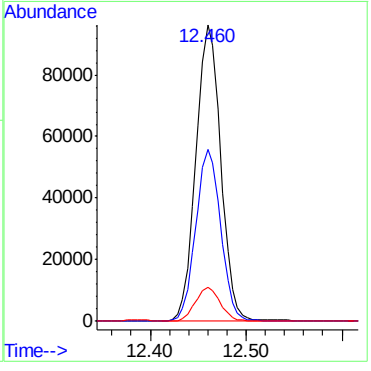




#73
toluene
Concen: 18.95 ug/L
RT: 12.460 min Scan# 1740
Delta R.T. -0.000 min
Lab File: 3V21416.D
Acq: 31 Jul 2015 6:29 pm

Tgt Ion: 91 Resp: 173327

Ion	Ratio	Lower	Upper
91	100		
92	58.1	28.4	88.4
65	11.4	0.0	41.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227988.D
Acq On : 3 Aug 2015 11:23 am
Operator : ThienN
Sample : jb99969-8cf
Misc : MS88818,VE9990,5.6,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 04 15:04:44 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.937	65	143740	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	277760	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.044	114	369648	50.00	ug/L	0.00
84) chlorobenzene-d5	14.375	117	326280	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.943	152	192124	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	118233	47.26	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 94.52%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	151662	49.25	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.50%			
76) toluene-d8 (s)	12.728	98	428004	48.92	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.84%			
103) 4-bromofluorobenzene (s)	15.651	95	173485	50.83	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.66%			

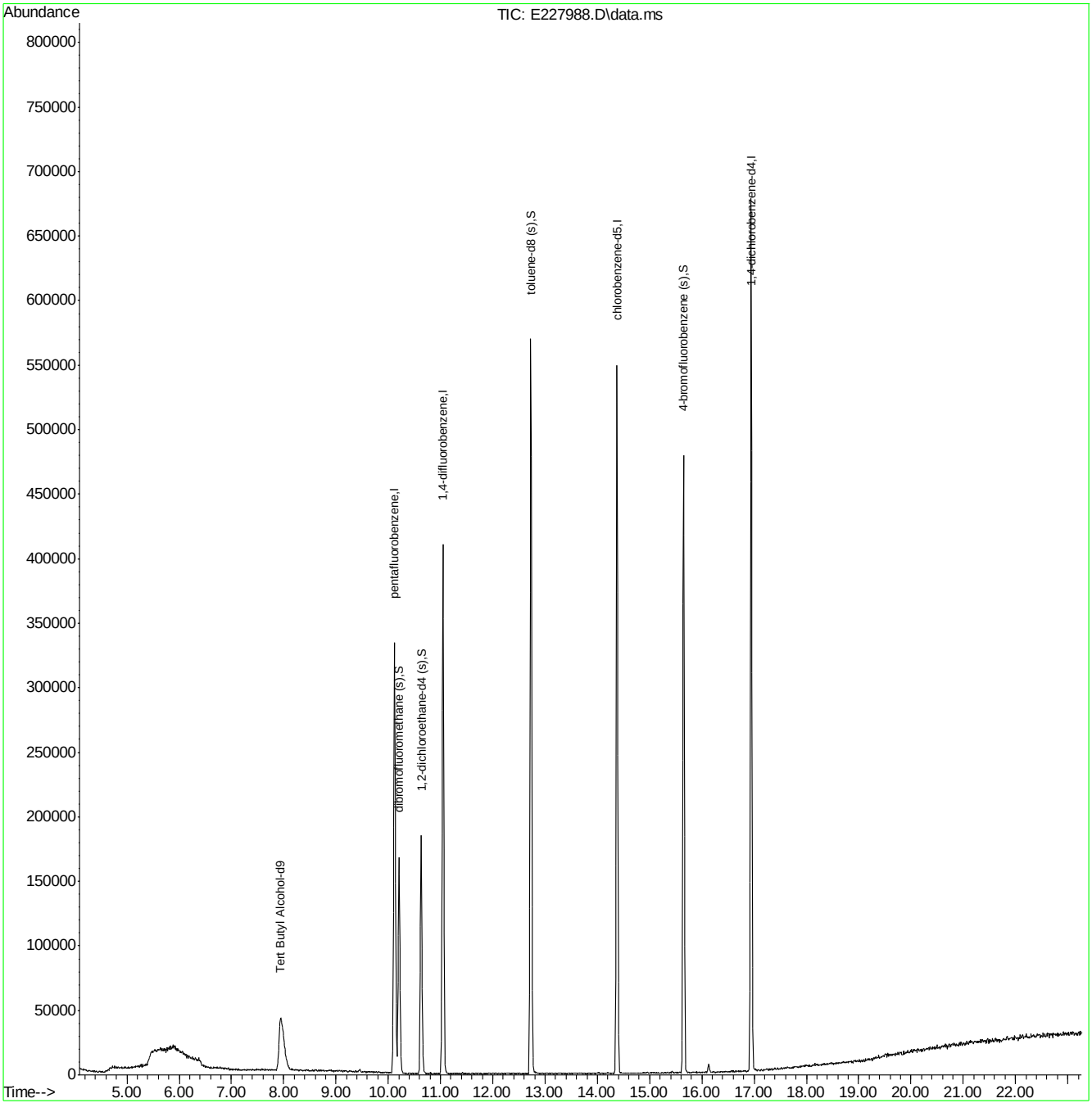
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227988.D
Acq On : 3 Aug 2015 11:23 am
Operator : ThienN
Sample : jb99969-8cf
Misc : MS88818,VE9990,5.6,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 04 15:04:44 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227927.D
Acq On : 30 Jul 2015 6:05 pm
Operator : ThienN
Sample : jb99969-9
Misc : MS88818,VE9987,6.5,,100,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 31 11:39:31 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.954	65	148632	500.00	ug/L	0.02
4) pentafluorobenzene	10.124	168	298232	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.055	114	490541	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	350056	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	203084	50.00	ug/L	0.00

System Monitoring Compounds						
47) dibromofluoromethane (s)	10.213	113	132768	49.42	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.84%			
48) 1,2-dichloroethane-d4 (s)	10.658	65	128826	38.97	ug/L	0.03
Spiked Amount 50.000	Range 68 - 124		Recovery = 77.94%			
76) toluene-d8 (s)	12.734	98	502662	43.29	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 86.58%			
103) 4-bromofluorobenzene (s)	15.653	95	187077	51.86	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 103.72%			

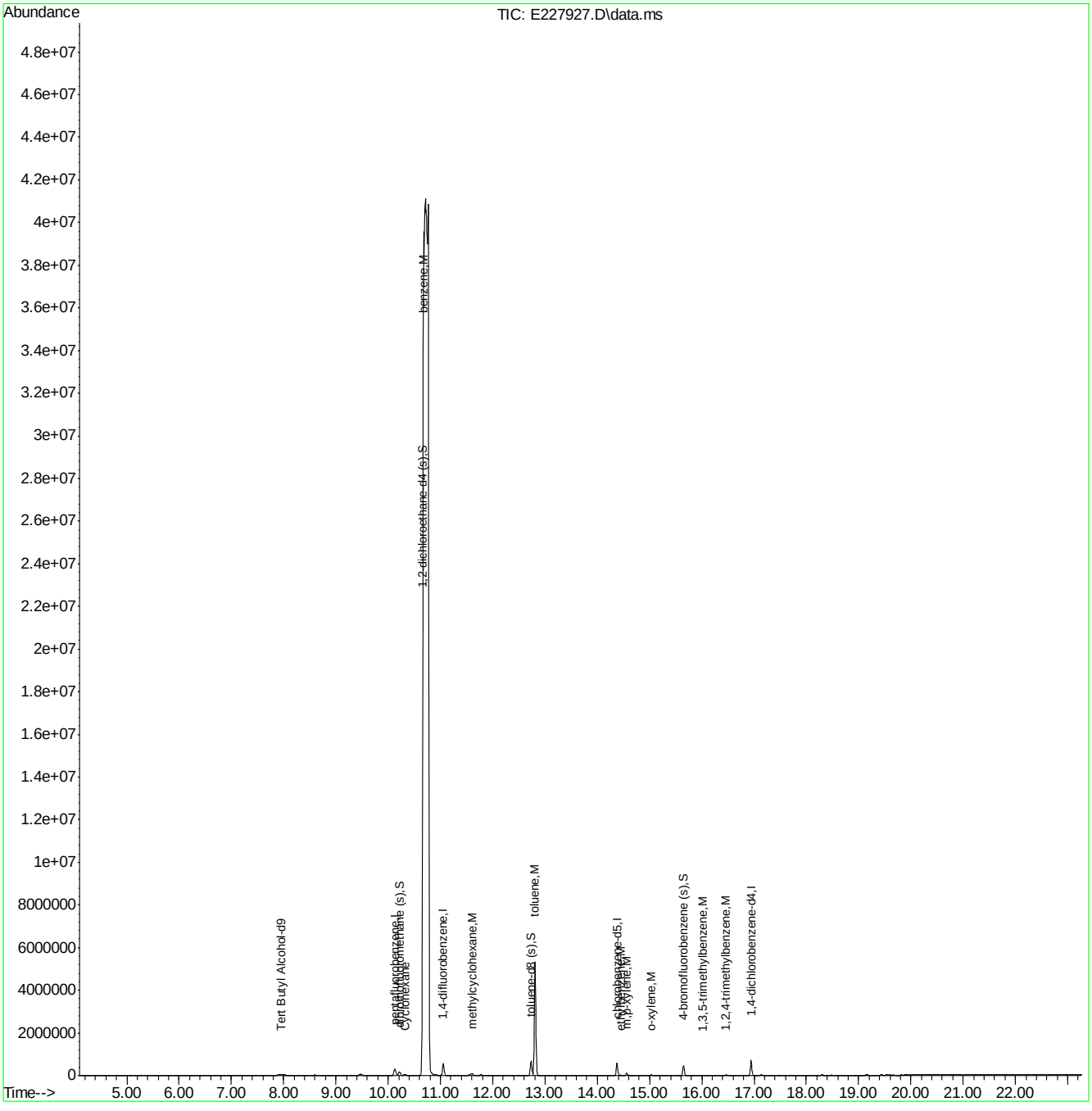
Target Compounds						Qvalue
52) Cyclohexane	10.323	84	23390	4.36	ug/L #	59
62) benzene	10.663	78	63860843	4324.04	ug/L	96
70) methylcyclohexane	11.599	83	54208	8.78	ug/L	99
78) toluene	12.807	92	2561712	289.80	ug/L	98
95) ethylbenzene	14.455	91	19802	1.46	ug/L	96
96) m,p-xylene	14.565	106	37267	7.47	ug/L	98
97) o-xylene	15.030	106	9309	1.79	ug/L	91
113) 1,3,5-trimethylbenzene	16.019	105	4820	0.42	ug/L	84
116) 1,2,4-trimethylbenzene	16.458	105	14681	1.29	ug/L	97

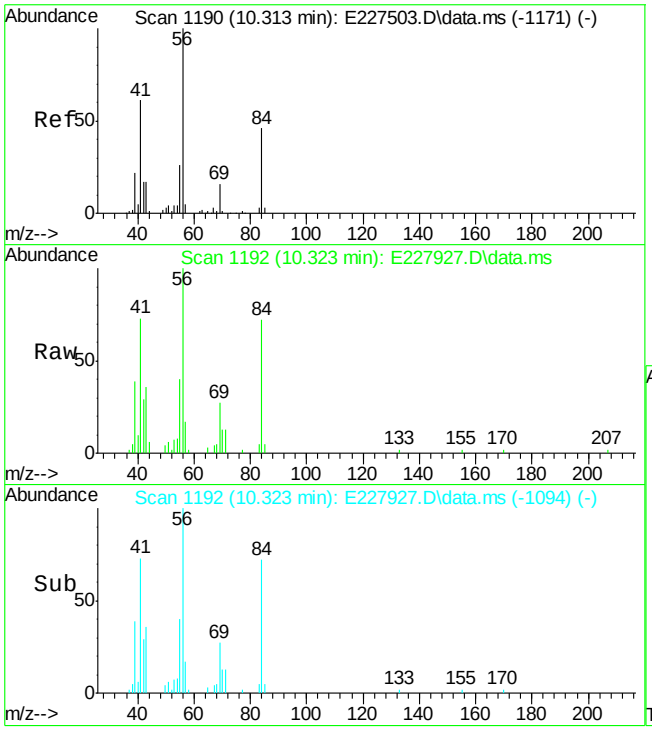
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227927.D
Acq On : 30 Jul 2015 6:05 pm
Operator : ThienN
Sample : jb99969-9
Misc : MS88818,VE9987,6.5,,100,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 31 11:39:31 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

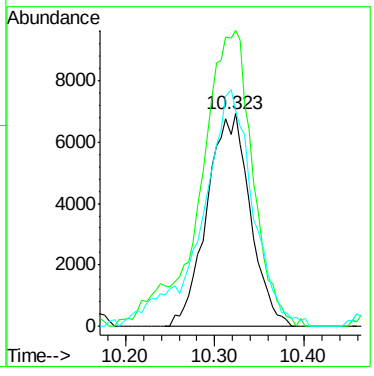


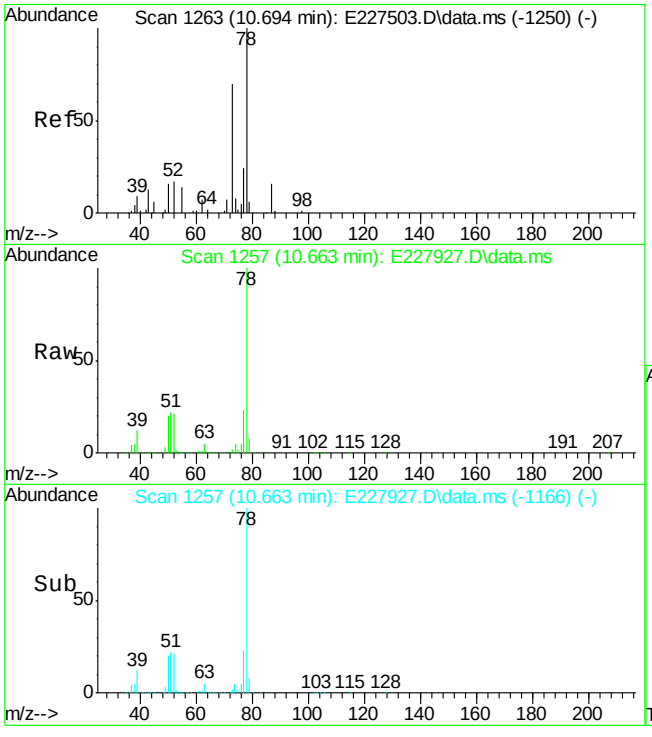


#52
Cyclohexane
Concen: 4.36 ug/L
RT: 10.323 min Scan# 1192
Delta R.T. 0.010 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion: 84 Resp: 23390

Ion	Ratio	Lower	Upper
84	100		
56	139.2	150.6	279.6#
41	97.0	91.7	170.3

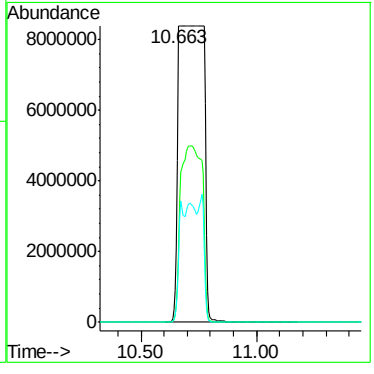


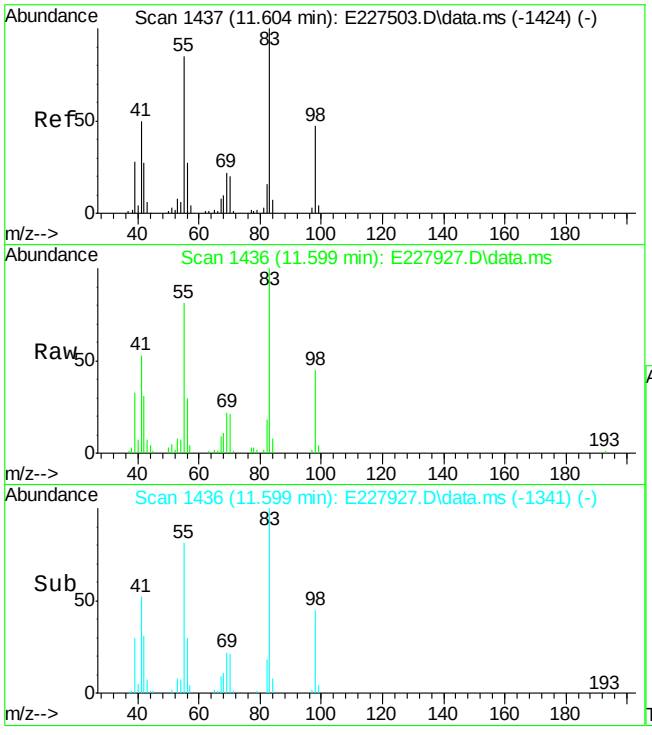


#62
benzene
Concen: 4324.04 ug/L
RT: 10.663 min Scan# 1257
Delta R.T. -0.026 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion: 78 Resp:63860843

Ion	Ratio	Lower	Upper
78	100		
77	23.5	0.0	53.9
52	20.7	0.0	46.9

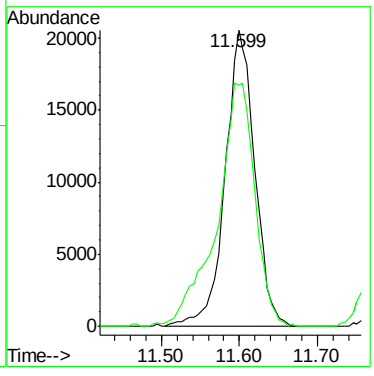


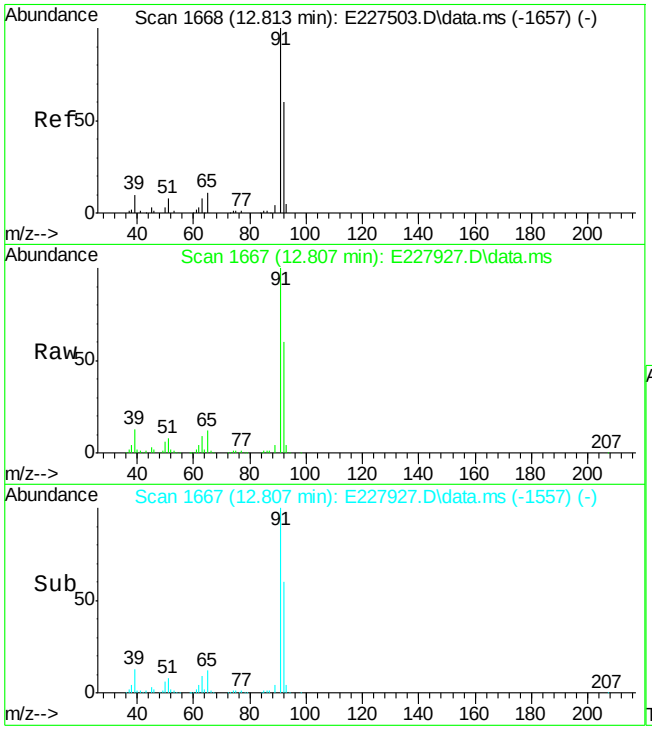


#70
methylcyclohexane
Concen: 8.78 ug/L
RT: 11.599 min Scan# 1436
Delta R.T. -0.005 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion: 83 Resp: 54208

Ion	Ratio	Lower	Upper
83	100		
55	81.5	57.7	107.1

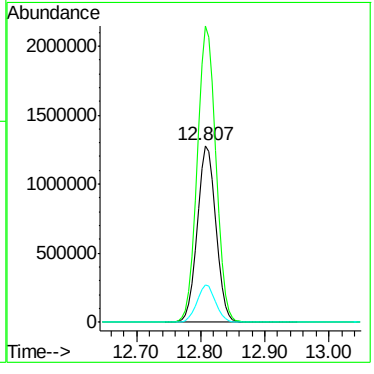


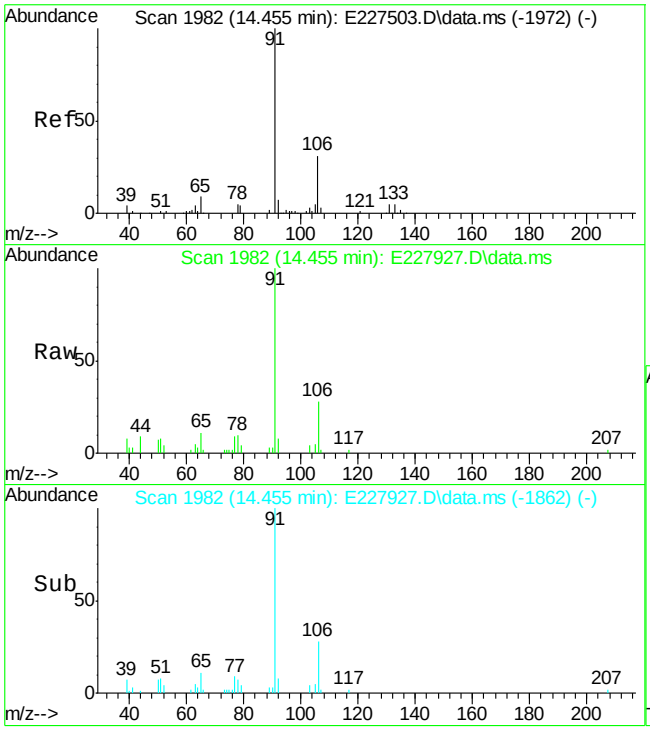


#78
toluene
Concen: 289.80 ug/L
RT: 12.807 min Scan# 1667
Delta R.T. -0.005 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion: 92 Resp: 2561712

Ion	Ratio	Lower	Upper
92	100		
91	167.9	141.7	201.7
65	20.8	0.0	50.9

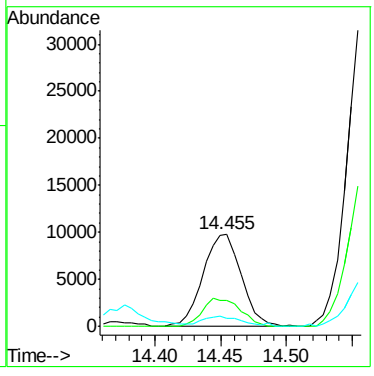


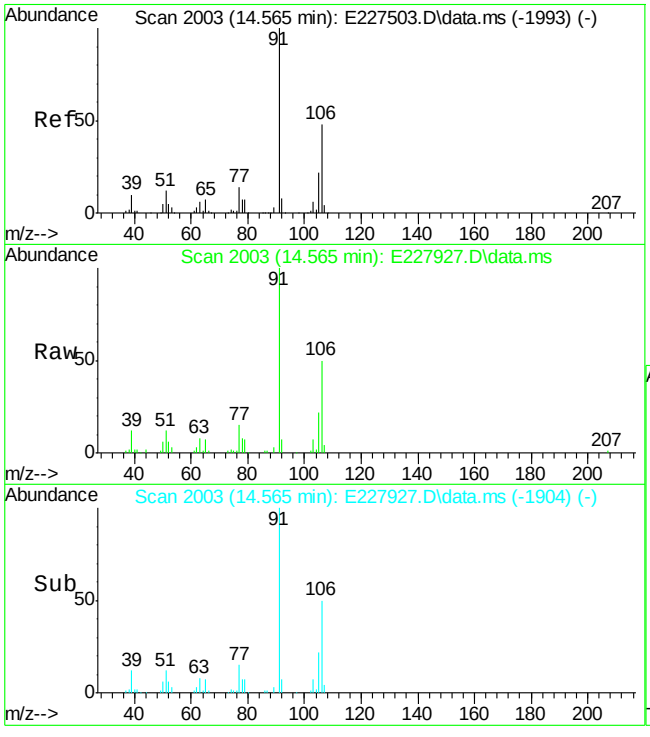


#95
ethylbenzene
Concen: 1.46 ug/L
RT: 14.455 min Scan# 1982
Delta R.T. -0.000 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion: 91 Resp: 19802

Ion	Ratio	Lower	Upper
91	100		
106	27.6	0.5	60.5
77	8.7	0.0	38.8

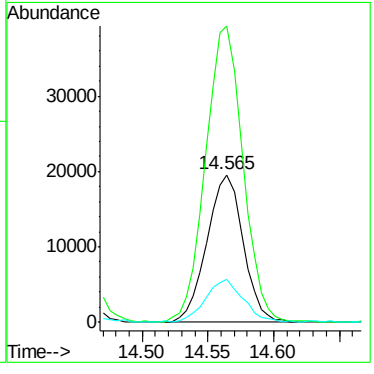


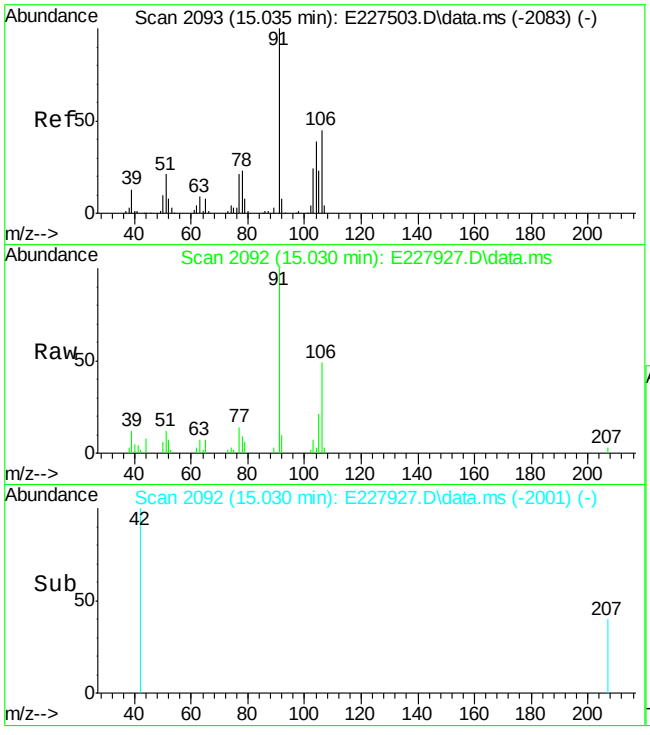


#96
m,p-xylene
Concen: 7.47 ug/L
RT: 14.565 min Scan# 2003
Delta R.T. -0.000 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion:106 Resp: 37267

Ion	Ratio	Lower	Upper
106	100		
91	201.0	173.3	233.3
77	29.3	0.0	57.8

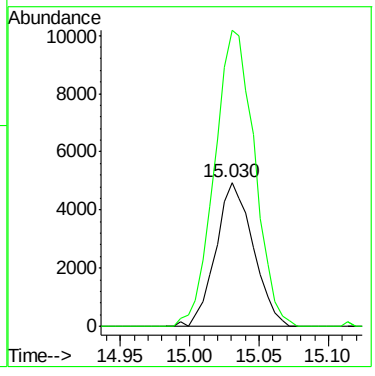


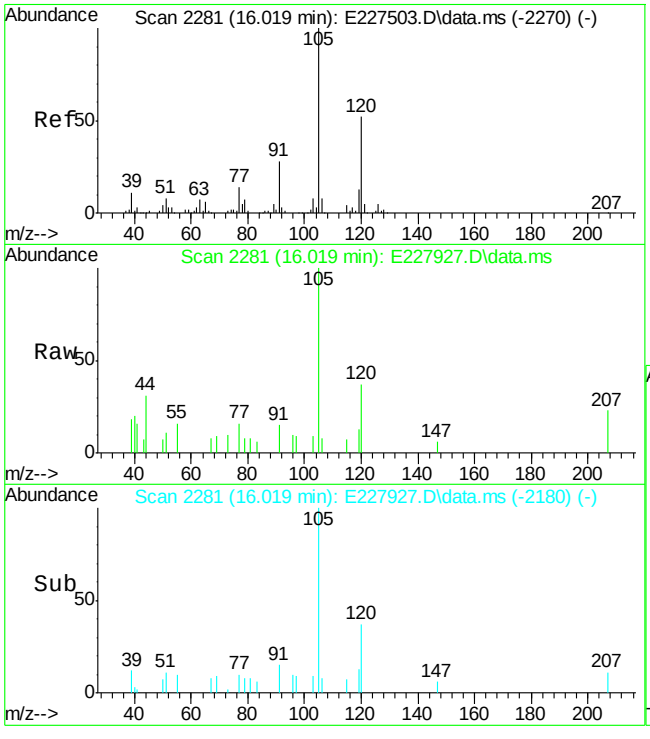


#97
o-xylene
Concen: 1.79 ug/L
RT: 15.030 min Scan# 2092
Delta R.T. -0.005 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion:106 Resp: 9309

Ion	Ratio	Lower	Upper
106	100		
91	205.8	189.9	249.9

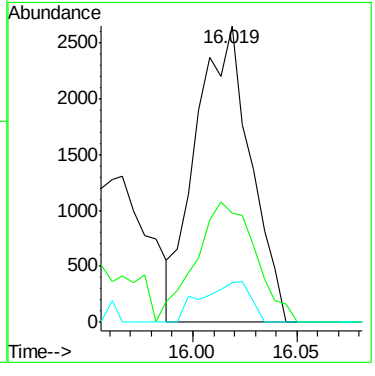




#113
1,3,5-trimethylbenzene
Concen: 0.42 ug/L
RT: 16.019 min Scan# 2281
Delta R.T. -0.000 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

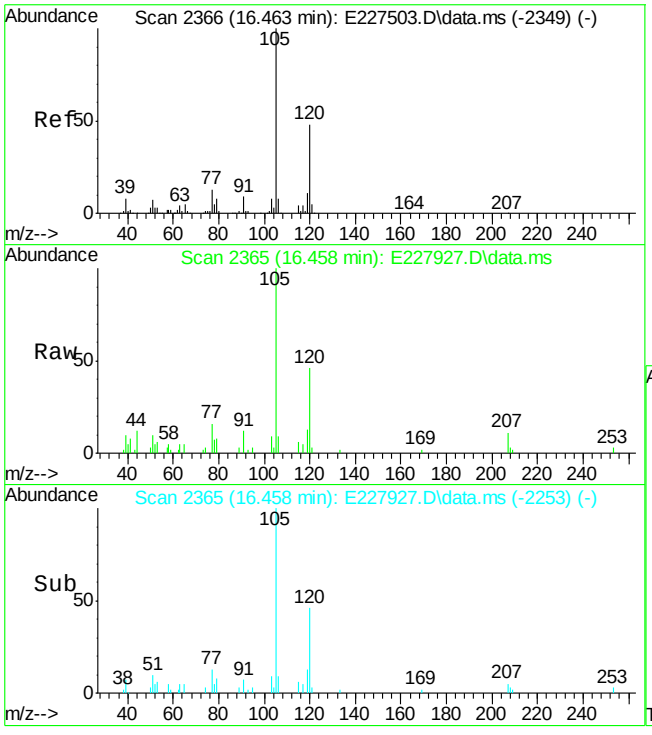
Tgt Ion:105 Resp: 4820

Ion	Ratio	Lower	Upper
105	100		
120	36.8	20.2	80.2
119	13.4	0.0	42.7



7.1.16

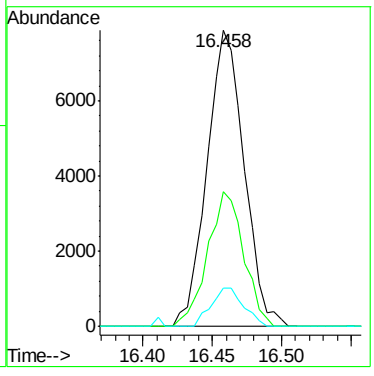
7



#116
1,2,4-trimethylbenzene
Concen: 1.29 ug/L
RT: 16.458 min Scan# 2365
Delta R.T. -0.005 min
Lab File: E227927.D
Acq: 30 Jul 2015 6:05 pm

Tgt Ion:105 Resp: 14681

Ion	Ratio	Lower	Upper
105	100		
120	45.5	17.3	77.3
119	12.8	0.0	41.9



7.1.16

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227968.D
Acq On : 31 Jul 2015 8:05 pm
Operator : ThienN
Sample : jb99969-9
Misc : MS88818,VE9988,6.5,,1,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 03 07:45:09 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.933	65	162404	500.00	ug/L	0.00
4) pentafluorobenzene	10.124	168	303286	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	409850	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	348193	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	213398	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	129777	47.51	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.02%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	167787	49.90	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.80%			
76) toluene-d8 (s)	12.734	98	465779	48.02	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 96.04%			
103) 4-bromofluorobenzene (s)	15.652	95	193228	50.97	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.94%			

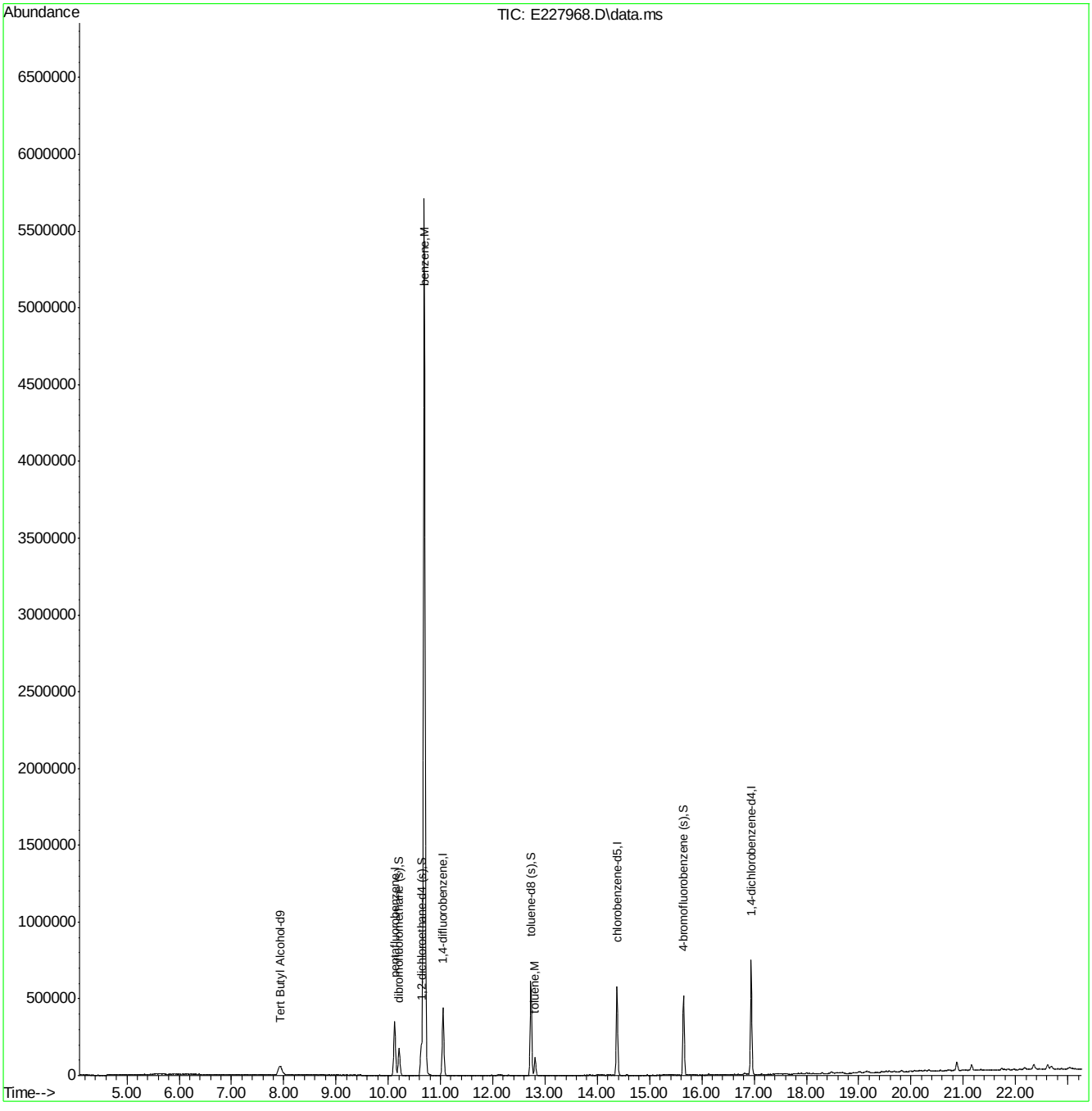
Target Compounds						Qvalue
62) benzene	10.689	78	5786797	468.97	ug/L	98
78) toluene	12.807	92	56353	7.63	ug/L	95

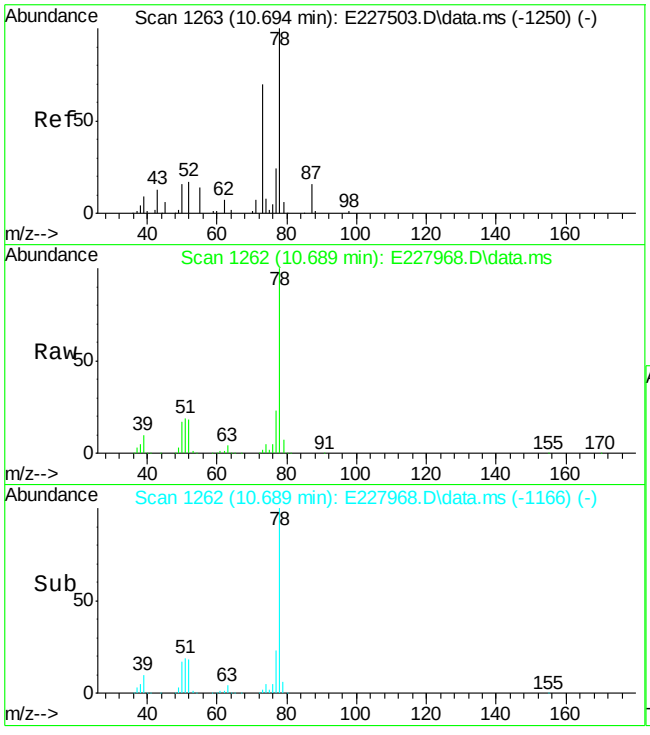
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227968.D
Acq On : 31 Jul 2015 8:05 pm
Operator : ThienN
Sample : jb99969-9
Misc : MS88818,VE9988,6.5,,1,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 03 07:45:09 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

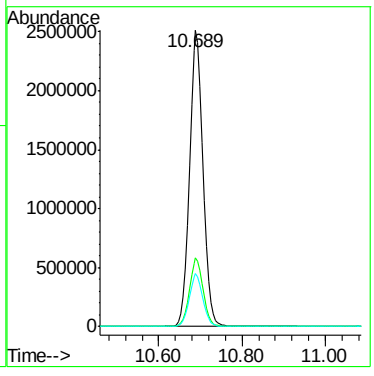


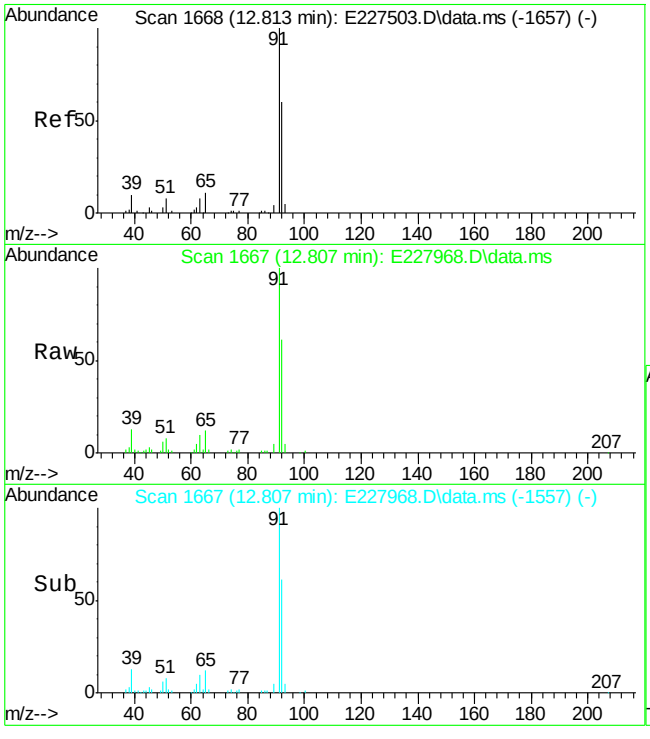


#62
benzene
Concen: 468.97 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.000 min
Lab File: E227968.D
Acq: 31 Jul 2015 8:05 pm

Tgt Ion: 78 Resp: 5786797

Ion	Ratio	Lower	Upper
78	100		
77	23.2	0.0	53.9
52	17.7	0.0	46.9

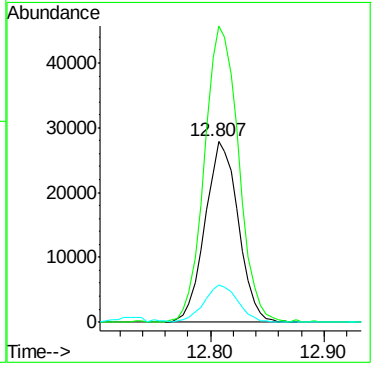




#78
toluene
Concen: 7.63 ug/L
RT: 12.807 min Scan# 1667
Delta R.T. -0.006 min
Lab File: E227968.D
Acq: 31 Jul 2015 8:05 pm

Tgt Ion: 92 Resp: 56353

Ion	Ratio	Lower	Upper
92	100		
91	163.8	141.7	201.7
65	20.4	0.0	50.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227995.D
Acq On : 3 Aug 2015 3:09 pm
Operator : ThienN
Sample : jb99969-9
Misc : MS88818,VE9990,6.5,,0.2,10,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 04 07:57:21 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.927	65	139883	500.00	ug/L	-0.01
4) pentafluorobenzene	10.124	168	272350	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	367034	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	324241	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	189352	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	118156	48.17	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.34%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	150621	49.89	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.78%			
76) toluene-d8 (s)	12.734	98	428710	49.35	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.70%			
103) 4-bromofluorobenzene (s)	15.647	95	173524	51.59	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 103.18%			

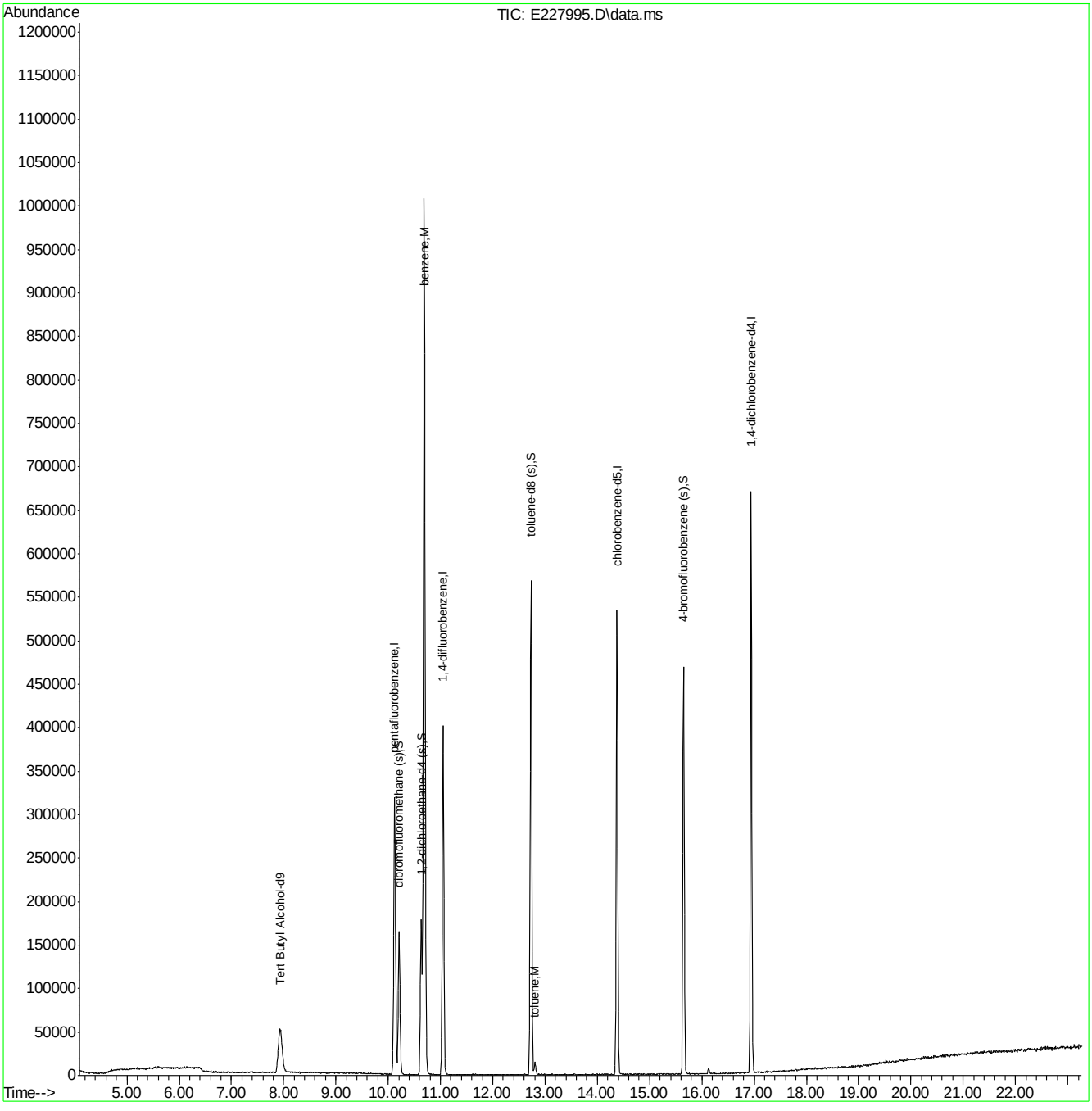
Target Compounds						Qvalue
62) benzene	10.689	78	1005026	90.95	ug/L	98
78) toluene	12.807	92	6066	0.92	ug/L	94

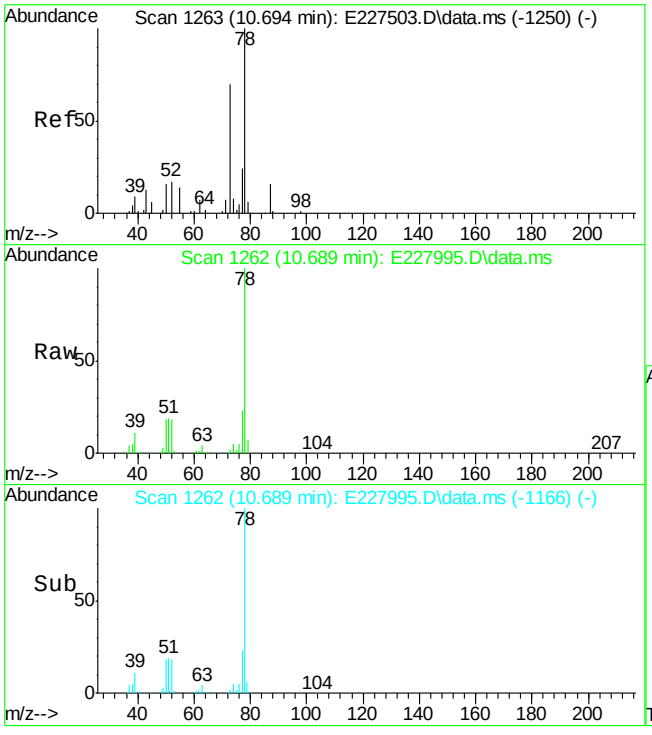
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227995.D
Acq On : 3 Aug 2015 3:09 pm
Operator : ThienN
Sample : jb99969-9
Misc : MS88818,VE9990,6.5,,0.2,10,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 04 07:57:21 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

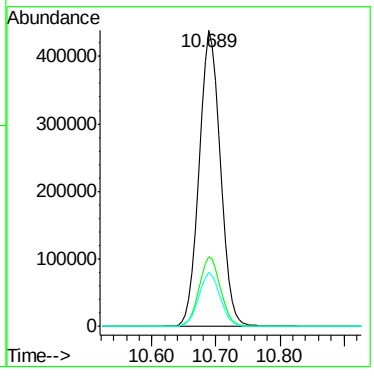


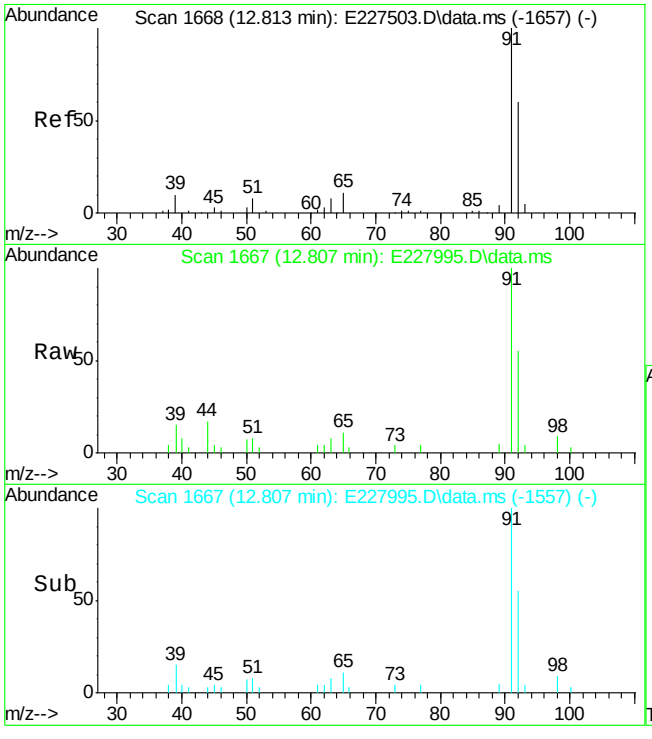


#62
benzene
Concen: 90.95 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.000 min
Lab File: E227995.D
Acq: 3 Aug 2015 3:09 pm

Tgt Ion: 78 Resp: 1005026

Ion	Ratio	Lower	Upper
78	100		
77	23.4	0.0	53.9
52	18.3	0.0	46.9

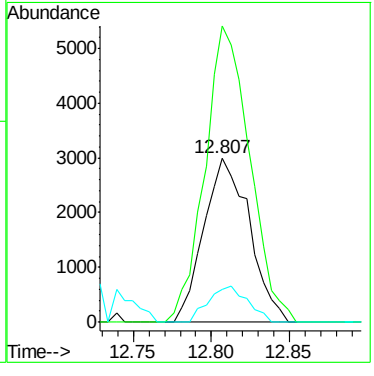




#78
toluene
Concen: 0.92 ug/L
RT: 12.807 min Scan# 1667
Delta R.T. -0.006 min
Lab File: E227995.D
Acq: 3 Aug 2015 3:09 pm

Tgt Ion: 92 Resp: 6066

Ion	Ratio	Lower	Upper
92	100		
91	180.8	141.7	201.7
65	20.2	0.0	50.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227989.D
Acq On : 3 Aug 2015 11:54 am
Operator : ThienN
Sample : jb99969-10
Misc : MS88818,VE9990,5.8,,1,10,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 03 15:24:01 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.933	65	145879	500.00	ug/L	0.00
4) pentafluorobenzene	10.124	168	275229	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	375864	50.00	ug/L	0.00
84) chlorobenzene-d5	14.377	117	328004	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.945	152	195565	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	121479	49.00	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.00%			
48) 1,2-dichloroethane-d4 (s)	10.632	65	157187	51.52	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 103.04%			
76) toluene-d8 (s)	12.729	98	435589	48.96	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.92%			
103) 4-bromofluorobenzene (s)	15.647	95	180036	51.82	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 103.64%			

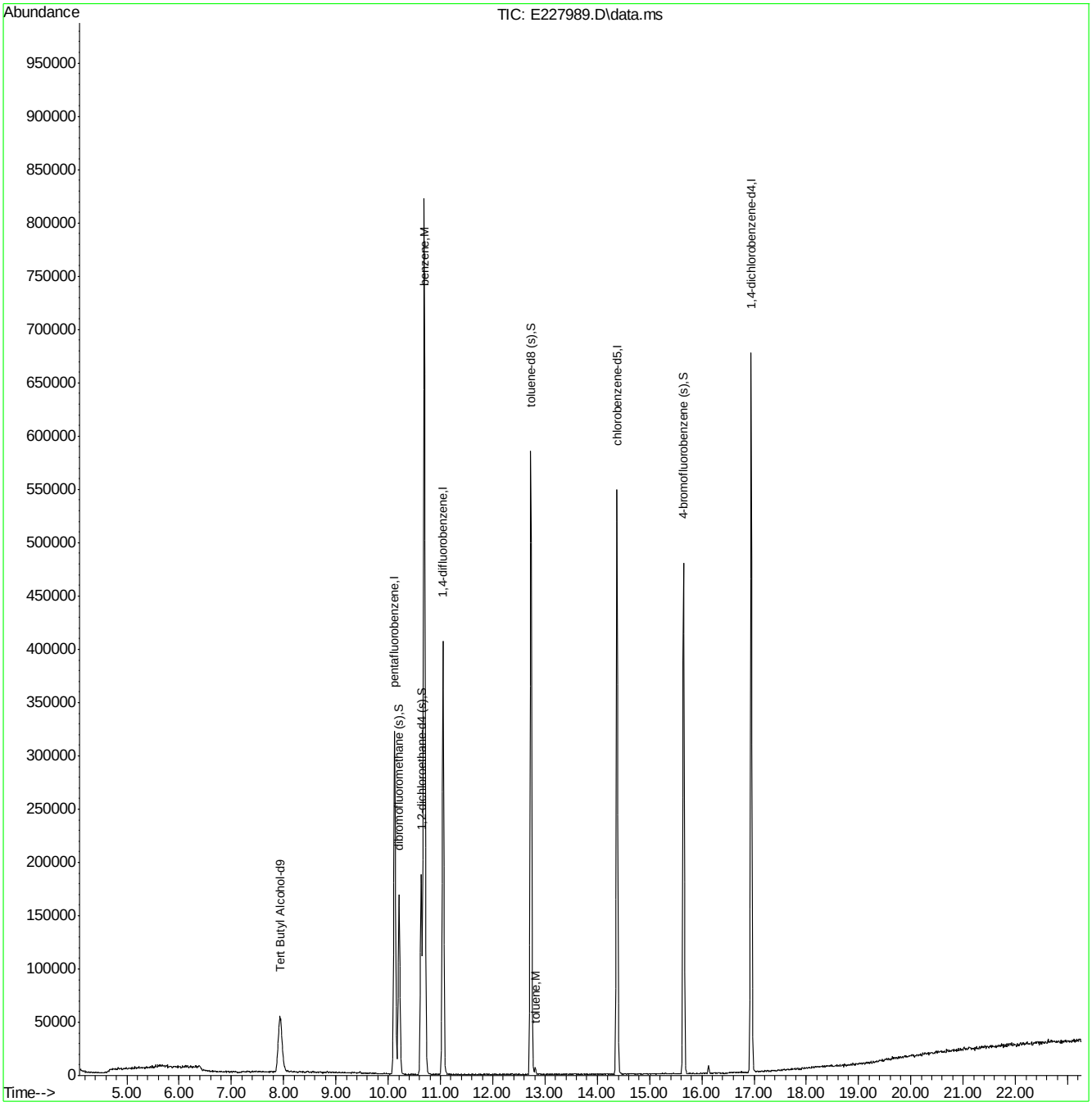
Target Compounds						Qvalue
62) benzene	10.689	78	820790	72.53	ug/L	98
78) toluene	12.813	92	2641	0.39	ug/L	91

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

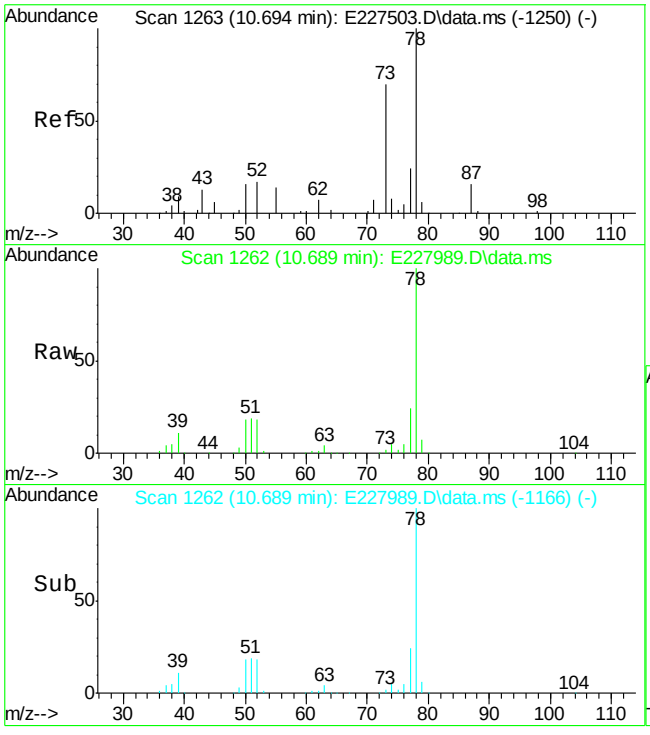
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227989.D
Acq On : 3 Aug 2015 11:54 am
Operator : ThienN
Sample : jb99969-10
Misc : MS88818,VE9990,5.8,,1,10,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 03 15:24:01 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



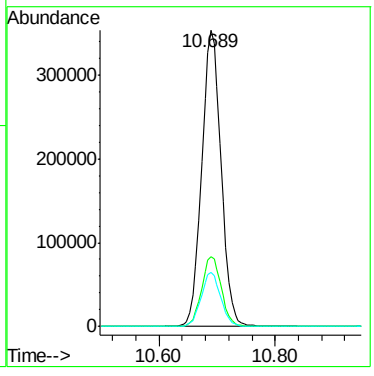
ACCUTEST LABORATORIES JB99969

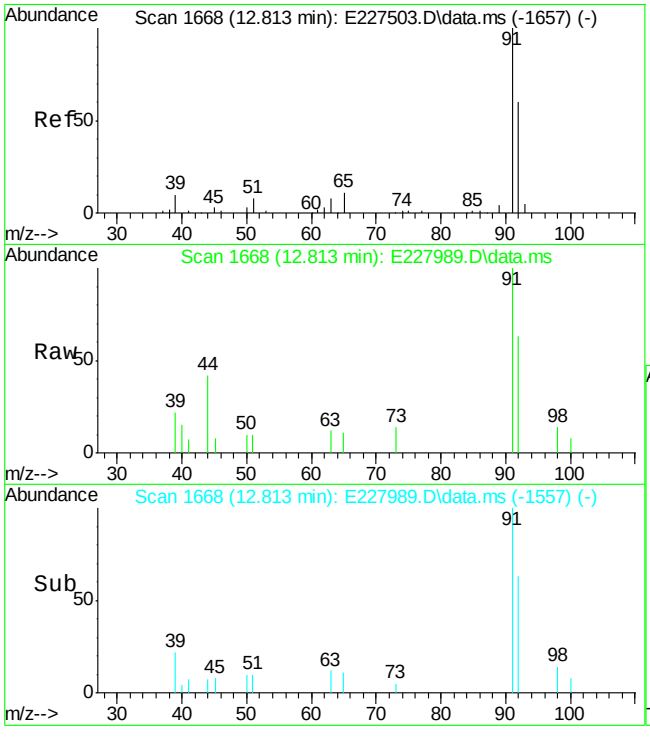


#62
benzene
Concen: 72.53 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.000 min
Lab File: E227989.D
Acq: 3 Aug 2015 11:54 am

Tgt Ion: 78 Resp: 820790

Ion	Ratio	Lower	Upper
78	100		
77	23.6	0.0	53.9
52	18.2	0.0	46.9

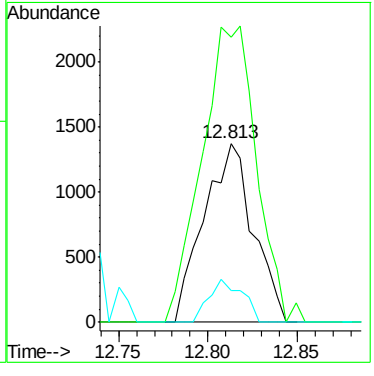




#78
toluene
Concen: 0.39 ug/L
RT: 12.813 min Scan# 1668
Delta R.T. -0.000 min
Lab File: E227989.D
Acq: 3 Aug 2015 11:54 am

Tgt Ion: 92 Resp: 2641

Ion	Ratio	Lower	Upper
92	100		
91	159.5	141.7	201.7
65	17.8	0.0	50.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227990.D
Acq On : 3 Aug 2015 12:25 pm
Operator : ThienN
Sample : jb99969-10
Misc : MS88818,VE9990,5.8,,4,10,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 03 15:24:49 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.928	65	138690	500.00	ug/L	-0.01
4) pentafluorobenzene	10.120	168	261325	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.045	114	357563	50.00	ug/L	0.00
84) chlorobenzene-d5	14.377	117	308515	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.945	152	184841	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.209	113	116418	49.46	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.92%			
48) 1,2-dichloroethane-d4 (s)	10.632	65	149161	51.49	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 102.98%			
76) toluene-d8 (s)	12.730	98	412979	48.80	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.60%			
103) 4-bromofluorobenzene (s)	15.648	95	165346	50.36	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 100.72%			

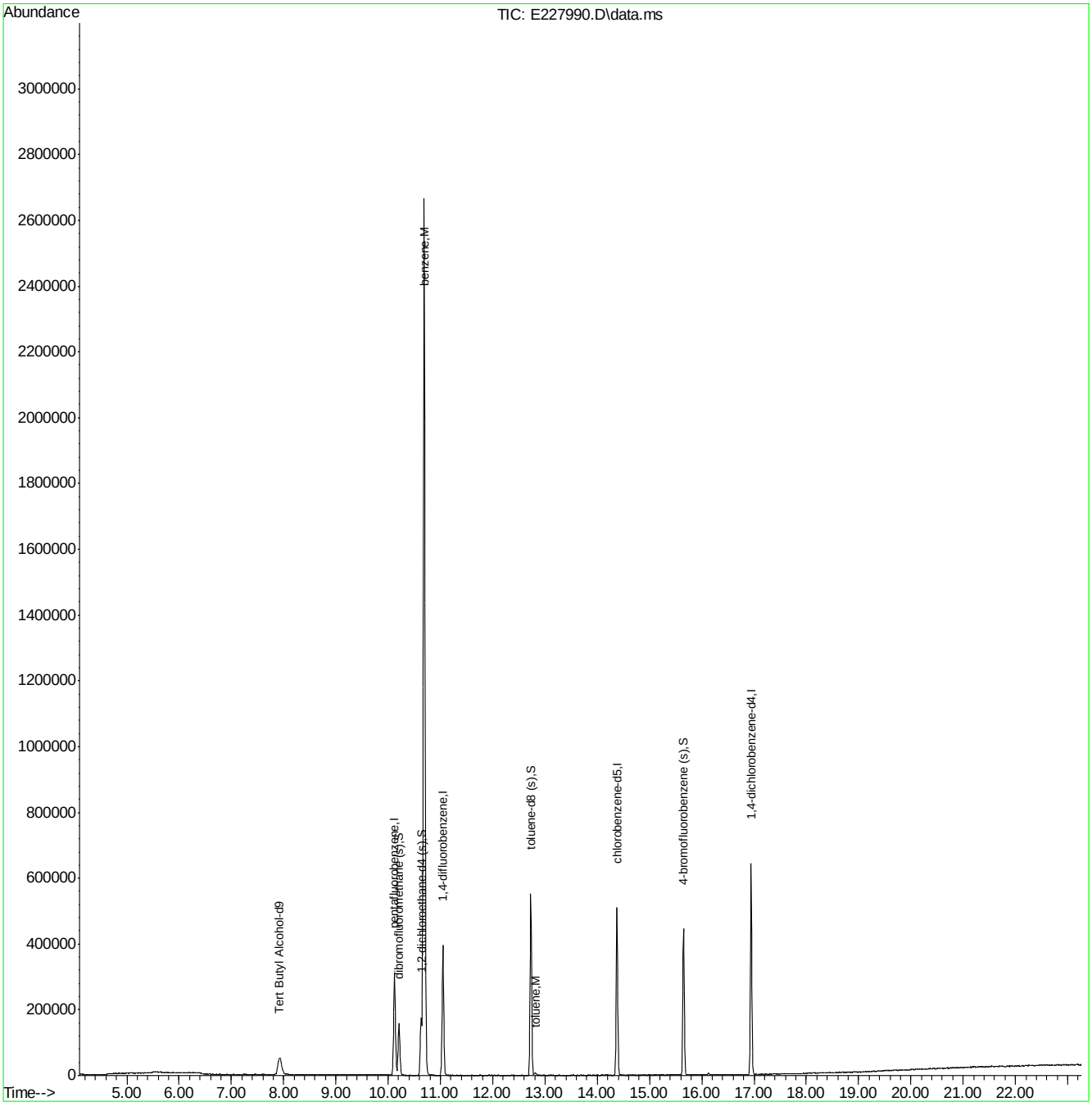
Target Compounds						Qvalue
62) benzene	10.690	78	2705716	251.34	ug/L	99
78) toluene	12.813	92	3931	0.61	ug/L	96

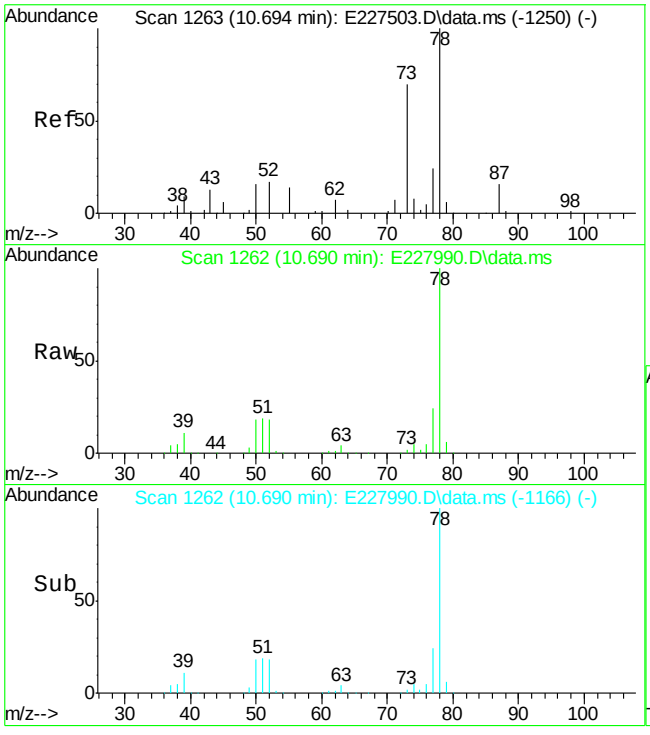
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227990.D
Acq On : 3 Aug 2015 12:25 pm
Operator : ThienN
Sample : jb99969-10
Misc : MS88818,VE9990,5.8,,4,10,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 03 15:24:49 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

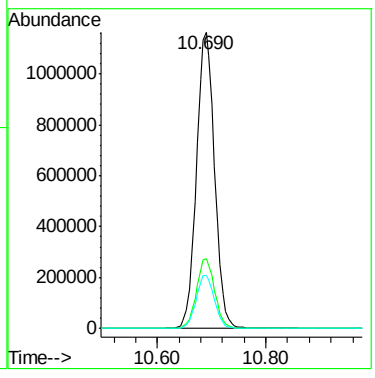


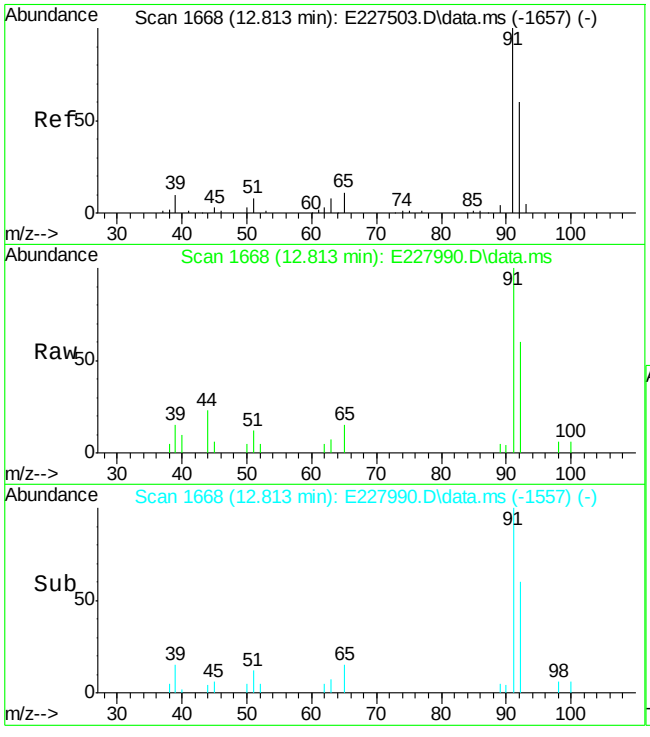


#62
benzene
Concen: 251.34 ug/L
RT: 10.690 min Scan# 1262
Delta R.T. 0.000 min
Lab File: E227990.D
Acq: 3 Aug 2015 12:25 pm

Tgt Ion: 78 Resp: 2705716

Ion	Ratio	Lower	Upper
78	100		
77	23.5	0.0	53.9
52	17.9	0.0	46.9

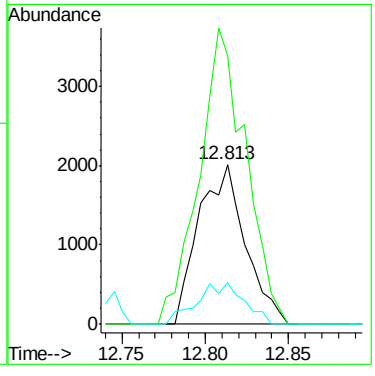




#78
toluene
Concen: 0.61 ug/L
RT: 12.813 min Scan# 1668
Delta R.T. 0.000 min
Lab File: E227990.D
Acq: 3 Aug 2015 12:25 pm

Tgt Ion: 92 Resp: 3931

Ion	Ratio	Lower	Upper
92	100		
91	167.9	141.7	201.7
65	25.9	0.0	50.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202371.D
Acq On : 31 Jul 2015 7:25 pm
Operator : mihirm
Sample : jb99969-11
Misc : MS88818,VC7427,6.0,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 03 11:54:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

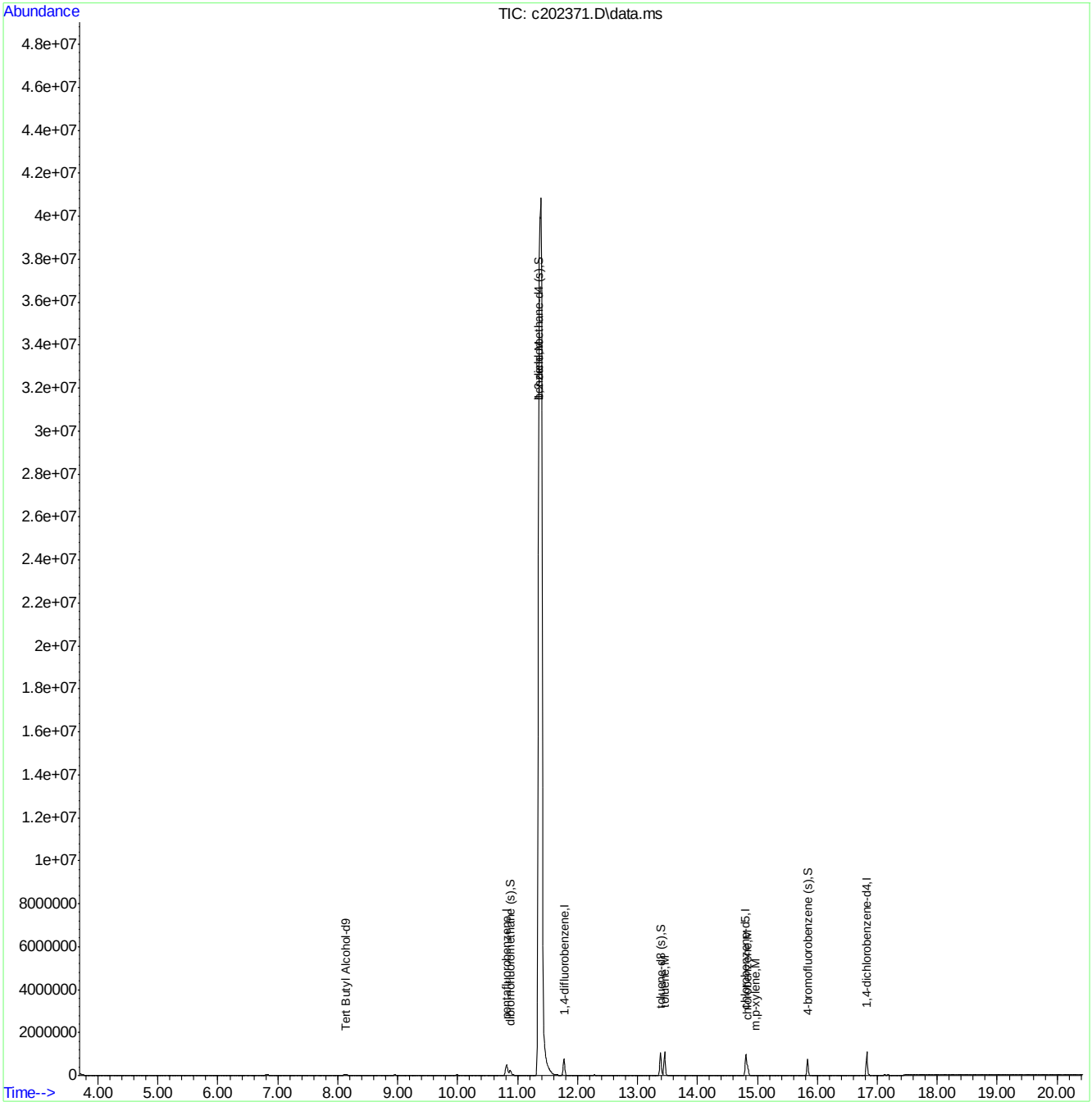
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.123	65	93056	500.00	ug/L	0.00
5) pentafluorobenzene	10.816	168	450797	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.774	114	666029	50.00	ug/L	0.00
88) chlorobenzene-d5	14.807	117	530041	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	263690	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.874	113	170818	49.81	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.62%			
51) 1,2-dichloroethane-d4 (s)	11.345	65	138188	46.00	ug/L	0.03
Spiked Amount 50.000	Range 73 - 122		Recovery = 92.00%			
80) toluene-d8 (s)	13.384	98	740712	45.20	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 90.40%			
106) 4-bromofluorobenzene (s)	15.837	174	205546	52.03	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 104.06%			
Target Compounds						Qvalue
65) benzene	11.345	78	46920559	2790.80	ug/L	76
82) toluene	13.452	92	490602	50.27	ug/L	100
97) chlorobenzene	14.838	112	241110	26.35	ug/L	100
100) m,p-xylene	14.969	106	3252	0.49	ug/L	96

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

Quantitation Report (QT Reviewed)

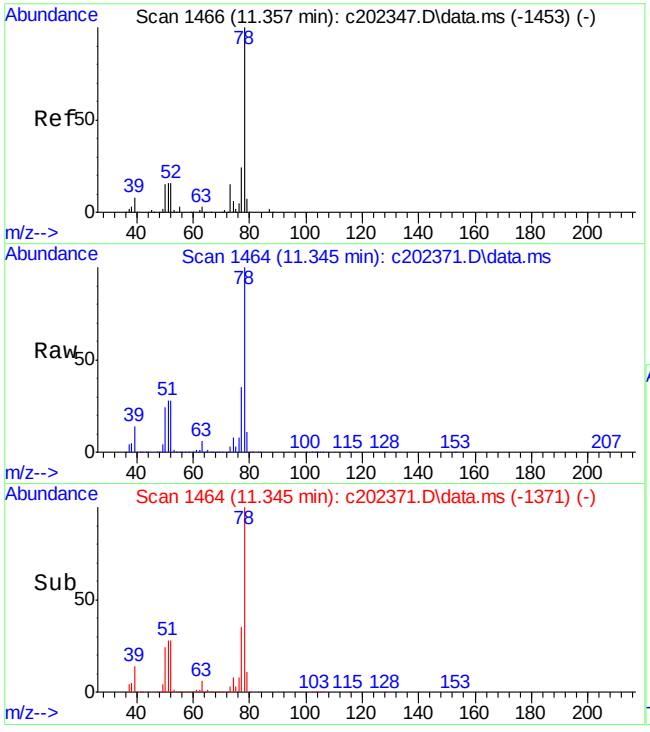
Data Path : C:\msdchem\1\DATA\
Data File : c202371.D
Acq On : 31 Jul 2015 7:25 pm
Operator : mihirm
Sample : jb99969-11
Misc : MS88818,VC7427,6.0,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 03 11:54:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



MC7426.M Mon Aug 03 11:55:02 2015 C

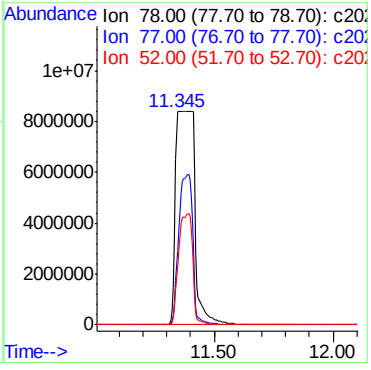
Page: 2

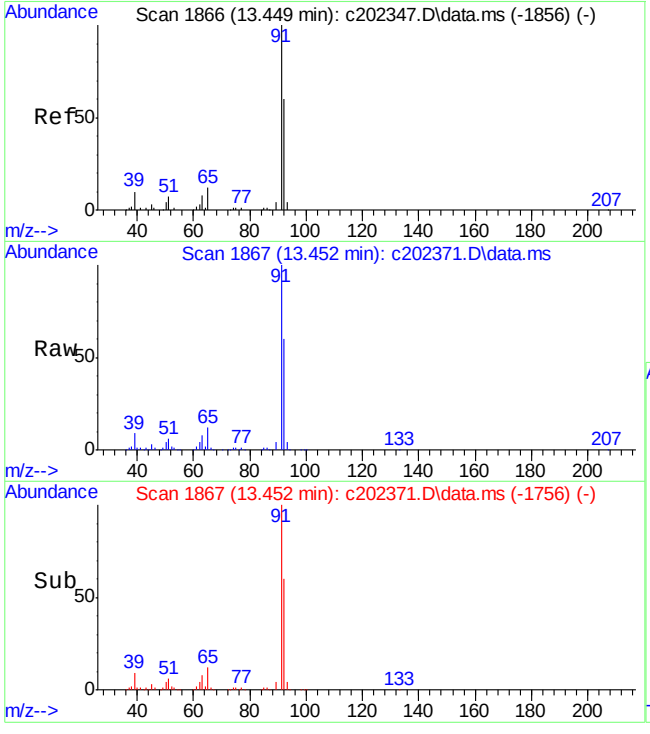


#65
benzene
Concen: 2790.80 ug/L
RT: 11.345 min Scan# 1464
Delta R.T. -0.013 min
Lab File: c202371.D
Acq: 31 Jul 2015 7:25 pm

Tgt Ion: 78 Resp:46920559

Ion	Ratio	Lower	Upper
78	100		
77	34.8	0.0	53.7
52	27.6	0.0	46.1

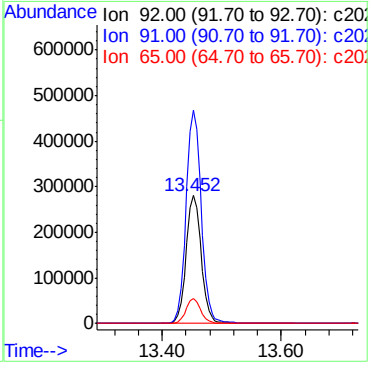


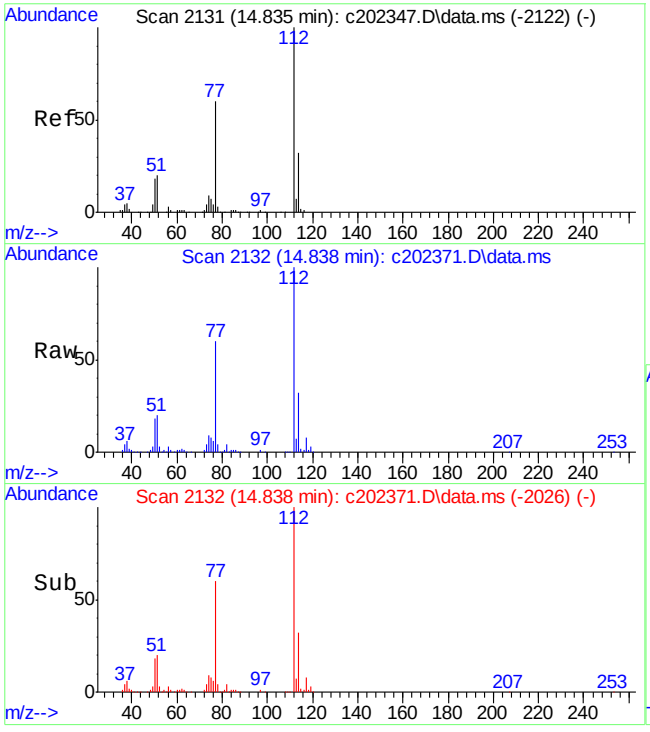


#82
toluene
Concen: 50.27 ug/L
RT: 13.452 min Scan# 1867
Delta R.T. 0.003 min
Lab File: c202371.D
Acq: 31 Jul 2015 7:25 pm

Tgt Ion: 92 Resp: 490602

Ion	Ratio	Lower	Upper
92	100		
91	166.9	137.2	197.2
65	19.3	0.0	49.7

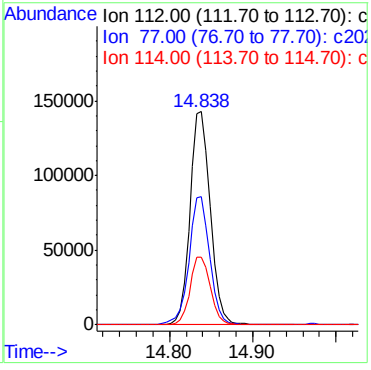


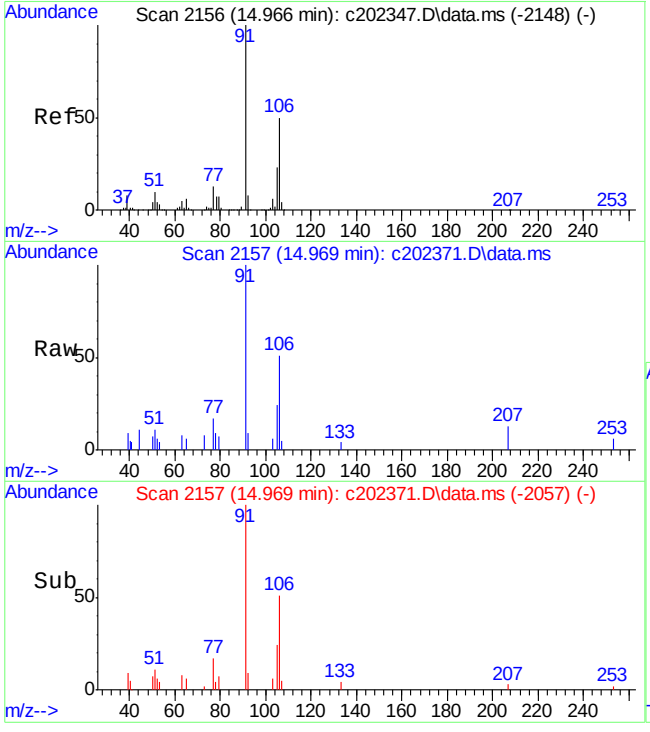


#97
chlorobenzene
Concen: 26.35 ug/L
RT: 14.838 min Scan# 2132
Delta R.T. 0.003 min
Lab File: c202371.D
Acq: 31 Jul 2015 7:25 pm

Tgt Ion:112 Resp: 241110

Ion	Ratio	Lower	Upper
112	100		
77	60.2	29.9	89.9
114	31.8	2.1	62.1

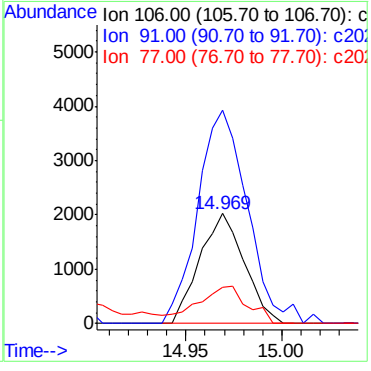




#100
m,p-xylene
Concen: 0.49 ug/L
RT: 14.969 min Scan# 2157
Delta R.T. 0.003 min
Lab File: c202371.D
Acq: 31 Jul 2015 7:25 pm

Tgt Ion:106 Resp: 3252

Ion	Ratio	Lower	Upper
106	100		
91	194.4	169.4	229.4
77	33.0	0.0	56.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228020.D
Acq On : 4 Aug 2015 3:16 pm
Operator : ThienN
Sample : jb99969-11
Misc : MS88818,VE9991,5.4,,100,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 04 16:00:58 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.942	65	149048	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	292205	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.049	114	409076	50.00	ug/L	0.00
84) chlorobenzene-d5	14.375	117	351204	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.943	152	204219	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	126907	48.22	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.44%			
48) 1,2-dichloroethane-d4 (s)	10.630	65	163205	50.38	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.76%			
76) toluene-d8 (s)	12.733	98	465129	48.04	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 96.08%			
103) 4-bromofluorobenzene (s)	15.651	95	186544	51.42	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.84%			

Target Compounds

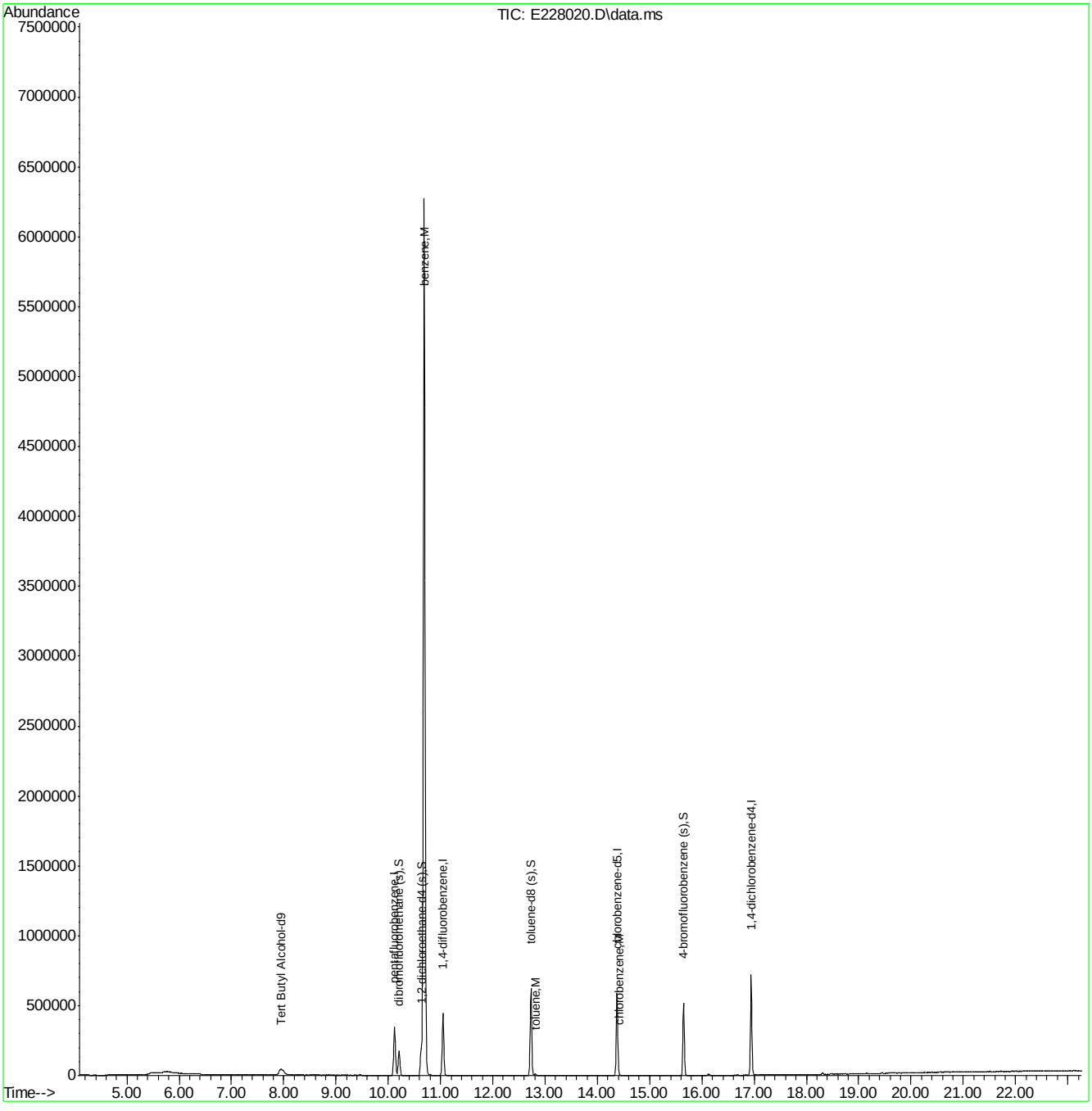
						Qvalue
62) benzene	10.688	78	6410407	520.49	ug/L	98
78) toluene	12.811	92	5996	0.81	ug/L	93
93) chlorobenzene	14.412	112	5329	0.71	ug/L	97

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

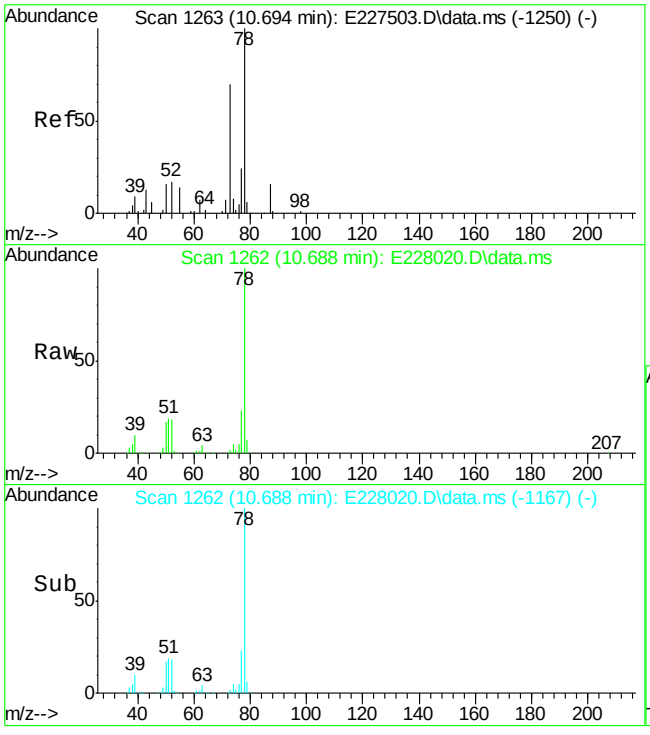
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228020.D
Acq On : 4 Aug 2015 3:16 pm
Operator : ThienN
Sample : jb99969-11
Misc : MS88818,VE9991,5.4,,100,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 04 16:00:58 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



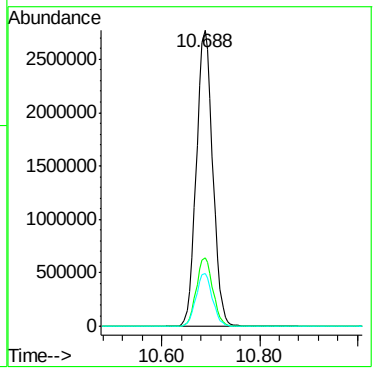
ME9972.M Tue Aug 04 16:01:11 2015 RPT1 Page: 2

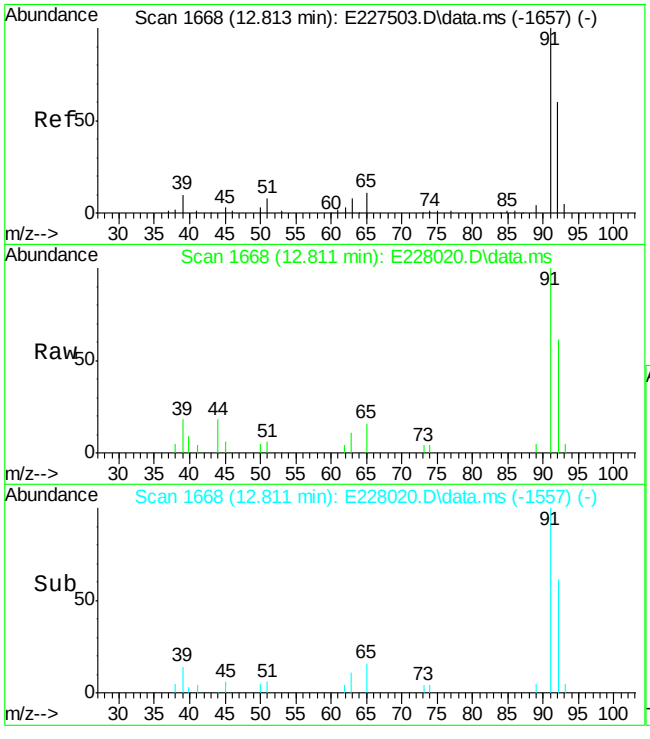


#62
benzene
Concen: 520.49 ug/L
RT: 10.688 min Scan# 1262
Delta R.T. -0.002 min
Lab File: E228020.D
Acq: 4 Aug 2015 3:16 pm

Tgt Ion: 78 Resp: 6410407

Ion	Ratio	Lower	Upper
78	100		
77	23.2	0.0	53.9
52	17.8	0.0	46.9

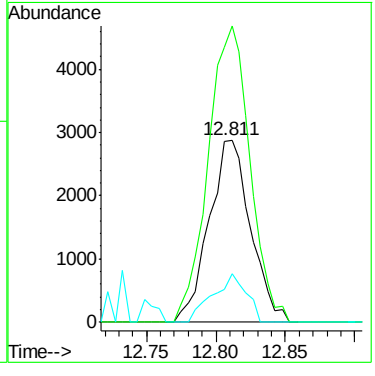


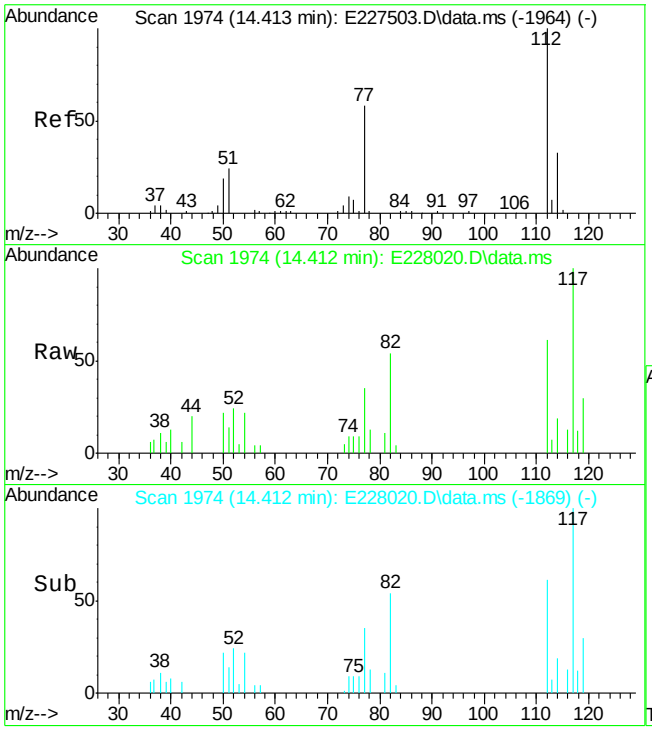


#78
toluene
Concen: 0.81 ug/L
RT: 12.811 min Scan# 1668
Delta R.T. -0.002 min
Lab File: E228020.D
Acq: 4 Aug 2015 3:16 pm

Tgt Ion: 92 Resp: 5996

Ion	Ratio	Lower	Upper
92	100		
91	162.7	141.7	201.7
65	26.4	0.0	50.9

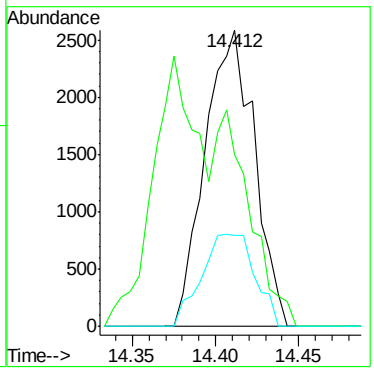




#93
chlorobenzene
Concen: 0.71 ug/L
RT: 14.412 min Scan# 1974
Delta R.T. -0.002 min
Lab File: E228020.D
Acq: 4 Aug 2015 3:16 pm

Tgt Ion:112 Resp: 5329

Ion	Ratio	Lower	Upper
112	100		
77	57.8	30.2	90.2
114	30.8	1.5	61.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228021.D
Acq On : 4 Aug 2015 3:47 pm
Operator : ThienN
Sample : jb99969-11
Misc : MS88818,VE9991,5.4,,10,10,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 04 16:28:58 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.933	65	142551	500.00	ug/L	0.00
4) pentafluorobenzene	10.119	168	286055	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	387512	50.00	ug/L	0.00
84) chlorobenzene-d5	14.377	117	348770	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.945	152	206902	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	126327	49.03	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.06%			
48) 1,2-dichloroethane-d4 (s)	10.632	65	160814	50.71	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 101.42%			
76) toluene-d8 (s)	12.729	98	457524	49.88	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.76%			
103) 4-bromofluorobenzene (s)	15.648	95	189036	51.43	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.86%			

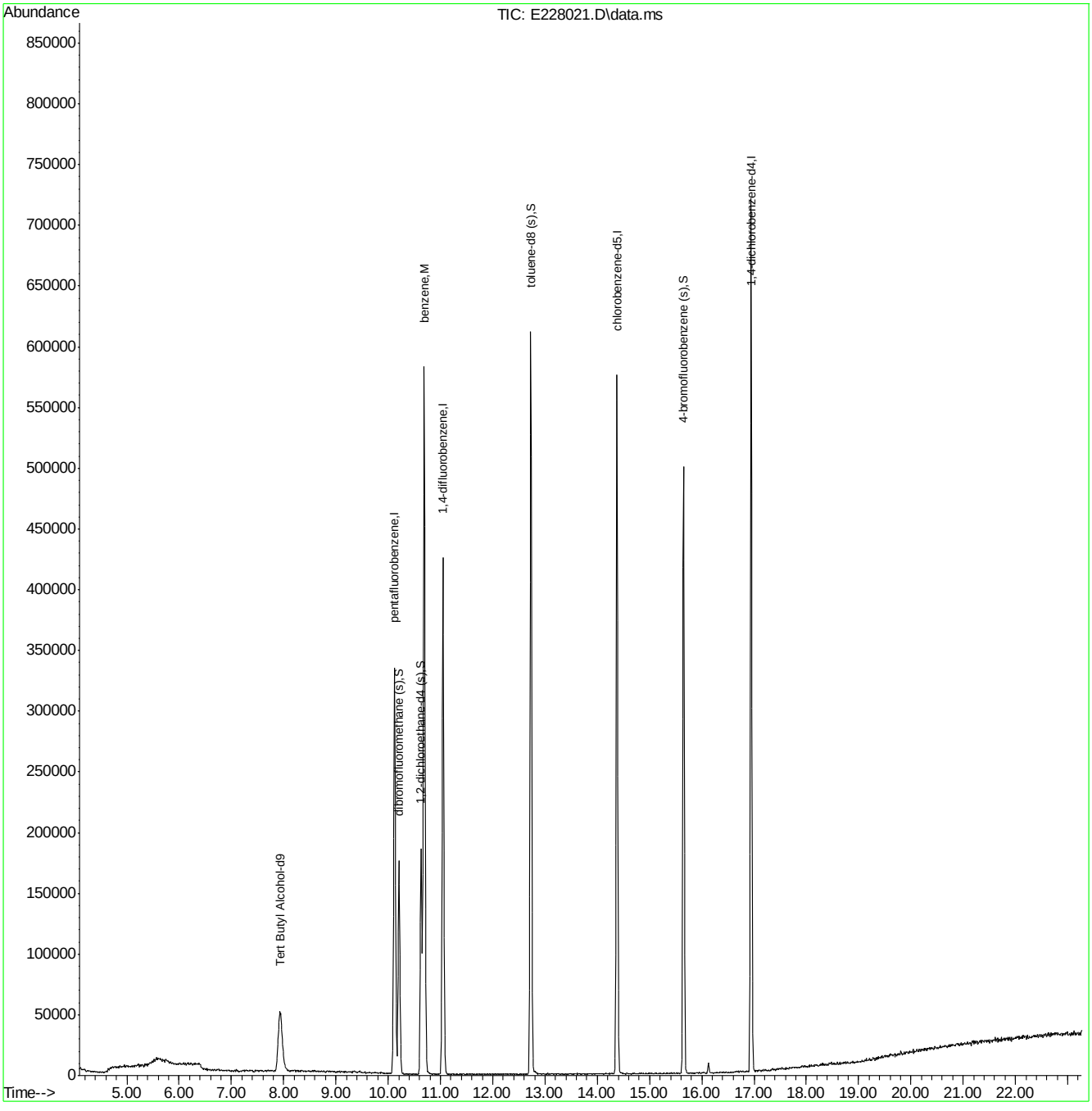
Target Compounds						Qvalue
62) benzene	10.689	78	590436	50.61	ug/L	98

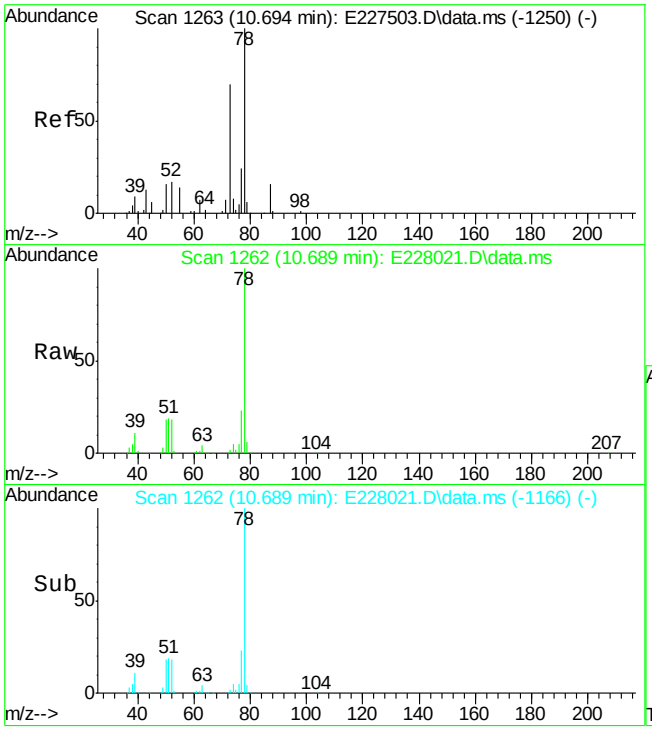
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228021.D
Acq On : 4 Aug 2015 3:47 pm
Operator : ThienN
Sample : jb99969-11
Misc : MS88818,VE9991,5.4,,10,10,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 04 16:28:58 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

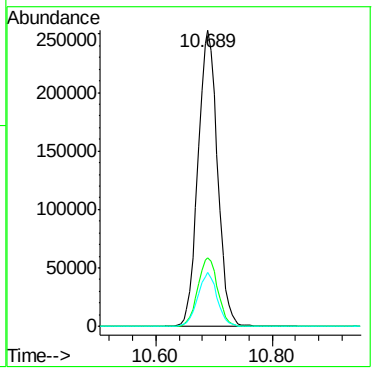




#62
benzene
Concen: 50.61 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. 0.000 min
Lab File: E228021.D
Acq: 4 Aug 2015 3:47 pm

Tgt Ion: 78 Resp: 590436

Ion	Ratio	Lower	Upper
78	100		
77	23.2	0.0	53.9
52	18.1	0.0	46.9



7.1.23

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202372.D
Acq On : 31 Jul 2015 7:54 pm
Operator : mihirm
Sample : jb99969-12
Misc : MS88818,VC7427,5.9,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 03 11:55:42 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.121	65	106932	500.00	ug/L	0.00
5) pentafluorobenzene	10.814	168	429467	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.772	114	595967	50.00	ug/L	0.00
88) chlorobenzene-d5	14.810	117	515381	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.824	152	258676	50.00	ug/L	0.00

System Monitoring Compounds						
50) dibromofluoromethane (s)	10.872	113	164650	50.40	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.80%			
51) 1,2-dichloroethane-d4 (s)	11.322	65	148584	51.92	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 103.84%			
80) toluene-d8 (s)	13.382	98	713027	48.62	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 97.24%			
106) 4-bromofluorobenzene (s)	15.835	174	199657	51.52	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.04%			

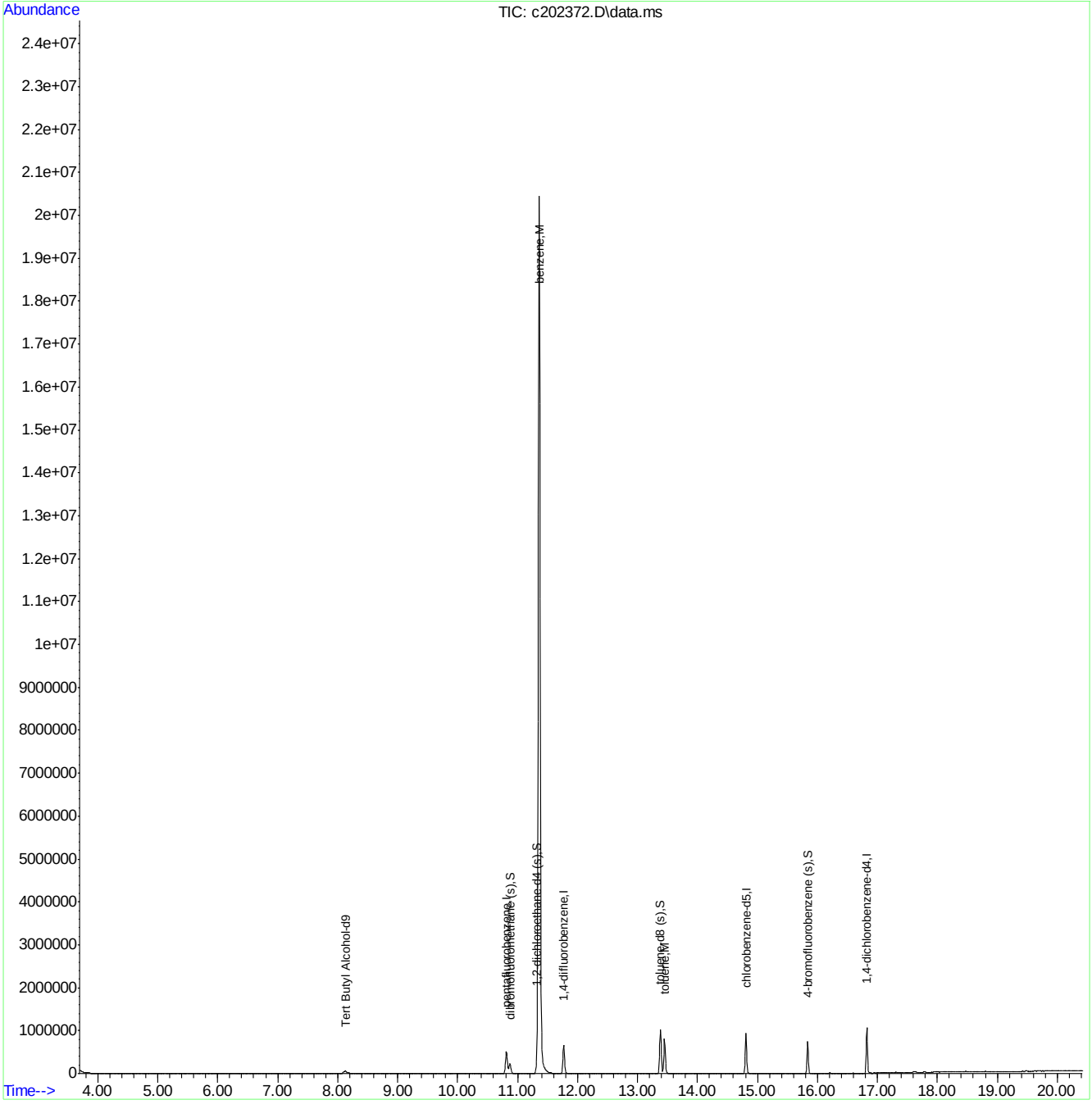
Target Compounds						Qvalue
65) benzene	11.364	78	19878223	1321.34	ug/L	85
82) toluene	13.456	92	368422	42.19	ug/L	100

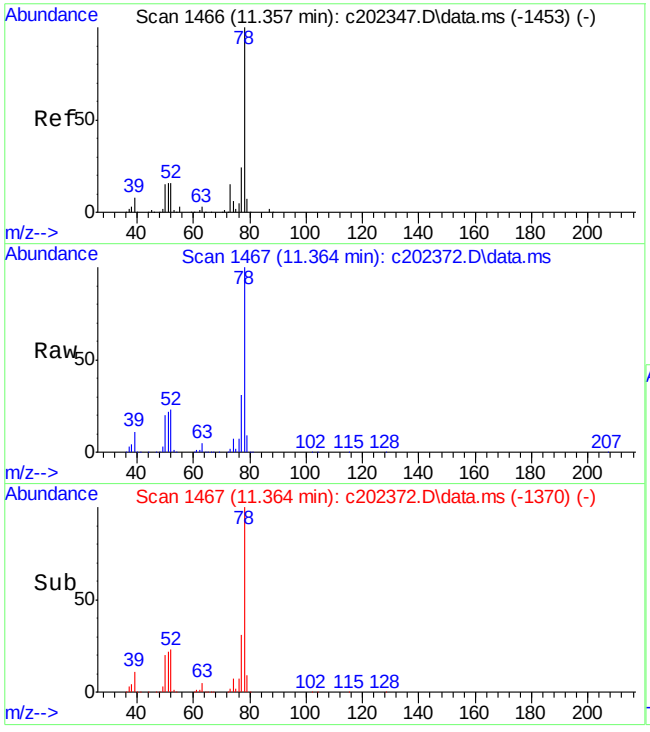
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202372.D
Acq On : 31 Jul 2015 7:54 pm
Operator : mihirm
Sample : jb99969-12
Misc : MS88818,VC7427,5.9,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 03 11:55:42 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

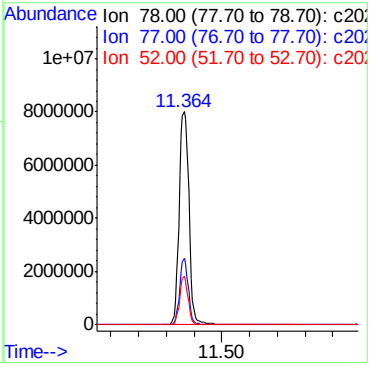


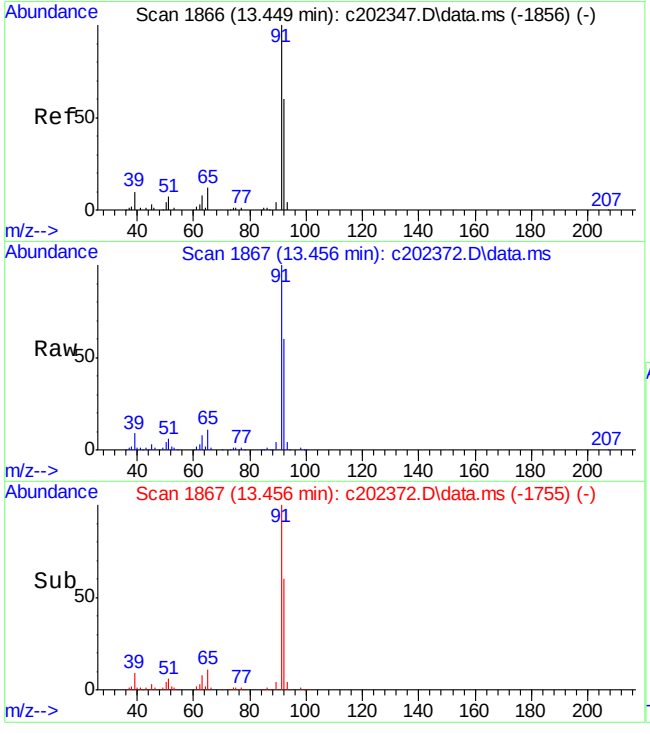


#65
benzene
Concen: 1321.34 ug/L
RT: 11.364 min Scan# 1467
Delta R.T. 0.006 min
Lab File: c202372.D
Acq: 31 Jul 2015 7:54 pm

Tgt Ion: 78 Resp:19878223

Ion	Ratio	Lower	Upper
78	100		
77	31.0	0.0	53.7
52	22.7	0.0	46.1

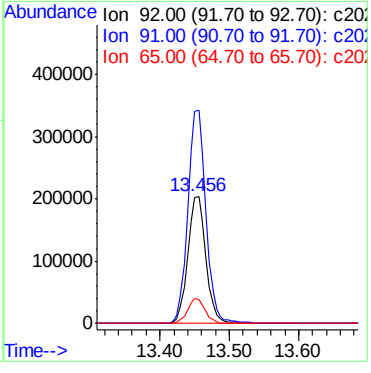




#82
toluene
Concen: 42.19 ug/L
RT: 13.456 min Scan# 1867
Delta R.T. 0.006 min
Lab File: c202372.D
Acq: 31 Jul 2015 7:54 pm

Tgt Ion: 92 Resp: 368422

Ion	Ratio	Lower	Upper
92	100		
91	167.6	137.2	197.2
65	19.0	0.0	49.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228022.D
Acq On : 4 Aug 2015 4:17 pm
Operator : ThienN
Sample : jb99969-12
Misc : MS88818,VE9991,5.5,,100,10,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 04 17:14:19 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.939	65	141403	500.00	ug/L	0.00
4) pentafluorobenzene	10.120	168	281601	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.045	114	376839	50.00	ug/L	0.00
84) chlorobenzene-d5	14.377	117	338292	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.945	152	201439	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	122329	48.23	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.46%			
48) 1,2-dichloroethane-d4 (s)	10.627	65	155348	49.76	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.52%			
76) toluene-d8 (s)	12.729	98	447210	50.14	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 100.28%			
103) 4-bromofluorobenzene (s)	15.648	95	179909	50.28	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 100.56%			

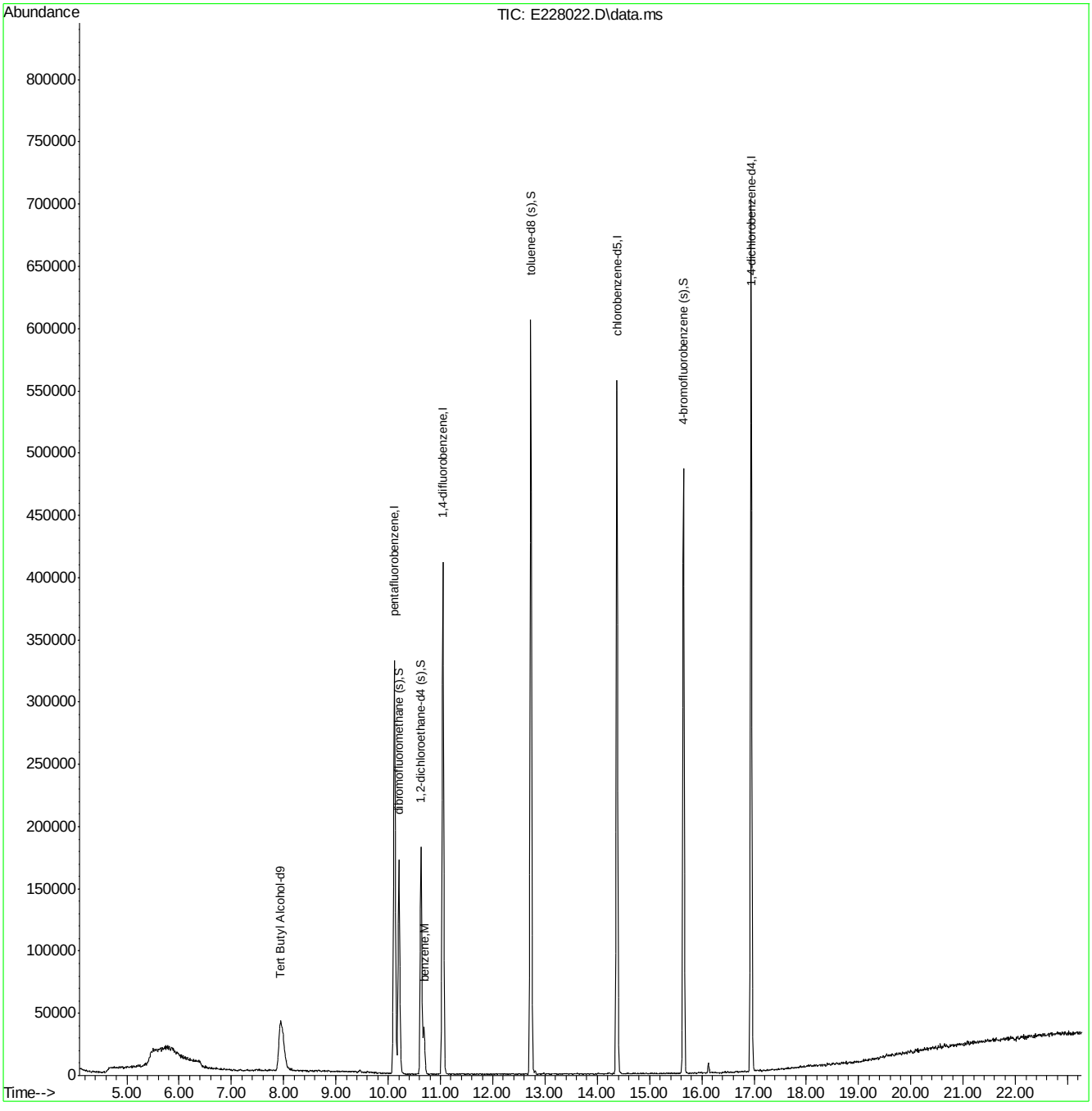
Target Compounds						Qvalue
62) benzene	10.690	78	37417	3.30	ug/L	95

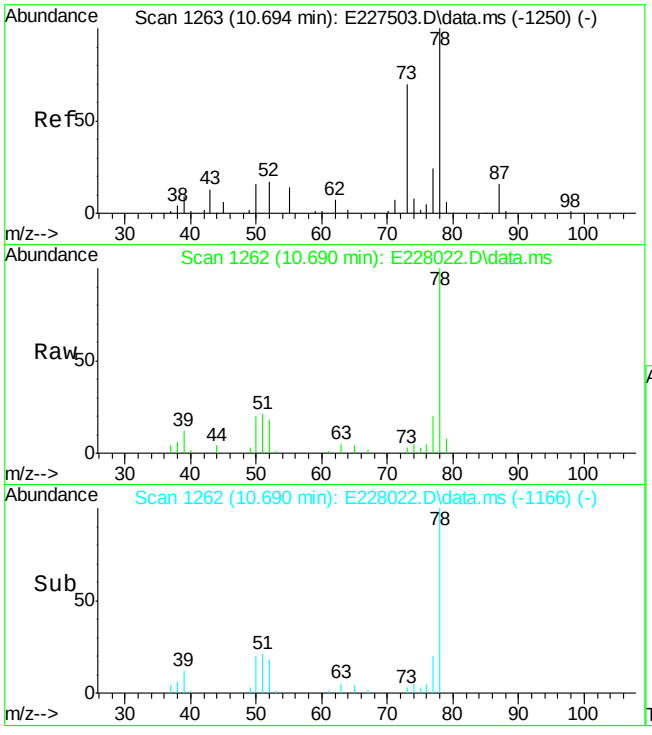
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228022.D
Acq On : 4 Aug 2015 4:17 pm
Operator : ThienN
Sample : jb99969-12
Misc : MS88818,VE9991,5.5,,100,10,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 04 17:14:19 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

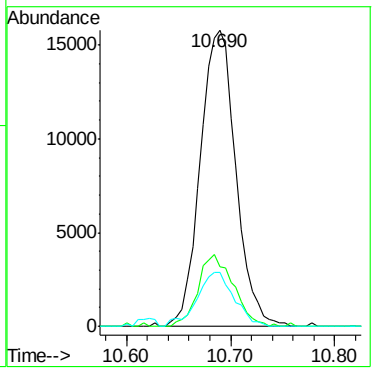




#62
benzene
Concen: 3.30 ug/L
RT: 10.690 min Scan# 1262
Delta R.T. 0.000 min
Lab File: E228022.D
Acq: 4 Aug 2015 4:17 pm

Tgt Ion: 78 Resp: 37417

Ion	Ratio	Lower	Upper
78	100		
77	20.3	0.0	53.9
52	18.1	0.0	46.9



7.1.25

7

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
08/19/15 16:55

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202373.D
Acq On : 31 Jul 2015 8:22 pm
Operator : mihirm
Sample : jb99969-13
Misc : MS88818,VC7427,6.0,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 19 15:57:21 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.118	65	105007	500.00 ug/L	0.00
5) pentafluorobenzene	10.812	168	404564	50.00 ug/L	0.00
59) 1,4-difluorobenzene	11.769	114	565049	50.00 ug/L	0.00
88) chlorobenzene-d5	14.807	117	506920	50.00 ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	253796	50.00 ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.874	113	155459	50.51 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.02%		
51) 1,2-dichloroethane-d4 (s)	11.319	65	141724	52.57 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.14%		
80) toluene-d8 (s)	13.385	98	696188	50.07 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.14%		
106) 4-bromofluorobenzene (s)	15.838	174	197089	51.84 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.68%		

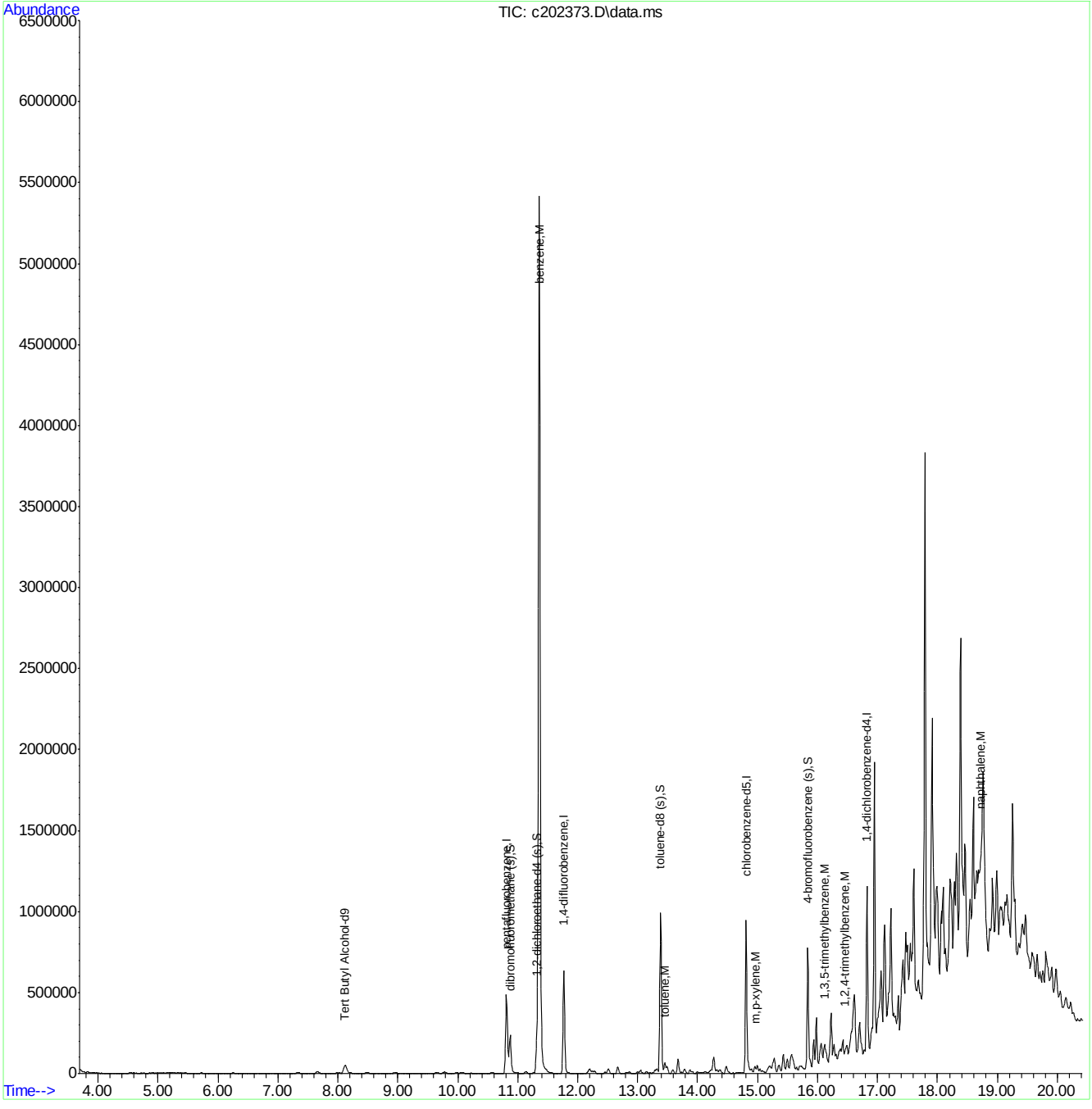
Target Compounds					Qvalue
65) benzene	11.361	78	5360065	375.79 ug/L	99
82) toluene	13.453	92	28257	3.41 ug/L	95
100) m,p-xylene	14.970	106	2261	0.36 ug/L	85
115) 1,3,5-trimethylbenzene	16.110	105	4904	0.36 ug/L	98
118) 1,2,4-trimethylbenzene	16.450	105	4806	0.35 ug/L	96
132) naphthalene	18.720	128	10403m	1.06 ug/L	

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

Quantitation Report (QT Reviewed)

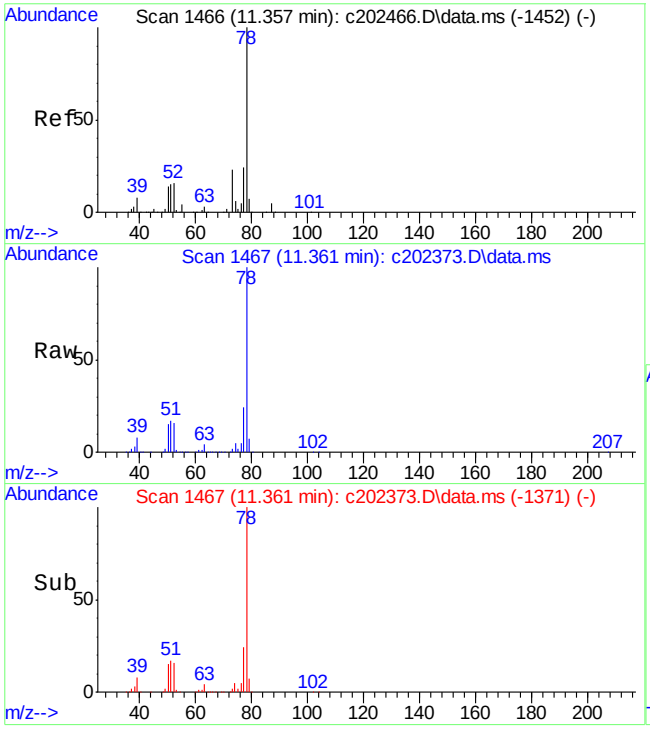
Data Path : C:\msdchem\1\DATA\
Data File : c202373.D
Acq On : 31 Jul 2015 8:22 pm
Operator : mihirm
Sample : jb99969-13
Misc : MS88818,VC7427,6.0,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 19 15:57:21 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



MC7426.M Wed Aug 19 16:39:01 2015 C

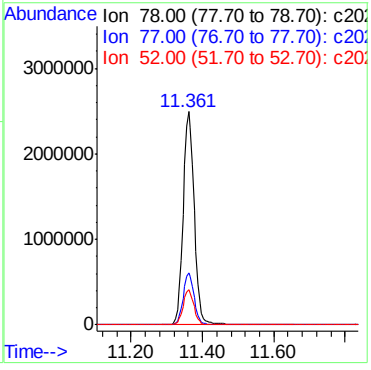
Page: 2

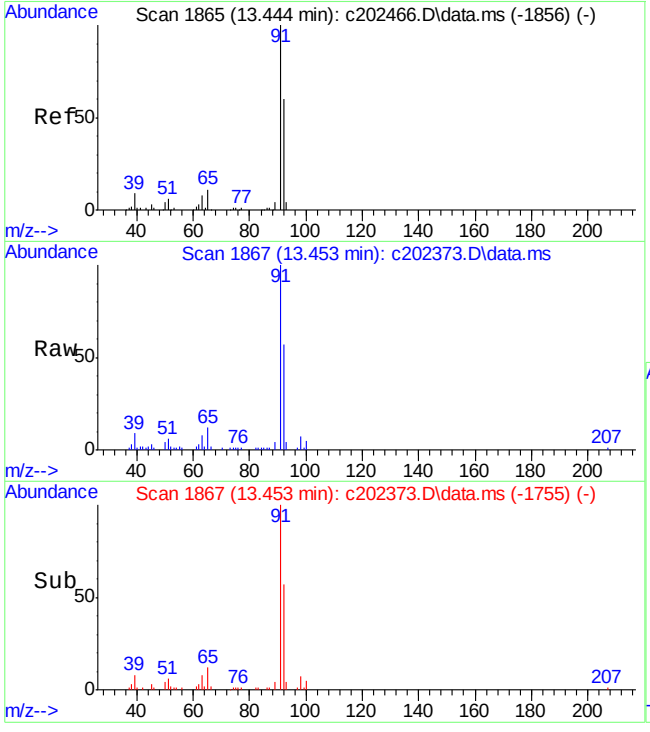


#65
benzene
Concen: 375.79 ug/L
RT: 11.361 min Scan# 1467
Delta R.T. 0.003 min
Lab File: c202373.D
Acq: 31 Jul 2015 8:22 pm

Tgt Ion: 78 Resp: 5360065

Ion	Ratio	Lower	Upper
78	100		
77	24.2	0.0	53.7
52	16.4	0.0	46.1

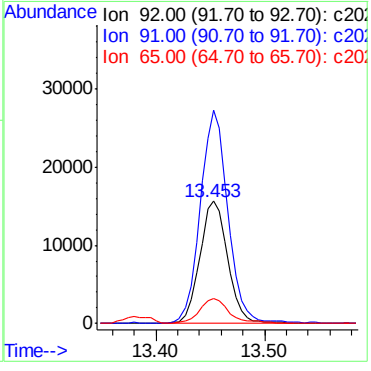


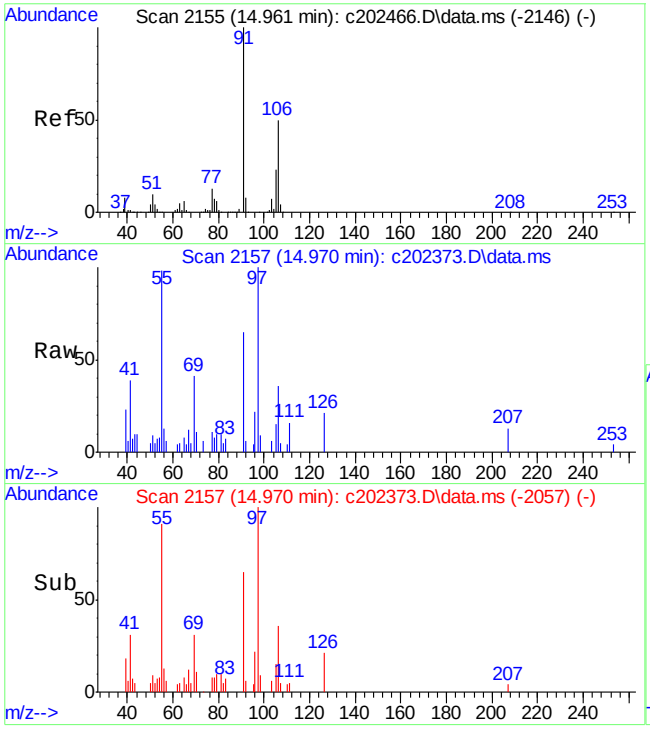


#82
toluene
Concen: 3.41 ug/L
RT: 13.453 min Scan# 1867
Delta R.T. 0.003 min
Lab File: c202373.D
Acq: 31 Jul 2015 8:22 pm

Tgt Ion: 92 Resp: 28257

Ion	Ratio	Lower	Upper
92	100		
91	174.1	137.2	197.2
65	20.4	0.0	49.7

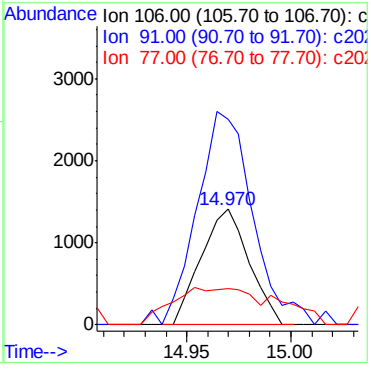


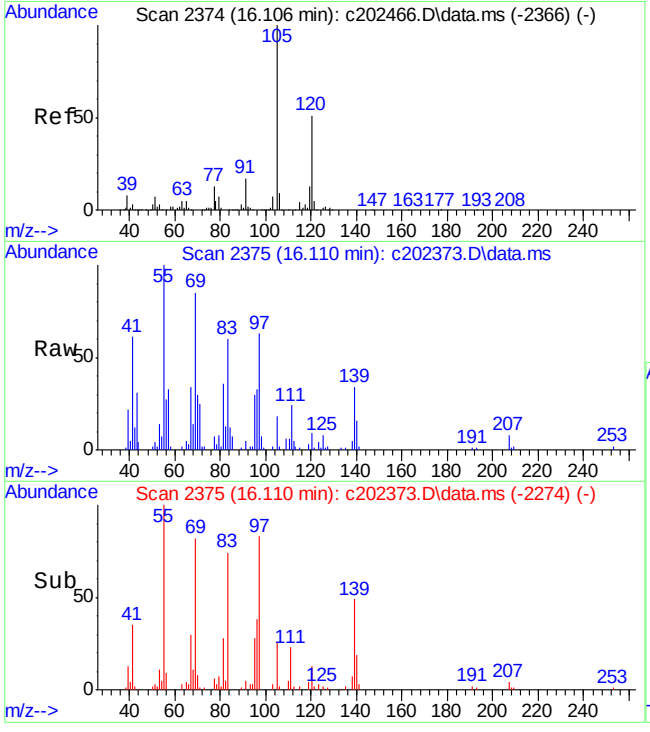


#100
m,p-xylene
Concen: 0.36 ug/L
RT: 14.970 min Scan# 2157
Delta R.T. 0.003 min
Lab File: c202373.D
Acq: 31 Jul 2015 8:22 pm

Tgt Ion:106 Resp: 2261

Ion	Ratio	Lower	Upper
106	100		
91	177.7	169.4	229.4
77	16.1	0.0	56.6

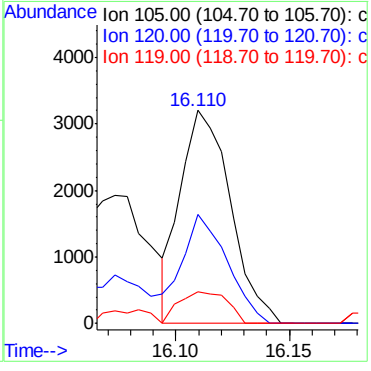


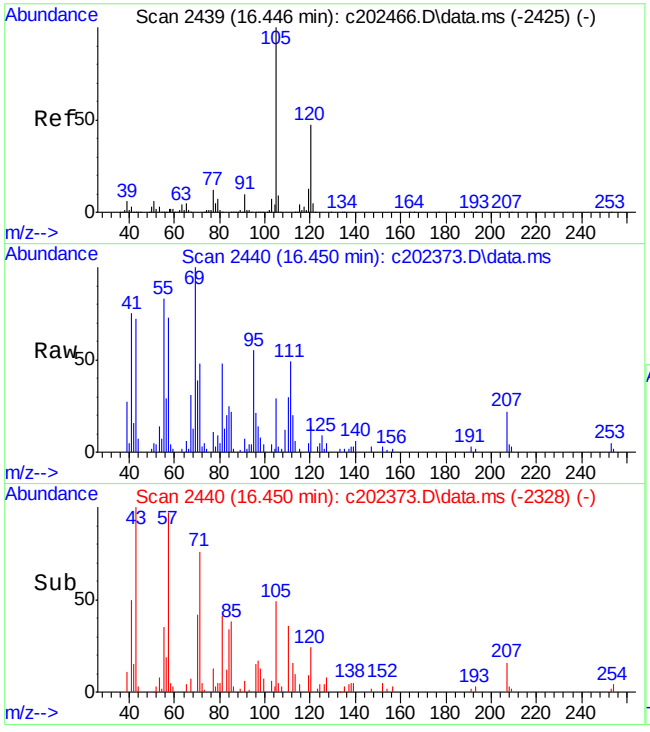


#115
1,3,5-trimethylbenzene
Concen: 0.36 ug/L
RT: 16.110 min Scan# 2375
Delta R.T. -0.002 min
Lab File: c202373.D
Acq: 31 Jul 2015 8:22 pm

Tgt Ion:105 Resp: 4904

Ion	Ratio	Lower	Upper
105	100		
120	50.9	19.9	79.9
119	15.0	0.0	42.7

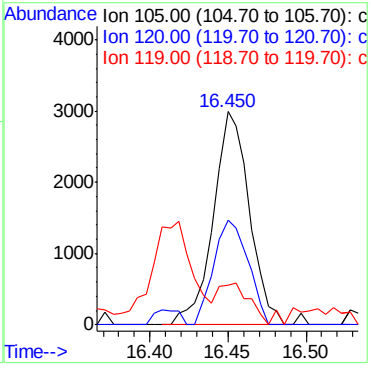


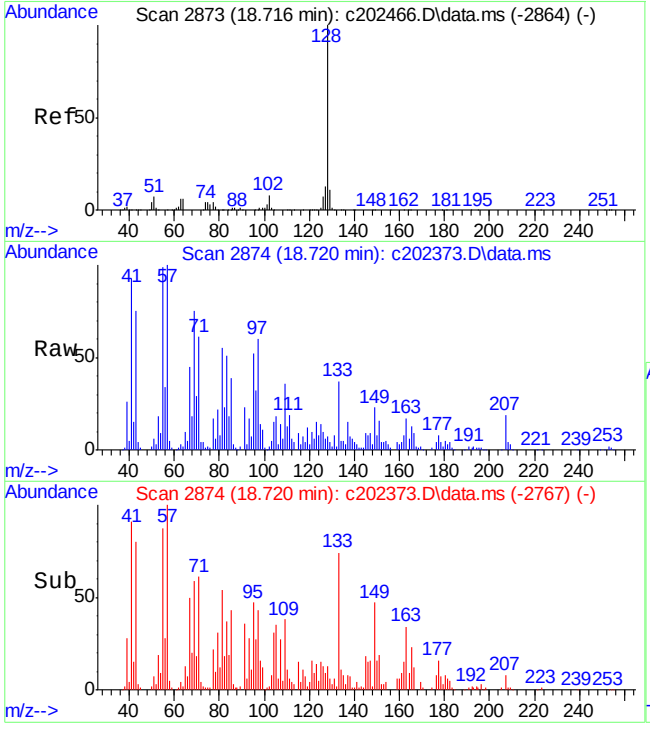


#118
1,2,4-trimethylbenzene
Concen: 0.35 ug/L
RT: 16.450 min Scan# 2440
Delta R.T. -0.002 min
Lab File: c202373.D
Acq: 31 Jul 2015 8:22 pm

Tgt Ion:105 Resp: 4806

Ion	Ratio	Lower	Upper
105	100		
120	49.2	16.4	76.4
119	10.3	0.0	42.5

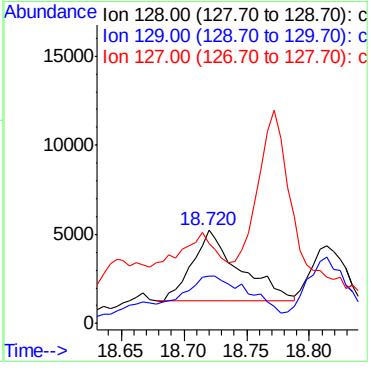




#132
naphthalene
Concen: 1.06 ug/L m
RT: 18.720 min Scan# 2874
Delta R.T. -0.002 min
Lab File: c202373.D
Acq: 31 Jul 2015 8:22 pm

Tgt Ion:128 Resp: 10403

Ion	Ratio	Lower	Upper
128	100		
129	50.8	0.0	40.7#
127	85.5	0.0	43.0#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228023.D
Acq On : 4 Aug 2015 4:47 pm
Operator : ThienN
Sample : jb99969-13
Misc : MS88818,VE9991,6.3,,100,10,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 04 17:15:11 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.952	65	147681	500.00	ug/L	0.01
4) pentafluorobenzene	10.123	168	284823	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.048	114	382358	50.00	ug/L	0.00
84) chlorobenzene-d5	14.375	117	337481	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.943	152	199751	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.206	113	123608	48.18	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.36%			
48) 1,2-dichloroethane-d4 (s)	10.630	65	155010	49.09	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.18%			
76) toluene-d8 (s)	12.727	98	442444	48.89	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.78%			
103) 4-bromofluorobenzene (s)	15.651	95	182193	51.35	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.70%			

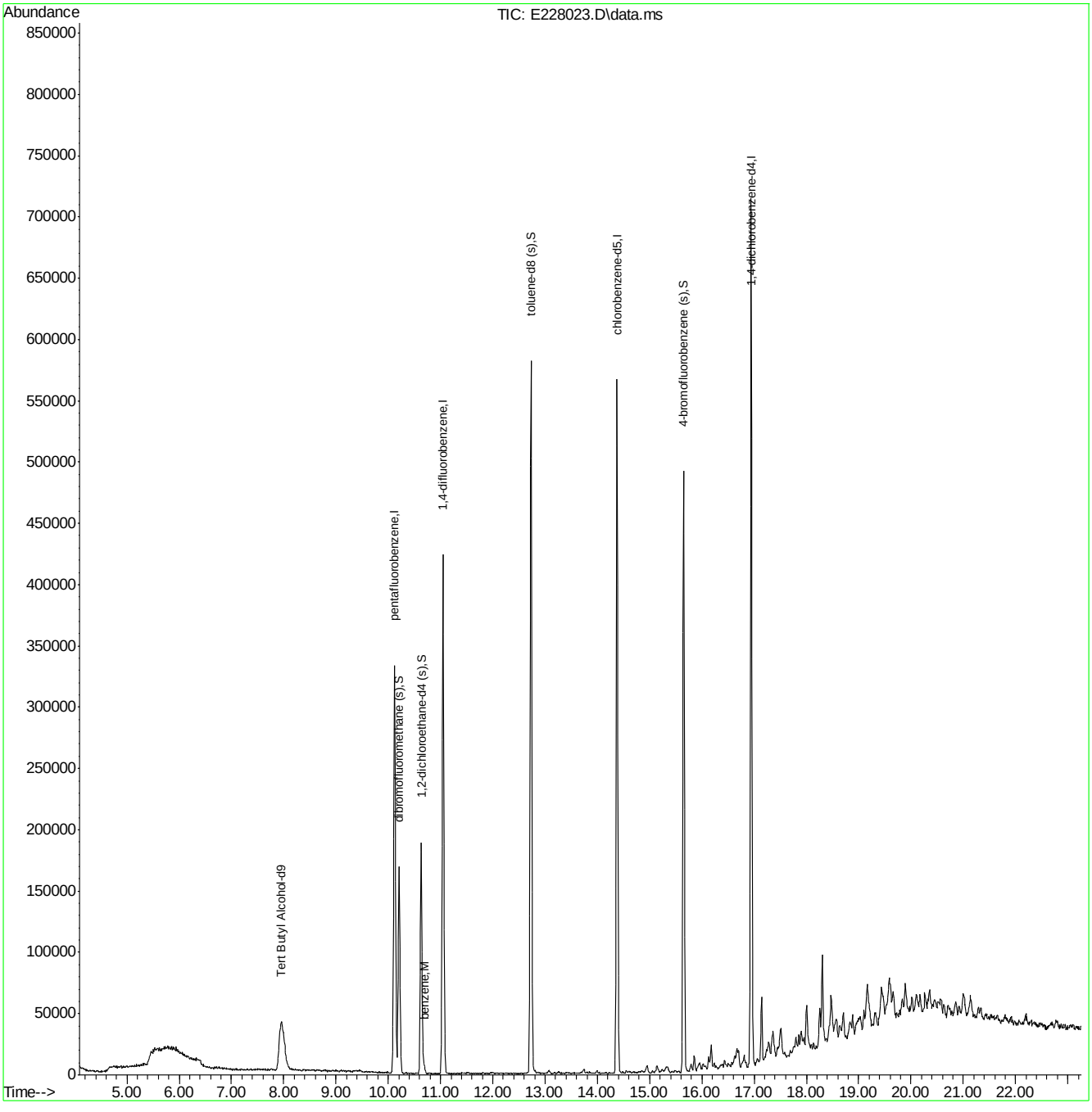
Target Compounds						Qvalue
62) benzene	10.687	78	5692	0.49	ug/L	93

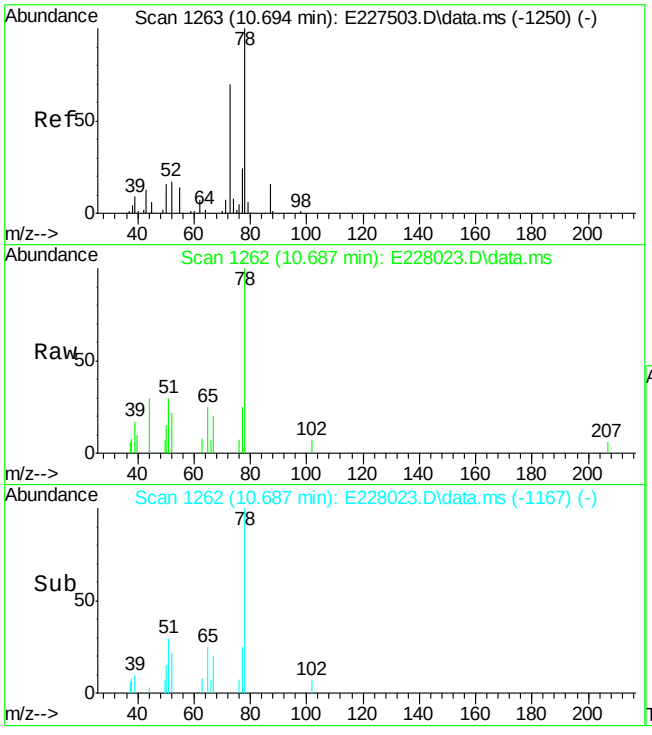
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228023.D
Acq On : 4 Aug 2015 4:47 pm
Operator : ThienN
Sample : jb99969-13
Misc : MS88818,VE9991,6.3,,100,10,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 04 17:15:11 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

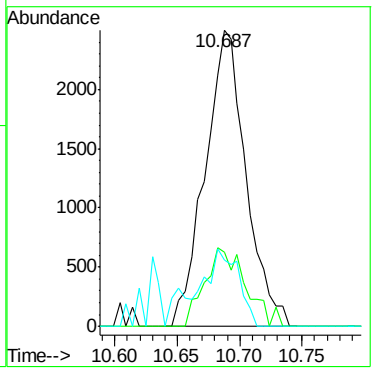




#62
benzene
Concen: 0.49 ug/L
RT: 10.687 min Scan# 1262
Delta R.T. -0.002 min
Lab File: E228023.D
Acq: 4 Aug 2015 4:47 pm

Tgt Ion: 78 Resp: 5692

Ion	Ratio	Lower	Upper
78	100		
77	25.2	0.0	53.9
52	22.2	0.0	46.9



7.1.27

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227935.D
Acq On : 31 Jul 2015 12:35 am
Operator : ThienN
Sample : jb99969-14
Misc : MS88818,VE9987,5.8,,100,10,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 31 11:50:01 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.938	65	130950	500.00	ug/L	0.00
4) pentafluorobenzene	10.135	168	350036	50.00	ug/L	0.01
54) 1,4-difluorobenzene	11.071	114	587353	50.00	ug/L	0.02
84) chlorobenzene-d5	14.381	117	461189	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	235417	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.223	113	141949	45.02	ug/L	0.02
Spiked Amount 50.000	Range 70 - 122		Recovery = 90.04%			
48) 1,2-dichloroethane-d4 (s)	10.647	65	149438	38.51	ug/L	0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 77.02%			
76) toluene-d8 (s)	12.786	98	377282	27.14	ug/L	0.05
Spiked Amount 50.000	Range 77 - 125		Recovery = 54.28%#			
103) 4-bromofluorobenzene (s)	15.652	95	219985	52.60	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 105.20%			

Target Compounds

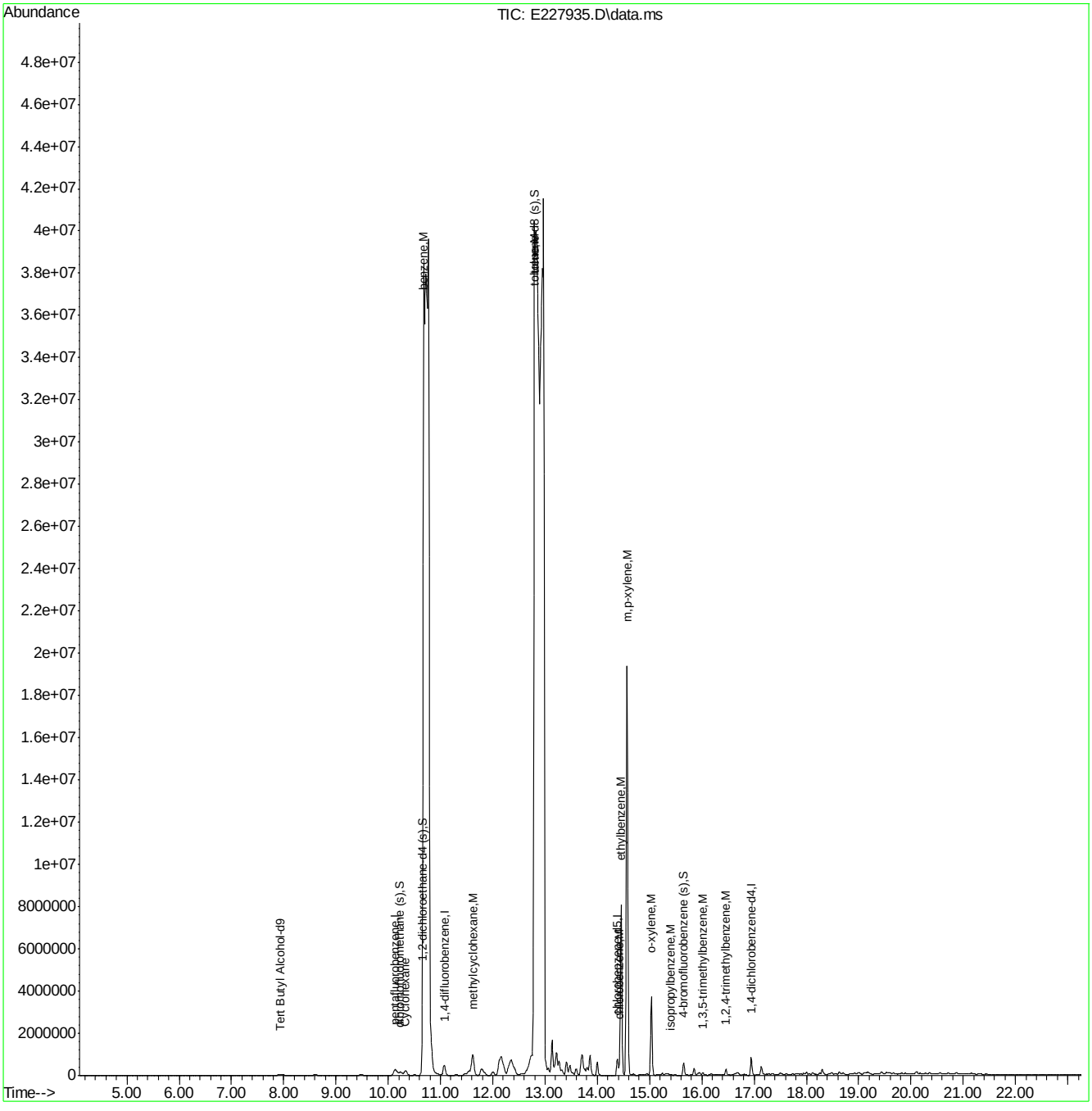
						Qvalue
52) Cyclohexane	10.328	84	74869	11.88	ug/L	77
62) benzene	10.668	78	69829442	3948.85	ug/L	89
70) methylcyclohexane	11.620	83	661123	89.47	ug/L	95
78) toluene	12.791	92	103261033	9756.08	ug/L #	53
93) chlorobenzene	14.418	112	9339	0.95	ug/L #	30
95) ethylbenzene	14.455	91	6790402	380.39	ug/L	100
96) m,p-xylene	14.570	106	6986209	1063.44	ug/L	94
97) o-xylene	15.035	106	1181719	172.23	ug/L	98
102) isopropylbenzene	15.401	105	20700	1.35	ug/L	95
113) 1,3,5-trimethylbenzene	16.018	105	57653	4.38	ug/L	99
116) 1,2,4-trimethylbenzene	16.458	105	179119	13.59	ug/L	99

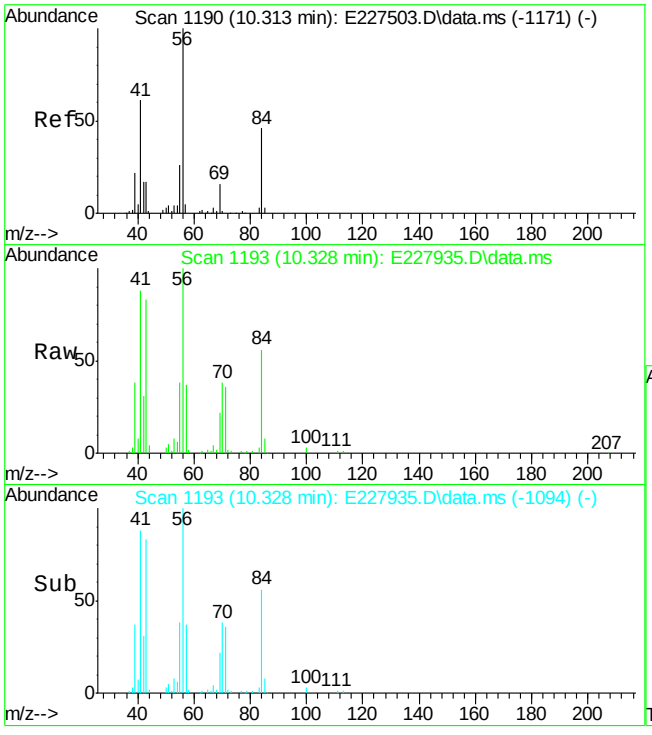
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227935.D
Acq On : 31 Jul 2015 12:35 am
Operator : ThienN
Sample : jb99969-14
Misc : MS88818,VE9987,5.8,,100,10,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 31 11:50:01 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

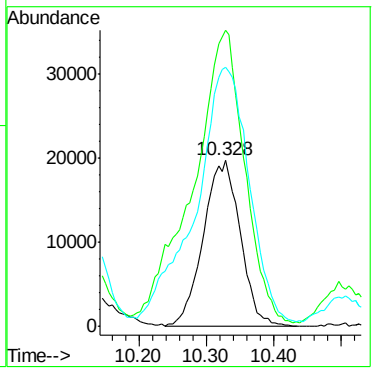


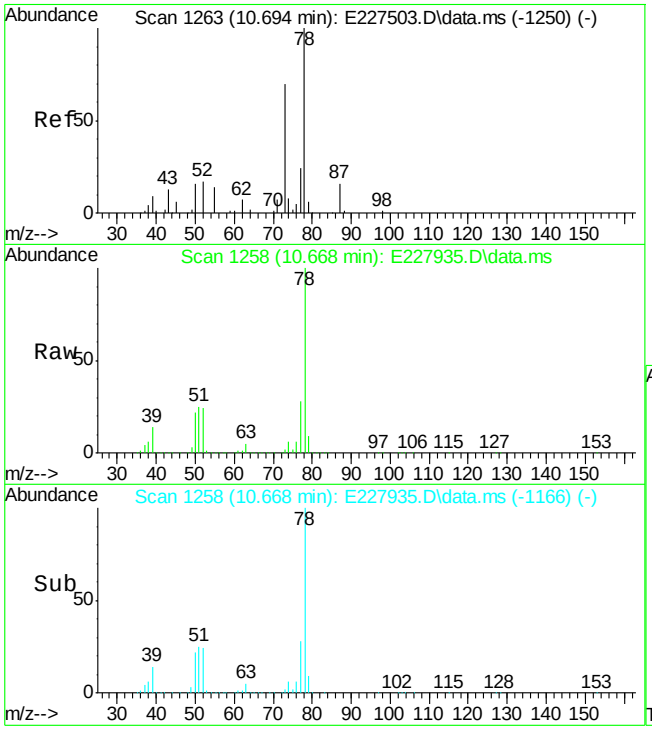


#52
Cyclohexane
Concen: 11.88 ug/L
RT: 10.328 min Scan# 1193
Delta R.T. 0.015 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion: 84 Resp: 74869

Ion	Ratio	Lower	Upper
84	100		
56	175.0	150.6	279.6
41	152.7	91.7	170.3

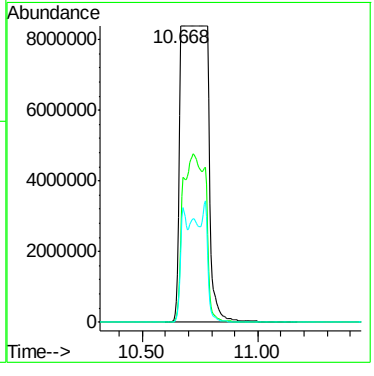


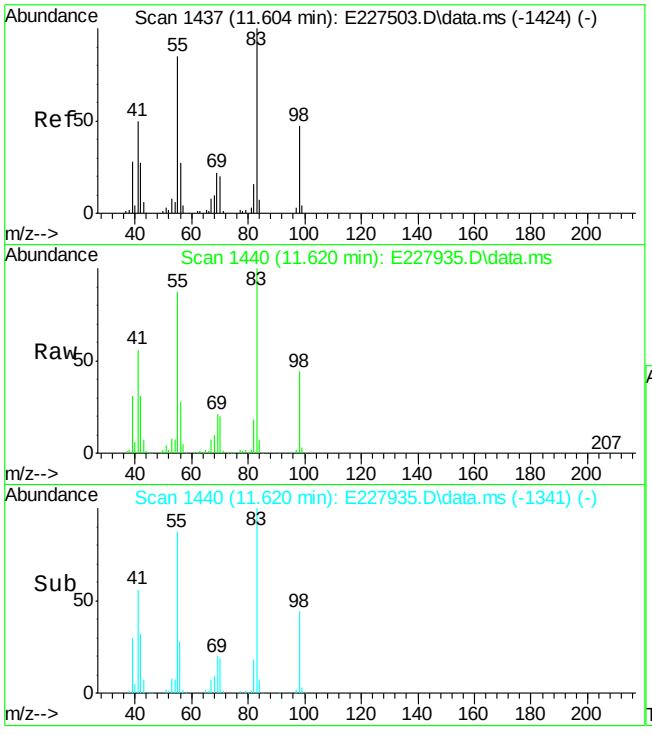


#62
benzene
Concen: 3948.85 ug/L
RT: 10.668 min Scan# 1258
Delta R.T. -0.021 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion: 78 Resp:69829442

Ion	Ratio	Lower	Upper
78	100		
77	27.5	0.0	53.9
52	23.9	0.0	46.9

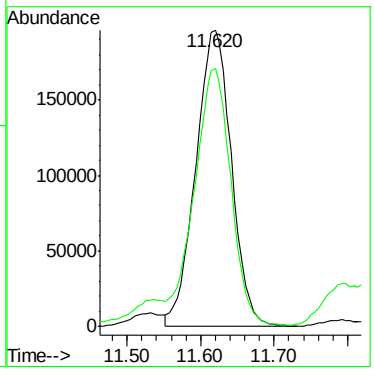


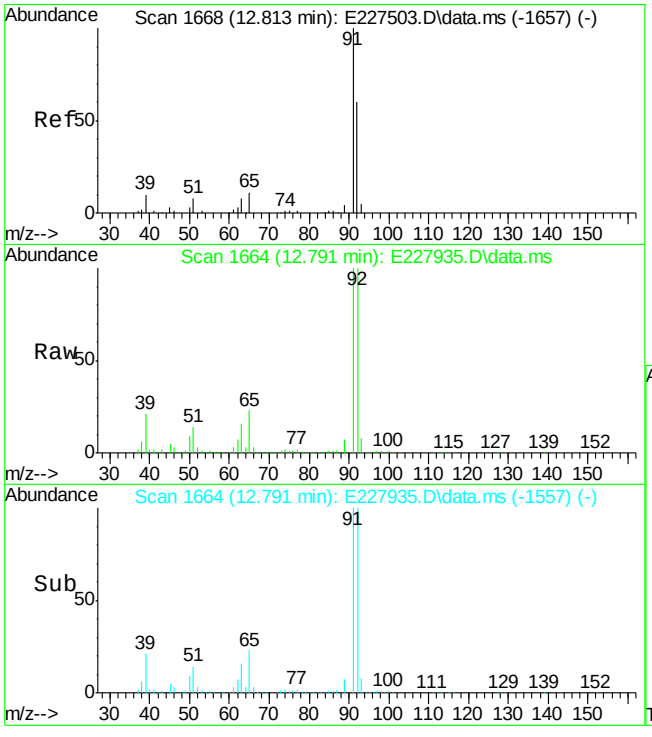


#70
methylcyclohexane
Concen: 89.47 ug/L
RT: 11.620 min Scan# 1440
Delta R.T. 0.015 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion: 83 Resp: 661123

Ion	Ratio	Lower	Upper
83	100		
55	86.5	57.7	107.1

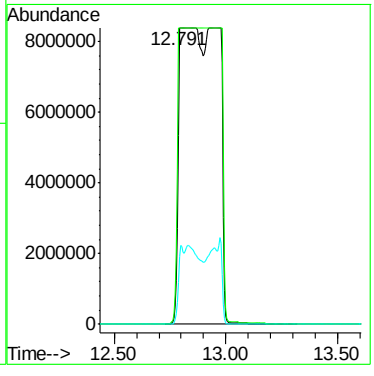


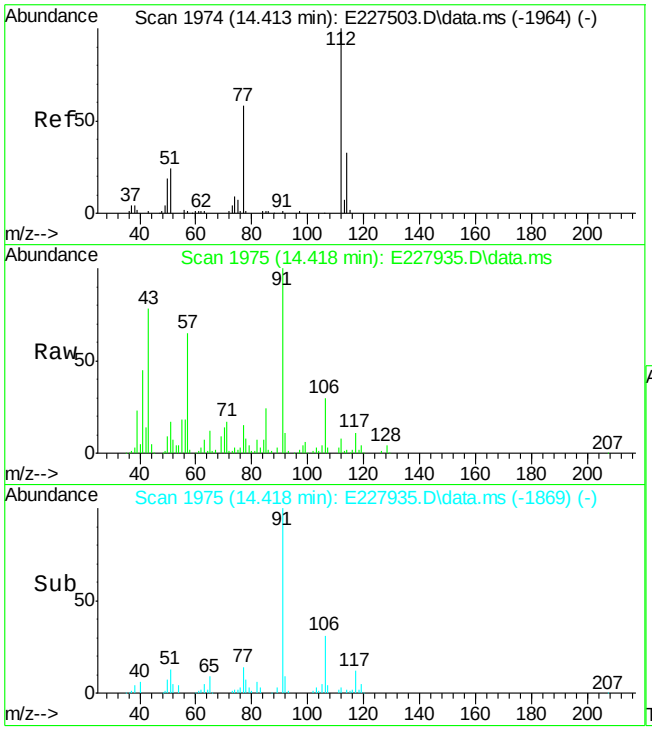


#78
toluene
Concen: 9756.08 ug/L
RT: 12.791 min Scan# 1664
Delta R.T. -0.021 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion: 92 Resp:103261033

Ion	Ratio	Lower	Upper
92	100		
91	100.0	141.7	201.7#
65	22.9	0.0	50.9

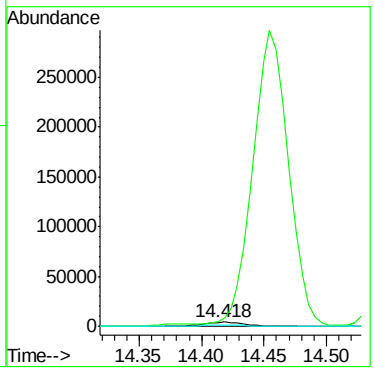


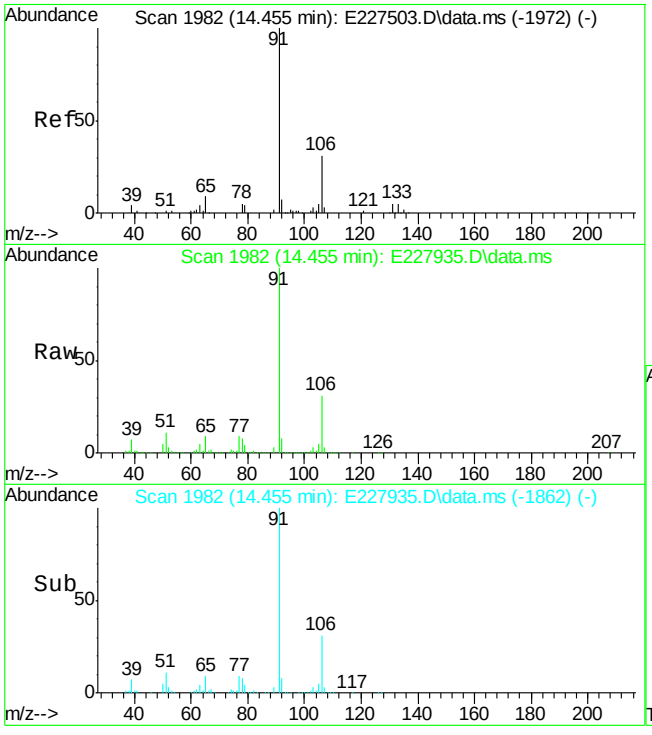


#93
chlorobenzene
Concen: 0.95 ug/L
RT: 14.418 min Scan# 1975
Delta R.T. 0.005 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion:112 Resp: 9339

Ion	Ratio	Lower	Upper
112	100		
77	139.5	30.2	90.2#
114	29.2	1.5	61.5

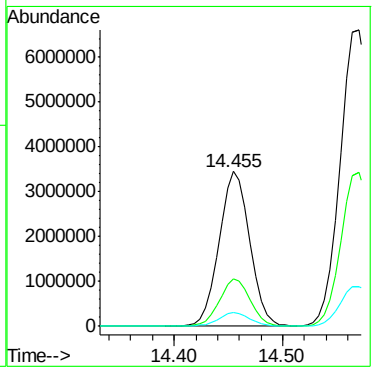


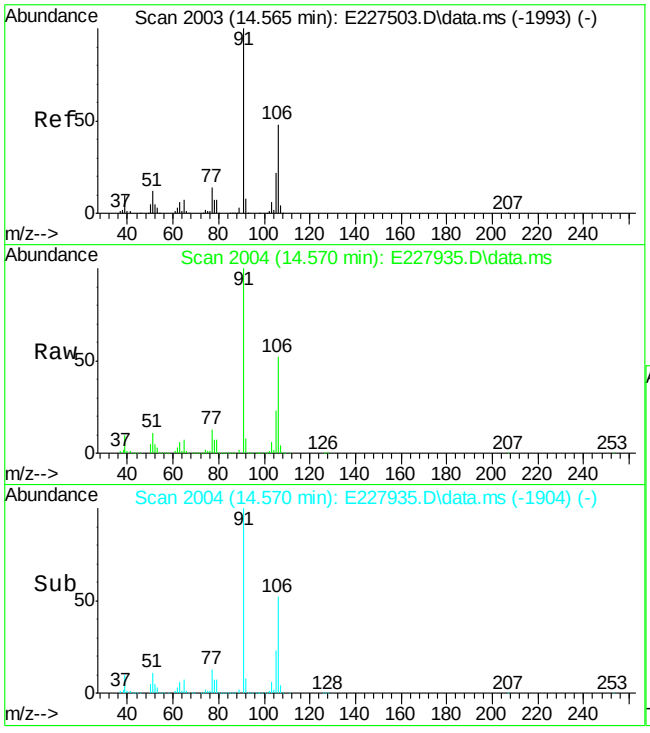


#95
ethylbenzene
Concen: 380.39 ug/L
RT: 14.455 min Scan# 1982
Delta R.T. -0.000 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion: 91 Resp: 6790402

Ion	Ratio	Lower	Upper
91	100		
106	30.6	0.5	60.5
77	8.6	0.0	38.8

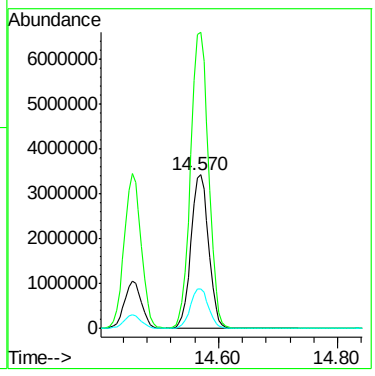


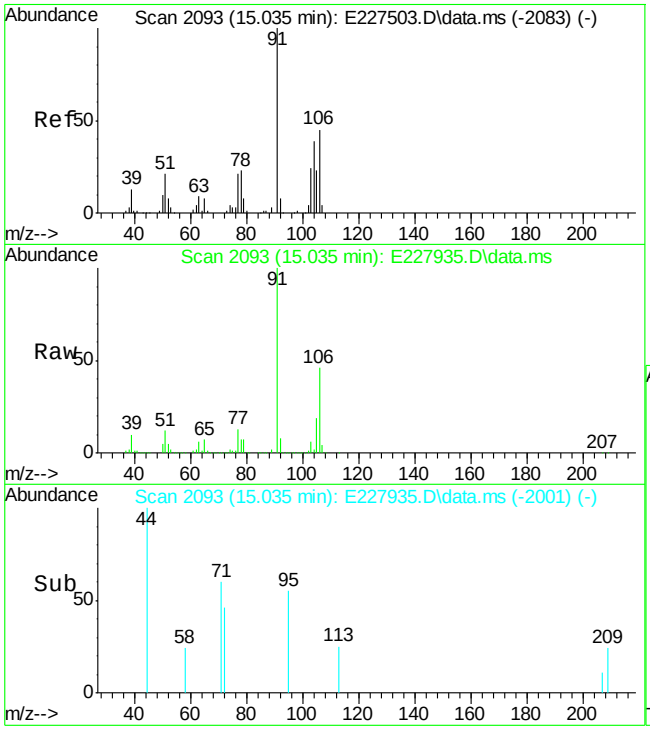


#96
m,p-xylene
Concen: 1063.44 ug/L
RT: 14.570 min Scan# 2004
Delta R.T. 0.005 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion:106 Resp: 6986209

Ion	Ratio	Lower	Upper
106	100		
91	193.2	173.3	233.3
77	26.0	0.0	57.8

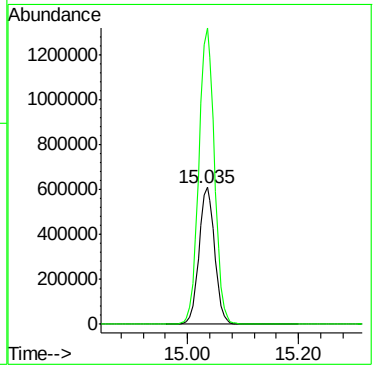


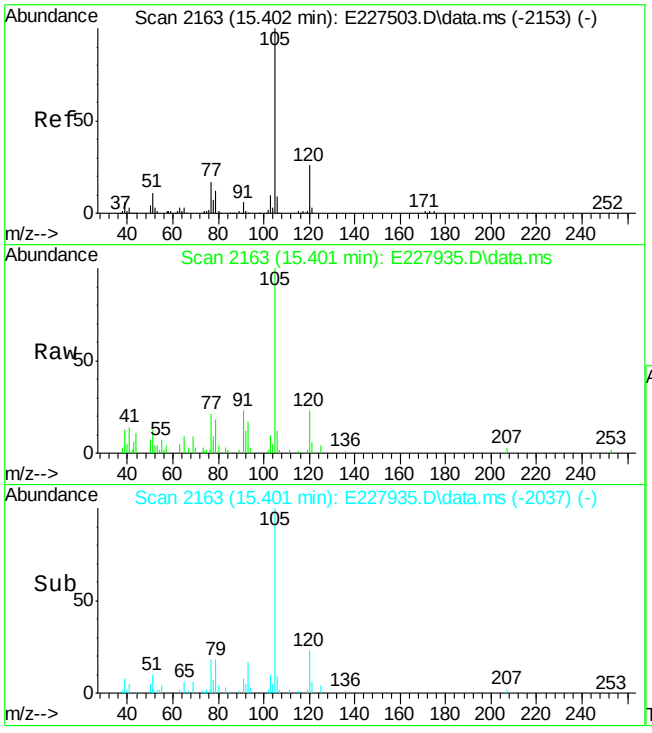


#97
o-xylene
Concen: 172.23 ug/L
RT: 15.035 min Scan# 2093
Delta R.T. -0.000 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion:106 Resp: 1181719

Ion	Ratio	Lower	Upper
106	100		
91	216.4	189.9	249.9

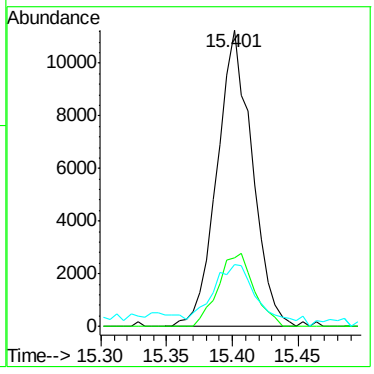


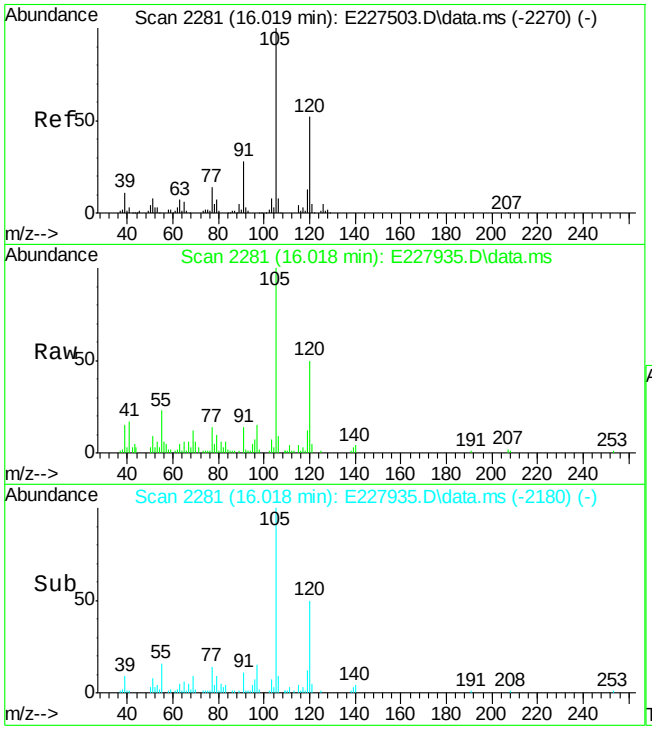


#102
isopropylbenzene
Concen: 1.35 ug/L
RT: 15.401 min Scan# 2163
Delta R.T. -0.000 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion:105 Resp: 20700

Ion	Ratio	Lower	Upper
105	100		
120	23.2	0.0	56.0
77	18.7	0.0	46.4

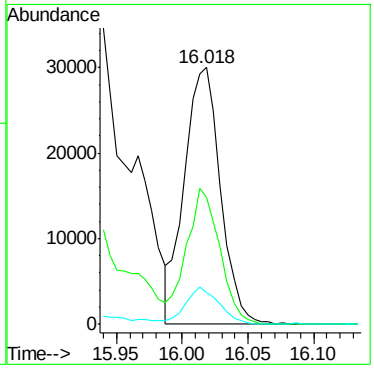


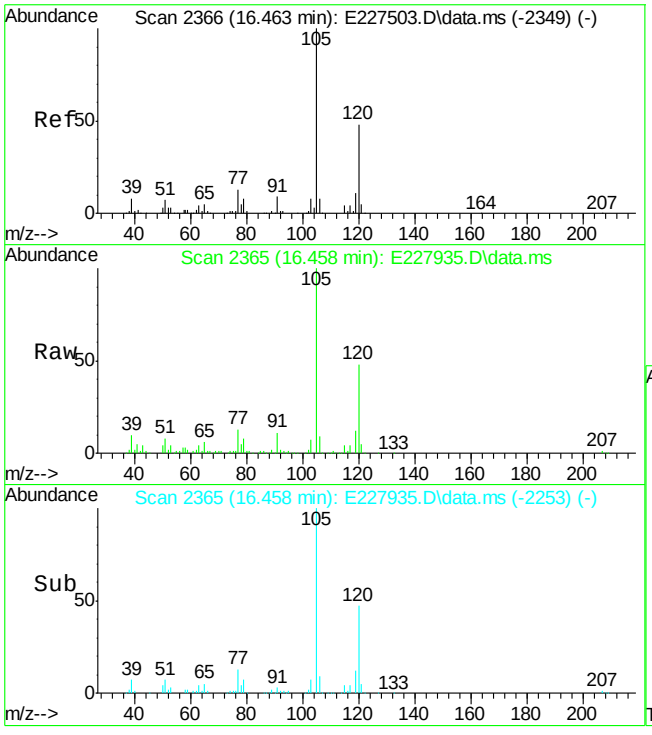


#113
1,3,5-trimethylbenzene
Concen: 4.38 ug/L
RT: 16.018 min Scan# 2281
Delta R.T. -0.000 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion:105 Resp: 57653

Ion	Ratio	Lower	Upper
105	100		
120	49.6	20.2	80.2
119	11.6	0.0	42.7

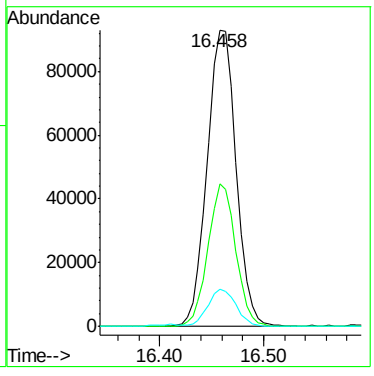




#116
1,2,4-trimethylbenzene
Concen: 13.59 ug/L
RT: 16.458 min Scan# 2365
Delta R.T. -0.006 min
Lab File: E227935.D
Acq: 31 Jul 2015 12:35 am

Tgt Ion:105 Resp: 179119

Ion	Ratio	Lower	Upper
105	100		
120	48.1	17.3	77.3
119	12.4	0.0	41.9



7.1.28

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227969.D
Acq On : 31 Jul 2015 8:36 pm
Operator : ThienN
Sample : jb99969-14
Misc : MS88818,VE9988,5.8,,0.5,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 03 07:46:22 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.928	65	157707	500.00	ug/L	-0.01
4) pentafluorobenzene	10.119	168	287662	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.045	114	390798	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	350781	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	211678	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	123297	47.59	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.18%			
48) 1,2-dichloroethane-d4 (s)	10.632	65	159812	50.11	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.22%			
76) toluene-d8 (s)	12.734	98	458658	49.59	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.18%			
103) 4-bromofluorobenzene (s)	15.653	95	190233	50.59	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.18%			

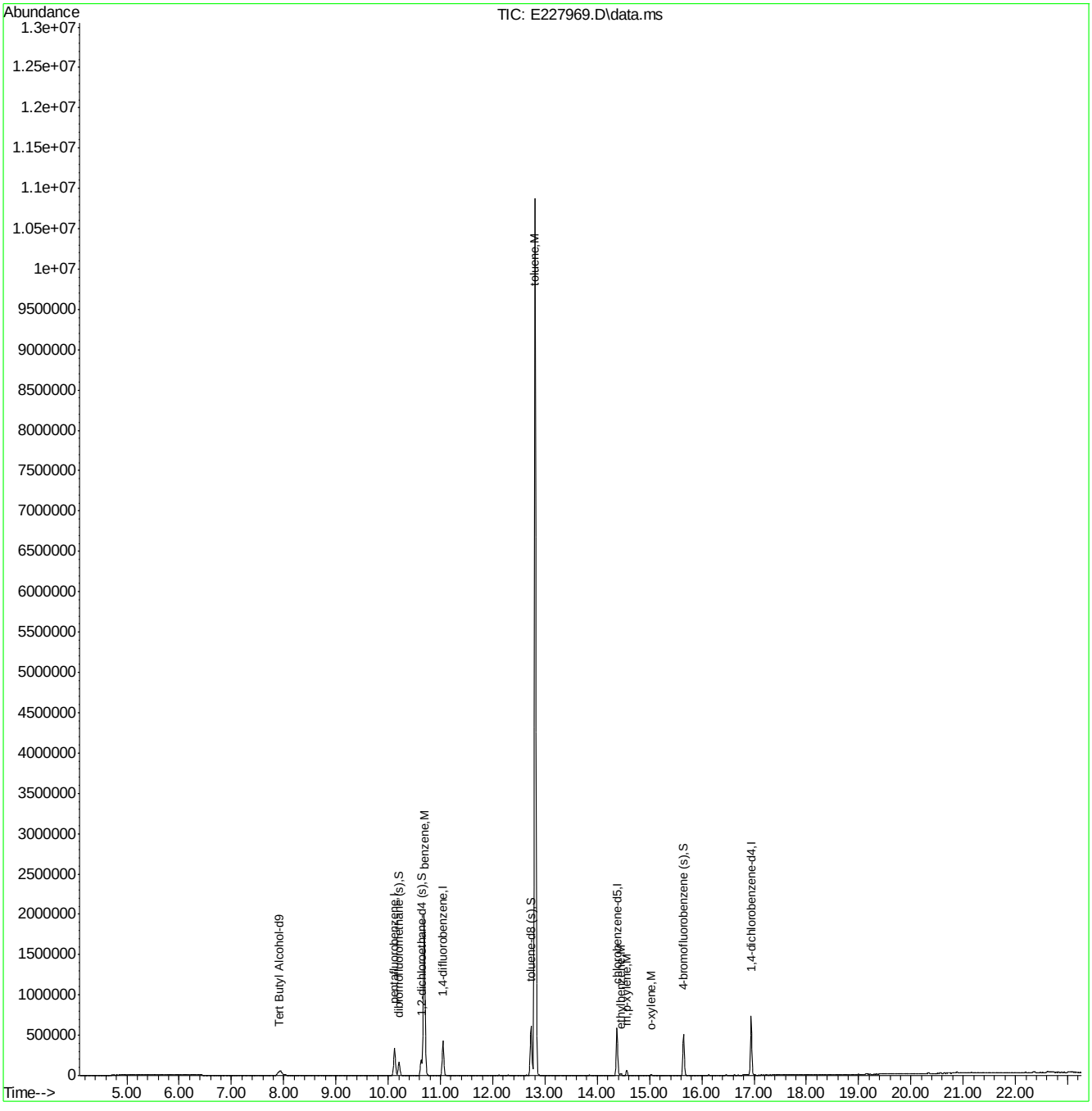
Target Compounds						Qvalue
62) benzene	10.689	78	2037985	173.21	ug/L	99
78) toluene	12.807	92	5354357	760.31	ug/L	95
95) ethylbenzene	14.455	91	21839	1.61	ug/L	99
96) m,p-xylene	14.565	106	21690	4.34	ug/L	97
97) o-xylene	15.030	106	3930	0.75	ug/L	90

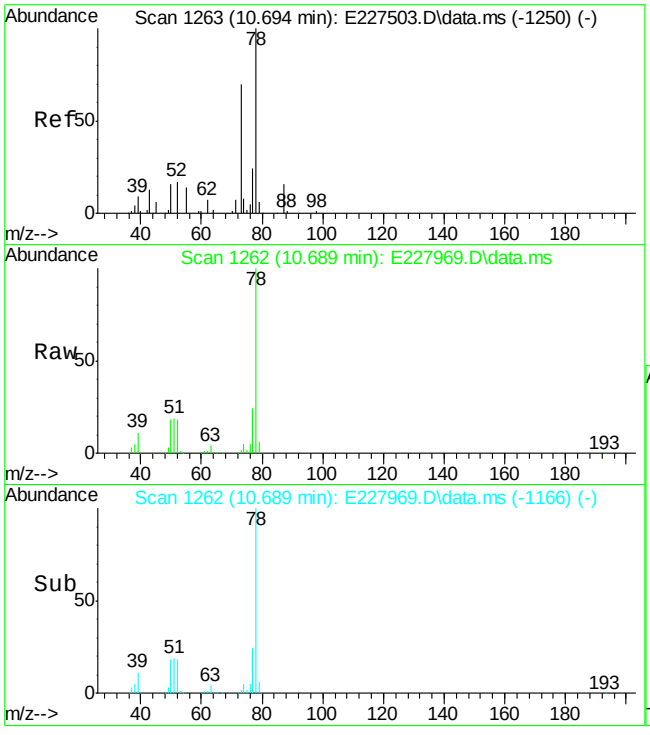
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227969.D
Acq On : 31 Jul 2015 8:36 pm
Operator : ThienN
Sample : jb99969-14
Misc : MS88818,VE9988,5.8,,0.5,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 03 07:46:22 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

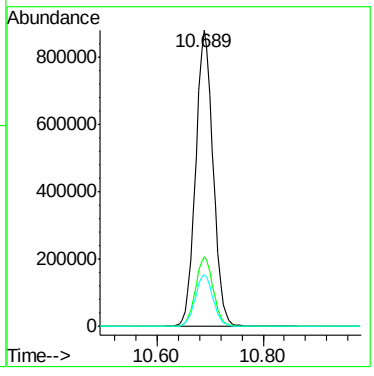


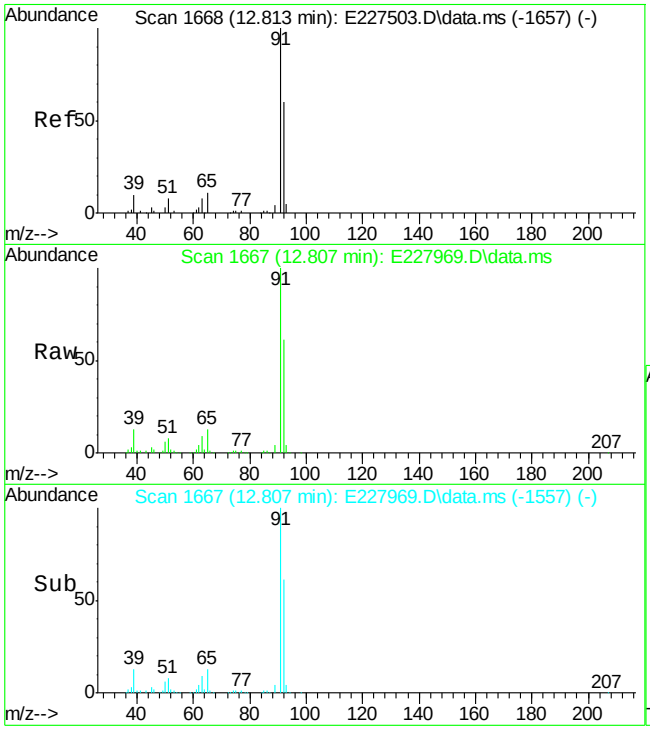


#62
benzene
Concen: 173.21 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.000 min
Lab File: E227969.D
Acq: 31 Jul 2015 8:36 pm

Tgt Ion: 78 Resp: 2037985

Ion	Ratio	Lower	Upper
78	100		
77	23.6	0.0	53.9
52	17.6	0.0	46.9

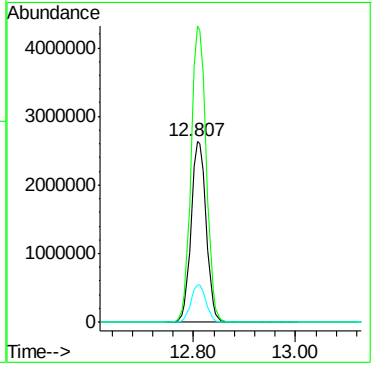


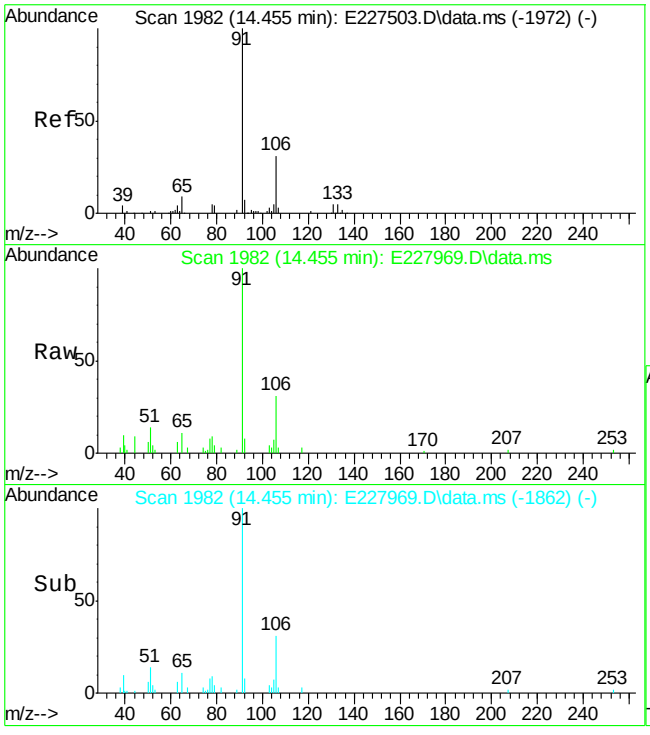


#78
toluene
Concen: 760.31 ug/L
RT: 12.807 min Scan# 1667
Delta R.T. -0.005 min
Lab File: E227969.D
Acq: 31 Jul 2015 8:36 pm

Tgt Ion: 92 Resp: 5354357

Ion	Ratio	Lower	Upper
92	100		
91	163.9	141.7	201.7
65	20.8	0.0	50.9

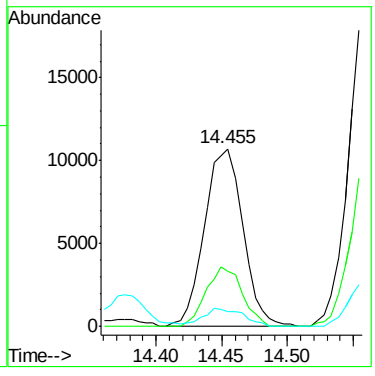


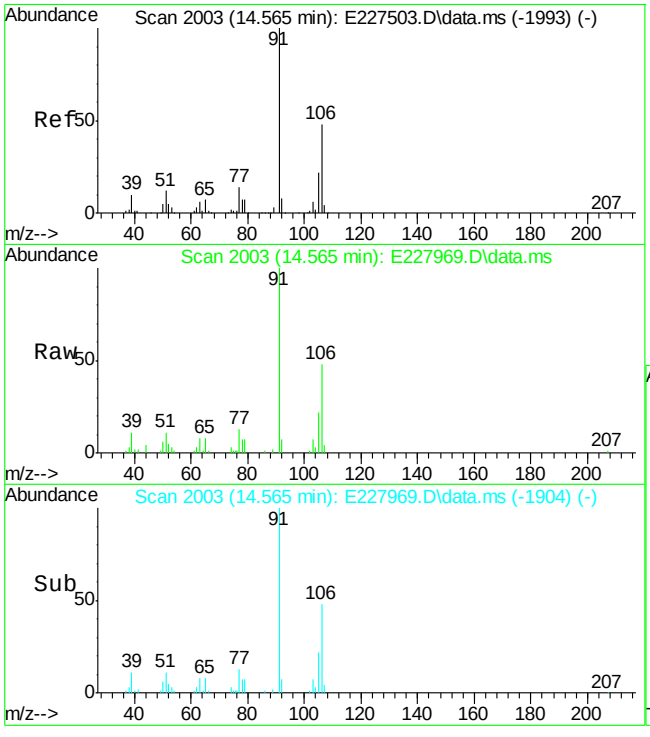


#95
ethylbenzene
Concen: 1.61 ug/L
RT: 14.455 min Scan# 1982
Delta R.T. -0.000 min
Lab File: E227969.D
Acq: 31 Jul 2015 8:36 pm

Tgt Ion: 91 Resp: 21839

Ion	Ratio	Lower	Upper
91	100		
106	30.9	0.5	60.5
77	8.3	0.0	38.8

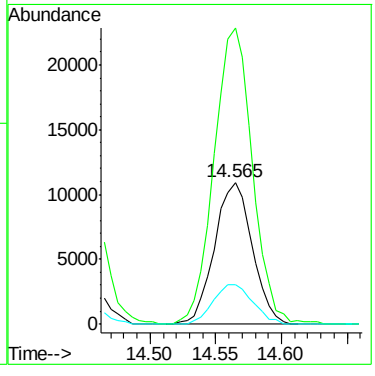


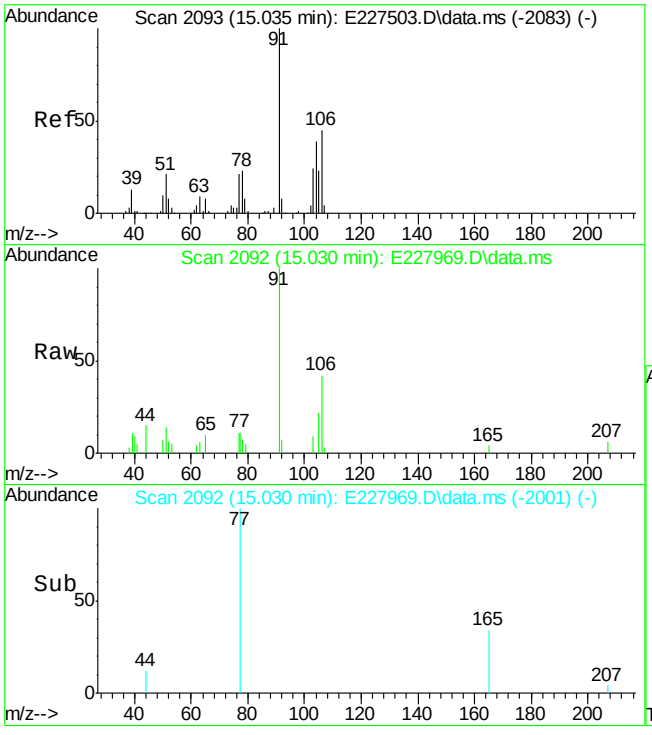


#96
m,p-xylene
Concen: 4.34 ug/L
RT: 14.565 min Scan# 2003
Delta R.T. -0.000 min
Lab File: E227969.D
Acq: 31 Jul 2015 8:36 pm

Tgt Ion:106 Resp: 21690

Ion	Ratio	Lower	Upper
106	100		
91	208.9	173.3	233.3
77	28.1	0.0	57.8

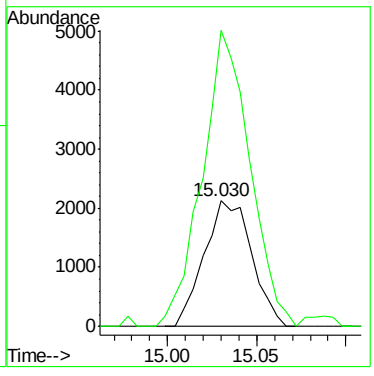




#97
o-xylene
Concen: 0.75 ug/L
RT: 15.030 min Scan# 2092
Delta R.T. -0.005 min
Lab File: E227969.D
Acq: 31 Jul 2015 8:36 pm

Tgt Ion:106 Resp: 3930

Ion	Ratio	Lower	Upper
106	100		
91	235.8	189.9	249.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227996.D
Acq On : 3 Aug 2015 3:39 pm
Operator : ThienN
Sample : jb99969-14
Misc : MS88818,VE9990,5.8,,0.1,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 04 07:58:16 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.933	65	142182	500.00	ug/L	0.00
4) pentafluorobenzene	10.119	168	268746	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.045	114	358330	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	318053	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	190984	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	117079	48.37	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.74%			
48) 1,2-dichloroethane-d4 (s)	10.632	65	149200	50.08	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.16%			
76) toluene-d8 (s)	12.729	98	426868	50.33	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 100.66%			
103) 4-bromofluorobenzene (s)	15.653	95	171183	50.46	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 100.92%			

Target Compounds

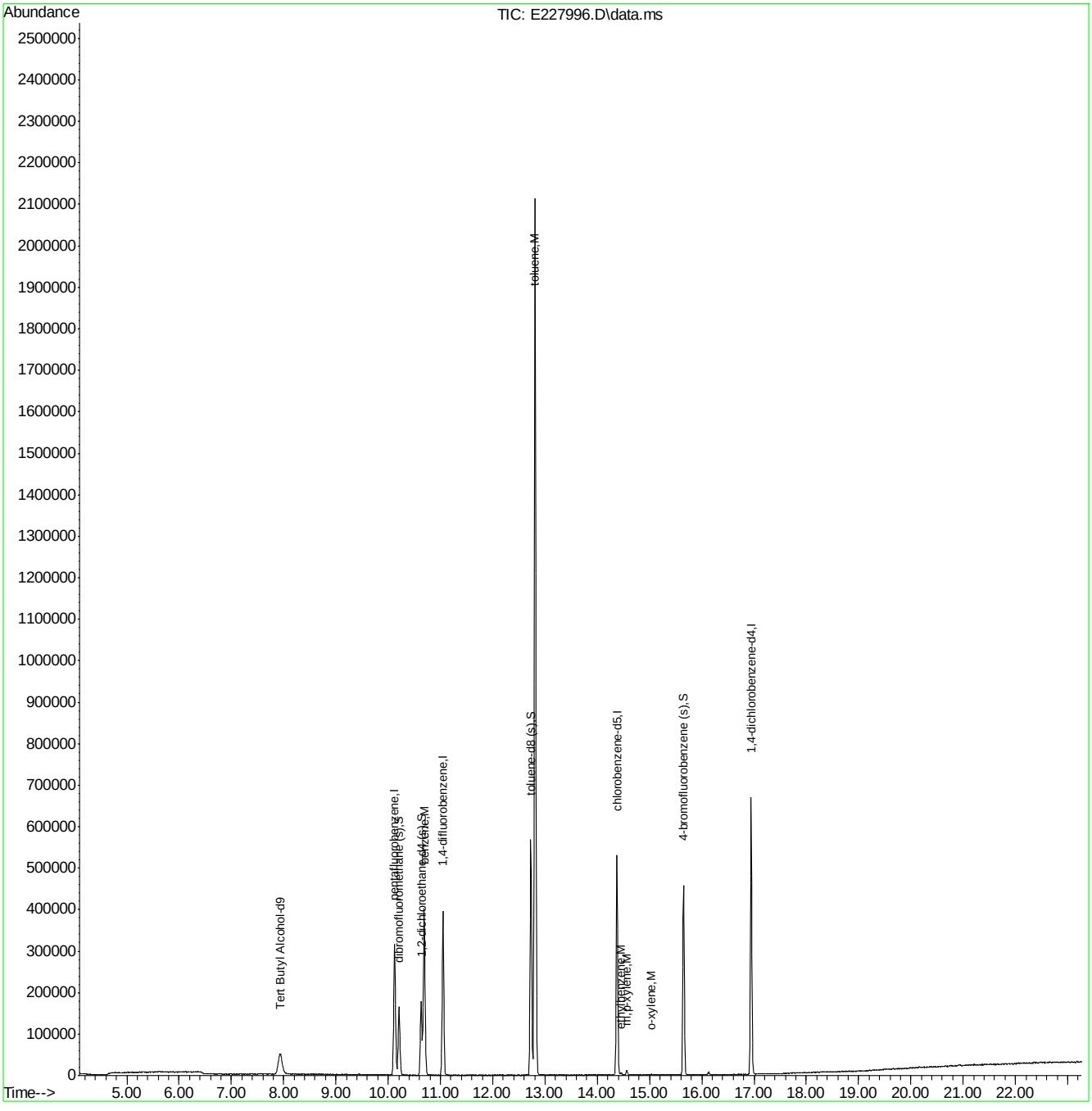
						Qvalue
62) benzene	10.689	78	398286	36.92	ug/L	99
78) toluene	12.807	92	1016397	157.40	ug/L	100
95) ethylbenzene	14.455	91	4164	0.34	ug/L	80
96) m,p-xylene	14.565	106	3799	0.84	ug/L	91
97) o-xylene	15.030	106	758	0.16	ug/L #	48

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

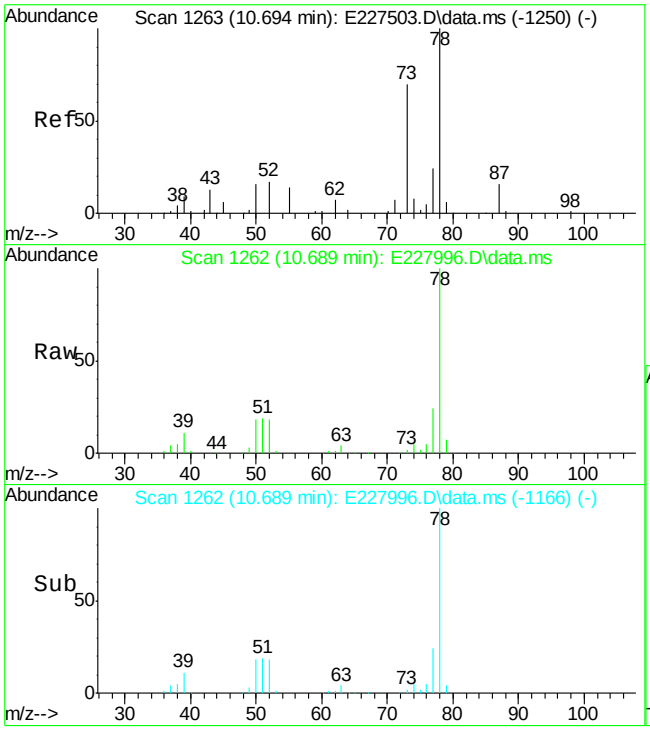
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227996.D
Acq On : 3 Aug 2015 3:39 pm
Operator : ThienN
Sample : jb99969-14
Misc : MS88818,VE9990,5.8,,0.1,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 04 07:58:16 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



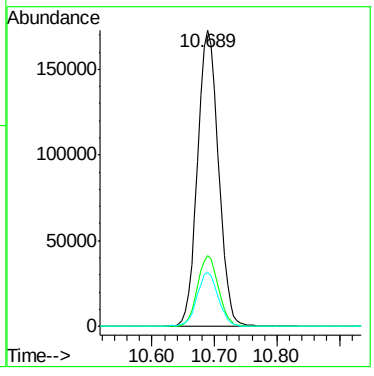
ME9972.M Tue Aug 04 07:58:30 2015 RPT1 Page: 2

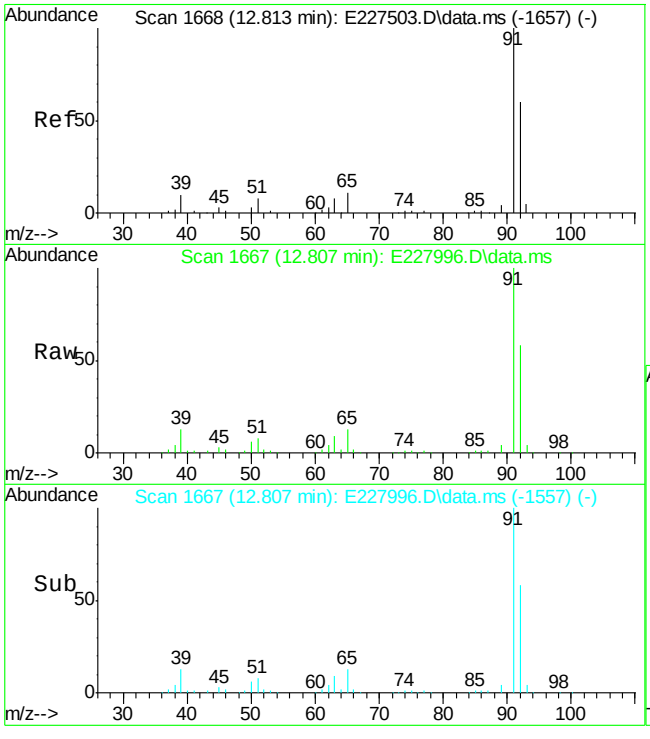


#62
benzene
Concen: 36.92 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.000 min
Lab File: E227996.D
Acq: 3 Aug 2015 3:39 pm

Tgt Ion: 78 Resp: 398286

Ion	Ratio	Lower	Upper
78	100		
77	23.8	0.0	53.9
52	18.2	0.0	46.9

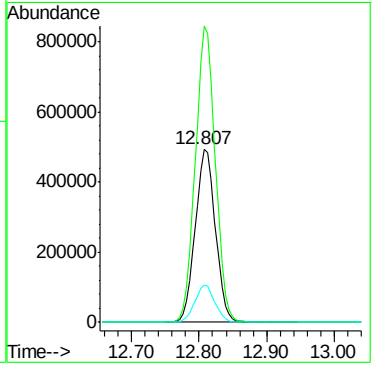


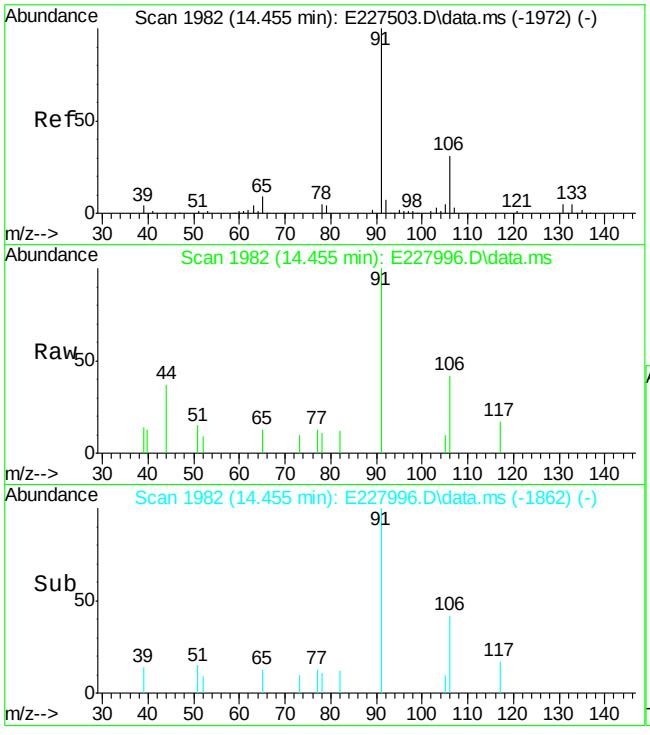


#78
toluene
Concen: 157.40 ug/L
RT: 12.807 min Scan# 1667
Delta R.T. -0.005 min
Lab File: E227996.D
Acq: 3 Aug 2015 3:39 pm

Tgt Ion: 92 Resp: 1016397

Ion	Ratio	Lower	Upper
92	100		
91	171.4	141.7	201.7
65	21.5	0.0	50.9

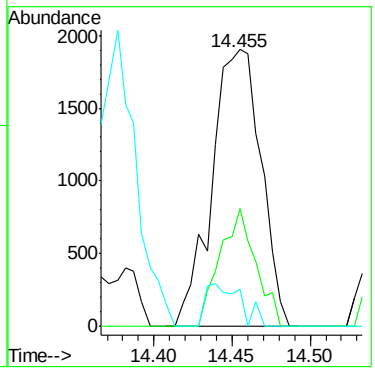


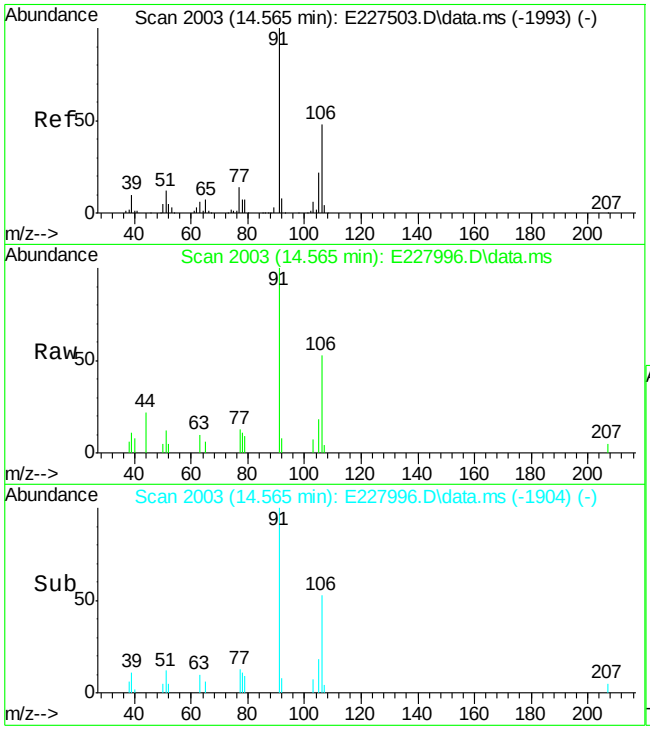


#95
ethylbenzene
Concen: 0.34 ug/L
RT: 14.455 min Scan# 1982
Delta R.T. -0.000 min
Lab File: E227996.D
Acq: 3 Aug 2015 3:39 pm

Tgt Ion: 91 Resp: 4164

Ion	Ratio	Lower	Upper
91	100		
106	42.5	0.5	60.5
77	13.2	0.0	38.8

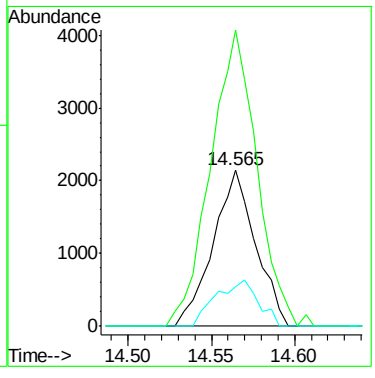


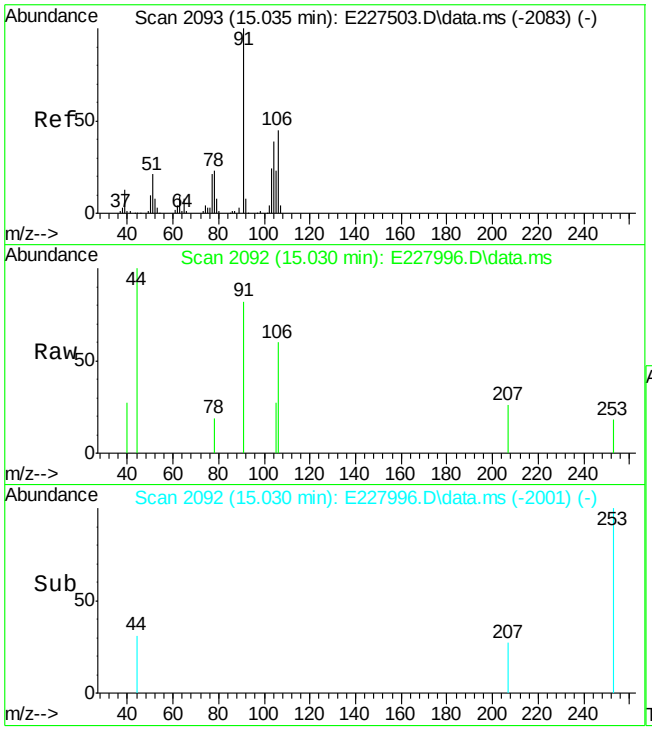


#96
m,p-xylene
Concen: 0.84 ug/L
RT: 14.565 min Scan# 2003
Delta R.T. -0.000 min
Lab File: E227996.D
Acq: 3 Aug 2015 3:39 pm

Tgt Ion:106 Resp: 3799

Ion	Ratio	Lower	Upper
106	100		
91	189.3	173.3	233.3
77	25.0	0.0	57.8

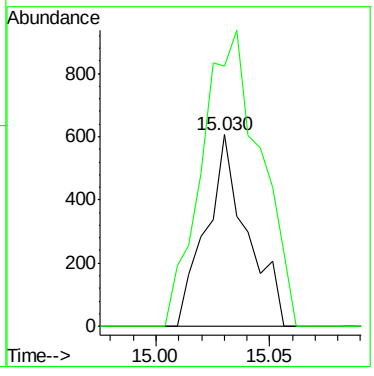




#97
o-xylene
Concen: 0.16 ug/L
RT: 15.030 min Scan# 2092
Delta R.T. -0.005 min
Lab File: E227996.D
Acq: 3 Aug 2015 3:39 pm

Tgt Ion:106 Resp: 758

Ion	Ratio	Lower	Upper
106	100		
91	135.6	189.9	249.9#



7.1.30

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202557.D
Acq On : 6 Aug 2015 4:52 pm
Operator : mihirm
Sample : jb99969-15
Misc : MS88818,VC7433,6.1,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 06 17:17:10 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.118	65	120695	500.00	ug/L	0.00
5) pentafluorobenzene	10.812	168	490165	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.769	114	626176	50.00	ug/L	0.00
88) chlorobenzene-d5	14.808	117	534468	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	343926	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.874	113	173883	46.63	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 93.26%			
51) 1,2-dichloroethane-d4 (s)	11.319	65	158885	48.64	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 97.28%			
80) toluene-d8 (s)	13.380	98	749298	48.63	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 97.26%			
106) 4-bromofluorobenzene (s)	15.838	174	224521	43.58	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 87.16%			

Target Compounds

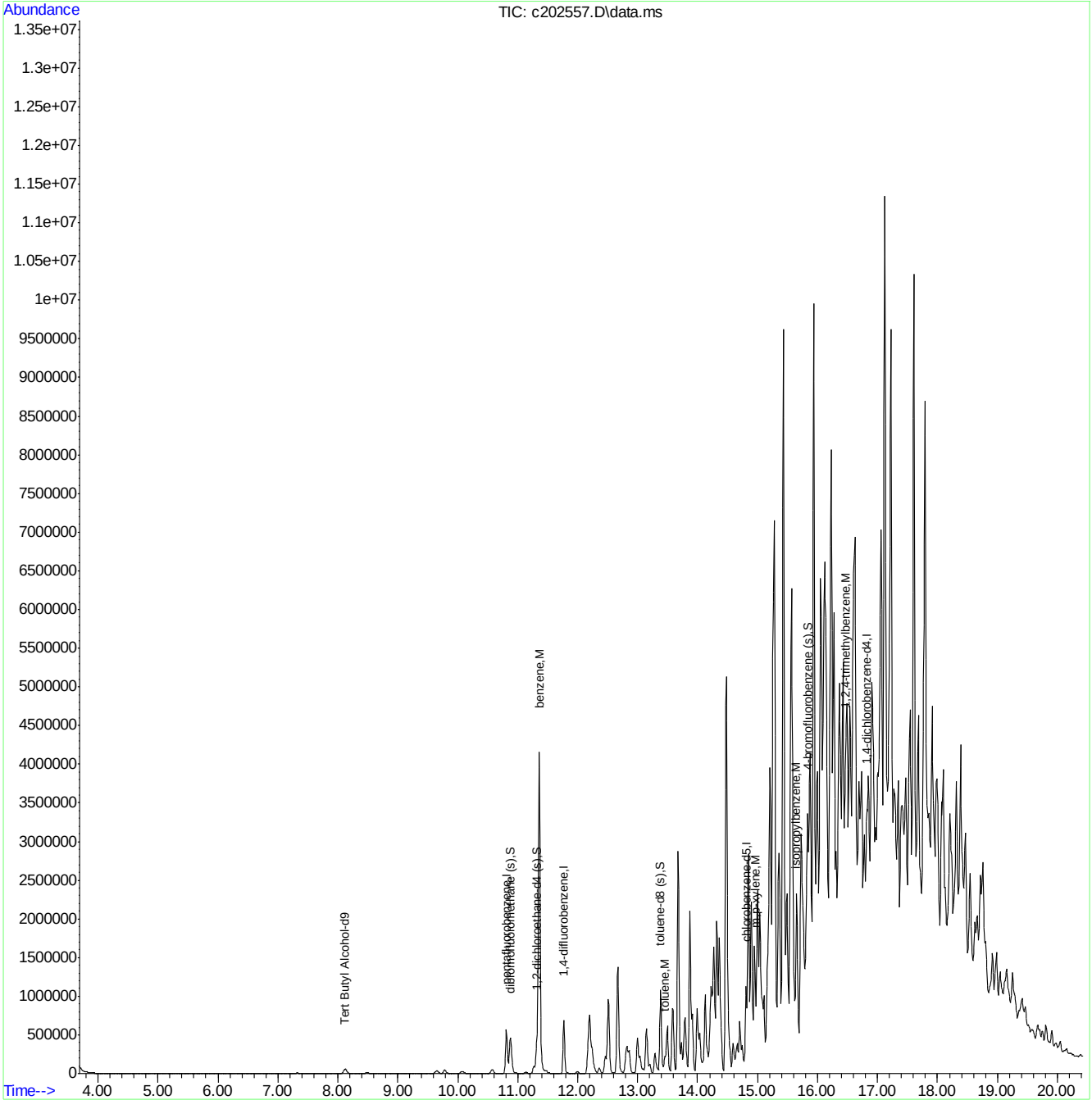
						Qvalue
65) benzene	11.361	78	4181276	264.53	ug/L	99
82) toluene	13.453	92	75069	8.18	ug/L	99
100) m,p-xylene	14.964	106	1784	0.27	ug/L #	49
105) isopropylbenzene	15.639	105	33220	1.59	ug/L	80
118) 1,2,4-trimethylbenzene	16.460	105	2936	0.16	ug/L	90

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

Quantitation Report (QT Reviewed)

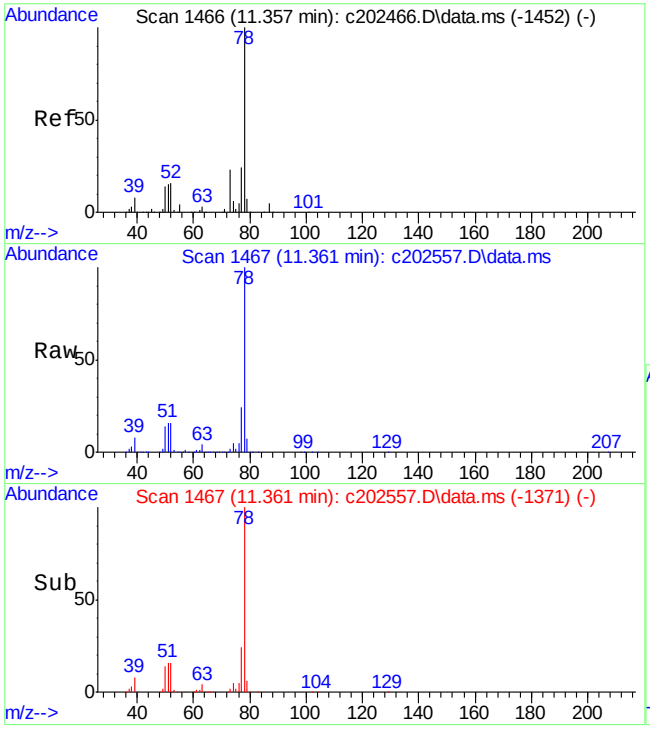
Data Path : C:\msdchem\1\DATA\
Data File : c202557.D
Acq On : 6 Aug 2015 4:52 pm
Operator : mihirm
Sample : jb99969-15
Misc : MS88818,VC7433,6.1,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 06 17:17:10 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration



MC7426.M Thu Aug 06 17:17:43 2015 C

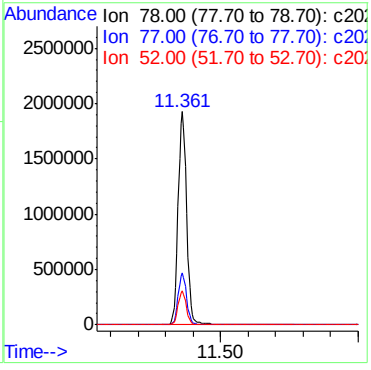
Page: 2

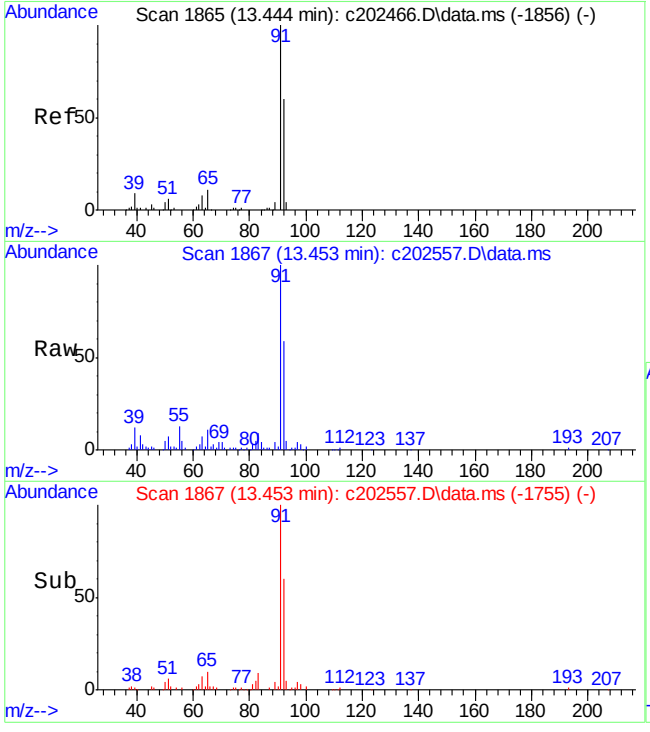


#65
benzene
Concen: 264.53 ug/L
RT: 11.361 min Scan# 1467
Delta R.T. 0.003 min
Lab File: c202557.D
Acq: 6 Aug 2015 4:52 pm

Tgt Ion: 78 Resp: 4181276

Ion	Ratio	Lower	Upper
78	100		
77	24.2	0.0	53.7
52	16.0	0.0	46.1

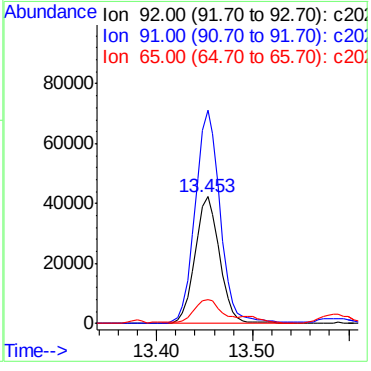




#82
toluene
Concen: 8.18 ug/L
RT: 13.453 min Scan# 1867
Delta R.T. 0.003 min
Lab File: c202557.D
Acq: 6 Aug 2015 4:52 pm

Tgt Ion: 92 Resp: 75069

Ion	Ratio	Lower	Upper
92	100		
91	167.6	137.2	197.2
65	18.2	0.0	49.7



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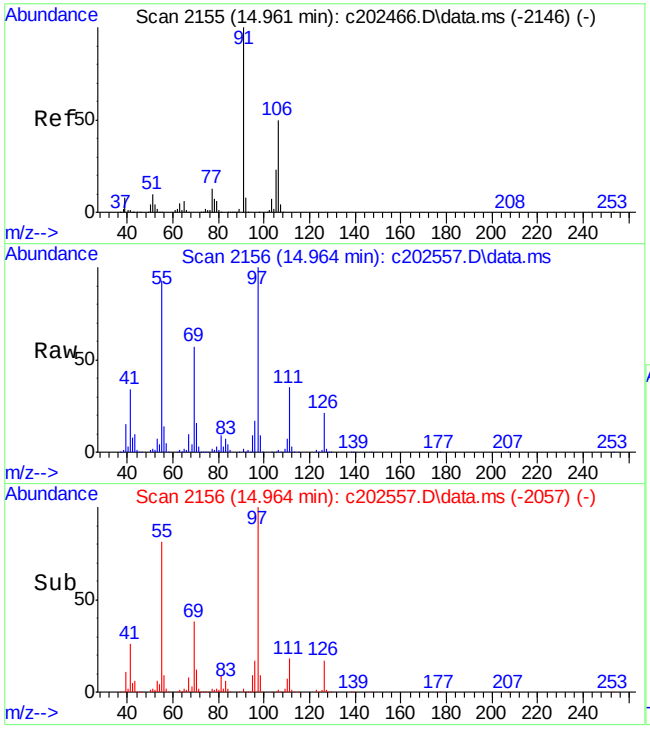
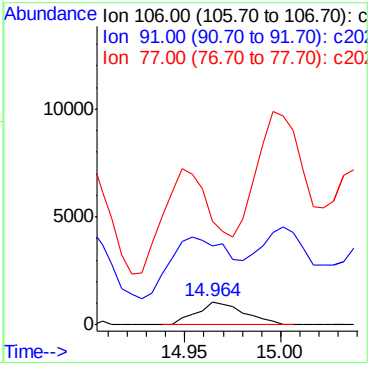
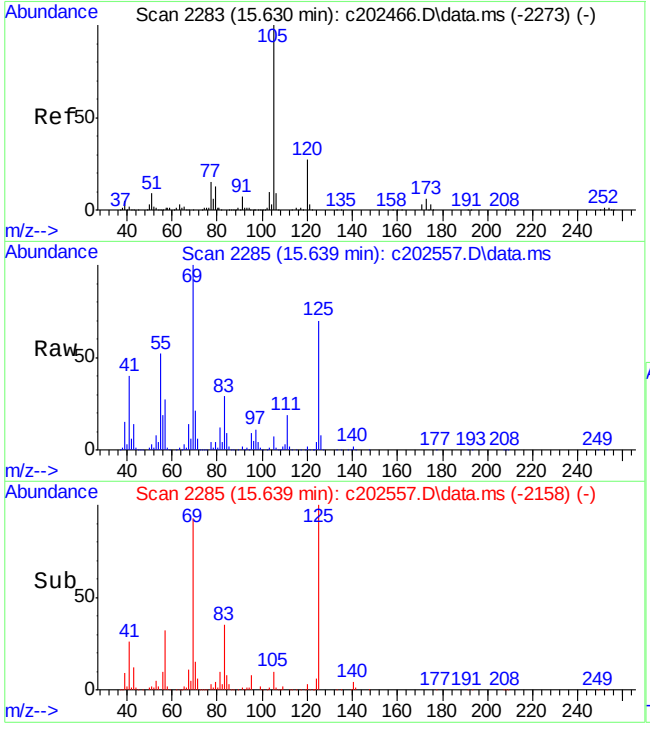


#100
m,p-xylene
Concen: 0.27 ug/L
RT: 14.964 min Scan# 2156
Delta R.T. -0.002 min
Lab File: c202557.D
Acq: 6 Aug 2015 4:52 pm

Tgt Ion:106 Resp: 1784

Ion	Ratio	Lower	Upper
106	100		
91	122.5	169.4	229.4#
77	0.0	0.0	56.6

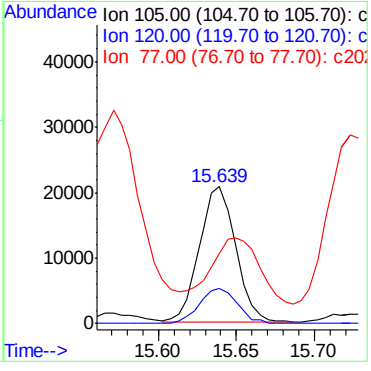


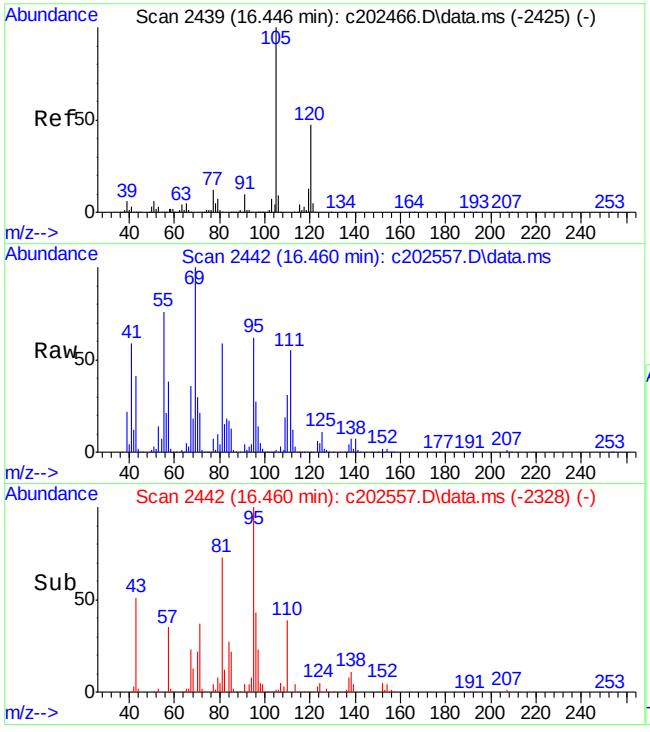


#105
isopropylbenzene
Concen: 1.59 ug/L
RT: 15.639 min Scan# 2285
Delta R.T. 0.003 min
Lab File: c202557.D
Acq: 6 Aug 2015 4:52 pm

Tgt Ion:105 Resp: 33220

Ion	Ratio	Lower	Upper
105	100		
120	25.9	0.0	56.8
77	37.0	0.0	45.2

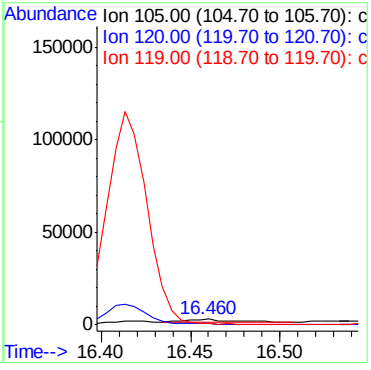




#118
1,2,4-trimethylbenzene
Concen: 0.16 ug/L
RT: 16.460 min Scan# 2442
Delta R.T. 0.009 min
Lab File: c202557.D
Acq: 6 Aug 2015 4:52 pm

Tgt Ion:105 Resp: 2936

Ion	Ratio	Lower	Upper
105	100		
120	38.9	16.4	76.4
119	14.5	0.0	42.5



7.1.31

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d232890.D
Acq On : 7 Aug 2015 1:14 pm
Operator : BenM
Sample : jb99969-15
Misc : ms88818,vd9527,5.0,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 07 15:03:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\MD9526.M
Quant Title : SW-846 Method 8260C
QLast Update : Fri Aug 07 10:20:36 2015
Response via : Initial Calibration

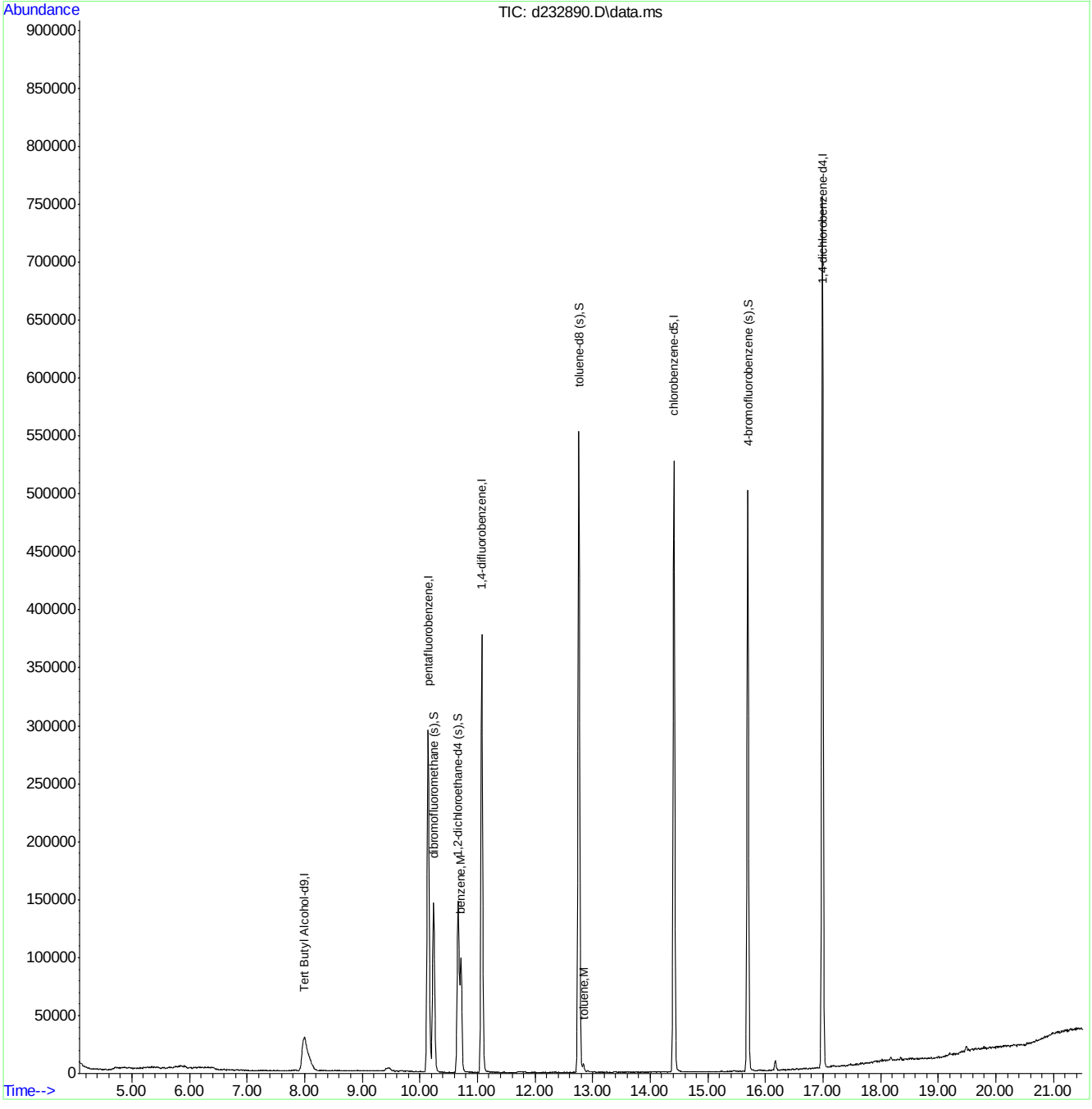
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.995	65	122751	500.00	ug/L	0.02
4) pentafluorobenzene	10.145	168	269919	50.00	ug/L	0.00
55) 1,4-difluorobenzene	11.076	114	379906	50.00	ug/L	0.00
87) chlorobenzene-d5	14.413	117	353092	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.986	152	229628	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.239	113	114692	48.06	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.12%			
49) 1,2-dichloroethane-d4 (s)	10.663	65	125714	45.99	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 91.98%			
79) toluene-d8 (s)	12.760	98	446585	48.72	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.44%			
103) 4-bromofluorobenzene (s)	15.694	95	203109	47.77	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 95.54%			
Target Compounds						Qvalue
64) benzene	10.715	78	109579	9.76	ug/L	98
81) toluene	12.838	92	3279	0.48	ug/L	99

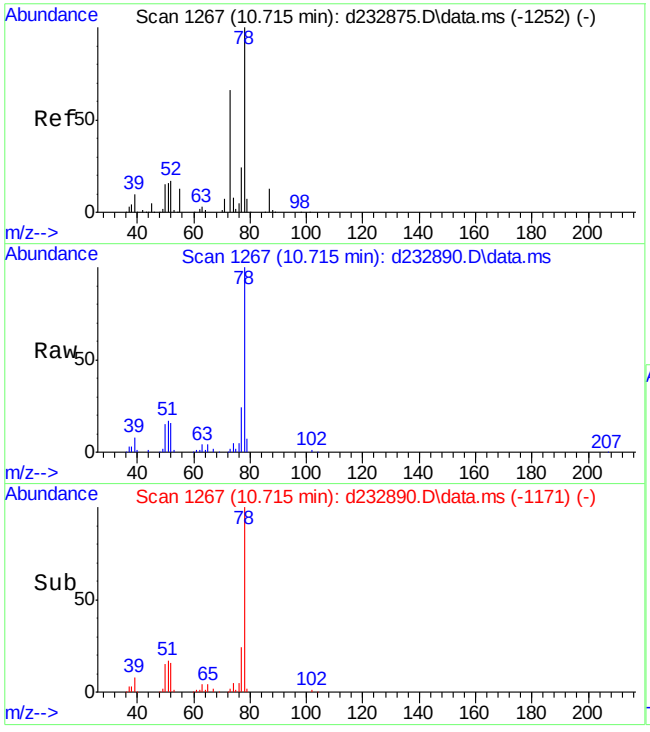
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d232890.D
Acq On : 7 Aug 2015 1:14 pm
Operator : BenM
Sample : jb99969-15
Misc : ms88818,vd9527,5.0,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 07 15:03:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\MD9526.M
Quant Title : SW-846 Method 8260C
QLast Update : Fri Aug 07 10:20:36 2015
Response via : Initial Calibration

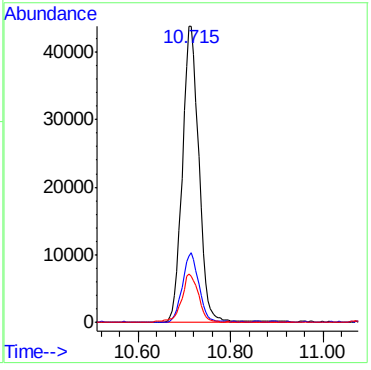


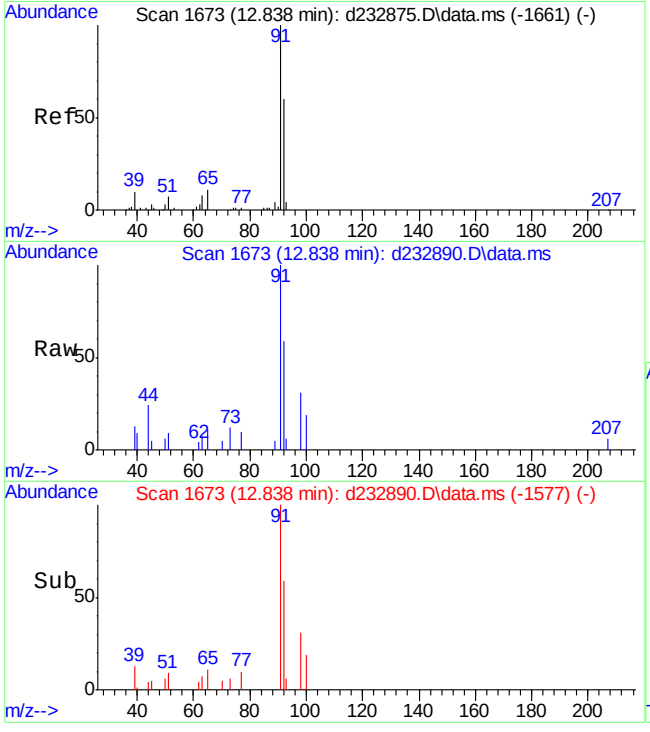


#64
benzene
Concen: 9.76 ug/L
RT: 10.715 min Scan# 1267
Delta R.T. 0.000 min
Lab File: d232890.D
Acq: 7 Aug 2015 1:14 pm

Tgt Ion: 78 Resp: 109579

Ion	Ratio	Lower	Upper
78	100		
77	23.5	0.0	53.9
52	15.6	0.0	46.8

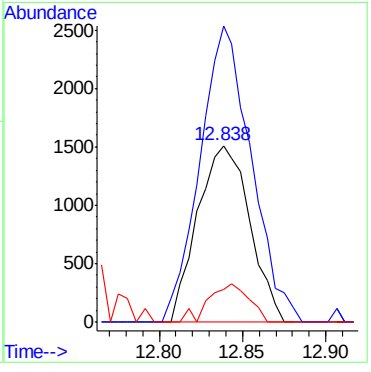




#81
toluene
Concen: 0.48 ug/L
RT: 12.838 min Scan# 1673
Delta R.T. 0.000 min
Lab File: d232890.D
Acq: 7 Aug 2015 1:14 pm

Tgt Ion: 92 Resp: 3279

Ion	Ratio	Lower	Upper
92	100		
91	168.1	136.9	196.9
65	18.2	0.0	49.2



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V154658.D
Acq On : 5 Aug 2015 5:55 pm
Operator : payalr
Sample : jb99969-16
Misc : MS88818,VV6551,6.4,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 06 14:27:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6502.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jun 12 14:36:27 2015
Response via : Initial Calibration

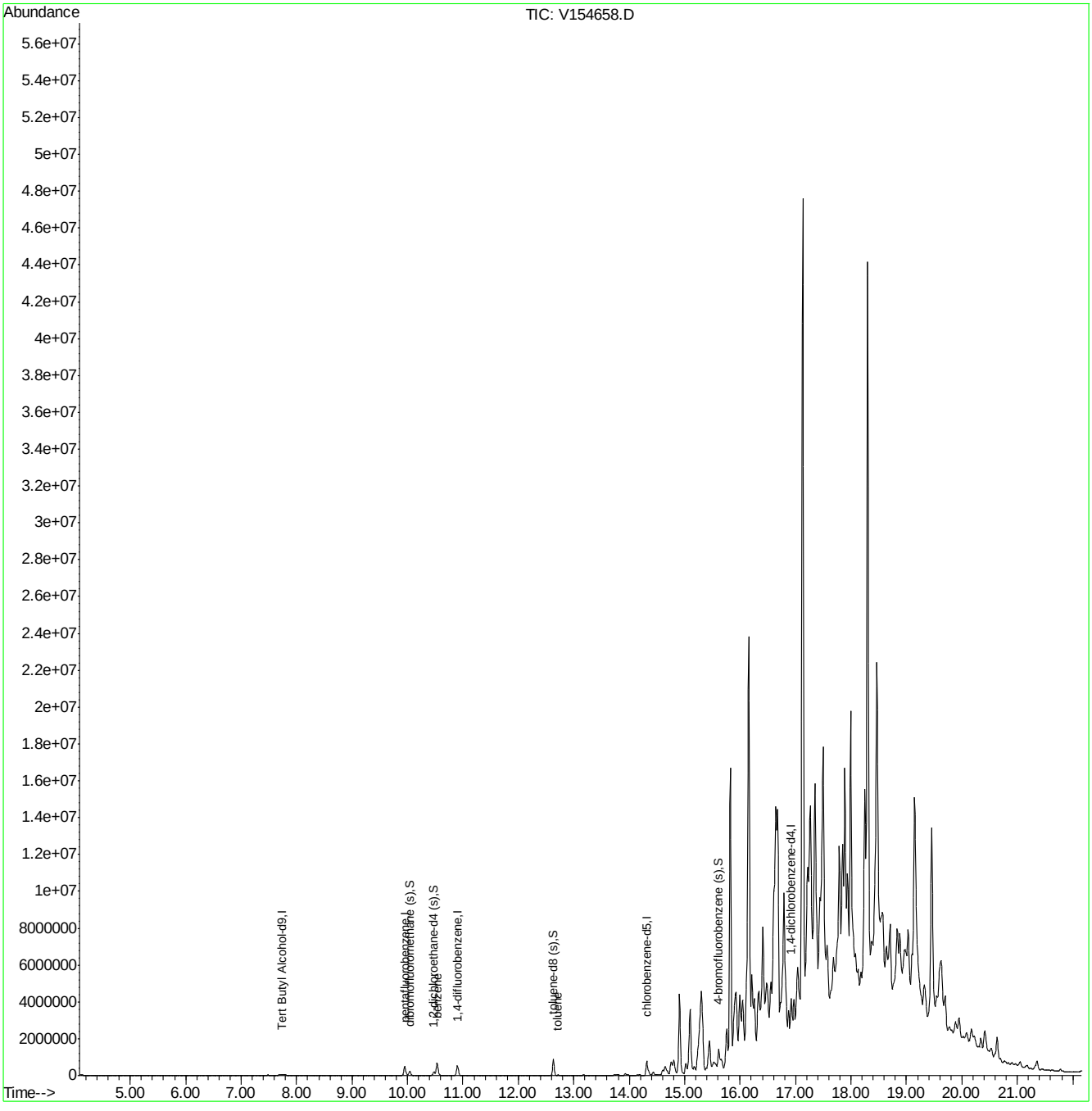
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	213795	500.00	ug/L	0.00
4) pentafluorobenzene	9.95	168	504168	50.00	ug/L	0.00
50) 1,4-difluorobenzene	10.90	114	603249	50.00	ug/L	0.00
79) chlorobenzene-d5	14.32	117	529677	50.00	ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.92	152	414913	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.04	113	187880	50.00	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 100.00%			
47) 1,2-dichloroethane-d4 (s)	10.48	65	162400	47.83	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 95.66%			
71) toluene-d8 (s)	12.63	98	754719	52.69	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.38%			
94) 4-bromofluorobenzene (s)	15.61	95	283433	52.13	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.26%			
Target Compounds						Qvalue
58) benzene	10.53	78	831678	52.44	ug/L	98
73) toluene	12.71	92	12443	1.36	ug/L	88

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V154658.D
Acq On : 5 Aug 2015 5:55 pm
Operator : payalr
Sample : jb99969-16
Misc : MS88818,VV6551,6.4,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 06 14:27:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6502.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jun 12 14:36:27 2015
Response via : Initial Calibration



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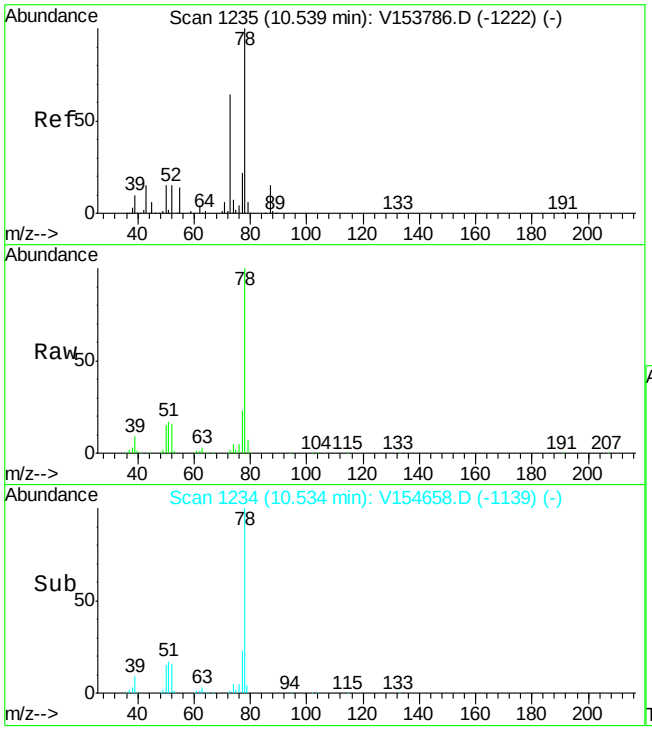
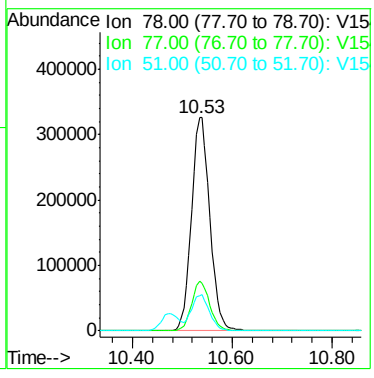
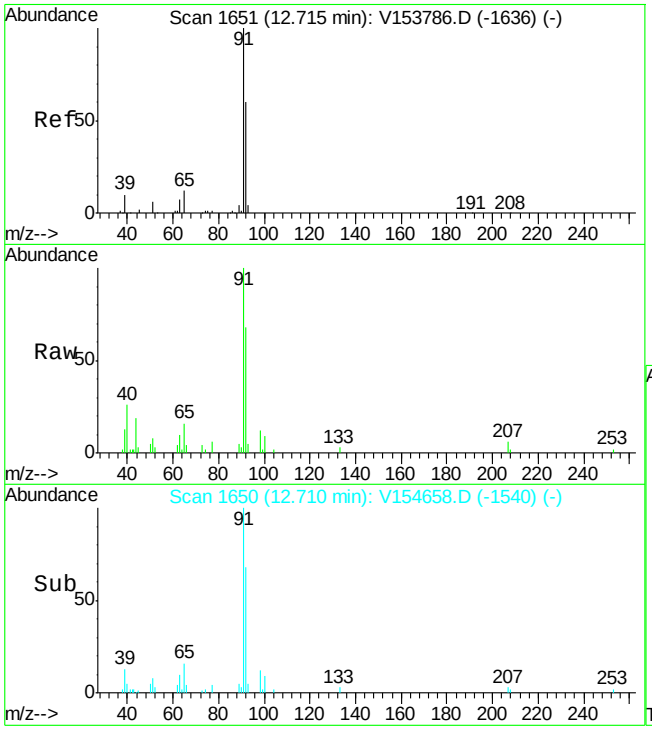


#58
benzene
Concen: 52.44 ug/L
RT: 10.53 min Scan# 1234
Delta R.T. -0.01 min
Lab File: V154658.D
Acq: 5 Aug 2015 5:55 pm

Tgt Ion: 78 Resp: 831678

Ion	Ratio	Lower	Upper
78	100		
77	23.2	0.0	52.9
51	16.7	0.0	47.9

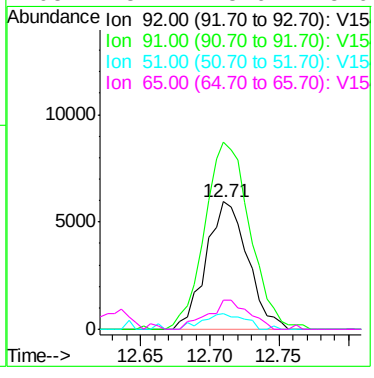




#73
toluene
Concen: 1.36 ug/L
RT: 12.71 min Scan# 1650
Delta R.T. -0.01 min
Lab File: V154658.D
Acq: 5 Aug 2015 5:55 pm

Tgt Ion: 92 Resp: 12443

Ion	Ratio	Lower	Upper
92	100		
91	146.7	114.9	213.5
51	11.9	7.8	14.6
65	23.2	13.9	25.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227955.D
Acq On : 31 Jul 2015 12:56 pm
Operator : ThienN
Sample : jb99969-17
Misc : MS88818,VE9988,6,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 31 15:37:11 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.942	65	135161	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	248010	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.044	114	328230	50.00	ug/L	0.00
84) chlorobenzene-d5	14.375	117	286438	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.943	152	174322	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	106985	47.89	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.78%			
48) 1,2-dichloroethane-d4 (s)	10.625	65	136792	49.75	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.50%			
76) toluene-d8 (s)	12.733	98	379612	48.86	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.72%			
103) 4-bromofluorobenzene (s)	15.651	95	155658	50.27	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 100.54%			

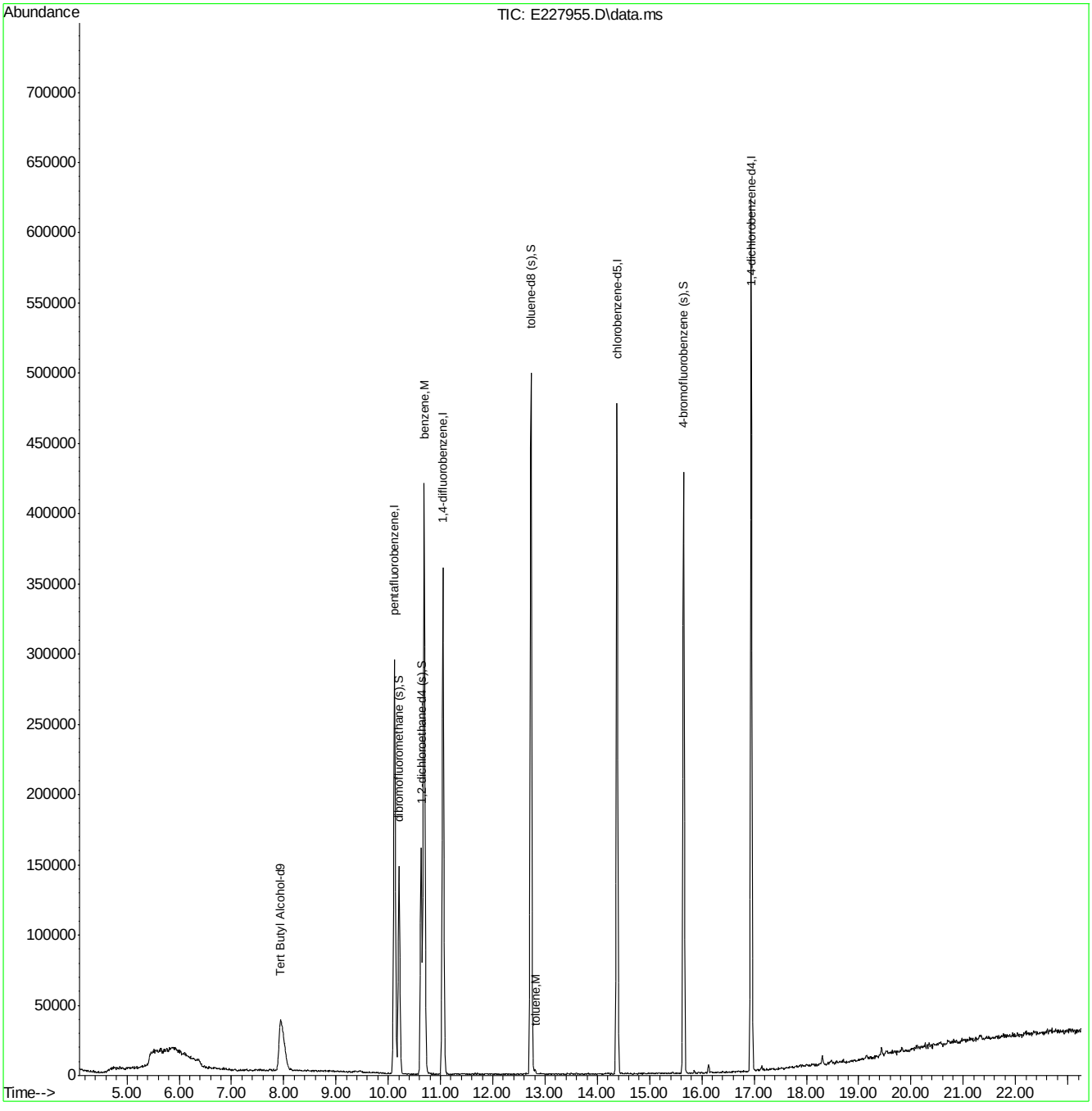
Target Compounds						Qvalue
62) benzene	10.688	78	416827	42.18	ug/L	98
78) toluene	12.817	92	1450	0.25	ug/L	83

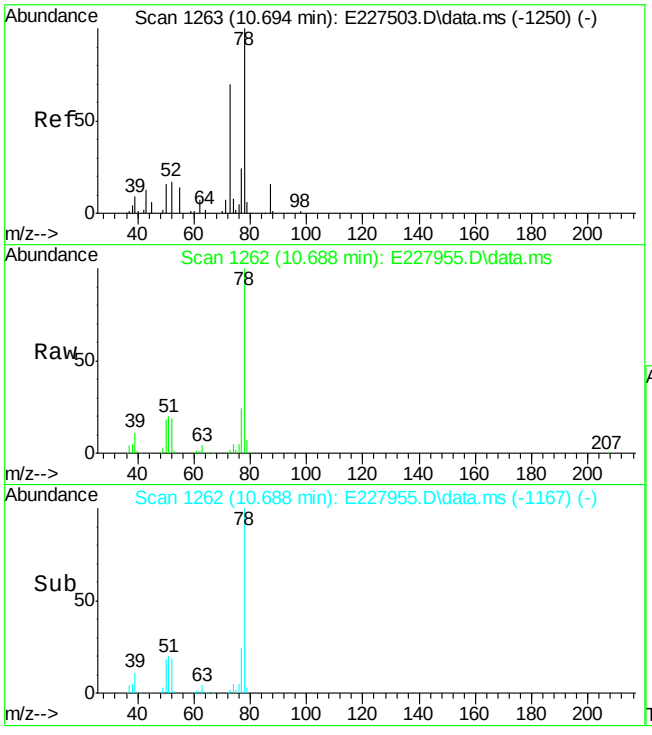
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227955.D
Acq On : 31 Jul 2015 12:56 pm
Operator : ThienN
Sample : jb99969-17
Misc : MS88818,VE9988,6,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 31 15:37:11 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

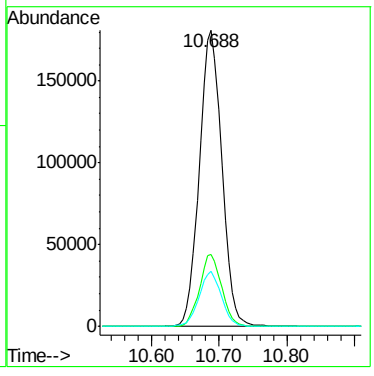


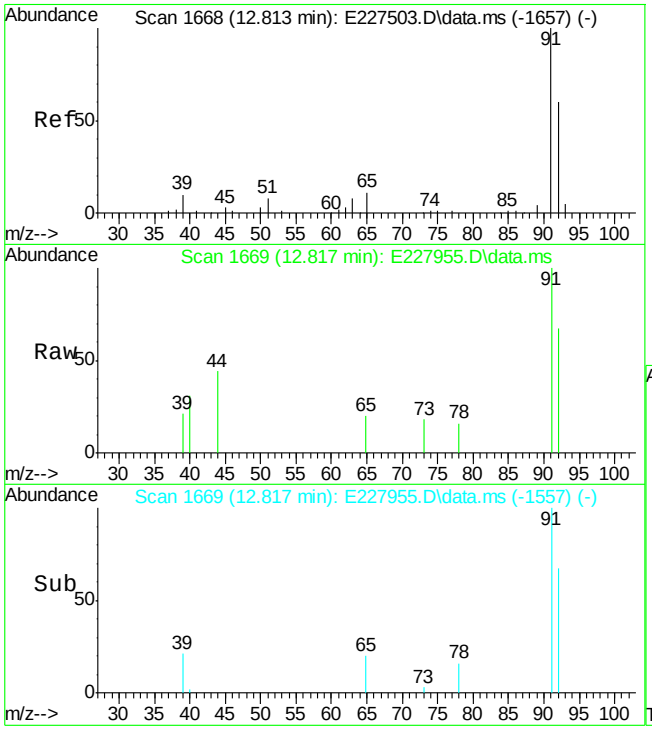


#62
benzene
Concen: 42.18 ug/L
RT: 10.688 min Scan# 1262
Delta R.T. -0.001 min
Lab File: E227955.D
Acq: 31 Jul 2015 12:56 pm

Tgt Ion: 78 Resp: 416827

Ion	Ratio	Lower	Upper
78	100		
77	24.2	0.0	53.9
52	18.7	0.0	46.9

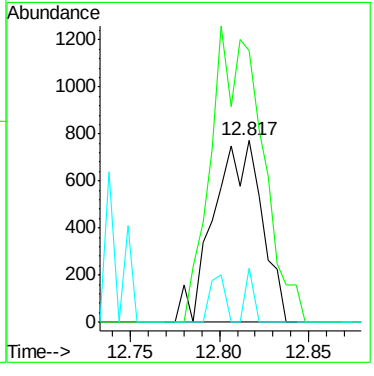




#78
toluene
Concen: 0.25 ug/L
RT: 12.817 min Scan# 1669
Delta R.T. 0.004 min
Lab File: E227955.D
Acq: 31 Jul 2015 12:56 pm

Tgt Ion: 92 Resp: 1450

Ion	Ratio	Lower	Upper
92	100		
91	149.2	141.7	201.7
65	29.5	0.0	50.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202376.D
Acq On : 31 Jul 2015 9:48 pm
Operator : mihirm
Sample : jb99969-18
Misc : MS88818,VC7427,5.6,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 07 18:18:21 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.123	65	115150	500.00	ug/L	0.00
5) pentafluorobenzene	10.812	168	424756	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.769	114	572691	50.00	ug/L	0.00
88) chlorobenzene-d5	14.808	117	534103	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	261510	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.869	113	164987	51.06	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.12%			
51) 1,2-dichloroethane-d4 (s)	11.319	65	146681	51.82	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 103.64%			
80) toluene-d8 (s)	13.385	98	718784	51.01	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.02%			
106) 4-bromofluorobenzene (s)	15.838	174	206295	52.66	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 105.32%			

Target Compounds

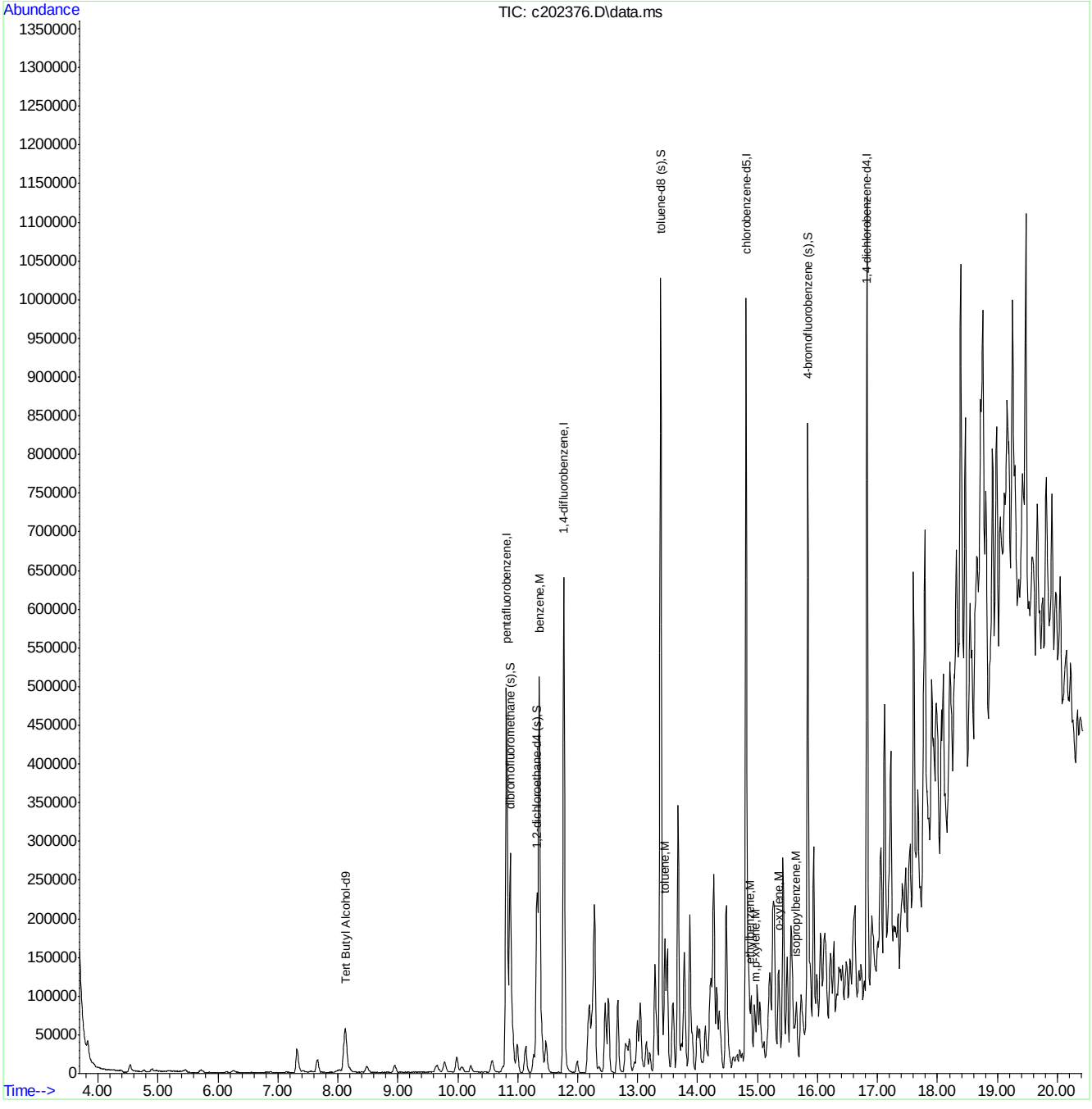
						Qvalue
65) benzene	11.361	78	512271	35.44	ug/L	99
82) toluene	13.453	92	63302	7.54	ug/L	97
99) ethylbenzene	14.876	91	3981	0.23	ug/L	79
100) m,p-xylene	14.970	106	2407	0.36	ug/L	80
101) o-xylene	15.341	106	4181	0.63	ug/L	98
105) isopropylbenzene	15.639	105	9036	0.57	ug/L	95

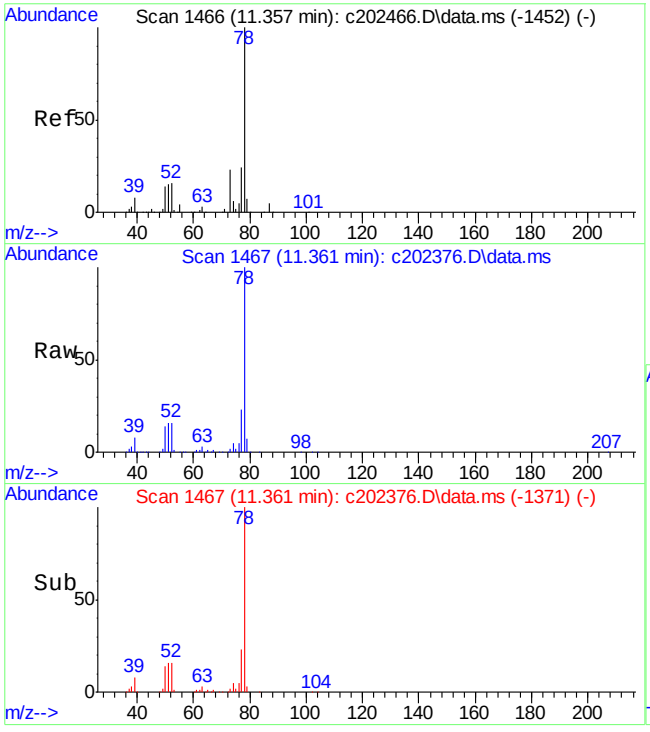
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202376.D
Acq On : 31 Jul 2015 9:48 pm
Operator : mihirm
Sample : jb99969-18
Misc : MS88818,VC7427,5.6,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 07 18:18:21 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

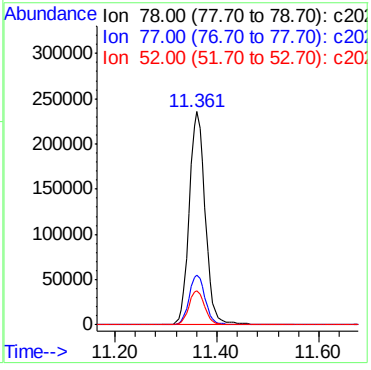


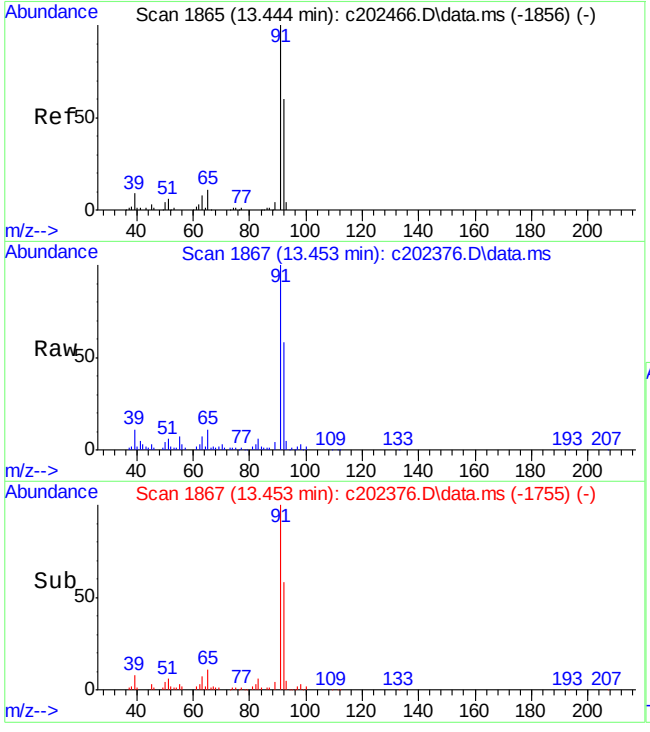


#65
benzene
Concen: 35.44 ug/L
RT: 11.361 min Scan# 1467
Delta R.T. 0.003 min
Lab File: c202376.D
Acq: 31 Jul 2015 9:48 pm

Tgt Ion: 78 Resp: 512271

Ion	Ratio	Lower	Upper
78	100		
77	23.3	0.0	53.7
52	15.7	0.0	46.1

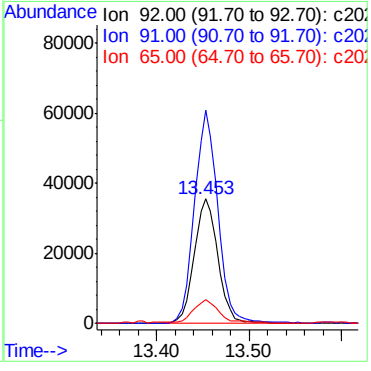


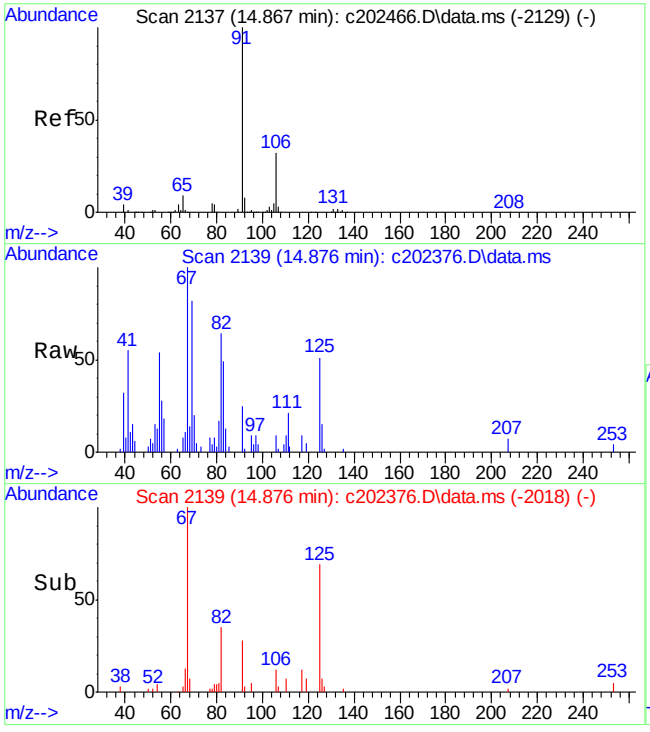


#82
toluene
Concen: 7.54 ug/L
RT: 13.453 min Scan# 1867
Delta R.T. 0.003 min
Lab File: c202376.D
Acq: 31 Jul 2015 9:48 pm

Tgt Ion: 92 Resp: 63302

Ion	Ratio	Lower	Upper
92	100		
91	171.1	137.2	197.2
65	19.0	0.0	49.7

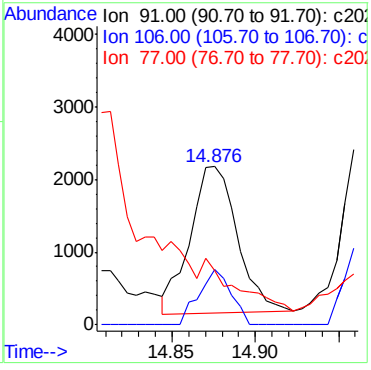


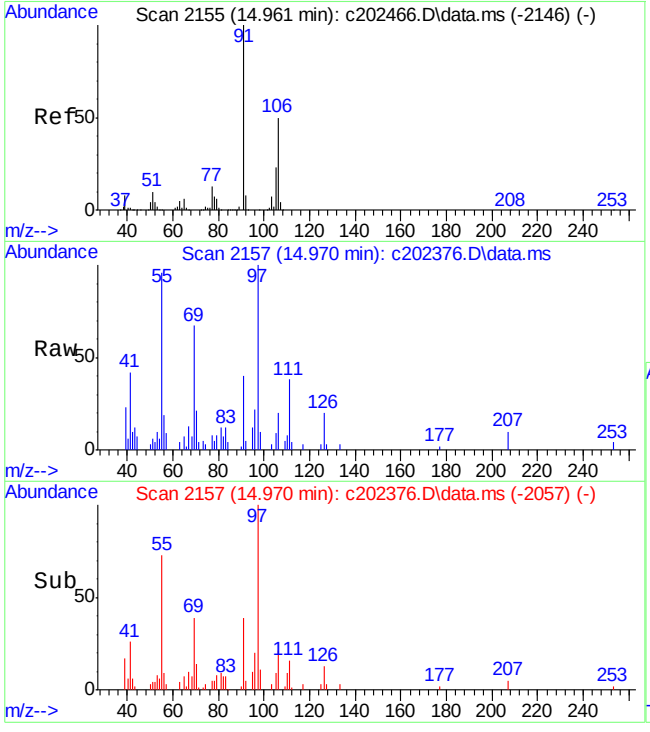


#99
ethylbenzene
Concen: 0.23 ug/L
RT: 14.876 min Scan# 2139
Delta R.T. 0.003 min
Lab File: c202376.D
Acq: 31 Jul 2015 9:48 pm

Tgt Ion: 91 Resp: 3981

Ion	Ratio	Lower	Upper
91	100		
106	38.3	1.6	61.6
77	28.2	0.0	38.9

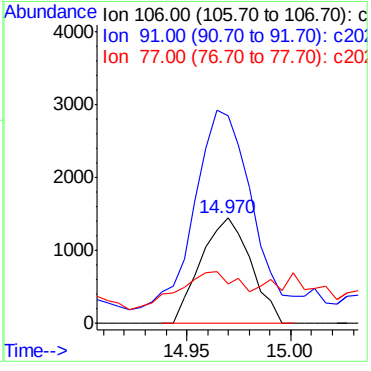


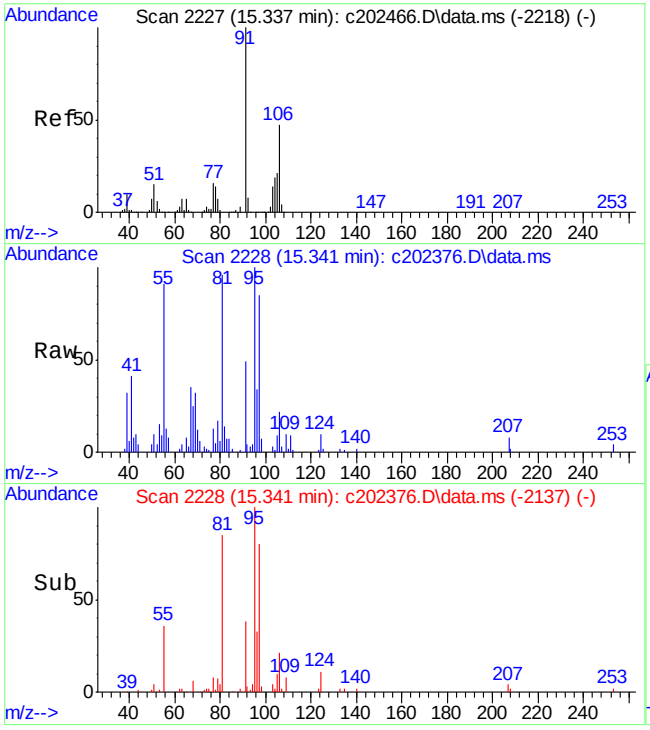


#100
m,p-xylene
Concen: 0.36 ug/L
RT: 14.970 min Scan# 2157
Delta R.T. 0.003 min
Lab File: c202376.D
Acq: 31 Jul 2015 9:48 pm

Tgt Ion:106 Resp: 2407

Ion	Ratio	Lower	Upper
106	100		
91	171.9	169.4	229.4
77	10.1	0.0	56.6

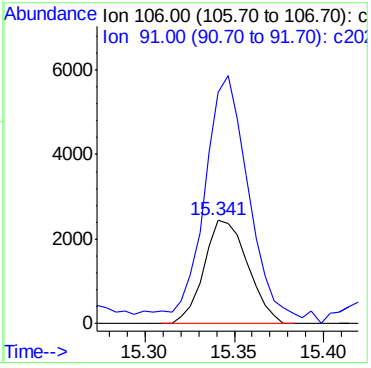


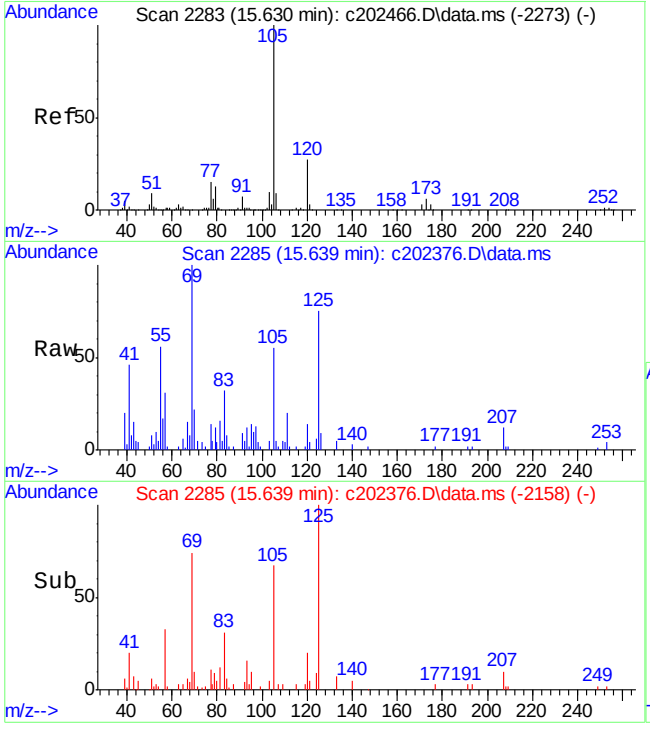


#101
o-xylene
Concen: 0.63 ug/L
RT: 15.341 min Scan# 2228
Delta R.T. -0.002 min
Lab File: c202376.D
Acq: 31 Jul 2015 9:48 pm

Tgt Ion:106 Resp: 4181

Ion	Ratio	Lower	Upper
106	100		
91	212.8	179.5	239.5

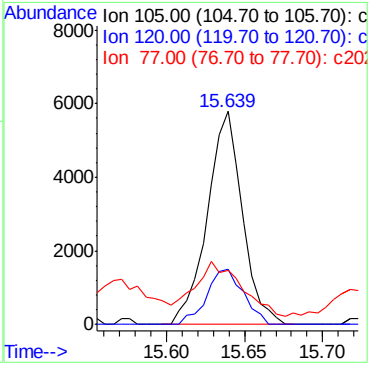




#105
isopropylbenzene
Concen: 0.57 ug/L
RT: 15.639 min Scan# 2285
Delta R.T. 0.003 min
Lab File: c202376.D
Acq: 31 Jul 2015 9:48 pm

Tgt Ion:105 Resp: 9036

Ion	Ratio	Lower	Upper
105	100		
120	26.1	0.0	56.8
77	19.6	0.0	45.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227937.D
Acq On : 31 Jul 2015 1:37 am
Operator : ThienN
Sample : jb99969-19
Misc : MS88818,VE9987,5.8,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 31 11:52:48 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.938	65	143796	500.00	ug/L	0.00
4) pentafluorobenzene	10.124	168	297583	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	409846	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	363358	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	208018	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	122467	45.69	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 91.38%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	159093	48.22	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 96.44%			
76) toluene-d8 (s)	12.734	98	481584	49.65	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.30%			
103) 4-bromofluorobenzene (s)	15.652	95	196357	53.14	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 106.28%			

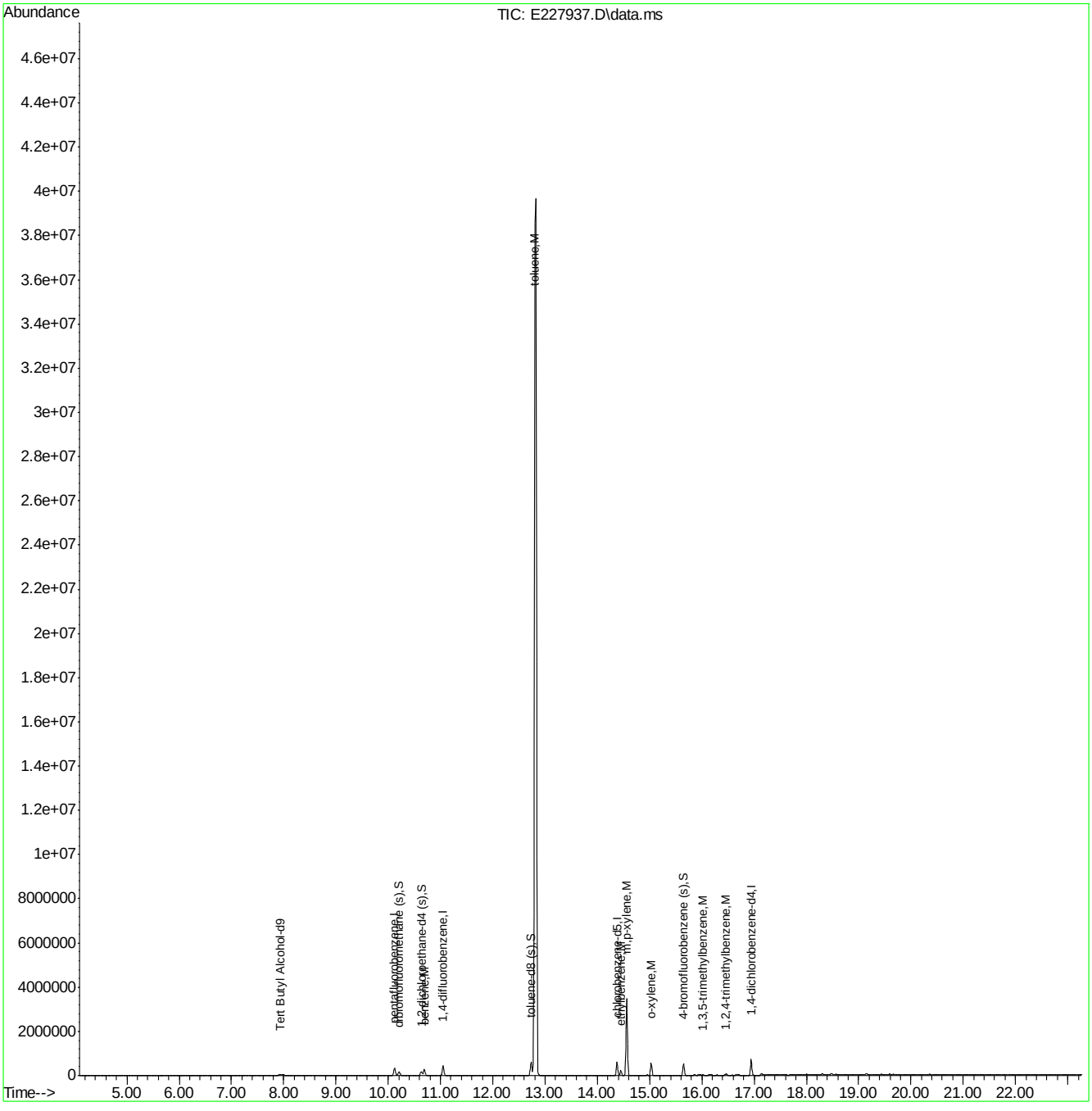
Target Compounds						Qvalue
62) benzene	10.689	78	299562	24.28	ug/L	99
78) toluene	12.802	92	24931093	3375.66	ug/L #	53
95) ethylbenzene	14.455	91	193786	13.78	ug/L	98
96) m,p-xylene	14.565	106	1151964	222.56	ug/L	99
97) o-xylene	15.030	106	175746	32.51	ug/L	99
113) 1,3,5-trimethylbenzene	16.019	105	16098	1.39	ug/L	98
116) 1,2,4-trimethylbenzene	16.458	105	41830	3.59	ug/L	99

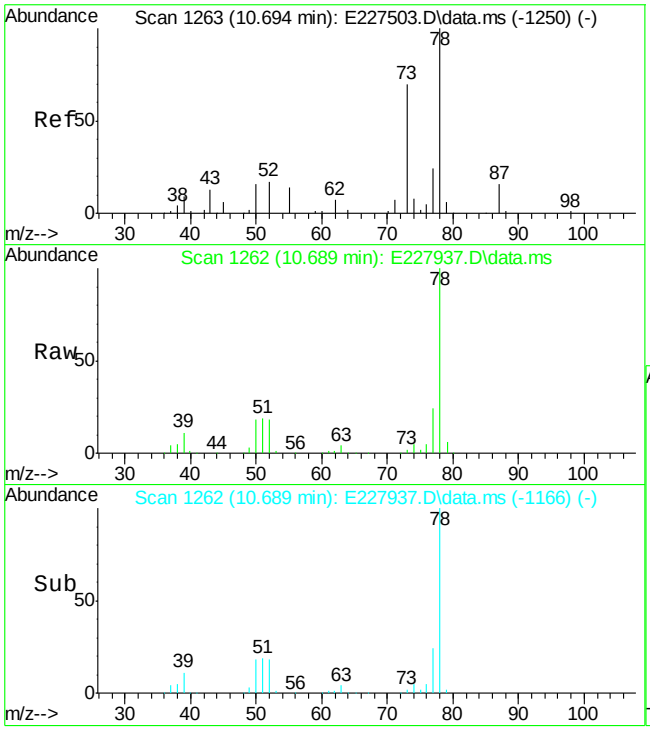
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227937.D
Acq On : 31 Jul 2015 1:37 am
Operator : ThienN
Sample : jb99969-19
Misc : MS88818,VE9987,5.8,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 31 11:52:48 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

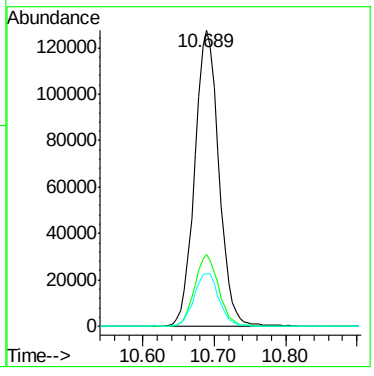


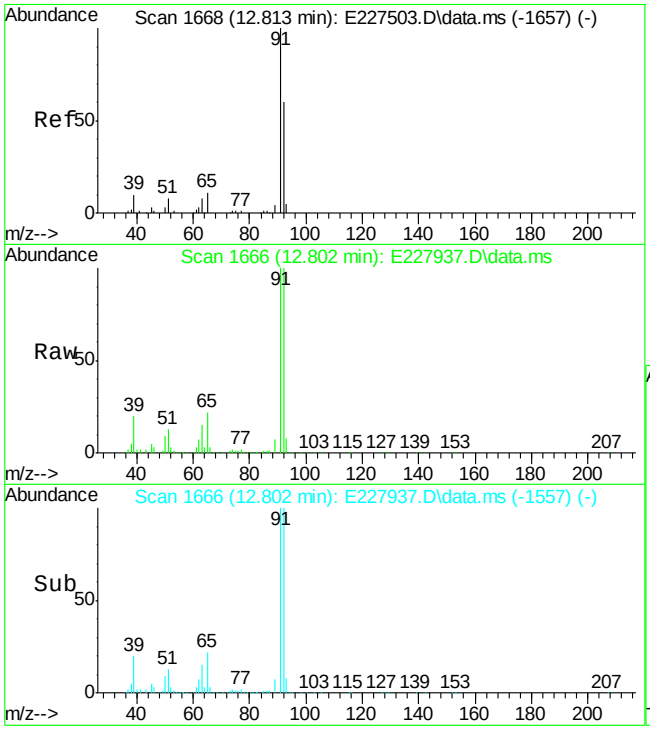


#62
benzene
Concen: 24.28 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.000 min
Lab File: E227937.D
Acq: 31 Jul 2015 1:37 am

Tgt Ion: 78 Resp: 299562

Ion	Ratio	Lower	Upper
78	100		
77	24.1	0.0	53.9
52	17.8	0.0	46.9

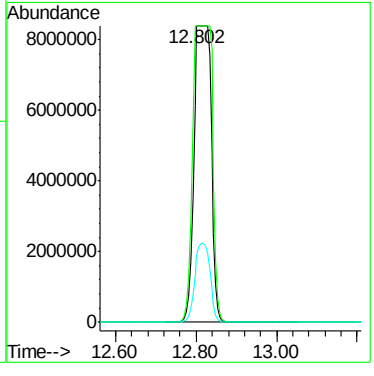




#78
toluene
Concen: 3375.66 ug/L
RT: 12.802 min Scan# 1666
Delta R.T. -0.011 min
Lab File: E227937.D
Acq: 31 Jul 2015 1:37 am

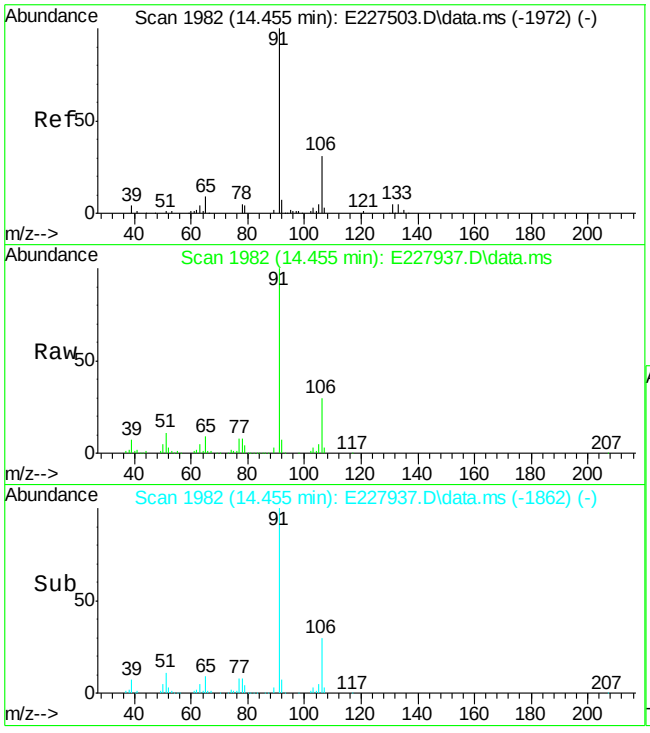
Tgt Ion: 92 Resp:24931093

Ion	Ratio	Lower	Upper
92	100		
91	100.0	141.7	201.7#
65	22.3	0.0	50.9



7.1.36

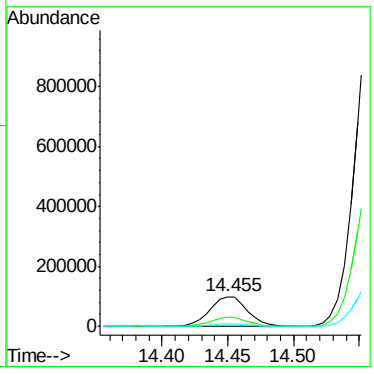
7

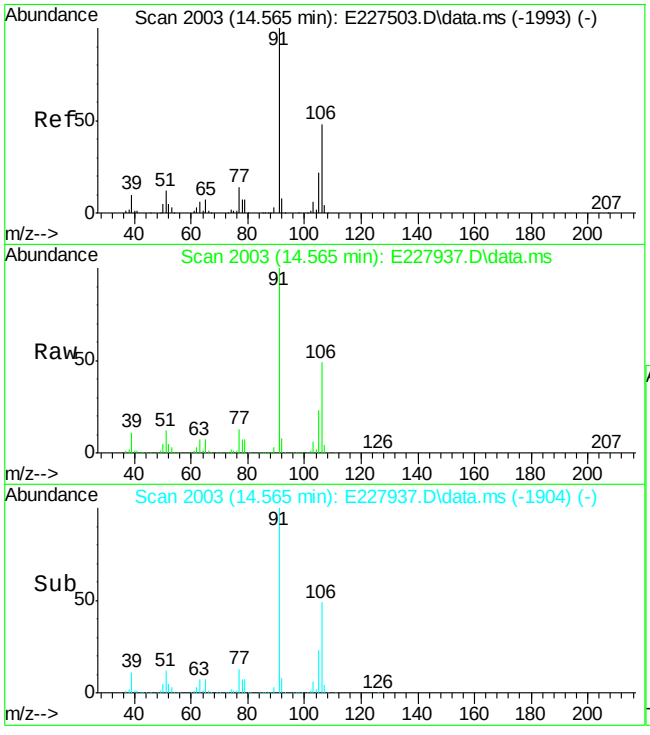


#95
ethylbenzene
Concen: 13.78 ug/L
RT: 14.455 min Scan# 1982
Delta R.T. -0.000 min
Lab File: E227937.D
Acq: 31 Jul 2015 1:37 am

Tgt Ion: 91 Resp: 193786

Ion	Ratio	Lower	Upper
91	100		
106	29.6	0.5	60.5
77	8.4	0.0	38.8

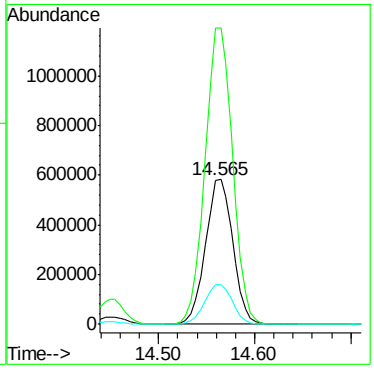


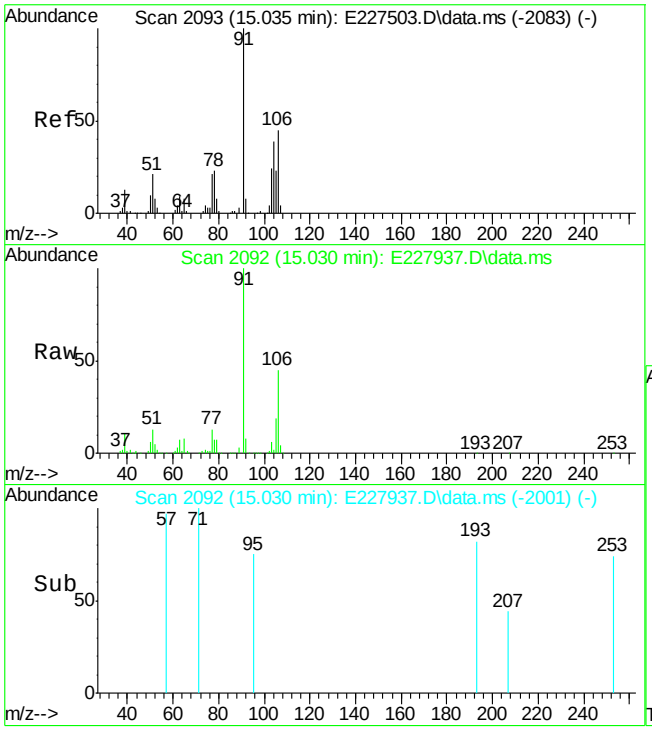


#96
m,p-xylene
Concen: 222.56 ug/L
RT: 14.565 min Scan# 2003
Delta R.T. -0.000 min
Lab File: E227937.D
Acq: 31 Jul 2015 1:37 am

Tgt Ion:106 Resp: 1151964

Ion	Ratio	Lower	Upper
106	100		
91	204.8	173.3	233.3
77	27.6	0.0	57.8

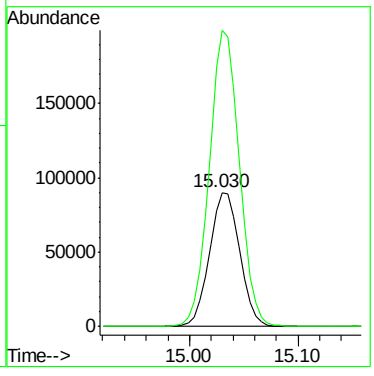


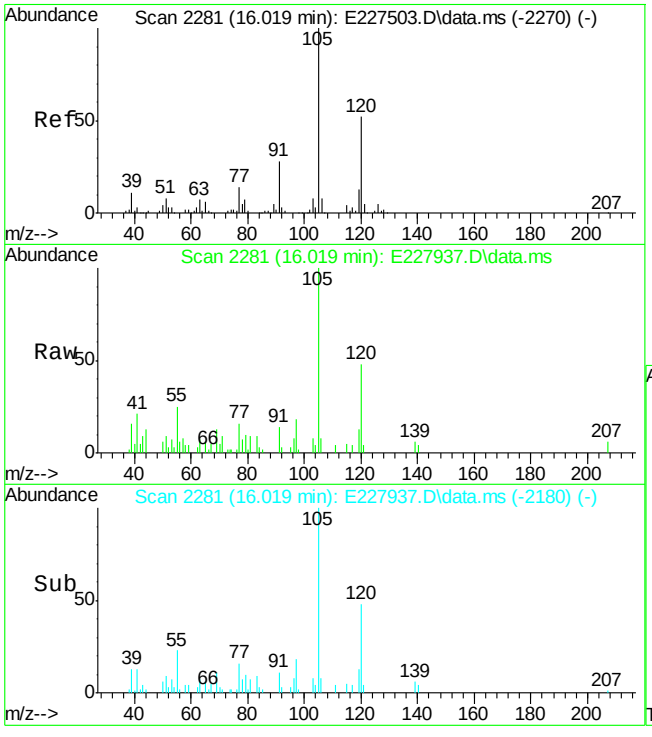


#97
o-xylene
Concen: 32.51 ug/L
RT: 15.030 min Scan# 2092
Delta R.T. -0.006 min
Lab File: E227937.D
Acq: 31 Jul 2015 1:37 am

Tgt Ion:106 Resp: 175746

Ion	Ratio	Lower	Upper
106	100		
91	220.8	189.9	249.9

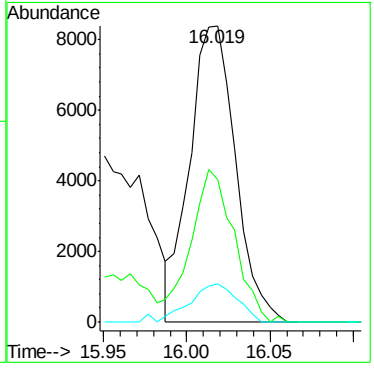


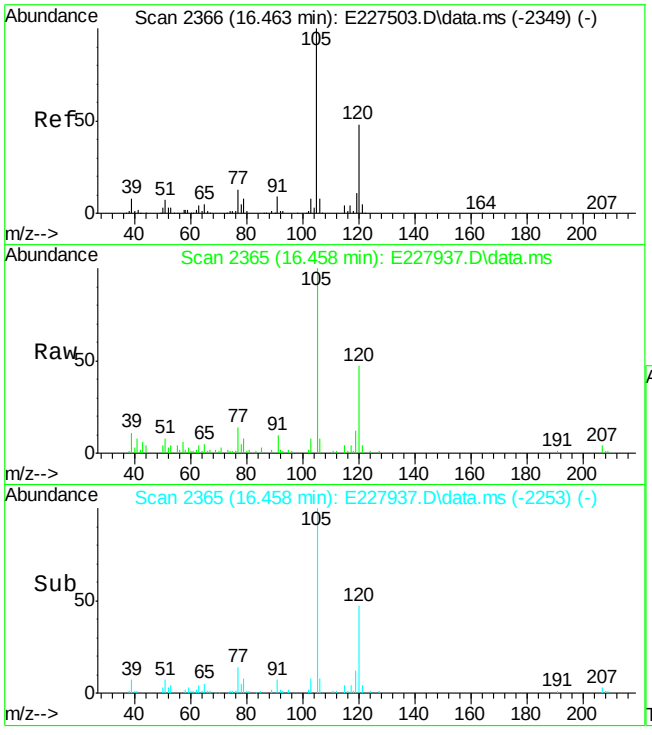


#113
1,3,5-trimethylbenzene
Concen: 1.39 ug/L
RT: 16.019 min Scan# 2281
Delta R.T. -0.000 min
Lab File: E227937.D
Acq: 31 Jul 2015 1:37 am

Tgt Ion:105 Resp: 16098

Ion	Ratio	Lower	Upper
105	100		
120	48.2	20.2	80.2
119	13.0	0.0	42.7

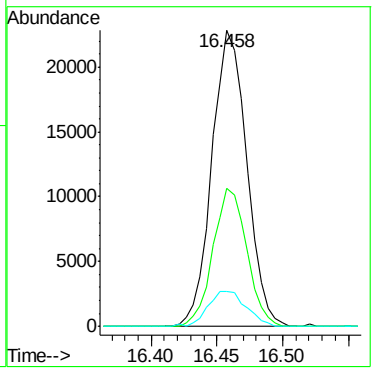




#116
1,2,4-trimethylbenzene
Concen: 3.59 ug/L
RT: 16.458 min Scan# 2365
Delta R.T. -0.006 min
Lab File: E227937.D
Acq: 31 Jul 2015 1:37 am

Tgt Ion:105 Resp: 41830

Ion	Ratio	Lower	Upper
105	100		
120	46.5	17.3	77.3
119	11.8	0.0	41.9



7.1.36

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227994.D
Acq On : 3 Aug 2015 2:39 pm
Operator : ThienN
Sample : jb99969-19
Misc : MS88818,VE9990,5.8,,5,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 03 15:28:10 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.932	65	142728	500.00	ug/L	0.00
4) pentafluorobenzene	10.123	168	263515	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.049	114	354324	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	326332	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.943	152	191504	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	117683	49.58	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 99.16%			
48) 1,2-dichloroethane-d4 (s)	10.625	65	150169	51.40	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 102.80%			
76) toluene-d8 (s)	12.733	98	422587	50.39	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 100.78%			
103) 4-bromofluorobenzene (s)	15.652	95	174291	51.24	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.48%			

Target Compounds

						Qvalue
62) benzene	10.693	78	12665	1.19	ug/L	96
78) toluene	12.812	92	1222366	191.44	ug/L	100
95) ethylbenzene	14.449	91	7296	0.58	ug/L	96
96) m,p-xylene	14.564	106	39695	8.54	ug/L	99
97) o-xylene	15.034	106	6379	1.31	ug/L	97

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

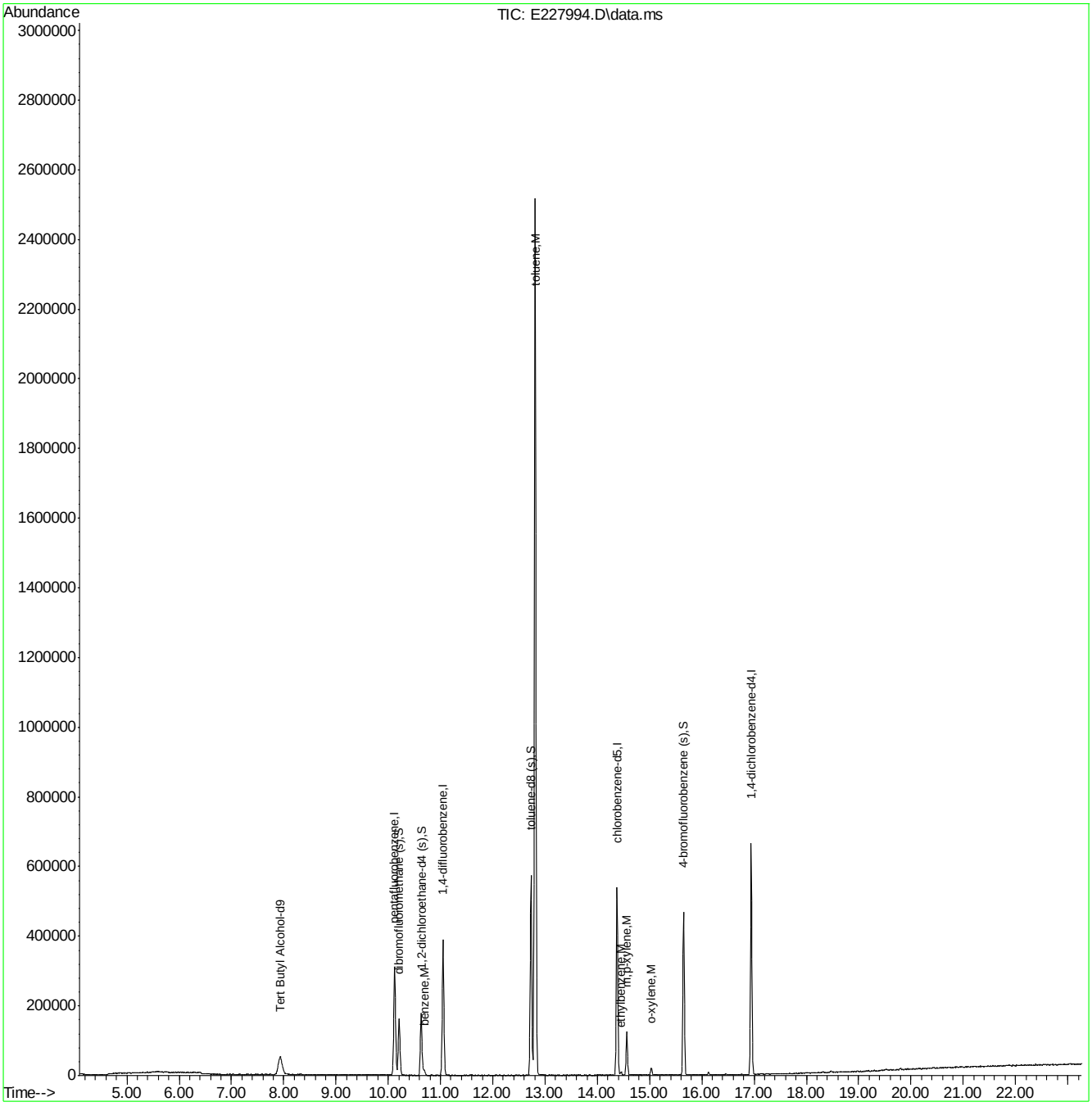
7.1.37

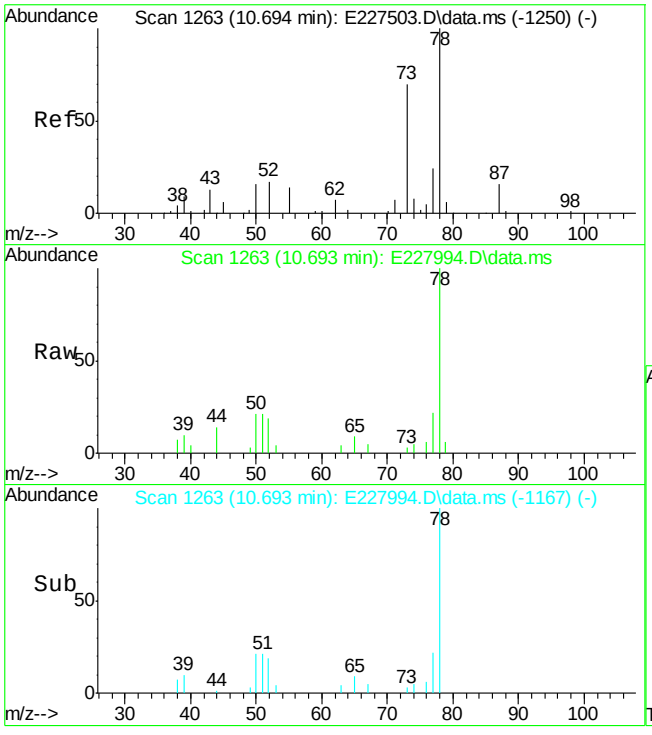
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227994.D
Acq On : 3 Aug 2015 2:39 pm
Operator : ThienN
Sample : jb99969-19
Misc : MS88818,VE9990,5.8,,5,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 03 15:28:10 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

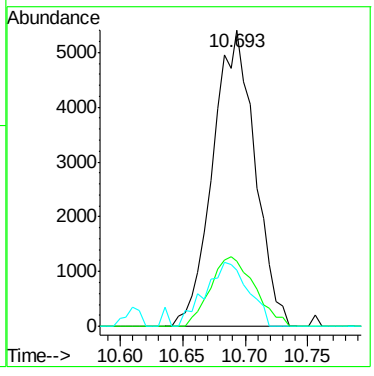


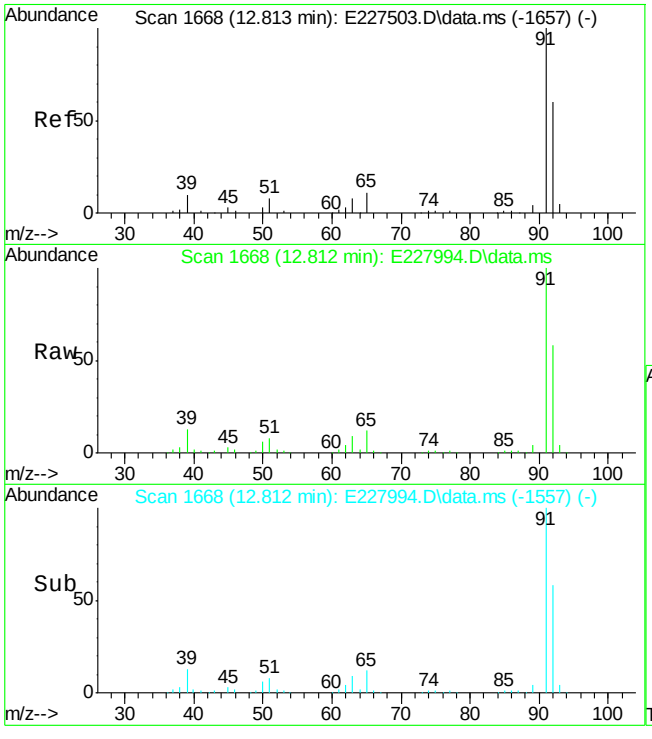


#62
benzene
Concen: 1.19 ug/L
RT: 10.693 min Scan# 1263
Delta R.T. 0.004 min
Lab File: E227994.D
Acq: 3 Aug 2015 2:39 pm

Tgt Ion: 78 Resp: 12665

Ion	Ratio	Lower	Upper
78	100		
77	22.0	0.0	53.9
52	19.0	0.0	46.9

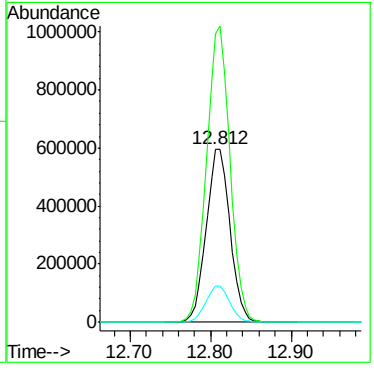


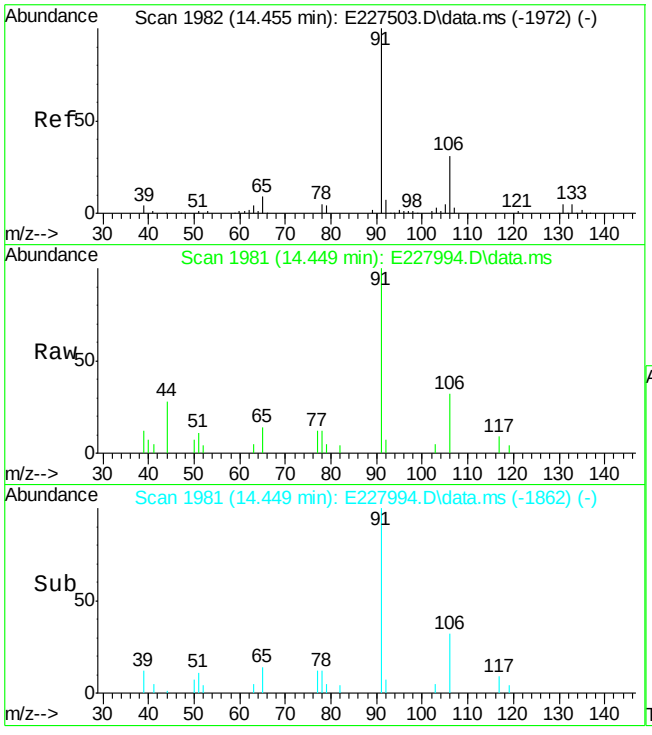


#78
toluene
Concen: 191.44 ug/L
RT: 12.812 min Scan# 1668
Delta R.T. -0.001 min
Lab File: E227994.D
Acq: 3 Aug 2015 2:39 pm

Tgt Ion: 92 Resp: 1222366

Ion	Ratio	Lower	Upper
92	100		
91	171.1	141.7	201.7
65	20.7	0.0	50.9

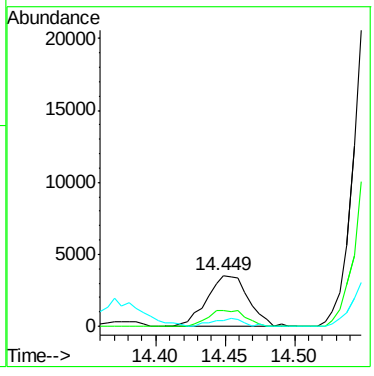


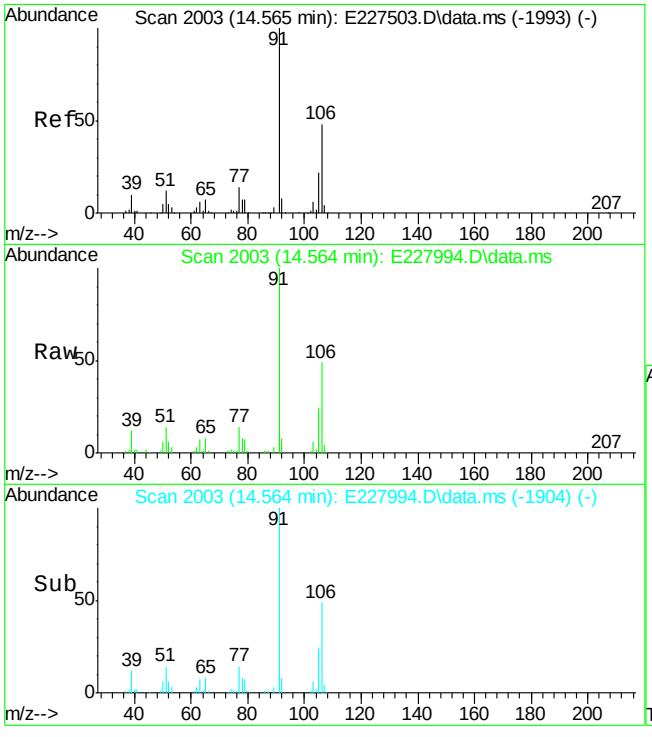


#95
ethylbenzene
Concen: 0.58 ug/L
RT: 14.449 min Scan# 1981
Delta R.T. -0.006 min
Lab File: E227994.D
Acq: 3 Aug 2015 2:39 pm

Tgt Ion: 91 Resp: 7296

Ion	Ratio	Lower	Upper
91	100		
106	32.0	0.5	60.5
77	11.8	0.0	38.8

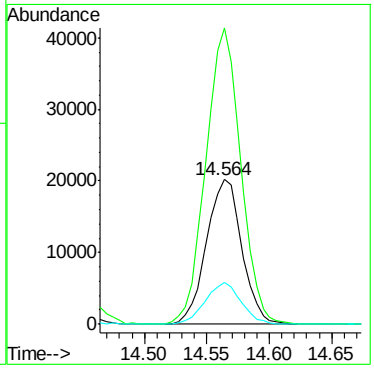


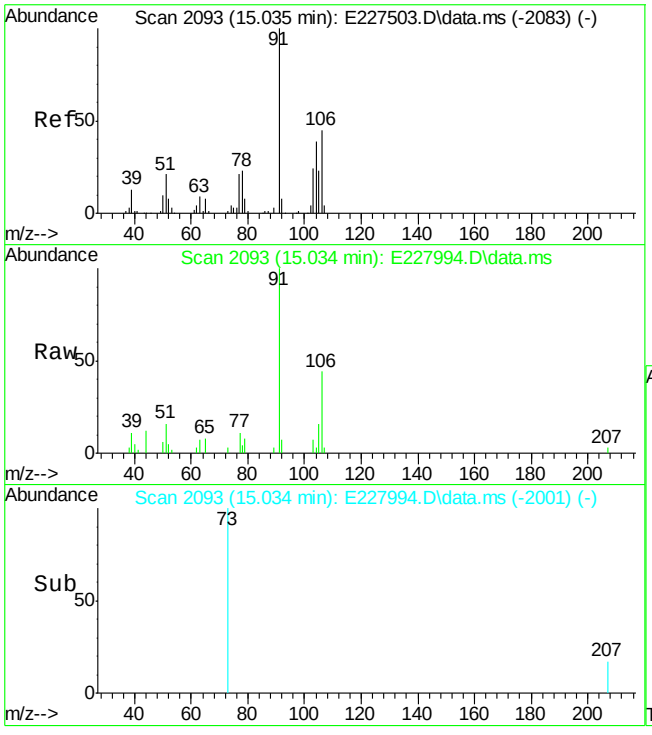


#96
m,p-xylene
Concen: 8.54 ug/L
RT: 14.564 min Scan# 2003
Delta R.T. -0.001 min
Lab File: E227994.D
Acq: 3 Aug 2015 2:39 pm

Tgt Ion:106 Resp: 39695

Ion	Ratio	Lower	Upper
106	100		
91	204.6	173.3	233.3
77	29.1	0.0	57.8

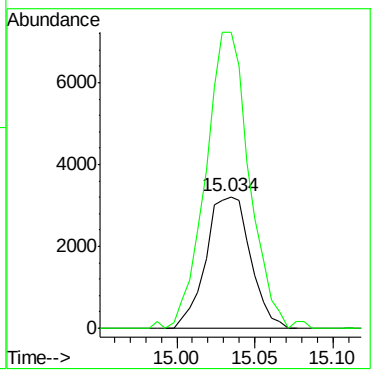




#97
o-xylene
Concen: 1.31 ug/L
RT: 15.034 min Scan# 2093
Delta R.T. -0.001 min
Lab File: E227994.D
Acq: 3 Aug 2015 2:39 pm

Tgt Ion:106 Resp: 6379

Ion	Ratio	Lower	Upper
106	100		
91	224.7	189.9	249.9



7.1.37

7

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
08/05/15 17:23

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202486.D
Acq On : 4 Aug 2015 7:46 pm
Operator : mihirm
Sample : jb99969-20
Misc : MS88818,VC7430,5.4,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 05 10:00:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.129	65	77389	500.00	ug/L	0.01
5) pentafluorobenzene	10.817	168	388901	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.774	114	501785	50.00	ug/L	0.00
88) chlorobenzene-d5	14.808	117	438187	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	229685	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.874	113	143410	48.48	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.96%			
51) 1,2-dichloroethane-d4 (s)	11.319	65	124109	47.89	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 95.78%			
80) toluene-d8 (s)	13.385	98	614535	49.77	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.54%			
106) 4-bromofluorobenzene (s)	15.838	174	175363	50.97	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.94%			
Target Compounds						Qvalue
3) tertiary butyl alcohol	8.280	59	4159	26.41	ug/L	57
23) acetone	7.328	58	2918	21.01	ug/L	87
65) benzene	11.361	78	350805	27.70	ug/L	99
82) toluene	13.453	92	1059024	144.05	ug/L	99
97) chlorobenzene	14.839	112	2676	0.35	ug/L	83
99) ethylbenzene	14.876	91	10648	0.74	ug/L	94
100) m,p-xylene	14.964	106	137132	25.19	ug/L	99
101) o-xylene	15.346	106	2031m	0.37	ug/L	

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

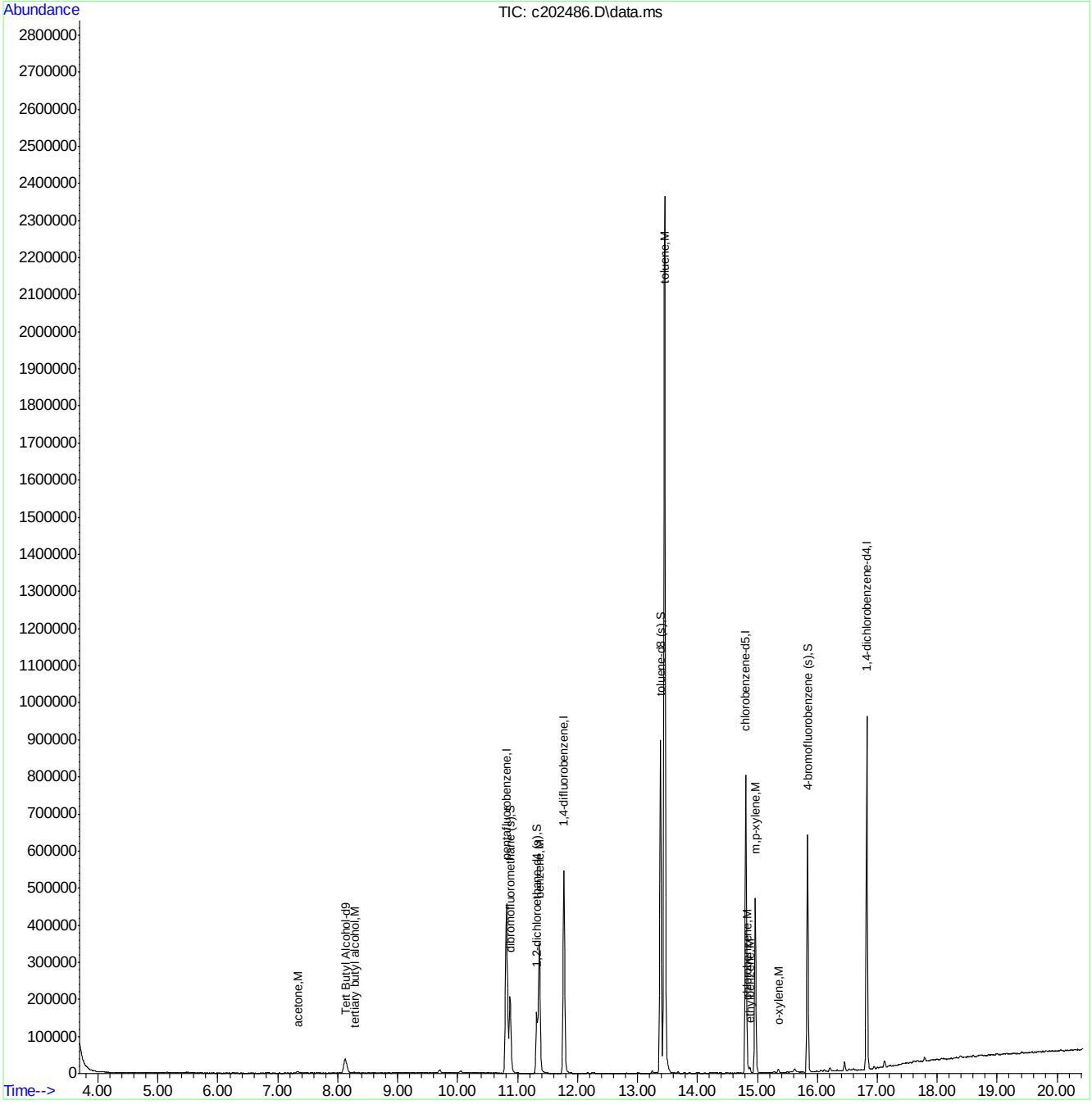
7.1.38

7

Quantitation Report (QT Reviewed)

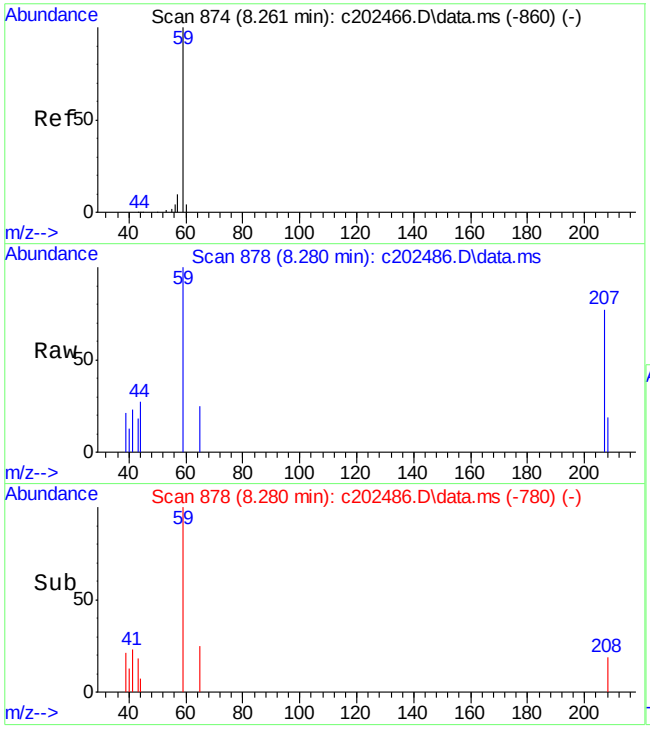
Data Path : C:\msdchem\1\DATA\
Data File : c202486.D
Acq On : 4 Aug 2015 7:46 pm
Operator : mihirm
Sample : jb99969-20
Misc : MS88818,VC7430,5.4,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 05 10:00:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration



MC7426.M Wed Aug 05 10:00:08 2015 C

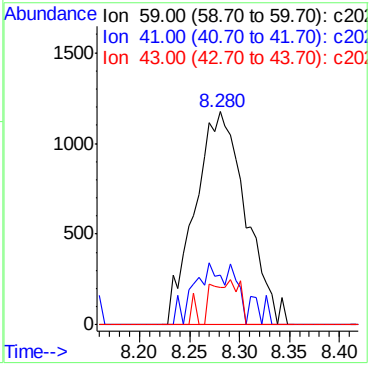
Page: 2

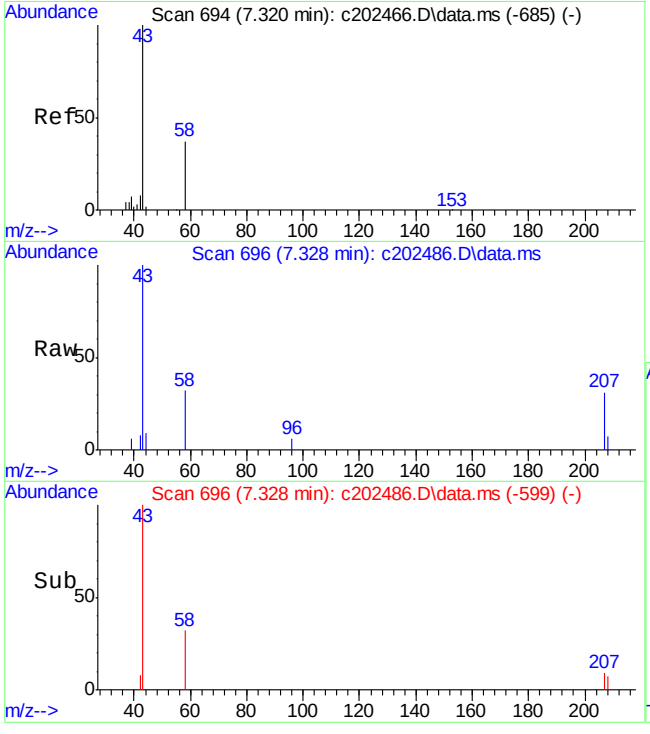


#3
tertiary butyl alcohol
Concen: 26.41 ug/L
RT: 8.280 min Scan# 878
Delta R.T. 0.014 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion: 59 Resp: 4159

Ion	Ratio	Lower	Upper
59	100		
41	23.3	0.0	32.1
43	17.5	0.0	35.4

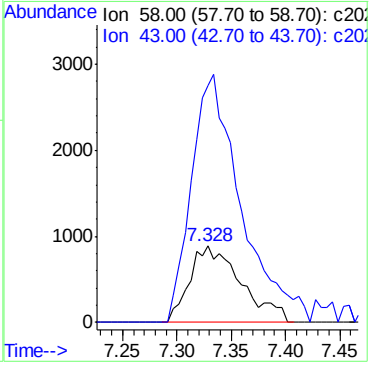


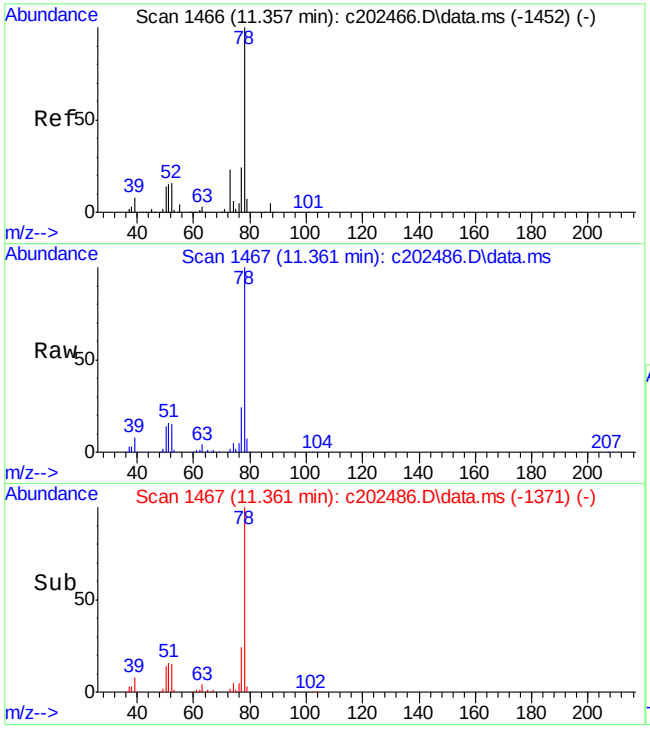


#23
acetone
Concen: 21.01 ug/L
RT: 7.328 min Scan# 696
Delta R.T. 0.009 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion: 58 Resp: 2918

Ion	Ratio	Lower	Upper
58	100		
43	314.6	311.3	371.3

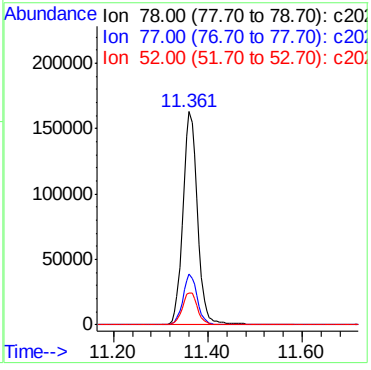


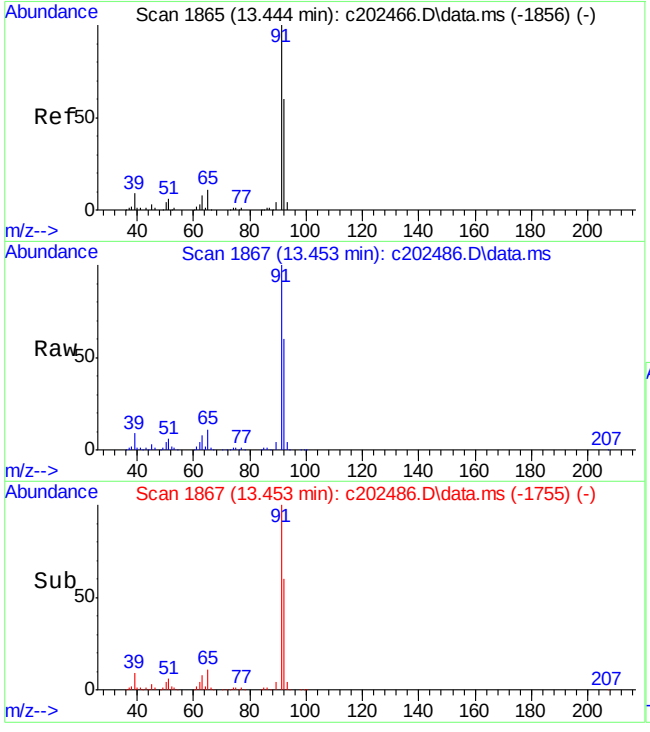


#65
benzene
Concen: 27.70 ug/L
RT: 11.361 min Scan# 1467
Delta R.T. 0.003 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion: 78 Resp: 350805

Ion	Ratio	Lower	Upper
78	100		
77	23.8	0.0	53.7
52	15.1	0.0	46.1

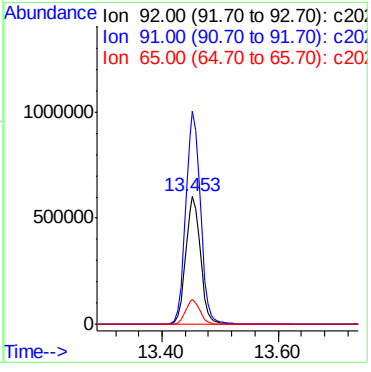


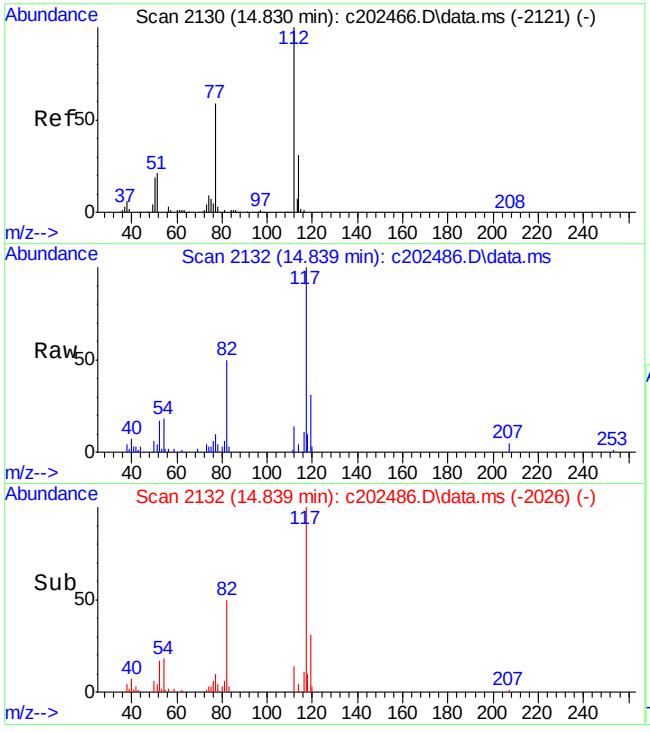


#82
toluene
Concen: 144.05 ug/L
RT: 13.453 min Scan# 1867
Delta R.T. 0.003 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion: 92 Resp: 1059024

Ion	Ratio	Lower	Upper
92	100		
91	165.9	137.2	197.2
65	19.1	0.0	49.7

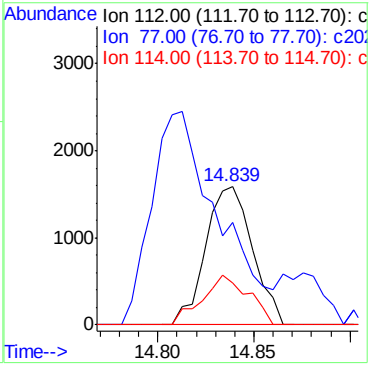


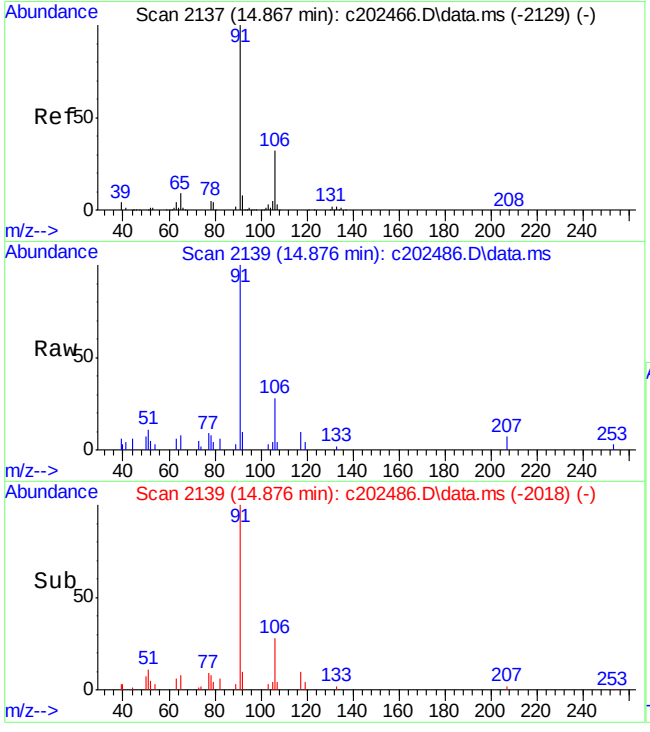


#97
chlorobenzene
Concen: 0.35 ug/L
RT: 14.839 min Scan# 2132
Delta R.T. 0.003 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion:112 Resp: 2676

Ion	Ratio	Lower	Upper
112	100		
77	41.5	29.9	89.9
114	30.5	2.1	62.1

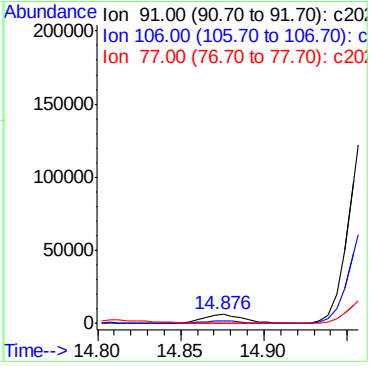


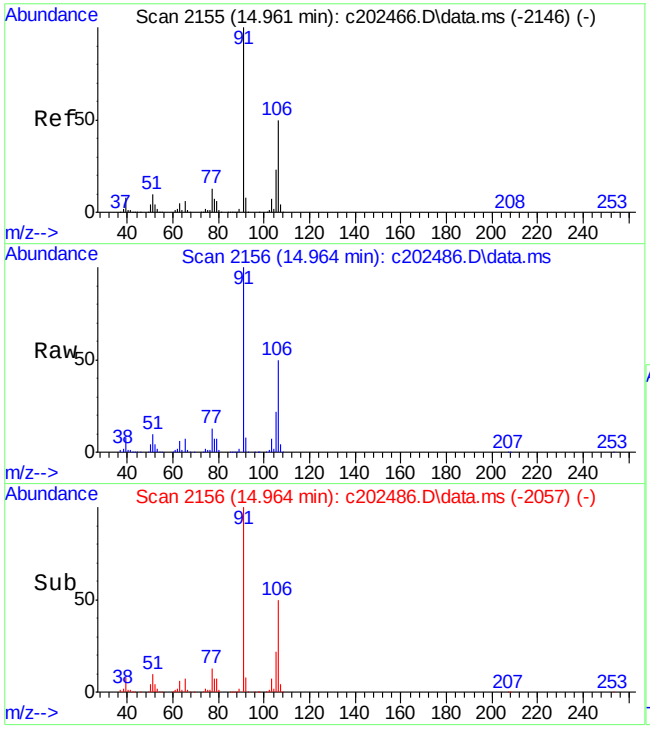


#99
ethylbenzene
Concen: 0.74 ug/L
RT: 14.876 min Scan# 2139
Delta R.T. 0.003 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion: 91 Resp: 10648

Ion	Ratio	Lower	Upper
91	100		
106	27.6	1.6	61.6
77	9.1	0.0	38.9

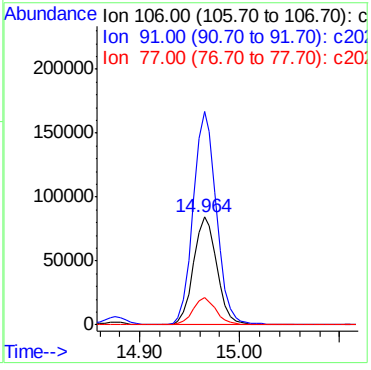


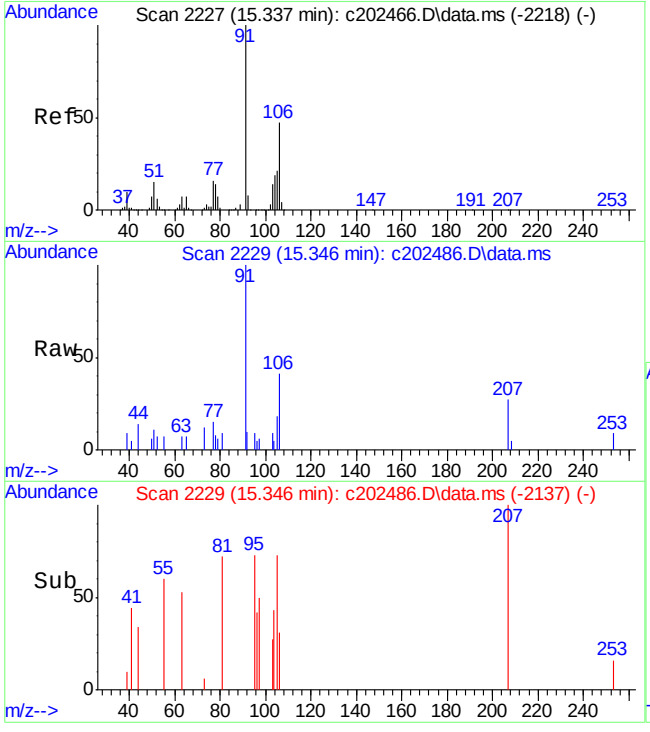


#100
m,p-xylene
Concen: 25.19 ug/L
RT: 14.964 min Scan# 2156
Delta R.T. -0.002 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion:106 Resp: 137132

Ion	Ratio	Lower	Upper
106	100		
91	197.9	169.4	229.4
77	25.4	0.0	56.6

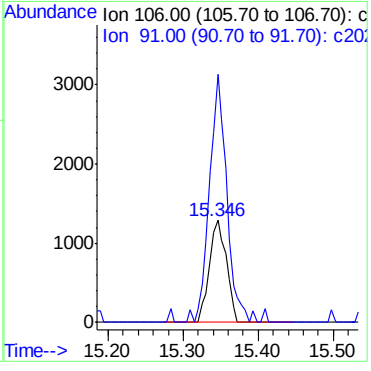




#101
o-xylene
Concen: 0.37 ug/L m
RT: 15.346 min Scan# 2229
Delta R.T. 0.003 min
Lab File: c202486.D
Acq: 4 Aug 2015 7:46 pm

Tgt Ion:106 Resp: 2031

Ion	Ratio	Lower	Upper
106	100		
91	242.9	179.5	239.5#



Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
08/19/15 16:56

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202559.D
Acq On : 6 Aug 2015 5:49 pm
Operator : mihirm
Sample : jb99969-21
Misc : MS88818,VC7433,6.2,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 07 11:37:58 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.119	65	99412	500.00	ug/L	0.00
5) pentafluorobenzene	10.812	168	477593	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.769	114	626391	50.00	ug/L	0.00
88) chlorobenzene-d5	14.808	117	531065	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.827	152	292426	50.00	ug/L	0.00

System Monitoring Compounds						
50) dibromofluoromethane (s)	10.870	113	162206	44.65	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 89.30%			
51) 1,2-dichloroethane-d4 (s)	11.320	65	145332	45.66	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 91.32%			
80) toluene-d8 (s)	13.380	98	757506	49.15	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.30%			
106) 4-bromofluorobenzene (s)	15.838	174	214921	49.06	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.12%			

Target Compounds						Qvalue
3) tertiary butyl alcohol	8.270	59	22384	110.65	ug/L	73
23) acetone	7.324	58	6041	35.42	ug/L	89
36) 2-butanone	10.221	72	898	4.50	ug/L #	31
54) cyclohexane	10.922	84	29426	4.53	ug/L #	4
65) benzene	11.361	78	556759	35.21	ug/L	99
73) methylcyclohexane	12.277	83	201735	31.14	ug/L #	62
82) toluene	13.454	92	359889	39.21	ug/L	99
97) chlorobenzene	14.834	112	154758	16.88	ug/L	97
100) m,p-xylene	14.970	106	45964	6.97	ug/L	95
101) o-xylene	15.347	106	3281m	0.50	ug/L	
105) isopropylbenzene	15.640	105	5126	0.29	ug/L	74
115) 1,3,5-trimethylbenzene	16.116	105	5151	0.33	ug/L	91
116) tert-butylbenzene	16.414	134	8171	2.48	ug/L	91
118) 1,2,4-trimethylbenzene	16.450	105	12505	0.79	ug/L	96
119) sec-butylbenzene	16.592	105	46531	2.24	ug/L	85
132) naphthalene	18.725	128	25733	2.27	ug/L #	13

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

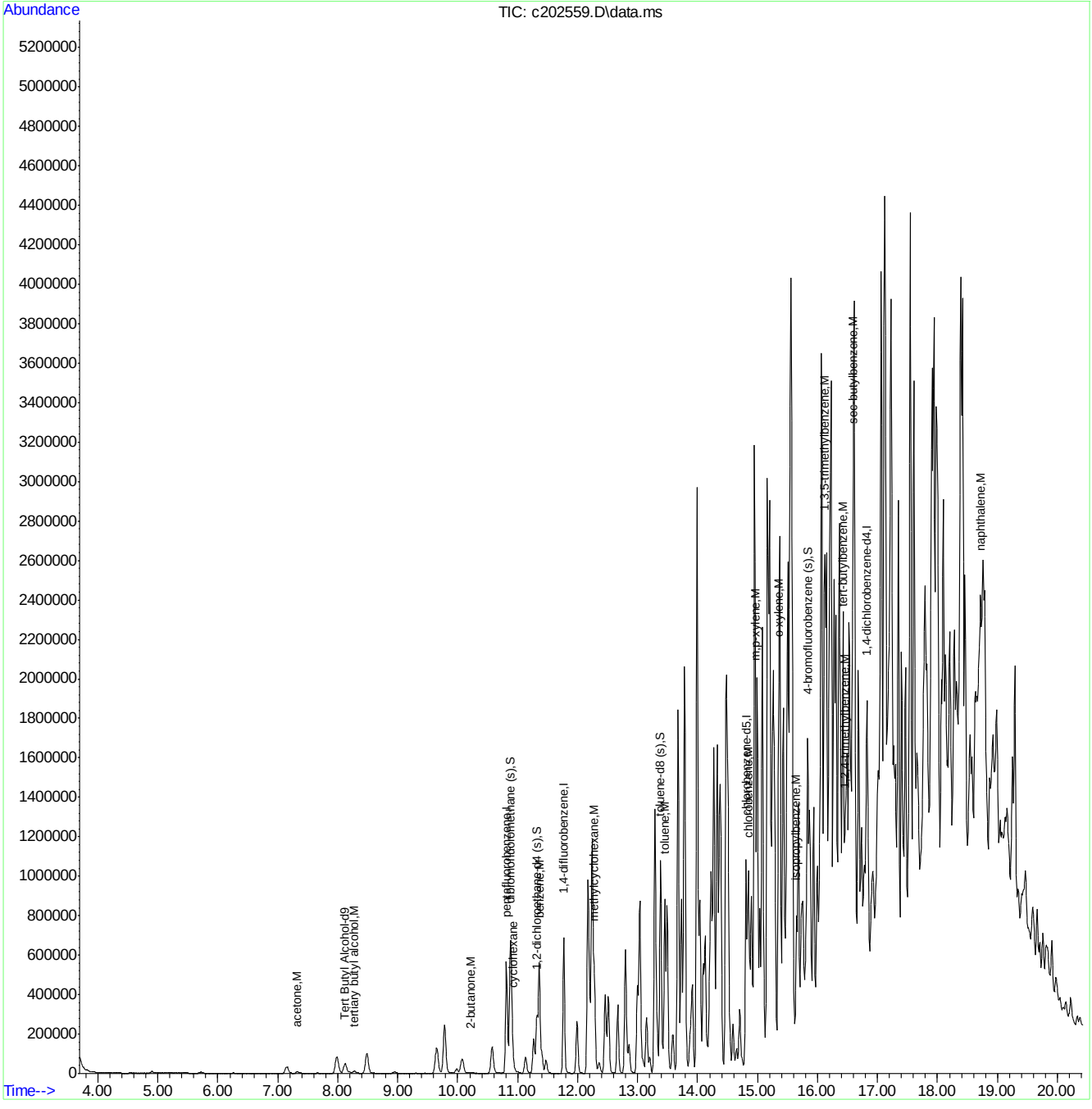
7.1.39

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202559.D
Acq On : 6 Aug 2015 5:49 pm
Operator : mihirm
Sample : jb99969-21
Misc : MS88818,VC7433,6.2,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 07 11:37:58 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration



MC7426.M Wed Aug 19 16:39:33 2015 C

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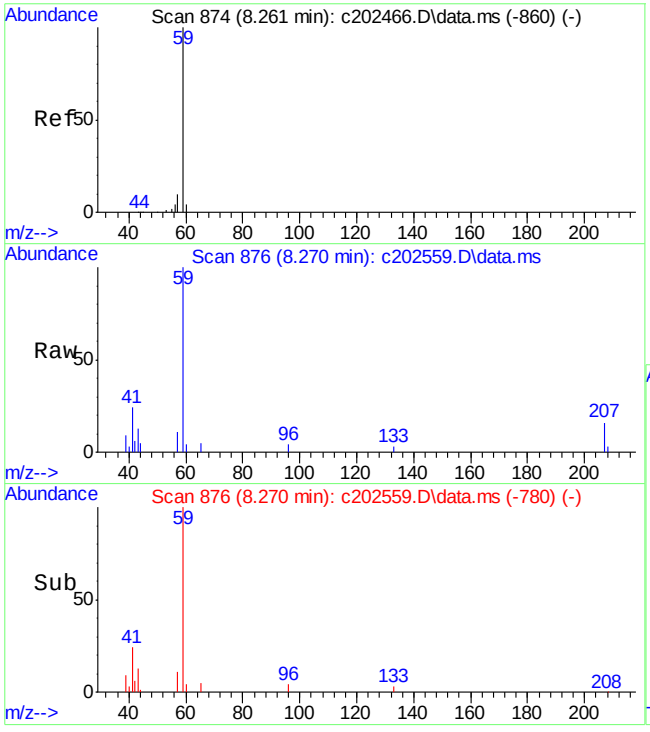
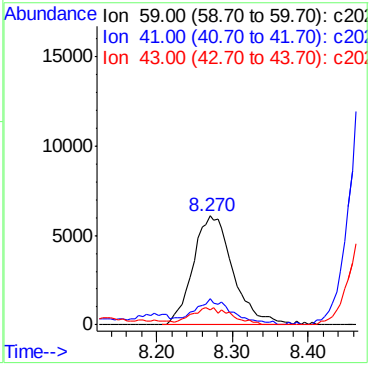
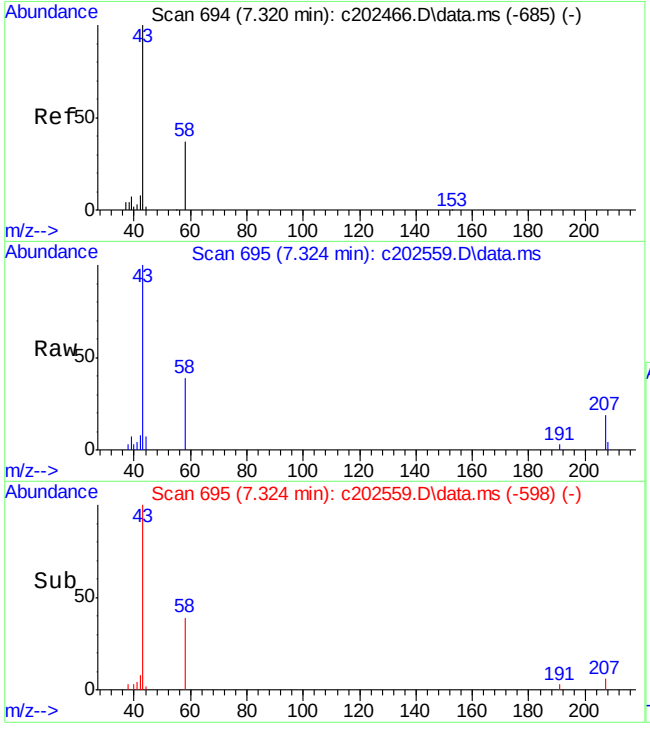


#3
tertiary butyl alcohol
Concen: 110.65 ug/L
RT: 8.270 min Scan# 876
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion: 59 Resp: 22384

Ion	Ratio	Lower	Upper
59	100		
41	19.1	0.0	32.1
43	11.8	0.0	35.4

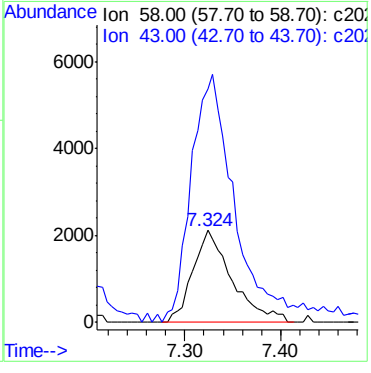


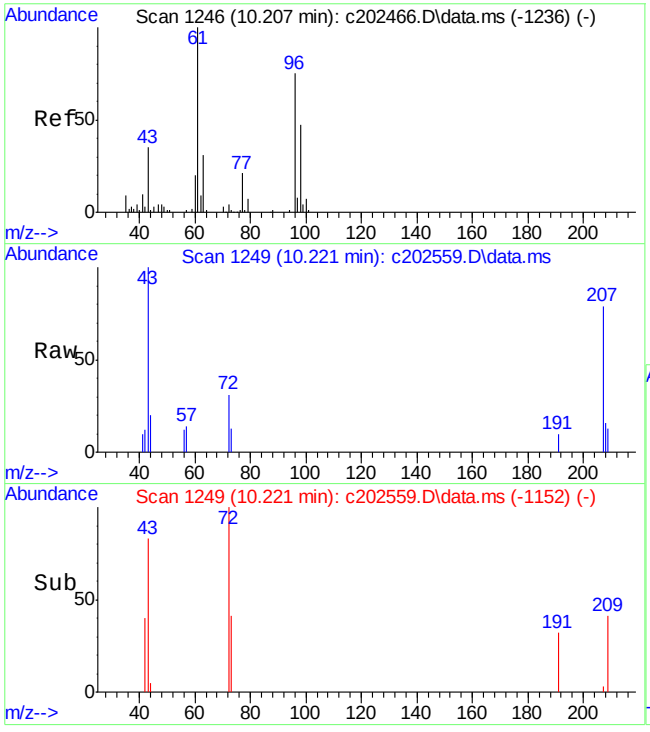


#23
acetone
Concen: 35.42 ug/L
RT: 7.324 min Scan# 695
Delta R.T. 0.005 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion: 58 Resp: 6041

Ion	Ratio	Lower	Upper
58	100		
43	317.0	311.3	371.3

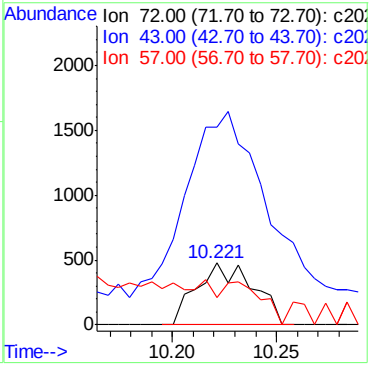


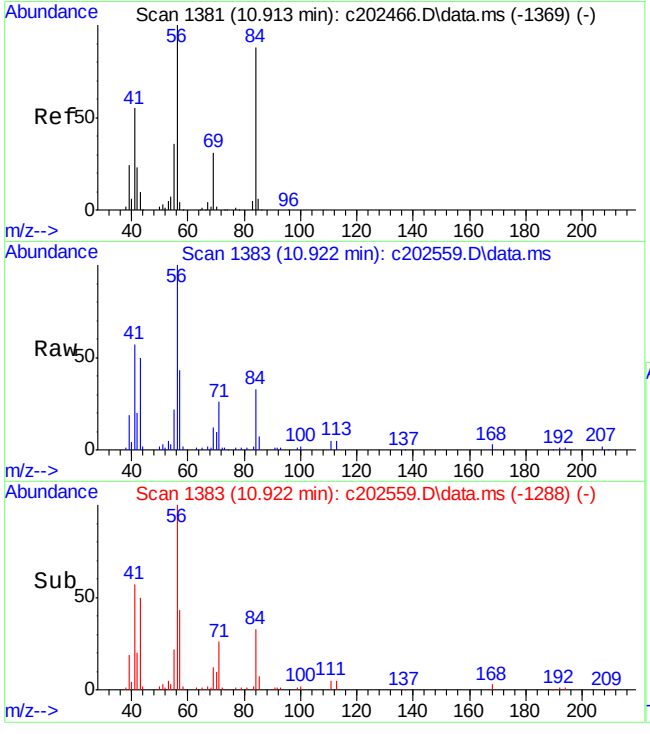


#36
2-butanone
Concen: 4.50 ug/L
RT: 10.221 min Scan# 1249
Delta R.T. 0.009 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion: 72 Resp: 898

Ion	Ratio	Lower	Upper
72	100		
43	638.5	653.7	1213.9#
57	46.7	16.8	31.2#

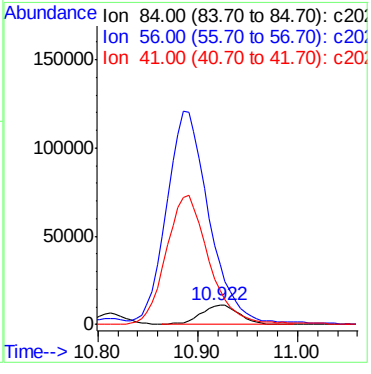


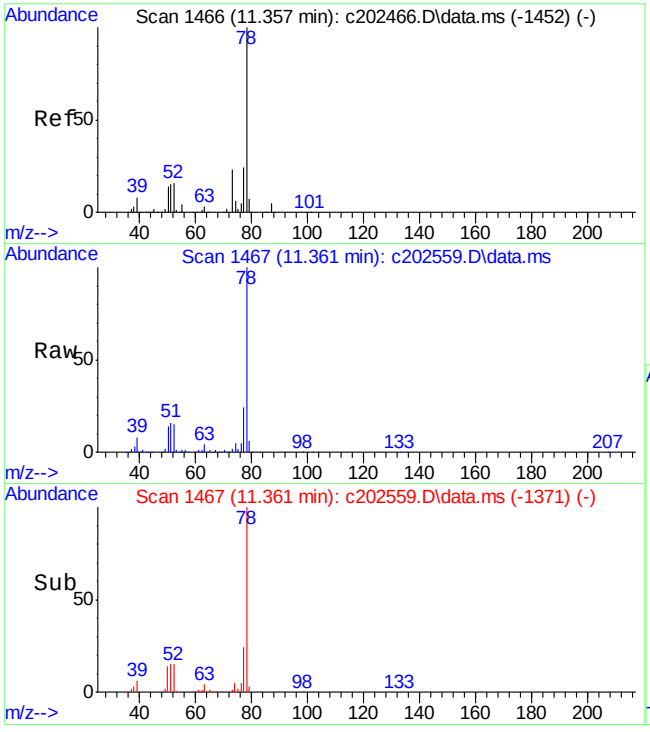


#54
cyclohexane
Concen: 4.53 ug/L
RT: 10.922 min Scan# 1383
Delta R.T. -0.001 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion: 84 Resp: 29426

Ion	Ratio	Lower	Upper
84	100		
56	0.0	78.9	146.5#
41	0.0	42.4	78.8#

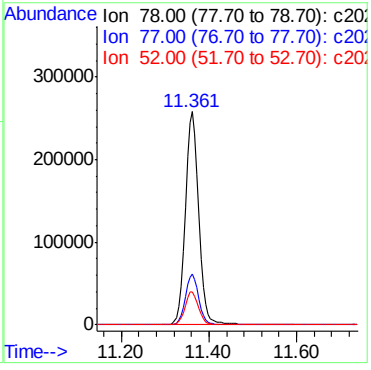


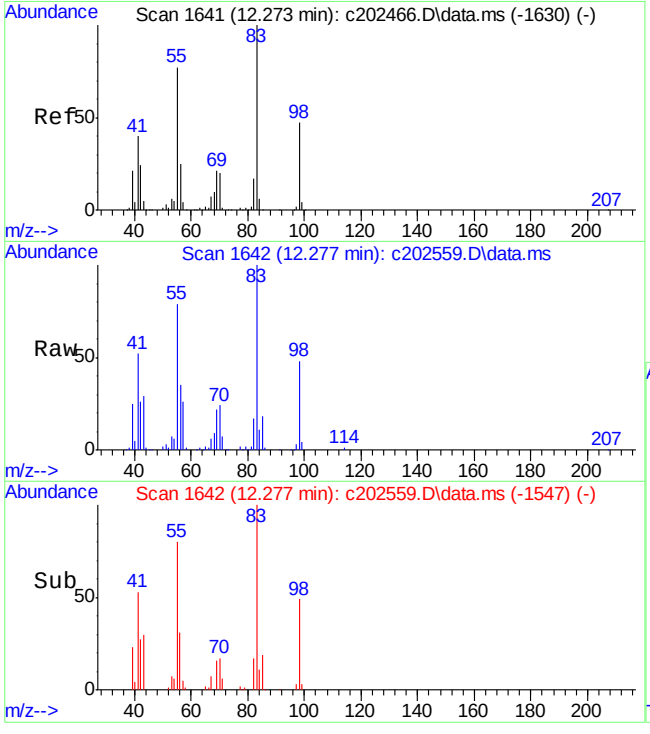


#65
benzene
Concen: 35.21 ug/L
RT: 11.361 min Scan# 1467
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion: 78 Resp: 556759

Ion	Ratio	Lower	Upper
78	100		
77	23.6	0.0	53.7
52	15.2	0.0	46.1

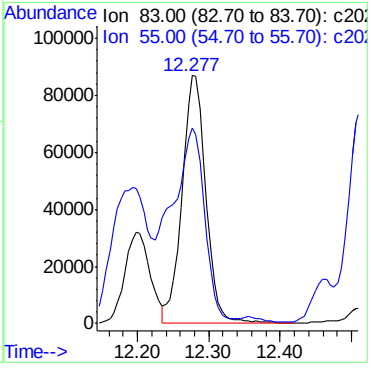


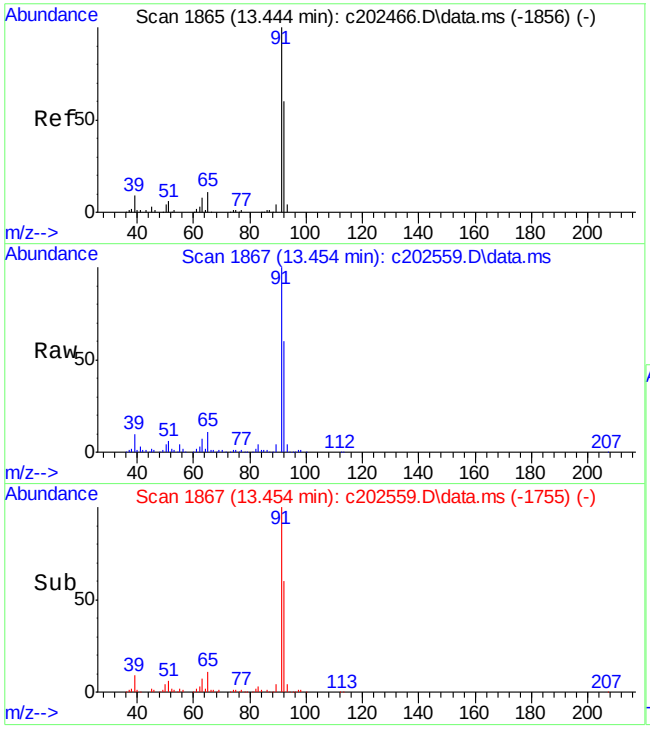


#73
methylcyclohexane
Concen: 31.14 ug/L
RT: 12.277 min Scan# 1642
Delta R.T. -0.001 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion: 83 Resp: 201735

Ion	Ratio	Lower	Upper
83	100		
55	110.6	54.6	101.4#

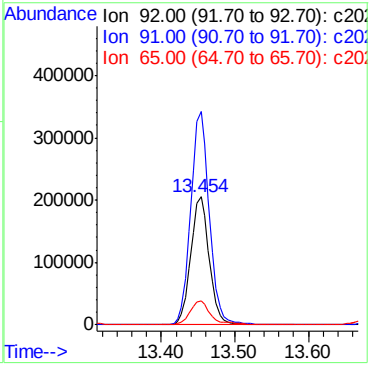


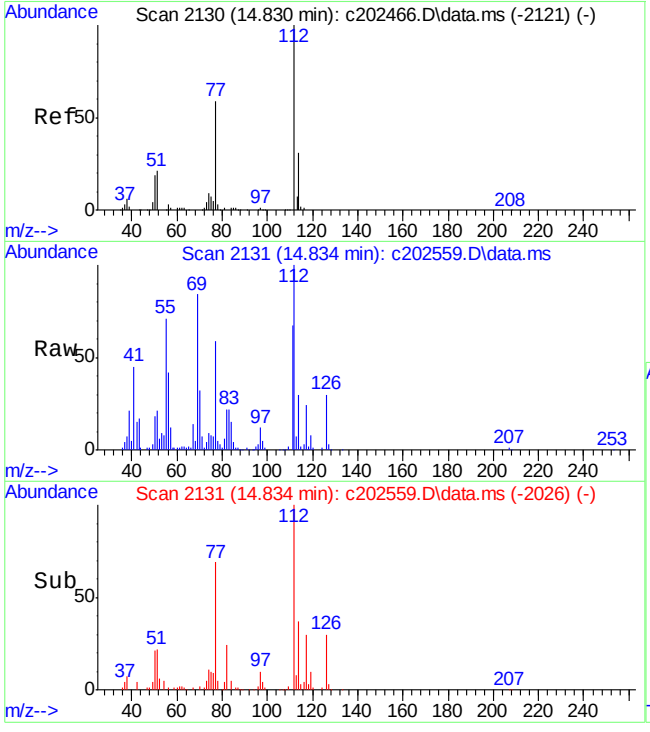


#82
toluene
Concen: 39.21 ug/L
RT: 13.454 min Scan# 1867
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion: 92 Resp: 359889

Ion	Ratio	Lower	Upper
92	100		
91	166.9	137.2	197.2
65	18.4	0.0	49.7

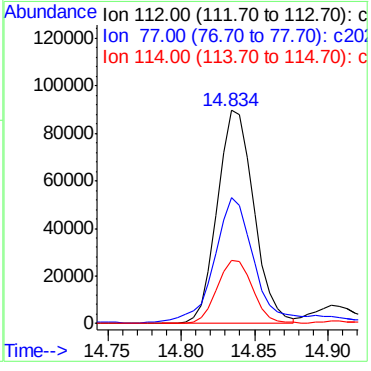


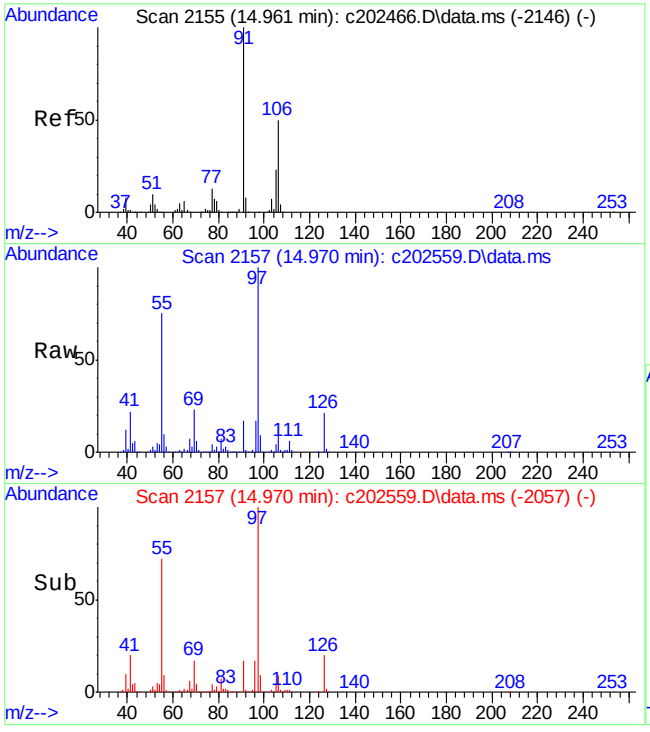


#97
chlorobenzene
Concen: 16.88 ug/L
RT: 14.834 min Scan# 2131
Delta R.T. -0.001 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:112 Resp: 154758

Ion	Ratio	Lower	Upper
112	100		
77	57.9	29.9	89.9
114	29.6	2.1	62.1

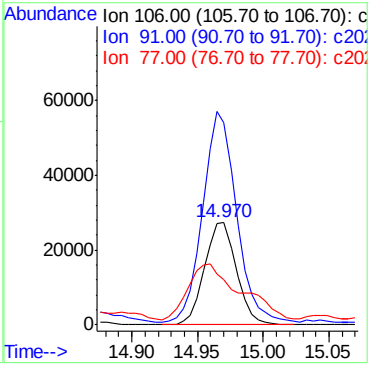


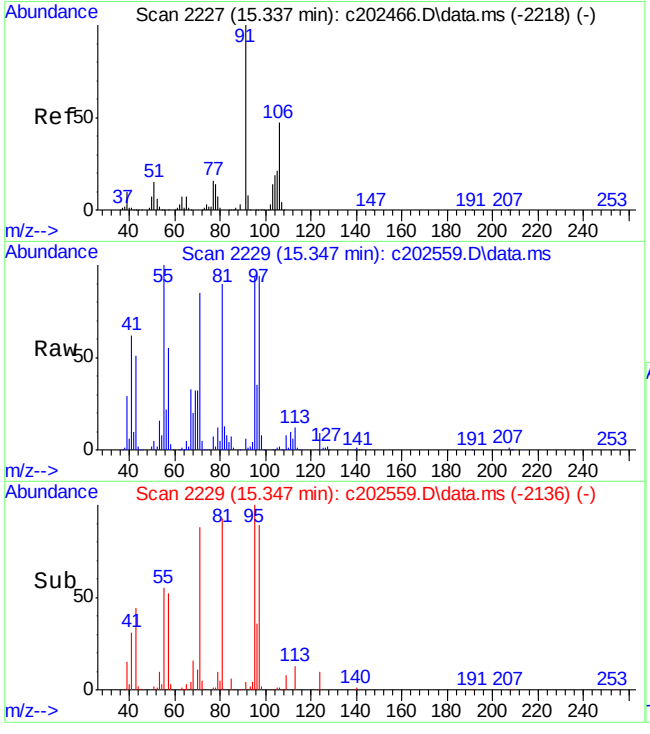


#100
m,p-xylene
Concen: 6.97 ug/L
RT: 14.970 min Scan# 2157
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:106 Resp: 45964

Ion	Ratio	Lower	Upper
106	100		
91	195.5	169.4	229.4
77	38.6	0.0	56.6

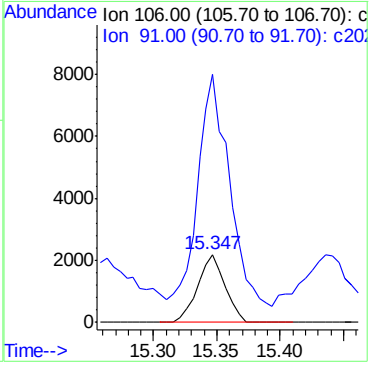




#101
o-xylene
Concen: 0.50 ug/L m
RT: 15.347 min Scan# 2229
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

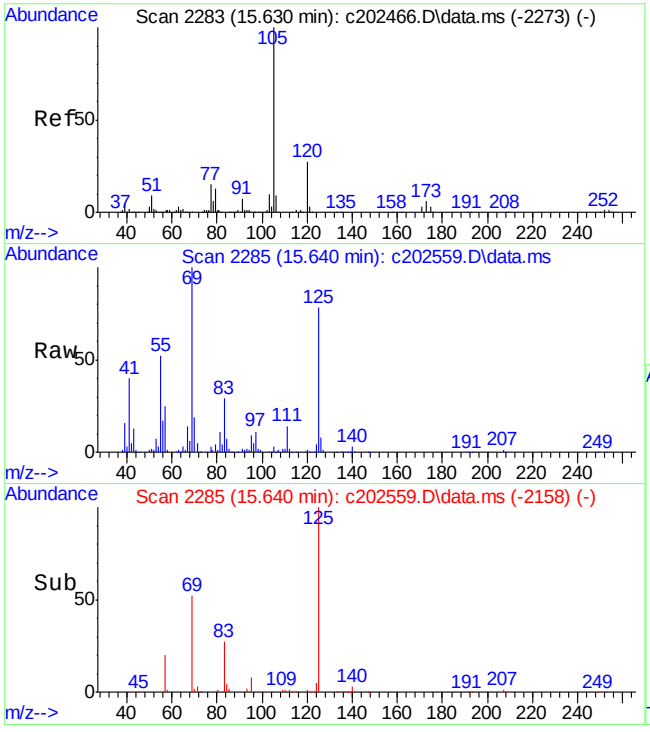
Tgt Ion:106 Resp: 3281

Ion	Ratio	Lower	Upper
106	100		
91	365.8	179.5	239.5#



7.1.39

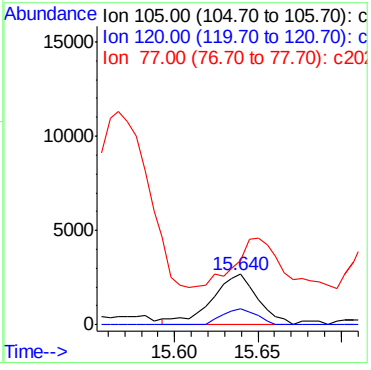
7

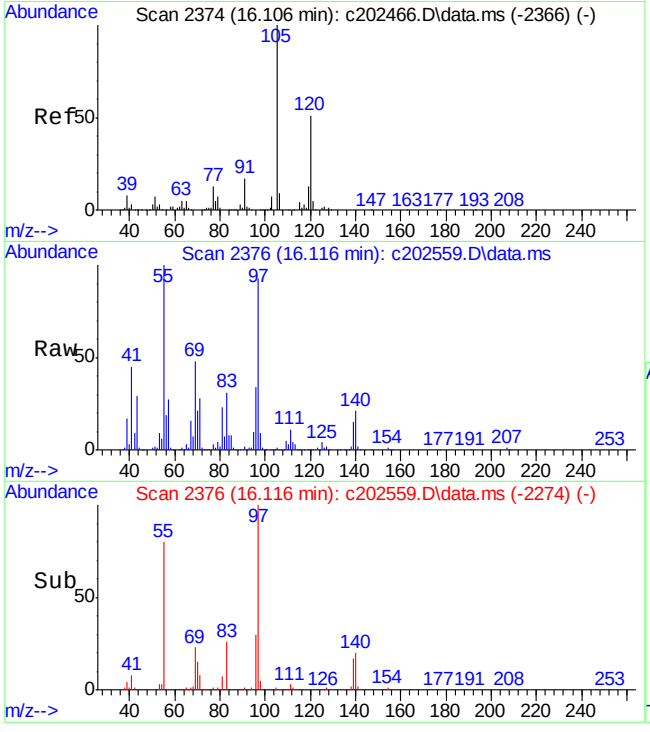


#105
isopropylbenzene
Concen: 0.29 ug/L
RT: 15.640 min Scan# 2285
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:105 Resp: 5126

Ion	Ratio	Lower	Upper
105	100		
120	31.5	0.0	56.8
77	38.2	0.0	45.2

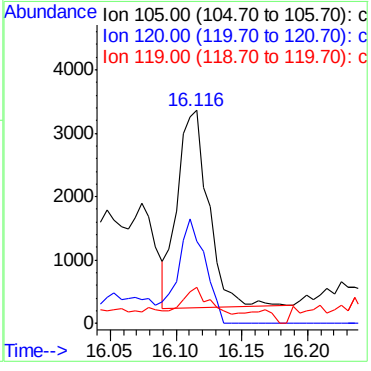


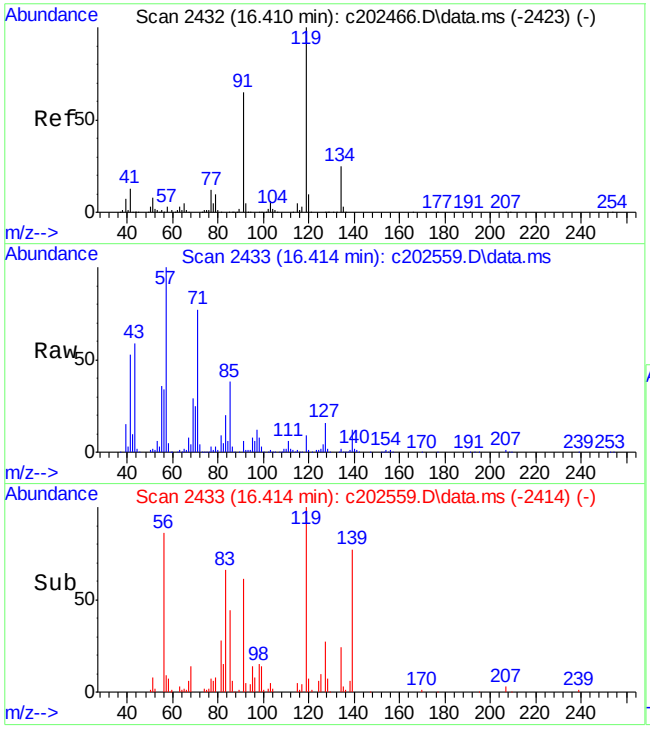


#115
1,3,5-trimethylbenzene
Concen: 0.33 ug/L
RT: 16.116 min Scan# 2376
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:105 Resp: 5151

Ion	Ratio	Lower	Upper
105	100		
120	42.1	19.9	79.9
119	12.1	0.0	42.7

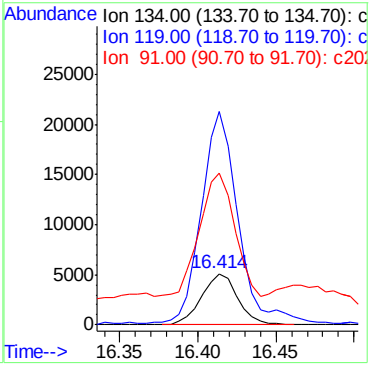


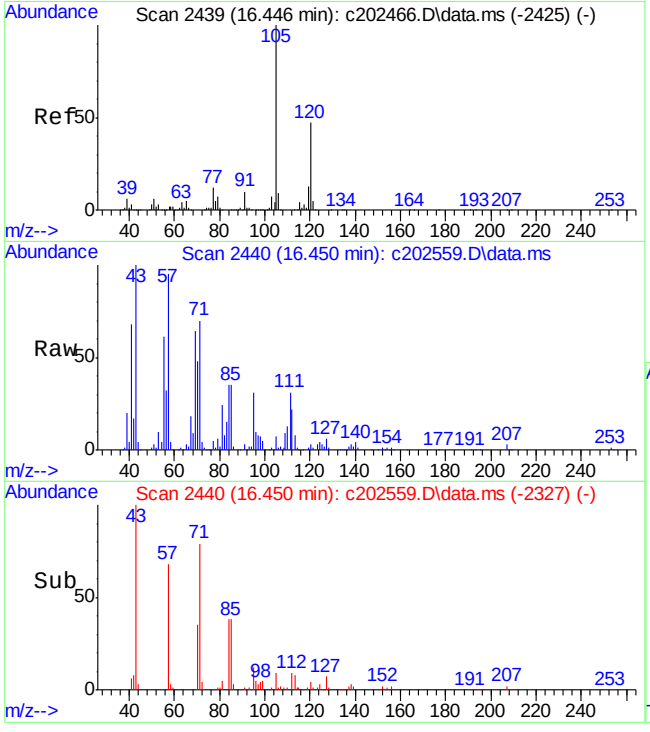


#116
tert-butylbenzene
Concen: 2.48 ug/L
RT: 16.414 min Scan# 2433
Delta R.T. -0.001 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:134 Resp: 8171

Ion	Ratio	Lower	Upper
134	100		
119	413.0	364.5	424.5
91	239.9	228.1	288.1

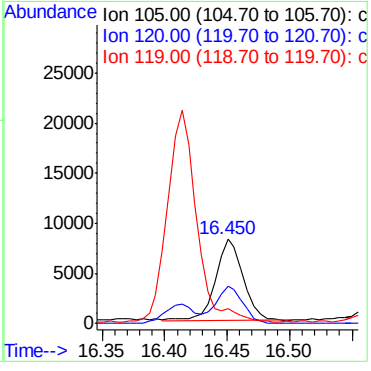


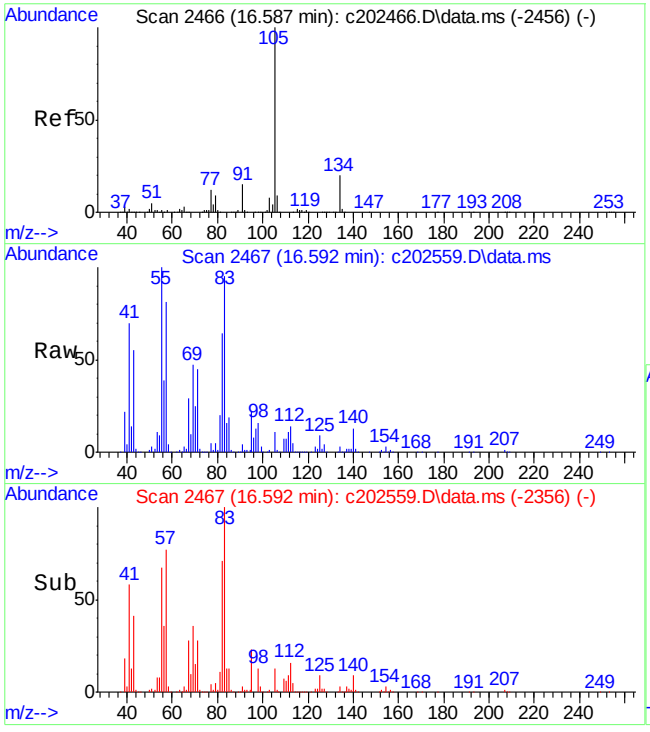


#118
1,2,4-trimethylbenzene
Concen: 0.79 ug/L
RT: 16.450 min Scan# 2440
Delta R.T. -0.001 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:105 Resp: 12505

Ion	Ratio	Lower	Upper
105	100		
120	45.3	16.4	76.4
119	16.6	0.0	42.5

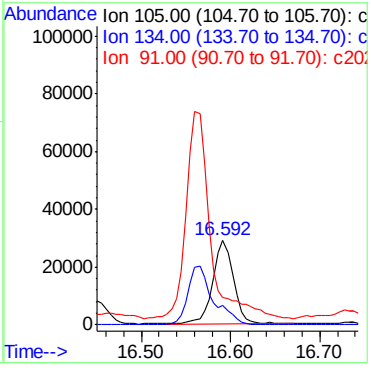


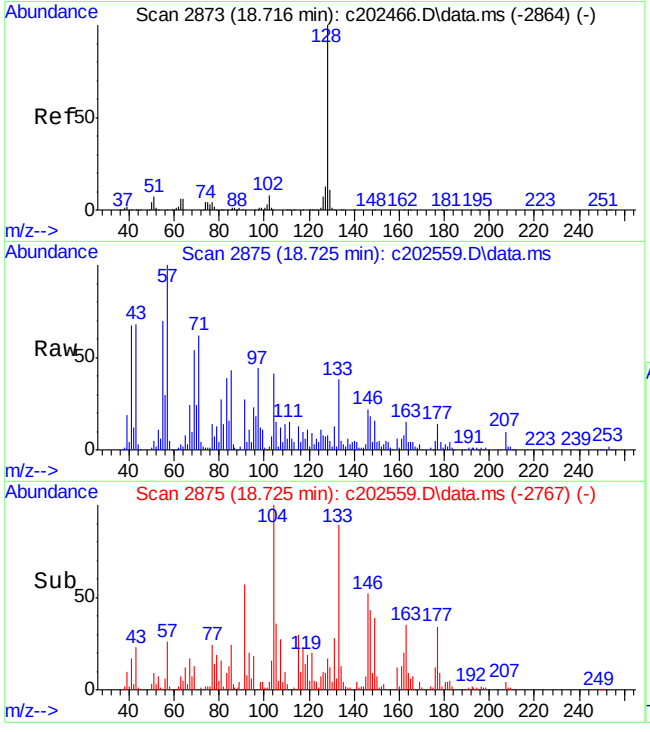


#119
sec-butylbenzene
Concen: 2.24 ug/L
RT: 16.592 min Scan# 2467
Delta R.T. -0.001 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:105 Resp: 46531

Ion	Ratio	Lower	Upper
105	100		
134	23.6	0.0	50.3
91	25.5	0.0	45.1

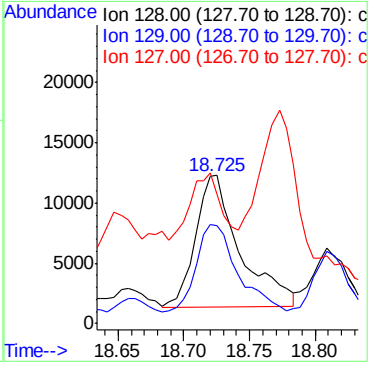




#132
naphthalene
Concen: 2.27 ug/L
RT: 18.725 min Scan# 2875
Delta R.T. 0.004 min
Lab File: c202559.D
Acq: 6 Aug 2015 5:49 pm

Tgt Ion:128 Resp: 25733

Ion	Ratio	Lower	Upper
128	100		
129	66.0	0.0	40.7#
127	27.7	0.0	43.0



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228010.D
Acq On : 4 Aug 2015 10:10 am
Operator : ThienN
Sample : jb99969-21
Misc : MS88818,VE9991,5.6,,100,10,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 04 13:44:57 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.948	65	139161	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	271721	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.044	114	355301	50.00	ug/L	0.00
84) chlorobenzene-d5	14.375	117	314445	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.943	152	197925	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.202	113	117705	48.09	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.18%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	150335	49.91	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 99.82%			
76) toluene-d8 (s)	12.728	98	415864	49.45	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.90%			
103) 4-bromofluorobenzene (s)	15.652	95	172353	49.02	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 98.04%			

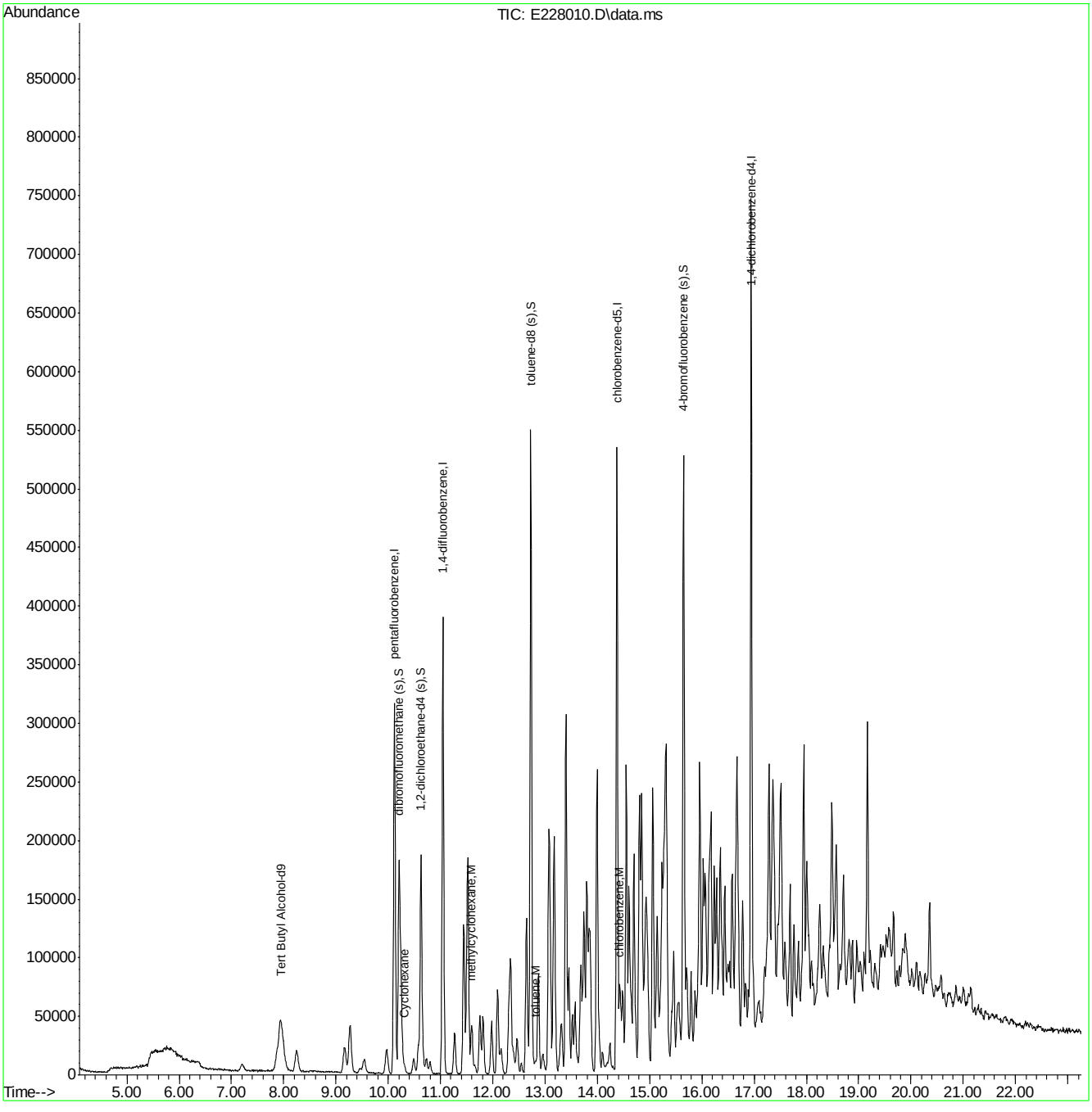
Target Compounds						Qvalue
52) Cyclohexane	10.301	84	3523	0.72	ug/L	74
70) methylcyclohexane	11.593	83	20053	4.49	ug/L	98
78) toluene	12.806	92	1737	0.27	ug/L #	73
93) chlorobenzene	14.412	112	7478	1.12	ug/L	89

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

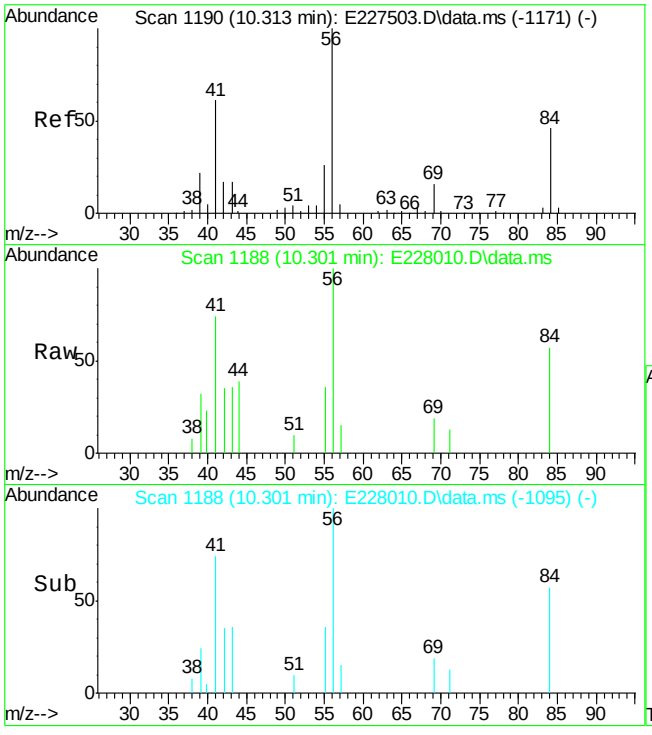
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228010.D
Acq On : 4 Aug 2015 10:10 am
Operator : ThienN
Sample : jb99969-21
Misc : MS88818,VE9991,5.6,,100,10,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 04 13:44:57 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



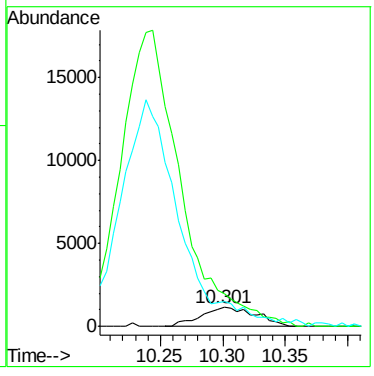
ME9972.M Tue Aug 04 13:45:03 2015 RPT1 Page: 2

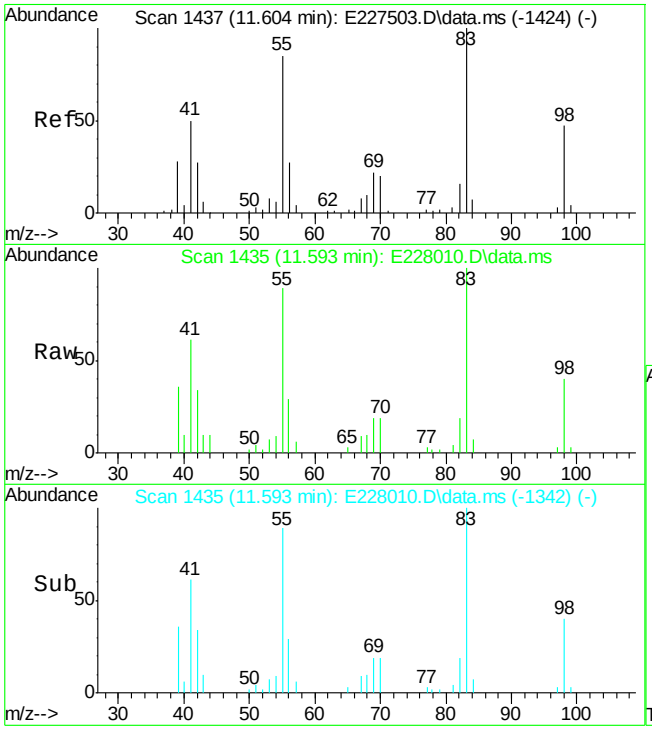


#52
Cyclohexane
Concen: 0.72 ug/L
RT: 10.301 min Scan# 1188
Delta R.T. -0.012 min
Lab File: E228010.D
Acq: 4 Aug 2015 10:10 am

Tgt Ion: 84 Resp: 3523

Ion	Ratio	Lower	Upper
84	100		
56	176.9	150.6	279.6
41	96.1	91.7	170.3

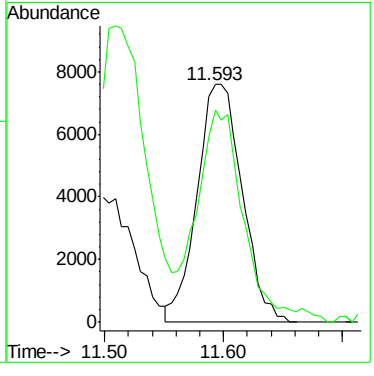


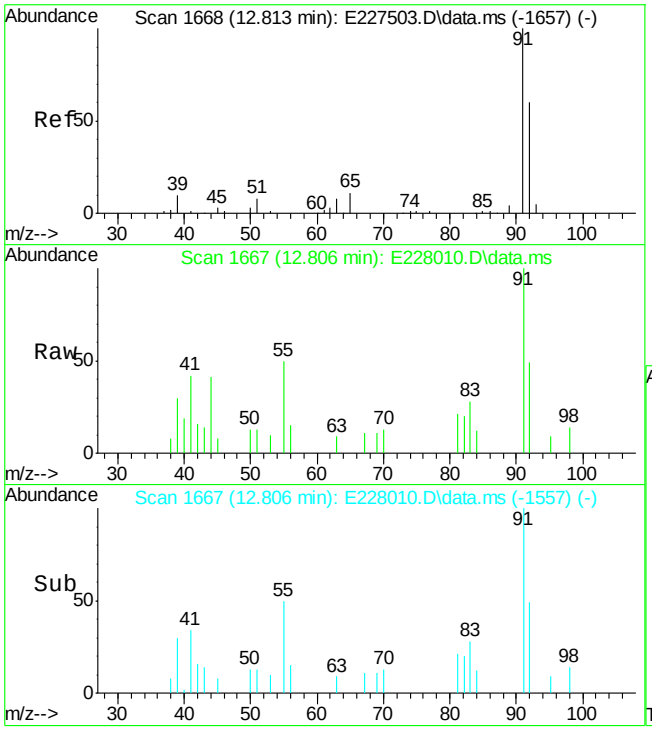


#70
methylcyclohexane
Concen: 4.49 ug/L
RT: 11.593 min Scan# 1435
Delta R.T. -0.012 min
Lab File: E228010.D
Acq: 4 Aug 2015 10:10 am

Tgt Ion: 83 Resp: 20053

Ion	Ratio	Lower	Upper
83	100		
55	84.6	57.7	107.1

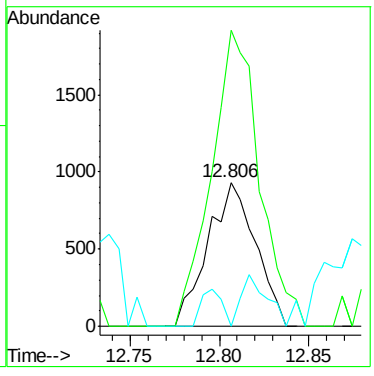


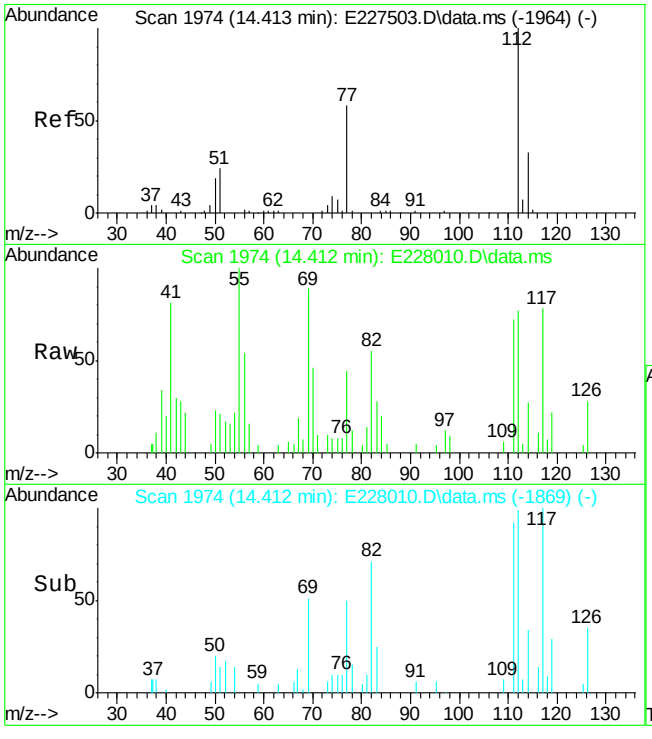


#78
toluene
Concen: 0.27 ug/L
RT: 12.806 min Scan# 1667
Delta R.T. -0.006 min
Lab File: E228010.D
Acq: 4 Aug 2015 10:10 am

Tgt Ion: 92 Resp: 1737

Ion	Ratio	Lower	Upper
92	100		
91	206.0	141.7	201.7#
65	0.0	0.0	50.9

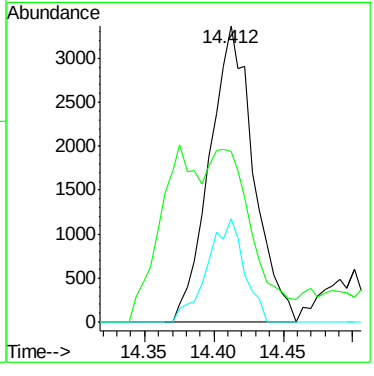




#93
chlorobenzene
Concen: 1.12 ug/L
RT: 14.412 min Scan# 1974
Delta R.T. -0.001 min
Lab File: E228010.D
Acq: 4 Aug 2015 10:10 am

Tgt Ion:112 Resp: 7478

Ion	Ratio	Lower	Upper
112	100		
77	50.1	30.2	90.2
114	35.0	1.5	61.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228080.D
Acq On : 6 Aug 2015 5:29 pm
Operator : ThienN
Sample : jb99969-22
Misc : MS88818,VE9993,6.7,,100,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 07 07:57:01 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Aug 06 13:02:38 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.928	65	137925	500.00	ug/L	-0.05
4) pentafluorobenzene	10.119	168	328497	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	437861	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	380599	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	225284	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	138671	46.87	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 93.74%			
48) 1,2-dichloroethane-d4 (s)	10.632	65	178766	49.09	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.18%			
76) toluene-d8 (s)	12.729	98	504490	48.68	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.36%			
103) 4-bromofluorobenzene (s)	15.647	95	207897	51.95	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 103.90%			

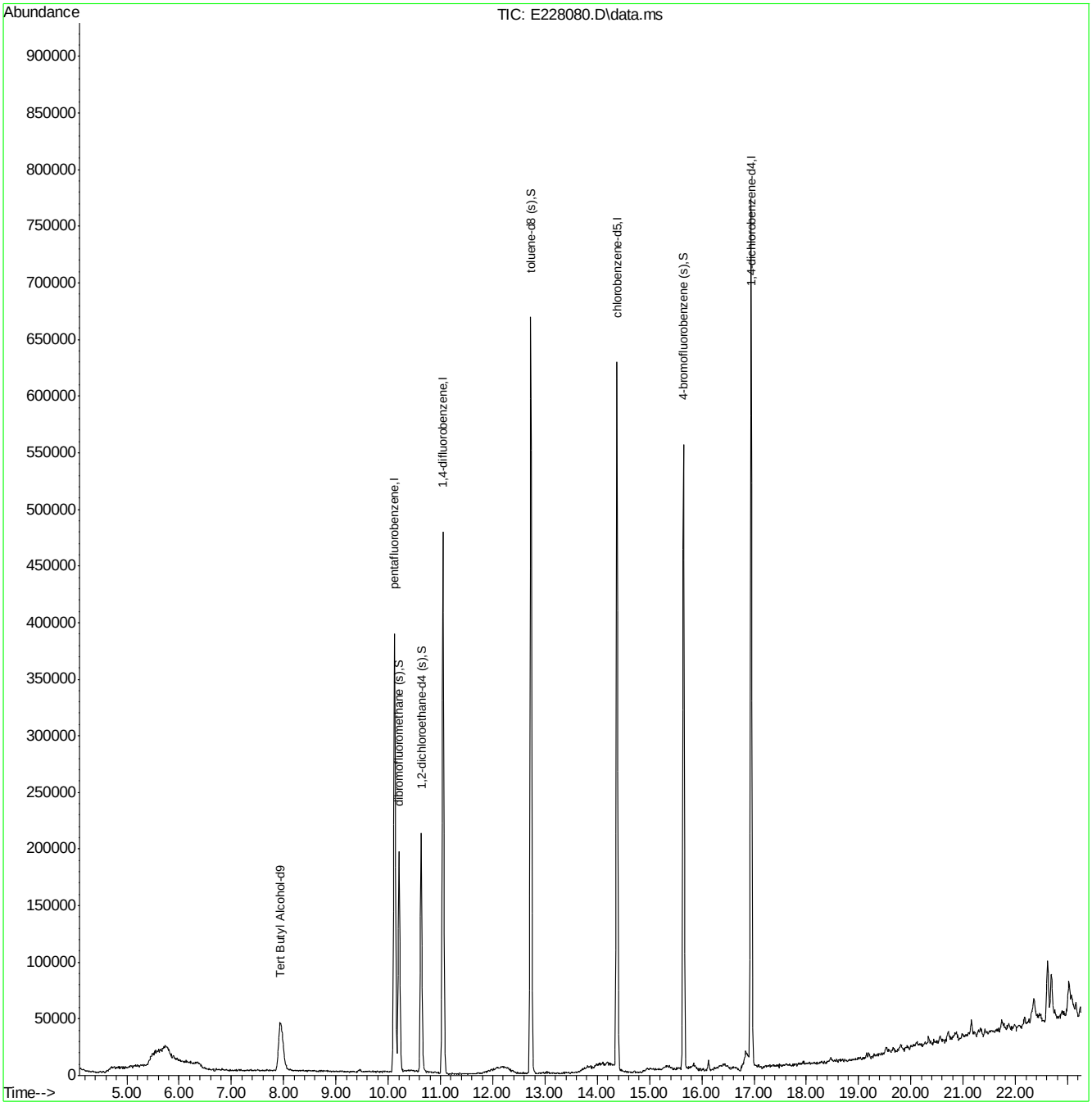
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228080.D
Acq On : 6 Aug 2015 5:29 pm
Operator : ThienN
Sample : jb99969-22
Misc : MS88818,VE9993,6.7,,100,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 07 07:57:01 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Aug 06 13:02:38 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228011.D
Acq On : 4 Aug 2015 10:40 am
Operator : ThienN
Sample : jb99969-23
Misc : MS88818,VE9991,5.7,,100,10,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 04 13:47:06 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.948	65	142585	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	296913	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.049	114	398591	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	360931	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	213976	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	128983	48.23	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.46%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	165840	50.38	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.76%			
76) toluene-d8 (s)	12.728	98	479319	50.81	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 101.62%			
103) 4-bromofluorobenzene (s)	15.652	95	192499	50.64	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.28%			

Target Compounds

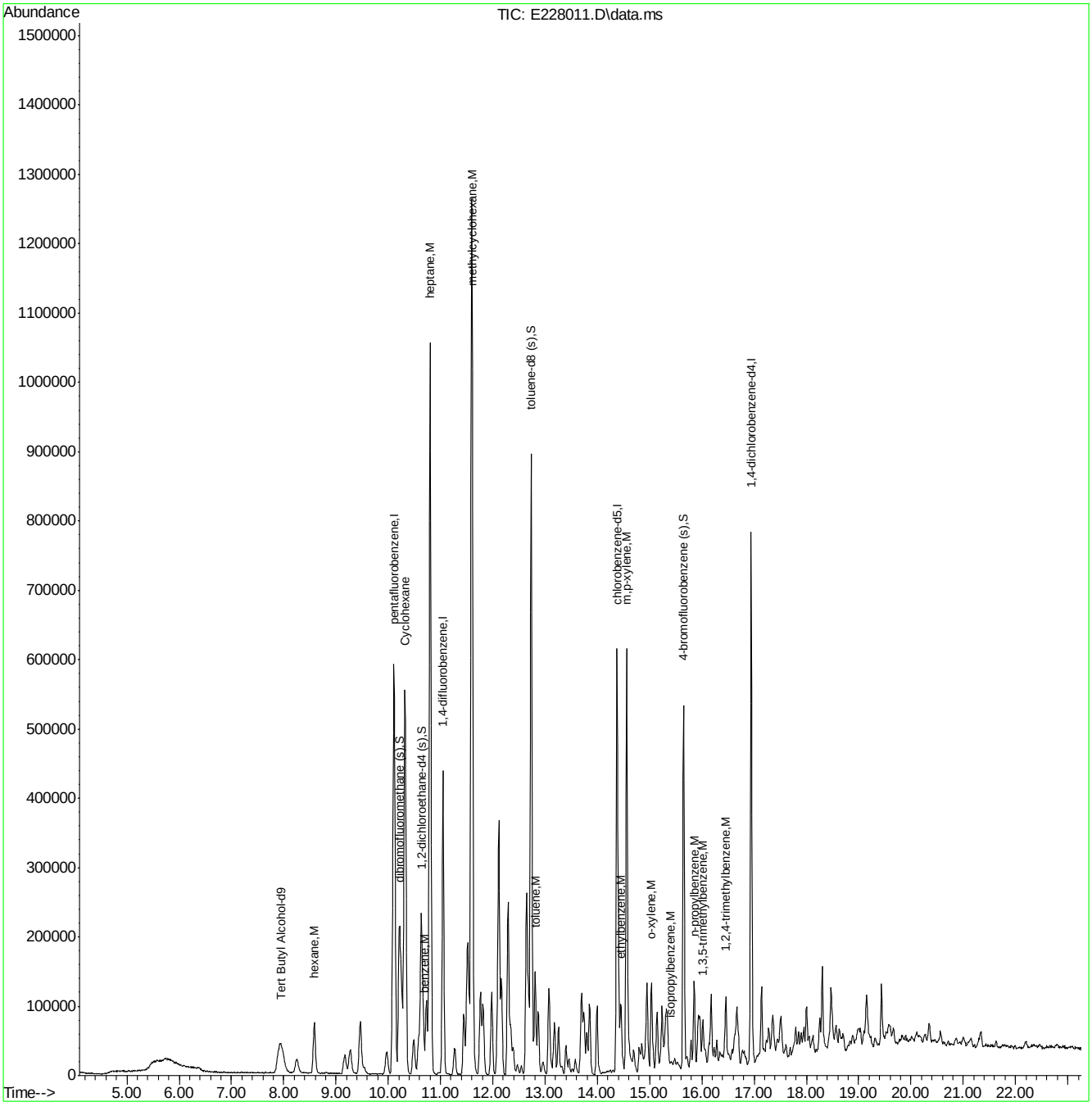
						Qvalue
52) Cyclohexane	10.312	84	64990	12.16	ug/L #	10
61) hexane	8.581	57	48087	17.47	ug/L	92
62) benzene	10.688	78	3172	0.26	ug/L	81
63) heptane	10.798	57	249643	149.94	ug/L	80
70) methylcyclohexane	11.598	83	617050	123.05	ug/L	93
78) toluene	12.807	92	65690	9.15	ug/L	94
95) ethylbenzene	14.449	91	49582	3.55	ug/L	98
96) m,p-xylene	14.564	106	182330	35.46	ug/L	100
97) o-xylene	15.029	106	37684	7.02	ug/L	92
102) isopropylbenzene	15.401	105	8739	0.63	ug/L	94
109) n-propylbenzene	15.856	91	18883	1.14	ug/L	96
113) 1,3,5-trimethylbenzene	16.018	105	18173	1.52	ug/L	99
116) 1,2,4-trimethylbenzene	16.457	105	58165	4.85	ug/L	96

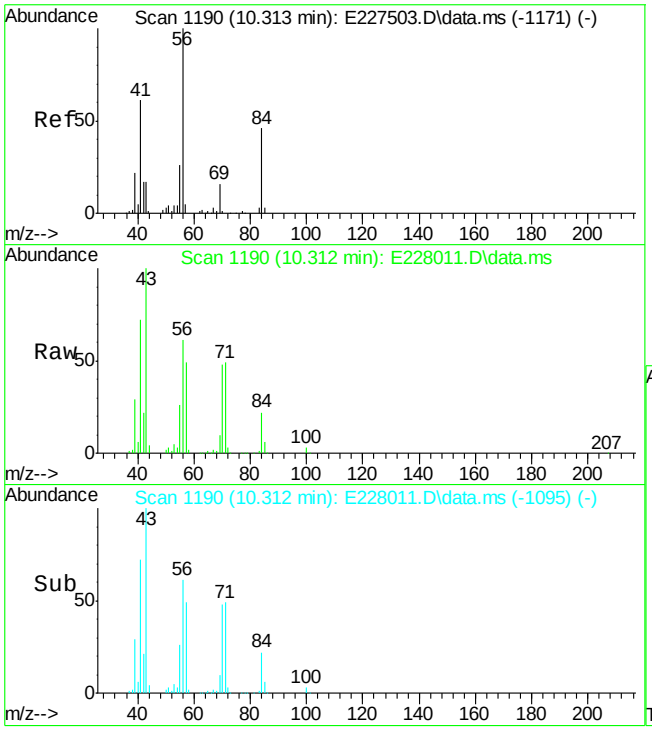
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228011.D
Acq On : 4 Aug 2015 10:40 am
Operator : ThienN
Sample : jb99969-23
Misc : MS88818,VE9991,5.7,,100,10,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 04 13:47:06 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

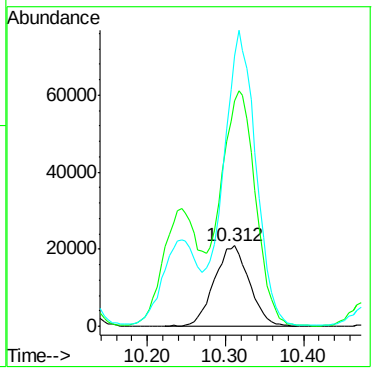


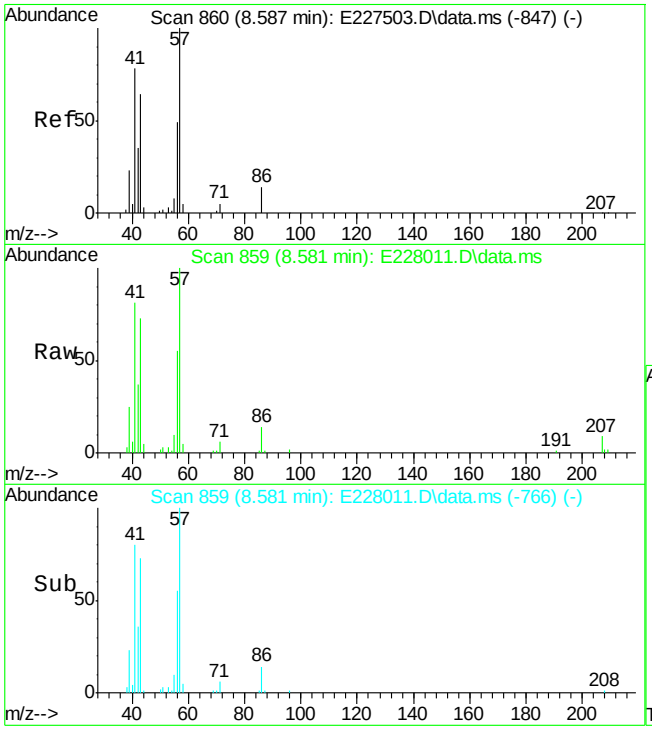


#52
Cyclohexane
Concen: 12.16 ug/L
RT: 10.312 min Scan# 1190
Delta R.T. -0.001 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 84 Resp: 64990

Ion	Ratio	Lower	Upper
84	100		
56	278.1	150.6	279.6
41	332.4	91.7	170.3#

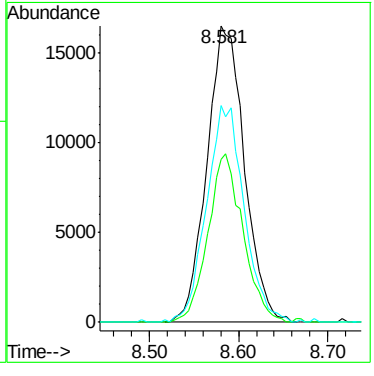


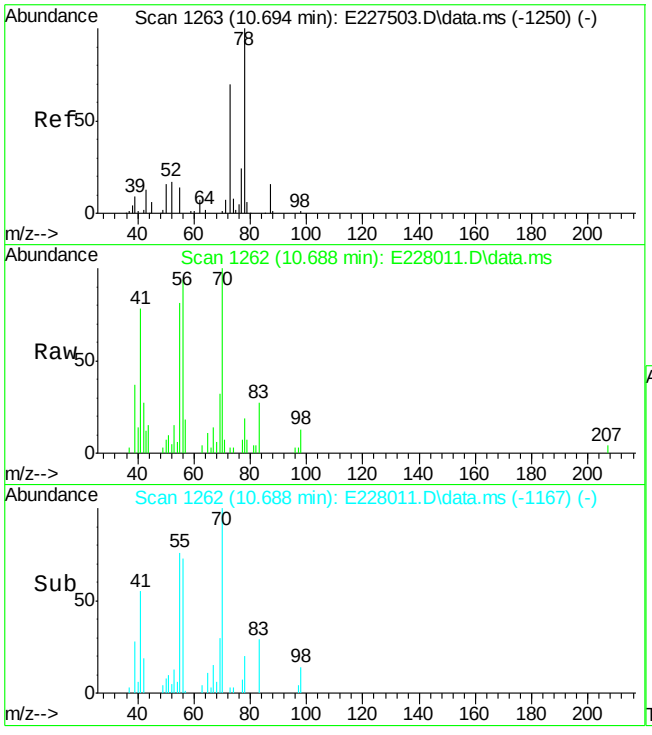


#61
hexane
Concen: 17.47 ug/L
RT: 8.581 min Scan# 859
Delta R.T. -0.011 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 57 Resp: 48087

Ion	Ratio	Lower	Upper
57	100		
56	55.0	22.1	82.1
43	72.9	34.8	94.8

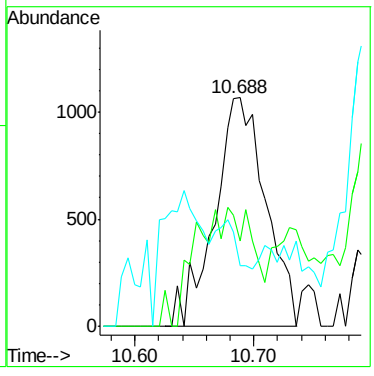


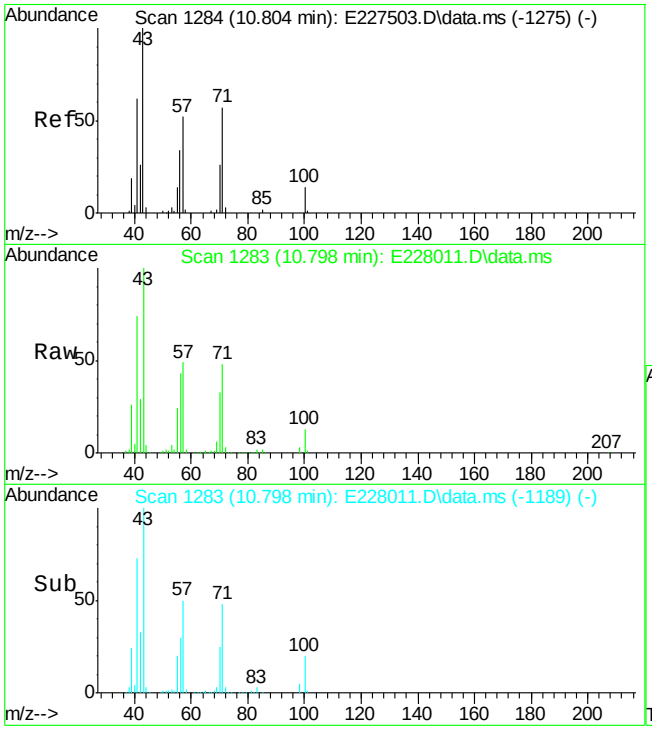


#62
benzene
Concen: 0.26 ug/L
RT: 10.688 min Scan# 1262
Delta R.T. -0.001 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 78 Resp: 3172

Ion	Ratio	Lower	Upper
78	100		
77	22.0	0.0	53.9
52	0.0	0.0	46.9

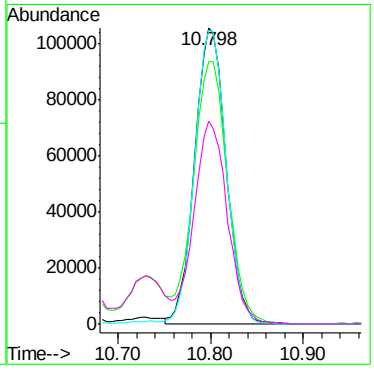


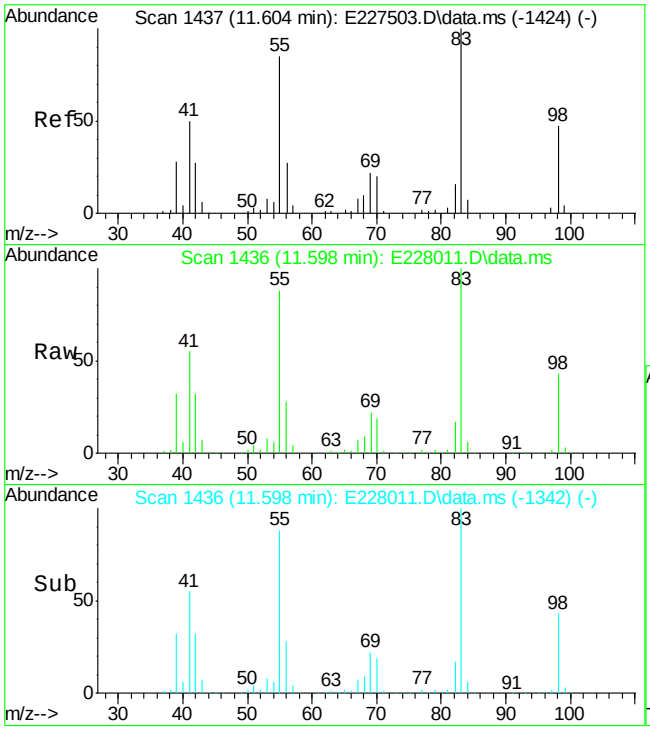


#63
heptane
Concen: 149.94 ug/L
RT: 10.798 min Scan# 1283
Delta R.T. -0.006 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 57 Resp: 249643

Ion	Ratio	Lower	Upper
57	100		
56	88.6	31.4	91.4
71	99.4	80.0	140.0
70	68.5	21.9	81.9

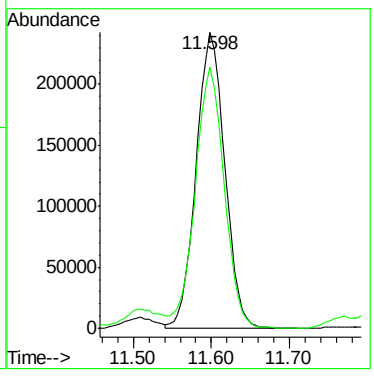


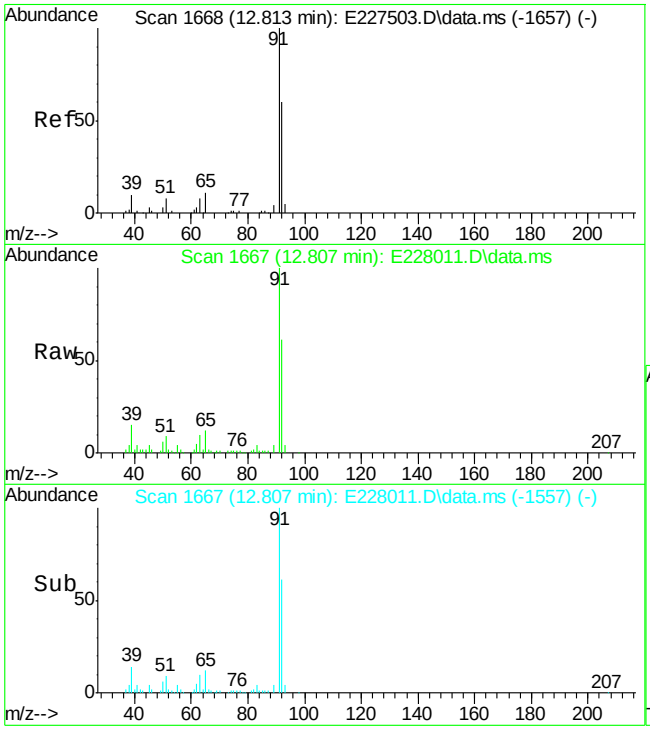


#70
methylcyclohexane
Concen: 123.05 ug/L
RT: 11.598 min Scan# 1436
Delta R.T. -0.006 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 83 Resp: 617050

Ion	Ratio	Lower	Upper
83	100		
55	88.4	57.7	107.1

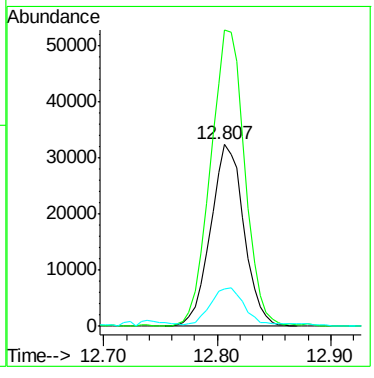


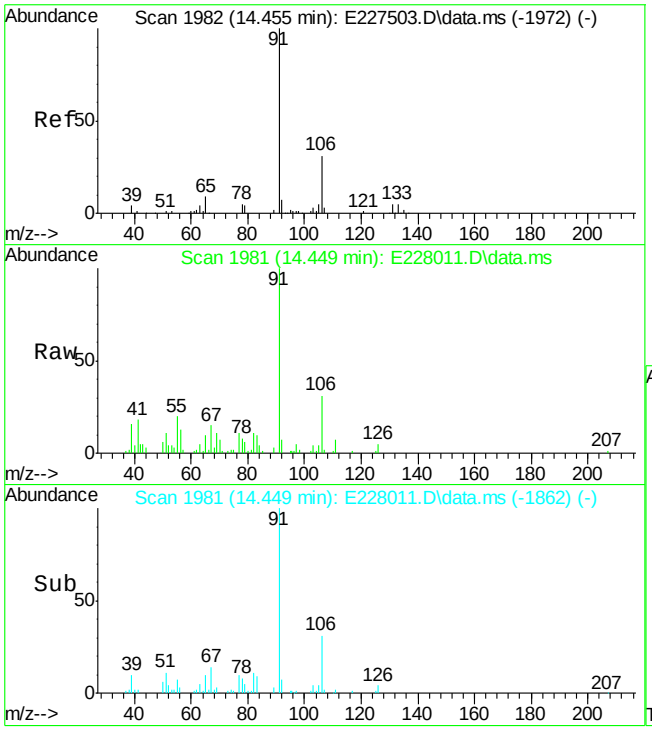


#78
toluene
Concen: 9.15 ug/L
RT: 12.807 min Scan# 1667
Delta R.T. -0.006 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 92 Resp: 65690

Ion	Ratio	Lower	Upper
92	100		
91	162.9	141.7	201.7
65	18.7	0.0	50.9

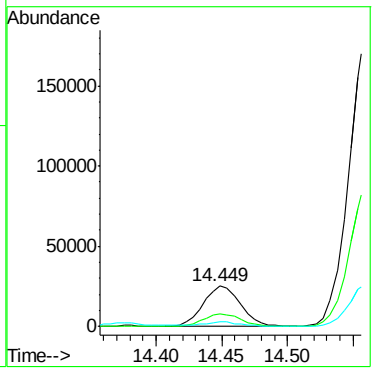


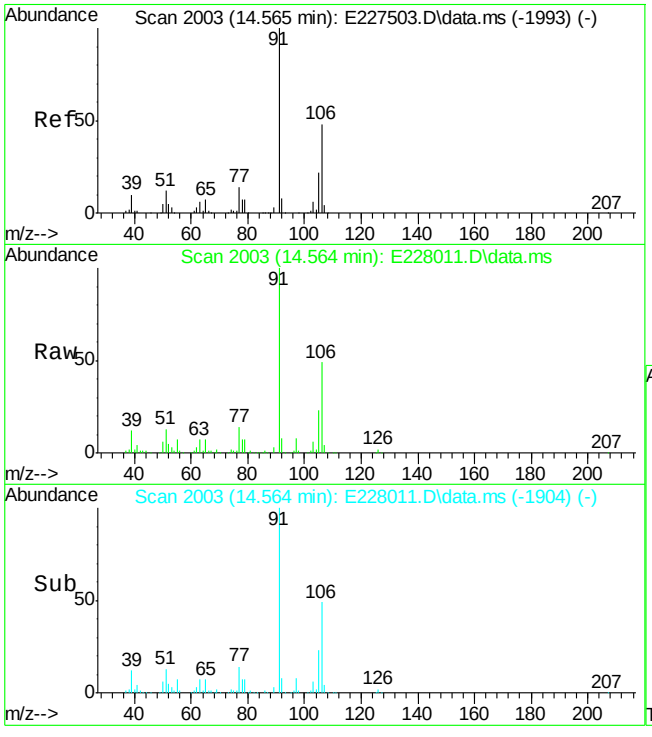


#95
ethylbenzene
Concen: 3.55 ug/L
RT: 14.449 min Scan# 1981
Delta R.T. -0.006 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 91 Resp: 49582

Ion	Ratio	Lower	Upper
91	100		
106	31.3	0.5	60.5
77	10.0	0.0	38.8

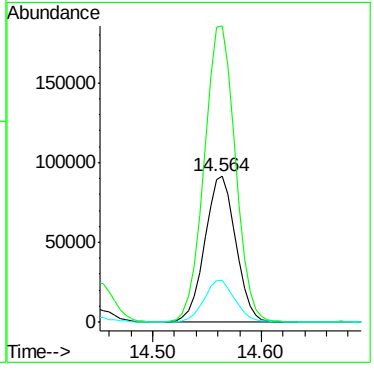


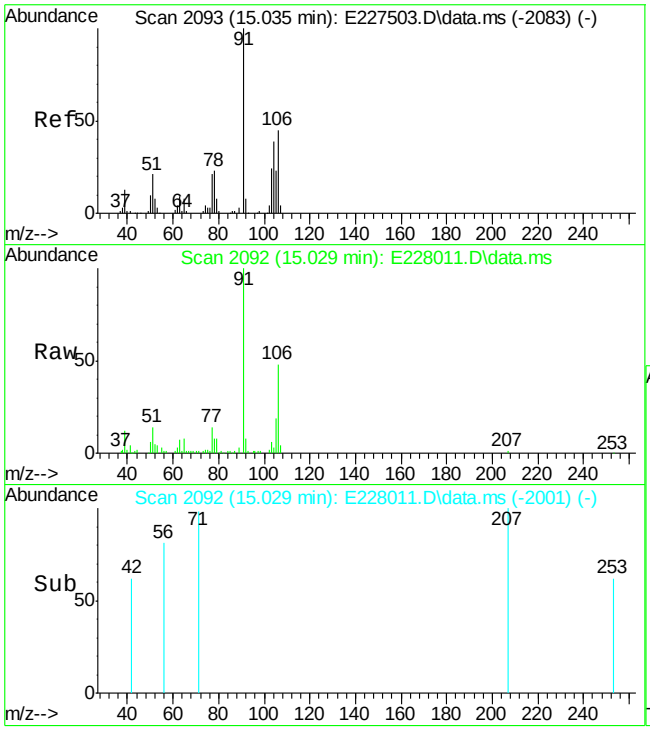


#96
m,p-xylene
Concen: 35.46 ug/L
RT: 14.564 min Scan# 2003
Delta R.T. -0.001 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion:106 Resp: 182330

Ion	Ratio	Lower	Upper
106	100		
91	202.8	173.3	233.3
77	28.2	0.0	57.8

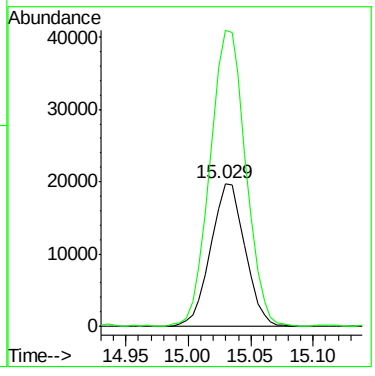


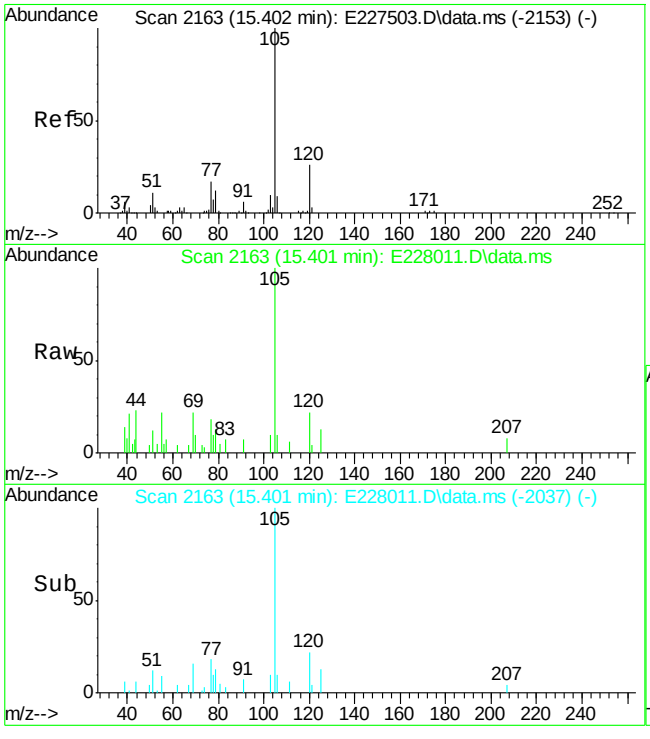


#97
o-xylene
Concen: 7.02 ug/L
RT: 15.029 min Scan# 2092
Delta R.T. -0.006 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion:106 Resp: 37684

Ion	Ratio	Lower	Upper
106	100		
91	207.0	189.9	249.9

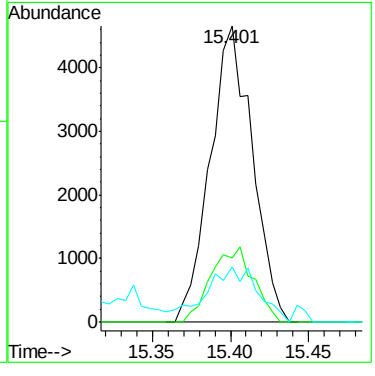


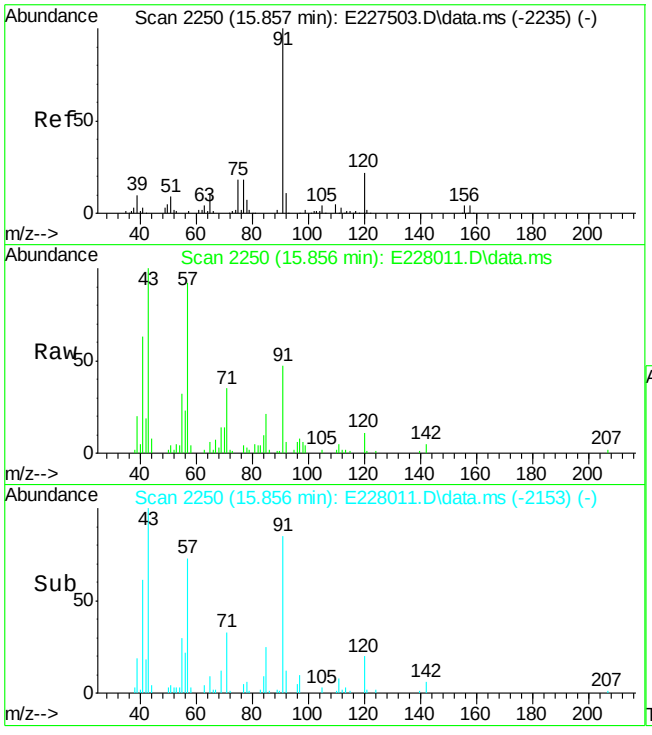


#102
isopropylbenzene
Concen: 0.63 ug/L
RT: 15.401 min Scan# 2163
Delta R.T. -0.001 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion:105 Resp: 8739

Ion	Ratio	Lower	Upper
105	100		
120	21.8	0.0	56.0
77	14.9	0.0	46.4

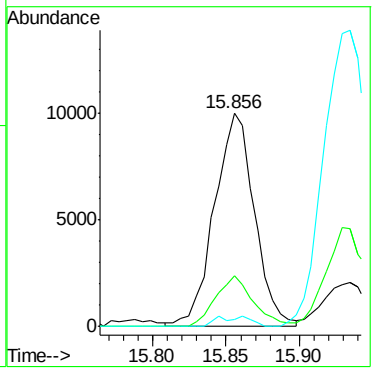


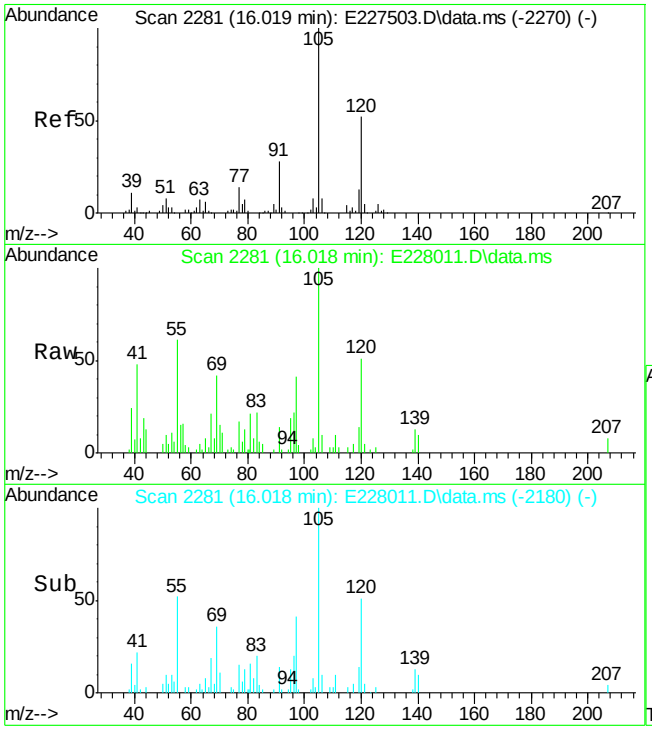


#109
n-propylbenzene
Concen: 1.14 ug/L
RT: 15.856 min Scan# 2250
Delta R.T. -0.001 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion: 91 Resp: 18883

Ion	Ratio	Lower	Upper
91	100		
120	24.3	0.0	52.1
105	3.5	0.0	33.8

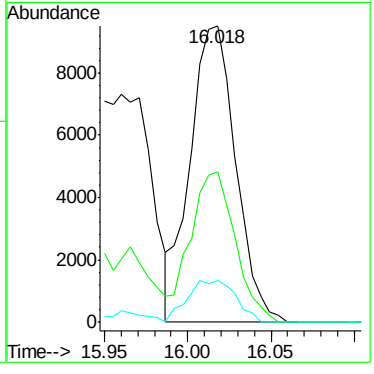


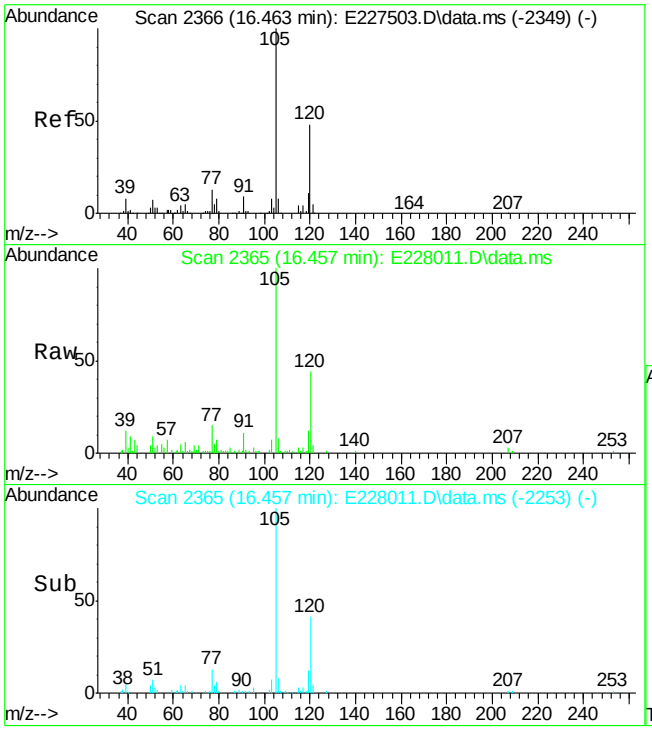


#113
1,3,5-trimethylbenzene
Concen: 1.52 ug/L
RT: 16.018 min Scan# 2281
Delta R.T. -0.001 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion:105 Resp: 18173

Ion	Ratio	Lower	Upper
105	100		
120	50.8	20.2	80.2
119	14.2	0.0	42.7

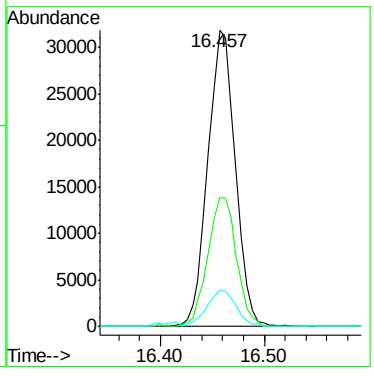




#116
1,2,4-trimethylbenzene
Concen: 4.85 ug/L
RT: 16.457 min Scan# 2365
Delta R.T. -0.006 min
Lab File: E228011.D
Acq: 4 Aug 2015 10:40 am

Tgt Ion:105 Resp: 58165

Ion	Ratio	Lower	Upper
105	100		
120	43.6	17.3	77.3
119	12.0	0.0	41.9



7.1.42

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202484.D
Acq On : 4 Aug 2015 6:49 pm
Operator : mihirm
Sample : jb99969-24
Misc : MS88818,VC7430,5.6,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 05 09:54:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.125	65	89565	500.00	ug/L	0.01
5) pentafluorobenzene	10.813	168	428629	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.770	114	557450	50.00	ug/L	0.00
88) chlorobenzene-d5	14.809	117	463008	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.828	152	241468	50.00	ug/L	0.00

System Monitoring Compounds						
50) dibromofluoromethane (s)	10.871	113	151618	46.50	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 93.00%			
51) 1,2-dichloroethane-d4 (s)	11.321	65	133796	46.84	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 93.68%			
80) toluene-d8 (s)	13.381	98	669768	48.83	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 97.66%			
106) 4-bromofluorobenzene (s)	15.839	174	180914	50.01	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.02%			

Target Compounds						Qvalue
23) acetone	7.335	58	3378	22.07	ug/L	98
43) cis-1,2-dichloroethene	10.222	96	3585	0.84	ug/L #	80
65) benzene	11.363	78	439073	31.20	ug/L	100
70) trichloroethene	12.095	95	4261	1.40	ug/L	86
73) methylcyclohexane	12.278	83	2553	0.44	ug/L	94
82) toluene	13.455	92	14035	1.72	ug/L	98
97) chlorobenzene	14.835	112	75402	9.43	ug/L	97

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

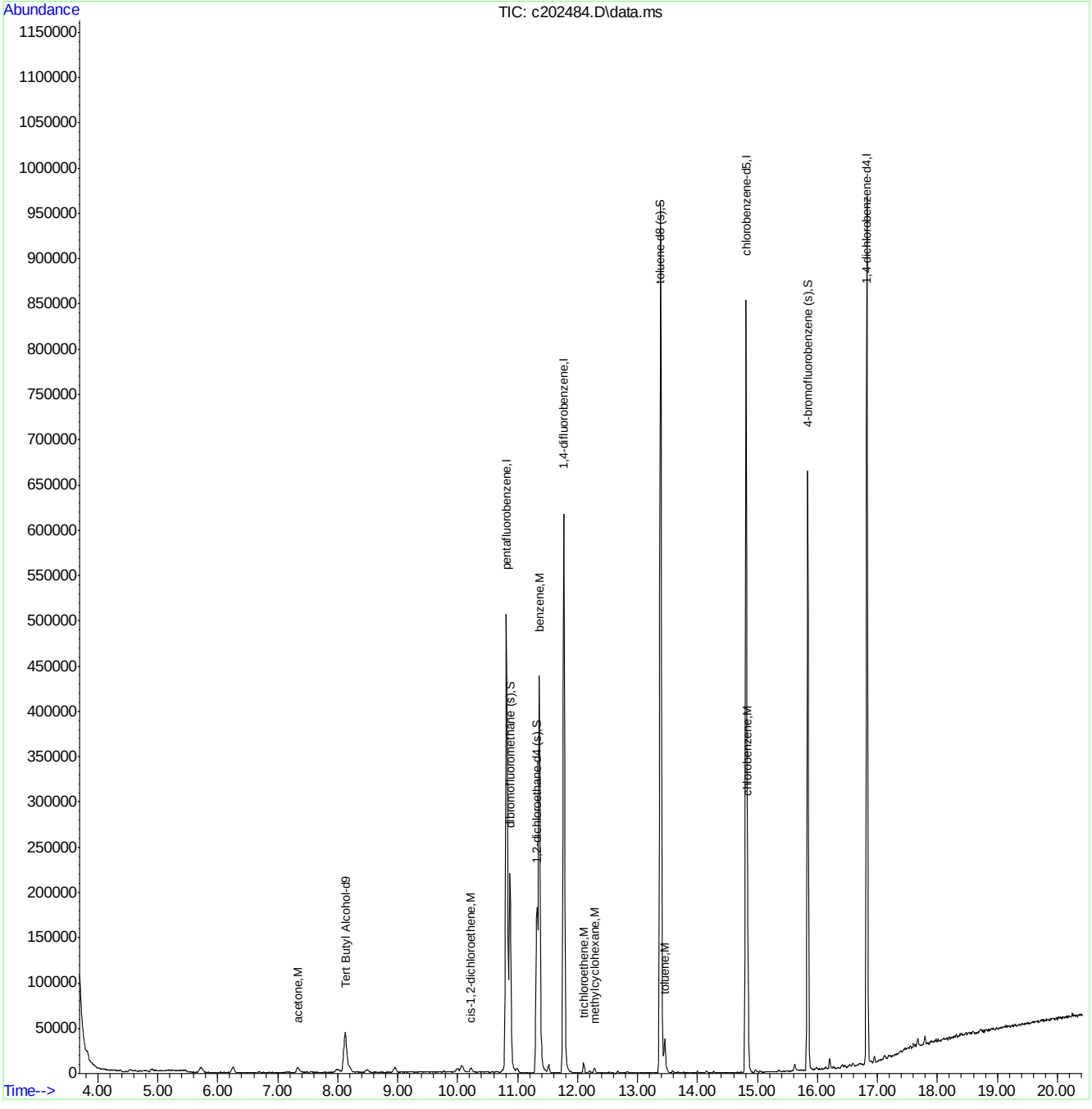
7.1.43

7

Quantitation Report (QT Reviewed)

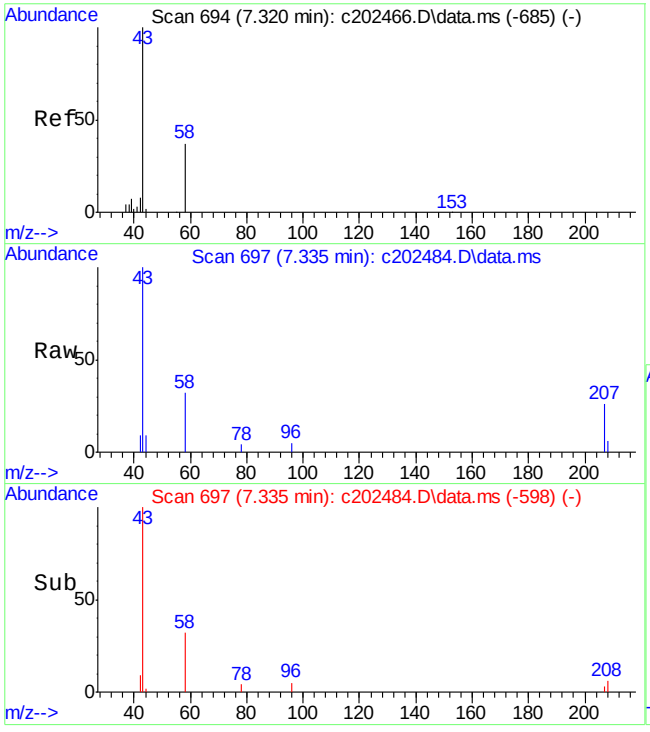
Data Path : C:\msdchem\1\DATA\
Data File : c202484.D
Acq On : 4 Aug 2015 6:49 pm
Operator : mihirm
Sample : jb99969-24
Misc : MS88818,VC7430,5.6,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 05 09:54:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration



MC7426.M Wed Aug 05 09:57:25 2015 C

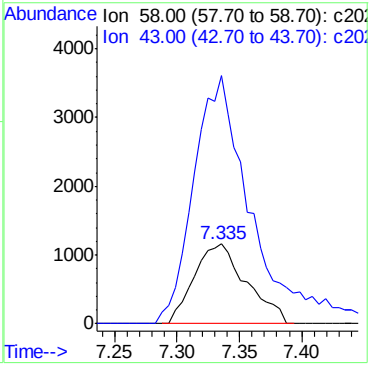
Page: 2

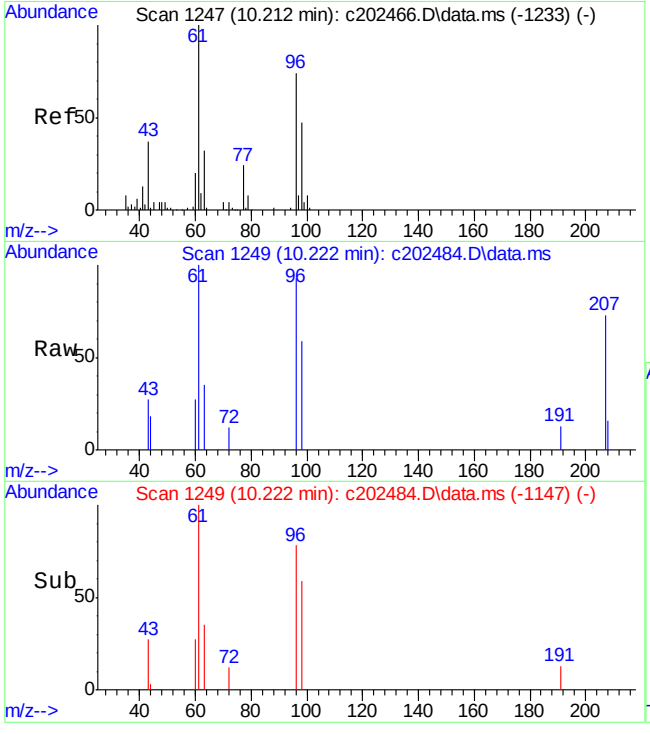


#23
acetone
Concen: 22.07 ug/L
RT: 7.335 min Scan# 697
Delta R.T. 0.016 min
Lab File: c202484.D
Acq: 4 Aug 2015 6:49 pm

Tgt Ion: 58 Resp: 3378

Ion	Ratio	Lower	Upper
58	100		
43	345.1	311.3	371.3

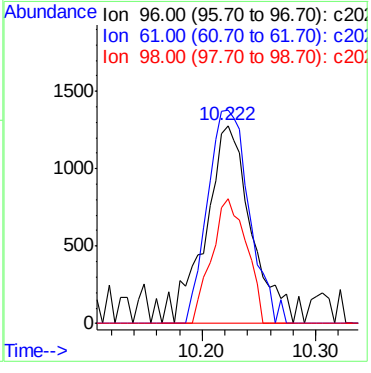


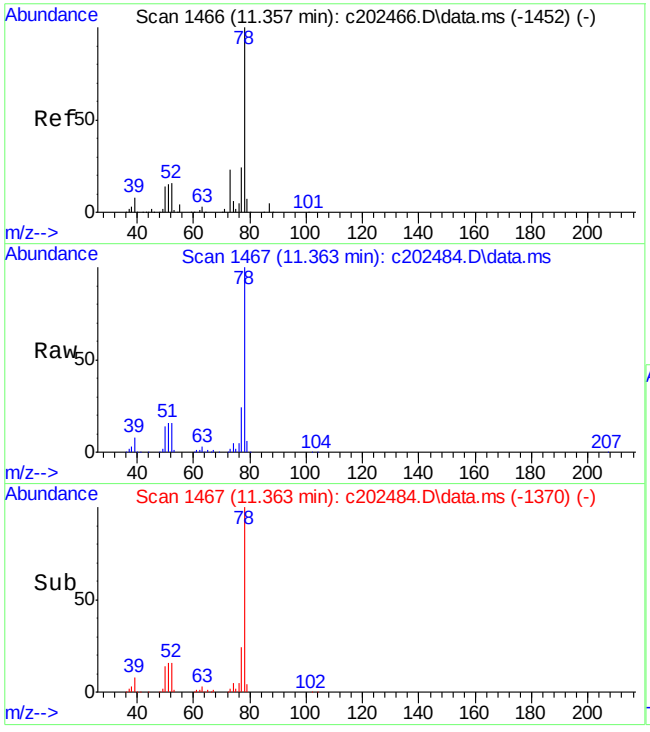


#43
cis-1,2-dichloroethene
Concen: 0.84 ug/L
RT: 10.222 min Scan# 1249
Delta R.T. 0.005 min
Lab File: c202484.D
Acq: 4 Aug 2015 6:49 pm

Tgt Ion: 96 Resp: 3585

Ion	Ratio	Lower	Upper
96	100		
61	107.8	112.0	172.0#
98	63.1	35.8	95.8

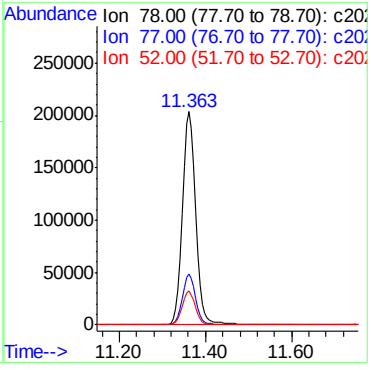


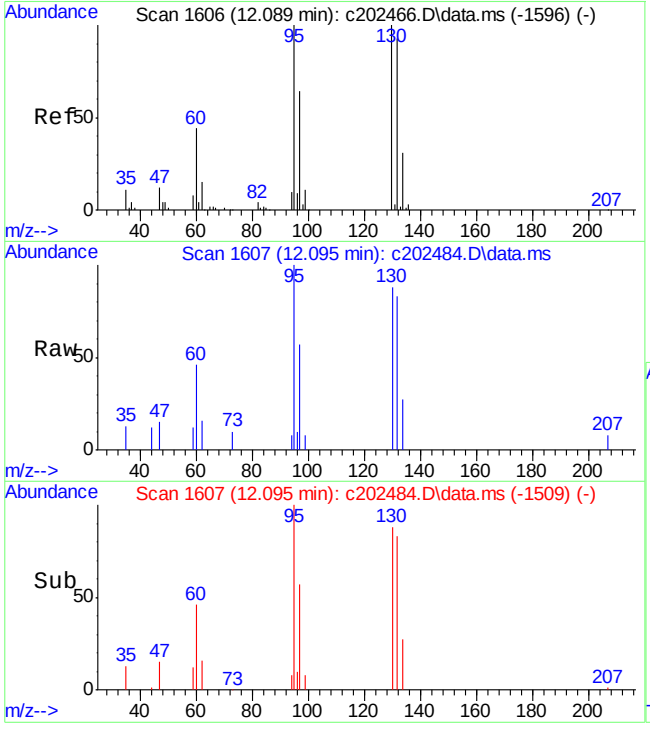


#65
benzene
Concen: 31.20 ug/L
RT: 11.363 min Scan# 1467
Delta R.T. 0.005 min
Lab File: c202484.D
Acq: 4 Aug 2015 6:49 pm

Tgt Ion: 78 Resp: 439073

Ion	Ratio	Lower	Upper
78	100		
77	23.7	0.0	53.7
52	16.1	0.0	46.1

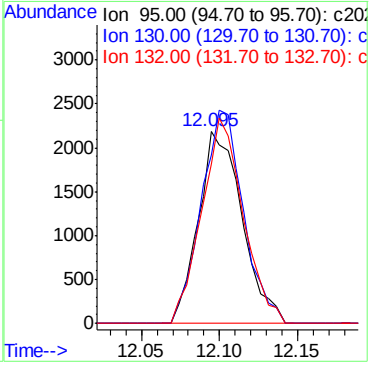




#70
trichloroethene
Concen: 1.40 ug/L
RT: 12.095 min Scan# 1607
Delta R.T. -0.005 min
Lab File: c202484.D
Acq: 4 Aug 2015 6:49 pm

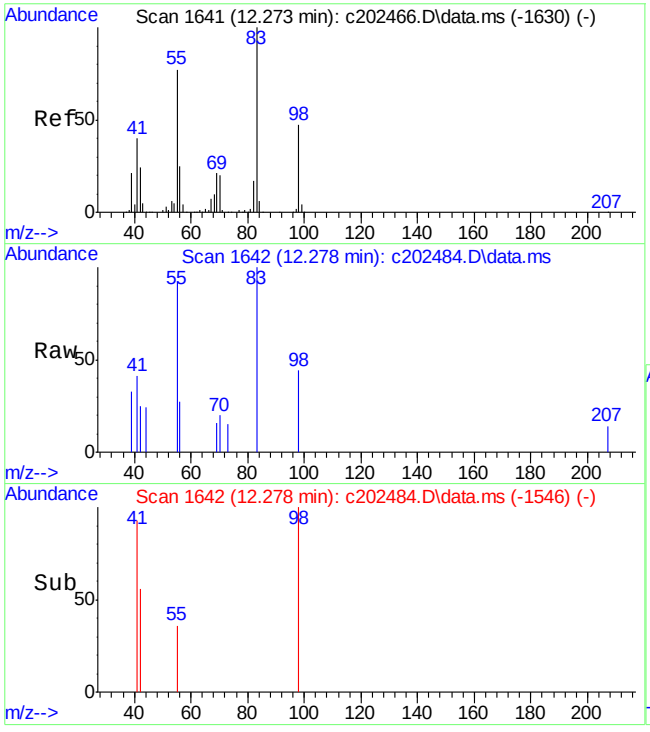
Tgt Ion: 95 Resp: 4261

Ion	Ratio	Lower	Upper
95	100		
130	87.6	71.7	131.7
132	83.1	67.5	127.5



7.1.43

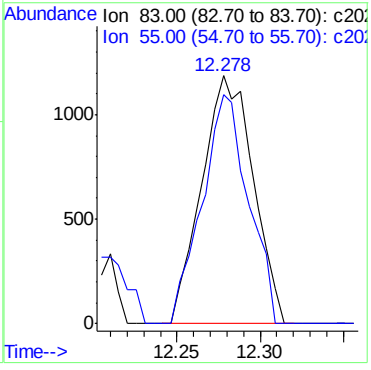
7

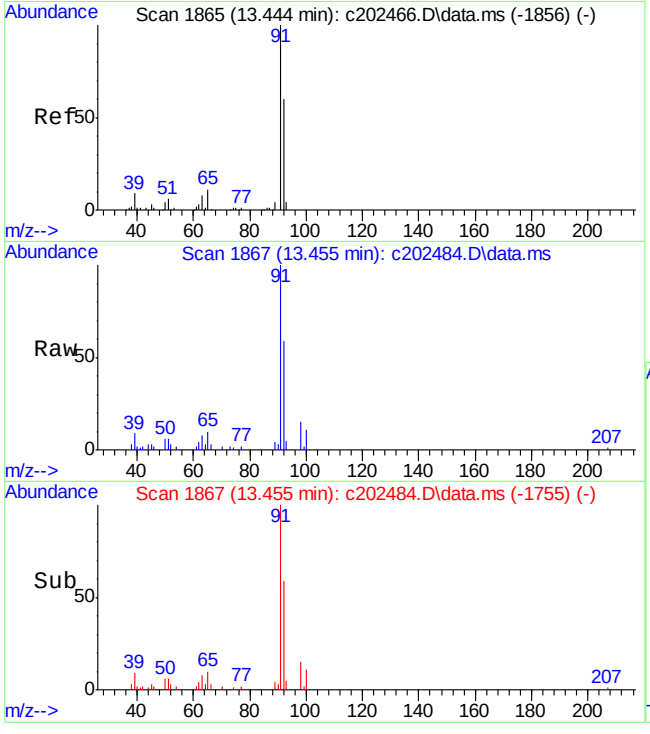


#73
methylcyclohexane
Concen: 0.44 ug/L
RT: 12.278 min Scan# 1642
Delta R.T. -0.000 min
Lab File: c202484.D
Acq: 4 Aug 2015 6:49 pm

Tgt Ion: 83 Resp: 2553

Ion	Ratio	Lower	Upper
83	100		
55	83.4	54.6	101.4

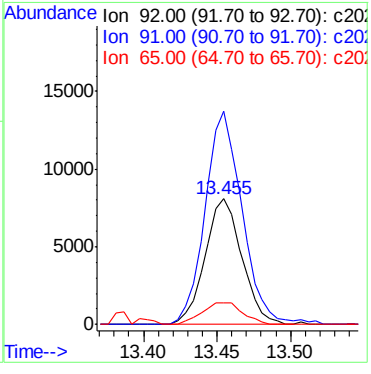


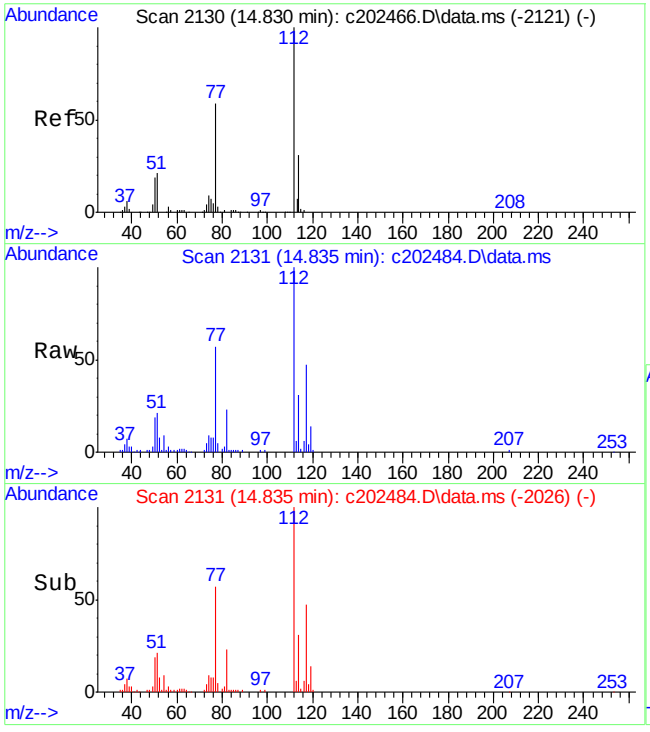


#82
toluene
Concen: 1.72 ug/L
RT: 13.455 min Scan# 1867
Delta R.T. 0.005 min
Lab File: c202484.D
Acq: 4 Aug 2015 6:49 pm

Tgt Ion: 92 Resp: 14035

Ion	Ratio	Lower	Upper
92	100		
91	170.0	137.2	197.2
65	17.6	0.0	49.7

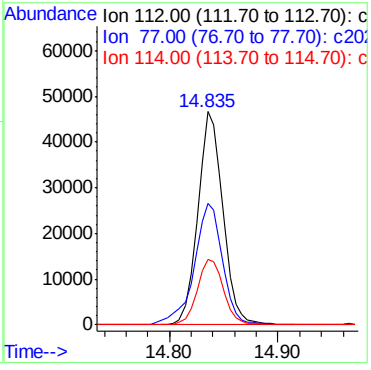




#97
chlorobenzene
Concen: 9.43 ug/L
RT: 14.835 min Scan# 2131
Delta R.T. -0.000 min
Lab File: c202484.D
Acq: 4 Aug 2015 6:49 pm

Tgt Ion:112 Resp: 75402

Ion	Ratio	Lower	Upper
112	100		
77	57.1	29.9	89.9
114	30.5	2.1	62.1



7.1.43

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228081.D
Acq On : 6 Aug 2015 5:59 pm
Operator : ThienN
Sample : jb99969-25
Misc : MS88818,VE9993,5.9,,100,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 07 07:58:05 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Aug 06 13:02:38 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.948	65	135530	500.00	ug/L	-0.03
4) pentafluorobenzene	10.119	168	321132	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.044	114	429013	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	378721	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	221641	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	139067	48.08	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.16%			
48) 1,2-dichloroethane-d4 (s)	10.626	65	174774	49.09	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.18%			
76) toluene-d8 (s)	12.729	98	493312	48.58	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.16%			
103) 4-bromofluorobenzene (s)	15.647	95	203610	51.72	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 103.44%			

Target Compounds						Qvalue
62) benzene	10.684	78	4616	0.36	ug/L	97

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

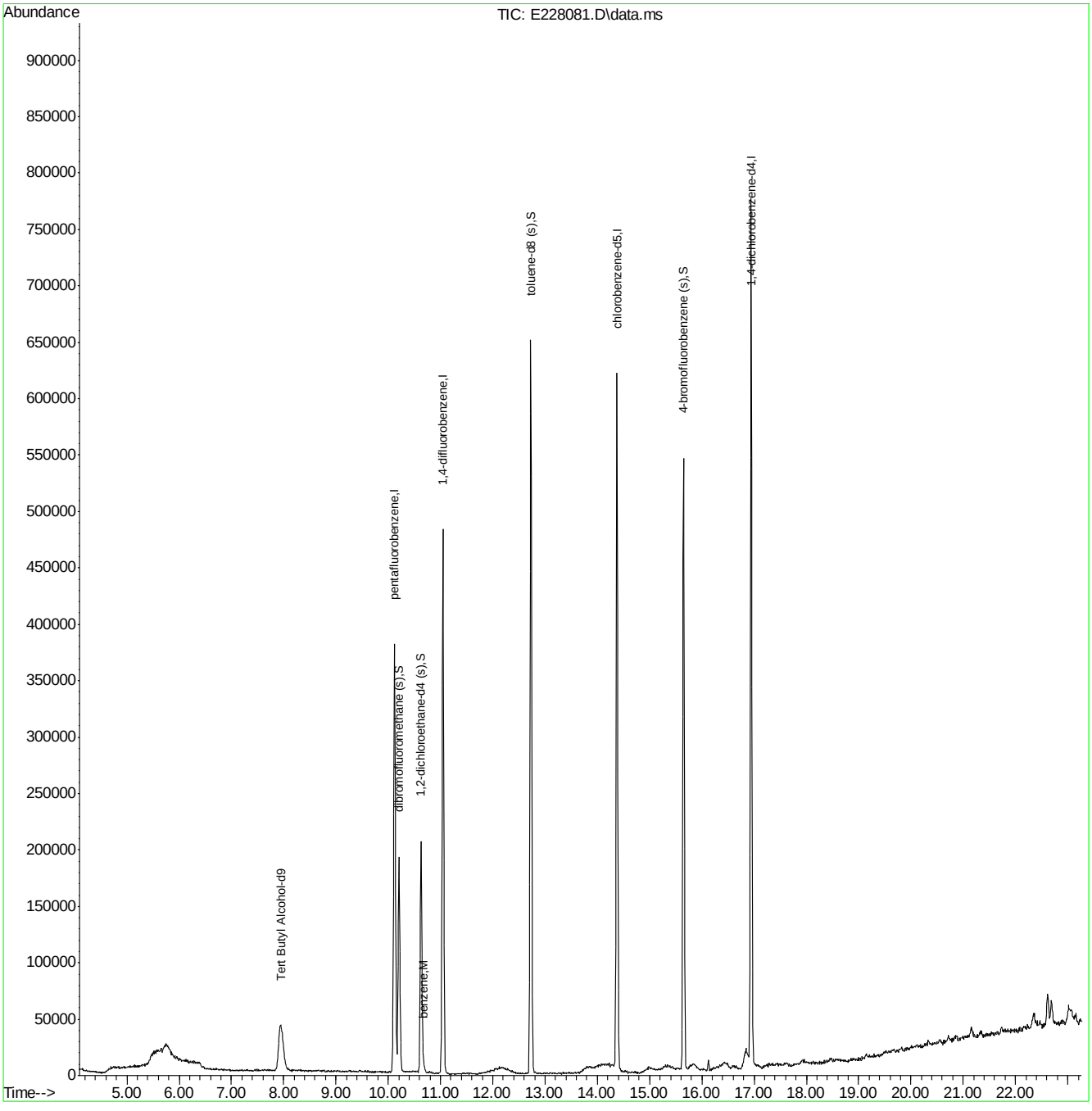
7.1.44

7

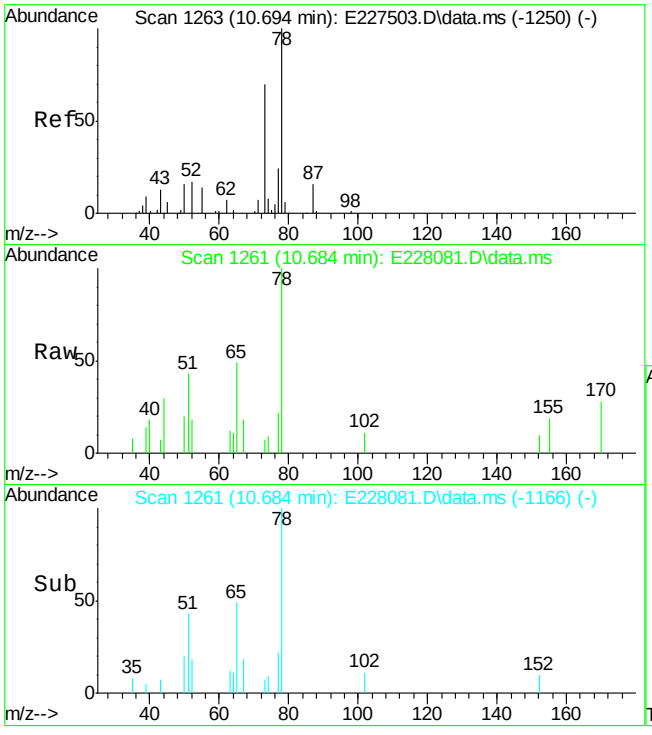
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228081.D
Acq On : 6 Aug 2015 5:59 pm
Operator : ThienN
Sample : jb99969-25
Misc : MS88818,VE9993,5.9,,100,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 07 07:58:05 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Aug 06 13:02:38 2015
Response via : Initial Calibration



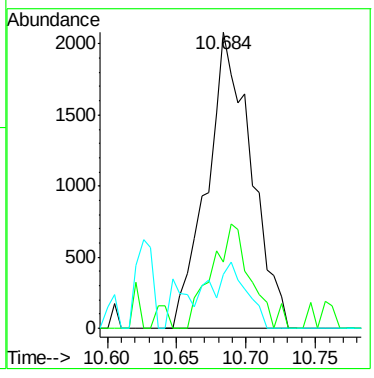
ME9972.M Fri Aug 07 08:00:11 2015 RPT1



#62
benzene
Concen: 0.36 ug/L
RT: 10.684 min Scan# 1261
Delta R.T. -0.006 min
Lab File: E228081.D
Acq: 6 Aug 2015 5:59 pm

Tgt Ion: 78 Resp: 4616

Ion	Ratio	Lower	Upper
78	100		
77	22.3	0.0	53.9
52	18.2	0.0	46.9



7.1.44

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202482.D
Acq On : 4 Aug 2015 5:53 pm
Operator : mihirm
Sample : jb99969-26
Misc : MS88818,VC7430,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 05 09:53:06 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.124	65	97233	500.00	ug/L	0.00
5) pentafluorobenzene	10.817	168	381054	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.774	114	504855	50.00	ug/L	0.00
88) chlorobenzene-d5	14.808	117	437138	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.827	152	226043	50.00	ug/L	0.00

System Monitoring Compounds						
50) dibromofluoromethane (s)	10.875	113	140453	48.45	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.90%			
51) 1,2-dichloroethane-d4 (s)	11.319	65	126107	49.66	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.32%			
80) toluene-d8 (s)	13.385	98	616325	49.61	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.22%			
106) 4-bromofluorobenzene (s)	15.838	174	171830	50.74	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.48%			

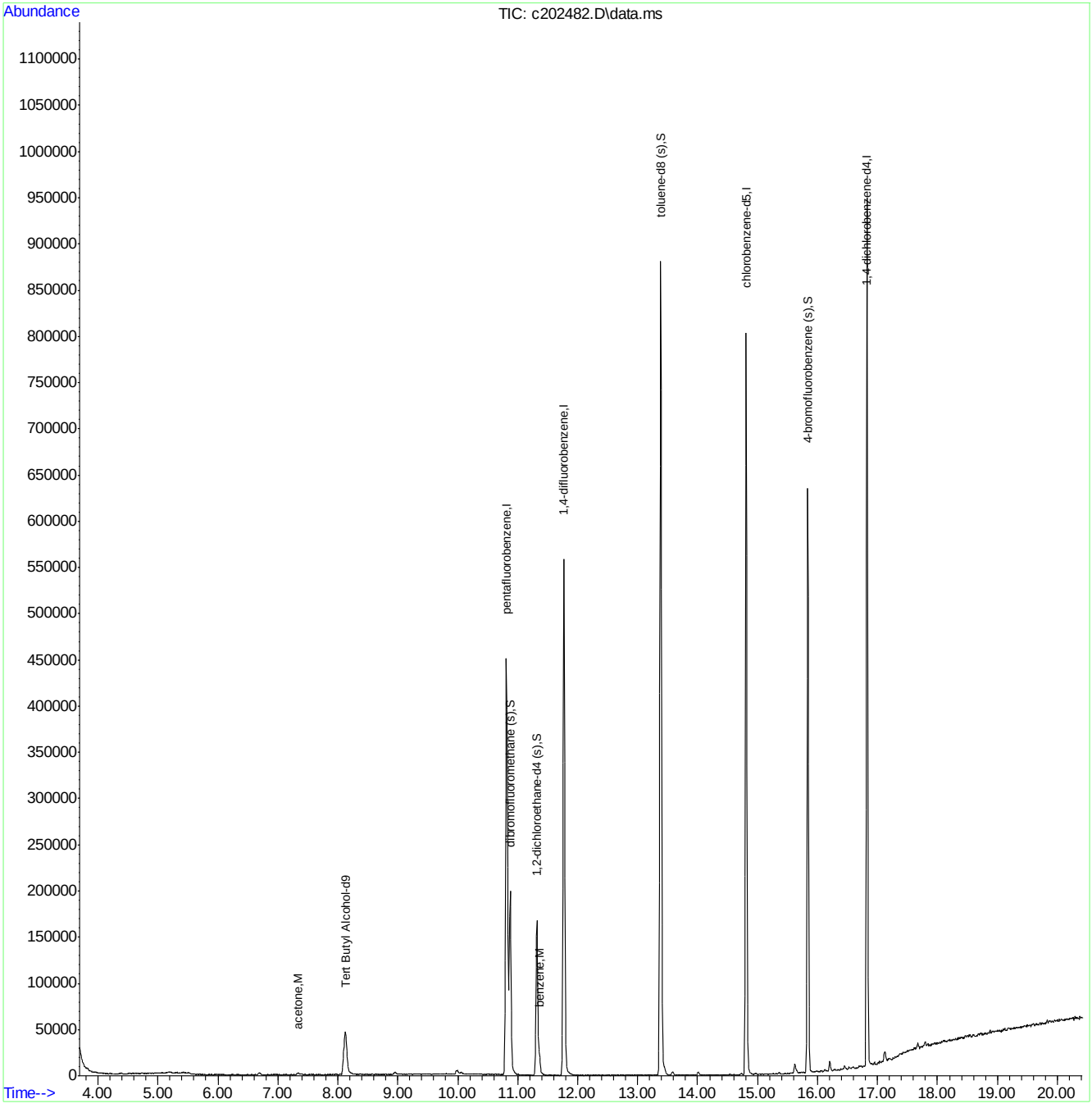
Target Compounds						Qvalue
23) acetone	7.329	58	1222	8.98	ug/L #	70
65) benzene	11.366	78	19076	1.50	ug/L	99

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

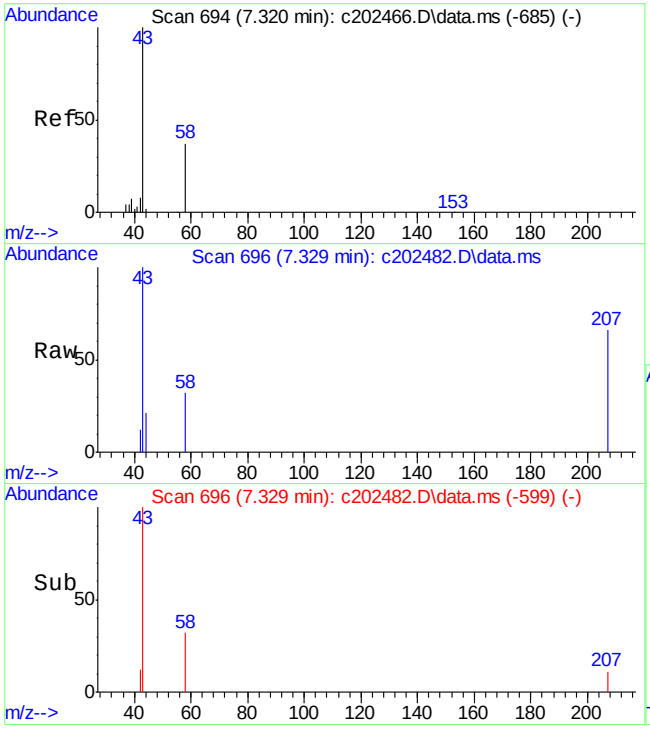
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202482.D
Acq On : 4 Aug 2015 5:53 pm
Operator : mihirm
Sample : jb99969-26
Misc : MS88818,VC7430,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 05 09:53:06 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration



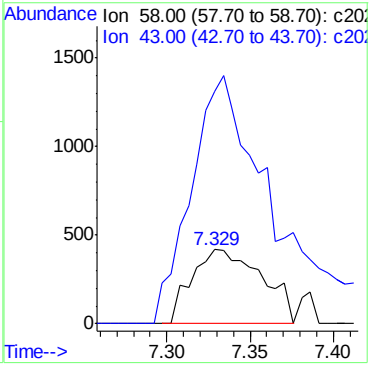
MC7426.M Wed Aug 05 09:53:14 2015 C

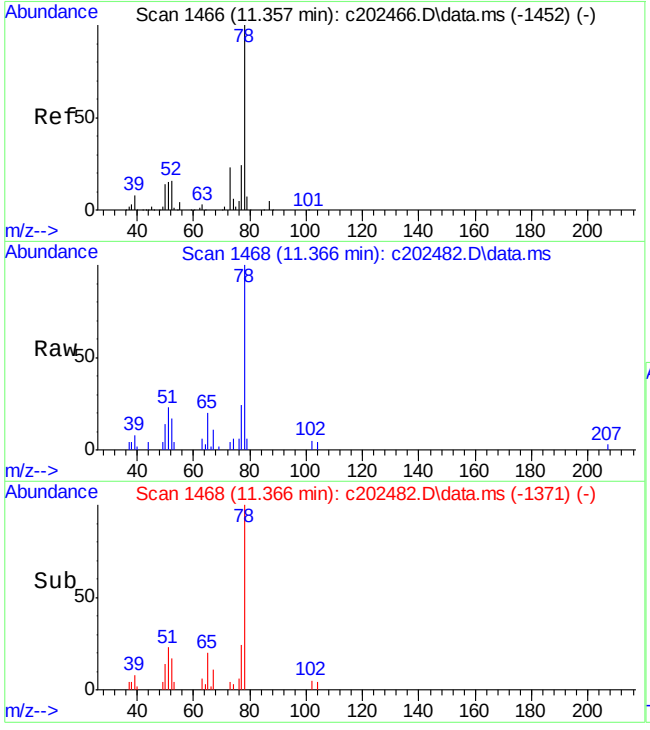


#23
acetone
Concen: 8.98 ug/L
RT: 7.329 min Scan# 696
Delta R.T. 0.010 min
Lab File: c202482.D
Acq: 4 Aug 2015 5:53 pm

Tgt Ion: 58 Resp: 1222

Ion	Ratio	Lower	Upper
58	100		
43	405.1	311.3	371.3#

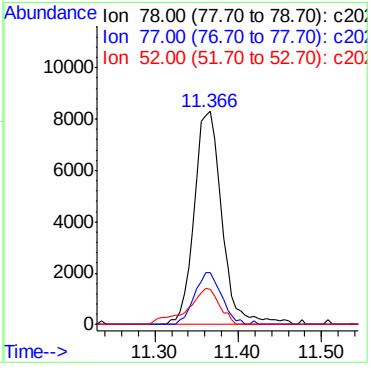




#65
benzene
Concen: 1.50 ug/L
RT: 11.366 min Scan# 1468
Delta R.T. 0.009 min
Lab File: c202482.D
Acq: 4 Aug 2015 5:53 pm

Tgt Ion: 78 Resp: 19076

Ion	Ratio	Lower	Upper
78	100		
77	24.3	0.0	53.7
52	16.7	0.0	46.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3V21397.D
Acq On : 31 Jul 2015 8:42 am
Operator : thienn
Sample : mb1
Misc : MS88475,V3V889,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 31 12:47:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.280	65	57316	500.00	ug/L	0.00
5) pentafluorobenzene	9.749	168	257826	50.00	ug/L	0.00
49) 1,4-difluorobenzene	10.714	114	316586	50.00	ug/L	0.00
79) chlorobenzene-d5	13.933	117	254994	50.00	ug/L	0.00
93) 1,4-dichlorobenzene-d4	16.292	152	151249	50.00	ug/L	0.00
System Monitoring Compounds						
43) dibromofluoromethane (s)	9.796	113	105870	46.50	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 93.00%			
44) 1,2-dichloroethane-d4 (s)	10.242	65	84114	42.72	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 85.44%			
71) toluene-d8 (s)	12.386	98	338857	48.32	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 96.64%			
95) 4-bromofluorobenzene (s)	15.128	95	132825	49.10	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 98.20%			

Target Compounds Qvalue

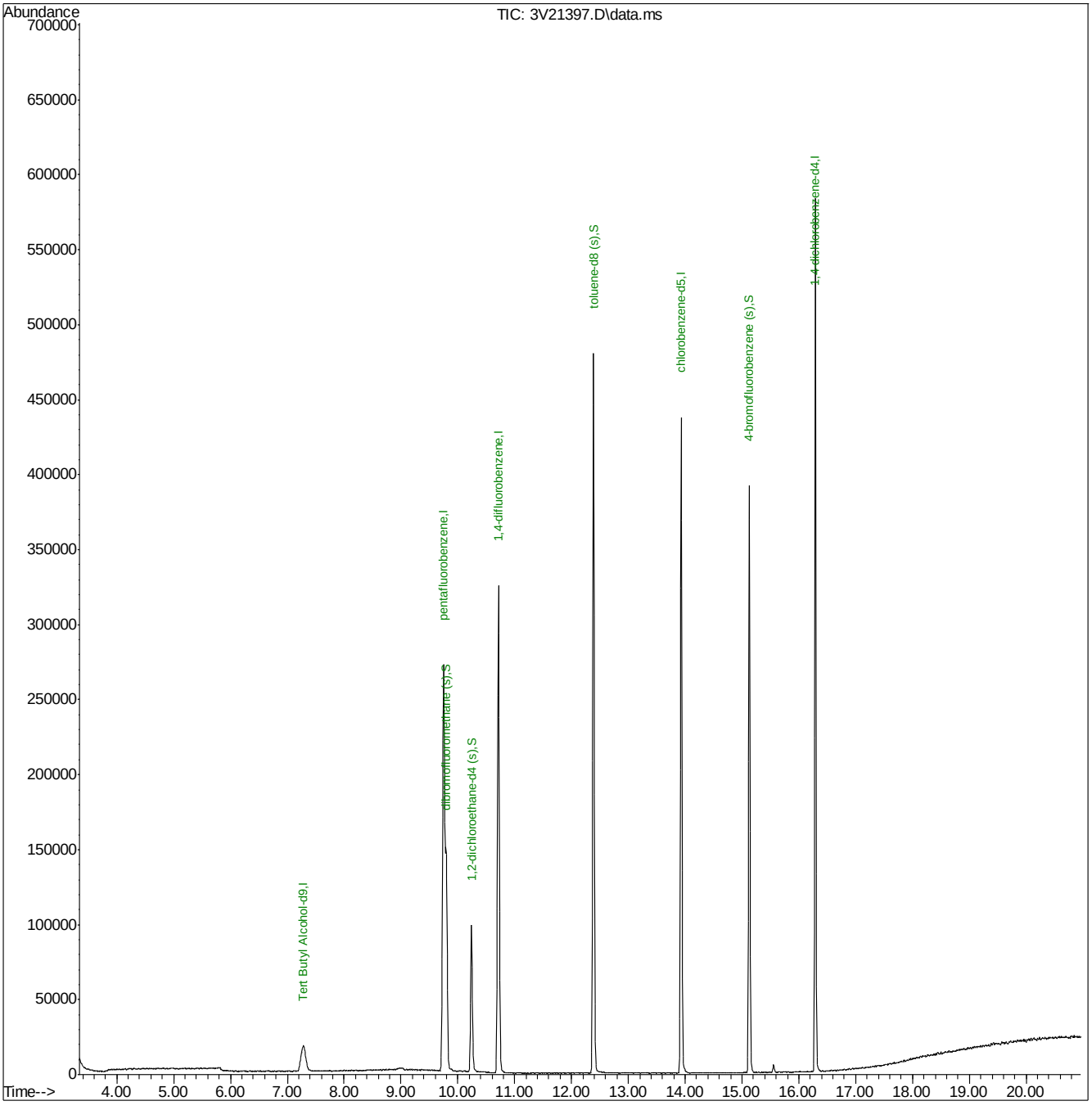
(#) = qualifier out of range (m) = manual integration (+) = signals summed

ACCUTEST LABORATORIES JB99969

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3V21397.D
Acq On : 31 Jul 2015 8:42 am
Operator : thienn
Sample : mb1
Misc : MS88475,V3V889,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 31 12:47:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration



M3V880.M Fri Jul 31 12:58:30 2015 GCMS3V

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3v\V3V891\
Data File : 3V21448.D
Acq On : 3 Aug 2015 8:53 am
Operator : thienn
Sample : mb1
Misc : MS88866,V3V891,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 04 12:54:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.285	65	87661	500.00	ug/L	0.00
5) pentafluorobenzene	9.749	168	275018	50.00	ug/L	0.00
49) 1,4-difluorobenzene	10.714	114	342212	50.00	ug/L	0.00
79) chlorobenzene-d5	13.933	117	286532	50.00	ug/L	0.00
93) 1,4-dichlorobenzene-d4	16.292	152	171422	50.00	ug/L	0.00
System Monitoring Compounds						
43) dibromofluoromethane (s)	9.796	113	118085	48.63	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 97.26%			
44) 1,2-dichloroethane-d4 (s)	10.242	65	97873	46.60	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 93.20%			
71) toluene-d8 (s)	12.386	98	368596	48.62	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.24%			
95) 4-bromofluorobenzene (s)	15.128	95	151341	49.36	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 98.72%			

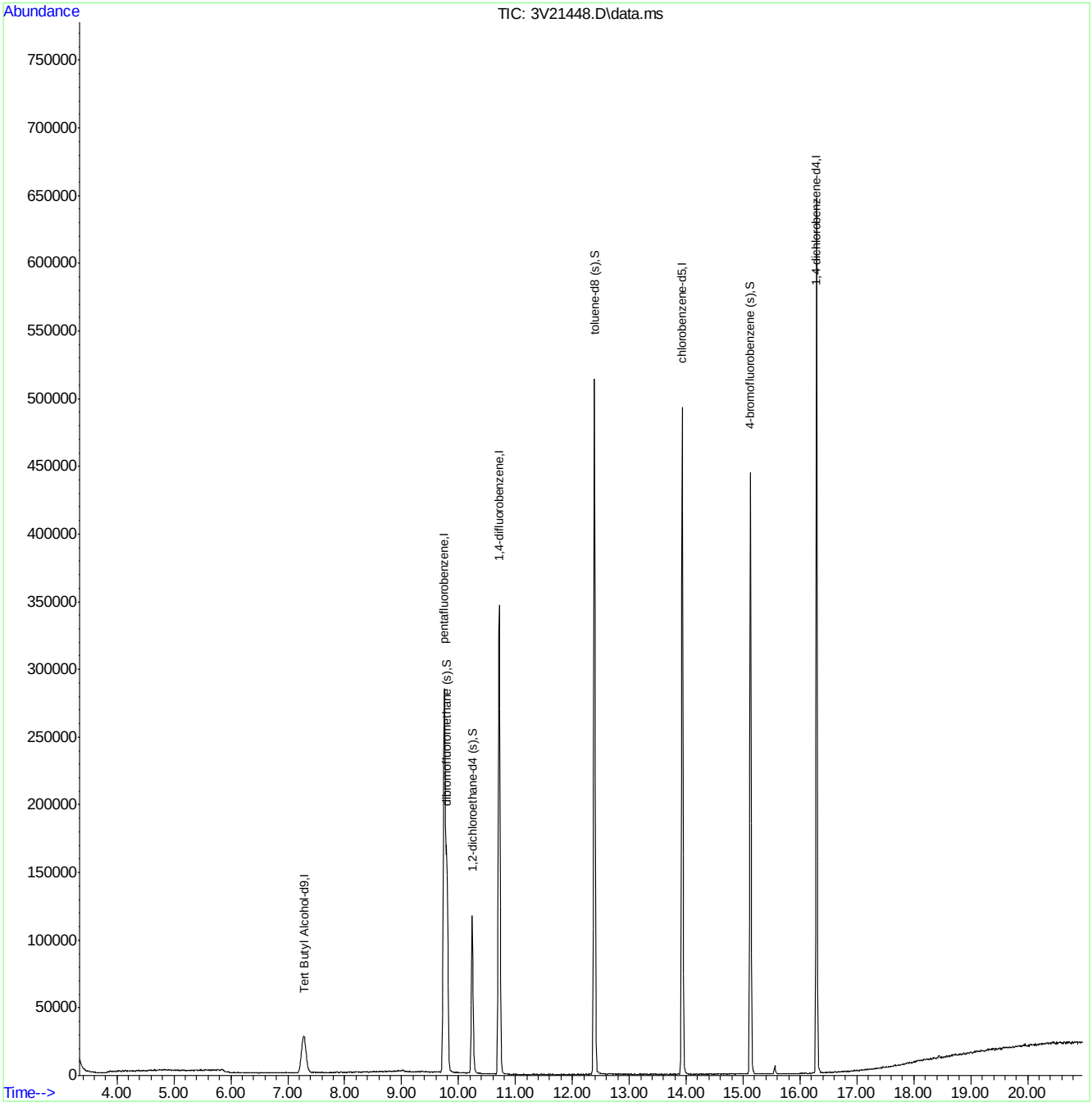
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3v\V3V891\
Data File : 3V21448.D
Acq On : 3 Aug 2015 8:53 am
Operator : thienn
Sample : mb1
Misc : MS88866,V3V891,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 04 12:54:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V880.M
Quant Title : SW-846 Method 8260
QLast Update : Thu Jul 23 17:43:11 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202358.D
Acq On : 31 Jul 2015 12:10 pm
Operator : mihirm
Sample : mb1
Misc : MS88785,VC7427,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 03 11:31:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.117	65	70735	500.00	ug/L	0.00
5) pentafluorobenzene	10.811	168	385752	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.768	114	504464	50.00	ug/L	0.00
88) chlorobenzene-d5	14.807	117	435424	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.825	152	206990	50.00	ug/L	0.00

System Monitoring Compounds						
50) dibromofluoromethane (s)	10.868	113	132475	45.14	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 90.28%			
51) 1,2-dichloroethane-d4 (s)	11.318	65	115480	44.92	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 89.84%			
80) toluene-d8 (s)	13.379	98	623441	50.23	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.46%			
106) 4-bromofluorobenzene (s)	15.837	174	161479	52.08	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 104.16%			

Target Compounds					Qvalue
67) isopropyl acetate	11.313	61	1916	Below Cal	# 1

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

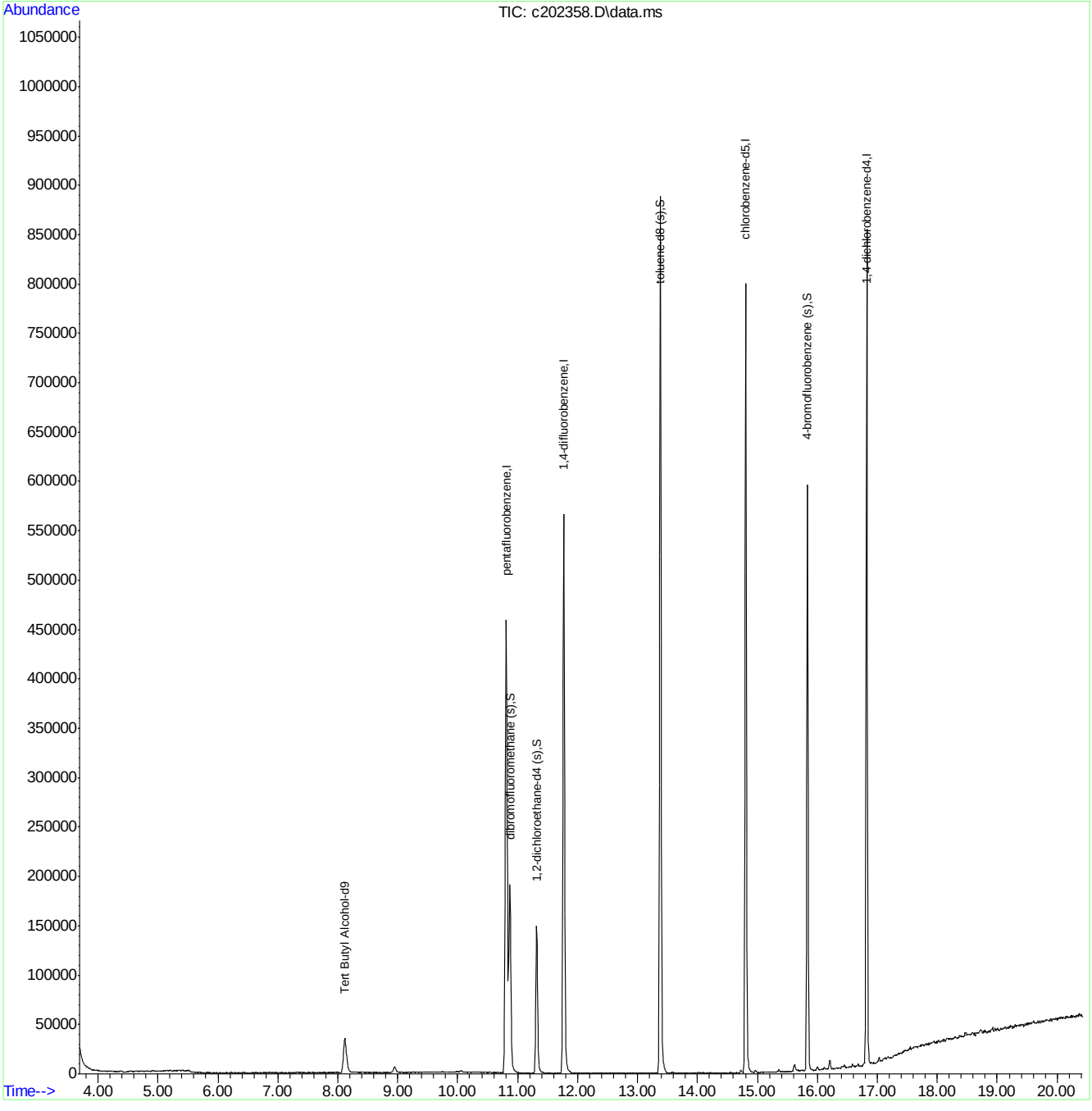
7.2.3

7

Quantitation Report (QT Reviewed)

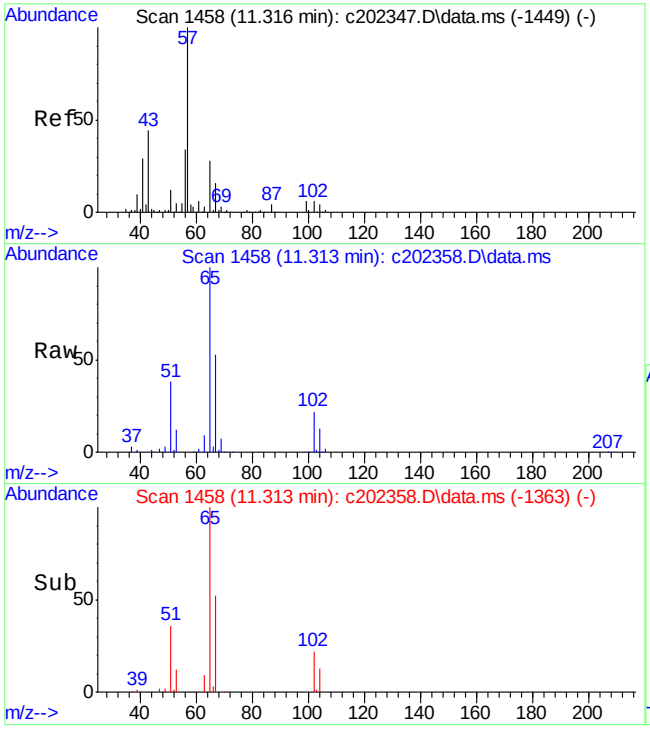
Data Path : C:\msdchem\1\DATA\
Data File : c202358.D
Acq On : 31 Jul 2015 12:10 pm
Operator : mihirm
Sample : mb1
Misc : MS88785,VC7427,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 03 11:31:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jul 31 08:53:23 2015
Response via : Initial Calibration



MC7426.M Mon Aug 03 11:32:18 2015 C

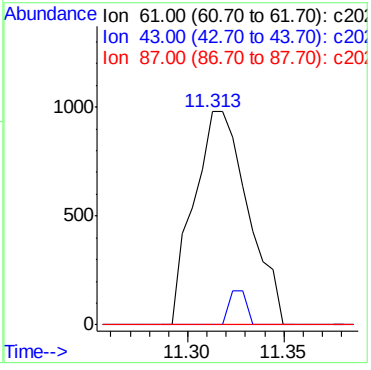
ACCUTEST LABORATORIES JB99969



#67
isopropyl acetate
Concen: Below Cal
RT: 11.313 min Scan# 1458
Delta R.T. -0.002 min
Lab File: c202358.D
Acq: 31 Jul 2015 12:10 pm

Tgt Ion: 61 Resp: 1916

Ion	Ratio	Lower	Upper
61	100		
43	0.0	672.2	732.2#
87	0.0	18.8	78.8#



7.2.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202470.D
Acq On : 4 Aug 2015 11:32 am
Operator : mihirm
Sample : mb
Misc : MS89127,VC7430,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 04 15:11:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.117	65	81989	500.00	ug/L	0.00
5) pentafluorobenzene	10.811	168	414348	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.768	114	534798	50.00	ug/L	0.00
88) chlorobenzene-d5	14.807	117	461475	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.826	152	227503	50.00	ug/L	0.00

System Monitoring Compounds						
50) dibromofluoromethane (s)	10.868	113	141630	44.93	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 89.86%			
51) 1,2-dichloroethane-d4 (s)	11.313	65	122927	44.52	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 89.04%			
80) toluene-d8 (s)	13.379	98	666603	50.66	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.32%			
106) 4-bromofluorobenzene (s)	15.837	174	175797	51.58	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.16%			

Target Compounds						Qvalue
64) hexane	8.944	57	5429	1.27	ug/L	98

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

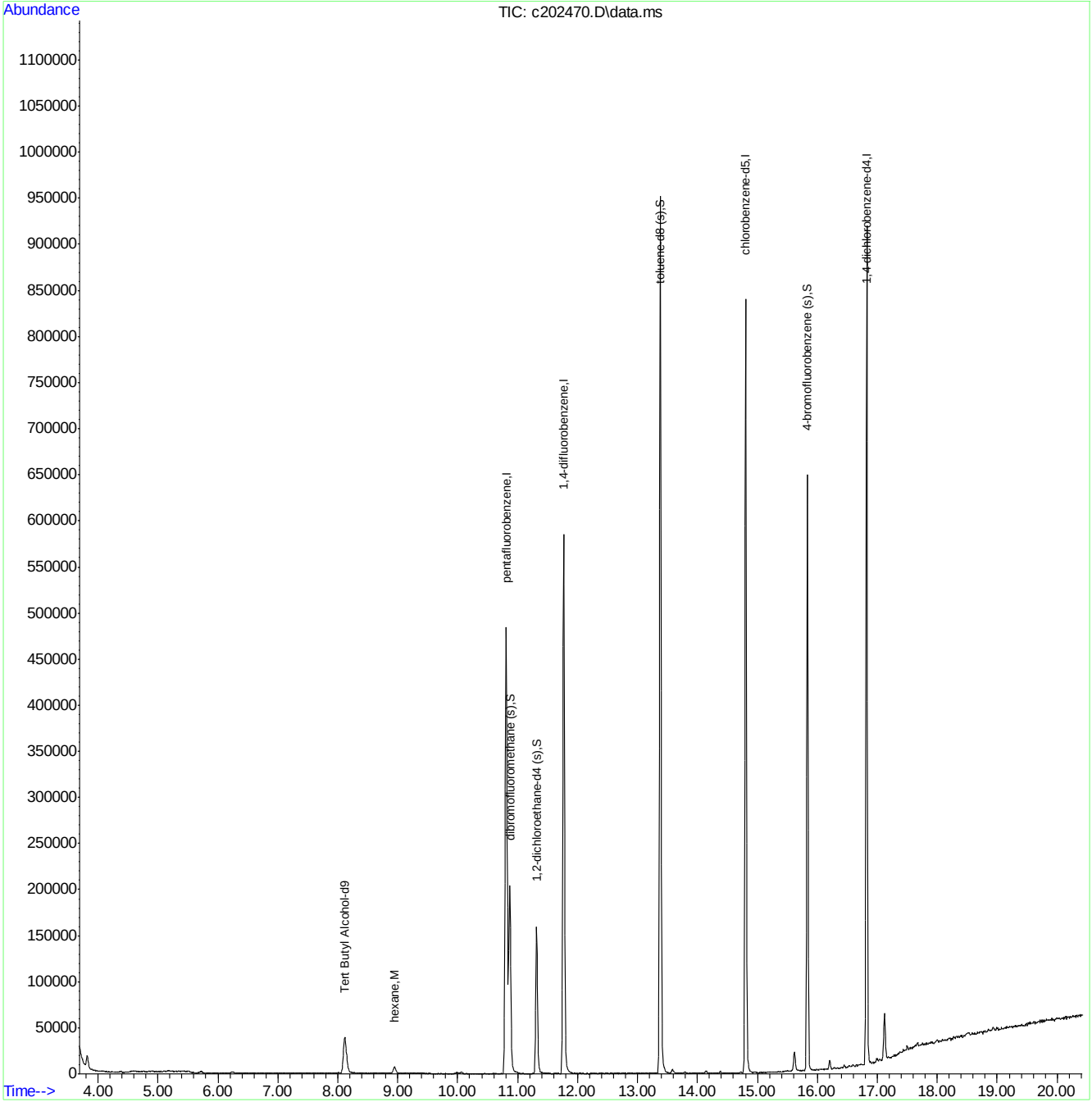
7.2.4

7

Quantitation Report (QT Reviewed)

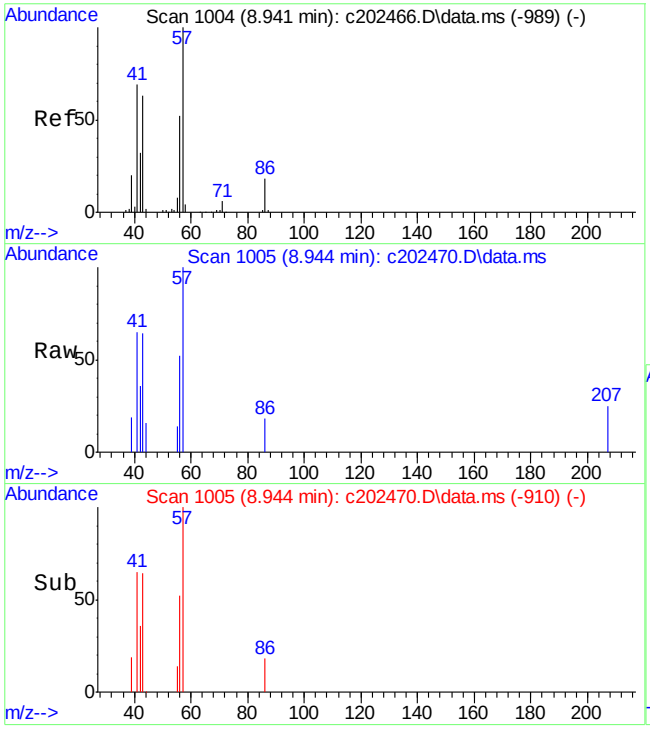
Data Path : C:\msdchem\1\DATA\
Data File : c202470.D
Acq On : 4 Aug 2015 11:32 am
Operator : mihirm
Sample : mb
Misc : MS89127,VC7430,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 04 15:11:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration



MC7426.M Tue Aug 04 15:12:18 2015 C

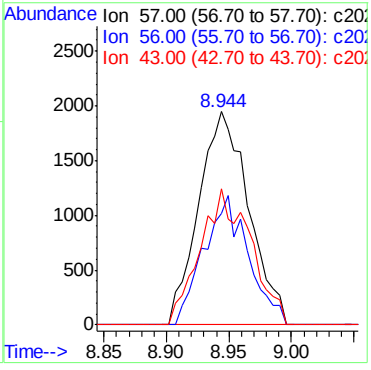
Page: 2



#64
hexane
Concen: 1.27 ug/L
RT: 8.944 min Scan# 1005
Delta R.T. -0.003 min
Lab File: c202470.D
Acq: 4 Aug 2015 11:32 am

Tgt Ion: 57 Resp: 5429

Ion	Ratio	Lower	Upper
57	100		
56	52.2	22.2	82.2
43	63.7	31.1	91.1



7.2.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202546.D
Acq On : 6 Aug 2015 11:13 am
Operator : mihirm
Sample : mb1
Misc : MS88903,VC7433,5,,,,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Aug 06 11:52:57 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.114	65	93548	500.00	ug/L	0.00
5) pentafluorobenzene	10.812	168	427553	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.764	114	544202	50.00	ug/L	0.00
88) chlorobenzene-d5	14.803	117	473193	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.822	152	245148	50.00	ug/L	0.00

System Monitoring Compounds

50) dibromofluoromethane (s)	10.870	113	153128	47.08	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 94.16%			
51) 1,2-dichloroethane-d4 (s)	11.314	65	133658	46.91	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 93.82%			
80) toluene-d8 (s)	13.380	98	661693	49.41	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.82%			
106) 4-bromofluorobenzene (s)	15.833	174	186662	50.83	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.66%			

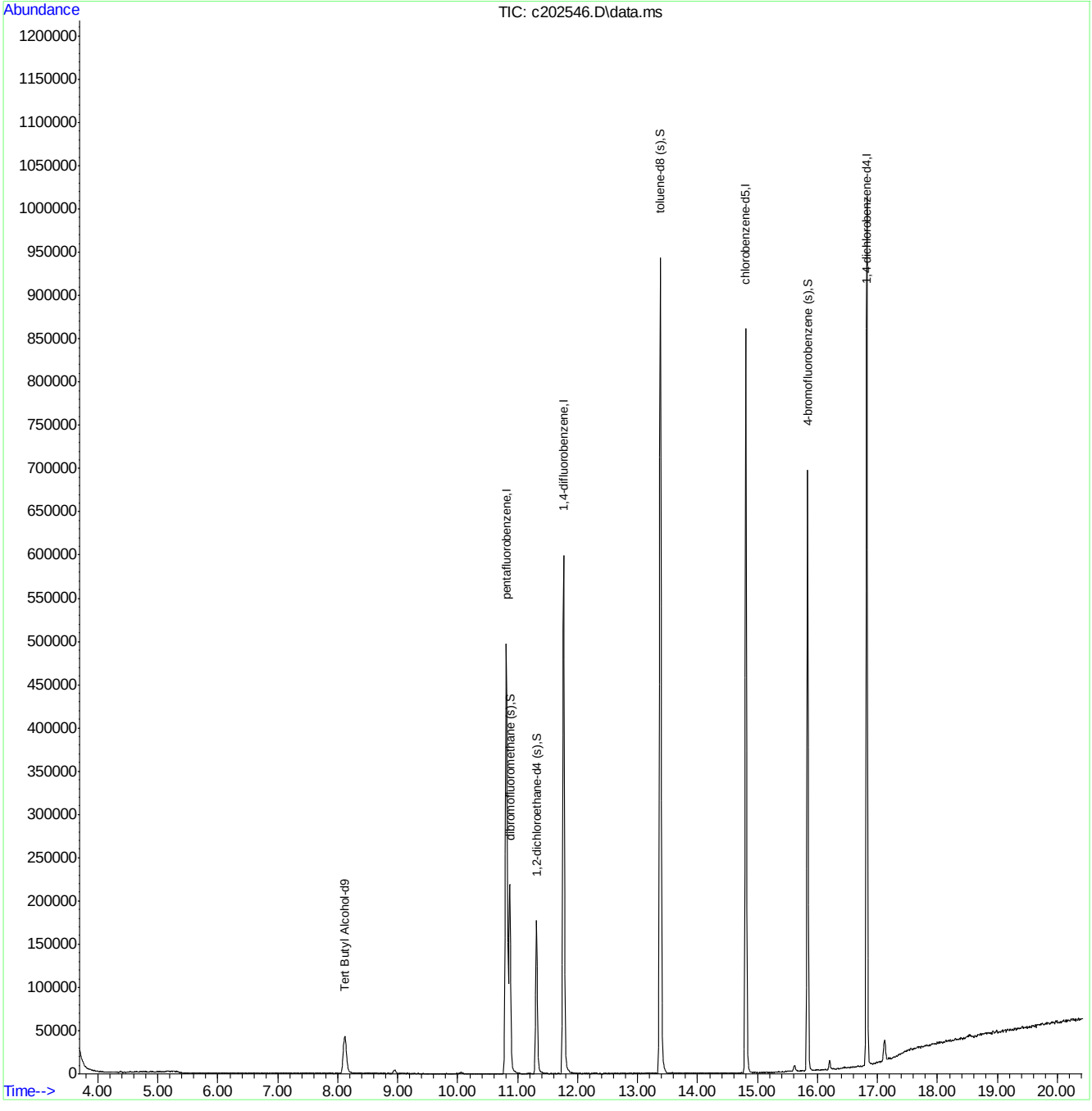
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c202546.D
Acq On : 6 Aug 2015 11:13 am
Operator : mihirm
Sample : mb1
Misc : MS88903,VC7433,5,,,,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Aug 06 11:52:57 2015
Quant Method : C:\MSDCHEM\1\METHODS\MC7426.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Aug 04 10:32:19 2015
Response via : Initial Calibration



MC7426.M Thu Aug 06 11:53:03 2015 C

ACCUTEST LABORATORIES JB99969

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d232885.D
Acq On : 7 Aug 2015 10:31 am
Operator : BenM
Sample : mb
Misc : ms89185,vd9527,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 07 14:55:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MD9526.M
Quant Title : SW-846 Method 8260C
QLast Update : Fri Aug 07 10:20:36 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.005	65	121012	500.00 ug/L	0.03
4) pentafluorobenzene	10.144	168	270239	50.00 ug/L	0.00
55) 1,4-difluorobenzene	11.075	114	386442	50.00 ug/L	0.00
87) chlorobenzene-d5	14.411	117	363726	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.990	152	233681	50.00 ug/L	0.00

System Monitoring Compounds

48) dibromofluoromethane (s)	10.238	113	115054	48.15 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.30%		
49) 1,2-dichloroethane-d4 (s)	10.661	65	128031	46.78 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 93.56%		
79) toluene-d8 (s)	12.759	98	456492	48.96 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.92%		
103) 4-bromofluorobenzene (s)	15.693	95	210575	48.66 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 97.32%		

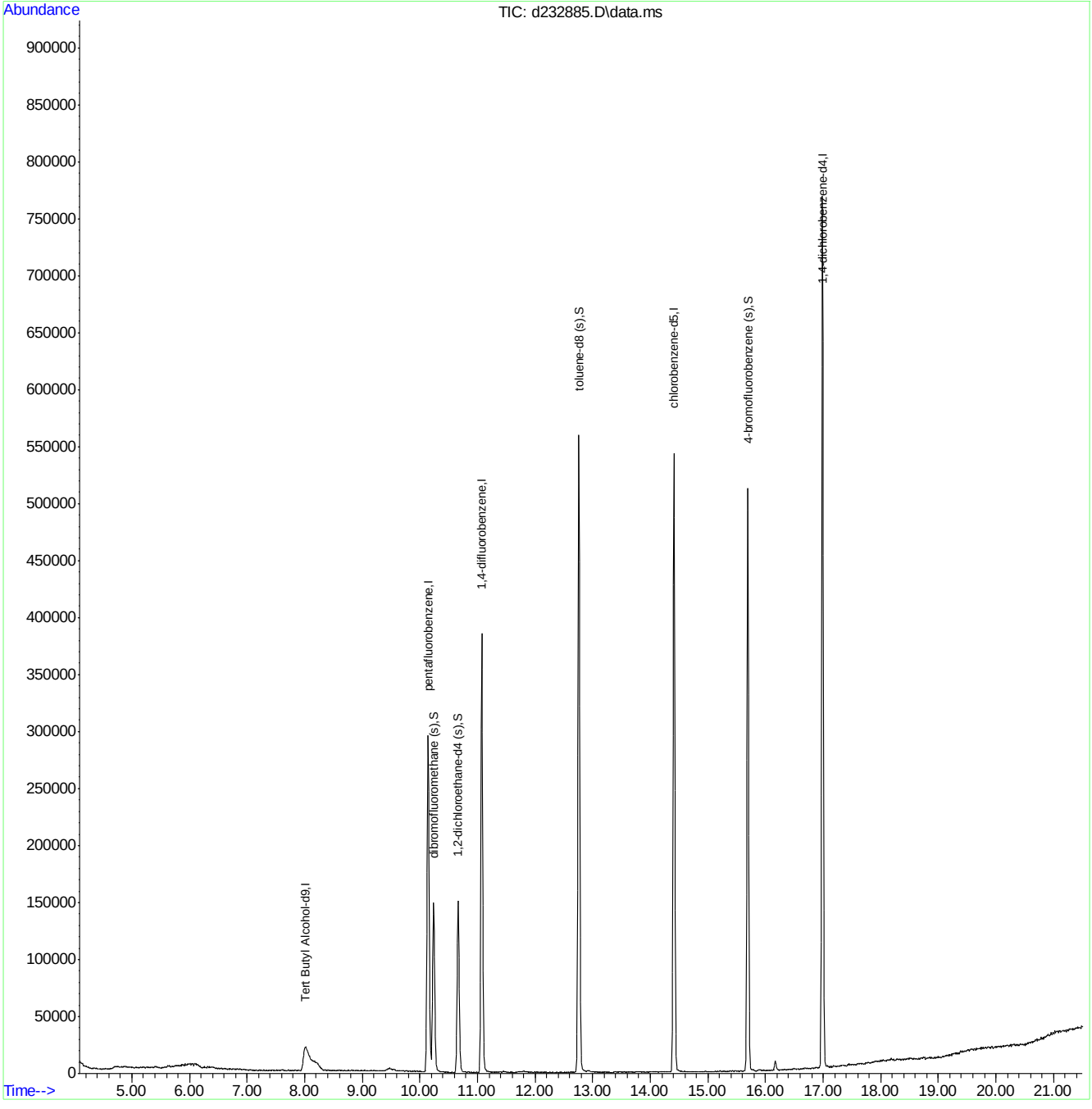
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d232885.D
Acq On : 7 Aug 2015 10:31 am
Operator : BenM
Sample : mb
Misc : ms89185,vd9527,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 07 14:55:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MD9526.M
Quant Title : SW-846 Method 8260C
QLast Update : Fri Aug 07 10:20:36 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227909.D
Acq On : 30 Jul 2015 8:54 am
Operator : ThienN
Sample : mb1
Misc : MS85727,VE9987,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 12:55:16 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.937	65	120021	500.00	ug/L	0.00
4) pentafluorobenzene	10.118	168	244627	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.044	114	332314	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	292596	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	176914	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	109605	49.74	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 99.48%			
48) 1,2-dichloroethane-d4 (s)	10.631	65	140895	51.95	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 103.90%			
76) toluene-d8 (s)	12.733	98	386775	49.17	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.34%			
103) 4-bromofluorobenzene (s)	15.652	95	160697	51.13	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.26%			

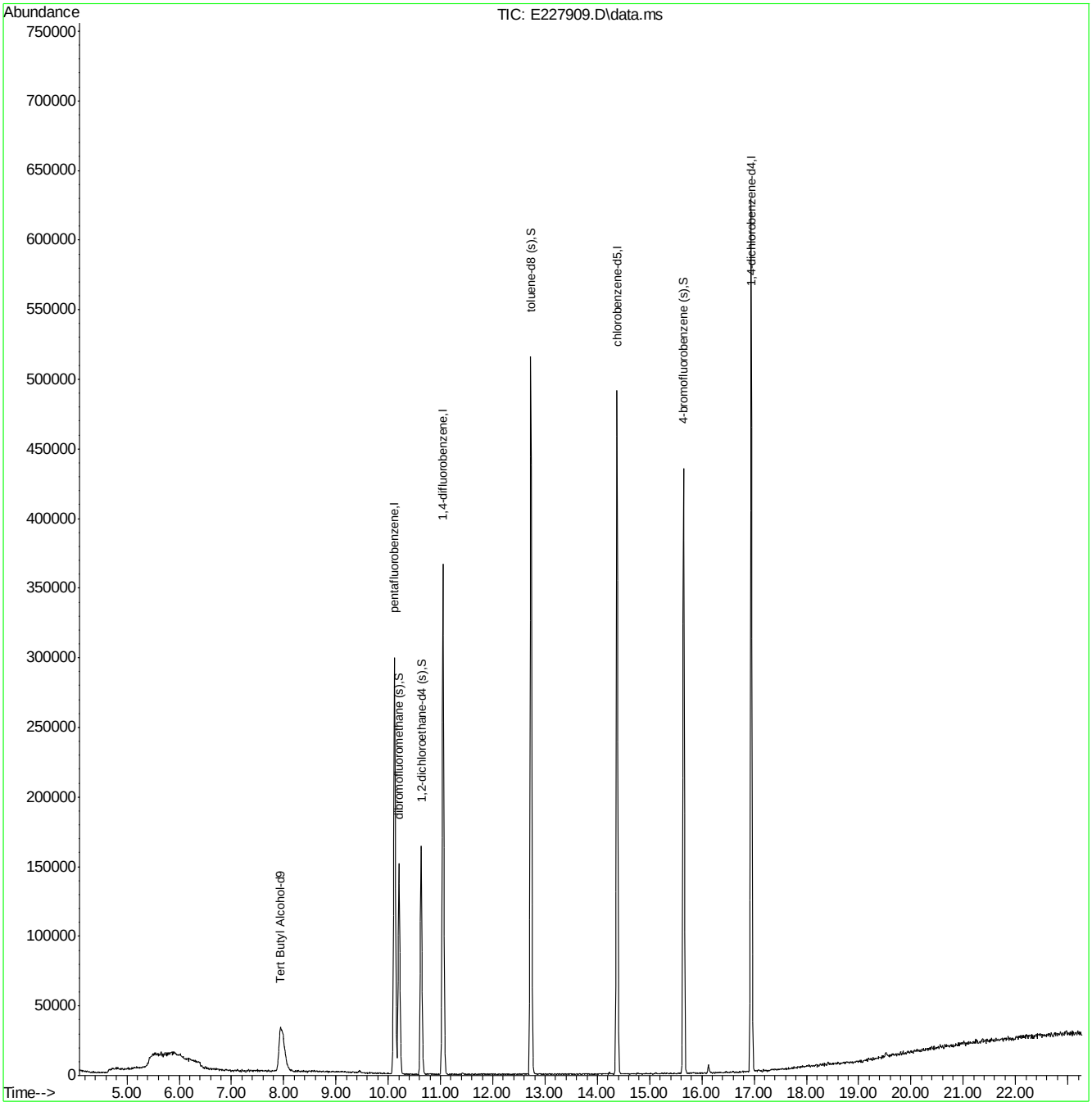
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227909.D
Acq On : 30 Jul 2015 8:54 am
Operator : ThienN
Sample : mb1
Misc : MS85727,VE9987,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 12:55:16 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227934.D
Acq On : 31 Jul 2015 12:05 am
Operator : ThienN
Sample : mb2
Misc : MS88644,VE9987,5.0,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 31 11:47:28 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.954	65	126495	500.00 ug/L	0.02
4) pentafluorobenzene	10.119	168	256435	50.00 ug/L	0.00
54) 1,4-difluorobenzene	11.045	114	338242	50.00 ug/L	0.00
84) chlorobenzene-d5	14.377	117	292982	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.945	152	178046	50.00 ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.203	113	108324	46.90 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 93.80%		
48) 1,2-dichloroethane-d4 (s)	10.632	65	138494	48.72 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 97.44%		
76) toluene-d8 (s)	12.729	98	386700	48.30 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 96.60%		
103) 4-bromofluorobenzene (s)	15.648	95	160118	50.63 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.26%		

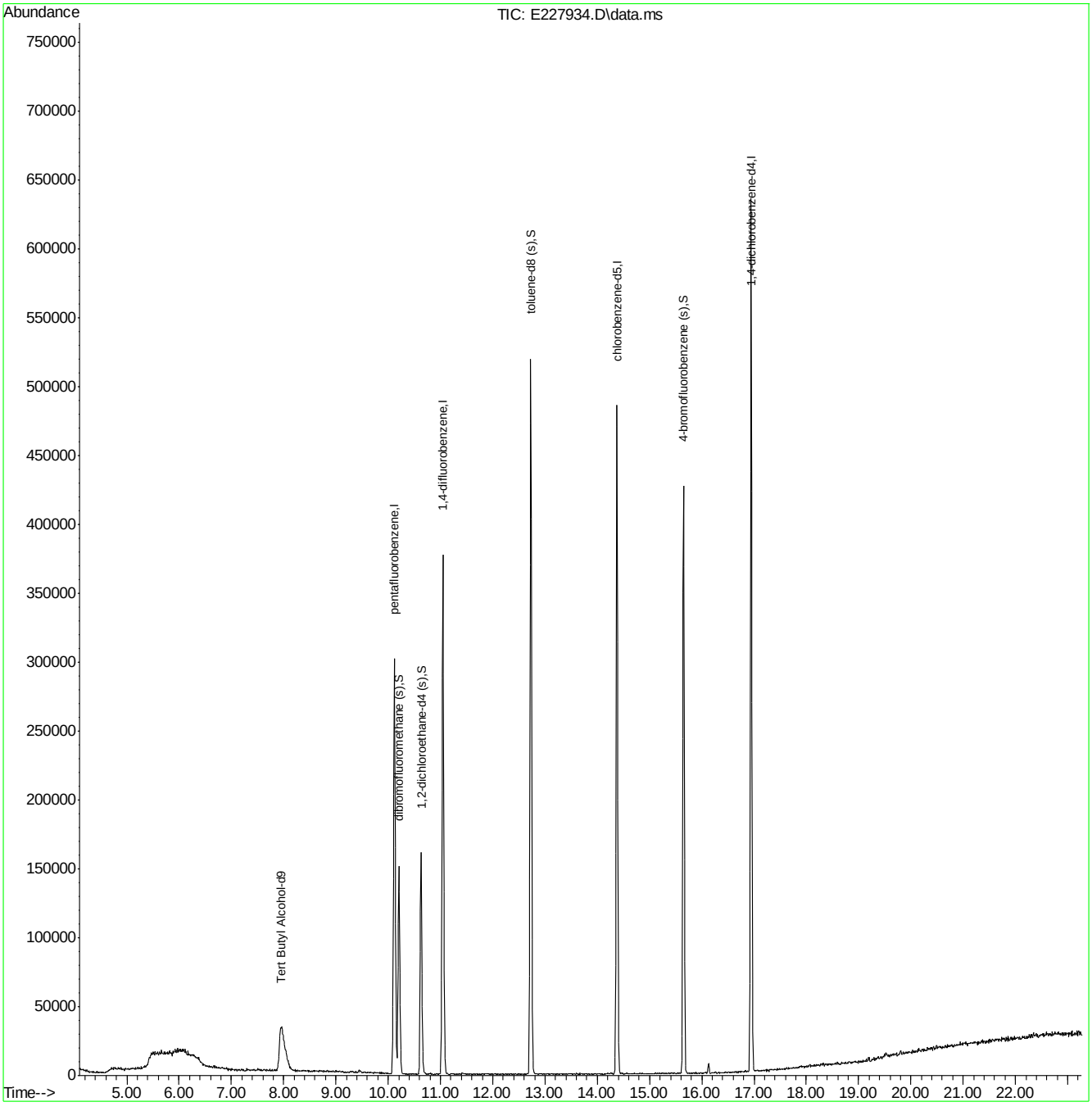
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227934.D
Acq On : 31 Jul 2015 12:05 am
Operator : ThienN
Sample : mb2
Misc : MS88644,VE9987,5.0,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 31 11:47:28 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



ME9972.M Fri Jul 31 11:47:33 2015 RPT1 Page: 2

Quantitation Report (LSC Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227950.D
Acq On : 31 Jul 2015 10:23 am
Operator : ThienN
Sample : mb1
Misc : MS85727,VE9988,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 31 12:10:35 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.943	65	140364	500.00	ug/L	0.00
4) pentafluorobenzene	10.119	168	261423	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.044	114	344834	50.00	ug/L	0.00
84) chlorobenzene-d5	14.376	117	308863	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	183964	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.208	113	112251	47.67	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.34%			
48) 1,2-dichloroethane-d4 (s)	10.626	65	145106	50.07	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.14%			
76) toluene-d8 (s)	12.729	98	402934	49.37	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.74%			
103) 4-bromofluorobenzene (s)	15.652	95	166596	50.98	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.96%			

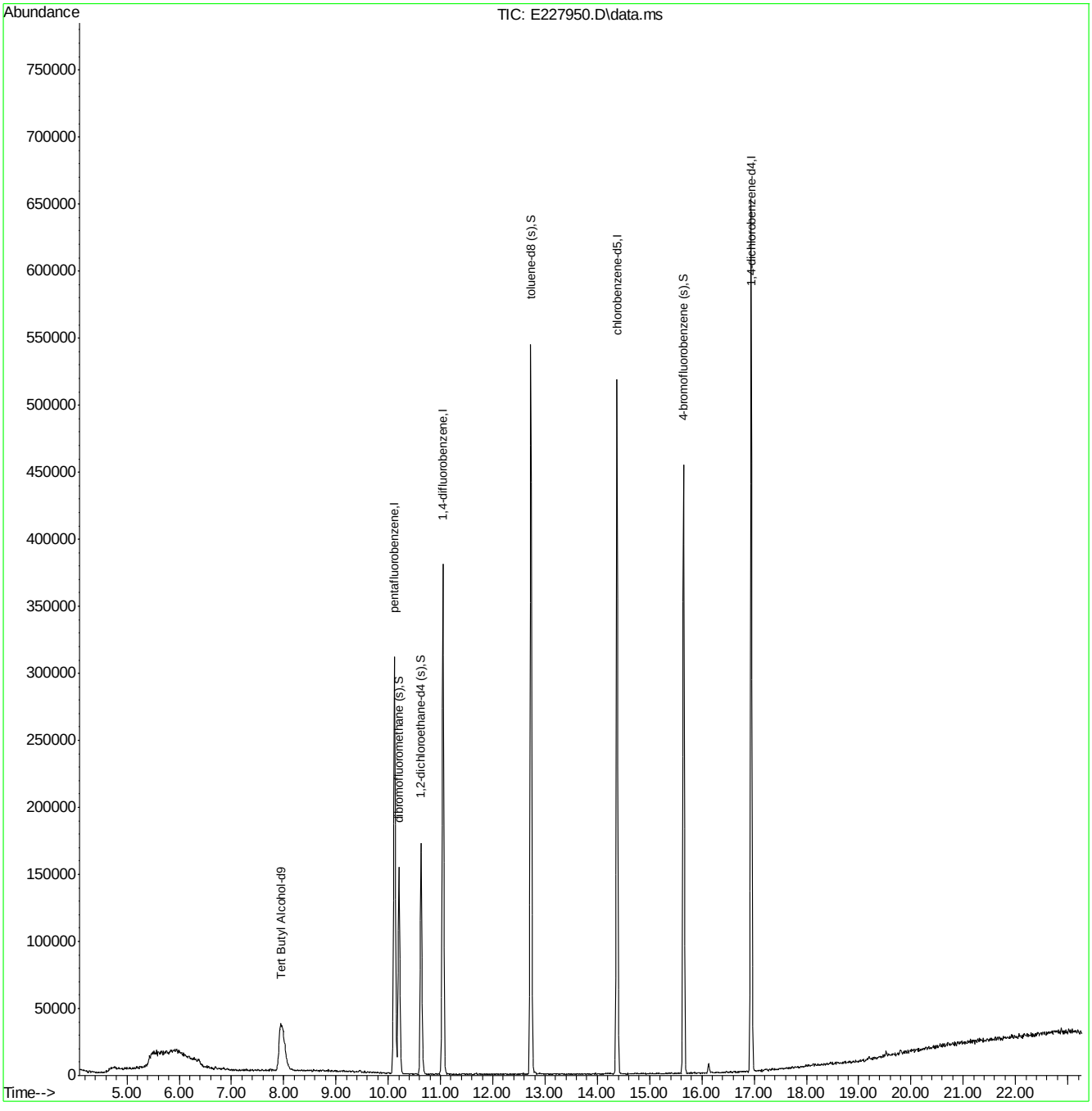
Target Compounds Qvalue

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

Quantitation Report (LSC Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227950.D
Acq On : 31 Jul 2015 10:23 am
Operator : ThienN
Sample : mb1
Misc : MS85727,VE9988,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 31 12:10:35 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227984.D
Acq On : 3 Aug 2015 9:21 am
Operator : ThienN
Sample : mb1
Misc : MS85729,VE9990,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 03 15:18:10 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.949	65	139616	500.00 ug/L	0.01
4) pentafluorobenzene	10.120	168	278100	50.00 ug/L	0.00
54) 1,4-difluorobenzene	11.046	114	367449	50.00 ug/L	0.00
84) chlorobenzene-d5	14.377	117	321536	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.945	152	197242	50.00 ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.203	113	118800	47.43 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 94.86%		
48) 1,2-dichloroethane-d4 (s)	10.627	65	151953	49.29 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.58%		
76) toluene-d8 (s)	12.730	98	428343	49.25 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.50%		
103) 4-bromofluorobenzene (s)	15.648	95	174357	49.76 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 99.52%		

Target Compounds Qvalue

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

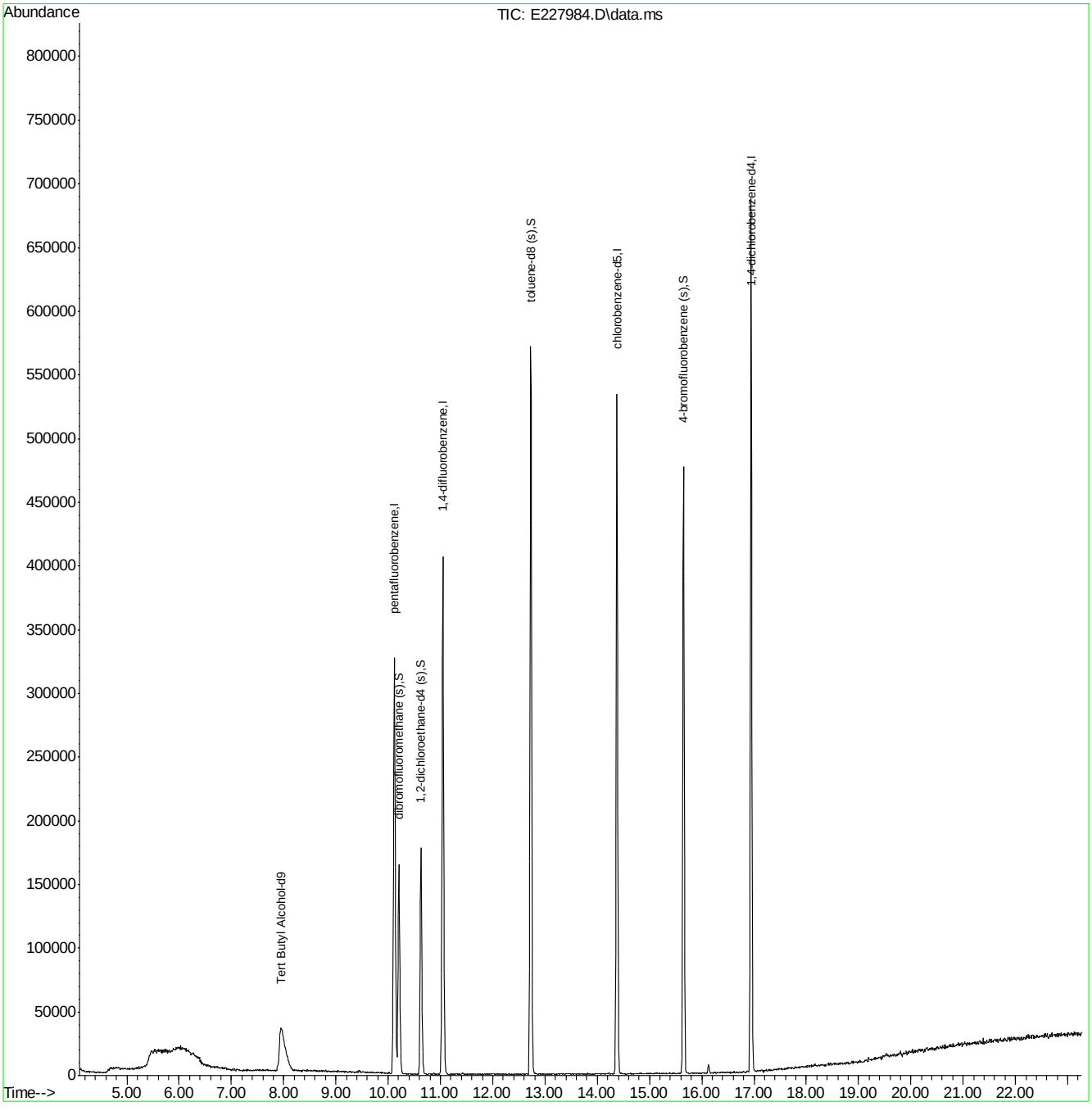
7.2.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E227984.D
Acq On : 3 Aug 2015 9:21 am
Operator : ThienN
Sample : mb1
Misc : MS85729,VE9990,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 03 15:18:10 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228007.D
Acq On : 4 Aug 2015 8:34 am
Operator : ThienN
Sample : mb1
Misc : MS85729,VE9991,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 04 13:42:19 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.958	65	139047	500.00 ug/L	0.02
4) pentafluorobenzene	10.118	168	291020	50.00 ug/L	0.00
54) 1,4-difluorobenzene	11.043	114	386595	50.00 ug/L	0.00
84) chlorobenzene-d5	14.375	117	335595	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.943	152	203694	50.00 ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.207	113	124350	47.44 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 94.88%		
48) 1,2-dichloroethane-d4 (s)	10.630	65	158641	49.17 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.34%		
76) toluene-d8 (s)	12.728	98	451339	49.33 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.66%		
103) 4-bromofluorobenzene (s)	15.651	95	178997	49.47 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 98.94%		

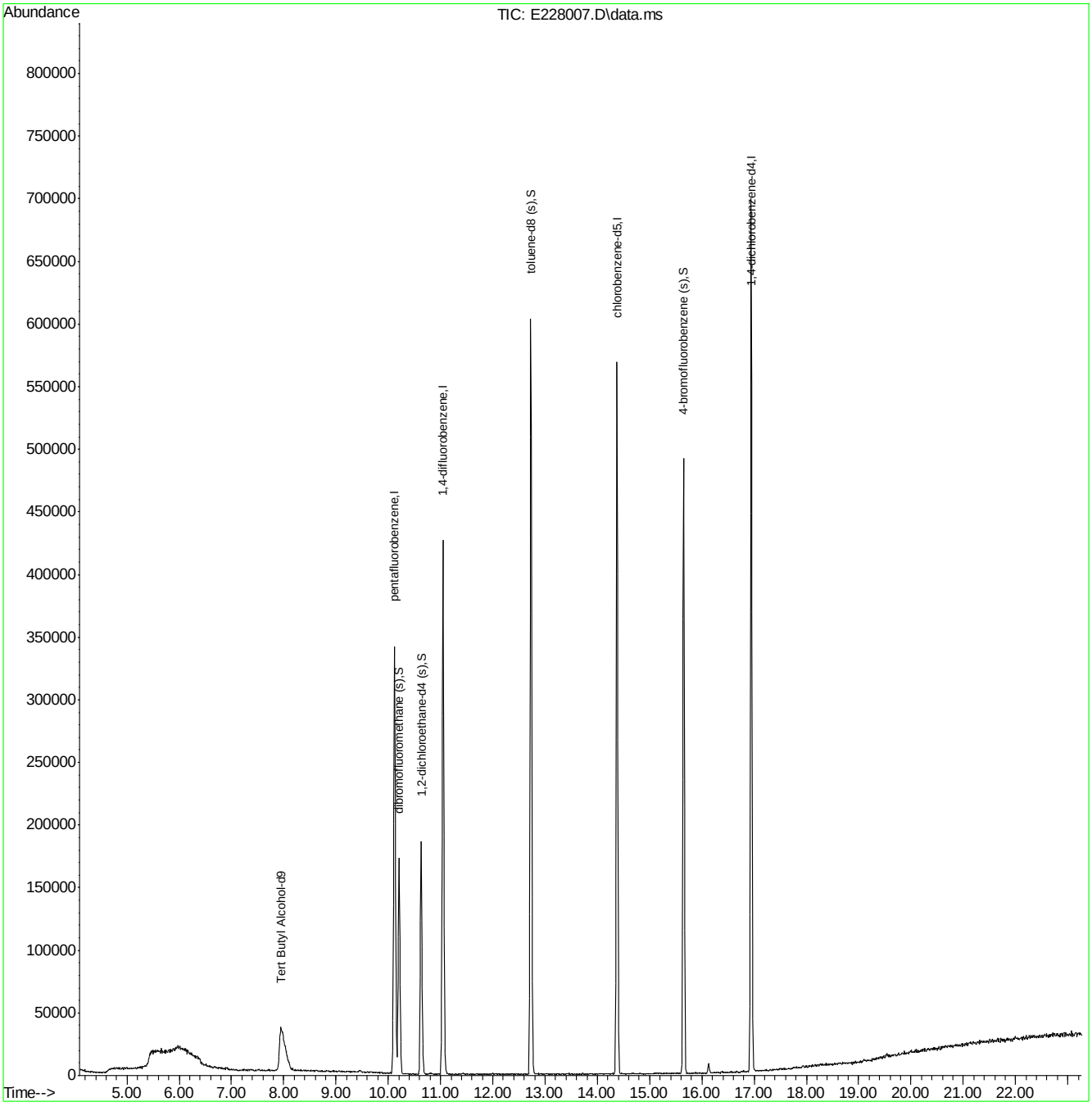
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228007.D
Acq On : 4 Aug 2015 8:34 am
Operator : ThienN
Sample : mb1
Misc : MS85729,VE9991,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 04 13:42:19 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



ME9972.M Tue Aug 04 13:42:26 2015 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228062.D
Acq On : 6 Aug 2015 8:38 am
Operator : ThienN
Sample : mb1
Misc : MS85729,VE9993,5.0,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 06 12:53:56 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.948	65	144911	500.00 ug/L	0.00
4) pentafluorobenzene	10.118	168	301239	50.00 ug/L	0.00
54) 1,4-difluorobenzene	11.049	114	407451	50.00 ug/L	0.00
84) chlorobenzene-d5	14.376	117	353742	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.944	152	214432	50.00 ug/L	0.00

System Monitoring Compounds					
47) dibromofluoromethane (s)	10.207	113	132315	48.76 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 97.52%		
48) 1,2-dichloroethane-d4 (s)	10.631	65	164903	49.38 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 98.76%		
76) toluene-d8 (s)	12.733	98	471390	48.88 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.76%		
103) 4-bromofluorobenzene (s)	15.652	95	184994	48.57 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 97.14%		

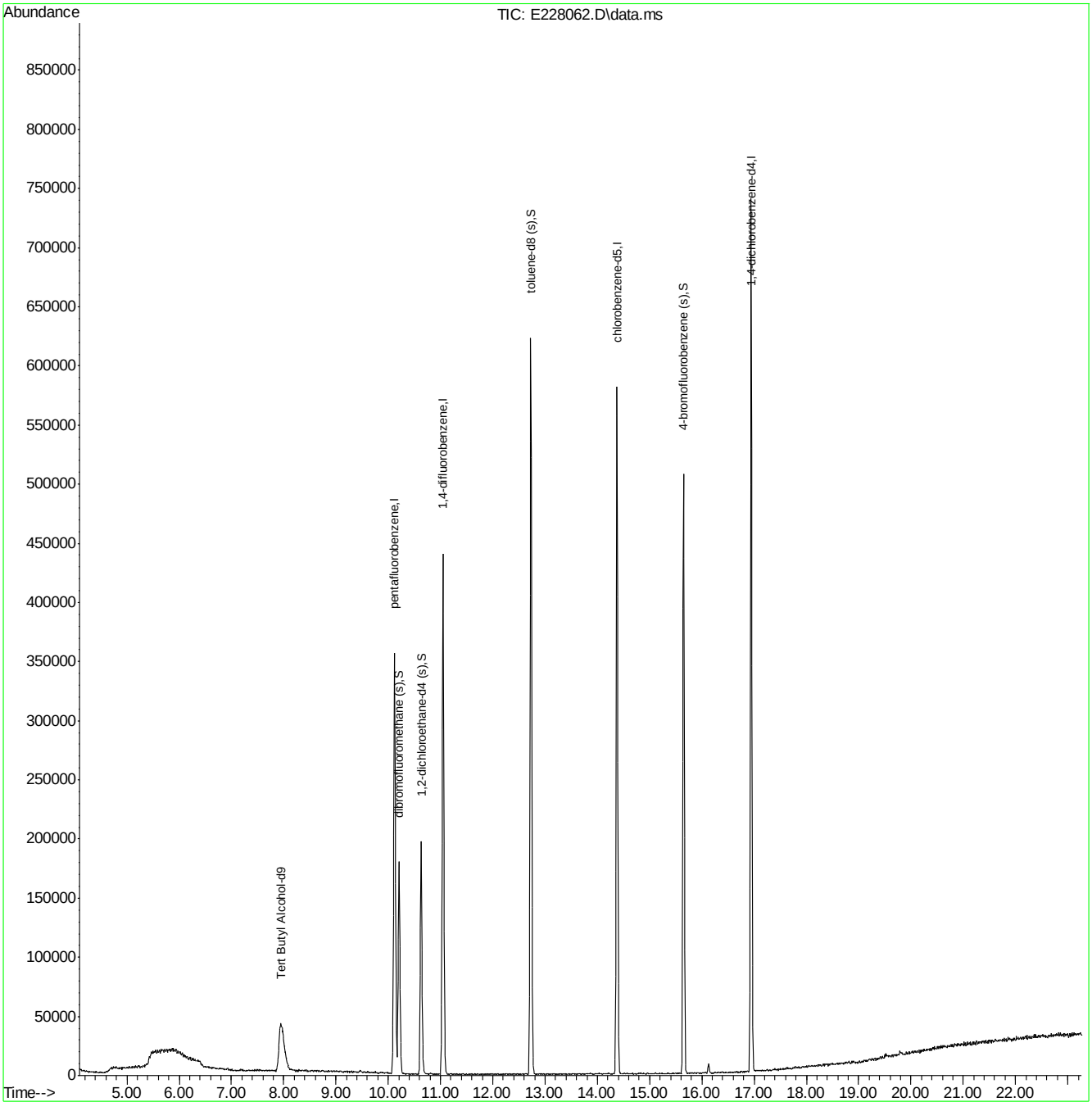
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E228062.D
Acq On : 6 Aug 2015 8:38 am
Operator : ThienN
Sample : mb1
Misc : MS85729,VE9993,5.0,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 06 12:53:56 2015
Quant Method : C:\msdchem\1\METHODS\ME9972.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Wed Jul 15 17:24:08 2015
Response via : Initial Calibration



ME9972.M Thu Aug 06 12:55:35 2015 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V154645.D
Acq On : 5 Aug 2015 11:18 am
Operator : payalr
Sample : MB
Misc : MS88841,VV6551,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 05 12:26:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6502.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jun 12 14:36:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	204765	500.00	ug/L	0.00
4) pentafluorobenzene	9.95	168	473174	50.00	ug/L	-0.01
50) 1,4-difluorobenzene	10.90	114	571842	50.00	ug/L	0.00
79) chlorobenzene-d5	14.32	117	478393	50.00	ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.92	152	269089	50.00	ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.04	113	181353	51.42	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 102.84%			
47) 1,2-dichloroethane-d4 (s)	10.48	65	159331	50.00	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.00%			
71) toluene-d8 (s)	12.63	98	671442	49.45	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.90%			
94) 4-bromofluorobenzene (s)	15.61	95	233085	47.46	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 94.92%			

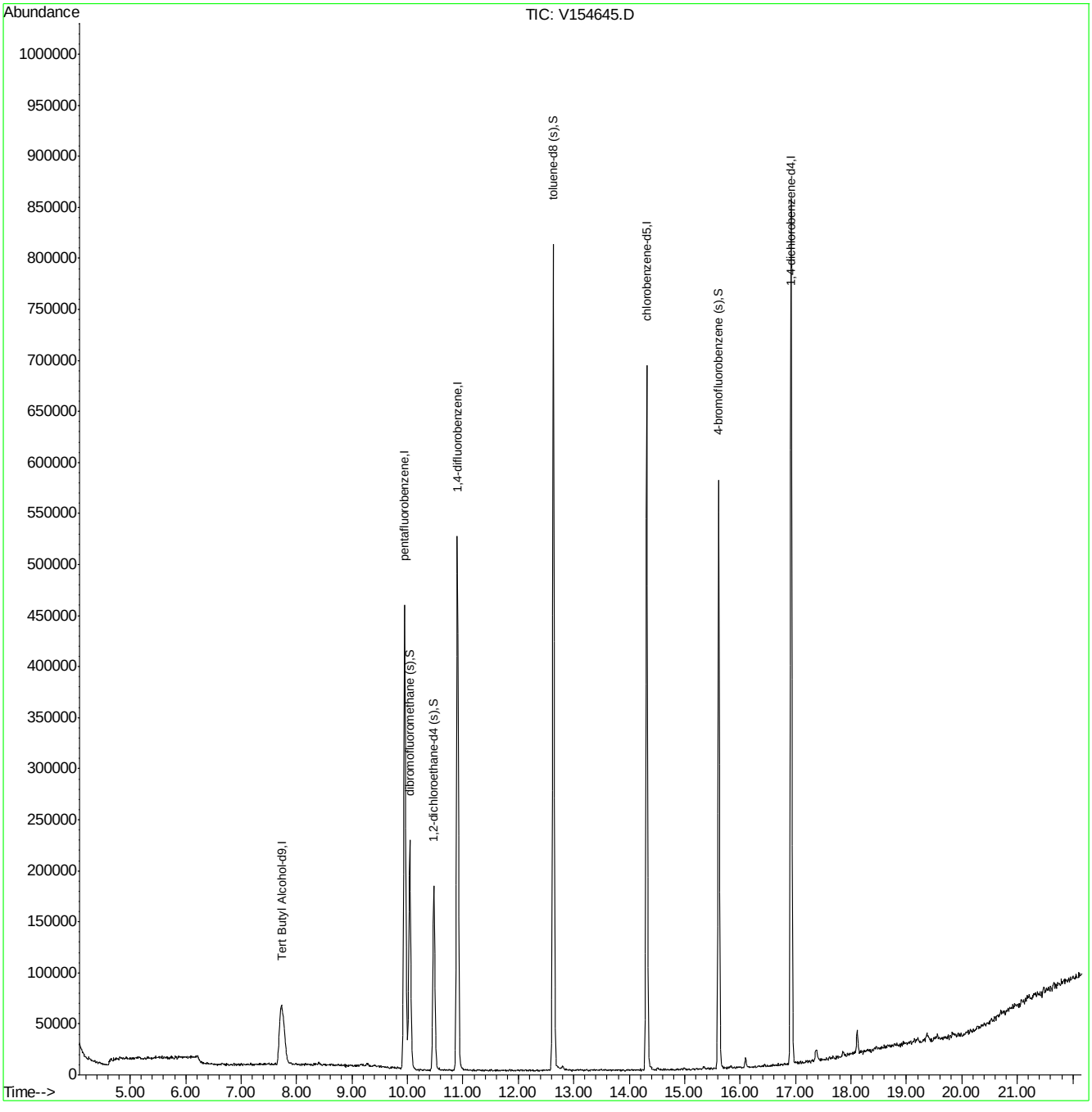
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V154645.D
Acq On : 5 Aug 2015 11:18 am
Operator : payalr
Sample : MB
Misc : MS88841,VV6551,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 05 12:26:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6502.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Jun 12 14:36:27 2015
Response via : Initial Calibration



MVS6502.M Wed Aug 05 12:26:33 2015 MSV

ACCUTEST LABORATORIES JB99969

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85880-MB1	M116366.D	1	07/29/15	AP	07/28/15	OP85880	EM4859

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	33	7.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	6.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	8.0	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	6.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	11	ug/kg	
218-01-9	Chrysene	ND	33	8.2	ug/kg	
86-73-7	Fluorene	ND	33	25	ug/kg	
85-01-8	Phenanthrene	ND	33	7.1	ug/kg	
129-00-0	Pyrene	ND	33	7.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	61%	22-121%
4165-62-2	Phenol-d5	72%	27-119%
118-79-6	2,4,6-Tribromophenol	74%	17-158%
4165-60-0	Nitrobenzene-d5	95%	33-127%
321-60-8	2-Fluorobiphenyl	81%	41-121%
1718-51-0	Terphenyl-d14	107%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.22	980	ug/kg	J
	system artifact/aldol-condensation	3.44	330	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85881-MB1	2M76182.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	33	7.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	6.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	8.0	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	6.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	11	ug/kg	
218-01-9	Chrysene	ND	33	8.2	ug/kg	
86-73-7	Fluorene	ND	33	25	ug/kg	
85-01-8	Phenanthrene	ND	33	7.1	ug/kg	
129-00-0	Pyrene	ND	33	7.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	80%	22-121%
4165-62-2	Phenol-d5	78%	27-119%
118-79-6	2,4,6-Tribromophenol	76%	17-158%
4165-60-0	Nitrobenzene-d5	81%	33-127%
321-60-8	2-Fluorobiphenyl	81%	41-121%
1718-51-0	Terphenyl-d14	95%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.24	1700	ug/kg	J
	system artifact	3.40	140	ug/kg	J
	system artifact/aldol-condensation	3.44	460	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85890-MB1	2P51008.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	33	7.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	6.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	8.0	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	6.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	11	ug/kg	
218-01-9	Chrysene	ND	33	8.2	ug/kg	
86-73-7	Fluorene	ND	33	25	ug/kg	
85-01-8	Phenanthrene	ND	33	7.1	ug/kg	
129-00-0	Pyrene	ND	33	7.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	64%	22-121%
4165-62-2	Phenol-d5	68%	27-119%
118-79-6	2,4,6-Tribromophenol	104%	17-158%
4165-60-0	Nitrobenzene-d5	93%	33-127%
321-60-8	2-Fluorobiphenyl	95%	41-121%
1718-51-0	Terphenyl-d14	108%	44-137%

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86008-MB1	3P45544.D	1	08/03/15	SD	08/03/15	OP86008	E3P2035

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-10

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	33	7.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	6.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	8.0	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	6.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	11	ug/kg	
218-01-9	Chrysene	ND	33	8.2	ug/kg	
86-73-7	Fluorene	ND	33	25	ug/kg	
85-01-8	Phenanthrene	ND	33	7.1	ug/kg	
129-00-0	Pyrene	ND	33	7.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	69%	22-121%
4165-62-2	Phenol-d5	74%	27-119%
118-79-6	2,4,6-Tribromophenol	95%	17-158%
4165-60-0	Nitrobenzene-d5	108%	33-127%
321-60-8	2-Fluorobiphenyl	91%	41-121%
1718-51-0	Terphenyl-d14	129%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.32	1600	ug/kg	J
	system artifact	3.47	160	ug/kg	J
	system artifact/aldol-condensation	3.56	510	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86008-MB1	2M76338.D	1	08/03/15	SD	08/03/15	OP86008	E2M3309

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-10

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	33	7.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	6.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	8.0	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	6.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	11	ug/kg	
218-01-9	Chrysene	ND	33	8.2	ug/kg	
86-73-7	Fluorene	ND	33	25	ug/kg	
85-01-8	Phenanthrene	ND	33	7.1	ug/kg	
129-00-0	Pyrene	ND	33	7.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	77%	22-121%
4165-62-2	Phenol-d5	77%	27-119%
118-79-6	2,4,6-Tribromophenol	87%	17-158%
4165-60-0	Nitrobenzene-d5	83%	33-127%
321-60-8	2-Fluorobiphenyl	87%	41-121%
1718-51-0	Terphenyl-d14	111%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.18	1500	ug/kg	J
	system artifact	3.35	150	ug/kg	J
	system artifact/aldol-condensation	3.39	430	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85880-BS1	M116354.D	1	07/29/15	AD	07/28/15	OP85880	EM4858

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
120-12-7	Anthracene	1670	1330	80	58-123
56-55-3	Benzo(a)anthracene	1670	1210	73	56-119
50-32-8	Benzo(a)pyrene	1670	1360	82	55-129
205-99-2	Benzo(b)fluoranthene	1670	1290	77	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1100	66	49-130
218-01-9	Chrysene	1670	1180	71	58-125
86-73-7	Fluorene	1670	1340	80	58-124
85-01-8	Phenanthrene	1670	1270	76	55-120
129-00-0	Pyrene	1670	1100	66	55-123

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	67%	22-121%
4165-62-2	Phenol-d5	78%	27-119%
118-79-6	2,4,6-Tribromophenol	88%	17-158%
4165-60-0	Nitrobenzene-d5	87%	33-127%
321-60-8	2-Fluorobiphenyl	77%	41-121%
1718-51-0	Terphenyl-d14	77%	44-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85881-BS1	2M76183.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
120-12-7	Anthracene	1670	1320	79	58-123
56-55-3	Benzo(a)anthracene	1670	1280	77	56-119
50-32-8	Benzo(a)pyrene	1670	1440	86	55-129
205-99-2	Benzo(b)fluoranthene	1670	1400	84	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1350	81	49-130
218-01-9	Chrysene	1670	1380	83	58-125
86-73-7	Fluorene	1670	1330	80	58-124
85-01-8	Phenanthrene	1670	1270	76	55-120
129-00-0	Pyrene	1670	1380	83	55-123

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	78%	22-121%
4165-62-2	Phenol-d5	74%	27-119%
118-79-6	2,4,6-Tribromophenol	80%	17-158%
4165-60-0	Nitrobenzene-d5	77%	33-127%
321-60-8	2-Fluorobiphenyl	83%	41-121%
1718-51-0	Terphenyl-d14	99%	44-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85890-BS1	2P51009.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
120-12-7	Anthracene	1670	1140	68	58-123
56-55-3	Benzo(a)anthracene	1670	1250	75	56-119
50-32-8	Benzo(a)pyrene	1670	1310	79	55-129
205-99-2	Benzo(b)fluoranthene	1670	1210	73	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1160	70	49-130
218-01-9	Chrysene	1670	1290	77	58-125
86-73-7	Fluorene	1670	1340	80	58-124
85-01-8	Phenanthrene	1670	1100	66	55-120
129-00-0	Pyrene	1670	1190	71	55-123

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	64%	22-121%
4165-62-2	Phenol-d5	64%	27-119%
118-79-6	2,4,6-Tribromophenol	93%	17-158%
4165-60-0	Nitrobenzene-d5	86%	33-127%
321-60-8	2-Fluorobiphenyl	86%	41-121%
1718-51-0	Terphenyl-d14	103%	44-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86008-BS1	2M76339.D	1	08/04/15	SD	08/03/15	OP86008	E2M3309

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
120-12-7	Anthracene	1670	1520	91	58-123
56-55-3	Benzo(a)anthracene	1670	1440	86	56-119
50-32-8	Benzo(a)pyrene	1670	1660	100	55-129
205-99-2	Benzo(b)fluoranthene	1670	1590	95	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1560	94	49-130
218-01-9	Chrysene	1670	1580	95	58-125
86-73-7	Fluorene	1670	1480	89	58-124
85-01-8	Phenanthrene	1670	1450	87	55-120
129-00-0	Pyrene	1670	1580	95	55-123

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	83%	22-121%
4165-62-2	Phenol-d5	80%	27-119%
118-79-6	2,4,6-Tribromophenol	100%	17-158%
4165-60-0	Nitrobenzene-d5	88%	33-127%
321-60-8	2-Fluorobiphenyl	93%	41-121%
1718-51-0	Terphenyl-d14	118%	44-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85880-MS [a]	M116374.D	2	07/29/15	AP	07/28/15	OP85880	EM4859
OP85880-MSD [a]	M116375.D	2	07/29/15	AP	07/28/15	OP85880	EM4859
JC179-1 [a]	M116368.D	2	07/29/15	AP	07/28/15	OP85880	EM4859

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15

CAS No.	Compound	JC179-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
120-12-7	Anthracene	3460		2170	4060	28* [b]	2170	3800	16* [b]	7	32-142/38
56-55-3	Benzo(a)anthracene	439		2170	1950	70	2170	1960	70	1	30-139/42
50-32-8	Benzo(a)pyrene	338	J	2170	1520	55	2170	1670	61	9	32-145/42
205-99-2	Benzo(b)fluoranthene	339	J	2170	1560	56	2170	1820	68	15	30-147/43
191-24-2	Benzo(g,h,i)perylene	302	J	2170	1310	47	2170	1480	54	12	27-148/41
218-01-9	Chrysene	818		2170	2190	63	2170	2310	69	5	31-144/42
86-73-7	Fluorene	11400		2170	10500	-42* [c]	2170	10800	-28* [c]	3	37-138/39
85-01-8	Phenanthrene	24200		2170	23100	-51* [c]	2170	21400	-129* [c]	8	28-142/42
129-00-0	Pyrene	2370		2170	3770	65	2170	4310	90	13	27-150/42

CAS No.	Surrogate Recoveries	MS	MSD	JC179-1	Limits
367-12-4	2-Fluorophenol	24%	38%		22-121%
4165-62-2	Phenol-d5	52%	68%		27-119%
118-79-6	2,4,6-Tribromophenol	77%	75%		17-158%
4165-60-0	Nitrobenzene-d5	98%	103%	92%	33-127%
321-60-8	2-Fluorobiphenyl	119%	150%* [d]	110%	41-121%
1718-51-0	Terphenyl-d14	85%	109%	99%	44-137%

(a) Elevated detection limit due to high final volume of viscous extract and dilution.
(b) Outside control limits due to matrix interference and dilution.
(c) Outside control limits due to high level in sample relative to spike amount.
(d) Outside control limits due to dilution.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85881-MS	2M76197.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302
OP85881-MSD	2M76198.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302
JB99604-18	2M76184.D	1	07/29/15	AN	07/28/15	OP85881	E2M3302

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20

CAS No.	Compound	JB99604-18 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
120-12-7	Anthracene	ND		1740	1390	80	1690	1320	78	5	32-142/38
56-55-3	Benzo(a)anthracene	ND		1740	1360	78	1690	1270	75	7	30-139/42
50-32-8	Benzo(a)pyrene	ND		1740	1520	87	1690	1420	84	7	32-145/42
205-99-2	Benzo(b)fluoranthene	ND		1740	1450	83	1690	1310	77	10	30-147/43
191-24-2	Benzo(g,h,i)perylene	ND		1740	1440	83	1690	1360	80	6	27-148/41
218-01-9	Chrysene	ND		1740	1480	85	1690	1370	81	8	31-144/42
86-73-7	Fluorene	ND		1740	1360	78	1690	1280	76	6	37-138/39
85-01-8	Phenanthrene	ND		1740	1330	77	1690	1260	74	5	28-142/42
129-00-0	Pyrene	ND		1740	1370	79	1690	1310	77	4	27-150/42

CAS No.	Surrogate Recoveries	MS	MSD	JB99604-18	Limits
367-12-4	2-Fluorophenol	73%	74%		22-121%
4165-62-2	Phenol-d5	71%	71%		27-119%
118-79-6	2,4,6-Tribromophenol	79%	75%		17-158%
4165-60-0	Nitrobenzene-d5	75%	75%	60%	33-127%
321-60-8	2-Fluorobiphenyl	79%	78%	60%	41-121%
1718-51-0	Terphenyl-d14	94%	92%	79%	44-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP85890-MS	2P51010.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191
OP85890-MSD	2P51011.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191
JB99970-1	2P51012.D	1	07/29/15	AD	07/29/15	OP85890	E2P2191

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

CAS No.	Compound	JB99970-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
120-12-7	Anthracene	ND		2230	1670	75	2230	1710	77	2	32-142/38
56-55-3	Benzo(a)anthracene	ND		2230	1800	81	2230	1910	86	6	30-139/42
50-32-8	Benzo(a)pyrene	ND		2230	1950	88	2230	1980	89	2	32-145/42
205-99-2	Benzo(b)fluoranthene	ND		2230	1780	80	2230	1830	82	3	30-147/43
191-24-2	Benzo(g,h,i)perylene	ND		2230	1720	77	2230	1860	84	8	27-148/41
218-01-9	Chrysene	ND		2230	1840	83	2230	1950	88	6	31-144/42
86-73-7	Fluorene	ND		2230	1930	87	2230	1960	88	2	37-138/39
85-01-8	Phenanthrene	ND		2230	1590	71	2230	1630	73	2	28-142/42
129-00-0	Pyrene	ND		2230	1720	77	2230	1780	80	3	27-150/42

CAS No.	Surrogate Recoveries	MS	MSD	JB99970-1	Limits
367-12-4	2-Fluorophenol	63%	65%		22-121%
4165-62-2	Phenol-d5	64%	63%		27-119%
118-79-6	2,4,6-Tribromophenol	91%	93%		17-158%
4165-60-0	Nitrobenzene-d5	89%	93%	93%	33-127%
321-60-8	2-Fluorobiphenyl	90%	92%	99%	41-121%
1718-51-0	Terphenyl-d14	106%	110%	96%	44-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP86008-MS	2M76356.D	1	08/04/15	SD	08/03/15	OP86008	E2M3309
OP86008-MSD	2M76357.D	1	08/04/15	SD	08/03/15	OP86008	E2M3309
JC383-1	2M76349.D	1	08/04/15	SD	08/03/15	OP86008	E2M3309

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB99969-10

CAS No.	Compound	JC383-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
120-12-7	Anthracene	ND		1770	1500	85	1780	1550	87	3	32-142/38
56-55-3	Benzo(a)anthracene	ND		1770	1460	82	1780	1520	85	4	30-139/42
50-32-8	Benzo(a)pyrene	ND		1770	1630	92	1780	1730	97	6	32-145/42
205-99-2	Benzo(b)fluoranthene	ND		1770	1530	86	1780	1620	91	6	30-147/43
191-24-2	Benzo(g,h,i)perylene	ND		1770	1570	89	1780	1660	93	6	27-148/41
218-01-9	Chrysene	ND		1770	1550	87	1780	1640	92	6	31-144/42
86-73-7	Fluorene	ND		1770	1430	81	1780	1520	85	6	37-138/39
85-01-8	Phenanthrene	ND		1770	1430	81	1780	1490	84	4	28-142/42
129-00-0	Pyrene	ND		1770	1520	86	1780	1590	89	5	27-150/42

CAS No.	Surrogate Recoveries	MS	MSD	JC383-1	Limits
367-12-4	2-Fluorophenol	69%	75%	70%	22-121%
4165-62-2	Phenol-d5	68%	72%	68%	27-119%
118-79-6	2,4,6-Tribromophenol	95%	98%	82%	17-158%
4165-60-0	Nitrobenzene-d5	77%	82%	77%	33-127%
321-60-8	2-Fluorobiphenyl	84%	88%	82%	41-121%
1718-51-0	Terphenyl-d14	107%	113%	97%	44-137%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3299-DFTPP
Lab File ID: 2M76146.D
Instrument ID: GCMS2M
Injection Date: 07/28/15
Injection Time: 14:56

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	154541	42.8		Pass
68	Less than 2.0% of mass 69	2235	0.62	(1.50) [a]	Pass
69	Mass 69 relative abundance	149302	41.4		Pass
70	Less than 2.0% of mass 69	634	0.18	(0.42) [a]	Pass
127	40.0 - 60.0% of mass 198	195022	54.1		Pass
197	Less than 1.0% of mass 198	2124	0.59		Pass
198	Base peak, 100% relative abundance	360677	100.0		Pass
199	5.0 - 9.0% of mass 198	23460	6.50		Pass
275	10.0 - 30.0% of mass 198	89498	24.8		Pass
365	1.0 - 100.0% of mass 198	11631	3.22		Pass
441	Present, but less than mass 443	48480	13.4	(74.8) [b]	Pass
442	40.0 - 100.0% of mass 198	337024	93.4		Pass
443	17.0 - 23.0% of mass 442	64776	18.0	(19.2) [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
E2M3299-IC3299	2M76147.D	07/28/15	15:11	00:15	Initial cal 2
E2M3299-IC3299	2M76148.D	07/28/15	15:47	00:51	Initial cal 100
E2M3299-IC3299	2M76149.D	07/28/15	16:13	01:17	Initial cal 1
E2M3299-IC3299	2M76150.D	07/28/15	16:42	01:46	Initial cal 80
E2M3299-ICC3299	2M76151.D	07/28/15	17:09	02:13	Initial cal 50
E2M3299-IC3299	2M76152.D	07/28/15	17:36	02:40	Initial cal 25
E2M3299-IC3299	2M76153.D	07/28/15	18:14	03:18	Initial cal 10
E2M3299-IC3299	2M76154.D	07/28/15	18:40	03:44	Initial cal 5

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3300-DFTPP
Lab File ID: 2M76160.D
Instrument ID: GCMS2M
Injection Date: 07/28/15
Injection Time: 20:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	195188	48.7		Pass
68	Less than 2.0% of mass 69	2917	0.73	(1.59) [a]	Pass
69	Mass 69 relative abundance	183232	45.8		Pass
70	Less than 2.0% of mass 69	805	0.20	(0.44) [a]	Pass
127	40.0 - 60.0% of mass 198	228526	57.1		Pass
197	Less than 1.0% of mass 198	2127	0.53		Pass
198	Base peak, 100% relative abundance	400490	100.0		Pass
199	5.0 - 9.0% of mass 198	26767	6.68		Pass
275	10.0 - 30.0% of mass 198	93653	23.4		Pass
365	1.0 - 100.0% of mass 198	11522	2.88		Pass
441	Present, but less than mass 443	45089	11.3	(74.6) [b]	Pass
442	40.0 - 100.0% of mass 198	309277	77.2		Pass
443	17.0 - 23.0% of mass 442	60425	15.1	(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
E2M3300-IC3300	2M76161.D	07/28/15	20:26	00:21	Initial cal 100
E2M3300-IC3300	2M76162.D	07/28/15	20:53	00:48	Initial cal 80
E2M3300-ICC3300	2M76163.D	07/28/15	21:20	01:15	Initial cal 50
E2M3300-IC3300	2M76164.D	07/28/15	21:46	01:41	Initial cal 25
E2M3300-IC3300	2M76165.D	07/28/15	22:13	02:08	Initial cal 10
E2M3300-IC3300	2M76166.D	07/28/15	22:40	02:35	Initial cal 5
E2M3300-IC3300	2M76167.D	07/28/15	23:07	03:02	Initial cal 2
E2M3300-IC3300	2M76168.D	07/28/15	23:33	03:28	Initial cal 1
E2M3300-ICV3299	2M76170.D	07/29/15	00:27	04:22	Initial cal verification 50
E2M3300-ICV3299	2M76172.D	07/29/15	01:20	05:15	Initial cal verification 50
E2M3300-ICV3300	2M76172A.D	07/29/15	01:20	05:15	Initial cal verification 50
E2M3300-ICV3299	2M76173.D	07/29/15	01:47	05:42	Initial cal verification 50
E2M3300-ICV3299	2M76174A.D	07/29/15	02:13	06:08	Initial cal verification 50
E2M3300-ICV3300	2M76174.D	07/29/15	02:13	06:08	Initial cal verification 50
E2M3300-ICV3300	2M76175.D	07/29/15	02:40	06:35	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3301-DFTPP
Lab File ID: 2M76176.D
Instrument ID: GCMS2M
Injection Date: 07/29/15
Injection Time: 10:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	183834	46.3		Pass
68	Less than 2.0% of mass 69	3116	0.79	(1.72) [a]	Pass
69	Mass 69 relative abundance	180770	45.6		Pass
70	Less than 2.0% of mass 69	614	0.15	(0.34) [a]	Pass
127	40.0 - 60.0% of mass 198	230146	58.0		Pass
197	Less than 1.0% of mass 198	2555	0.64		Pass
198	Base peak, 100% relative abundance	396800	100.0		Pass
199	5.0 - 9.0% of mass 198	27053	6.82		Pass
275	10.0 - 30.0% of mass 198	91258	23.0		Pass
365	1.0 - 100.0% of mass 198	10546	2.66		Pass
441	Present, but less than mass 443	43581	11.0	(74.0) [b]	Pass
442	40.0 - 100.0% of mass 198	298861	75.3		Pass
443	17.0 - 23.0% of mass 442	58883	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
E2M3301-ICV3299	2M76177.D	07/29/15	10:16	00:13	Initial cal verification 50
E2M3301-ICV3299	2M76178.D	07/29/15	10:53	00:50	Initial cal verification 50
E2M3301-ICV3300	2M76178A.D	07/29/15	10:53	00:50	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3309-DFTPP
Lab File ID: 2M76335.D
Instrument ID: GCMS2M
Injection Date: 08/03/15
Injection Time: 22:28

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	127560	39.0		Pass
68	Less than 2.0% of mass 69	2296	0.70	(1.70) [a]	Pass
69	Mass 69 relative abundance	135180	41.3		Pass
70	Less than 2.0% of mass 69	951	0.29	(0.70) [a]	Pass
127	40.0 - 60.0% of mass 198	180233	55.1		Pass
197	Less than 1.0% of mass 198	2504	0.76		Pass
198	Base peak, 100% relative abundance	327360	100.0		Pass
199	5.0 - 9.0% of mass 198	22699	6.93		Pass
275	10.0 - 30.0% of mass 198	82278	25.1		Pass
365	1.0 - 100.0% of mass 198	9310	2.84		Pass
441	Present, but less than mass 443	37091	11.3	(71.8) [b]	Pass
442	40.0 - 100.0% of mass 198	266392	81.4		Pass
443	17.0 - 23.0% of mass 442	51649	15.8	(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
E2M3309-CC3299	2M76336.D	08/03/15	22:43	00:15	Continuing cal 25
E2M3309-CC3300	2M76337.D	08/03/15	23:11	00:43	Continuing cal 25
OP86008-MB1	2M76338.D	08/03/15	23:38	01:10	Method Blank
OP86008-BS1	2M76339.D	08/04/15	00:05	01:37	Blank Spike
ZZZZZZ	2M76340.D	08/04/15	00:31	02:03	(unrelated sample)
ZZZZZZ	2M76341.D	08/04/15	00:58	02:30	(unrelated sample)
ZZZZZZ	2M76342.D	08/04/15	01:24	02:56	(unrelated sample)
ZZZZZZ	2M76343.D	08/04/15	01:51	03:23	(unrelated sample)
ZZZZZZ	2M76344.D	08/04/15	02:18	03:50	(unrelated sample)
ZZZZZZ	2M76345.D	08/04/15	02:44	04:16	(unrelated sample)
ZZZZZZ	2M76346.D	08/04/15	03:11	04:43	(unrelated sample)
ZZZZZZ	2M76347.D	08/04/15	03:37	05:09	(unrelated sample)
ZZZZZZ	2M76348.D	08/04/15	04:04	05:36	(unrelated sample)
JC383-1	2M76349.D	08/04/15	04:30	06:02	(used for QC only; not part of job JB99969)
ZZZZZZ	2M76350.D	08/04/15	04:57	06:29	(unrelated sample)
ZZZZZZ	2M76351.D	08/04/15	05:24	06:56	(unrelated sample)
ZZZZZZ	2M76352.D	08/04/15	05:50	07:22	(unrelated sample)
ZZZZZZ	2M76353.D	08/04/15	06:17	07:49	(unrelated sample)
ZZZZZZ	2M76354.D	08/04/15	06:44	08:16	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3309-DFTPP
Lab File ID: 2M76335.D
Instrument ID: GCMS2M
Injection Date: 08/03/15
Injection Time: 22:28

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	2M76355.D	08/04/15	07:10	08:42	(unrelated sample)
OP86008-MS	2M76356.D	08/04/15	07:37	09:09	Matrix Spike
OP86008-MSD	2M76357.D	08/04/15	08:03	09:35	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2P2153-DFTPP
Lab File ID: 2P50232.D
Instrument ID: GCMS2P
Injection Date: 07/02/15
Injection Time: 10:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	113881	36.7		Pass
68	Less than 2.0% of mass 69	1174	0.38	(0.87) [a]	Pass
69	Mass 69 relative abundance	134467	43.3		Pass
70	Less than 2.0% of mass 69	881	0.28	(0.66) [a]	Pass
127	40.0 - 60.0% of mass 198	151672	48.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	310659	100.0		Pass
199	5.0 - 9.0% of mass 198	21954	7.07		Pass
275	10.0 - 30.0% of mass 198	66709	21.5		Pass
365	1.0 - 100.0% of mass 198	7849	2.53		Pass
441	Present, but less than mass 443	35416	11.4	(83.2) [b]	Pass
442	40.0 - 100.0% of mass 198	220629	71.0		Pass
443	17.0 - 23.0% of mass 442	42549	13.7	(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
E2P2153-IC2153	2P50233.D	07/02/15	10:31	00:19	Initial cal 2
E2P2153-IC2153	2P50234.D	07/02/15	11:04	00:52	Initial cal 100
E2P2153-IC2153	2P50235.D	07/02/15	11:55	01:43	Initial cal 1
E2P2153-IC2153	2P50236.D	07/02/15	12:28	02:16	Initial cal 80
E2P2153-ICC2153	2P50237.D	07/02/15	12:49	02:37	Initial cal 50
E2P2153-IC2153	2P50238.D	07/02/15	13:10	02:58	Initial cal 25
E2P2153-IC2153	2P50239.D	07/02/15	13:31	03:19	Initial cal 10
E2P2153-IC2153	2P50240.D	07/02/15	13:52	03:40	Initial cal 5

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2P2154-DFTPP
Lab File ID: 2P50241.D
Instrument ID: GCMS2P
Injection Date: 07/02/15
Injection Time: 14:10

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	123299	37.3		Pass
68	Less than 2.0% of mass 69	359	0.11	(0.24) [a]	Pass
69	Mass 69 relative abundance	150362	45.4		Pass
70	Less than 2.0% of mass 69	887	0.27	(0.59) [a]	Pass
127	40.0 - 60.0% of mass 198	167557	50.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	330840	100.0		Pass
199	5.0 - 9.0% of mass 198	20968	6.34		Pass
275	10.0 - 30.0% of mass 198	72037	21.8		Pass
365	1.0 - 100.0% of mass 198	9256	2.80		Pass
441	Present, but less than mass 443	37253	11.3	(82.1) [b]	Pass
442	40.0 - 100.0% of mass 198	238955	72.2		Pass
443	17.0 - 23.0% of mass 442	45397	13.7	(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
E2P2154-IC2154	2P50242.D	07/02/15	14:44	00:34	Initial cal 100
E2P2154-IC2154	2P50243.D	07/02/15	15:05	00:55	Initial cal 80
E2P2154-IC2154	2P50244.D	07/02/15	15:26	01:16	Initial cal 25
E2P2154-IC2154	2P50245.D	07/02/15	15:47	01:37	Initial cal 10
E2P2154-ICC2154	2P50246.D	07/02/15	16:08	01:58	Initial cal 50
E2P2154-IC2154	2P50247.D	07/02/15	16:29	02:19	Initial cal 2
E2P2154-IC2154	2P50248.D	07/02/15	16:50	02:40	Initial cal 5
E2P2154-IC2154	2P50249.D	07/02/15	17:11	03:01	Initial cal 1
E2P2154-ICV2153	2P50251.D	07/02/15	17:53	03:43	Initial cal verification 50
E2P2154-ICV2154	2P50252A.D	07/02/15	18:14	04:04	Initial cal verification 50
E2P2154-ICV2153	2P50252.D	07/02/15	18:14	04:04	Initial cal verification 50
E2P2154-ICV2153	2P50254.D	07/02/15	18:56	04:46	Initial cal verification 50
E2P2154-ICV2154	2P50255.D	07/02/15	19:17	05:07	Initial cal verification 50
E2P2154-ICV2154	2P50256A.D	07/02/15	19:38	05:28	Initial cal verification 50
E2P2154-ICV2153	2P50256.D	07/02/15	19:38	05:28	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2P2156-DFTPP
Lab File ID: 2P50260.D
Instrument ID: GCMS2P
Injection Date: 07/06/15
Injection Time: 07:26

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	199677	37.5		Pass
68	Less than 2.0% of mass 69	1367	0.26	(0.56) [a]	Pass
69	Mass 69 relative abundance	242120	45.5		Pass
70	Less than 2.0% of mass 69	410	0.08	(0.17) [a]	Pass
127	40.0 - 60.0% of mass 198	266971	50.2		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	532288	100.0		Pass
199	5.0 - 9.0% of mass 198	35884	6.74		Pass
275	10.0 - 30.0% of mass 198	116493	21.9		Pass
365	1.0 - 100.0% of mass 198	13547	2.55		Pass
441	Present, but less than mass 443	56571	10.6	(79.1) [b]	Pass
442	40.0 - 100.0% of mass 198	363925	68.4		Pass
443	17.0 - 23.0% of mass 442	71533	13.4	(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
E2P2156-ICV2154	2P50261A.D	07/06/15	07:39	00:13	Initial cal verification 50
E2P2156-ICV2153	2P50261.D	07/06/15	07:39	00:13	Initial cal verification 50
E2P2156-ICV2153	2P50262.D	07/06/15	08:05	00:39	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2P2191-DFTPP
Lab File ID: 2P51004.D
Instrument ID: GCMS2P
Injection Date: 07/29/15
Injection Time: 16:33

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	227883	44.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	272542	53.7		Pass
70	Less than 2.0% of mass 69	2270	0.45	(0.83) [a]	Pass
127	40.0 - 60.0% of mass 198	239596	47.2		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	507947	100.0		Pass
199	5.0 - 9.0% of mass 198	36701	7.23		Pass
275	10.0 - 30.0% of mass 198	127699	25.1		Pass
365	1.0 - 100.0% of mass 198	15971	3.14		Pass
441	Present, but less than mass 443	68264	13.4	(86.4) [b]	Pass
442	40.0 - 100.0% of mass 198	422699	83.2		Pass
443	17.0 - 23.0% of mass 442	78981	15.5	(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
E2P2191-CC2153	2P51005.D	07/29/15	16:45	00:12	Continuing cal 25
OP85839-MB1	2P51007.D	07/29/15	17:33	01:00	Method Blank
OP85890-MB1	2P51008.D	07/29/15	17:54	01:21	Method Blank
OP85890-BS1	2P51009.D	07/29/15	18:37	02:04	Blank Spike
OP85890-MS	2P51010.D	07/29/15	18:59	02:26	Matrix Spike
OP85890-MSD	2P51011.D	07/29/15	19:20	02:47	Matrix Spike Duplicate
JB99970-1	2P51012.D	07/29/15	19:41	03:08	(used for QC only; not part of job JB99969)
ZZZZZZ	2P51013.D	07/29/15	20:03	03:30	(unrelated sample)
ZZZZZZ	2P51014.D	07/29/15	20:24	03:51	(unrelated sample)
ZZZZZZ	2P51015.D	07/29/15	20:45	04:12	(unrelated sample)
ZZZZZZ	2P51016.D	07/29/15	21:06	04:33	(unrelated sample)
JB99969-21	2P51017.D	07/29/15	21:28	04:55	MH-616-2-3
JB99969-22	2P51018.D	07/29/15	21:49	05:16	MH-616-3-3
JB99969-24	2P51019.D	07/29/15	22:10	05:37	MH-616-6-5
JB99969-25	2P51020.D	07/29/15	22:32	05:59	MH-616-5-3
ZZZZZZ	2P51021.D	07/29/15	22:53	06:20	(unrelated sample)
ZZZZZZ	2P51022.D	07/29/15	23:14	06:41	(unrelated sample)
JB99969-23	2P51023.D	07/29/15	23:36	07:03	MH-616-4-3
ZZZZZZ	2P51024.D	07/29/15	23:57	07:24	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample:	E2P2191-DFTPP	**Injection Date:**	07/29/15
Lab File ID:	2P51004.D	**Injection Time:**	16:33
Instrument ID:	GCMS2P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	2P51025.D	07/30/15	00:18	07:45	(unrelated sample)
ZZZZZZ	2P51026.D	07/30/15	00:39	08:06	(unrelated sample)
ZZZZZZ	2P51027.D	07/30/15	01:01	08:28	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E3P2012-DFTPP
Lab File ID: 3P45117.D
Instrument ID: GCMS3P
Injection Date: 07/17/15
Injection Time: 00:42

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	108797	47.1		Pass
68	Less than 2.0% of mass 69	1506	0.65	(1.32) [a]	Pass
69	Mass 69 relative abundance	114339	49.5		Pass
70	Less than 2.0% of mass 69	456	0.20	(0.40) [a]	Pass
127	40.0 - 60.0% of mass 198	127752	55.4		Pass
197	Less than 1.0% of mass 198	349	0.15		Pass
198	Base peak, 100% relative abundance	230763	100.0		Pass
199	5.0 - 9.0% of mass 198	15094	6.54		Pass
275	10.0 - 30.0% of mass 198	46965	20.4		Pass
365	1.0 - 100.0% of mass 198	6588	2.85		Pass
441	Present, but less than mass 443	30089	13.0	(82.8) [b]	Pass
442	40.0 - 100.0% of mass 198	196472	85.1		Pass
443	17.0 - 23.0% of mass 442	36341	15.7	(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
E3P2012-ICC2012	3P45118.D	07/17/15	00:54	00:12	Initial cal 50
E3P2012-IC2012	3P45119.D	07/17/15	01:20	00:38	Initial cal 25
E3P2012-IC2012	3P45120.D	07/17/15	01:46	01:04	Initial cal 100
E3P2012-IC2012	3P45121.D	07/17/15	02:13	01:31	Initial cal 80
E3P2012-IC2012	3P45122.D	07/17/15	02:39	01:57	Initial cal 10
E3P2012-IC2012	3P45123.D	07/17/15	03:05	02:23	Initial cal 5
E3P2012-IC2012	3P45124.D	07/17/15	03:31	02:49	Initial cal 2
E3P2012-IC2012	3P45125.D	07/17/15	03:57	03:15	Initial cal 1

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E3P2013-DFTPP
Lab File ID: 3P45126.D
Instrument ID: GCMS3P
Injection Date: 07/17/15
Injection Time: 07:45

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	126023	43.9		Pass
68	Less than 2.0% of mass 69	1699	0.59	(1.24) [a]	Pass
69	Mass 69 relative abundance	137225	47.8		Pass
70	Less than 2.0% of mass 69	527	0.18	(0.38) [a]	Pass
127	40.0 - 60.0% of mass 198	156147	54.4		Pass
197	Less than 1.0% of mass 198	851	0.30		Pass
198	Base peak, 100% relative abundance	287232	100.0		Pass
199	5.0 - 9.0% of mass 198	20549	7.15		Pass
275	10.0 - 30.0% of mass 198	59093	20.6		Pass
365	1.0 - 100.0% of mass 198	8632	3.01		Pass
441	Present, but less than mass 443	39755	13.8	(83.0) [b]	Pass
442	40.0 - 100.0% of mass 198	245592	85.5		Pass
443	17.0 - 23.0% of mass 442	47875	16.7	(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
E3P2013-IC2013	3P45127.D	07/17/15	07:58	00:13	Initial cal 100
E3P2013-IC2013	3P45128.D	07/17/15	08:24	00:39	Initial cal 80
E3P2013-IC2013	3P45129.D	07/17/15	08:50	01:05	Initial cal 10
E3P2013-IC2013	3P45130.D	07/17/15	09:16	01:31	Initial cal 5
E3P2013-IC2013	3P45131.D	07/17/15	09:42	01:57	Initial cal 2
E3P2013-IC2013	3P45132.D	07/17/15	10:09	02:24	Initial cal 1
E3P2013-IC2013	3P45133.D	07/17/15	10:35	02:50	Initial cal 25
E3P2013-ICC2013	3P45134.D	07/17/15	11:01	03:16	Initial cal 50
E3P2013-ICV2013	3P45140.D	07/17/15	13:38	05:53	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E3P2014-DFTPP
Lab File ID: 3P45143.D
Instrument ID: GCMS3P
Injection Date: 07/17/15
Injection Time: 18:42

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	99393	42.3		Pass
68	Less than 2.0% of mass 69	1360	0.58	(1.22) [a]	Pass
69	Mass 69 relative abundance	111175	47.3		Pass
70	Less than 2.0% of mass 69	641	0.27	(0.58) [a]	Pass
127	40.0 - 60.0% of mass 198	125504	53.4		Pass
197	Less than 1.0% of mass 198	486	0.21		Pass
198	Base peak, 100% relative abundance	234851	100.0		Pass
199	5.0 - 9.0% of mass 198	15603	6.64		Pass
275	10.0 - 30.0% of mass 198	49051	20.9		Pass
365	1.0 - 100.0% of mass 198	7107	3.03		Pass
441	Present, but less than mass 443	34731	14.8	(83.9) [b]	Pass
442	40.0 - 100.0% of mass 198	217819	92.7		Pass
443	17.0 - 23.0% of mass 442	41400	17.6	(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
E3P2014-ICV2012	3P45144.D	07/17/15	19:08	00:26	Initial cal verification 50
E3P2014-ICV2012	3P45145.D	07/17/15	19:41	00:59	Initial cal verification 50
E3P2014-ICV2013	3P45146A.D	07/17/15	20:08	01:26	Initial cal verification 50
E3P2014-ICV2012	3P45146.D	07/17/15	20:08	01:26	Initial cal verification 50
E3P2014-ICV2013	3P45147A.D	07/17/15	20:34	01:52	Initial cal verification 50
E3P2014-ICV2012	3P45147.D	07/17/15	20:34	01:52	Initial cal verification 50
E3P2014-ICV2012	3P45148.D	07/17/15	21:00	02:18	Initial cal verification 50
E3P2014-ICV2013	3P45149A.D	07/17/15	21:26	02:44	Initial cal verification 50
E3P2014-ICV2012	3P45149.D	07/17/15	21:26	02:44	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E3P2035-DFTPP
Lab File ID: 3P45541.D
Instrument ID: GCMS3P
Injection Date: 08/03/15
Injection Time: 17:06

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	212087	53.2		Pass
68	Less than 2.0% of mass 69	3468	0.87	(1.50) [a]	Pass
69	Mass 69 relative abundance	230880	57.9		Pass
70	Less than 2.0% of mass 69	805	0.20	(0.35) [a]	Pass
127	40.0 - 60.0% of mass 198	226271	56.7		Pass
197	Less than 1.0% of mass 198	475	0.12		Pass
198	Base peak, 100% relative abundance	398955	100.0		Pass
199	5.0 - 9.0% of mass 198	27000	6.77		Pass
275	10.0 - 30.0% of mass 198	88069	22.1		Pass
365	1.0 - 100.0% of mass 198	12518	3.14		Pass
441	Present, but less than mass 443	44664	11.2	(78.1) [b]	Pass
442	40.0 - 100.0% of mass 198	298701	74.9		Pass
443	17.0 - 23.0% of mass 442	57189	14.3	(19.1) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P2035-CC2012	3P45542.D	08/03/15	17:22	00:16	Continuing cal 50
E3P2035-CC2013	3P45543.D	08/03/15	17:52	00:46	Continuing cal 50
OP86008-MB1	3P45544.D	08/03/15	18:19	01:13	Method Blank
ZZZZZZ	3P45545.D	08/03/15	18:45	01:39	(unrelated sample)
ZZZZZZ	3P45546.D	08/03/15	19:12	02:06	(unrelated sample)
ZZZZZZ	3P45547.D	08/03/15	19:38	02:32	(unrelated sample)
ZZZZZZ	3P45548.D	08/03/15	20:04	02:58	(unrelated sample)
ZZZZZZ	3P45549.D	08/03/15	20:31	03:25	(unrelated sample)
ZZZZZZ	3P45550.D	08/03/15	20:57	03:51	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E3P2036-DFTPP
Lab File ID: 3P45551.D
Instrument ID: GCMS3P
Injection Date: 08/03/15
Injection Time: 21:46

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	242399	53.2		Pass
68	Less than 2.0% of mass 69	3408	0.75	(1.31) [a]	Pass
69	Mass 69 relative abundance	259277	56.9		Pass
70	Less than 2.0% of mass 69	1987	0.44	(0.77) [a]	Pass
127	40.0 - 60.0% of mass 198	258579	56.8		Pass
197	Less than 1.0% of mass 198	1907	0.42		Pass
198	Base peak, 100% relative abundance	455552	100.0		Pass
199	5.0 - 9.0% of mass 198	29457	6.47		Pass
275	10.0 - 30.0% of mass 198	102152	22.4		Pass
365	1.0 - 100.0% of mass 198	14133	3.10		Pass
441	Present, but less than mass 443	49472	10.9	(78.2) [b]	Pass
442	40.0 - 100.0% of mass 198	335040	73.5		Pass
443	17.0 - 23.0% of mass 442	63227	13.9	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P2036-CC2012	3P45552.D	08/03/15	21:58	00:12	Continuing cal 25
E3P2036-CC2013	3P45553.D	08/03/15	22:30	00:44	Continuing cal 25
OP86034-MB1	3P45555.D	08/03/15	23:23	01:37	Method Blank
OP86034-BS1	3P45556.D	08/03/15	23:49	02:03	Blank Spike
OP86034-MS	3P45557.D	08/04/15	00:16	02:30	Matrix Spike
OP86034-MSD	3P45558.D	08/04/15	00:42	02:56	Matrix Spike Duplicate
ZZZZZZ	3P45559.D	08/04/15	01:08	03:22	(unrelated sample)
JC554-1	3P45562.D	08/04/15	02:27	04:41	(used for QC only; not part of job JB99969)
ZZZZZZ	3P45564.D	08/04/15	03:20	05:34	(unrelated sample)
JB99969-10	3P45566.D	08/04/15	04:12	06:26	MH-618-2-3
ZZZZZZ	3P45567.D	08/04/15	04:39	06:53	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4774-DFTPP
Lab File ID: M114675.D
Instrument ID: GCMSM
Injection Date: 06/01/15
Injection Time: 14:56

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	88044	30.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	108524	37.0		Pass
70	Less than 2.0% of mass 69	534	0.18	(0.49) [a]	Pass
127	40.0 - 60.0% of mass 198	143189	48.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	293120	100.0		Pass
199	5.0 - 9.0% of mass 198	19938	6.80		Pass
275	10.0 - 30.0% of mass 198	71744	24.5		Pass
365	1.0 - 100.0% of mass 198	9711	3.31		Pass
441	Present, but less than mass 443	37805	12.9	(75.2) [b]	Pass
442	40.0 - 100.0% of mass 198	267498	91.3		Pass
443	17.0 - 23.0% of mass 442	50240	17.1	(18.8) [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
EM4774-IC4774	M114676.D	06/01/15	15:11	00:15	Initial cal 1
EM4774-IC4774	M114677.D	06/01/15	15:40	00:44	Initial cal 2
EM4774-IC4774	M114678.D	06/01/15	16:08	01:12	Initial cal 5
EM4774-IC4774	M114679.D	06/01/15	16:37	01:41	Initial cal 10
EM4774-IC4774	M114680.D	06/01/15	17:05	02:09	Initial cal 25
EM4774-ICC4774	M114681.D	06/01/15	17:34	02:38	Initial cal 50
EM4774-IC4774	M114682.D	06/01/15	18:03	03:07	Initial cal 80
EM4774-IC4774	M114683.D	06/01/15	18:31	03:35	Initial cal 100
EM4774-ICV4773	M114685.D	06/01/15	19:29	04:33	Initial cal verification 50
EM4774-ICV4774	M114686A.D	06/01/15	19:58	05:02	Initial cal verification 50
EM4774-ICV4773	M114686.D	06/01/15	19:58	05:02	Initial cal verification 50
EM4774-ICV4774	M114687A.D	06/01/15	20:26	05:30	Initial cal verification 50
EM4774-ICV4773	M114687.D	06/01/15	20:26	05:30	Initial cal verification 50
EM4774-ICV4773	M114688.D	06/01/15	20:55	05:59	Initial cal verification 50
EM4774-ICV4774	M114689.D	06/01/15	21:23	06:27	Initial cal verification 50
EM4774-ICV4773	M114689A.D	06/01/15	21:23	06:27	Initial cal verification 50
EM4774-ICV4774	M114690.D	06/01/15	21:52	06:56	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4814-DFTPP
Lab File ID: M115468.D
Instrument ID: GCMSM
Injection Date: 06/29/15
Injection Time: 08:44

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	125709	38.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	148448	46.0		Pass
70	Less than 2.0% of mass 69	577	0.18	(0.39) [a]	Pass
127	40.0 - 60.0% of mass 198	167136	51.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	322944	100.0		Pass
199	5.0 - 9.0% of mass 198	21622	6.70		Pass
275	10.0 - 30.0% of mass 198	84930	26.3		Pass
365	1.0 - 100.0% of mass 198	12485	3.87		Pass
441	Present, but less than mass 443	38024	11.8	(77.4) [b]	Pass
442	40.0 - 100.0% of mass 198	258773	80.1		Pass
443	17.0 - 23.0% of mass 442	49136	15.2	(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
EM4814-ICC4814	M115469.D	06/29/15	08:57	00:13	Initial cal 50
EM4814-IC4814	M115470.D	06/29/15	09:25	00:41	Initial cal 2
EM4814-IC4814	M115471.D	06/29/15	10:05	01:21	Initial cal 1
EM4814-IC4814	M115472.D	06/29/15	10:33	01:49	Initial cal 5
EM4814-IC4814	M115473.D	06/29/15	11:02	02:18	Initial cal 10
EM4814-IC4814	M115474.D	06/29/15	11:31	02:47	Initial cal 25
EM4814-IC4814	M115475.D	06/29/15	11:59	03:15	Initial cal 80
EM4814-IC4814	M115476.D	06/29/15	12:28	03:44	Initial cal 100
EM4814-ICV4814	M115477.D	06/29/15	12:59	04:15	Initial cal verification 50
EM4814-ICV4814	M115478.D	06/29/15	13:27	04:43	Initial cal verification 50
EM4814-ICV4814	M115479.D	06/29/15	13:56	05:12	Initial cal verification 50
EM4814-ICV4814	M115480.D	06/29/15	14:24	05:40	Initial cal verification 50
EM4814-ICV4814	M115481.D	06/29/15	14:53	06:09	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4858-DFTPP
Lab File ID: M116337.D
Instrument ID: GCMSM
Injection Date: 07/28/15
Injection Time: 20:32

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	140401	43.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	152724	47.7		Pass
70	Less than 2.0% of mass 69	1276	0.40	(0.84) [a]	Pass
127	40.0 - 60.0% of mass 198	156595	48.9		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	320085	100.0		Pass
199	5.0 - 9.0% of mass 198	20791	6.50		Pass
275	10.0 - 30.0% of mass 198	88981	27.8		Pass
365	1.0 - 100.0% of mass 198	15898	4.97		Pass
441	Present, but less than mass 443	28801	9.00	(78.8) [b]	Pass
442	40.0 - 100.0% of mass 198	191466	59.8		Pass
443	17.0 - 23.0% of mass 442	36546	11.4	(19.1) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM4858-CC4814	M116338.D	07/28/15	20:45	00:13	Continuing cal 25
EM4858-CC4774	M116339.D	07/28/15	21:36	01:04	Continuing cal 25
OP85861-MB1	M116340.D	07/28/15	22:05	01:33	Method Blank
OP85861-BS1	M116341.D	07/28/15	22:34	02:02	Blank Spike
ZZZZZZ	M116342.D	07/28/15	23:03	02:31	(unrelated sample)
ZZZZZZ	M116343.D	07/28/15	23:32	03:00	(unrelated sample)
OP85880-BS1	M116354.D	07/29/15	00:29	03:57	Blank Spike
ZZZZZZ	M116349.D	07/29/15	03:22	06:50	(unrelated sample)
ZZZZZZ	M116350.D	07/29/15	03:50	07:18	(unrelated sample)
ZZZZZZ	M116351.D	07/29/15	04:19	07:47	(unrelated sample)
ZZZZZZ	M116352.D	07/29/15	04:48	08:16	(unrelated sample)
ZZZZZZ	M116355.D	07/29/15	05:16	08:44	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4859-DFTPP
Lab File ID: M116362.D
Instrument ID: GCMSM
Injection Date: 07/29/15
Injection Time: 10:02

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	153906	45.7		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	164963	49.0		Pass
70	Less than 2.0% of mass 69	14	0.00	(0.01) [a]	Pass
127	40.0 - 60.0% of mass 198	147029	43.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	336853	100.0		Pass
199	5.0 - 9.0% of mass 198	22039	6.54		Pass
275	10.0 - 30.0% of mass 198	99949	29.7		Pass
365	1.0 - 100.0% of mass 198	14679	4.36		Pass
441	Present, but less than mass 443	39749	11.8	(85.5) [b]	Pass
442	40.0 - 100.0% of mass 198	244848	72.7		Pass
443	17.0 - 23.0% of mass 442	46490	13.8	(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
EM4859-CC4814	M116363.D	07/29/15	10:14	00:12	Continuing cal 50
EM4859-CC4774	M116364.D	07/29/15	10:45	00:43	Continuing cal 50
OP85880-MB1	M116366.D	07/29/15	11:42	01:40	Method Blank
JB99885-1	M116370.D	07/29/15	12:40	02:38	(used for QC only; not part of job JB99969)
ZZZZZZ	M116371.D	07/29/15	13:09	03:07	(unrelated sample)
ZZZZZZ	M116372.D	07/29/15	13:37	03:35	(unrelated sample)
ZZZZZZ	M116373.D	07/29/15	14:06	04:04	(unrelated sample)
JC179-1	M116368.D	07/29/15	14:35	04:33	(used for QC only; not part of job JB99969)
ZZZZZZ	M116369.D	07/29/15	15:04	05:02	(unrelated sample)
OP85880-MS	M116374.D	07/29/15	15:33	05:31	Matrix Spike
OP85880-MSD	M116375.D	07/29/15	16:02	06:00	Matrix Spike Duplicate
ZZZZZZ	M116377.D	07/29/15	17:00	06:58	(unrelated sample)
ZZZZZZ	M116379.D	07/29/15	17:59	07:57	(unrelated sample)
ZZZZZZ	M116380.D	07/29/15	18:28	08:26	(unrelated sample)
ZZZZZZ	M116381.D	07/29/15	18:57	08:55	(unrelated sample)
ZZZZZZ	M116382.D	07/29/15	19:26	09:24	(unrelated sample)
ZZZZZZ	M116384.D	07/29/15	20:23	10:21	(unrelated sample)
ZZZZZZ	M116386.D	07/29/15	21:21	11:19	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4860-DFTPP
Lab File ID: M116388.D
Instrument ID: GCMSM
Injection Date: 07/29/15
Injection Time: 22:15

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	162004	50.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	179476	55.7		Pass
70	Less than 2.0% of mass 69	806	0.25	(0.45) [a]	Pass
127	40.0 - 60.0% of mass 198	151990	47.2		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	322048	100.0		Pass
199	5.0 - 9.0% of mass 198	22706	7.05		Pass
275	10.0 - 30.0% of mass 198	92200	28.6		Pass
365	1.0 - 100.0% of mass 198	16563	5.14		Pass
441	Present, but less than mass 443	33331	10.3	(78.4) [b]	Pass
442	40.0 - 100.0% of mass 198	219168	68.1		Pass
443	17.0 - 23.0% of mass 442	42492	13.2	(19.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM4860-IC4860	M116389.D	07/29/15	22:30	00:15	Initial cal 100
EM4860-IC4860	M116390.D	07/29/15	23:01	00:46	Initial cal 80
EM4860-ICC4860	M116391.D	07/29/15	23:30	01:15	Initial cal 50
EM4860-IC4860	M116392.D	07/29/15	23:59	01:44	Initial cal 25
EM4860-IC4860	M116393.D	07/30/15	00:28	02:13	Initial cal 10
EM4860-IC4860	M116394.D	07/30/15	00:57	02:42	Initial cal 5
EM4860-IC4860	M116395.D	07/30/15	01:25	03:10	Initial cal 2
EM4860-IC4860	M116396.D	07/30/15	01:54	03:39	Initial cal 1
EM4860-ICV4860	M116397.D	07/30/15	02:23	04:08	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4865-DFTPP
Lab File ID: M116471.D
Instrument ID: GCMSM
Injection Date: 07/31/15
Injection Time: 22:55

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	172717	49.7		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	187294	53.9		Pass
70	Less than 2.0% of mass 69	1171	0.34	(0.63) [a]	Pass
127	40.0 - 60.0% of mass 198	166728	48.0		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	347394	100.0		Pass
199	5.0 - 9.0% of mass 198	23756	6.84		Pass
275	10.0 - 30.0% of mass 198	98053	28.2		Pass
365	1.0 - 100.0% of mass 198	13883	4.00		Pass
441	Present, but less than mass 443	26810	7.72	(79.0) [b]	Pass
442	40.0 - 100.0% of mass 198	180402	51.9		Pass
443	17.0 - 23.0% of mass 442	33947	9.77	(18.8) [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
EM4865-CC4814	M116472.D	07/31/15	23:09	00:14	Continuing cal 25
JB99969-1	M116473.D	07/31/15	23:50	00:55	MH-619-5-3
JB99969-2	M116474.D	08/01/15	00:19	01:24	MH-619-4-3
JB99969-3	M116475.D	08/01/15	00:47	01:52	MH-619-7-2
JB99969-4	M116476.D	08/01/15	01:16	02:21	MH-619-3-3
JB99969-5	M116477.D	08/01/15	01:45	02:50	MH-619-2-3
JB99969-6	M116478.D	08/01/15	02:13	03:18	MH-619-1-3
JB99969-7	M116479.D	08/01/15	02:42	03:47	MH-618-5-3
JB99969-8	M116480.D	08/01/15	03:11	04:16	MH-618-4-3
JB99969-9	M116481.D	08/01/15	03:40	04:45	MH-618-7-2
JB99969-11	M116482.D	08/01/15	04:08	05:13	MH-618-6-5
JB99969-12	M116483.D	08/01/15	04:37	05:42	MH-618-3-3
JB99969-13	M116484.D	08/01/15	05:06	06:11	MH-617-4-3
JB99969-14	M116485.D	08/01/15	05:35	06:40	MH-617-5-3

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4866-DFTPP
Lab File ID: M116498.D
Instrument ID: GCMSM
Injection Date: 08/01/15
Injection Time: 14:58

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	230393	37.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	285733	45.9		Pass
70	Less than 2.0% of mass 69	1792	0.29	(0.63) [a]	Pass
127	40.0 - 60.0% of mass 198	275221	44.2		Pass
197	Less than 1.0% of mass 198	663	0.11		Pass
198	Base peak, 100% relative abundance	621973	100.0		Pass
199	5.0 - 9.0% of mass 198	42448	6.82		Pass
275	10.0 - 30.0% of mass 198	184645	29.7		Pass
365	1.0 - 100.0% of mass 198	26392	4.24		Pass
441	Present, but less than mass 443	58511	9.41	(79.9) [b]	Pass
442	40.0 - 100.0% of mass 198	395650	63.6		Pass
443	17.0 - 23.0% of mass 442	73208	11.8	(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
EM4866-CC4814	M116499.D	08/01/15	15:14	00:16	Continuing cal 50
EM4866-CC4774	M116500.D	08/01/15	15:43	00:45	Continuing cal 50
EM4866-CC4860	M116501.D	08/01/15	16:12	01:14	Continuing cal 50
OP85982-MB1	M116502.D	08/01/15	16:41	01:43	Method Blank
OP85982-BS1	M116503.D	08/01/15	17:10	02:12	Blank Spike
OP85982-BSD	M116504.D	08/01/15	17:39	02:41	Blank Spike Duplicate
OP85982-BS13	M116505.D	08/01/15	18:07	03:09	Blank Spike
ZZZZZZ	M116506.D	08/01/15	18:36	03:38	(unrelated sample)
ZZZZZZ	M116507.D	08/01/15	19:05	04:07	(unrelated sample)
ZZZZZZ	M116508.D	08/01/15	19:33	04:35	(unrelated sample)
ZZZZZZ	M116509.D	08/01/15	20:02	05:04	(unrelated sample)
ZZZZZZ	M116510.D	08/01/15	20:31	05:33	(unrelated sample)
ZZZZZZ	M116511.D	08/01/15	20:59	06:01	(unrelated sample)
ZZZZZZ	M116512.D	08/01/15	21:28	06:30	(unrelated sample)
ZZZZZZ	M116513.D	08/01/15	21:57	06:59	(unrelated sample)
ZZZZZZ	M116514.D	08/01/15	22:25	07:27	(unrelated sample)
ZZZZZZ	M116515.D	08/01/15	22:54	07:56	(unrelated sample)
ZZZZZZ	M116517.D	08/01/15	23:52	08:54	(unrelated sample)
ZZZZZZ	M116518.D	08/02/15	00:20	09:22	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4866-DFTPP
Lab File ID: M116498.D
Instrument ID: GCMSM
Injection Date: 08/01/15
Injection Time: 14:58

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	M116519.D	08/02/15	00:49	09:51	(unrelated sample)
ZZZZZZ	M116521.D	08/02/15	01:46	10:48	(unrelated sample)
JB99969-13	M116522.D	08/02/15	02:15	11:17	MH-617-4-3
JB99969-14	M116523.D	08/02/15	02:43	11:45	MH-617-5-3

Instrument Performance Check (DFTPP)

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4867-DFTPP
Lab File ID: M116526.D
Instrument ID: GCMSM
Injection Date: 08/03/15
Injection Time: 10:08

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	106786	31.5		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	142824	42.1		Pass
70	Less than 2.0% of mass 69	486	0.14	(0.34) [a]	Pass
127	40.0 - 60.0% of mass 198	164725	48.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	339157	100.0		Pass
199	5.0 - 9.0% of mass 198	22088	6.51		Pass
275	10.0 - 30.0% of mass 198	88592	26.1		Pass
365	1.0 - 100.0% of mass 198	11958	3.53		Pass
441	Present, but less than mass 443	33144	9.77	(80.1) [b]	Pass
442	40.0 - 100.0% of mass 198	206546	60.9		Pass
443	17.0 - 23.0% of mass 442	41359	12.2	(20.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM4867-CC4814	M116527.D	08/03/15	10:24	00:16	Continuing cal 25
EM4867-CC4774	M116528.D	08/03/15	10:54	00:46	Continuing cal 25
ZZZZZZ	M116530.D	08/03/15	11:52	01:44	(unrelated sample)
JB99969-15	M116531.D	08/03/15	12:20	02:12	MH-617-3-3

Semivolatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	E2M3302-CC3299	**Injection Date:**	07/29/15
Lab File ID:	2M76180.D	**Injection Time:**	12:27
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	582677	4.68	2216317	5.77	1290633	7.83	1948556	9.99	1825165	14.16	1787537	16.27
Upper Limit [a]	1165354	5.18	4432634	6.27	2581266	8.33	3897112	10.49	3650330	14.66	3575074	16.77
Lower Limit [b]	291339	4.18	1108159	5.27	645317	7.33	974278	9.49	912583	13.66	893769	15.77

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
OP85881-MB1	716194	4.68	2686257	5.77	1505245	7.83	2144302	9.99	1874075	14.16	1746543	16.27
OP85881-BS1	598060	4.68	2303387	5.77	1238804	7.83	1796230	9.99	1538711	14.16	1463423	16.27
JB99604-18	686093	4.68	2583610	5.77	1445682	7.83	2082539	9.99	1843711	14.15	1727933	16.27
ZZZZZZ	634049	4.68	2383020	5.77	1316358	7.83	1890633	9.99	1654864	14.15	1527576	16.26
OP85839-MB1	592321	4.68	2251294	5.76	1290856	7.83	1921147	9.99	1816915	14.15	1761662	16.27
OP85889-MB1	656385	4.68	2462205	5.77	1372572	7.83	1977516	9.99	1729786	14.15	1603148	16.27
ZZZZZZ	685697	4.68	2578474	5.77	1427979	7.83	2062739	9.99	1825119	14.15	1681335	16.27
ZZZZZZ	581752	4.68	2131468	5.77	1191269	7.83	1720392	9.99	1622120	14.15	1600789	16.27
ZZZZZZ	622624	4.68	2384781	5.77	1392845	7.83	2132147	9.99	2073909	14.16	1989164	16.27
ZZZZZZ	676809	4.68	2528347	5.77	1446079	7.83	2135033	9.99	2048659	14.16	2005521	16.27
JB99969-16	570881	4.68	2103520	5.77	1189150	7.83	1747298	9.99	1736478	14.16	1743997	16.27
JB99969-17	638898	4.69	2124739	5.77	1183557	7.83	1822263	10.00	1901386	14.16	1876423	16.27
JB99969-18	621611	4.68	1869705	5.77	1260403	7.84	2027128	10.00	1960409	14.16	1892916	16.28
JB99969-19	626903	4.68	2283149	5.77	1278484	7.83	1834790	10.00	1702848	14.16	1708291	16.28
JB99969-20	585889	4.68	2163651	5.77	1214279	7.83	1744257	9.99	1673211	14.16	1718695	16.27
ZZZZZZ	599112	4.68	2231449	5.77	1264101	7.83	1850834	9.99	1810278	14.16	1774408	16.27
ZZZZZZ	613136	4.68	2263952	5.77	1266082	7.83	1825274	9.99	1764837	14.16	1770134	16.27
ZZZZZZ	565364	4.68	2076870	5.77	1176130	7.83	1722602	9.99	1703089	14.16	1712431	16.28
ZZZZZZ	624371	4.68	2295094	5.77	1271231	7.83	1829824	10.00	1735396	14.16	1759110	16.28
ZZZZZZ	550020	4.69	2048344	5.77	1184050	7.83	1760711	9.99	1721746	14.16	1685886	16.28
OP85881-MS	614444	4.69	2297365	5.77	1276279	7.84	1866039	10.00	1773240	14.18	1850006	16.29
OP85881-MSD	658683	4.69	2467726	5.77	1349971	7.84	1929119	10.00	1755702	14.17	1845613	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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	E2M3309-CC3299	**Injection Date:**	08/03/15
Lab File ID:	2M76336.D	**Injection Time:**	22:43
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	394919	4.64	1467830	5.72	909289	7.78	1428606	9.94	1379392	14.12	1329983	16.24
Upper Limit [a]	789838	5.14	2935660	6.22	1818578	8.28	2857212	10.44	2758784	14.62	2659966	16.74
Lower Limit [b]	197460	4.14	733915	5.22	454645	7.28	714303	9.44	689696	13.62	664992	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
OP86008-MB1	355181	4.64	1324626	5.72	795320	7.77	1179613	9.94	1067761	14.11	1003315	16.23
OP86008-BS1	389621	4.64	1434435	5.72	844995	7.77	1238276	9.94	1095657	14.12	1029353	16.23
ZZZZZZ	402937	4.64	1465742	5.72	861294	7.77	1272386	9.94	1148546	14.11	1034342	16.22
ZZZZZZ	412441	4.64	1483900	5.71	872536	7.77	1275834	9.93	1152270	14.11	1055274	16.22
ZZZZZZ	412117	4.64	1483423	5.71	870414	7.77	1274192	9.93	1155451	14.11	1048985	16.22
ZZZZZZ	416746	4.64	1519112	5.71	899941	7.77	1314879	9.93	1177931	14.11	1056617	16.22
ZZZZZZ	209897	4.64	953331	5.72	656224	7.77	1143742	9.93	427190*	14.10	456802*	16.22
ZZZZZZ	446773	4.64	1643796	5.71	966814	7.77	1402003	9.93	1285951	14.11	1161933	16.22
ZZZZZZ	391492	4.64	1421906	5.71	827593	7.77	1216035	9.93	1127606	14.11	1023130	16.22
ZZZZZZ	403634	4.64	1469887	5.71	858208	7.77	1255566	9.93	1154910	14.11	1047361	16.22
ZZZZZZ	458661	4.64	1665258	5.71	967503	7.77	1406875	9.93	1304798	14.11	1188103	16.22
JC383-1	435293	4.64	1577211	5.71	916239	7.77	1333684	9.93	1219188	14.11	1116716	16.22
ZZZZZZ	385574	4.64	1401316	5.71	817042	7.77	1195877	9.93	1114522	14.10	1025571	16.21
ZZZZZZ	394070	4.64	1401570	5.71	829229	7.77	1219992	9.93	1139011	14.11	1038877	16.22
ZZZZZZ	343010	4.64	1232048	5.71	709841	7.77	1038931	9.93	992261	14.10	998743	16.22
ZZZZZZ	431704	4.64	1539017	5.71	879275	7.77	1276028	9.93	1147642	14.11	1137702	16.22
ZZZZZZ	347609	4.64	1234925	5.71	718889	7.77	1045250	9.93	979277	14.11	988107	16.22
ZZZZZZ	345394	4.64	1232849	5.71	717765	7.77	1026235	9.93	963738	14.11	984052	16.22
OP86008-MS	343275	4.64	1219708	5.72	707399	7.77	1014266	9.94	911901	14.11	964726	16.22
OP86008-MSD	344234	4.64	1230805	5.72	709908	7.77	1034298	9.94	913151	14.11	948648	16.22

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	E2P2191-CC2153	**Injection Date:**	07/29/15
Lab File ID:	2P51005.D	**Injection Time:**	16:45
Instrument ID:	GCMS2P	**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	1355268	4.56	4523811	5.61	2866951	7.06	5382704	8.33	5688521	11.60	4911224	13.59
Upper Limit [a]	2710536	5.06	9047622	6.11	5733902	7.56	10765408	8.83	11377042	12.10	9822448	14.09
Lower Limit [b]	677634	4.06	2261906	5.11	1433476	6.56	2691352	7.83	2844261	11.10	2455612	13.09

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
OP85839-MB1	2192413	4.56	7182008	5.61	4969055	7.06	8070282	8.33	10267595	11.59	9760303	13.59
OP85890-MB1	1399128	4.56	4942182	5.61	3122031	7.05	5645619	8.33	6273796	11.59	5278010	13.59
OP85890-BS1	1487445	4.56	4876630	5.61	3057432	7.06	5684926	8.33	5632549	11.59	5583739	13.59
OP85890-MS	1407690	4.56	4647339	5.61	2960074	7.06	5537928	8.33	5521533	11.59	5104138	13.59
OP85890-MSD	1405330	4.56	4588847	5.61	2845232	7.06	5249771	8.33	5178558	11.59	5200170	13.59
JB99970-1	1507946	4.56	5369065	5.61	3232518	7.05	5764958	8.33	6197070	11.58	5480680	13.58
ZZZZZZ	1336780	4.56	4667281	5.61	2862541	7.05	5097906	8.33	5240175	11.58	4503314	13.58
ZZZZZZ	1470656	4.56	5215252	5.61	3179070	7.05	5523089	8.33	5877756	11.58	5295054	13.58
ZZZZZZ	1436062	4.56	5056700	5.61	3167139	7.05	5943714	8.33	6663023	11.59	5655160	13.59
ZZZZZZ	1302804	4.56	4386560	5.61	2727492	7.05	4945462	8.33	5578798	11.58	4771402	13.58
JB99969-21	1472618	4.56	5022629	5.61	2893953	7.05	5002571	8.33	5302956	11.58	4520685	13.58
JB99969-22	1553881	4.56	5330604	5.61	3232168	7.05	5781632	8.33	5981792	11.59	5080355	13.58
JB99969-24	1515626	4.56	5260931	5.61	3302521	7.05	5938337	8.33	6408337	11.58	5314715	13.58
JB99969-25	1369833	4.56	4842392	5.61	3143334	7.05	5098652	8.33	6464471	11.59	5902233	13.58
ZZZZZZ	1619534	4.56	5920505	5.61	3713648	7.05	6803611	8.33	7343174	11.59	6158702	13.59
ZZZZZZ	1524690	4.56	5343370	5.61	3230359	7.05	5780783	8.33	5950546	11.58	5047124	13.58
JB99969-23	1525818	4.56	5209633	5.61	3593890	7.05	6449784	8.33	7171662	11.59	6015150	13.59
ZZZZZZ	1707426	4.56	5874012	5.61	3602815	7.05	6265918	8.33	5892721	11.59	4840622	13.59
ZZZZZZ	1742849	4.56	5762909	5.61	3379189	7.05	5537717	8.33	5045728	11.60	4938733	13.61
ZZZZZZ	1544855	4.56	5097883	5.61	2604363	7.06	4164361	8.34	4048695	11.60	3762185	13.60
ZZZZZZ	1429517	4.56	4845023	5.62	2943229	7.07	5116233	8.35	5111095	11.61	4482058	13.61

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	E3P2035-CC2012	**Injection Date:**	08/03/15
Lab File ID:	3P45542.D	**Injection Time:**	17:22
Instrument ID:	GCMS3P	**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	361112	4.76	1270527	5.68	756949	7.12	1248654	9.03	1167943	14.35	883150	17.41
Upper Limit [a]	722224	5.26	2541054	6.18	1513898	7.62	2497308	9.53	2335886	14.85	1766300	17.91
Lower Limit [b]	180556	4.26	635264	5.18	378475	6.62	624327	8.53	583972	13.85	441575	16.91

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
OP86008-MB1	447803	4.76	1653814	5.68	901881	7.11	1388452	9.02	1124742	14.34	775107	17.40
ZZZZZZ	496337	4.76	1780472	5.68	1012295	7.11	1490570	9.02	1298996	14.33	900774	17.39
ZZZZZZ	460025	4.76	1702033	5.68	940545	7.11	1395005	9.02	1208546	14.33	812974	17.39
ZZZZZZ	527518	4.76	1913874	5.68	1069867	7.11	1641240	9.02	1426746	14.33	962172	17.39
ZZZZZZ	455834	4.76	1678607	5.68	925158	7.11	1434213	9.02	1248987	14.32	837326	17.39
ZZZZZZ	489508	4.76	1769149	5.68	992359	7.11	1474358	9.02	1243711	14.32	856299	17.39
ZZZZZZ	435121	4.76	1559751	5.68	851462	7.11	1247721	9.01	976004	14.32	755174	17.39

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	E3P2036-CC2012	**Injection Date:**	08/03/15
Lab File ID:	3P45552.D	**Injection Time:**	21:58
Instrument ID:	GCMS3P	**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	534608	4.75	1866831	5.68	1096945	7.10	1769514	9.00	1853083	14.31	1321823	17.37
Upper Limit [a]	1069216	5.25	3733662	6.18	2193890	7.60	3539028	9.50	3706166	14.81	2643646	17.87
Lower Limit [b]	267304	4.25	933416	5.18	548473	6.60	884757	8.50	926542	13.81	660912	16.87

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
OP86034-MB1	490605	4.75	1824243	5.67	1046634	7.10	1662040	9.00	1561296	14.30	1103215	17.36
OP86034-BS1	492752	4.75	1995753	5.68	966016	7.10	1510281	9.00	1552984	14.31	1075867	17.37
OP86034-MS	418292	4.75	1700924	5.67	831708	7.10	1330532	9.00	1355976	14.30	927698	17.36
OP86034-MSD	407699	4.75	1674822	5.67	840482	7.10	1417394	9.00	1498279	14.30	1036456	17.36
ZZZZZZ	488823	4.75	1768698	5.67	985710	7.10	1485366	9.00	1397174	14.30	1019832	17.36
JC554-1	421461	4.75	1576318	5.67	888393	7.10	1374400	8.99	1281710	14.29	943159	17.35
ZZZZZZ	379000	4.75	1168806	5.67	631700	7.10	984725	9.00	1049038	14.29	780279	17.36
JB99969-10	473742	4.75	1879557	5.67	1063050	7.09	1666590	8.99	1631510	14.29	1264556	17.35
ZZZZZZ	542624	4.75	2039308	5.67	1113037	7.10	1665868	8.99	1490462	14.29	1160917	17.35

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	EM4858-CC4814	**Injection Date:**	07/28/15
Lab File ID:	M116338.D	**Injection Time:**	20:45
Instrument ID:	GCMSM	**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	175965	4.68	688891	5.81	488568	8.15	956402	10.77	981121	15.94	978844	18.57
Upper Limit [a]	351930	5.18	1377782	6.31	977136	8.65	1912804	11.27	1962242	16.44	1957688	19.07
Lower Limit [b]	87983	4.18	344446	5.31	244284	7.65	478201	10.27	490561	15.44	489422	18.07

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
OP85861-MB1	153998	4.68	661396	5.81	478727	8.15	1004818	10.77	1324604	15.93	1038859	18.57
OP85861-BS1	196150	4.68	735938	5.81	584275	8.15	1121297	10.77	1597333	15.94	1231847	18.57
ZZZZZZ	282495	4.69	941336	5.82	537709	8.15	861175	10.77	1091401	15.96	2794180*	18.91
ZZZZZZ	276232	4.69	980258	5.83	669984	8.17	1055270	10.79	1133619	15.97	1536308	18.70
OP85880-BS1	191932	4.69	764314	5.82	607062	8.17	1109409	10.79	1254452	15.97	1016836	18.60
ZZZZZZ	128788	4.69	551864	5.83	407114	8.16	786129	10.80	709604	15.98	737347	18.61
ZZZZZZ	125079	4.69	515768	5.82	399898	8.17	703086	10.80	798553	15.98	717025	18.61
ZZZZZZ	159850	4.69	653955	5.82	528560	8.17	999376	10.79	767612	15.98	853451	18.61
ZZZZZZ	131520	4.69	550185	5.83	393917	8.17	702988	10.80	763494	15.98	760622	18.65
ZZZZZZ	136693	4.69	558066	5.83	439295	8.17	818939	10.81	1616176	16.03	1076611	18.67

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	EM4859-CC4814	**Injection Date:**	07/29/15
Lab File ID:	M116363.D	**Injection Time:**	10:14
Instrument ID:	GCMSM	**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	283009	4.69	957978	5.82	718368	8.16	1436840	10.79	1665728	15.97	1363801	18.59
Upper Limit [a]	566018	5.19	1915956	6.32	1436736	8.66	2873680	11.29	3331456	16.47	2727602	19.09
Lower Limit [b]	141505	4.19	478989	5.32	359184	7.66	718420	10.29	832864	15.47	681901	18.09

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
OP85880-MB1	280776	4.69	1033469	5.81	778863	8.15	1477747	10.78	1336568	15.95	1257114	18.59
JB99885-1	264185	4.68	981366	5.81	685162	8.15	1235313	10.78	1020135	15.95	821390	18.58
ZZZZZZ	217775	4.68	709306	5.82	575907	8.16	963477	10.78	864919	15.95	868721	18.59
ZZZZZZ	258203	4.69	986179	5.82	693765	8.15	1300141	10.77	1143836	15.95	843917	18.58
ZZZZZZ	240656	4.69	852865	5.81	660563	8.15	1286015	10.78	1237830	15.95	883848	18.59
JC179-1	292502	4.69	1837693	5.83	1335814	8.24	1989607	10.88	1209616	16.00	1024282	18.62
ZZZZZZ	221134	4.69	815164	5.82	604895	8.19	1143856	10.83	952290	15.98	1068085	18.61
OP85880-MS [c]	246558	4.69	1392629	5.83	1352478	8.23	2098068	10.89	1414502	16.01	1230732	18.63
OP85880-MSD [c]	267512	4.69	1512958	5.83	1379163	8.24	2265004	10.89	1359274	16.01	1289295	18.63
ZZZZZZ	248329	4.69	853231	5.82	631737	8.16	1101905	10.79	1169328	15.97	1242609	18.60
ZZZZZZ	231586	4.69	832736	5.82	618226	8.16	1186643	10.79	898061	15.96	911496	18.59
ZZZZZZ	240238	4.68	894756	5.82	563079	8.16	1067911	10.78	866170	15.96	749571	18.59
ZZZZZZ	256729	4.69	890231	5.82	646128	8.16	1313123	10.78	1243760	15.96	768648	18.59
ZZZZZZ	249286	4.68	947226	5.81	638445	8.16	1183582	10.78	1233849	15.96	689897	18.59
ZZZZZZ	290456	4.68	1008271	5.82	619842	8.16	1246508	10.78	971533	15.97	865540	18.60
ZZZZZZ	230303	4.70	2415017*	5.85	1424466	8.27	2135172	10.95	1607807	16.08	1154491	18.64

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	EM4865-CC4814	**Injection Date:**	07/31/15
Lab File ID:	M116472.D	**Injection Time:**	23:09
Instrument ID:	GCMSM	**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	162484	4.65	620948	5.77	436397	8.08	923086	10.70	1239529	15.87	1020551	18.49
Upper Limit [a]	324968	5.15	1241896	6.27	872794	8.58	1846172	11.20	2479058	16.37	2041102	18.99
Lower Limit [b]	81242	4.15	310474	5.27	218199	7.58	461543	10.20	619765	15.37	510276	17.99

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
JB99969-1	142050	4.64	443897	5.76	319750	8.08	625470	10.69	938269	15.86	749211	18.49
JB99969-2	155602	4.64	511873	5.76	402326	8.08	779996	10.69	844121	15.86	757671	18.49
JB99969-3	162220	4.64	583849	5.76	387010	8.08	769463	10.69	861124	15.86	682575	18.49
JB99969-4	133057	4.64	428320	5.76	310588	8.08	613583	10.69	811754	15.86	673392	18.49
JB99969-5	154197	4.64	520645	5.76	382462	8.08	764990	10.69	819764	15.86	736281	18.49
JB99969-6	120173	4.64	434136	5.76	289757	8.08	574530	10.69	691339	15.86	538397	18.49
JB99969-7	161482	4.65	521224	5.76	349073	8.08	607534	10.69	628933	15.86	558427	18.49
JB99969-8	149600	4.64	533834	5.76	394158	8.08	857519	10.69	924460	15.86	760213	18.49
JB99969-9	145995	4.64	529454	5.76	360363	8.08	691021	10.69	773806	15.86	549309	18.49
JB99969-11	147460	4.64	490967	5.76	388047	8.08	808522	10.69	925957	15.86	775395	18.49
JB99969-12	139302	4.64	527483	5.76	361862	8.08	752898	10.69	940225	15.86	745278	18.49
JB99969-13 [c]	145588	4.64	440070	5.76	279187	8.08	448227*	10.70	511744*	15.86	516000	18.49
JB99969-14 [c]	139349	4.64	479976	5.76	295147	8.08	524492	10.69	505975*	15.86	546527	18.49

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) Confirmation run for internal standard areas.

Semivolatile Internal Standard Area Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	EM4866-CC4814	**Injection Date:**	08/01/15
Lab File ID:	M116499.D	**Injection Time:**	15:14
Instrument ID:	GCMSM	**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	452108	4.64	1607715	5.76	1102031	8.08	2038237	10.69	2870318	15.87	2095845	18.49
Upper Limit [a]	904216	5.14	3215430	6.26	2204062	8.58	4076474	11.19	5740636	16.37	4191690	18.99
Lower Limit [b]	226054	4.14	803858	5.26	551016	7.58	1019119	10.19	1435159	15.37	1047923	17.99

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
OP85982-MB1	361447	4.64	1338717	5.76	875673	8.07	1632258	10.68	1988000	15.85	1640868	18.49
OP85982-BS1	370030	4.64	1262585	5.76	926393	8.07	1759600	10.68	2133146	15.86	1696546	18.49
OP85982-BSD	344565	4.64	1245204	5.76	802852	8.07	1536332	10.68	1888242	15.86	1474696	18.49
OP85982-BS13	359297	4.64	1235279	5.76	872387	8.07	1647748	10.68	1892401	15.85	1714221	18.49
ZZZZZZ	333308	4.64	1157795	5.75	734699	8.07	1417309	10.68	1599993	15.85	1557744	18.48
ZZZZZZ	330840	4.64	1154636	5.76	789058	8.07	1355027	10.68	1597344	15.85	1420807	18.48
ZZZZZZ	287401	4.64	1026476	5.76	760135	8.07	1536371	10.68	1895126	15.85	1815880	18.48
ZZZZZZ	328285	4.64	1196235	5.75	779887	8.07	1441243	10.68	1809683	15.85	1519599	18.48
ZZZZZZ	337395	4.64	1120577	5.75	791265	8.07	1499099	10.68	1719110	15.85	1612978	18.48
ZZZZZZ	334143	4.64	1235541	5.76	794979	8.07	1625163	10.68	1765054	15.85	1546093	18.48
ZZZZZZ	354447	4.64	1228474	5.75	836564	8.07	1440145	10.68	1695608	15.85	1514025	18.48
ZZZZZZ	355190	4.64	1213812	5.76	862444	8.07	1720146	10.68	1872969	15.85	1737997	18.48
ZZZZZZ	335402	4.64	1211726	5.76	797722	8.07	1497054	10.68	1822025	15.85	1487491	18.48
ZZZZZZ	331794	4.64	1086818	5.76	760903	8.07	1466709	10.68	1637841	15.85	1559640	18.48
ZZZZZZ	339728	4.64	1198469	5.76	834717	8.07	1520656	10.68	1800012	15.85	1622243	18.48
ZZZZZZ	363377	4.64	1218025	5.75	867558	8.07	1676389	10.68	1725055	15.85	1687243	18.48
ZZZZZZ	380862	4.64	1423418	5.76	912569	8.07	1797579	10.68	2099781	15.85	1838707	18.48
ZZZZZZ	297709	4.64	1042032	5.76	722967	8.07	1433073	10.68	1597104	15.85	1562814	18.48
JB99969-13	334459	4.64	1191676	5.76	671263	8.07	1204149	10.69	1358821*	15.86	1118392	18.49
JB99969-14	351857	4.64	1113768	5.75	709173	8.07	1191215	10.68	1279440*	15.85	1295838	18.48

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	EM4867-CC4814	**Injection Date:**	08/03/15
Lab File ID:	M116527.D	**Injection Time:**	10:24
Instrument ID:	GCMSM	**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	356750	4.63	1297193	5.75	846087	8.06	1497128	10.67	1776272	15.84	1781046	18.47
Upper Limit [a]	713500	5.13	2594386	6.25	1692174	8.56	2994256	11.17	3552544	16.34	3562092	18.97
Lower Limit [b]	178375	4.13	648597	5.25	423044	7.56	748564	10.17	888136	15.34	890523	17.97

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	329326	4.63	1260453	5.75	744628	8.06	1240492	10.67	1309116	15.84	1202273	18.47
JB99969-15	316824	4.63	1097588	5.75	699294	8.06	1121466	10.67	1151990	15.84	1111460	18.47

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 Surrogate Recovery Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JB99969-1	M116473.D	100	80	54
JB99969-2	M116474.D	111	91	110
JB99969-3	M116475.D	100	93	100
JB99969-4	M116476.D	108	80	81
JB99969-5	M116477.D	105	91	118
JB99969-6	M116478.D	88	77	81
JB99969-7	M116479.D	64	51	60
JB99969-8	M116480.D	92	79	107
JB99969-9	M116481.D	92	67	95
JB99969-10	3P45566.D	93	70	85
JB99969-11	M116482.D	98	78	92
JB99969-12	M116483.D	78	70	84
JB99969-13	M116522.D	97	86	88
JB99969-13	M116484.D	113	82	81
JB99969-14	M116523.D	99	86	90
JB99969-14	M116485.D	101	94	110
JB99969-15	M116531.D	57	65	85
JB99969-16	2M76186.D	60	69	89
JB99969-17	2M76187.D	87	91	93
JB99969-18	2M76188.D	104	56	86
JB99969-19	2M76189.D	63	63	65
JB99969-20	2M76190.D	70	72	94
JB99969-21	2P51017.D	90	94	97
JB99969-22	2P51018.D	90	96	97
JB99969-23	2P51023.D	73	73	76
JB99969-24	2P51019.D	83	86	93
JB99969-25	2P51020.D	75	79	89
OP85880-BS1	M116354.D	87	77	77
OP85880-MB1	M116366.D	95	81	107
OP85880-MS	M116374.D	98	119	85
OP85880-MSD	M116375.D	103	150* [a]	109
OP85881-BS1	2M76183.D	77	83	99
OP85881-MB1	2M76182.D	81	81	95
OP85881-MS	2M76197.D	75	79	94
OP85881-MSD	2M76198.D	75	78	92
OP85890-BS1	2P51009.D	86	86	103
OP85890-MB1	2P51008.D	93	95	108
OP85890-MS	2P51010.D	89	90	106
OP85890-MSD	2P51011.D	93	92	110
OP86008-BS1	2M76339.D	88	93	118

Semivolatile Surrogate Recovery Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
OP86008-MB1	3P45544.D	108	91	129
OP86008-MB1	2M76338.D	83	87	111
OP86008-MS	2M76356.D	77	84	107
OP86008-MSD	2M76357.D	82	88	113

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	33-127%
S2 = 2-Fluorobiphenyl	41-121%
S3 = Terphenyl-d14	44-137%

(a) Outside control limits due to dilution.

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3299-ICC3299
Lab FileID: 2M76151.D

Response Factor Report MS

Method : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 08:33:43 2015
Last Update : Wed Jul 29 08:33:43 2015
Response via : Initial Calibration

Calibration Files
2 =2m76147.D 5 =2m76154.D 25 =2m76152.D 80 =2m76150.D
100 =2m76148.D 50 =2m76151.D 1 =2m76149.D 10 =2m76153.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	----------ISTD----------									
2) 1,4-Dioxane	0.711	0.747	0.698	0.647	0.640	0.663	0.782	0.693	0.698	7.03
3) Pyridine	1.740	1.942	1.718	1.677	1.652	1.684	1.670	1.727	1.726	5.34
4) N-Nitrosodim	1.141	1.225	1.149	1.057	1.057	1.095	1.188	1.116	1.128	5.29
5) 2-Fluorophen	1.509	1.627	1.524	1.418	1.402	1.488	1.501	1.489	1.495	4.60
6) Indene	2.794	2.934	2.741	2.225	2.109	2.481	2.914	2.723	2.615	11.89
7) Cumene	3.726	3.929	3.650	3.181	3.062	3.415	3.843	3.655	3.558	8.72
8) Phenol-d5	1.937	2.011	1.855	1.531	1.475	1.718	2.029	1.864	1.802	11.63
9) Phenol	2.228	2.270	2.123	1.820	1.750	1.989	2.302	2.099	2.072	9.89
10) Aniline	2.405	2.544	1.997	1.597	1.530	1.758	2.458	2.263	2.069	19.53
11) bis(2-Chloro	1.696	1.774	1.644	1.489	1.467	1.588	1.765	1.635	1.632	7.02
12) 2-Chlorophen	1.571	1.618	1.522	1.354	1.334	1.456	1.524	1.505	1.486	6.69
13) Decane	2.079	2.144	1.904	1.485	1.373	1.724	2.128	1.968	1.851	15.94
14) 1,3-Dichloro	1.623	1.684	1.589	1.429	1.400	1.509	1.630	1.571	1.555	6.45
15) 1,4-Dichloro	1.664	1.735	1.609	1.439	1.409	1.518	1.775	1.602	1.594	8.28
16) Benzyl alcoh	0.945	1.007	0.953	0.846	0.799	0.916	0.932	0.919	0.915	7.09
17) 1,2-Dichloro	1.576	1.587	1.504	1.347	1.284	1.420	1.552	1.477	1.468	7.52
18) Acetophenone	2.169	2.273	2.070	1.746	1.689	1.924	2.301	2.078	2.031	11.22
19) 2-Methylphen	1.427	1.521	1.383	1.174	1.141	1.288	1.419	1.407	1.345	9.84
20) 2,2'-oxybis(	2.744	2.857	2.409	1.749		2.089	2.823	2.590	2.466	16.82
21) 3&4-Methylph	1.452	1.591	1.536	1.373	1.326	1.467	1.481	1.499	1.466	5.78
22) n-Nitroso-di	1.242	1.311	1.174	0.955	0.897	1.070	1.239	1.188	1.135	12.92
23) Hexachloroet	0.496	0.515	0.481	0.444	0.433	0.465	0.512	0.484	0.479	6.22
24) I Naphthalene-d8	----------ISTD----------									
25) Nitrobenzene	0.407	0.429	0.408	0.375	0.366	0.392	0.451	0.396	0.403	6.83
26) Nitrobenzene	0.447	0.474	0.450	0.401	0.394	0.427	0.472	0.435	0.437	6.75
27) Quinoline	0.775	0.800	0.768	0.721	0.714	0.748	0.820	0.745	0.761	4.84
28) Isophorone	0.743	0.789	0.754	0.684	0.665	0.718	0.751	0.741	0.731	5.51
29) 2-Nitropheno	0.179	0.196	0.199	0.185	0.181	0.196	0.175	0.187	0.187	4.84
30) 2,4-Dimethyl	0.296	0.347	0.336	0.335	0.329	0.341	0.324	0.318	0.328	4.82
31) Benzoic acid		0.185	0.256	0.268	0.272	0.268		0.214	0.244	14.78
32) bis(2-Chloro	0.508	0.535	0.508	0.454	0.445	0.485	0.526	0.499	0.495	6.46
33) 2,4-Dichloro	0.286	0.300	0.295	0.275	0.268	0.285	0.284	0.283	0.284	3.54
34) 2,6-Dichloro	0.295	0.305	0.292	0.267	0.260	0.279	0.310	0.282	0.286	6.20
35) 1,3,5-Trichl	0.329	0.353	0.327	0.292	0.279	0.312	0.346	0.319	0.320	7.88
36) 1,2,4-Trichl	0.316	0.325	0.309	0.280	0.273	0.295	0.315	0.306	0.302	6.01
37) 1,2,3-Trichl	0.311	0.329	0.305	0.277	0.269	0.294	0.319	0.301	0.300	6.76
38) Naphthalene	1.153	1.186	1.105	0.986	0.956	1.053	1.197	1.099	1.092	8.13
39) 4-Chloroanil	0.462	0.488	0.453	0.402	0.392	0.426	0.466	0.453	0.443	7.52
40) 2,3-Dichloro	0.380	0.382	0.367	0.339	0.335	0.357	0.381	0.360	0.363	5.12
41) Caprolactam	0.201	0.223	0.216	0.202	0.200	0.210	0.212	0.206	0.209	3.73
42) Hexachlorobu	0.162	0.170	0.155	0.138	0.136	0.149	0.164	0.153	0.153	7.86
43) 4-Chloro-3-m	0.309	0.340	0.328	0.308	0.304	0.324	0.318	0.320	0.319	3.76
44) 2-Methylnaph	0.579	0.599	0.575	0.521	0.509	0.551	0.565	0.564	0.558	5.40
45) 1-Methylnaph	0.651	0.658	0.627	0.564	0.543	0.597	0.655	0.612	0.613	7.04

Initial Calibration Summary

Job Number: JB99969 **Sample:** E2M3299-ICC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76151.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
46) Dimethylnaph 0.686 0.693 0.673 0.603 0.585 0.645 0.710 0.648 0.655   6.72

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy       0.247 0.292 0.266 0.257 0.289       0.261 0.269   6.74
49) 2,4,6-Trichl 0.323 0.332 0.338 0.307 0.303 0.331 0.321 0.320 0.322   3.79
50) 2,4,5-Trichl 0.327 0.348 0.365 0.338 0.332 0.361 0.340 0.332 0.343   4.07
51) 2-Fluorobiph 1.360 1.340 1.260 1.119 1.097 1.199 1.549 1.219 1.268  11.59
52) 2-Chloronaph 1.162 1.218 1.180 1.041 1.010 1.133 1.174 1.131 1.131   6.29
53) Biphenyl     1.552 1.575 1.539 1.353 1.309 1.481 1.626 1.479 1.489   7.34
54) 2-Nitroanili 0.351 0.377 0.402 0.363 0.357 0.389 0.338 0.371 0.369   5.63
55) Dimethylphth 1.378 1.407 1.386 1.254 1.239 1.344 1.388 1.318 1.339   4.76
56) Acenaphthyle 1.895 1.912 1.837 1.657 1.605 1.775 2.091 1.777 1.819   8.43
57) 2,6-Dinitrot 0.237 0.270 0.295 0.275 0.274 0.290 0.232 0.266 0.267   8.40
58) 3-Nitroanili 0.255 0.306 0.333 0.309 0.307 0.328 0.256 0.298 0.299   9.85
59) Acenaphthene 1.220 1.172 1.129 0.997 0.974 1.084 1.334 1.091 1.125  10.46
60) 2,4-Dinitrop 0.036 0.067 0.137 0.158 0.161 0.157       0.089 0.115  44.14
         ----- Quadratic regression -----                Coefficient =  0.9994
              Response Ratio = -0.02327 + 0.15866 *A + 0.00152 *A^2

61) 4-Nitropheno 0.144 0.161 0.182 0.172 0.169 0.183 0.138 0.156 0.163  10.17
62) Dibenzofuran 1.566 1.617 1.566 1.331 1.282 1.470 1.603 1.501 1.492   8.39
63) 2,4-Dinitrot 0.300 0.355 0.397 0.356 0.342 0.386 0.291 0.365 0.349  10.74
64) 2,3,4,6-Tetr 0.244 0.253 0.276 0.267 0.263 0.274 0.251 0.258 0.261   4.38
65) Diethylphtha 1.304 1.389 1.379 1.233 1.205 1.329 1.325 1.311 1.310   4.88
66) Fluorene     1.386 1.351 1.295 1.129 1.056 1.231 1.543 1.242 1.279  11.92
67) 4-Chlorophen 0.596 0.642 0.622 0.534 0.508 0.597 0.632 0.601 0.592   7.95
68) 4-Nitroanili 0.242 0.290 0.333 0.320 0.314 0.332 0.259 0.307 0.300  11.25

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.084 0.136 0.142 0.143 0.142       0.100 0.124  20.70
            ----- Linear regression -----  Coefficient =  0.9997
              Response Ratio = -0.00825 + 0.14626 *A

71) n-Nitrosodip 0.617 0.662 0.658 0.595 0.585 0.638 0.617 0.615 0.623   4.43
72) 1,2-Diphenyl 0.953 1.011 1.002 0.877 0.854 0.951 0.943 0.961 0.944   5.76
73) 2,4,6-Tribro 0.118 0.110 0.112 0.108 0.109 0.113 0.154 0.107 0.116  13.46
74) 4-Bromopheny 0.222 0.226 0.230 0.213 0.209 0.227 0.223 0.217 0.221   3.32
75) Hexachlorobe 0.229 0.233 0.228 0.208 0.204 0.220 0.225 0.217 0.221   4.68
76) Pentachlorop 0.080 0.089 0.124 0.125 0.124 0.128       0.098 0.110  18.38
77) Phenanthrene 1.294 1.211 1.134 1.026 1.007 1.110 1.478 1.105 1.171  13.23
78) Anthracene   1.241 1.193 1.150 1.048 1.017 1.115 1.412 1.104 1.160  10.78
79) Carbazole    1.197 1.208 1.213 1.093 1.079 1.159 1.263 1.137 1.169   5.40
80) Di-n-butylph 1.371 1.507 1.557 1.392 1.370 1.503 1.373 1.432 1.438   5.16
81) Fluoranthene 1.256 1.185 1.173 1.077 1.053 1.146 1.443 1.106 1.180  10.54
82) Octadecane   0.715 0.746 0.741 0.605 0.573 0.693 0.744 0.714 0.691   9.58

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.377 1.321 1.293 1.212 1.194 1.267 1.567 1.211 1.305   9.41
85) Terphenyl-d1 0.838 0.735 0.714 0.665 0.666 0.696 1.066 0.657 0.754  18.42
86) Butylbenzylp 0.610 0.657 0.703 0.658 0.651 0.689 0.608 0.627 0.650   5.29
87) Butyl steara 0.444 0.484 0.512 0.439 0.419 0.490 0.422 0.468 0.460   7.40
88) Benzo[a]anth 1.274 1.185 1.164 1.014 0.985 1.109 1.534 1.087 1.169  14.91
89) 3,3'-Dichlor 0.385 0.403 0.431 0.373 0.356 0.411 0.403 0.399 0.395   5.90
90) Chrysene     1.187 1.126 1.085 1.025 1.012 1.069 1.354 1.021 1.110  10.37
91) bis(2-Ethylh 0.893 0.913 0.987 0.919 0.897 0.971 0.869 0.898 0.918   4.42

92) I   Perylene-d12          ----------------ISTD---------------------
93) Di-n-octylph 1.436 1.590 1.764 1.426 1.408 1.748 1.478 1.502 1.544   9.24
94) Benzo[b]fluo 1.206 1.251 1.233 0.973 0.963 1.230 1.455 1.080 1.174  13.89
95) Benzo[k]fluo 1.201 1.168 1.205 0.961 0.947 1.146 1.336 1.095 1.132  11.48
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** E2M3299-ICC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76151.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
 96) Benzo[a]pyre 1.093 1.054 1.086 0.893 0.885 1.079 1.262 0.960 1.039  11.96
 97) Indeno[1,2,3 1.036 1.066 1.157 0.966 0.974 1.112 1.243 0.991 1.068   9.13
 98) Dibenz(a,h)a 0.908 0.945 1.013 0.837 0.841 1.000 0.969 0.869 0.923   7.54
 99) Dibenz[a,h]a 1.083 1.098 1.125 0.924 0.920 1.110 1.270 0.979 1.064  11.10
100) 7,12-Dimethy 0.394 0.470 0.542 0.437 0.434 0.543 0.419 0.442 0.460  11.97
101) Benzo[g,h,i] 1.029 1.049 1.081 0.893 0.897 1.056 1.255 0.948 1.026  11.48
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M2M3299.M         Wed Jul 29 08:35:52 2015
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** E2M3300-ICC3300
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76163.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
                          Response Factor Report  MS

  Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:32:37 2015
  Last Update  : Wed Jul 29 10:32:37 2015
  Response via : Initial Calibration

  Calibration Files
  2   =2m76167.D  5   =2m76166.D  25  =2m76164.D  80  =2m76162.D
  100 =2m76161.D  50  =2m76163.D  1   =2m76168.D  10  =2m76165.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  ---------------------------------------------------------------------------
102)     1,4-Dichlorobenzene-d ----------------ISTD---------------------
103) Benzaldehyde 1.208 1.241 1.216 1.126 1.059 1.208 1.214 1.280 1.194   5.82

104)     Acenaphthene-d10a     ----------------ISTD---------------------
105) 1,2,4,5-Tetr 0.457 0.476 0.462 0.457 0.443 0.463 0.453 0.473 0.460   2.35

106)     Chrysene-d12a         ----------------ISTD---------------------
107) Benzidine    0.615 0.721 0.734 0.496 0.427 0.668 0.550 0.754 0.621  19.38
108) 1-chloroocta 0.402 0.441 0.437 0.421 0.401 0.443 0.398 0.454 0.424   5.21

109)     Phenanthrene-d10a     ----------------ISTD---------------------
110) Atrazine     0.097 0.102 0.105 0.108 0.104 0.109 0.095 0.104 0.103   4.66
111) o-terphenyl  0.492 0.515 0.512 0.500 0.471 0.522 0.505 0.518 0.504   3.33

112)     Naphthalene-d8a       ----------------ISTD---------------------
113) Hydroquinone       0.292 0.364 0.378 0.373 0.377       0.331 0.353   9.73
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M2M3299.M         Wed Jul 29 10:32:59 2015
```

8.7.2

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E2M3300-ICV3299
Lab FileID: 2M76170.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3300\2m76170.D Vial: 11
Acq On : 29 Jul 2015 12:27 am Operator: saraw
Sample : icv3299-50 Inst : MS
Misc : op85701,e2m3300,1000 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:43:46 2015
Last Update : Wed Jul 29 10:43:46 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	107	0.00	4.69
3	t	Pyridine	1.726	1.839	-6.5	117	0.00	2.66
10		Aniline	2.069	2.342	-13.2	143	0.00	4.45
16	t	Benzyl alcohol	0.915	0.942	-3.0	110	0.00	4.80
24	I	Naphthalene-d8	1.000	1.000	0.0	112	0.00	5.77
39	t	4-Chloroaniline	0.443	0.425	4.1	111	0.00	5.84
44	t	2-Methylnaphthalene	0.558	0.545	2.3	110	0.00	6.52
47	I	Acenaphthene-d10	1.000	1.000	0.0	113	0.00	7.83
54	t	2-Nitroaniline	0.369	0.335	9.2	97	0.00	7.24
58	t	3-Nitroaniline	0.299	0.277	7.4	95	0.00	7.78
62	t	Dibenzofuran	1.492	1.417	5.0	109	0.00	8.11
68	t	4-Nitroaniline	0.300	0.263	12.3	89	0.00	8.65
69	I	Phenanthrene-d10	1.000	1.000	0.0	109	0.00	10.00
79	t	Carbazole	1.169	1.013	13.3	95	0.00	10.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76170.D M2M3299.M Wed Jul 29 10:45:03 2015

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3300-ICV3299
Lab FileID: 2M76172.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3300\2m76172.D          Vial: 13
Acq On    : 29 Jul 2015   1:20 am                    Operator: saraw
Sample    : icv3299-50                               Inst    : MS
Misc      : op85701,e2m3300,1000                     Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:54:29 2015
Last Update  : Wed Jul 29 10:54:29 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	130	0.00	4.69
2	t	1,4-Dioxane	0.698	0.567	18.8	111	0.00	2.25
6	t	Indene	2.615	2.379	9.0	125	0.00	4.88
7	t	Cumene	3.558	3.154	11.4	120	0.00	4.09
13	t	Decane	1.851	1.459	21.2	110	0.00	4.57
18	t	Acetophenone	2.031	1.915	5.7	130	0.00	5.00
24	I	Naphthalene-d8	1.000	1.000	0.0	133	0.00	5.77
27	t	Quinoline	0.761	0.672	11.7	119	0.00	6.12
40	t	2,3-Dichloroaniline	0.363	0.300	17.4	112	0.00	6.86
41	t	Caprolactam	0.209	0.177	15.3	112	0.00	6.18
45	t	1-Methylnaphthalene	0.613	0.542	11.6	121	0.00	6.64
46	t	Dimethylnaphthalene	0.655	0.579	11.6	119	0.00	7.29
47	I	Acenaphthene-d10	1.000	1.000	0.0	131	0.00	7.83
48	t	Hexachlorocyclopentadiene	0.269	0.266	1.1	122	0.00	6.71
53	t	Biphenyl	1.489	1.357	8.9	120	0.00	7.08
69	I	Phenanthrene-d10	1.000	1.000	0.0	130	0.00	10.00
82	t	Octadecane	0.691	0.592	14.3	111	0.00	9.94
92	I	Perylene-d12	1.000	1.000	0.0	109	0.00	16.27
100	t	7,12-Dimethylbenz(a)anthr	0.460	0.293	36.3#	59	0.00	15.75

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m76172.D  M2M3299.M        Wed Jul 29 11:04:38 2015
```

8.7.4

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3300-ICV3300
Lab FileID: 2M76172A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3300\2m76172a.D         Vial: 13
Acq On    : 29 Jul 2015   1:20 am                    Operator: saraw
Sample    : icv3300-50                               Inst    : MS
Misc      : op85701,e2m3300,1000                     Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:54:29 2015
Last Update  : Wed Jul 29 10:54:29 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	134	0.00	4.69
103	Benzaldehyde	1.194	1.175	1.6	131	0.00	4.36
109	Phenanthrene-d10a	1.000	1.000	0.0	123	0.00	10.00
110	Atrazine	0.103	0.105	-1.9	120	0.00	9.64

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76172.D M2M3299.M Wed Jul 29 11:04:39 2015

8.7.5

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3300-ICV3299
Lab FileID: 2M76173.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3300\2m76173.D Vial: 14
Acq On : 29 Jul 2015 1:47 am Operator: saraw
Sample : icv3299-50 Inst : MS
Misc : op85701,e2m3300,1000 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:54:29 2015
Last Update : Wed Jul 29 10:54:29 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	116	0.00	4.69
5	S	2-Fluorophenol	1.495	1.374	8.1	107	0.00	3.73
8	S	Phenol-d5	1.802	1.646	8.7	111	-0.13	4.43
24	I	Naphthalene-d8	1.000	1.000	0.0	117	0.00	5.77
25	S	Nitrobenzene-d5	0.403	0.381	5.5	113	0.11	5.12
47	I	Acenaphthene-d10	1.000	1.000	0.0	114	0.00	7.83
51	S	2-Fluorobiphenyl	1.268	1.185	6.5	112	0.04	6.96
69	I	Phenanthrene-d10	1.000	1.000	0.0	117	0.00	10.00
73	S	2,4,6-Tribromophenol	0.116	0.086	25.9	89	-0.01	8.96
83	I	Chrysene-d12	1.000	1.000	0.0	106	0.00	14.16
85	S	Terphenyl-d14	0.754	0.775	-2.8	118	0.00	12.54
92	I	Perylene-d12	1.000	1.000	0.0	98	0.00	16.27

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76172.D M2M3299.M Wed Jul 29 11:10:47 2015

8.7.6

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3300-ICV3300
Lab FileID: 2M76174.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3300\2m76174.D          Vial: 15
Acq On    : 29 Jul 2015   2:13 am                    Operator: saraw
Sample    : icv3300-50                               Inst    : MS
Misc      : op85701,e2m3300,1000                     Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:32:37 2015
Last Update  : Wed Jul 29 10:32:37 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	97	0.00	14.16
107	Benzidine	0.621	1.116	-79.7#	162	0.00	12.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76163a.D M2M3299.M Wed Jul 29 11:26:33 2015

8.7.7

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3300-ICV3299
Lab FileID: 2M76174A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3300\2m76174a.D         Vial: 15
Acq On    : 29 Jul 2015   2:13 am                    Operator: saraw
Sample    : icv3299-50                               Inst    : MS
Misc      : op85701,e2m3300,1000                     Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:32:37 2015
Last Update  : Wed Jul 29 10:32:37 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	100	0.00	14.16
89 t	3,3'-Dichlorobenzidine	0.395	0.513	-29.9	125	-0.01	14.15

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76163a.D M2M3299.M Wed Jul 29 11:26:34 2015

8.7.8

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3300-ICV3300
Lab FileID: 2M76175.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3300\2m76175.D          Vial: 16
Acq On    : 29 Jul 2015   2:40 am                    Operator: saraw
Sample    : icv3300-50                               Inst    : MS
Misc      : op85701,e2m3300,1000                     Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:32:37 2015
Last Update  : Wed Jul 29 10:32:37 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	88	0.00	5.77
113	Hydroquinone	0.353	0.333	5.7	77	0.00	6.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76163a.D M2M3299.M Wed Jul 29 11:30:10 2015

8.7.9

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3301-ICV3299
Lab FileID: 2M76177.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3301\2m76177.D          Vial: 2
Acq On    : 29 Jul 2015  10:16 am                    Operator: ashleyn
Sample    : icv3299-50                               Inst    : MS
Misc      : op85701,e2m3301,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 10:32:37 2015
Last Update  : Wed Jul 29 10:32:37 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	121	0.00	4.68
9	t	Phenol	2.072	1.796	13.3	109	0.00	4.45
12	t	2-Chlorophenol	1.486	1.374	7.5	114	0.00	4.54
19	t	2-Methylphenol	1.345	1.244	7.5	117	0.00	4.89
21	t	3&4-Methylphenol	1.466	1.323	9.8	109	0.00	5.01
24	I	Naphthalene-d8	1.000	1.000	0.0	121	0.00	5.77
29	t	2-Nitrophenol	0.187	0.191	-2.1	117	0.00	5.41
30	t	2,4-Dimethylphenol	0.328	0.328	0.0	116	0.00	5.46
31	t	Benzoic acid	0.244	0.243	0.4	109	0.00	5.58
33	t	2,4-Dichlorophenol	0.284	0.264	7.0	112	0.00	5.64
34	t	2,6-Dichlorophenol	0.286	0.266	7.0	115	0.00	5.85
43	t	4-Chloro-3-methylphenol	0.319	0.292	8.5	109	0.00	6.37
47	I	Acenaphthene-d10	1.000	1.000	0.0	118	0.00	7.83
49	t	2,4,6-Trichlorophenol	0.322	0.303	5.9	108	0.00	6.86
50	t	2,4,5-Trichlorophenol	0.343	0.319	7.0	105	0.00	6.92
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	83.778	16.2	88	0.00	7.93
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.163	0.154	5.5	100	0.00	8.08
64		2,3,4,6-Tetrachlorophenol	0.261	0.240	8.0	104	0.00	8.31
69	I	Phenanthrene-d10	1.000	1.000	0.0	114	0.00	9.99
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	42.187	15.6	94	0.00	8.70
76	t	Pentachlorophenol	0.110	0.112	-1.8	100	0.00	9.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76163a.D M2M3299.M Wed Jul 29 11:37:08 2015

8.7.10

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2M3301-ICV3300
Lab FileID: 2M76178A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3301\2m76178a.D         Vial: 3
Acq On    : 29 Jul 2015  10:53 am                    Operator: ashleyn
Sample    : icv3300-50                               Inst    : MS
Misc      : op85701,e2m3301,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 11:47:38 2015
Last Update  : Wed Jul 29 11:47:38 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	106	0.00	7.83
105	1,2,4,5-Tetrachlorobenzen	0.460	0.446	3.0	102	0.00	6.72

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76178.D M2M3299.M Wed Jul 29 11:51:57 2015

8.7.11

8

Initial Calibration Verification

Job Number: JB99969 **Sample:** E2M3301-ICV3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76178.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3301\2m76178.D Vial: 3
Acq On : 29 Jul 2015 10:53 am Operator: ashleyn
Sample : icv3299-50 Inst : MS
Misc : op85701,e2m3301, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 11:47:38 2015
Last Update : Wed Jul 29 11:47:38 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	112	0.00	4.68
4	t	N-Nitrosodimethylamine	1.128	0.948	16.0	97	0.00	2.54
11	t	bis(2-Chloroethyl)ether	1.632	1.370	16.1	97	0.00	4.48
14	t	1,3-Dichlorobenzene	1.555	1.362	12.4	101	0.00	4.64
15	t	1,4-Dichlorobenzene	1.594	1.372	13.9	101	0.00	4.70
17	t	1,2-Dichlorobenzene	1.468	1.309	10.8	103	0.00	4.81
20	t	2,2'-oxybis(1-Chloropropa	2.466	2.029	17.7	109	0.00	4.89
22	t	n-Nitroso-di-n-propylamin	1.135	0.951	16.2	100	0.00	4.99
23	t	Hexachloroethane	0.479	0.428	10.6	103	0.00	5.09
24	I	Naphthalene-d8	1.000	1.000	0.0	110	0.00	5.77
26	t	Nitrobenzene	0.437	0.379	13.3	98	0.00	5.14
28	t	Isophorone	0.731	0.683	6.6	105	0.00	5.33
32	t	bis(2-Chloroethoxy)methan	0.495	0.432	12.7	98	0.00	5.53
36	t	1,2,4-Trichlorobenzene	0.302	0.268	11.3	100	0.00	5.71
38	t	Naphthalene	1.092	0.974	10.8	102	0.00	5.79
42	t	Hexachlorobutadiene	0.153	0.136	11.1	101	0.00	5.91
47	I	Acenaphthene-d10	1.000	1.000	0.0	106	0.00	7.83
52	t	2-Chloronaphthalene	1.131	1.014	10.3	95	0.00	7.10
55	t	Dimethylphthalate	1.339	1.098	18.0	87	0.00	7.48
56	t	Acenaphthylene	1.819	1.514	16.8	90	0.00	7.63
57	t	2,6-Dinitrotoluene	0.267	0.254	4.9	93	0.00	7.55
59	t	Acenaphthene	1.125	1.035	8.0	101	0.00	7.87
63	t	2,4-Dinitrotoluene	0.349	0.322	7.7	88	0.00	8.11
65	t	Diethylphthalate	1.310	1.062	18.9	85	0.00	8.47
66	t	Fluorene	1.279	1.128	11.8	97	0.00	8.60
67	t	4-Chlorophenyl-phenylethe	0.592	0.495	16.4	88	0.00	8.61
69	I	Phenanthrene-d10	1.000	1.000	0.0	101	0.00	9.99
71	t	n-Nitrosodiphenylamine	0.623	0.525	15.7	83	0.00	8.79
72	t	1,2-Diphenylhydrazine	0.944	0.890	5.7	95	0.00	8.84
74	t	4-Bromophenyl-phenylether	0.221	0.192	13.1	86	0.00	9.33
75	t	Hexachlorobenzene	0.221	0.197	10.9	91	0.00	9.43
77	t	Phenanthrene	1.171	1.002	14.4	91	0.00	10.03
78	t	Anthracene	1.160	1.031	11.1	94	0.00	10.10
80	t	Di-n-butylphthalate	1.438	1.207	16.1	81	0.00	10.99
81	t	Fluoranthene	1.180	1.010	14.4	89	0.00	11.89
83	I	Chrysene-d12	1.000	1.000	0.0	89	0.00	14.16
84	t	Pyrene	1.305	1.248	4.4	88	0.00	12.23
86	t	Butylbenzylphthalate	0.650	0.596	8.3	77	0.00	13.36

Initial Calibration Verification

Job Number: JB99969 **Sample:** E2M3301-ICV3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76178.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

88	t	Benzo[a]anthracene	1.169	1.008	13.8	81	0.00	14.14
90	t	Chrysene	1.110	1.042	6.1	87	0.00	14.20
91	t	bis(2-Ethylhexyl)phthalat	0.918	0.827	9.9	76	0.00	14.32
92	I	Perylene-d12	1.000	1.000	0.0	91	0.00	16.27
93	t	Di-n-octylphthalate	1.544	1.438	6.9	75	0.00	15.29
94	t	Benzo[b]fluoranthene	1.174	1.070	8.9	79	0.00	15.75
95	t	Benzo[k]fluoranthene	1.132	1.020	9.9	81	0.00	15.79
96	t	Benzo[a]pyrene	1.039	0.994	4.3	84	0.00	16.19
97	t	Indeno[1,2,3-cd]pyrene	1.068	0.971	9.1	79	0.00	17.77
99	t	Dibenz[a,h]anthracene	1.064	0.980	7.9	80	0.00	17.81
101	t	Benzo[g,h,i]perylene	1.026	0.946	7.8	81	0.00	18.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76178.D M2M3299.M Wed Jul 29 11:51:56 2015

8.7.12
8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3302-CC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76180.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3302\2m76180.D          Vial: 2
Acq On    : 29 Jul 2015  12:27 pm                    Operator: ashleyn
Sample    : cc3299-50                                Inst    : MS
Misc      : op85701,e2m3302,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 13:00:48 2015
Last Update  : Wed Jul 29 13:00:48 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	4.68
2	t	1,4-Dioxane	0.698	0.687	1.6	105	0.00	2.23
3	t	Pyridine	1.726	1.729	-0.2	104	0.00	2.56
4	t	N-Nitrosodimethylamine	1.128	1.100	2.5	102	0.00	2.53
5	S	2-Fluorophenol	1.495	1.498	-0.2	102	0.00	3.72
6	t	Indene	2.615	2.478	5.2	102	0.00	4.88
7	t	Cumene	3.558	3.431	3.6	102	0.00	4.09
8	S	Phenol-d5	1.802	1.720	4.6	102	0.00	4.43
9	t	Phenol	2.072	1.966	5.1	100	0.00	4.45
10		Aniline	2.069	1.708	17.4	99	0.00	4.44
11	t	bis(2-Chloroethyl)ether	1.632	1.592	2.5	102	0.00	4.48
12	t	2-Chlorophenol	1.486	1.465	1.4	102	0.00	4.54
13	t	Decane	1.851	1.591	14.0	94	0.00	4.56
14	t	1,3-Dichlorobenzene	1.555	1.515	2.6	102	0.00	4.64
15	t	1,4-Dichlorobenzene	1.594	1.540	3.4	103	0.00	4.70
16	t	Benzyl alcohol	0.915	0.918	-0.3	102	0.00	4.79
17	t	1,2-Dichlorobenzene	1.468	1.432	2.5	102	0.00	4.81
18	t	Acetophenone	2.031	1.907	6.1	101	0.00	5.00
19	t	2-Methylphenol	1.345	1.266	5.9	100	0.00	4.89
20	t	2,2'-oxybis(1-Chloropropa	2.466	1.974	20.0	96	0.00	4.89
21	t	3&4-Methylphenol	1.466	1.459	0.5	101	0.00	5.01
22	t	n-Nitroso-di-n-propylamin	1.135	1.049	7.6	100	0.00	5.00
23	t	Hexachloroethane	0.479	0.465	2.9	102	0.00	5.09
24	I	Naphthalene-d8	1.000	1.000	0.0	102	0.00	5.77
25	S	Nitrobenzene-d5	0.403	0.393	2.5	102	0.00	5.12
26	t	Nitrobenzene	0.437	0.418	4.3	100	0.00	5.14
27	t	Quinoline	0.761	0.755	0.8	103	0.00	6.13
28	t	Isophorone	0.731	0.714	2.3	101	0.00	5.34
29	t	2-Nitrophenol	0.187	0.201	-7.5	104	0.00	5.41
30	t	2,4-Dimethylphenol	0.328	0.339	-3.4	101	0.00	5.46
31	t	Benzoic acid	0.244	0.287	-17.6	109	0.00	5.58
32	t	bis(2-Chloroethoxy)methan	0.495	0.484	2.2	102	0.00	5.53
33	t	2,4-Dichlorophenol	0.284	0.290	-2.1	104	0.00	5.64
34	t	2,6-Dichlorophenol	0.286	0.284	0.7	104	0.00	5.86
35		1,3,5-Trichlorobenzene	0.320	0.314	1.9	103	0.00	5.42
36	t	1,2,4-Trichlorobenzene	0.302	0.298	1.3	103	0.00	5.71
37		1,2,3-Trichlorobenzene	0.300	0.296	1.3	103	0.00	5.93
38	t	Naphthalene	1.092	1.058	3.1	102	0.00	5.79
39	t	4-Chloroaniline	0.443	0.427	3.6	102	0.00	5.84
40	t	2,3-Dichloroaniline	0.363	0.360	0.8	103	0.00	6.85
41	t	Caprolactam	0.209	0.203	2.9	99	0.00	6.21

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3302-CC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76180.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.153	0.147	3.9	100	0.00	5.92
43	t	4-Chloro-3-methylphenol	0.319	0.320	-0.3	101	0.00	6.38
44	t	2-Methylnaphthalene	0.558	0.550	1.4	102	0.00	6.52
45	t	1-Methylnaphthalene	0.613	0.606	1.1	103	0.00	6.63
46	t	Dimethylnaphthalene	0.655	0.651	0.6	103	0.00	7.28
47	I	Acenaphthene-d10	1.000	1.000	0.0	102	0.00	7.83
48	t	Hexachlorocyclopentadiene	0.269	0.294	-9.3	104	0.00	6.71
49	t	2,4,6-Trichlorophenol	0.322	0.332	-3.1	102	0.00	6.87
50	t	2,4,5-Trichlorophenol	0.343	0.365	-6.4	103	0.00	6.92
51	S	2-Fluorobiphenyl	1.268	1.210	4.6	103	0.00	6.95
52	t	2-Chloronaphthalene	1.131	1.127	0.4	102	0.00	7.10
53	t	Biphenyl	1.489	1.486	0.2	103	0.00	7.08
54	t	2-Nitroaniline	0.369	0.382	-3.5	100	0.00	7.24
55	t	Dimethylphthalate	1.339	1.351	-0.9	103	0.00	7.48
56	t	Acenaphthylene	1.819	1.786	1.8	103	0.00	7.63
57	t	2,6-Dinitrotoluene	0.267	0.297	-11.2	105	0.00	7.55
58	t	3-Nitroaniline	0.299	0.333	-11.4	104	0.00	7.78
59	t	Acenaphthene	1.125	1.091	3.0	103	0.00	7.87
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	108.555	-8.6	109	0.00	7.93
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.163	0.176	-8.0	98	0.00	8.09
62	t	Dibenzofuran	1.492	1.473	1.3	102	0.00	8.11
63	t	2,4-Dinitrotoluene	0.349	0.391	-12.0	104	0.00	8.11
64		2,3,4,6-Tetrachlorophenol	0.261	0.282	-8.0	105	0.00	8.31
65	t	Diethylphthalate	1.310	1.318	-0.6	101	0.00	8.47
66	t	Fluorene	1.279	1.238	3.2	103	0.00	8.60
67	t	4-Chlorophenyl-phenylethe	0.592	0.602	-1.7	103	0.00	8.61
68	t	4-Nitroaniline	0.300	0.337	-12.3	104	0.00	8.65
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	0.00	9.99
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	53.800	-7.6	109	0.00	8.70
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.623	0.638	-2.4	103	0.00	8.79
72	t	1,2-Diphenylhydrazine	0.944	0.933	1.2	101	0.00	8.85
73	S	2,4,6-Tribromophenol	0.116	0.115	0.9	105	0.00	8.96
74	t	4-Bromophenyl-phenylether	0.221	0.225	-1.8	102	0.00	9.33
75	t	Hexachlorobenzene	0.221	0.218	1.4	102	0.00	9.43
76	t	Pentachlorophenol	0.110	0.130	-18.2	105	0.00	9.74
77	t	Phenanthrene	1.171	1.103	5.8	102	0.00	10.03
78	t	Anthracene	1.160	1.121	3.4	104	0.00	10.11
79	t	Carbazole	1.169	1.168	0.1	104	0.00	10.38
80	t	Di-n-butylphthalate	1.438	1.506	-4.7	103	0.00	10.99
81	t	Fluoranthene	1.180	1.161	1.6	104	0.00	11.89
82	t	Octadecane	0.691	0.662	4.2	98	0.00	9.94
83	I	Chrysene-d12	1.000	1.000	0.0	101	0.00	14.16
84	t	Pyrene	1.305	1.296	0.7	104	0.00	12.23
85	S	Terphenyl-d14	0.754	0.707	6.2	103	0.00	12.53
86	t	Butylbenzylphthalate	0.650	0.692	-6.5	102	0.00	13.36
87		Butyl stearate	0.460	0.473	-2.8	98	0.00	13.53
88	t	Benzo[a]anthracene	1.169	1.116	4.5	102	0.00	14.15
89	t	3,3'-Dichlorobenzidine	0.395	0.416	-5.3	102	0.00	14.15
90	t	Chrysene	1.110	1.093	1.5	104	0.00	14.20

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3302-CC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76180.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

91	t	bis(2-Ethylhexyl)phthalat	0.918	0.976	-6.3	102	0.00	14.32
92	I	Perylene-d12	1.000	1.000	0.0	104	0.00	16.27
93	t	Di-n-octylphthalate	1.544	1.730	-12.0	102	0.00	15.30
94	t	Benzo[b]fluoranthene	1.174	1.187	-1.1	100	0.00	15.75
95	t	Benzo[k]fluoranthene	1.132	1.156	-2.1	104	0.00	15.80
96	t	Benzo[a]pyrene	1.039	1.077	-3.7	103	0.00	16.19
97	t	Indeno[1,2,3-cd]pyrene	1.068	1.133	-6.1	106	0.00	17.78
98	t	Dibenz(a,h)acridine	0.923	1.002	-8.6	104	0.00	17.43
99	t	Dibenz[a,h]anthracene	1.064	1.118	-5.1	104	0.00	17.81
100	t	7,12-Dimethylbenz(a)anthr	0.460	0.528	-14.8	101	0.00	15.76
101	t	Benzo[g,h,i]perylene	1.026	1.070	-4.3	105	0.00	18.21

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76180.D M2M3299.M Wed Jul 29 15:36:19 2015

8.7.13

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3302-CC3300
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76181.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3302\2m76181.D          Vial: 3
Acq On    : 29 Jul 2015   1:04 pm                    Operator: ashleyn
Sample    : cc3300-50                                Inst    : MS
Misc      : op85701,e2m3302,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 13:00:48 2015
Last Update  : Wed Jul 29 13:00:48 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	125	0.00	4.68
103	Benzaldehyde	1.194	0.979	18.0	101	-0.17	4.35
104	Acenaphthene-d10a	1.000	1.000	0.0	120	0.00	7.83
105	1,2,4,5-Tetrachlorobenzen	0.460	0.438	4.8	114	0.00	6.72
106	Chrysene-d12a	1.000	1.000	0.0	119	0.00	14.16
107	Benzidine	0.621	0.555	10.6	99	0.00	12.14
108 s	1-chlorooctadecane	0.424	0.411	3.1	111	0.00	11.83
109	Phenanthrene-d10a	1.000	1.000	0.0	116	0.00	9.99
110	Atrazine	0.103	0.108	-4.9	116	0.00	9.63
111 s	o-terphenyl	0.504	0.505	-0.2	112	0.00	10.63
112	Naphthalene-d8a	1.000	1.000	0.0	122	0.00	5.77
113	Hydroquinone	0.353	0.364	-3.1	118	-0.02	6.20

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m76180.D  M2M3299.M        Wed Jul 29 15:38:00 2015
```

8.7.14

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3309-CC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76336.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3309\2m76336.D Vial: 2
Acq On : 3 Aug 2015 10:43 pm Operator: sarad
Sample : cc3299-25 Inst : MS
Misc : op85968,e2m3309, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Mon Aug 03 23:06:32 2015
Last Update : Mon Aug 03 23:06:32 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	65	0.00	4.64
2	t	1,4-Dioxane	0.698	0.593	15.0	55	0.00	2.18
3	t	Pyridine	1.726	1.509	12.6	57	0.00	2.52
4	t	N-Nitrosodimethylamine	1.128	0.956	15.2	54	0.00	2.48
5	S	2-Fluorophenol	1.495	1.433	4.1	61	0.00	3.70
6	t	Indene	2.615	2.605	0.4	61	0.00	4.84
7	t	Cumene	3.558	3.431	3.6	61	0.00	4.04
8	S	Phenol-d5	1.802	1.753	2.7	61	0.00	4.41
9	t	Phenol	2.072	2.022	2.4	61	0.00	4.42
10		Aniline	2.069	1.802	12.9	58	0.00	4.40
11	t	bis(2-Chloroethyl)ether	1.632	1.517	7.0	60	0.00	4.44
12	t	2-Chlorophenol	1.486	1.437	3.3	61	0.00	4.50
13	t	Decane	1.851	1.654	10.6	56	0.00	4.52
14	t	1,3-Dichlorobenzene	1.555	1.545	0.6	63	0.00	4.60
15	t	1,4-Dichlorobenzene	1.594	1.576	1.1	63	0.00	4.65
16	t	Benzyl alcohol	0.915	0.915	0.0	62	0.00	4.76
17	t	1,2-Dichlorobenzene	1.468	1.457	0.7	62	0.00	4.77
18	t	Acetophenone	2.031	2.012	0.9	63	0.00	4.95
19	t	2-Methylphenol	1.345	1.331	1.0	62	0.00	4.86
20	t	2,2'-oxybis(1-Chloropropa	2.466	2.233	9.4	60	0.00	4.85
21	t	3&4-Methylphenol	1.466	1.446	1.4	61	0.00	4.98
22	t	n-Nitroso-di-n-propylamin	1.135	1.083	4.6	60	0.00	4.95
23	t	Hexachloroethane	0.479	0.515	-7.5	69	0.00	5.04
24	I	Naphthalene-d8	1.000	1.000	0.0	63	0.00	5.72
25	S	Nitrobenzene-d5	0.403	0.396	1.7	61	0.00	5.08
26	t	Nitrobenzene	0.437	0.423	3.2	59	0.00	5.09
27	t	Quinoline	0.761	0.774	-1.7	64	0.00	6.08
28	t	Isophorone	0.731	0.718	1.8	60	0.00	5.29
29	t	2-Nitrophenol	0.187	0.212	-13.4	67	0.00	5.37
30	t	2,4-Dimethylphenol	0.328	0.331	-0.9	62	0.00	5.42
31	t	Benzoic acid	0.244	0.251	-2.9	62	0.00	5.54
32	t	bis(2-Chloroethoxy)methan	0.495	0.478	3.4	59	0.00	5.48
33	t	2,4-Dichlorophenol	0.284	0.314	-10.6	67	0.00	5.61
34	t	2,6-Dichlorophenol	0.286	0.304	-6.3	66	0.00	5.81
35		1,3,5-Trichlorobenzene	0.320	0.345	-7.8	66	0.00	5.38
36	t	1,2,4-Trichlorobenzene	0.302	0.328	-8.6	67	0.00	5.67
37		1,2,3-Trichlorobenzene	0.300	0.320	-6.7	66	0.00	5.88
38	t	Naphthalene	1.092	1.091	0.1	62	0.00	5.74
39	t	4-Chloroaniline	0.443	0.444	-0.2	62	0.00	5.80
40	t	2,3-Dichloroaniline	0.363	0.391	-7.7	67	0.00	6.80
41	t	Caprolactam	0.209	0.207	1.0	60	0.00	6.16

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3309-CC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76336.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.153	0.171	-11.8	70	0.00	5.86
43	t	4-Chloro-3-methylphenol	0.319	0.349	-9.4	67	0.00	6.34
44	t	2-Methylnaphthalene	0.558	0.587	-5.2	64	0.00	6.47
45	t	1-Methylnaphthalene	0.613	0.650	-6.0	65	0.00	6.58
46	t	Dimethylnaphthalene	0.655	0.711	-8.5	67	0.00	7.23
47	I	Acenaphthene-d10	1.000	1.000	0.0	68	0.00	7.78
48	t	Hexachlorocyclopentadiene	0.269	0.256	4.8	59	0.00	6.65
49	t	2,4,6-Trichlorophenol	0.322	0.349	-8.4	70	0.00	6.83
50	t	2,4,5-Trichlorophenol	0.343	0.375	-9.3	70	0.00	6.89
51	S	2-Fluorobiphenyl	1.268	1.254	1.1	67	0.00	6.90
52	t	2-Chloronaphthalene	1.131	1.165	-3.0	67	0.00	7.05
53	t	Biphenyl	1.489	1.514	-1.7	67	0.00	7.02
54	t	2-Nitroaniline	0.369	0.377	-2.2	64	0.00	7.19
55	t	Dimethylphthalate	1.339	1.409	-5.2	69	0.00	7.42
56	t	Acenaphthylene	1.819	1.817	0.1	67	0.00	7.58
57	t	2,6-Dinitrotoluene	0.267	0.314	-17.6	72	0.00	7.50
58	t	3-Nitroaniline	0.299	0.334	-11.7	68	0.00	7.73
59	t	Acenaphthene	1.125	1.107	1.6	66	0.00	7.82
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	45.944	8.1	64	0.00	7.91
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.163	0.174	-6.7	65	0.00	8.08
62	t	Dibenzofuran	1.492	1.583	-6.1	68	0.00	8.06
63	t	2,4-Dinitrotoluene	0.349	0.431	-23.5#	74	0.00	8.07
64		2,3,4,6-Tetrachlorophenol	0.261	0.270	-3.4	66	0.00	8.27
65	t	Diethylphthalate	1.310	1.411	-7.7	69	0.00	8.42
66	t	Fluorene	1.279	1.306	-2.1	68	0.00	8.55
67	t	4-Chlorophenyl-phenylethe	0.592	0.642	-8.4	70	0.00	8.56
68	t	4-Nitroaniline	0.300	0.332	-10.7	67	0.00	8.61
69	I	Phenanthrene-d10	1.000	1.000	0.0	71	0.00	9.94
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	25.855	-3.4	72	0.00	8.68
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.623	0.641	-2.9	69	0.00	8.74
72	t	1,2-Diphenylhydrazine	0.944	0.868	8.1	62	0.00	8.79
73	S	2,4,6-Tribromophenol	0.116	0.124	-6.9	79	0.00	8.91
74	t	4-Bromophenyl-phenylether	0.221	0.238	-7.7	74	0.00	9.28
75	t	Hexachlorobenzene	0.221	0.244	-10.4	76	0.00	9.38
76	t	Pentachlorophenol	0.110	0.098	10.9	56	0.00	9.71
77	t	Phenanthrene	1.171	1.131	3.4	71	0.00	9.98
78	t	Anthracene	1.160	1.141	1.6	71	0.00	10.06
79	t	Carbazole	1.169	1.192	-2.0	70	0.00	10.33
80	t	Di-n-butylphthalate	1.438	1.553	-8.0	71	0.00	10.94
81	t	Fluoranthene	1.180	1.203	-1.9	73	0.00	11.84
82	t	Octadecane	0.691	0.630	8.8	61	0.00	9.89
83	I	Chrysene-d12	1.000	1.000	0.0	72	0.00	14.12
84	t	Pyrene	1.305	1.309	-0.3	73	0.00	12.19
85	S	Terphenyl-d14	0.754	0.734	2.7	74	0.00	12.48
86	t	Butylbenzylphthalate	0.650	0.718	-10.5	73	0.00	13.31
87		Butyl stearate	0.460	0.454	1.3	64	0.00	13.47
88	t	Benzo[a]anthracene	1.169	1.169	0.0	72	0.00	14.11
89	t	3,3'-Dichlorobenzidine	0.395	0.436	-10.4	73	0.00	14.11
90	t	Chrysene	1.110	1.116	-0.5	74	0.00	14.16

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3309-CC3299
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76336.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

91	t	bis(2-Ethylhexyl)phthalat	0.918	1.008	-9.8	73	0.00	14.27
92	I	Perylene-d12	1.000	1.000	0.0	72	0.00	16.24
93	t	Di-n-octylphthalate	1.544	1.811	-17.3	74	0.00	15.24
94	t	Benzo[b]fluoranthene	1.174	1.292	-10.1	76	0.00	15.72
95	t	Benzo[k]fluoranthene	1.132	1.199	-5.9	72	0.00	15.75
96	t	Benzo[a]pyrene	1.039	1.123	-8.1	75	0.00	16.16
97	t	Indeno[1,2,3-cd]pyrene	1.068	1.186	-11.0	74	0.00	17.74
98	t	Dibenz(a,h)acridine	0.923	1.060	-14.8	76	0.00	17.39
99	t	Dibenz[a,h]anthracene	1.064	1.160	-9.0	75	0.00	17.76
100	t	7,12-Dimethylbenz(a)anthr	0.460	0.546	-18.7	73	0.00	15.71
101	t	Benzo[g,h,i]perylene	1.026	1.123	-9.5	75	0.00	18.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m76164a.D M2M3299.M Mon Aug 03 23:08:56 2015

8.7.15

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2M3309-CC3300
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M76337.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3309\2m76337.D          Vial: 3
Acq On    :  3 Aug 2015  11:11 pm                    Operator: sarad
Sample    : cc3300-25                                Inst    : MS
Misc      : op85968,e2m3309,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3299.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Mon Aug 03 23:39:50 2015
Last Update  : Mon Aug 03 23:39:50 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	78	0.00	4.64
103	Benzaldehyde	1.194	0.995	16.7	63	0.00	4.31
104	Acenaphthene-d10a	1.000	1.000	0.0	81	0.00	7.77
105	1,2,4,5-Tetrachlorobenzen	0.460	0.456	0.9	80	0.00	6.67
106	Chrysene-d12a	1.000	1.000	0.0	85	0.00	14.12
107	Benzidine	0.621	0.464	25.3#	54	0.00	12.09
108	Phenanthrene-d10a	1.000	1.000	0.0	80	0.00	9.94
109	Atrazine	0.103	0.115	-11.7	88	0.00	9.58
110	Naphthalene-d8a	1.000	1.000	0.0	77	0.00	5.72
111	Hydroquinone	0.353	0.351	0.6	74	0.00	6.17

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m76164a.D M2M3299.M        Mon Aug 03 23:40:39 2015
```

8.7.16

8

Initial Calibration Summary

Job Number: JB99969 **Sample:** E2P2153-ICC2153
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2P50237.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Response Factor Report MS2P

Method : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Jul 02 17:43:45 2015
Response via : Initial Calibration

Calibration Files
2 =2p50233.D 5 =2p50240.D 25 =2p50238.D 80 =2p50236.D
100 =2p50234.D 50 =2p50237.D 1 =2p50235.D 10 =2p50239.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	0.621	0.567	0.591	0.613	0.566	0.713	0.571	0.600	8.60
3) Pyridine	1.407	1.540	1.470	1.454	1.469	1.448	1.584	1.458	1.479	3.81
4) N-Nitrosodim	0.866	0.912	0.918	0.949	0.947	0.915	0.905	0.926	0.917	2.86
5) 2-Fluorophen	1.375	1.476	1.452	1.495	1.423	1.450	1.369	1.388	1.428	3.32
6) Indene	2.319	2.461	2.264	2.105	2.035	2.150	2.422	2.266	2.253	6.64
7) Cumene	3.069	3.366	3.229	3.019	2.970	3.115	3.228	3.177	3.147	4.11
8) Phenol-d5	1.519	1.706	1.683	1.686	1.621	1.692	1.601	1.622	1.641	3.84
9) Phenol	1.766	1.880	1.796	1.587	1.550	1.671	1.776	1.798	1.728	6.60
10) Aniline	1.996	2.159	1.921	1.708	1.663	1.801	2.027	1.948	1.903	8.83
11) bis(2-Chloro	1.290	1.344	1.231	1.172	1.118	1.167	1.324	1.247	1.237	6.50
12) 2-Chlorophen	1.396	1.475	1.332	1.225	1.190	1.245	1.416	1.351	1.329	7.59
13) Decane	1.916	1.973	1.777	1.509	1.480	1.614	1.926	1.806	1.750	11.04
14) 1,3-Dichloro	1.660	1.718	1.535	1.463	1.415	1.467	1.638	1.563	1.558	6.90
15) 1,4-Dichloro	1.554	1.630	1.453	1.384	1.355	1.400	1.590	1.483	1.481	6.84
16) Benzyl alcoh	0.740	0.798	0.778	0.768	0.742	0.763	0.705	0.750	0.755	3.72
17) 1,2-Dichloro	1.527	1.583	1.390	1.239	1.207	1.275	1.525	1.472	1.402	10.40
18) Acetophenone	1.854	1.882	1.716	1.660	1.603	1.665	1.847	1.693	1.740	6.07
19) 2-Methylphen	1.179	1.223	1.115	1.000	0.977	1.037	1.158	1.137	1.103	8.06
20) 2,2'-oxybis(	0.444	0.430	0.383	0.338	0.337	0.351	0.442	0.390	0.389	11.65
21) 3&4-Methylph	1.182	1.305	1.163	1.079	1.041	1.100	1.252	1.195	1.165	7.63
22) n-Nitroso-di	1.022	1.013	0.884	0.767	0.748	0.805	1.000	0.907	0.893	12.51
23) Hexachloroet	0.550	0.563	0.517	0.505	0.503	0.512	0.532	0.521	0.525	4.13
24) I Naphthalene-d8	----------ISTD----------									
25) Nitrobenzene	0.366	0.362	0.345	0.333	0.334	0.333	0.371	0.339	0.348	4.61
26) Nitrobenzene	0.387	0.375	0.347	0.328	0.323	0.331	0.367	0.347	0.351	6.71
27) Quinoline	0.752	0.756	0.716	0.717	0.703	0.715	0.781	0.703	0.730	3.94
28) Isophorone	0.651	0.686	0.649	0.646	0.630	0.652	0.656	0.623	0.649	2.91
29) 2-Nitropheno	0.184	0.187	0.196	0.204	0.198	0.200	0.170	0.173	0.189	6.69
30) 2,4-Dimethyl	0.341	0.345	0.333	0.317	0.311	0.321	0.337	0.318	0.328	3.82
31) Benzoic acid		0.116	0.191	0.264	0.242	0.229		0.125	0.195	31.92
----- Quadratic regression ----- Coefficient = 0.9938										
Response Ratio = -0.03236 + 0.26697 *A + -0.00182 *A^2										
32) bis(2-Chloro	0.433	0.442	0.408	0.401	0.387	0.398	0.420	0.414	0.413	4.45
33) 2,4-Dichloro	0.270	0.313	0.304	0.297	0.286	0.294	0.284	0.297	0.293	4.46
34) 2,6-Dichloro	0.280	0.296	0.282	0.271	0.261	0.270	0.294	0.276	0.279	4.23
35) 1,3,5-Trichl	0.370	0.384	0.359	0.334	0.327	0.340	0.386	0.360	0.357	6.24
36) 1,2,4-Trichl	0.346	0.370	0.331	0.330	0.317	0.325	0.363	0.336	0.340	5.49
37) 1,2,3-Trichl	0.340	0.344	0.311	0.292	0.284	0.298	0.350	0.314	0.317	8.01
38) Naphthalene	0.999	1.002	0.922	0.775	0.781	0.865	1.013	0.945	0.913	10.58
39) 4-Chloroanil	0.408	0.464	0.432	0.421	0.411	0.420	0.385	0.427	0.421	5.35
40) 2,3-Dichloro	0.408	0.420	0.368	0.373	0.360	0.369	0.425	0.378	0.388	6.66
41) Caprolactam	0.108	0.107	0.102	0.109	0.105	0.105	0.089	0.100	0.103	6.14
42) Hexachlorobu	0.184	0.193	0.177	0.175	0.170	0.175	0.175	0.175	0.178	4.04

Initial Calibration Summary

Job Number: JB99969 **Sample:** E2P2153-ICC2153
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2P50237.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
43) 4-Chloro-3-m 0.313 0.295 0.298 0.301 0.293 0.299 0.290 0.284 0.297   2.87
44) 2-Methylnaph 0.581 0.600 0.563 0.542 0.525 0.541 0.573 0.552 0.560   4.39
45) 1-Methylnaph 0.641 0.653 0.598 0.563 0.553 0.581 0.658 0.600 0.606   6.72
46) Dimethylnaph 0.647 0.643 0.571 0.552 0.538 0.566 0.682 0.580 0.597   8.78

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.244 0.269 0.309 0.341 0.337 0.337 0.214 0.273 0.290  16.47
49) 2,4,6-Trichl 0.324 0.328 0.335 0.328 0.329 0.323 0.327 0.325 0.327   1.15
50) 2,4,5-Trichl 0.370 0.406 0.384 0.377 0.383 0.379 0.398 0.399 0.387   3.24
51) 2-Fluorobiph 1.329 1.264 1.113 1.042 1.036 1.047 1.476 1.180 1.186  13.48
52) 2-Chloronaph 1.149 1.218 1.042 0.937 0.950 0.968 1.174 1.135 1.072  10.37
53) Biphenyl     1.447 1.519 1.334 1.152 1.184 1.315 1.568 1.439 1.370  10.99
54) 2-Nitroanili 0.344 0.317 0.330 0.330 0.338 0.332 0.324 0.302 0.327   4.02
55) Dimethylphth 1.321 1.423 1.278 1.274 1.259 1.281 1.435 1.346 1.327   5.19
56) Acenaphthyle 1.956 2.010 1.741 1.383 1.423 1.622 2.183 1.814 1.766  15.98
57) 2,6-Dinitrot 0.223 0.248 0.255 0.264 0.268 0.260 0.221 0.246 0.248   7.27
58) 3-Nitroanili 0.278 0.306 0.310 0.321 0.325 0.318 0.267 0.295 0.303   6.89
59) Acenaphthene 1.104 1.089 0.972 0.959 0.964 0.961 1.234 1.037 1.040   9.42
60) 2,4-Dinitrop 0.034 0.049 0.098 0.150 0.151 0.134       0.059 0.096  51.70
         ----- Quadratic regression -----                Coefficient =  0.9980
              Response Ratio = -0.02330 + 0.12356 *A + 0.00694 *A^2

61) 4-Nitropheno 0.122 0.135 0.133 0.169 0.172 0.165 0.093 0.130 0.140  19.45
62) Dibenzofuran 1.499 1.527 1.386 1.180 1.241 1.302 1.489 1.472 1.387   9.47
63) 2,4-Dinitrot 0.272 0.320 0.341 0.361 0.360 0.361 0.231 0.316 0.320  14.73
64) 2,3,4,6-Tetr 0.236 0.263 0.278 0.312 0.308 0.298 0.232 0.260 0.273  11.34
65) Diethylphtha 1.389 1.434 1.327 1.274 1.290 1.304 1.439 1.363 1.352   4.74
66) Fluorene     1.358 1.324 1.157 1.058 1.069 1.098 1.538 1.211 1.227  13.74
67) 4-Chlorophen 0.595 0.646 0.578 0.571 0.566 0.572 0.617 0.608 0.594   4.71
68) 4-Nitroanili 0.290 0.320 0.296 0.301 0.303 0.299 0.260 0.314 0.298   6.06

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.053 0.066 0.102 0.125 0.123 0.118       0.074 0.094  31.27
         ----- Quadratic regression -----                Coefficient =  0.9989
              Response Ratio = -0.00786 + 0.12015 *A + 0.00283 *A^2

71) n-Nitrosodip 0.575 0.597 0.540 0.531 0.521 0.535 0.569 0.561 0.554   4.69
72) 1,2-Diphenyl 0.832 0.845 0.770 0.672 0.678 0.712 0.821 0.772 0.763   9.03
73) 2,4,6-Tribro 0.110 0.095 0.093 0.099 0.098 0.097 0.121 0.088 0.100  10.62
74) 4-Bromopheny 0.223 0.223 0.220 0.225 0.222 0.220 0.222 0.210 0.221   2.18
75) Hexachlorobe 0.225 0.238 0.214 0.220 0.216 0.216 0.233 0.215 0.222   4.09
76) Pentachlorop 0.022 0.069 0.109 0.135 0.132 0.127       0.071 0.095  44.36
         ----- Quadratic regression -----                Coefficient =  0.9987
              Response Ratio = -0.02034 + 0.13191 *A + 0.00124 *A^2

77) Phenanthrene 1.162 1.103 0.984 0.916 0.971 0.964 1.336 1.018 1.057  13.08
78) Anthracene   1.248 1.154 1.044 0.928 0.935 0.996 1.358 1.053 1.089  14.04
79) Carbazole    1.178 1.152 1.065 1.009 1.003 1.049 1.227 1.083 1.096   7.46
80) Di-n-butylph 1.539 1.607 1.546 1.197 1.278 1.492 1.485 1.501 1.456   9.75
81) Fluoranthene 1.317 1.312 1.172 1.154 1.153 1.204 1.502 1.187 1.250   9.69
82) Octadecane   0.501 0.457 0.432 0.350 0.360 0.391 0.506 0.428 0.428  13.77

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.495 1.380 1.260 1.231 1.237 1.241 1.678 1.250 1.346  12.11
85) Terphenyl-d1 0.862 0.719 0.658 0.719 0.703 0.679 1.031 0.639 0.751  17.55
86) Butylbenzylp 0.704 0.701 0.736 0.789 0.769 0.777 0.644 0.681 0.725   7.05
87) Butyl steara 0.476 0.431 0.473 0.453 0.456 0.471 0.390 0.414 0.446   7.00
88) Benzo[a]anth 1.326 1.235 1.137 1.172 1.152 1.147 1.517 1.091 1.222  11.37
89) 3,3'-Dichlor 0.392 0.405 0.420 0.444 0.434 0.433 0.401 0.384 0.414   5.30
90) Chrysene     1.078 1.002 0.946 0.967 0.960 0.951 1.213 0.936 1.007   9.45
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** E2P2153-ICC2153
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2P50237.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
 91) bis(2-Ethylh 0.960 0.867 0.924 0.945 0.953 0.960 0.836 0.845 0.911   5.85

 92) I   Perylene-d12          ----------------ISTD---------------------
 93) Di-n-octylph 1.790 1.668 1.808 1.483 1.584 1.861 1.633 1.583 1.676   7.84
 94) Benzo[b]fluo 1.245 1.319 1.193 1.120 1.126 1.151 1.490 1.151 1.224  10.36
 95) Benzo[k]fluo 1.182 1.132 0.976 0.793 0.800 0.964 1.405 1.000 1.032  19.78
 96) Benzo[a]pyre 1.096 1.104 1.022 0.934 0.931 1.030 1.315 0.978 1.051  11.89
 97) Indeno[1,2,3 1.001 1.001 0.942 0.912 0.868 0.973 1.183 0.900 0.972  10.02
 98) Dibenz(a,h)a 0.846 0.903 0.856 0.818 0.801 0.886 0.904 0.819 0.854   4.70
 99) Dibenz[a,h]a 0.979 0.999 0.909 0.815 0.814 0.891 1.148 0.892 0.931  11.81
100) 7,12-Dimethy 0.539 0.567 0.536 0.488 0.493 0.532 0.575 0.506 0.529   6.06
101) Benzo[g,h,i] 1.017 1.041 0.929 0.863 0.863 0.950 1.160 0.908 0.966  10.51

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

          M2P2153.M         Mon Jul 06 07:25:37 2015   RPT1
```

8.7.17

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E2P2154-ICV2153
Lab FileID: 2P50251.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\2P2154\2p50251.D Vial: 19
Acq On : 2 Jul 2015 5:53 pm Operator: samtap
Sample : icv2153-50 Inst : MS2P
Misc : op85151,e2p2154 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Jul 02 17:43:45 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.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	94	0.00	4.71
3	t	Pyridine	1.479	1.584	-7.1	103	0.07	2.42
10		Aniline	1.903	1.910	-0.4	100	0.00	4.44
16	t	Benzyl alcohol	0.755	0.751	0.5	93	0.00	4.83
24	I	Naphthalene-d8	1.000	1.000	0.0	98	0.00	5.76
39	t	4-Chloroaniline	0.421	0.395	6.2	92	0.00	5.82
44	t	2-Methylnaphthalene	0.560	0.504	10.0	91	0.00	6.35
47	I	Acenaphthene-d10	1.000	1.000	0.0	88	0.00	7.20
54	t	2-Nitroaniline	0.327	0.322	1.5	86	0.00	6.83
58	t	3-Nitroaniline	0.303	0.318	-5.0	88	0.00	7.16
62	t	Dibenzofuran	1.387	1.412	-1.8	96	0.00	7.37
68	t	4-Nitroaniline	0.298	0.305	-2.3	90	-0.01	7.67
69	I	Phenanthrene-d10	1.000	1.000	0.0	95	0.00	8.50
79	t	Carbazole	1.096	0.957	12.7	86	0.00	8.74
83	I	Chrysene-d12	1.000	1.000	0.0	95	-0.01	11.78
92	I	Perylene-d12	1.000	1.000	0.0	88	0.00	13.79

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2p50246a.D M2P2153.M Mon Jul 06 08:05:37 2015 RPT1

8.7.18
8

Initial Calibration Verification

Job Number: JB99969 **Sample:** E2P2154-ICV2153
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2P50252.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\2P2154\2p50252.D Vial: 20
Acq On : 2 Jul 2015 6:14 pm Operator: samtap
Sample : icv2153-50 Inst : MS2P
Misc : op85151,e2p2154 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Jul 02 17:43:45 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.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	76	0.00	4.70
4	t	N-Nitrosodimethylamine	0.917	0.802	12.5	67	-0.02	2.30
11	t	bis(2-Chloroethyl)ether	1.237	1.198	3.2	78	0.00	4.49
14	t	1,3-Dichlorobenzene	1.558	1.545	0.8	80	0.00	4.66
15	t	1,4-Dichlorobenzene	1.481	1.395	5.8	76	0.00	4.72
17	t	1,2-Dichlorobenzene	1.402	1.402	0.0	84	0.00	4.85
20	t	2,2'-oxybis(1-Chloropropa	0.389	0.352	9.5	76	0.00	4.94
22	t	n-Nitroso-di-n-propylamin	0.893	0.767	14.1	72	0.00	5.05
23	t	Hexachloroethane	0.525	0.506	3.6	75	0.00	5.13
24	I	Naphthalene-d8	1.000	1.000	0.0	72	0.00	5.76
26	t	Nitrobenzene	0.351	0.326	7.1	71	0.00	5.18
28	t	Isophorone	0.649	0.649	0.0	71	0.00	5.38
32	t	bis(2-Chloroethoxy)methan	0.413	0.391	5.3	70	0.00	5.56
36	t	1,2,4-Trichlorobenzene	0.340	0.335	1.5	74	0.00	5.71
38	t	Naphthalene	0.913	0.894	2.1	74	0.00	5.77
42	t	Hexachlorobutadiene	0.178	0.177	0.6	73	0.00	5.89
47	I	Acenaphthene-d10	1.000	1.000	0.0	69	0.00	7.20
48	t	Hexachlorocyclopentadiene	0.290	0.282	2.8	58	0.00	6.48
52	t	2-Chloronaphthalene	1.072	1.113	-3.8	79	0.00	6.74
55	t	Dimethylphthalate	1.327	1.202	9.4	64	0.00	6.98
56	t	Acenaphthylene	1.766	1.505	14.8	64	0.00	7.08
57	t	2,6-Dinitrotoluene	0.248	0.228	8.1	60	0.00	7.02
59	t	Acenaphthene	1.040	1.004	3.5	72	0.00	7.23
63	t	2,4-Dinitrotoluene	0.320	0.280	12.5	53	0.00	7.36
65	t	Diethylphthalate	1.352	1.177	12.9	62	0.00	7.56
66	t	Fluorene	1.227	1.105	9.9	69	0.00	7.65
67	t	4-Chlorophenyl-phenylethe	0.594	0.494	16.8	59	0.00	7.65
69	I	Phenanthrene-d10	1.000	1.000	0.0	72	0.00	8.50
71	t	n-Nitrosodiphenylamine	0.554	0.463	16.4	62	0.00	7.75
72	t	1,2-Diphenylhydrazine	0.763	0.654	14.3	66	0.00	7.78
74	t	4-Bromophenyl-phenylether	0.221	0.183	17.2	60	0.00	8.08
75	t	Hexachlorobenzene	0.222	0.194	12.6	65	0.00	8.14
77	t	Phenanthrene	1.057	0.928	12.2	69	0.00	8.52
78	t	Anthracene	1.089	0.931	14.5	67	0.00	8.57
80	t	Di-n-butylphthalate	1.456	1.274	12.5	61	0.00	9.13
81	t	Fluoranthene	1.250	1.113	11.0	66	0.00	9.84
83	I	Chrysene-d12	1.000	1.000	0.0	66	0.00	11.79
84	t	Pyrene	1.346	1.263	6.2	67	0.00	10.12
86	t	Butylbenzylphthalate	0.725	0.660	9.0	56	0.00	11.05
88	t	Benzo[a]anthracene	1.222	1.123	8.1	65	0.00	11.77
90	t	Chrysene	1.007	0.981	2.6	68	-0.01	11.82
91	t	bis(2-Ethylhexyl)phthalat	0.911	0.798	12.4	55	0.00	11.93

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: E2P2154-ICV2153
Lab FileID: 2P50252.D

92	I	Perylene-d12	1.000	1.000	0.0	64	-0.01	13.78
93	t	Di-n-octylphthalate	1.676	1.615	3.6	55	0.00	12.87
94	t	Benzo[b]fluoranthene	1.224	1.132	7.5	63	0.00	13.28
95	t	Benzo[k]fluoranthene	1.032	1.057	-2.4	70	-0.01	13.32
96	t	Benzo[a]pyrene	1.051	1.118	-6.4	69	-0.01	13.70
97	t	Indeno[1,2,3-cd]pyrene	0.972	1.015	-4.4	67	-0.01	15.19
99	t	Dibenz[a,h]anthracene	0.931	0.951	-2.1	68	-0.01	15.22
101	t	Benzo[g,h,i]perylene	0.966	1.044	-8.1	70	-0.01	15.58

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2p50246a.D M2P2153.M Mon Jul 06 08:11:21 2015 RPT1

8.7.19

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E2P2154-ICV2153
Lab FileID: 2P50254.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\2P2154\2p50254.D          Vial: 22
Acq On    :  2 Jul 2015   6:56 pm                   Operator: samtap
Sample    : icv2153-50                              Inst    : MS2P
Misc      : op85151,e2p2154                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Jul 02 17:43:45 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.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	4.70
5	S	2-Fluorophenol	1.428	1.328	7.0	91	0.00	3.61
8	S	Phenol-d5	1.641	1.491	9.1	87	0.00	4.42
24	I	Naphthalene-d8	1.000	1.000	0.0	98	0.00	5.76
25	S	Nitrobenzene-d5	0.348	0.353	-1.4	104	0.00	5.16
47	I	Acenaphthene-d10	1.000	1.000	0.0	92	0.00	7.20
51	S	2-Fluorobiphenyl	1.186	1.245	-5.0	109	0.00	6.65
69	I	Phenanthrene-d10	1.000	1.000	0.0	95	0.00	8.50
73	S	2,4,6-Tribromophenol	0.100	0.082	18.0	80	0.00	7.86
83	I	Chrysene-d12	1.000	1.000	0.0	103	-0.01	11.78
85	S	Terphenyl-d14	0.751	0.734	2.3	112	0.00	10.35
92	I	Perylene-d12	1.000	1.000	0.0	100	-0.01	13.78

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2p50246a.D M2P2153.M        Mon Jul 06 08:22:28 2015   RPT1
```

8.7.20

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E2P2154-ICV2153
Lab FileID: 2P50256.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\2P2154\2p50256.D          Vial: 24
Acq On    :  2 Jul 2015   7:38 pm                   Operator: samtap
Sample    : icv2153-50                              Inst    : MS2P
Misc      : op85151,e2p2154                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Jul 02 17:43:45 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.
83 I	Chrysene-d12	1.000	1.000	0.0	96	-0.01	11.78
89 t	3,3'-Dichlorobenzidine	0.414	0.432	-4.3	96	0.00	11.77

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2p50246a.D M2P2153.M Mon Jul 06 08:27:01 2015 RPT1

8.7.21

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E2P2156-ICV2153
Lab FileID: 2P50261.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\2P2156\2p50261.D Vial: 2
Acq On : 6 Jul 2015 7:39 am Operator: samtap
Sample : icv2153-50 Inst : MS2P
Misc : op85151,e2p2156 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Jul 02 17:43:45 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.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	113	-0.03	4.68
2	t	1,4-Dioxane	0.600	0.530	11.7	106	-0.03	1.99
6	t	Indene	2.253	1.960	13.0	103	-0.03	4.90
7	t	Cumene	3.147	2.639	16.1	96	-0.03	4.02
13	t	Decane	1.750	1.428	18.4	100	-0.03	4.56
18	t	Acetophenone	1.740	1.537	11.7	105	-0.03	5.01
24	I	Naphthalene-d8	1.000	1.000	0.0	112	-0.03	5.73
27	t	Quinoline	0.730	0.629	13.8	99	-0.03	6.02
40	t	2,3-Dichloroaniline	0.388	0.308	20.6	94	-0.03	6.55
41	t	Caprolactam	0.103	0.091	11.7	97	-0.06	6.07
45	t	1-Methylnaphthalene	0.606	0.523	13.7	101	-0.03	6.40
46	t	Dimethylnaphthalene	0.597	0.521	12.7	103	-0.03	6.83
47	I	Acenaphthene-d10	1.000	1.000	0.0	108	-0.03	7.17
53	t	Biphenyl	1.370	1.237	9.7	102	-0.03	6.70
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	-0.04	8.46
82	t	Octadecane	0.428	0.332	22.4	88	-0.03	8.38
83	I	Chrysene-d12	1.000	1.000	0.0	112	-0.05	11.74
92	I	Perylene-d12	1.000	1.000	0.0	102	-0.05	13.74
100	t	7,12-Dimethylbenz(a)anthr	0.529	0.423	20.0	81	-0.06	13.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2p50246a.D M2P2153.M Mon Jul 06 09:19:35 2015 RPT1

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E2P2156-ICV2153
Lab FileID: 2P50262.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\2P2156\2p50262.D Vial: 3
Acq On : 6 Jul 2015 8:05 am Operator: samtap
Sample : icv2153-50 Inst : MS2P
Misc : op85151,e2p2156 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Jul 02 17:43:45 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.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	81	-0.03	4.68
9	t	Phenol	1.728	1.541	10.8	75	-0.03	4.40
12	t	2-Chlorophenol	1.329	1.325	0.3	87	-0.03	4.51
19	t	2-Methylphenol	1.103	1.135	-2.9	89	-0.03	4.90
21	t	3&4-Methylphenol	1.165	1.178	-1.1	87	-0.03	5.03
24	I	Naphthalene-d8	1.000	1.000	0.0	83	-0.03	5.73
29	t	2-Nitrophenol	0.189	0.189	0.0	78	-0.03	5.42
30	t	2,4-Dimethylphenol	0.328	0.311	5.2	80	-0.03	5.47
31	t	Benzoic acid	50.000	36.060	27.9	60	-0.03	5.56
33	t	2,4-Dichlorophenol	0.293	0.283	3.4	79	-0.03	5.62
34	t	2,6-Dichlorophenol	0.279	0.284	-1.8	87	-0.03	5.80
43	t	4-Chloro-3-methylphenol	0.297	0.280	5.7	77	-0.04	6.20
47	I	Acenaphthene-d10	1.000	1.000	0.0	89	-0.03	7.17
49	t	2,4,6-Trichlorophenol	0.327	0.322	1.5	89	-0.03	6.55
50	t	2,4,5-Trichlorophenol	0.387	0.337	12.9	79	-0.03	6.59
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	48.344	3.3	72	-0.03	7.22
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.140	0.151	-7.9	81	-0.03	7.29
64		2,3,4,6-Tetrachlorophenol	0.273	0.259	5.1	77	-0.03	7.45
69	I	Phenanthrene-d10	1.000	1.000	0.0	91	-0.04	8.46
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	44.910	10.2	81	-0.04	7.67
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	45.918	8.2	76	-0.04	8.29
83	I	Chrysene-d12	1.000	1.000	0.0	106	-0.05	11.74
92	I	Perylene-d12	1.000	1.000	0.0	98	-0.05	13.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2p50246a.D M2P2153.M Mon Jul 06 09:26:50 2015 RPT1

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2P2191-CC2153
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2P51005.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\2P2191\2p51005.D Vial: 2
Acq On : 29 Jul 2015 4:45 pm Operator: ashleyd
Sample : cc2153-25 Inst : MS2P
Misc : op85840,e2p2191 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M2P2153.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Tue Jul 28 11:13:29 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	118	0.00	4.56
2	t	1,4-Dioxane	0.600	0.383	36.2#	80	0.00	1.84
3	t	Pyridine	1.479	0.994	32.8#	80	0.01	2.18
4	t	N-Nitrosodimethylamine	0.917	0.635	30.8#	81	0.00	2.15
5	S	2-Fluorophenol	1.428	1.165	18.4	94	0.00	3.52
6	t	Indene	2.253	2.101	6.7	109	0.00	4.77
7	t	Cumene	3.147	3.064	2.6	112	0.00	3.88
8	S	Phenol-d5	1.641	1.408	14.2	98	0.00	4.33
9	t	Phenol	1.728	1.427	17.4	94	0.00	4.34
10		Aniline	1.903	1.415	25.6#	87	0.00	4.30
11	t	bis(2-Chloroethyl)ether	1.237	1.149	7.1	110	0.00	4.34
12	t	2-Chlorophenol	1.329	1.153	13.2	102	0.00	4.41
13	t	Decane	1.750	1.627	7.0	108	0.00	4.44
14	t	1,3-Dichlorobenzene	1.558	1.452	6.8	111	0.00	4.51
15	t	1,4-Dichlorobenzene	1.481	1.350	8.8	109	0.00	4.57
16	t	Benzyl alcohol	0.755	0.668	11.5	101	0.00	4.70
17	t	1,2-Dichlorobenzene	1.402	1.319	5.9	112	0.00	4.70
18	t	Acetophenone	1.740	1.720	1.1	118	0.00	4.90
19	t	2-Methylphenol	1.103	0.971	12.0	103	-0.01	4.83
20	t	2,2'-oxybis(1-Chloropropa	0.389	0.364	6.4	112	0.00	4.79
21	t	3&4-Methylphenol	1.165	1.092	6.3	111	0.00	4.95
22	t	n-Nitroso-di-n-propylamin	0.893	0.927	-3.8	123	-0.01	4.91
23	t	Hexachloroethane	0.525	0.606	-15.4	138	0.00	4.98
24	I	Naphthalene-d8	1.000	1.000	0.0	110	0.00	5.61
25	S	Nitrobenzene-d5	0.348	0.373	-7.2	119	0.00	5.02
26	t	Nitrobenzene	0.351	0.379	-8.0	120	0.00	5.04
27	t	Quinoline	0.730	0.711	2.6	110	0.00	5.91
28	t	Isophorone	0.649	0.653	-0.6	111	0.00	5.23
29	t	2-Nitrophenol	0.189	0.217	-14.8	122	0.00	5.30
30	t	2,4-Dimethylphenol	0.328	0.311	5.2	103	0.00	5.37
		----------	True	Calc.	% Drift	----------		
31	t	Benzoic acid	25.000	30.418	-21.7#	157	-0.03	5.50
		----------	AvgRF	CCRF	% Dev	----------		
32	t	bis(2-Chloroethoxy)methan	0.413	0.414	-0.2	112	0.00	5.42
33	t	2,4-Dichlorophenol	0.293	0.326	-11.3	118	0.00	5.53
34	t	2,6-Dichlorophenol	0.279	0.310	-11.1	121	0.00	5.70
35		1,3,5-Trichlorobenzene	0.357	0.425	-19.0	131	0.00	5.31
36	t	1,2,4-Trichlorobenzene	0.340	0.393	-15.6	131	0.00	5.57
37		1,2,3-Trichlorobenzene	0.317	0.372	-17.4	132	0.00	5.75

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2P2191-CC2153
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2P51005.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

38	t	Naphthalene	0.913	0.913	0.0	109	0.00	5.63
39	t	4-Chloroaniline	0.421	0.398	5.5	102	0.00	5.69
40	t	2,3-Dichloroaniline	0.388	0.410	-5.7	123	0.00	6.44
41	t	Caprolactam	0.103	0.105	-1.9	114	-0.03	5.98
42	t	Hexachlorobutadiene	0.178	0.257	-44.4#	161	0.00	5.74
43	t	4-Chloro-3-methylphenol	0.297	0.325	-9.4	120	0.00	6.13
44	t	2-Methylnaphthalene	0.560	0.607	-8.4	119	0.00	6.20
45	t	1-Methylnaphthalene	0.606	0.646	-6.6	119	0.00	6.28
46	t	Dimethylnaphthalene	0.597	0.661	-10.7	128	0.00	6.71
47	I	Acenaphthene-d10	1.000	1.000	0.0	121	0.00	7.06
48	t	Hexachlorocyclopentadiene	0.290	0.291	-0.3	114	0.00	6.33
49	t	2,4,6-Trichlorophenol	0.327	0.417	-27.5#	150	0.00	6.46
50	t	2,4,5-Trichlorophenol	0.387	0.448	-15.8	141	0.00	6.51
51	S	2-Fluorobiphenyl	1.186	1.314	-10.8	142	0.00	6.50
52	t	2-Chloronaphthalene	1.072	1.071	0.1	124	0.00	6.60
53	t	Biphenyl	1.370	1.463	-6.8	132	0.00	6.58
54	t	2-Nitroaniline	0.327	0.402	-22.9#	147	0.00	6.70
55	t	Dimethylphthalate	1.327	1.440	-8.5	136	0.00	6.84
56	t	Acenaphthylene	1.766	1.779	-0.7	123	0.00	6.94
57	t	2,6-Dinitrotoluene	0.248	0.310	-25.0#	147	0.00	6.89
58	t	3-Nitroaniline	0.303	0.310	-2.3	120	0.00	7.04
59	t	Acenaphthene	1.040	1.041	-0.1	129	0.00	7.08
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	76.680	-53.4#	235	0.00	7.13
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.140	0.159	-13.6	144	0.00	7.25
62	t	Dibenzofuran	1.387	1.595	-15.0	139	0.00	7.22
63	t	2,4-Dinitrotoluene	0.320	0.416	-30.0#	147	0.00	7.23
64		2,3,4,6-Tetrachlorophenol	0.273	0.376	-37.7#	163	0.00	7.35
65	t	Diethylphthalate	1.352	1.432	-5.9	130	0.00	7.41
66	t	Fluorene	1.227	1.280	-4.3	133	0.00	7.51
67	t	4-Chlorophenyl-phenylethe	0.594	0.775	-30.5#	162	0.00	7.50
68	t	4-Nitroaniline	0.298	0.285	4.4	116	0.00	7.54
69	I	Phenanthrene-d10	1.000	1.000	0.0	149	0.00	8.33
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	31.856	-27.4#	209	0.00	7.57
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.554	0.504	9.0	139	0.00	7.61
72	t	1,2-Diphenylhydrazine	0.763	0.625	18.1	121	0.00	7.63
73	S	2,4,6-Tribromophenol	0.100	0.114	-14.0	183	0.00	7.71
74	t	4-Bromophenyl-phenylether	0.221	0.258	-16.7	175	0.00	7.92
75	t	Hexachlorobenzene	0.222	0.251	-13.1	175	0.00	7.99
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	58.044	-16.1	190	0.00	8.18
		----------	AvgRF	CCRF	% Dev	----------		
77	t	Phenanthrene	1.057	0.941	11.0	142	0.00	8.36
78	t	Anthracene	1.089	0.977	10.3	139	0.00	8.40
79	t	Carbazole	1.096	0.984	10.2	138	0.00	8.58
80	t	Di-n-butylphthalate	1.456	1.354	7.0	130	0.01	8.95
81	t	Fluoranthene	1.250	1.261	-0.9	160	0.01	9.66
82	t	Octadecane	0.428	0.453	-5.8	156	0.00	8.24

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E2P2191-CC2153
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2P51005.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

83	I	Chrysene-d12	1.000	1.000	0.0	171	0.02	11.60
84	t	Pyrene	1.346	1.199	10.9	163	0.01	9.93
85	S	Terphenyl-d14	0.751	0.774	-3.1	201#	0.01	10.15
86	t	Butylbenzylphthalate	0.725	0.568	21.7#	132	0.02	10.85
87		Butyl stearate	0.446	0.352	21.1#	127	0.02	10.99
88	t	Benzo[a]anthracene	1.222	1.145	6.3	172	0.02	11.58
89	t	3,3'-Dichlorobenzidine	0.414	0.428	-3.4	174	0.01	11.58
90	t	Chrysene	1.007	0.966	4.1	174	0.01	11.63
91	t	bis(2-Ethylhexyl)phthalat	0.911	0.749	17.8	138	0.02	11.72
92	I	Perylene-d12	1.000	1.000	0.0	156	0.02	13.59
93	t	Di-n-octylphthalate	1.676	1.504	10.3	130	0.02	12.65
94	t	Benzo[b]fluoranthene	1.224	1.197	2.2	156	0.02	13.10
95	t	Benzo[k]fluoranthene	1.032	1.050	-1.7	168	0.01	13.13
96	t	Benzo[a]pyrene	1.051	1.036	1.4	158	0.02	13.51
97	t	Indeno[1,2,3-cd]pyrene	0.972	0.969	0.3	160	0.02	14.96
98	t	Dibenz(a,h)acridine	0.854	0.841	1.5	153	0.02	14.65
99	t	Dibenz[a,h]anthracene	0.931	0.883	5.2	151	0.02	14.98
100	t	7,12-Dimethylbenz(a)anthr	0.529	0.549	-3.8	160	0.02	13.08
101	t	Benzo[g,h,i]perylene	0.966	0.874	9.5	147	0.02	15.33

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2p50733.D M2P2153.M Thu Jul 30 18:50:04 2015 RPT1

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2012-ICC2012
Lab FileID: 3P45118.D

Response Factor Report MSGC3P

Method : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Mon Jul 20 13:20:22 2015
Response via : Initial Calibration

Calibration Files
2 =3p45131a.D 5 =3p45130a.D 25 =3p45119a.D 80 =3p45128a.D
100 =3p45127a.D 50 =3p45118a.D 1 =3p45132a.D 10 =3p45129a.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.680	0.660	0.672	0.781	0.771	0.716	0.799	0.648	0.716	8.38
3) Pyridine	1.491	1.755	1.688	1.903	1.859	1.774	1.588	1.622	1.710	8.17
4) N-Nitrosodim	0.643	0.788	0.807	0.910	0.901	0.901	0.801	0.740	0.811	11.41
5) 2-Fluorophen	1.451	1.595	1.596	1.761	1.745	1.636	1.449	1.511	1.593	7.53
6) Indene	2.564	2.679	2.308	2.148	2.036	2.170	2.568	2.436	2.364	9.88
7) Cumene	3.358	3.713	3.608	3.723	3.632	3.604	3.483	3.481	3.575	3.52
8) Phenol-d5	1.825	2.017	1.985	2.086	1.989	1.970	1.964	1.926	1.970	3.81
9) Phenol	1.844	2.038	1.964	2.028	1.958	2.003	1.886	1.970	1.961	3.42
10) Aniline	2.202	2.323	2.024	1.936	1.848	1.929	2.158	2.202	2.078	8.04
11) bis(2-Chloro	1.465	1.623	1.460	1.445	1.376	1.435	1.513	1.510	1.478	4.93
12) 2-Chlorophen	1.494	1.605	1.478	1.446	1.380	1.427	1.589	1.520	1.492	5.19
13) Decane	1.896	1.998	1.812	1.645	1.594	1.789	1.740	1.808	1.785	7.24
14) 1,3-Dichloro	1.668	1.679	1.513	1.490	1.438	1.479	1.594	1.619	1.560	5.90
15) 1,4-Dichloro	1.543	1.633	1.507	1.471	1.408	1.449	1.565	1.553	1.516	4.75
16) Benzyl alcoh	0.904	0.983	0.866	0.923	0.876	0.849	0.936	0.913	0.906	4.72
17) 1,2-Dichloro	1.547	1.553	1.376	1.328	1.278	1.319	1.549	1.462	1.427	8.07
18) Acetophenone	2.007	2.042	1.764	1.647	1.555	1.649	2.068	1.888	1.827	10.99
19) 2-Methylphen	1.297	1.395	1.240	1.223	1.178	1.214	1.265	1.287	1.262	5.28
20) 2,2'-oxybis(	2.690	2.754	2.484	2.266	2.131	2.424	2.773	2.554	2.510	9.22
21) 3&4-Methylph	1.332	1.481	1.315	1.293	1.219	1.264	1.355	1.371	1.329	5.93
22) n-Nitroso-di	0.930	1.097	0.957	0.889	0.839	0.918	1.120	1.012	0.970	10.19
23) Hexachloroet	0.440	0.464	0.413	0.415	0.413	0.406	0.434	0.428	0.427	4.45
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.386	0.390	0.391	0.379	0.368	0.383	0.380	0.392	0.384	2.09
26) Nitrobenzene	0.375	0.407	0.366	0.344	0.340	0.356	0.375	0.365	0.366	5.78
27) Quinoline	0.750	0.801	0.729	0.737	0.718	0.713	0.809	0.730	0.749	4.88
28) Isophorone	0.678	0.741	0.697	0.703	0.686	0.685	0.691	0.698	0.698	2.76
29) 2-Nitropheno	0.186	0.213	0.203	0.208	0.203	0.200	0.171	0.201	0.198	6.87
30) 2,4-Dimethyl	0.326	0.361	0.326	0.330	0.324	0.327	0.348	0.340	0.335	4.04
31) Benzoic acid		0.208	0.255	0.288	0.283	0.264		0.221	0.253	12.85
32) bis(2-Chloro	0.460	0.501	0.439	0.420	0.411	0.420	0.469	0.456	0.447	6.80
33) 2,4-Dichloro	0.279	0.305	0.285	0.282	0.273	0.272	0.302	0.279	0.285	4.40
34) 2,6-Dichloro	0.288	0.297	0.261	0.256	0.250	0.253	0.286	0.269	0.270	6.68
35) 1,3,5-Trichl	0.329	0.358	0.306	0.296	0.288	0.291	0.343	0.313	0.315	8.10
36) 1,2,4-Trichl	0.303	0.319	0.283	0.285	0.280	0.277	0.315	0.298	0.295	5.50
37) 1,2,3-Trichl	0.285	0.314	0.268	0.262	0.257	0.256	0.299	0.292	0.279	7.72
38) Naphthalene	1.067	1.106	0.972	0.949	0.935	0.967	1.110	1.014	1.015	6.97
39) 4-Chloroanil	0.430	0.474	0.422	0.403	0.393	0.399	0.443	0.442	0.426	6.46
40) 2,3-Dichloro	0.370	0.391	0.345	0.328	0.321	0.335	0.377	0.351	0.352	7.07
41) Caprolactam	0.111	0.128	0.119	0.122	0.117	0.115	0.125	0.124	0.120	4.52
42) Hexachlorobu	0.148	0.159	0.139	0.139	0.135	0.137	0.143	0.141	0.143	5.60
43) 4-Chloro-3-m	0.297	0.327	0.313	0.318	0.310	0.312	0.312	0.307	0.312	2.71
44) 2-Methylnaph	0.550	0.607	0.568	0.558	0.546	0.543	0.565	0.554	0.561	3.63
45) 1-Methylnaph	0.625	0.682	0.613	0.593	0.574	0.581	0.643	0.619	0.616	5.71

Initial Calibration Summary

Job Number: JB99969 **Sample:** E3P2012-ICC2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45118.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
46) Dimethylnaph 0.617 0.666 0.574 0.559 0.540 0.554 0.645 0.595 0.594   7.67

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.268 0.317 0.324 0.319 0.322 0.321 0.262 0.302 0.304   8.35
49) 2,4,6-Trichl 0.338 0.348 0.330 0.318 0.316 0.317 0.332 0.346 0.331   3.91
50) 2,4,5-Trichl 0.353 0.385 0.362 0.341 0.337 0.338 0.364 0.356 0.354   4.56
51) 2-Fluorobiph 1.348 1.346 1.150 1.064 1.079 1.104 1.486 1.203 1.222  12.58
52) 2-Chloronaph 1.151 1.182 1.077 0.981 0.982 1.006 1.134 1.097 1.076   7.33
53) Biphenyl     1.682 1.662 1.499 1.388 1.372 1.432 1.591 1.522 1.519   7.83
54) 2-Nitroanili 0.331 0.364 0.357 0.346 0.346 0.353 0.331 0.349 0.347   3.40
55) Dimethylphth 1.406 1.473 1.356 1.294 1.282 1.308 1.426 1.371 1.365   4.97
56) Acenaphthyle 2.079 2.035 1.880 1.789 1.772 1.804 2.198 1.889 1.931   8.08
57) 2,6-Dinitrot 0.244 0.275 0.274 0.280 0.275 0.266 0.221 0.264 0.262   7.67
58) 3-Nitroanili 0.338 0.372 0.374 0.365 0.358 0.359 0.336 0.363 0.358   3.99
59) Acenaphthene 1.225 1.207 1.108 1.054 1.048 1.071 1.334 1.129 1.147   8.78
60) 2,4-Dinitrop 0.085 0.110 0.158 0.172 0.173 0.163 0.076 0.130 0.134  29.27
            ---- Quadratic regression ----  Coefficient =  0.9998
              Response Ratio = -0.00979 + 0.16071 *A + 0.00307 *A^2

61) 4-Nitropheno 0.140 0.151 0.162 0.161 0.162 0.162 0.142 0.157 0.155   6.01
62) Dibenzofuran 1.544 1.598 1.508 1.410 1.408 1.443 1.601 1.538 1.506   5.19
63) 2,4-Dinitrot 0.285 0.369 0.374 0.379 0.377 0.368 0.293 0.365 0.351  11.04
64) 2,3,4,6-Tetr 0.247 0.266 0.268 0.277 0.275 0.268 0.269 0.267 0.267   3.31
65) Diethylphtha 1.431 1.555 1.499 1.465 1.443 1.465 1.519 1.467 1.480   2.79
66) Fluorene     1.422 1.386 1.263 1.179 1.158 1.201 1.677 1.285 1.321  13.01
67) 4-Chlorophen 0.613 0.606 0.586 0.573 0.559 0.564 0.592 0.603 0.587   3.42
68) 4-Nitroanili 0.323 0.376 0.388 0.352 0.344 0.364 0.321 0.377 0.356   7.09

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.100 0.121 0.126 0.124 0.120       0.113 0.117   8.13
71) n-Nitrosodip 0.578 0.613 0.560 0.531 0.528 0.544 0.593 0.564 0.564   5.30
72) 1,2-Diphenyl 0.864 0.905 0.830 0.767 0.771 0.824 0.860 0.839 0.833   5.59
73) 2,4,6-Tribro 0.108 0.099 0.094 0.095 0.096 0.095 0.138 0.095 0.102  14.67
74) 4-Bromopheny 0.204 0.209 0.202 0.201 0.202 0.197 0.201 0.205 0.202   1.73
75) Hexachlorobe 0.224 0.220 0.205 0.202 0.203 0.202 0.220 0.207 0.210   4.35
76) Pentachlorop 0.109 0.139 0.143 0.147 0.145 0.143 0.105 0.135 0.133  12.44
77) Phenanthrene 1.223 1.174 1.031 0.990 0.975 1.027 1.434 1.078 1.117  13.89
78) Anthracene   1.182 1.164 1.027 0.986 0.971 1.006 1.343 1.078 1.095  11.64
79) Carbazole    1.163 1.244 1.144 1.121 1.104 1.122 1.203 1.133 1.154   4.10
80) Di-n-butylph 1.646 1.788 1.790 1.787 1.791 1.815 1.571 1.709 1.737   5.03
81) Fluoranthene 1.270 1.328 1.226 1.252 1.239 1.225 1.515 1.197 1.282   7.95
82) Octadecane   0.724 0.757 0.727 0.673 0.679 0.735 0.726 0.695 0.715   4.07

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.412 1.429 1.277 1.268 1.252 1.221 1.618 1.238 1.339  10.25
85) Terphenyl-d1 0.776 0.710 0.624 0.635 0.643 0.603 0.958 0.614 0.695  17.38
86) Butylbenzylp 0.724 0.853 0.879 0.912 0.907 0.858 0.706 0.796 0.830   9.56
87) Benzo[a]anth 1.223 1.186 1.078 1.103 1.094 1.039 1.443 1.049 1.152  11.62
88) 3,3'-Dichlor 0.338 0.404 0.405 0.418 0.412 0.400 0.368 0.392 0.392   6.78
89) Chrysene     1.037 1.017 0.904 0.907 0.897 0.882 1.198 0.957 0.975  10.96
90) bis(2-Ethylh 0.896 1.101 1.129 1.109 1.134 1.092 0.791 1.025 1.035  12.14

91) I   Perylene-d12          ----------------ISTD---------------------
92) Di-n-octylph 1.569 2.064 2.268 2.021 2.165 2.272 1.344 1.924 1.953  17.10
93) Benzo[b]fluo 1.125 1.238 1.167 1.024 1.076 1.163 1.302 1.102 1.150   7.75
94) Benzo[k]fluo 1.176 1.209 1.064 0.888 0.904 1.007 1.365 1.062 1.084  14.82
95) Benzo[a]pyre 1.015 1.076 1.008 0.905 0.936 0.985 1.215 0.952 1.011   9.65
96) Indeno[1,2,3 0.815 0.937 0.964 0.907 0.929 0.961 0.968 0.874 0.919   5.73
97) Dibenz(a,h)a 0.707 0.839 0.914 0.872 0.897 0.927 0.733 0.823 0.839   9.74
98) Dibenz[a,h]a 0.822 0.933 0.953 0.836 0.849 0.915 0.907 0.877 0.887   5.40
```

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2012-ICC2012
Lab FileID: 3P45118.D

```
 99) 7,12-Dimethy 0.405 0.497 0.505 0.457 0.470 0.515 0.428 0.462 0.467   8.10
100) Benzo[g,h,i] 0.915 0.967 0.943 0.863 0.872 0.928 1.033 0.897 0.927   5.94
 ----------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M3P2012.M         Mon Jul 20 13:28:22 2015
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** E3P2013-ICC2013
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45134.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
                         Response Factor Report  MSGC3P

  Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
  Title        : Semi Volatile Extractables by GC/MS
  Last Update  : Fri Jul 17 17:21:55 2015
  Response via : Initial Calibration

  Calibration Files
  2   =3p45131a.D  5   =3p45130a.D  25  =3p45133a.D  80  =3p45128a.D
  100 =3p45127a.D  50  =3p45134.D   1   =3p45132a.D  10  =3p45129a.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  ---------------------------------------------------------------------------
101) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
102) Benzaldehyde 1.129 1.195 1.157 1.133 1.094 1.176 1.220 1.171 1.159   3.47

103) I   Acenaphthene-d10     ----------------ISTD---------------------
104) Atrazine     0.136 0.146 0.153 0.161 0.149 0.149 0.146 0.154 0.149   4.89
105) 1,2,4,5-Tetr 0.454 0.497 0.456 0.448 0.446 0.466 0.499 0.461 0.466   4.49

106) I   Chrysene-d12a         ----------------ISTD---------------------
107) Benzidine    0.674 0.809 0.835 0.648 0.551 0.771       0.838 0.732  15.01

108) I   Naphthalene-d8a       ----------------ISTD---------------------
109) Hydroquinone 0.253 0.292 0.352 0.382 0.356 0.355 0.208 0.338 0.317  19.05

110) I   Phenanthrene-d10a     ----------------ISTD---------------------
111) O-Terphenyl  0.421 0.447 0.439 0.440 0.431 0.440 0.428 0.447 0.437   2.10
112) 1-Chloroocta 0.376 0.431 0.443 0.432 0.415 0.435 0.406 0.446 0.423   5.52
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3P2012.M         Fri Jul 17 17:22:34 2015
```

8.7.26

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2013-ICV2013
Lab FileID: 3P45140.D

Evaluate Continuing Calibration Report

```
  Data File : C:\msdchem\1\data\E3P2013\3p45140.D          Vial: 15
  Acq On    : 17 Jul 2015   1:38 pm                    Operator: samtap
  Sample    : icv2013-50                               Inst    : MSGC3P
  Misc      : op85550,e3p2013                          Multiplr: 1.00
  MS Integration Params: lscint.p

  Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
  Title        : Semi Volatile Extractables by GC/MS
  Last Update  : Fri Jul 17 17:29:36 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 I	Naphthalene-d8a	1.000	1.000	0.0	109	0.00	5.87
109 t	Hydroquinone	0.317	0.389	-22.7	119	0.00	6.14

```
    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     3p45134a.D M3P2012.M        Mon Jul 20 12:01:12 2015
```

8.7.27

8

Initial Calibration Verification

Job Number: JB99969 **Sample:** E3P2014-ICV2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45144.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45144.D          Vial: 2
Acq On    : 17 Jul 2015   7:08 pm                    Operator: sarad
Sample    : icv2012-50                               Inst    : MSGC3P
Misc      : op85550,e3p2014                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Jul 17 17:29:36 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	120	0.00	4.94
9	t	Phenol	1.961	1.794	8.5	107	0.00	4.67
12	t	2-Chlorophenol	1.492	1.426	4.4	120	-0.01	4.78
19	t	2-Methylphenol	1.262	1.211	4.0	120	-0.01	5.11
21	t	3&4-Methylphenol	1.329	1.228	7.6	116	-0.01	5.22
24	I	Naphthalene-d8	1.000	1.000	0.0	115	-0.01	5.86
29	t	2-Nitrophenol	0.198	0.198	0.0	113	-0.01	5.58
30	t	2,4-Dimethylphenol	0.335	0.343	-2.4	120	0.00	5.60
31	t	Benzoic acid	0.253	0.259	-2.4	112	0.00	5.67
33	t	2,4-Dichlorophenol	0.285	0.272	4.6	114	-0.01	5.75
34	t	2,6-Dichlorophenol	0.270	0.265	1.9	120	0.00	5.92
43	t	4-Chloro-3-methylphenol	0.312	0.289	7.4	106	-0.01	6.25
47	I	Acenaphthene-d10	1.000	1.000	0.0	121	-0.01	7.34
49	t	2,4,6-Trichlorophenol	0.331	0.298	10.0	114	0.00	6.62
50	t	2,4,5-Trichlorophenol	0.354	0.306	13.6	110	-0.01	6.65
		----------	True	Calc.	% Drift		----------	
60	t	2,4-Dinitrophenol	50.000	44.250	5.8	102	-0.01	7.39
		----------	AvgRF	CCRF	% Dev		----------	
61	t	4-Nitrophenol	0.155	0.141	9.0	105	0.00	7.45
64		2,3,4,6-Tetrachlorophenol	0.267	0.228	14.6	103	-0.01	7.70
69	I	Phenanthrene-d10	1.000	1.000	0.0	117	-0.01	9.32
70	t	4,6-Dinitro-2-methylpheno	0.117	0.102	12.8	100	-0.02	8.02
76	t	Pentachlorophenol	0.133	0.132	0.8	108	-0.01	9.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45134a.D M3P2012.M Fri Jul 17 19:39:33 2015

8.7.28

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2012
Lab FileID: 3P45145.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45145.D          Vial: 3
Acq On    : 17 Jul 2015   7:41 pm                    Operator: sarad
Sample    : icv2012-50                               Inst    : MSGC3P
Misc      : op85550,e3p2014                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Jul 17 17:29:36 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	180	0.00	4.94
5	S	2-Fluorophenol	1.593	1.381	13.3	152	0.00	3.96
8	S	Phenol-d5	1.970	1.627	17.4	148	0.00	4.66
24	I	Naphthalene-d8	1.000	1.000	0.0	181	-0.01	5.86
25	S	Nitrobenzene-d5	0.384	0.360	6.3	170	-0.01	5.33
47	I	Acenaphthene-d10	1.000	1.000	0.0	169	-0.01	7.34
51	S	2-Fluorobiphenyl	1.222	1.198	2.0	183	0.00	6.69
69	I	Phenanthrene-d10	1.000	1.000	0.0	165	-0.01	9.32
73	S	2,4,6-Tribromophenol	0.102	0.084	17.6	147	-0.01	8.28
83	I	Chrysene-d12	1.000	1.000	0.0	131	-0.02	14.67
85	S	Terphenyl-d14	0.695	0.728	-4.7	159	-0.01	12.43

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3p45134a.D M3P2012.M        Fri Jul 17 20:44:57 2015
```

8.7.29

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2012
Lab FileID: 3P45146.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\E3P2014\3p45146.D Vial: 4
Acq On : 17 Jul 2015 8:08 pm Operator: sarad
Sample : icv2012-50 Inst : MSGC3P
Misc : op85550,e3p2014 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Fri Jul 17 17:29:36 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	142	0.00	4.94
4	t	N-Nitrosodimethylamine	0.811	0.555	31.6#	88	0.00	2.81
11	t	bis(2-Chloroethyl)ether	1.478	1.348	8.8	133	0.00	4.73
14	t	1,3-Dichlorobenzene	1.560	1.507	3.4	145	0.00	4.90
15	t	1,4-Dichlorobenzene	1.516	1.419	6.4	139	-0.01	4.95
17	t	1,2-Dichlorobenzene	1.427	1.366	4.3	147	0.00	5.07
20	t	2,2'-oxybis(1-Chloropropa	2.510	2.141	14.7	125	-0.01	5.12
22	t	n-Nitroso-di-n-propylamin	0.970	0.836	13.8	129	0.00	5.22
23	t	Hexachloroethane	0.427	0.418	2.1	146	-0.01	5.31
24	I	Naphthalene-d8	1.000	1.000	0.0	137	0.00	5.86
26	t	Nitrobenzene	0.366	0.347	5.2	133	0.00	5.35
28	t	Isophorone	0.698	0.686	1.7	137	-0.01	5.52
32	t	bis(2-Chloroethoxy)methan	0.447	0.432	3.4	141	0.00	5.67
36	t	1,2,4-Trichlorobenzene	0.295	0.292	1.0	144	0.00	5.82
38	t	Naphthalene	1.015	0.977	3.7	138	-0.01	5.87
42	t	Hexachlorobutadiene	0.143	0.141	1.4	141	-0.01	5.96
47	I	Acenaphthene-d10	1.000	1.000	0.0	136	-0.01	7.34
48	t	Hexachlorocyclopentadiene	0.304	0.296	2.6	126	-0.01	6.53
52	t	2-Chloronaphthalene	1.076	1.099	-2.1	149	-0.01	6.80
55	t	Dimethylphthalate	1.365	1.202	11.9	125	-0.01	7.04
56	t	Acenaphthylene	1.931	1.663	13.9	125	-0.01	7.20
57	t	2,6-Dinitrotoluene	0.262	0.260	0.8	133	0.00	7.11
59	t	Acenaphthene	1.147	1.096	4.4	139	-0.01	7.38
		----------	AvgRF	CCRF	% Dev	----------		
63	t	2,4-Dinitrotoluene	0.351	0.332	5.4	123	-0.01	7.53
65	t	Diethylphthalate	1.480	1.260	14.9	117	-0.01	7.81
66	t	Fluorene	1.321	1.193	9.7	135	-0.01	7.97
67	t	4-Chlorophenyl-phenylethe	0.587	0.505	14.0	122	-0.02	7.96
69	I	Phenanthrene-d10	1.000	1.000	0.0	139	-0.02	9.31
71	t	n-Nitrosodiphenylamine	0.564	0.474	16.0	121	-0.01	8.11
72	t	1,2-Diphenylhydrazine	0.833	0.735	11.8	124	-0.01	8.17
74	t	4-Bromophenyl-phenylether	0.202	0.174	13.9	123	-0.01	8.63
75	t	Hexachlorobenzene	0.210	0.184	12.4	126	-0.01	8.74
77	t	Phenanthrene	1.117	0.965	13.6	131	-0.01	9.36
78	t	Anthracene	1.095	0.967	11.7	134	-0.02	9.44
80	t	Di-n-butylphthalate	1.737	1.415	18.5	108	-0.02	10.41
81	t	Fluoranthene	1.282	1.091	14.9	124	-0.02	11.55

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2012
Lab FileID: 3P45146.D

83	I	Chrysene-d12	1.000	1.000	0.0	114	-0.02	14.68
84	t	Pyrene	1.339	1.295	3.3	121	-0.02	12.01
86	t	Butylbenzylphthalate	0.830	0.768	7.5	102	-0.02	13.58
87	t	Benzo[a]anthracene	1.152	1.070	7.1	117	-0.02	14.66
89	t	Chrysene	0.975	0.921	5.5	119	-0.02	14.74
90	t	bis(2-Ethylhexyl)phthalat	1.035	0.946	8.6	99	-0.02	14.99
91	I	Perylene-d12	1.000	1.000	0.0	108	-0.02	17.74
92	t	Di-n-octylphthalate	1.953	2.055	-5.2	98	-0.02	16.43
93	t	Benzo[b]fluoranthene	1.150	1.121	2.5	105	-0.02	16.98
94	t	Benzo[k]fluoranthene	1.084	1.082	0.2	117	-0.02	17.04
95	t	Benzo[a]pyrene	1.011	1.076	-6.4	119	-0.02	17.62
96	t	Indeno[1,2,3-cd]pyrene	0.919	1.003	-9.1	113	-0.02	19.68
98	t	Dibenz[a,h]anthracene	0.887	0.948	-6.9	112	-0.02	19.74
100	t	Benzo[g,h,i]perylene	0.927	0.972	-4.9	114	-0.02	20.12

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45134a.D M3P2012.M Mon Jul 20 12:08:01 2015

8.7.30

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2013
Lab FileID: 3P45146A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45146a.D        Vial: 4
Acq On    : 17 Jul 2015   8:08 pm                   Operator: sarad
Sample    : icv2013-50                              Inst    : MSGC3P
Misc      : op85550,e3p2014                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Jul 17 17:29:36 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.
103 I	Acenaphthene-d10a	1.000	1.000	0.0	57	-0.01	7.34
105	1,2,4,5-Tetrachlorobenzen	0.466	0.460	1.3	57	-0.01	6.53

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45134a.D M3P2012.M Mon Jul 20 12:08:03 2015

8.7.31

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2013
Lab FileID: 3P45147A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45147a.D        Vial: 5
Acq On    : 17 Jul 2015   8:34 pm                   Operator: sarad
Sample    : icv2013-50                              Inst    : MSGC3P
Misc      : op85550,e3p2014                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Jul 17 17:29:36 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.
101 I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	66	-0.01	4.94
102	Benzaldehyde	1.159	1.170	-0.9	66	-0.01	4.61
103 I	Acenaphthene-d10a	1.000	1.000	0.0	62	-0.01	7.34
104	Atrazine	0.149	0.157	-5.4	65	-0.01	8.87

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45134a.D M3P2012.M Mon Jul 20 12:08:07 2015

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2012
Lab FileID: 3P45147.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45147.D          Vial: 5
Acq On    : 17 Jul 2015   8:34 pm                    Operator: sarad
Sample    : icv2012-50                               Inst    : MSGC3P
Misc      : op85550,e3p2014                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Jul 17 17:29:36 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	155	0.00	4.94
2	t	1,4-Dioxane	0.716	0.615	14.1	133	0.00	2.54
6	t	Indene	2.364	2.272	3.9	162	-0.01	5.12
7	t	Cumene	3.575	3.308	7.5	142	0.00	4.35
13	t	Decane	1.785	1.548	13.3	134	0.00	4.82
18	t	Acetophenone	1.827	1.680	8.0	158	-0.01	5.22
24	I	Naphthalene-d8	1.000	1.000	0.0	184	-0.01	5.86
27	t	Quinoline	0.749	0.572	23.6	147	-0.01	6.11
40	t	2,3-Dichloroaniline	0.352	0.245	30.4#	135	0.00	6.62
41	t	Caprolactam	0.120	0.088	26.7	139	-0.02	6.14
45	t	1-Methylnaphthalene	0.616	0.450	26.9	142	-0.01	6.47
46	t	Dimethylnaphthalene	0.594	0.433	27.1	144	0.00	6.93
47	I	Acenaphthene-d10	1.000	1.000	0.0	147	-0.01	7.34
53	t	Biphenyl	1.519	1.384	8.9	142	-0.01	6.78
		----------	AvgRF	CCRF	% Dev	----------		
69	I	Phenanthrene-d10	1.000	1.000	0.0	140	-0.02	9.31
82	t	Octadecane	0.715	0.673	5.9	128	-0.01	9.19
83	I	Chrysene-d12	1.000	1.000	0.0	134	-0.02	14.67
91	I	Perylene-d12	1.000	1.000	0.0	122	-0.03	17.73
99	t	7,12-Dimethylbenz(a)anthr	0.467	0.286	38.8#	68	-0.03	16.99

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45134a.D M3P2012.M Mon Jul 20 12:08:05 2015

8.7.33

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2012
Lab FileID: 3P45148.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45148.D          Vial: 6
Acq On    : 17 Jul 2015   9:00 pm                    Operator: sarad
Sample    : icv2012-50                               Inst    : MSGC3P
Misc      : op85550,e3p2014                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Mon Jul 20 13:20:22 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.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	173	0.00	4.94
3	t	Pyridine	1.710	1.686	1.4	164	0.07	2.92
10		Aniline	2.078	2.102	-1.2	188	0.00	4.70
16	t	Benzyl alcohol	0.906	0.862	4.9	175	0.00	5.03
24	I	Naphthalene-d8	1.000	1.000	0.0	183	0.00	5.86
39	t	4-Chloroaniline	0.426	0.387	9.2	178	0.00	5.91
44	t	2-Methylnaphthalene	0.561	0.508	9.4	171	-0.01	6.39
47	I	Acenaphthene-d10	1.000	1.000	0.0	166	-0.01	7.34
54	t	2-Nitroaniline	0.347	0.322	7.2	151	-0.01	6.88
58	t	3-Nitroaniline	0.358	0.336	6.1	155	-0.01	7.28
		----------	AvgRF	CCRF	% Dev	----------		
62	t	Dibenzofuran	1.506	1.404	6.8	161	0.00	7.57
68	t	4-Nitroaniline	0.356	0.318	10.7	145	-0.01	7.98
69	I	Phenanthrene-d10	1.000	1.000	0.0	158	-0.01	9.32
79	t	Carbazole	1.154	0.974	15.6	137	-0.01	9.71
83	I	Chrysene-d12	1.000	1.000	0.0	147	-0.02	14.67

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45118a.D M3P2012.M Mon Jul 20 13:23:56 2015

8.7.34

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2012
Lab FileID: 3P45149.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45149.D          Vial: 7
Acq On    : 17 Jul 2015   9:26 pm                    Operator: sarad
Sample    : icv2012-50                               Inst    : MSGC3P
Misc      : op85550,e3p2014                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Jul 17 17:29:36 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	136	-0.02	14.67
88 t	3,3'-Dichlorobenzidine	0.392	0.524	-33.7#	179	-0.02	14.68

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45134a.D M3P2012.M Mon Jul 20 12:08:09 2015

8.7.35

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: E3P2014-ICV2013
Lab FileID: 3P45149A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2014\3p45149a.D        Vial: 7
Acq On    : 17 Jul 2015   9:26 pm                   Operator: sarad
Sample    : icv2013-50                              Inst    : MSGC3P
Misc      : op85550,e3p2014                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Jul 17 17:29:36 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 I	Chrysene-d12a	1.000	1.000	0.0	66	-0.02	14.67
107	Benzidine	0.732	1.208	-65.0#	104	-0.01	11.88

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45134a.D M3P2012.M Mon Jul 20 12:08:11 2015

8.7.36

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2035-CC2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45542.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\E3P2035\3p45542.D Vial: 2
Acq On : 3 Aug 2015 5:22 pm Operator: sarad
Sample : cc2012-50 Inst : MSGC3P
Misc : op86003,e3p2035,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Mon Aug 03 18:25:54 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	131	0.00	4.76
2	t	1,4-Dioxane	0.716	0.733	-2.4	134	0.00	2.37
3	t	Pyridine	1.710	1.809	-5.8	133	0.09	2.79
4	t	N-Nitrosodimethylamine	0.811	1.370	-68.9#	199	0.00	2.66
5	S	2-Fluorophenol	1.593	1.578	0.9	126	0.00	3.83
6	t	Indene	2.364	2.508	-6.1	151	-0.04	4.95
7	t	Cumene	3.575	4.224	-18.2	153	-0.04	4.17
8	S	Phenol-d5	1.970	2.010	-2.0	133	0.00	4.54
9	t	Phenol	1.961	2.226	-13.5	145	0.00	4.55
10		Aniline	2.078	1.054	49.3#	71	0.00	4.54
11	t	bis(2-Chloroethyl)ether	1.478	1.601	-8.3	146	-0.03	4.56
12	t	2-Chlorophenol	1.492	1.511	-1.3	138	-0.02	4.63
13	t	Decane	1.785	2.585	-44.8#	189	-0.04	4.63
14	t	1,3-Dichlorobenzene	1.560	1.575	-1.0	139	-0.04	4.72
15	t	1,4-Dichlorobenzene	1.516	1.572	-3.7	142	-0.04	4.77
16	t	Benzyl alcohol	0.906	0.894	1.3	137	-0.02	4.88
17	t	1,2-Dichlorobenzene	1.427	1.464	-2.6	145	-0.04	4.88
18	t	Acetophenone	1.827	2.092	-14.5	166	-0.03	5.06
19	t	2-Methylphenol	1.262	1.181	6.4	127	-0.01	4.98
20	t	2,2'-oxybis(1-Chloropropa	2.510	3.141	-25.1#	169	-0.03	4.95
21	t	3&4-Methylphenol	1.329	1.267	4.7	131	-0.01	5.08
22	t	n-Nitroso-di-n-propylamin	0.970	1.167	-20.3#	166	-0.02	5.07
23	t	Hexachloroethane	0.427	0.496	-16.2	160	-0.04	5.13
24	I	Naphthalene-d8	1.000	1.000	0.0	130	0.00	5.68
25	S	Nitrobenzene-d5	0.384	0.477	-24.2#	162	-0.03	5.17
26	t	Nitrobenzene	0.366	0.476	-30.1#	175	-0.03	5.18
27	t	Quinoline	0.749	0.737	1.6	135	-0.01	5.96
28	t	Isophorone	0.698	0.840	-20.3#	160	-0.01	5.37
29	t	2-Nitrophenol	0.198	0.217	-9.6	141	-0.03	5.41
30	t	2,4-Dimethylphenol	0.335	0.428	-27.8#	171	-0.02	5.46
31	t	Benzoic acid	0.253	0.336	-32.8#	166	0.00	5.57
32	t	bis(2-Chloroethoxy)methan	0.447	0.457	-2.2	142	-0.03	5.50
33	t	2,4-Dichlorophenol	0.285	0.312	-9.5	150	-0.02	5.60
34	t	2,6-Dichlorophenol	0.270	0.305	-13.0	157	-0.03	5.75
35		1,3,5-Trichlorobenzene	0.315	0.360	-14.3	161	-0.04	5.41
36	t	1,2,4-Trichlorobenzene	0.295	0.332	-12.5	156	-0.03	5.64
37		1,2,3-Trichlorobenzene	0.279	0.313	-12.2	160	-0.03	5.80
38	t	Naphthalene	1.015	1.037	-2.2	140	-0.04	5.70
39	t	4-Chloroaniline	0.426	0.216	49.3#	71	-0.02	5.75
40	t	2,3-Dichloroaniline	0.352	0.357	-1.4	139	-0.03	6.44
41	t	Caprolactam	0.120	0.122	-1.7	138	0.03	6.07

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2035-CC2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45542.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.143	0.199	-39.2#	190	-0.04	5.78
43	t	4-Chloro-3-methylphenol	0.312	0.389	-24.7#	162	-0.02	6.11
44	t	2-Methylnaphthalene	0.561	0.595	-6.1	143	-0.03	6.21
45	t	1-Methylnaphthalene	0.616	0.621	-0.8	139	-0.04	6.28
46	t	Dimethylnaphthalene	0.594	0.620	-4.4	146	-0.04	6.72
47	I	Acenaphthene-d10	1.000	1.000	0.0	143	0.00	7.12
48	t	Hexachlorocyclopentadiene	0.304	0.420	-38.2#	187	-0.04	6.33
49	t	2,4,6-Trichlorophenol	0.331	0.382	-15.4	173	-0.03	6.44
50	t	2,4,5-Trichlorophenol	0.354	0.384	-8.5	163	-0.02	6.49
51	S	2-Fluorobiphenyl	1.222	1.154	5.6	150	-0.04	6.49
52	t	2-Chloronaphthalene	1.076	1.081	-0.5	154	-0.04	6.60
53	t	Biphenyl	1.519	1.425	6.2	143	-0.04	6.57
54	t	2-Nitroaniline	0.347	0.530	-52.7#	215#	-0.03	6.70
55	t	Dimethylphthalate	1.365	1.298	4.9	142	-0.03	6.85
56	t	Acenaphthylene	1.931	1.805	6.5	143	-0.04	6.98
57	t	2,6-Dinitrotoluene	0.262	0.289	-10.3	156	-0.03	6.91
58	t	3-Nitroaniline	0.358	0.260	27.4#	104	-0.02	7.09
59	t	Acenaphthene	1.147	1.089	5.1	146	-0.04	7.15
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	107.989	-8.0	157	-0.03	7.19
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.155	0.296	-91.0#	261#	0.00	7.31
62	t	Dibenzofuran	1.506	1.457	3.3	145	-0.04	7.33
63	t	2,4-Dinitrotoluene	0.351	0.405	-15.4	158	-0.03	7.32
64		2,3,4,6-Tetrachlorophenol	0.267	0.340	-27.3#	182	-0.04	7.48
65	t	Diethylphthalate	1.480	1.427	3.6	140	-0.03	7.59
66	t	Fluorene	1.321	1.288	2.5	154	-0.04	7.72
67	t	4-Chlorophenyl-phenylethe	0.587	0.593	-1.0	151	-0.04	7.71
68	t	4-Nitroaniline	0.356	0.271	23.9#	107	-0.02	7.78
69	I	Phenanthrene-d10	1.000	1.000	0.0	146	0.00	9.03
70	t	4,6-Dinitro-2-methylpheno	0.117	0.138	-17.9	169	-0.03	7.80
71	t	n-Nitrosodiphenylamine	0.564	0.503	10.8	135	-0.04	7.86
72	t	1,2-Diphenylhydrazine	0.833	1.004	-20.5#	178	-0.05	7.91
73	S	2,4,6-Tribromophenol	0.102	0.109	-6.9	168	-0.04	8.03
74	t	4-Bromophenyl-phenylether	0.202	0.221	-9.4	163	-0.05	8.36
75	t	Hexachlorobenzene	0.210	0.229	-9.0	165	-0.06	8.46
76	t	Pentachlorophenol	0.133	0.158	-18.8	161	-0.04	8.77
77	t	Phenanthrene	1.117	1.077	3.6	153	-0.05	9.07
78	t	Anthracene	1.095	1.114	-1.7	161	-0.05	9.15
79	t	Carbazole	1.154	1.086	5.9	141	-0.03	9.45
80	t	Di-n-butylphthalate	1.737	1.627	6.3	131	-0.04	10.12
81	t	Fluoranthene	1.282	1.254	2.2	149	-0.05	11.24
82	t	Octadecane	0.715	0.861	-20.4#	171	-0.06	8.89
83	I	Chrysene-d12	1.000	1.000	0.0	133	0.01	14.35
84	t	Pyrene	1.339	1.348	-0.7	147	-0.06	11.69
85	S	Terphenyl-d14	0.695	0.848	-22.0#	187	-0.06	12.09
86	t	Butylbenzylphthalate	0.830	0.760	8.4	118	-0.04	13.27
87	t	Benzo[a]anthracene	1.152	1.126	2.3	144	-0.06	14.33
88	t	3,3'-Dichlorobenzidine	0.392	0.303	22.7#	101	-0.04	14.37
89	t	Chrysene	0.975	0.961	1.4	145	-0.05	14.41
90	t	bis(2-Ethylhexyl)phthalat	1.035	0.895	13.5	109	-0.05	14.66
91	I	Perylene-d12	1.000	1.000	0.0	110	0.00	17.41
92	t	Di-n-octylphthalate	1.953	1.910	2.2	92	-0.05	16.10
93	t	Benzo[b]fluoranthene	1.150	1.283	-11.6	121	-0.05	16.66

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2035-CC2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45542.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

94	t	Benzo[k]fluoranthene	1.084	1.154	-6.5	126	-0.06	16.72
95	t	Benzo[a]pyrene	1.011	1.086	-7.4	121	-0.05	17.30
96	t	Indeno[1,2,3-cd]pyrene	0.919	0.965	-5.0	110	-0.05	19.37
97	t	Dibenz(a,h)acridine	0.839	0.883	-5.2	104	-0.05	18.99
98	t	Dibenz[a,h]anthracene	0.887	0.978	-10.3	117	-0.05	19.42
99	t	7,12-Dimethylbenz(a)anthr	0.467	0.592	-26.8#	126	-0.06	16.66
100	t	Benzo[g,h,i]perylene	0.927	0.961	-3.7	113	-0.05	19.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45461.D M3P2012.M Mon Aug 03 18:27:34 2015

8.7.37

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2035-CC2013
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45543.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2035\3p45543.D          Vial: 3
Acq On    :  3 Aug 2015   5:52 pm                    Operator: sarad
Sample    : cc2013-50                                Inst    : MSGC3P
Misc      : op86003,e3p2035,1000,,,1,1               Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Mon Aug 03 18:25:54 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.
101	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	86	0.00	4.76
102		Benzaldehyde	1.159	0.956	17.5	70	0.00	4.45
103	I	Acenaphthene-d10a	1.000	1.000	0.0	94	0.00	7.11
104		Atrazine	0.149	0.159	-6.7	100	0.00	8.64
105		1,2,4,5-Tetrachlorobenzen	0.466	0.495	-6.2	100	0.00	6.33
106	I	Chrysene-d12a	1.000	1.000	0.0	89	0.00	14.34
107		Benzidine	0.732	0.214	70.8#	25#	0.00	11.58
108	I	Naphthalene-d8a	1.000	1.000	0.0	87	0.00	5.68
109	t	Hydroquinone	0.317	0.323	-1.9	79	0.00	6.01

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3p45461.D  M3P2012.M        Mon Aug 03 18:27:37 2015
```

8.7.38

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2036-CC2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45552.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2036\3p45552.D          Vial: 2
Acq On    :  3 Aug 2015   9:58 pm                    Operator: ashleyd
Sample    : cc2012-25                                Inst    : MSGC3P
Misc      : op86003,e3p2036                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Mon Aug 03 18:25:54 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	134	-0.04	4.75
2	t	1,4-Dioxane	0.716	0.656	8.4	131	-0.03	2.34
3	t	Pyridine	1.710	1.652	3.4	131	0.02	2.73
4	t	N-Nitrosodimethylamine	0.811	1.486	-83.2#	246#	-0.02	2.64
5	S	2-Fluorophenol	1.593	1.491	6.4	125	-0.02	3.81
6	t	Indene	2.364	2.406	-1.8	140	-0.04	4.94
7	t	Cumene	3.575	4.076	-14.0	151	-0.04	4.16
8	S	Phenol-d5	1.970	1.906	3.2	129	-0.02	4.52
9	t	Phenol	1.961	2.089	-6.5	142	-0.02	4.53
10		Aniline	2.078	1.653	20.5#	109	-0.02	4.52
11	t	bis(2-Chloroethyl)ether	1.478	1.573	-6.4	144	-0.04	4.56
12	t	2-Chlorophenol	1.492	1.401	6.1	127	-0.03	4.62
13	t	Decane	1.785	2.645	-48.2#	195	-0.05	4.63
14	t	1,3-Dichlorobenzene	1.560	1.553	0.4	137	-0.04	4.71
15	t	1,4-Dichlorobenzene	1.516	1.478	2.5	131	-0.04	4.77
16	t	Benzyl alcohol	0.906	0.852	6.0	132	-0.03	4.87
17	t	1,2-Dichlorobenzene	1.427	1.399	2.0	136	-0.04	4.88
18	t	Acetophenone	1.827	2.028	-11.0	154	-0.04	5.05
19	t	2-Methylphenol	1.262	1.175	6.9	127	-0.03	4.96
20	t	2,2'-oxybis(1-Chloropropa	2.510	3.438	-37.0#	185	-0.04	4.95
21	t	3&4-Methylphenol	1.329	1.254	5.6	128	-0.03	5.07
22	t	n-Nitroso-di-n-propylamin	0.970	1.210	-24.7#	169	-0.04	5.05
23	t	Hexachloroethane	0.427	0.499	-16.9	162	-0.05	5.12
24	I	Naphthalene-d8	1.000	1.000	0.0	132	-0.04	5.68
25	S	Nitrobenzene-d5	0.384	0.477	-24.2#	161	-0.04	5.16
26	t	Nitrobenzene	0.366	0.487	-33.1#	176	-0.04	5.17
27	t	Quinoline	0.749	0.707	5.6	128	-0.03	5.94
28	t	Isophorone	0.698	0.823	-17.9	156	-0.03	5.35
29	t	2-Nitrophenol	0.198	0.205	-3.5	133	-0.04	5.40
30	t	2,4-Dimethylphenol	0.335	0.360	-7.5	146	-0.03	5.44
31	t	Benzoic acid	0.253	0.315	-24.5#	164	-0.03	5.54
32	t	bis(2-Chloroethoxy)methan	0.447	0.488	-9.2	147	-0.04	5.49
33	t	2,4-Dichlorophenol	0.285	0.299	-4.9	139	-0.03	5.59
34	t	2,6-Dichlorophenol	0.270	0.281	-4.1	142	-0.04	5.74
35		1,3,5-Trichlorobenzene	0.315	0.347	-10.2	150	-0.04	5.41
36	t	1,2,4-Trichlorobenzene	0.295	0.317	-7.5	148	-0.04	5.63
37		1,2,3-Trichlorobenzene	0.279	0.302	-8.2	149	-0.04	5.79
38	t	Naphthalene	1.015	0.964	5.0	131	-0.05	5.69
39	t	4-Chloroaniline	0.426	0.372	12.7	117	-0.03	5.73
40	t	2,3-Dichloroaniline	0.352	0.367	-4.3	140	-0.04	6.42
41	t	Caprolactam	0.120	0.121	-0.8	135	-0.03	6.01

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2036-CC2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45552.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.143	0.195	-36.4#	186	-0.04	5.78
43	t	4-Chloro-3-methylphenol	0.312	0.370	-18.6	156	-0.03	6.10
44	t	2-Methylnaphthalene	0.561	0.556	0.9	129	-0.05	6.19
45	t	1-Methylnaphthalene	0.616	0.599	2.8	129	-0.05	6.27
46	t	Dimethylnaphthalene	0.594	0.595	-0.2	137	-0.05	6.70
47	I	Acenaphthene-d10	1.000	1.000	0.0	145	-0.05	7.10
48	t	Hexachlorocyclopentadiene	0.304	0.389	-28.0#	174	-0.05	6.32
49	t	2,4,6-Trichlorophenol	0.331	0.359	-8.5	158	-0.04	6.42
50	t	2,4,5-Trichlorophenol	0.354	0.374	-5.6	150	-0.04	6.47
51	S	2-Fluorobiphenyl	1.222	1.116	8.7	141	-0.05	6.48
52	t	2-Chloronaphthalene	1.076	1.071	0.5	144	-0.05	6.58
53	t	Biphenyl	1.519	1.382	9.0	134	-0.05	6.56
54	t	2-Nitroaniline	0.347	0.511	-47.3#	207#	-0.04	6.68
55	t	Dimethylphthalate	1.365	1.381	-1.2	148	-0.05	6.83
56	t	Acenaphthylene	1.931	1.738	10.0	134	-0.05	6.96
57	t	2,6-Dinitrotoluene	0.262	0.280	-6.9	148	-0.05	6.89
58	t	3-Nitroaniline	0.358	0.305	14.8	119	-0.04	7.07
59	t	Acenaphthene	1.147	1.039	9.4	136	-0.06	7.14
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	53.267	-6.5	154	-0.05	7.17
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.155	0.285	-83.9#	256#	-0.03	7.28
62	t	Dibenzofuran	1.506	1.385	8.0	133	-0.06	7.31
63	t	2,4-Dinitrotoluene	0.351	0.400	-14.0	155	-0.05	7.30
64		2,3,4,6-Tetrachlorophenol	0.267	0.312	-16.9	169	-0.06	7.46
65	t	Diethylphthalate	1.480	1.547	-4.5	150	-0.05	7.56
66	t	Fluorene	1.321	1.236	6.4	142	-0.06	7.70
67	t	4-Chlorophenyl-phenylethe	0.587	0.627	-6.8	155	-0.06	7.69
68	t	4-Nitroaniline	0.356	0.283	20.5#	106	-0.05	7.75
69	I	Phenanthrene-d10	1.000	1.000	0.0	141	-0.08	9.00
70	t	4,6-Dinitro-2-methylpheno	0.117	0.130	-11.1	152	-0.06	7.78
71	t	n-Nitrosodiphenylamine	0.564	0.539	4.4	136	-0.06	7.84
72	t	1,2-Diphenylhydrazine	0.833	1.034	-24.1#	176	-0.07	7.89
73	S	2,4,6-Tribromophenol	0.102	0.103	-1.0	155	-0.07	8.01
74	t	4-Bromophenyl-phenylether	0.202	0.238	-17.8	167	-0.07	8.33
75	t	Hexachlorobenzene	0.210	0.230	-9.5	159	-0.08	8.44
76	t	Pentachlorophenol	0.133	0.148	-11.3	146	-0.07	8.74
77	t	Phenanthrene	1.117	1.043	6.6	143	-0.08	9.04
78	t	Anthracene	1.095	1.063	2.9	146	-0.08	9.12
79	t	Carbazole	1.154	1.064	7.8	132	-0.07	9.41
80	t	Di-n-butylphthalate	1.737	1.762	-1.4	139	-0.08	10.08
81	t	Fluoranthene	1.282	1.224	4.5	141	-0.09	11.20
82	t	Octadecane	0.715	0.896	-25.3#	174	-0.08	8.87
83	I	Chrysene-d12	1.000	1.000	0.0	151	-0.10	14.31
84	t	Pyrene	1.339	1.200	10.4	142	-0.10	11.65
85	S	Terphenyl-d14	0.695	0.665	4.3	161	-0.10	12.06
86	t	Butylbenzylphthalate	0.830	0.764	8.0	131	-0.09	13.22
87	t	Benzo[a]anthracene	1.152	1.095	4.9	153	-0.10	14.29
88	t	3,3'-Dichlorobenzidine	0.392	0.368	6.1	137	-0.09	14.32
89	t	Chrysene	0.975	0.906	7.1	151	-0.10	14.36
90	t	bis(2-Ethylhexyl)phthalat	1.035	0.977	5.6	131	-0.09	14.62
91	I	Perylene-d12	1.000	1.000	0.0	116	-0.10	17.37
92	t	Di-n-octylphthalate	1.953	2.248	-15.1	115	-0.09	16.06
93	t	Benzo[b]fluoranthene	1.150	1.265	-10.0	125	-0.10	16.61

8.7.39

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2036-CC2012
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45552.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

94	t	Benzo[k]fluoranthene	1.084	1.096	-1.1	119	-0.11	16.67
95	t	Benzo[a]pyrene	1.011	1.001	1.0	115	-0.10	17.25
96	t	Indeno[1,2,3-cd]pyrene	0.919	0.868	5.5	104	-0.10	19.32
97	t	Dibenz(a,h)acridine	0.839	0.805	4.1	102	-0.10	18.95
98	t	Dibenz[a,h]anthracene	0.887	0.857	3.4	104	-0.11	19.36
99	t	7,12-Dimethylbenz(a)anthr	0.467	0.539	-15.4	124	-0.11	16.61
100	t	Benzo[g,h,i]perylene	0.927	0.822	11.3	101	-0.10	19.75

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45119a.D M3P2012.M Tue Aug 04 11:22:13 2015

8.7.39

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** E3P2036-CC2013
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P45553.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\E3P2036\3p45553.D          Vial: 3
Acq On    :  3 Aug 2015  10:30 pm                    Operator: ashleyd
Sample    : cc2013-25                                Inst    : MSGC3P
Misc      : op86003,e3p2036                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3P2012.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Mon Aug 03 18:25:54 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.
101	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	95	-0.04	4.75
102		Benzaldehyde	1.159	1.061	8.5	87	-0.19	4.43
103	I	Acenaphthene-d10a	1.000	1.000	0.0	94	-0.06	7.10
104		Atrazine	0.149	0.174	-16.8	107	-0.28	8.60
105		1,2,4,5-Tetrachlorobenzen	0.466	0.565	-21.2#	117	-0.22	6.32
106	I	Chrysene-d12a	1.000	1.000	0.0	90	-0.11	14.30
107		Benzidine	0.732	0.479	34.6#	52	-0.03	11.54
108	I	Naphthalene-d8a	1.000	1.000	0.0	93	-0.05	5.67
109	t	Hydroquinone	0.317	0.310	2.2	82	-0.14	5.99

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p45119a.D M3P2012.M Tue Aug 04 11:22:16 2015

8.7.40

8

Initial Calibration Summary

Job Number: JB99969 **Sample:** EM4774-ICC4774
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M114681.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
                         Response Factor Report  Instrument #1

  Method       : C:\msdchem\1\METHODS\MM4773.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
  Last Update  : Tue Jun 02 08:58:33 2015
  Response via : Initial Calibration

  Calibration Files
  2   =m114677a.D  5   =m114678a.D  100 =m114683a.D  50  =m114681a.D
  1   =m114676a.D  10  =m114679a.D  80  =m114682a.D  25  =m114680a.D

   Compound         2     5     100   50    1     10    80    25    Avg %RSD
  ---------------------------------------------------------------------------
102) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
103) Benzaldehyde 1.200 1.112 0.968 1.041 1.215 1.051 1.000 1.039 1.078   8.34

104) I   Acenaphthene-d10     ----------------ISTD---------------------
105) 1,2,4,5-Tetr 0.594 0.545 0.487 0.500 0.621 0.524 0.481 0.513 0.533   9.50
106) Atrazine     0.149 0.146 0.169 0.168 0.127 0.155 0.165 0.166 0.156   9.20

107) I   Chrysene-d12a         ----------------ISTD---------------------
108) Benzidine    0.568 0.590 0.328 0.533 0.553 0.645 0.417 0.608 0.530  19.97
109) 1-chloroocta 0.206 0.221 0.264 0.260 0.200 0.231 0.261 0.262 0.238  11.34

110) I   Phenanthrene-d10a     ----------------ISTD---------------------
111) o-terphenyl  0.574 0.521 0.493 0.513 0.552 0.524 0.503 0.521 0.525   4.98

112) I   Naphthalene-d8       ----------------ISTD---------------------
113) Hydroquinone 0.286 0.304 0.374 0.379 0.318 0.308 0.374 0.347 0.336  10.94
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MM4773.M          Tue Jun 02 09:23:15 2015   MSM
```

8.7.41

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4774-ICV4774
Lab FileID: M114686A.D

Evaluate Continuing Calibration Report

```
  Data File : C:\msdchem\1\DATA\em4774\m114686a.D          Vial: 12
  Acq On    :  1 Jun 2015   7:58 pm                    Operator: alicjap
  Sample    : icv4774-50                               Inst    : Instrument #1
  Misc      : op84117,em4774                           Multiplr: 1.00
  MS Integration Params: RTEINT.P

  Method       : C:\msdchem\1\METHODS\MM4773.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
  Last Update  : Tue Jun 02 08:58:33 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 I	Acenaphthene-d10a	1.000	1.000	0.0	85	0.00	8.49
105 I	1,2,4,5-Tetrachlorobenzen	0.533	0.483	9.4	82	0.00	7.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m114681a.D MM4773.M Tue Jun 02 09:19:01 2015 MSM

8.7.42

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4774-ICV4774
Lab FileID: M114687A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4774\m114687a.D          Vial: 13
Acq On    :  1 Jun 2015   8:26 pm                    Operator: alicjap
Sample    : icv4774-50                               Inst    : Instrument #1
Misc      : op84117,em4774                           Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4773.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Tue Jun 02 08:58:33 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	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	99	0.00	4.91
103	t	Benzaldehyde	1.078	0.951	11.8	90	0.00	4.56
104	I	Acenaphthene-d10a	1.000	1.000	0.0	88	0.00	8.48
106	t	Atrazine	0.156	0.159	-1.9	83	0.00	10.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m114681a.D MM4773.M Tue Jun 02 09:19:05 2015 MSM

8.7.43

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4774-ICV4774
Lab FileID: M114689.D

Evaluate Continuing Calibration Report

```
  Data File : C:\msdchem\1\DATA\em4774\m114689.D          Vial: 15
  Acq On    :  1 Jun 2015   9:23 pm                   Operator: alicjap
  Sample    : icv4774-50                              Inst    : Instrument #1
  Misc      : op84117,em4774                          Multiplr: 1.00
  MS Integration Params: RTEINT.P

  Method       : C:\msdchem\1\METHODS\MM4773.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
  Last Update  : Tue Jun 02 08:58:33 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.
107	I	Chrysene-d12a	1.000	1.000	0.0	95	0.00	16.30
108	t	Benzidine	0.530	0.831	-56.8#	148	0.00	13.80

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m114681a.D MM4773.M Tue Jun 02 09:19:09 2015 MSM

8.7.44

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4774-ICV4774
Lab FileID: M114690.D

```
                    Evaluate Continuing Calibration Report

  Data File : C:\msdchem\1\DATA\em4774\m114690.D          Vial: 16
  Acq On    :  1 Jun 2015   9:52 pm                   Operator: alicjap
  Sample    : icv4774-50                              Inst    : Instrument #1
  Misc      : op84117,em4774                          Multiplr: 1.00
  MS Integration Params: RTEINT.P

  Method       : C:\msdchem\1\METHODS\MM4773.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
  Last Update  : Tue Jun 02 08:58:33 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  181   0.00    6.08
113     Hydroquinone               0.336   0.371    -10.4  177   0.00    6.54
 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     m114681a.D MM4773.M         Tue Jun 02 09:19:13 2015   MSM
```

Initial Calibration Summary

Job Number: JB99969 **Sample:** EM4814-ICC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M115469.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Response Factor Report Instrument #1

Method : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Jun 29 12:59:33 2015
Response via : Initial Calibration

Calibration Files
2 =m115470.D 5 =m115472.D 100 =m115476.D 50 =m115469.D
1 =m115471.D 10 =m115473.D 80 =m115475.D 25 =m115474.D

Compound	2	5	100	50	1	10	80	25	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.485	0.526	0.420	0.485	0.480	0.470	0.471	0.456	0.474	6.28
3) Pyridine	1.176	1.367	1.222	1.341	1.036	1.268	1.332	1.254	1.250	8.61
4) N-Nitrosodim	0.774	0.875	0.753	0.838	0.838	0.784	0.811	0.808	0.810	4.91
5) 2-Fluorophen	1.115	1.202	1.207	1.242	1.163	1.181	1.230	1.140	1.185	3.70
6) Indene	1.984	2.160	2.287	2.244	2.275	2.140	2.286	2.129	2.188	4.84
7) Cumene	2.970	3.355	3.191	3.213	3.504	3.259	3.261	3.038	3.224	5.22
8) Phenol-d5	1.307	1.481	1.620	1.547	1.533	1.511	1.588	1.483	1.509	6.29
9) Phenol	1.510	1.702	1.851	1.835	1.727	1.719	1.808	1.747	1.737	6.18
10) Aniline	1.715	1.833	1.555	2.075	1.843	1.794	1.585	2.037	1.805	10.43
11) bis(2-Chloro	1.072	1.199	1.123	1.155	1.187	1.180	1.126	1.153	1.149	3.62
12) 2-Chlorophen	1.202	1.355	1.390	1.387	1.319	1.379	1.367	1.376	1.347	4.66
13) Decane	1.553	1.785	1.647	1.671	1.836	1.720	1.683	1.665	1.695	5.12
14) 1,3-Dichloro	1.393	1.560	1.452	1.502	1.645	1.501	1.470	1.467	1.499	5.06
15) 1,4-Dichloro	1.401	1.508	1.491	1.528	1.647	1.548	1.492	1.518	1.517	4.50
16) Benzyl alcoh	0.666	0.773	0.831	0.941	0.767	0.780	0.812	0.913	0.810	10.76
17) 1,2-Dichloro	1.300	1.456	1.413	1.424	1.519	1.475	1.425	1.430	1.430	4.40
18) Acetophenone	1.571	1.869	1.966	1.927	1.977	1.872	1.948	1.860	1.874	6.97
19) 2-Methylphen	0.892	1.122	1.183	1.232	1.075	1.128	1.193	1.182	1.126	9.48
20) 2,2'-oxybis(	0.380	0.419	0.453	0.452	0.442	0.435	0.451	0.430	0.433	5.61
21) 3&4-Methylph	0.983	1.148	1.295	1.291	1.211	1.160	1.252	1.273	1.202	8.73
22) n-Nitroso-di	0.922	0.961	1.043	1.018	0.986	0.941	1.021	0.968	0.983	4.29
23) Hexachloroet	0.545	0.584	0.563	0.590	0.629	0.576	0.581	0.589	0.582	4.16
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.350	0.384	0.404	0.397	0.382	0.409	0.385	0.395	0.388	4.66
26) Nitrobenzene	0.356	0.385	0.411	0.394	0.429	0.417	0.393	0.406	0.399	5.60
27) Quinoline	0.669	0.743	0.752	0.723	0.718	0.731	0.740	0.716	0.724	3.54
28) Isophorone	0.549	0.637	0.647	0.669	0.658	0.676	0.641	0.665	0.643	6.30
29) 2-Nitropheno	0.171	0.202	0.220	0.215	0.203	0.217	0.215	0.214	0.207	7.64
30) 2,4-Dimethyl	0.243	0.269	0.357	0.347	0.218	0.302	0.349	0.333	0.302	17.61
31) Benzoic acid		0.189	0.289	0.298		0.241	0.298	0.288	0.267	16.36
32) bis(2-Chloro	0.340	0.390	0.396	0.403	0.415	0.412	0.397	0.405	0.395	5.95
33) 2,4-Dichloro	0.268	0.312	0.326	0.324	0.316	0.323	0.326	0.328	0.315	6.34
34) 2,6-Dichloro	0.272	0.319	0.328	0.321	0.318	0.315	0.320	0.320	0.314	5.58
35) 1,3,5-Trichl	0.373	0.409	0.418	0.410	0.467	0.430	0.412	0.413	0.417	6.27
36) 1,2,4-Trichl	0.325	0.381	0.364	0.370	0.373	0.376	0.367	0.372	0.366	4.76
37) 1,2,3-Trichl	0.349	0.385	0.386	0.382	0.407	0.387	0.386	0.384	0.383	4.14
38) Naphthalene	1.017	1.149	1.162	1.070	1.261	1.153	1.160	1.064	1.130	6.75
39) 4-Chloroanil	0.415	0.448	0.436	0.518	0.440	0.439	0.431	0.524	0.456	8.95
40) 2,3-Dichloro	0.372	0.418	0.426	0.392	0.393	0.413	0.407	0.398	0.402	4.27
41) Caprolactam	0.179	0.176	0.185	0.177	0.171	0.181	0.184	0.180	0.179	2.54
42) Hexachlorobu	0.211	0.238	0.223	0.225	0.238	0.229	0.227	0.227	0.227	3.81
43) 4-Chloro-3-m	0.284	0.318	0.329	0.314	0.299	0.316	0.317	0.315	0.311	4.37
44) 2-Methylnaph	0.548	0.628	0.639	0.703	0.594	0.624	0.614	0.681	0.629	7.71
45) 1-Methylnaph	0.710	0.779	0.808	0.742	0.748	0.770	0.763	0.731	0.756	4.00

Initial Calibration Summary

Job Number: JB99969 **Sample:** EM4814-ICC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M115469.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

```
46) Dimethylnaph 0.639 0.720 0.756 0.686 0.688 0.744 0.708 0.713 0.707   5.18

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy       0.237 0.363 0.378       0.295 0.384 0.319 0.329  17.36
49) 2,4,6-Trichl 0.355 0.381 0.408 0.416 0.385 0.401 0.408 0.396 0.394   4.99
50) 2,4,5-Trichl 0.344 0.424 0.424 0.449 0.424 0.418 0.423 0.423 0.416   7.38
51) 2-Fluorobiph 1.193 1.342 1.342 1.381 1.322 1.348 1.331 1.314 1.322   4.23
52) 2-Chloronaph 1.020 1.172 1.138 1.151 1.101 1.150 1.114 1.116 1.120   4.19
53) Biphenyl     1.416 1.589 1.624 1.591 1.526 1.563 1.578 1.522 1.551   4.15
54) 2-Nitroanili 0.295 0.330 0.356 0.408 0.314 0.340 0.349 0.403 0.349  11.39
55) Dimethylphth 1.139 1.319 1.309 1.338 1.276 1.325 1.288 1.333 1.291   5.04
56) Acenaphthyle 1.683 1.964 1.974 1.878 1.917 1.972 1.953 1.859 1.900   5.14
57) 2,6-Dinitrot 0.242 0.264 0.293 0.298 0.257 0.281 0.291 0.287 0.277   7.22
58) 3-Nitroanili 0.265 0.302 0.316 0.389 0.263 0.299 0.310 0.374 0.315  14.47
59) Acenaphthene 1.048 1.171 1.211 1.151 1.276 1.196 1.190 1.136 1.172   5.62
60) 2,4-Dinitrop 0.067 0.124 0.223 0.217       0.162 0.217 0.187 0.171  33.94
         ----- Quadratic regression -----                Coefficient =  0.9995
              Response Ratio = -0.02209 + 0.21210 *A + 0.00302 *A^2

61) 4-Nitropheno 0.156 0.177 0.209 0.207 0.165 0.191 0.207 0.198 0.189  10.81
62) Dibenzofuran 1.477 1.610 1.633 1.996 1.715 1.632 1.648 1.946 1.707  10.33
63) 2,4-Dinitrot 0.318 0.390 0.415 0.436 0.357 0.401 0.422 0.420 0.395   9.99
64) 2,3,4,6-Tetr 0.314 0.344 0.375 0.396 0.329 0.353 0.388 0.381 0.360   8.23
65) Diethylphtha 1.114 1.286 1.311 1.401 1.358 1.288 1.358 1.324 1.305   6.63
66) Fluorene     1.207 1.424 1.453 1.377 1.443 1.365 1.480 1.319 1.384   6.40
67) 4-Chlorophen 0.593 0.693 0.654 0.694 0.710 0.659 0.675 0.661 0.667   5.40
68) 4-Nitroanili 0.276 0.302 0.306 0.386 0.286 0.295 0.325 0.359 0.317  11.99

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.119 0.155 0.169       0.128 0.162 0.146 0.146  13.38
71) n-Nitrosodip 0.440 0.473 0.456 0.515 0.500 0.448 0.490 0.478 0.475   5.48
72) 1,2-Diphenyl 0.586 0.686 0.702 0.762 0.684 0.663 0.729 0.706 0.690   7.50
73) 2,4,6-Tribro 0.111 0.133 0.140 0.151 0.136 0.133 0.150 0.138 0.137   9.06
74) 4-Bromopheny 0.214 0.232 0.229 0.247 0.238 0.226 0.239 0.230 0.232   4.29
75) Hexachlorobe 0.249 0.281 0.275 0.288 0.300 0.281 0.280 0.271 0.278   5.30
76) Pentachlorop 0.109 0.130 0.184 0.180 0.117 0.150 0.183 0.166 0.152  19.86
77) Phenanthrene 1.054 1.141 1.148 1.118 1.172 1.158 1.171 1.099 1.133   3.60
78) Anthracene   1.033 1.155 1.165 1.133 1.150 1.158 1.164 1.107 1.133   3.96
79) Carbazole    0.915 1.032 1.057 1.119 1.095 1.055 1.062 1.092 1.053   5.92
80) Di-n-butylph 1.019 1.153 1.268 1.390 1.228 1.220 1.333 1.282 1.237   9.20
81) Fluoranthene 1.157 1.339 1.342 1.328 1.316 1.298 1.400 1.232 1.302   5.75
82) Octadecane   0.401 0.463 0.501 0.498 0.462 0.465 0.495 0.471 0.470   6.85

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.107 1.184 1.182 1.160 1.156 1.213 1.137 1.158 1.162   2.76
85) Butyl steara 0.311 0.242 0.286 0.309 0.246 0.265 0.273 0.295 0.278   9.54
86) Terphenyl-d1 0.738 0.767 0.760 0.730 0.739 0.784 0.730 0.749 0.749   2.55
87) Butylbenzylp 0.479 0.437 0.486 0.528 0.480 0.472 0.470 0.522 0.484   6.04
88) Benzo[a]anth 1.049 1.109 1.068 1.108 1.209 1.094 1.090 1.100 1.103   4.28
89) 3,3'-Dichlor 0.386 0.417 0.428 0.454 0.378 0.426 0.435 0.441 0.421   6.33
90) Chrysene     0.960 1.027 0.987 1.019 1.044 1.001 0.993 1.014 1.006   2.59
91) bis(2-Ethylh 0.668 0.615 0.686 0.735 0.614 0.624 0.669 0.696 0.663   6.52

92) I   Perylene-d12          ----------------ISTD---------------------
93) Di-n-octylph 1.047 1.092 1.381 1.151 0.910 1.145 1.241 1.177 1.143  12.07
94) Benzo[b]fluo 1.053 1.194 1.387 1.111 1.203 1.213 1.247 1.195 1.200   8.14
95) Benzo[k]fluo 0.981 1.195 1.151 1.083 1.155 1.198 1.157 1.122 1.130   6.27
96) Benzo[a]pyre 0.937 1.050 1.087 1.014 1.090 1.056 1.068 1.034 1.042   4.75
97) Indeno[1,2,3 1.000 1.109 1.241 1.055 1.046 1.148 1.139 1.034 1.097   7.16
98) Dibenz(a,h)a 0.851 1.025 1.030 0.987 0.945 0.960 0.978 0.993 0.971   5.83
```

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4814-ICC4814
Lab FileID: M115469.D

```
 99) Dibenz[a,h]a 1.050 1.194 1.193 1.047 1.101 1.169 1.108 1.062 1.115   5.59
100) 7,12-Dimethy 0.362 0.399 0.591 0.530 0.380 0.457 0.557 0.539 0.477  18.60
101) Benzo[g,h,i] 1.025 1.152 1.143 0.986 1.091 1.157 1.060 1.076 1.086   5.76
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MM4814.M          Mon Jun 29 13:01:45 2015   MSM
```

8.7.46

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4814-ICV4814
Lab FileID: M115477.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4814\m115477.D          Vial: 10
Acq On    : 29 Jun 2015  12:59 pm                   Operator: alicjap
Sample    : icv4814-50                              Inst    : Instrument #1
Misc      : op85119,em4814                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Jun 29 12:59:33 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  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	88	0.00	4.84
9	t	Phenol	1.737	1.468	15.5	70	0.00	4.59
12	t	2-Chlorophenol	1.347	1.284	4.7	81	0.00	4.69
19	t	2-Methylphenol	1.126	1.108	1.6	79	-0.01	5.05
21	t	3&4-Methylphenol	1.202	1.157	3.7	79	0.00	5.18
24	I	Naphthalene-d8	1.000	1.000	0.0	88	0.00	6.01
29	t	2-Nitrophenol	0.207	0.194	6.3	79	0.00	5.62
30	t	2,4-Dimethylphenol	0.302	0.347	-14.9	87	0.00	5.66
31	t	Benzoic acid	0.267	0.248	7.1	73	-0.04	5.79
33	t	2,4-Dichlorophenol	0.315	0.302	4.1	82	0.00	5.87
34	t	2,6-Dichlorophenol	0.314	0.301	4.1	82	0.00	6.10
43	t	4-Chloro-3-methylphenol	0.311	0.285	8.4	79	-0.03	6.67
47	I	Acenaphthene-d10	1.000	1.000	0.0	92	0.00	8.39
49	t	2,4,6-Trichlorophenol	0.394	0.359	8.9	80	-0.01	7.25
50	t	2,4,5-Trichlorophenol	0.416	0.382	8.2	79	-0.02	7.31
		----------	True	Calc.	% Drift		----------	
60	t	2,4-Dinitrophenol	100.000	81.476	18.5	68	-0.03	8.52
		----------	AvgRF	CCRF	% Dev		----------	
61	t	4-Nitrophenol	0.189	0.172	9.0	77	-0.02	8.70
64	t	2,3,4,6-Tetrachlorophenol	0.360	0.324	10.0	76	-0.01	8.97
69	I	Phenanthrene-d10	1.000	1.000	0.0	91	0.00	11.03
70	t	4,6-Dinitro-2-methylpheno	0.146	0.124	15.1	66	-0.03	9.46
76	t	Pentachlorophenol	0.152	0.150	1.3	76	-0.02	10.72

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m115469.D  MM4814.M         Mon Jun 29 13:27:07 2015   MSM
```

8.7.47

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4814-ICV4814
Lab FileID: M115478.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4814\m115478.D          Vial: 11
Acq On    : 29 Jun 2015   1:27 pm                   Operator: alicjap
Sample    : icv4814-50                              Inst    : Instrument #1
Misc      : op85119,em4814                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Jun 29 13:31:36 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	78	0.00	4.85
3	t	Pyridine	1.250	1.494	-19.5	87	0.07	2.81
10	t	Aniline	1.805	2.023	-12.1	76	0.00	4.59
16	t	Benzyl alcohol	0.810	0.833	-2.8	69	0.00	4.96
24	I	Naphthalene-d8	1.000	1.000	0.0	85	0.00	6.01
39	t	4-Chloroaniline	0.456	0.434	4.8	71	-0.01	6.09
44	t	2-Methylnaphthalene	0.629	0.576	8.4	70	0.00	6.86
47	I	Acenaphthene-d10	1.000	1.000	0.0	88	0.00	8.39
54	t	2-Nitroaniline	0.349	0.320	8.3	69	-0.02	7.69
58	t	3-Nitroaniline	0.315	0.288	8.6	66	-0.02	8.34
62	t	Dibenzofuran	1.707	1.519	11.0	67	-0.01	8.74
68	t	4-Nitroaniline	0.317	0.294	7.3	67	-0.04	9.39
69	I	Phenanthrene-d10	1.000	1.000	0.0	95	0.00	11.03
79	t	Carbazole	1.053	0.900	14.5	76	-0.01	11.52

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m114681a.D MM4814.M         Mon Jun 29 14:48:14 2015   MSM
```

8.7.48

8

Initial Calibration Verification

Job Number: JB99969 **Sample:** EM4814-ICV4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M115479.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em4814\m115479.D Vial: 12
Acq On : 29 Jun 2015 1:56 pm Operator: alicjap
Sample : icv4814-50 Inst : Instrument #1
Misc : op85119,em4814 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Jun 29 14:51:32 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	95	0.00	4.84
4	t	N-Nitrosodimethylamine	0.810	0.765	5.6	87	0.00	2.70
11	t	bis(2-Chloroethyl)ether	1.149	1.161	-1.0	96	-0.01	4.63
14	t	1,3-Dichlorobenzene	1.499	1.420	5.3	90	0.00	4.80
15	t	1,4-Dichlorobenzene	1.517	1.451	4.4	90	0.00	4.86
17	t	1,2-Dichlorobenzene	1.430	1.395	2.4	93	0.00	4.98
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.393	9.2	83	0.00	5.06
22	t	n-Nitroso-di-n-propylamin	0.983	0.902	8.2	84	-0.02	5.17
23	t	Hexachloroethane	0.582	0.564	3.1	91	0.00	5.27
24	I	Naphthalene-d8	1.000	1.000	0.0	89	0.00	6.01
26	t	Nitrobenzene	0.399	0.391	2.0	88	-0.01	5.32
28	t	Isophorone	0.643	0.698	-8.6	93	-0.02	5.53
32	t	bis(2-Chloroethoxy)methan	0.395	0.408	-3.3	90	-0.01	5.74
36	t	1,2,4-Trichlorobenzene	0.366	0.360	1.6	86	0.00	5.95
38	t	Naphthalene	1.130	1.019	9.8	85	0.00	6.03
42	t	Hexachlorobutadiene	0.227	0.222	2.2	88	0.00	6.17
47	I	Acenaphthene-d10	1.000	1.000	0.0	97	0.00	8.40
48	t	Hexachlorocyclopentadiene	0.329	0.320	2.7	82	0.00	7.08
52	t	2-Chloronaphthalene	1.120	1.095	2.2	92	-0.01	7.53
55	t	Dimethylphthalate	1.291	1.237	4.2	89	-0.01	7.99
56	t	Acenaphthylene	1.900	1.562	17.8	80	-0.01	8.16
57	t	2,6-Dinitrotoluene	0.277	0.268	3.2	87	-0.02	8.07
59	t	Acenaphthene	1.172	1.088	7.2	91	0.00	8.45
63	t	2,4-Dinitrotoluene	0.395	0.347	12.2	77	-0.02	8.74
65	t	Diethylphthalate	1.305	1.200	8.0	83	-0.02	9.19
66	t	Fluorene	1.384	1.225	11.5	86	-0.01	9.33
67	t	4-Chlorophenyl-phenylethe	0.667	0.615	7.8	86	0.00	9.35
69	I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00	11.04
71	t	n-Nitrosodiphenylamine	0.475	0.460	3.2	89	-0.02	9.57
72	t	1,2-Diphenylhydrazine	0.690	0.670	2.9	88	-0.01	9.63
74	t	4-Bromophenyl-phenylether	0.232	0.220	5.2	89	-0.01	10.23
75	t	Hexachlorobenzene	0.278	0.255	8.3	89	-0.01	10.34
77	t	Phenanthrene	1.133	0.996	12.1	89	-0.02	11.08
78	t	Anthracene	1.133	1.003	11.5	89	-0.02	11.17
80	t	Di-n-butylphthalate	1.237	1.136	8.2	82	-0.01	12.31
81	t	Fluoranthene	1.302	1.147	11.9	86	-0.02	13.38
83	I	Chrysene-d12	1.000	1.000	0.0	92	-0.02	16.22
84	t	Pyrene	1.162	1.089	6.3	86	-0.01	13.81

Initial Calibration Verification

Job Number: JB99969 **Sample:** EM4814-ICV4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M115479.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

87	t	Butylbenzylphthalate	0.484	0.479	1.0	83	0.00	15.25
88	t	Benzo[a]anthracene	1.103	0.971	12.0	80	-0.01	16.21
90	t	Chrysene	1.006	0.940	6.6	85	-0.02	16.27
91	t	bis(2-Ethylhexyl)phthalat	0.663	0.644	2.9	80	0.00	16.46
92	I	Perylene-d12	1.000	1.000	0.0	79	-0.01	18.85
93	t	Di-n-octylphthalate	1.143	1.251	-9.4	86	-0.01	17.68
94	t	Benzo[b]fluoranthene	1.200	1.090	9.2	78	0.00	18.20
95	t	Benzo[k]fluoranthene	1.130	1.093	3.3	80	-0.04	18.25
96	t	Benzo[a]pyrene	1.042	1.034	0.8	81	-0.02	18.75
97	t	Indeno[1,2,3-cd]pyrene	1.097	1.067	2.7	80	-0.03	20.62
99	t	Dibenz[a,h]anthracene	1.115	1.105	0.9	83	-0.04	20.67
101	t	Benzo[g,h,i]perylene	1.086	1.086	0.0	87	-0.04	21.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m114681a.D MM4814.M Mon Jun 29 14:53:41 2015 MSM

8.7.49

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Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4814-ICV4814
Lab FileID: M115480.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4814\m115480.D          Vial: 13
Acq On    : 29 Jun 2015   2:24 pm                   Operator: alicjap
Sample    : icv4814-50                              Inst    : Instrument #1
Misc      : op85119,em4814                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Jun 29 14:51:32 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	4.84
2	t	1,4-Dioxane	0.474	0.414	12.7	86	0.00	2.42
6	t	Indene	2.188	2.040	6.8	92	0.00	5.05
7	t	Cumene	3.224	2.864	11.2	90	0.00	4.24
13	t	Decane	1.695	1.513	10.7	92	0.00	4.71
18	t	Acetophenone	1.874	1.579	15.7	83	0.00	5.17
24	I	Naphthalene-d8	1.000	1.000	0.0	107	0.00	6.01
27	t	Quinoline	0.724	0.571	21.1	85	-0.04	6.41
40	t	2,3-Dichloroaniline	0.402	0.286	28.9	78	0.00	7.24
41	t	Caprolactam	0.179	0.133	25.7	80	-0.07	6.47
45	t	1-Methylnaphthalene	0.756	0.580	23.3	84	0.00	6.98
46	t	Dimethylnaphthalene	0.707	0.558	21.1	87	0.00	7.74
47	I	Acenaphthene-d10	1.000	1.000	0.0	96	0.00	8.39
53	t	Biphenyl	1.551	1.440	7.2	87	-0.01	7.50
69	I	Phenanthrene-d10	1.000	1.000	0.0	98	0.00	11.03
82	t	Octadecane	0.470	0.442	6.0	87	-0.01	11.00
92	I	Perylene-d12	1.000	1.000	0.0	77	-0.01	18.85
100	t	7,12-Dimethylbenz(a)anthr	0.477	0.446	6.5	64	-0.04	18.20

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m114681a.D MM4814.M         Mon Jun 29 14:55:22 2015   MSM
```

8.7.50

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Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: EM4814-ICV4814
Lab FileID: M115481.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4814\m115481.D          Vial: 14
Acq On    : 29 Jun 2015   2:53 pm                   Operator: alicjap
Sample    : icv4814-50                              Inst    : Instrument #1
Misc      : op85119,em4814                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Jun 29 13:31:36 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	91	0.00	4.84
5	S	2-Fluorophenol	1.185	1.174	0.9	86	0.00	3.87
8	S	Phenol-d5	1.509	1.443	4.4	85	0.00	4.57
24	I	Naphthalene-d8	1.000	1.000	0.0	88	0.00	6.01
25	S	Nitrobenzene-d5	0.388	0.400	-3.1	89	0.00	5.30
47	I	Acenaphthene-d10	1.000	1.000	0.0	94	0.00	8.39
51	S	2-Fluorobiphenyl	1.322	1.293	2.2	88	0.00	7.36
69	I	Phenanthrene-d10	1.000	1.000	0.0	94	0.00	11.03
73	S	2,4,6-Tribromophenol	0.137	0.127	7.3	79	-0.01	9.76
83	I	Chrysene-d12	1.000	1.000	0.0	90	-0.03	16.21
86	S	Terphenyl-d14	0.749	0.778	-3.9	96	0.00	14.21

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m114681a.D MM4814.M         Mon Jun 29 15:20:08 2015   MSM
```

Continuing Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4858-CC4814
Lab FileID: M116338.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4858\m116338.D          Vial: 2
Acq On    : 28 Jul 2015   8:45 pm                   Operator: ashleyd
Sample    : cc4814-25                               Inst    : Instrument #1
Misc      : op85806,em4858                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	55	0.02	4.68
2	t	1,4-Dioxane	0.474	0.300	36.7#	37#	0.03	2.24
3	t	Pyridine	1.250	0.862	31.0#	38#	0.04	2.58
4	t	N-Nitrosodimethylamine	0.810	1.040	-28.4#	71	0.03	2.54
5	S	2-Fluorophenol	1.185	1.046	11.7	51	0.02	3.75
6	t	Indene	2.188	2.255	-3.1	59	0.02	4.89
7	t	Cumene	3.224	3.012	6.6	55	0.03	4.08
8	S	Phenol-d5	1.509	1.483	1.7	55	0.02	4.47
9	t	Phenol	1.737	1.608	7.4	51	0.02	4.48
10	t	Aniline	1.805	1.531	15.2	42#	0.02	4.45
11	t	bis(2-Chloroethyl)ether	1.149	1.247	-8.5	60	0.02	4.48
12	t	2-Chlorophenol	1.347	1.277	5.2	51	0.02	4.55
13	t	Decane	1.695	1.761	-3.9	59	0.02	4.55
14	t	1,3-Dichlorobenzene	1.499	1.484	1.0	56	0.03	4.64
15	t	1,4-Dichlorobenzene	1.517	1.528	-0.7	56	0.03	4.70
16	t	Benzyl alcohol	0.810	0.773	4.6	47#	0.02	4.81
17	t	1,2-Dichlorobenzene	1.430	1.485	-3.8	58	0.03	4.82
18	t	Acetophenone	1.874	1.893	-1.0	56	0.03	5.01
19	t	2-Methylphenol	1.126	1.107	1.7	52	0.02	4.92
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.480	-10.9	62	0.03	4.90
21	t	3&4-Methylphenol	1.202	1.225	-1.9	53	0.02	5.05
22	t	n-Nitroso-di-n-propylamin	0.983	1.221	-24.2#	70	0.02	5.00
23	t	Hexachloroethane	0.582	0.663	-13.9	62	0.03	5.09
24	I	Naphthalene-d8	1.000	1.000	0.0	63	0.03	5.81
25	S	Nitrobenzene-d5	0.388	0.405	-4.4	64	0.02	5.14
26	t	Nitrobenzene	0.399	0.454	-13.8	70	0.02	5.15
27	t	Quinoline	0.724	0.778	-7.5	68	0.02	6.20
28	t	Isophorone	0.643	0.730	-13.5	69	0.02	5.36
29	t	2-Nitrophenol	0.207	0.210	-1.4	61	0.03	5.44
30	t	2,4-Dimethylphenol	0.302	0.331	-9.6	62	0.03	5.50
31	t	Benzoic acid	0.267	0.308	-15.4	67	-0.02	5.63
32	t	bis(2-Chloroethoxy)methan	0.395	0.404	-2.3	62	0.03	5.56
33	t	2,4-Dichlorophenol	0.315	0.331	-5.1	63	0.03	5.71
34	t	2,6-Dichlorophenol	0.314	0.346	-10.2	68	0.03	5.92
35	t	1,3,5-Trichlorobenzene	0.417	0.401	3.8	61	0.03	5.45
36	t	1,2,4-Trichlorobenzene	0.366	0.394	-7.7	66	0.03	5.76
37	t	1,2,3-Trichlorobenzene	0.383	0.388	-1.3	63	0.03	6.00
38	t	Naphthalene	1.130	1.014	10.3	60	0.03	5.84
39	t	4-Chloroaniline	0.456	0.415	9.0	50	0.03	5.91
40	t	2,3-Dichloroaniline	0.402	0.456	-13.4	72	0.04	7.03
41	t	Caprolactam	0.179	0.226	-26.3#	78	0.00	6.30

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4858-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116338.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.227	0.286	-26.0#	79	0.03	5.97
43	t	4-Chloro-3-methylphenol	0.311	0.361	-16.1	72	0.03	6.51
44	t	2-Methylnaphthalene	0.629	0.656	-4.3	60	0.03	6.64
45	t	1-Methylnaphthalene	0.756	0.780	-3.2	67	0.04	6.77
46	t	Dimethylnaphthalene	0.707	0.755	-6.8	66	0.04	7.51
47	I	Acenaphthene-d10	1.000	1.000	0.0	70	0.04	8.15
48	t	Hexachlorocyclopentadiene	0.329	0.241	26.7#	53	0.04	6.85
49	t	2,4,6-Trichlorophenol	0.394	0.409	-3.8	72	0.03	7.05
50	t	2,4,5-Trichlorophenol	0.416	0.449	-7.9	74	0.04	7.13
51	S	2-Fluorobiphenyl	1.322	1.312	0.8	70	0.04	7.13
52	t	2-Chloronaphthalene	1.120	1.135	-1.3	71	0.04	7.30
53	t	Biphenyl	1.551	1.466	5.5	67	0.04	7.28
54	t	2-Nitroaniline	0.349	0.430	-23.2#	74	0.04	7.48
55	t	Dimethylphthalate	1.291	1.555	-20.4#	81	0.03	7.75
56	t	Acenaphthylene	1.900	1.768	6.9	66	0.04	7.92
57	t	2,6-Dinitrotoluene	0.277	0.328	-18.4	80	0.04	7.85
58	t	3-Nitroaniline	0.315	0.313	0.6	58	0.03	8.13
59	t	Acenaphthene	1.172	1.098	6.3	67	0.04	8.20
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	44.165	11.7	64	0.04	8.32
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.189	0.243	-28.6#	85	0.05	8.58
62	t	Dibenzofuran	1.707	1.658	2.9	59	0.04	8.49
63	t	2,4-Dinitrotoluene	0.395	0.460	-16.5	76	0.04	8.52
64	t	2,3,4,6-Tetrachlorophenol	0.360	0.376	-4.4	69	0.04	8.75
65	t	Diethylphthalate	1.305	1.705	-30.7#	90	0.04	8.94
66	t	Fluorene	1.384	1.427	-3.1	75	0.04	9.07
67	t	4-Chlorophenyl-phenylethe	0.667	0.822	-23.2#	87	0.04	9.09
68	t	4-Nitroaniline	0.317	0.329	-3.8	64	0.03	9.17
69	I	Phenanthrene-d10	1.000	1.000	0.0	76	0.06	10.77
70	t	4,6-Dinitro-2-methylpheno	0.146	0.147	-0.7	77	0.04	9.24
71	t	n-Nitrosodiphenylamine	0.475	0.569	-19.8	90	0.04	9.32
72	t	1,2-Diphenylhydrazine	0.690	0.805	-16.7	87	0.04	9.38
73	S	2,4,6-Tribromophenol	0.137	0.153	-11.7	85	0.04	9.52
74	t	4-Bromophenyl-phenylether	0.232	0.279	-20.3#	92	0.04	9.97
75	t	Hexachlorobenzene	0.278	0.302	-8.6	85	0.05	10.08
76	t	Pentachlorophenol	0.152	0.152	0.0	70	0.05	10.49
77	t	Phenanthrene	1.133	1.069	5.6	74	0.05	10.81
78	t	Anthracene	1.133	1.077	4.9	74	0.05	10.91
79	t	Carbazole	1.053	1.064	-1.0	74	0.04	11.27
80	t	Di-n-butylphthalate	1.237	1.433	-15.8	85	0.04	12.04
81	t	Fluoranthene	1.302	1.314	-0.9	81	0.05	13.11
82	t	Octadecane	0.470	0.450	4.3	73	0.04	10.74
83	I	Chrysene-d12	1.000	1.000	0.0	69	0.06	15.94
84	t	Pyrene	1.162	1.307	-12.5	78	0.05	13.53
85		Butyl stearate	0.278	0.281	-1.1	66	0.03	15.20
86	S	Terphenyl-d14	0.749	0.759	-1.3	70	0.04	13.93
87	t	Butylbenzylphthalate	0.484	0.592	-22.3#	79	0.04	14.97
88	t	Benzo[a]anthracene	1.103	1.052	4.6	66	0.05	15.93
89	t	3,3'-Dichlorobenzidine	0.421	0.442	-5.0	69	0.04	15.95
90	t	Chrysene	1.006	0.914	9.1	63	0.04	15.99
91	t	bis(2-Ethylhexyl)phthalat	0.663	0.743	-12.1	74	0.03	16.18
92	I	Perylene-d12	1.000	1.000	0.0	67	0.06	18.57
93	t	Di-n-octylphthalate	1.143	1.367	-19.6	77	0.03	17.40

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4858-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116338.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

94	t	Benzo[b]fluoranthene	1.200	1.233	-2.8	69	0.04	17.93
95	t	Benzo[k]fluoranthene	1.130	1.104	2.3	66	0.04	17.97
96	t	Benzo[a]pyrene	1.042	0.983	5.7	63	0.04	18.47
97	t	Indeno[1,2,3-cd]pyrene	1.097	1.248	-13.8	80	0.05	20.29
98	t	Dibenz(a,h)acridine	0.971	1.089	-12.2	73	0.04	19.91
99	t	Dibenz[a,h]anthracene	1.115	1.279	-14.7	80	0.05	20.32
100	t	7,12-Dimethylbenz(a)anthr	0.477	0.543	-13.8	67	0.04	17.92
101	t	Benzo[g,h,i]perylene	1.086	1.215	-11.9	75	0.06	20.75

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m115766.D MM4814.M Wed Jul 29 09:24:18 2015 MSM

8.7.52

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4858-CC4774
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116339.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4858\m116339.D          Vial: 3
Acq On    : 28 Jul 2015   9:36 pm                   Operator: ashleyd
Sample    : cc4774-25                               Inst    : Instrument #1
Misc      : op85806,em4858                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	58	0.02	4.68
103	t	Benzaldehyde	1.078	0.826	23.4#	46#	0.02	4.36
104	I	Acenaphthene-d10a	1.000	1.000	0.0	74	0.04	8.15
105	I	1,2,4,5-Tetrachlorobenzen	0.533	0.525	1.5	76	0.04	6.87
106	t	Atrazine	0.156	0.215	-37.8#	96	0.04	10.36
107	I	Chrysene-d12a	1.000	1.000	0.0	102	0.06	15.94
108	t	Benzidine	0.530	0.431	18.7	72	0.04	13.45
109	I	Naphthalene-d8a	1.000	1.000	0.0	59	0.03	5.81
110		Hydroquinone	0.336	0.320	4.8	55	0.02	6.34

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m115766.D  MM4814.M         Wed Jul 29 09:26:04 2015   MSM
```

8.7.53

8

Continuing Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4859-CC4814
Lab FileID: M116363.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4859\m116363.D          Vial: 2
Acq On    : 29 Jul 2015  10:14 am                   Operator: alicjap
Sample    : cc4814-50                               Inst    : Instrument #1
Misc      : op85880,em4859                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Wed Jul 29 13:11:17 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	83	0.00	4.69
2	t	1,4-Dioxane	0.474	0.384	19.0	66	0.00	2.25
3	t	Pyridine	1.250	1.025	18.0	63	0.00	2.58
4	t	N-Nitrosodimethylamine	0.810	1.011	-24.8#	100	0.00	2.54
5	S	2-Fluorophenol	1.185	1.059	10.6	71	0.00	3.75
6	t	Indene	2.188	2.300	-5.1	85	0.00	4.89
7	t	Cumene	3.224	3.154	2.2	81	0.00	4.09
8	S	Phenol-d5	1.509	1.484	1.7	80	0.00	4.46
9	t	Phenol	1.737	1.673	3.7	76	0.00	4.47
10	t	Aniline	1.805	1.478	18.1	59	0.00	4.45
11	t	bis(2-Chloroethyl)ether	1.149	1.279	-11.3	92	0.00	4.48
12	t	2-Chlorophenol	1.347	1.215	9.8	73	0.00	4.55
13	t	Decane	1.695	1.947	-14.9	97	0.00	4.56
14	t	1,3-Dichlorobenzene	1.499	1.412	5.8	78	0.00	4.64
15	t	1,4-Dichlorobenzene	1.517	1.451	4.4	79	0.00	4.70
16	t	Benzyl alcohol	0.810	0.829	-2.3	73	0.00	4.81
17	t	1,2-Dichlorobenzene	1.430	1.367	4.4	80	0.00	4.82
18	t	Acetophenone	1.874	1.949	-4.0	84	0.00	5.01
19	t	2-Methylphenol	1.126	1.087	3.5	73	0.00	4.92
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.448	-3.5	82	0.00	4.90
21	t	3&4-Methylphenol	1.202	1.207	-0.4	77	0.00	5.04
22	t	n-Nitroso-di-n-propylamin	0.983	1.269	-29.1#	103	0.00	5.01
23	t	Hexachloroethane	0.582	0.687	-18.0	97	0.00	5.09
24	I	Naphthalene-d8	1.000	1.000	0.0	77	0.00	5.82
25	S	Nitrobenzene-d5	0.388	0.460	-18.6	89	0.00	5.14
26	t	Nitrobenzene	0.399	0.516	-29.3#	101	0.00	5.16
27	t	Quinoline	0.724	0.721	0.4	77	0.00	6.22
28	t	Isophorone	0.643	0.814	-26.6#	94	0.00	5.36
29	t	2-Nitrophenol	0.207	0.211	-1.9	76	0.00	5.44
30	t	2,4-Dimethylphenol	0.302	0.383	-26.8#	85	0.00	5.50
31	t	Benzoic acid	0.267	0.291	-9.0	76	0.00	5.66
32	t	bis(2-Chloroethoxy)methan	0.395	0.448	-13.4	86	0.00	5.56
33	t	2,4-Dichlorophenol	0.315	0.330	-4.8	79	0.00	5.71
34	t	2,6-Dichlorophenol	0.314	0.334	-6.4	80	0.00	5.92
35	t	1,3,5-Trichlorobenzene	0.417	0.451	-8.2	85	0.00	5.45
36	t	1,2,4-Trichlorobenzene	0.366	0.420	-14.8	88	0.00	5.76
37	t	1,2,3-Trichlorobenzene	0.383	0.411	-7.3	83	0.00	6.00
38	t	Naphthalene	1.130	1.014	10.3	73	0.00	5.84
39	t	4-Chloroaniline	0.456	0.398	12.7	59	0.00	5.91
40	t	2,3-Dichloroaniline	0.402	0.468	-16.4	92	0.00	7.04
41	t	Caprolactam	0.179	0.231	-29.1#	101	0.00	6.32

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4859-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116363.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.227	0.312	-37.4#	107	0.00	5.97
43	t	4-Chloro-3-methylphenol	0.311	0.375	-20.6#	92	0.00	6.52
44	t	2-Methylnaphthalene	0.629	0.656	-4.3	72	0.00	6.65
45	t	1-Methylnaphthalene	0.756	0.809	-7.0	84	0.00	6.77
46	t	Dimethylnaphthalene	0.707	0.803	-13.6	90	0.00	7.52
47	I	Acenaphthene-d10	1.000	1.000	0.0	97	0.00	8.16
48	t	Hexachlorocyclopentadiene	0.329	0.341	-3.6	88	0.00	6.86
49	t	2,4,6-Trichlorophenol	0.394	0.427	-8.4	100	0.00	7.06
50	t	2,4,5-Trichlorophenol	0.416	0.473	-13.7	103	0.00	7.14
51	S	2-Fluorobiphenyl	1.322	1.378	-4.2	97	0.00	7.14
52	t	2-Chloronaphthalene	1.120	1.133	-1.2	96	0.00	7.31
53	t	Biphenyl	1.551	1.485	4.3	91	0.00	7.29
54	t	2-Nitroaniline	0.349	0.446	-27.8#	106	0.00	7.49
55	t	Dimethylphthalate	1.291	1.472	-14.0	107	0.00	7.76
56	t	Acenaphthylene	1.900	1.744	8.2	90	0.00	7.93
57	t	2,6-Dinitrotoluene	0.277	0.311	-12.3	101	0.00	7.86
58	t	3-Nitroaniline	0.315	0.291	7.6	73	0.00	8.14
59	t	Acenaphthene	1.172	1.117	4.7	94	0.00	8.22
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	97.880	2.1	92	0.00	8.33
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.189	0.179	5.3	84	0.00	8.57
62	t	Dibenzofuran	1.707	1.636	4.2	80	0.00	8.50
63	t	2,4-Dinitrotoluene	0.395	0.431	-9.1	96	0.00	8.54
64	t	2,3,4,6-Tetrachlorophenol	0.360	0.364	-1.1	89	0.00	8.76
65	t	Diethylphthalate	1.305	1.508	-15.6	105	0.00	8.95
66	t	Fluorene	1.384	1.336	3.5	94	0.00	9.09
67	t	4-Chlorophenyl-phenylethe	0.667	0.837	-25.5#	117	0.00	9.11
68	t	4-Nitroaniline	0.317	0.285	10.1	72	0.00	9.19
69	I	Phenanthrene-d10	1.000	1.000	0.0	112	0.00	10.79
70	t	4,6-Dinitro-2-methylpheno	0.146	0.144	1.4	95	0.00	9.26
71	t	n-Nitrosodiphenylamine	0.475	0.510	-7.4	110	0.00	9.34
72	t	1,2-Diphenylhydrazine	0.690	0.735	-6.5	108	0.00	9.39
73	S	2,4,6-Tribromophenol	0.137	0.133	2.9	98	0.00	9.53
74	t	4-Bromophenyl-phenylether	0.232	0.266	-14.7	120	0.00	9.98
75	t	Hexachlorobenzene	0.278	0.279	-0.4	108	0.00	10.10
76	t	Pentachlorophenol	0.152	0.136	10.5	84	0.00	10.51
77	t	Phenanthrene	1.133	1.025	9.5	102	0.00	10.83
78	t	Anthracene	1.133	1.041	8.1	102	0.00	10.93
79	t	Carbazole	1.053	0.997	5.3	99	0.00	11.29
80	t	Di-n-butylphthalate	1.237	1.301	-5.2	104	0.00	12.05
81	t	Fluoranthene	1.302	1.223	6.1	103	0.00	13.12
82	t	Octadecane	0.470	0.492	-4.7	110	0.00	10.75
83	I	Chrysene-d12	1.000	1.000	0.0	110	0.00	15.97
84	t	Pyrene	1.162	1.138	2.1	108	0.00	13.55
85		Butyl stearate	0.278	0.280	-0.7	99	0.00	15.21
86	S	Terphenyl-d14	0.749	0.694	7.3	104	0.00	13.95
87	t	Butylbenzylphthalate	0.484	0.500	-3.3	104	0.00	14.99
88	t	Benzo[a]anthracene	1.103	1.017	7.8	101	0.00	15.94
89	t	3,3'-Dichlorobenzidine	0.421	0.411	2.4	99	0.00	15.97
90	t	Chrysene	1.006	0.905	10.0	97	0.00	16.01
91	t	bis(2-Ethylhexyl)phthalat	0.663	0.633	4.5	94	0.00	16.19
92	I	Perylene-d12	1.000	1.000	0.0	84	0.00	18.59
93	t	Di-n-octylphthalate	1.143	1.323	-15.7	97	0.00	17.41

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4859-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116363.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

94	t	Benzo[b]fluoranthene	1.200	1.227	-2.3	93	0.00	17.96
95	t	Benzo[k]fluoranthene	1.130	1.116	1.2	87	0.00	18.00
96	t	Benzo[a]pyrene	1.042	1.013	2.8	84	0.00	18.50
97	t	Indeno[1,2,3-cd]pyrene	1.097	1.069	2.6	85	0.00	20.33
98	t	Dibenz(a,h)acridine	0.971	0.927	4.5	79	0.00	19.95
99	t	Dibenz[a,h]anthracene	1.115	1.042	6.5	84	0.00	20.36
100	t	7,12-Dimethylbenz(a)anthr	0.477	0.567	-18.9	90	0.00	17.95
101	t	Benzo[g,h,i]perylene	1.086	1.033	4.9	88	0.00	20.79

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m114681a.D MM4814.M Wed Jul 29 13:12:28 2015 MSM

8.7.54

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4859-CC4774
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116364.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4859\m116364.D          Vial: 3
Acq On    : 29 Jul 2015  10:45 am                   Operator: alicjap
Sample    : cc4774-50                               Inst    : Instrument #1
Misc      : op85880,em4859                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	81	0.03	4.69
103	t	Benzaldehyde	1.078	0.794	26.3#	62	0.03	4.36
104	I	Acenaphthene-d10a	1.000	1.000	0.0	98	0.05	8.16
105	I	1,2,4,5-Tetrachlorobenzen	0.533	0.641	-20.3#	126	0.05	6.88
106	t	Atrazine	0.156	0.231	-48.1#	135	0.05	10.38
107	I	Chrysene-d12a	1.000	1.000	0.0	129	0.08	15.96
108	t	Benzidine	0.530	0.447	15.7	109	0.06	13.46
109	I	Naphthalene-d8a	1.000	1.000	0.0	80	0.04	5.82
110		Hydroquinone	0.336	0.339	-0.9	72	0.03	6.35

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m114681a.D MM4814.M         Wed Jul 29 13:08:26 2015   MSM
```

8.7.55

8

Initial Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4860-ICC4860
Lab FileID: M116391.D

```
                          Response Factor Report  Instrument #1

  Method       : C:\msdchem\1\METHODS\MM4814sk.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
  Last Update  : Thu Jul 30 09:26:20 2015
  Response via : Initial Calibration

  Calibration Files
  2   =m116395.D  5   =m116394.D  100 =m116389.D  50  =m116391.D
  1   =m116396.D  10  =m116393.D  80  =m116390.D  25  =m116392.D

   Compound         2     5     100   50    1     10    80    25    Avg %RSD
  ---------------------------------------------------------------------------
113) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
114) Benzenethiol 1.285 1.394 1.601 1.506 1.159 1.406 1.523 1.441 1.414   9.93

115) I   Chrysene-d12c         ----------------ISTD---------------------
116) Methyl Chrys 0.650 0.660 0.729 0.622 0.631 0.644 0.673 0.664 0.659   5.01
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MM4814sk.M        Thu Jul 30 09:26:33 2015   MSM
```

8.7.56

8

Initial Calibration Verification

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4860-ICV4860
Lab FileID: M116397.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4860\m116397.D          Vial: 10
Acq On    : 30 Jul 2015   2:23 am                   Operator: sarad
Sample    : icv4860-50                              Inst    : Instrument #1
Misc      : op85880,em4860                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814sk.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Thu Jul 30 09:26:20 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.
113	I	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	109	0.00	4.67
114	t	Benzenethiol	1.414	1.258	11.0	91	-0.01	4.38
115	I	Chrysene-d12c	1.000	1.000	0.0	95	0.00	15.93
116	t	Methyl Chrysene	0.659	0.698	-5.9	107	0.00	16.87

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m116391.D MM4814sk.M Thu Jul 30 09:29:14 2015 MSM

8.7.57

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4865-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116472.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4865\m116472.D          Vial: 2
Acq On    : 31 Jul 2015  11:09 pm                    Operator: sarad
Sample    : cc4814-25                                Inst    : Instrument #1
Misc      : op85905,em4865                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	51	-0.01	4.65
2	t	1,4-Dioxane	0.474	0.348	26.6#	39#	-0.02	2.19
3	t	Pyridine	1.250	0.966	22.7#	39#	0.00	2.54
4	t	N-Nitrosodimethylamine	0.810	1.306	-61.2#	83	0.00	2.50
5	S	2-Fluorophenol	1.185	1.031	13.0	46#	-0.03	3.70
6	t	Indene	2.188	2.178	0.5	52	-0.02	4.85
7	t	Cumene	3.224	3.101	3.8	52	0.00	4.05
8	S	Phenol-d5	1.509	1.396	7.5	48#	-0.04	4.42
9	t	Phenol	1.737	1.640	5.6	48#	-0.04	4.43
10	t	Aniline	1.805	1.478	18.1	37#	-0.02	4.41
11	t	bis(2-Chloroethyl)ether	1.149	1.191	-3.7	53	0.00	4.45
12	t	2-Chlorophenol	1.347	1.215	9.8	45#	-0.02	4.51
13	t	Decane	1.695	1.971	-16.3	61	-0.02	4.52
14	t	1,3-Dichlorobenzene	1.499	1.424	5.0	50#	-0.02	4.60
15	t	1,4-Dichlorobenzene	1.517	1.484	2.2	50	-0.02	4.66
16	t	Benzyl alcohol	0.810	0.792	2.2	44#	-0.02	4.77
17	t	1,2-Dichlorobenzene	1.430	1.368	4.3	49#	-0.02	4.78
18	t	Acetophenone	1.874	1.941	-3.6	53	-0.02	4.97
19	t	2-Methylphenol	1.126	1.067	5.2	46#	-0.03	4.87
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.451	-4.2	54	-0.02	4.85
21	t	3&4-Methylphenol	1.202	1.129	6.1	45#	-0.03	5.00
22	t	n-Nitroso-di-n-propylamin	0.983	1.279	-30.1#	68	-0.02	4.97
23	t	Hexachloroethane	0.582	0.677	-16.3	59	-0.02	5.05
24	I	Naphthalene-d8	1.000	1.000	0.0	56	-0.01	5.77
25	S	Nitrobenzene-d5	0.388	0.436	-12.4	62	-0.02	5.09
26	t	Nitrobenzene	0.399	0.483	-21.1#	67	-0.02	5.12
27	t	Quinoline	0.724	0.716	1.1	56	-0.03	6.16
28	t	Isophorone	0.643	0.748	-16.3	63	-0.02	5.32
29	t	2-Nitrophenol	0.207	0.199	3.9	52	-0.02	5.40
30	t	2,4-Dimethylphenol	0.302	0.346	-14.6	59	-0.03	5.45
31	t	Benzoic acid	0.267	0.314	-17.6	62	-0.06	5.58
32	t	bis(2-Chloroethoxy)methan	0.395	0.412	-4.3	57	-0.02	5.52
33	t	2,4-Dichlorophenol	0.315	0.342	-8.6	59	-0.03	5.65
34	t	2,6-Dichlorophenol	0.314	0.334	-6.4	59	-0.02	5.87
35	t	1,3,5-Trichlorobenzene	0.417	0.418	-0.2	57	-0.02	5.40
36	t	1,2,4-Trichlorobenzene	0.366	0.406	-10.9	62	-0.02	5.71
37	t	1,2,3-Trichlorobenzene	0.383	0.413	-7.8	61	-0.02	5.94
38	t	Naphthalene	1.130	0.984	12.9	52	-0.02	5.79
39	t	4-Chloroaniline	0.456	0.399	12.5	43#	-0.02	5.86
40	t	2,3-Dichloroaniline	0.402	0.445	-10.7	63	-0.03	6.96
41	t	Caprolactam	0.179	0.235	-31.3#	74	-0.06	6.24

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4865-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116472.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.227	0.328	-44.5#	82	-0.02	5.92
43	t	4-Chloro-3-methylphenol	0.311	0.362	-16.4	65	-0.04	6.45
44	t	2-Methylnaphthalene	0.629	0.636	-1.1	53	-0.02	6.58
45	t	1-Methylnaphthalene	0.756	0.753	0.4	58	-0.02	6.71
46	t	Dimethylnaphthalene	0.707	0.752	-6.4	60	-0.03	7.44
47	I	Acenaphthene-d10	1.000	1.000	0.0	62	-0.02	8.08
48	t	Hexachlorocyclopentadiene	0.329	0.275	16.4	54	-0.02	6.79
49	t	2,4,6-Trichlorophenol	0.394	0.447	-13.5	70	-0.03	6.98
50	t	2,4,5-Trichlorophenol	0.416	0.460	-10.6	68	-0.03	7.06
51	S	2-Fluorobiphenyl	1.322	1.372	-3.8	65	-0.02	7.08
52	t	2-Chloronaphthalene	1.120	1.151	-2.8	64	-0.02	7.24
53	t	Biphenyl	1.551	1.495	3.6	61	-0.03	7.21
54	t	2-Nitroaniline	0.349	0.477	-36.7#	74	-0.03	7.41
55	t	Dimethylphthalate	1.291	1.627	-26.0#	76	-0.03	7.69
56	t	Acenaphthylene	1.900	1.733	8.8	58	-0.03	7.86
57	t	2,6-Dinitrotoluene	0.277	0.318	-14.8	69	-0.03	7.79
58	t	3-Nitroaniline	0.315	0.291	7.6	48#	-0.04	8.06
59	t	Acenaphthene	1.172	1.084	7.5	59	-0.03	8.13
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	49.335	1.3	65	-0.02	8.26
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.189	0.247	-30.7#	78	-0.04	8.49
62	t	Dibenzofuran	1.707	1.719	-0.7	55	-0.03	8.42
63	t	2,4-Dinitrotoluene	0.395	0.447	-13.2	66	-0.02	8.46
64	t	2,3,4,6-Tetrachlorophenol	0.360	0.435	-20.8#	71	-0.03	8.68
65	t	Diethylphthalate	1.305	1.818	-39.3#	86	-0.03	8.88
66	t	Fluorene	1.384	1.490	-7.7	70	-0.03	9.00
67	t	4-Chlorophenyl-phenylethe	0.667	0.947	-42.0#	89	-0.03	9.02
68	t	4-Nitroaniline	0.317	0.306	3.5	53	-0.04	9.10
69	I	Phenanthrene-d10	1.000	1.000	0.0	73	-0.02	10.70
70	t	4,6-Dinitro-2-methylpheno	0.146	0.154	-5.5	78	-0.02	9.18
71	t	n-Nitrosodiphenylamine	0.475	0.551	-16.0	85	-0.04	9.25
72	t	1,2-Diphenylhydrazine	0.690	0.830	-20.3#	86	-0.03	9.31
73	S	2,4,6-Tribromophenol	0.137	0.156	-13.9	83	-0.03	9.44
74	t	4-Bromophenyl-phenylether	0.232	0.296	-27.6#	95	-0.03	9.90
75	t	Hexachlorobenzene	0.278	0.305	-9.7	83	-0.03	10.01
76	t	Pentachlorophenol	0.152	0.160	-5.3	71	-0.03	10.41
77	t	Phenanthrene	1.133	1.012	10.7	68	-0.03	10.74
78	t	Anthracene	1.133	1.041	8.1	69	-0.03	10.84
79	t	Carbazole	1.053	1.002	4.8	67	-0.04	11.19
80	t	Di-n-butylphthalate	1.237	1.440	-16.4	82	-0.03	11.97
81	t	Fluoranthene	1.302	1.490	-14.4	89	-0.03	13.03
82	t	Octadecane	0.470	0.490	-4.3	76	-0.03	10.67
83	I	Chrysene-d12	1.000	1.000	0.0	88	-0.01	15.87
84	t	Pyrene	1.162	1.132	2.6	86	-0.03	13.46
85		Butyl stearate	0.278	0.263	5.4	78	-0.04	15.13
86	S	Terphenyl-d14	0.749	0.687	8.3	80	-0.03	13.85
87	t	Butylbenzylphthalate	0.484	0.518	-7.0	87	-0.04	14.90
88	t	Benzo[a]anthracene	1.103	1.069	3.1	85	-0.03	15.85
89	t	3,3'-Dichlorobenzidine	0.421	0.426	-1.2	85	-0.04	15.87
90	t	Chrysene	1.006	0.906	9.9	78	-0.03	15.91
91	t	bis(2-Ethylhexyl)phthalat	0.663	0.696	-5.0	88	-0.04	16.11
92	I	Perylene-d12	1.000	1.000	0.0	69	-0.02	18.49
93	t	Di-n-octylphthalate	1.143	1.501	-31.3#	89	-0.04	17.33

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4865-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116472.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

94	t	Benzo[b]fluoranthene	1.200	1.257	-4.7	73	-0.04	17.85
95	t	Benzo[k]fluoranthene	1.130	1.156	-2.3	72	-0.04	17.90
96	t	Benzo[a]pyrene	1.042	1.020	2.1	68	-0.03	18.40
97	t	Indeno[1,2,3-cd]pyrene	1.097	1.086	1.0	73	-0.03	20.21
98	t	Dibenz(a,h)acridine	0.971	0.960	1.1	67	-0.03	19.84
99	t	Dibenz[a,h]anthracene	1.115	1.085	2.7	71	-0.04	20.24
100	t	7,12-Dimethylbenz(a)anthr	0.477	0.561	-17.6	72	-0.04	17.84
101	t	Benzo[g,h,i]perylene	1.086	1.006	7.4	65	-0.04	20.65

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m115766.D MM4814.M Sat Aug 01 09:56:16 2015 MSM

8.7.58

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4866-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116499.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4866\m116499.D          Vial: 2
Acq On    :  1 Aug 2015   3:14 pm                    Operator: ashleyd
Sample    : cc4814-50                                Inst    : Instrument #1
Misc      : op85905,em4866                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	132	-0.02	4.64
2	t	1,4-Dioxane	0.474	0.400	15.6	109	-0.03	2.18
3	t	Pyridine	1.250	1.138	9.0	112	-0.02	2.52
4	t	N-Nitrosodimethylamine	0.810	1.077	-33.0#	170	-0.02	2.49
5	S	2-Fluorophenol	1.185	1.089	8.1	116	-0.04	3.69
6	t	Indene	2.188	2.401	-9.7	142	-0.02	4.84
7	t	Cumene	3.224	3.220	0.1	133	-0.02	4.04
8	S	Phenol-d5	1.509	1.520	-0.7	130	-0.04	4.41
9	t	Phenol	1.737	1.697	2.3	123	-0.04	4.42
10	t	Aniline	1.805	1.453	19.5	93	-0.02	4.40
11	t	bis(2-Chloroethyl)ether	1.149	1.286	-11.9	147	-0.02	4.44
12	t	2-Chlorophenol	1.347	1.226	9.0	117	-0.03	4.50
13	t	Decane	1.695	1.834	-8.2	145	-0.02	4.52
14	t	1,3-Dichlorobenzene	1.499	1.430	4.6	126	-0.02	4.60
15	t	1,4-Dichlorobenzene	1.517	1.481	2.4	128	-0.02	4.65
16	t	Benzyl alcohol	0.810	0.810	0.0	114	-0.02	4.77
17	t	1,2-Dichlorobenzene	1.430	1.446	-1.1	134	-0.02	4.77
18	t	Acetophenone	1.874	2.078	-10.9	143	-0.02	4.96
19	t	2-Methylphenol	1.126	1.113	1.2	120	-0.03	4.87
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.460	-6.2	135	-0.02	4.85
21	t	3&4-Methylphenol	1.202	1.242	-3.3	127	-0.03	5.00
22	t	n-Nitroso-di-n-propylamin	0.983	1.330	-35.3#	173	-0.01	4.97
23	t	Hexachloroethane	0.582	0.698	-19.9	157	-0.02	5.04
24	I	Naphthalene-d8	1.000	1.000	0.0	130	-0.02	5.76
25	S	Nitrobenzene-d5	0.388	0.452	-16.5	148	-0.02	5.09
26	t	Nitrobenzene	0.399	0.486	-21.8#	160	-0.02	5.11
27	t	Quinoline	0.724	0.709	2.1	127	-0.01	6.17
28	t	Isophorone	0.643	0.778	-21.0#	151	-0.02	5.32
29	t	2-Nitrophenol	0.207	0.220	-6.3	133	-0.02	5.40
30	t	2,4-Dimethylphenol	0.302	0.378	-25.2#	141	-0.03	5.45
31	t	Benzoic acid	0.267	0.335	-25.5#	146	-0.03	5.62
32	t	bis(2-Chloroethoxy)methan	0.395	0.463	-17.2	149	-0.02	5.51
33	t	2,4-Dichlorophenol	0.315	0.337	-7.0	135	-0.03	5.65
34	t	2,6-Dichlorophenol	0.314	0.341	-8.6	138	-0.03	5.86
35	t	1,3,5-Trichlorobenzene	0.417	0.451	-8.2	143	-0.02	5.40
36	t	1,2,4-Trichlorobenzene	0.366	0.416	-13.7	146	-0.02	5.71
37	t	1,2,3-Trichlorobenzene	0.383	0.407	-6.3	138	-0.02	5.94
38	t	Naphthalene	1.130	1.034	8.5	125	-0.02	5.78
39	t	4-Chloroaniline	0.456	0.413	9.4	103	-0.03	5.85
40	t	2,3-Dichloroaniline	0.402	0.417	-3.7	138	-0.03	6.96
41	t	Caprolactam	0.179	0.209	-16.8	154	-0.03	6.27

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4866-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116499.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.227	0.307	-35.2#	177	-0.02	5.91
43	t	4-Chloro-3-methylphenol	0.311	0.352	-13.2	145	-0.04	6.45
44	t	2-Methylnaphthalene	0.629	0.600	4.6	110	-0.03	6.58
45	t	1-Methylnaphthalene	0.756	0.736	2.6	128	-0.02	6.71
46	t	Dimethylnaphthalene	0.707	0.729	-3.1	138	-0.03	7.44
47	I	Acenaphthene-d10	1.000	1.000	0.0	149	-0.03	8.08
48	t	Hexachlorocyclopentadiene	0.329	0.373	-13.4	147	-0.02	6.79
49	t	2,4,6-Trichlorophenol	0.394	0.424	-7.6	152	-0.03	6.98
50	t	2,4,5-Trichlorophenol	0.416	0.469	-12.7	156	-0.03	7.06
51	S	2-Fluorobiphenyl	1.322	1.344	-1.7	145	-0.02	7.07
52	t	2-Chloronaphthalene	1.120	1.124	-0.4	146	-0.02	7.24
53	t	Biphenyl	1.551	1.458	6.0	137	-0.03	7.21
54	t	2-Nitroaniline	0.349	0.421	-20.6#	154	-0.03	7.42
55	t	Dimethylphthalate	1.291	1.500	-16.2	167	-0.03	7.69
56	t	Acenaphthylene	1.900	1.743	8.3	138	-0.03	7.85
57	t	2,6-Dinitrotoluene	0.277	0.303	-9.4	152	-0.03	7.78
58	t	3-Nitroaniline	0.315	0.296	6.0	113	-0.04	8.06
59	t	Acenaphthene	1.172	1.093	6.7	142	-0.03	8.13
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	107.996	-8.0	157	-0.02	8.25
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.189	0.223	-18.0	161	-0.06	8.47
62	t	Dibenzofuran	1.707	1.743	-2.1	130	-0.03	8.42
63	t	2,4-Dinitrotoluene	0.395	0.457	-15.7	156	-0.02	8.46
64	t	2,3,4,6-Tetrachlorophenol	0.360	0.435	-20.8#	164	-0.03	8.67
65	t	Diethylphthalate	1.305	1.687	-29.3#	180	-0.03	8.87
66	t	Fluorene	1.384	1.450	-4.8	157	-0.03	9.00
67	t	4-Chlorophenyl-phenylethe	0.667	0.905	-35.7#	195	-0.03	9.02
68	t	4-Nitroaniline	0.317	0.317	0.0	123	-0.04	9.11
69	I	Phenanthrene-d10	1.000	1.000	0.0	158	-0.03	10.69
70	t	4,6-Dinitro-2-methylpheno	0.146	0.171	-17.1	160	-0.02	9.18
71	t	n-Nitrosodiphenylamine	0.475	0.582	-22.5#	179	-0.03	9.25
72	t	1,2-Diphenylhydrazine	0.690	0.846	-22.6#	176	-0.03	9.31
73	S	2,4,6-Tribromophenol	0.137	0.166	-21.2#	174	-0.03	9.44
74	t	4-Bromophenyl-phenylether	0.232	0.310	-33.6#	198	-0.03	9.89
75	t	Hexachlorobenzene	0.278	0.325	-16.9	179	-0.03	10.01
76	t	Pentachlorophenol	0.152	0.182	-19.7	160	-0.03	10.41
77	t	Phenanthrene	1.133	1.056	6.8	149	-0.03	10.74
78	t	Anthracene	1.133	1.070	5.6	149	-0.03	10.83
79	t	Carbazole	1.053	1.049	0.4	148	-0.04	11.19
80	t	Di-n-butylphthalate	1.237	1.607	-29.9#	183	-0.03	11.97
81	t	Fluoranthene	1.302	1.467	-12.7	175	-0.03	13.03
82	t	Octadecane	0.470	0.540	-14.9	172	-0.03	10.66
83	I	Chrysene-d12	1.000	1.000	0.0	189	-0.01	15.87
84	t	Pyrene	1.162	1.042	10.3	170	-0.03	13.45
85		Butyl stearate	0.278	0.270	2.9	165	-0.04	15.13
86	S	Terphenyl-d14	0.749	0.648	13.5	168	-0.03	13.85
87	t	Butylbenzylphthalate	0.484	0.482	0.4	173	-0.04	14.90
88	t	Benzo[a]anthracene	1.103	1.020	7.5	174	-0.03	15.85
89	t	3,3'-Dichlorobenzidine	0.421	0.441	-4.8	183	-0.03	15.87
90	t	Chrysene	1.006	0.909	9.6	169	-0.03	15.92
91	t	bis(2-Ethylhexyl)phthalat	0.663	0.680	-2.6	175	-0.04	16.11
92	I	Perylene-d12	1.000	1.000	0.0	129	-0.02	18.49
93	t	Di-n-octylphthalate	1.143	1.478	-29.3#	166	-0.04	17.33

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4866-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116499.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

94	t	Benzo[b]fluoranthene	1.200	1.278	-6.5	149	-0.03	17.86
95	t	Benzo[k]fluoranthene	1.130	1.133	-0.3	135	-0.03	17.91
96	t	Benzo[a]pyrene	1.042	1.027	1.4	131	-0.03	18.40
97	t	Indeno[1,2,3-cd]pyrene	1.097	1.128	-2.8	138	-0.03	20.21
98	t	Dibenz(a,h)acridine	0.971	0.991	-2.1	130	-0.03	19.84
99	t	Dibenz[a,h]anthracene	1.115	1.081	3.0	133	-0.03	20.24
100	t	7,12-Dimethylbenz(a)anthr	0.477	0.592	-24.1#	145	-0.03	17.85
101	t	Benzo[g,h,i]perylene	1.086	0.967	11.0	127	-0.02	20.67

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m114681a.D MM4814.M Mon Aug 03 09:04:50 2015 MSM

8.7.59

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4866-CC4774
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116500.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4866\m116500.D          Vial: 3
Acq On    :  1 Aug 2015   3:43 pm                   Operator: ashleyd
Sample    : cc4774-50                               Inst    : Instrument #1
Misc      : op85905,em4866                         Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	93	-0.02	4.64
103	t	Benzaldehyde	1.078	1.005	6.8	90	-0.02	4.32
104	I	Acenaphthene-d10a	1.000	1.000	0.0	103	-0.03	8.07
105	I	1,2,4,5-Tetrachlorobenzen	0.533	0.681	-27.8#	140	-0.03	6.80
106	t	Atrazine	0.156	0.248	-59.0#	152	-0.04	10.29
107	I	Chrysene-d12a	1.000	1.000	0.0	148	-0.03	15.85
108	t	Benzidine	0.530	0.466	12.1	129	-0.04	13.36
109	I	Naphthalene-d8a	1.000	1.000	0.0	95	-0.02	5.76
110		Hydroquinone	0.336	0.352	-4.8	88	-0.04	6.28

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m114681a.D MM4814.M         Mon Aug 03 09:21:04 2015   MSM
```

8.7.60

8

Continuing Calibration Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA
Sample: EM4866-CC4860
Lab FileID: M116501.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4866\m116501.D          Vial: 4
Acq On    :  1 Aug 2015   4:12 pm                   Operator: ashleyd
Sample    : cc4860-50                               Inst    : Instrument #1
Misc      : op85905,em4866                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814sk.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Thu Jul 30 09:26:20 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.
113	I	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	134	-0.04	4.64
114	t	Benzenethiol	1.414	1.576	-11.5	141	-0.05	4.34
115	I	Chrysene-d12c	1.000	1.000	0.0	135	-0.08	15.85
116	t	Methyl Chrysene	0.659	0.704	-6.8	153	-0.08	16.79

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m116391.D MM4814sk.M Mon Aug 03 09:25:54 2015 MSM

8.7.61

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4867-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116527.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4867\m116527.D          Vial: 2
Acq On    :  3 Aug 2015  10:24 am                   Operator: alicjap
Sample    : cc4814-25                               Inst    : Instrument #1
Misc      : op85905,em4867                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	113	-0.03	4.63
2	t	1,4-Dioxane	0.474	0.480	-1.3	118	-0.03	2.18
3	t	Pyridine	1.250	1.139	8.9	102	-0.02	2.53
4	t	N-Nitrosodimethylamine	0.810	0.136	83.2#	19#	-0.02	2.49
5	S	2-Fluorophenol	1.185	1.085	8.4	107	-0.04	3.69
6	t	Indene	2.188	2.347	-7.3	124	-0.03	4.84
7	t	Cumene	3.224	2.984	7.4	110	-0.02	4.04
8	S	Phenol-d5	1.509	1.481	1.9	112	-0.05	4.40
9	t	Phenol	1.737	1.724	0.7	111	-0.05	4.41
10	t	Aniline	1.805	1.499	17.0	83	-0.03	4.40
11	t	bis(2-Chloroethyl)ether	1.149	1.243	-8.2	121	-0.02	4.44
12	t	2-Chlorophenol	1.347	1.331	1.2	109	-0.03	4.49
13	t	Decane	1.695	0.171	89.9#	12#	-0.03	4.51
14	t	1,3-Dichlorobenzene	1.499	1.474	1.7	113	-0.03	4.59
15	t	1,4-Dichlorobenzene	1.517	1.527	-0.7	113	-0.03	4.64
16	t	Benzyl alcohol	0.810	0.750	7.4	92	-0.03	4.76
17	t	1,2-Dichlorobenzene	1.430	1.432	-0.1	113	-0.03	4.77
18	t	Acetophenone	1.874	1.832	2.2	111	-0.03	4.95
19	t	2-Methylphenol	1.126	1.162	-3.2	111	-0.05	4.86
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.450	-3.9	118	-0.03	4.84
21	t	3&4-Methylphenol	1.202	1.228	-2.2	109	-0.05	4.98
22	t	n-Nitroso-di-n-propylamin	0.983	1.019	-3.7	118	-0.03	4.95
23	t	Hexachloroethane	0.582	0.500	14.1	95	-0.03	5.03
24	I	Naphthalene-d8	1.000	1.000	0.0	118	-0.03	5.75
25	S	Nitrobenzene-d5	0.388	0.339	12.6	101	-0.03	5.08
26	t	Nitrobenzene	0.399	0.376	5.8	109	-0.03	5.10
27	t	Quinoline	0.724	0.729	-0.7	120	-0.04	6.14
28	t	Isophorone	0.643	0.641	0.3	114	-0.04	5.30
29	t	2-Nitrophenol	0.207	0.208	-0.5	115	-0.03	5.39
30	t	2,4-Dimethylphenol	0.302	0.306	-1.3	108	-0.04	5.43
31	t	Benzoic acid	0.267	0.277	-3.7	114	-0.07	5.57
32	t	bis(2-Chloroethoxy)methan	0.395	0.399	-1.0	116	-0.03	5.50
33	t	2,4-Dichlorophenol	0.315	0.297	5.7	107	-0.04	5.63
34	t	2,6-Dichlorophenol	0.314	0.294	6.4	109	-0.04	5.85
35	t	1,3,5-Trichlorobenzene	0.417	0.343	17.7	98	-0.03	5.39
36	t	1,2,4-Trichlorobenzene	0.366	0.325	11.2	103	-0.03	5.70
37	t	1,2,3-Trichlorobenzene	0.383	0.323	15.7	99	-0.04	5.93
38	t	Naphthalene	1.130	1.021	9.6	113	-0.03	5.77
39	t	4-Chloroaniline	0.456	0.418	8.3	94	-0.04	5.84
40	t	2,3-Dichloroaniline	0.402	0.385	4.2	114	-0.04	6.95
41	t	Caprolactam	0.179	0.046#	74.3#	30#	-0.07	6.23

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4867-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116527.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

42	t	Hexachlorobutadiene	0.227	0.187	17.6	97	-0.03	5.90
43	t	4-Chloro-3-methylphenol	0.311	0.314	-1.0	118	-0.06	6.43
44	t	2-Methylnaphthalene	0.629	0.595	5.4	103	-0.04	6.57
45	t	1-Methylnaphthalene	0.756	0.738	2.4	119	-0.04	6.69
46	t	Dimethylnaphthalene	0.707	0.709	-0.3	117	-0.04	7.43
47	I	Acenaphthene-d10	1.000	1.000	0.0	121	-0.05	8.06
48	t	Hexachlorocyclopentadiene	0.329	0.164	50.2#	62	-0.04	6.78
49	t	2,4,6-Trichlorophenol	0.394	0.330	16.2	101	-0.05	6.96
50	t	2,4,5-Trichlorophenol	0.416	0.357	14.2	102	-0.05	7.04
51	S	2-Fluorobiphenyl	1.322	1.209	8.5	111	-0.04	7.06
52	t	2-Chloronaphthalene	1.120	1.108	1.1	120	-0.04	7.22
53	t	Biphenyl	1.551	1.457	6.1	116	-0.04	7.20
54	t	2-Nitroaniline	0.349	0.292	16.3	87	-0.05	7.40
55	t	Dimethylphthalate	1.291	1.434	-11.1	130	-0.05	7.67
56	t	Acenaphthylene	1.900	1.783	6.2	116	-0.05	7.83
57	t	2,6-Dinitrotoluene	0.277	0.296	-6.9	125	-0.05	7.76
58	t	3-Nitroaniline	0.315	0.315	0.0	102	-0.06	8.04
59	t	Acenaphthene	1.172	1.106	5.6	118	-0.05	8.11
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	44.100	11.8	111	-0.04	8.23
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.189	0.132	30.2#	81	-0.07	8.45
62	t	Dibenzofuran	1.707	1.541	9.7	96	-0.05	8.40
63	t	2,4-Dinitrotoluene	0.395	0.406	-2.8	117	-0.04	8.44
64	t	2,3,4,6-Tetrachlorophenol	0.360	0.294	18.3	93	-0.05	8.65
65	t	Diethylphthalate	1.305	1.423	-9.0	130	-0.05	8.85
66	t	Fluorene	1.384	1.264	8.7	116	-0.05	8.98
67	t	4-Chlorophenyl-phenylethe	0.667	0.650	2.5	119	-0.05	9.00
68	t	4-Nitroaniline	0.317	0.303	4.4	102	-0.07	9.08
69	I	Phenanthrene-d10	1.000	1.000	0.0	119	-0.05	10.67
70	t	4,6-Dinitro-2-methylpheno	0.146	0.134	8.2	109	-0.05	9.15
71	t	n-Nitrosodiphenylamine	0.475	0.545	-14.7	136	-0.06	9.23
72	t	1,2-Diphenylhydrazine	0.690	0.666	3.5	112	-0.05	9.28
73	S	2,4,6-Tribromophenol	0.137	0.110	19.7	95	-0.05	9.42
74	t	4-Bromophenyl-phenylether	0.232	0.225	3.0	116	-0.05	9.87
75	t	Hexachlorobenzene	0.278	0.237	14.7	104	-0.05	9.98
76	t	Pentachlorophenol	0.152	0.125	17.8	90	-0.06	10.39
77	t	Phenanthrene	1.133	1.078	4.9	117	-0.05	10.71
78	t	Anthracene	1.133	1.090	3.8	117	-0.05	10.81
79	t	Carbazole	1.053	1.077	-2.3	117	-0.06	11.17
80	t	Di-n-butylphthalate	1.237	1.449	-17.1	135	-0.06	11.94
81	t	Fluoranthene	1.302	1.164	10.6	112	-0.05	13.00
82	t	Octadecane	0.470	0.173	63.2#	44#	-0.05	10.64
83	I	Chrysene-d12	1.000	1.000	0.0	126	-0.04	15.84
84	t	Pyrene	1.162	1.056	9.1	114	-0.05	13.43
85		Butyl stearate	0.278	0.090	67.6#	38#	-0.06	15.11
86	S	Terphenyl-d14	0.749	0.615	17.9	103	-0.06	13.83
87	t	Butylbenzylphthalate	0.484	0.578	-19.4	139	-0.06	14.87
88	t	Benzo[a]anthracene	1.103	0.989	10.3	113	-0.05	15.83
89	t	3,3'-Dichlorobenzidine	0.421	0.389	7.6	111	-0.06	15.85
90	t	Chrysene	1.006	0.924	8.2	114	-0.06	15.89
91	t	bis(2-Ethylhexyl)phthalat	0.663	0.792	-19.5	143	-0.06	16.09
92	I	Perylene-d12	1.000	1.000	0.0	121	-0.04	18.47
93	t	Di-n-octylphthalate	1.143	1.454	-27.2#	150	-0.06	17.31

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4867-CC4814
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116527.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

94	t	Benzo[b]fluoranthene	1.200	1.126	6.2	114	-0.06	17.83
95	t	Benzo[k]fluoranthene	1.130	1.120	0.9	121	-0.06	17.88
96	t	Benzo[a]pyrene	1.042	0.976	6.3	114	-0.06	18.37
97	t	Indeno[1,2,3-cd]pyrene	1.097	1.054	3.9	124	-0.06	20.18
98	t	Dibenz(a,h)acridine	0.971	0.917	5.6	112	-0.06	19.82
99	t	Dibenz[a,h]anthracene	1.115	1.069	4.1	122	-0.06	20.21
100	t	7,12-Dimethylbenz(a)anthr	0.477	0.509	-6.7	114	-0.06	17.82
101	t	Benzo[g,h,i]perylene	1.086	1.045	3.8	118	-0.06	20.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m115766.D MM4814.M Mon Aug 03 15:49:06 2015 MSM

8.7.62

8

Continuing Calibration Summary

Job Number: JB99969 **Sample:** EM4867-CC4774
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** M116528.D
Project: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em4867\m116528.D          Vial: 3
Acq On    :  3 Aug 2015  10:54 am                   Operator: alicjap
Sample    : cc4774-25                               Inst    : Instrument #1
Misc      : op85905,em4867                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\MM4814.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Jul 24 14:32:54 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	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	97	-0.03	4.63
103	t	Benzaldehyde	1.078	1.018	5.6	95	-0.02	4.31
104	I	Acenaphthene-d10a	1.000	1.000	0.0	100	-0.05	8.06
105	I	1,2,4,5-Tetrachlorobenzen	0.533	0.494	7.3	96	-0.04	6.79
106	t	Atrazine	0.156	0.177	-13.5	106	-0.06	10.27
107	I	Chrysene-d12a	1.000	1.000	0.0	109	-0.04	15.84
108	t	Benzidine	0.530	0.574	-8.3	103	-0.06	13.35
109	I	Naphthalene-d8a	1.000	1.000	0.0	99	-0.03	5.75
110		Hydroquinone	0.336	0.307	8.6	88	-0.06	6.26

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 m115766.D  MM4814.M         Mon Aug 03 15:49:08 2015   MSM
```

8.7.63

8

New Jersey

ACCUTEST LABORATORIES

GC/MS Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116473.D
Acq On : 31 Jul 2015 11:50 pm
Operator : sarad
Sample : jb99969-1
Misc : op85880,em48645,30.0
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 01 09:29:48 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.641	152	142050	40.00	ppm	-0.02
24) Naphthalene-d8	5.763	136	443897	40.00	ppm	-0.02
47) Acenaphthene-d10	8.081	164	319750	40.00	ppm	-0.02
69) Phenanthrene-d10	10.692	188	625470	40.00	ppm	-0.02
83) Chrysene-d12	15.857	240	938269	40.00	ppm	-0.02
92) Perylene-d12	18.490	264	749211	40.00	ppm	-0.02
102) 1,4-Dichlorobenzene-d4a	4.641	152	142050	40.00	ppm	-0.02
104) Acenaphthene-d10a	8.081	164	319750	40.00	ppm	-0.02
107) Chrysene-d12a	15.857	240	938269	40.00	ppm	-0.02
109) Naphthalene-d8a	5.763	136	443897	40.00	ppm	-0.02
111) Chrysene-d12b	15.857	240	938269	40.00	ppm	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	3.717	112	133995	31.84	ppm	-0.01
Spiked Amount 50.000			Recovery = 63.68%			
8) Phenol-d5	4.438	99	202840	37.85	ppm	-0.01
Spiked Amount 50.000			Recovery = 75.70%			
25) Nitrobenzene-d5	5.095	82	216384	50.22	ppm	-0.02
Spiked Amount 50.000			Recovery = 100.44%			
51) 2-Fluorobiphenyl	7.071	172	423523	40.09	ppm	-0.02
Spiked Amount 50.000			Recovery = 80.18%			
73) 2,4,6-Tribromophenol	9.443	330	95193	44.56	ppm	-0.03
Spiked Amount 50.000			Recovery = 89.12%			
86) Terphenyl-d14	13.854	244	470697	26.77	ppm	-0.03
Spiked Amount 50.000			Recovery = 53.54%			

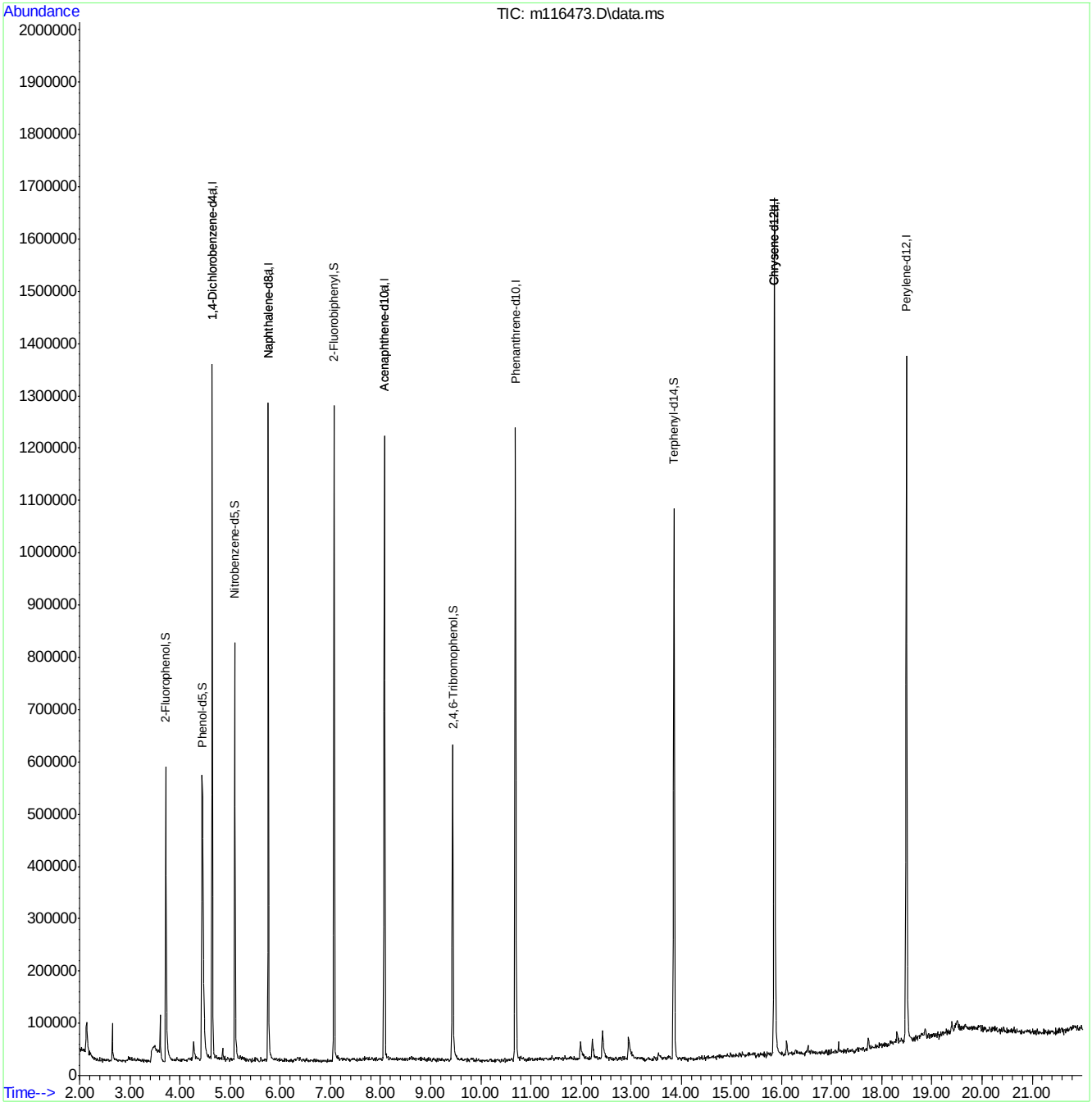
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116473.D
Acq On : 31 Jul 2015 11:50 pm
Operator : sarad
Sample : jb99969-1
Misc : op85880,em48645,30.0
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 01 09:29:48 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



MM4814.M Sat Aug 01 09:29:53 2015 MSM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116474.D
Acq On : 1 Aug 2015 12:19 am
Operator : sarad
Sample : jb99969-2
Misc : op85880,em48645,30.2
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 01 09:30:49 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

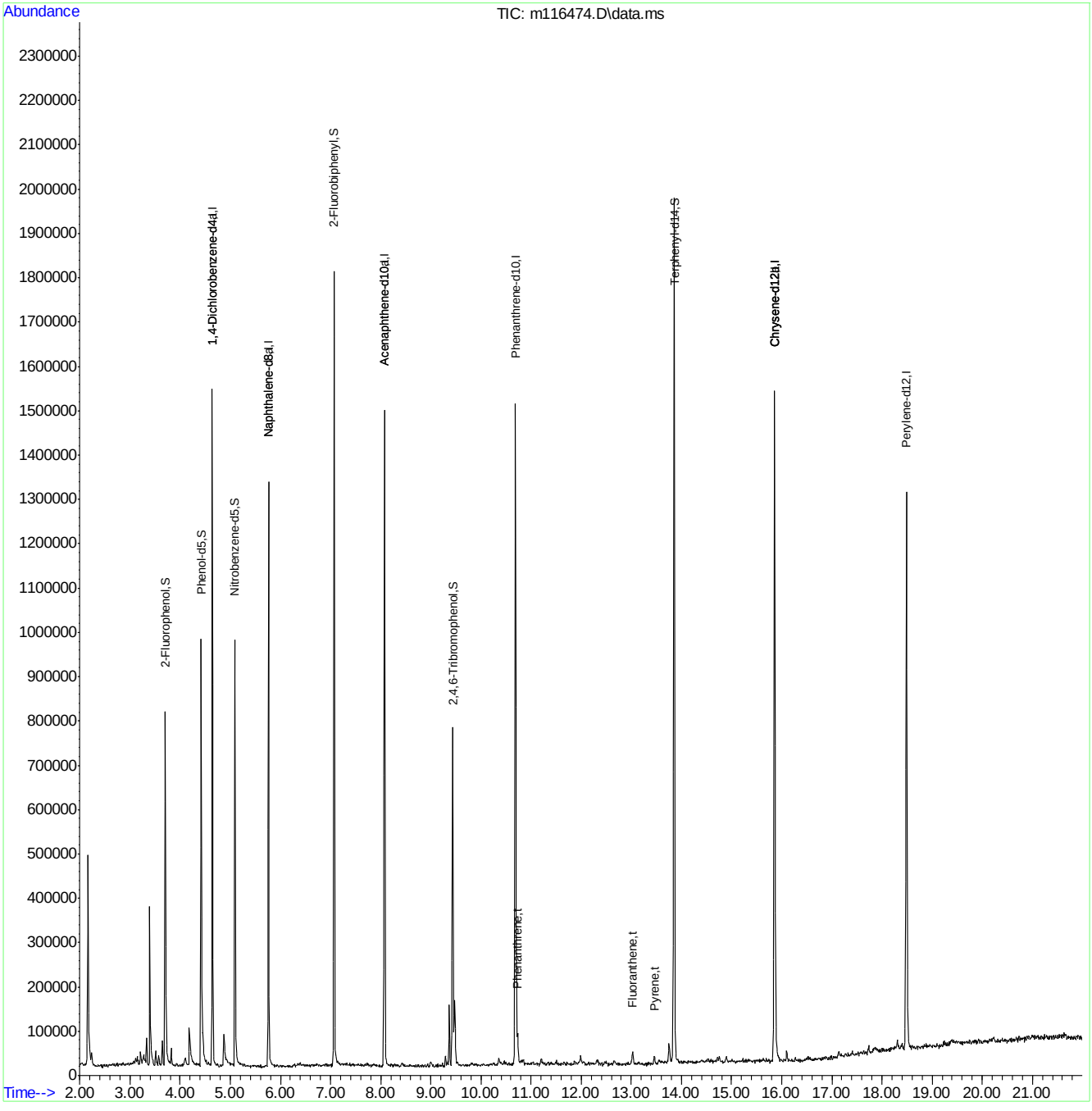
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.643	152	155602	40.00 ppm	-0.02
24) Naphthalene-d8	5.764	136	511873	40.00 ppm	-0.02
47) Acenaphthene-d10	8.077	164	402326	40.00 ppm	-0.03
69) Phenanthrene-d10	10.689	188	779996	40.00 ppm	-0.03
83) Chrysene-d12	15.859	240	844121	40.00 ppm	-0.02
92) Perylene-d12	18.487	264	757671	40.00 ppm	-0.03
102) 1,4-Dichlorobenzene-d4a	4.643	152	155602	40.00 ppm	-0.02
104) Acenaphthene-d10a	8.077	164	402326	40.00 ppm	-0.03
107) Chrysene-d12a	15.859	240	843990	40.00 ppm	-0.02
109) Naphthalene-d8a	5.764	136	511873	40.00 ppm	-0.02
111) Chrysene-d12b	15.859	240	843990	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.703	112	170918	37.08 ppm	-0.03
Spiked Amount 50.000			Recovery	= 74.16%	
8) Phenol-d5	4.418	99	218551	37.23 ppm	-0.03
Spiked Amount 50.000			Recovery	= 74.46%	
25) Nitrobenzene-d5	5.091	82	275034	55.35 ppm	-0.02
Spiked Amount 50.000			Recovery	= 110.70%	
51) 2-Fluorobiphenyl	7.073	172	606555	45.63 ppm	-0.02
Spiked Amount 50.000			Recovery	= 91.26%	
73) 2,4,6-Tribromophenol	9.439	330	113125	42.46 ppm	-0.03
Spiked Amount 50.000			Recovery	= 84.92%	
86) Terphenyl-d14	13.856	244	870105	55.01 ppm	-0.03
Spiked Amount 50.000			Recovery	= 110.02%	
Target Compounds					Qvalue
77) Phenanthrene	10.732	178	31244	1.41 ppm	98
81) Fluoranthene	13.028	202	14046	0.55 ppm	97
84) Pyrene	13.456	202	10541	0.43 ppm	95

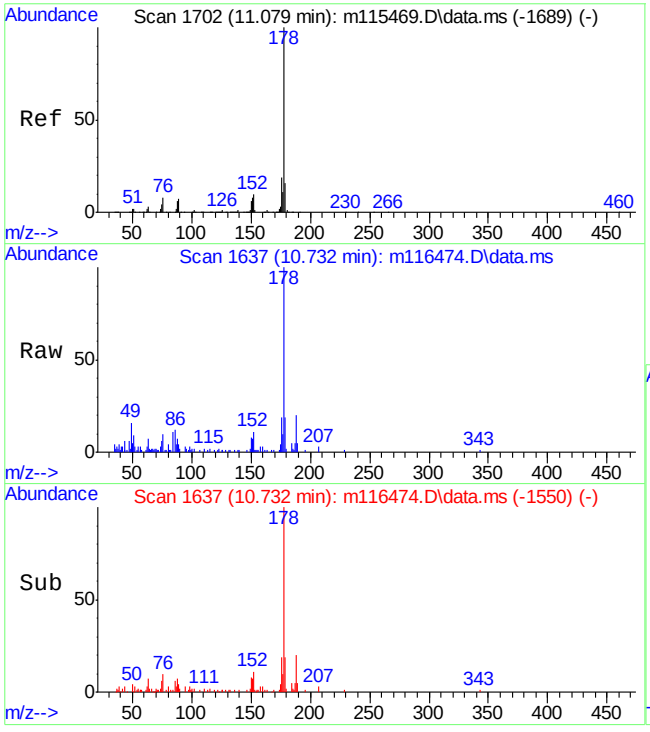
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116474.D
Acq On : 1 Aug 2015 12:19 am
Operator : sarad
Sample : jb99969-2
Misc : op85880,em48645,30.2
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 01 09:30:49 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

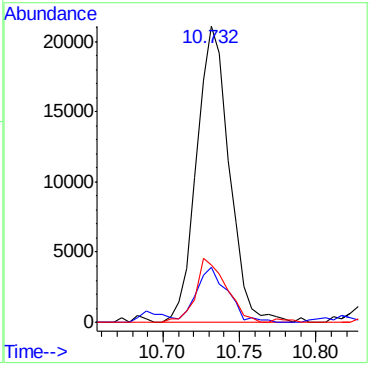


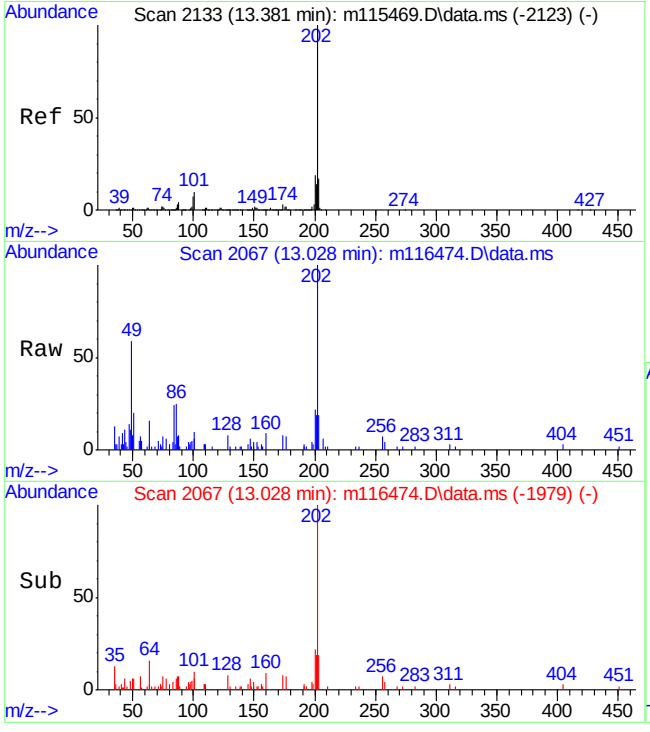


#77
Phenanthrene
Concen: 1.41 ppm
RT: 10.732 min Scan# 1637
Delta R.T. -0.034 min
Lab File: m116474.D
Acq: 1 Aug 2015 12:19 am

Tgt Ion:178 Resp: 31244

Ion	Ratio	Lower	Upper
178	100		
179	17.3	0.0	45.1
176	18.9	0.0	48.8

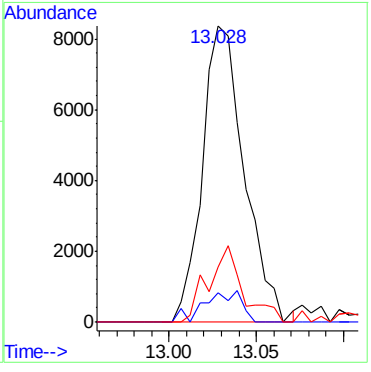


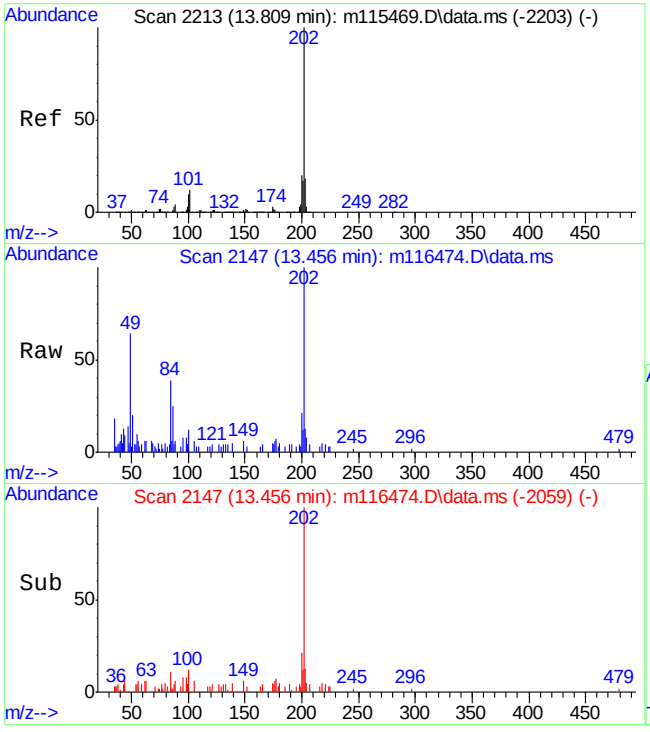


#81
Fluoranthene
Concen: 0.55 ppm
RT: 13.028 min Scan# 2067
Delta R.T. -0.028 min
Lab File: m116474.D
Acq: 1 Aug 2015 12:19 am

Tgt Ion:202 Resp: 14046

Ion	Ratio	Lower	Upper
202	100		
101	9.9	0.0	38.7
203	18.9	0.0	47.5

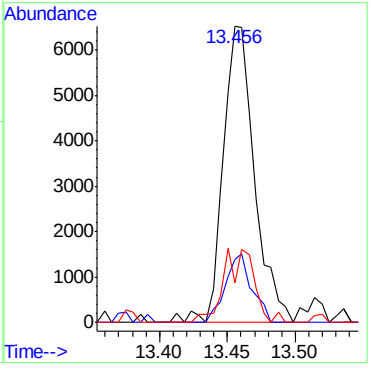




#84
Pyrene
Concen: 0.43 ppm
RT: 13.456 min Scan# 2147
Delta R.T. -0.028 min
Lab File: m116474.D
Acq: 1 Aug 2015 12:19 am

Tgt Ion:202 Resp: 10541

Ion	Ratio	Lower	Upper
202	100		
200	21.3	0.0	51.3
203	13.3	0.0	48.4



9.1.2

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116475.D
Acq On : 1 Aug 2015 12:47 am
Operator : sarad
Sample : jb99969-3
Misc : op85880,em48645,30.4
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 01 09:31:33 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

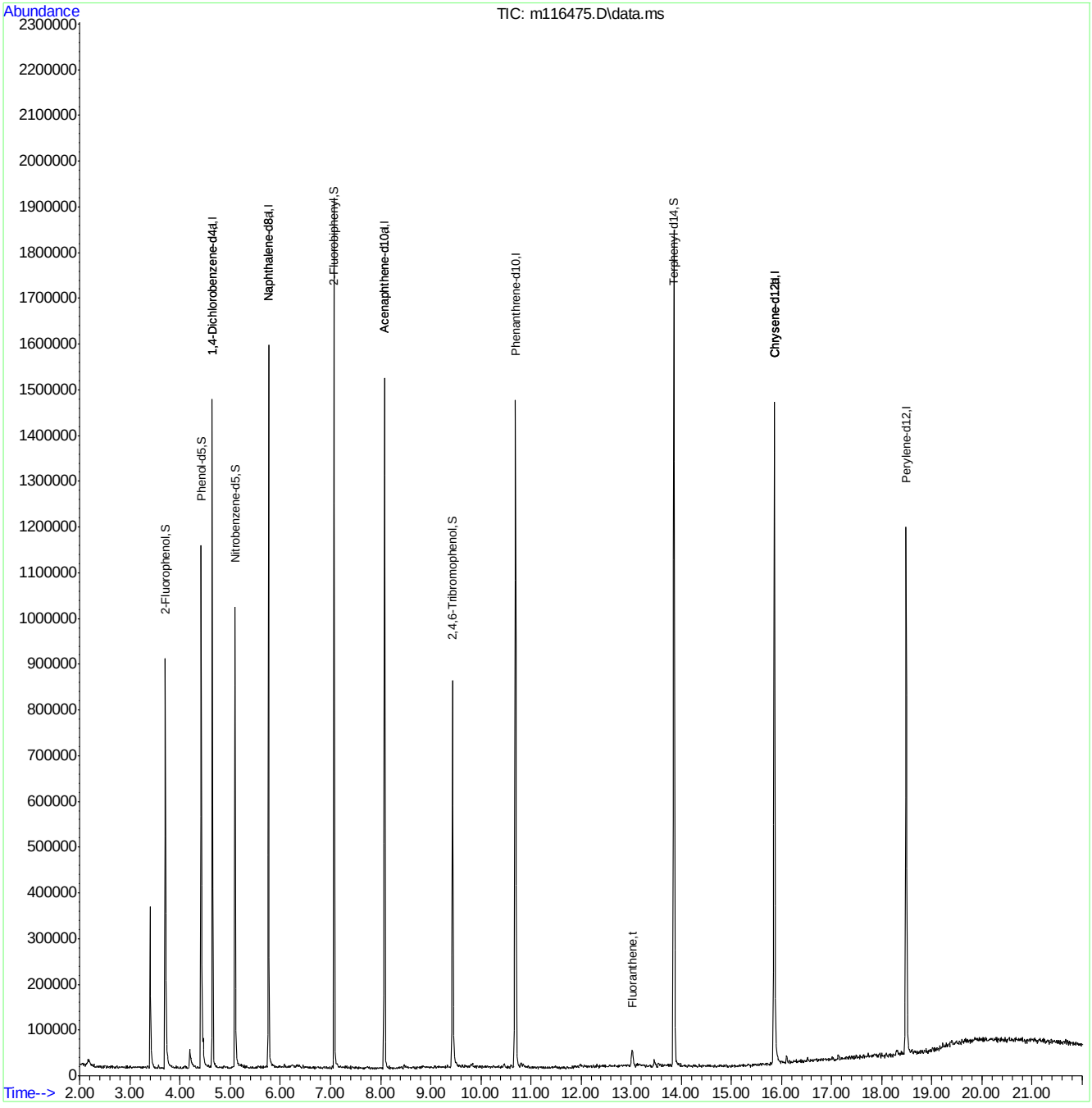
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.642	152	162220	40.00 ppm	-0.02
24) Naphthalene-d8	5.764	136	583849	40.00 ppm	-0.02
47) Acenaphthene-d10	8.077	164	387010	40.00 ppm	-0.03
69) Phenanthrene-d10	10.688	188	769463	40.00 ppm	-0.03
83) Chrysene-d12	15.858	240	861124	40.00 ppm	-0.02
92) Perylene-d12	18.486	264	682575	40.00 ppm	-0.03
102) 1,4-Dichlorobenzene-d4a	4.642	152	162220	40.00 ppm	-0.02
104) Acenaphthene-d10a	8.077	164	387010	40.00 ppm	-0.03
107) Chrysene-d12a	15.858	240	861124	40.00 ppm	-0.02
109) Naphthalene-d8a	5.764	136	583849	40.00 ppm	-0.02
111) Chrysene-d12b	15.858	240	861124	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.702	112	188358	39.20 ppm	-0.03
Spiked Amount 50.000			Recovery	= 78.40%	
8) Phenol-d5	4.418	99	235255	38.44 ppm	-0.03
Spiked Amount 50.000			Recovery	= 76.88%	
25) Nitrobenzene-d5	5.096	82	282796	49.90 ppm	-0.02
Spiked Amount 50.000			Recovery	= 99.80%	
51) 2-Fluorobiphenyl	7.072	172	592563	46.34 ppm	-0.02
Spiked Amount 50.000			Recovery	= 92.68%	
73) 2,4,6-Tribromophenol	9.439	330	131331	49.97 ppm	-0.03
Spiked Amount 50.000			Recovery	= 99.94%	
86) Terphenyl-d14	13.856	244	806188	49.97 ppm	-0.03
Spiked Amount 50.000			Recovery	= 99.94%	
Target Compounds					Qvalue
81) Fluoranthene	13.028	202	12215	0.49 ppm	92

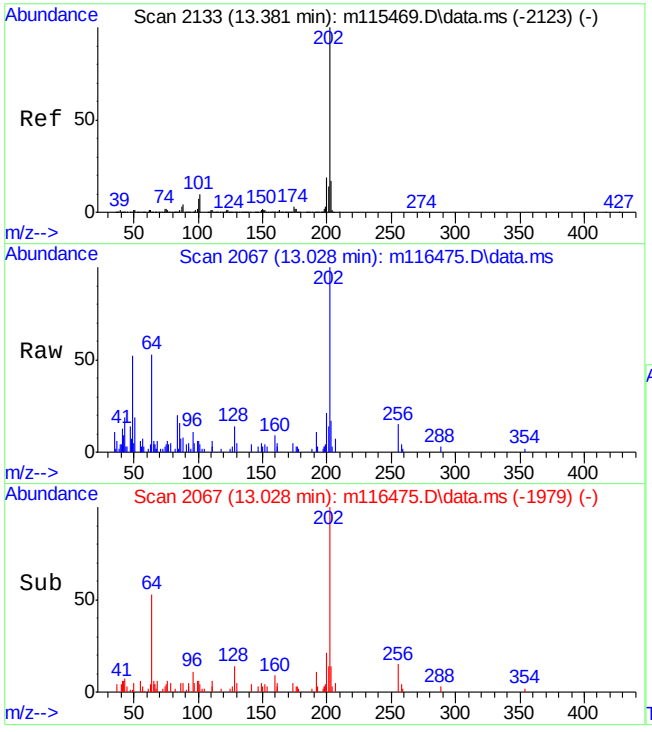
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116475.D
Acq On : 1 Aug 2015 12:47 am
Operator : sarad
Sample : jb99969-3
Misc : op85880,em48645,30.4
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 01 09:31:33 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

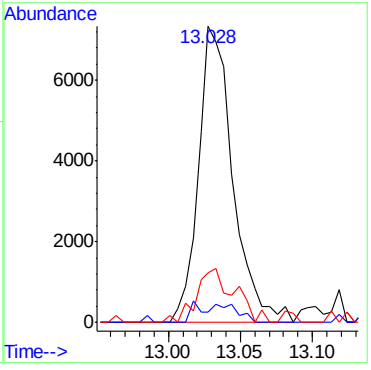




#81
Fluoranthene
Concen: 0.49 ppm
RT: 13.028 min Scan# 2067
Delta R.T. -0.029 min
Lab File: m116475.D
Acq: 1 Aug 2015 12:47 am

Tgt Ion:202 Resp: 12215

Ion	Ratio	Lower	Upper
202	100		
101	3.6	0.0	38.7
203	15.2	0.0	47.5



9.1.3

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 08/01/15 14:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116476.D
Acq On : 1 Aug 2015 1:16 am
Operator : sarad
Sample : jb99969-4
Misc : op85880,em48645,31.2
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 01 09:32:37 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

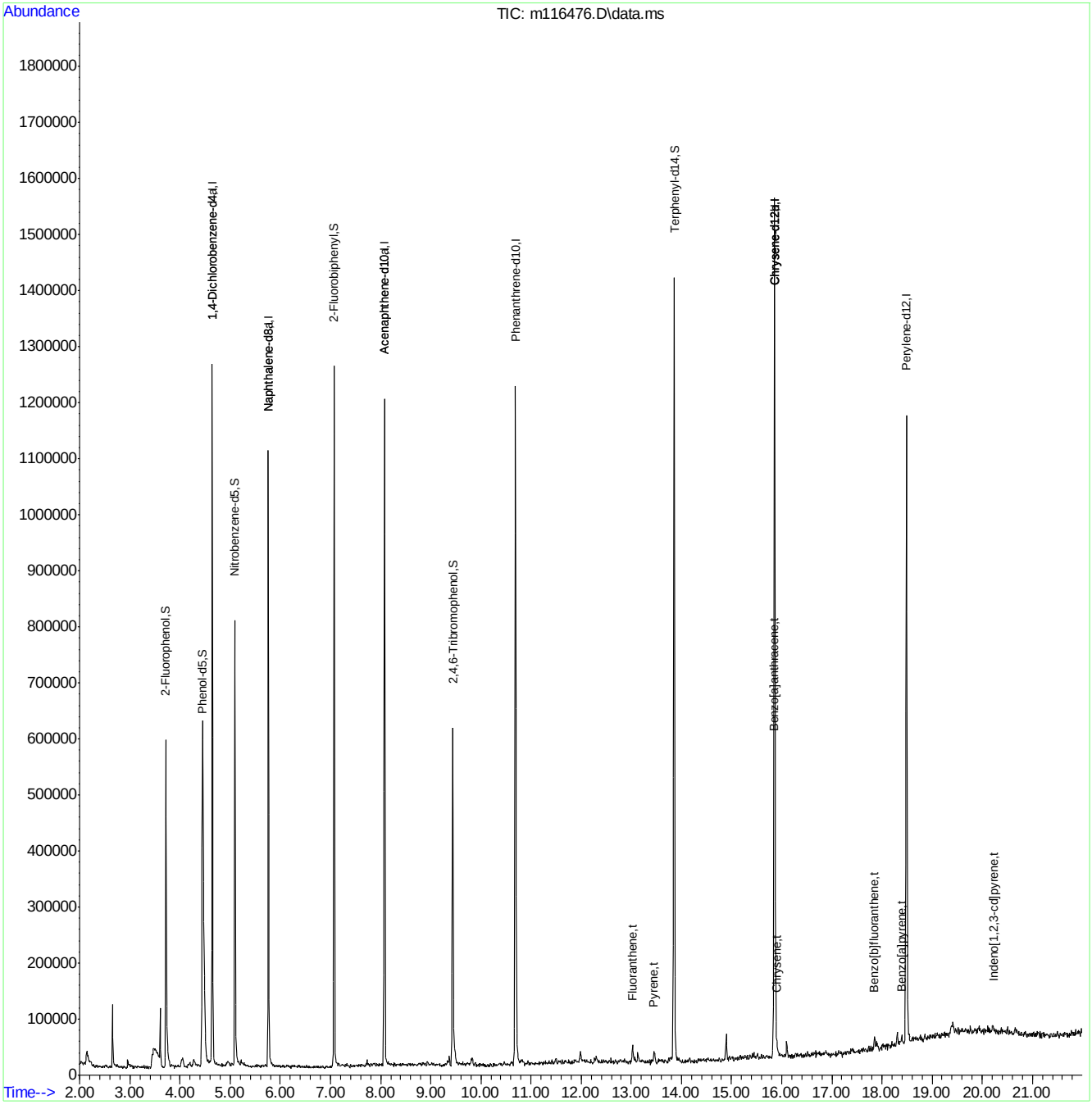
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.643	152	133057	40.00 ppm	-0.02
24) Naphthalene-d8	5.765	136	428320	40.00 ppm	-0.02
47) Acenaphthene-d10	8.077	164	310588	40.00 ppm	-0.03
69) Phenanthrene-d10	10.689	188	613583	40.00 ppm	-0.03
83) Chrysene-d12	15.859	240	811754	40.00 ppm	-0.02
92) Perylene-d12	18.487	264	673392	40.00 ppm	-0.03
102) 1,4-Dichlorobenzene-d4a	4.643	152	133057	40.00 ppm	-0.02
104) Acenaphthene-d10a	8.077	164	310588	40.00 ppm	-0.03
107) Chrysene-d12a	15.859	240	811754	40.00 ppm	-0.02
109) Naphthalene-d8a	5.765	136	428320	40.00 ppm	-0.02
111) Chrysene-d12b	15.859	240	811754	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.714	112	125908	31.94 ppm	-0.02
Spiked Amount 50.000			Recovery	= 63.88%	
8) Phenol-d5	4.440	99	200186	39.88 ppm	-0.01
Spiked Amount 50.000			Recovery	= 79.76%	
25) Nitrobenzene-d5	5.092	82	225094	54.14 ppm	-0.02
Spiked Amount 50.000			Recovery	= 108.28%	
51) 2-Fluorobiphenyl	7.073	172	411538	40.11 ppm	-0.02
Spiked Amount 50.000			Recovery	= 80.22%	
73) 2,4,6-Tribromophenol	9.439	330	93536	44.63 ppm	-0.03
Spiked Amount 50.000			Recovery	= 89.26%	
86) Terphenyl-d14	13.856	244	613841	40.36 ppm	-0.03
Spiked Amount 50.000			Recovery	= 80.72%	
Target Compounds					Qvalue
81) Fluoranthene	13.029	202	14780	0.74 ppm	89
84) Pyrene	13.450	202	11503	0.49 ppm	86
88) Benzo[a]anthracene	15.843	228	14189	0.63 ppm	81
90) Chrysene	15.907	228	14418	0.71 ppm	97
94) Benzo[b]fluoranthene	17.852	252	15120m	0.75 ppm	
96) Benzo[a]pyrene	18.396	252	9379	0.53 ppm	92
97) Indeno[1,2,3-cd]pyrene	20.223	276	7955	0.43 ppm	87

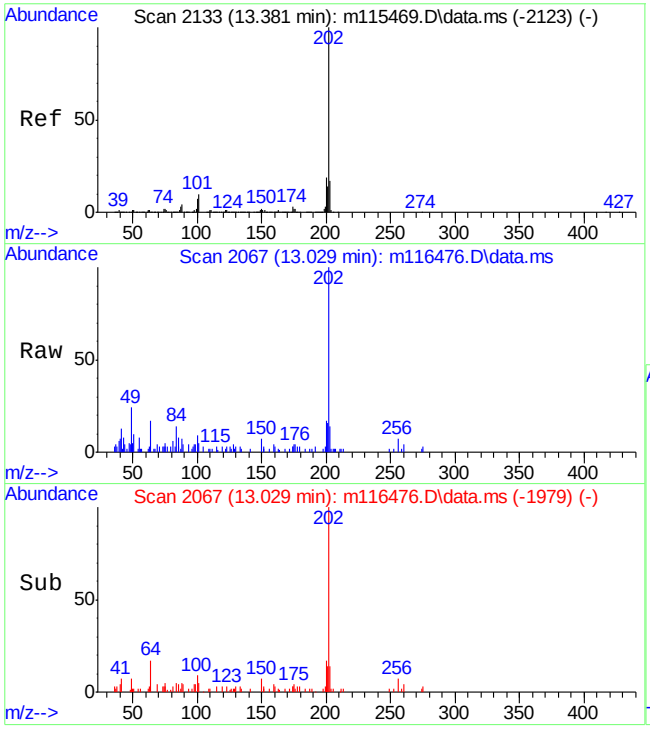
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116476.D
Acq On : 1 Aug 2015 1:16 am
Operator : sarad
Sample : jb99969-4
Misc : op85880,em48645,31.2
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 01 09:32:37 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

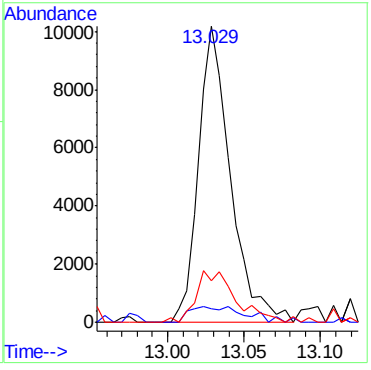


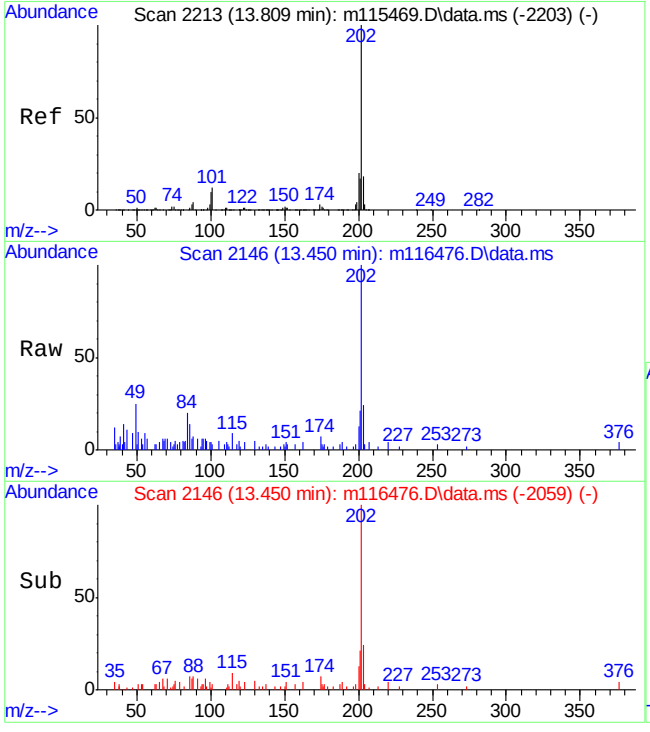


#81
Fluoranthene
Concen: 0.74 ppm
RT: 13.029 min Scan# 2067
Delta R.T. -0.028 min
Lab File: m116476.D
Acq: 1 Aug 2015 1:16 am

Tgt Ion:202 Resp: 14780

Ion	Ratio	Lower	Upper
202	100		
101	3.8	0.0	38.7
203	13.1	0.0	47.5

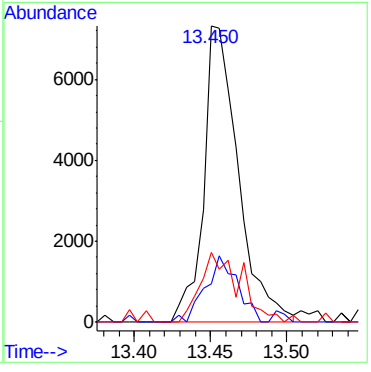


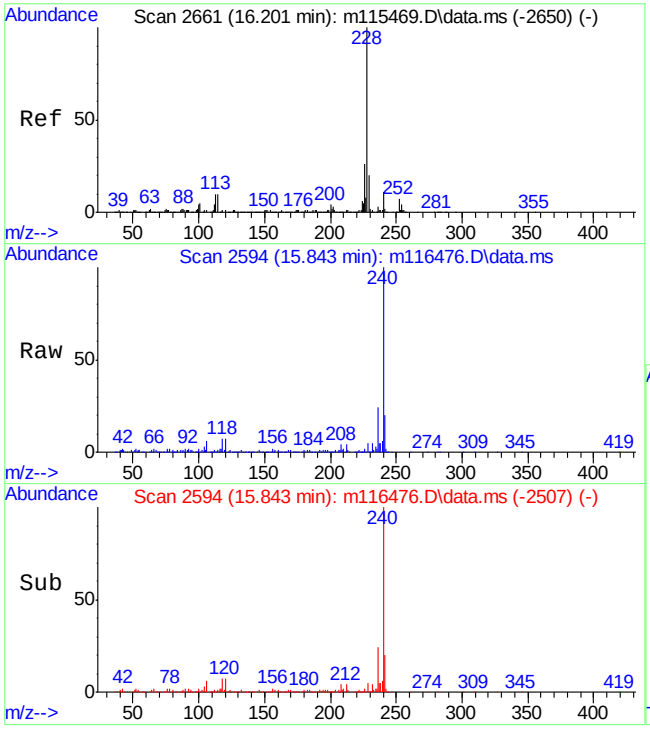


#84
Pyrene
Concen: 0.49 ppm
RT: 13.450 min Scan# 2146
Delta R.T. -0.033 min
Lab File: m116476.D
Acq: 1 Aug 2015 1:16 am

Tgt Ion:202 Resp: 11503

Ion	Ratio	Lower	Upper
202	100		
200	13.1	0.0	51.3
203	22.8	0.0	48.4

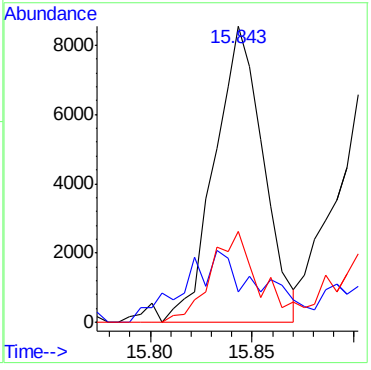


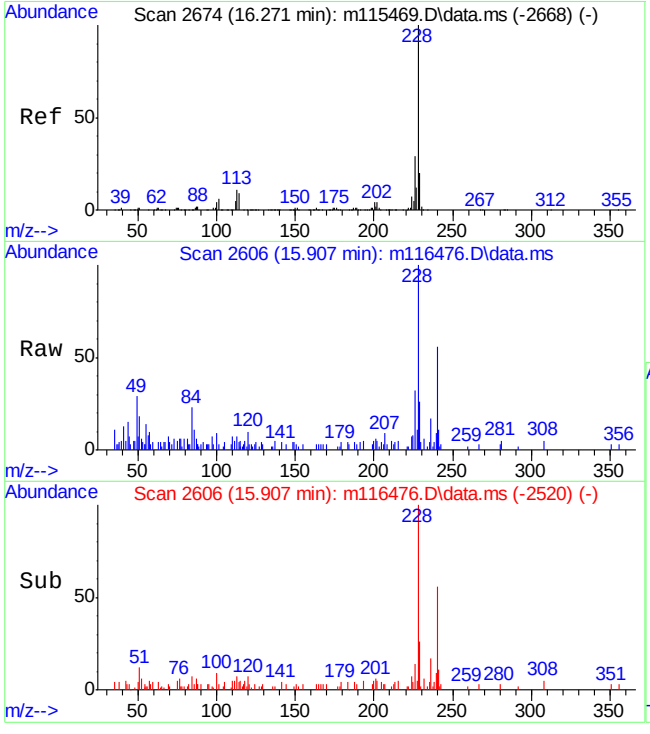


#88
Benzo[a]anthracene
Concen: 0.63 ppm
RT: 15.843 min Scan# 2594
Delta R.T. -0.033 min
Lab File: m116476.D
Acq: 1 Aug 2015 1:16 am

Tgt Ion:228 Resp: 14189

Ion	Ratio	Lower	Upper
228	100		
229	1.4	0.0	49.9
226	28.8	0.0	56.8

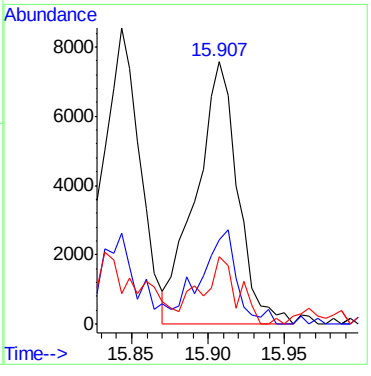


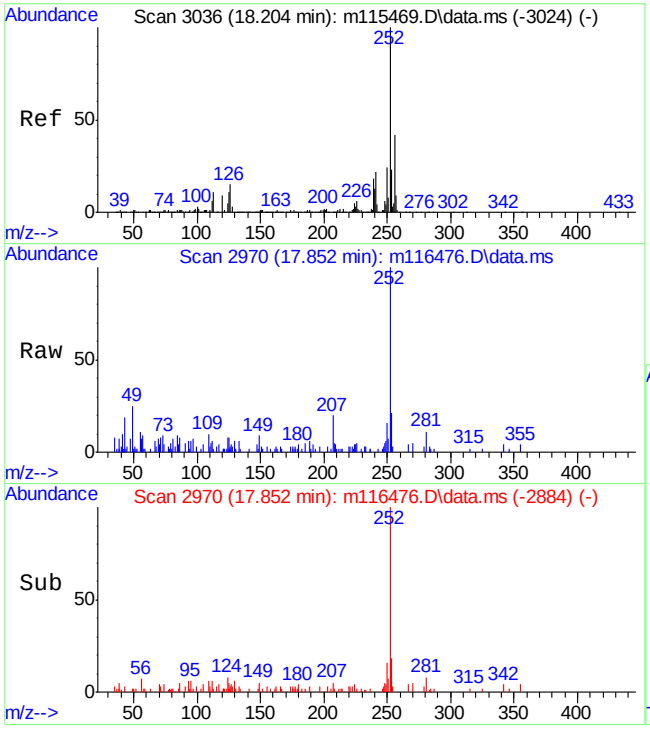


#90
Chrysene
Concen: 0.71 ppm
RT: 15.907 min Scan# 2606
Delta R.T. -0.039 min
Lab File: m116476.D
Acq: 1 Aug 2015 1:16 am

Tgt Ion:228 Resp: 14418

Ion	Ratio	Lower	Upper
228	100		
226	30.1	0.0	58.8
229	21.2	0.0	49.2

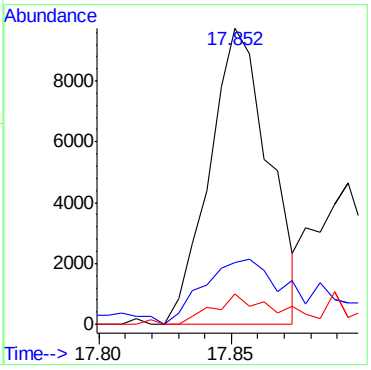


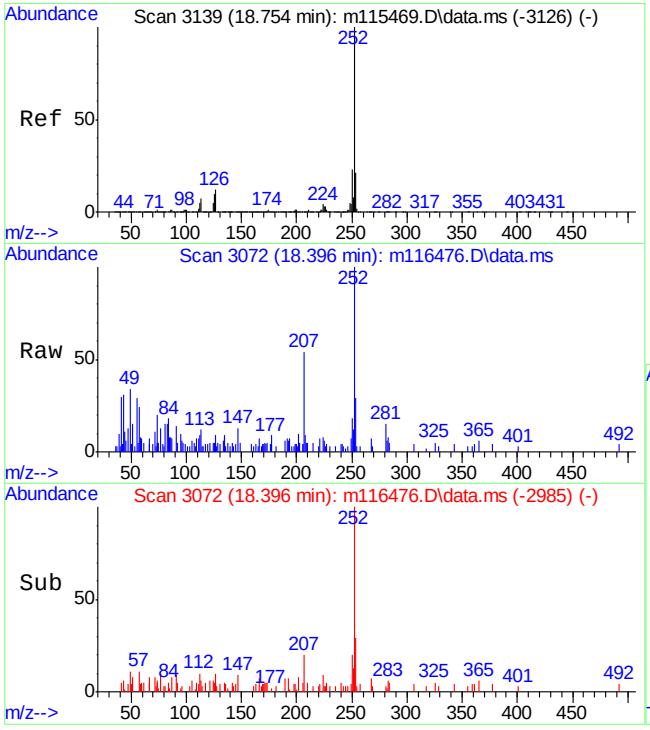


#94
Benzo[b]fluoranthene
Concen: 0.75 ppm m
RT: 17.852 min Scan# 2970
Delta R.T. -0.039 min
Lab File: m116476.D
Acq: 1 Aug 2015 1:16 am

Tgt Ion:252 Resp: 15120

Ion	Ratio	Lower	Upper
252	100		
253	20.8	0.0	53.4
125	8.0	0.0	38.6

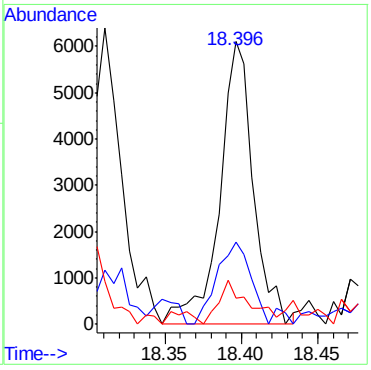




#96
Benzo[a]pyrene
Concen: 0.53 ppm
RT: 18.396 min Scan# 3072
Delta R.T. -0.033 min
Lab File: m116476.D
Acq: 1 Aug 2015 1:16 am

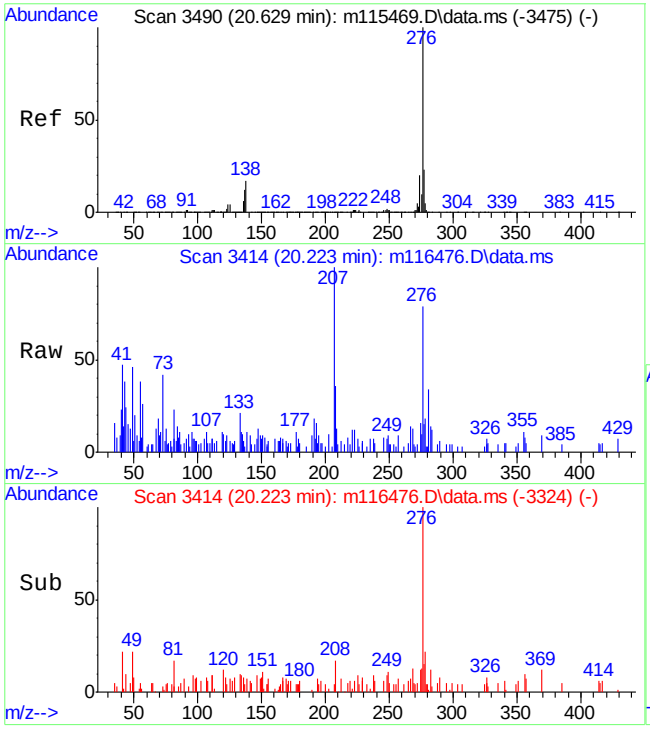
Tgt Ion:252 Resp: 9379

Ion	Ratio	Lower	Upper
252	100		
253	25.1	0.0	51.3
125	5.2	0.0	37.8



9.1.4

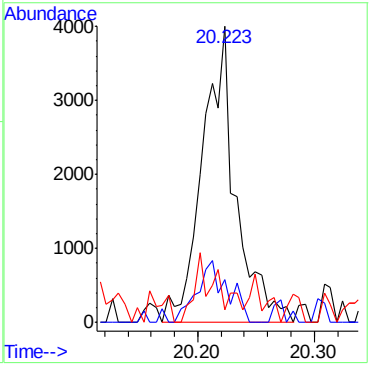
9



#97
Indeno[1,2,3-cd]pyrene
Concen: 0.43 ppm
RT: 20.223 min Scan# 3414
Delta R.T. -0.017 min
Lab File: m116476.D
Acq: 1 Aug 2015 1:16 am

Tgt Ion:276 Resp: 7955

Ion	Ratio	Lower	Upper
276	100		
138	10.1	0.0	41.0
137	0.0	0.0	39.6



9.1.4

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116477.D
Acq On : 1 Aug 2015 1:45 am
Operator : sarad
Sample : jb99969-5
Misc : op85880,em48645,31.0
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 01 09:33:24 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.644	152	154197	40.00 ppm	-0.01
24) Naphthalene-d8	5.761	136	520645	40.00 ppm	-0.02
47) Acenaphthene-d10	8.079	164	382462	40.00 ppm	-0.03
69) Phenanthrene-d10	10.691	188	764990	40.00 ppm	-0.03
83) Chrysene-d12	15.855	240	819764	40.00 ppm	-0.03
92) Perylene-d12	18.488	264	736281	40.00 ppm	-0.03
102) 1,4-Dichlorobenzene-d4a	4.644	152	154197	40.00 ppm	-0.01
104) Acenaphthene-d10a	8.079	164	382462	40.00 ppm	-0.03
107) Chrysene-d12a	15.855	240	819792	40.00 ppm	-0.03
109) Naphthalene-d8a	5.761	136	520645	40.00 ppm	-0.02
111) Chrysene-d12b	15.855	240	819792	40.00 ppm	-0.03
System Monitoring Compounds					
5) 2-Fluorophenol	3.704	112	162148	35.50 ppm	-0.03
Spiked Amount 50.000			Recovery	= 71.00%	
8) Phenol-d5	4.420	99	209991	36.10 ppm	-0.03
Spiked Amount 50.000			Recovery	= 72.20%	
25) Nitrobenzene-d5	5.093	82	264375	52.31 ppm	-0.02
Spiked Amount 50.000			Recovery	= 104.62%	
51) 2-Fluorobiphenyl	7.075	172	577899	45.73 ppm	-0.02
Spiked Amount 50.000			Recovery	= 91.46%	
73) 2,4,6-Tribromophenol	9.435	330	112629	43.11 ppm	-0.04
Spiked Amount 50.000			Recovery	= 86.22%	
86) Terphenyl-d14	13.858	244	903536	58.82 ppm	-0.03
Spiked Amount 50.000			Recovery	= 117.64%	

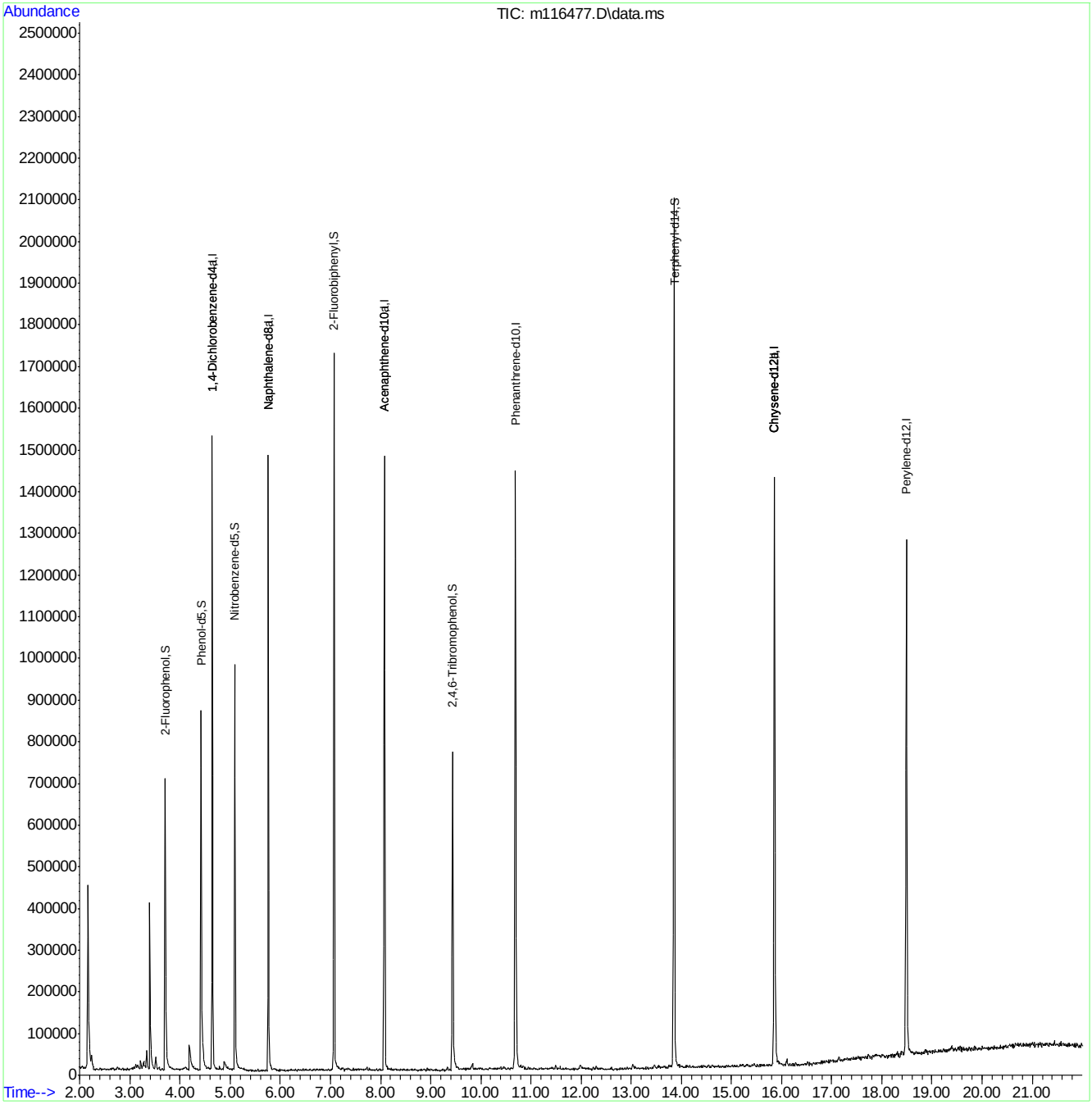
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116477.D
Acq On : 1 Aug 2015 1:45 am
Operator : sarad
Sample : jb99969-5
Misc : op85880,em48645,31.0
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 01 09:33:24 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



MM4814.M Sat Aug 01 09:33:28 2015 MSM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116478.D
Acq On : 1 Aug 2015 2:13 am
Operator : sarad
Sample : jb99969-6
Misc : op85880,em48645,30.6
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 01 09:34:06 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.642	152	120173	40.00 ppm	-0.02
24) Naphthalene-d8	5.764	136	434136	40.00 ppm	-0.02
47) Acenaphthene-d10	8.077	164	289757	40.00 ppm	-0.03
69) Phenanthrene-d10	10.689	188	574530	40.00 ppm	-0.03
83) Chrysene-d12	15.859	240	691339	40.00 ppm	-0.02
92) Perylene-d12	18.486	264	538397	40.00 ppm	-0.03
102) 1,4-Dichlorobenzene-d4a	4.642	152	120173	40.00 ppm	-0.02
104) Acenaphthene-d10a	8.077	164	289757	40.00 ppm	-0.03
107) Chrysene-d12a	15.859	240	691339	40.00 ppm	-0.02
109) Naphthalene-d8a	5.764	136	434136	40.00 ppm	-0.02
111) Chrysene-d12b	15.859	240	691339	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.702	112	104416	29.33 ppm	-0.03
Spiked Amount 50.000			Recovery	= 58.66%	
8) Phenol-d5	4.418	99	133486	29.45 ppm	-0.03
Spiked Amount 50.000			Recovery	= 58.90%	
25) Nitrobenzene-d5	5.096	82	185752	44.08 ppm	-0.02
Spiked Amount 50.000			Recovery	= 88.16%	
51) 2-Fluorobiphenyl	7.073	172	369628	38.61 ppm	-0.02
Spiked Amount 50.000			Recovery	= 77.22%	
73) 2,4,6-Tribromophenol	9.439	330	74814	38.13 ppm	-0.03
Spiked Amount 50.000			Recovery	= 76.26%	
86) Terphenyl-d14	13.850	244	526938	40.68 ppm	-0.03
Spiked Amount 50.000			Recovery	= 81.36%	

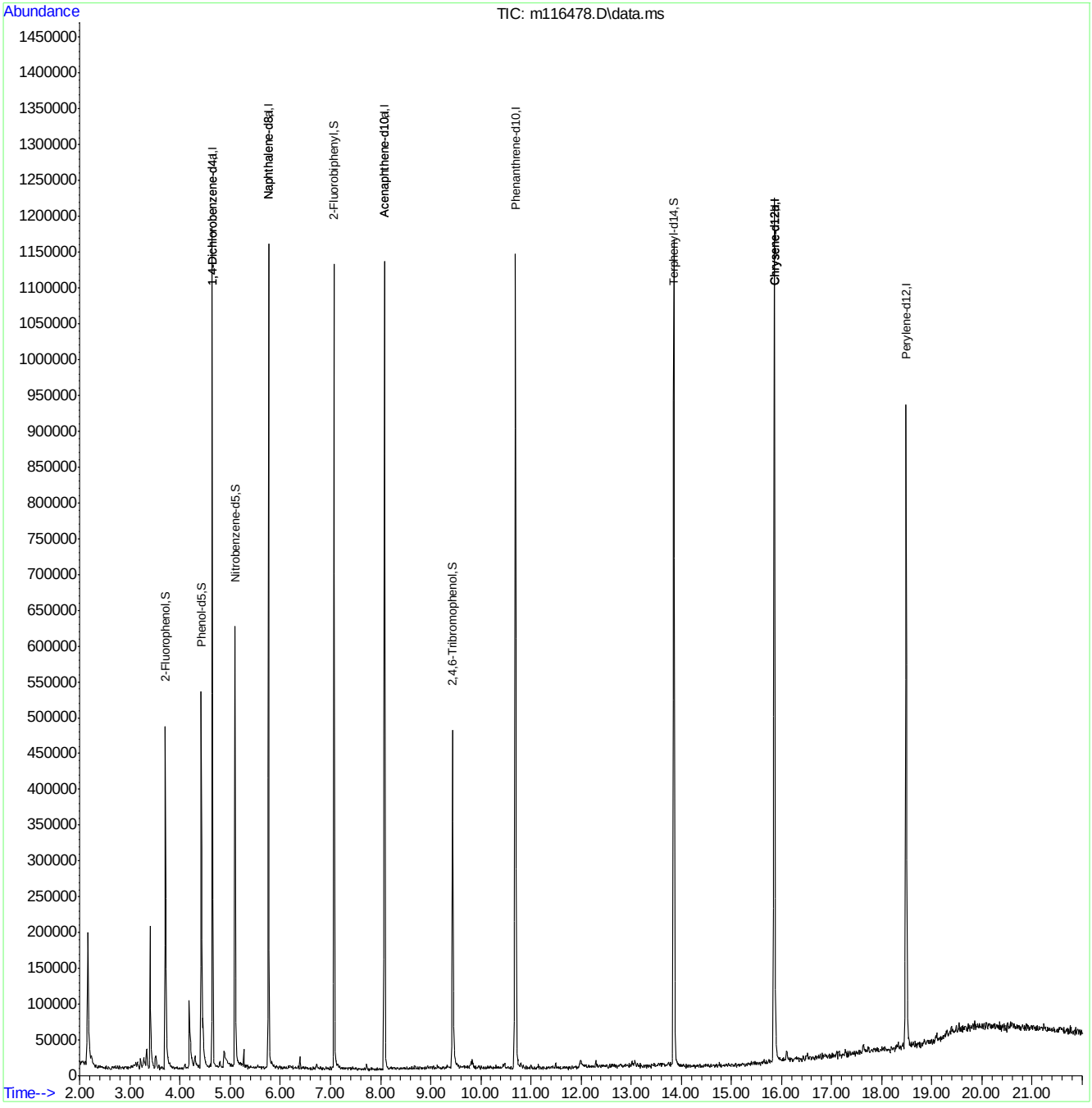
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116478.D
Acq On : 1 Aug 2015 2:13 am
Operator : sarad
Sample : jb99969-6
Misc : op85880,em48645,30.6
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 01 09:34:06 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116479.D
Acq On : 1 Aug 2015 2:42 am
Operator : sarad
Sample : jb99969-7
Misc : op85880,em48645,30.7
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 01 09:35:33 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

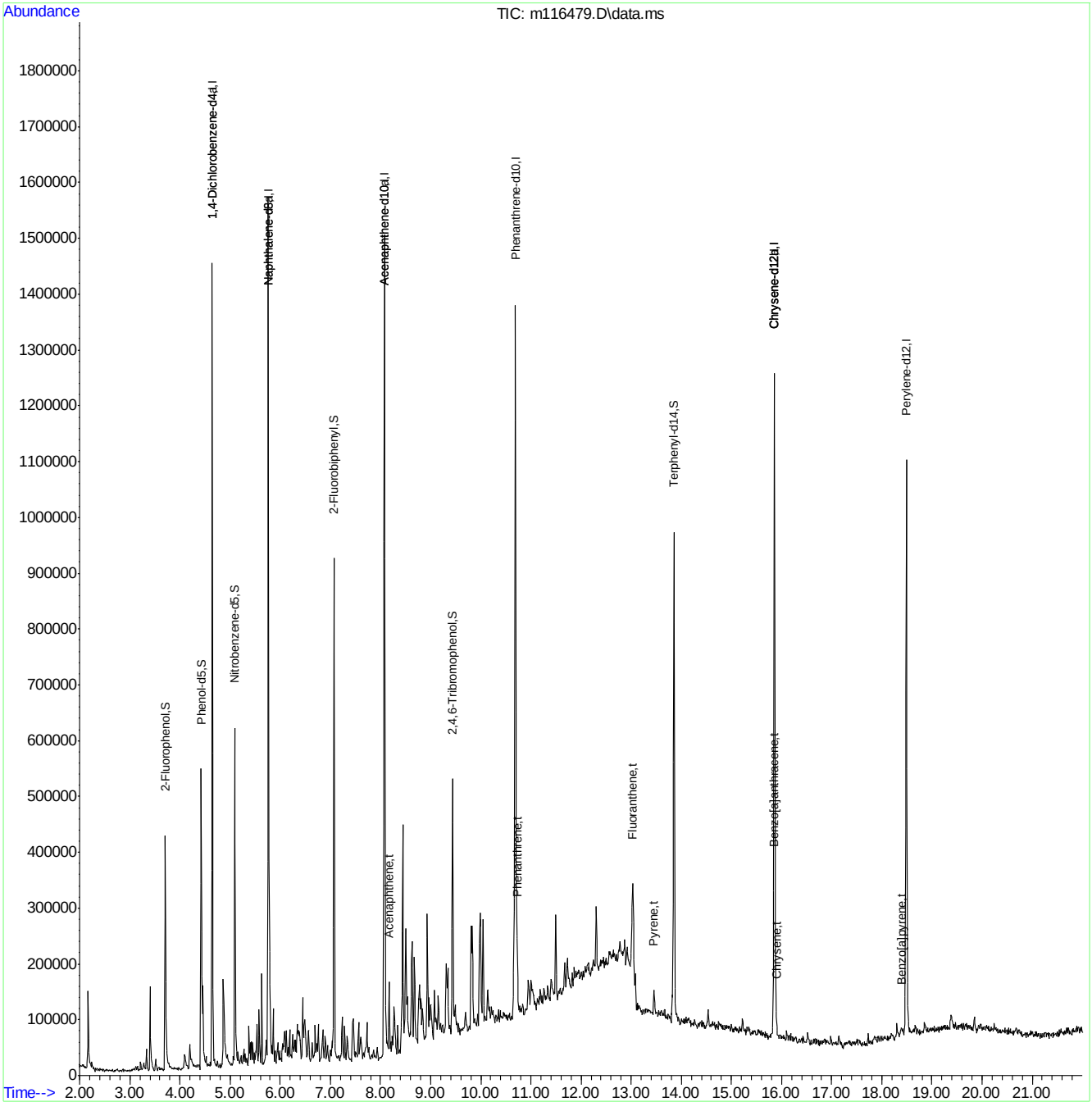
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.646	152	161482	40.00 ppm	-0.01
24) Naphthalene-d8	5.762	136	521224	40.00 ppm	-0.02
47) Acenaphthene-d10	8.080	164	349073	40.00 ppm	-0.02
69) Phenanthrene-d10	10.692	188	607534	40.00 ppm	-0.02
83) Chrysene-d12	15.857	240	628933	40.00 ppm	-0.02
92) Perylene-d12	18.490	264	558427	40.00 ppm	-0.02
102) 1,4-Dichlorobenzene-d4a	4.646	152	161482	40.00 ppm	-0.01
104) Acenaphthene-d10a	8.080	164	349073	40.00 ppm	-0.02
107) Chrysene-d12a	15.857	240	628933	40.00 ppm	-0.02
109) Naphthalene-d8a	5.762	136	521224	40.00 ppm	-0.02
111) Chrysene-d12b	15.857	240	628933	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.706	112	91812	19.19 ppm	-0.03
Spiked Amount 50.000			Recovery	= 38.38%	
8) Phenol-d5	4.421	99	121875	20.01 ppm	-0.03
Spiked Amount 50.000			Recovery	= 40.02%	
25) Nitrobenzene-d5	5.094	82	161026	31.83 ppm	-0.02
Spiked Amount 50.000			Recovery	= 63.66%	
51) 2-Fluorobiphenyl	7.071	172	294722	25.55 ppm	-0.03
Spiked Amount 50.000			Recovery	= 51.10%	
73) 2,4,6-Tribromophenol	9.437	330	60573	29.19 ppm	-0.04
Spiked Amount 50.000			Recovery	= 58.38%	
86) Terphenyl-d14	13.854	244	350974	29.78 ppm	-0.03
Spiked Amount 50.000			Recovery	= 59.56%	
Target Compounds					Qvalue
59) Acenaphthene	8.171	153	5863	0.57 ppm #	13
77) Phenanthrene	10.729	178	42959	2.50 ppm	97
81) Fluoranthene	13.031	202	23887	1.21 ppm	92
84) Pyrene	13.453	202	24695	1.35 ppm	93
88) Benzo[a]anthracene	15.841	228	8865	0.51 ppm	83
90) Chrysene	15.905	228	7069	0.45 ppm	93
96) Benzo[a]pyrene	18.404	252	6120	0.42 ppm	97

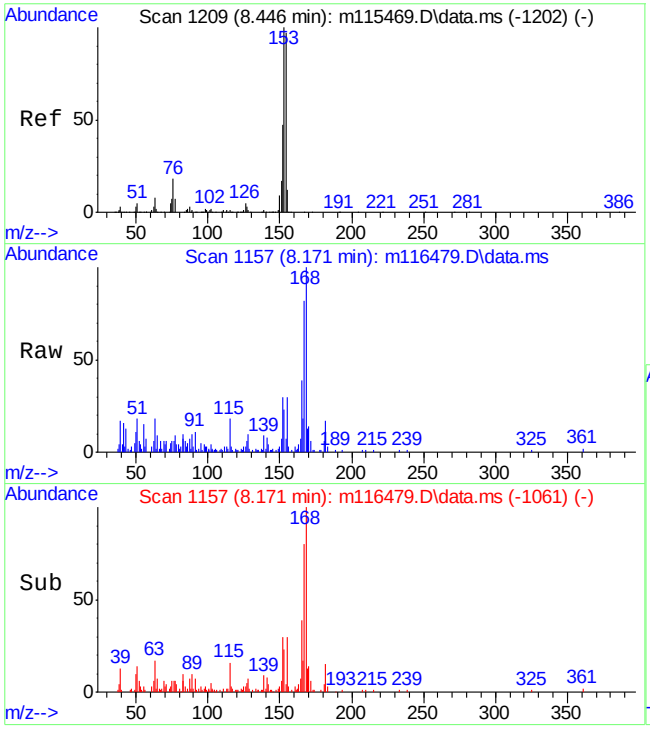
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116479.D
Acq On : 1 Aug 2015 2:42 am
Operator : sarad
Sample : jb99969-7
Misc : op85880,em48645,30.7
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 01 09:35:33 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

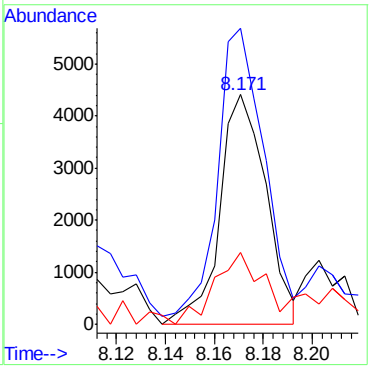


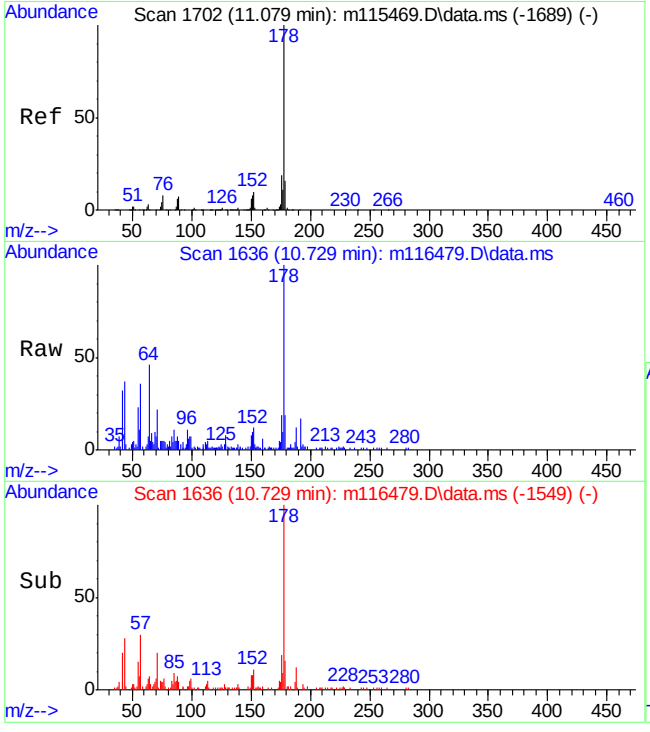


#59
Acenaphthene
Concen: 0.57 ppm
RT: 8.171 min Scan# 1157
Delta R.T. 0.012 min
Lab File: m116479.D
Acq: 1 Aug 2015 2:42 am

Tgt Ion:153 Resp: 5863

Ion	Ratio	Lower	Upper
153	100		
152	128.2	18.0	78.0#
154	24.7	62.4	122.4#

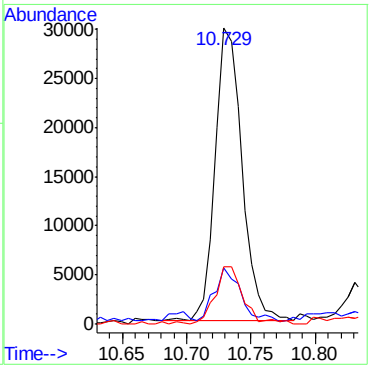


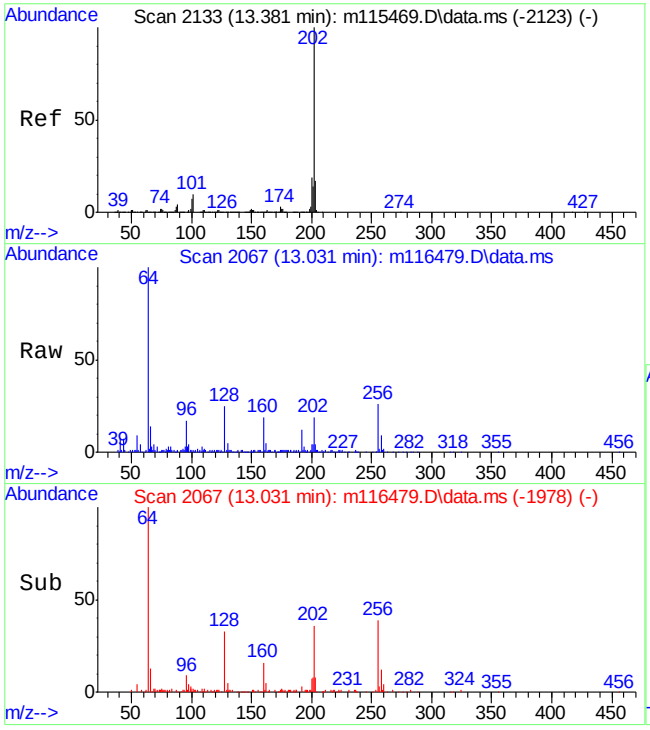


#77
Phenanthrene
Concen: 2.50 ppm
RT: 10.729 min Scan# 1636
Delta R.T. -0.036 min
Lab File: m116479.D
Acq: 1 Aug 2015 2:42 am

Tgt Ion:178 Resp: 42959

Ion	Ratio	Lower	Upper
178	100		
179	17.3	0.0	45.1
176	19.1	0.0	48.8

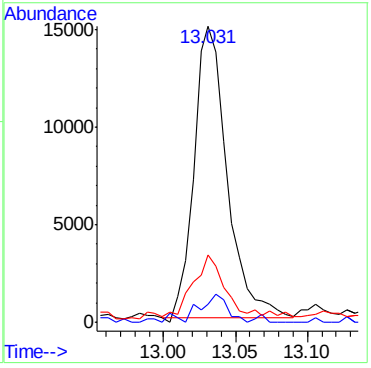


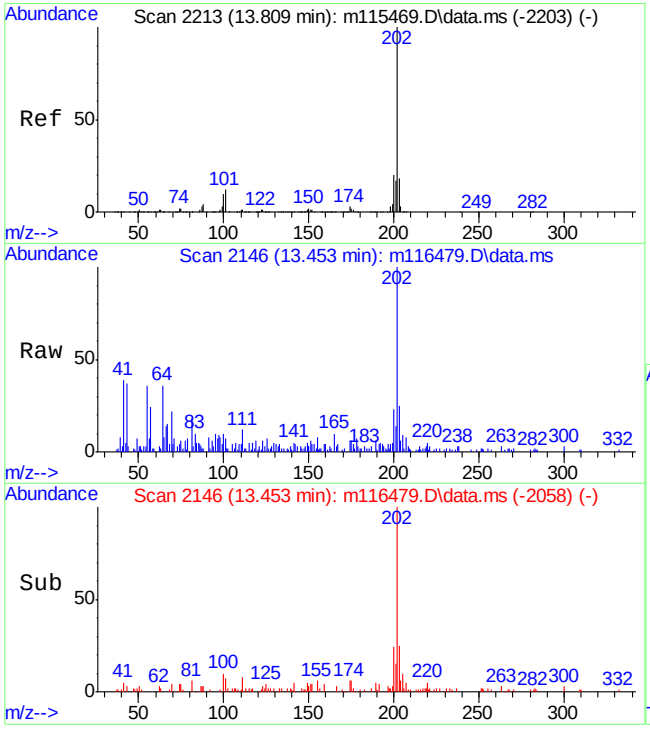


#81
Fluoranthene
Concen: 1.21 ppm
RT: 13.031 min Scan# 2067
Delta R.T. -0.025 min
Lab File: m116479.D
Acq: 1 Aug 2015 2:42 am

Tgt Ion:202 Resp: 23887

Ion	Ratio	Lower	Upper
202	100		
101	6.1	0.0	38.7
203	20.9	0.0	47.5

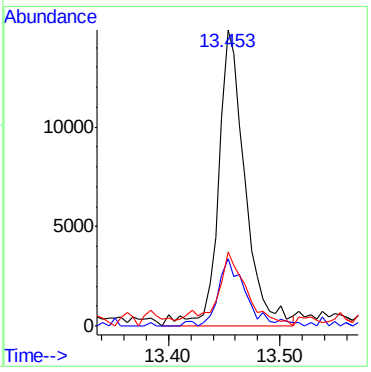




#84
Pyrene
Concen: 1.35 ppm
RT: 13.453 min Scan# 2146
Delta R.T. -0.031 min
Lab File: m116479.D
Acq: 1 Aug 2015 2:42 am

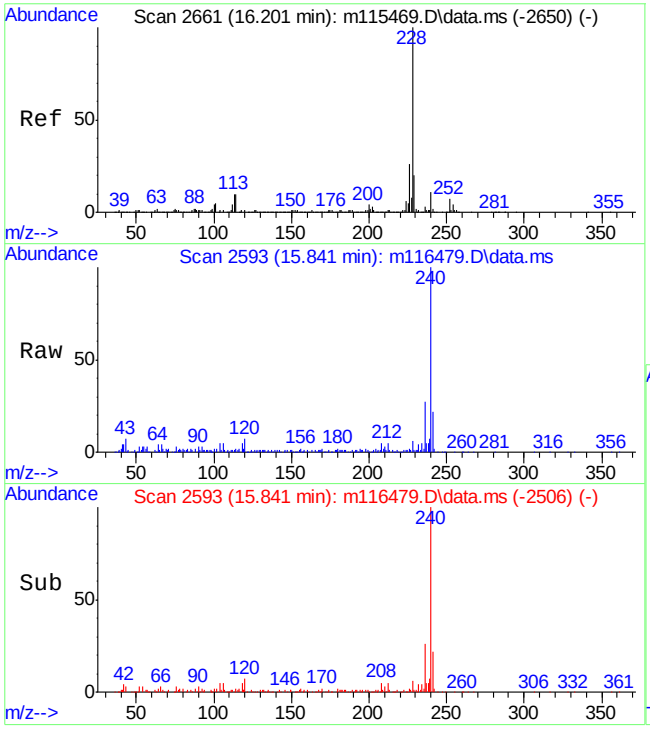
Tgt Ion:202 Resp: 24695

Ion	Ratio	Lower	Upper
202	100		
200	22.6	0.0	51.3
203	24.2	0.0	48.4



9.1.7

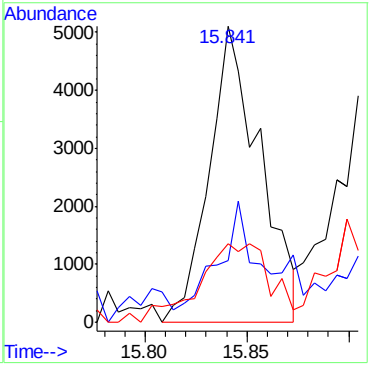
9

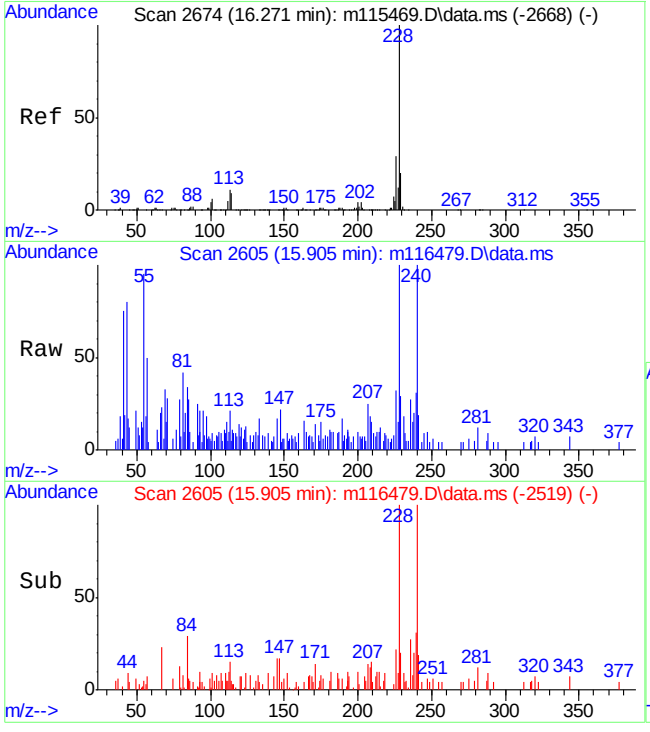


#88
Benzo[a]anthracene
Concen: 0.51 ppm
RT: 15.841 min Scan# 2593
Delta R.T. -0.036 min
Lab File: m116479.D
Acq: 1 Aug 2015 2:42 am

Tgt Ion:228 Resp: 8865

Ion	Ratio	Lower	Upper
228	100		
229	4.9	0.0	49.9
226	23.7	0.0	56.8

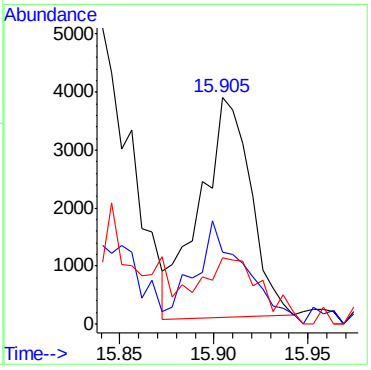


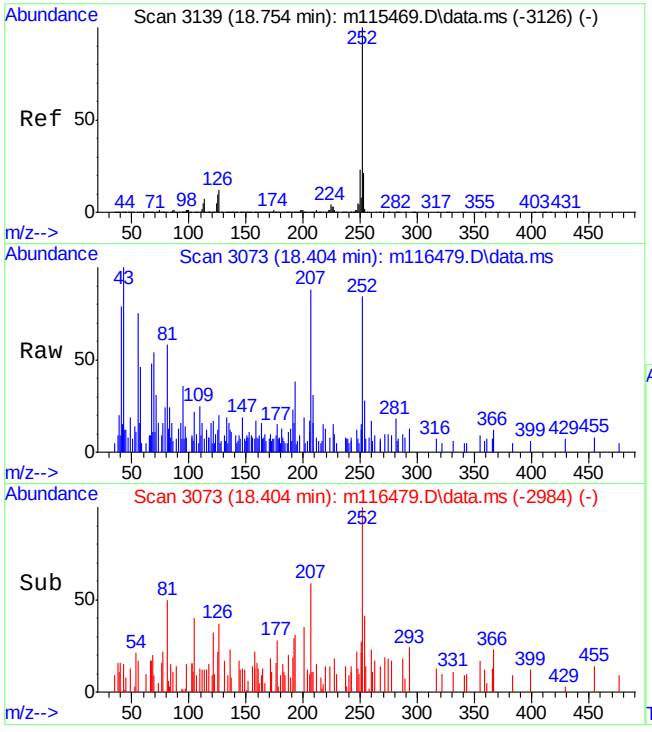


#90
Chrysene
Concen: 0.45 ppm
RT: 15.905 min Scan# 2605
Delta R.T. -0.041 min
Lab File: m116479.D
Acq: 1 Aug 2015 2:42 am

Tgt Ion:228 Resp: 7069

Ion	Ratio	Lower	Upper
228	100		
226	31.0	0.0	58.8
229	13.5	0.0	49.2

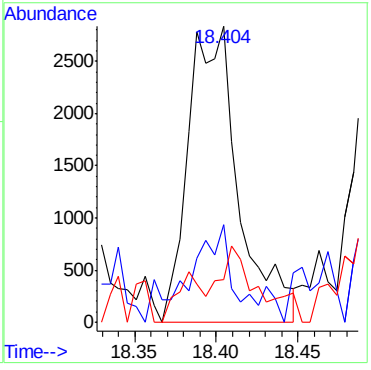




#96
Benzo[a]pyrene
Concen: 0.42 ppm
RT: 18.404 min Scan# 3073
Delta R.T. -0.025 min
Lab File: m116479.D
Acq: 1 Aug 2015 2:42 am

Tgt Ion:252 Resp: 6120

Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	51.3
125	9.8	0.0	37.8



9.1.7

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116480.D
Acq On : 1 Aug 2015 3:11 am
Operator : sarad
Sample : jb99969-8
Misc : op85880,em48645,30.0
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 01 09:36:11 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.643	152	149600	40.00	ppm	-0.02
24) Naphthalene-d8	5.764	136	533834	40.00	ppm	-0.02
47) Acenaphthene-d10	8.077	164	394158	40.00	ppm	-0.03
69) Phenanthrene-d10	10.689	188	857519	40.00	ppm	-0.03
83) Chrysene-d12	15.859	240	924460	40.00	ppm	-0.02
92) Perylene-d12	18.492	264	760213	40.00	ppm	-0.02
102) 1,4-Dichlorobenzene-d4a	4.643	152	149600	40.00	ppm	-0.02
104) Acenaphthene-d10a	8.077	164	394158	40.00	ppm	-0.03
107) Chrysene-d12a	15.859	240	924460	40.00	ppm	-0.02
109) Naphthalene-d8a	5.764	136	533834	40.00	ppm	-0.02
111) Chrysene-d12b	15.859	240	924460	40.00	ppm	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	3.703	112	138009	31.14	ppm	-0.03
Spiked Amount 50.000			Recovery = 62.28%			
8) Phenol-d5	4.418	99	181911	32.23	ppm	-0.03
Spiked Amount 50.000			Recovery = 64.46%			
25) Nitrobenzene-d5	5.097	82	238530	46.03	ppm	-0.02
Spiked Amount 50.000			Recovery = 92.06%			
51) 2-Fluorobiphenyl	7.073	172	515114	39.56	ppm	-0.02
Spiked Amount 50.000			Recovery = 79.12%			
73) 2,4,6-Tribromophenol	9.439	330	117938	40.27	ppm	-0.03
Spiked Amount 50.000			Recovery = 80.54%			
86) Terphenyl-d14	13.856	244	924738	53.39	ppm	-0.03
Spiked Amount 50.000			Recovery = 106.78%			

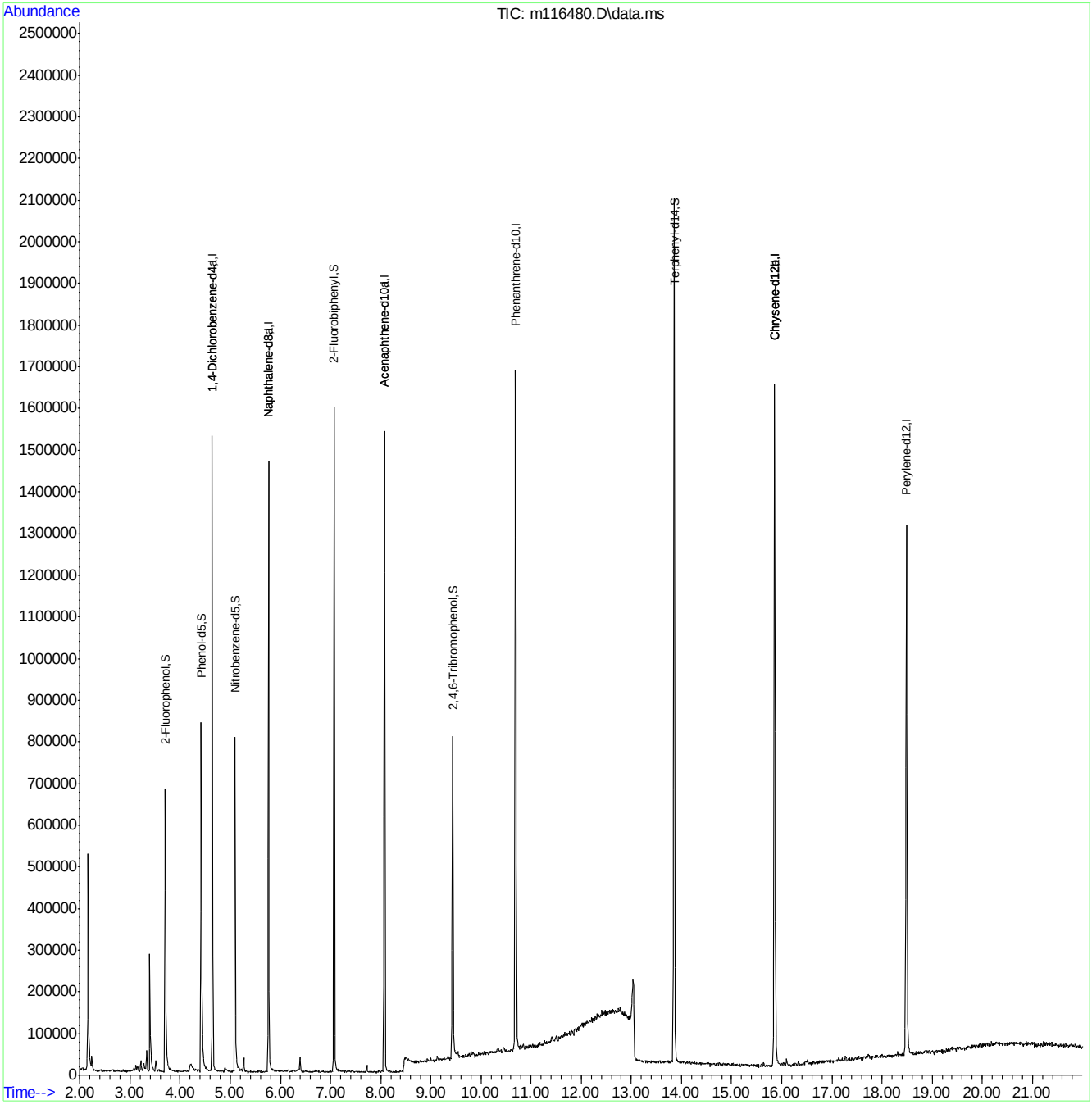
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116480.D
Acq On : 1 Aug 2015 3:11 am
Operator : sarad
Sample : jb99969-8
Misc : op85880,em48645,30.0
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 01 09:36:11 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 08/01/15 14:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116481.D
Acq On : 1 Aug 2015 3:40 am
Operator : sarad
Sample : jb99969-9
Misc : op85880,em48645,30.8
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 01 09:37:30 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.643	152	145995	40.00	ppm	-0.02
24) Naphthalene-d8	5.764	136	529454	40.00	ppm	-0.02
47) Acenaphthene-d10	8.077	164	360363	40.00	ppm	-0.03
69) Phenanthrene-d10	10.694	188	691021	40.00	ppm	-0.02
83) Chrysene-d12	15.859	240	773806	40.00	ppm	-0.02
92) Perylene-d12	18.492	264	549309	40.00	ppm	-0.02
102) 1,4-Dichlorobenzene-d4a	4.643	152	145995	40.00	ppm	-0.02
104) Acenaphthene-d10a	8.077	164	360363	40.00	ppm	-0.03
107) Chrysene-d12a	15.859	240	773806	40.00	ppm	-0.02
109) Naphthalene-d8a	5.764	136	529454	40.00	ppm	-0.02
111) Chrysene-d12b	15.859	240	773806	40.00	ppm	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	3.708	112	133155	30.79	ppm	-0.02
Spiked Amount 50.000			Recovery	=	61.58%	
8) Phenol-d5	4.424	99	236954	43.02	ppm	-0.03
Spiked Amount 50.000			Recovery	=	86.04%	
25) Nitrobenzene-d5	5.097	82	237053	46.13	ppm	-0.02
Spiked Amount 50.000			Recovery	=	92.26%	
51) 2-Fluorobiphenyl	7.073	172	398413	33.46	ppm	-0.02
Spiked Amount 50.000			Recovery	=	66.92%	
73) 2,4,6-Tribromophenol	9.439	330	111236	47.13	ppm	-0.03
Spiked Amount 50.000			Recovery	=	94.26%	
86) Terphenyl-d14	13.856	244	686370	47.34	ppm	-0.03
Spiked Amount 50.000			Recovery	=	94.68%	
Target Compounds						Qvalue
38) Naphthalene	5.786	128	12303m	0.82	ppm	
44) 2-Methylnaphthalene	6.581	141	13337	1.60	ppm	95
77) Phenanthrene	10.731	178	42100	2.15	ppm	97
81) Fluoranthene	13.028	202	41863	1.86	ppm	92
84) Pyrene	13.450	202	60190	2.68	ppm	95
101) Benzo[g,h,i]perylene	20.666	276	7147	0.48	ppm	81

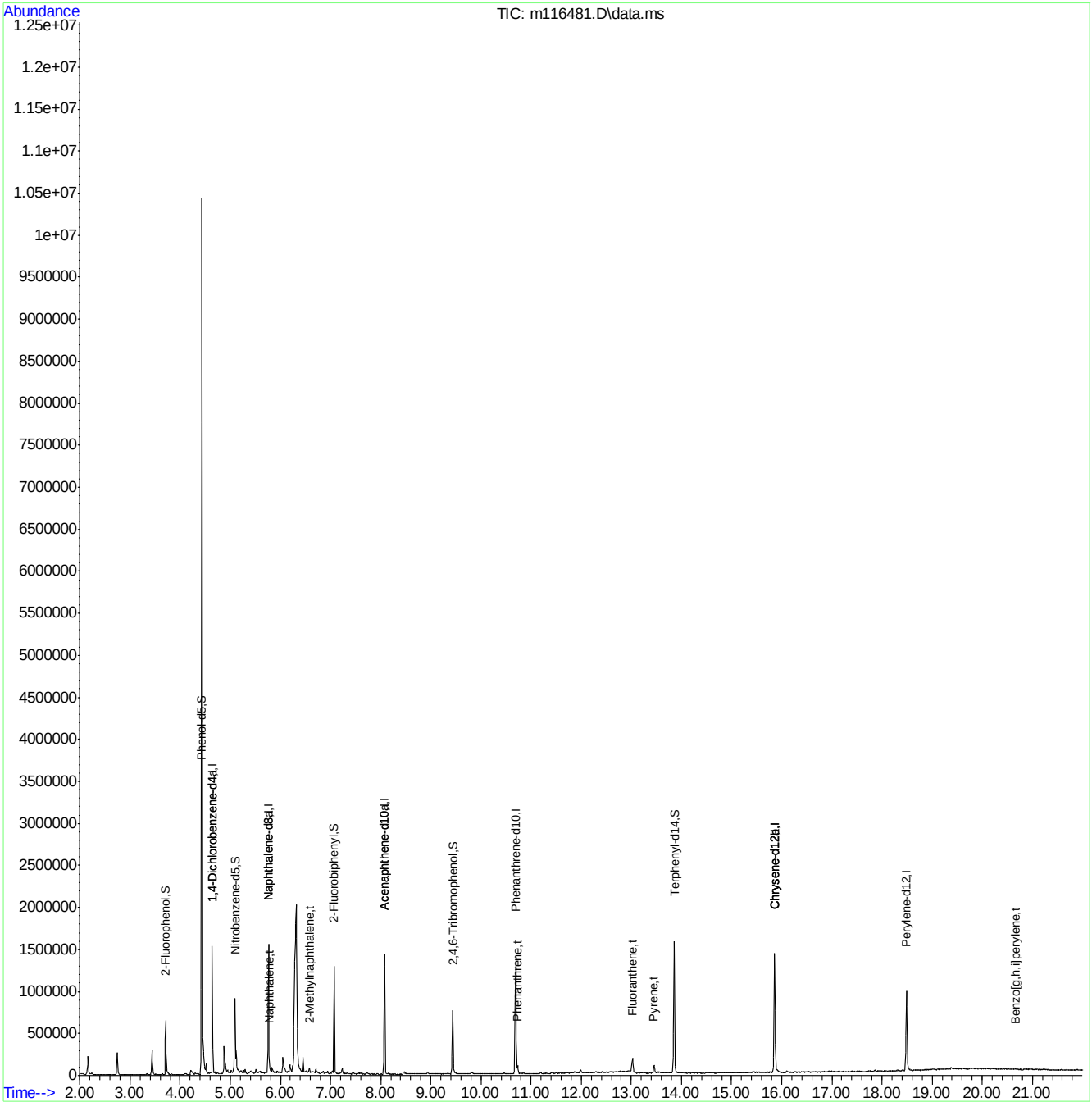
(#) = qualifier out of range (m) = manual integration (+) = signals summed

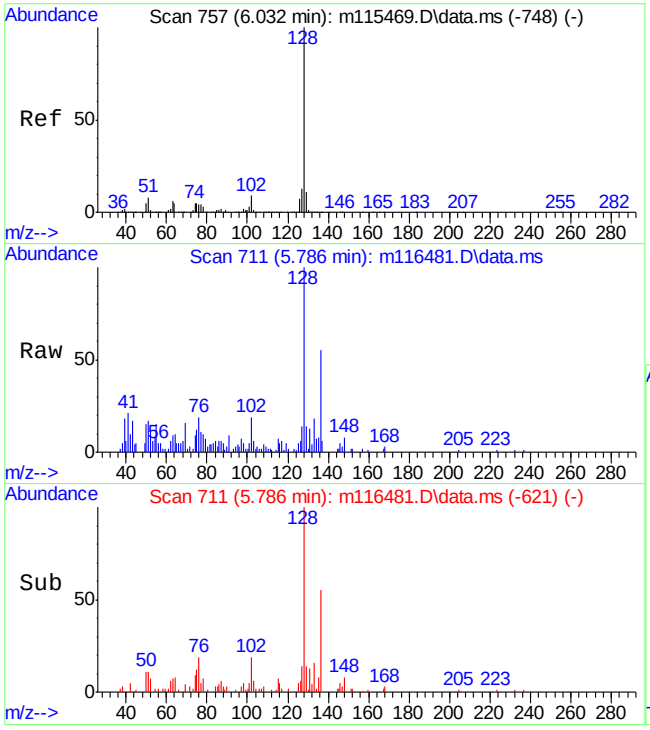
9.1.9
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116481.D
Acq On : 1 Aug 2015 3:40 am
Operator : sarad
Sample : jb99969-9
Misc : op85880,em48645,30.8
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 01 09:37:30 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

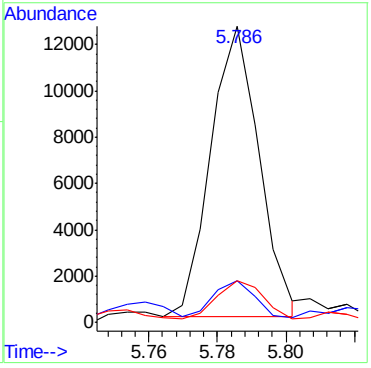


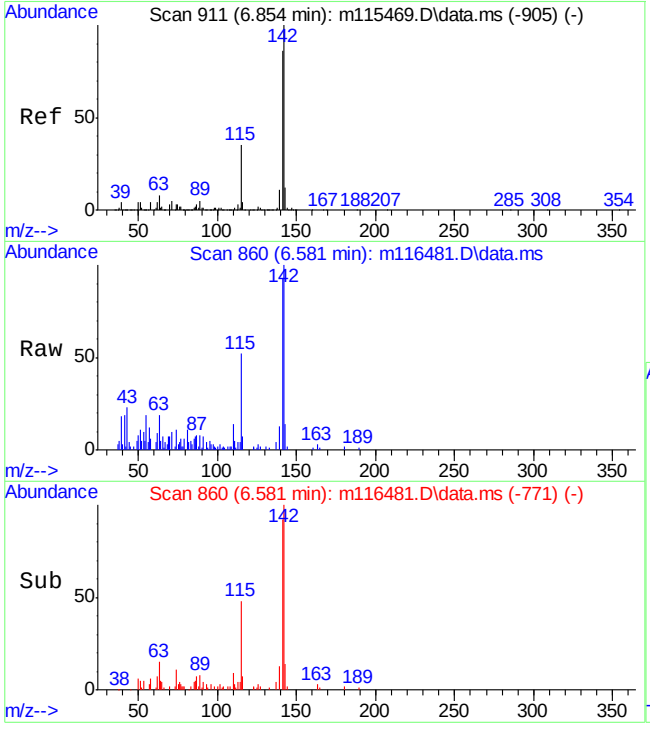


#38
Naphthalene
Concen: 0.82 ppm m
RT: 5.786 min Scan# 711
Delta R.T. -0.018 min
Lab File: m116481.D
Acq: 1 Aug 2015 3:40 am

Tgt Ion:128 Resp: 12303

Ion	Ratio	Lower	Upper
128	100		
129	14.1	0.0	41.3
127	14.2	0.0	43.7

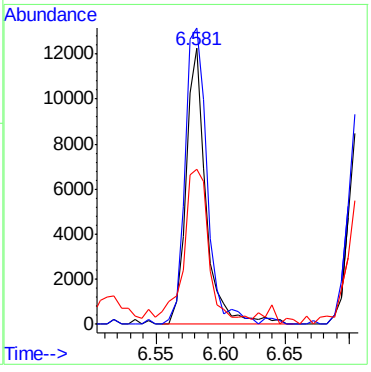


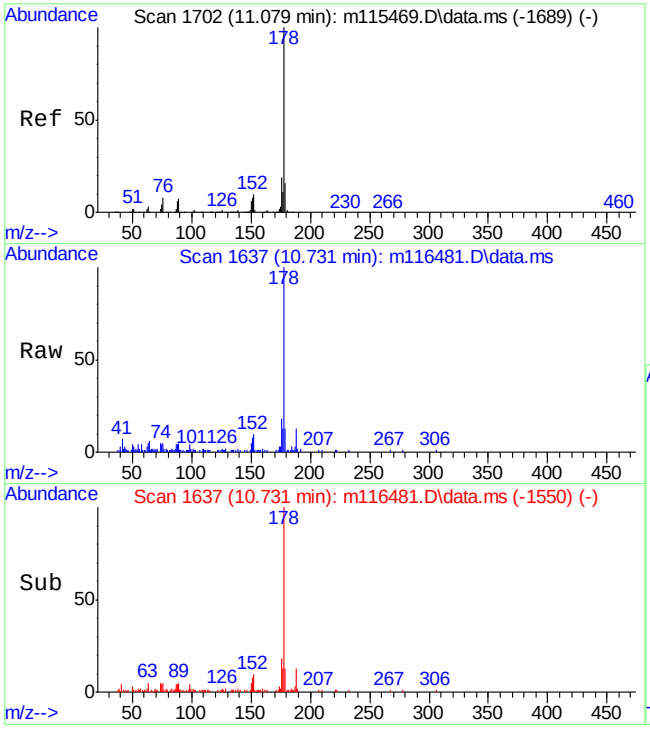


#44
2-Methylnaphthalene
Concen: 1.60 ppm
RT: 6.581 min Scan# 860
Delta R.T. -0.023 min
Lab File: m116481.D
Acq: 1 Aug 2015 3:40 am

Tgt Ion:141 Resp: 13337

Ion	Ratio	Lower	Upper
141	100		
142	107.2	81.5	141.5
115	52.8	17.6	77.6

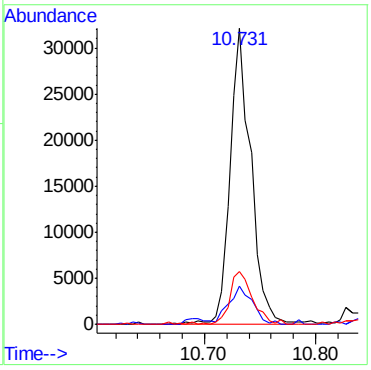


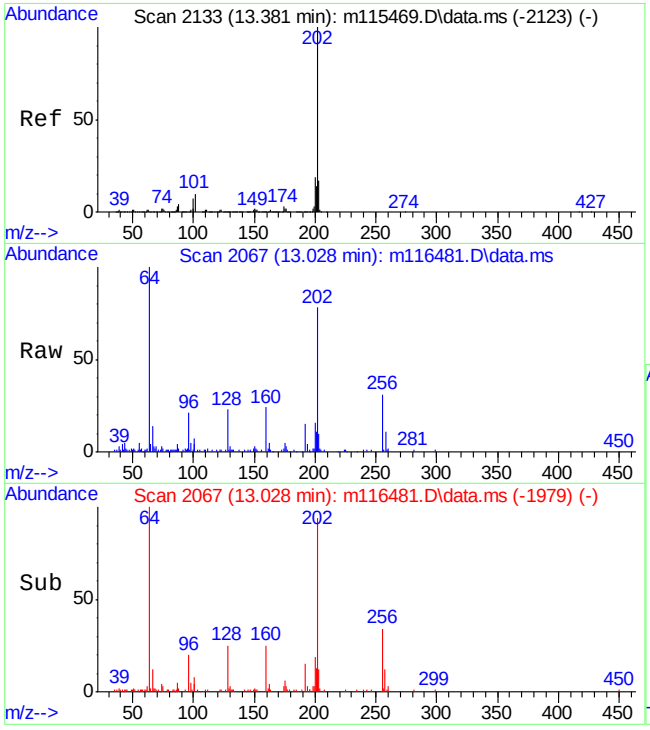


#77
Phenanthrene
Concen: 2.15 ppm
RT: 10.731 min Scan# 1637
Delta R.T. -0.034 min
Lab File: m116481.D
Acq: 1 Aug 2015 3:40 am

Tgt Ion:178 Resp: 42100

Ion	Ratio	Lower	Upper
178	100		
179	12.9	0.0	45.1
176	18.0	0.0	48.8

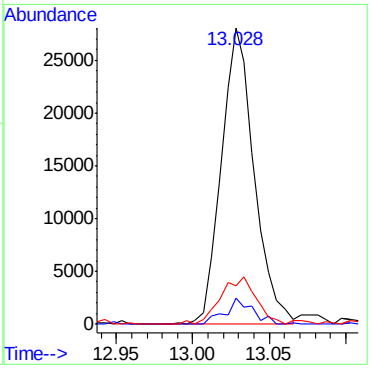




#81
Fluoranthene
Concen: 1.86 ppm
RT: 13.028 min Scan# 2067
Delta R.T. -0.028 min
Lab File: m116481.D
Acq: 1 Aug 2015 3:40 am

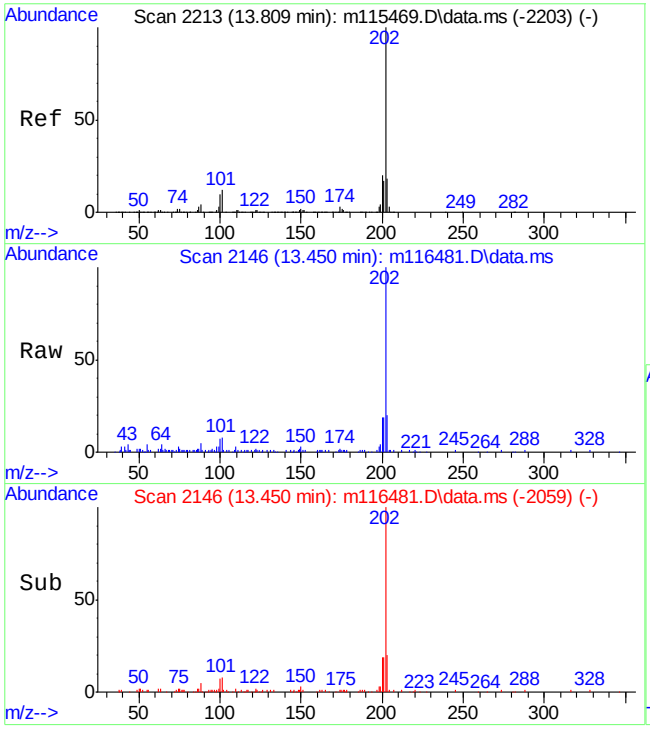
Tgt Ion:202 Resp: 41863

Ion	Ratio	Lower	Upper
202	100		
101	8.7	0.0	38.7
203	12.4	0.0	47.5



9.1.9

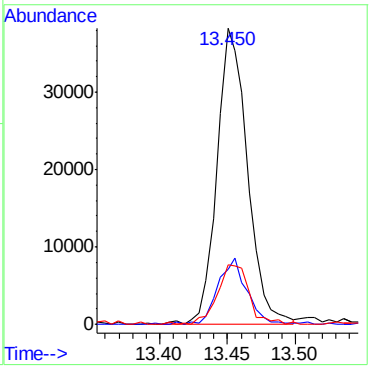
9

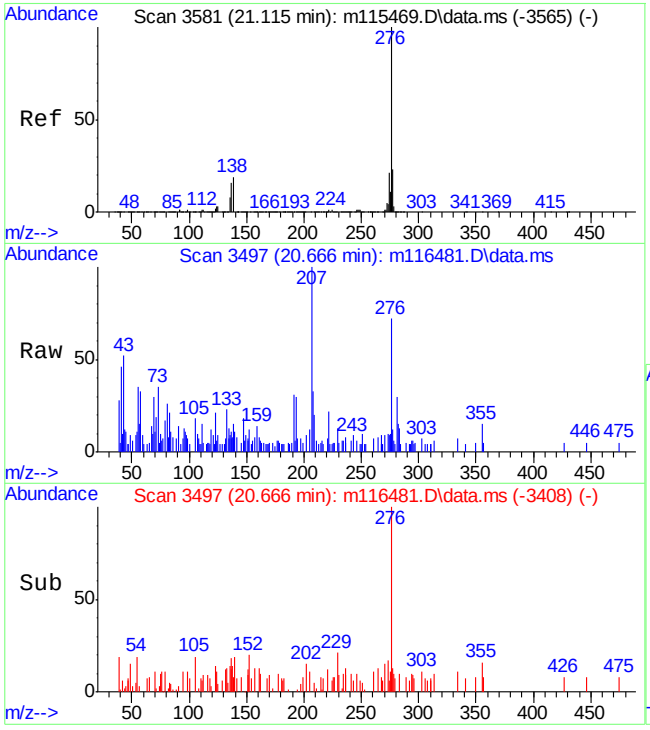


#84
Pyrene
Concen: 2.68 ppm
RT: 13.450 min Scan# 2146
Delta R.T. -0.034 min
Lab File: m116481.D
Acq: 1 Aug 2015 3:40 am

Tgt Ion:202 Resp: 60190

Ion	Ratio	Lower	Upper
202	100		
200	18.5	0.0	51.3
203	20.0	0.0	48.4

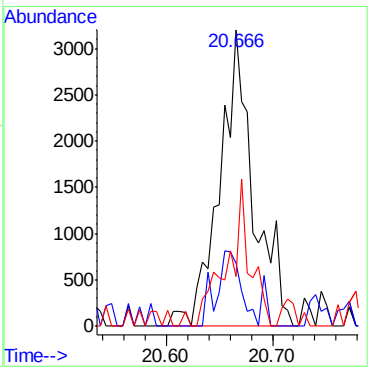




#101
Benzo[g,h,i]perylene
Concen: 0.48 ppm
RT: 20.666 min Scan# 3497
Delta R.T. -0.023 min
Lab File: m116481.D
Acq: 1 Aug 2015 3:40 am

Tgt Ion:276 Resp: 7147

Ion	Ratio	Lower	Upper
276	100		
138	21.4	0.0	45.4
277	13.0	0.0	53.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\E3P2036\
Data File : 3p45566.D
Acq On : 4 Aug 2015 4:12 am
Operator : ashleyd
Sample : jb99969-10
Misc : op86008,e3p2036,30.2
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 04 12:07:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3P2012.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Jul 31 07:48:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.745	152	473742	40.00 ppm	-0.05
24) Naphthalene-d8	5.670	136	1879557	40.00 ppm	-0.05
47) Acenaphthene-d10	7.093	164	1063050	40.00 ppm	-0.06
69) Phenanthrene-d10	8.992	188	1666590	40.00 ppm	-0.09
83) Chrysene-d12	14.292	240	1631510	40.00 ppm	-0.12
91) Perylene-d12	17.352	264	1264556	40.00 ppm	-0.11
101) 1,4-Dichlorobenzene-d4a	4.745	152	473742	40.00 ppm	-0.05
103) Acenaphthene-d10a	7.093	164	1063050	40.00 ppm	-0.06
106) Chrysene-d12a	14.292	240	1631510	40.00 ppm	-0.12
108) Naphthalene-d8a	5.670	136	1879557	40.00 ppm	-0.05
System Monitoring Compounds					
5) 2-Fluorophenol	3.798	112	415734	22.03 ppm	-0.04
Spiked Amount 50.000			Recovery	= 44.06%	
8) Phenol-d5	4.515	99	663546	28.44 ppm	-0.03
Spiked Amount 50.000			Recovery	= 56.88%	
25) Nitrobenzene-d5	5.152	82	840182	46.60 ppm	-0.05
Spiked Amount 50.000			Recovery	= 93.20%	
51) 2-Fluorobiphenyl	6.473	172	1132245	34.85 ppm	-0.05
Spiked Amount 50.000			Recovery	= 69.70%	
73) 2,4,6-Tribromophenol	8.002	330	162217	38.00 ppm	-0.07
Spiked Amount 50.000			Recovery	= 76.00%	
85) Terphenyl-d14	12.051	244	1209605	42.64 ppm	-0.10
Spiked Amount 50.000			Recovery	= 85.28%	

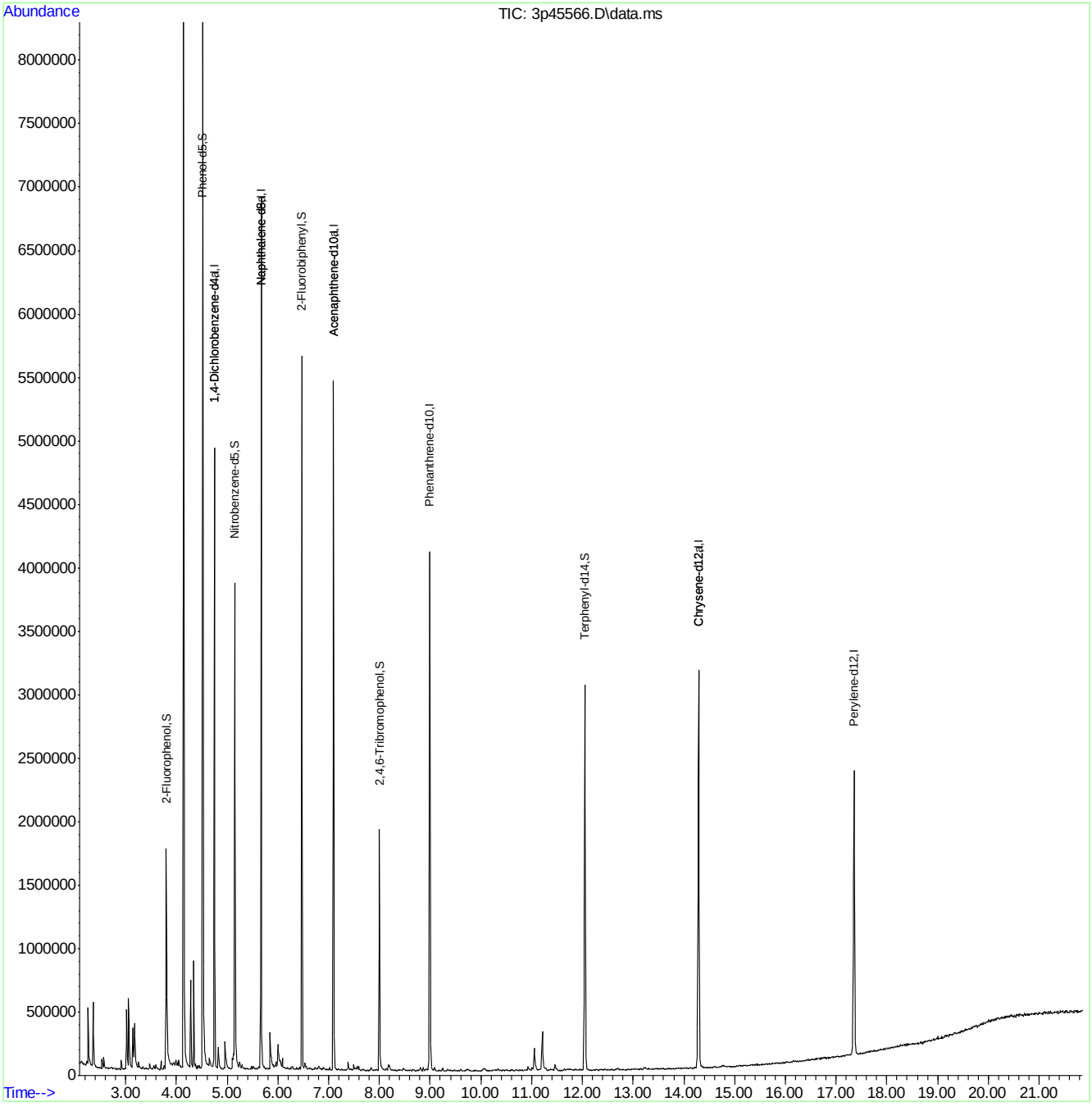
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\E3P2036\
Data File : 3p45566.D
Acq On : 4 Aug 2015 4:12 am
Operator : ashleyd
Sample : jb99969-10
Misc : op86008,e3p2036,30.2
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 04 12:07:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3P2012.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Jul 31 07:48:21 2015
Response via : Initial Calibration



M3P2012.M Tue Aug 04 12:07:24 2015 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116482.D
Acq On : 1 Aug 2015 4:08 am
Operator : sarad
Sample : jb99969-11
Misc : op85880,em48645,30.0
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 01 09:38:08 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.644	152	147460	40.00 ppm	-0.01
24) Naphthalene-d8	5.760	136	490967	40.00 ppm	-0.02
47) Acenaphthene-d10	8.078	164	388047	40.00 ppm	-0.03
69) Phenanthrene-d10	10.690	188	808522	40.00 ppm	-0.03
83) Chrysene-d12	15.860	240	925957	40.00 ppm	-0.02
92) Perylene-d12	18.488	264	775395	40.00 ppm	-0.03
102) 1,4-Dichlorobenzene-d4a	4.644	152	147460	40.00 ppm	-0.01
104) Acenaphthene-d10a	8.078	164	388047	40.00 ppm	-0.03
107) Chrysene-d12a	15.860	240	925957	40.00 ppm	-0.02
109) Naphthalene-d8a	5.760	136	490967	40.00 ppm	-0.02
111) Chrysene-d12b	15.860	240	925957	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.704	112	137380	31.45 ppm	-0.03
Spiked Amount 50.000			Recovery	= 62.90%	
8) Phenol-d5	4.415	99	203085	36.51 ppm	-0.04
Spiked Amount 50.000			Recovery	= 73.02%	
25) Nitrobenzene-d5	5.093	82	232634	48.81 ppm	-0.02
Spiked Amount 50.000			Recovery	= 97.62%	
51) 2-Fluorobiphenyl	7.074	172	497347	38.79 ppm	-0.02
Spiked Amount 50.000			Recovery	= 77.58%	
73) 2,4,6-Tribromophenol	9.435	330	105958	38.37 ppm	-0.04
Spiked Amount 50.000			Recovery	= 76.74%	
86) Terphenyl-d14	13.852	244	799046	46.06 ppm	-0.03
Spiked Amount 50.000			Recovery	= 92.12%	

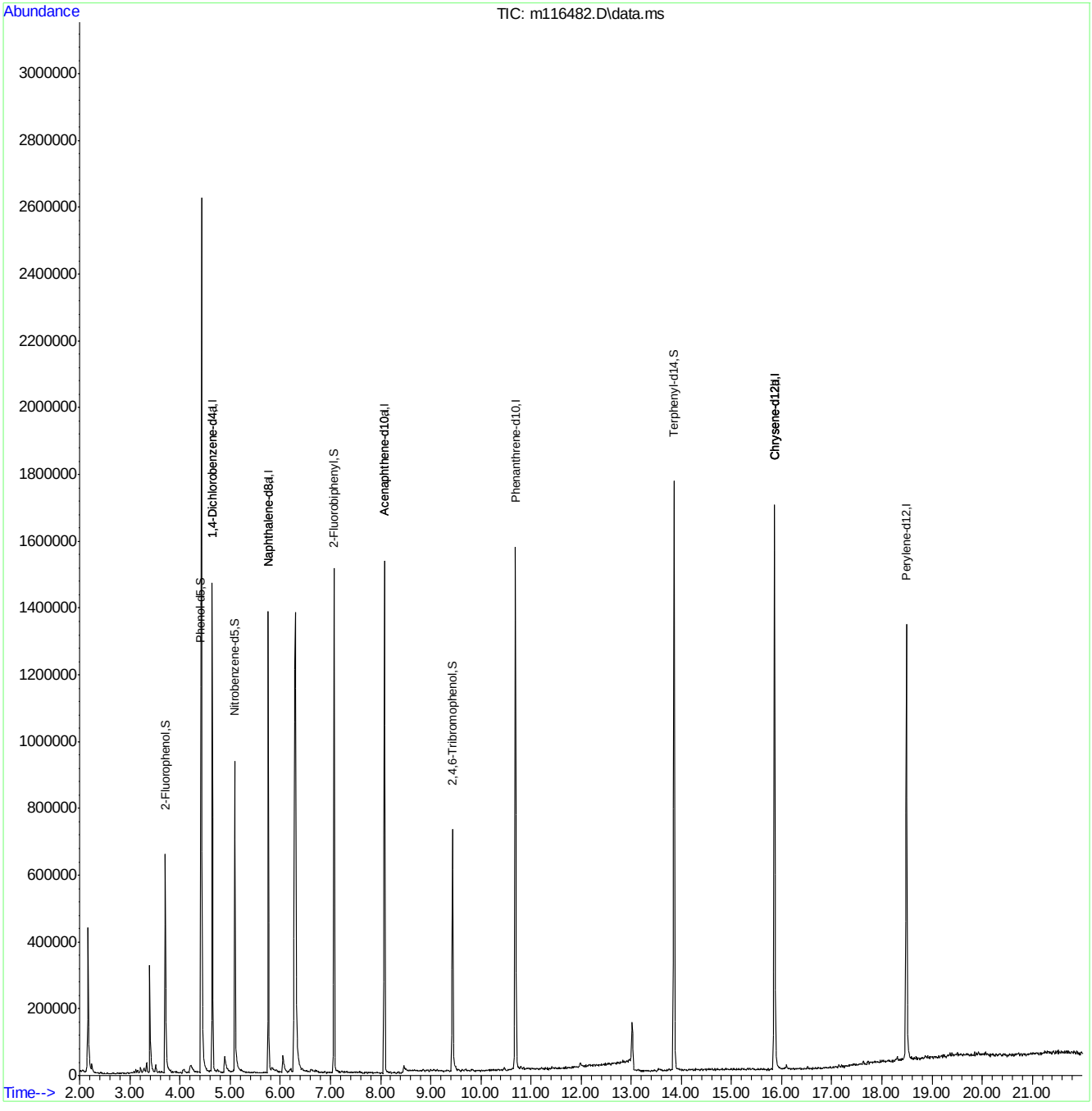
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116482.D
Acq On : 1 Aug 2015 4:08 am
Operator : sarad
Sample : jb99969-11
Misc : op85880,em48645,30.0
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 01 09:38:08 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



MM4814.M Sat Aug 01 09:38:12 2015 MSM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116483.D
Acq On : 1 Aug 2015 4:37 am
Operator : sarad
Sample : jb99969-12
Misc : op85880,em48645,31.0
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 01 09:38:46 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.643	152	139302	40.00 ppm	-0.02
24) Naphthalene-d8	5.764	136	527483	40.00 ppm	-0.02
47) Acenaphthene-d10	8.077	164	361862	40.00 ppm	-0.03
69) Phenanthrene-d10	10.689	188	752898	40.00 ppm	-0.03
83) Chrysene-d12	15.859	240	940225	40.00 ppm	-0.02
92) Perylene-d12	18.492	264	745278	40.00 ppm	-0.02
102) 1,4-Dichlorobenzene-d4a	4.643	152	139302	40.00 ppm	-0.02
104) Acenaphthene-d10a	8.077	164	361862	40.00 ppm	-0.03
107) Chrysene-d12a	15.859	240	940225	40.00 ppm	-0.02
109) Naphthalene-d8a	5.764	136	527483	40.00 ppm	-0.02
111) Chrysene-d12b	15.859	240	940225	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.703	112	117271	28.42 ppm	-0.03
Spiked Amount 50.000			Recovery	= 56.84%	
8) Phenol-d5	4.418	99	146492	27.88 ppm	-0.03
Spiked Amount 50.000			Recovery	= 55.76%	
25) Nitrobenzene-d5	5.097	82	199387	38.94 ppm	-0.02
Spiked Amount 50.000			Recovery	= 77.88%	
51) 2-Fluorobiphenyl	7.073	172	416423	34.83 ppm	-0.02
Spiked Amount 50.000			Recovery	= 69.66%	
73) 2,4,6-Tribromophenol	9.439	330	99310	38.62 ppm	-0.03
Spiked Amount 50.000			Recovery	= 77.24%	
86) Terphenyl-d14	13.856	244	743844	42.22 ppm	-0.03
Spiked Amount 50.000			Recovery	= 84.44%	

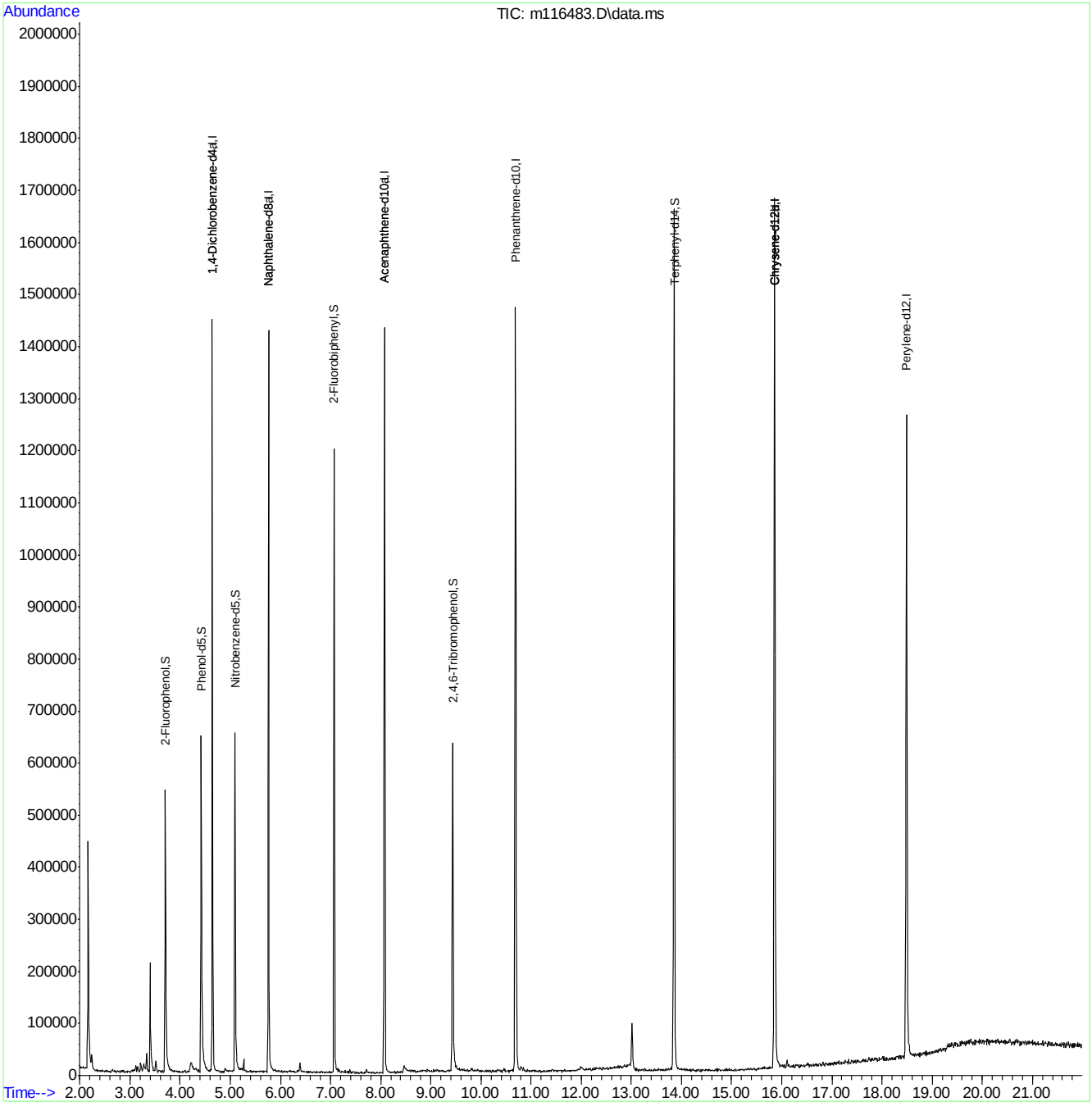
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116483.D
Acq On : 1 Aug 2015 4:37 am
Operator : sarad
Sample : jb99969-12
Misc : op85880,em48645,31.0
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 01 09:38:46 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4866\
Data File : m116522.D
Acq On : 2 Aug 2015 2:15 am
Operator : ashleyd
Sample : jb99969-13
Misc : op85880,em4866,30.1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 03 11:39:31 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Aug 03 07:55:53 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.636	152	334459	40.00 ppm	0.00
24) Naphthalene-d8	5.758	136	1191676	40.00 ppm	0.00
47) Acenaphthene-d10	8.071	164	671263	40.00 ppm	0.00
69) Phenanthrene-d10	10.693	188	1204149	40.00 ppm	0.00
83) Chrysene-d12	15.858	240	1358821	40.00 ppm	-0.01
92) Perylene-d12	18.486	264	1118392	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.636	152	334459	40.00 ppm	0.00
104) Acenaphthene-d10a	8.071	164	671263	40.00 ppm	0.00
107) Chrysene-d12a	15.858	240	1361696	40.00 ppm	-0.01
109) Naphthalene-d8a	5.758	136	1191676	40.00 ppm	0.00
111) Chrysene-d12b	15.858	240	1361696	40.00 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	3.702	112	374533	37.80 ppm	0.00
Spiked Amount 50.000			Recovery	= 75.60%	
8) Phenol-d5	4.428	99	495370	39.26 ppm	0.01
Spiked Amount 50.000			Recovery	= 78.52%	
25) Nitrobenzene-d5	5.090	82	562007	48.59 ppm	0.00
Spiked Amount 50.000			Recovery	= 97.18%	
51) 2-Fluorobiphenyl	7.067	172	948149	42.75 ppm	0.00
Spiked Amount 50.000			Recovery	= 85.50%	
73) 2,4,6-Tribromophenol	9.433	330	184972	44.98 ppm	0.00
Spiked Amount 50.000			Recovery	= 89.96%	
86) Terphenyl-d14	13.855	244	1121447	44.05 ppm	0.00
Spiked Amount 50.000			Recovery	= 88.10%	

Target Compounds Qvalue

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

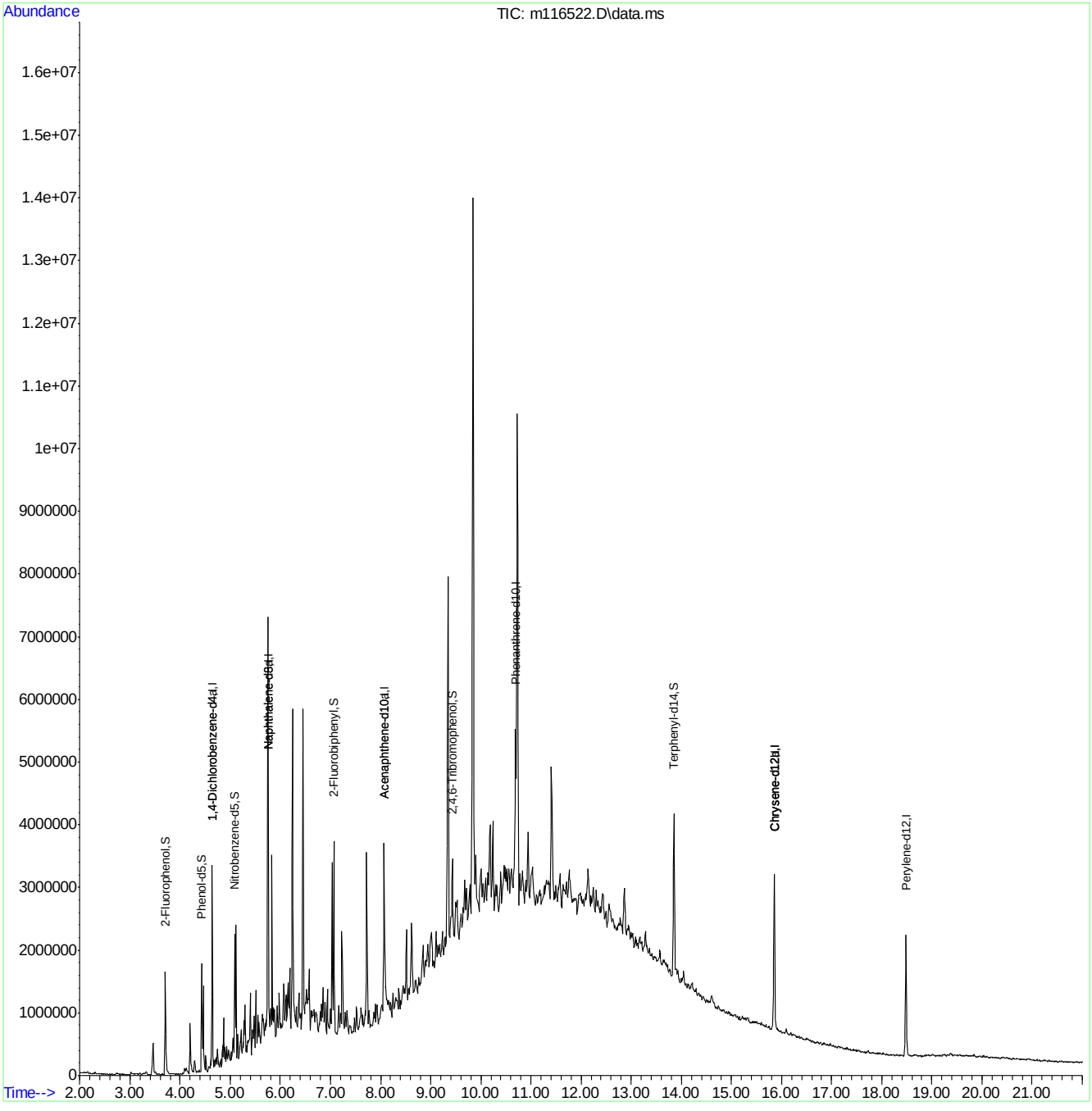
9.1.13

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4866\
Data File : m116522.D
Acq On : 2 Aug 2015 2:15 am
Operator : ashleyd
Sample : jb99969-13
Misc : op85880,em4866,30.1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 03 11:39:31 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Aug 03 07:55:53 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116484.D
Acq On : 1 Aug 2015 5:06 am
Operator : sarad
Sample : jb99969-13
Misc : op85880,em48645,30.1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 01 09:39:59 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.645	152	145588	40.00 ppm	-0.01
24) Naphthalene-d8	5.761	136	440070	40.00 ppm	-0.02
47) Acenaphthene-d10	8.079	164	279187	40.00 ppm	-0.02
69) Phenanthrene-d10	10.701	188	448227	40.00 ppm	-0.01
83) Chrysene-d12	15.861	240	511744	40.00 ppm	-0.02
92) Perylene-d12	18.494	264	516000	40.00 ppm	-0.02
102) 1,4-Dichlorobenzene-d4a	4.645	152	145588	40.00 ppm	-0.01
104) Acenaphthene-d10a	8.079	164	279187	40.00 ppm	-0.02
107) Chrysene-d12a	15.861	240	511744	40.00 ppm	-0.02
109) Naphthalene-d8a	5.761	136	440070	40.00 ppm	-0.02
111) Chrysene-d12b	15.861	240	511744	40.00 ppm	-0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.705	112	152718	35.41 ppm	-0.03
Spiked Amount 50.000			Recovery	= 70.82%	
8) Phenol-d5	4.426	99	199266	36.28 ppm	-0.03
Spiked Amount 50.000			Recovery	= 72.56%	
25) Nitrobenzene-d5	5.093	82	240784	56.37 ppm	-0.02
Spiked Amount 50.000			Recovery	= 112.74%	
51) 2-Fluorobiphenyl	7.075	172	378601	41.05 ppm	-0.02
Spiked Amount 50.000			Recovery	= 82.10%	
73) 2,4,6-Tribromophenol	9.441	330	66740	43.60 ppm	-0.03
Spiked Amount 50.000			Recovery	= 87.20%	
86) Terphenyl-d14	13.863	244	387306	40.39 ppm	-0.02
Spiked Amount 50.000			Recovery	= 80.78%	

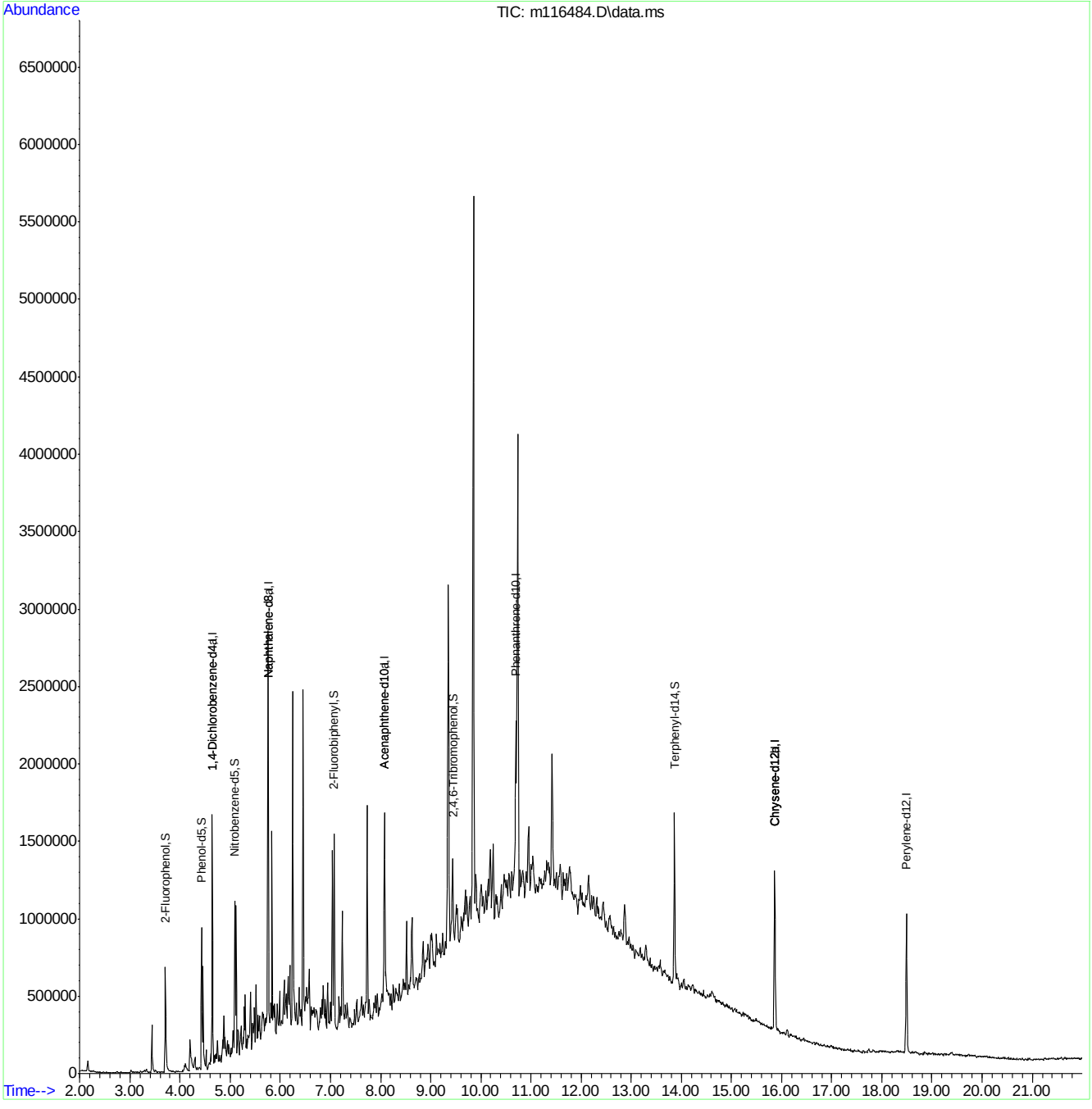
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116484.D
Acq On : 1 Aug 2015 5:06 am
Operator : sarad
Sample : jb99969-13
Misc : op85880,em48645,30.1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 01 09:39:59 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



MM4814.M Sat Aug 01 09:40:02 2015 MSM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4866\
Data File : m116523.D
Acq On : 2 Aug 2015 2:43 am
Operator : ashleyd
Sample : jb99969-14
Misc : op85880,em4866,30.4
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 03 11:40:41 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Aug 03 07:55:53 2015
Response via : Initial Calibration

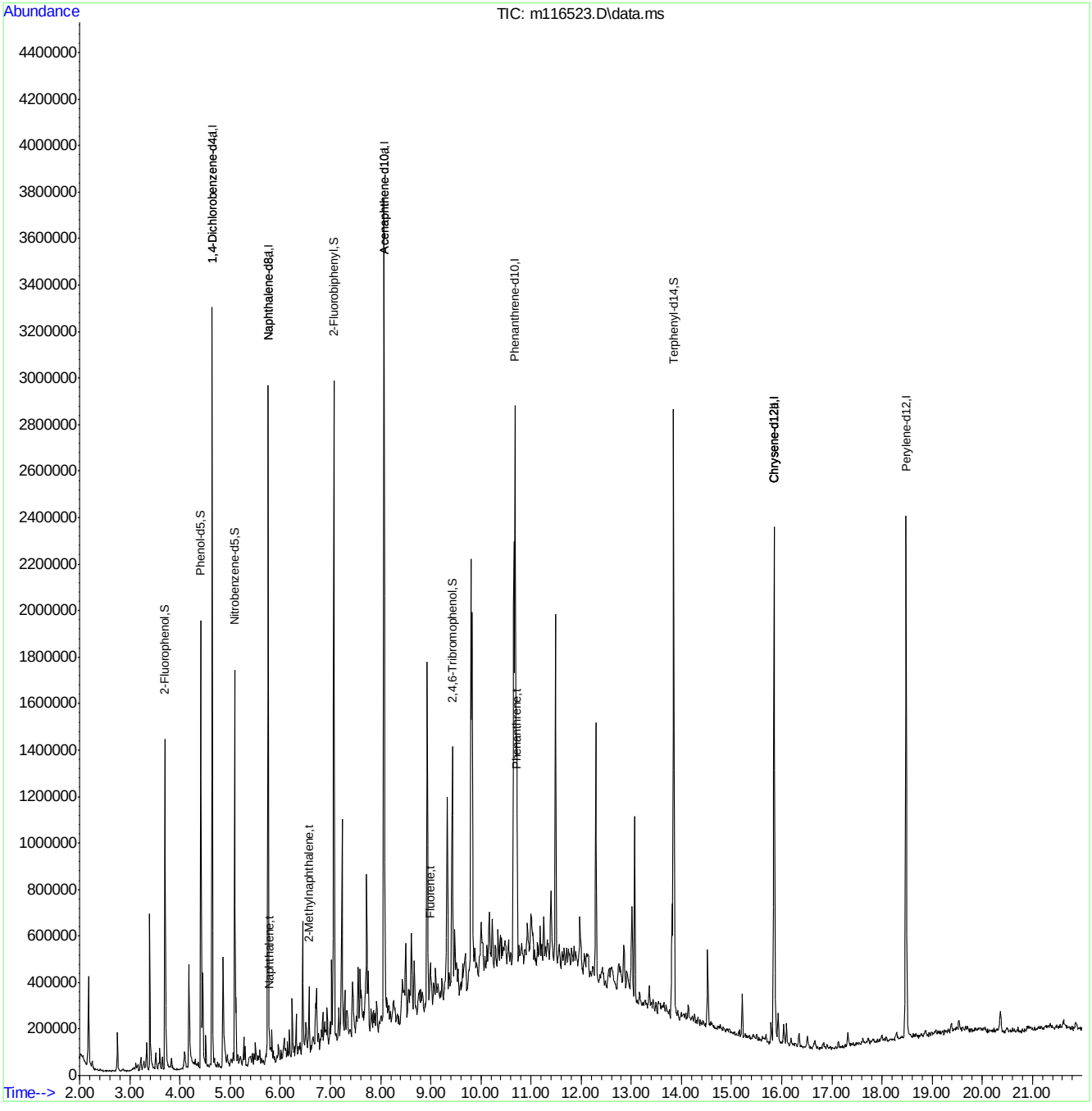
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.638	152	351857	40.00	ppm	0.00
24) Naphthalene-d8	5.754	136	1113768	40.00	ppm	0.00
47) Acenaphthene-d10	8.072	164	709173	40.00	ppm	0.00
69) Phenanthrene-d10	10.684	188	1191215	40.00	ppm	0.00
83) Chrysene-d12	15.849	240	1279440	40.00	ppm	-0.02
92) Perylene-d12	18.482	264	1295838	40.00	ppm	-0.01
102) 1,4-Dichlorobenzene-d4a	4.638	152	351857	40.00	ppm	0.00
104) Acenaphthene-d10a	8.072	164	709173	40.00	ppm	0.00
107) Chrysene-d12a	15.849	240	1279588	40.00	ppm	-0.02
109) Naphthalene-d8a	5.754	136	1113768	40.00	ppm	0.00
111) Chrysene-d12b	15.849	240	1279588	40.00	ppm	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	3.698	112	338927	32.52	ppm	0.00
Spiked Amount 50.000			Recovery = 65.04%			
8) Phenol-d5	4.414	99	473615	35.68	ppm	0.00
Spiked Amount 50.000			Recovery = 71.36%			
25) Nitrobenzene-d5	5.086	82	533116	49.31	ppm	0.00
Spiked Amount 50.000			Recovery = 98.62%			
51) 2-Fluorobiphenyl	7.068	172	1010158	43.11	ppm	0.00
Spiked Amount 50.000			Recovery = 86.22%			
73) 2,4,6-Tribromophenol	9.429	330	153430	37.71	ppm	-0.01
Spiked Amount 50.000			Recovery = 75.42%			
86) Terphenyl-d14	13.846	244	1081892	45.13	ppm	0.00
Spiked Amount 50.000			Recovery = 90.26%			
Target Compounds						Qvalue
38) Naphthalene	5.781	128	23019	0.73	ppm	97
44) 2-Methylnaphthalene	6.571	141	60449	3.45	ppm	98
66) Fluorene	8.991	166	11691	0.48	ppm	92
77) Phenanthrene	10.721	178	46013	1.36	ppm	95

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

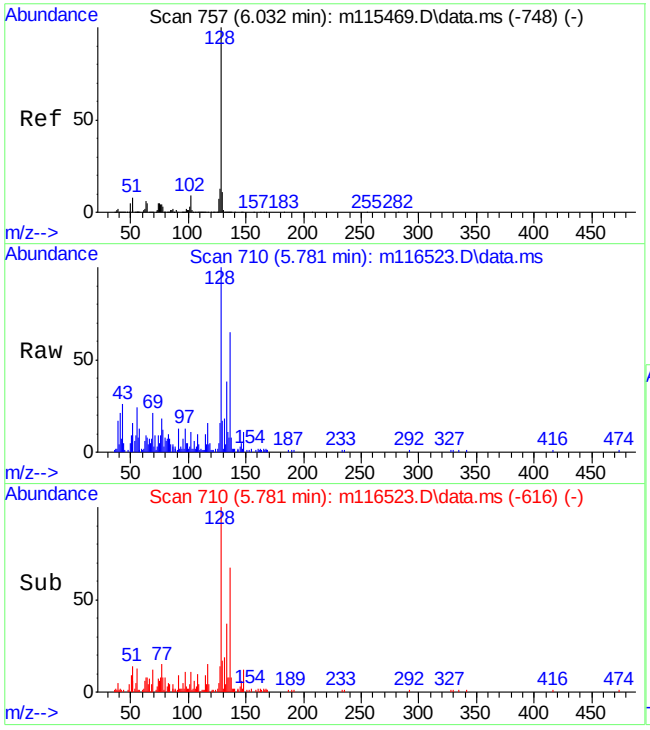
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4866\
Data File : m116523.D
Acq On : 2 Aug 2015 2:43 am
Operator : ashleyd
Sample : jb99969-14
Misc : op85880,em4866,30.4
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Aug 03 11:40:41 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Aug 03 07:55:53 2015
Response via : Initial Calibration



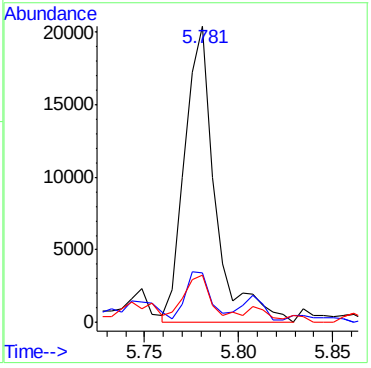
MM4814.M Mon Aug 03 11:40:47 2015 MSM

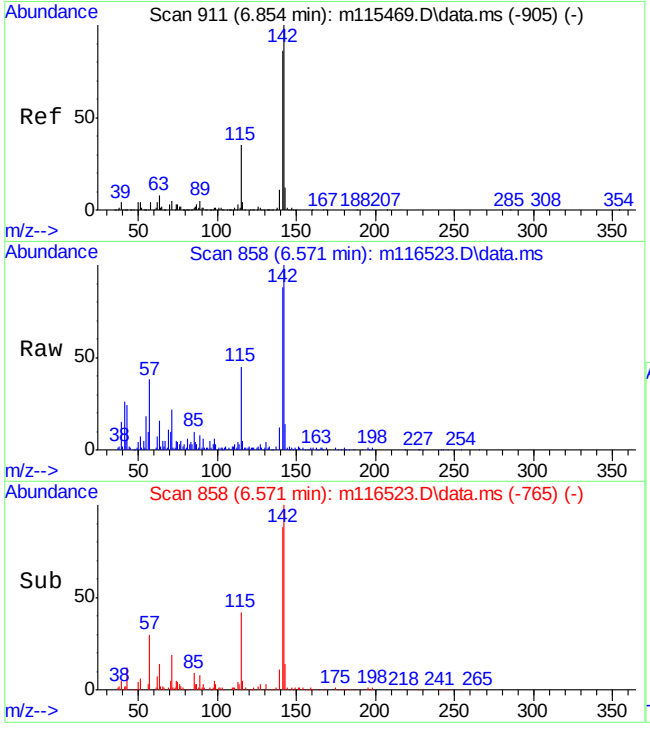


#38
Naphthalene
Concen: 0.73 ppm
RT: 5.781 min Scan# 710
Delta R.T. -0.000 min
Lab File: m116523.D
Acq: 2 Aug 2015 2:43 am

Tgt Ion:128 Resp: 23019

Ion	Ratio	Lower	Upper
128	100		
129	13.8	0.0	41.3
127	13.8	0.0	43.7

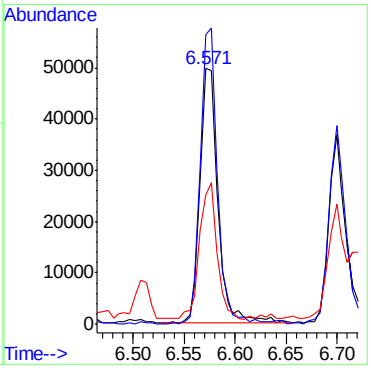


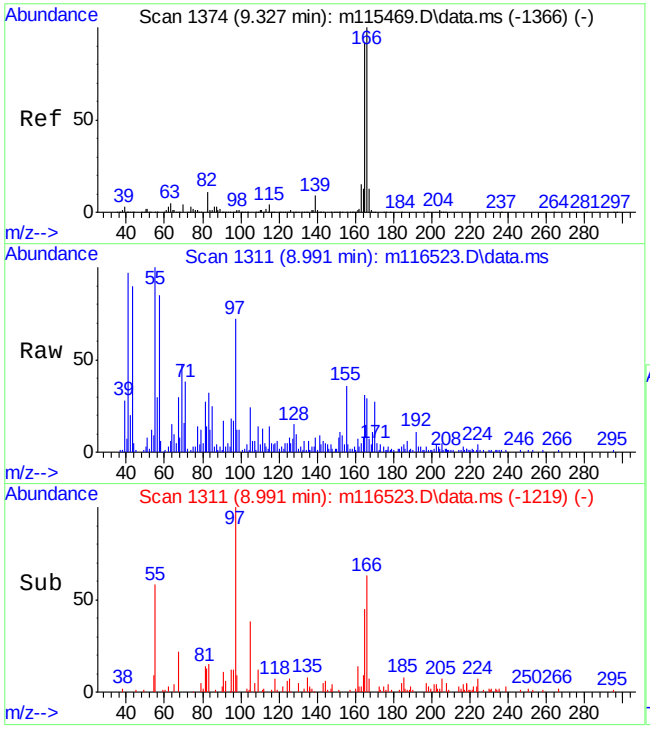


#44
2-Methylnaphthalene
Concen: 3.45 ppm
RT: 6.571 min Scan# 858
Delta R.T. -0.006 min
Lab File: m116523.D
Acq: 2 Aug 2015 2:43 am

Tgt Ion:141 Resp: 60449

Ion	Ratio	Lower	Upper
141	100		
142	113.5	81.5	141.5
115	48.3	17.6	77.6

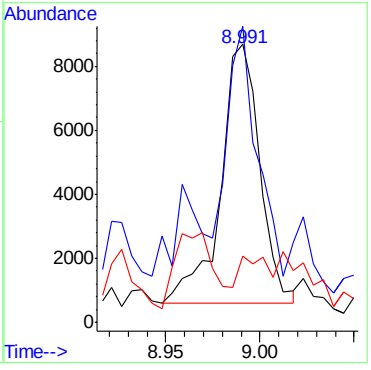


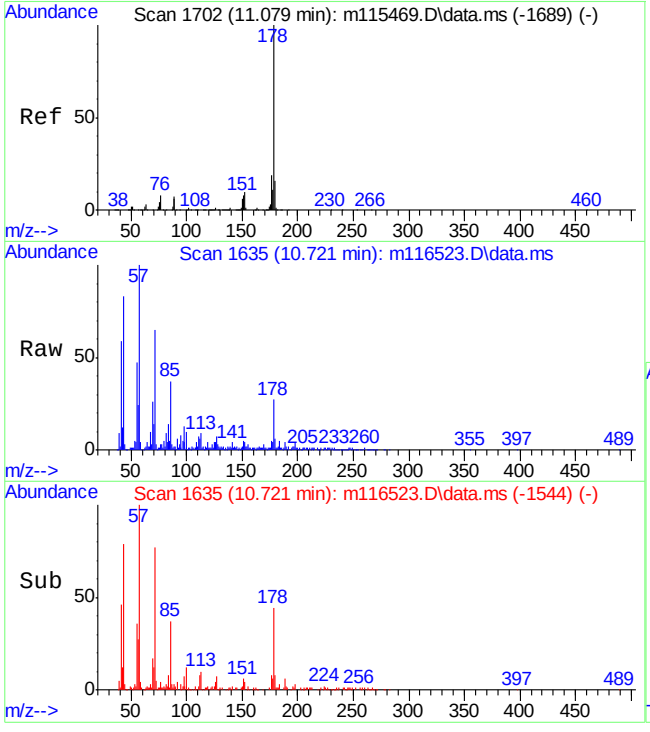


#66
Fluorene
Concen: 0.48 ppm
RT: 8.991 min Scan# 1311
Delta R.T. -0.011 min
Lab File: m116523.D
Acq: 2 Aug 2015 2:43 am

Tgt Ion:166 Resp: 11691

Ion	Ratio	Lower	Upper
166	100		
165	84.1	62.7	122.7
167	13.5	0.0	43.4

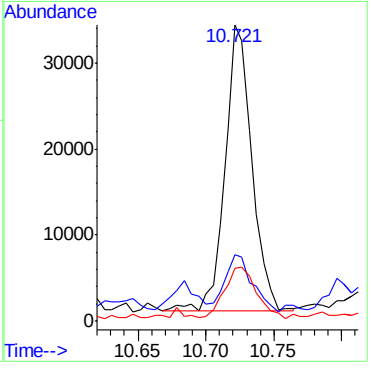




#77
Phenanthrene
Concen: 1.36 ppm
RT: 10.721 min Scan# 1635
Delta R.T. -0.016 min
Lab File: m116523.D
Acq: 2 Aug 2015 2:43 am

Tgt Ion:178 Resp: 46013

Ion	Ratio	Lower	Upper
178	100		
179	17.4	0.0	45.1
176	16.6	0.0	48.8



9.1.15

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 08/03/15 13:01

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116485.D
Acq On : 1 Aug 2015 5:35 am
Operator : sarad
Sample : jb99969-14
Misc : op85880,em48645,30.4
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 01 09:41:36 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.644	152	139349	40.00	ppm	-0.01
24) Naphthalene-d8	5.761	136	479976	40.00	ppm	-0.02
47) Acenaphthene-d10	8.079	164	295147	40.00	ppm	-0.03
69) Phenanthrene-d10	10.691	188	524492	40.00	ppm	-0.03
83) Chrysene-d12	15.861	240	505975	40.00	ppm	-0.02
92) Perylene-d12	18.489	264	546527	40.00	ppm	-0.03
102) 1,4-Dichlorobenzene-d4a	4.644	152	139349	40.00	ppm	-0.01
104) Acenaphthene-d10a	8.079	164	295147	40.00	ppm	-0.03
107) Chrysene-d12a	15.861	240	505933	40.00	ppm	-0.02
109) Naphthalene-d8a	5.761	136	479976	40.00	ppm	-0.02
111) Chrysene-d12b	15.861	240	505933	40.00	ppm	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	3.699	112	135749	32.89	ppm	-0.03
Spiked Amount 50.000			Recovery	=	65.78%	
8) Phenol-d5	4.420	99	181685	34.56	ppm	-0.03
Spiked Amount 50.000			Recovery	=	69.12%	
25) Nitrobenzene-d5	5.093	82	234652	50.36	ppm	-0.02
Spiked Amount 50.000			Recovery	=	100.72%	
51) 2-Fluorobiphenyl	7.069	172	460475	47.22	ppm	-0.03
Spiked Amount 50.000			Recovery	=	94.44%	
73) 2,4,6-Tribromophenol	9.441	330	80838	45.13	ppm	-0.03
Spiked Amount 50.000			Recovery	=	90.26%	
86) Terphenyl-d14	13.858	244	519808	54.83	ppm	-0.03
Spiked Amount 50.000			Recovery	=	109.66%	
Target Compounds						Qvalue
38) Naphthalene	5.782	128	9587m	0.71	ppm	
44) 2-Methylnaphthalene	6.578	141	27687	3.67	ppm	94
77) Phenanthrene	10.733	178	21521	1.45	ppm	87

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

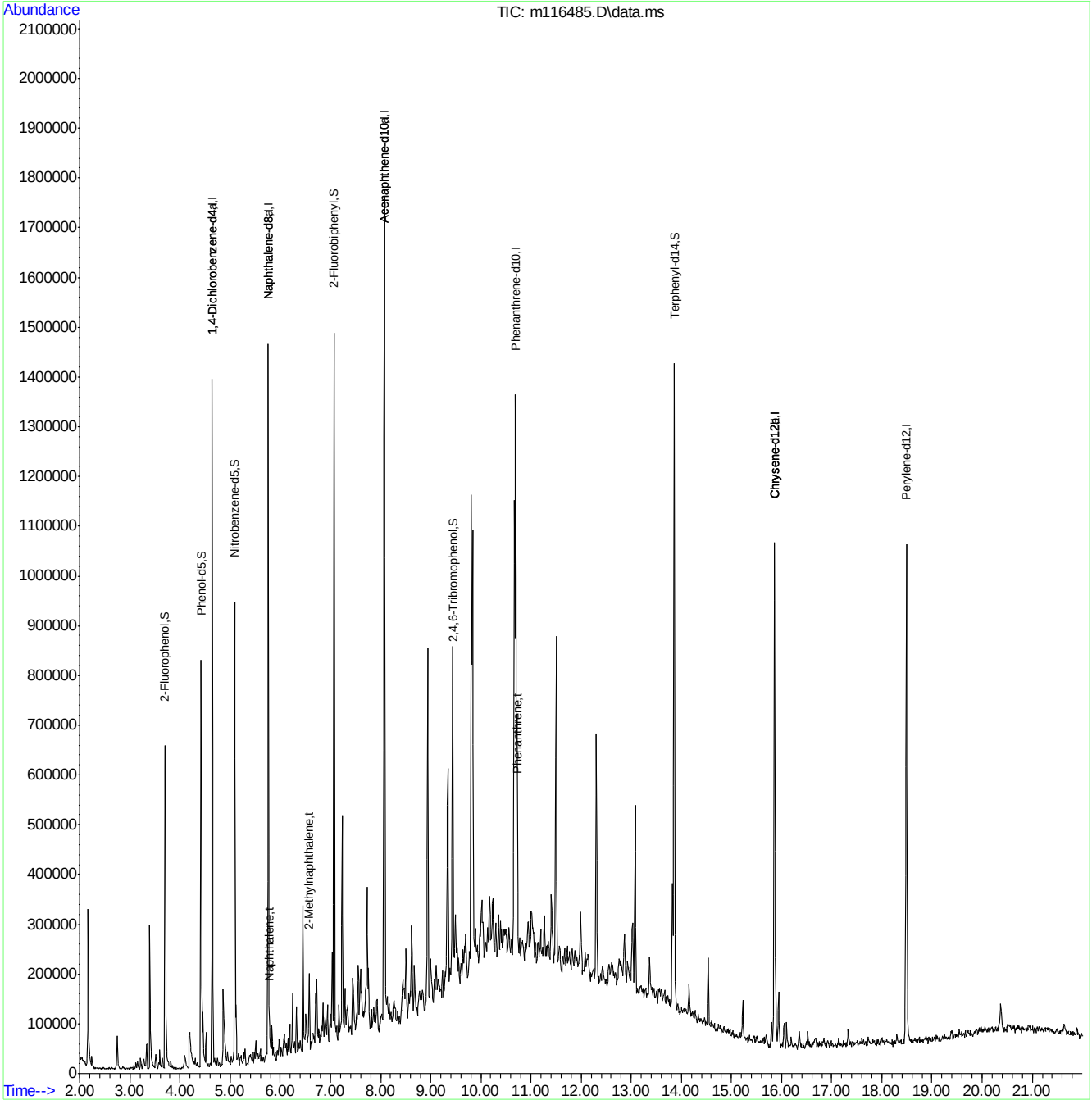
9.1.16

9

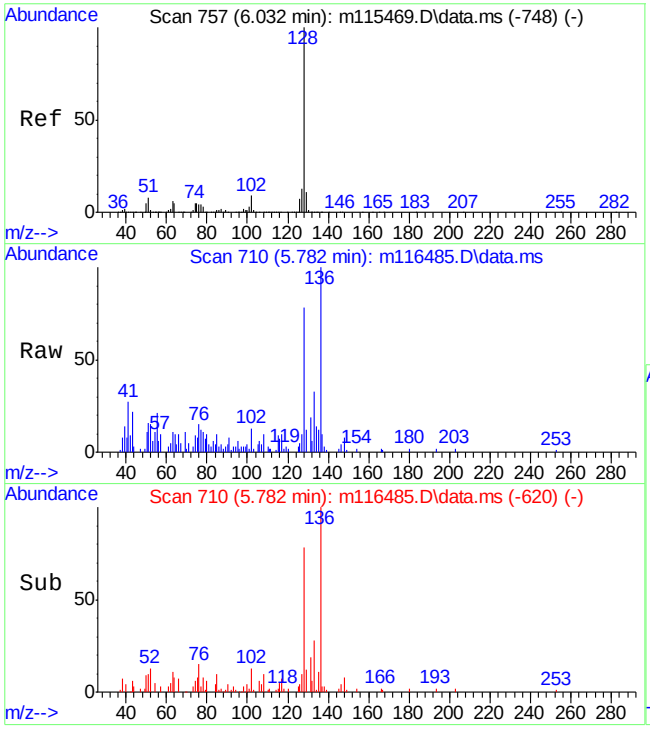
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4865\
Data File : m116485.D
Acq On : 1 Aug 2015 5:35 am
Operator : sarad
Sample : jb99969-14
Misc : op85880,em48645,30.4
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 01 09:41:36 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



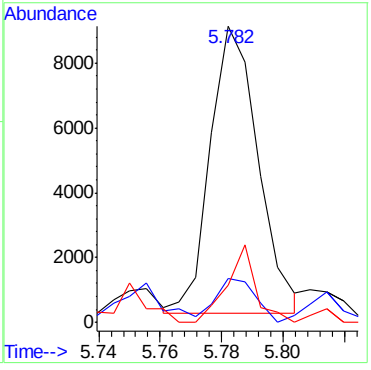
MM4814.M Sat Aug 01 09:41:39 2015 MSM

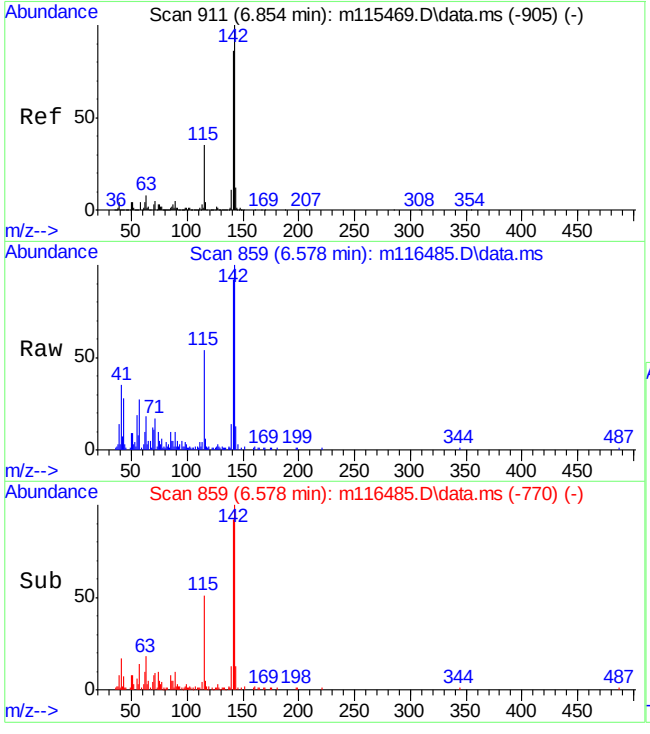


#38
Naphthalene
Concen: 0.71 ppm m
RT: 5.782 min Scan# 710
Delta R.T. -0.021 min
Lab File: m116485.D
Acq: 1 Aug 2015 5:35 am

Tgt Ion:128 Resp: 9587

Ion	Ratio	Lower	Upper
128	100		
129	14.8	0.0	41.3
127	12.4	0.0	43.7

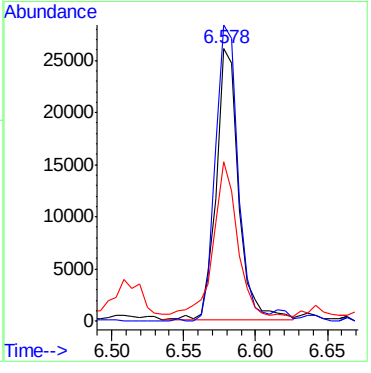




#44
2-Methylnaphthalene
Concen: 3.67 ppm
RT: 6.578 min Scan# 859
Delta R.T. -0.027 min
Lab File: m116485.D
Acq: 1 Aug 2015 5:35 am

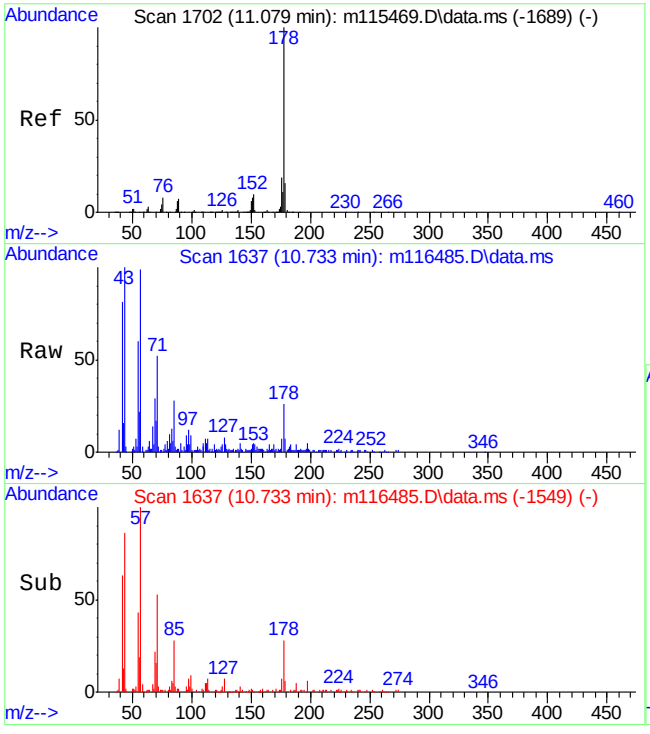
Tgt Ion:141 Resp: 27687

Ion	Ratio	Lower	Upper
141	100		
142	108.9	81.5	141.5
115	56.6	17.6	77.6



9.1.16

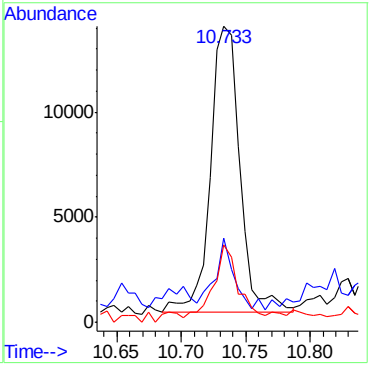
9



#77
Phenanthrene
Concen: 1.45 ppm
RT: 10.733 min Scan# 1637
Delta R.T. -0.032 min
Lab File: m116485.D
Acq: 1 Aug 2015 5:35 am

Tgt Ion:178 Resp: 21521

Ion	Ratio	Lower	Upper
178	100		
179	21.9	0.0	45.1
176	23.6	0.0	48.8



9.1.16

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4867\
Data File : m116531.D
Acq On : 3 Aug 2015 12:20 pm
Operator : alicjap
Sample : jb99969-15
Misc : op85880,em4867,30.0
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 03 16:27:05 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Aug 03 14:38:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.634	152	316824	40.00 ppm	0.00
24) Naphthalene-d8	5.751	136	1097588	40.00 ppm	0.00
47) Acenaphthene-d10	8.059	164	699294	40.00 ppm	0.00
69) Phenanthrene-d10	10.671	188	1121466	40.00 ppm	0.00
83) Chrysene-d12	15.837	240	1151990	40.00 ppm	0.00
92) Perylene-d12	18.465	264	1111460	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.634	152	316824	40.00 ppm	0.00
104) Acenaphthene-d10a	8.059	164	699294	40.00 ppm	0.00
107) Chrysene-d12a	15.837	240	1151990	40.00 ppm	0.00
109) Naphthalene-d8a	5.751	136	1097588	40.00 ppm	0.00
111) Chrysene-d12b	15.837	240	1151990	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	3.689	112	267405	28.49 ppm	0.00
Spiked Amount 50.000			Recovery	= 56.98%	
8) Phenol-d5	4.410	99	345012	28.87 ppm	0.00
Spiked Amount 50.000			Recovery	= 57.74%	
25) Nitrobenzene-d5	5.083	82	301859	28.33 ppm	0.00
Spiked Amount 50.000			Recovery	= 56.66%	
51) 2-Fluorobiphenyl	7.054	172	746894	32.33 ppm	0.00
Spiked Amount 50.000			Recovery	= 64.66%	
73) 2,4,6-Tribromophenol	9.416	330	126029	32.90 ppm	0.00
Spiked Amount 50.000			Recovery	= 65.80%	
86) Terphenyl-d14	13.834	244	913041	42.30 ppm	0.00
Spiked Amount 50.000			Recovery	= 84.60%	

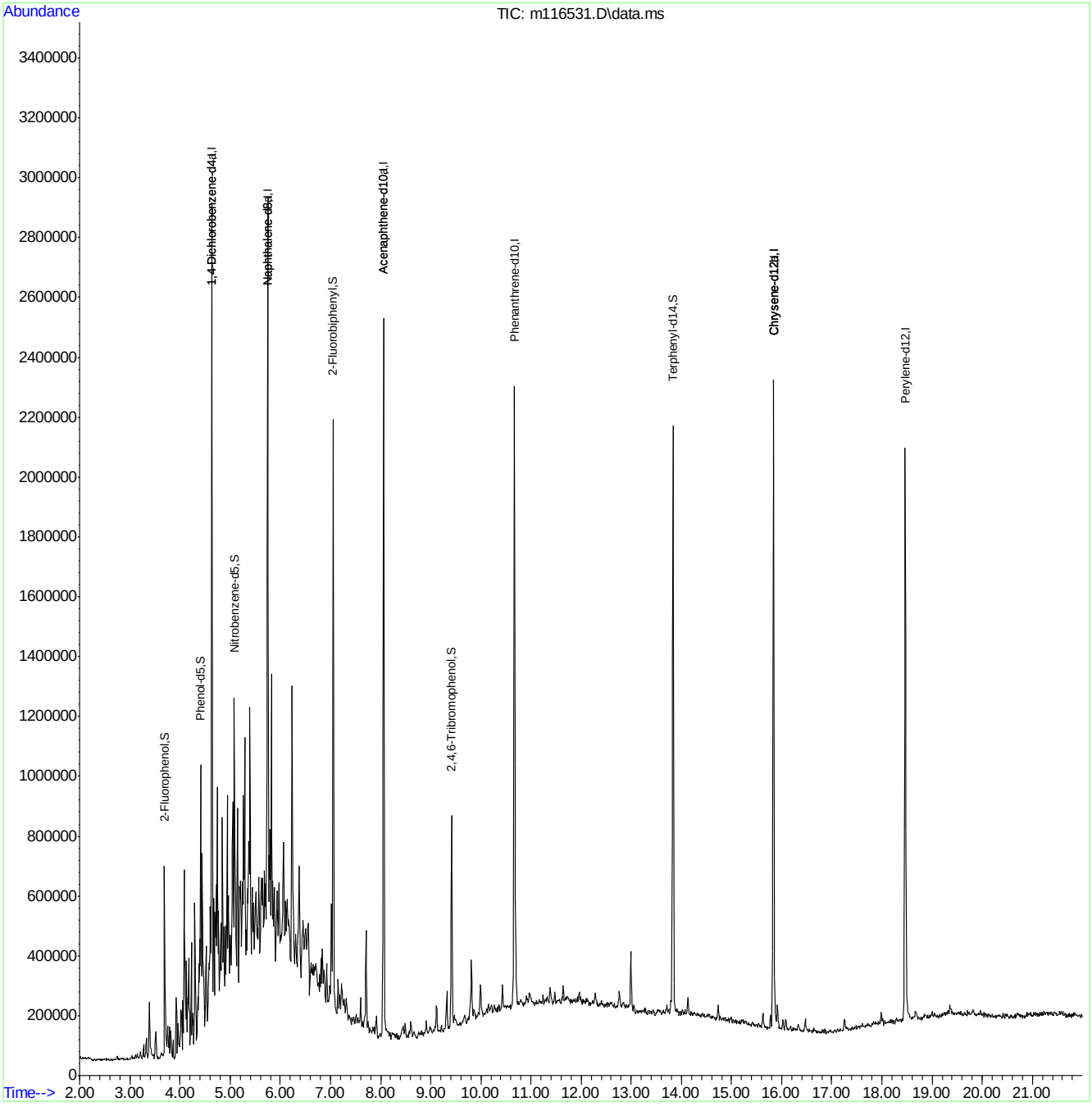
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4867\
Data File : m116531.D
Acq On : 3 Aug 2015 12:20 pm
Operator : alicjap
Sample : jb99969-15
Misc : op85880,em4867,30.0
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 03 16:27:05 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Aug 03 14:38:58 2015
Response via : Initial Calibration



MM4814.M Mon Aug 03 16:27:25 2015 MSM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76186.D
Acq On : 29 Jul 2015 6:02 pm
Operator : ashleyn
Sample : jb99969-16
Misc : op85881,e2m3302,30.1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 30 09:34:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.681	152	570881	40.00	ppm	0.00
24) Naphthalene-d8	5.767	136	2103520	40.00	ppm	0.00
47) Acenaphthene-d10	7.826	164	1189150	40.00	ppm	0.00
69) Phenanthrene-d10	9.992	188	1747298	40.00	ppm	0.00
83) Chrysene-d12	14.159	240	1736478	40.00	ppm	0.00
92) Perylene-d12	16.271	264	1743997	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.681	152	570881	40.00	ppm	0.00
104) Acenaphthene-d10a	7.826	164	1189150	40.00	ppm	0.00
106) Chrysene-d12a	14.159	240	1736478	40.00	ppm	0.00
109) Phenanthrene-d10a	9.992	188	1747298	40.00	ppm	0.00
112) Naphthalene-d8a	5.767	136	2103520	40.00	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	3.734	112	614885	28.82	ppm	0.00
Spiked Amount 50.000			Recovery = 57.64%			
8) Phenol-d5	4.440	99	772236	30.02	ppm	0.00
Spiked Amount 50.000			Recovery = 60.04%			
25) Nitrobenzene-d5	5.119	82	637943	30.10	ppm	0.00
Spiked Amount 50.000			Recovery = 60.20%			
51) 2-Fluorobiphenyl	6.954	172	1293385	34.32	ppm	0.00
Spiked Amount 50.000			Recovery = 68.64%			
73) 2,4,6-Tribromophenol	8.960	330	192937	37.93	ppm	0.00
Spiked Amount 50.000			Recovery = 75.86%			
85) Terphenyl-d14	12.538	244	1450349	44.28	ppm	0.00
Spiked Amount 50.000			Recovery = 88.56%			
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

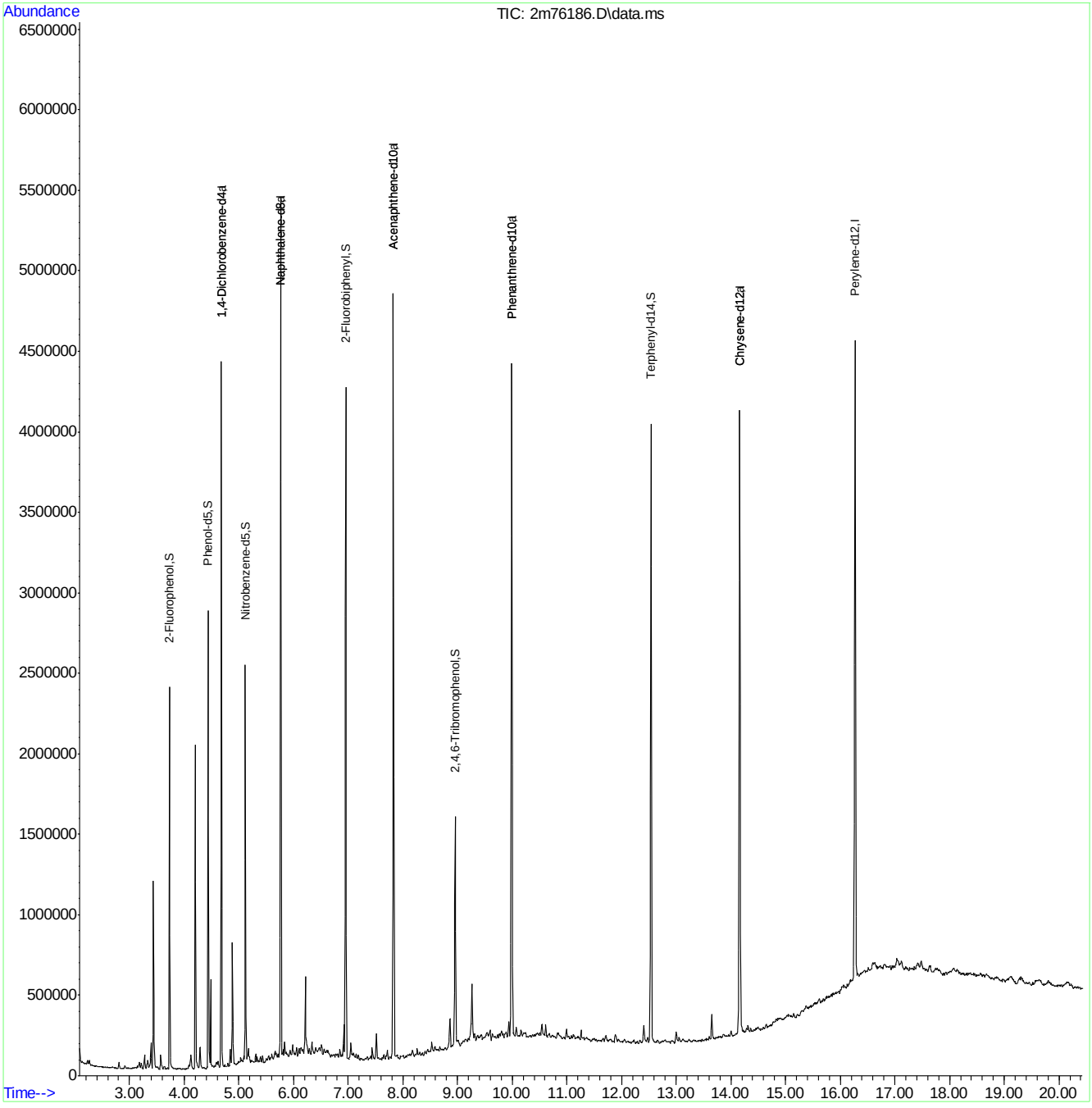
9.1.18

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76186.D
Acq On : 29 Jul 2015 6:02 pm
Operator : ashleyn
Sample : jb99969-16
Misc : op85881,e2m3302,30.1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 30 09:34:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76187.D
Acq On : 29 Jul 2015 6:29 pm
Operator : ashleyn
Sample : jb99969-17
Misc : op85881,e2m3302,30.0
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 30 09:38:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.686	152	638898	40.00	ppm	0.00
24) Naphthalene-d8	5.772	136	2124739	40.00	ppm	0.00
47) Acenaphthene-d10	7.831	164	1183557	40.00	ppm	0.00
69) Phenanthrene-d10	10.003	188	1822263	40.00	ppm	0.01
83) Chrysene-d12	14.164	240	1901386	40.00	ppm	0.00
92) Perylene-d12	16.271	264	1876423	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.686	152	638898	40.00	ppm	0.00
104) Acenaphthene-d10a	7.831	164	1183557	40.00	ppm	0.00
106) Chrysene-d12a	14.164	240	1901386	40.00	ppm	0.00
109) Phenanthrene-d10a	10.003	188	1822263	40.00	ppm	0.01
112) Naphthalene-d8a	5.772	136	2124739	40.00	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	3.729	112	839187	35.15	ppm	0.00
Spiked Amount 50.000			Recovery	=	70.30%	
8) Phenol-d5	4.440	99	1042570	36.21	ppm	0.00
Spiked Amount 50.000			Recovery	=	72.42%	
25) Nitrobenzene-d5	5.120	82	932573	43.56	ppm	0.00
Spiked Amount 50.000			Recovery	=	87.12%	
51) 2-Fluorobiphenyl	6.959	172	1711789	45.63	ppm	0.00
Spiked Amount 50.000			Recovery	=	91.26%	
73) 2,4,6-Tribromophenol	8.965	330	199243	37.56	ppm	0.01
Spiked Amount 50.000			Recovery	=	75.12%	
85) Terphenyl-d14	12.543	244	1663949	46.40	ppm	0.00
Spiked Amount 50.000			Recovery	=	92.80%	
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%	

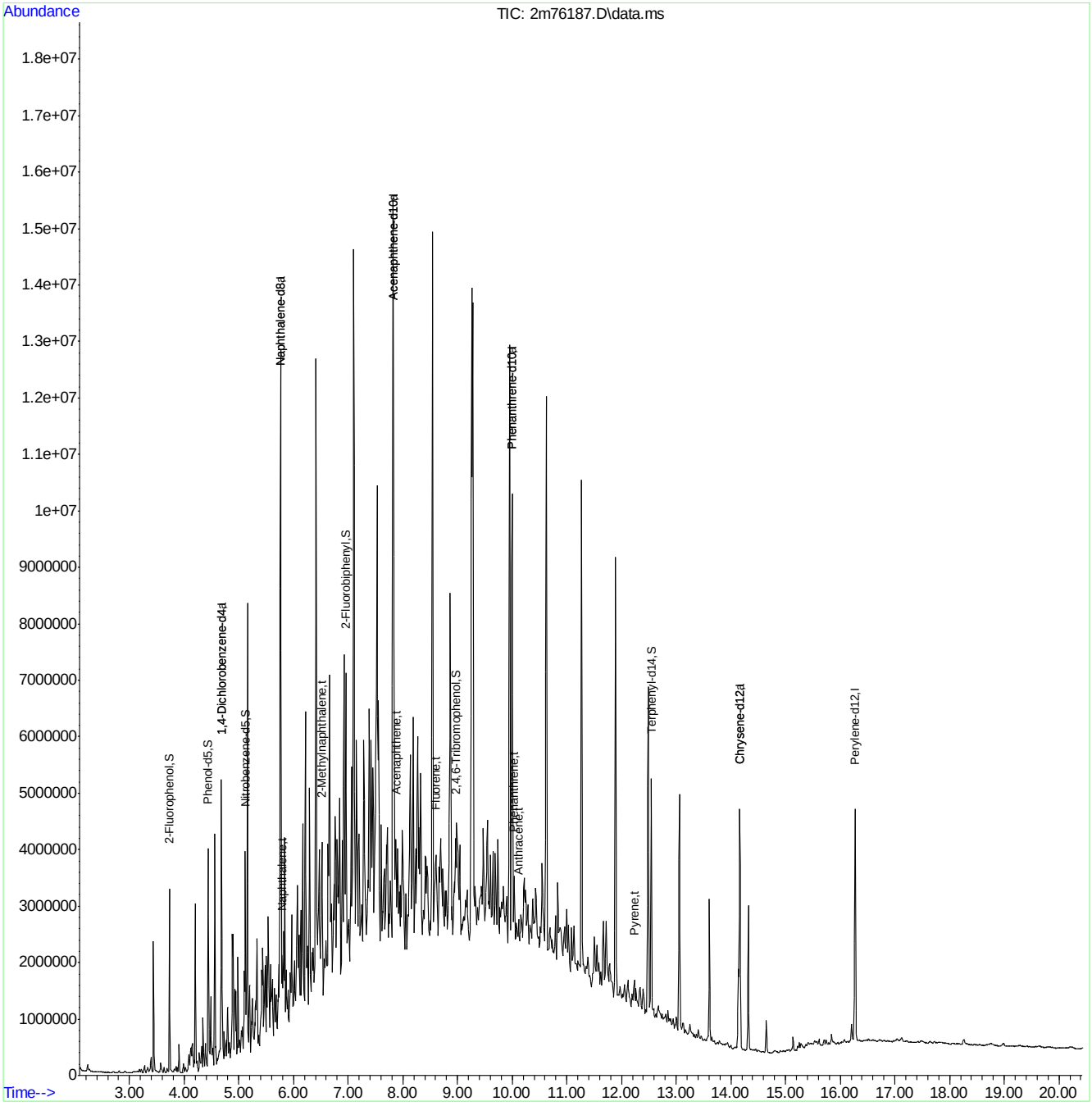
Target Compounds							Qvalue
38) Naphthalene	5.788	128	131371	2.27	ppm		96
44) 2-Methylnaphthalene	6.521	141	354451	11.96	ppm		99
59) Acenaphthene	7.874	153	59854	1.80	ppm		98
66) Fluorene	8.601	166	109791	2.90	ppm		99
77) Phenanthrene	10.035	178	423908	7.95	ppm		97
78) Anthracene	10.110	178	77740	1.47	ppm	#	43
84) Pyrene	12.233	202	81158	1.31	ppm		88

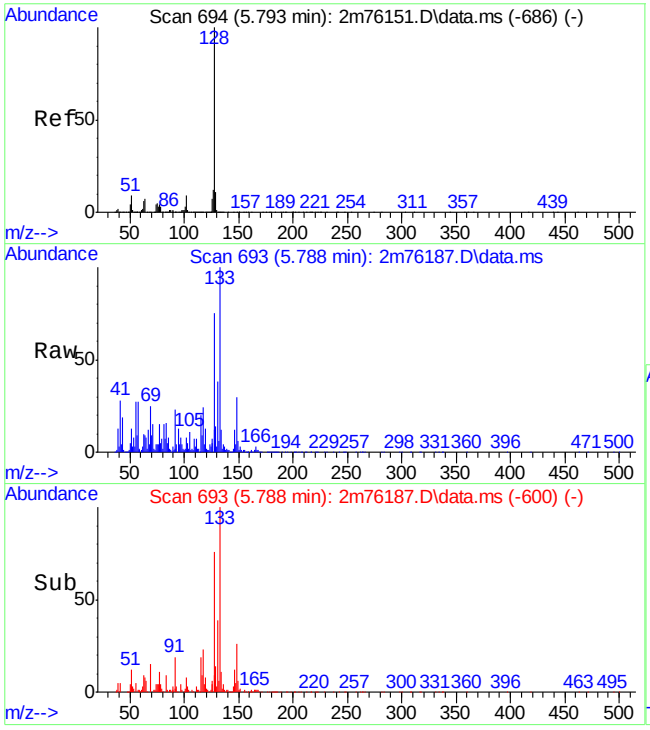
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76187.D
Acq On : 29 Jul 2015 6:29 pm
Operator : ashleyn
Sample : jb99969-17
Misc : op85881,e2m3302,30.0
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 30 09:38:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

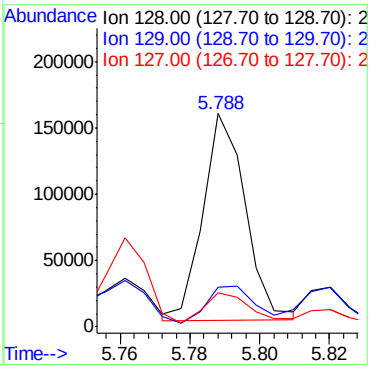


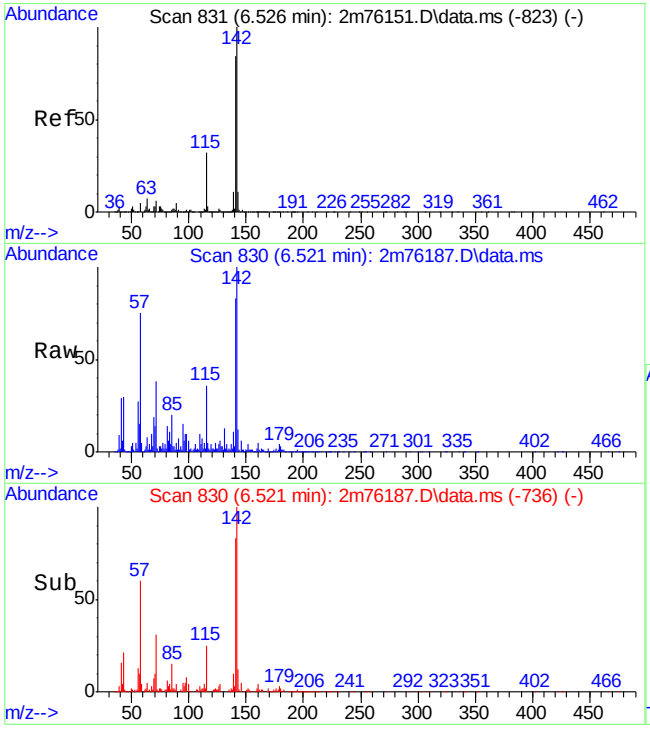


#38
Naphthalene
Concen: 2.27 ppm
RT: 5.788 min Scan# 693
Delta R.T. 0.000 min
Lab File: 2m76187.D
Acq: 29 Jul 2015 6:29 pm

Tgt Ion:128 Resp: 131371

Ion	Ratio	Lower	Upper
128	100		
129	12.9	0.0	40.6
127	11.3	0.0	42.4

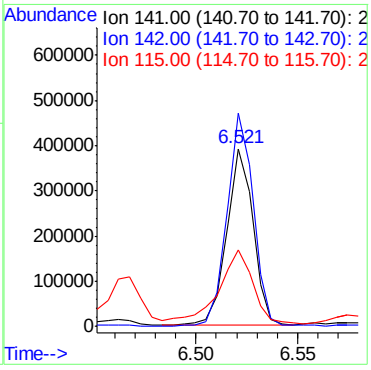




#44
2-Methylnaphthalene
Concen: 11.96 ppm
RT: 6.521 min Scan# 830
Delta R.T. 0.005 min
Lab File: 2m76187.D
Acq: 29 Jul 2015 6:29 pm

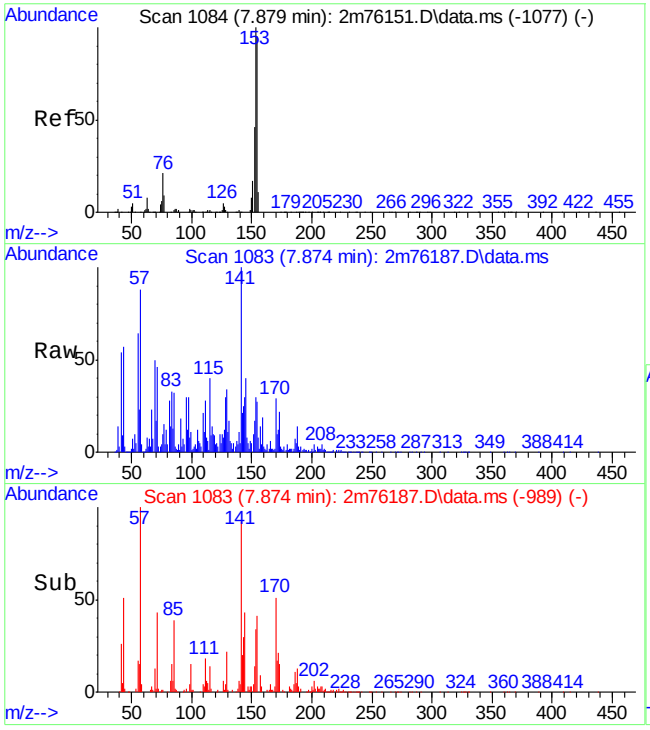
Tgt Ion:141 Resp: 354451

Ion	Ratio	Lower	Upper
141	100		
142	120.4	90.5	150.5
115	40.7	7.5	67.5



9.1.19

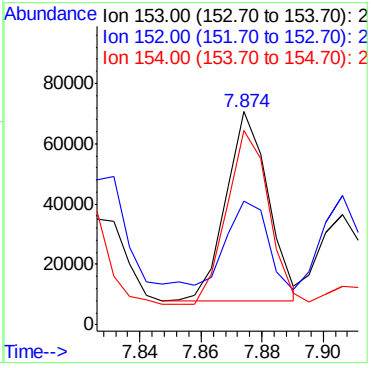
9

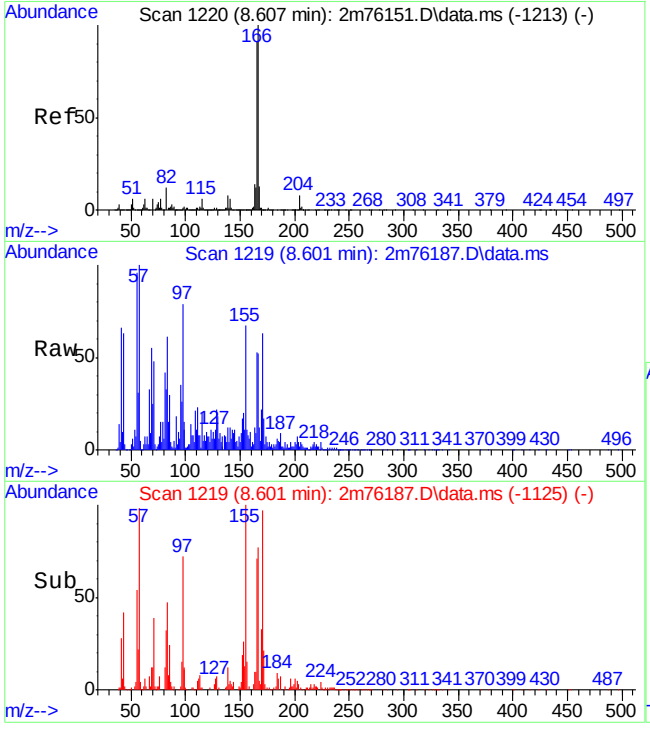


#59
Acenaphthene
Concen: 1.80 ppm
RT: 7.874 min Scan# 1083
Delta R.T. 0.005 min
Lab File: 2m76187.D
Acq: 29 Jul 2015 6:29 pm

Tgt Ion:153 Resp: 59854

Ion	Ratio	Lower	Upper
153	100		
152	47.2	16.2	76.2
154	92.5	64.9	124.9

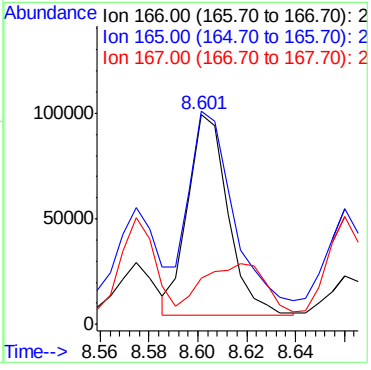




#66
Fluorene
Concen: 2.90 ppm
RT: 8.601 min Scan# 1219
Delta R.T. 0.005 min
Lab File: 2m76187.D
Acq: 29 Jul 2015 6:29 pm

Tgt Ion:166 Resp: 109791

Ion	Ratio	Lower	Upper
166	100		
165	90.5	60.4	120.4
167	11.1	0.0	43.3



9.1.19

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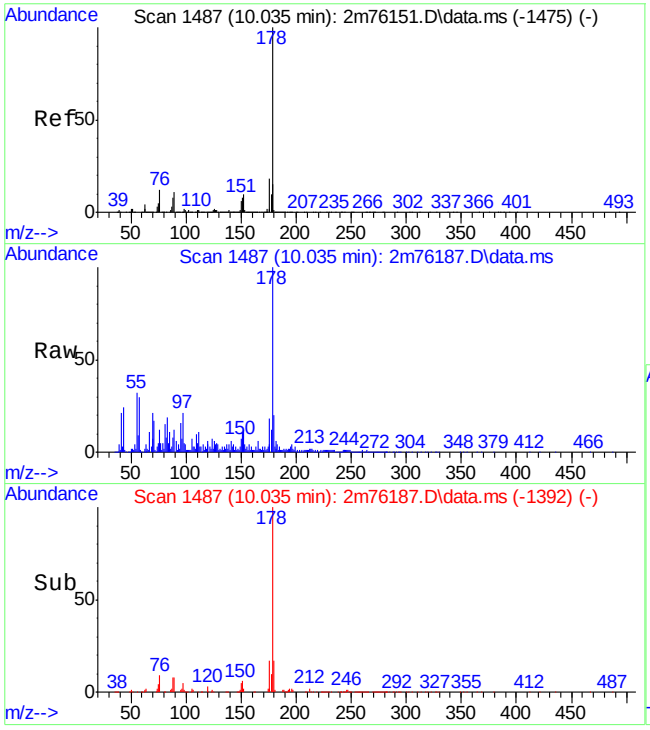
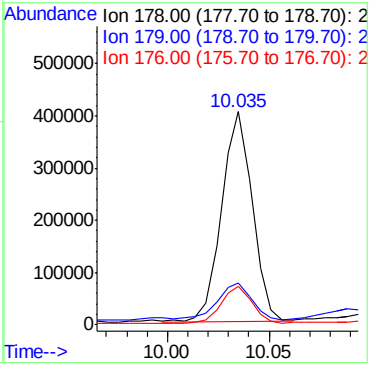
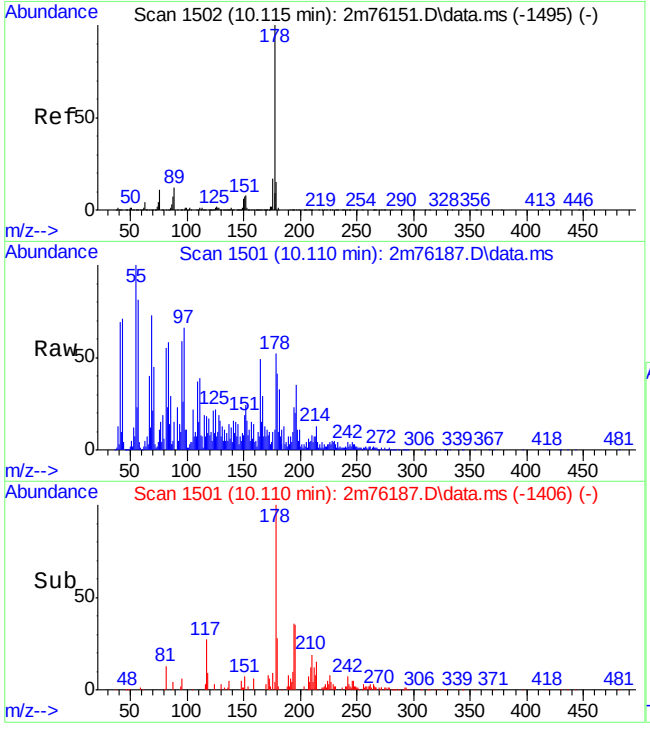


#77
Phenanthrene
Concen: 7.95 ppm
RT: 10.035 min Scan# 1487
Delta R.T. 0.011 min
Lab File: 2m76187.D
Acq: 29 Jul 2015 6:29 pm

Tgt Ion:178 Resp: 423908

Ion	Ratio	Lower	Upper
178	100		
179	17.1	0.0	45.0
176	17.7	0.0	48.4

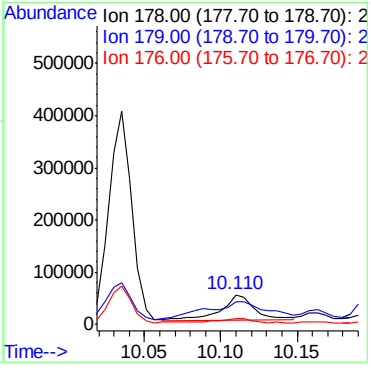




#78
Anthracene
Concen: 1.47 ppm
RT: 10.110 min Scan# 1501
Delta R.T. 0.006 min
Lab File: 2m76187.D
Acq: 29 Jul 2015 6:29 pm

Tgt Ion:178 Resp: 77740

Ion	Ratio	Lower	Upper
178	100		
179	63.8	0.0	44.9#
176	15.6	0.0	47.5



9.1.19

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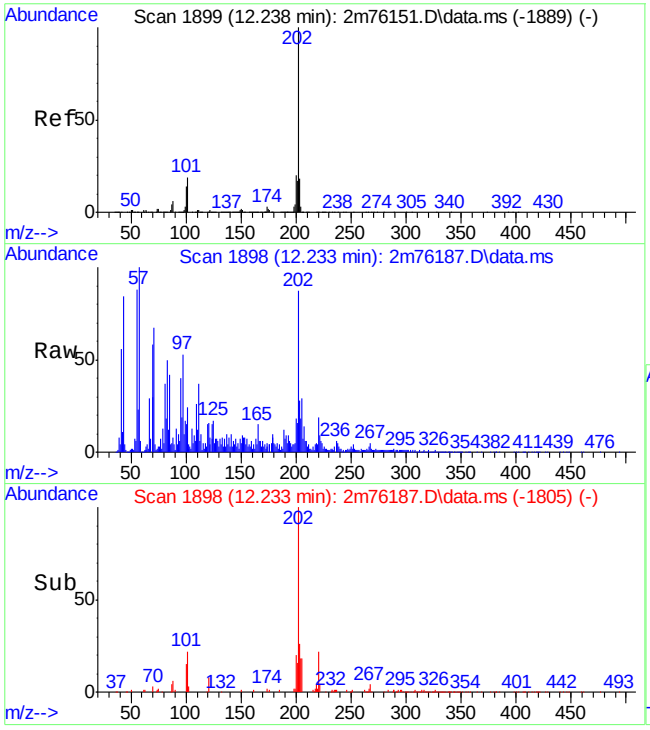
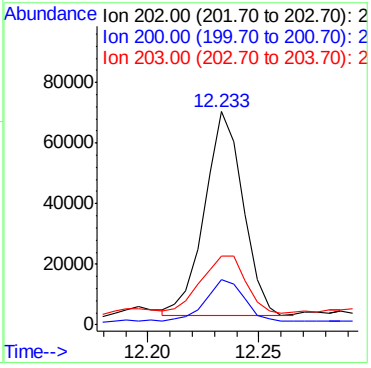


#84
Pyrene
Concen: 1.31 ppm
RT: 12.233 min Scan# 1898
Delta R.T. 0.000 min
Lab File: 2m76187.D
Acq: 29 Jul 2015 6:29 pm

Tgt Ion:202 Resp: 81158

Ion	Ratio	Lower	Upper
202	100		
200	20.6	0.0	49.6
203	27.6	0.0	47.9



9.1.19

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76188.D
Acq On : 29 Jul 2015 6:56 pm
Operator : ashleyn
Sample : jb99969-18
Misc : op85881,e2m3302,30.7
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 30 10:27:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.681	152	621611	40.00	ppm	0.00
24) Naphthalene-d8	5.772	136	1869705	40.00	ppm	0.00
47) Acenaphthene-d10	7.842	164	1260403	40.00	ppm	0.02
69) Phenanthrene-d10	9.997	188	2027128	40.00	ppm	0.00
83) Chrysene-d12	14.164	240	1960409	40.00	ppm	0.00
92) Perylene-d12	16.277	264	1892916	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.681	152	621611	40.00	ppm	0.00
104) Acenaphthene-d10a	7.842	164	1260403	40.00	ppm	0.02
106) Chrysene-d12a	14.164	240	1960409	40.00	ppm	0.00
109) Phenanthrene-d10a	9.997	188	2027128	40.00	ppm	0.00
112) Naphthalene-d8a	5.772	136	1869705	40.00	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	3.734	112	1006236	43.32	ppm	0.00
Spiked Amount 50.000			Recovery = 86.64%			
8) Phenol-d5	4.456	99	1211444	43.25	ppm	0.02
Spiked Amount 50.000			Recovery = 86.50%			
25) Nitrobenzene-d5	5.120	82	980335	52.04	ppm	0.00
Spiked Amount 50.000			Recovery = 104.08%			
51) 2-Fluorobiphenyl	6.981	172	1108750	27.75	ppm	0.03
Spiked Amount 50.000			Recovery = 55.50%			
73) 2,4,6-Tribromophenol	8.965	330	240762	40.80	ppm	0.01
Spiked Amount 50.000			Recovery = 81.60%			
85) Terphenyl-d14	12.543	244	1591495	43.04	ppm	0.00
Spiked Amount 50.000			Recovery = 86.08%			
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%			

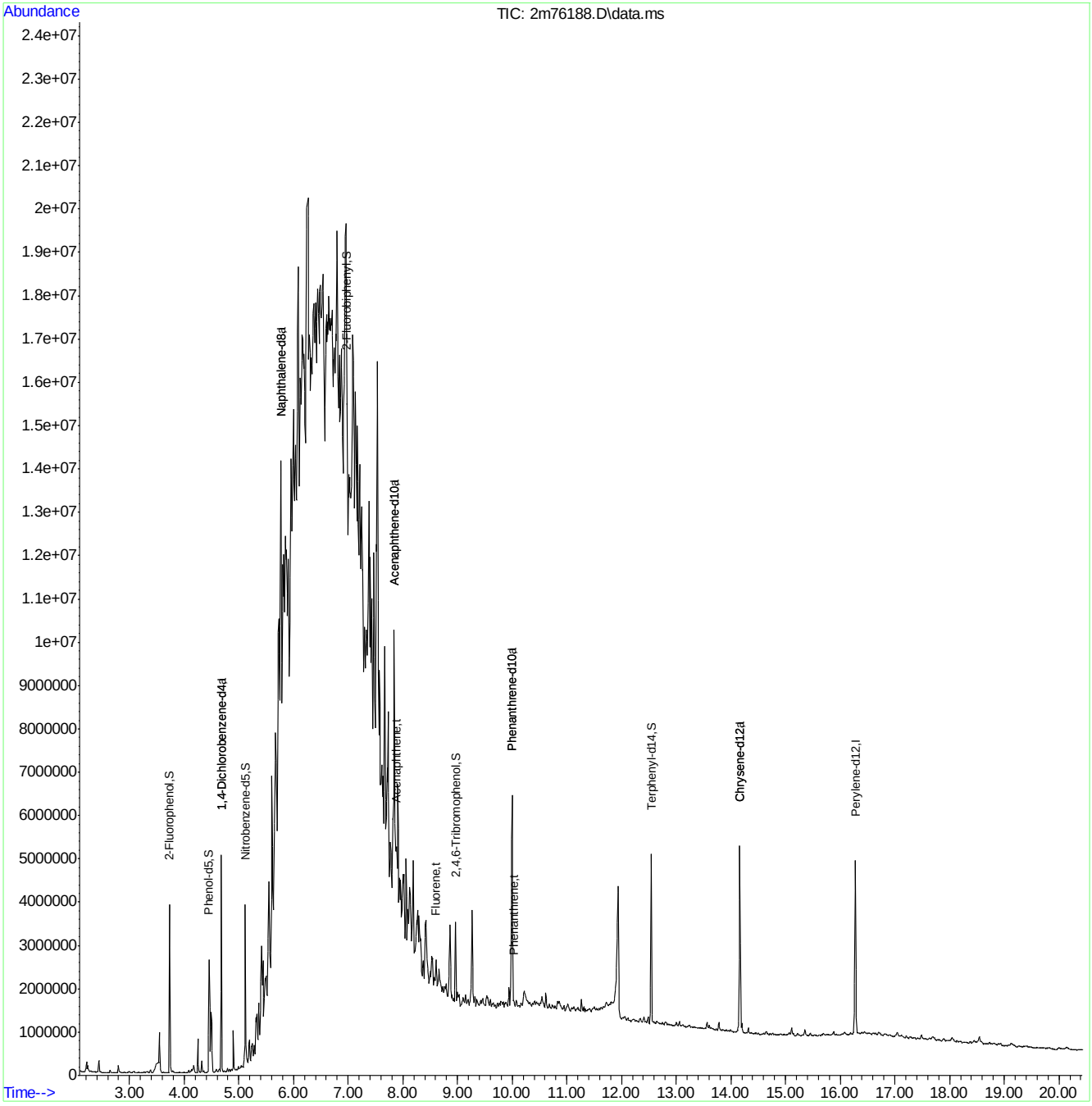
Target Compounds						Qvalue
59) Acenaphthene	7.885	153	27992	0.79	ppm	86
66) Fluorene	8.601	166	95797	2.38	ppm	98
77) Phenanthrene	10.030	178	43357	0.73	ppm	96

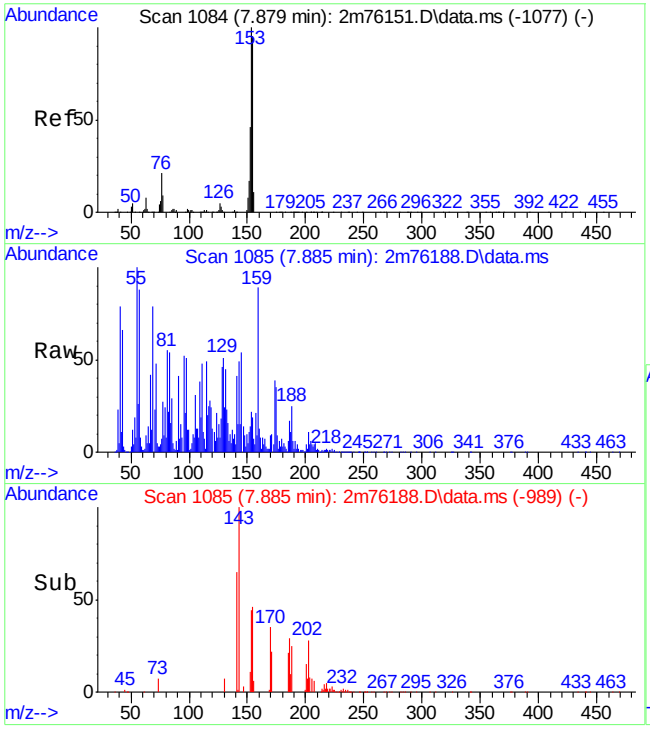
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76188.D
Acq On : 29 Jul 2015 6:56 pm
Operator : ashleyn
Sample : jb99969-18
Misc : op85881,e2m3302,30.7
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 30 10:27:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

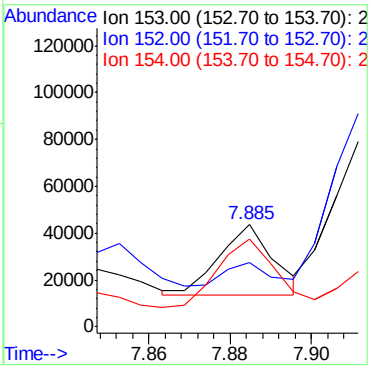


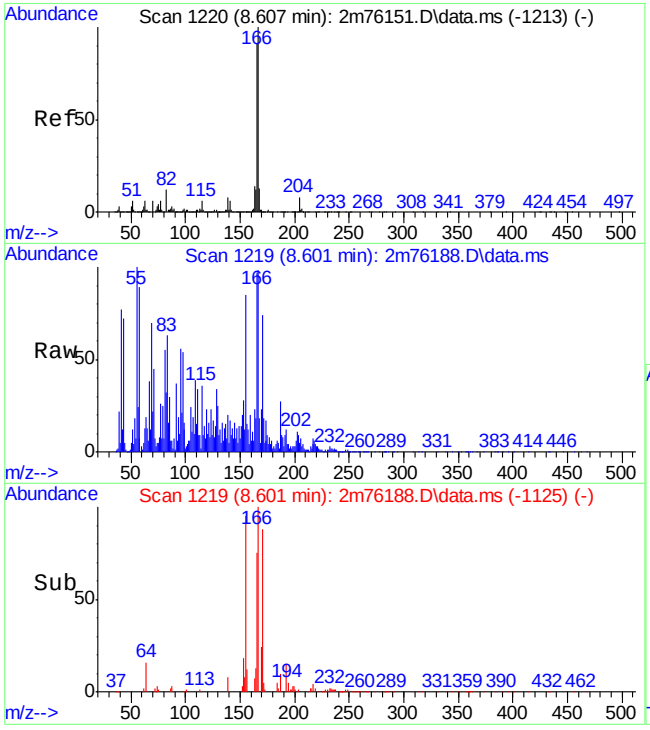


#59
Acenaphthene
Concen: 0.79 ppm
RT: 7.885 min Scan# 1085
Delta R.T. 0.016 min
Lab File: 2m76188.D
Acq: 29 Jul 2015 6:56 pm

Tgt Ion:153 Resp: 27992

Ion	Ratio	Lower	Upper
153	100		
152	27.8	16.2	76.2
154	102.2	64.9	124.9

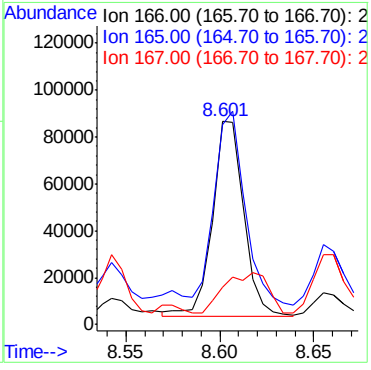




#66
Fluorene
Concen: 2.38 ppm
RT: 8.601 min Scan# 1219
Delta R.T. 0.005 min
Lab File: 2m76188.D
Acq: 29 Jul 2015 6:56 pm

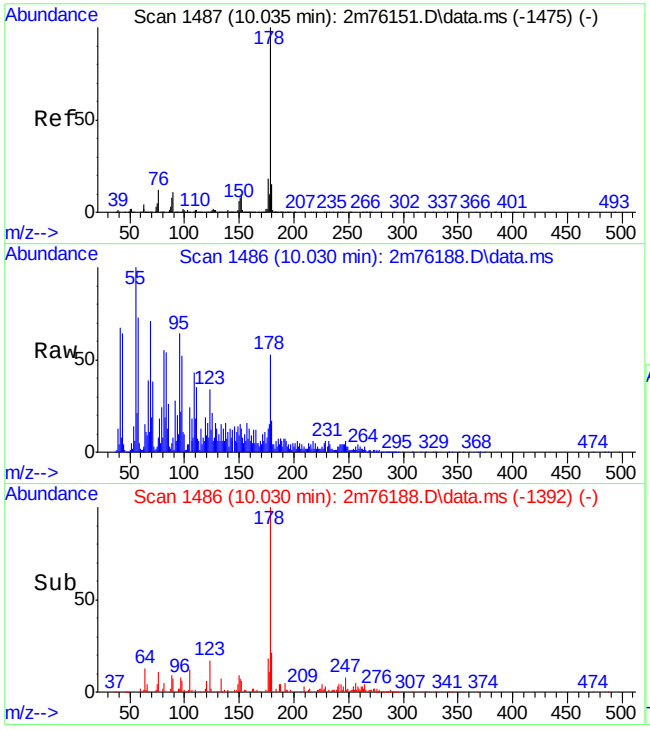
Tgt Ion:166 Resp: 95797

Ion	Ratio	Lower	Upper
166	100		
165	91.5	60.4	120.4
167	11.0	0.0	43.3



9.1.20

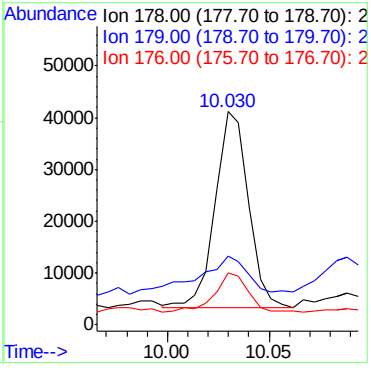
9



#77
Phenanthrene
Concen: 0.73 ppm
RT: 10.030 min Scan# 1486
Delta R.T. 0.005 min
Lab File: 2m76188.D
Acq: 29 Jul 2015 6:56 pm

Tgt Ion:178 Resp: 43357

Ion	Ratio	Lower	Upper
178	100		
179	16.7	0.0	45.0
176	19.8	0.0	48.4



9.1.20

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76189.D
Acq On : 29 Jul 2015 7:23 pm
Operator : ashleyn
Sample : jb99969-19
Misc : op85881,e2m3302,30.4
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 30 10:46:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.681	152	626903	40.00	ppm	0.00
24) Naphthalene-d8	5.767	136	2283149	40.00	ppm	0.00
47) Acenaphthene-d10	7.831	164	1278484	40.00	ppm	0.00
69) Phenanthrene-d10	9.998	188	1834790	40.00	ppm	0.00
83) Chrysene-d12	14.164	240	1702848	40.00	ppm	0.00
92) Perylene-d12	16.277	264	1708291	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.681	152	626903	40.00	ppm	0.00
104) Acenaphthene-d10a	7.831	164	1278484	40.00	ppm	0.00
106) Chrysene-d12a	14.164	240	1702848	40.00	ppm	0.00
109) Phenanthrene-d10a	9.998	188	1834790	40.00	ppm	0.00
112) Naphthalene-d8a	5.767	136	2283149	40.00	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	3.734	112	717659	30.63	ppm	0.00
Spiked Amount 50.000			Recovery = 61.26%			
8) Phenol-d5	4.440	99	854237	30.24	ppm	0.00
Spiked Amount 50.000			Recovery = 60.48%			
25) Nitrobenzene-d5	5.120	82	726573	31.59	ppm	0.00
Spiked Amount 50.000			Recovery = 63.18%			
51) 2-Fluorobiphenyl	6.954	172	1268796	31.31	ppm	0.00
Spiked Amount 50.000			Recovery = 62.62%			
73) 2,4,6-Tribromophenol	8.960	330	152942	28.64	ppm	0.00
Spiked Amount 50.000			Recovery = 57.28%			
85) Terphenyl-d14	12.538	244	1046059	32.57	ppm	0.00
Spiked Amount 50.000			Recovery = 65.14%			
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%			

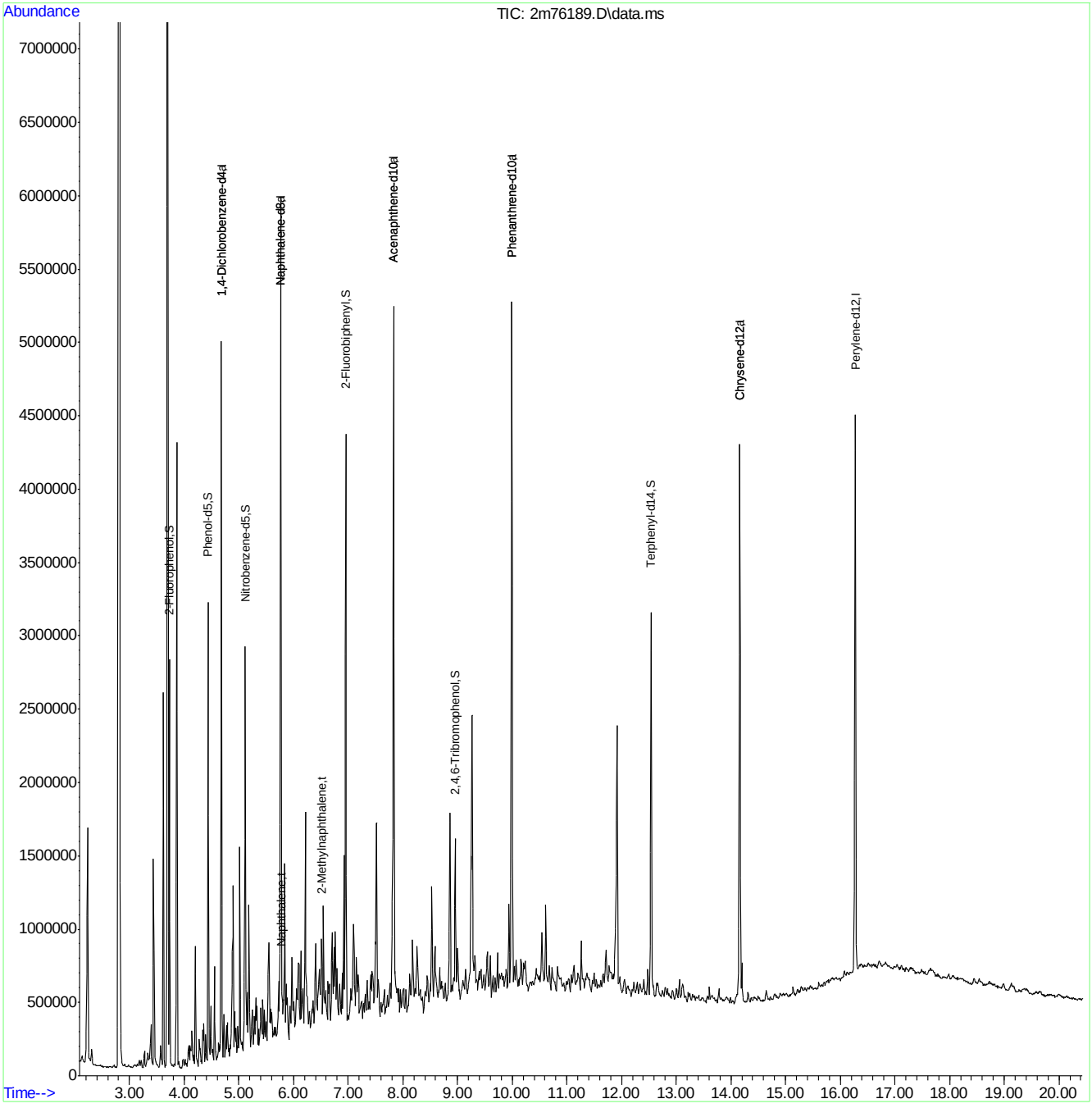
Target Compounds						Qvalue
38) Naphthalene	5.788	128	49932	0.80	ppm	96
44) 2-Methylnaphthalene	6.516	141	20487	0.64	ppm	88

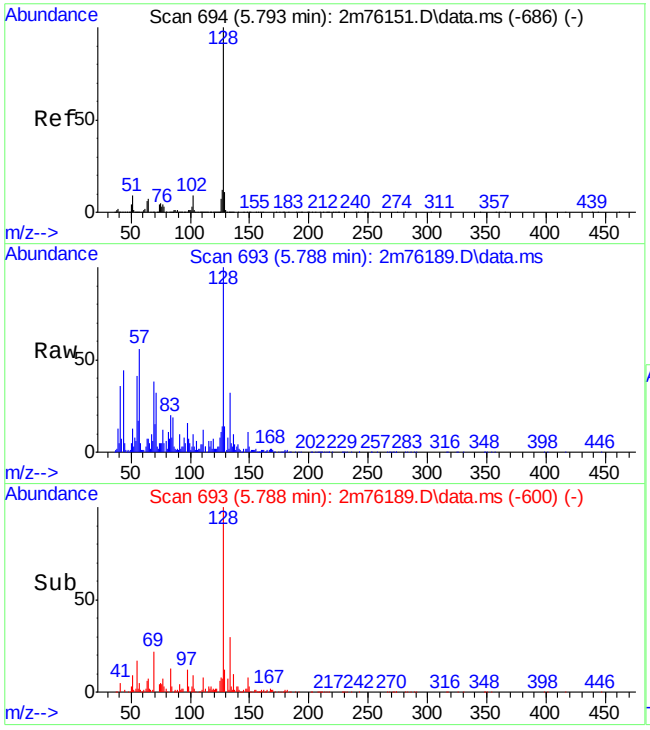
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76189.D
Acq On : 29 Jul 2015 7:23 pm
Operator : ashleyn
Sample : jb99969-19
Misc : op85881,e2m3302,30.4
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 30 10:46:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

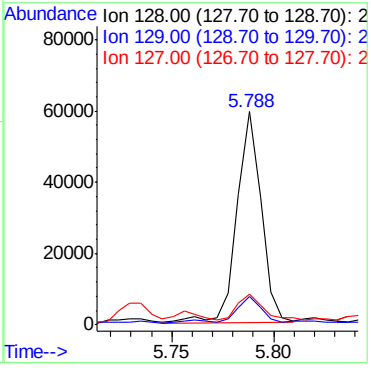


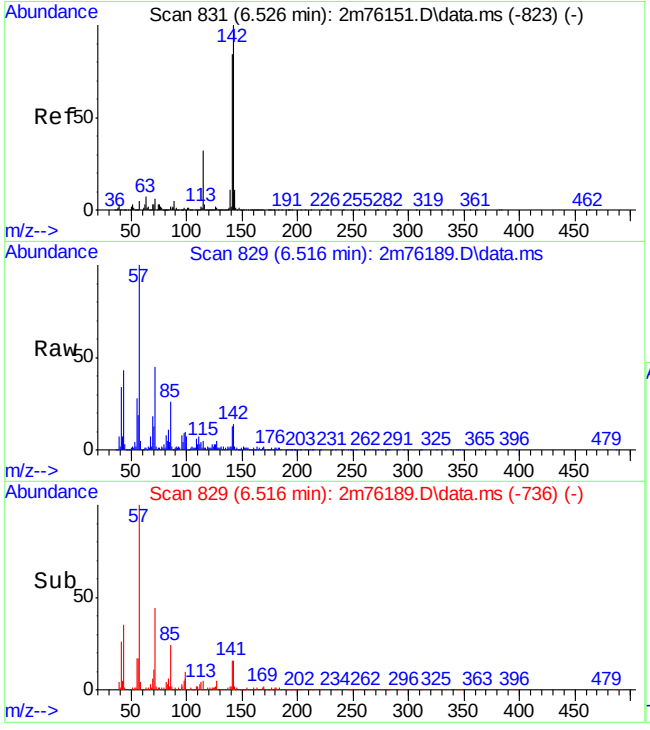


#38
Naphthalene
Concen: 0.80 ppm
RT: 5.788 min Scan# 693
Delta R.T. 0.000 min
Lab File: 2m76189.D
Acq: 29 Jul 2015 7:23 pm

Tgt Ion:128 Resp: 49932

Ion	Ratio	Lower	Upper
128	100		
129	12.6	0.0	40.6
127	11.5	0.0	42.4

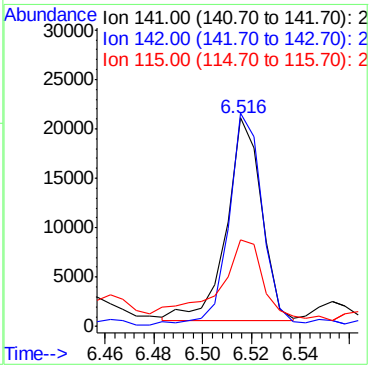




#44
2-Methylnaphthalene
Concen: 0.64 ppm
RT: 6.516 min Scan# 829
Delta R.T. 0.000 min
Lab File: 2m76189.D
Acq: 29 Jul 2015 7:23 pm

Tgt Ion:141 Resp: 20487

Ion	Ratio	Lower	Upper
141	100		
142	104.2	90.5	150.5
115	35.5	7.5	67.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76190.D
Acq On : 29 Jul 2015 7:50 pm
Operator : ashleyn
Sample : jb99969-20
Misc : op85881,e2m3302,30.0
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 30 10:47:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.681	152	585889	40.00	ppm	0.00
24) Naphthalene-d8	5.766	136	2163651	40.00	ppm	0.00
47) Acenaphthene-d10	7.831	164	1214279	40.00	ppm	0.00
69) Phenanthrene-d10	9.992	188	1744257	40.00	ppm	0.00
83) Chrysene-d12	14.164	240	1673211	40.00	ppm	0.00
92) Perylene-d12	16.271	264	1718695	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.681	152	585889	40.00	ppm	0.00
104) Acenaphthene-d10a	7.831	164	1214279	40.00	ppm	0.00
106) Chrysene-d12a	14.164	240	1673211	40.00	ppm	0.00
109) Phenanthrene-d10a	9.992	188	1744257	40.00	ppm	0.00
112) Naphthalene-d8a	5.766	136	2163651	40.00	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	3.734	112	762303	34.82	ppm	0.00
Spiked Amount 50.000			Recovery = 69.64%			
8) Phenol-d5	4.440	99	901212	34.14	ppm	0.00
Spiked Amount 50.000			Recovery = 68.28%			
25) Nitrobenzene-d5	5.119	82	767195	35.19	ppm	0.00
Spiked Amount 50.000			Recovery = 70.38%			
51) 2-Fluorobiphenyl	6.954	172	1379148	35.83	ppm	0.00
Spiked Amount 50.000			Recovery = 71.66%			
73) 2,4,6-Tribromophenol	8.960	330	205583	40.49	ppm	0.00
Spiked Amount 50.000			Recovery = 80.98%			
85) Terphenyl-d14	12.538	244	1480945	46.92	ppm	0.00
Spiked Amount 50.000			Recovery = 93.84%			
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%			

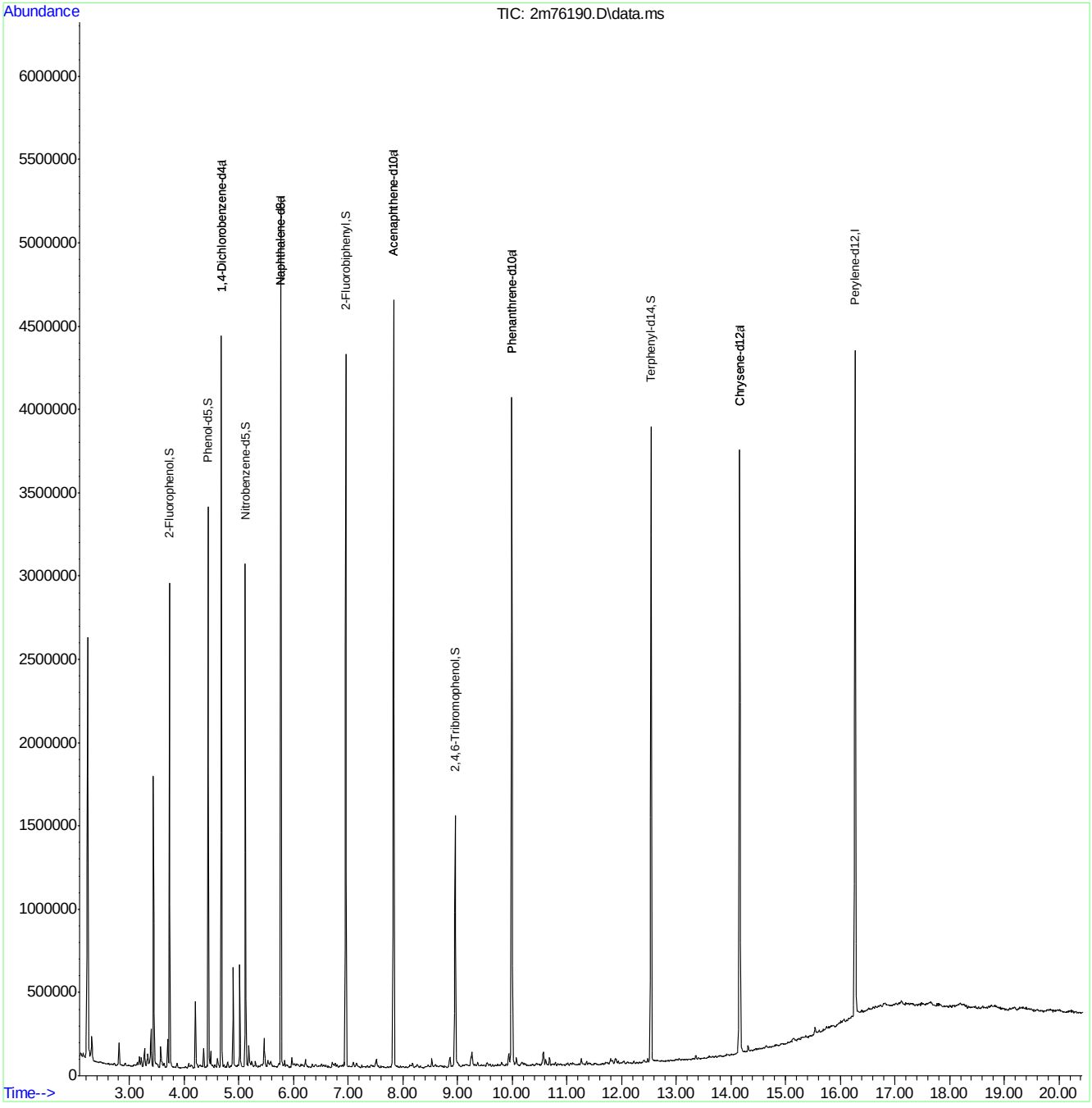
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76190.D
Acq On : 29 Jul 2015 7:50 pm
Operator : ashleyn
Sample : jb99969-20
Misc : op85881,e2m3302,30.0
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 30 10:47:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 17:36:05 2015
QLast Update : Wed Jul 29 17:36:05 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51017.D
Acq On : 29 Jul 2015 9:28 pm
Operator : ashleyd
Sample : jb99969-21
Misc : op85890,e2p2191,31.0
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 30 16:29:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.559	152	1472618	40.00 ppm	0.00
24) Naphthalene-d8	5.612	136	5022629	40.00 ppm	0.00
47) Acenaphthene-d10	7.051	164	2893953	40.00 ppm	0.00
69) Phenanthrene-d10	8.329	188	5002571	40.00 ppm	0.00
83) Chrysene-d12	11.581	240	5302956	40.00 ppm	0.00
92) Perylene-d12	13.582	264	4520685	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.559	152	1472618	40.00 ppm	0.00
104) Naphthalene-d8a	5.612	136	5022629	40.00 ppm	# 0.00
106) Acenaphthene-d10a	7.051	164	2893953	40.00 ppm	0.00
109) Chrysene-d12a	11.581	240	5302793	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	3.510	112	1609430	30.60 ppm	-0.01
Spiked Amount 50.000	Range 11 - 58		Recovery	= 61.20%#	
8) Phenol-d5	4.334	99	1958643	32.41 ppm	0.00
Spiked Amount 50.000	Range 10 - 59		Recovery	= 64.82%#	
25) Nitrobenzene-d5	5.024	82	1975853	45.23 ppm	0.00
Spiked Amount 50.000	Range 19 - 61		Recovery	= 90.46%#	
51) 2-Fluorobiphenyl	6.500	172	4013565	46.78 ppm	0.00
Spiked Amount 50.000	Range 21 - 58		Recovery	= 93.56%#	
73) 2,4,6-Tribromophenol	7.714	330	636514	50.94 ppm	0.00
Spiked Amount 50.000	Range 12 - 68		Recovery	= 101.88%#	
85) Terphenyl-d14	10.153	244	4838814	48.58 ppm	0.01
Spiked Amount 50.000	Range 16 - 65		Recovery	= 97.16%#	
Target Compounds					Qvalue

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

9.1.23

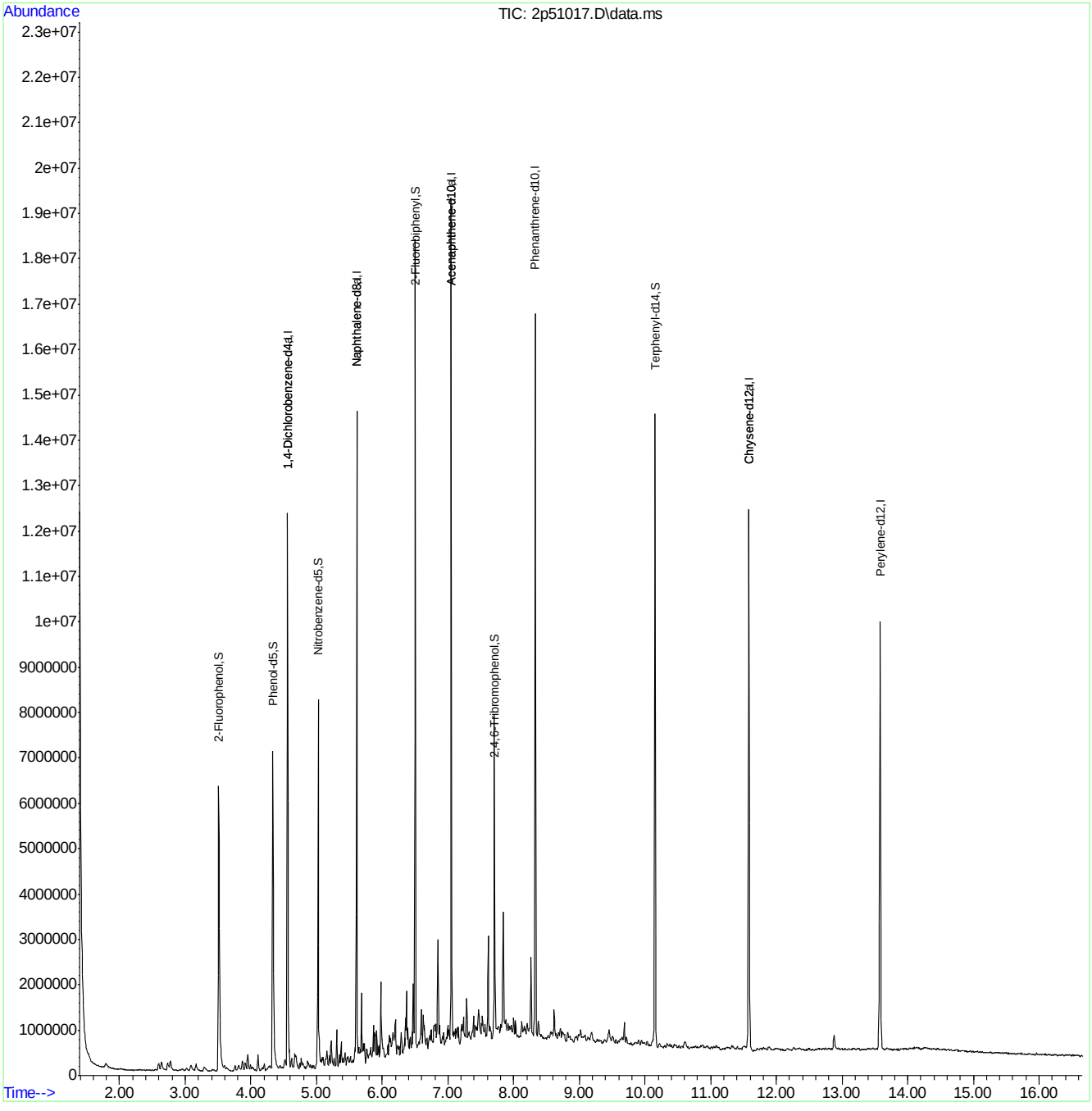
9

ACCUTEST LABORATORIES JB99969

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51017.D
Acq On : 29 Jul 2015 9:28 pm
Operator : ashleyd
Sample : jb99969-21
Misc : op85890,e2p2191,31.0
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 30 16:29:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51018.D
Acq On : 29 Jul 2015 9:49 pm
Operator : ashleyd
Sample : jb99969-22
Misc : op85890,e2p2191,30.9
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 30 16:31:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration

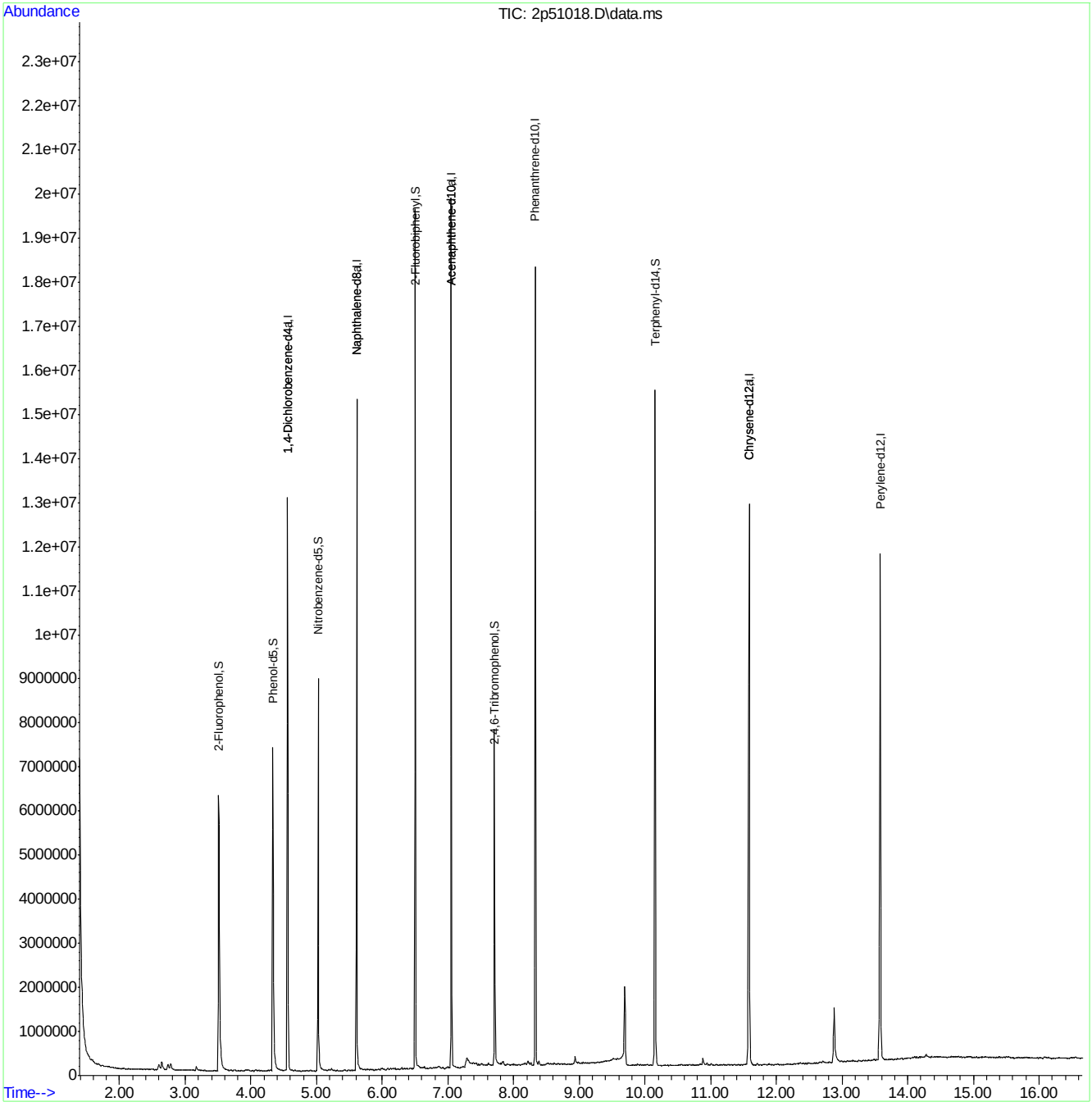
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.559	152	1553881	40.00	ppm	0.00
24) Naphthalene-d8	5.612	136	5330604	40.00	ppm	0.00
47) Acenaphthene-d10	7.051	164	3232168	40.00	ppm	0.00
69) Phenanthrene-d10	8.329	188	5781632	40.00	ppm	0.00
83) Chrysene-d12	11.587	240	5981792	40.00	ppm	0.00
92) Perylene-d12	13.582	264	5080355	40.00	ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.559	152	1553881	40.00	ppm	0.00
104) Naphthalene-d8a	5.612	136	5330604	40.00	ppm	0.00
106) Acenaphthene-d10a	7.051	164	3232168	40.00	ppm	0.00
109) Chrysene-d12a	11.587	240	5981903	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	3.510	112	1647056	29.68	ppm	-0.01
Spiked Amount 50.000	Range 11 - 58		Recovery = 59.36%#			
8) Phenol-d5	4.334	99	2007766	31.49	ppm	0.00
Spiked Amount 50.000	Range 10 - 59		Recovery = 62.98%#			
25) Nitrobenzene-d5	5.024	82	2075891	44.78	ppm	0.00
Spiked Amount 50.000	Range 19 - 61		Recovery = 89.56%#			
51) 2-Fluorobiphenyl	6.500	172	4584854	47.85	ppm	0.00
Spiked Amount 50.000	Range 21 - 58		Recovery = 95.70%#			
73) 2,4,6-Tribromophenol	7.714	330	711983	49.30	ppm	0.00
Spiked Amount 50.000	Range 12 - 68		Recovery = 98.60%#			
85) Terphenyl-d14	10.153	244	5441749	48.43	ppm	0.01
Spiked Amount 50.000	Range 16 - 65		Recovery = 96.86%#			
Target Compounds						Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51018.D
Acq On : 29 Jul 2015 9:49 pm
Operator : ashleyd
Sample : jb99969-22
Misc : op85890,e2p2191,30.9
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 30 16:31:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51023.D
Acq On : 29 Jul 2015 11:36 pm
Operator : ashleyd
Sample : jb99969-23
Misc : op85890,e2p2191,30.7
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 30 16:48:32 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration

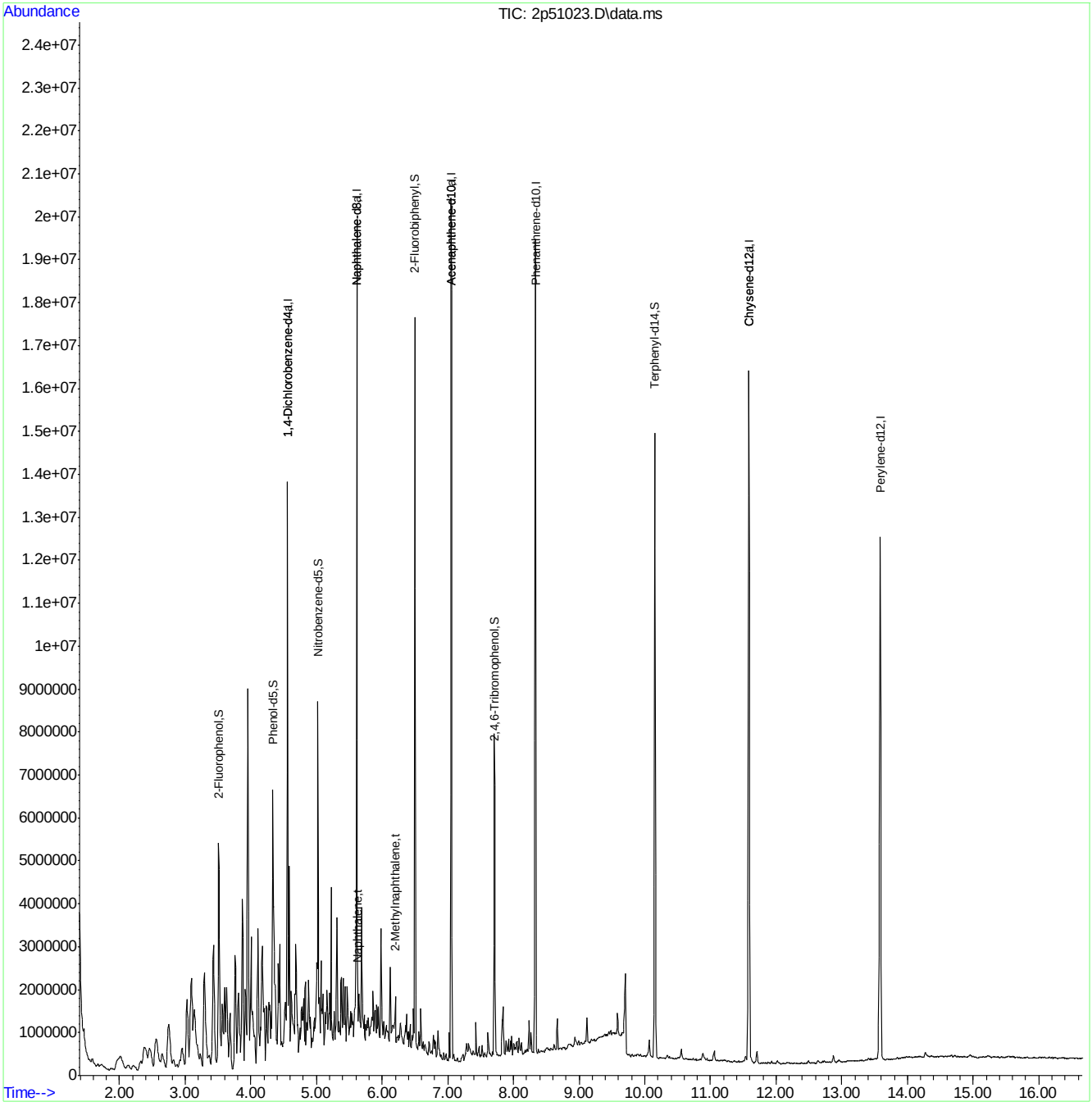
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.559	152	1525818	40.00	ppm	0.00
24) Naphthalene-d8	5.612	136	5209633	40.00	ppm	0.00
47) Acenaphthene-d10	7.051	164	3593890	40.00	ppm	0.00
69) Phenanthrene-d10	8.335	188	6449784	40.00	ppm	0.00
83) Chrysene-d12	11.587	240	7171662	40.00	ppm	0.00
92) Perylene-d12	13.587	264	6015150	40.00	ppm	0.02
102) 1,4-Dichlorobenzene-d4a	4.559	152	1525818	40.00	ppm	0.00
104) Naphthalene-d8a	5.612	136	5209633	40.00	ppm	# 0.00
106) Acenaphthene-d10a	7.051	164	3593890	40.00	ppm	0.00
109) Chrysene-d12a	11.587	240	7171662	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	3.510	112	1358495	24.93	ppm	-0.01
Spiked Amount 50.000	Range 11 - 58		Recovery = 49.86%			
8) Phenol-d5	4.334	99	1622066	25.91	ppm	0.00
Spiked Amount 50.000	Range 10 - 59		Recovery = 51.82%			
25) Nitrobenzene-d5	5.024	82	1653393	36.49	ppm	0.00
Spiked Amount 50.000	Range 19 - 61		Recovery = 72.98%#			
51) 2-Fluorobiphenyl	6.500	172	3882506	36.44	ppm	0.00
Spiked Amount 50.000	Range 21 - 58		Recovery = 72.88%#			
73) 2,4,6-Tribromophenol	7.714	330	672797	41.76	ppm	0.00
Spiked Amount 50.000	Range 12 - 68		Recovery = 83.52%#			
85) Terphenyl-d14	10.153	244	5098919	37.85	ppm	0.01
Spiked Amount 50.000	Range 16 - 65		Recovery = 75.70%#			
Target Compounds						Qvalue
38) Naphthalene	5.628	128	63122	0.53	ppm	79
44) 2-Methylnaphthalene	6.201	141	132518	1.82	ppm	92

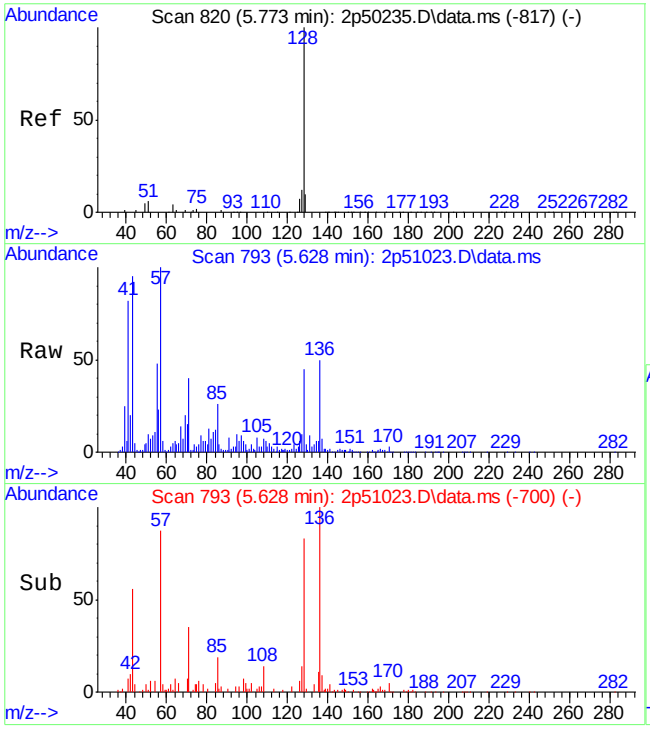
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51023.D
Acq On : 29 Jul 2015 11:36 pm
Operator : ashleyd
Sample : jb99969-23
Misc : op85890,e2p2191,30.7
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 30 16:48:32 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration

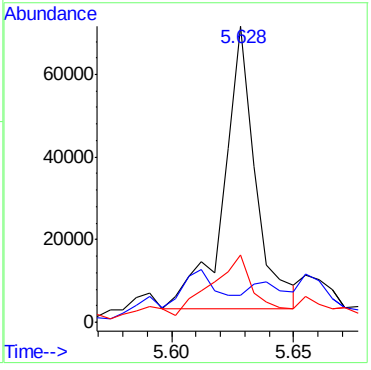


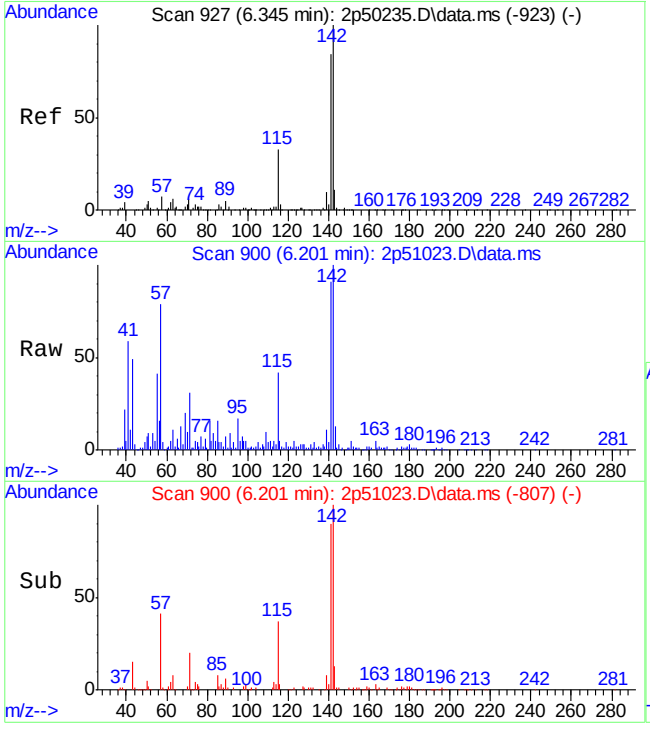


#38
Naphthalene
Concen: 0.53 ppm
RT: 5.628 min Scan# 793
Delta R.T. -0.000 min
Lab File: 2p51023.D
Acq: 29 Jul 2015 11:36 pm

Tgt Ion:128 Resp: 63122

Ion	Ratio	Lower	Upper
128	100		
129	1.9	0.0	41.8
127	20.0	0.0	43.3

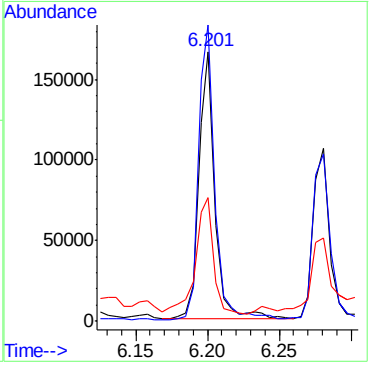




#44
2-Methylnaphthalene
Concen: 1.82 ppm
RT: 6.201 min Scan# 900
Delta R.T. -0.000 min
Lab File: 2p51023.D
Acq: 29 Jul 2015 11:36 pm

Tgt Ion:141 Resp: 132518

Ion	Ratio	Lower	Upper
141	100		
142	109.7	89.6	149.6
115	42.0	8.6	68.6



9.1.25

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51019.D
Acq On : 29 Jul 2015 10:10 pm
Operator : ashleyd
Sample : jb99969-24
Misc : op85890,e2p2191,31.8
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 30 16:34:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.558	152	1515626	40.00 ppm	0.00
24) Naphthalene-d8	5.612	136	5260931	40.00 ppm	0.00
47) Acenaphthene-d10	7.051	164	3302521	40.00 ppm	0.00
69) Phenanthrene-d10	8.329	188	5938337	40.00 ppm	0.00
83) Chrysene-d12	11.581	240	6408337	40.00 ppm	0.00
92) Perylene-d12	13.582	264	5314715	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.558	152	1515626	40.00 ppm	0.00
104) Naphthalene-d8a	5.612	136	5260931	40.00 ppm	0.00
106) Acenaphthene-d10a	7.051	164	3302521	40.00 ppm	0.00
109) Chrysene-d12a	11.581	240	6408337	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	3.515	112	1525309	28.18 ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery	= 56.36%	
8) Phenol-d5	4.334	99	1864119	29.97 ppm	0.00
Spiked Amount 50.000	Range 10 - 59		Recovery	= 59.94%#	
25) Nitrobenzene-d5	5.024	82	1892954	41.37 ppm	0.00
Spiked Amount 50.000	Range 19 - 61		Recovery	= 82.74%#	
51) 2-Fluorobiphenyl	6.500	172	4205371	42.95 ppm	0.00
Spiked Amount 50.000	Range 21 - 58		Recovery	= 85.90%#	
73) 2,4,6-Tribromophenol	7.714	330	698408	47.08 ppm	0.00
Spiked Amount 50.000	Range 12 - 68		Recovery	= 94.16%#	
85) Terphenyl-d14	10.153	244	5615514	46.65 ppm	0.01
Spiked Amount 50.000	Range 16 - 65		Recovery	= 93.30%#	
Target Compounds					Qvalue

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

9.1.26

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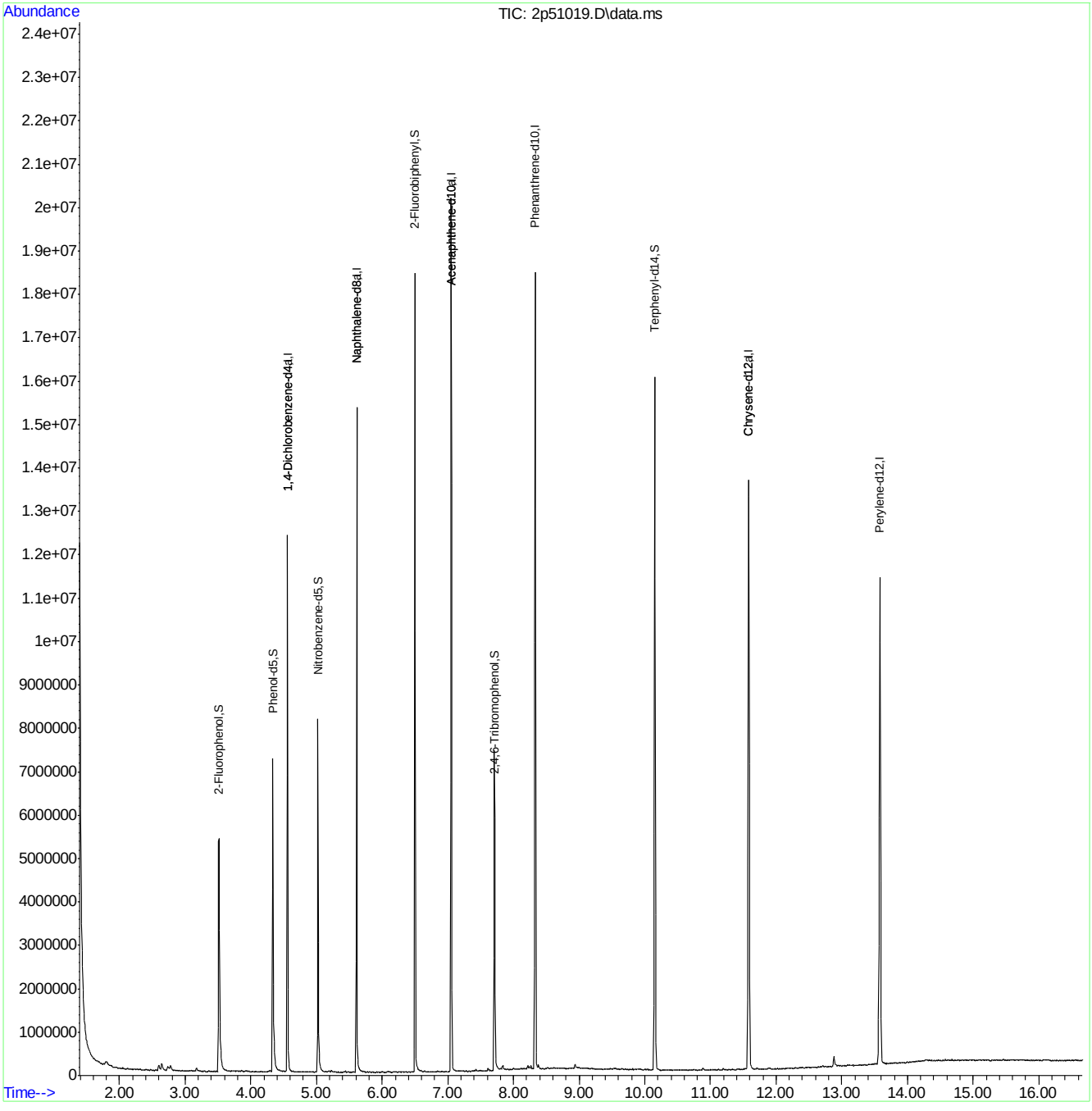
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51019.D
Acq On : 29 Jul 2015 10:10 pm
Operator : ashleyd
Sample : jb99969-24
Misc : op85890,e2p2191,31.8
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 30 16:34:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51020.D
Acq On : 29 Jul 2015 10:32 pm
Operator : ashleyd
Sample : jb99969-25
Misc : op85890,e2p2191,30.8
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 30 16:36:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration

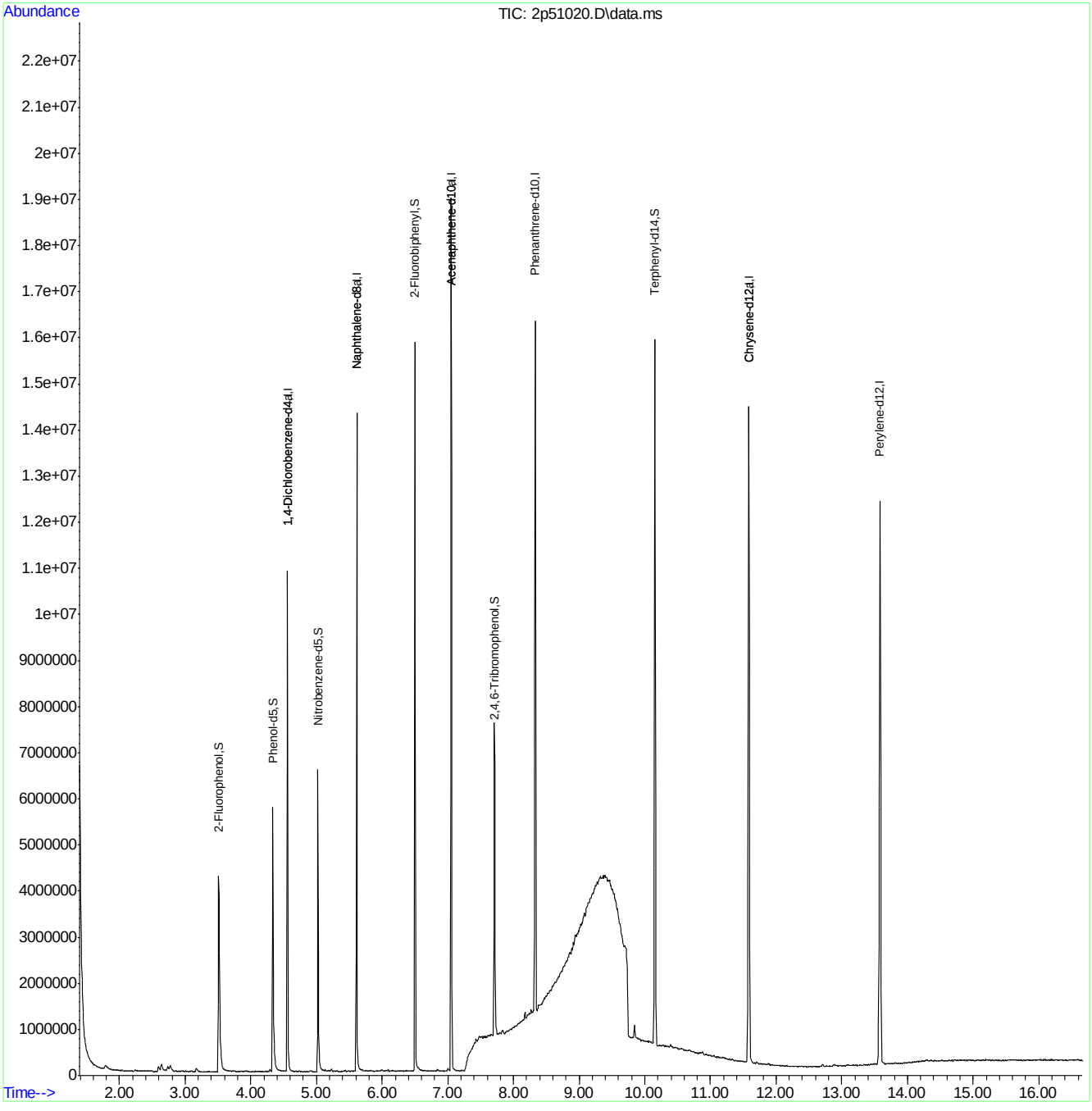
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.559	152	1369833	40.00 ppm	0.00
24) Naphthalene-d8	5.612	136	4842392	40.00 ppm	0.00
47) Acenaphthene-d10	7.051	164	3143334	40.00 ppm	0.00
69) Phenanthrene-d10	8.329	188	5098652	40.00 ppm	0.00
83) Chrysene-d12	11.587	240	6464471	40.00 ppm	0.00
92) Perylene-d12	13.582	264	5902233	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.559	152	1369833	40.00 ppm	0.00
104) Naphthalene-d8a	5.612	136	4842392	40.00 ppm	0.00
106) Acenaphthene-d10a	7.051	164	3143334	40.00 ppm	0.00
109) Chrysene-d12a	11.587	240	6466730	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	3.510	112	1262683	25.81 ppm	-0.01
Spiked Amount 50.000	Range 11 - 58		Recovery = 51.62%		
8) Phenol-d5	4.334	99	1563828	27.82 ppm	0.00
Spiked Amount 50.000	Range 10 - 59		Recovery = 55.64%		
25) Nitrobenzene-d5	5.024	82	1581039	37.54 ppm	0.00
Spiked Amount 50.000	Range 19 - 61		Recovery = 75.08%#		
51) 2-Fluorobiphenyl	6.500	172	3675380	39.44 ppm	0.00
Spiked Amount 50.000	Range 21 - 58		Recovery = 78.88%#		
73) 2,4,6-Tribromophenol	7.714	330	635774	49.92 ppm	0.00
Spiked Amount 50.000	Range 12 - 68		Recovery = 99.84%#		
85) Terphenyl-d14	10.153	244	5414353	44.59 ppm	0.01
Spiked Amount 50.000	Range 16 - 65		Recovery = 89.18%#		
Target Compounds					Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51020.D
Acq On : 29 Jul 2015 10:32 pm
Operator : ashleyd
Sample : jb99969-25
Misc : op85890,e2p2191,30.8
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 30 16:36:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration



Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76182.D
Acq On : 29 Jul 2015 1:34 pm
Operator : ashleyn
Sample : op85881-mb1
Misc : op85881,e2m3302,30.0
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 15:41:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 13:00:48 2015
QLast Update : Wed Jul 29 15:40:00 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.681	152	716194	40.00 ppm	0.00
24) Naphthalene-d8	5.767	136	2686257	40.00 ppm	0.00
47) Acenaphthene-d10	7.826	164	1505245	40.00 ppm	0.00
69) Phenanthrene-d10	9.992	188	2144302	40.00 ppm	0.00
83) Chrysene-d12	14.159	240	1874075	40.00 ppm	0.00
92) Perylene-d12	16.266	264	1746543	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.681	152	716194	40.00 ppm	0.00
104) Acenaphthene-d10a	7.826	164	1505245	40.00 ppm	0.00
106) Chrysene-d12a	14.159	240	1874075	40.00 ppm	0.00
109) Phenanthrene-d10a	9.992	188	2144302	40.00 ppm	0.00
112) Naphthalene-d8a	5.767	136	2686257	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.729	112	1065001	39.79 ppm	0.00
Spiked Amount 50.000			Recovery	= 79.58%	
8) Phenol-d5	4.435	99	1260705	39.06 ppm	0.00
Spiked Amount 50.000			Recovery	= 78.12%	
25) Nitrobenzene-d5	5.119	82	1098231	40.58 ppm	0.00
Spiked Amount 50.000			Recovery	= 81.16%	
51) 2-Fluorobiphenyl	6.954	172	1928713	40.43 ppm	0.00
Spiked Amount 50.000			Recovery	= 80.86%	
73) 2,4,6-Tribromophenol	8.954	330	236368	37.87 ppm	0.00
Spiked Amount 50.000			Recovery	= 75.74%	
85) Terphenyl-d14	12.533	244	1670403	47.26 ppm	0.00
Spiked Amount 50.000			Recovery	= 94.52%	
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%	

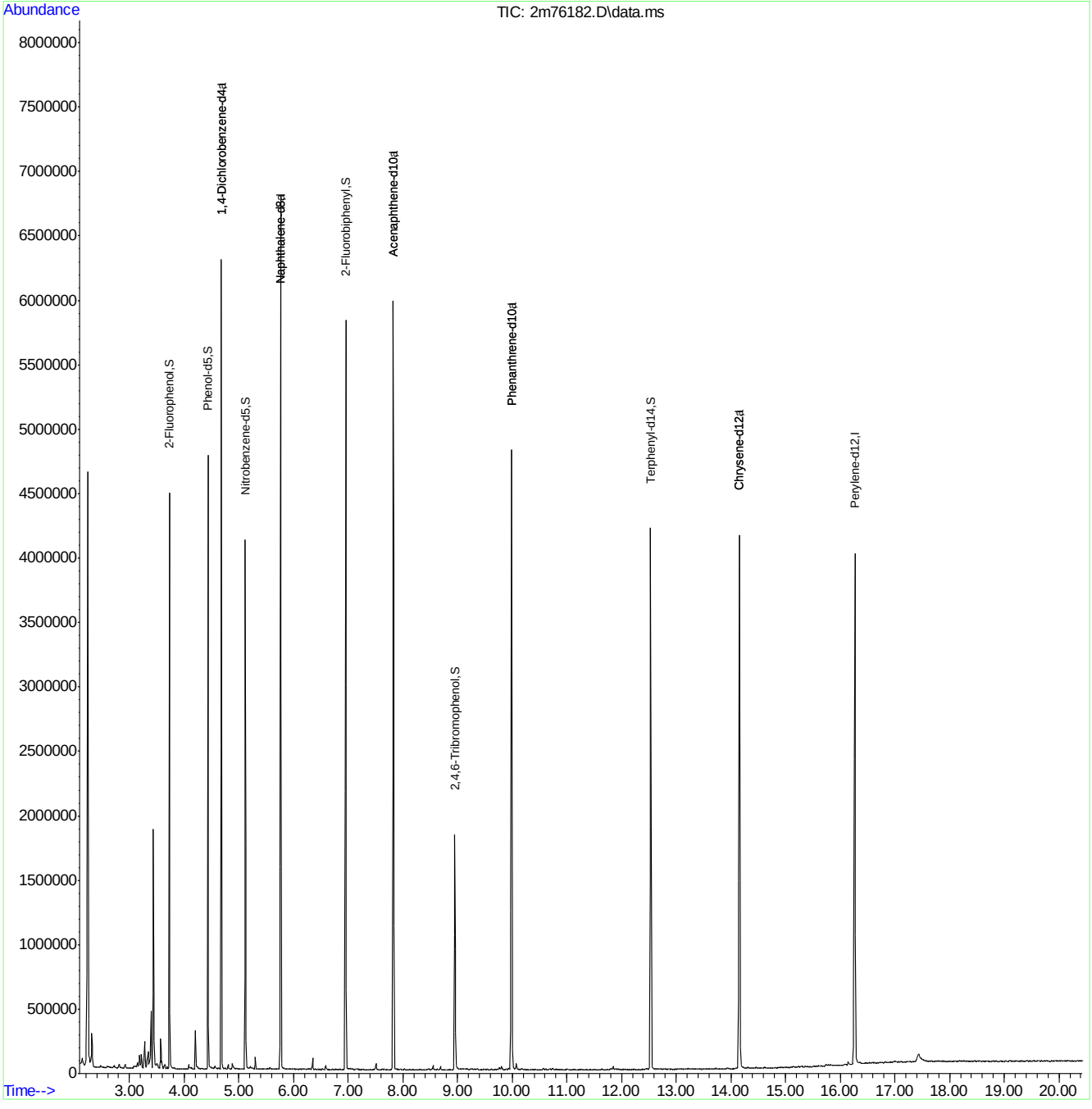
Target Compounds	Qvalue

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

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3302\
Data File : 2m76182.D
Acq On : 29 Jul 2015 1:34 pm
Operator : ashleyn
Sample : op85881-mb1
Misc : op85881,e2m3302,30.0
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 29 15:41:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Jul 29 13:00:48 2015
QLast Update : Wed Jul 29 15:40:00 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3309\
Data File : 2m76338.D
Acq On : 3 Aug 2015 11:38 pm
Operator : sarad
Sample : op86008-mb1
Misc : op86008,e2m3309,30.0
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 04 15:49:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Mon Aug 03 23:48:03 2015
QLast Update : Tue Aug 04 08:15:43 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.638	152	355181	40.00 ppm	0.00
24) Naphthalene-d8	5.719	136	1324626	40.00 ppm	0.00
47) Acenaphthene-d10	7.773	164	795320	40.00 ppm	0.00
69) Phenanthrene-d10	9.939	188	1179613	40.00 ppm	0.00
83) Chrysene-d12	14.111	240	1067761	40.00 ppm	-0.01
92) Perylene-d12	16.229	264	1003315	40.00 ppm	-0.01
102) 1,4-Dichlorobenzene-d4a	4.638	152	355181	40.00 ppm	0.00
104) Acenaphthene-d10a	7.773	164	795320	40.00 ppm	0.00
106) Chrysene-d12a	14.111	240	1067761	40.00 ppm	-0.01
108) Phenanthrene-d10a	9.939	188	1179613	40.00 ppm	0.00
110) Naphthalene-d8a	5.719	136	1324626	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.702	112	510654	38.47 ppm	0.00
Spiked Amount 50.000			Recovery	= 76.94%	
8) Phenol-d5	4.408	99	615656	38.47 ppm	0.00
Spiked Amount 50.000			Recovery	= 76.94%	
25) Nitrobenzene-d5	5.077	82	552069	41.37 ppm	0.00
Spiked Amount 50.000			Recovery	= 82.74%	
51) 2-Fluorobiphenyl	6.901	172	1094779	43.43 ppm	0.00
Spiked Amount 50.000			Recovery	= 86.86%	
73) 2,4,6-Tribromophenol	8.906	330	149705	43.60 ppm	0.00
Spiked Amount 50.000			Recovery	= 87.20%	
85) Terphenyl-d14	12.485	244	1121348	55.68 ppm	0.00
Spiked Amount 50.000			Recovery	= 111.36%	

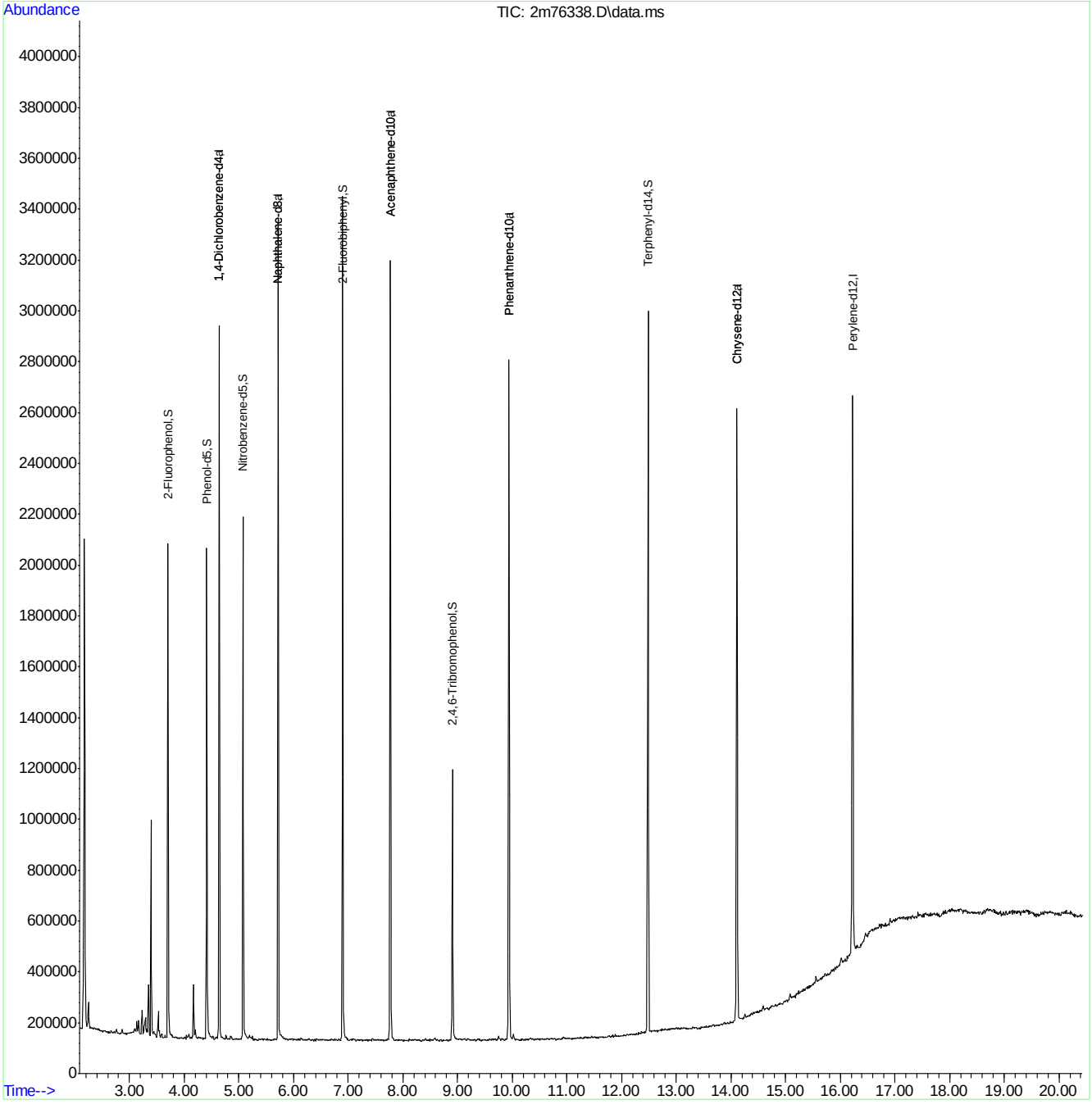
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3309\
Data File : 2m76338.D
Acq On : 3 Aug 2015 11:38 pm
Operator : sarad
Sample : op86008-mb1
Misc : op86008,e2m3309,30.0
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 04 15:49:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3299.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Mon Aug 03 23:48:03 2015
QLast Update : Tue Aug 04 08:15:43 2015
Response via : Initial Calibration



M2M3299.M Tue Aug 04 15:49:28 2015 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51008.D
Acq On : 29 Jul 2015 5:54 pm
Operator : ashleyd
Sample : op85890-mb1
Misc : op85890,e2p2191,30.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 15:35:45 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.559	152	1399128	40.00 ppm	0.00
24) Naphthalene-d8	5.607	136	4942182	40.00 ppm	0.00
47) Acenaphthene-d10	7.051	164	3122031	40.00 ppm	0.00
69) Phenanthrene-d10	8.329	188	5645619	40.00 ppm	0.00
83) Chrysene-d12	11.587	240	6273796	40.00 ppm	0.00
92) Perylene-d12	13.587	264	5278010	40.00 ppm	0.02
102) 1,4-Dichlorobenzene-d4a	4.559	152	1399128	40.00 ppm	0.00
104) Naphthalene-d8a	5.607	136	4942182	40.00 ppm	0.00
106) Acenaphthene-d10a	7.051	164	3122031	40.00 ppm	0.00
109) Chrysene-d12a	11.587	240	6273796	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	3.516	112	1594244	31.91 ppm	0.00
Spiked Amount 50.000	Range 11 - 58		Recovery	= 63.82%#	
8) Phenol-d5	4.334	99	1965426	34.23 ppm	0.00
Spiked Amount 50.000	Range 10 - 59		Recovery	= 68.46%#	
25) Nitrobenzene-d5	5.019	82	1994322	46.40 ppm	-0.01
Spiked Amount 50.000	Range 19 - 61		Recovery	= 92.80%#	
51) 2-Fluorobiphenyl	6.500	172	4401758	47.56 ppm	0.00
Spiked Amount 50.000	Range 21 - 58		Recovery	= 95.12%#	
73) 2,4,6-Tribromophenol	7.714	330	730812	51.82 ppm	0.00
Spiked Amount 50.000	Range 12 - 68		Recovery	= 103.64%#	
85) Terphenyl-d14	10.153	244	6385911	54.19 ppm	0.01
Spiked Amount 50.000	Range 16 - 65		Recovery	= 108.38%#	

Target Compounds Qvalue

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

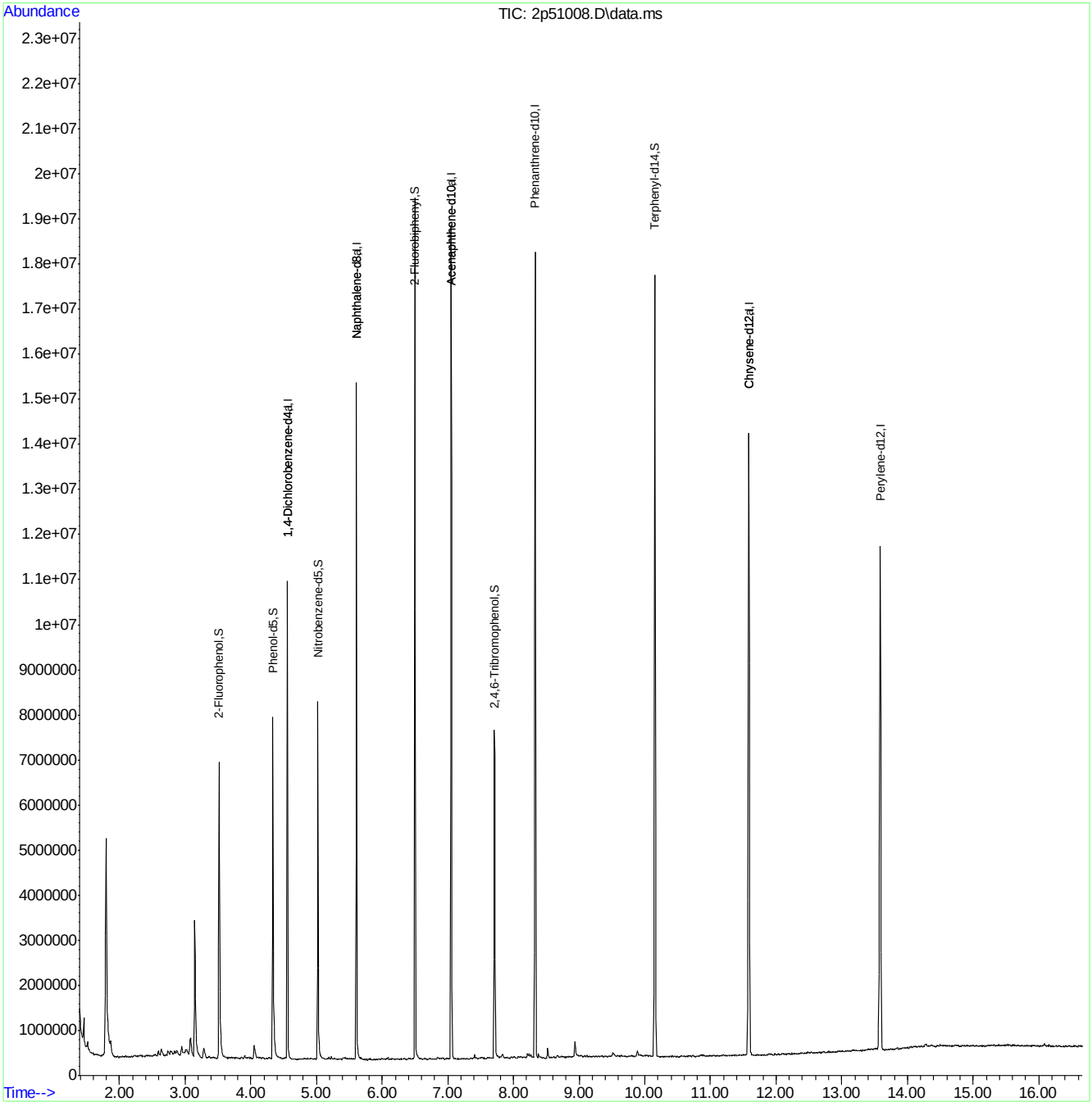
9.2.3

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2P2191\
Data File : 2p51008.D
Acq On : 29 Jul 2015 5:54 pm
Operator : ashleyd
Sample : op85890-mb1
Misc : op85890,e2p2191,30.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 15:35:45 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2P2153.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue Jul 28 11:13:30 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\E3P2035\
Data File : 3p45544.D
Acq On : 3 Aug 2015 6:19 pm
Operator : sarad
Sample : op86008-mb1
Misc : op86008,e3p2035,30.0,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 03 19:39:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3P2012.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Jul 31 07:48:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.761	152	447803	40.00 ppm	-0.03
24) Naphthalene-d8	5.681	136	1653814	40.00 ppm	-0.04
47) Acenaphthene-d10	7.115	164	901881	40.00 ppm	-0.04
69) Phenanthrene-d10	9.024	188	1388452	40.00 ppm	-0.06
83) Chrysene-d12	14.335	240	1124742	40.00 ppm	-0.07
91) Perylene-d12	17.400	264	775107	40.00 ppm	-0.06
101) 1,4-Dichlorobenzene-d4a	4.761	152	447803	40.00 ppm	-0.03
103) Acenaphthene-d10a	7.115	164	901881	40.00 ppm	-0.04
106) Chrysene-d12a	14.335	240	1124742	40.00 ppm	-0.07
108) Naphthalene-d8a	5.681	136	1653814	40.00 ppm	-0.04
System Monitoring Compounds					
5) 2-Fluorophenol	3.831	112	619758	34.75 ppm	0.00
Spiked Amount 50.000			Recovery	= 69.50%	
8) Phenol-d5	4.537	99	813693	36.89 ppm	0.00
Spiked Amount 50.000			Recovery	= 73.78%	
25) Nitrobenzene-d5	5.162	82	854631	53.87 ppm	-0.04
Spiked Amount 50.000			Recovery	= 107.74%	
51) 2-Fluorobiphenyl	6.489	172	1251971	45.42 ppm	-0.04
Spiked Amount 50.000			Recovery	= 90.84%	
73) 2,4,6-Tribromophenol	8.024	330	169639	47.70 ppm	-0.05
Spiked Amount 50.000			Recovery	= 95.40%	
85) Terphenyl-d14	12.083	244	1260184	64.44 ppm	-0.07
Spiked Amount 50.000			Recovery	= 128.88%	

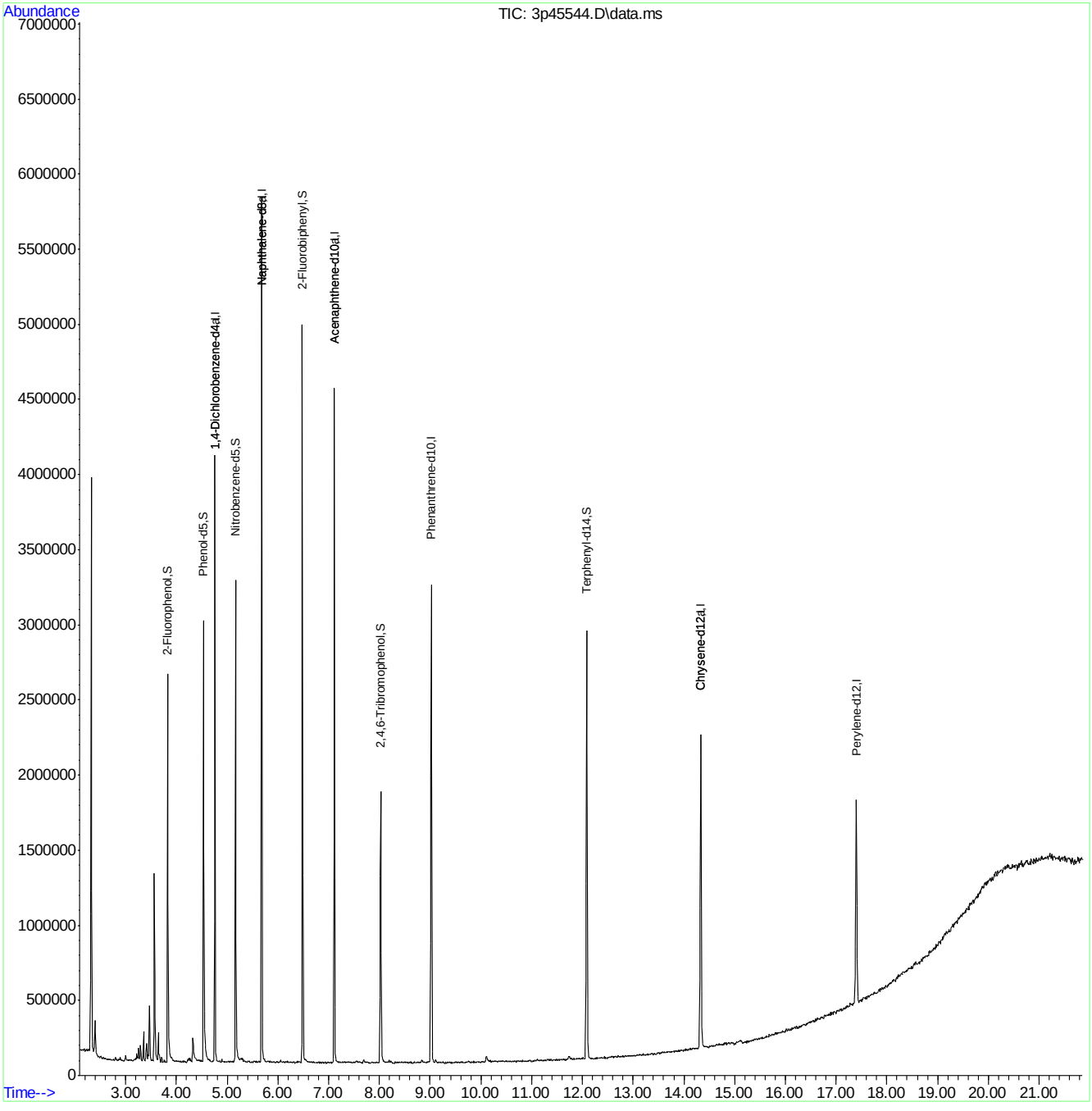
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\E3P2035\
Data File : 3p45544.D
Acq On : 3 Aug 2015 6:19 pm
Operator : sarad
Sample : op86008-mb1
Misc : op86008,e3p2035,30.0,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 03 19:39:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3P2012.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Jul 31 07:48:21 2015
Response via : Initial Calibration



M3P2012.M Mon Aug 03 19:39:49 2015 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4859\
Data File : m116366.D
Acq On : 29 Jul 2015 11:42 am
Operator : alicjap
Sample : op85880-mb1
Misc : op85880,em4859,30.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 29 13:13:19 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.686	152	280776	40.00	ppm	0.03
24) Naphthalene-d8	5.813	136	1033469	40.00	ppm	0.03
47) Acenaphthene-d10	8.152	164	778863	40.00	ppm	0.05
69) Phenanthrene-d10	10.780	188	1477747	40.00	ppm	0.06
83) Chrysene-d12	15.950	240	1336568	40.00	ppm	0.07
92) Perylene-d12	18.589	264	1257114	40.00	ppm	0.08
102) 1,4-Dichlorobenzene-d4a	4.686	152	280776	40.00	ppm	0.03
104) Acenaphthene-d10a	8.152	164	778863	40.00	ppm	0.05
107) Chrysene-d12a	15.950	240	1332306	40.00	ppm	0.07
109) Naphthalene-d8a	5.813	136	1033469	40.00	ppm	0.03
111) Chrysene-d12b	15.950	240	1332306	40.00	ppm	0.07
System Monitoring Compounds						
5) 2-Fluorophenol	3.746	112	255428	30.71	ppm	0.02
Spiked Amount 50.000			Recovery = 61.42%			
8) Phenol-d5	4.462	99	380138	35.89	ppm	0.00
Spiked Amount 50.000			Recovery = 71.78%			
25) Nitrobenzene-d5	5.135	82	477016	47.55	ppm	0.02
Spiked Amount 50.000			Recovery = 95.10%			
51) 2-Fluorobiphenyl	7.138	172	1044427	40.59	ppm	0.04
Spiked Amount 50.000			Recovery = 81.18%			
73) 2,4,6-Tribromophenol	9.525	330	187831	37.21	ppm	0.05
Spiked Amount 50.000			Recovery = 74.42%			
86) Terphenyl-d14	13.942	244	1337654	53.41	ppm	0.06
Spiked Amount 50.000			Recovery = 106.82%			

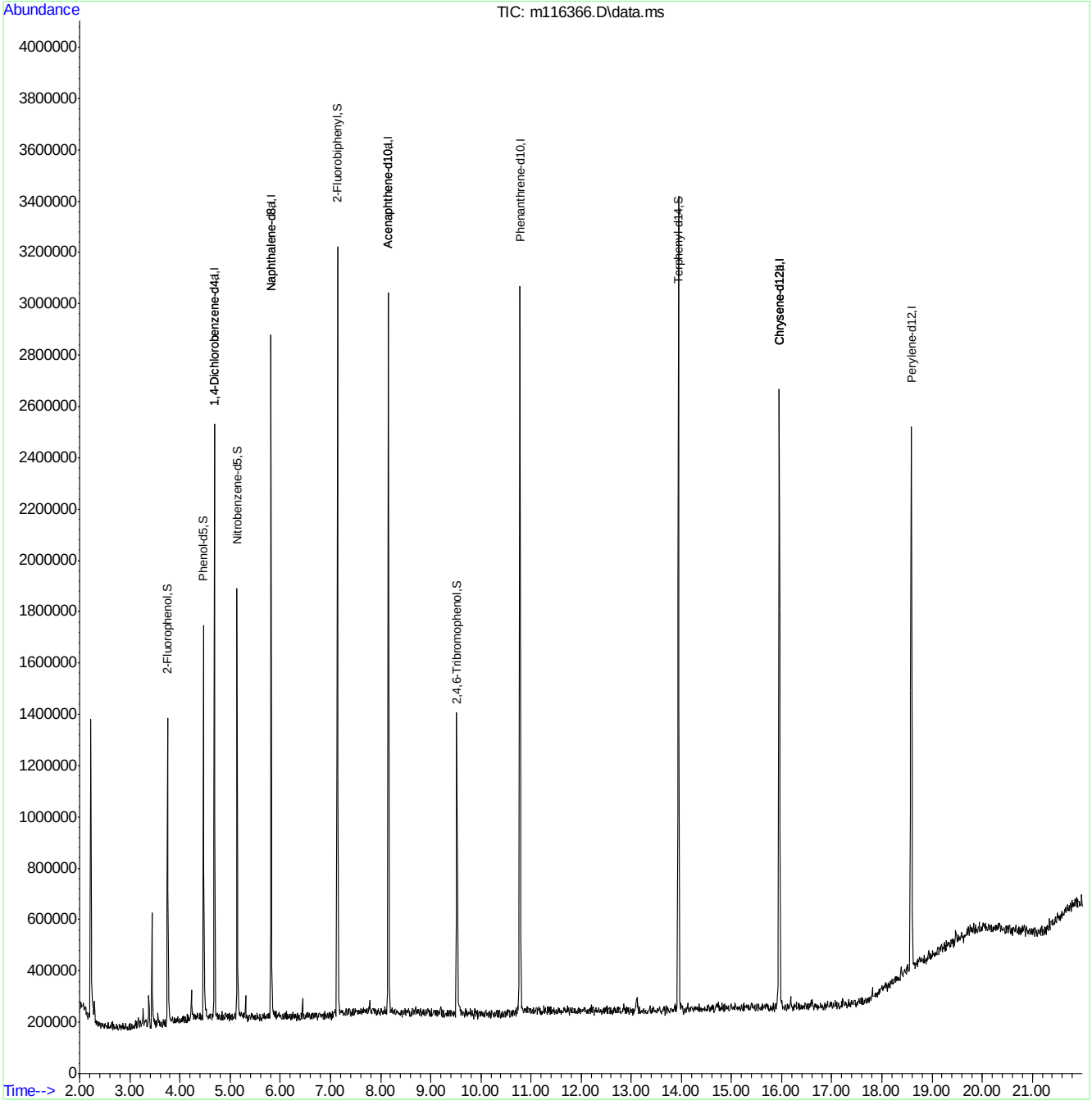
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\em4859\
Data File : m116366.D
Acq On : 29 Jul 2015 11:42 am
Operator : alicjap
Sample : op85880-mb1
Misc : op85880,em4859,30.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 29 13:13:19 2015
Quant Method : C:\msdchem\1\METHODS\MM4814.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri Jul 24 14:32:54 2015
Response via : Initial Calibration



MM4814.M Wed Jul 29 13:13:28 2015 MSM

Page: 2

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:31	MA37224-STD1	1		STDA
09:37	MA37224-STD2	1		STDB
09:43	ZZZZZZ	1		
09:48	ZZZZZZ	1		
09:55	MA37224-ICV1	1		
10:05	MA37224-ICB1	1		
10:10	MA37224-ICCV1	1		
10:19	MA37224-CCB1	1		
10:25	MA37224-CRI1	1		
10:31	MA37224-CRID1	1		
10:37	MA37224-CRIA1	1		
10:43	MA37224-ICSA1	1		
10:49	MA37224-ICSAB1	1		
10:55	ZZZZZZ	1		
11:02	ZZZZZZ	1		
11:08	ZZZZZZ	1		
11:14	MA37224-CCV1	1		
11:19	MA37224-CCB2	1		
11:26	MA37224-CRID2	1		
11:32	ZZZZZZ	1		
11:38	ZZZZZZ	1		
11:44	ZZZZZZ	1		
11:50	ZZZZZZ	1		
11:56	ZZZZZZ	1		
12:02	ZZZZZZ	1		
12:08	ZZZZZZ	1		
12:14	ZZZZZZ	1		
12:20	MA37224-CCV2	1		
12:26	MA37224-CCB3	1		
12:32	MP88011-MB1	1		
12:38	MP88011-MB2	1		
12:44	MP88011-B1	1		
12:50	MP88011-B2	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:56	MP88011-S1	1		
13:02	MP88011-S2	1		
13:08	JB99742-1F	1		(sample used for QC only; not part of login JB99969)
13:14	MP88011-SD1	5		
13:20	ZZZZZZ	1		
13:26	MA37224-CCV3	1		
13:32	MA37224-CCB4	1		
13:38	ZZZZZZ	1		
13:44	ZZZZZZ	1		
13:50	ZZZZZZ	1		
13:56	ZZZZZZ	1		
14:02	ZZZZZZ	1		
14:08	ZZZZZZ	1		
14:14	ZZZZZZ	1		
14:20	ZZZZZZ	1		
14:26	MP88029-MB1	1		
14:32	MA37224-CCV4	1		
14:38	MA37224-CCB5	1		
14:44	MP88029-B1	1		
14:50	MP88029-S1	1		
14:56	MP88029-S2	1		
15:02	JB96920-1UR	1		(sample used for QC only; not part of login JB99969)
15:08	MP88029-SD1	5		
15:14	ZZZZZZ	1		
15:20	ZZZZZZ	1		
15:26	ZZZZZZ	1		
15:32	ZZZZZZ	1		
15:38	MA37224-CCV5	1		
15:44	MA37224-CCB6	1		
15:50	ZZZZZZ	1		
15:56	ZZZZZZ	1		
16:02	MP88016-MB1	1		
16:08	MP88016-B1	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:14	MP88016-S1	1		
16:32	MP88016-S2	1		
16:38	JB99969-7	1		
16:44	MP88016-SD1	5		
16:50	JB99969-6	1		
16:56	MA37224-CCV6	1		
17:01	MA37224-CCB7	1		
17:08	MP88016-B1	1		
17:13	JB99969-8	1		
17:19	JB99969-9	1		
17:25	JB99969-10	1		
17:31	JB99969-11	1		
17:37	JB99969-12	1		
17:43	JB99969-13	1		
17:49	JB99969-14	1		
17:55	JB99969-15	1		
18:01	MA37224-CCV7	1		
18:07	MA37224-CCB8	1		
18:13	MA37224-CRI2	1		
18:19	MA37224-CRID3	1		
18:25	MA37224-CRIA2	1		
18:32	MA37224-ICSA2	1		
18:38	MA37224-ICSAB2	1		
18:44	MA37224-CCV8	1		
18:50	MA37224-CCB9	1		
18:56	JB99969-16	1		
19:02	JB99969-17	1		
19:08	JB99969-18	1		
19:14	JB99969-19	1		
19:20	JB99969-20	1		
19:26	JB99969-21	1		
19:32	JB99969-22	1		
19:38	JB99969-23	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	19:44	JB99969-24	1		
	19:50	MA37224-CCV9	1		
	19:56	MA37224-CCB10	1		
	20:02	JB99969-25	1		
---------->	Last reportable sample/prep for job JB99969				
	20:08	MP88021-MB1	1		
	20:14	MP88021-MB2	1		
	20:20	MP88021-B1	1		
	20:26	MP88021-B2	1		
	20:31	MP88021-S1	1		
	20:37	MP88021-S2	1		
	20:43	D73230-1A	1		(sample used for QC only; not part of login JB99969)
	20:49	MP88021-SD1	5		
	20:55	MA37224-CCV10	1		
	21:01	MA37224-CCB11	1		
	21:07	ZZZZZZ	1		
	21:13	ZZZZZZ	1		
	21:19	MP88021-B2	1		
	21:25	ZZZZZZ	5		
	21:31	ZZZZZZ	5		
	21:37	MP88057-S1	5		
	21:43	MP88057-S2	5		
	21:49	MP88057-SD1	25		
	21:55	ZZZZZZ	5		
	22:01	MA37224-CCV11	1		
	22:07	MA37224-CCB12	1		
	22:13	MP88057-S1	5		
	22:21	ZZZZZZ	1		
	22:29	MA37224-CRI3	1		
	22:35	MA37224-CRID4	1		
	22:41	MA37224-CRIA3	1		
	22:47	MA37224-CCV12	1		
	22:53	MA37224-CCB13	1		
---------->	Last reportable CCB for job JB99969				
	22:59	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:05	ZZZZZZ	1		
23:11	ZZZZZZ	1		
23:17	ZZZZZZ	1		
23:23	ZZZZZZ	1		
23:30	ZZZZZZ	1		
23:36	ZZZZZZ	1		
23:42	ZZZZZZ	1		
23:48	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
09:31	MA37224-STD1	1704 R	42297 R	18386 R	6515 R
09:37	MA37224-STD2	1573	38559	18014	5724
09:43	ZZZZZZ	1609	39711	18103	5899
09:48	ZZZZZZ	1680	42460	18494	6478
09:55	MA37224-ICV1	1615	39405	18084	5939
10:05	MA37224-ICB1	1716	42432	18311	6543
10:10	MA37224-ICCV1	1620	39391	17765	5915
10:19	MA37224-CCB1	1672	41920	18364	6430
10:25	MA37224-CRI1	1663	41043	18106	6330
10:31	MA37224-CRID1	No results reported for the elements associated with this internal standard.			
10:37	MA37224-CRIA1	1700	41701	18037	6447
10:43	MA37224-ICSA1	1470	35585	17016	5223
10:49	MA37224-ICSAB1	1475	35805	17097	5238
10:55	ZZZZZZ	1676	40953	17769	6468
11:02	ZZZZZZ	1682	41884	18098	6483
11:08	ZZZZZZ	1692	41924	18055	6433
11:14	MA37224-CCV1	1584	38953	17801	5812
11:19	MA37224-CCB2	1679	41892	18357	6431
11:26	MA37224-CRID2	1707	41661	18058	6475
11:32	ZZZZZZ	1668	41519	18126	6415
11:38	ZZZZZZ	1602	39027	18112	5719
11:44	ZZZZZZ	1719	42059	17761	6431
11:50	ZZZZZZ	1513	37729	17441	5852
11:56	ZZZZZZ	1734	41898	18933	6226
12:02	ZZZZZZ	1518	37181	17235	5608
12:08	ZZZZZZ	1676	40179	17870	6065
12:14	ZZZZZZ	1512	36946	16937	5545
12:20	MA37224-CCV2	1590	38598	17117	5776
12:26	MA37224-CCB3	1693	41144	17443	6376
12:32	MP88011-MB1	1671	41081	17757	6370
12:38	MP88011-MB2	1600	40880	18293	6241
12:44	MP88011-B1	1547	38792	17952	5829
12:50	MP88011-B2	1575	38796	17763	5909

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
12:56	MP88011-S1	1502	37170	17425	5499
13:02	MP88011-S2	1483	36876	17470	5446
13:08	JB99742-1F	1525	37721	17425	5648
13:14	MP88011-SD1	1596	39888	17870	6071
13:20	ZZZZZZ	1537	37385	17531	5580
13:26	MA37224-CCV3	1582	38152	17067	5749
13:32	MA37224-CCB4	1642	40821	17356	6254
13:38	ZZZZZZ	1572	37419	17227	5646
13:44	ZZZZZZ	1573	37522	16916	5663
13:50	ZZZZZZ	1579	37327	16822	5625
13:56	ZZZZZZ	1571	37340	16874	5615
14:02	ZZZZZZ	1499	37496	17020	5474
14:08	ZZZZZZ	1546	37663	17060	5511
14:14	ZZZZZZ	1452	36287	16735	5370
14:20	ZZZZZZ	1492	36686	17368	5455
14:26	MP88029-MB1	1575	40306	18646	6065
14:32	MA37224-CCV4	1534	37900	17395	5650
14:38	MA37224-CCB5	1651	40717	17709	6267
14:44	MP88029-B1	1559	38418	17395	5810
14:50	MP88029-S1	1546	38134	17425	5735
14:56	MP88029-S2	1542	38246	17591	5710
15:02	JB96920-1UR	1591	39830	17856	6057
15:08	MP88029-SD1	1616	40483	17779	6172
15:14	ZZZZZZ	1580	39243	17536	6022
15:20	ZZZZZZ	1568	41251	17782	6024
15:26	ZZZZZZ	1556	39540	17726	5937
15:32	ZZZZZZ	1563	38594	17801	5945
15:38	MA37224-CCV5	1524	37890	17362	5597
15:44	MA37224-CCB6	1625	40544	17911	6203
15:50	ZZZZZZ	1580	39125	18436	5974
15:56	ZZZZZZ	1584	39615	17733	5990
16:02	MP88016-MB1	1607	40159	17681	6151
16:08	MP88016-B1	No results reported for the elements associated with this internal standard.			

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:14	MP88016-S1	1525	37881	17530	5696
16:32	MP88016-S2	1526	38040	17368	5696
16:38	JB99969-7	1562	39385	17952	5976
16:44	MP88016-SD1	1612	40242	17942	6185
16:50	JB99969-6	1581	39477	18709	5776
16:56	MA37224-CCV6	1520	38053	17575	5619
17:01	MA37224-CCB7	1616	40772	18106	6236
17:08	MP88016-B1	1513	38150	18240	5727
17:13	JB99969-8	1591	40245	18813	5817
17:19	JB99969-9	1564	39594	18578	5813
17:25	JB99969-10	1572	39794	18364	5805
17:31	JB99969-11	1583	39498	18347	6006
17:37	JB99969-12	1591	39843	18626	5777
17:43	JB99969-13	1463	37227	17668	5434
17:49	JB99969-14	1474	37345	17691	5314
17:55	JB99969-15	1449	36976	17774	5234
18:01	MA37224-CCV7	1516	37645	17613	5608
18:07	MA37224-CCB8	1633	41083	18119	6275
18:13	MA37224-CRI2	1632	40393	17603	6157
18:19	MA37224-CRID3	1642	40681	17772	6225
18:25	MA37224-CRIA2	1655	40882	17651	6293
18:32	MA37224-ICSA2	1422	35637	16853	5077
18:38	MA37224-ICSAB2	1422	35000	16729	5074
18:44	MA37224-CCV8	1554	38292	17390	5692
18:50	MA37224-CCB9	1629	40829	17216	6209
18:56	JB99969-16	1409	36454	17655	5058
19:02	JB99969-17	1507	38719	18158	5536
19:08	JB99969-18	1470	37397	17998	5433
19:14	JB99969-19	1601	40798	19402	5978
19:20	JB99969-20	1653	42876	19389	5828
19:26	JB99969-21	1659	41454	19236	5891
19:32	JB99969-22	1578	40304	18905	5919
19:38	JB99969-23	1522	38958	18482	5681

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:44	JB99969-24	1577	40260	18857	5948
19:50	MA37224-CCV9	1548	38691	17869	5705
19:56	MA37224-CCB10	1643	41439	18343	6335
20:02	JB99969-25	1605	40090	18673	6067
20:08	MP88021-MB1	1660	40535	18265	6335
20:14	MP88021-MB2	1665	41460	18273	6309
20:20	MP88021-B1	1625	39565	17239	5972
20:26	MP88021-B2	No results reported for the elements associated with this internal standard.			
20:31	MP88021-S1	1601	39722	18096	5943
20:37	MP88021-S2	1605	39756	18087	5948
20:43	D73230-1A	1682	41911	18371	6421
20:49	MP88021-SD1	1685	41864	18080	6383
20:55	MA37224-CCV10	1584	39263	17661	5810
21:01	MA37224-CCB11	1702	42161	18488	6427
21:07	ZZZZZZ	1603	40951	18246	5983
21:13	ZZZZZZ	1655	41699	18408	6293
21:19	MP88021-B2	1613	40466	18082	5996
21:25	ZZZZZZ	1672	41592	18189	6276
21:31	ZZZZZZ	1714	42335	18167	6453
21:37	MP88057-S1	No results reported for the elements associated with this internal standard.			
21:43	MP88057-S2	1581	38829	18011	5619
21:49	MP88057-SD1	1676	40541	17867	6168
21:55	ZZZZZZ	1748	41567	17408	6408
22:01	MA37224-CCV11	1680	39751	17310	6005
22:07	MA37224-CCB12	1757	42672	17852	6553
22:13	MP88057-S1	1612	38751	17808	5676
22:21	ZZZZZZ	1745	42953	17939	6528
22:29	MA37224-CRI3	1779	41852	17525	6524
22:35	MA37224-CRID4	1782	42460	17647	6569
22:41	MA37224-CRIA3	1797	42441	17354	6586
22:47	MA37224-CCV12	1696	39930	17253	6048
22:53	MA37224-CCB13	1767	42656	17741	6556
22:59	ZZZZZZ	1790	42414	17308	6566

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: MS Run ID: MA37224
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:05	ZZZZZZ	1789	42806	17630	6632
23:11	ZZZZZZ	1771	42517	17647	6530
23:17	ZZZZZZ	1791	42111	17953	6616
23:23	ZZZZZZ	1797	42920	17839	6589
23:30	ZZZZZZ	1775	43145	17722	6569
23:36	ZZZZZZ	1778	39794	18302	6118
23:42	ZZZZZZ	1633	38267	16852	5794
23:48	ZZZZZZ	1625	38772	17038	5802

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			10:05		10:19		11:19		12:26	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14								
Antimony	6.0	1.1								
Arsenic	3.0	.96	anr							
Barium	200	.3	anr							
Beryllium	1.0	.18								
Bismuth	20	1.5								
Boron	100	2.2								
Cadmium	3.0	.35	anr							
Calcium	2000	28								
Chromium	10	.4	anr							
Cobalt	50	.28	anr							
Copper	10	.57								
Iron	100	7.2								
Lead	3.0	.98	0.10	<3.0	-0.30	<3.0	0.30	<3.0	0.20	<3.0
Lithium	20	2.7								
Magnesium	2000	29								
Manganese	15	.23	anr							
Molybdenum	20	.39								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	2000	58								
Selenium	10	1.9	anr							
Silicon	200	3.5								
Silver	10	.53	anr							
Sodium	2000	18								
Sulfur	50	2.5								
Strontium	10	.23								
Thallium	2.0	1.8								
Tin	10	.88								
Titanium	10	.45								
Tungsten	50	1.5								
Vanadium	50	.37	anr							
Zinc	20	1.9	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			10:05		10:19		11:19		12:26	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.23								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			13:32		14:38		15:44		17:01	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14								
Antimony	6.0	1.1								
Arsenic	3.0	.96	anr							
Barium	200	.3	anr							
Beryllium	1.0	.18								
Bismuth	20	1.5								
Boron	100	2.2								
Cadmium	3.0	.35	anr							
Calcium	2000	28								
Chromium	10	.4	anr							
Cobalt	50	.28	anr							
Copper	10	.57								
Iron	100	7.2								
Lead	3.0	.98	-0.50	<3.0	0.20	<100	-0.10	<100	0.70	<3.0
Lithium	20	2.7								
Magnesium	2000	29								
Manganese	15	.23	anr							
Molybdenum	20	.39								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	2000	58								
Selenium	10	1.9	anr							
Silicon	200	3.5								
Silver	10	.53	anr							
Sodium	2000	18								
Sulfur	50	2.5								
Strontium	10	.23								
Thallium	2.0	1.8								
Tin	10	.88								
Titanium	10	.45								
Tungsten	50	1.5								
Vanadium	50	.37	anr							
Zinc	20	1.9	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			13:32		14:38		15:44		17:01	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.23								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			18:07		18:50		19:56		21:01	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14								
Antimony	6.0	1.1								
Arsenic	3.0	.96	anr							
Barium	200	.3	anr							
Beryllium	1.0	.18								
Bismuth	20	1.5								
Boron	100	2.2								
Cadmium	3.0	.35	anr							
Calcium	2000	28								
Chromium	10	.4	anr							
Cobalt	50	.28	anr							
Copper	10	.57								
Iron	100	7.2								
Lead	3.0	.98	-0.60	<3.0	0.70	<3.0	0.10	<3.0	-0.40	<3.0
Lithium	20	2.7								
Magnesium	2000	29								
Manganese	15	.23	anr							
Molybdenum	20	.39								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	2000	58								
Selenium	10	1.9	anr							
Silicon	200	3.5								
Silver	10	.53	anr							
Sodium	2000	18								
Sulfur	50	2.5								
Strontium	10	.23								
Thallium	2.0	1.8								
Tin	10	.88								
Titanium	10	.45								
Tungsten	50	1.5								
Vanadium	50	.37	anr							
Zinc	20	1.9	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			18:07		18:50		19:56		21:01	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.23								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			22:07		22:53	
Sample ID:			CCB12		CCB13	
Metal	RL	IDL	raw	final	raw	final
Aluminum	200	14				
Antimony	6.0	1.1				
Arsenic	3.0	.96	anr			
Barium	200	.3	anr			
Beryllium	1.0	.18				
Bismuth	20	1.5				
Boron	100	2.2				
Cadmium	3.0	.35	anr			
Calcium	2000	28				
Chromium	10	.4	anr			
Cobalt	50	.28	anr			
Copper	10	.57				
Iron	100	7.2				
Lead	3.0	.98	0.40	<3.0	0.80	<3.0
Lithium	20	2.7				
Magnesium	2000	29				
Manganese	15	.23	anr			
Molybdenum	20	.39				
Nickel	10	.3	anr			
Palladium	50	1.7				
Potassium	2000	58				
Selenium	10	1.9	anr			
Silicon	200	3.5				
Silver	10	.53	anr			
Sodium	2000	18				
Sulfur	50	2.5				
Strontium	10	.23				
Thallium	2.0	1.8				
Tin	10	.88				
Titanium	10	.45				
Tungsten	50	1.5				
Vanadium	50	.37	anr			
Zinc	20	1.9	anr			

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37224 Units: ug/l

Time:			22:07		22:53	
Sample ID:			CCB12		CCB13	
Metal	RL	IDL	raw	final	raw	final
Zirconium	10	.23				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		10:10	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum			
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Bismuth			
Boron			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt	anr		
Copper			
Iron			
Lead	2000	2070	103.5
Lithium			
Magnesium			
Manganese	anr		
Molybdenum			
Nickel	anr		
Palladium			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium			
Sulfur			
Strontium			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		10:10	
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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		09:55			11:14			12:20	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper									
Iron									
Lead	2000	2040	102.0	2000	2080	104.0	2000	2140	107.0
Lithium									
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		09:55			11:14			12:20	
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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		13:26			14:32			15:38	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper									
Iron									
Lead	2000	2140	107.0	2000	2110	105.5	2000	2140	107.0
Lithium									
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		13:26			14:32			15:38	
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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		16:56			18:01			18:44	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper									
Iron									
Lead	2000	2130	106.5	2000	2150	107.5	2000	2140	107.0
Lithium									
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		16:56			18:01			18:44	
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

10.1.4
10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		19:50			20:55			22:01	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper									
Iron									
Lead	2000	2110	105.5	2000	2060	103.0	2000	2110	105.5
Lithium									
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		19:50			20:55			22:01	
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

10.1.4
10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		22:47	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Aluminum			
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Bismuth			
Boron			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt	anr		
Copper			
Iron			
Lead	2000	2110	105.5
Lithium			
Magnesium			
Manganese	anr		
Molybdenum			
Nickel	anr		
Palladium			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium			
Sulfur			
Strontium			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA37224 Units: ug/l

Time:		22:47	
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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA37224 Units: ug/l

Time:				10:25		10:37		11:26	
Sample ID:	CRI	CRIA	CRID	CRI1		CRIA1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100						
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	anr					
Calcium	5000	2000	1000						
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0						
Iron	100	500							
Lead	3.0	20	2.5	2.3	76.7	21.1	105.5	2.2	88.0
Lithium	20								
Magnesium	5000	2000	100						
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA37224 Units: ug/l

Time:				10:25		10:37		11:26	
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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA37224 Units: ug/l

Time:				18:13		18:19		18:25	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID3		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100						
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	anr					
Calcium	5000	2000	1000						
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0						
Iron	100	500							
Lead	3.0	20	2.5	2.7	90.0	2.6	104.0	21.2	106.0
Lithium	20								
Magnesium	5000	2000	100						
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA37224 Units: ug/l

Time:				18:13		18:19		18:25	
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

10.1.5
10

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA37224 Units: ug/l

Time:				22:29		22:35		22:41	
Sample ID:	CRI	CRIA	CRID	CRI3		CRID4		CRIA3	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100						
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	anr					
Calcium	5000	2000	1000						
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0						
Iron	100	500							
Lead	3.0	20	2.5	3.8	126.7	2.4	96.0	22.4	112.0
Lithium	20								
Magnesium	5000	2000	100						
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA37224 Units: ug/l

Time:				22:29		22:35		22:41	
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

10.1.5
10

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA37224 Units: ug/l

Time:			10:43		10:49		18:32		18:38	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	508000	101.6	502000	100.4	514000	102.8	511000	102.2
Antimony		1000	1.0		1050	105.0	-0.30		1090	109.0
Arsenic		1000	0.20		1030	103.0	1.2		1070	107.0
Barium		500	-0.30		507	101.4	-0.20		518	103.6
Beryllium		500	0.0		502	100.4	0.0		520	104.0
Bismuth		500	3.8		508	101.6	4.3		528	105.6
Boron			-1.5		-9.7		-4.6		-9.6	
Cadmium		1000	-2.6		1050	105.0	-2.5		1090	109.0
Calcium	400000	400000	381000	95.3	377000	94.3	385000	96.3	390000	97.5
Chromium		500	1.4		505	101.0	1.2		516	103.2
Cobalt		500	0.0		494	98.8	0.10		515	103.0
Copper		500	7.2		523	104.6	7.7		533	106.6
Iron	200000	200000	187000	93.5	182000	91.0	190000	95.0	187000	93.5
Lead		1000	3.4		957	95.7	5.4		996	99.6
Lithium		500	3.7		514	102.8	3.4		534	106.8
Magnesium	500000	500000	531000	106.2	514000	102.8	540000	108.0	533000	106.6
Manganese		500	-1.7		510	102.0	-2.3		519	103.8
Molybdenum		500	0.10		482	96.4	-0.60		500	100.0
Nickel		1000	-0.10		982	98.2	0.20		1020	102.0
Palladium		500	-15		533	106.6	-13		543	108.6
Potassium			-3.1		2.3		-9.2		-5.9	
Selenium		1000	-4.7		1050	105.0	-4.8		1080	108.0
Silicon			-17		-21		-19		-24	
Silver		1000	3.4		1050	105.0	4.0		1080	108.0
Sodium			27.4		27.5		15.4		19.7	
Sulfur		500	35.0		530	106.0	34.7		551	110.2
Strontium			5.0		4.9		5.1		4.9	
Thallium		1000	-3.1		921	92.1	-3.8		954	95.4
Tin			1.0		1.1		3.0		3.1	
Titanium			2.1		5.3		2.0		5.7	
Tungsten		500	15.3		516	103.2	18.3		540	108.0
Vanadium		500	1.7		495	99.0	1.6		512	102.4
Zinc		1000	-4.0		962	96.2	-4.0		1000	100.0

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SB073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA37224 Units: ug/l

Time:			10:43		10:49		18:32		18:38	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-1.3		457	91.4	-1.5		480	96.0

(*) Outside of QC limits
(anr) Analyte not requested

10.1.6
10

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:04	MA37226-STD1	1		STDA
10:07	MA37226-STD2	1		STDB
10:10	ZZZZZZ	1		
10:13	ZZZZZZ	1		
10:16	ZZZZZZ	1		
10:19	ZZZZZZ	1		
10:22	MA37226-ICV1	1		
10:25	MA37226-ICB1	1		
10:28	ZZZZZZ	3		
10:31	MA37226-CCV1	1		
10:34	MA37226-CCB1	1		
10:37	MA37226-CRI1	1		
10:41	MA37226-CRID1	1		
10:44	MA37226-CRIA1	1		
10:47	MA37226-ICSA1	1		
10:50	MA37226-ICSAB1	1		
10:53	ZZZZZZ	1		
10:57	ZZZZZZ	1		
11:00	ZZZZZZ	1		
11:03	MA37226-CCV2	1		
11:06	MA37226-CCB2	1		
11:09	MP88010-MB1	1		
11:13	MP88010-B1	1		
11:16	MP88010-S1	1		
11:18	MP88010-S2	1		
11:21	JB99773-3	1		(sample used for QC only; not part of login JB99969)
11:24	MP88010-SD1	5		
11:27	ZZZZZZ	1		
11:30	ZZZZZZ	1		
11:33	ZZZZZZ	1		
11:36	ZZZZZZ	1		
11:39	MA37226-CCV3	1		
11:42	MA37226-CCB3	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:45	ZZZZZZ	1		
11:48	ZZZZZZ	1		
11:51	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:57	ZZZZZZ	1		
12:00	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:06	ZZZZZZ	1		
12:09	ZZZZZZ	1		
12:12	MA37226-CCV4	1		
12:15	MA37226-CCB4	1		
12:18	ZZZZZZ	1		
12:21	ZZZZZZ	1		
12:24	ZZZZZZ	1		
12:27	MP88006-S2	1		
12:29	ZZZZZZ	1		
12:32	ZZZZZZ	1		
12:36	ZZZZZZ	1		
12:39	ZZZZZZ	1		
12:42	ZZZZZZ	1		
12:45	MA37226-CCV5	1		
12:47	MA37226-CCB5	1		
12:50	ZZZZZZ	1		
12:53	ZZZZZZ	1		
12:56	ZZZZZZ	1		
13:00	ZZZZZZ	1		
13:03	ZZZZZZ	1		
13:06	ZZZZZZ	1		
13:09	ZZZZZZ	1		
13:12	ZZZZZZ	1		
13:15	ZZZZZZ	1		
13:18	MA37226-CCV6	1		
13:21	MA37226-CCB6	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:24	ZZZZZZ	1		
13:27	ZZZZZZ	1		
13:30	ZZZZZZ	1		
13:33	ZZZZZZ	1		
13:36	ZZZZZZ	1		
13:39	ZZZZZZ	1		
13:42	ZZZZZZ	1		
13:45	ZZZZZZ	1		
13:48	ZZZZZZ	1		
13:51	MA37226-CCV7	1		
13:54	MA37226-CCB7	1		
13:57	MP88007-B1	1		
13:59	MP88007-MB1	1		
14:02	MP88007-S1	1		
14:05	MP88007-S2	1		
14:08	JB99969-1	1		
14:11	MP88007-SD1	5		
14:14	ZZZZZZ	1		
14:17	ZZZZZZ	1		
14:20	ZZZZZZ	1		
14:22	MA37226-CCV8	1		
14:25	MA37226-CCB8	1		
14:28	ZZZZZZ	1		
14:31	ZZZZZZ	1		
14:34	ZZZZZZ	1		
14:37	ZZZZZZ	1		
14:40	ZZZZZZ	1		
14:43	ZZZZZZ	1		
14:46	ZZZZZZ	1		
14:48	ZZZZZZ	1		
14:51	ZZZZZZ	1		
14:54	MA37226-CCV9	1		
14:57	MA37226-CCB9	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:00	ZZZZZZ	1		
15:03	ZZZZZZ	1		
15:06	ZZZZZZ	1		
15:08	ZZZZZZ	1		
15:11	JB99969-2	1		
15:14	JB99969-3	1		
15:17	JB99969-4	1		
15:20	JB99969-5	1		
---------->	Last reportable sample/prep for job JB99969			
15:23	ZZZZZZ	1		
15:26	MA37226-CCV10	1		
15:29	MA37226-CCB10	1		
15:32	MA37226-CRI2	1		
15:34	MA37226-CRID2	1		
15:37	MA37226-CRIA2	1		
15:40	MA37226-ICSA2	1		
15:44	MA37226-ICSAB2	1		
15:47	MA37226-CCV11	1		
15:49	MA37226-CCB11	1		
---------->	Last reportable CCB for job JB99969			
15:52	ZZZZZZ	1		
15:55	ZZZZZZ	1		
15:58	ZZZZZZ	1		
16:01	ZZZZZZ	1		
16:04	ZZZZZZ	1		
16:07	ZZZZZZ	1		
16:10	ZZZZZZ	1		
16:13	ZZZZZZ	1		
16:16	ZZZZZZ	1		
16:19	MA37226-CCV12	1		
16:21	MA37226-CCB12	1		
16:24	ZZZZZZ	1		
16:27	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:33	ZZZZZZ	5		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:36	ZZZZZZ	5		
16:39	ZZZZZZ	5		
16:42	ZZZZZZ	5		
16:45	ZZZZZZ	5		
16:48	ZZZZZZ	5		
16:51	MA37226-CCV13	1		
16:54	MA37226-CCB13	1		
16:57	ZZZZZZ	5		
17:00	ZZZZZZ	5		
17:03	ZZZZZZ	5		
17:06	ZZZZZZ	5		
17:09	ZZZZZZ	5		
17:12	ZZZZZZ	5		
17:15	MP88041-B1	1		
17:18	MP88041-MB1	1		
17:21	MP88041-LC1	1		
17:24	MA37226-CCV14	1		
17:26	MA37226-CCB14	1		
17:29	MP88041-S1	1		
17:32	MP88041-S2	1		
17:35	JC314-1A	1		(sample used for QC only; not part of login JB99969)
17:37	MP88041-SD1	5		
17:40	ZZZZZZ	1		
17:43	ZZZZZZ	1		
17:46	ZZZZZZ	1		
17:49	ZZZZZZ	1		
17:52	ZZZZZZ	1		
17:55	MA37226-CCV15	1		
17:57	MA37226-CCB15	1		
18:00	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:06	ZZZZZZ	1		
18:09	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:12	ZZZZZZ	1		
18:15	ZZZZZZ	1		
18:17	ZZZZZZ	1		
18:20	ZZZZZZ	1		
18:23	ZZZZZZ	1		
18:26	MA37226-CCV16	1		
18:29	MA37226-CCB16	1		
18:32	MP88041-B1	1		
18:35	MP88044-B1	1		
18:38	MP88044-MB1	1		
18:41	MP88044-S1	1		
18:44	MP88044-S2	1		
18:46	JB99971-1	1		(sample used for QC only; not part of login JB99969)
18:49	MP88044-SD1	5		
18:52	ZZZZZZ	1		
18:55	ZZZZZZ	1		
18:58	MA37226-CCV17	1		
19:01	MA37226-CCB17	1		
19:04	ZZZZZZ	1		
19:06	ZZZZZZ	1		
19:09	ZZZZZZ	1		
19:12	ZZZZZZ	1		
19:15	ZZZZZZ	1		
19:18	ZZZZZZ	1		
19:21	ZZZZZZ	1		
19:24	ZZZZZZ	1		
19:27	ZZZZZZ	1		
19:30	MA37226-CCV18	1		
19:32	MA37226-CCB18	1		
19:35	ZZZZZZ	1		
19:38	ZZZZZZ	1		
19:41	ZZZZZZ	1		
19:44	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:47	ZZZZZZ	1		
19:50	ZZZZZZ	1		
19:53	ZZZZZZ	1		
19:56	ZZZZZZ	1		
19:58	ZZZZZZ	2		
20:02	MA37226-CCV19	1		
20:04	MA37226-CCB19	1		
20:07	ZZZZZZ	5		
20:10	ZZZZZZ	2		
20:13	ZZZZZZ	2		
20:16	ZZZZZZ	5		
20:19	ZZZZZZ	2		
20:22	MA37226-CCV20	1		
20:25	MA37226-CCB20	1		
20:28	MA37226-CRI3	1		
20:31	MA37226-CRID3	1		
20:34	MA37226-CRIA3	1		
20:37	MA37226-CRI4	1		
20:40	MA37226-CCV21	1		
20:43	MA37226-CCB21	1		
20:46	ZZZZZZ	1		
20:49	ZZZZZZ	1		
20:52	ZZZZZZ	1		
20:55	ZZZZZZ	1		
20:58	ZZZZZZ	1		
21:01	ZZZZZZ	1		
21:04	ZZZZZZ	1		
21:07	ZZZZZZ	1		
21:10	ZZZZZZ	1		
21:13	ZZZZZZ	1		
21:16	ZZZZZZ	1		
21:19	MA37226-CCV22	1		
21:22	MA37226-CCB22	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:04	MA37226-STD1	2102 R	73746 R	20826 R	5258 R
10:07	MA37226-STD2	1924	66576	20300	4474
10:10	ZZZZZZ	1996	68673	20488	4694
10:13	ZZZZZZ	2114	73402	20755	5251
10:16	ZZZZZZ	1975	68279	20385	4646
10:19	ZZZZZZ	2087	73023	20853	5222
10:22	MA37226-ICV1	1980	68389	20576	4660
10:25	MA37226-ICB1	2090	73194	20844	5232
10:28	ZZZZZZ	2053	71681	20599	5080
10:31	MA37226-CCV1	1985	68953	20567	4671
10:34	MA37226-CCB1	2105	73318	20789	5243
10:37	MA37226-CRI1	2043	71569	20673	5068
10:41	MA37226-CRID1	2083	72720	20862	5210
10:44	MA37226-CRIA1	2089	72821	20768	5196
10:47	MA37226-ICSA1	1808	62159	19545	4085
10:50	MA37226-ICSAB1	1791	62275	19828	4084
10:53	ZZZZZZ	2043	71586	20822	5169
10:57	ZZZZZZ	2050	73091	20905	5230
11:00	ZZZZZZ	2089	72520	20821	5241
11:03	MA37226-CCV2	1976	68868	20752	4672
11:06	MA37226-CCB2	2130	73450	20867	5250
11:09	MP88010-MB1	2086	73873	20999	5229
11:13	MP88010-B1	2002	70328	20993	4811
11:16	MP88010-S1	1857	65785	20592	4339
11:18	MP88010-S2	1859	65562	20526	4340
11:21	JB99773-3	1884	66689	20346	4429
11:24	MP88010-SD1	2012	70623	20901	4917
11:27	ZZZZZZ	2036	72367	21538	5009
11:30	ZZZZZZ	1859	63899	20438	4244
11:33	ZZZZZZ	2048	72519	21041	5140
11:36	ZZZZZZ	1898	68188	20489	4499
11:39	MA37226-CCV3	1974	68522	20550	4649
11:42	MA37226-CCB3	2088	73291	21118	5243

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:45	ZZZZZZ	1861	65564	20335	4403
11:48	ZZZZZZ	2075	73391	21289	5250
11:51	ZZZZZZ	1815	63439	20199	4190
11:54	ZZZZZZ	1324 !a	46212 !a	17410	2889 !a
11:57	ZZZZZZ	1871	65996	20675	4445
12:00	ZZZZZZ	1772	59725	20077	3961
12:03	ZZZZZZ	1902	66260	20659	4487
12:06	ZZZZZZ	1976	68154	20827	4654
12:09	ZZZZZZ	1839	64057	20384	4292
12:12	MA37226-CCV4	1990	69139	20663	4705
12:15	MA37226-CCB4	2116	74307	21029	5284
12:18	ZZZZZZ	1802	63101	20083	4129
12:21	ZZZZZZ	1736	59136	19990	3923
12:24	ZZZZZZ	2077	74142	21415	5263
12:27	MP88006-S2	1983	69458	21732	4579
12:29	ZZZZZZ	2083	73943	21388	5269
12:32	ZZZZZZ	1811	63803	20694	4059
12:36	ZZZZZZ	1950	68908	21161	4672
12:39	ZZZZZZ	1830	63851	20593	4121
12:42	ZZZZZZ	2219	79016	24608	4419
12:45	MA37226-CCV5	1974	68803	20824	4656
12:47	MA37226-CCB5	2110	73479	20947	5252
12:50	ZZZZZZ	2100	73773	21283	5238
12:53	ZZZZZZ	2102	73677	21258	5230
12:56	ZZZZZZ	1752	63178	20952	3839
13:00	ZZZZZZ	1899	66713	20752	4375
13:03	ZZZZZZ	1838	64294	20610	4231
13:06	ZZZZZZ	1905	66713	21294	4341
13:09	ZZZZZZ	3376 !a	119840 !a	39214 !a	4040
13:12	ZZZZZZ	2048	72215	23151	4232
13:15	ZZZZZZ	2008	70691	20340	4792
13:18	MA37226-CCV6	1986	68893	20745	4685
13:21	MA37226-CCB6	2108	73605	21119	5251

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:24	ZZZZZZ	2134	74380	21378	5449
13:27	ZZZZZZ	1988	69967	21110	4784
13:30	ZZZZZZ	1870	65199	20786	4258
13:33	ZZZZZZ	1882	65667	20706	4260
13:36	ZZZZZZ	2187	77206	25045	4074
13:39	ZZZZZZ	1782	61063	20781	3785
13:42	ZZZZZZ	No results reported for the elements associated with this internal standard.			
13:45	ZZZZZZ	No results reported for the elements associated with this internal standard.			
13:48	ZZZZZZ	1795	60962	21591	3473 !
13:51	MA37226-CCV7	1978	68589	20758	4659
13:54	MA37226-CCB7	2110	73004	20972	5246
13:57	MP88007-B1	1997	69925	21082	4822
13:59	MP88007-MB1	2082	73200	21453	5266
14:02	MP88007-S1	2013	70456	21886	4672
14:05	MP88007-S2	2029	70687	22124	4674
14:08	JB99969-1	2113	73448	22432	4911
14:11	MP88007-SD1	2124	73262	21605	5114
14:14	ZZZZZZ	2162	75556	23032	4900
14:17	ZZZZZZ	2064	72826	22020	4926
14:20	ZZZZZZ	2114	74228	22547	4934
14:22	MA37226-CCV8	1965	68321	21036	4650
14:25	MA37226-CCB8	2091	73366	21143	5223
14:28	ZZZZZZ	2110	72885	22435	4860
14:31	ZZZZZZ	2117	74085	21481	5381
14:34	ZZZZZZ	2142	73858	22737	4857
14:37	ZZZZZZ	2013	71957	22179	4806
14:40	ZZZZZZ	2138	74570	22503	4965
14:43	ZZZZZZ	2052	71618	21975	4796
14:46	ZZZZZZ	2102	71515	22252	4837
14:48	ZZZZZZ	2075	72447	22253	4906
14:51	ZZZZZZ	2099	72711	22342	4928
14:54	MA37226-CCV9	1965	68525	21005	4667
14:57	MA37226-CCB9	2088	73906	21358	5256

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:00	ZZZZZZ	2101	73937	22438	4874
15:03	ZZZZZZ	2109	73044	22096	4990
15:06	ZZZZZZ	2095	72284	22333	4840
15:08	ZZZZZZ	2128	74378	22651	4872
15:11	JB99969-2	2102	72544	22538	4776
15:14	JB99969-3	2143	73182	22506	4796
15:17	JB99969-4	2058	72369	22309	4787
15:20	JB99969-5	2063	71717	22100	4807
15:23	ZZZZZZ	2051	73150	21561	5234
15:26	MA37226-CCV10	1960	68338	20905	4626
15:29	MA37226-CCB10	2088	72892	21244	5174
15:32	MA37226-CRI2	1981	73274	20631	4919
15:34	MA37226-CRID2	2034	71935	20874	5121
15:37	MA37226-CRIA2	2060	71792	20814	5138
15:40	MA37226-ICSA2	1766	61344	20080	4033
15:44	MA37226-ICSAB2	1759	61346	19924	4041
15:47	MA37226-CCV11	1960	68275	20812	4640
15:49	MA37226-CCB11	2086	73535	21213	5227
15:52	ZZZZZZ	1810	63948	21129	3946
15:55	ZZZZZZ	1849	65903	21741	4049
15:58	ZZZZZZ	1881	66024	21433	4126
16:01	ZZZZZZ	2007	71209	22298	4660
16:04	ZZZZZZ	2028	71623	22299	4711
16:07	ZZZZZZ	2027	71315	22212	4746
16:10	ZZZZZZ	2031	71468	22328	4619
16:13	ZZZZZZ	2014	71535	22173	4713
16:16	ZZZZZZ	1933	68421	21740	4443
16:19	MA37226-CCV12	1937	67640	20659	4602
16:21	MA37226-CCB12	2097	72571	21042	5212
16:24	ZZZZZZ	1936	65540	21696	4573
16:27	ZZZZZZ	1918	67818	21587	4372
16:30	ZZZZZZ	1967	70634	22007	4597
16:33	ZZZZZZ	1916	66106	20672	4524

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:36	ZZZZZZ	1849	64775	20454	4330
16:39	ZZZZZZ	1847	64759	20263	4323
16:42	ZZZZZZ	1805	64784	20269	4193
16:45	ZZZZZZ	1911	66123	20519	4443
16:48	ZZZZZZ	1845	64413	20211	4307
16:51	MA37226-CCV13	1951	67941	20585	4615
16:54	MA37226-CCB13	2084	72656	20865	5201
16:57	ZZZZZZ	1978	66439	20559	4535
17:00	ZZZZZZ	1858	64831	20172	4333
17:03	ZZZZZZ	1916	66255	20531	4485
17:06	ZZZZZZ	1848	65676	20413	4312
17:09	ZZZZZZ	1955	66478	20536	4506
17:12	ZZZZZZ	1912	65845	20532	4420
17:15	MP88041-B1	No results reported for the elements associated with this internal standard.			
17:18	MP88041-MB1	2075	73267	21381	5236
17:21	MP88041-LC1	2046	71114	21491	4786
17:24	MA37226-CCV14	1967	68570	20404	4627
17:26	MA37226-CCB14	2077	72945	20793	5197
17:29	MP88041-S1	2312	81580	25242	4537
17:32	MP88041-S2	2392	84307	26048	4593
17:35	JC314-1A	2388	83241	24741	4917
17:37	MP88041-SD1	2167	74649	21831	5092
17:40	ZZZZZZ	2001	70439	21598	4596
17:43	ZZZZZZ	2072	71511	21596	4748
17:46	ZZZZZZ	2009	70795	21421	4568
17:49	ZZZZZZ	2053	71975	21267	4787
17:52	ZZZZZZ	1977	69568	21207	4522
17:55	MA37226-CCV15	1960	68334	20142	4617
17:57	MA37226-CCB15	2127	73006	20438	5202
18:00	ZZZZZZ	2024	71262	21052	4733
18:03	ZZZZZZ	1871	65999	20603	4261
18:06	ZZZZZZ	2060	72427	21391	4788
18:09	ZZZZZZ	2040	72049	21573	4785

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
18:12	ZZZZZZ	2022	71665	21426	4787
18:15	ZZZZZZ	2093	72443	21105	5005
18:17	ZZZZZZ	2002	69451	20574	4728
18:20	ZZZZZZ	2049	71600	21600	4804
18:23	ZZZZZZ	2062	72541	21491	4882
18:26	MA37226-CCV16	1987	68668	20168	4660
18:29	MA37226-CCB16	2099	73490	20513	5262
18:32	MP88041-B1	2007	69979	20420	4774
18:35	MP88044-B1	2021	70707	20421	4815
18:38	MP88044-MB1	2130	73769	21049	5271
18:41	MP88044-S1	2014	70654	21074	4694
18:44	MP88044-S2	2027	71115	21168	4706
18:46	JB99971-1	2095	73271	21207	4990
18:49	MP88044-SD1	2140	73582	20815	5175
18:52	ZZZZZZ	2103	73342	21556	4939
18:55	ZZZZZZ	2126	73502	21657	4884
18:58	MA37226-CCV17	1988	68853	20236	4669
19:01	MA37226-CCB17	2138	73770	20533	5276
19:04	ZZZZZZ	2120	73951	21646	4968
19:06	ZZZZZZ	2114	73371	21407	4958
19:09	ZZZZZZ	2048	72120	21311	4813
19:12	ZZZZZZ	2087	73288	21377	4976
19:15	ZZZZZZ	2083	73107	21590	4918
19:18	ZZZZZZ	2100	73560	21644	4934
19:21	ZZZZZZ	2082	72104	21294	4855
19:24	ZZZZZZ	2087	72877	21408	4943
19:27	ZZZZZZ	2104	73281	21443	4985
19:30	MA37226-CCV18	1986	68618	20122	4650
19:32	MA37226-CCB18	2107	73524	20416	5261
19:35	ZZZZZZ	2134	73981	21609	4991
19:38	ZZZZZZ	2114	73383	21389	5003
19:41	ZZZZZZ	2104	73747	21614	4951
19:44	ZZZZZZ	2117	73670	21495	4997

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:47	ZZZZZZ	2101	72897	21101	5022
19:50	ZZZZZZ	2080	72906	21354	4883
19:53	ZZZZZZ	2124	73185	21201	5025
19:56	ZZZZZZ	2115	73134	21089	5033
19:58	ZZZZZZ	1923	65818	19912	4433
20:02	MA37226-CCV19	2003	69108	20121	4687
20:04	MA37226-CCB19	2157	73914	20521	5274
20:07	ZZZZZZ	1725	58278	18889	3837
20:10	ZZZZZZ	1861	62816	19668	4246
20:13	ZZZZZZ	1848	62595	19570	4219
20:16	ZZZZZZ	1952	65559	20204	4266
20:19	ZZZZZZ	2088	73211	21104	5023
20:22	MA37226-CCV20	2021	69424	20251	4719
20:25	MA37226-CCB20	2137	74229	20064	5322
20:28	MA37226-CRI3	2087	71704	20270	5121
20:31	MA37226-CRID3	2120	73632	20307	5263
20:34	MA37226-CRIA3	2122	73527	20310	5260
20:37	MA37226-CRI4	2089	72343	20054	5135
20:40	MA37226-CCV21	2021	69307	20004	4714
20:43	MA37226-CCB21	2135	73879	20413	5302
20:46	ZZZZZZ	2149	73841	20362	5284
20:49	ZZZZZZ	2097	74023	20444	5202
20:52	ZZZZZZ	2117	73410	20335	5272
20:55	ZZZZZZ	2178	73917	20344	5304
20:58	ZZZZZZ	2130	73957	20534	5299
21:01	ZZZZZZ	2155	73943	20556	5344
21:04	ZZZZZZ	2107	73130	20037	5250
21:07	ZZZZZZ	2125	68025	20887	4686
21:10	ZZZZZZ	1886	66051	19481	4434
21:13	ZZZZZZ	1932	66309	19587	4487
21:16	ZZZZZZ	2144	74025	20278	5321
21:19	MA37226-CCV22	2037	69414	19917	4734
21:22	MA37226-CCB22	2136	73976	20280	5318

R = Reference for ISTD limits. ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA37226
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37226 Units: ug/l

Time:			10:25		10:34		11:06		11:42	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	10	anr							
Antimony	6.0	2.4	anr							
Arsenic	3.0	2.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	2.7								
Boron	100	2								
Cadmium	3.0	.4	anr							
Calcium	5000	4.5	anr							
Chromium	10	.9	anr							
Cobalt	50	.4	anr							
Copper	10	1.1	anr							
Iron	100	1.7	anr							
Lead	3.0	1.7	2.5	<3.0	0.0	<3.0	1.1	<3.0	0.0	<3.0
Lithium	20	1.5								
Magnesium	5000	21	anr							
Manganese	15	.1	anr							
Molybdenum	20	.6	anr							
Nickel	10	.5	anr							
Palladium	50	2								
Potassium	10000	29	anr							
Selenium	10	2.6	anr							
Silicon	200	1.9								
Silver	10	.8	anr							
Sodium	10000	9.4	anr							
Sulfur	50	4.1								
Strontium	10	.1								
Thallium	2.0	1.9	anr							
Tin	10	1.3								
Titanium	10	1.1								
Tungsten	50	1.9								
Vanadium	50	.7	anr							
Zinc	20	.3	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37226 Units: ug/l

Time:			10:25		10:34		11:06		11:42	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37226 Units: ug/l

Time:			12:15		12:47		13:21		13:54	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	10	anr							
Antimony	6.0	2.4	anr							
Arsenic	3.0	2.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	2.7								
Boron	100	2								
Cadmium	3.0	.4	anr							
Calcium	5000	4.5	anr							
Chromium	10	.9	anr							
Cobalt	50	.4	anr							
Copper	10	1.1	anr							
Iron	100	1.7	anr							
Lead	3.0	1.7	0.80	<3.0	0.30	<3.0	1.1	<3.0	2.0	<3.0
Lithium	20	1.5								
Magnesium	5000	21	anr							
Manganese	15	.1	anr							
Molybdenum	20	.6	anr							
Nickel	10	.5	anr							
Palladium	50	2								
Potassium	10000	29	anr							
Selenium	10	2.6	anr							
Silicon	200	1.9								
Silver	10	.8	anr							
Sodium	10000	9.4	anr							
Sulfur	50	4.1								
Strontium	10	.1								
Thallium	2.0	1.9	anr							
Tin	10	1.3								
Titanium	10	1.1								
Tungsten	50	1.9								
Vanadium	50	.7	anr							
Zinc	20	.3	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37226 Units: ug/l

Time:			12:15		12:47		13:21		13:54	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37226 Units: ug/l

Time:			14:25		14:57		15:29		15:49	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	10	anr							
Antimony	6.0	2.4	anr							
Arsenic	3.0	2.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	2.7								
Boron	100	2								
Cadmium	3.0	.4	anr							
Calcium	5000	4.5	anr							
Chromium	10	.9	anr							
Cobalt	50	.4	anr							
Copper	10	1.1	anr							
Iron	100	1.7	anr							
Lead	3.0	1.7	0.60	<3.0	1.1	<3.0	1.5	<3.0	1.2	<3.0
Lithium	20	1.5								
Magnesium	5000	21	anr							
Manganese	15	.1	anr							
Molybdenum	20	.6	anr							
Nickel	10	.5	anr							
Palladium	50	2								
Potassium	10000	29	anr							
Selenium	10	2.6	anr							
Silicon	200	1.9								
Silver	10	.8	anr							
Sodium	10000	9.4	anr							
Sulfur	50	4.1								
Strontium	10	.1								
Thallium	2.0	1.9	anr							
Tin	10	1.3								
Titanium	10	1.1								
Tungsten	50	1.9								
Vanadium	50	.7	anr							
Zinc	20	.3	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA37226 Units: ug/l

Time:			14:25		14:57		15:29		15:49	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		10:22			10:31			11:03	
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	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2070	103.5	2000	2050	102.5	2000	2040	102.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		10:22			10:31			11:03	
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

10.2.3 10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		11:39			12:12			12:45	
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	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2050	102.5	2000	2040	102.0	2000	2050	102.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		11:39			12:12			12:45	
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

10.2.3 10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		13:18			13:51			14:22	
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	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2050	102.5	2000	2060	103.0	2000	2030	101.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		13:18			13:51			14:22	
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

10.2.3 10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		14:54			15:26			15:47	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
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	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2020	101.0	2000	2040	102.0	2000	2050	102.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA37226 Units: ug/l

Time:		14:54			15:26			15:47	
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

10.2.3 10

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA37226 Units: ug/l

Time:				10:37		10:41		10:44	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
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	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	3.6	120.0			23.6	118.0
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20			anr					
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Sulfur	50								
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA37226 Units: ug/l

Time:				10:37		10:41		10:44	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA37226 Units: ug/l

Time:				15:32		15:34		15:37	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID2		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	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	3.2	106.7	2.9	116.0	22.5	112.5
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20			anr					
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Sulfur	50								
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA37226 Units: ug/l

Time:				15:32		15:34		15:37	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID2		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

10.2.4
10

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA37226 Units: ug/l

Time:			10:47		10:50		15:40		15:44	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	507000	101.4	497000	99.4	497000	99.4	499000	99.8
Antimony		1000	-1.6		1030	103.0	-1.8		1050	105.0
Arsenic		1000	-1.3		1010	101.0	0.0		1020	102.0
Barium		500	-0.90		503	100.6	-0.90		494	98.8
Beryllium		500	-0.10		498	99.6	-0.10		491	98.2
Bismuth		500	7.4		503	100.6	5.7		518	103.6
Boron			-5.1		-1.6		-5.8		-3.1	
Cadmium		1000	2.1		1030	103.0	2.2		1040	104.0
Calcium	400000	400000	372000	93.0	363000	90.8	365000	91.3	365000	91.3
Chromium		500	2.3		497	99.4	2.2		495	99.0
Cobalt		500	1.7		496	99.2	2.0		501	100.2
Copper		500	6.4		523	104.6	5.5		532	106.4
Iron	200000	200000	185000	92.5	178000	89.0	177000	88.5	173000	86.5
Lead		1000	0.50		959	95.9	2.7		960	96.0
Lithium		500	5.5		527	105.4	5.5		518	103.6
Magnesium	500000	500000	507000	101.4	487000	97.4	489000	97.8	478000	95.6
Manganese		500	-0.30		500	100.0	-1.3		502	100.4
Molybdenum		500	1.8		478	95.6	0.80		486	97.2
Nickel		1000	3.7		972	97.2	4.3		980	98.0
Palladium		500	34.3		570	114.0	32.4		571	114.2
Potassium			180		171		233		213	
Selenium		1000	-1.1		1040	104.0	-2.6		1040	104.0
Silicon			11.7		12.9		23.4		24.8	
Silver		1000	2.2		1060	106.0	-1.9		1070	107.0
Sodium			-9.1		-1.9		22.6		30.6	
Sulfur		500	18.3		499	99.8	12.3		514	102.8
Strontium			5.2		5.4		4.8		4.5	
Thallium		1000	-0.10		939	93.9	2.7		946	94.6
Tin			-5.5		-5.8		-6.6		-5.4	
Titanium			2.1		2.0		1.2		1.6	
Tungsten		500	4.8		499	99.8	5.5		517	103.4
Vanadium		500	-0.10		493	98.6	-0.20		499	99.8
Zinc		1000	-2.3		975	97.5	-2.0		982	98.2

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

File ID: SE073115M1.ICP Date Analyzed: 07/31/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA37226 Units: ug/l

Time:			10:47		10:50		15:40		15:44	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-4.1		446	89.2	-4.5		447	89.4

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1	3.2		
Antimony	2.0	.24	.31		
Arsenic	2.0	.25	.14		
Barium	20	.02	.054		
Beryllium	0.20	.01	.041		
Bismuth	2.0	.27	.37		
Boron	10	.2	.43		
Cadmium	0.50	.04	.051		
Calcium	500	.45	2.7		
Chromium	1.0	.09	.099		
Cobalt	5.0	.04	.04		
Copper	2.5	.11	.14		
Iron	50	.17	3.3		
Lead	2.0	.17	.24	0.14	<2.0
Lithium	2.0	.15	.33		
Magnesium	500	2.1	9		
Manganese	1.5	.01	.036		
Molybdenum	2.0	.06	.15		
Nickel	4.0	.05	.096		
Palladium	5.0	.2	.37		
Potassium	1000	2.9	7.4		
Selenium	2.0	.26	.25		
Silicon	20	.19	1.7		
Silver	0.50	.08	.18		
Sodium	1000	.94	1.5		
Strontium	1.0	.01	.034		
Sulfur	5.0	.41	.7		
Thallium	1.0	.19	.19		
Tin	5.0	.13	1.1		
Titanium	1.0	.11	.21		
Tungsten	5.0	.19	.43		
Vanadium	5.0	.07	.075		
Zinc	5.0	.03	.77		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 07/30/15

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.03	.11		

Associated samples MP88007: JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-1 Original	MS	Spikelot MPSPK1	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	9.2	239	243	94.6	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Palladium					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-1 Original MS	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP88007: JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-1 Original	MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	9.2	242	243	95.8	1.2	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Palladium						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-1 Original MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP88007: JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	195	198	98.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP88007: JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/30/15

Metal	JB99969-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	76.1	77.7	2.1	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88007
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/30/15

Metal	JB99969-1 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP88007: JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.3	3.2		
Antimony	2.0	.11	.31		
Arsenic	2.0	.095	.13		
Barium	20	.03	.053		
Beryllium	0.20	.018	.041		
Bismuth	2.0	.14	.37		
Boron	9.9	.22	.42		
Cadmium	0.50	.035	.05		
Calcium	500	2.7	2.7		
Chromium	0.99	.04	.098		
Cobalt	5.0	.028	.04		
Copper	2.5	.056	.14		
Iron	50	.72	3.3		
Lead	2.0	.097	.24	0.030	<2.0
Lithium	2.0	.27	.33		
Magnesium	500	2.8	8.9		
Manganese	1.5	.023	.036		
Molybdenum	2.0	.039	.15		
Nickel	4.0	.03	.095		
Palladium	5.0	.16	.36		
Potassium	990	5.7	7.3		
Selenium	2.0	.19	.25		
Silicon	20	.34	1.7		
Silver	0.50	.052	.18		
Sodium	990	1.8	1.5		
Strontium	0.99	.023	.034		
Sulfur	5.0	.24	.69		
Thallium	0.99	.17	.19		
Tin	5.0	.087	1.1		
Titanium	0.99	.045	.21		
Tungsten	5.0	.14	.43		
Vanadium	5.0	.037	.074		
Zinc	5.0	.19	.76		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.023	.11		

Associated samples MP88016: JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20, JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-7 Original	MS	Spikelot MPSPK1	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	3.5	243	234	102.1	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Palladium					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-7 Original MS	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP88016: JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20, JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-7 Original	MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	3.5	239	234	100.4	1.7	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Palladium						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date: 07/30/15

Metal	JB99969-7 Original MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP88016: JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20, JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

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: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	200	200	100.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 07/30/15

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP88016: JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20, JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/30/15

Metal	JB99969-7 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	29.1	29.0	0.3	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB99969
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

QC Batch ID: MP88016
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/30/15

Metal	JB99969-7 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP88016: JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20, JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

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: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: JB99969-1 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-619-5-3

Wet Weight (Total)	33.23	g
Tare Weight	25.66	g
Dry Weight (Total)	31.83	g
Solids, Percent	81.5	%

Sample: JB99969-2 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-619-4-3

Wet Weight (Total)	25.41	g
Tare Weight	19.29	g
Dry Weight (Total)	24.31	g
Solids, Percent	82	%

Sample: JB99969-3 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-619-7-2

Wet Weight (Total)	32.11	g
Tare Weight	25.32	g
Dry Weight (Total)	30.99	g
Solids, Percent	83.5	%

Sample: JB99969-4 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-619-3-3

Wet Weight (Total)	33.42	g
Tare Weight	28.28	g
Dry Weight (Total)	32.64	g
Solids, Percent	84.8	%

Sample: JB99969-5 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-619-2-3

Wet Weight (Total)	33.63	g
Tare Weight	26.7	g
Dry Weight (Total)	32.62	g
Solids, Percent	85.4	%

Sample: JB99969-6 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-619-1-3

Wet Weight (Total)	29.81	g
Tare Weight	24.38	g
Dry Weight (Total)	29.14	g
Solids, Percent	87.7	%

Percent Solids Raw Data Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: JB99969-7 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-618-5-3

Wet Weight (Total)	30.03	g
Tare Weight	24.31	g
Dry Weight (Total)	29.19	g
Solids, Percent	85.3	%

Sample: JB99969-8 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-618-4-3

Wet Weight (Total)	28.01	g
Tare Weight	21.67	g
Dry Weight (Total)	26.79	g
Solids, Percent	80.8	%

Sample: JB99969-9 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-618-7-2

Wet Weight (Total)	29.32	g
Tare Weight	22.59	g
Dry Weight (Total)	28.43	g
Solids, Percent	86.8	%

Sample: JB99969-10 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-618-2-3

Wet Weight (Total)	25.38	g
Tare Weight	17.83	g
Dry Weight (Total)	23.93	g
Solids, Percent	80.8	%

Sample: JB99969-11 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-618-6-5

Wet Weight (Total)	24.55	g
Tare Weight	18.99	g
Dry Weight (Total)	23.57	g
Solids, Percent	82.4	%

Sample: JB99969-12 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-618-3-3

Wet Weight (Total)	24.25	g
Tare Weight	17.97	g
Dry Weight (Total)	22.98	g
Solids, Percent	79.8	%

Percent Solids Raw Data Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: JB99969-13 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-617-4-3

Wet Weight (Total)	28.52	g
Tare Weight	19.61	g
Dry Weight (Total)	28.04	g
Solids, Percent	94.6	%

Sample: JB99969-14 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-617-5-3

Wet Weight (Total)	30.25	g
Tare Weight	23.23	g
Dry Weight (Total)	29.37	g
Solids, Percent	87.5	%

Sample: JB99969-15 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-617-3-3

Wet Weight (Total)	29.13	g
Tare Weight	20.79	g
Dry Weight (Total)	28.85	g
Solids, Percent	96.6	%

Sample: JB99969-16 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-617-2-3

Wet Weight (Total)	26.15	g
Tare Weight	19.22	g
Dry Weight (Total)	25.28	g
Solids, Percent	87.4	%

Sample: JB99969-17 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-617-1-3

Wet Weight (Total)	37.24	g
Tare Weight	28.64	g
Dry Weight (Total)	36.16	g
Solids, Percent	87.4	%

Sample: JB99969-18 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-617-7-2

Wet Weight (Total)	35.28	g
Tare Weight	28.68	g
Dry Weight (Total)	34.05	g
Solids, Percent	81.4	%

Percent Solids Raw Data Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: JB99969-19 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-616-7-2

Wet Weight (Total)	35.58	g
Tare Weight	26.71	g
Dry Weight (Total)	34.38	g
Solids, Percent	86.5	%

Sample: JB99969-20 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-616-1-3

Wet Weight (Total)	36.3	g
Tare Weight	28.83	g
Dry Weight (Total)	35.2	g
Solids, Percent	85.3	%

Sample: JB99969-21 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-616-2-3

Wet Weight (Total)	31.51	g
Tare Weight	24.65	g
Dry Weight (Total)	30.17	g
Solids, Percent	80.5	%

Sample: JB99969-22 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-616-3-3

Wet Weight (Total)	25.63	g
Tare Weight	18.98	g
Dry Weight (Total)	24.33	g
Solids, Percent	80.5	%

Sample: JB99969-23 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-616-4-3

Wet Weight (Total)	34.73	g
Tare Weight	26.7	g
Dry Weight (Total)	33.63	g
Solids, Percent	86.3	%

Sample: JB99969-24 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-616-6-5

Wet Weight (Total)	31.19	g
Tare Weight	23.61	g
Dry Weight (Total)	29.7	g
Solids, Percent	80.3	%

Percent Solids Raw Data Summary

Job Number: JB99969
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-Tank 616-619, Marcus Hook, PA

Sample: JB99969-25 **Analyzed:** 28-JUL-15 by KP **Method:** SM2540 G-97
ClientID: MH-616-5-3

Wet Weight (Total)	27.37	g
Tare Weight	20.05	g
Dry Weight (Total)	26.05	g
Solids, Percent	82	%

New Jersey

ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle

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 #: JB99969

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: DonM E-mail: DonM@accutest.com
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): DH/CD Phone:

Project Information

Project Name: MHIC-Tank 616-619, Marcus Hook, PA
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	MH-619-5-3		7/23/15	8:00:00 AM	DH/CD	SO	1					1				X	
2	MH-619-4-3		7/23/15	8:15:00 AM	DH/CD	SO	1					1				X	
3	MH-619-7-2		7/23/15	8:25:00 AM	DH/CD	SO	1					1				X	
4	MH-619-3-3		7/23/15	8:40:00 AM	DH/CD	SO	1					1				X	
5	MH-619-2-3		7/23/15	8:50:00 AM	DH/CD	SO	1					1				X	
6	MH-619-1-3		7/23/15	9:00:00 AM	DH/CD	SO	1					1				X	
7	MH-618-5-3		7/23/15	9:10:00 AM	DH/CD	SO	1					1				X	
8	MH-618-4-3		7/23/15	9:20:00 AM	DH/CD	SO	1					1				X	
9	MH-618-7-2		7/23/15	9:30:00 AM	DH/CD	SO	1					1				X	
10	MH-618-2-3		7/23/15	10:40:00 AM	DH/CD	SO	1					1				X	
11	MH-618-6-5		7/23/15	11:00:00 AM	DH/CD	SO	1					1				X	
12	MH-618-3-3		7/23/15	11:10:00 AM	DH/CD	SO	1					1				X	

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 8/7/2015

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)
- [ ] 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 [signature]	7/23/15 17:00	1 FedEx	2 FF 0729-15	1015	2 [signature]
3		3	4		4
5		5			

Custody Seal # 344 — Intact / Not Intact — Preserved where applicable — On Ice — Cooler Temp. 2.8

12.1 12

JB99969: Chain of Custody
Page 1 of 5
Accutest Laboratories Southeast, 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 #: JB99969

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: DonM E-mail: DonM@accutest.com
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): DH/CD Phone:

Project Information

Project Name: MHIC-Tank 616-619, Marcus Hook, PA
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
13	MH-617-4-3		7/23/15	11:25:00 AM	DH/CD	SO	1					1				X	
14	MH-617-5-3		7/23/15	11:40:00 AM	DH/CD	SO	1					1				X	
15	MH-617-3-3		7/23/15	11:50:00 AM	DH/CD	SO	1					1				X	
16	MH-617-2-3		7/23/15	12:05:00 PM	DH/CD	SO	1					1				X	
17	MH-617-1-3		7/23/15	12:15:00 PM	DH/CD	SO	1					1				X	
18	MH-617-7-2		7/23/15	12:30:00 PM	DH/CD	SO	1					1				X	
19	MH-616-7-2		7/23/15	12:40:00 PM	DH/CD	SO	1					1				X	
20	MH-616-1-3		7/23/15	12:50:00 PM	DH/CD	SO	1					1				X	
21	MH-616-2-3		7/23/15	1:05:00 PM	DH/CD	SO	1					1				X	
22	MH-616-3-3		7/23/15	1:15:00 PM	DH/CD	SO	1					1				X	
23	MH-616-4-3		7/23/15	1:30:00 PM	DH/CD	SO	1					1				X	
24	MH-616-6-5		7/23/15	1:40:00 PM	DH/CD	SO	1					1				X	

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 8/7/2015

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 Tin	Received By:	Relinquished By:	Date Time:	Received By:
1		1 FC	2 FC 07-24-15	1615	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 #	[ ] Intact [ ] Not Intact	Preserved where applicable [ ] On Ice [ ] Cooler Temp.

12.1 12

JB99969: Chain of Custody
Page 2 of 5

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 #: JB99969

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City / State / Zip: Dayton NJ 08810
Project Contact / E-mail: DonM DonM@accutest.com
Phone # / Fax #: 732-329-0200
Sampler(s) Name(s) / Phone: DH/CD

Project Information

Project Name: MHIC-Tank 616-619, Marcus Hook, PA
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
25	MH-616-5-3		7/23/15	1:50:00 PM	DH/CD	SO	1					1				X	
26A	TB-20150723		7/23/15	1:50:00 PM	DH/CD	AQ	1	1								X	

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 8/7/2015

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 Tin	Received By:	Relinquished By:	Date Time:	Received By:
1		1 FC	2 FC 07-29-15	1015	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 #	[ ] Intact [ ] Not Intact	Preserved where applicable [ ] On Ice [ ] Cooler Temp.

12.1 12

JB99969: Chain of Custody
Page 3 of 5

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: JB99969 CLIENT: ALNS PROJECT: MHIC-Tank

DATE/TIME RECEIVED: 0729-15 1015 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 5633 9348 3266

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 3.0
- [ ] CORRECTED TEMPS: 2.8

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [x] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM 5-GRAM

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

pH PAPER LOT#s WIDE RANGE A036122 NARROW RANGE HC421754 OTHER (specify) 405-230010

SUMMARY OF COMMENTS: 1 Vial trip Blank

TECHNICIAN SIGNATURE/DATE 07-30-15 REVIEWER SIGNATURE/DATE 7-30-15

NF 10/14 receipt confirmation 102914.xls

12.1 12

JB99969: Chain of Custody

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ORIGIN ID:ZRPA (732) 329-0200
SAMPLE MGT.
ACCUTEST
2235 US HIGHWAY 130

DAYTON, NJ 08810
UNITED STATES US

SHIP DATE: 28JUL15
ACTWGT: 44.0 LB
CAD: 0743430/CAFE2807

BILL SENDER

TO SAMPLE MANAGEMENT
ACCUTEST LABORATORIES
4405 VINELAND ROAD
SUITE C-15
ORLANDO FL 32811
(407) 426-6700
REF: JB99969 JB99970

FedEx Express

TRK# 0201 5633 9348 3766

WED. - 29 JUL 10:30A
PRIORITY OVERNIGHT

XH TIXA

32811
FL-US MCO

Part # 156148V4434 RIT2 10/14

12.1

JB99969: Chain of Custody

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ACCUTEST LABORATORIES

JB99969

Internal Sample Tracking Chronicle

Accutest New Jersey

Job No: JB99969

SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA
Project No: SECORPAE65217

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-1	Collected: 23-JUL-15 08:00 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-619-5-3						
JB99969-1	SW846 8011M	31-JUL-15 15:37	NG	31-JUL-15	NG	V8011EDB
JB99969-2	Collected: 23-JUL-15 08:15 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-619-4-3						
JB99969-2	SW846 8011M	31-JUL-15 15:52	NG	31-JUL-15	NG	V8011EDB
JB99969-3	Collected: 23-JUL-15 08:25 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-619-7-2						
JB99969-3	SW846 8011M	31-JUL-15 16:08	NG	31-JUL-15	NG	V8011EDB
JB99969-4	Collected: 23-JUL-15 08:40 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-619-3-3						
JB99969-4	SW846 8011M	31-JUL-15 16:23	NG	31-JUL-15	NG	V8011EDB
JB99969-5	Collected: 23-JUL-15 08:50 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-619-2-3						
JB99969-5	SW846 8011M	31-JUL-15 16:39	NG	31-JUL-15	NG	V8011EDB
JB99969-6	Collected: 23-JUL-15 09:00 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-619-1-3						
JB99969-6	SW846 8011M	31-JUL-15 16:54	NG	31-JUL-15	NG	V8011EDB
JB99969-7	Collected: 23-JUL-15 09:10 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-618-5-3						
JB99969-7	SW846 8011M	31-JUL-15 17:09	NG	31-JUL-15	NG	V8011EDB
JB99969-8	Collected: 23-JUL-15 09:20 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-618-4-3						
JB99969-8	SW846 8011M	31-JUL-15 17:55	NG	31-JUL-15	NG	V8011EDB

Internal Sample Tracking Chronicle

Accutest New Jersey

Job No: JB99969

SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA
Project No: SECORPAE65217

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-9	Collected: 23-JUL-15 09:30 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-618-7-2						
JB99969-9	SW846 8011M	31-JUL-15 18:10	NG	31-JUL-15	NG	V8011EDB
JB99969-10	Collected: 23-JUL-15 10:40 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-618-2-3						
JB99969-10	SW846 8011M	31-JUL-15 18:26	NG	31-JUL-15	NG	V8011EDB
JB99969-11	Collected: 23-JUL-15 11:00 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-618-6-5						
JB99969-11	SW846 8011M	31-JUL-15 18:41	NG	31-JUL-15	NG	V8011EDB
JB99969-12	Collected: 23-JUL-15 11:10 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-618-3-3						
JB99969-12	SW846 8011M	31-JUL-15 18:56	NG	31-JUL-15	NG	V8011EDB
JB99969-13	Collected: 23-JUL-15 11:25 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-617-4-3						
JB99969-13	SW846 8011M	31-JUL-15 19:12	NG	31-JUL-15	NG	V8011EDB
JB99969-14	Collected: 23-JUL-15 11:40 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-617-5-3						
JB99969-14	SW846 8011M	31-JUL-15 19:27	NG	31-JUL-15	NG	V8011EDB
JB99969-15	Collected: 23-JUL-15 11:50 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-617-3-3						
JB99969-15	SW846 8011M	31-JUL-15 19:42	NG	31-JUL-15	NG	V8011EDB
JB99969-16	Collected: 23-JUL-15 12:05 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-617-2-3						
JB99969-16	SW846 8011M	31-JUL-15 19:57	NG	31-JUL-15	NG	V8011EDB

Internal Sample Tracking Chronicle

Accutest New Jersey

Job No: JB99969

SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA
Project No: SECORPAE65217

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-17 Collected: 23-JUL-15 12:15 By: DH/CD Received: 24-JUL-15 By: RW MH-617-1-3						
JB99969-17	SW846 8011M	31-JUL-15 20:13	NG	31-JUL-15	NG	V8011EDB
JB99969-18 Collected: 23-JUL-15 12:30 By: DH/CD Received: 24-JUL-15 By: RW MH-617-7-2						
JB99969-18	SW846 8011M	31-JUL-15 20:58	NG	31-JUL-15	NG	V8011EDB
JB99969-19 Collected: 23-JUL-15 12:40 By: DH/CD Received: 24-JUL-15 By: RW MH-616-7-2						
JB99969-19	SW846 8011M	31-JUL-15 21:13	NG	31-JUL-15	NG	V8011EDB
JB99969-20 Collected: 23-JUL-15 12:50 By: DH/CD Received: 24-JUL-15 By: RW MH-616-1-3						
JB99969-20	SW846 8011M	31-JUL-15 21:29	NG	31-JUL-15	NG	V8011EDB
JB99969-21 Collected: 23-JUL-15 13:05 By: DH/CD Received: 24-JUL-15 By: RW MH-616-2-3						
JB99969-21	SW846 8011M	31-JUL-15 22:45	NG	31-JUL-15	NG	V8011EDB
JB99969-22 Collected: 23-JUL-15 13:15 By: DH/CD Received: 24-JUL-15 By: RW MH-616-3-3						
JB99969-22	SW846 8011M	31-JUL-15 23:00	NG	31-JUL-15	NG	V8011EDB
JB99969-23 Collected: 23-JUL-15 13:30 By: DH/CD Received: 24-JUL-15 By: RW MH-616-4-3						
JB99969-23	SW846 8011M	31-JUL-15 23:15	NG	31-JUL-15	NG	V8011EDB
JB99969-24 Collected: 23-JUL-15 13:40 By: DH/CD Received: 24-JUL-15 By: RW MH-616-6-5						
JB99969-24	SW846 8011M	01-AUG-15 00:01	NG	31-JUL-15	NG	V8011EDB

Internal Sample Tracking Chronicle

Accutest New Jersey

Job No: JB99969

SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA
Project No: SECORPAE65217

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB99969-25	Collected: 23-JUL-15 13:50 By: DH/CD		Received: 24-JUL-15 By: RW			
MH-616-5-3						
JB99969-25	SW846 8011M	01-AUG-15 00:16	NG	31-JUL-15	NG	V8011EDB
JB99969-26A	Collected: 23-JUL-15 13:50 By: DH/CD		Received: 24-JUL-15 By: RW			
TB-20150723						
JB99969-26A	SW846 8011	03-AUG-15 18:08	NG	03-AUG-15	NG	V8011EDB

New Jersey

ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

(Accutest Laboratories Southeast, 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: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57065-MB	DD83487.D	1	07/31/15	NG	07/31/15	OP57065	GDD2459

The QC reported here applies to the following samples: **Method:** SW846 8011M

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.21	0.070	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	105%	63-137%

Method Blank Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57066-MB	DD83515.D	1	07/31/15	NG	07/31/15	OP57066	GDD2459

The QC reported here applies to the following samples: **Method:** SW846 8011M

JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.21	0.070	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	107%	63-137%

Method Blank Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57086-MB	DD83546.D	1	08/03/15	NG	08/03/15	OP57086	GDD2460

The QC reported here applies to the following samples: **Method:** SW846 8011

JB99969-26A

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.010	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	95%	63-137%

Blank Spike Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57065-BS	DD83485.D	1	07/31/15	NG	07/31/15	OP57065	GDD2459

The QC reported here applies to the following samples: **Method:** SW846 8011M

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
106-93-4	1,2-Dibromoethane	1.75	1.6	91	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	98%	63-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57065-BS2	DD83486.D	1	07/31/15	NG	07/31/15	OP57065	GDD2459

The QC reported here applies to the following samples: **Method:** SW846 8011M

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
106-93-4	1,2-Dibromoethane	1.75	1.9	109	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	108%	63-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57066-BS	DD83514.D	1	07/31/15	NG	07/31/15	OP57066	GDD2459

The QC reported here applies to the following samples: **Method:** SW846 8011M

JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
106-93-4	1,2-Dibromoethane	1.75	1.7	97	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	109%	63-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57086-BS [a]	DD83545.D	1	08/03/15	NG	08/03/15	OP57086	GDD2460

The QC reported here applies to the following samples: **Method:** SW846 8011

JB99969-26A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.24	96	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	108%	63-137%

(a) Insufficient sample for MS/MSD.

13.2.4

13

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57065-MS	DD83512.D	1	07/31/15	NG	07/31/15	OP57065	GDD2459
OP57065-MSD	DD83513.D	1	07/31/15	NG	07/31/15	OP57065	GDD2459
JB99969-20	DD83511.D	1	07/31/15	NG	07/31/15	OP57065	GDD2459

The QC reported here applies to the following samples: **Method:** SW846 8011M

JB99969-1, JB99969-2, JB99969-3, JB99969-4, JB99969-5, JB99969-6, JB99969-7, JB99969-8, JB99969-9, JB99969-10, JB99969-11, JB99969-12, JB99969-13, JB99969-14, JB99969-15, JB99969-16, JB99969-17, JB99969-18, JB99969-19, JB99969-20

CAS No.	Compound	JB99969-20 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		2.02	2.1	104	2.03	2.3	113	9	72-134/28

CAS No.	Surrogate Recoveries	MS	MSD	JB99969-20	Limits
460-00-4	4-Bromofluorobenzene	112%	115%	115%	63-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57066-MS	DD83527.D	1	08/01/15	NG	07/31/15	OP57066	GDD2459
OP57066-MSD	DD83528.D	1	08/01/15	NG	07/31/15	OP57066	GDD2459
JB99715-1	DD83526.D	1	08/01/15	NG	07/31/15	OP57066	GDD2459

The QC reported here applies to the following samples: **Method:** SW846 8011M

JB99969-21, JB99969-22, JB99969-23, JB99969-24, JB99969-25

CAS No.	Compound	JB99715-1 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		2.13	2.3	108	2.13	2.4	113	4	72-134/28

CAS No.	Surrogate Recoveries	MS	MSD	JB99715-1	Limits
460-00-4	4-Bromofluorobenzene	109%	112%	111%	63-137%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Method: SW846 8011 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JB99969-26A	DD83547.D	101
OP57086-BS	DD83545.D	108
OP57086-MB	DD83546.D	95

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	63-137%

(a) Recovery from GC signal #1

Volatile Surrogate Recovery Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Method: SW846 8011M **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JB99969-1	DD83488.D	106
JB99969-2	DD83489.D	115
JB99969-3	DD83490.D	108
JB99969-4	DD83491.D	110
JB99969-5	DD83492.D	117
JB99969-6	DD83493.D	108
JB99969-7	DD83494.D	107
JB99969-8	DD83497.D	116
JB99969-9	DD83498.D	109
JB99969-10	DD83499.D	106
JB99969-11	DD83500.D	110
JB99969-12	DD83501.D	110
JB99969-13	DD83502.D	108
JB99969-14	DD83503.D	107
JB99969-15	DD83504.D	121
JB99969-16	DD83505.D	112
JB99969-17	DD83506.D	115
JB99969-18	DD83509.D	103
JB99969-19	DD83510.D	112
JB99969-20	DD83511.D	115
JB99969-21	DD83516.D	107
JB99969-22	DD83517.D	113
JB99969-23	DD83518.D	110
JB99969-24	DD83521.D	126
JB99969-25	DD83522.D	112
OP57065-BS	DD83485.D	98
OP57065-BS2	DD83486.D	108
OP57065-MB	DD83487.D	105
OP57065-MS	DD83512.D	112
OP57065-MSD	DD83513.D	115
OP57066-BS	DD83514.D	109
OP57066-MB	DD83515.D	107
OP57066-MS	DD83527.D	109
OP57066-MSD	DD83528.D	112

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	63-137%

Volatile Surrogate Recovery Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Method: SW846 8011M	**Matrix:** SO

Samples and QC shown here apply to the above method

Surrogate Compounds	**Recovery Limits**

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	GDD2460-CC2458	**Injection Date:**	08/03/15
Lab File ID:	DD83543.D	**Injection Time:**	17:07
Instrument ID:	GCDD	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.58	3.35

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP57086-BS	DD83545.D	08/03/15	17:38		3.35
OP57086-MB	DD83546.D	08/03/15	17:53		3.35
JB99969-26A	DD83547.D	08/03/15	18:08		3.35
ZZZZZZ	DD83548.D	08/03/15	18:23		3.35
GDD2460-ECC2458	DD83549.D	08/03/15	18:38	3.57	3.35

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

13.5.1
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GC Surrogate Retention Time Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	GDD2459-CC2458	**Injection Date:**	07/31/15
Lab File ID:	DD83482.D	**Injection Time:**	14:00
Instrument ID:	GCDD	**Method:**	SW846 8011M

	S1 [a] RT
Check Std	0.00

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP57065-BS	DD83485.D	07/31/15	14:51	3.35
OP57065-BS2	DD83486.D	07/31/15	15:06	3.35
OP57065-MB	DD83487.D	07/31/15	15:22	3.35
JB99969-1	DD83488.D	07/31/15	15:37	3.35
JB99969-2	DD83489.D	07/31/15	15:52	3.35
JB99969-3	DD83490.D	07/31/15	16:08	3.35
JB99969-4	DD83491.D	07/31/15	16:23	3.35
JB99969-5	DD83492.D	07/31/15	16:39	3.35
JB99969-6	DD83493.D	07/31/15	16:54	3.35
JB99969-7	DD83494.D	07/31/15	17:09	3.35

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	GDD2459-CC2458	**Injection Date:**	07/31/15
Lab File ID:	DD83495.D	**Injection Time:**	17:24
Instrument ID:	GCDD	**Method:**	SW846 8011M

	S1 [a] RT
Check Std	3.35

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
JB99969-8	DD83497.D	07/31/15	17:55	3.35
JB99969-9	DD83498.D	07/31/15	18:10	3.35
JB99969-10	DD83499.D	07/31/15	18:26	3.35
JB99969-11	DD83500.D	07/31/15	18:41	3.35
JB99969-12	DD83501.D	07/31/15	18:56	3.35
JB99969-13	DD83502.D	07/31/15	19:12	3.35
JB99969-14	DD83503.D	07/31/15	19:27	3.35
JB99969-15	DD83504.D	07/31/15	19:42	3.35
JB99969-16	DD83505.D	07/31/15	19:57	3.35
JB99969-17	DD83506.D	07/31/15	20:13	3.35

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	GDD2459-CC2458	**Injection Date:**	07/31/15
Lab File ID:	DD83507.D	**Injection Time:**	20:28
Instrument ID:	GCDD	**Method:**	SW846 8011M

	S1 [a] RT
Check Std	3.35

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
JB99969-18	DD83509.D	07/31/15	20:58	3.35
JB99969-19	DD83510.D	07/31/15	21:13	3.35
JB99969-20	DD83511.D	07/31/15	21:29	3.35
OP57065-MS	DD83512.D	07/31/15	21:44	3.35
OP57065-MSD	DD83513.D	07/31/15	21:59	3.35
OP57066-BS	DD83514.D	07/31/15	22:14	3.35
OP57066-MB	DD83515.D	07/31/15	22:29	3.35
JB99969-21	DD83516.D	07/31/15	22:45	3.35
JB99969-22	DD83517.D	07/31/15	23:00	3.35
JB99969-23	DD83518.D	07/31/15	23:15	3.35

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB99969
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Check Std:	GDD2459-CC2458	**Injection Date:**	07/31/15
Lab File ID:	DD83519.D	**Injection Time:**	23:30
Instrument ID:	GCDD	**Method:**	SW846 8011M

	S1 [a] RT	S1 [b] RT
Check Std	3.57	3.35

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
JB99969-24	DD83521.D	08/01/15	00:01		3.35
JB99969-25	DD83522.D	08/01/15	00:16		3.35
ZZZZZZ	DD83523.D	08/01/15	00:31		3.35
ZZZZZZ	DD83524.D	08/01/15	00:46		3.35
ZZZZZZ	DD83525.D	08/01/15	01:01		3.35
JB99715-1	DD83526.D	08/01/15	01:16		3.35
OP57066-MS	DD83527.D	08/01/15	01:32		3.35
OP57066-MSD	DD83528.D	08/01/15	01:47		3.35
GDD2459-ECC2458	DD83529.D	08/01/15	02:02	3.57	3.35

Surrogate Compounds

S1 = 4-Bromofluorobenzene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JB99969 **Sample:** GDD2458-ICC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83445.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                         Response Factor Report  ECD 4

  Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
  Title        : EDB/DBCP by EPA 504.1 or SW846 8011
  Last Update  : Fri Jul 31 09:15:07 2015
  Response via : Initial Calibration

  Calibration Files
  0.02=dd83443.D   0.10=dd83444.D   0.25=dd83445.D   0.50=dd83446.D
  0.75   =dd83447.D    1.0    =dd83448.D

        Compound              0.02  0.10  0.25  0.50  0.75  1.0   Avg    %RSD
  ---------------------------------------------------------------------------
  1)     1,2-Dibromoethane   2.199 2.335 2.360 2.164 2.107 1.980 2.191#E5   6.50
  2) S   4-Bromofluorobenzen 2.330 2.258 2.448 2.230 2.220 2.173 2.277#E4   4.34
  3)     1,2,3-Trichloroprop 4.400 4.930 4.995 4.596 4.464 4.336 4.620#E4   6.05
  4)     1,2-Dibromo-3-chlor 7.942 7.338 7.197 6.842 6.917 7.341 7.263#E5   5.42

Signal #2

  1)     1,2-Dibromoethane   2.306 2.598 2.777 2.789 2.941 2.857 2.711#E6   8.43
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 2846169.69508 *A

  2) S   4-Bromofluorobenzen 2.036 2.168 2.545 2.552 2.706 2.812 2.470#E5  12.34
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 234311.64597 *A + 5882.88563 *A^2

  3)     1,2,3-Trichloroprop 4.145 4.561 4.783 4.639 4.724 4.459 4.552#E5   5.06
  4)     1,2-Dibromo-3-chlor 0.963 0.999 1.151 1.239 1.376 1.489 1.203#E7  17.23
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 10084802.29017 *A + 4817792.73257 *A^2

 ---------------------------------------------------------------------------
 (#) = Out of Range

           EDB_HY0729.M        Fri Jul 31 10:04:56 2015
```

13.6.1

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Initial Calibration Verification

Job Number: JB99969 **Sample:** GDD2458-ICV2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83449.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\2\DATA\0729edb\dd83449.D\ECD1A.CH Vial: 8
Signal #2 : C:\msdchem\2\DATA\0729edb\dd83449.D\ECD2B.CH
Acq On    : 29 Jul 2015  12:36 pm                    Operator: natashag
Sample    : icv2458-0.10                             Inst    : ECD 4
Misc      : op56998,gdd2458,35.0,,,2,1,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Fri Jul 31 09:15:07 2015
Response via : Multiple Level Calibration

Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%

       Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane       0.100   0.108     -8.0  102   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene              ----------NA----------
 3     1,2,3-Trichloropropane  0.100   0.100      0.0   94   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr  0.100   0.103     -3.0  102   0.00    4.34- 4.44

*****  Signal #2   *****


          -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane       0.100   0.092      8.0  101   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene              ----------NA----------

          -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane  0.100   0.099      1.0   98   0.00    3.62- 3.72

          -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr  0.100   0.096      4.0  102   0.00    4.74- 4.84
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    dd83444.D  EDB_HY0729.M       Fri Jul 31 10:04:41 2015
```

13.6.2

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2459-CC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83482.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0731edb\dd83482.D\ECD1A.CH Vial: 3
 Signal #2 : C:\msdchem\2\DATA\0731edb\dd83482.D\ECD2B.CH
 Acq On    : 31 Jul 2015   2:00 pm                    Operator: natashag
 Sample    : cc2458-0.02, mdl                         Inst    : ECD 4
 Misc      : op57031,gdd2459,5.00,,,2,1,soil          Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  40%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.020   0.019      5.0   95   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene               ----------NA----------
 3     1,2,3-Trichloropropane   0.020   0.023    -15.0  119   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.020   0.022    -10.0   98   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.020   0.016     20.0   98   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene               ----------NA----------

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.020   0.019      5.0  102   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.020   0.019      5.0   99   0.00    4.74- 4.84
-----------------------------------------------------------------------------
-----------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    dd83443.D  EDB_HY0729.M       Mon Aug 03 11:09:34 2015
```

13.6.3

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2459-CC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83483.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0731edb\dd83483.D\ECD1A.CH Vial: 4
 Signal #2 : C:\msdchem\2\DATA\0731edb\dd83483.D\ECD2B.CH
 Acq On    : 31 Jul 2015   2:15 pm                    Operator: natashag
 Sample    : cc2458-0.10, icv                         Inst    : ECD 4
 Misc      : op57031,gdd2459,5.00,,,2,1,soil          Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.100   0.108     -8.0  101   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene               ----------NA----------
 3     1,2,3-Trichloropropane   0.100   0.103     -3.0   97   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.100   0.107     -7.0  106   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.100   0.092      8.0  101   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene               ----------NA----------

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.100   0.100      0.0  100   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.100   0.101     -1.0  106   0.00    4.74- 4.84
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    dd83444.D  EDB_HY0729.M       Mon Aug 03 11:07:59 2015
```

13.6.4

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2459-CC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83484.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0731edb\dd83484.D\ECD1A.CH Vial: 2
 Signal #2 : C:\msdchem\2\DATA\0731edb\dd83484.D\ECD2B.CH
 Acq On    : 31 Jul 2015   2:30 pm                    Operator: natashag
 Sample    : cc2458-0.25                              Inst    : ECD 4
 Misc      : op57031,gdd2459,5.00,,,2,1,soil          Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.250   0.252     -0.8   94   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene     2.000   2.068     -3.4   96   0.00    3.30- 3.40
 3     1,2,3-Trichloropropane   0.250   0.264     -5.6   98   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.250   0.256     -2.4  104   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.250   0.231      7.6   95   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene     2.000   2.012     -0.6   97   0.00    3.52- 3.62

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.250   0.254     -1.6   97   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.250   0.259     -3.6  102   0.00    4.74- 4.84
-----------------------------------------------------------------------------
-----------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    dd83445.D  EDB_HY0729.M       Mon Aug 03 11:08:41 2015
```

13.6.5

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2459-CC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83495.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0731edb\dd83495.D\ECD1A.CH Vial: 2
 Signal #2 : C:\msdchem\2\DATA\0731edb\dd83495.D\ECD2B.CH
 Acq On    : 31 Jul 2015   5:24 pm                    Operator: natashag
 Sample    : cc2458-0.25                              Inst    : ECD 4
 Misc      : op57065,gdd2459,5.00,,,2,1,soil          Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.250   0.286    -14.4  106   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene     2.000   2.203    -10.1  102   0.00    3.30- 3.40
 3     1,2,3-Trichloropropane   0.250   0.264     -5.6   98   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.250   0.293    -17.2  118   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.250   0.294    -17.6  121   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene     2.000   2.368    -18.4  115   0.00    3.52- 3.62

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.250   0.297    -18.8  113   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.250   0.314    -25.6# 127   0.00    4.74- 4.84
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    dd83445.D  EDB_HY0729.M       Mon Aug 03 11:08:43 2015
```

13.6.6

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2459-CC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83507.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0731edb\dd83507.D\ECD1A.CH Vial: 3
 Signal #2 : C:\msdchem\2\DATA\0731edb\dd83507.D\ECD2B.CH
 Acq On    : 31 Jul 2015   8:28 pm                    Operator: natashag
 Sample    : cc2458-0.25                              Inst    : ECD 4
 Misc      : op57065,gdd2459,5.00,,,2,1,soil          Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.250   0.294    -17.6  109   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene     2.000   2.257    -12.9  105   0.00    3.30- 3.40
 3     1,2,3-Trichloropropane   0.250   0.287    -14.8  106   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.250   0.289    -15.6  117   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.250   0.248      0.8  102   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene     2.000   2.029     -1.4   98   0.00    3.52- 3.62

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.250   0.259     -3.6   98   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.250   0.263     -5.2  104   0.00    4.74- 4.84
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    dd83445.D  EDB_HY0729.M       Mon Aug 03 11:08:45 2015
```

13.6.7

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2459-CC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83519.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0731edb\dd83519.D\ECD1A.CH Vial: 3
 Signal #2 : C:\msdchem\2\DATA\0731edb\dd83519.D\ECD2B.CH
 Acq On    : 31 Jul 2015  11:30 pm                    Operator: natashag
 Sample    : cc2458-0.25                              Inst    : ECD 4
 Misc      : op57066,gdd2459,5.00,,,2,1,soil          Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.250   0.275    -10.0  102   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene     2.000   2.228    -11.4  104   0.00    3.30- 3.40
 3     1,2,3-Trichloropropane   0.250   0.281    -12.4  104   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.250   0.290    -16.0  117   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.250   0.229      8.4   94   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene     2.000   2.026     -1.3   98   0.00    3.52- 3.62

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.250   0.261     -4.4   99   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.250   0.252     -0.8   99   0.00    4.74- 4.84
-----------------------------------------------------------------------------
-----------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    dd83445.D  EDB_HY0729.M       Mon Aug 03 11:08:47 2015
```

13.6.8

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2459-ECC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83529.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\2\DATA\0731edb\dd83529.D\ECD1A.CH Vial: 3
Signal #2 : C:\msdchem\2\DATA\0731edb\dd83529.D\ECD2B.CH
Acq On    : 01 Aug 2015   2:02 am                    Operator: natashag
Sample    : ecc2458-0.25                             Inst    : ECD 4
Misc      : op57066,gdd2459,5.00,,,2,1,soil          Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
Title        : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update  : Fri Jul 31 09:15:07 2015
Response via : Multiple Level Calibration

Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	1,2-Dibromoethane	0.250	0.264	-5.6	98	0.00	2.48- 2.58
2 S	4-Bromofluorobenzene	2.000	2.203	-10.1	102	0.00	3.30- 3.40
3	1,2,3-Trichloropropane	0.250	0.281	-12.4	104	0.00	3.34- 3.44
4	1,2-Dibromo-3-chloropr	0.250	0.298	-19.2	120	0.00	4.34- 4.44

***** Signal #2 *****

		Amount	Calc.	%Drift			
1	1,2-Dibromoethane	0.250	0.218	12.8	89	0.00	2.74- 2.84
2 S	4-Bromofluorobenzene	2.000	1.925	3.7	93	0.00	3.52- 3.62
3	1,2,3-Trichloropropane	0.250	0.246	1.6	93	0.00	3.62- 3.72
4	1,2-Dibromo-3-chloropr	0.250	0.271	-8.4	107	0.00	4.74- 4.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
dd83445.D EDB_HY0729.M Mon Aug 03 11:08:49 2015

13.6.9 13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2460-CC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83543.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0803edb\dd83543.D\ECD1A.CH Vial: 2
 Signal #2 : C:\msdchem\2\DATA\0803edb\dd83543.D\ECD2B.CH
 Acq On    : 03 Aug 2015   5:07 pm                    Operator: natashag
 Sample    : cc2458-0.25                              Inst    : ECD 4
 Misc      : op57085,gdd2460,35.0,,,2,1,water         Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.250   0.263     -5.2   98   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene     2.000   2.162     -8.1  101   0.00    3.30- 3.40
 3     1,2,3-Trichloropropane   0.250   0.272     -8.8  101   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.250   0.271     -8.4  109   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.250   0.240      4.0   99   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene     2.000   2.034     -1.7   98   0.00    3.52- 3.62

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.250   0.265     -6.0  101   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.250   0.266     -6.4  105   0.00    4.74- 4.84
-----------------------------------------------------------------------------
-----------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    dd83445.D  EDB_HY0729.M       Wed Aug 05 08:47:26 2015
```

13.6.10

13

Continuing Calibration Summary

Job Number: JB99969 **Sample:** GDD2460-ECC2458
Account: ALNJ Accutest New Jersey **Lab FileID:** DD83549.D
Project: SECORPAE: MHIC-Tank 616-619, Marcus Hook, PA

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\2\DATA\0803edb\dd83549.D\ECD1A.CH Vial: 2
 Signal #2 : C:\msdchem\2\DATA\0803edb\dd83549.D\ECD2B.CH
 Acq On    : 03 Aug 2015   6:38 pm                    Operator: natashag
 Sample    : ecc2458-0.25                             Inst    : ECD 4
 Misc      : op57086,gdd2460,35.0,,,2,1,water         Multiplr: 1.00
 IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

 Method       : C:\msdchem\2\METHODS\EDB_HY0729.M (Chemstation Integrator)
 Title        : EDB/DBCP by EPA 504.1 or SW846 8011
 Last Update  : Fri Jul 31 09:15:07 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   20.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 150%

        Compound                Amount  Calc.    %Drift Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane        0.250   0.248      0.8   92   0.00    2.48- 2.58
 2 S   4-Bromofluorobenzene     2.000   2.092     -4.6   97   0.00    3.30- 3.40
 3     1,2,3-Trichloropropane   0.250   0.264     -5.6   98   0.00    3.34- 3.44
 4     1,2-Dibromo-3-chloropr   0.250   0.270     -8.0  109   0.00    4.34- 4.44

*****  Signal #2   *****


           -------------------- Amount  Calc.    %Drift  --------------
 1     1,2-Dibromoethane        0.250   0.223     10.8   92   0.00    2.74- 2.84
 2 S   4-Bromofluorobenzene     2.000   2.017     -0.8   98   0.00    3.52- 3.62

           -------------------- Amount  Calc.    %Drift   -------------
 3     1,2,3-Trichloropropane   0.250   0.257     -2.8   98   0.00    3.62- 3.72

           -------------------- Amount  Calc.    %Drift  --------------
 4     1,2-Dibromo-3-chloropr   0.250   0.277    -10.8  110   0.00    4.74- 4.84
-----------------------------------------------------------------------------
-----------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    dd83445.D  EDB_HY0729.M       Wed Aug 05 08:47:28 2015
```

13.6.11 13

New Jersey

ACCUTEST LABORATORIES

GC Volatiles

Raw Data

(Accutest Laboratories Southeast, Inc.)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83488.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 3:37 pm
Operator : natashag
Sample : jb99969-1
Misc : op57065,gdd2459,5.01,,,2,1,soil
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 09:58:17 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.353	3.575	48134	504407	2.114	2.047
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 105.70%	102.35%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.1

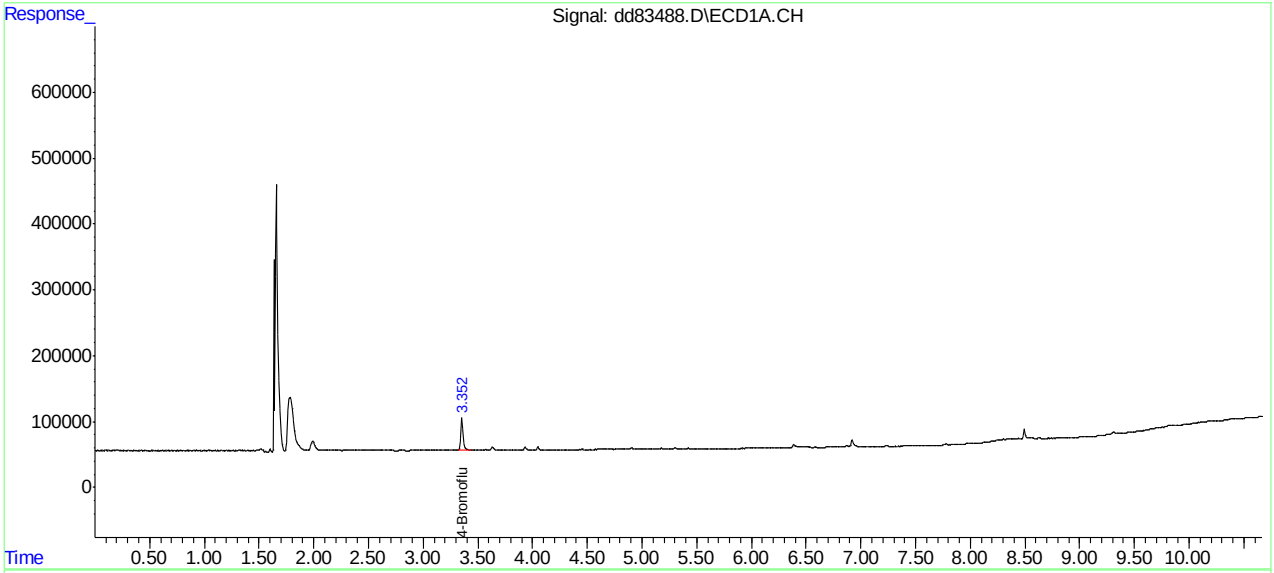
14

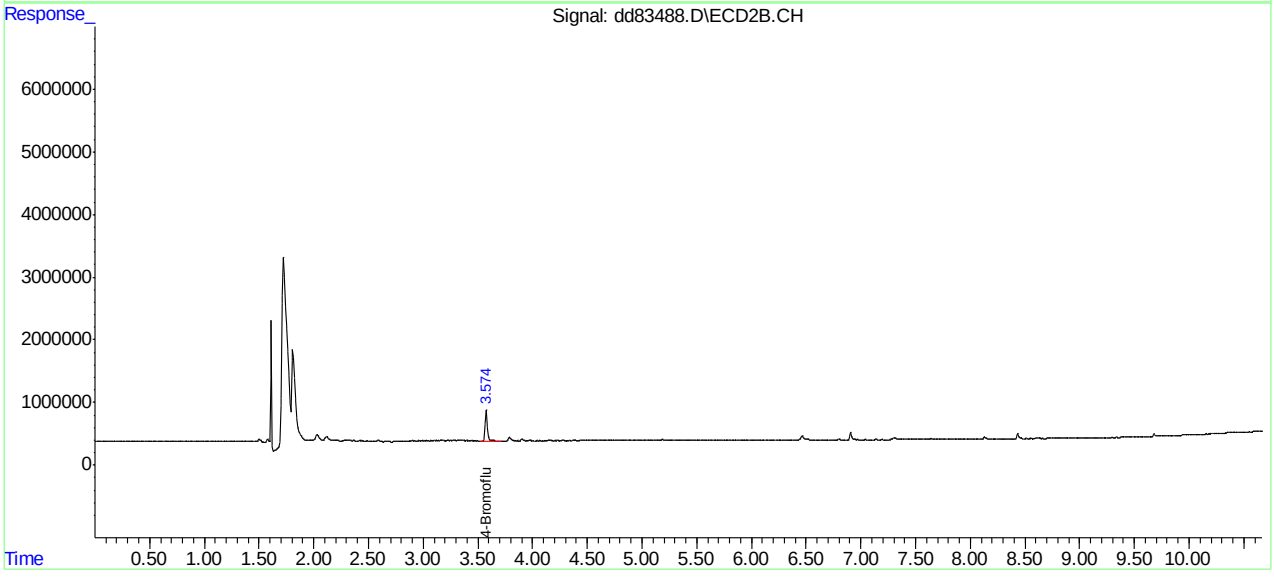
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83488.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 3:37 pm
Operator : natashag
Sample : jb99969-1
Misc : op57065,gdd2459,5.01,,,2,1,soil
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 09:58:17 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83489.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 3:52 pm
Operator : natashag
Sample : jb99969-2
Misc : op57065,gdd2459,5.03,,,2,1,soil
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 09:59:01 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.354	3.575	52263	537820	2.296	2.176m
Spiked Amount		2.000 Range	63 - 137	Recovery	=	114.80%	108.80%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

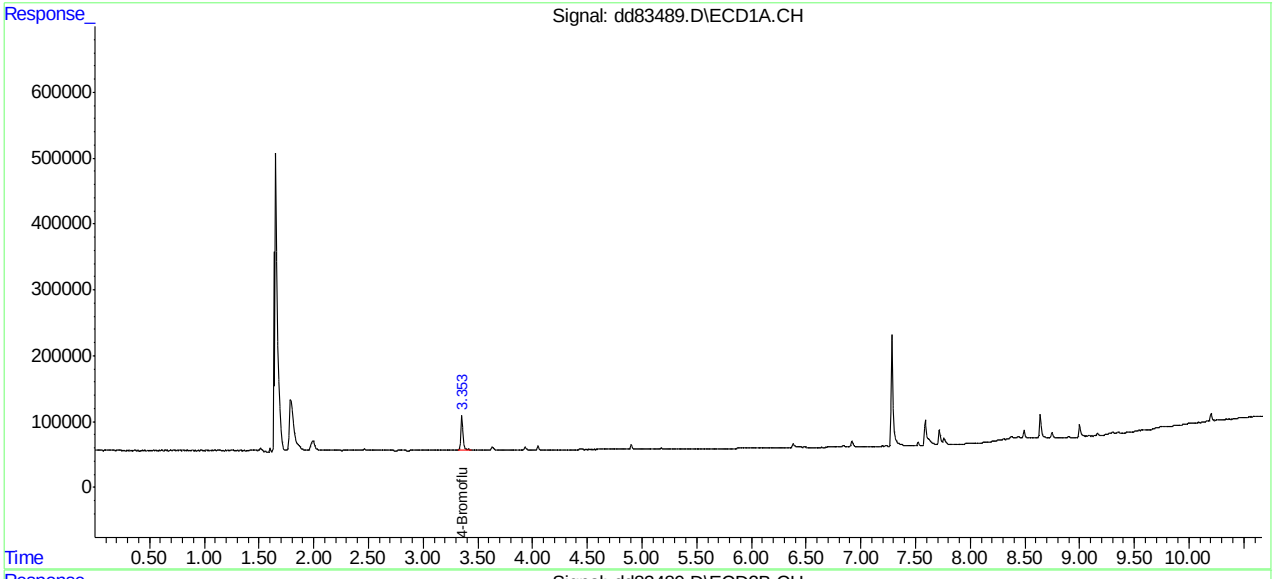
14.1.2
14

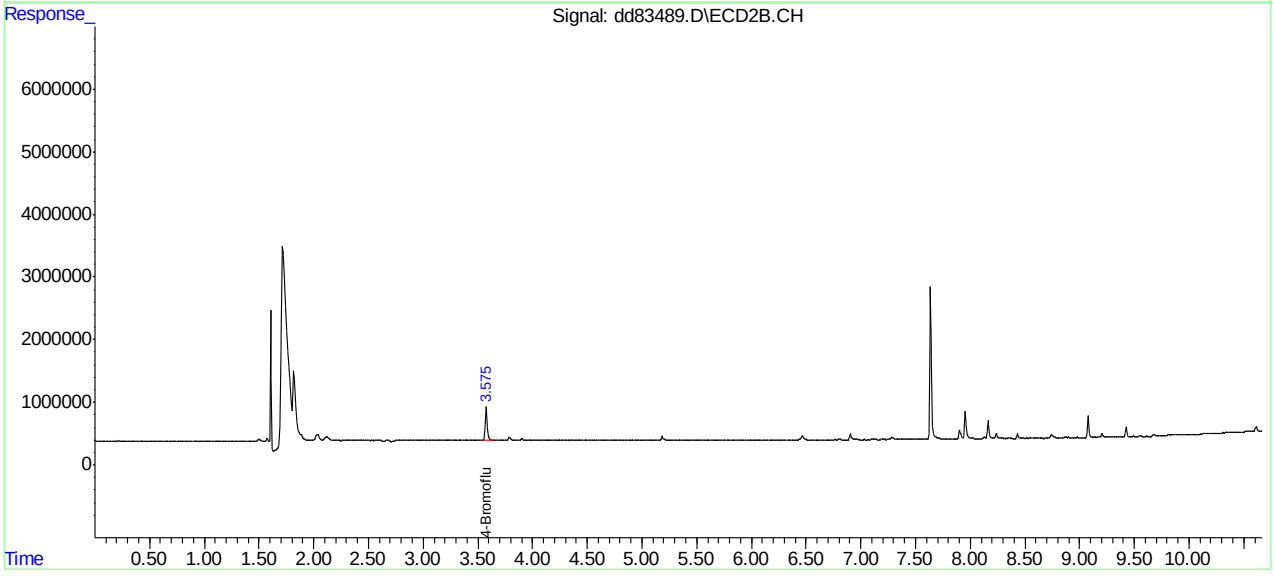
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83489.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 3:52 pm
Operator : natashag
Sample : jb99969-2
Misc : op57065,gdd2459,5.03,,,2,1,soil
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 09:59:01 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83490.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:08 pm
Operator : natashag
Sample : jb99969-3
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:00:23 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.352	3.574	49230	500263	2.162m	2.031m
Spiked Amount	2.000 Range	63 - 137	Recovery	=	108.10%	101.55%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D.	N.D.
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

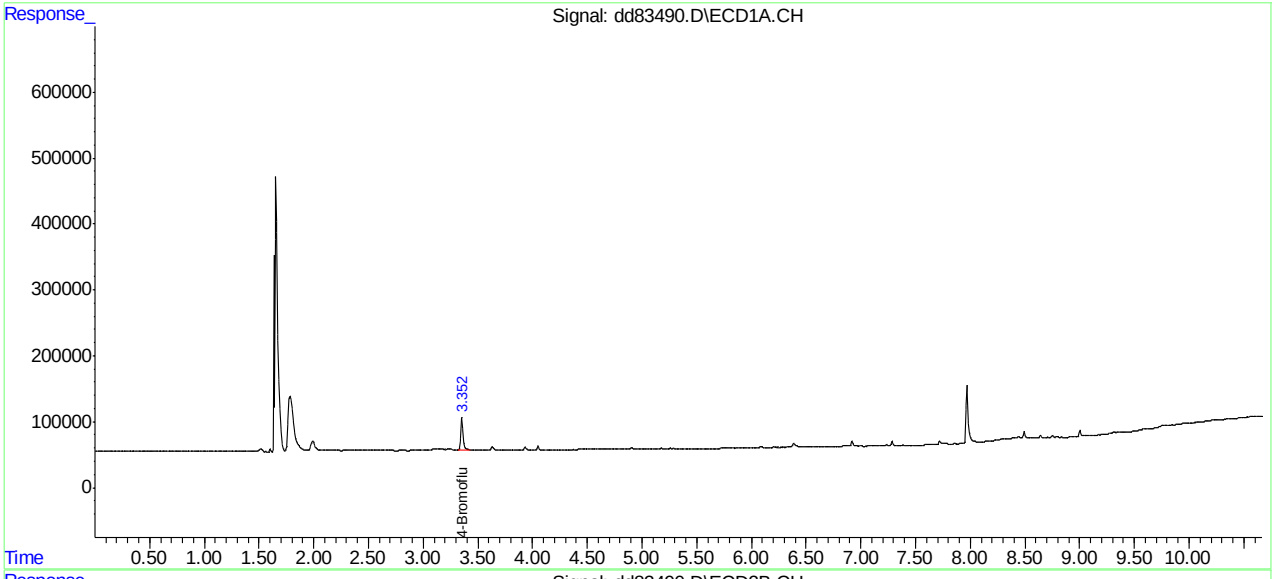
14.1.3
14

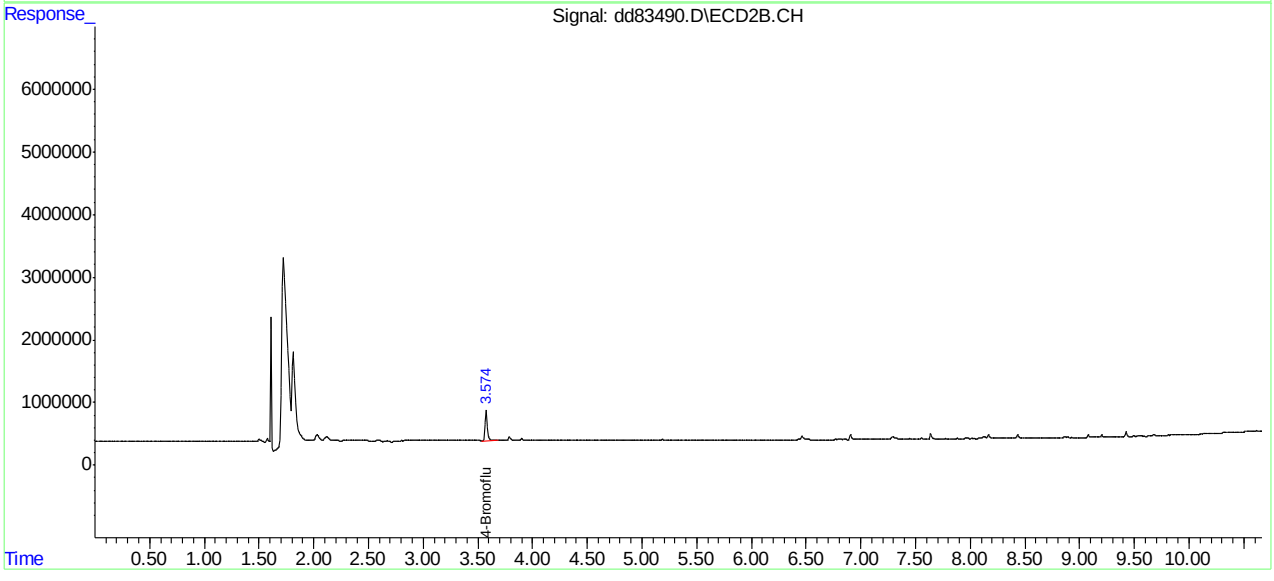
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83490.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:08 pm
Operator : natashag
Sample : jb99969-3
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:00:23 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83491.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:23 pm
Operator : natashag
Sample : jb99969-4
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:01:05 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.352	3.574	49915	508010	2.193	2.061
Spiked Amount	2.000 Range	63 - 137	Recovery	=	109.65%	103.05%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

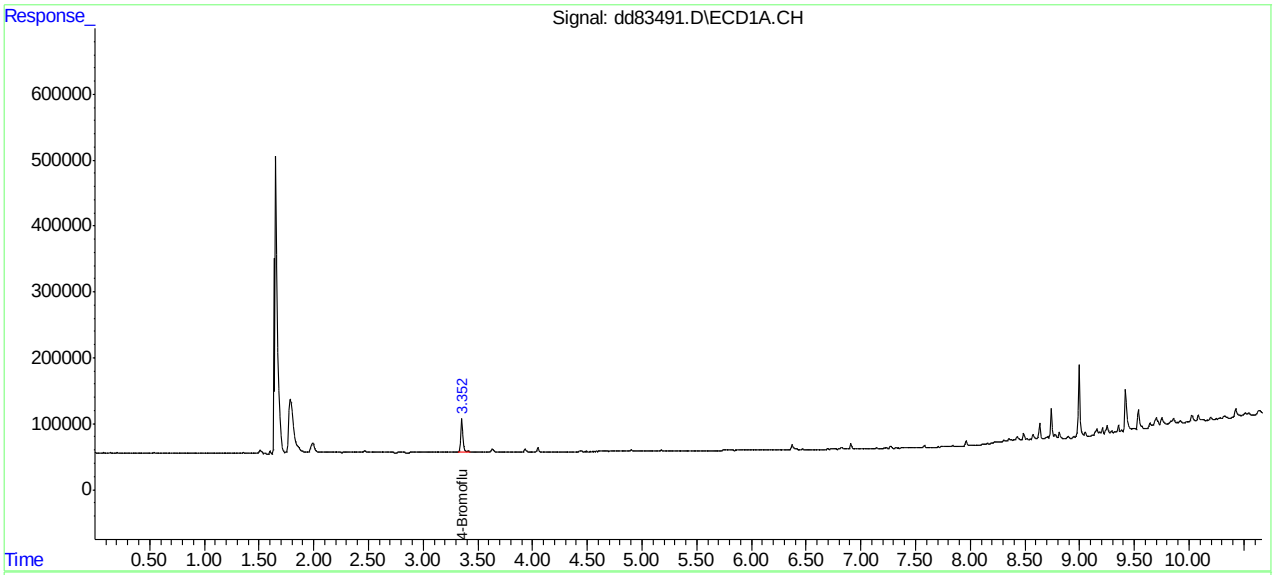
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

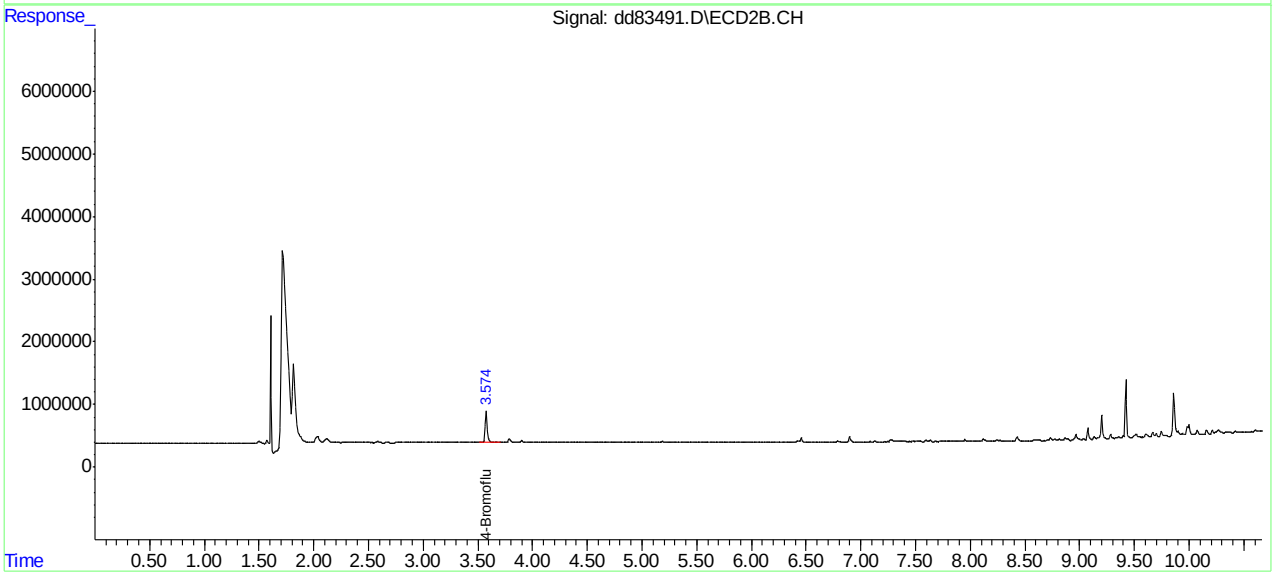
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83491.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:23 pm
Operator : natashag
Sample : jb99969-4
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:01:05 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83492.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:39 pm
Operator : natashag
Sample : jb99969-5
Misc : op57065,gdd2459,5.04,,,2,1,soil
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:01:53 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.575	53108	547710	2.333	2.214
Spiked Amount	2.000 Range	63 - 137	Recovery	=	116.65%	110.70%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.5

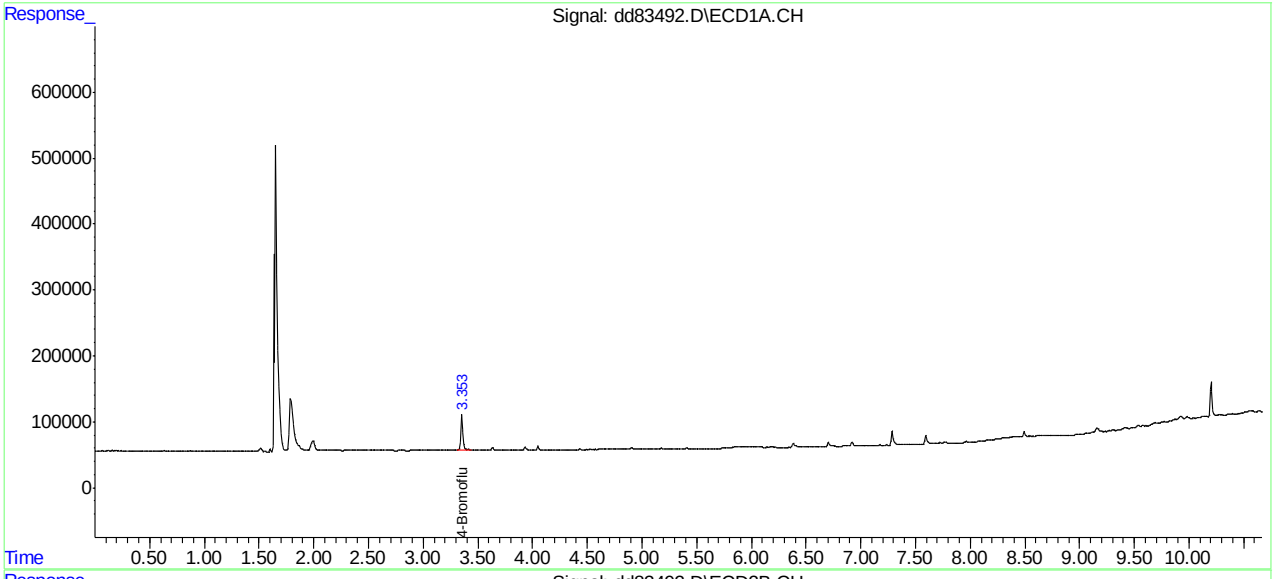
14

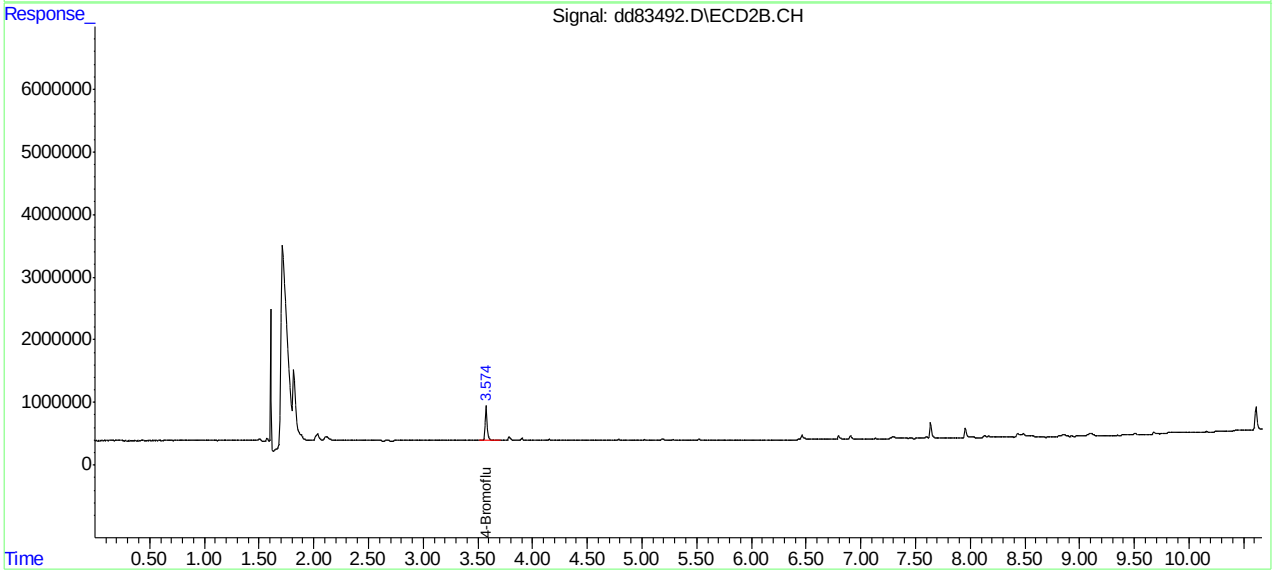
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83492.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:39 pm
Operator : natashag
Sample : jb99969-5
Misc : op57065,gdd2459,5.04,,,2,1,soil
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:01:53 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83493.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:54 pm
Operator : natashag
Sample : jb99969-6
Misc : op57065,gdd2459,5.03,,,2,1,soil
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:02:49 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.352	3.575	49118	518143	2.158	2.101
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 107.90%	105.05%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.6

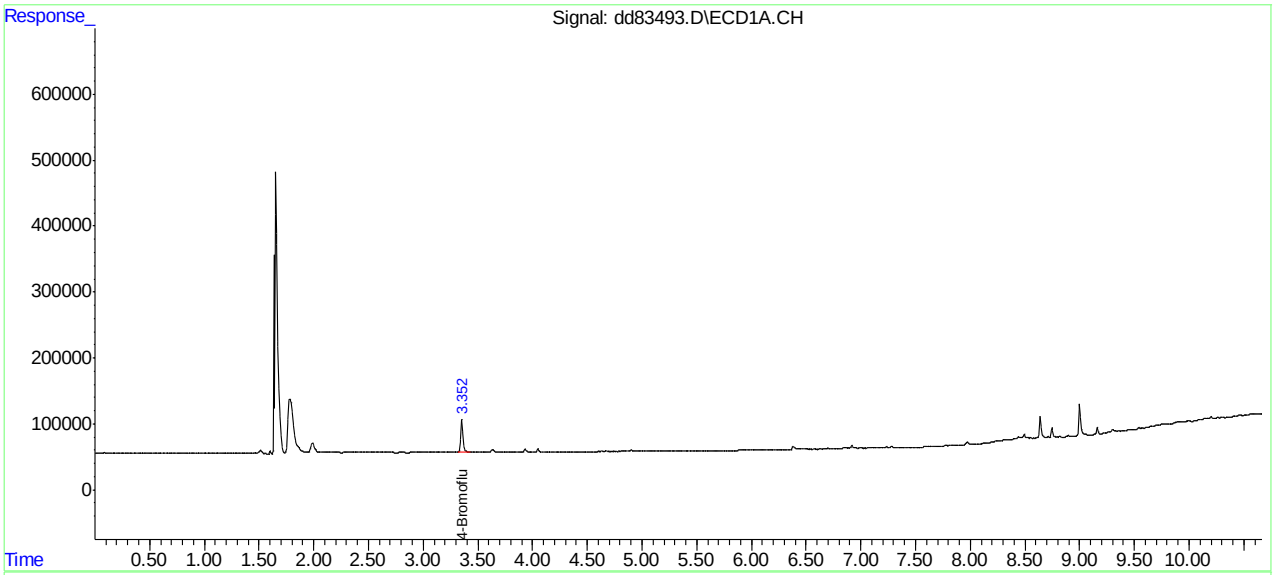
14

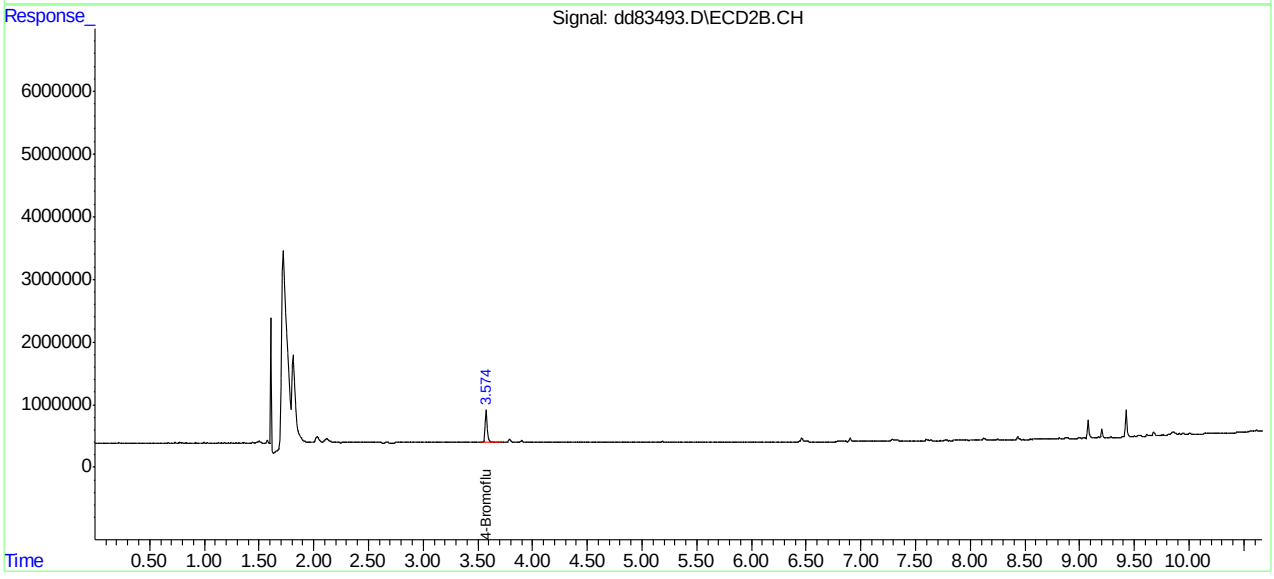
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83493.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 4:54 pm
Operator : natashag
Sample : jb99969-6
Misc : op57065,gdd2459,5.03,,,2,1,soil
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:02:49 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83494.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 5:09 pm
Operator : natashag
Sample : jb99969-7
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:03:55 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.575	48856	508689	2.146	2.064
Spiked Amount	2.000	Range 63 - 137	Recovery	=	107.30%	103.20%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

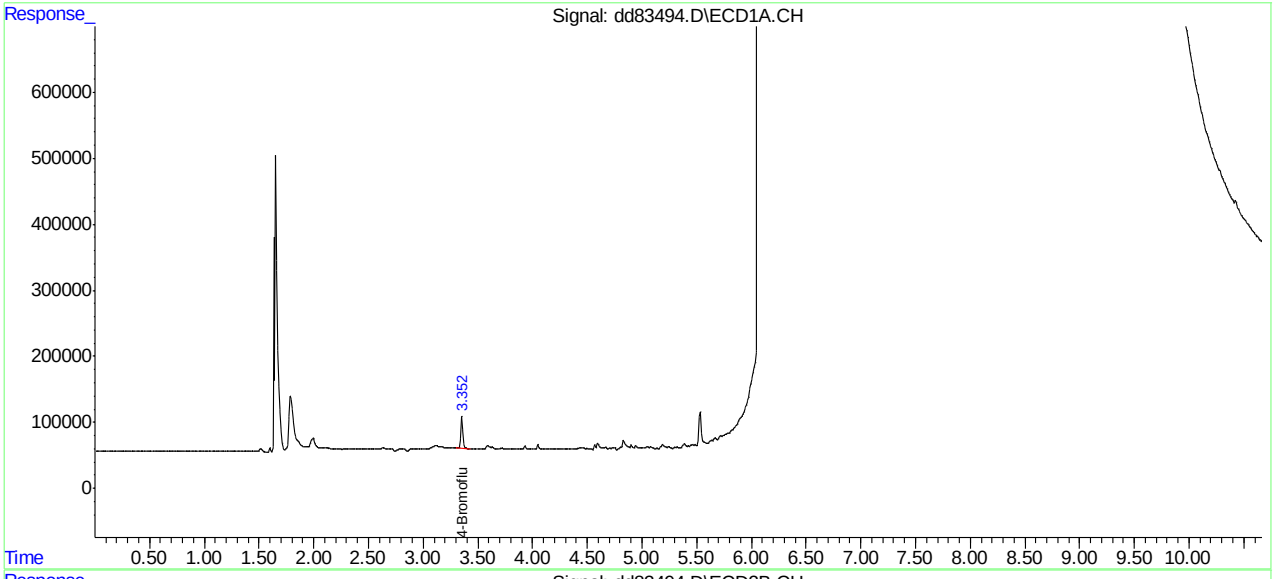
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

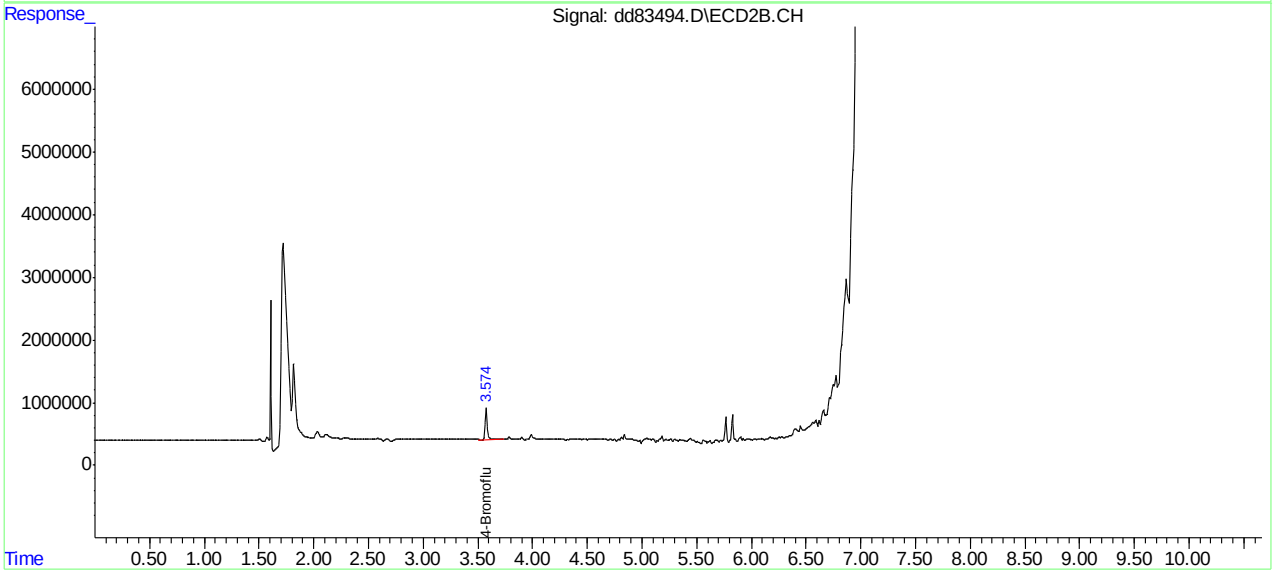
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83494.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 5:09 pm
Operator : natashag
Sample : jb99969-7
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:03:55 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83497.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 5:55 pm
Operator : natashag
Sample : jb99969-8
Misc : op57065,gdd2459,5.01,,,2,1,soil
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:05:54 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.575	52695	562315	2.315	2.270
Spiked Amount	2.000 Range	63 - 137	Recovery	=	115.75%	113.50%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.8

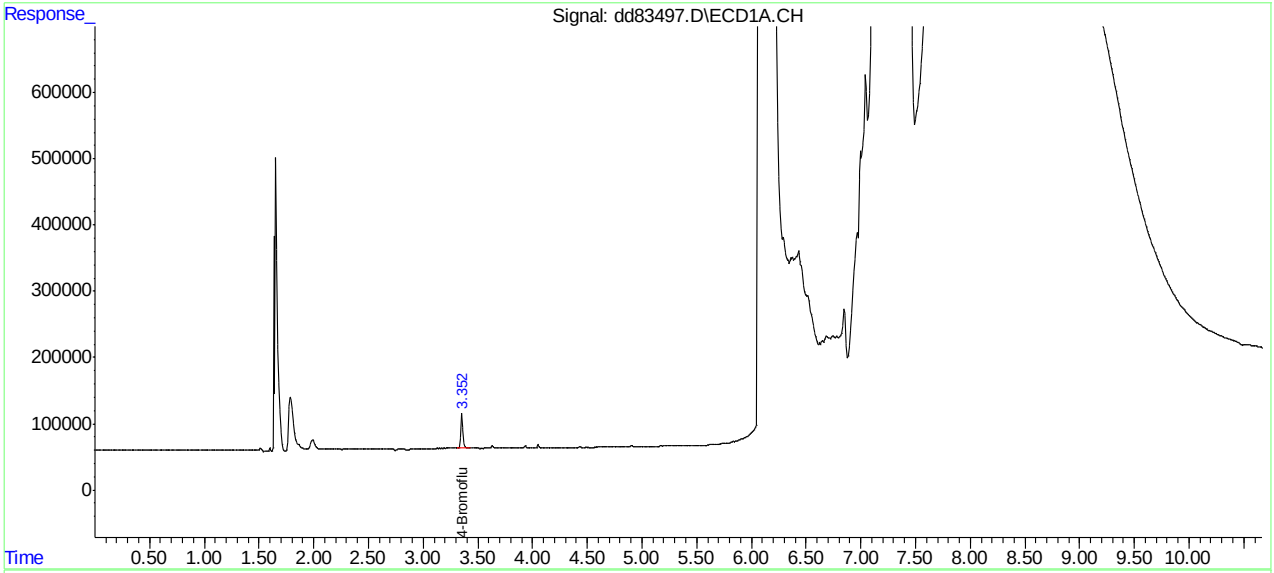
14

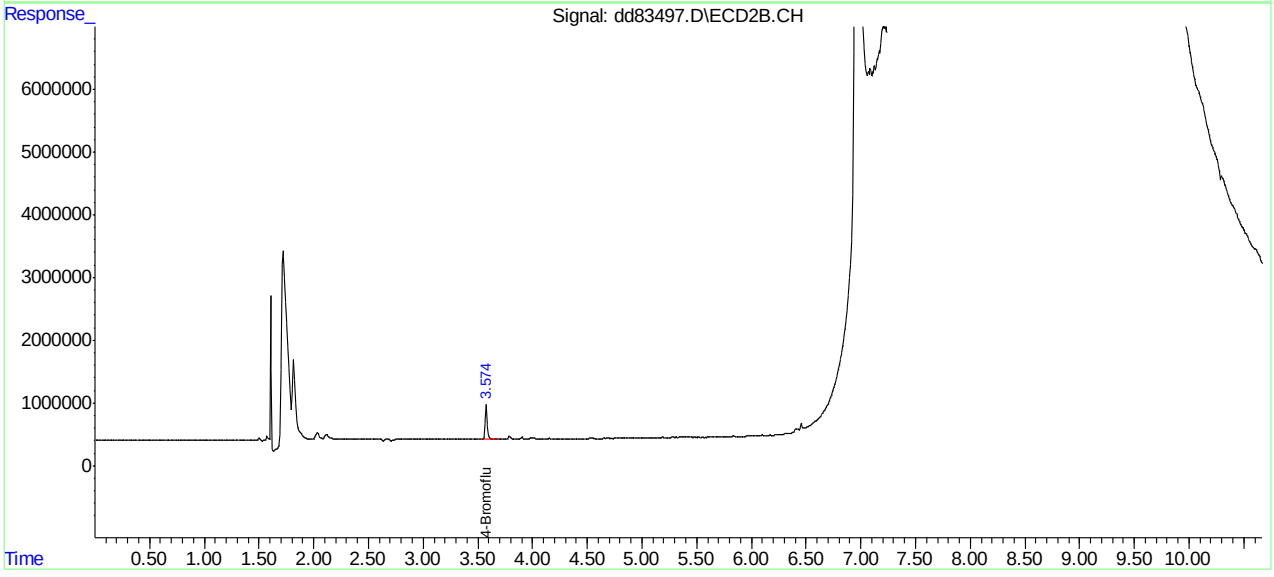
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83497.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 5:55 pm
Operator : natashag
Sample : jb99969-8
Misc : op57065,gdd2459,5.01,,,2,1,soil
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:05:54 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83498.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:10 pm
Operator : natashag
Sample : jb99969-9
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:06:38 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.574	49559	540647	2.177	2.187m
Spiked Amount	2.000 Range	63 - 137	Recovery	=	108.85%	109.35%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

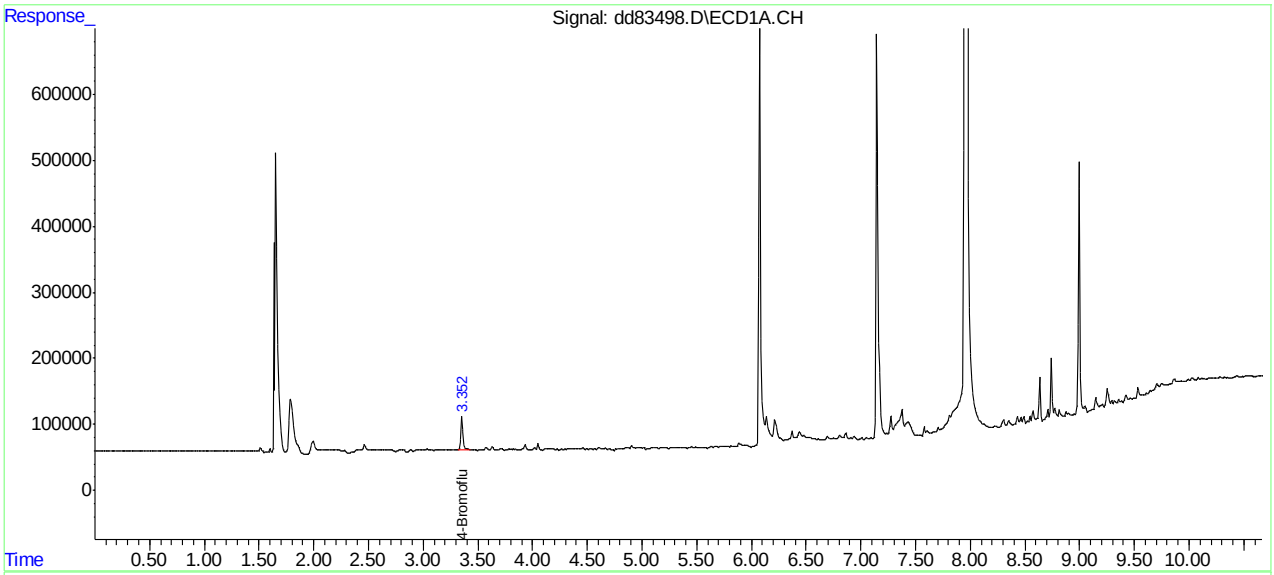
14.1.9
14

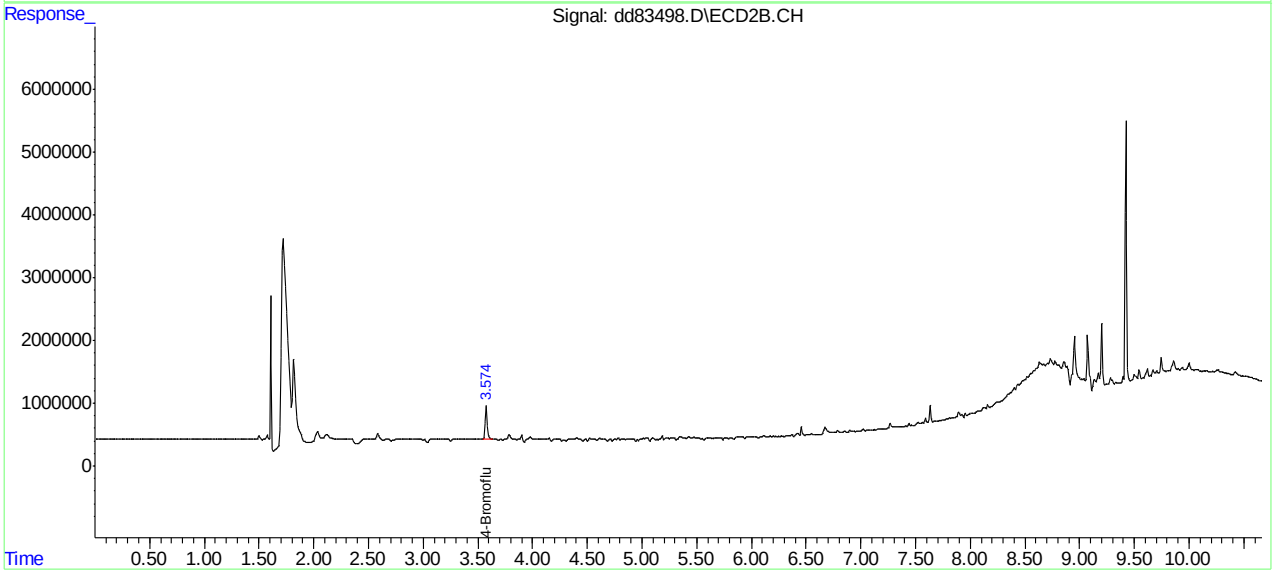
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83498.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:10 pm
Operator : natashag
Sample : jb99969-9
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:06:38 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83499.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:26 pm
Operator : natashag
Sample : jb99969-10
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:11:21 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.574	48211	522603	2.118	2.118m
Spiked Amount	2.000 Range	63 - 137	Recovery	=	105.90%	105.90%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

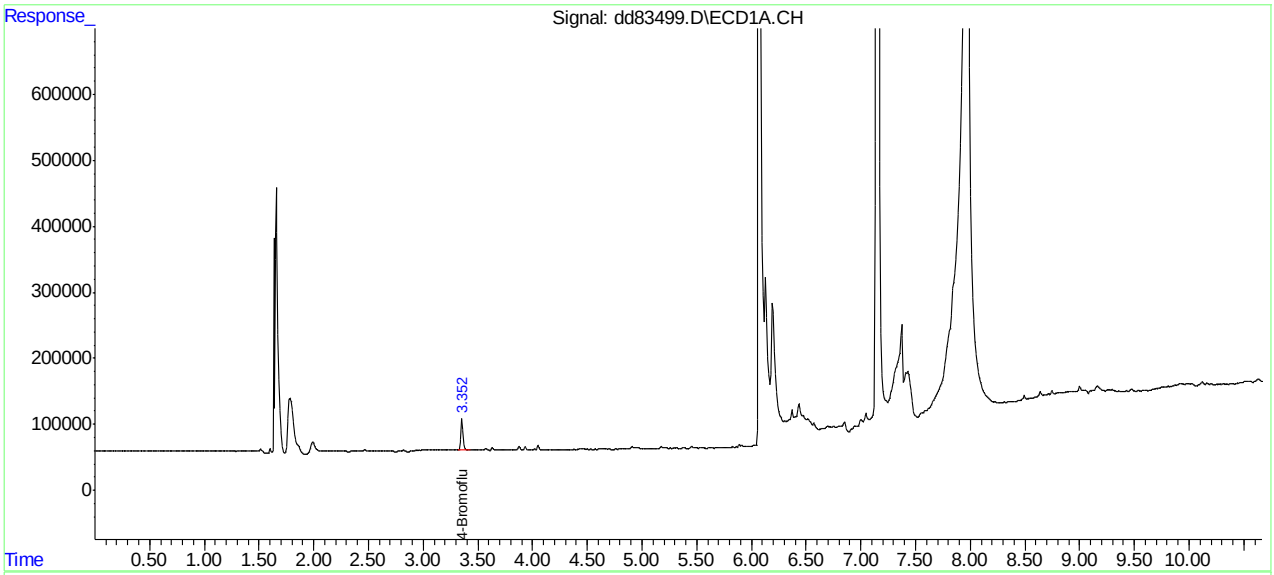
14.1.10 14

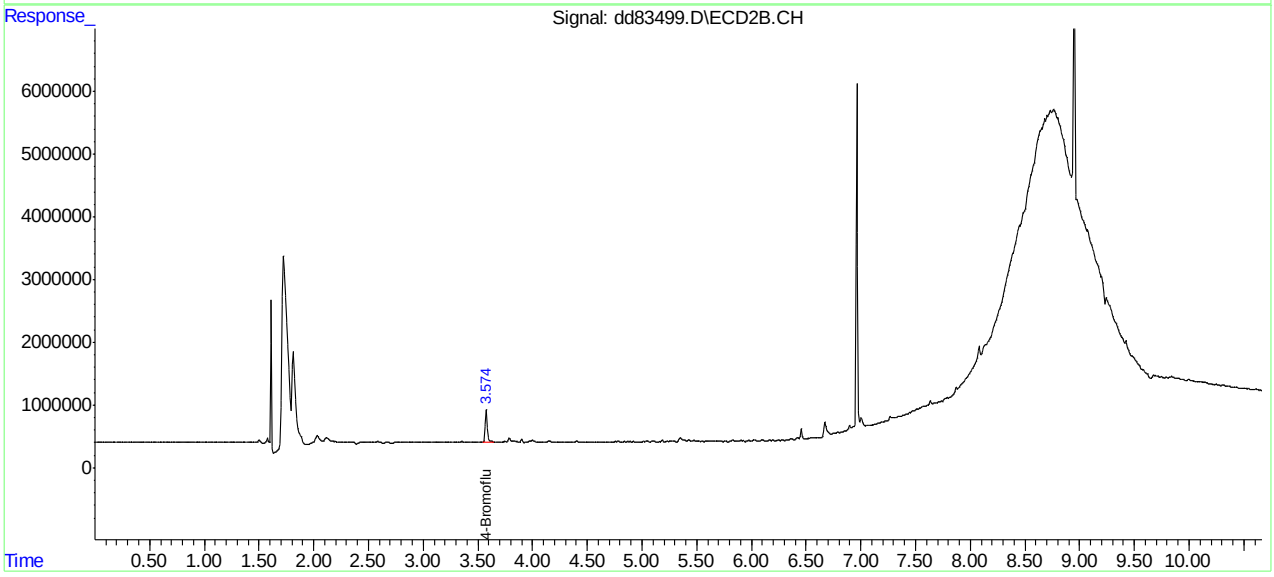
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83499.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:26 pm
Operator : natashag
Sample : jb99969-10
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:11:21 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83500.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:41 pm
Operator : natashag
Sample : jb99969-11
Misc : op57065,gdd2459,5.02,,,2,1,soil
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:12:44 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.575	49988	523349	2.196	2.121
Spiked Amount	2.000	Range	63 - 137	Recovery	= 109.80%	106.05%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

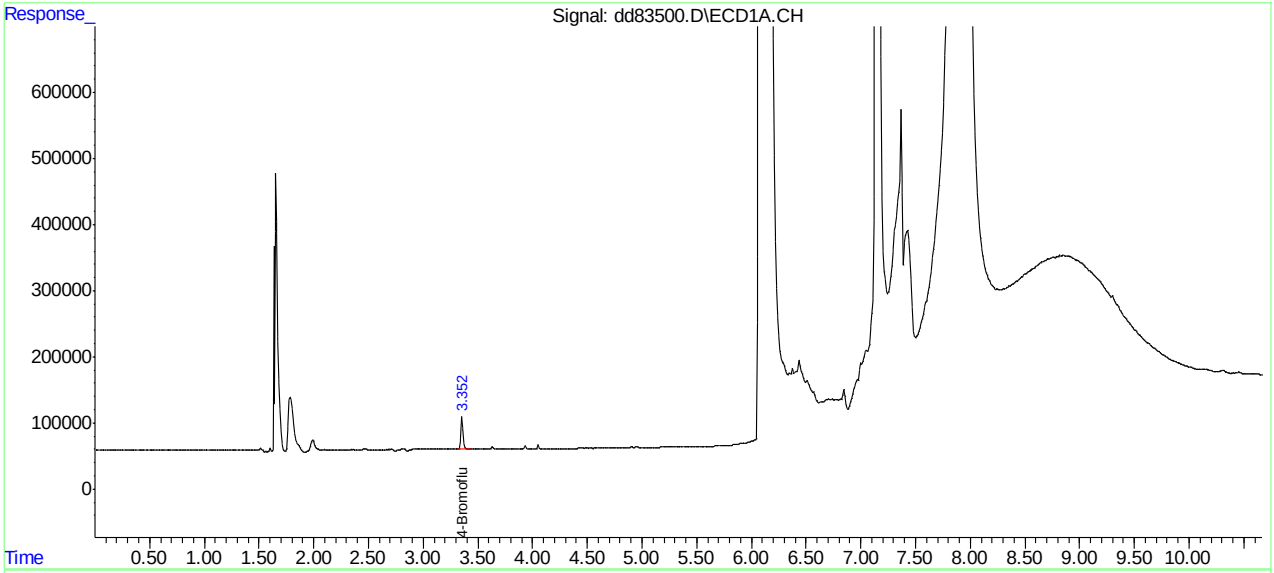
14.1.11 14

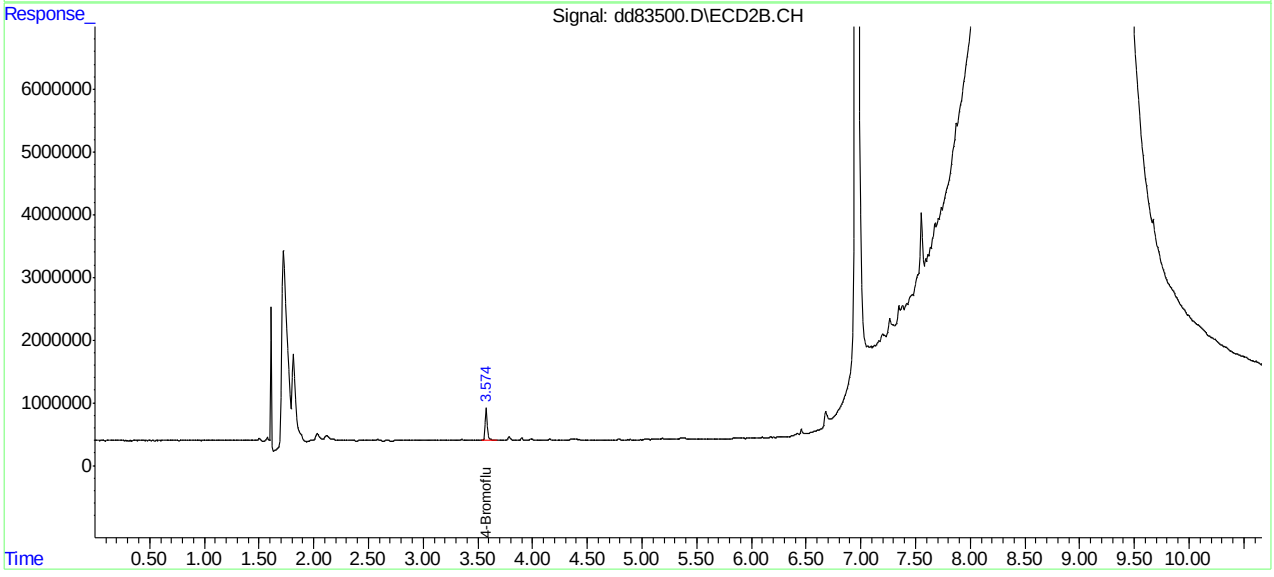
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83500.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:41 pm
Operator : natashag
Sample : jb99969-11
Misc : op57065,gdd2459,5.02,,,2,1,soil
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:12:44 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83501.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:56 pm
Operator : natashag
Sample : jb99969-12
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:20:12 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.575	50303	520953	2.210	2.111
Spiked Amount	2.000	Range 63 - 137	Recovery	=	110.50%	105.55%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

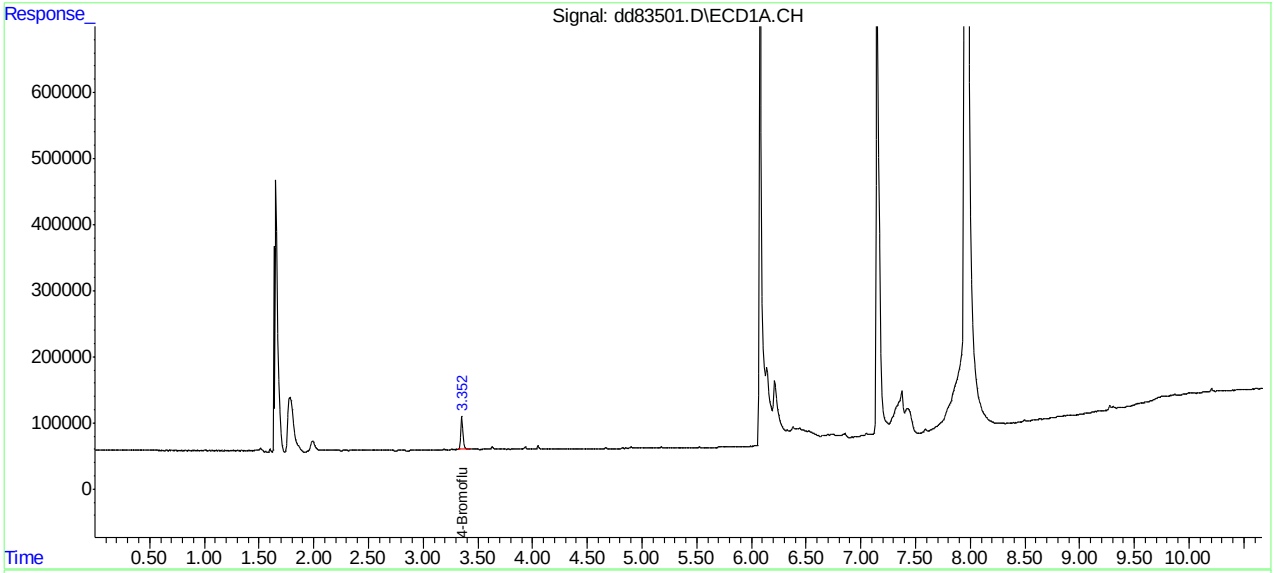
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

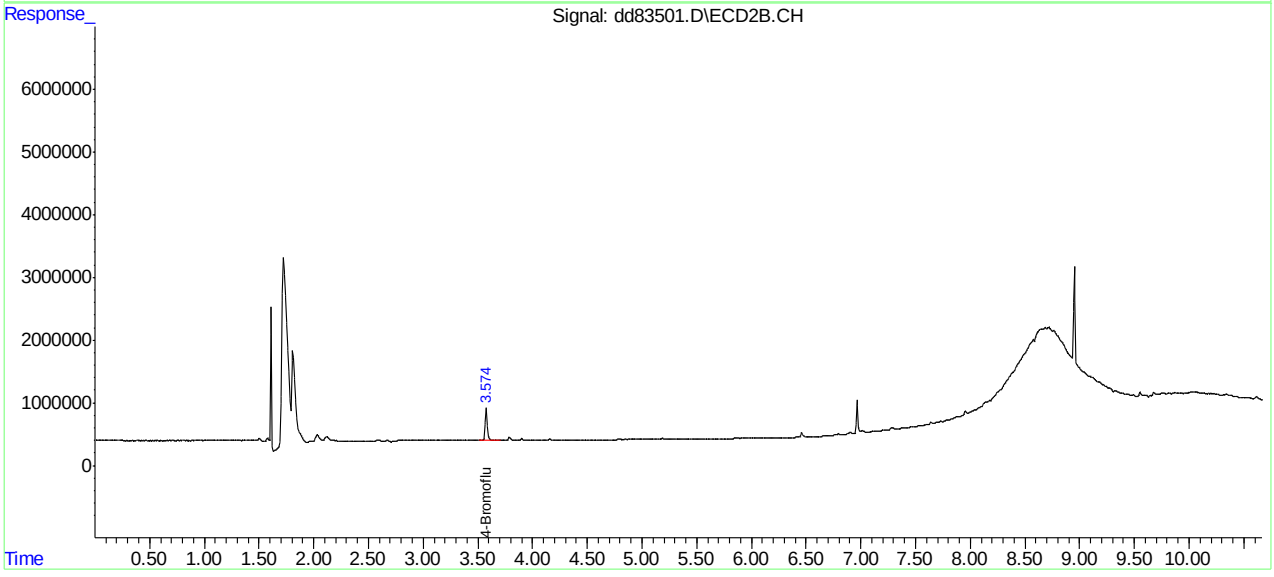
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83501.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 6:56 pm
Operator : natashag
Sample : jb99969-12
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:20:12 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83502.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:12 pm
Operator : natashag
Sample : jb99969-13
Misc : op57065,gdd2459,5.01,,,2,1,soil
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:20:45 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.352	3.574	49131	508139	2.158	2.062m
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 107.90%	103.10%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

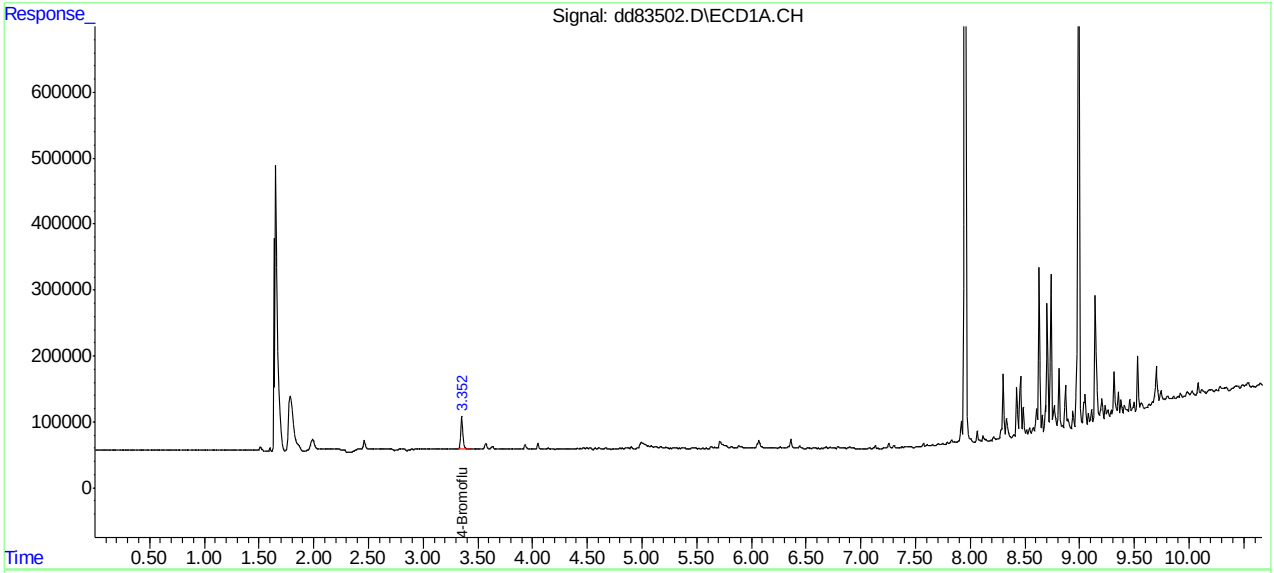
14.1.13
14

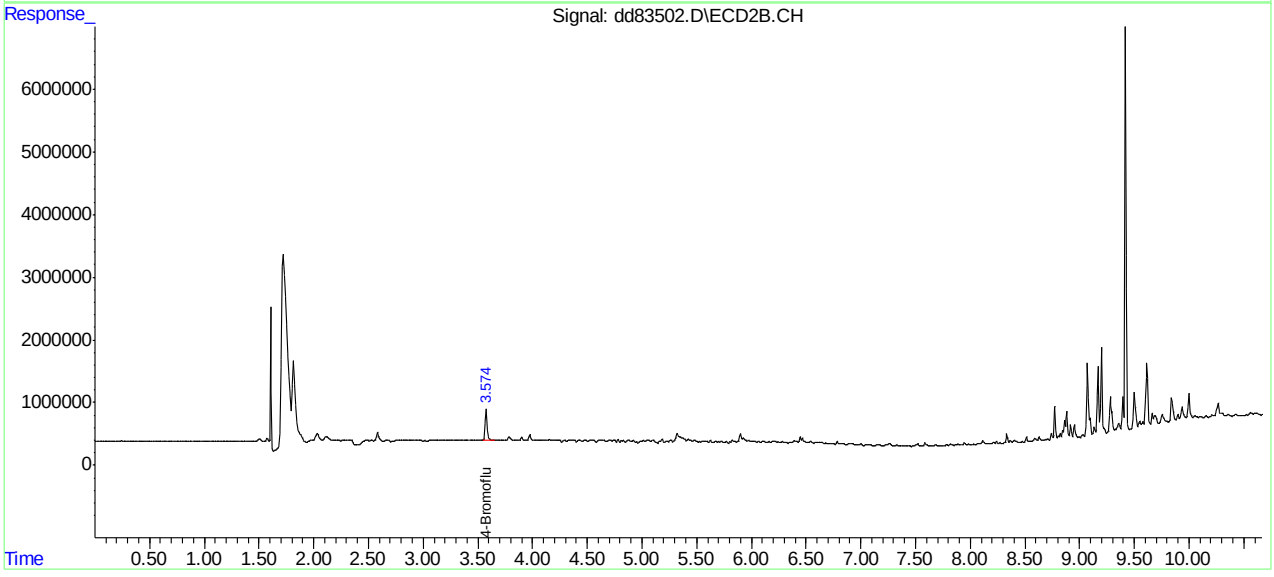
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83502.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:12 pm
Operator : natashag
Sample : jb99969-13
Misc : op57065,gdd2459,5.01,,,2,1,soil
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:20:45 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83503.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:27 pm
Operator : natashag
Sample : jb99969-14
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:23:16 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.352	3.574	48674	496015	2.138m	2.015m
Spiked Amount	2.000 Range	63 - 137	Recovery	=	106.90%	100.75%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

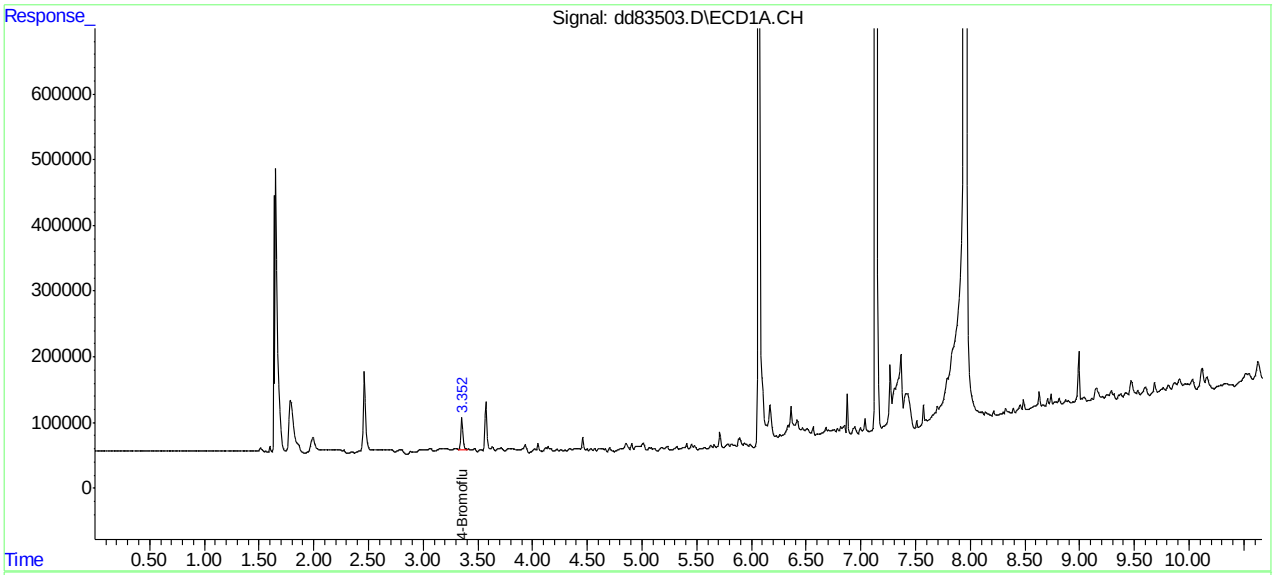
14.1.14
14

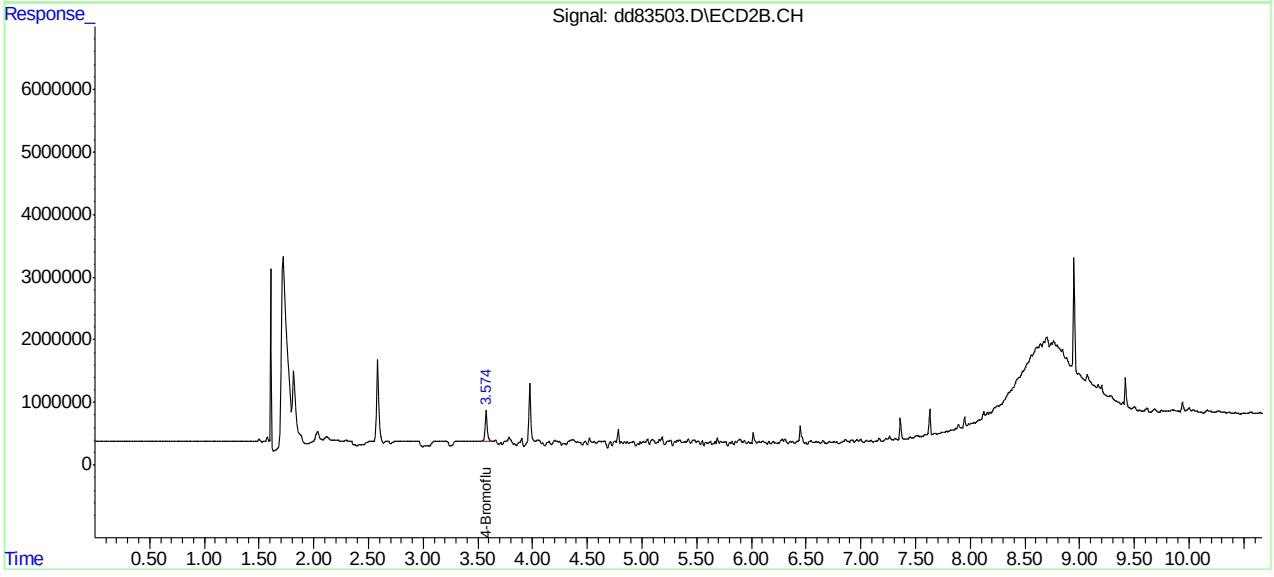
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83503.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:27 pm
Operator : natashag
Sample : jb99969-14
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:23:16 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83504.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:42 pm
Operator : natashag
Sample : jb99969-15
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:24:01 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.354	3.576	54868	525078	2.410	2.127
Spiked Amount	2.000 Range	63 - 137	Recovery	=	120.50%	106.35%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.15

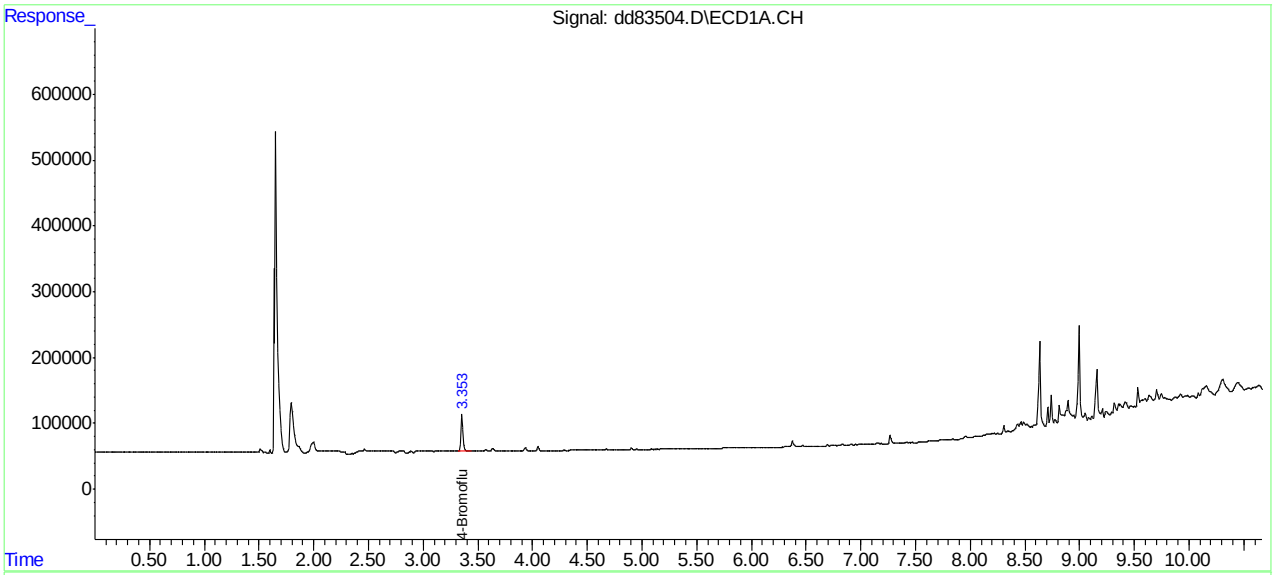
14

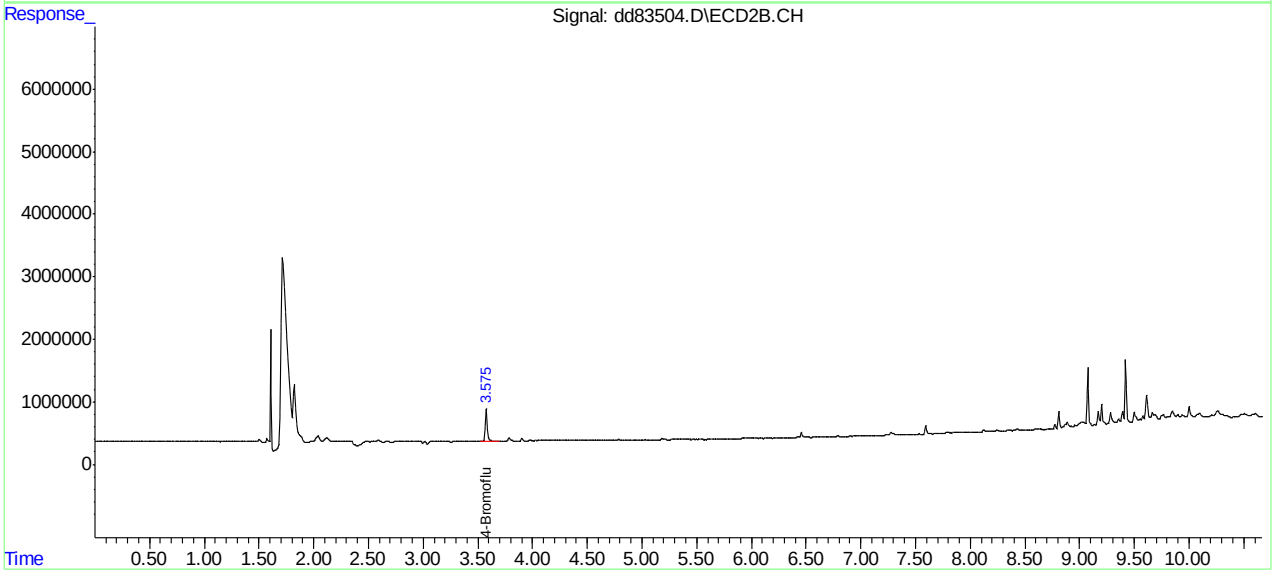
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83504.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:42 pm
Operator : natashag
Sample : jb99969-15
Misc : op57065,gdd2459,5.06,,,2,1,soil
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:24:01 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83505.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:57 pm
Operator : natashag
Sample : jb99969-16
Misc : op57065,gdd2459,5.04,,,2,1,soil
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:25:05 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.354	3.576	51169	512892	2.248	2.080
Spiked Amount	2.000 Range	63 - 137	Recovery	=	112.40%	104.00%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

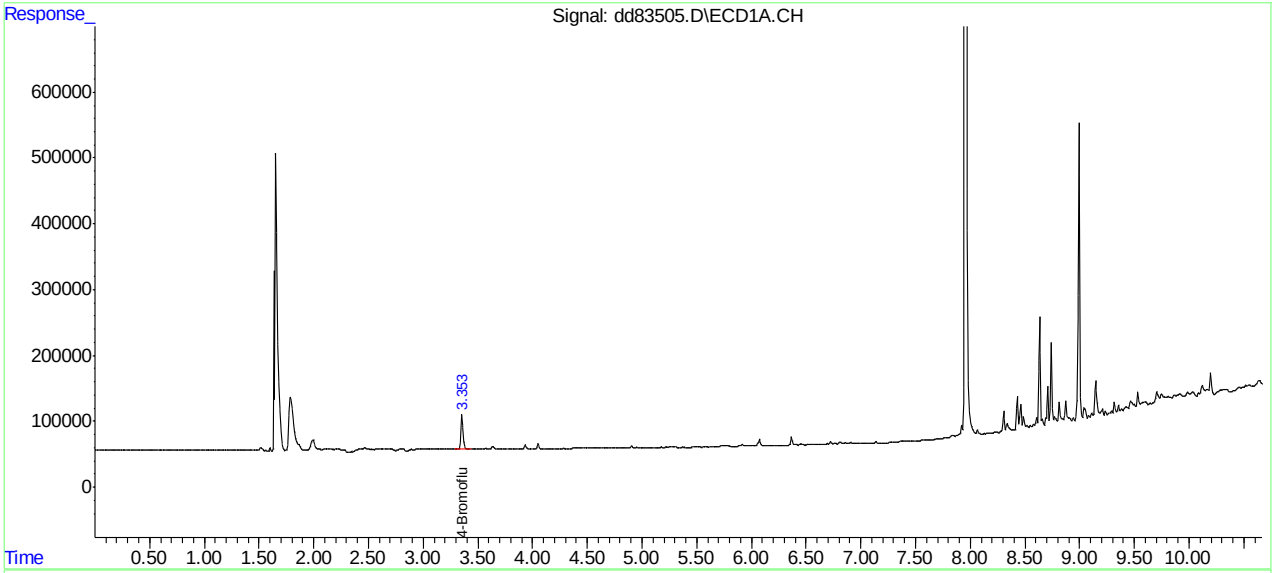
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

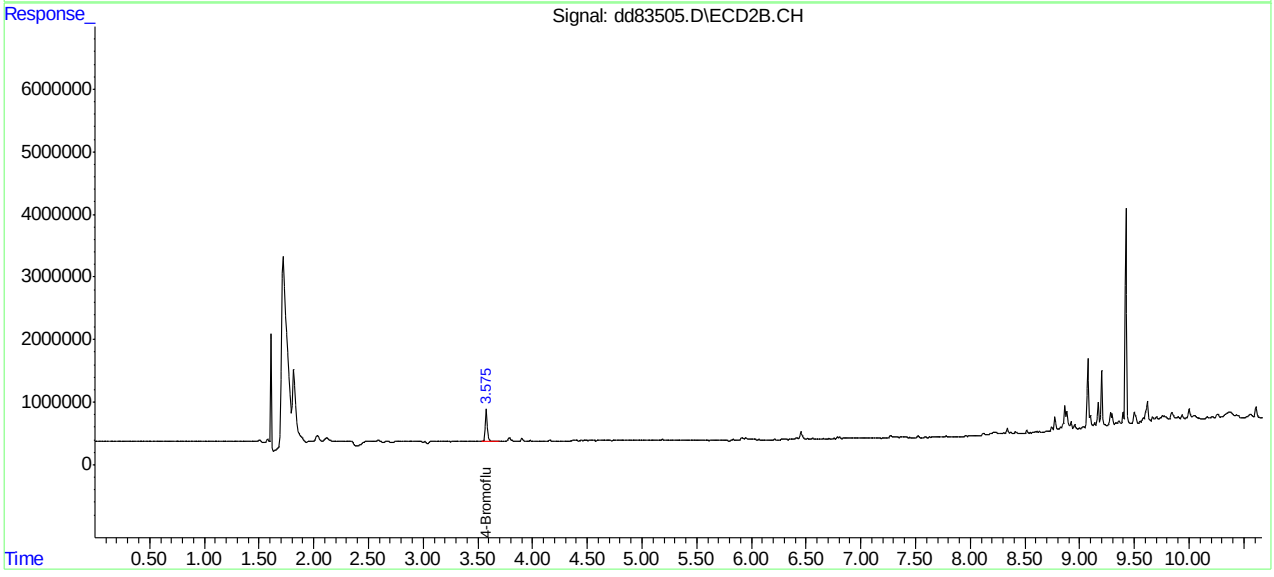
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83505.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 7:57 pm
Operator : natashag
Sample : jb99969-16
Misc : op57065,gdd2459,5.04,,,2,1,soil
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:25:05 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83506.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 8:13 pm
Operator : natashag
Sample : jb99969-17
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:26:24 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.353	3.574	52443	514095	2.304	2.085m
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 115.20%	104.25%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

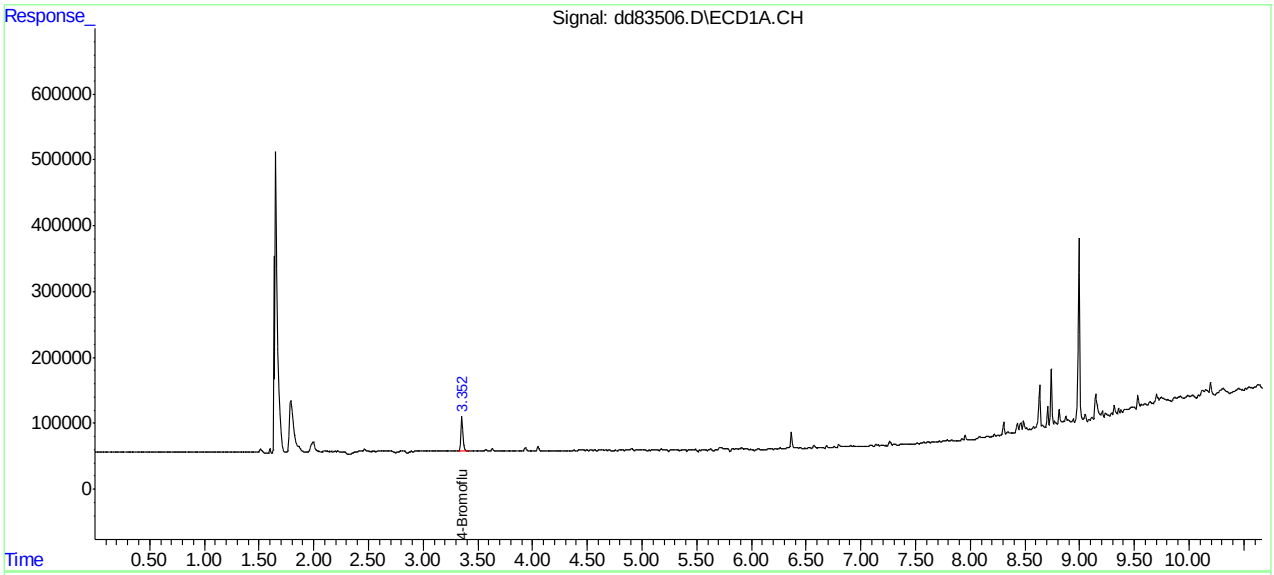
14.1.17
14

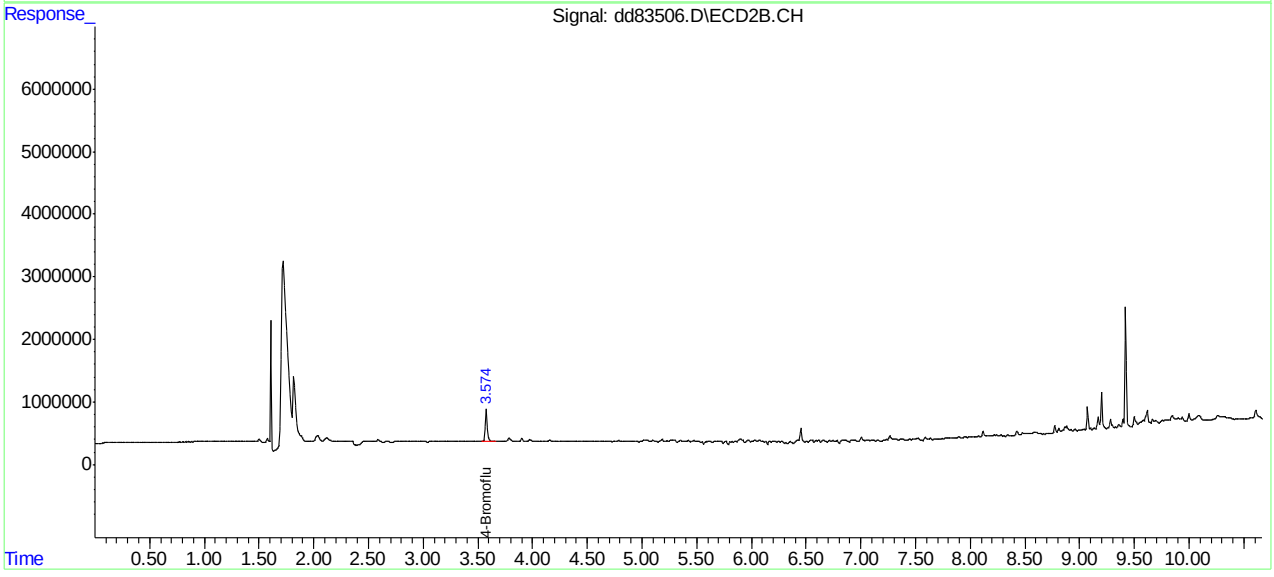
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83506.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 8:13 pm
Operator : natashag
Sample : jb99969-17
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:26:24 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83509.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 8:58 pm
Operator : natashag
Sample : jb99969-18
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:29:35 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.353	3.576	46815	453848	2.056	1.851
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 102.80%	92.55%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.18

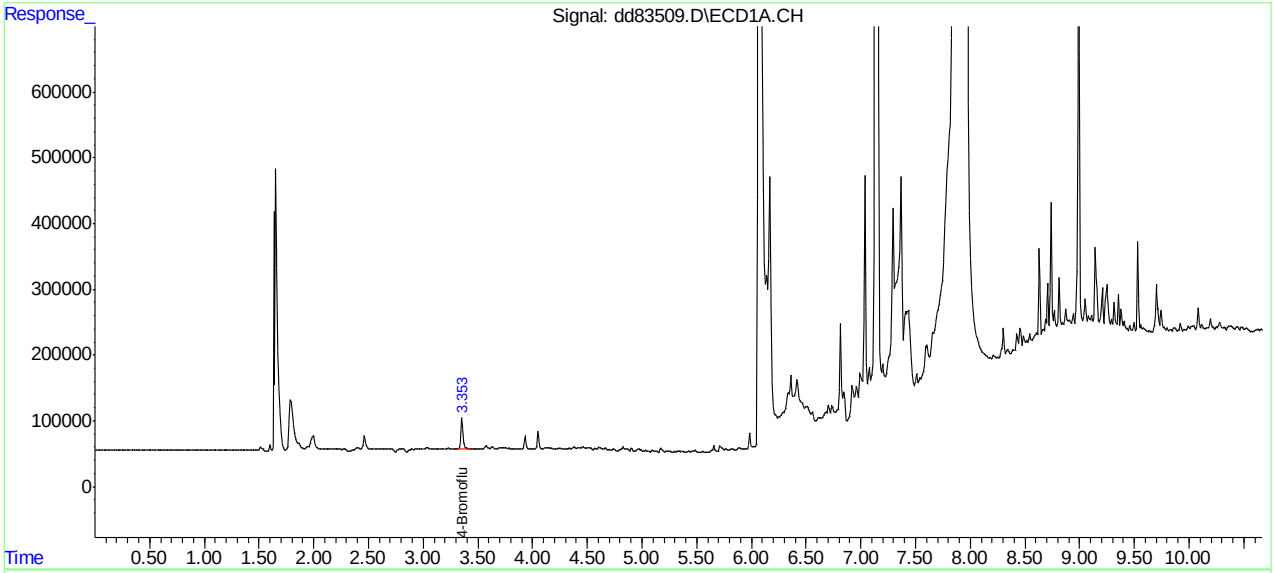
14

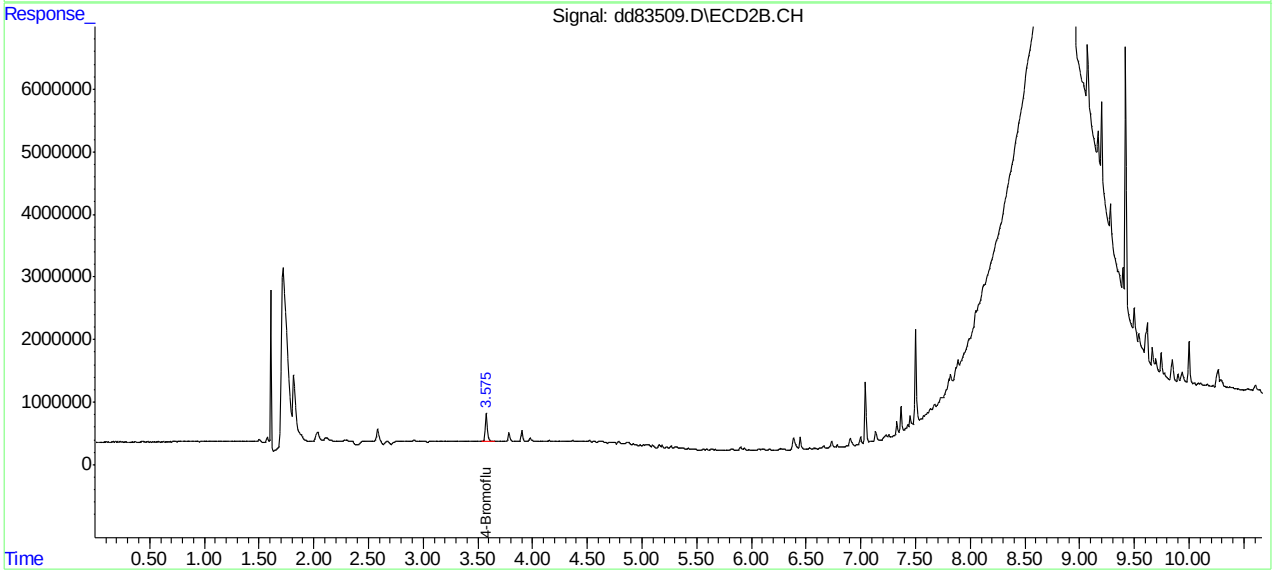
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83509.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 8:58 pm
Operator : natashag
Sample : jb99969-18
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:29:35 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83510.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 9:13 pm
Operator : natashag
Sample : jb99969-19
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:32:42 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.354	3.575	50884	498442	2.235	2.024m
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 111.75%	101.20%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

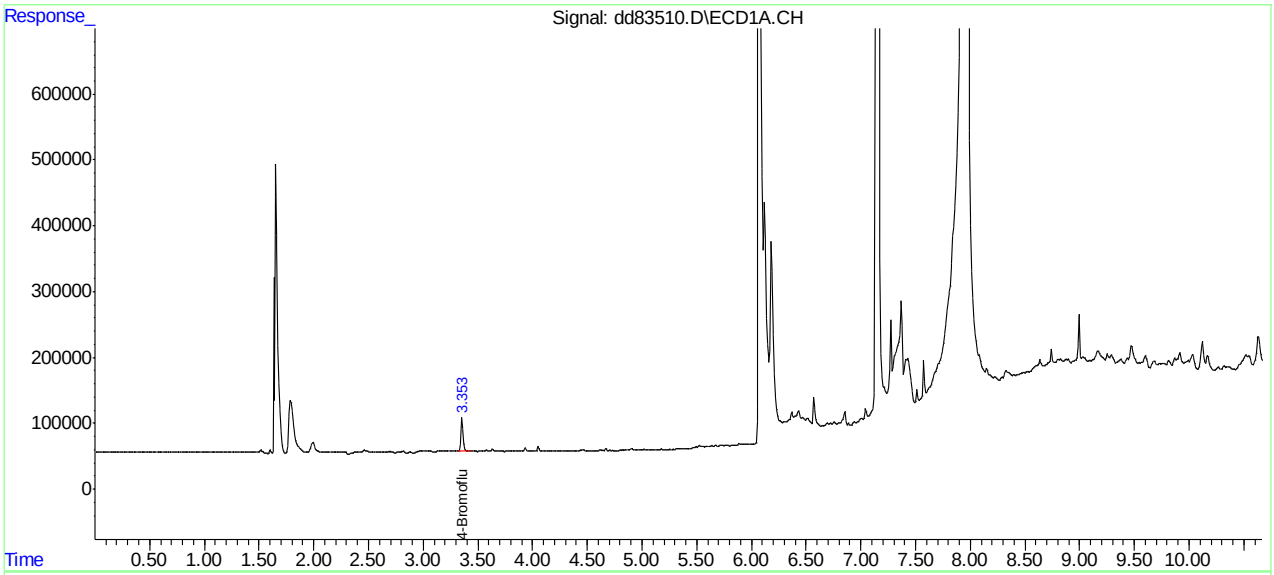
14.1.19
14

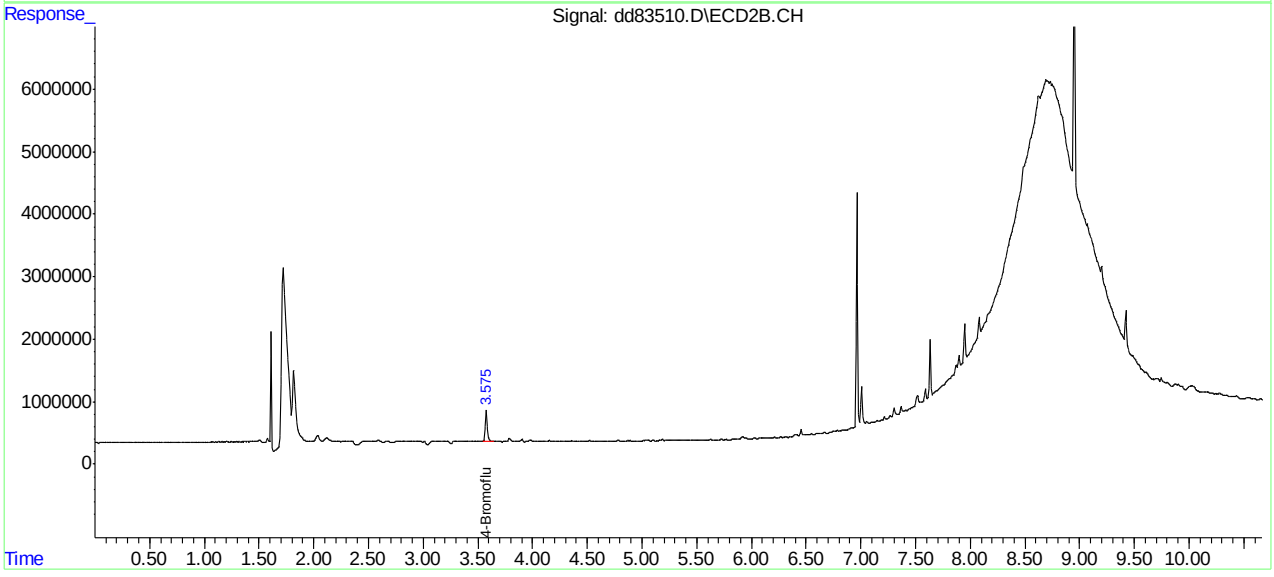
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83510.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 9:13 pm
Operator : natashag
Sample : jb99969-19
Misc : op57065,gdd2459,5.08,,,2,1,soil
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:32:42 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83511.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 9:29 pm
Operator : natashag
Sample : jb99969-20
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:38:14 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.576	52161	516082	2.291	2.093
Spiked Amount	2.000 Range	63 - 137	Recovery	=	114.55%	104.65%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

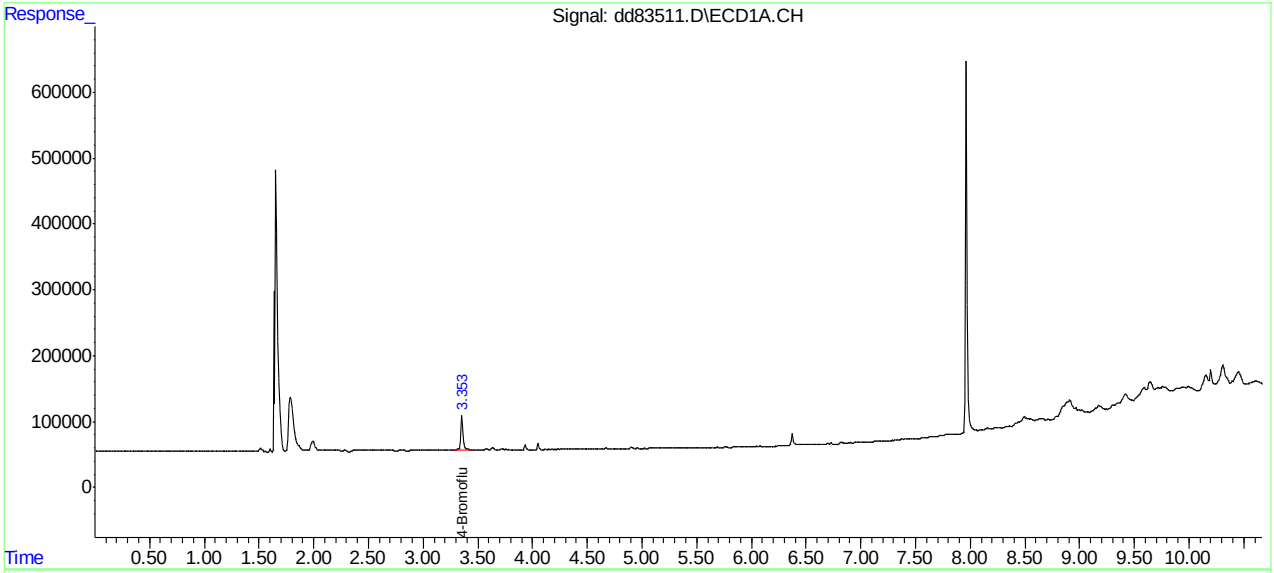
14.1.20 14

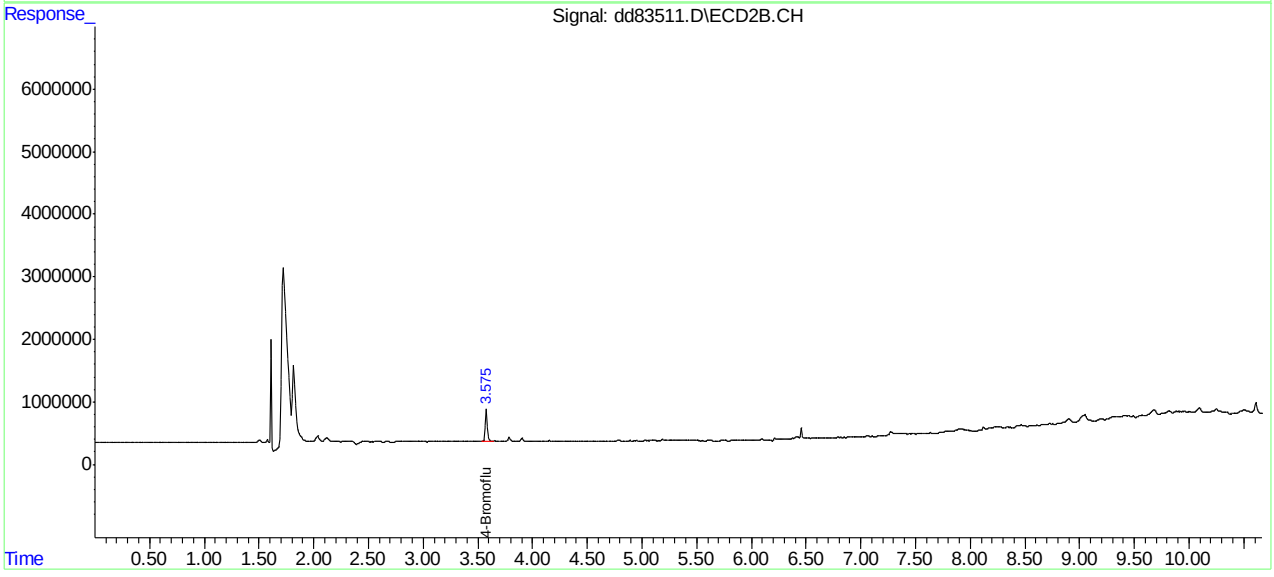
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83511.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 9:29 pm
Operator : natashag
Sample : jb99969-20
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:38:14 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83516.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 10:45 pm
Operator : natashag
Sample : jb99969-21
Misc : op57066,gdd2459,5.05,,,2,1,soil
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:43:25 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.354	3.575	48938	480820	2.150	1.956m
Spiked Amount	2.000 Range	63 - 137	Recovery	=	107.50%	97.80%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

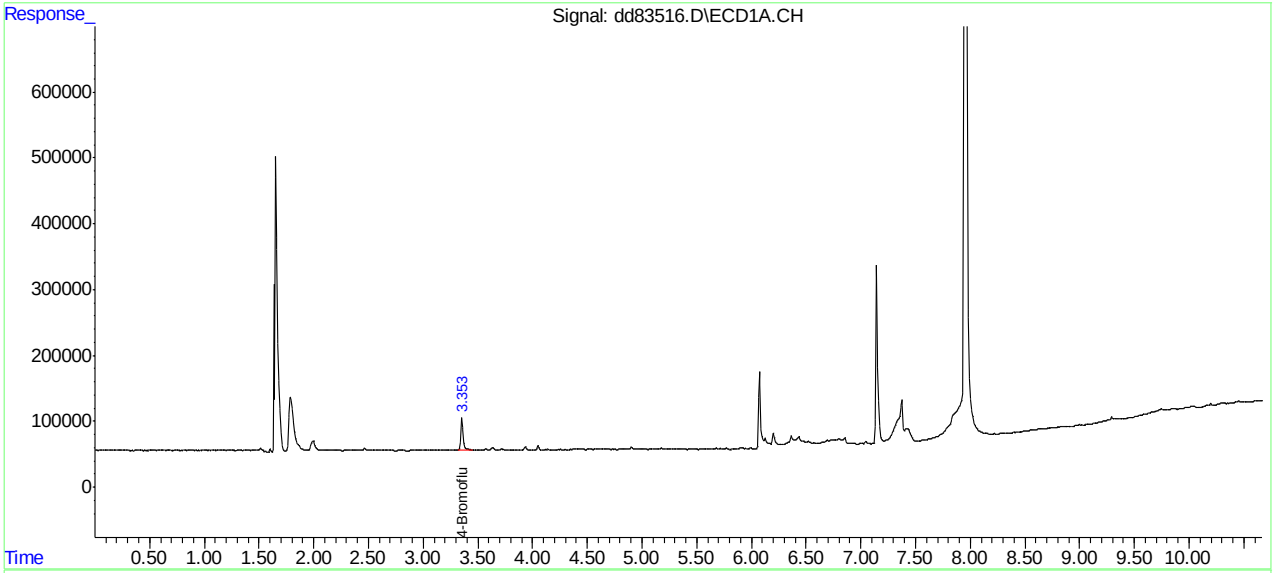
14.1.21
14

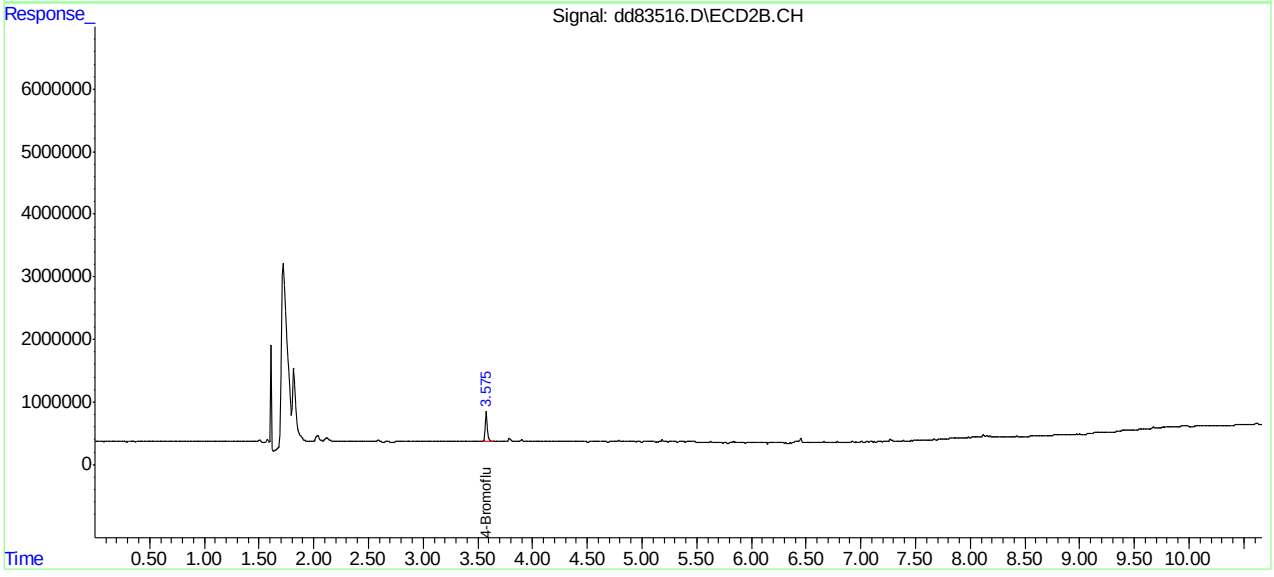
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83516.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 10:45 pm
Operator : natashag
Sample : jb99969-21
Misc : op57066,gdd2459,5.05,,,2,1,soil
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:43:25 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83517.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 11:00 pm
Operator : natashag
Sample : jb99969-22
Misc : op57066,gdd2459,5.08,,,2,1,soil
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:44:49 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.575	51675	493845	2.270	2.007
Spiked Amount	2.000	Range	63 - 137	Recovery	= 113.50%	100.35%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.22

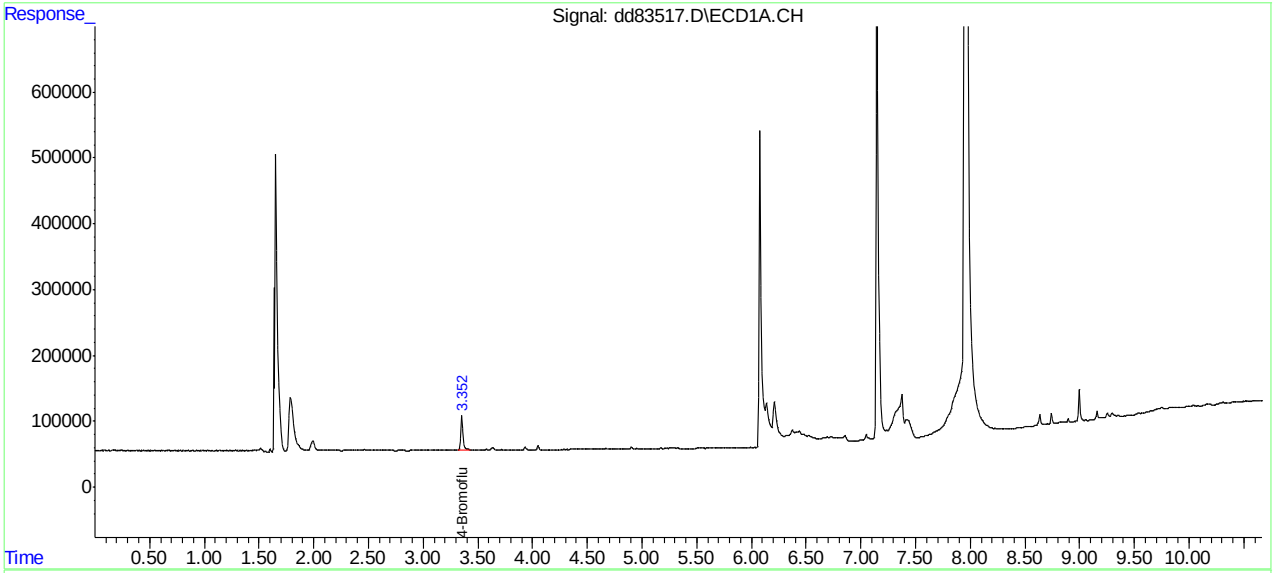
14

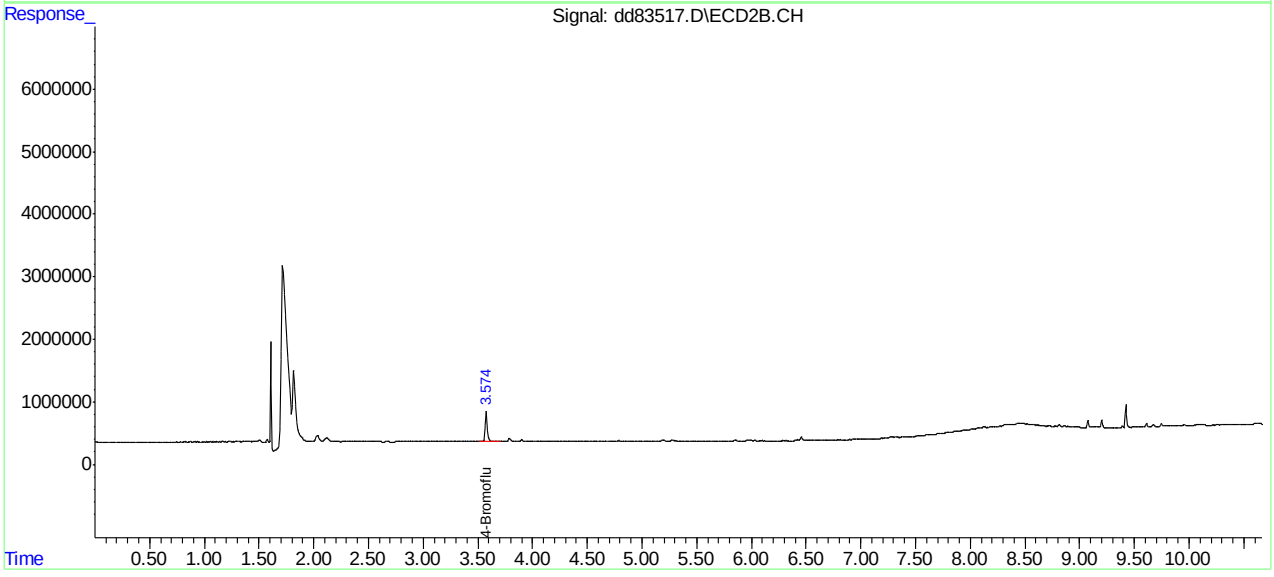
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83517.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 11:00 pm
Operator : natashag
Sample : jb99969-22
Misc : op57066,gdd2459,5.08,,,2,1,soil
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:44:49 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83518.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 11:15 pm
Operator : natashag
Sample : jb99969-23
Misc : op57066,gdd2459,5.07,,,2,1,soil
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:46:23 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.352	3.574	50296	476711	2.209m	1.940m
	Spiked Amount	2.000 Range	63 - 137	Recovery	=	110.45%	97.00%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

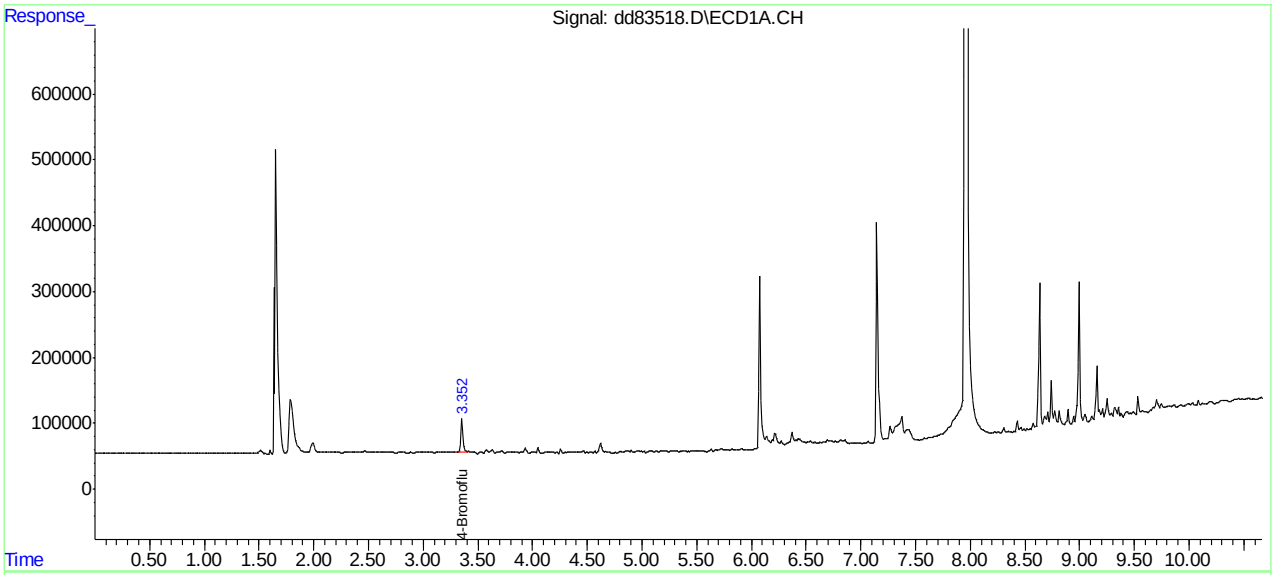
14.1.23
14

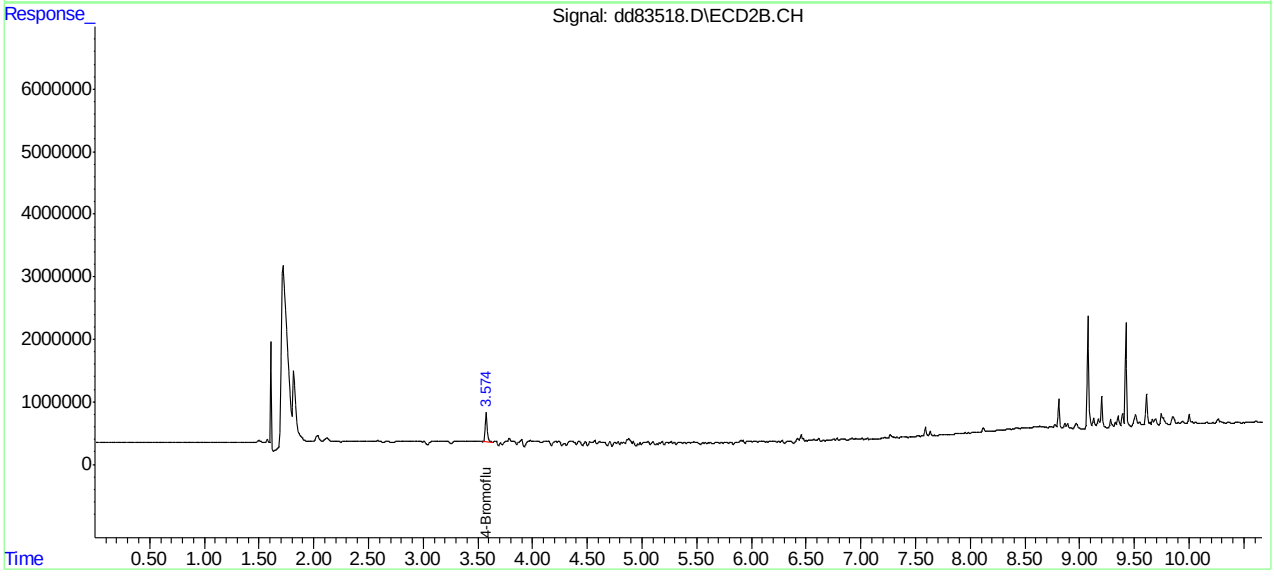
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83518.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 11:15 pm
Operator : natashag
Sample : jb99969-23
Misc : op57066,gdd2459,5.07,,,2,1,soil
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:46:23 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83521.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 01 Aug 2015 12:01 am
Operator : natashag
Sample : jb99969-24
Misc : op57066,gdd2459,5.02,,,2,1,soil
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:51:02 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.354	3.577	57440	551754	2.523m	2.230
Spiked Amount	2.000 Range	63 - 137	Recovery	=	126.15%	111.50%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

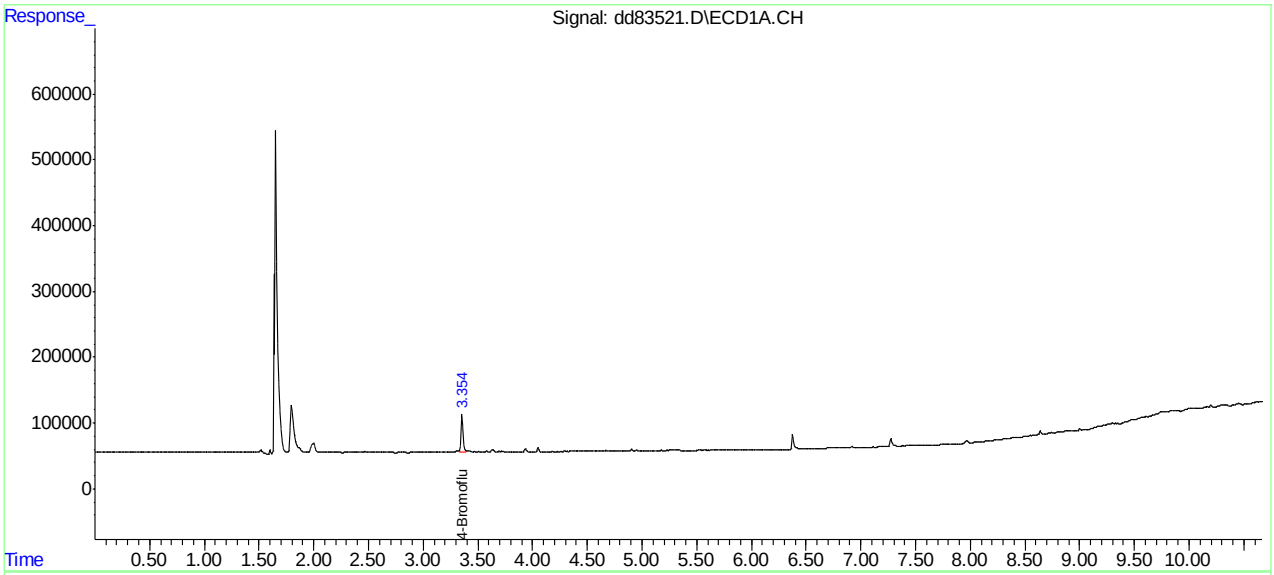
14.1.24
14

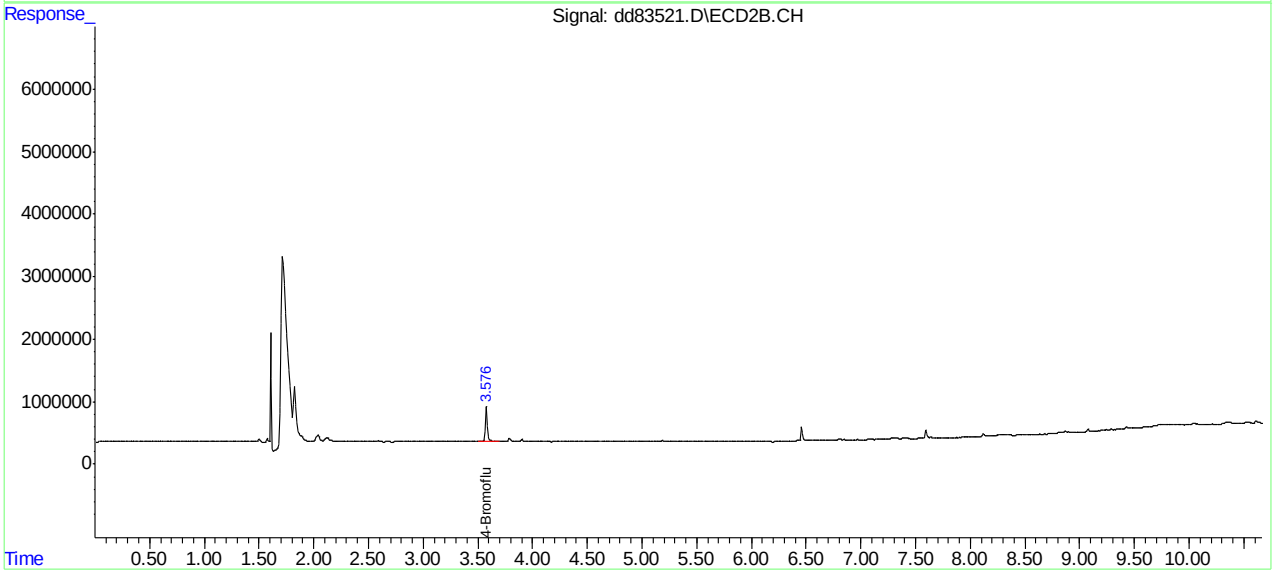
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83521.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 01 Aug 2015 12:01 am
Operator : natashag
Sample : jb99969-24
Misc : op57066,gdd2459,5.02,,,2,1,soil
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:51:02 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83522.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 01 Aug 2015 12:16 am
Operator : natashag
Sample : jb99969-25
Misc : op57066,gdd2459,5.01,,,2,1,soil
ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:51:24 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.353	3.575	50800	513066	2.231	2.081
	Spiked Amount	2.000	Range 63 - 137	Recovery	=	111.55%	104.05%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.1.25

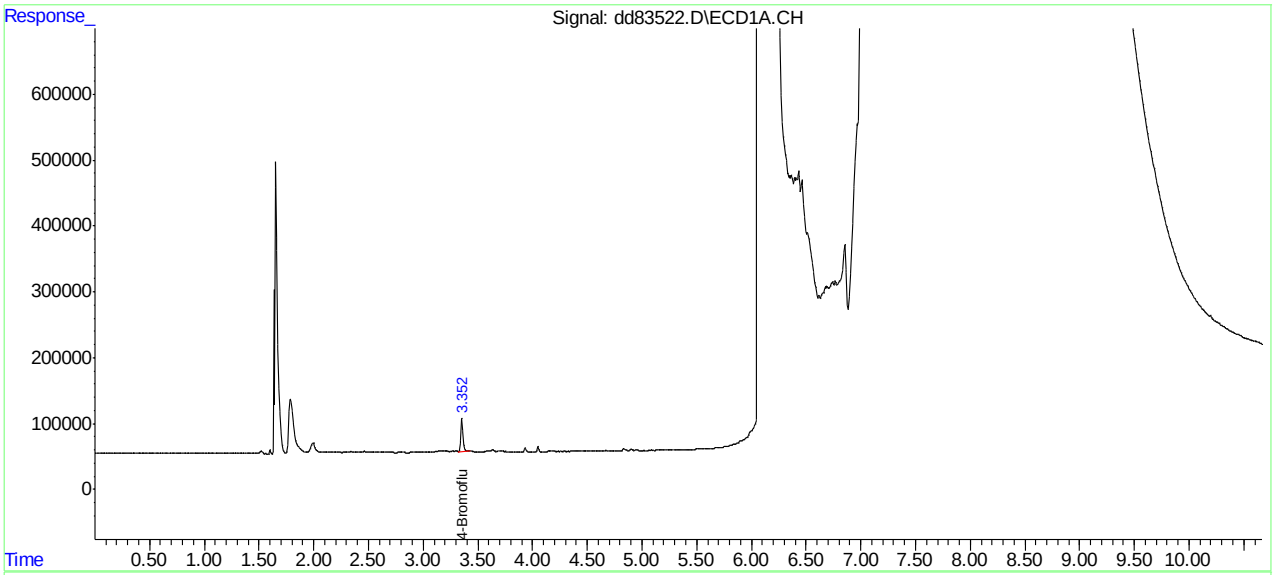
14

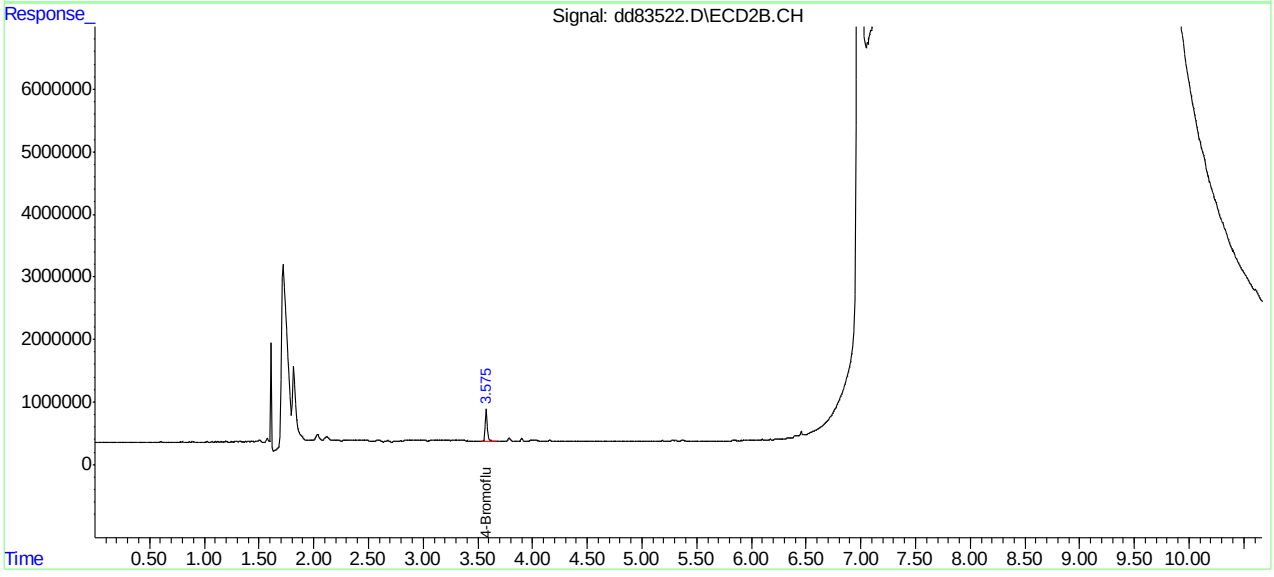
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83522.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 01 Aug 2015 12:16 am
Operator : natashag
Sample : jb99969-25
Misc : op57066,gdd2459,5.01,,,2,1,soil
ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:51:24 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Manual Integrations
APPROVED
(compounds with "m" flag)
Mike Eger
08/05/15 13:35

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0803edb\
Data File : dd83547.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 03 Aug 2015 6:08 pm
Operator : natashag
Sample : jb99969-26A
Misc : op57086,gdd2460,39.1,,,2,1,water
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 05 08:39:19 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.352	3.574	46170	476831	2.028	1.940m
Spiked Amount	2.000 Range	63 - 137	Recovery	=	101.40%	97.00%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D.	N.D.
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

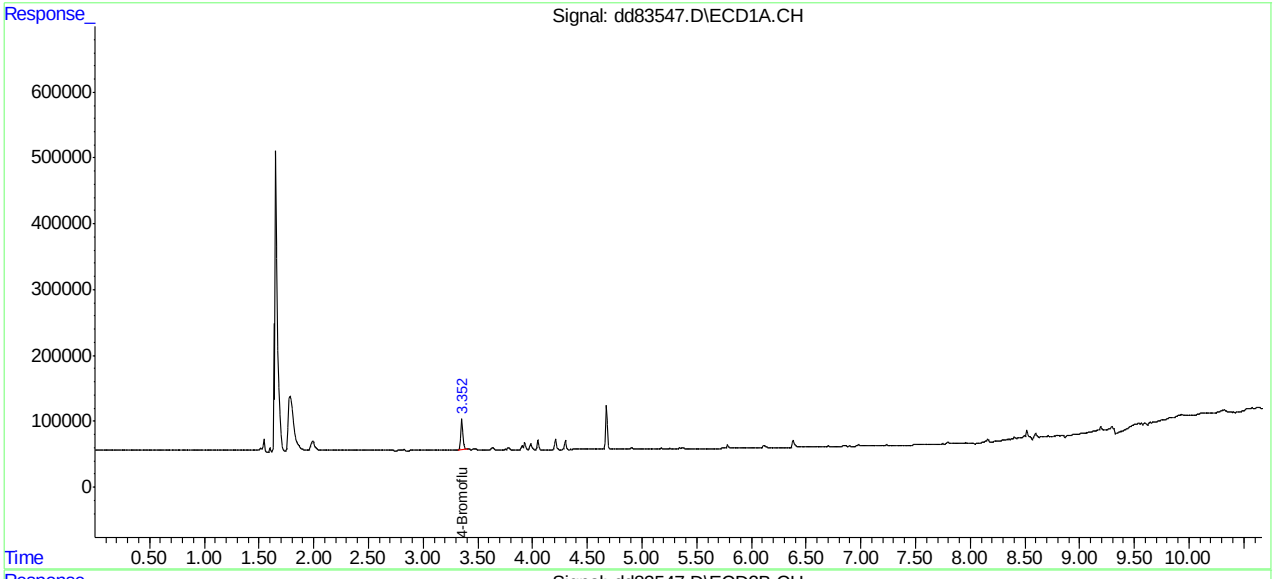
14.1.26
14

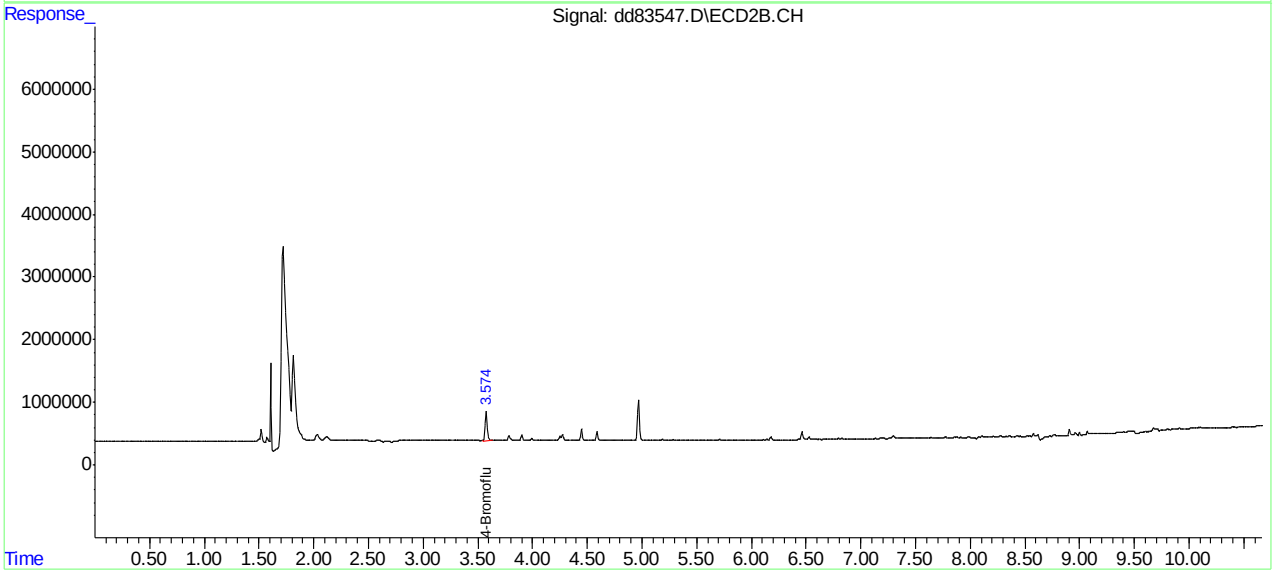
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0803edb\
Data File : dd83547.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 03 Aug 2015 6:08 pm
Operator : natashag
Sample : jb99969-26A
Misc : op57086,gdd2460,39.1,,,2,1,water
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 05 08:39:19 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83487.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 3:22 pm
Operator : natashag
Sample : op57065-mb
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 09:56:27 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.353	3.575	47898	491669	2.104	1.998
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 105.20%	99.90%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D.	N.D.
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.2.1

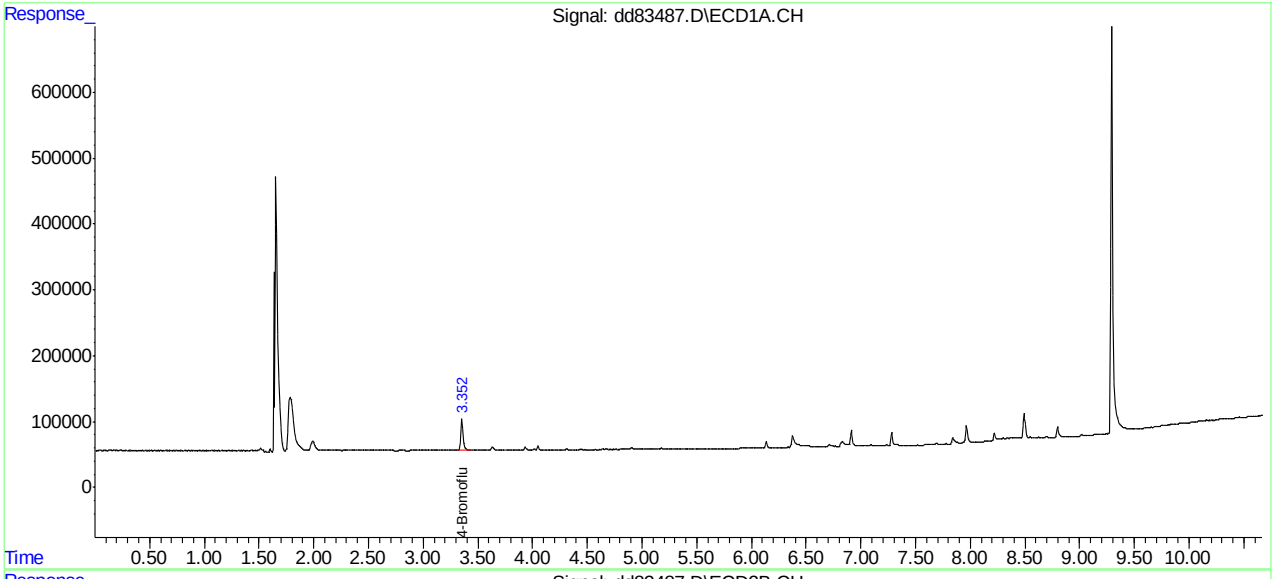
14

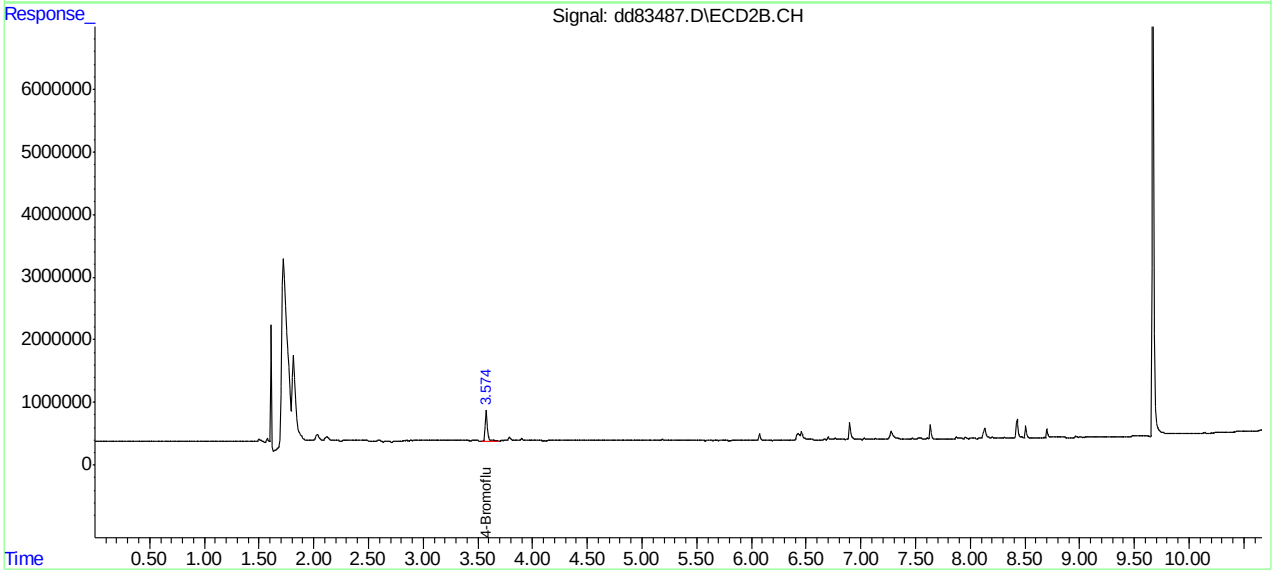
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83487.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 3:22 pm
Operator : natashag
Sample : op57065-mb
Misc : op57065,gdd2459,5.00,,,2,1,soil
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 09:56:27 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83515.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 10:29 pm
Operator : natashag
Sample : op57066-mb
Misc : op57066,gdd2459,5.00,,,2,1,soil
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:42:52 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
2) S	4-Bromofl...	3.354	3.576	48630	481568	2.136	1.959
	Spiked Amount	2.000	Range	63 - 137	Recovery	= 106.80%	97.95%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

14.2.2

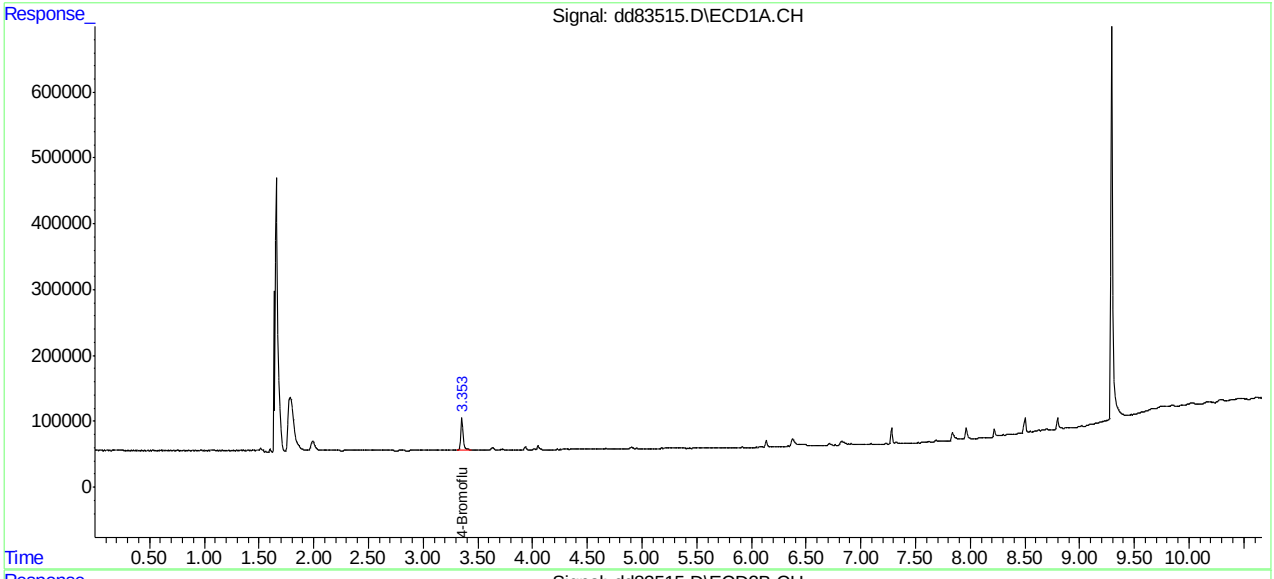
14

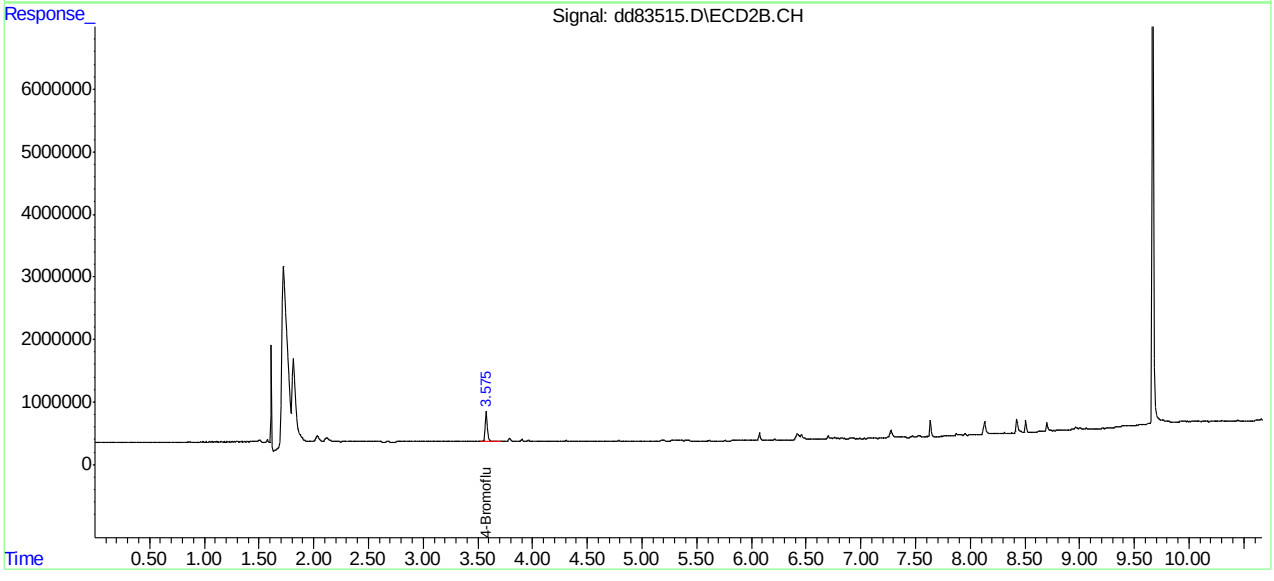
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0731edb\
Data File : dd83515.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 31 Jul 2015 10:29 pm
Operator : natashag
Sample : op57066-mb
Misc : op57066,gdd2459,5.00,,,2,1,soil
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 03 10:42:52 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0803edb\
Data File : dd83546.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 03 Aug 2015 5:53 pm
Operator : natashag
Sample : op57086-mb
Misc : op57086,gdd2460,35.0,,,2,1,water
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 05 08:36:14 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

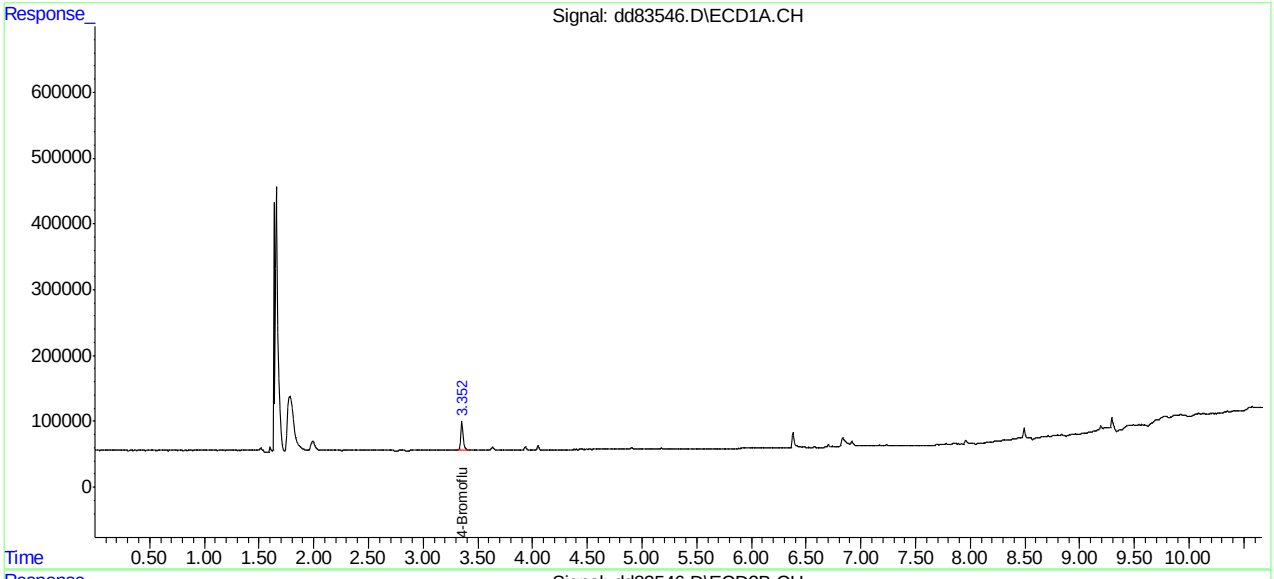
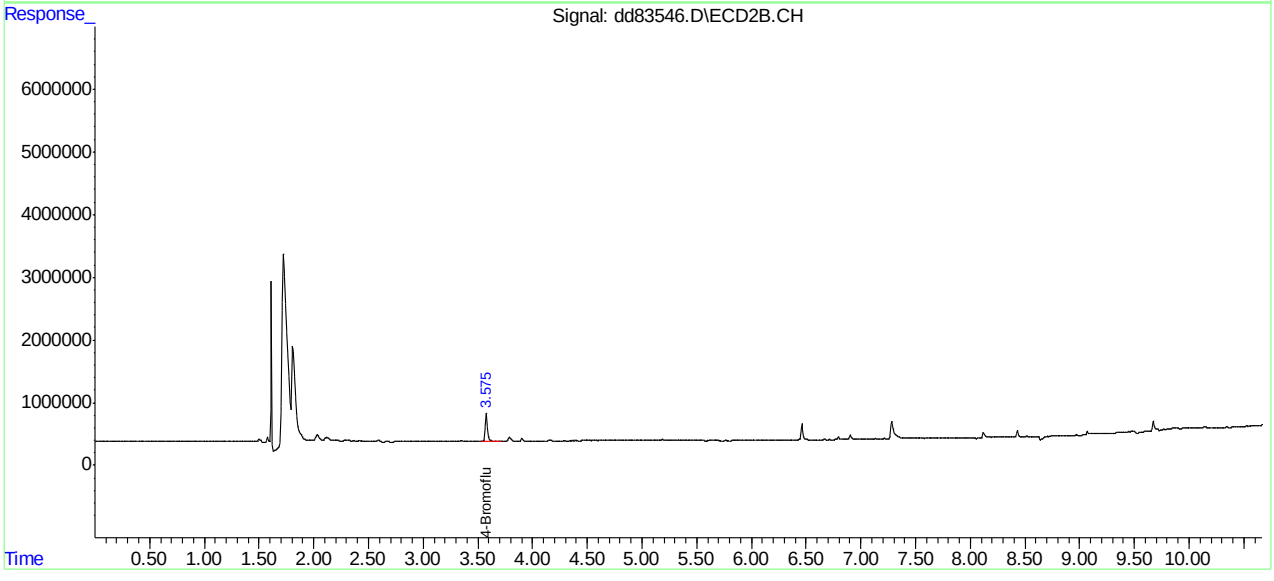
Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
2) S 4-Bromofl...	3.353	3.575	43363	446769	1.905	1.823
Spiked Amount	2.000 Range	63 - 137	Recovery	=	95.25%	91.15%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2,3-Tri...	0.000	0.000	0	0	N.D. d	N.D. d
4) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\0803edb\
Data File : dd83546.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 03 Aug 2015 5:53 pm
Operator : natashag
Sample : op57086-mb
Misc : op57086,gdd2460,35.0,,,2,1,water
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Aug 05 08:36:14 2015
Quant Method : C:\msdchem\2\METHODS\EDB_HY0729.M
Quant Title : EDB/DBCP by EPA 504.1 or SW846 8011
QLast Update : Fri Jul 31 09:15:07 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 2uL
Signal #1 Phase : DB-1701 Signal #2 Phase: DB-17
Signal #1 Info : 0.32mm ID Signal #2 Info : 0.32mm ID