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Automated Report

Technical Report for

Stantec Consulting Services Inc.

Sunoco - Marcus Hook Facility, PA

213402270

SGS Accutest Job Number: JB31485

Sampling Dates: 03/14/13 - 03/15/13

Report to:

Stantec Consulting Services Inc.

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ATTN: Lisa Votta

Total number of pages in report: **813**

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

Nancy Cole
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Sample Summary

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB31485-1	03/14/13	09:30 PM		03/15/13	SO	Soil	MH201-1 (4.5-5.0)
JB31485-2	03/14/13	10:20 PM		03/15/13	SO	Soil	MH201-2 (5.0-5.5)
JB31485-3	03/14/13	10:50 PM		03/15/13	SO	Soil	MH201-3 (3.0-3.5)
JB31485-4	03/14/13	11:10 PM		03/15/13	SO	Soil	MH201-4 (3.0-3.5)
JB31485-5	03/14/13	11:40 PM		03/15/13	SO	Soil	MH201-5 (3.0-3.5)
JB31485-6	03/14/13	12:40 PM		03/15/13	SO	Soil	MH201-6 (3.0-3.5)
JB31485-7	03/14/13	13:00 PM		03/15/13	SO	Soil	MH201-7 (3.0-3.5)
JB31485-8	03/14/13	13:20 PM		03/15/13	SO	Soil	MH201-8 (3.0-3.5)
JB31485-9	03/14/13	08:50 PM		03/15/13	SO	Soil	MH201-9 (5.0-5.5)
JB31485-10	03/14/13	11:20 PM		03/15/13	SO	Soil	MH201-10 (0.25-0.50)
JB31485-11	03/14/13	14:55 PM		03/15/13	SO	Soil	MH595-1 (5.0-5.5)
JB31485-12	03/14/13	14:25 PM		03/15/13	SO	Soil	MH595-2 (5.0-5.5)
JB31485-13	03/15/13	09:20 PM		03/15/13	SO	Soil	MH595-3 (3.0-3.5)

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

Sample Summary
(continued)

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB31485-14	03/15/13	09:05 PM		03/15/13	SO	Soil	MH595-4 (3.0-3.5)
JB31485-15	03/15/13	08:50 PM		03/15/13	SO	Soil	MH595-5 (3.0-3.5)
JB31485-16	03/15/13	08:30 PM		03/15/13	SO	Soil	MH595-6 (3.0-3.5)
JB31485-17	03/15/13	08:10 PM		03/15/13	SO	Soil	MH595-7 (3.0-3.5)
JB31485-18	03/14/13	15:40 PM		03/15/13	SO	Soil	MH595-8 (3.0-3.5)
JB31485-19	03/14/13	15:20 PM		03/15/13	SO	Soil	MH595-9 (5.0-5.5)
JB31485-20	03/15/13	09:54 PM		03/15/13	SO	Soil	MH595-10 (0.25-0.50)
JB31485-21	03/15/13	10:30 PM		03/15/13	SO	Soil	MH597-1 (2.0-2.5)
JB31485-22	03/15/13	10:45 PM		03/15/13	SO	Soil	MH597-2 (2.0-2.5)
JB31485-23	03/15/13	11:20 PM		03/15/13	SO	Soil	MH597-3 (5.0-5.5)
JB31485-24	03/15/13	12:30 PM		03/15/13	SO	Soil	MH597-4 (3.0-3.5)
JB31485-25	03/15/13	12:50 PM		03/15/13	SO	Soil	MH597-5 (3.0-3.5)
JB31485-26	03/15/13	13:05 PM		03/15/13	SO	Soil	MH597-6 (3.0-3.5)

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

Sample Summary
(continued)

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
JB31485-27	03/15/13	13:30 PM	03/15/13	SO	Soil	MH597-7 (3.0-3.5)
JB31485-28	03/15/13	13:43 PM	03/15/13	SO	Soil	MH597-8 (3.0-3.5)
JB31485-29	03/15/13	13:55 PM	03/15/13	SO	Soil	MH597-9 (3.0-3.5)
JB31485-30	03/15/13	13:10 PM	03/15/13	SO	Soil	MH597-10 (0.25-0.50)

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**	JB31485
Site:	Sunoco - Philadephia Refinery, Philadelphia, PA	**Report Date**	4/8/2013 5:35:53 PM

On 03/15/2013, 30 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 2 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB31485 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 8260B

Matrix: SO **Batch ID:** V3C4303

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB32462-29MS, JB32462-29MSD were used as the QC samples indicated.
- Matrix Spike Duplicate Recovery(s) for Methyl Tert Butyl Ether are outside control limits. Probable cause due to matrix interference.

Matrix: SO **Batch ID:** VA7267

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB31810-9MS, JB31810-9MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: SO **Batch ID:** VA7271

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB31583-12DUP, JB32254-2MS, JB31583-12DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for Duplicate for Benzene are outside control limits for sample JB31583-12DUP. High RPD due to low concentration of hit

Matrix: SO **Batch ID:** VA7273

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB32364-36DUP, JB32364-38MS, JB32364-36DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for Duplicate for Ethylbenzene, Xylene (total) are outside control limits for sample JB32364-36DUP. High RPD due to low concentration of hit

Matrix: SO **Batch ID:** VA7274

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB32267-3MS, JB32267-3MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Toluene, Benzene are outside control limits. Probable cause due to matrix interference.
- RPD(s) for MSD for Benzene, Toluene are outside control limits for sample JB32267-3MSD. Probable cause due to matrix interference.

Matrix: SO **Batch ID:** VA7275

- All samples were analyzed within the recommended method holding time.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VA7275

- All method blanks for this batch meet method specific criteria.
- Sample(s) JB32371-16DUP, JB32371-17MS were used as the QC samples indicated.

Matrix: SO **Batch ID:** VA7279

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB32713-4MS, JB32713-4MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** VE8847

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB31359-2MS, JB31359-2MSD were used as the QC samples indicated.
- JB31485-27: Dilution required due to matrix interference.
- JB31485-26: Dilution required due to matrix interference.
- JB31485-25: Dilution required due to matrix interference.

Matrix: SO **Batch ID:** VE8849

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB31485-1MS, JB31485-1MSD were used as the QC samples indicated.
- JB31485-13: Dilution required due to matrix interference.
- JB31485-1: Dilution required due to matrix interference.
- JB31485-3: Dilution required due to matrix interference.

Matrix: SO **Batch ID:** VE8854

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB31856-5MS, JB31856-5MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** VE8855

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB31820-1MS, JB31820-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB31485-19: Dilution required due to matrix interference.
- JB31485-17: Dilution required due to matrix interference.

Matrix: SO **Batch ID:** VE8856

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB31700-13MS, JB31700-13MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB31485-10: Dilution required due to matrix interference.

Matrix: SO **Batch ID:** VE8857

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB31734-2MS, JB31734-2MSD were used as the QC samples indicated.
- Sample(s) JB31485-8, JB32637-4MS, JB32637-4MSD have surrogates outside control limits. Probable cause due to matrix interference.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO	**Batch ID:** VE8857

- JB31485-29: Confirmation run for internal standard areas.
- JB31485-28: Dilution required due to matrix interference.

Matrix: SO	**Batch ID:** VI7384

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB32637-4MS, JB32637-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB32637-4MSD for Dibromofluoromethane: Outside control limits due to matrix interference.
- JB32637-4MS for Dibromofluoromethane: Outside control limits due to matrix interference.

Extractables by GCMS By Method SW846 8270C

2

Matrix: SO	Batch ID: M:OP32397

- The data for SW846 8270C meets quality control requirements.
- JB31485-29: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-28: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-27: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-24: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-23: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-22: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-21: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-26: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-30: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-25: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO	Batch ID: M:OP32398

- The data for SW846 8270C meets quality control requirements.
- JB31485-3: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-1: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-11: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-12: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-13: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-14: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-15: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-16: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-17: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-19: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-10: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-2: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-9: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-4: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-5: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-6: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-18: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-8: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-20: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-7: Analysis performed at Accutest Laboratories, Marlborough, MA.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** M:MP20663

- The data for SW846 6010C meets quality control requirements.
- JB31485-2 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-1 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-3 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-9 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-6 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-4 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-5 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-8 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-7 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO **Batch ID:** M:MP20664

- The data for SW846 6010C meets quality control requirements.
- JB31485-13 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-10 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-29 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-11 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-12 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-21 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-15 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-28 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-27 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-16 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-26 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-17 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-19 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-25 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-20 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-14 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-24 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-18 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-22 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-23 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO **Batch ID:** M:MP20668

- The data for SW846 6010C meets quality control requirements.
- JB31485-30 for Lead: Analysis performed at Accutest Laboratories, Marlborough, MA.

Wet Chemistry By Method SM21 2540 B MOD.

Matrix: SO **Batch ID:** M:GN42107

- The data for SM21 2540 B MOD. meets quality control requirements.
- JB31485-21 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-22 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO **Batch ID:** M:GN42108

- The data for SM21 2540 B MOD. meets quality control requirements.
- JB31485-5 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-18 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-1 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-10 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-11 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-12 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-13 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-14 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-15 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-7 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-17 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-19 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-2 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-20 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-3 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-4 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-9 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-6 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-8 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-16 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO **Batch ID:** M:GN42118

- The data for SM21 2540 B MOD. meets quality control requirements.
- JB31485-30 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-29 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-28 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-27 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-26 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-25 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-23 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB31485-24 for Solids, Percent: Analysis performed at Accutest Laboratories, Marlborough, MA.

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**	JB31485
Site:	SECORPAE: Sunoco - Marcus Hook Facility, PA	**Report Date**	4/1/2013 10:52:15 AM

30 Sample(s) Blank(s) were collected on between 03/14/2013 and 03/15/2013 and were received at Accutest on 03/15/2013 properly preserved, at2.0 Deg. C and intact. These Samples received an Accutest job number of JB31485. 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.

Extractables by GCMS By Method SW846 8270C

Matrix SO **Batch ID:** OP32397

- 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) JB31485-21MS, JB31485-21MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Benzo(a)pyrene, Chrysene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for Benzo(b)fluoranthene are outside control limits for sample OP32397-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.

Matrix SO **Batch ID:** OP32398

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) JB31485-1MS, JB31485-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix SO	**Batch ID:** MP20663

- All samples were digested 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) JB31881-13MS, JB31881-13MSD, JB31881-13SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Lead are outside control limits for sample MP20663-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix SO	**Batch ID:** MP20664

- All samples were digested 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) JB31485-12MS, JB31485-12MSD, JB31485-12SDL were used as the QC samples for metals.

Matrix SO	**Batch ID:** MP20668

- All samples were digested 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) MC19188-1SDL, MC19188-1MSD were used as the QC samples for metals.
- MS/MSD Recovery(s) for Lead are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Wet Chemistry By Method SM21 2540 B MOD.

Matrix SO	**Batch ID:** GN42107

- Sample(s) JB31881-16DUP were used as the QC samples for Solids, Percent.

Matrix SO	**Batch ID:** GN42108

- Sample(s) JB31485-1DUP were used as the QC samples for Solids, Percent.

Matrix SO	**Batch ID:** GN42118

- Sample(s) JB31887-1DUP were used as the QC samples for Solids, Percent.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(JB31485).

Summary of Hits

Job Number: JB31485
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/14/13 thru 03/15/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB31485-1	**MH201-1 (4.5-5.0)**					
Naphthalene [a]		81.8 J	510	13	ug/kg	SW846 8260B
Isopropylbenzene [a]		39.3 J	510	7.6	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		83.3 J	510	22	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		25.7 J	510	16	ug/kg	SW846 8260B
Lead [b]		7.3	1.1	0.18	mg/kg	SW846 6010C
JB31485-2	**MH201-2 (5.0-5.5)**					
Ethylbenzene		0.30 J	0.93	0.24	ug/kg	SW846 8260B
Xylene (total)		3.0	0.93	0.13	ug/kg	SW846 8260B
Naphthalene		0.89 J	4.6	0.11	ug/kg	SW846 8260B
Isopropylbenzene		0.61 J	4.6	0.069	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.20 J	4.6	0.19	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		2.5 J	4.6	0.15	ug/kg	SW846 8260B
Lead [b]		8.0	1.1	0.18	mg/kg	SW846 6010C
JB31485-3	**MH201-3 (3.0-3.5)**					
Naphthalene [a]		599	560	14	ug/kg	SW846 8260B
Isopropylbenzene [a]		197 J	560	8.3	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		270 J	560	23	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		66.9 J	560	18	ug/kg	SW846 8260B
Fluorene [b]		117 J	120	44	ug/kg	SW846 8270C
Phenanthrene [b]		211	120	37	ug/kg	SW846 8270C
Pyrene [b]		68.4 J	120	38	ug/kg	SW846 8270C
Lead [b]		6.5	1.1	0.19	mg/kg	SW846 6010C
JB31485-4	**MH201-4 (3.0-3.5)**					
Isopropylbenzene		114 J	650	9.7	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		36.6 J	650	21	ug/kg	SW846 8260B
Fluorene [b]		576	130	44	ug/kg	SW846 8270C
Phenanthrene [b]		325	130	38	ug/kg	SW846 8270C
Pyrene [b]		193	130	38	ug/kg	SW846 8270C
Lead [b]		7.3	1.1	0.19	mg/kg	SW846 6010C
JB31485-5	**MH201-5 (3.0-3.5)**					
Isopropylbenzene		0.20 J	5.0	0.075	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.53 J	5.0	0.21	ug/kg	SW846 8260B
Pyrene [b]		43.9 J	120	38	ug/kg	SW846 8270C
Lead [b]		7.7	1.1	0.19	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB31485
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/14/13 thru 03/15/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB31485-6	**MH201-6 (3.0-3.5)**					
Fluorene [b]		87.7 J	120	43	ug/kg	SW846 8270C
Pyrene [b]		82.7 J	120	37	ug/kg	SW846 8270C
Lead [b]		6.6	1.1	0.19	mg/kg	SW846 6010C
JB31485-7	**MH201-7 (3.0-3.5)**					
Isopropylbenzene		0.73 J	4.8	0.071	ug/kg	SW846 8260B
Lead [b]		6.4	1.0	0.18	mg/kg	SW846 6010C
JB31485-8	**MH201-8 (3.0-3.5)**					
Benzene		0.24 J	0.95	0.11	ug/kg	SW846 8260B
Ethylbenzene		0.69 J	0.95	0.25	ug/kg	SW846 8260B
Xylene (total)		1.2	0.95	0.13	ug/kg	SW846 8260B
Naphthalene		1.8 J	4.7	0.12	ug/kg	SW846 8260B
Isopropylbenzene		0.82 J	4.7	0.070	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		1.1 J	4.7	0.20	ug/kg	SW846 8260B
Lead [b]		9.5	1.1	0.18	mg/kg	SW846 6010C
JB31485-9	**MH201-9 (5.0-5.5)**					
Ethylbenzene		497	110	28	ug/kg	SW846 8260B
Xylene (total)		117	110	15	ug/kg	SW846 8260B
Naphthalene		12500	540	13	ug/kg	SW846 8260B
Isopropylbenzene		147 J	540	8.0	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		6990	540	23	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		1350	540	17	ug/kg	SW846 8260B
Fluorene [b]		2860	120	41	ug/kg	SW846 8270C
Phenanthrene [b]		5600	120	35	ug/kg	SW846 8270C
Pyrene [b]		211	120	36	ug/kg	SW846 8270C
Lead [b]		6.7	1.1	0.18	mg/kg	SW846 6010C
JB31485-10	**MH201-10 (0.25-0.50)**					
Ethylbenzene [a]		43.9 J	110	29	ug/kg	SW846 8260B
Xylene (total) [a]		447	110	15	ug/kg	SW846 8260B
Naphthalene [a]		1550	550	13	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		1210	550	23	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		747	550	17	ug/kg	SW846 8260B
Anthracene [b]		1190	590	200	ug/kg	SW846 8270C
Fluorene [b]		3850	590	210	ug/kg	SW846 8270C
Phenanthrene [b]		9660	590	180	ug/kg	SW846 8270C
Pyrene [b]		3220	590	180	ug/kg	SW846 8270C

Summary of Hits

Job Number: JB31485
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/14/13 thru 03/15/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead [b]		53.3	1.1	0.18	mg/kg	SW846 6010C
JB31485-11	**MH595-1 (5.0-5.5)**					
Fluorene [b]		127 J	130	45	ug/kg	SW846 8270C
Lead [b]		9.7	1.1	0.19	mg/kg	SW846 6010C
JB31485-12	**MH595-2 (5.0-5.5)**					
Isopropylbenzene		0.20 J	4.9	0.072	ug/kg	SW846 8260B
Lead [b]		10.0	1.2	0.20	mg/kg	SW846 6010C
JB31485-13	**MH595-3 (3.0-3.5)**					
Isopropylbenzene [a]		80.3 J	560	8.3	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		36.0 J	560	23	ug/kg	SW846 8260B
Benzo(a)anthracene [b]		56.0 J	130	48	ug/kg	SW846 8270C
Chrysene [b]		140	130	51	ug/kg	SW846 8270C
Fluorene [b]		375	130	44	ug/kg	SW846 8270C
Pyrene [b]		401	130	38	ug/kg	SW846 8270C
Lead [b]		42.9	1.1	0.19	mg/kg	SW846 6010C
JB31485-14	**MH595-4 (3.0-3.5)**					
Lead [b]		8.5	1.1	0.18	mg/kg	SW846 6010C
JB31485-15	**MH595-5 (3.0-3.5)**					
Lead [b]		7.9	1.1	0.19	mg/kg	SW846 6010C
JB31485-16	**MH595-6 (3.0-3.5)**					
Lead [b]		7.6	1.1	0.18	mg/kg	SW846 6010C
JB31485-17	**MH595-7 (3.0-3.5)**					
Isopropylbenzene [a]		1820	570	8.5	ug/kg	SW846 8260B
Benzo(a)anthracene [b]		244 J	600	230	ug/kg	SW846 8270C
Chrysene [b]		601	600	240	ug/kg	SW846 8270C
Fluorene [b]		1600	600	210	ug/kg	SW846 8270C
Phenanthrene [b]		3940	600	180	ug/kg	SW846 8270C
Pyrene [b]		1240	600	180	ug/kg	SW846 8270C
Lead [b]		9.8	1.1	0.18	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB31485
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/14/13 thru 03/15/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB31485-18	**MH595-8 (3.0-3.5)**					
Isopropylbenzene		48.0 J	590	8.7	ug/kg	SW846 8260B
Lead [b]		8.0	1.1	0.18	mg/kg	SW846 6010C
JB31485-19	**MH595-9 (5.0-5.5)**					
Benzene [a]		34.1 J	110	14	ug/kg	SW846 8260B
Toluene [a]		77.3 J	110	12	ug/kg	SW846 8260B
Isopropylbenzene [a]		231 J	570	8.5	ug/kg	SW846 8260B
Benzo(a)anthracene [b]		240	130	48	ug/kg	SW846 8270C
Chrysene [b]		241	130	51	ug/kg	SW846 8270C
Fluorene [b]		176	130	44	ug/kg	SW846 8270C
Phenanthrene [b]		849	130	38	ug/kg	SW846 8270C
Pyrene [b]		96.7 J	130	38	ug/kg	SW846 8270C
Lead [b]		8.7	1.1	0.19	mg/kg	SW846 6010C
JB31485-20	**MH595-10 (0.25-0.50)**					
Lead [b]		42.2	1.1	0.19	mg/kg	SW846 6010C
JB31485-21	**MH597-1 (2.0-2.5)**					
Anthracene [b]		183	120	41	ug/kg	SW846 8270C
Benzo(a)anthracene [b]		496	120	46	ug/kg	SW846 8270C
Benzo(a)pyrene [b]		410	120	28	ug/kg	SW846 8270C
Benzo(b)fluoranthene [b]		274	120	28	ug/kg	SW846 8270C
Benzo(g,h,i)perylene [b]		364	120	54	ug/kg	SW846 8270C
Chrysene [b]		650	120	48	ug/kg	SW846 8270C
Fluorene [b]		79.0 J	120	42	ug/kg	SW846 8270C
Phenanthrene [b]		634	120	36	ug/kg	SW846 8270C
Pyrene [b]		344	120	36	ug/kg	SW846 8270C
Lead [b]		34.5	1.1	0.18	mg/kg	SW846 6010C
JB31485-22	**MH597-2 (2.0-2.5)**					
Anthracene [b]		82.2 J	120	42	ug/kg	SW846 8270C
Benzo(a)anthracene [b]		503	120	48	ug/kg	SW846 8270C
Benzo(a)pyrene [b]		441	120	29	ug/kg	SW846 8270C
Benzo(b)fluoranthene [b]		273	120	29	ug/kg	SW846 8270C
Benzo(g,h,i)perylene [b]		1040	120	56	ug/kg	SW846 8270C
Chrysene [b]		491	120	50	ug/kg	SW846 8270C
Fluorene [b]		80.1 J	120	43	ug/kg	SW846 8270C
Phenanthrene [b]		371	120	37	ug/kg	SW846 8270C
Pyrene [b]		165	120	38	ug/kg	SW846 8270C

Summary of Hits

Job Number: JB31485
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/14/13 thru 03/15/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead [b]		103	1.2	0.20	mg/kg	SW846 6010C
JB31485-23	**MH597-3 (5.0-5.5)**					
Isopropylbenzene		0.61 J	6.1	0.090	ug/kg	SW846 8260B
Methyl Tert Butyl Ether		0.41 J	1.2	0.29	ug/kg	SW846 8260B
Lead [b]		11.9	1.1	0.18	mg/kg	SW846 6010C
JB31485-24	**MH597-4 (3.0-3.5)**					
Isopropylbenzene		0.21 J	4.5	0.067	ug/kg	SW846 8260B
Phenanthrene [b]		61.5 J	110	34	ug/kg	SW846 8270C
Lead [b]		7.9	1.0	0.18	mg/kg	SW846 6010C
JB31485-25	**MH597-5 (3.0-3.5)**					
Isopropylbenzene [a]		113 J	510	7.5	ug/kg	SW846 8260B
Fluorene [b]		227	120	41	ug/kg	SW846 8270C
Phenanthrene [b]		631	120	35	ug/kg	SW846 8270C
Pyrene [b]		88.4 J	120	35	ug/kg	SW846 8270C
Lead [b]		8.5	1.0	0.17	mg/kg	SW846 6010C
JB31485-26	**MH597-6 (3.0-3.5)**					
Isopropylbenzene [a]		27.8 J	510	7.6	ug/kg	SW846 8260B
Benzo(a)anthracene [b]		274	120	45	ug/kg	SW846 8270C
Chrysene [b]		121	120	47	ug/kg	SW846 8270C
Pyrene [b]		70.5 J	120	35	ug/kg	SW846 8270C
Lead [b]		8.7	1.1	0.18	mg/kg	SW846 6010C
JB31485-27	**MH597-7 (3.0-3.5)**					
Isopropylbenzene [a]		424 J	520	7.7	ug/kg	SW846 8260B
Phenanthrene [b]		194	120	36	ug/kg	SW846 8270C
Lead [b]		9.1	1.2	0.20	mg/kg	SW846 6010C
JB31485-28	**MH597-8 (3.0-3.5)**					
Naphthalene [a]		452 J	630	15	ug/kg	SW846 8260B
Isopropylbenzene [a]		4400	630	9.3	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		103 J	630	26	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		66.4 J	630	20	ug/kg	SW846 8260B
Benzo(a)anthracene [b]		276	120	44	ug/kg	SW846 8270C
Chrysene [b]		164	120	47	ug/kg	SW846 8270C
Phenanthrene [b]		310	120	35	ug/kg	SW846 8270C

Summary of Hits

Job Number: JB31485
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/14/13 thru 03/15/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead [b]		11.1	1.1	0.19	mg/kg	SW846 6010C
JB31485-29	**MH597-9 (3.0-3.5)**					
Isopropylbenzene		1.3 J	5.0	0.075	ug/kg	SW846 8260B
Phenanthrene [b]		84.0 J	120	37	ug/kg	SW846 8270C
Lead [b]		15.4	1.1	0.19	mg/kg	SW846 6010C
JB31485-30	**MH597-10 (0.25-0.50)**					
Lead [b]		13.8	1.1	0.19	mg/kg	SW846 6010C

(a) Dilution required due to matrix interference.
(b) Analysis performed at Accutest Laboratories, Marlborough, MA.

Sample Results

Report of Analysis

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH201-1 (4.5-5.0)		
Lab Sample ID:	JB31485-1	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201267.D	1	03/24/13 01:47	OTR	n/a	n/a	VE8849
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.4 g	10.0 ml	100 ul
Run #2			

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	100	12	ug/kg	
108-88-3	Toluene	ND	100	11	ug/kg	
100-41-4	Ethylbenzene	ND	100	27	ug/kg	
1330-20-7	Xylene (total)	ND	100	14	ug/kg	
91-20-3	Naphthalene	81.8	510	13	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	100	13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
98-82-8	Isopropylbenzene	39.3	510	7.6	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	100	24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	83.3	510	22	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	25.7	510	16	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	95%		81-127%
460-00-4	4-Bromofluorobenzene	90%		66-132%

(a) Dilution required due to matrix interference.

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH201-1 (4.5-5.0)		
Lab Sample ID:	JB31485-1	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13167.D	1	03/28/13 10:43	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	40	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	45	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	53	ug/kg	
218-01-9	Chrysene	ND	120	48	ug/kg	
86-73-7	Fluorene	ND	120	41	ug/kg	
85-01-8	Phenanthrene	ND	120	35	ug/kg	
129-00-0	Pyrene	ND	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH201-1 (4.5-5.0)		
Lab Sample ID:	JB31485-1	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	83.8
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	7.3	1.1	0.18	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-2 (5.0-5.5)		
Lab Sample ID:	JB31485-2	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	83.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193088.D	1	03/27/13 19:38	OTR	n/a	n/a	VA7275
Run #2							

	Initial Weight
Run #1	6.5 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.93	0.11	ug/kg	
108-88-3	Toluene	ND	0.93	0.097	ug/kg	
100-41-4	Ethylbenzene	0.30	0.93	0.24	ug/kg	J
1330-20-7	Xylene (total)	3.0	0.93	0.13	ug/kg	
91-20-3	Naphthalene	0.89	4.6	0.11	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	0.93	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.93	0.12	ug/kg	
98-82-8	Isopropylbenzene	0.61	4.6	0.069	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.93	0.22	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.20	4.6	0.19	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	2.5	4.6	0.15	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
17060-07-0	1,2-Dichloroethane-D4	92%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	100%		66-132%

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

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Report of Analysis

Client Sample ID:	MH201-2 (5.0-5.5)		
Lab Sample ID:	JB31485-2	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	83.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13168.D	1	03/28/13 11:06	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	41	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	46	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	54	ug/kg	
218-01-9	Chrysene	ND	120	48	ug/kg	
86-73-7	Fluorene	ND	120	42	ug/kg	
85-01-8	Phenanthrene	ND	120	36	ug/kg	
129-00-0	Pyrene	ND	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	76%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH201-2 (5.0-5.5)		
Lab Sample ID:	JB31485-2	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	83.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	8.0	1.1	0.18	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-3 (3.0-3.5)		
Lab Sample ID:	JB31485-3	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	80.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201268.D	1	03/24/13 02:17	OTR	n/a	n/a	VE8849
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	13	ug/kg	
108-88-3	Toluene	ND	110	12	ug/kg	
100-41-4	Ethylbenzene	ND	110	29	ug/kg	
1330-20-7	Xylene (total)	ND	110	15	ug/kg	
91-20-3	Naphthalene	599	560	14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	197	560	8.3	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	110	26	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	270	560	23	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	66.9	560	18	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	94%		81-127%
460-00-4	4-Bromofluorobenzene	91%		66-132%

(a) Dilution required due to matrix interference.

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

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Report of Analysis

Client Sample ID:	MH201-3 (3.0-3.5)		
Lab Sample ID:	JB31485-3	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	80.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13169.D	1	03/28/13 11:28	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	48	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	56	ug/kg	
218-01-9	Chrysene	ND	120	50	ug/kg	
86-73-7	Fluorene	117	120	44	ug/kg	J
85-01-8	Phenanthrene	211	120	37	ug/kg	
129-00-0	Pyrene	68.4	120	38	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH201-3 (3.0-3.5)		
Lab Sample ID:	JB31485-3	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	80.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	6.5	1.1	0.19	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-4 (3.0-3.5)		
Lab Sample ID:	JB31485-4	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	77.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E201269.D	1	03/24/13 02:46	OTR	n/a	n/a	VE8849
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	130	15	ug/kg	
108-88-3	Toluene	ND	130	14	ug/kg	
100-41-4	Ethylbenzene	ND	130	34	ug/kg	
1330-20-7	Xylene (total)	ND	130	18	ug/kg	
91-20-3	Naphthalene	ND	650	16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	130	17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	130	18	ug/kg	
98-82-8	Isopropylbenzene	114	650	9.7	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	130	31	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	650	27	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	36.6	650	21	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	93%		81-127%
460-00-4	4-Bromofluorobenzene	87%		66-132%

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

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Report of Analysis

Client Sample ID:	MH201-4 (3.0-3.5)		
Lab Sample ID:	JB31485-4	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	77.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13170.D	1	03/28/13 11:51	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	130	43	ug/kg	
56-55-3	Benzo(a)anthracene	ND	130	49	ug/kg	
50-32-8	Benzo(a)pyrene	ND	130	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	130	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	130	57	ug/kg	
218-01-9	Chrysene	ND	130	51	ug/kg	
86-73-7	Fluorene	576	130	44	ug/kg	
85-01-8	Phenanthrene	325	130	38	ug/kg	
129-00-0	Pyrene	193	130	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH201-4 (3.0-3.5)		
Lab Sample ID:	JB31485-4	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	77.3
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	7.3	1.1	0.19	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-5 (3.0-3.5)		
Lab Sample ID:	JB31485-5	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	80.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193087.D	1	03/27/13 19:08	OTR	n/a	n/a	VA7275
Run #2							

	Initial Weight
Run #1	6.2 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
98-82-8	Isopropylbenzene	0.20	5.0	0.075	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.53	5.0	0.21	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
17060-07-0	1,2-Dichloroethane-D4	91%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	105%		66-132%

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

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Report of Analysis

Client Sample ID:	MH201-5 (3.0-3.5)		
Lab Sample ID:	JB31485-5	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	80.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13171.D	1	03/28/13 12:13	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	48	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	56	ug/kg	
218-01-9	Chrysene	ND	120	50	ug/kg	
86-73-7	Fluorene	ND	120	44	ug/kg	
85-01-8	Phenanthrene	ND	120	37	ug/kg	
129-00-0	Pyrene	43.9	120	38	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	76%		30-130%
1718-51-0	Terphenyl-d14	76%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH201-5 (3.0-3.5)		
Lab Sample ID:	JB31485-5	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	80.0
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	7.7	1.1	0.19	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-6 (3.0-3.5)		
Lab Sample ID:	JB31485-6	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	80.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E201270.D	1	03/24/13 03:17	OTR	n/a	n/a	VE8849
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	13	ug/kg	
108-88-3	Toluene	ND	110	11	ug/kg	
100-41-4	Ethylbenzene	ND	110	28	ug/kg	
1330-20-7	Xylene (total)	ND	110	15	ug/kg	
91-20-3	Naphthalene	ND	540	13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	ND	540	8.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	25	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	540	23	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	540	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	94%		81-127%
460-00-4	4-Bromofluorobenzene	88%		66-132%

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

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Report of Analysis

Client Sample ID:	MH201-6 (3.0-3.5)		
Lab Sample ID:	JB31485-6	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	80.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13172.D	1	03/28/13 12:36	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	47	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	55	ug/kg	
218-01-9	Chrysene	ND	120	49	ug/kg	
86-73-7	Fluorene	87.7	120	43	ug/kg	J
85-01-8	Phenanthrene	ND	120	37	ug/kg	
129-00-0	Pyrene	82.7	120	37	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	68%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH201-6 (3.0-3.5)		
Lab Sample ID:	JB31485-6	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	80.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	6.6	1.1	0.19	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-7 (3.0-3.5)		
Lab Sample ID:	JB31485-7	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	84.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193086.D	1	03/27/13 18:39	OTR	n/a	n/a	VA7275
Run #2							

	Initial Weight
Run #1	6.2 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.96	0.11	ug/kg	
108-88-3	Toluene	ND	0.96	0.10	ug/kg	
100-41-4	Ethylbenzene	ND	0.96	0.25	ug/kg	
1330-20-7	Xylene (total)	ND	0.96	0.13	ug/kg	
91-20-3	Naphthalene	ND	4.8	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.96	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.96	0.13	ug/kg	
98-82-8	Isopropylbenzene	0.73	4.8	0.071	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.96	0.23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.8	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.8	0.15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
17060-07-0	1,2-Dichloroethane-D4	93%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	105%		66-132%

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

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Report of Analysis

Client Sample ID:	MH201-7 (3.0-3.5)		
Lab Sample ID:	JB31485-7	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	84.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13173.D	1	03/28/13 12:58	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	40	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	45	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	53	ug/kg	
218-01-9	Chrysene	ND	120	47	ug/kg	
86-73-7	Fluorene	ND	120	41	ug/kg	
85-01-8	Phenanthrene	ND	120	35	ug/kg	
129-00-0	Pyrene	ND	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	78%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH201-7 (3.0-3.5)		
Lab Sample ID:	JB31485-7	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	84.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	6.4	1.0	0.18	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-8 (3.0-3.5)		
Lab Sample ID:	JB31485-8	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	81.2
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193058.D	1	03/27/13 03:33	OTR	n/a	n/a	VA7274
Run #2							

	Initial Weight
Run #1	6.5 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.24	0.95	0.11	ug/kg	J
108-88-3	Toluene	ND	0.95	0.099	ug/kg	
100-41-4	Ethylbenzene	0.69	0.95	0.25	ug/kg	J
1330-20-7	Xylene (total)	1.2	0.95	0.13	ug/kg	
91-20-3	Naphthalene	1.8	4.7	0.12	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	0.95	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.95	0.13	ug/kg	
98-82-8	Isopropylbenzene	0.82	4.7	0.070	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.95	0.22	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	1.1	4.7	0.20	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	4.7	0.15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
17060-07-0	1,2-Dichloroethane-D4	0%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	106%		66-132%

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

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Report of Analysis

Client Sample ID:	MH201-8 (3.0-3.5)		
Lab Sample ID:	JB31485-8	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	81.2
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13174.D	1	03/28/13 13:21	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	47	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	55	ug/kg	
218-01-9	Chrysene	ND	120	49	ug/kg	
86-73-7	Fluorene	ND	120	43	ug/kg	
85-01-8	Phenanthrene	ND	120	37	ug/kg	
129-00-0	Pyrene	ND	120	37	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH201-8 (3.0-3.5)		
Lab Sample ID:	JB31485-8	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	81.2
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	9.5	1.1	0.18	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-9 (5.0-5.5)		
Lab Sample ID:	JB31485-9	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	83.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E201272.D	1	03/24/13 04:17	OTR	n/a	n/a	VE8849
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	13	ug/kg	
108-88-3	Toluene	ND	110	11	ug/kg	
100-41-4	Ethylbenzene	497	110	28	ug/kg	
1330-20-7	Xylene (total)	117	110	15	ug/kg	
91-20-3	Naphthalene	12500	540	13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	147	540	8.0	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	110	25	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	6990	540	23	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	1350	540	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	94%		81-127%
460-00-4	4-Bromofluorobenzene	88%		66-132%

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

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

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Report of Analysis

Client Sample ID:	MH201-9 (5.0-5.5)		
Lab Sample ID:	JB31485-9	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	83.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13175.D	1	03/28/13 13:43	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	40	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	45	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	53	ug/kg	
218-01-9	Chrysene	ND	120	47	ug/kg	
86-73-7	Fluorene	2860	120	41	ug/kg	
85-01-8	Phenanthrene	5600	120	35	ug/kg	
129-00-0	Pyrene	211	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH201-9 (5.0-5.5)		
Lab Sample ID:	JB31485-9	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	83.5
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	6.7	1.1	0.18	mg/kg	1	03/25/13	03/25/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15382
(2) Prep QC Batch: M:MP20663

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH201-10 (0.25-0.50)		
Lab Sample ID:	JB31485-10	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201427.D	1	03/28/13 12:49	OTR	n/a	n/a	VE8856
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	13	ug/kg	
108-88-3	Toluene	ND	110	11	ug/kg	
100-41-4	Ethylbenzene	43.9	110	29	ug/kg	J
1330-20-7	Xylene (total)	447	110	15	ug/kg	
91-20-3	Naphthalene	1550	550	13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	ND	550	8.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	26	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	1210	550	23	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	747	550	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	84%		70-122%
2037-26-5	Toluene-D8	93%		81-127%
460-00-4	4-Bromofluorobenzene	86%		66-132%

(a) Dilution required due to matrix interference.

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

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Report of Analysis

Client Sample ID:	MH201-10 (0.25-0.50)		
Lab Sample ID:	JB31485-10	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13176.D	5	03/28/13 14:06	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	1190	590	200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	590	230	ug/kg	
50-32-8	Benzo(a)pyrene	ND	590	140	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	590	140	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	590	270	ug/kg	
218-01-9	Chrysene	ND	590	240	ug/kg	
86-73-7	Fluorene	3850	590	210	ug/kg	
85-01-8	Phenanthrene	9660	590	180	ug/kg	
129-00-0	Pyrene	3220	590	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	83%		30-130%
1718-51-0	Terphenyl-d14	77%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH201-10 (0.25-0.50)		
Lab Sample ID:	JB31485-10	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	53.3	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-1 (5.0-5.5)		
Lab Sample ID:	JB31485-11	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	77.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E201393.D	1	03/27/13 18:45	OTR	n/a	n/a	VE8854
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	130	15	ug/kg	
108-88-3	Toluene	ND	130	13	ug/kg	
100-41-4	Ethylbenzene	ND	130	33	ug/kg	
1330-20-7	Xylene (total)	ND	130	17	ug/kg	
91-20-3	Naphthalene	ND	630	15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	130	16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	130	17	ug/kg	
98-82-8	Isopropylbenzene	ND	630	9.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	130	29	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	630	26	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	630	20	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%
17060-07-0	1,2-Dichloroethane-D4	86%		70-122%
2037-26-5	Toluene-D8	89%		81-127%
460-00-4	4-Bromofluorobenzene	89%		66-132%

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

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Report of Analysis

Client Sample ID:	MH595-1 (5.0-5.5)		
Lab Sample ID:	JB31485-11	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	77.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13177.D	1	03/28/13 14:29	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	130	44	ug/kg	
56-55-3	Benzo(a)anthracene	ND	130	49	ug/kg	
50-32-8	Benzo(a)pyrene	ND	130	30	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	130	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	130	57	ug/kg	
218-01-9	Chrysene	ND	130	52	ug/kg	
86-73-7	Fluorene	127	130	45	ug/kg	J
85-01-8	Phenanthrene	ND	130	38	ug/kg	
129-00-0	Pyrene	ND	130	39	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	70%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH595-1 (5.0-5.5)		
Lab Sample ID:	JB31485-11	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	77.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	9.7	1.1	0.19	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-2 (5.0-5.5)		
Lab Sample ID:	JB31485-12	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	78.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193059.D	1	03/27/13 04:17	OTR	n/a	n/a	VA7274
Run #2							

	Initial Weight
Run #1	6.6 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.97	0.12	ug/kg	
108-88-3	Toluene	ND	0.97	0.10	ug/kg	
100-41-4	Ethylbenzene	ND	0.97	0.26	ug/kg	
1330-20-7	Xylene (total)	ND	0.97	0.13	ug/kg	
91-20-3	Naphthalene	ND	4.9	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.97	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.97	0.13	ug/kg	
98-82-8	Isopropylbenzene	0.20	4.9	0.072	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.97	0.23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.9	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.9	0.16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		70-130%
17060-07-0	1,2-Dichloroethane-D4	90%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	106%		66-132%

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

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Report of Analysis

Client Sample ID:	MH595-2 (5.0-5.5)		
Lab Sample ID:	JB31485-12	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	78.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13178.D	1	03/28/13 14:51	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	130	43	ug/kg	
56-55-3	Benzo(a)anthracene	ND	130	48	ug/kg	
50-32-8	Benzo(a)pyrene	ND	130	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	130	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	130	56	ug/kg	
218-01-9	Chrysene	ND	130	51	ug/kg	
86-73-7	Fluorene	ND	130	44	ug/kg	
85-01-8	Phenanthrene	ND	130	38	ug/kg	
129-00-0	Pyrene	ND	130	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	74%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH595-2 (5.0-5.5)		
Lab Sample ID:	JB31485-12	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	78.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	10.0	1.2	0.20	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-3 (3.0-3.5)		
Lab Sample ID:	JB31485-13	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	79.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201276.D	1	03/24/13 06:17	OTR	n/a	n/a	VE8849
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.4 g	10.0 ml	100 ul
Run #2			

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	13	ug/kg	
108-88-3	Toluene	ND	110	12	ug/kg	
100-41-4	Ethylbenzene	ND	110	30	ug/kg	
1330-20-7	Xylene (total)	ND	110	16	ug/kg	
91-20-3	Naphthalene	ND	560	14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	80.3	560	8.3	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	110	26	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	36.0	560	23	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	560	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	93%		81-127%
460-00-4	4-Bromofluorobenzene	90%		66-132%

(a) Dilution required due to matrix interference.

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

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Report of Analysis

Client Sample ID:	MH595-3 (3.0-3.5)		
Lab Sample ID:	JB31485-13	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	79.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13179.D	1	03/28/13 15:14	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	130	43	ug/kg	
56-55-3	Benzo(a)anthracene	56.0	130	48	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	130	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	130	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	130	56	ug/kg	
218-01-9	Chrysene	140	130	51	ug/kg	
86-73-7	Fluorene	375	130	44	ug/kg	
85-01-8	Phenanthrene	ND	130	38	ug/kg	
129-00-0	Pyrene	401	130	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	76%		30-130%
1718-51-0	Terphenyl-d14	74%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH595-3 (3.0-3.5)		
Lab Sample ID:	JB31485-13	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	79.0
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	42.9	1.1	0.19	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-4 (3.0-3.5)		
Lab Sample ID:	JB31485-14	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	80.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193084.D	1	03/27/13 17:40	OTR	n/a	n/a	VA7275
Run #2							

	Initial Weight
Run #1	6.3 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.99	0.12	ug/kg	
108-88-3	Toluene	ND	0.99	0.10	ug/kg	
100-41-4	Ethylbenzene	ND	0.99	0.26	ug/kg	
1330-20-7	Xylene (total)	ND	0.99	0.14	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.99	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.99	0.13	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.99	0.23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
17060-07-0	1,2-Dichloroethane-D4	97%		70-122%
2037-26-5	Toluene-D8	112%		81-127%
460-00-4	4-Bromofluorobenzene	119%		66-132%

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

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Report of Analysis

Client Sample ID:	MH595-4 (3.0-3.5)		
Lab Sample ID:	JB31485-14	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	80.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13180.D	1	03/28/13 15:36	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	48	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	56	ug/kg	
218-01-9	Chrysene	ND	120	50	ug/kg	
86-73-7	Fluorene	ND	120	44	ug/kg	
85-01-8	Phenanthrene	ND	120	37	ug/kg	
129-00-0	Pyrene	ND	120	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	78%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH595-4 (3.0-3.5)		
Lab Sample ID:	JB31485-14	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	80.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	8.5	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-5 (3.0-3.5)		
Lab Sample ID:	JB31485-15	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	81.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193085.D	1	03/27/13 18:09	OTR	n/a	n/a	VA7275
Run #2							

	Initial Weight
Run #1	5.7 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.1	0.13	ug/kg	
108-88-3	Toluene	ND	1.1	0.11	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.28	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.15	ug/kg	
91-20-3	Naphthalene	ND	5.4	0.13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.15	ug/kg	
98-82-8	Isopropylbenzene	ND	5.4	0.080	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.25	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.4	0.23	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.4	0.17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
17060-07-0	1,2-Dichloroethane-D4	92%		70-122%
2037-26-5	Toluene-D8	107%		81-127%
460-00-4	4-Bromofluorobenzene	117%		66-132%

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

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Report of Analysis

Client Sample ID:	MH595-5 (3.0-3.5)		
Lab Sample ID:	JB31485-15	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	81.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13181.D	1	03/28/13 15:59	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	47	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	55	ug/kg	
218-01-9	Chrysene	ND	120	49	ug/kg	
86-73-7	Fluorene	ND	120	43	ug/kg	
85-01-8	Phenanthrene	ND	120	37	ug/kg	
129-00-0	Pyrene	ND	120	37	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	79%		30-130%
1718-51-0	Terphenyl-d14	80%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH595-5 (3.0-3.5)		
Lab Sample ID:	JB31485-15	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	81.0
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	7.9	1.1	0.19	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-6 (3.0-3.5)		
Lab Sample ID:	JB31485-16	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	82.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3C96956.D	1	03/28/13 14:41	DFT	n/a	n/a	V3C4303
Run #2							

	Initial Weight
Run #1	6.1 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.99	0.12	ug/kg	
108-88-3	Toluene	ND	0.99	0.10	ug/kg	
100-41-4	Ethylbenzene	ND	0.99	0.26	ug/kg	
1330-20-7	Xylene (total)	ND	0.99	0.14	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.99	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.99	0.13	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.99	0.23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
17060-07-0	1,2-Dichloroethane-D4	93%		70-122%
2037-26-5	Toluene-D8	104%		81-127%
460-00-4	4-Bromofluorobenzene	106%		66-132%

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

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Report of Analysis

Client Sample ID:	MH595-6 (3.0-3.5)		
Lab Sample ID:	JB31485-16	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	82.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13182.D	1	03/28/13 16:22	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	40	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	45	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	53	ug/kg	
218-01-9	Chrysene	ND	120	48	ug/kg	
86-73-7	Fluorene	ND	120	41	ug/kg	
85-01-8	Phenanthrene	ND	120	35	ug/kg	
129-00-0	Pyrene	ND	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH595-6 (3.0-3.5)		
Lab Sample ID:	JB31485-16	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	82.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	7.6	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-7 (3.0-3.5)		
Lab Sample ID:	JB31485-17	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	81.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201417.D	1	03/28/13 06:43	OTR	n/a	n/a	VE8855
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	110	14	ug/kg	
108-88-3	Toluene	ND	110	12	ug/kg	
100-41-4	Ethylbenzene	ND	110	30	ug/kg	
1330-20-7	Xylene (total)	ND	110	16	ug/kg	
91-20-3	Naphthalene	ND	570	14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	15	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	1820	570	8.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	27	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	570	24	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	570	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	81%		70-122%
2037-26-5	Toluene-D8	107%		81-127%
460-00-4	4-Bromofluorobenzene	109%		66-132%

(a) Dilution required due to matrix interference.

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

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Report of Analysis

Client Sample ID:	MH595-7 (3.0-3.5)		
Lab Sample ID:	JB31485-17	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	81.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13183.D	5	03/28/13 16:44	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	600	210	ug/kg	
56-55-3	Benzo(a)anthracene	244	600	230	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	600	140	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	600	140	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	600	270	ug/kg	
218-01-9	Chrysene	601	600	240	ug/kg	
86-73-7	Fluorene	1600	600	210	ug/kg	
85-01-8	Phenanthrene	3940	600	180	ug/kg	
129-00-0	Pyrene	1240	600	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	86%		30-130%
1718-51-0	Terphenyl-d14	77%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH595-7 (3.0-3.5)		
Lab Sample ID:	JB31485-17	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	81.8
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	9.8	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-8 (3.0-3.5)		
Lab Sample ID:	JB31485-18	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	80.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E201278.D	1	03/24/13 07:17	OTR	n/a	n/a	VE8849
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	120	14	ug/kg	
108-88-3	Toluene	ND	120	12	ug/kg	
100-41-4	Ethylbenzene	ND	120	31	ug/kg	
1330-20-7	Xylene (total)	ND	120	16	ug/kg	
91-20-3	Naphthalene	ND	590	14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	120	15	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	16	ug/kg	
98-82-8	Isopropylbenzene	48.0	590	8.7	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	120	28	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	590	25	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	590	19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	84%		70-122%
2037-26-5	Toluene-D8	94%		81-127%
460-00-4	4-Bromofluorobenzene	95%		66-132%

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

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Report of Analysis

Client Sample ID:	MH595-8 (3.0-3.5)		
Lab Sample ID:	JB31485-18	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	80.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13184.D	1	03/28/13 17:07	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	47	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	54	ug/kg	
218-01-9	Chrysene	ND	120	49	ug/kg	
86-73-7	Fluorene	ND	120	43	ug/kg	
85-01-8	Phenanthrene	ND	120	36	ug/kg	
129-00-0	Pyrene	ND	120	37	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	74%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH595-8 (3.0-3.5)		
Lab Sample ID:	JB31485-18	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	80.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	8.0	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-9 (5.0-5.5)		
Lab Sample ID:	JB31485-19	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	78.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201418.D	1	03/28/13 07:13	OTR	n/a	n/a	VE8855
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	34.1	110	14	ug/kg	J
108-88-3	Toluene	77.3	110	12	ug/kg	J
100-41-4	Ethylbenzene	ND	110	30	ug/kg	
1330-20-7	Xylene (total)	ND	110	16	ug/kg	
91-20-3	Naphthalene	ND	570	14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	110	15	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	231	570	8.5	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	110	27	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	570	24	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	570	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%		70-130%
17060-07-0	1,2-Dichloroethane-D4	81%		70-122%
2037-26-5	Toluene-D8	98%		81-127%
460-00-4	4-Bromofluorobenzene	97%		66-132%

(a) Dilution required due to matrix interference.

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

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Report of Analysis

Client Sample ID:	MH595-9 (5.0-5.5)		
Lab Sample ID:	JB31485-19	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	78.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13185.D	1	03/28/13 17:29	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	130	43	ug/kg	
56-55-3	Benzo(a)anthracene	240	130	48	ug/kg	
50-32-8	Benzo(a)pyrene	ND	130	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	130	30	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	130	56	ug/kg	
218-01-9	Chrysene	241	130	51	ug/kg	
86-73-7	Fluorene	176	130	44	ug/kg	
85-01-8	Phenanthrene	849	130	38	ug/kg	
129-00-0	Pyrene	96.7	130	38	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH595-9 (5.0-5.5)		
Lab Sample ID:	JB31485-19	**Date Sampled:**	03/14/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	78.5
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	8.7	1.1	0.19	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH595-10 (0.25-0.50)		
Lab Sample ID:	JB31485-20	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	80.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I182800.D	1	03/29/13 13:02	SJM	n/a	n/a	VI7384
Run #2							

	Initial Weight
Run #1	5.5 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.1	0.13	ug/kg	
108-88-3	Toluene	ND	1.1	0.12	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.30	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.16	ug/kg	
91-20-3	Naphthalene	ND	5.6	0.14	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.15	ug/kg	
98-82-8	Isopropylbenzene	ND	5.6	0.084	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.27	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.6	0.24	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.6	0.18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		70-130%
17060-07-0	1,2-Dichloroethane-D4	99%		70-122%
2037-26-5	Toluene-D8	107%		81-127%
460-00-4	4-Bromofluorobenzene	115%		66-132%

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

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Report of Analysis

Client Sample ID:	MH595-10 (0.25-0.50)		
Lab Sample ID:	JB31485-20	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	80.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U13186.D	1	03/28/13 17:52	AMA	03/26/13	M:OP32398	M:MSU673
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	5.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	610	210	ug/kg	
56-55-3	Benzo(a)anthracene	ND	610	230	ug/kg	
50-32-8	Benzo(a)pyrene	ND	610	140	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	610	140	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	610	270	ug/kg	
218-01-9	Chrysene	ND	610	250	ug/kg	
86-73-7	Fluorene	ND	610	210	ug/kg	
85-01-8	Phenanthrene	ND	610	180	ug/kg	
129-00-0	Pyrene	ND	610	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	74%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH595-10 (0.25-0.50)		
Lab Sample ID:	JB31485-20	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	80.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	42.2	1.1	0.19	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH597-1 (2.0-2.5)		
Lab Sample ID:	JB31485-21	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	82.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193043.D	1	03/26/13 19:40	OTR	n/a	n/a	VA7273
Run #2							

	Initial Weight
Run #1	4.9 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.2	0.15	ug/kg	
108-88-3	Toluene	ND	1.2	0.13	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.32	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.17	ug/kg	
91-20-3	Naphthalene	ND	6.2	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.17	ug/kg	
98-82-8	Isopropylbenzene	ND	6.2	0.092	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.29	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	6.2	0.26	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.2	0.20	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
17060-07-0	1,2-Dichloroethane-D4	93%		70-122%
2037-26-5	Toluene-D8	106%		81-127%
460-00-4	4-Bromofluorobenzene	123%		66-132%

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

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Report of Analysis

Client Sample ID:	MH597-1 (2.0-2.5)		
Lab Sample ID:	JB31485-21	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	82.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10655.D	1	03/27/13 23:14	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	183	120	41	ug/kg	
56-55-3	Benzo(a)anthracene	496	120	46	ug/kg	
50-32-8	Benzo(a)pyrene	410	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	274	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	364	120	54	ug/kg	
218-01-9	Chrysene	650	120	48	ug/kg	
86-73-7	Fluorene	79.0	120	42	ug/kg	J
85-01-8	Phenanthrene	634	120	36	ug/kg	
129-00-0	Pyrene	344	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	79%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH597-1 (2.0-2.5)		
Lab Sample ID:	JB31485-21	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	82.8
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	34.5	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH597-2 (2.0-2.5)		
Lab Sample ID:	JB31485-22	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	78.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A192902.D	1	03/22/13 16:15	OTR	n/a	n/a	VA7267
Run #2							

	Initial Weight
Run #1	6.2 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	
91-20-3	Naphthalene	ND	5.1	0.13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
98-82-8	Isopropylbenzene	ND	5.1	0.076	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.1	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.1	0.16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
17060-07-0	1,2-Dichloroethane-D4	91%		70-122%
2037-26-5	Toluene-D8	106%		81-127%
460-00-4	4-Bromofluorobenzene	109%		66-132%

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

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Report of Analysis

Client Sample ID:	MH597-2 (2.0-2.5)		
Lab Sample ID:	JB31485-22	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	78.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10656.D	1	03/27/13 23:37	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	82.2	120	42	ug/kg	J
56-55-3	Benzo(a)anthracene	503	120	48	ug/kg	
50-32-8	Benzo(a)pyrene	441	120	29	ug/kg	
205-99-2	Benzo(b)fluoranthene	273	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1040	120	56	ug/kg	
218-01-9	Chrysene	491	120	50	ug/kg	
86-73-7	Fluorene	80.1	120	43	ug/kg	J
85-01-8	Phenanthrene	371	120	37	ug/kg	
129-00-0	Pyrene	165	120	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	39%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	60%		30-130%

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

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

Report of Analysis

Client Sample ID:	MH597-2 (2.0-2.5)		
Lab Sample ID:	JB31485-22	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	78.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	103	1.2	0.20	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH597-3 (5.0-5.5)		
Lab Sample ID:	JB31485-23	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	82.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A193177.D	1	03/29/13 19:17	OTR	n/a	n/a	VA7279
Run #2							

	Initial Weight
Run #1	5.0 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.2	0.14	ug/kg	
108-88-3	Toluene	ND	1.2	0.13	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.32	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.17	ug/kg	
91-20-3	Naphthalene	ND	6.1	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.15	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.16	ug/kg	
98-82-8	Isopropylbenzene	0.61	6.1	0.090	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	0.41	1.2	0.29	ug/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	6.1	0.25	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.1	0.19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		70-130%
17060-07-0	1,2-Dichloroethane-D4	98%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	103%		66-132%

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

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Report of Analysis

Client Sample ID:	MH597-3 (5.0-5.5)		
Lab Sample ID:	JB31485-23	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	82.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10657.D	1	03/28/13 00:01	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	41	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	46	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	54	ug/kg	
218-01-9	Chrysene	ND	120	48	ug/kg	
86-73-7	Fluorene	ND	120	42	ug/kg	
85-01-8	Phenanthrene	ND	120	36	ug/kg	
129-00-0	Pyrene	ND	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	73%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-3 (5.0-5.5)		
Lab Sample ID:	JB31485-23	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	82.3
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	11.9	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH597-4 (3.0-3.5)		
Lab Sample ID:	JB31485-24	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	87.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A192903.D	1	03/22/13 16:45	OTR	n/a	n/a	VA7267
Run #2							

	Initial Weight
Run #1	6.3 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.91	0.11	ug/kg	
108-88-3	Toluene	ND	0.91	0.095	ug/kg	
100-41-4	Ethylbenzene	ND	0.91	0.24	ug/kg	
1330-20-7	Xylene (total)	ND	0.91	0.13	ug/kg	
91-20-3	Naphthalene	ND	4.5	0.11	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.91	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.91	0.12	ug/kg	
98-82-8	Isopropylbenzene	0.21	4.5	0.067	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.91	0.21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.5	0.19	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.5	0.14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
17060-07-0	1,2-Dichloroethane-D4	92%		70-122%
2037-26-5	Toluene-D8	107%		81-127%
460-00-4	4-Bromofluorobenzene	103%		66-132%

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

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Report of Analysis

Client Sample ID:	MH597-4 (3.0-3.5)		
Lab Sample ID:	JB31485-24	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	87.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10658.D	1	03/28/13 00:24	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	110	39	ug/kg	
56-55-3	Benzo(a)anthracene	ND	110	43	ug/kg	
50-32-8	Benzo(a)pyrene	ND	110	26	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	110	27	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	110	51	ug/kg	
218-01-9	Chrysene	ND	110	46	ug/kg	
86-73-7	Fluorene	ND	110	40	ug/kg	
85-01-8	Phenanthrene	61.5	110	34	ug/kg	J
129-00-0	Pyrene	ND	110	34	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	82%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-4 (3.0-3.5)		
Lab Sample ID:	JB31485-24	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	87.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	7.9	1.0	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH597-5 (3.0-3.5)		
Lab Sample ID:	JB31485-25	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	85.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201230.D	1	03/23/13 06:27	OTR	n/a	n/a	VE8847
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	100	12	ug/kg	
108-88-3	Toluene	ND	100	11	ug/kg	
100-41-4	Ethylbenzene	ND	100	27	ug/kg	
1330-20-7	Xylene (total)	ND	100	14	ug/kg	
91-20-3	Naphthalene	ND	510	12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	100	13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
98-82-8	Isopropylbenzene	113	510	7.5	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	100	24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	510	21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	510	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	93%		81-127%
460-00-4	4-Bromofluorobenzene	99%		66-132%

(a) Dilution required due to matrix interference.

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

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Report of Analysis

Client Sample ID:	MH597-5 (3.0-3.5)		
Lab Sample ID:	JB31485-25	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	85.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10659.D	1	03/28/13 00:48	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	40	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	44	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	27	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	52	ug/kg	
218-01-9	Chrysene	ND	120	47	ug/kg	
86-73-7	Fluorene	227	120	41	ug/kg	
85-01-8	Phenanthrene	631	120	35	ug/kg	
129-00-0	Pyrene	88.4	120	35	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	74%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-5 (3.0-3.5)		
Lab Sample ID:	JB31485-25	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	85.5
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	8.5	1.0	0.17	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	MH597-6 (3.0-3.5)		
Lab Sample ID:	JB31485-26	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	83.2
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201231.D	1	03/23/13 06:57	OTR	n/a	n/a	VE8847
Run #2							

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	100	12	ug/kg	
108-88-3	Toluene	ND	100	11	ug/kg	
100-41-4	Ethylbenzene	ND	100	27	ug/kg	
1330-20-7	Xylene (total)	ND	100	14	ug/kg	
91-20-3	Naphthalene	ND	510	13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	100	13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
98-82-8	Isopropylbenzene	27.8	510	7.6	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	100	24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	510	21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	510	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
17060-07-0	1,2-Dichloroethane-D4	84%		70-122%
2037-26-5	Toluene-D8	94%		81-127%
460-00-4	4-Bromofluorobenzene	90%		66-132%

(a) Dilution required due to matrix interference.

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

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Report of Analysis

Client Sample ID:	MH597-6 (3.0-3.5)		
Lab Sample ID:	JB31485-26	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	83.2
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10660.D	1	03/28/13 01:11	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	40	ug/kg	
56-55-3	Benzo(a)anthracene	274	120	45	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	52	ug/kg	
218-01-9	Chrysene	121	120	47	ug/kg	
86-73-7	Fluorene	ND	120	41	ug/kg	
85-01-8	Phenanthrene	ND	120	35	ug/kg	
129-00-0	Pyrene	70.5	120	35	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	56%		30-130%
321-60-8	2-Fluorobiphenyl	58%		30-130%
1718-51-0	Terphenyl-d14	76%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-6 (3.0-3.5)		
Lab Sample ID:	JB31485-26	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	83.2
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	8.7	1.1	0.18	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-7 (3.0-3.5)		
Lab Sample ID:	JB31485-27	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	81.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201232.D	1	03/23/13 07:27	OTR	n/a	n/a	VE8847
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.6 g	10.0 ml	100 ul
Run #2			

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	100	12	ug/kg	
108-88-3	Toluene	ND	100	11	ug/kg	
100-41-4	Ethylbenzene	ND	100	27	ug/kg	
1330-20-7	Xylene (total)	ND	100	14	ug/kg	
91-20-3	Naphthalene	ND	520	13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	100	13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	14	ug/kg	
98-82-8	Isopropylbenzene	424	520	7.7	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	100	24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	520	22	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	520	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	92%		81-127%
460-00-4	4-Bromofluorobenzene	93%		66-132%

(a) Dilution required due to matrix interference.

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-7 (3.0-3.5)		
Lab Sample ID:	JB31485-27	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	81.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10661.D	1	03/28/13 01:35	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	41	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	45	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	53	ug/kg	
218-01-9	Chrysene	ND	120	48	ug/kg	
86-73-7	Fluorene	ND	120	42	ug/kg	
85-01-8	Phenanthrene	194	120	36	ug/kg	
129-00-0	Pyrene	ND	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	84%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-7 (3.0-3.5)		
Lab Sample ID:	JB31485-27	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	81.8
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	9.1	1.2	0.20	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-8 (3.0-3.5)		
Lab Sample ID:	JB31485-28	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	84.2
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E201460.D	1	03/29/13 05:53	OTR	n/a	n/a	VE8857
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	10.0 ml	100 ul
Run #2			

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	130	15	ug/kg	
108-88-3	Toluene	ND	130	13	ug/kg	
100-41-4	Ethylbenzene	ND	130	33	ug/kg	
1330-20-7	Xylene (total)	ND	130	17	ug/kg	
91-20-3	Naphthalene	452	630	15	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	130	16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	130	17	ug/kg	
98-82-8	Isopropylbenzene	4400	630	9.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	130	30	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	103	630	26	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	66.4	630	20	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	85%		70-122%
2037-26-5	Toluene-D8	102%		81-127%
460-00-4	4-Bromofluorobenzene	108%		66-132%

(a) Dilution required due to matrix interference.

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-8 (3.0-3.5)		
Lab Sample ID:	JB31485-28	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	84.2
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10662.D	1	03/28/13 01:58	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	40	ug/kg	
56-55-3	Benzo(a)anthracene	276	120	44	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	27	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	52	ug/kg	
218-01-9	Chrysene	164	120	47	ug/kg	
86-73-7	Fluorene	ND	120	41	ug/kg	
85-01-8	Phenanthrene	310	120	35	ug/kg	
129-00-0	Pyrene	ND	120	35	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	59%		30-130%
321-60-8	2-Fluorobiphenyl	64%		30-130%
1718-51-0	Terphenyl-d14	74%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-8 (3.0-3.5)		
Lab Sample ID:	JB31485-28	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	84.2
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	11.1	1.1	0.19	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-9 (3.0-3.5)		
Lab Sample ID:	JB31485-29	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	81.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A192999.D	1	03/25/13 18:14	OTR	n/a	n/a	VA7271
Run #2 [a]	E201459.D	1	03/29/13 05:22	OTR	n/a	n/a	VE8857

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.1 g		
Run #2	6.6 g	10.0 ml	100 ul

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
98-82-8	Isopropylbenzene	1.3	5.0	0.075	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	90%	85%	70-122%
2037-26-5	Toluene-D8	108%	94%	81-127%
460-00-4	4-Bromofluorobenzene	103%	89%	66-132%

(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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-9 (3.0-3.5)		
Lab Sample ID:	JB31485-29	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	81.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10663.D	1	03/28/13 02:22	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	42	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	47	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	29	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	55	ug/kg	
218-01-9	Chrysene	ND	120	49	ug/kg	
86-73-7	Fluorene	ND	120	43	ug/kg	
85-01-8	Phenanthrene	84.0	120	37	ug/kg	J
129-00-0	Pyrene	ND	120	37	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	78%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-9 (3.0-3.5)		
Lab Sample ID:	JB31485-29	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	81.5
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	15.4	1.1	0.19	mg/kg	1	03/25/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20664

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

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-10 (0.25-0.50)		
Lab Sample ID:	JB31485-30	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8260B	**Percent Solids:**	82.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A192905.D	1	03/22/13 17:50	OTR	n/a	n/a	VA7267
Run #2							

	Initial Weight
Run #1	6.3 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.97	0.12	ug/kg	
108-88-3	Toluene	ND	0.97	0.10	ug/kg	
100-41-4	Ethylbenzene	ND	0.97	0.25	ug/kg	
1330-20-7	Xylene (total)	ND	0.97	0.13	ug/kg	
91-20-3	Naphthalene	ND	4.8	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.97	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.97	0.13	ug/kg	
98-82-8	Isopropylbenzene	ND	4.8	0.072	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.97	0.23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.8	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.8	0.15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
17060-07-0	1,2-Dichloroethane-D4	89%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	107%		66-132%

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

SGS Accutest LabLink@974011 15:05 02-Oct-2017

Report of Analysis

Client Sample ID:	MH597-10 (0.25-0.50)		
Lab Sample ID:	JB31485-30	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
Method:	SW846 8270C SW846 3546	**Percent Solids:**	82.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	W10664.D	1	03/28/13 02:45	AMA	03/26/13	M:OP32397	M:MSW500
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	120	41	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	46	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	28	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	54	ug/kg	
218-01-9	Chrysene	ND	120	48	ug/kg	
86-73-7	Fluorene	ND	120	42	ug/kg	
85-01-8	Phenanthrene	ND	120	36	ug/kg	
129-00-0	Pyrene	ND	120	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

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

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

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

Report of Analysis

Client Sample ID:	MH597-10 (0.25-0.50)		
Lab Sample ID:	JB31485-30	**Date Sampled:**	03/15/13
Matrix:	SO - Soil	**Date Received:**	03/15/13
		Percent Solids:	82.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	13.8	1.1	0.19	mg/kg	1	03/26/13	03/27/13	AMA	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: M:MA15390
(2) Prep QC Batch: M:MP20668

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

RL = Reporting Limit
MDL = Method Detection Limit

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

SLL

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

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

Priority 18387137

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~~PED-EX Tracking #~~	Bottle Order Control #
Accutest Quote #	Accutest Job # JB31485

Client / Reporting Information

Company Name: Stantec
Street Address: 1060 Andrew Dr Ste 140
City State Zip: West Chester PA 19380
Project Contact: J. Menges
E-mail:
Phone #: 610-840-2500
Fax #: 610-840-2501
Sampler(s) Name(s): P. Miller, J. Corbett
Phone #:

Project Information

Project Name: Sunoco Marcus Hook
Street:
City State:
Project #: 213402270
Client Purchase Order #:
Project Manager: J. Menges

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

Requested Analysis (see TEST CODE sheet)

PA Short List Leaded & Unleaded Gasoline
No. 2, 4, 5, 6 Fuel Oil

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		PA Short List Leaded & Unleaded Gasoline	No. 2, 4, 5, 6 Fuel Oil	LAB USE ONLY
1	MH 201-1 (4.5-5.0)	2888 / 2943 2942	3.14.13	0930	PM/JC	SOIL	4					1	2	1			✓	✓	
2	MH 201-2 (5.0-5.5)	2897 / 3054 3055	3.14.13	1020	PM/JC	SOIL	4					1	2	1			✓	✓	
3	MH 201-3 (3.0-3.5)	2876 / 2946 2947	3.14.13	1050	PM/JC	SOIL	4					1	2	1			✓	✓	C33
4	MH 201-4 (3.0-3.5)	2903 / 2938 2939	3.14.13	1110	PM/JC	SOIL	4					1	2	1			✓	✓	1403
5	MH 201-5 (3.0-3.5)	2936 / 3016 3017	3.14.13	1140	PM/JC	SOIL	4					1	2	1			✓	✓	4008
6	MH 201-6 (3.0-3.5)	2894 / 2940 2941	3.14.13	1240	PM/JC	SOIL	4					1	2	1			✓	✓	4009
7	MH 201-7 (3.0-3.5)	2883 / 3010 3011	3.14.13	1300	PM/JC	SOIL	4					1	2	1			✓	✓	
8	MH 201-8 (3.0-3.5)	2886 / 3056 3057	3.14.13	1320	PM/JC	SOIL	4					1	2	1			✓	✓	
9	MH 201-9 (5.0-5.5)	2882 / 2944 2945	3.14.13	0850	PM/JC	SOIL	4					1	2	1			✓	✓	
10	MH 201-10 (0.25-0.50)	2877 / 3012 3013	3.14.13	1120	PM/JC	SOIL	4					1	2	1			✓	✓	
11	MH 595-1 (5.0-5.5)	2906 / 2998 2999	3.14.13	1455	PM/JC	SOIL	4					1	2	1			✓	✓	
12	MH 595-2 (5.0-5.5)	2871 / 3014 3015	3.14.13	1425	PM/JC	SOIL	4					1	2	1			✓	✓	

Turnaround Time (Business days)

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

D.I. slurry voc vials frozen storage
Date: 3/15/13 Time: 16:40 Initials: SZB

Field Kits Received

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	3-15-13 1440	1 D. Cuppa	2	3/15 16:40	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 [x] Cooler Temp. 1.0 °C 2.0°C

1B

JB31485: Chain of Custody
Page 1 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 #: JB31485

Client / Reporting Information

Company Name: Stantec
Street Address: 1060 Andrew Dr Ste. 140
City State Zip: West Chester PA 19380
Project Contact: Jen Menges | E-mail:
Phone #: 610-840-2500 | Fax #: 6108402501
Sampler(s) Name(s): Miller, J. Corbett | Phone #:

Project Information

Project Name: Sunoco-Marcus Hook
Street:
City State:
Project #: 21340220
Client Purchase Order #:
Project Manager: J. 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	PFAS Short List Leaded Gasoline	No. 3,4,5 & Fuel Oil										LAB USE ONLY
13	MH 595-3 (3.0-3.5)	2991/3038/3039	3.15.13	0920	PM/SC	Soil	4					1	2	1		✓	✓										
14	MH 595-4 (3.0-3.5)	2913/3036/3037	3.15.13	0905	PM/SC	Soil	4					1	2	1		✓	✓										
15	MH 595-5 (3.0-3.5)	2903/3048/3049	3.15.13	0850	PM/SC	Soil	4					1	2	1		✓	✓										
16	MH 595-6 (3.0-3.5)	2919/3046/3047	3.15.13	0830	PM/SC	Soil	4					1	2	1		✓	✓										
17	MH 595-7 (3.0-3.5)	2921/3034/3035	3.15.13	0810	PM/SC	Soil	4					1	2	1		✓	✓										
18	MH 595-8 (3.0-3.5)	2930/3006/3007	3.14.13	1540	PM/SC	Soil	4					1	2	1		✓	✓										
19	MH 595-9 (5.0-5.5)	2927/3012/3013	3.14.13	1520	PM/SC	Soil	4					1	2	1		✓	✓										
20	MH 595-10 (0.25-0.50)	2932/3016/3017	3.15.13	0954	PM/SC	Soil	4					1	2	1		✓	✓										
21	MH 597-1 (2.0-2.5)	2931/3042/3043	3.15.13	1030	PM/SC	Soil	4					1	2	1		✓	✓										
22	MH 597-2 (2.0-2.5)	2918/3018/3019	3.15.13	1045	PM/SC	Soil	4					1	2	1		✓	✓										
23	MH 597-3 (5.0-5.5)	2925/3044/3045	3.15.13	1120	PM/SC	Soil	4					1	2	1		✓	✓										
24	MH 597-4 (3.0-3.5)	2914/3058/3059	3.15.13	1230	PM/SC	Soil	4					1	2	1		✓	✓										

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] 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"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other REDI2

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	3.15.13 1440	1	2	3/15/13 1640	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.

CIA

5.1 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 #: JB31485

Client / Reporting Information

Company Name: Stantec
Street Address: 1060 Andrew Dr. Ste. 140
City / State / Zip: West Chester PA 19380
Project Contact: J. Menges
E-mail:
Phone #: 610-840-2500
Fax #: 610-840-2501
Sampler(s) Name(s): P. Miller, J. Corbett
Phone #:

Project Information

Project Name: Sunoco - Marcus Hook
Street:
City / State:
Project #: 213402270
Client Purchase Order #:
Project Manager: J. Menges

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

Requested Analysis (see TEST CODE sheet)

PA Short List Leaded & Unleaded Gasoline
No. 3, 4, 5 & Fuel Oil

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	PA Short List Leaded & Unleaded Gasoline	No. 3, 4, 5 & Fuel Oil	LAB USE ONLY
25	MH 597-5 (3.0-3.5)	2937/3040 3041	3.15.13	1250	PM/JC	SOIL	4					1	2	1		✓	✓	
26	MH597-6 (3.0-3.5)	2909/3060 3061	3.15.13	1305	PM/JC	SOIL	4					1	2	1		✓	✓	
27	MH 597-7 (3.0-3.5)	2975/3066 3067	3.15.13	1330	PM/JC	SOIL	4					1	2	1		✓	✓	
28	MH 597-8 (3.0-3.5)	2976/3064 3065	3.15.13	1343	PM/JC	SOIL	4					1	2	1		✓	✓	
29	MH 597-9 (3.0-3.5)	2970/3062 3063	3.15.13	1355	PM/JC	SOIL	4					1	2	1		✓	✓	
30	MH597-10 (0.25-0.50) *	2972/3020 3021	3.15.13	1310		SOIL	4					1	2	1				

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] 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"
- [ ] 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 Added 3/18

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	3.15.13 1440	1	2	3/15/13 1848	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.

1B

5.1 5

JB31485: Chain of Custody
Page 3 of 5

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB31485 **Client:** STANTEC **Project:** SUNOCO MARCUS HOOK

Date / Time Received: 3/15/2013 16:40 **Delivery Method:** Other Courier **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1/1); #2: (2/2); 0

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

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

Quality Control Preservation	Y	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	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

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

Sample Integrity - Instructions	Y	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 1. Sample -30 was added to the COC. Identical bottle ware received (300ml soil, 40ml MeOH, 2x40ml DI)

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

Sample Receipt Summary - Problem Resolution

Accutest Job Number: JB31485

CSR: Michelle **Response Date:** 3/19/2013

Response: -30, please add and run for %SOL,B8270PALO,PB,V8260PALGTMB,VMS+MTBE per Paul Miller

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-1 Collected: 14-MAR-13 09:30 By: PM Received: 15-MAR-13 By: TH MH201-1 (4.5-5.0)						
JB31485-1	SW846 8260B	24-MAR-13 01:47	OTR			V8260PALGTMB
JB31485-1	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-1	SW846 6010C	25-MAR-13 19:25	AMA	25-MAR-13	AMA	PB
JB31485-1	SW846 8270C	28-MAR-13 10:43	AMA	26-MAR-13	AMA	B8270PALO
JB31485-2 Collected: 14-MAR-13 10:20 By: PM Received: 15-MAR-13 By: TH MH201-2 (5.0-5.5)						
JB31485-2	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-2	SW846 6010C	25-MAR-13 19:30	AMA	25-MAR-13	AMA	PB
JB31485-2	SW846 8260B	27-MAR-13 19:38	OTR			V8260PALGTMB
JB31485-2	SW846 8270C	28-MAR-13 11:06	AMA	26-MAR-13	AMA	B8270PALO
JB31485-3 Collected: 14-MAR-13 10:50 By: PM Received: 15-MAR-13 By: TH MH201-3 (3.0-3.5)						
JB31485-3	SW846 8260B	24-MAR-13 02:17	OTR			V8260PALGTMB
JB31485-3	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-3	SW846 6010C	25-MAR-13 19:34	AMA	25-MAR-13	AMA	PB
JB31485-3	SW846 8270C	28-MAR-13 11:28	AMA	26-MAR-13	AMA	B8270PALO
JB31485-4 Collected: 14-MAR-13 11:10 By: PM Received: 15-MAR-13 By: TH MH201-4 (3.0-3.5)						
JB31485-4	SW846 8260B	24-MAR-13 02:46	OTR			V8260PALGTMB
JB31485-4	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-4	SW846 6010C	25-MAR-13 19:49	AMA	25-MAR-13	AMA	PB
JB31485-4	SW846 8270C	28-MAR-13 11:51	AMA	26-MAR-13	AMA	B8270PALO
JB31485-5 Collected: 14-MAR-13 11:40 By: PM Received: 15-MAR-13 By: TH MH201-5 (3.0-3.5)						
JB31485-5	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-5	SW846 6010C	25-MAR-13 19:54	AMA	25-MAR-13	AMA	PB
JB31485-5	SW846 8260B	27-MAR-13 19:08	OTR			V8260PALGTMB
JB31485-5	SW846 8270C	28-MAR-13 12:13	AMA	26-MAR-13	AMA	B8270PALO

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-6 Collected: 14-MAR-13 12:40 By: PM Received: 15-MAR-13 By: TH MH201-6 (3.0-3.5)						
JB31485-6	SW846 8260B	24-MAR-13 03:17	OTR			V8260PALGTMB
JB31485-6	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-6	SW846 6010C	25-MAR-13 19:58	AMA	25-MAR-13	AMA	PB
JB31485-6	SW846 8270C	28-MAR-13 12:36	AMA	26-MAR-13	AMA	B8270PALO
JB31485-7 Collected: 14-MAR-13 13:00 By: PM Received: 15-MAR-13 By: TH MH201-7 (3.0-3.5)						
JB31485-7	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-7	SW846 6010C	25-MAR-13 20:03	AMA	25-MAR-13	AMA	PB
JB31485-7	SW846 8260B	27-MAR-13 18:39	OTR			V8260PALGTMB
JB31485-7	SW846 8270C	28-MAR-13 12:58	AMA	26-MAR-13	AMA	B8270PALO
JB31485-8 Collected: 14-MAR-13 13:20 By: PM Received: 15-MAR-13 By: TH MH201-8 (3.0-3.5)						
JB31485-8	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-8	SW846 6010C	25-MAR-13 20:08	AMA	25-MAR-13	AMA	PB
JB31485-8	SW846 8260B	27-MAR-13 03:33	OTR			V8260PALGTMB
JB31485-8	SW846 8270C	28-MAR-13 13:21	AMA	26-MAR-13	AMA	B8270PALO
JB31485-9 Collected: 14-MAR-13 08:50 By: PM Received: 15-MAR-13 By: TH MH201-9 (5.0-5.5)						
JB31485-9	SW846 8260B	24-MAR-13 04:17	OTR			V8260PALGTMB
JB31485-9	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-9	SW846 6010C	25-MAR-13 20:13	AMA	25-MAR-13	AMA	PB
JB31485-9	SW846 8270C	28-MAR-13 13:43	AMA	26-MAR-13	AMA	B8270PALO
JB31485-10 Collected: 14-MAR-13 11:20 By: PM Received: 15-MAR-13 By: TH MH201-10 (0.25-0.50)						
JB31485-10	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-10	SW846 6010C	27-MAR-13 14:39	AMA	25-MAR-13	AMA	PB
JB31485-10	SW846 8260B	28-MAR-13 12:49	OTR			V8260PALGTMB
JB31485-10	SW846 8270C	28-MAR-13 14:06	AMA	26-MAR-13	AMA	B8270PALO

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-11 Collected: 14-MAR-13 14:55 By: PM			Received: 15-MAR-13 By: TH			
MH595-1 (5.0-5.5)						
JB31485-11	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-11	SW846 6010C	27-MAR-13 14:44	AMA	25-MAR-13	AMA	PB
JB31485-11	SW846 8260B	27-MAR-13 18:45	OTR			V8260PALGTMB
JB31485-11	SW846 8270C	28-MAR-13 14:29	AMA	26-MAR-13	AMA	B8270PALO
JB31485-12 Collected: 14-MAR-13 14:25 By: PM			Received: 15-MAR-13 By: TH			
MH595-2 (5.0-5.5)						
JB31485-12	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-12	SW846 8260B	27-MAR-13 04:17	OTR			V8260PALGTMB
JB31485-12	SW846 6010C	27-MAR-13 14:27	AMA	25-MAR-13	AMA	PB
JB31485-12	SW846 8270C	28-MAR-13 14:51	AMA	26-MAR-13	AMA	B8270PALO
JB31485-13 Collected: 15-MAR-13 09:20 By: PM			Received: 15-MAR-13 By: TH			
MH595-3 (3.0-3.5)						
JB31485-13	SW846 8260B	24-MAR-13 06:17	OTR			V8260PALGTMB
JB31485-13	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-13	SW846 6010C	27-MAR-13 14:59	AMA	25-MAR-13	AMA	PB
JB31485-13	SW846 8270C	28-MAR-13 15:14	AMA	26-MAR-13	AMA	B8270PALO
JB31485-14 Collected: 15-MAR-13 09:05 By: PM			Received: 15-MAR-13 By: TH			
MH595-4 (3.0-3.5)						
JB31485-14	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-14	SW846 6010C	27-MAR-13 15:04	AMA	25-MAR-13	AMA	PB
JB31485-14	SW846 8260B	27-MAR-13 17:40	OTR			V8260PALGTMB
JB31485-14	SW846 8270C	28-MAR-13 15:36	AMA	26-MAR-13	AMA	B8270PALO
JB31485-15 Collected: 15-MAR-13 08:50 By: PM			Received: 15-MAR-13 By: TH			
MH595-5 (3.0-3.5)						
JB31485-15	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-15	SW846 6010C	27-MAR-13 15:08	AMA	25-MAR-13	AMA	PB
JB31485-15	SW846 8260B	27-MAR-13 18:09	OTR			V8260PALGTMB
JB31485-15	SW846 8270C	28-MAR-13 15:59	AMA	26-MAR-13	AMA	B8270PALO

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-16 Collected: 15-MAR-13 08:30 By: PM			Received: 15-MAR-13 By: TH			
MH595-6 (3.0-3.5)						
JB31485-16	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-16	SW846 6010C	27-MAR-13 15:12	AMA	25-MAR-13	AMA	PB
JB31485-16	SW846 8260B	28-MAR-13 14:41	DFT			V8260PALGTMB
JB31485-16	SW846 8270C	28-MAR-13 16:22	AMA	26-MAR-13	AMA	B8270PALO
JB31485-17 Collected: 15-MAR-13 08:10 By: PM			Received: 15-MAR-13 By: TH			
MH595-7 (3.0-3.5)						
JB31485-17	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-17	SW846 6010C	27-MAR-13 15:17	AMA	25-MAR-13	AMA	PB
JB31485-17	SW846 8260B	28-MAR-13 06:43	OTR			V8260PALGTMB
JB31485-17	SW846 8270C	28-MAR-13 16:44	AMA	26-MAR-13	AMA	B8270PALO
JB31485-18 Collected: 14-MAR-13 15:40 By: PM			Received: 15-MAR-13 By: TH			
MH595-8 (3.0-3.5)						
JB31485-18	SW846 8260B	24-MAR-13 07:17	OTR			V8260PALGTMB
JB31485-18	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-18	SW846 6010C	27-MAR-13 15:21	AMA	25-MAR-13	AMA	PB
JB31485-18	SW846 8270C	28-MAR-13 17:07	AMA	26-MAR-13	AMA	B8270PALO
JB31485-19 Collected: 14-MAR-13 15:20 By: PM			Received: 15-MAR-13 By: TH			
MH595-9 (5.0-5.5)						
JB31485-19	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-19	SW846 6010C	27-MAR-13 15:25	AMA	25-MAR-13	AMA	PB
JB31485-19	SW846 8260B	28-MAR-13 07:13	OTR			V8260PALGTMB
JB31485-19	SW846 8270C	28-MAR-13 17:29	AMA	26-MAR-13	AMA	B8270PALO
JB31485-20 Collected: 15-MAR-13 09:54 By: PM			Received: 15-MAR-13 By: TH			
MH595-10 (0.25-0.50)						
JB31485-20	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-20	SW846 6010C	27-MAR-13 15:30	AMA	25-MAR-13	AMA	PB
JB31485-20	SW846 8270C	28-MAR-13 17:52	AMA	26-MAR-13	AMA	B8270PALO
JB31485-20	SW846 8260B	29-MAR-13 13:02	SJM			V8260PALGTMB

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-21 Collected: 15-MAR-13 10:30 By: PM Received: 15-MAR-13 By: TH MH597-1 (2.0-2.5)						
JB31485-21	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-21	SW846 8260B	26-MAR-13 19:40	OTR			V8260PALGTMB
JB31485-21	SW846 6010C	27-MAR-13 15:34	AMA	25-MAR-13	AMA	PB
JB31485-21	SW846 8270C	27-MAR-13 23:14	AMA	26-MAR-13	AMA	B8270PALO
JB31485-22 Collected: 15-MAR-13 10:45 By: PM Received: 15-MAR-13 By: TH MH597-2 (2.0-2.5)						
JB31485-22	SW846 8260B	22-MAR-13 16:15	OTR			V8260PALGTMB
JB31485-22	SM21 2540 B MOD.	25-MAR-13	AMA			%SOL
JB31485-22	SW846 6010C	27-MAR-13 15:38	AMA	25-MAR-13	AMA	PB
JB31485-22	SW846 8270C	27-MAR-13 23:37	AMA	26-MAR-13	AMA	B8270PALO
JB31485-23 Collected: 15-MAR-13 11:20 By: PM Received: 15-MAR-13 By: TH MH597-3 (5.0-5.5)						
JB31485-23	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-23	SW846 6010C	27-MAR-13 15:53	AMA	25-MAR-13	AMA	PB
JB31485-23	SW846 8270C	28-MAR-13 00:01	AMA	26-MAR-13	AMA	B8270PALO
JB31485-23	SW846 8260B	29-MAR-13 19:17	OTR			V8260PALGTMB
JB31485-24 Collected: 15-MAR-13 12:30 By: PM Received: 15-MAR-13 By: TH MH597-4 (3.0-3.5)						
JB31485-24	SW846 8260B	22-MAR-13 16:45	OTR			V8260PALGTMB
JB31485-24	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-24	SW846 6010C	27-MAR-13 15:57	AMA	25-MAR-13	AMA	PB
JB31485-24	SW846 8270C	28-MAR-13 00:24	AMA	26-MAR-13	AMA	B8270PALO
JB31485-25 Collected: 15-MAR-13 12:50 By: PM Received: 15-MAR-13 By: TH MH597-5 (3.0-3.5)						
JB31485-25	SW846 8260B	23-MAR-13 06:27	OTR			V8260PALGTMB
JB31485-25	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-25	SW846 6010C	27-MAR-13 16:02	AMA	25-MAR-13	AMA	PB
JB31485-25	SW846 8270C	28-MAR-13 00:48	AMA	26-MAR-13	AMA	B8270PALO

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-26 Collected: 15-MAR-13 13:05 By: PM Received: 15-MAR-13 By: TH MH597-6 (3.0-3.5)						
JB31485-26	SW846 8260B	23-MAR-13 06:57	OTR			V8260PALGTMB
JB31485-26	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-26	SW846 6010C	27-MAR-13 16:06	AMA	25-MAR-13	AMA	PB
JB31485-26	SW846 8270C	28-MAR-13 01:11	AMA	26-MAR-13	AMA	B8270PALO
JB31485-27 Collected: 15-MAR-13 13:30 By: PM Received: 15-MAR-13 By: TH MH597-7 (3.0-3.5)						
JB31485-27	SW846 8260B	23-MAR-13 07:27	OTR			V8260PALGTMB
JB31485-27	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-27	SW846 6010C	27-MAR-13 16:10	AMA	25-MAR-13	AMA	PB
JB31485-27	SW846 8270C	28-MAR-13 01:35	AMA	26-MAR-13	AMA	B8270PALO
JB31485-28 Collected: 15-MAR-13 13:43 By: PM Received: 15-MAR-13 By: TH MH597-8 (3.0-3.5)						
JB31485-28	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-28	SW846 6010C	27-MAR-13 16:15	AMA	25-MAR-13	AMA	PB
JB31485-28	SW846 8270C	28-MAR-13 01:58	AMA	26-MAR-13	AMA	B8270PALO
JB31485-28	SW846 8260B	29-MAR-13 05:53	OTR			V8260PALGTMB
JB31485-29 Collected: 15-MAR-13 13:55 By: PM Received: 15-MAR-13 By: TH MH597-9 (3.0-3.5)						
JB31485-29	SW846 8260B	25-MAR-13 18:14	OTR			V8260PALGTMB
JB31485-29	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-29	SW846 6010C	27-MAR-13 16:19	AMA	25-MAR-13	AMA	PB
JB31485-29	SW846 8270C	28-MAR-13 02:22	AMA	26-MAR-13	AMA	B8270PALO
JB31485-29	SW846 8260B	29-MAR-13 05:22	OTR			V8260PALGTMB
JB31485-30 Collected: 15-MAR-13 13:10 By: PM Received: 15-MAR-13 By: TH MH597-10 (0.25-0.50)						
JB31485-30	SW846 8260B	22-MAR-13 17:50	OTR			V8260PALGTMB
JB31485-30	SM21 2540 B MOD.	26-MAR-13	AMA			%SOL
JB31485-30	SW846 6010C	27-MAR-13 11:04	AMA	26-MAR-13	AMA	PB

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31485

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-30	SW846 8270C	28-MAR-13 02:45	AMA	26-MAR-13	AMA	B8270PALO

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-1.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-1.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-1.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-1.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-1.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-2.3	Secured Storage	Oksana Treglazova	03/27/13 14:55	Retrieve from Storage
JB31485-2.3	Oksana Treglazova	GCMSA	03/27/13 14:56	Load on Instrument
JB31485-2.3	GCMSA	Oksana Treglazova	03/28/13 10:42	Unload from Instrument
JB31485-2.3	Oksana Treglazova	Secured Storage	03/28/13 14:00	Return to Storage
JB31485-2.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-2.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-2.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument
JB31485-2.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-2.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-2.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-2.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-2.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-3.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-3.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-3.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-3.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-3.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-4.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-4.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-4.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-4.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-4.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-5.3	Secured Storage	Oksana Treglazova	03/27/13 14:55	Retrieve from Storage
JB31485-5.3	Oksana Treglazova	GCMSA	03/27/13 14:56	Load on Instrument
JB31485-5.3	GCMSA	Oksana Treglazova	03/28/13 10:42	Unload from Instrument
JB31485-5.3	Oksana Treglazova	Secured Storage	03/28/13 14:00	Return to Storage
JB31485-5.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-5.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-5.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-5.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-5.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-5.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-5.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-5.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-6.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-6.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-6.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-6.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-6.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-7.3	Secured Storage	Oksana Treglazova	03/27/13 14:55	Retrieve from Storage
JB31485-7.3	Oksana Treglazova	GCMSA	03/27/13 14:56	Load on Instrument
JB31485-7.3	GCMSA	Oksana Treglazova	03/28/13 10:42	Unload from Instrument
JB31485-7.3	Oksana Treglazova	Secured Storage	03/28/13 14:00	Return to Storage
JB31485-7.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-7.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-7.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument
JB31485-7.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-7.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-7.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-7.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-7.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-8.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-8.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-8.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-8.3	Secured Storage	Oksana Treglazova	03/26/13 15:07	Retrieve from Storage
JB31485-8.3	Oksana Treglazova	GCMSA	03/26/13 15:07	Load on Instrument
JB31485-8.3	GCMSA	Oksana Treglazova	03/27/13 09:39	Unload from Instrument
JB31485-8.3	Oksana Treglazova	Secured Storage	03/27/13 09:39	Return to Storage
JB31485-8.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-8.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-8.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-9.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-9.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-9.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-9.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-9.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-10.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-10.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-10.2	Secured Storage	Oksana Treglazova	03/27/13 16:19	Retrieve from Storage
JB31485-10.2	Oksana Treglazova	Secured Storage	03/27/13 16:19	Return to Storage
JB31485-10.2	Secured Storage	Oksana Treglazova	03/28/13 15:06	Retrieve from Storage
JB31485-10.2	Oksana Treglazova	Secured Storage	03/28/13 15:07	Return to Storage
JB31485-10.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-10.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-10.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-11.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-11.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-11.2	Secured Storage	Oksana Treglazova	03/27/13 16:19	Retrieve from Storage
JB31485-11.2	Oksana Treglazova	Secured Storage	03/27/13 16:19	Return to Storage
JB31485-11.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-11.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-11.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-12.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-12.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-12.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-12.3	Secured Storage	Oksana Treglazova	03/26/13 15:07	Retrieve from Storage
JB31485-12.3	Oksana Treglazova	GCMSA	03/26/13 15:07	Load on Instrument
JB31485-12.3	GCMSA	Oksana Treglazova	03/27/13 09:39	Unload from Instrument
JB31485-12.3	Oksana Treglazova	Secured Storage	03/27/13 09:39	Return to Storage
JB31485-12.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-12.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-12.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-13.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-13.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-13.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-14.3	Secured Storage	Oksana Treglazova	03/27/13 14:55	Retrieve from Storage
JB31485-14.3	Oksana Treglazova	GCMSA	03/27/13 14:56	Load on Instrument

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-14.3	GCMSA	Oksana Treglazova	03/28/13 10:42	Unload from Instrument
JB31485-14.3	Oksana Treglazova	Secured Storage	03/28/13 14:00	Return to Storage
JB31485-14.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-14.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-14.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument
JB31485-14.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-14.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-14.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-14.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-14.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-15.3	Secured Storage	Oksana Treglazova	03/27/13 14:55	Retrieve from Storage
JB31485-15.3	Oksana Treglazova	GCMSA	03/27/13 14:56	Load on Instrument
JB31485-15.3	GCMSA	Oksana Treglazova	03/28/13 10:42	Unload from Instrument
JB31485-15.3	Oksana Treglazova	Secured Storage	03/28/13 14:00	Return to Storage
JB31485-15.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-15.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-15.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument
JB31485-15.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-15.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-15.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-15.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-15.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-16.3	Secured Storage	Scott McGonigal	03/28/13 12:14	Retrieve from Storage
JB31485-16.3	Scott McGonigal	GCMS3C	03/28/13 12:14	Load on Instrument
JB31485-16.3	GCMS3C	Scott McGonigal	04/01/13 10:34	Unload from Instrument
JB31485-16.3	Scott McGonigal		04/01/13 10:35	Depleted
JB31485-16.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-16.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument
JB31485-16.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-16.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-16.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-16.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-16.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-17.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-17.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-17.2	Secured Storage	Oksana Treglazova	03/27/13 16:19	Retrieve from Storage
JB31485-17.2	Oksana Treglazova	Secured Storage	03/27/13 16:19	Return to Storage
JB31485-17.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-17.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-17.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-18.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-18.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-18.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-18.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-18.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-19.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-19.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-19.2	Secured Storage	Oksana Treglazova	03/27/13 16:19	Retrieve from Storage
JB31485-19.2	Oksana Treglazova	Secured Storage	03/27/13 16:19	Return to Storage
JB31485-19.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-19.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-19.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-20.1	Secured Storage	Dave Hunkele	03/29/13 10:57	Retrieve from Storage
JB31485-20.1	Dave Hunkele	Secured Staging Area	03/29/13 10:57	Return to Storage
JB31485-20.1	Secured Staging Area	Scott McGonigal	03/29/13 10:59	Retrieve from Storage
JB31485-20.1	Scott McGonigal	Secured Storage	03/29/13 12:55	Return to Storage
JB31485-20.1	Darnell Brown		07/08/13 15:27	Disposed
JB31485-20.3	Secured Storage	Scott McGonigal	03/28/13 12:14	Retrieve from Storage
JB31485-20.3	Scott McGonigal	GCMS3C	03/28/13 12:14	Load on Instrument
JB31485-20.3	GCMS3C	Scott McGonigal	04/01/13 10:34	Unload from Instrument
JB31485-20.3	Scott McGonigal		04/01/13 10:35	Depleted
JB31485-20.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-20.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument
JB31485-20.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-20.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-20.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-20.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-20.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-21.3	Secured Storage	Oksana Treglazova	03/26/13 15:07	Retrieve from Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-21.3	Oksana Treglazova	GCMSA	03/26/13 15:07	Load on Instrument
JB31485-21.3	GCMSA	Oksana Treglazova	03/27/13 09:39	Unload from Instrument
JB31485-21.3	Oksana Treglazova	Secured Storage	03/27/13 09:39	Return to Storage
JB31485-21.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-21.4	Secured Storage	Oksana Treglazova	03/22/13 14:00	Retrieve from Storage
JB31485-21.4	Oksana Treglazova	GCMSA	03/22/13 14:00	Load on Instrument
JB31485-21.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-21.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-21.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-21.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-21.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-22.4	Secured Storage	Oksana Treglazova	03/22/13 11:48	Retrieve from Storage
JB31485-22.4	Oksana Treglazova	GCMSA	03/22/13 11:48	Load on Instrument
JB31485-22.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-22.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-22.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-22.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-22.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-23.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-23.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-23.2	Secured Storage	Oksana Treglazova	03/28/13 15:06	Retrieve from Storage
JB31485-23.2	Oksana Treglazova	Secured Storage	03/28/13 15:07	Return to Storage
JB31485-23.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-23.3	Secured Storage	Ying Li	03/29/13 15:25	Retrieve from Storage
JB31485-23.3	Ying Li	GCMSA	03/29/13 15:25	Load on Instrument
JB31485-23.3	GCMSA	Oksana Treglazova	04/01/13 11:28	Unload from Instrument
JB31485-23.3	Oksana Treglazova	Secured Storage	04/01/13 11:28	Return to Storage
JB31485-23.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-23.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-23.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-24.3	Secured Storage	Oksana Treglazova	03/22/13 11:48	Retrieve from Storage
JB31485-24.3	Oksana Treglazova	GCMSA	03/22/13 11:48	Load on Instrument
JB31485-24.3	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-24.3	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-24.3	Darnell Brown		07/08/13 15:27	Disposed

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-24.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-24.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-25.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-25.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-25.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-25.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-25.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-26.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-26.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-26.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-26.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-26.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-27.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-27.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-27.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-27.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-27.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-28.2	Secured Storage	Oksana Treglazova	03/22/13 15:36	Retrieve from Storage
JB31485-28.2	Oksana Treglazova	Secured Storage	03/22/13 15:37	Return to Storage
JB31485-28.2	Secured Storage	Oksana Treglazova	03/28/13 15:06	Retrieve from Storage
JB31485-28.2	Oksana Treglazova	Secured Storage	03/28/13 15:07	Return to Storage
JB31485-28.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-28.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-28.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-29.2	Secured Storage	Oksana Treglazova	03/28/13 15:06	Retrieve from Storage
JB31485-29.2	Oksana Treglazova	Secured Storage	03/28/13 15:07	Return to Storage
JB31485-29.2	Darnell Brown		07/08/13 15:27	Disposed
JB31485-29.3	Secured Storage	Oksana Treglazova	03/25/13 14:34	Retrieve from Storage
JB31485-29.3	Oksana Treglazova	GCMSA	03/25/13 14:34	Load on Instrument
JB31485-29.3	GCMSA	Oksana Treglazova	03/26/13 12:24	Unload from Instrument
JB31485-29.3	Oksana Treglazova	Secured Storage	03/26/13 12:24	Return to Storage
JB31485-29.3	Darnell Brown		07/08/13 15:27	Disposed
JB31485-29.4	Secured Storage	Oksana Treglazova	03/22/13 11:48	Retrieve from Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-29.4	Oksana Treglazova	GCMSA	03/22/13 11:48	Load on Instrument
JB31485-29.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-29.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-29.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-29.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-29.5	Robert Lofrano		03/22/13 16:40	Subcontract
JB31485-30.4	Secured Storage	Oksana Treglazova	03/22/13 11:48	Retrieve from Storage
JB31485-30.4	Oksana Treglazova	GCMSA	03/22/13 11:48	Load on Instrument
JB31485-30.4	GCMSA	Oksana Treglazova	03/25/13 11:25	Unload from Instrument
JB31485-30.4	Oksana Treglazova	Secured Storage	03/25/13 11:25	Return to Storage
JB31485-30.4	Darnell Brown		07/08/13 15:27	Disposed
JB31485-30.5	Secured Storage	Robert Lofrano	03/22/13 11:26	Retrieve from Storage
JB31485-30.5	Robert Lofrano		03/22/13 16:40	Subcontract

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: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7267-MB	A192889.D	1	03/22/13	OTR	n/a	n/a	VA7267

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

JB31485-22, JB31485-24, JB31485-30

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
17060-07-0	1,2-Dichloroethane-D4	92%	70-122%
2037-26-5	Toluene-D8	104%	81-127%
460-00-4	4-Bromofluorobenzene	108%	66-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	16.98	8.3	ug/kg	J
	Total TIC, Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8847-MB	E201215.D	1	03/22/13	OTR	n/a	n/a	VE8847

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

JB31485-25, JB31485-26, JB31485-27

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	6.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	50	6.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.8	ug/kg	
100-41-4	Ethylbenzene	ND	50	13	ug/kg	
98-82-8	Isopropylbenzene	ND	250	3.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	12	ug/kg	
91-20-3	Naphthalene	ND	250	6.1	ug/kg	
108-88-3	Toluene	ND	50	5.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	8.0	ug/kg	
1330-20-7	Xylene (total)	ND	50	7.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	87%	70-122%
2037-26-5	Toluene-D8	96%	81-127%
460-00-4	4-Bromofluorobenzene	94%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8849-MB	E201262.D	1	03/23/13	OTR	n/a	n/a	VE8849

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

JB31485-1, JB31485-3, JB31485-4, JB31485-6, JB31485-9, JB31485-13, JB31485-18

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	6.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	50	6.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.8	ug/kg	
100-41-4	Ethylbenzene	ND	50	13	ug/kg	
98-82-8	Isopropylbenzene	ND	250	3.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	12	ug/kg	
91-20-3	Naphthalene	ND	250	6.1	ug/kg	
108-88-3	Toluene	ND	50	5.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	8.0	ug/kg	
1330-20-7	Xylene (total)	ND	50	7.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	86%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	90%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7271-MB	A192984.D	1	03/25/13	OTR	n/a	n/a	VA7271

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

JB31485-29

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	109%	70-130%
17060-07-0	1,2-Dichloroethane-D4	100%	70-122%
2037-26-5	Toluene-D8	107%	81-127%
460-00-4	4-Bromofluorobenzene	116%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7273-MB	A193028.D	1	03/26/13	OTR	n/a	n/a	VA7273

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

JB31485-21

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
17060-07-0	1,2-Dichloroethane-D4	92%	70-122%
2037-26-5	Toluene-D8	104%	81-127%
460-00-4	4-Bromofluorobenzene	110%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7274-MB	A193051.D	1	03/27/13	OTR	n/a	n/a	VA7274

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

JB31485-8, JB31485-12

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
17060-07-0	1,2-Dichloroethane-D4	96%	70-122%
2037-26-5	Toluene-D8	107%	81-127%
460-00-4	4-Bromofluorobenzene	114%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7275-MB	A193069.D	1	03/27/13	OTR	n/a	n/a	VA7275

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

JB31485-2, JB31485-5, JB31485-7, JB31485-14, JB31485-15

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
17060-07-0	1,2-Dichloroethane-D4	96%	70-122%
2037-26-5	Toluene-D8	103%	81-127%
460-00-4	4-Bromofluorobenzene	112%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8854-MB	E201376.D	1	03/27/13	OTR	n/a	n/a	VE8854

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

JB31485-11

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	6.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	50	6.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.8	ug/kg	
100-41-4	Ethylbenzene	ND	50	13	ug/kg	
98-82-8	Isopropylbenzene	ND	250	3.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	12	ug/kg	
91-20-3	Naphthalene	ND	250	6.1	ug/kg	
108-88-3	Toluene	ND	50	5.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	8.0	ug/kg	
1330-20-7	Xylene (total)	ND	50	7.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	85%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	92%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8855-MB	E201399.D	1	03/27/13	OTR	n/a	n/a	VE8855

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

JB31485-17, JB31485-19

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	6.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	50	6.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.8	ug/kg	
100-41-4	Ethylbenzene	ND	50	13	ug/kg	
98-82-8	Isopropylbenzene	ND	250	3.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	12	ug/kg	
91-20-3	Naphthalene	ND	250	6.1	ug/kg	
108-88-3	Toluene	ND	50	5.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	8.0	ug/kg	
1330-20-7	Xylene (total)	ND	50	7.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	85%	70-122%
2037-26-5	Toluene-D8	96%	81-127%
460-00-4	4-Bromofluorobenzene	93%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8856-MB	E201422.D	1	03/28/13	OTR	n/a	n/a	VE8856

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

JB31485-10

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	6.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	50	6.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.8	ug/kg	
100-41-4	Ethylbenzene	ND	50	13	ug/kg	
98-82-8	Isopropylbenzene	ND	250	3.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	12	ug/kg	
91-20-3	Naphthalene	ND	250	6.1	ug/kg	
108-88-3	Toluene	ND	50	5.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	8.0	ug/kg	
1330-20-7	Xylene (total)	ND	50	7.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	83%	70-122%
2037-26-5	Toluene-D8	92%	81-127%
460-00-4	4-Bromofluorobenzene	92%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C4303-MB1	3C96950.D	1	03/28/13	DFT	n/a	n/a	V3C4303

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

JB31485-16

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	70-122%
2037-26-5	Toluene-D8	103%	81-127%
460-00-4	4-Bromofluorobenzene	109%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8857-MB	E201448.D	1	03/28/13	OTR	n/a	n/a	VE8857

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

JB31485-28

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	6.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	50	6.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.8	ug/kg	
100-41-4	Ethylbenzene	ND	50	13	ug/kg	
98-82-8	Isopropylbenzene	ND	250	3.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	12	ug/kg	
91-20-3	Naphthalene	ND	250	6.1	ug/kg	
108-88-3	Toluene	ND	50	5.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	8.0	ug/kg	
1330-20-7	Xylene (total)	ND	50	7.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	86%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	90%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7279-MB	A193159.D	1	03/29/13	OTR	n/a	n/a	VA7279

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

JB31485-23

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
17060-07-0	1,2-Dichloroethane-D4	95%	70-122%
2037-26-5	Toluene-D8	108%	81-127%
460-00-4	4-Bromofluorobenzene	114%	66-132%

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

Method Blank Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7384-MB1	I182797.D	1	03/29/13	SJM	n/a	n/a	VI7384

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

JB31485-20

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	70-130%
17060-07-0	1,2-Dichloroethane-D4	109%	70-122%
2037-26-5	Toluene-D8	105%	81-127%
460-00-4	4-Bromofluorobenzene	117%	66-132%

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

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7267-BS	A192890.D	1	03/22/13	OTR	n/a	n/a	VA7267

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

JB31485-22, JB31485-24, JB31485-30

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	51.4	103	76-117
106-93-4	1,2-Dibromoethane	50	52.5	105	77-122
107-06-2	1,2-Dichloroethane	50	59.3	119	68-134
100-41-4	Ethylbenzene	50	48.7	97	74-119
98-82-8	Isopropylbenzene	50	47.1	94	71-119
1634-04-4	Methyl Tert Butyl Ether	100	109	109	72-124
91-20-3	Naphthalene	50	43.1	86	60-127
108-88-3	Toluene	50	50.9	102	77-121
95-63-6	1,2,4-Trimethylbenzene	50	47.4	95	72-118
108-67-8	1,3,5-Trimethylbenzene	50	47.6	95	69-118
1330-20-7	Xylene (total)	150	147	98	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	70-130%
17060-07-0	1,2-Dichloroethane-D4	103%	70-122%
2037-26-5	Toluene-D8	109%	81-127%
460-00-4	4-Bromofluorobenzene	98%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8847-BS	E201216.D	1	03/22/13	OTR	n/a	n/a	VE8847

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

JB31485-25, JB31485-26, JB31485-27

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2340	94	76-117
106-93-4	1,2-Dibromoethane	2500	2570	103	77-122
107-06-2	1,2-Dichloroethane	2500	2460	98	68-134
100-41-4	Ethylbenzene	2500	2310	92	74-119
98-82-8	Isopropylbenzene	2500	2340	94	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4350	87	72-124
91-20-3	Naphthalene	2500	2660	106	60-127
108-88-3	Toluene	2500	2510	100	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2310	92	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2240	90	69-118
1330-20-7	Xylene (total)	7500	7190	96	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	88%	70-130%
17060-07-0	1,2-Dichloroethane-D4	84%	70-122%
2037-26-5	Toluene-D8	97%	81-127%
460-00-4	4-Bromofluorobenzene	90%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8849-BS	E201263.D	1	03/23/13	OTR	n/a	n/a	VE8849

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

JB31485-1, JB31485-3, JB31485-4, JB31485-6, JB31485-9, JB31485-13, JB31485-18

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2140	86	76-117
106-93-4	1,2-Dibromoethane	2500	2340	94	77-122
107-06-2	1,2-Dichloroethane	2500	2200	88	68-134
100-41-4	Ethylbenzene	2500	2180	87	74-119
98-82-8	Isopropylbenzene	2500	2170	87	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4110	82	72-124
91-20-3	Naphthalene	2500	2600	104	60-127
108-88-3	Toluene	2500	2290	92	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2150	86	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2080	83	69-118
1330-20-7	Xylene (total)	7500	6750	90	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	88%	70-130%
17060-07-0	1,2-Dichloroethane-D4	86%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	90%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7271-BS	A192985.D	1	03/25/13	OTR	n/a	n/a	VA7271

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

JB31485-29

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	53.8	108	76-117
106-93-4	1,2-Dibromoethane	50	58.8	118	77-122
107-06-2	1,2-Dichloroethane	50	63.2	126	68-134
100-41-4	Ethylbenzene	50	55.3	111	74-119
98-82-8	Isopropylbenzene	50	55.9	112	71-119
1634-04-4	Methyl Tert Butyl Ether	100	111	111	72-124
91-20-3	Naphthalene	50	47.8	96	60-127
108-88-3	Toluene	50	54.8	110	77-121
95-63-6	1,2,4-Trimethylbenzene	50	56.4	113	72-118
108-67-8	1,3,5-Trimethylbenzene	50	55.4	111	69-118
1330-20-7	Xylene (total)	150	168	112	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	70-130%
17060-07-0	1,2-Dichloroethane-D4	96%	70-122%
2037-26-5	Toluene-D8	110%	81-127%
460-00-4	4-Bromofluorobenzene	101%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7273-BS	A193029.D	1	03/26/13	OTR	n/a	n/a	VA7273

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

JB31485-21

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	53.4	107	76-117
106-93-4	1,2-Dibromoethane	50	56.2	112	77-122
107-06-2	1,2-Dichloroethane	50	59.3	119	68-134
100-41-4	Ethylbenzene	50	52.7	105	74-119
98-82-8	Isopropylbenzene	50	54.3	109	71-119
1634-04-4	Methyl Tert Butyl Ether	100	105	105	72-124
91-20-3	Naphthalene	50	45.8	92	60-127
108-88-3	Toluene	50	53.2	106	77-121
95-63-6	1,2,4-Trimethylbenzene	50	53.7	107	72-118
108-67-8	1,3,5-Trimethylbenzene	50	54.5	109	69-118
1330-20-7	Xylene (total)	150	158	105	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
17060-07-0	1,2-Dichloroethane-D4	97%	70-122%
2037-26-5	Toluene-D8	109%	81-127%
460-00-4	4-Bromofluorobenzene	102%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7274-BS	A193052.D	1	03/27/13	OTR	n/a	n/a	VA7274

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

JB31485-8, JB31485-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	52.3	105	76-117
106-93-4	1,2-Dibromoethane	50	55.8	112	77-122
107-06-2	1,2-Dichloroethane	50	58.6	117	68-134
100-41-4	Ethylbenzene	50	51.7	103	74-119
98-82-8	Isopropylbenzene	50	51.0	102	71-119
1634-04-4	Methyl Tert Butyl Ether	100	106	106	72-124
91-20-3	Naphthalene	50	42.3	85	60-127
108-88-3	Toluene	50	53.3	107	77-121
95-63-6	1,2,4-Trimethylbenzene	50	50.3	101	72-118
108-67-8	1,3,5-Trimethylbenzene	50	50.6	101	69-118
1330-20-7	Xylene (total)	150	154	103	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
17060-07-0	1,2-Dichloroethane-D4	100%	70-122%
2037-26-5	Toluene-D8	112%	81-127%
460-00-4	4-Bromofluorobenzene	100%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7275-BS	A193070.D	1	03/27/13	OTR	n/a	n/a	VA7275

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

JB31485-2, JB31485-5, JB31485-7, JB31485-14, JB31485-15

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	50.9	102	76-117
106-93-4	1,2-Dibromoethane	50	57.0	114	77-122
107-06-2	1,2-Dichloroethane	50	57.9	116	68-134
100-41-4	Ethylbenzene	50	50.9	102	74-119
98-82-8	Isopropylbenzene	50	50.7	101	71-119
1634-04-4	Methyl Tert Butyl Ether	100	108	108	72-124
91-20-3	Naphthalene	50	44.5	89	60-127
108-88-3	Toluene	50	51.5	103	77-121
95-63-6	1,2,4-Trimethylbenzene	50	49.9	100	72-118
108-67-8	1,3,5-Trimethylbenzene	50	50.3	101	69-118
1330-20-7	Xylene (total)	150	155	103	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	70-130%
17060-07-0	1,2-Dichloroethane-D4	100%	70-122%
2037-26-5	Toluene-D8	110%	81-127%
460-00-4	4-Bromofluorobenzene	100%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8854-BS	E201377.D	1	03/27/13	OTR	n/a	n/a	VE8854

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

JB31485-11

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2210	88	76-117
106-93-4	1,2-Dibromoethane	2500	2400	96	77-122
107-06-2	1,2-Dichloroethane	2500	2230	89	68-134
100-41-4	Ethylbenzene	2500	2250	90	74-119
98-82-8	Isopropylbenzene	2500	2310	92	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4120	83	72-124
91-20-3	Naphthalene	2500	2550	102	60-127
108-88-3	Toluene	2500	2390	96	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2250	90	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2170	87	69-118
1330-20-7	Xylene (total)	7500	6940	93	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	88%	70-130%
17060-07-0	1,2-Dichloroethane-D4	85%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	91%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8855-BS	E201400.D	1	03/27/13	OTR	n/a	n/a	VE8855

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

JB31485-17, JB31485-19

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2130	85	76-117
106-93-4	1,2-Dibromoethane	2500	2390	96	77-122
107-06-2	1,2-Dichloroethane	2500	2220	89	68-134
100-41-4	Ethylbenzene	2500	2130	85	74-119
98-82-8	Isopropylbenzene	2500	2160	86	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4070	81	72-124
91-20-3	Naphthalene	2500	2510	100	60-127
108-88-3	Toluene	2500	2310	92	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2170	87	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2070	83	69-118
1330-20-7	Xylene (total)	7500	6690	89	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	87%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	89%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8856-BS	E201423.D	1	03/28/13	OTR	n/a	n/a	VE8856

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

JB31485-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2290	92	76-117
106-93-4	1,2-Dibromoethane	2500	2480	99	77-122
107-06-2	1,2-Dichloroethane	2500	2350	94	68-134
100-41-4	Ethylbenzene	2500	2310	92	74-119
98-82-8	Isopropylbenzene	2500	2350	94	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4130	82	72-124
91-20-3	Naphthalene	2500	2570	103	60-127
108-88-3	Toluene	2500	2450	98	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2320	93	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2250	90	69-118
1330-20-7	Xylene (total)	7500	7140	95	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	90%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	90%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3C4303-BS	3C96951.D	1	03/28/13	DFT	n/a	n/a	V3C4303

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

JB31485-16

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	56.8	114	76-117
106-93-4	1,2-Dibromoethane	50	59.2	118	77-122
107-06-2	1,2-Dichloroethane	50	58.9	118	68-134
100-41-4	Ethylbenzene	50	55.3	111	74-119
98-82-8	Isopropylbenzene	50	54.3	109	71-119
1634-04-4	Methyl Tert Butyl Ether	100	120	120	72-124
91-20-3	Naphthalene	50	62.9	126	60-127
108-88-3	Toluene	50	56.5	113	77-121
95-63-6	1,2,4-Trimethylbenzene	50	54.8	110	72-118
108-67-8	1,3,5-Trimethylbenzene	50	55.5	111	69-118
1330-20-7	Xylene (total)	150	166	111	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	70-130%
17060-07-0	1,2-Dichloroethane-D4	94%	70-122%
2037-26-5	Toluene-D8	104%	81-127%
460-00-4	4-Bromofluorobenzene	101%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8857-BS	E201449.D	1	03/29/13	OTR	n/a	n/a	VE8857

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

JB31485-28

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2150	86	76-117
106-93-4	1,2-Dibromoethane	2500	2410	96	77-122
107-06-2	1,2-Dichloroethane	2500	2270	91	68-134
100-41-4	Ethylbenzene	2500	2200	88	74-119
98-82-8	Isopropylbenzene	2500	2190	88	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4020	80	72-124
91-20-3	Naphthalene	2500	2560	102	60-127
108-88-3	Toluene	2500	2380	95	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2170	87	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2090	84	69-118
1330-20-7	Xylene (total)	7500	6820	91	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	87%	70-130%
17060-07-0	1,2-Dichloroethane-D4	83%	70-122%
2037-26-5	Toluene-D8	95%	81-127%
460-00-4	4-Bromofluorobenzene	87%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA7279-BS	A193160.D	1	03/29/13	OTR	n/a	n/a	VA7279

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

JB31485-23

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	54.9	110	76-117
106-93-4	1,2-Dibromoethane	50	55.1	110	77-122
107-06-2	1,2-Dichloroethane	50	62.4	125	68-134
100-41-4	Ethylbenzene	50	55.1	110	74-119
98-82-8	Isopropylbenzene	50	55.2	110	71-119
1634-04-4	Methyl Tert Butyl Ether	100	109	109	72-124
91-20-3	Naphthalene	50	42.7	85	60-127
108-88-3	Toluene	50	55.3	111	77-121
95-63-6	1,2,4-Trimethylbenzene	50	54.2	108	72-118
108-67-8	1,3,5-Trimethylbenzene	50	54.7	109	69-118
1330-20-7	Xylene (total)	150	165	110	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	70-130%
17060-07-0	1,2-Dichloroethane-D4	101%	70-122%
2037-26-5	Toluene-D8	111%	81-127%
460-00-4	4-Bromofluorobenzene	102%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7384-BS	I182798.D	1	03/29/13	SJM	n/a	n/a	VI7384

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

JB31485-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	44.9	90	76-117
106-93-4	1,2-Dibromoethane	50	44.8	90	77-122
107-06-2	1,2-Dichloroethane	50	56.2	112	68-134
100-41-4	Ethylbenzene	50	43.6	87	74-119
98-82-8	Isopropylbenzene	50	41.3	83	71-119
1634-04-4	Methyl Tert Butyl Ether	100	100	100	72-124
91-20-3	Naphthalene	50	42.2	84	60-127
108-88-3	Toluene	50	45.8	92	77-121
95-63-6	1,2,4-Trimethylbenzene	50	41.5	83	72-118
108-67-8	1,3,5-Trimethylbenzene	50	41.8	84	69-118
1330-20-7	Xylene (total)	150	131	87	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
17060-07-0	1,2-Dichloroethane-D4	116%	70-122%
2037-26-5	Toluene-D8	106%	81-127%
460-00-4	4-Bromofluorobenzene	111%	66-132%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32254-2MS	A192994.D	1	03/25/13	OTR	n/a	n/a	VA7271
JB32254-2	A192991.D	1	03/25/13	OTR	n/a	n/a	VA7271

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

JB31485-29

CAS No.	Compound	JB32254-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	2.0		42.5	39.7	89	44-130
106-93-4	1,2-Dibromoethane	ND		42.5	32.6	77	41-139
107-06-2	1,2-Dichloroethane	ND		42.5	35.2	83	43-139
100-41-4	Ethylbenzene	ND		42.5	34.1	80	29-137
98-82-8	Isopropylbenzene	ND		42.5	35.2	83	27-138
1634-04-4	Methyl Tert Butyl Ether	ND		42.5	32.1	75	51-128
91-20-3	Naphthalene	ND		42.5	25.6	60	10-152
108-88-3	Toluene	6.0		42.5	50.5	105	40-135
95-63-6	1,2,4-Trimethylbenzene	ND		42.5	32.8	77	17-142
108-67-8	1,3,5-Trimethylbenzene	ND		42.5	33.5	79	20-140
1330-20-7	Xylene (total)	ND		128	101	79	28-139

CAS No.	Surrogate Recoveries	MS	JB32254-2	Limits
1868-53-7	Dibromofluoromethane	87%	99%	70-130%
17060-07-0	1,2-Dichloroethane-D4	82%	89%	70-122%
2037-26-5	Toluene-D8	109%	105%	81-127%
460-00-4	4-Bromofluorobenzene	104%	107%	66-132%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32364-38MS	A193036.D	1	03/26/13	OTR	n/a	n/a	VA7273
JB32364-38	A193033.D	1	03/26/13	OTR	n/a	n/a	VA7273

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

JB31485-21

CAS No.	Compound	JB32364-38 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		56.4	55.9	99	44-130
106-93-4	1,2-Dibromoethane	ND		56.4	51.3	91	41-139
107-06-2	1,2-Dichloroethane	ND		56.4	54.0	96	43-139
100-41-4	Ethylbenzene	0.77	J	56.4	58.1	102	29-137
98-82-8	Isopropylbenzene	ND		56.4	59.8	106	27-138
1634-04-4	Methyl Tert Butyl Ether	ND		56.4	49.8	88	51-128
91-20-3	Naphthalene	ND		56.4	45.7	81	10-152
108-88-3	Toluene	ND		56.4	57.7	102	40-135
95-63-6	1,2,4-Trimethylbenzene	7.3		56.4	67.4	107	17-142
108-67-8	1,3,5-Trimethylbenzene	3.6	J	56.4	61.4	102	20-140
1330-20-7	Xylene (total)	2.5		169	175	102	28-139

CAS No.	Surrogate Recoveries	MS	JB32364-38	Limits
1868-53-7	Dibromofluoromethane	98%	102%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	91%	70-122%
2037-26-5	Toluene-D8	107%	106%	81-127%
460-00-4	4-Bromofluorobenzene	96%	103%	66-132%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32371-17MS	A193080.D	1	03/27/13	OTR	n/a	n/a	VA7275
JB32371-17	A193074.D	1	03/27/13	OTR	n/a	n/a	VA7275

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

JB31485-2, JB31485-5, JB31485-7, JB31485-14, JB31485-15

CAS No.	Compound	JB32371-17 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		54.7	48.2	88	44-130
106-93-4	1,2-Dibromoethane	ND		54.7	44.0	81	41-139
107-06-2	1,2-Dichloroethane	ND		54.7	47.6	87	43-139
100-41-4	Ethylbenzene	ND		54.7	51.5	94	29-137
98-82-8	Isopropylbenzene	ND		54.7	53.3	98	27-138
1634-04-4	Methyl Tert Butyl Ether	ND		54.7	40.2	74	51-128
91-20-3	Naphthalene	ND		54.7	33.2	61	10-152
108-88-3	Toluene	ND		54.7	50.1	92	40-135
95-63-6	1,2,4-Trimethylbenzene	ND		54.7	50.1	92	17-142
108-67-8	1,3,5-Trimethylbenzene	ND		54.7	51.6	94	20-140
1330-20-7	Xylene (total)	ND		164	152	93	28-139

CAS No.	Surrogate Recoveries	MS	JB32371-17	Limits
1868-53-7	Dibromofluoromethane	96%	99%	70-130%
17060-07-0	1,2-Dichloroethane-D4	81%	92%	70-122%
2037-26-5	Toluene-D8	110%	108%	81-127%
460-00-4	4-Bromofluorobenzene	102%	109%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31810-9MS	A192898.D	1	03/22/13	OTR	n/a	n/a	VA7267
JB31810-9MSD	A192899.D	1	03/22/13	OTR	n/a	n/a	VA7267
JB31810-9	A192895.D	1	03/22/13	OTR	n/a	n/a	VA7267

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

JB31485-22, JB31485-24, JB31485-30

CAS No.	Compound	JB31810-9 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		66.8	55.6	83	66.8	56.1	84	1	44-130/21
106-93-4	1,2-Dibromoethane	ND		66.8	54.2	81	66.8	50.5	76	7	41-139/21
107-06-2	1,2-Dichloroethane	ND		66.8	59.6	89	66.8	57.8	87	3	43-139/19
100-41-4	Ethylbenzene	ND		66.8	56.1	84	66.8	56.7	85	1	29-137/25
98-82-8	Isopropylbenzene	ND		66.8	57.2	86	66.8	58.0	87	1	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		66.8	52.9	79	66.8	51.4	77	3	51-128/20
91-20-3	Naphthalene	ND		66.8	41.5	62	66.8	38.3	57	8	10-152/31
108-88-3	Toluene	ND		66.8	57.2	86	66.8	59.6	89	4	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		66.8	55.0	82	66.8	55.0	82	0	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		66.8	56.4	84	66.8	57.1	86	1	20-140/27
1330-20-7	Xylene (total)	ND		200	167	83	200	169	84	1	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31810-9	Limits
1868-53-7	Dibromofluoromethane	101%	101%	104%	70-130%
17060-07-0	1,2-Dichloroethane-D4	91%	87%	95%	70-122%
2037-26-5	Toluene-D8	106%	111%	108%	81-127%
460-00-4	4-Bromofluorobenzene	100%	101%	107%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31359-2MS	E201217.D	1	03/22/13	OTR	n/a	n/a	VE8847
JB31359-2MSD	E201218.D	1	03/23/13	OTR	n/a	n/a	VE8847
JB31359-2 [a]	E201220.D	1	03/23/13	OTR	n/a	n/a	VE8847

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

JB31485-25, JB31485-26, JB31485-27

CAS No.	Compound	JB31359-2 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		3050	2590	85	3050	2580	85	0	44-130/21
106-93-4	1,2-Dibromoethane	ND		3050	3050	100	3050	3010	99	1	41-139/21
107-06-2	1,2-Dichloroethane	59.9	J	3050	2980	96	3050	2950	95	1	43-139/19
100-41-4	Ethylbenzene	73.6		3050	2520	80	3050	2500	80	1	29-137/25
98-82-8	Isopropylbenzene	ND		3050	2400	79	3050	2380	78	1	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		3050	2810	92	3050	2820	93	0	51-128/20
91-20-3	Naphthalene	ND		3050	3400	112	3050	3510	115	3	10-152/31
108-88-3	Toluene	66.3		3050	2770	89	3050	2780	89	0	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		3050	2590	85	3050	2600	85	0	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		3050	2430	80	3050	2460	81	1	20-140/27
1330-20-7	Xylene (total)	27.1	J	9140	7960	87	9140	7930	86	0	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31359-2	Limits
1868-53-7	Dibromofluoromethane	87%	88%	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	85%	91%	88%	70-122%
2037-26-5	Toluene-D8	95%	95%	94%	81-127%
460-00-4	4-Bromofluorobenzene	90%	89%	89%	66-132%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31485-1MS	E201264.D	1	03/24/13	OTR	n/a	n/a	VE8849
JB31485-1MSD	E201265.D	1	03/24/13	OTR	n/a	n/a	VE8849
JB31485-1 [a]	E201267.D	1	03/24/13	OTR	n/a	n/a	VE8849

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

JB31485-1, JB31485-3, JB31485-4, JB31485-6, JB31485-9, JB31485-13, JB31485-18

CAS No.	Compound	JB31485-1 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		5140	4960	96	5140	4980	97	0	44-130/21
106-93-4	1,2-Dibromoethane	ND		5140	5380	105	5140	5290	103	2	41-139/21
107-06-2	1,2-Dichloroethane	ND		5140	5050	98	5140	5000	97	1	43-139/19
100-41-4	Ethylbenzene	ND		5140	4940	96	5140	4900	95	1	29-137/25
98-82-8	Isopropylbenzene	39.3	J	5140	4870	94	5140	4880	94	0	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		5140	4760	93	5140	4760	93	0	51-128/20
91-20-3	Naphthalene	81.8	J	5140	5600	107	5140	5520	106	1	10-152/31
108-88-3	Toluene	ND		5140	5310	103	5140	5320	103	0	40-135/22
95-63-6	1,2,4-Trimethylbenzene	83.3	J	5140	4830	92	5140	4910	94	2	17-142/28
108-67-8	1,3,5-Trimethylbenzene	25.7	J	5140	4650	90	5140	4710	91	1	20-140/27
1330-20-7	Xylene (total)	ND		15400	15400	100	15400	15100	98	2	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31485-1	Limits
1868-53-7	Dibromofluoromethane	87%	87%	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	84%	84%	85%	70-122%
2037-26-5	Toluene-D8	95%	95%	95%	81-127%
460-00-4	4-Bromofluorobenzene	90%	90%	90%	66-132%

(a) Dilution required due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32267-3MS	A193053.D	1	03/27/13	OTR	n/a	n/a	VA7274
JB32267-3MSD	A193054.D	1	03/27/13	OTR	n/a	n/a	VA7274
JB32267-3	A193056.D	1	03/27/13	OTR	n/a	n/a	VA7274

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

JB31485-8, JB31485-12

CAS No.	Compound	JB32267-3 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	193		97.8	448	261* [a]	97.8	325	135* [a]	32* [a]	44-130/21
106-93-4	1,2-Dibromoethane	ND		97.8	58.0	59	97.8	53.4	55	8	41-139/21
107-06-2	1,2-Dichloroethane	ND		97.8	80.1	82	97.8	72.4	74	10	43-139/19
100-41-4	Ethylbenzene	2.4		97.8	47.6	46	97.8	41.2	40	14	29-137/25
98-82-8	Isopropylbenzene	ND		97.8	40.2	41	97.8	33.8	35	17	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		97.8	65.1	67	97.8	62.7	64	4	51-128/20
91-20-3	Naphthalene	10.4		97.8	40.8	31	97.8	33.5	24	20	10-152/31
108-88-3	Toluene	367		97.8	753	395* [b]	97.8	566	204* [b]	28* [a]	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		97.8	33.6	34	97.8	27.5	28	20	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		97.8	33.9	35	97.8	28.0	29	19	20-140/27
1330-20-7	Xylene (total)	44.7		293	227	62	293	186	48	20	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB32267-3	Limits
1868-53-7	Dibromofluoromethane	94%	95%	93%	70-130%
17060-07-0	1,2-Dichloroethane-D4	90%	95%	96%	70-122%
2037-26-5	Toluene-D8	109%	109%	111%	81-127%
460-00-4	4-Bromofluorobenzene	111%	110%	111%	66-132%

(a) Outside control limits due to matrix interference.
(b) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31856-5MS	E201394.D	1	03/27/13	OTR	n/a	n/a	VE8854
JB31856-5MSD	E201395.D	1	03/27/13	OTR	n/a	n/a	VE8854
JB31856-5	E201389.D	1	03/27/13	OTR	n/a	n/a	VE8854

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

JB31485-11

CAS No.	Compound	JB31856-5 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		6500	5800	89	6500	5960	92	3	44-130/21
106-93-4	1,2-Dibromoethane	ND		6500	6260	96	6500	6340	98	1	41-139/21
107-06-2	1,2-Dichloroethane	ND		6500	5870	90	6500	5980	92	2	43-139/19
100-41-4	Ethylbenzene	ND		6500	5770	89	6500	5910	91	2	29-137/25
98-82-8	Isopropylbenzene	ND		6500	5740	88	6500	6080	94	6	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		6500	5650	87	6500	5510	85	3	51-128/20
91-20-3	Naphthalene	ND		6500	6540	101	6500	6690	103	2	10-152/31
108-88-3	Toluene	23.5	J	6500	6470	99	6500	6620	102	2	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		6500	5590	86	6500	5930	91	6	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		6500	5490	85	6500	5810	89	6	20-140/27
1330-20-7	Xylene (total)	ND		19500	18000	92	19500	18400	94	2	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31856-5	Limits
1868-53-7	Dibromofluoromethane	88%	88%	85%	70-130%
17060-07-0	1,2-Dichloroethane-D4	92%	83%	84%	70-122%
2037-26-5	Toluene-D8	96%	96%	95%	81-127%
460-00-4	4-Bromofluorobenzene	90%	94%	87%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31820-1MS	E201401.D	1	03/27/13	OTR	n/a	n/a	VE8855
JB31820-1MSD	E201402.D	1	03/27/13	OTR	n/a	n/a	VE8855
JB31820-1	E201404.D	1	03/28/13	OTR	n/a	n/a	VE8855

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

JB31485-17, JB31485-19

CAS No.	Compound	JB31820-1 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	95.0		3680	3520	93	3680	3550	94	1	44-130/21
106-93-4	1,2-Dibromoethane	ND		3680	3720	101	3680	3740	102	1	41-139/21
107-06-2	1,2-Dichloroethane	ND		3680	3540	96	3680	3500	95	1	43-139/19
100-41-4	Ethylbenzene	5910		3680	8290	65	3680	8290	65	0	29-137/25
98-82-8	Isopropylbenzene	868		3680	4140	89	3680	4250	92	3	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		3680	3350	91	3680	3400	92	1	51-128/20
91-20-3	Naphthalene	3930		3680	7480	96	3680	7700	102	3	10-152/31
108-88-3	Toluene	25.8	J	3680	3750	101	3680	3730	101	1	40-135/22
95-63-6	1,2,4-Trimethylbenzene	20100	E	3680	21400	35	3680	21700	43	1	17-142/28
108-67-8	1,3,5-Trimethylbenzene	6730		3680	9020	62	3680	9210	67	2	20-140/27
1330-20-7	Xylene (total)	30100	E	11000	36800	61	11000	37200	64	1	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31820-1	Limits
1868-53-7	Dibromofluoromethane	87%	88%	85%	70-130%
17060-07-0	1,2-Dichloroethane-D4	84%	84%	83%	70-122%
2037-26-5	Toluene-D8	94%	94%	95%	81-127%
460-00-4	4-Bromofluorobenzene	90%	93%	88%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32462-29MS	3C96958.D	1	03/28/13	DFT	n/a	n/a	V3C4303
JB32462-29MSD	3C96959.D	1	03/28/13	DFT	n/a	n/a	V3C4303
JB32462-29	3C96955.D	1	03/28/13	DFT	n/a	n/a	V3C4303

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

JB31485-16

CAS No.	Compound	JB32462-29 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		42.7	24.0	56	44.7	23.2	52	3	44-130/21
106-93-4	1,2-Dibromoethane	ND		42.7	21.8	51	44.7	20.8	47	5	41-139/21
107-06-2	1,2-Dichloroethane	ND		42.7	23.2	54	44.7	22.4	50	4	43-139/19
100-41-4	Ethylbenzene	ND		42.7	22.3	52	44.7	20.4	46	9	29-137/25
98-82-8	Isopropylbenzene	ND		42.7	21.7	51	44.7	19.8	44	9	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		42.7	22.6	53	44.7	22.2	50* [a]	2	51-128/20
91-20-3	Naphthalene	ND		42.7	14.7	34	44.7	10.9	24	30	10-152/31
108-88-3	Toluene	ND		42.7	24.1	56	44.7	22.7	51	6	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		42.7	19.9	47	44.7	17.2	38	15	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		42.7	20.7	48	44.7	18.2	41	13	20-140/27
1330-20-7	Xylene (total)	ND		128	65.1	51	134	59.5	44	9	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB32462-29	Limits
1868-53-7	Dibromofluoromethane	102%	104%	100%	70-130%
17060-07-0	1,2-Dichloroethane-D4	97%	102%	97%	70-122%
2037-26-5	Toluene-D8	105%	104%	103%	81-127%
460-00-4	4-Bromofluorobenzene	103%	105%	108%	66-132%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31700-13MS	E201439.D	1	03/28/13	OTR	n/a	n/a	VE8856
JB31700-13MSD	E201440.D	1	03/28/13	OTR	n/a	n/a	VE8856
JB31700-13	E201441.D	1	03/28/13	OTR	n/a	n/a	VE8856

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

JB31485-10

CAS No.	Compound	JB31700-13 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	22.8	J	5430	4980	91	5430	4970	91	0	44-130/21
106-93-4	1,2-Dibromoethane	ND		5430	5460	101	5430	5370	99	2	41-139/21
107-06-2	1,2-Dichloroethane	ND		5430	5070	93	5430	4990	92	2	43-139/19
100-41-4	Ethylbenzene	912		5430	5810	90	5430	5700	88	2	29-137/25
98-82-8	Isopropylbenzene	99.2	J	5430	5200	94	5430	5020	91	4	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		5430	4710	87	5430	4710	87	0	51-128/20
91-20-3	Naphthalene	822		5430	6630	122	5430	6540	120	1	10-152/31
108-88-3	Toluene	ND		5430	5430	100	5430	5330	98	2	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		5430	6070	112	5430	6150	113	1	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		5430	4820	89	5430	4800	88	0	20-140/27
1330-20-7	Xylene (total)	375		16300	16000	96	16300	15800	95	1	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31700-13	Limits
1868-53-7	Dibromofluoromethane	86%	87%	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	85%	83%	70-122%
2037-26-5	Toluene-D8	95%	95%	94%	81-127%
460-00-4	4-Bromofluorobenzene	92%	90%	88%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31734-2MS	E201450.D	1	03/29/13	OTR	n/a	n/a	VE8857
JB31734-2MSD	E201451.D	1	03/29/13	OTR	n/a	n/a	VE8857
JB31734-2	E201453.D	1	03/29/13	OTR	n/a	n/a	VE8857

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

JB31485-28

CAS No.	Compound	JB31734-2 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		3170	2480	78	3170	2340	74	6	44-130/21
106-93-4	1,2-Dibromoethane	ND		3170	3090	98	3170	2990	94	3	41-139/21
107-06-2	1,2-Dichloroethane	ND		3170	2820	89	3170	2740	86	3	43-139/19
100-41-4	Ethylbenzene	ND		3170	2450	77	3170	2310	73	6	29-137/25
98-82-8	Isopropylbenzene	ND		3170	2320	73	3170	2180	69	6	27-138/26
1634-04-4	Methyl Tert Butyl Ether	17.1	J	3170	2730	86	3170	2700	85	1	51-128/20
91-20-3	Naphthalene	ND		3170	3380	107	3170	3190	101	6	10-152/31
108-88-3	Toluene	ND		3170	2690	85	3170	2530	80	6	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		3170	2570	81	3170	2460	78	4	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		3170	2360	74	3170	2250	71	5	20-140/27
1330-20-7	Xylene (total)	49.7	J	9510	7910	83	9510	7500	78	5	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31734-2	Limits
1868-53-7	Dibromofluoromethane	86%	86%	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	85%	86%	70-122%
2037-26-5	Toluene-D8	95%	94%	92%	81-127%
460-00-4	4-Bromofluorobenzene	87%	89%	89%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32713-4MS	A193173.D	1	03/29/13	OTR	n/a	n/a	VA7279
JB32713-4MSD	A193174.D	1	03/29/13	OTR	n/a	n/a	VA7279
JB32713-4	A193169.D	1	03/29/13	OTR	n/a	n/a	VA7279

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

JB31485-23

CAS No.	Compound	JB32713-4 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		90.7	86.0	95	107	93.4	87	8	44-130/21
106-93-4	1,2-Dibromoethane	ND		90.7	78.5	87	107	84.3	79	7	41-139/21
107-06-2	1,2-Dichloroethane	ND		90.7	91.1	100	107	98.5	92	8	43-139/19
100-41-4	Ethylbenzene	ND		90.7	85.6	94	107	90.2	84	5	29-137/25
98-82-8	Isopropylbenzene	ND		90.7	91.6	101	107	93.0	87	2	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		90.7	83.5	92	107	90.8	85	8	51-128/20
91-20-3	Naphthalene	ND		90.7	50.2	55	107	51.5	48	3	10-152/31
108-88-3	Toluene	ND		90.7	89.5	99	107	92.0	86	3	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		90.7	85.3	94	107	86.6	81	2	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		90.7	87.4	96	107	89.6	84	2	20-140/27
1330-20-7	Xylene (total)	ND		272	253	93	321	266	83	5	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB32713-4	Limits
1868-53-7	Dibromofluoromethane	103%	102%	108%	70-130%
17060-07-0	1,2-Dichloroethane-D4	90%	89%	101%	70-122%
2037-26-5	Toluene-D8	112%	108%	107%	81-127%
460-00-4	4-Bromofluorobenzene	106%	104%	113%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32637-4MS	I182816.D	1	03/29/13	SJM	n/a	n/a	VI7384
JB32637-4MSD	I182817.D	1	03/29/13	SJM	n/a	n/a	VI7384
JB32637-4	I182801.D	1	03/29/13	SJM	n/a	n/a	VI7384

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

JB31485-20

CAS No.	Compound	JB32637-4 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		52.7	39.8	76	52.7	43.0	82	8	44-130/21
106-93-4	1,2-Dibromoethane	ND		52.7	42.1	80	52.7	44.8	85	6	41-139/21
107-06-2	1,2-Dichloroethane	ND		52.7	53.1	101	52.7	55.9	106	5	43-139/19
100-41-4	Ethylbenzene	ND		52.7	32.3	61	52.7	36.2	69	11	29-137/25
98-82-8	Isopropylbenzene	ND		52.7	27.7	53	52.7	31.7	60	13	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		52.7	47.0	89	52.7	50.2	95	7	51-128/20
91-20-3	Naphthalene	ND		52.7	19.9	38	52.7	23.9	45	18	10-152/31
108-88-3	Toluene	ND		52.7	36.9	70	52.7	40.4	77	9	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		52.7	22.9	43	52.7	27.8	53	19	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		52.7	24.0	46	52.7	28.0	53	15	20-140/27
1330-20-7	Xylene (total)	ND		158	93.8	59	158	106	67	12	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB32637-4	Limits
1868-53-7	Dibromofluoromethane	31%* [b]	33%* [b]	41%* [a]	70-130%
17060-07-0	1,2-Dichloroethane-D4	109%	107%	108%	70-122%
2037-26-5	Toluene-D8	106%	106%	105%	81-127%
460-00-4	4-Bromofluorobenzene	110%	111%	112%	66-132%

(a) Outside control limits due to matrix interference. Confirmed by MS/MSD.
(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31583-12DUP	A192992.D	1	03/25/13	OTR	n/a	n/a	VA7271
JB31583-12	A192988.D	1	03/25/13	OTR	n/a	n/a	VA7271

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

JB31485-29

CAS No.	Compound	JB31583-12 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	0.41	J	0.25	J	48* [a]	15
106-93-4	1,2-Dibromoethane	ND		ND		nc	10
107-06-2	1,2-Dichloroethane	ND		ND		nc	10
100-41-4	Ethylbenzene	ND		ND		nc	29
98-82-8	Isopropylbenzene	ND		ND		nc	23
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	23
91-20-3	Naphthalene	ND		ND		nc	12
108-88-3	Toluene	ND		ND		nc	21
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	10
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	12
1330-20-7	Xylene (total)	ND		ND		nc	26

CAS No.	Surrogate Recoveries	DUP	JB31583-12	Limits
1868-53-7	Dibromofluoromethane	101%	102%	70-130%
17060-07-0	1,2-Dichloroethane-D4	87%	92%	70-122%
2037-26-5	Toluene-D8	107%	106%	81-127%
460-00-4	4-Bromofluorobenzene	106%	110%	66-132%

(a) High RPD due to low concentration of hit

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32364-36DUP	A193035.D	1	03/26/13	OTR	n/a	n/a	VA7273
JB32364-36	A193032.D	1	03/26/13	OTR	n/a	n/a	VA7273

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

JB31485-21

CAS No.	Compound	JB32364-36 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	15
106-93-4	1,2-Dibromoethane	ND		ND		nc	10
107-06-2	1,2-Dichloroethane	ND		ND		nc	10
100-41-4	Ethylbenzene	0.36	J	ND		200* [a]	29
98-82-8	Isopropylbenzene	ND		ND		nc	23
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	23
91-20-3	Naphthalene	ND		ND		nc	12
108-88-3	Toluene	ND		ND		nc	21
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	10
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	12
1330-20-7	Xylene (total)	2.5		1.2		70* [a]	26

CAS No.	Surrogate Recoveries	DUP	JB32364-36	Limits
1868-53-7	Dibromofluoromethane	102%	102%	70-130%
17060-07-0	1,2-Dichloroethane-D4	91%	89%	70-122%
2037-26-5	Toluene-D8	106%	109%	81-127%
460-00-4	4-Bromofluorobenzene	109%	112%	66-132%

(a) High RPD due to low concentration of hit

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32371-16DUP	A193082.D	1	03/27/13	OTR	n/a	n/a	VA7275
JB32371-16	A193073.D	1	03/27/13	OTR	n/a	n/a	VA7275

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

JB31485-2, JB31485-5, JB31485-7, JB31485-14, JB31485-15

CAS No.	Compound	JB32371-16 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	15
106-93-4	1,2-Dibromoethane	ND		ND		nc	10
107-06-2	1,2-Dichloroethane	ND		ND		nc	10
100-41-4	Ethylbenzene	ND		ND		nc	29
98-82-8	Isopropylbenzene	ND		ND		nc	23
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	23
91-20-3	Naphthalene	ND		ND		nc	12
108-88-3	Toluene	ND		ND		nc	21
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	10
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	12
1330-20-7	Xylene (total)	ND		ND		nc	26

CAS No.	Surrogate Recoveries	DUP	JB32371-16	Limits
1868-53-7	Dibromofluoromethane	101%	102%	70-130%
17060-07-0	1,2-Dichloroethane-D4	90%	91%	70-122%
2037-26-5	Toluene-D8	106%	105%	81-127%
460-00-4	4-Bromofluorobenzene	116%	105%	66-132%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: V3C4301-BFB
Lab File ID: 3C96907.D
Instrument ID: GCMS3C
Injection Date: 03/26/13
Injection Time: 14:22

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13582	16.4		Pass
75	30.0 - 60.0% of mass 95	37069	44.6		Pass
95	Base peak, 100% relative abundance	83043	100.0		Pass
96	5.0 - 9.0% of mass 95	5825	7.01		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	69309	83.5		Pass
175	5.0 - 9.0% of mass 174	5173	6.23	(7.46) [a]	Pass
176	95.0 - 101.0% of mass 174	67093	80.8	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4568	5.50	(6.81) [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
V3C4301-IC4301	3C96908.D	03/26/13	14:52	00:30	Initial cal 10
V3C4301-IC4301	3C96909.D	03/26/13	15:21	00:59	Initial cal 5
V3C4301-IC4301	3C96910.D	03/26/13	15:51	01:29	Initial cal 2
V3C4301-IC4301	3C96911.D	03/26/13	16:21	01:59	Initial cal 1
V3C4301-IC4301	3C96912.D	03/26/13	16:50	02:28	Initial cal 0.5
V3C4301-IC4301	3C96913.D	03/26/13	17:20	02:58	Initial cal 20
V3C4301-ICC4301	3C96914.D	03/26/13	17:49	03:27	Initial cal 50
V3C4301-IC4301	3C96915.D	03/26/13	18:19	03:57	Initial cal 75
V3C4301-IC4301	3C96916.D	03/26/13	18:48	04:26	Initial cal 100
V3C4301-IC4301	3C96917.D	03/26/13	19:17	04:55	Initial cal 200
V3C4301-ICV4301	3C96920.D	03/26/13	20:46	06:24	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: V3C4303-BFB
Lab File ID: 3C96947.D
Instrument ID: GCMS3C
Injection Date: 03/28/13
Injection Time: 09:25

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	12931	16.3		Pass
75	30.0 - 60.0% of mass 95	35544	44.7		Pass
95	Base peak, 100% relative abundance	79520	100.0		Pass
96	5.0 - 9.0% of mass 95	5541	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	66232	83.3		Pass
175	5.0 - 9.0% of mass 174	4851	6.10	(7.32) [a]	Pass
176	95.0 - 101.0% of mass 174	65112	81.9	(98.3) [a]	Pass
177	5.0 - 9.0% of mass 176	4239	5.33	(6.51) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3C4303-CC4301	3C96948.D	03/28/13	10:08	00:43	Continuing cal 20
V3C4303-MB1	3C96950.D	03/28/13	11:15	01:50	Method Blank
V3C4303-BS	3C96951.D	03/28/13	11:53	02:28	Blank Spike
ZZZZZZ	3C96953.D	03/28/13	13:13	03:48	(unrelated sample)
ZZZZZZ	3C96954.D	03/28/13	13:42	04:17	(unrelated sample)
JB32462-29	3C96955.D	03/28/13	14:12	04:47	(used for QC only; not part of job JB31485)
JB31485-16	3C96956.D	03/28/13	14:41	05:16	MH595-6 (3.0-3.5)
JB32462-29MS	3C96958.D	03/28/13	15:40	06:15	Matrix Spike
JB32462-29MSD	3C96959.D	03/28/13	16:09	06:44	Matrix Spike Duplicate
ZZZZZZ	3C96961.D	03/28/13	17:08	07:43	(unrelated sample)
ZZZZZZ	3C96962.D	03/28/13	17:37	08:12	(unrelated sample)
ZZZZZZ	3C96964.D	03/28/13	18:36	09:11	(unrelated sample)
ZZZZZZ	3C96965.D	03/28/13	19:06	09:41	(unrelated sample)
ZZZZZZ	3C96966.D	03/28/13	19:35	10:10	(unrelated sample)
ZZZZZZ	3C96967.D	03/28/13	20:05	10:40	(unrelated sample)
ZZZZZZ	3C96968.D	03/28/13	20:34	11:09	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7222-BFB
Lab File ID: A191856.D
Instrument ID: GCMSA
Injection Date: 02/20/13
Injection Time: 12:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.95 - 40.0% of mass 95	9740	17.5		Pass
75	30.0 - 60.0% of mass 95	24837	44.5		Pass
95	Base peak, 100% relative abundance	55805	100.0		Pass
96	5.0 - 9.0% of mass 95	3797	6.80		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	51915	93.0		Pass
175	5.0 - 9.0% of mass 174	4176	7.48	(8.04) [a]	Pass
176	95.0 - 101.0% of mass 174	50803	91.0	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	3296	5.91	(6.49) [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
VA7222-IC7222	A191857.D	02/20/13	12:54	00:40	Initial cal 0.5
VA7222-IC7222	A191858.D	02/20/13	13:21	01:07	Initial cal 1
VA7222-IC7222	A191859.D	02/20/13	13:53	01:39	Initial cal 2
VA7222-IC7222	A191860.D	02/20/13	14:25	02:11	Initial cal 5
VA7222-IC7222	A191861.D	02/20/13	14:55	02:41	Initial cal 10
VA7222-IC7222	A191862.D	02/20/13	15:24	03:10	Initial cal 20
VA7222-ICC7222	A191863.D	02/20/13	16:09	03:55	Initial cal 50
VA7222-IC7222	A191864.D	02/20/13	16:38	04:24	Initial cal 100
VA7222-IC7222	A191865.D	02/20/13	17:08	04:54	Initial cal 200
VA7222-ICV7222	A191868.D	02/20/13	18:45	06:31	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7267-BFB
Lab File ID: A192887.D
Instrument ID: GCMSA
Injection Date: 03/22/13
Injection Time: 08:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.95 - 40.0% of mass 95	7976	18.5		Pass
75	30.0 - 60.0% of mass 95	20667	47.8		Pass
95	Base peak, 100% relative abundance	43224	100.0		Pass
96	5.0 - 9.0% of mass 95	2980	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	43131	99.8		Pass
175	5.0 - 9.0% of mass 174	3658	8.46	(8.48) [a]	Pass
176	95.0 - 101.0% of mass 174	42203	97.6	(97.8) [a]	Pass
177	5.0 - 9.0% of mass 176	2797	6.47	(6.63) [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
VA7267-CC7222	A192888.D	03/22/13	08:35	00:34	Continuing cal 20
VA7267-MB	A192889.D	03/22/13	08:58	00:57	Method Blank
VA7267-BS	A192890.D	03/22/13	09:42	01:41	Blank Spike
ZZZZZZ	A192892.D	03/22/13	10:46	02:45	(unrelated sample)
ZZZZZZ	A192893.D	03/22/13	11:30	03:29	(unrelated sample)
ZZZZZZ	A192894.D	03/22/13	11:59	03:58	(unrelated sample)
JB31810-9	A192895.D	03/22/13	12:34	04:33	(used for QC only; not part of job JB31485)
ZZZZZZ	A192896.D	03/22/13	13:03	05:02	(unrelated sample)
ZZZZZZ	A192897.D	03/22/13	13:37	05:36	(unrelated sample)
JB31810-9MS	A192898.D	03/22/13	14:01	06:00	Matrix Spike
JB31810-9MSD	A192899.D	03/22/13	14:31	06:30	Matrix Spike Duplicate
ZZZZZZ	A192901.D	03/22/13	15:31	07:30	(unrelated sample)
JB31485-22	A192902.D	03/22/13	16:15	08:14	MH597-2 (2.0-2.5)
JB31485-24	A192903.D	03/22/13	16:45	08:44	MH597-4 (3.0-3.5)
JB31485-30	A192905.D	03/22/13	17:50	09:49	MH597-10 (0.25-0.50)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7271-BFB
Lab File ID: A192982.D
Instrument ID: GCMSA
Injection Date: 03/25/13
Injection Time: 08:52

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.95 - 40.0% of mass 95	8947	19.6		Pass
75	30.0 - 60.0% of mass 95	21957	48.0		Pass
95	Base peak, 100% relative abundance	45763	100.0		Pass
96	5.0 - 9.0% of mass 95	3088	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	45880	100.3		Pass
175	5.0 - 9.0% of mass 174	3742	8.18	(8.16) [a]	Pass
176	95.0 - 101.0% of mass 174	44149	96.5	(96.2) [a]	Pass
177	5.0 - 9.0% of mass 176	2965	6.48	(6.72) [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
VA7271-CC7222	A192983.D	03/25/13	09:29	00:37	Continuing cal 20
VA7271-MB	A192984.D	03/25/13	10:09	01:17	Method Blank
VA7271-BS	A192985.D	03/25/13	10:32	01:40	Blank Spike
JB31583-12	A192988.D	03/25/13	12:32	03:40	(used for QC only; not part of job JB31485)
ZZZZZZ	A192989.D	03/25/13	13:02	04:10	(unrelated sample)
ZZZZZZ	A192990.D	03/25/13	13:31	04:39	(unrelated sample)
JB32254-2	A192991.D	03/25/13	14:01	05:09	(used for QC only; not part of job JB31485)
JB31583-12DUP	A192992.D	03/25/13	14:31	05:39	Duplicate
ZZZZZZ	A192993.D	03/25/13	15:15	06:23	(unrelated sample)
JB32254-2MS	A192994.D	03/25/13	15:44	06:52	Matrix Spike
ZZZZZZ	A192996.D	03/25/13	16:44	07:52	(unrelated sample)
ZZZZZZ	A192997.D	03/25/13	17:15	08:23	(unrelated sample)
ZZZZZZ	A192998.D	03/25/13	17:45	08:53	(unrelated sample)
JB31485-29	A192999.D	03/25/13	18:14	09:22	MH597-9 (3.0-3.5)
ZZZZZZ	A193000.D	03/25/13	18:44	09:52	(unrelated sample)
ZZZZZZ	A193001.D	03/25/13	19:28	10:36	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7273-BFB
Lab File ID: A193025.D
Instrument ID: GCMSA
Injection Date: 03/26/13
Injection Time: 09:56

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.95 - 40.0% of mass 95	5193	17.9		Pass
75	30.0 - 60.0% of mass 95	13315	45.9		Pass
95	Base peak, 100% relative abundance	29035	100.0		Pass
96	5.0 - 9.0% of mass 95	1840	6.34		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	28768	99.1		Pass
175	5.0 - 9.0% of mass 174	2526	8.70	(8.78) [a]	Pass
176	95.0 - 101.0% of mass 174	28840	99.3	(100.3) [a]	Pass
177	5.0 - 9.0% of mass 176	1878	6.47	(6.51) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VA7273-CC7222	A193027.D	03/26/13	11:02	01:06	Continuing cal 20
VA7273-MB	A193028.D	03/26/13	11:41	01:45	Method Blank
VA7273-BS	A193029.D	03/26/13	12:10	02:14	Blank Spike
ZZZZZZ	A193031.D	03/26/13	13:19	03:23	(unrelated sample)
JB32364-36	A193032.D	03/26/13	13:48	03:52	(used for QC only; not part of job JB31485)
JB32364-38	A193033.D	03/26/13	14:18	04:22	(used for QC only; not part of job JB31485)
JB32364-36DUP	A193035.D	03/26/13	15:21	05:25	Duplicate
JB32364-38MS	A193036.D	03/26/13	15:56	06:00	Matrix Spike
ZZZZZZ	A193038.D	03/26/13	16:57	07:01	(unrelated sample)
ZZZZZZ	A193039.D	03/26/13	17:41	07:45	(unrelated sample)
ZZZZZZ	A193040.D	03/26/13	18:11	08:15	(unrelated sample)
ZZZZZZ	A193041.D	03/26/13	18:41	08:45	(unrelated sample)
JB31485-21	A193043.D	03/26/13	19:40	09:44	MH597-1 (2.0-2.5)
ZZZZZZ	A193044.D	03/26/13	20:09	10:13	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7274-BFB
Lab File ID: A193048.D
Instrument ID: GCMSA
Injection Date: 03/26/13
Injection Time: 22:22

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.95 - 40.0% of mass 95	7565	19.0		Pass
75	30.0 - 60.0% of mass 95	19453	49.0		Pass
95	Base peak, 100% relative abundance	39715	100.0		Pass
96	5.0 - 9.0% of mass 95	2643	6.65		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	39333	99.0		Pass
175	5.0 - 9.0% of mass 174	3246	8.17	(8.25) [a]	Pass
176	95.0 - 101.0% of mass 174	38339	96.5	(97.5) [a]	Pass
177	5.0 - 9.0% of mass 176	2735	6.89	(7.13) [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
VA7274-CC7222	A193049.D	03/26/13	22:52	00:30	Continuing cal 50
VA7274-MB	A193051.D	03/27/13	00:06	01:44	Method Blank
VA7274-BS	A193052.D	03/27/13	00:35	02:13	Blank Spike
JB32267-3MS	A193053.D	03/27/13	01:05	02:43	Matrix Spike
JB32267-3MSD	A193054.D	03/27/13	01:34	03:12	Matrix Spike Duplicate
JB32267-3	A193056.D	03/27/13	02:34	04:12	(used for QC only; not part of job JB31485)
ZZZZZZ	A193057.D	03/27/13	03:03	04:41	(unrelated sample)
JB31485-8	A193058.D	03/27/13	03:33	05:11	MH201-8 (3.0-3.5)
JB31485-12	A193059.D	03/27/13	04:17	05:55	MH595-2 (5.0-5.5)
ZZZZZZ	A193061.D	03/27/13	05:16	06:54	(unrelated sample)
ZZZZZZ	A193062.D	03/27/13	05:46	07:24	(unrelated sample)
ZZZZZZ	A193063.D	03/27/13	06:15	07:53	(unrelated sample)
ZZZZZZ	A193064.D	03/27/13	06:45	08:23	(unrelated sample)
ZZZZZZ	A193065.D	03/27/13	07:14	08:52	(unrelated sample)
ZZZZZZ	A193066.D	03/27/13	07:59	09:37	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7275-BFB
Lab File ID: A193067.D
Instrument ID: GCMSA
Injection Date: 03/27/13
Injection Time: 08:29

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.95 - 40.0% of mass 95	7189	18.1		Pass
75	30.0 - 60.0% of mass 95	17763	44.7		Pass
95	Base peak, 100% relative abundance	39739	100.0		Pass
96	5.0 - 9.0% of mass 95	2658	6.69		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	39947	100.5		Pass
175	5.0 - 9.0% of mass 174	3117	7.84	(7.80) [a]	Pass
176	95.0 - 101.0% of mass 174	38629	97.2	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	2407	6.06	(6.23) [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
VA7275-CC7222	A193068.D	03/27/13	09:01	00:32	Continuing cal 20
VA7275-MB	A193069.D	03/27/13	09:40	01:11	Method Blank
VA7275-BS	A193070.D	03/27/13	10:15	01:46	Blank Spike
ZZZZZZ	A193071.D	03/27/13	10:42	02:13	(unrelated sample)
JB32371-16	A193073.D	03/27/13	11:46	03:17	(used for QC only; not part of job JB31485)
JB32371-17	A193074.D	03/27/13	12:14	03:45	(used for QC only; not part of job JB31485)
ZZZZZZ	A193075.D	03/27/13	12:44	04:15	(unrelated sample)
ZZZZZZ	A193076.D	03/27/13	13:13	04:44	(unrelated sample)
ZZZZZZ	A193077.D	03/27/13	13:58	05:29	(unrelated sample)
ZZZZZZ	A193078.D	03/27/13	14:25	05:56	(unrelated sample)
ZZZZZZ	A193079.D	03/27/13	14:51	06:22	(unrelated sample)
JB32371-17MS	A193080.D	03/27/13	15:21	06:52	Matrix Spike
JB32371-16DUP	A193082.D	03/27/13	16:29	08:00	Duplicate
ZZZZZZ	A193083.D	03/27/13	17:09	08:40	(unrelated sample)
JB31485-14	A193084.D	03/27/13	17:40	09:11	MH595-4 (3.0-3.5)
JB31485-15	A193085.D	03/27/13	18:09	09:40	MH595-5 (3.0-3.5)
JB31485-7	A193086.D	03/27/13	18:39	10:10	MH201-7 (3.0-3.5)
JB31485-5	A193087.D	03/27/13	19:08	10:39	MH201-5 (3.0-3.5)
JB31485-2	A193088.D	03/27/13	19:38	11:09	MH201-2 (5.0-5.5)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7279-BFB
Lab File ID: A193157.D
Instrument ID: GCMSA
Injection Date: 03/29/13
Injection Time: 08:16

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.95 - 40.0% of mass 95	7526	19.3		Pass
75	30.0 - 60.0% of mass 95	17917	45.9		Pass
95	Base peak, 100% relative abundance	39019	100.0		Pass
96	5.0 - 9.0% of mass 95	2516	6.45		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	38797	99.4		Pass
175	5.0 - 9.0% of mass 174	3120	8.00	(8.04) [a]	Pass
176	95.0 - 101.0% of mass 174	38117	97.7	(98.2) [a]	Pass
177	5.0 - 9.0% of mass 176	2601	6.67	(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
VA7279-CC7222	A193158.D	03/29/13	08:56	00:40	Continuing cal 20
VA7279-MB	A193159.D	03/29/13	09:33	01:17	Method Blank
VA7279-BS	A193160.D	03/29/13	10:22	02:06	Blank Spike
ZZZZZZ	A193162.D	03/29/13	11:31	03:15	(unrelated sample)
ZZZZZZ	A193163.D	03/29/13	12:00	03:44	(unrelated sample)
ZZZZZZ	A193164.D	03/29/13	12:30	04:14	(unrelated sample)
ZZZZZZ	A193165.D	03/29/13	12:59	04:43	(unrelated sample)
ZZZZZZ	A193166.D	03/29/13	13:29	05:13	(unrelated sample)
ZZZZZZ	A193167.D	03/29/13	13:59	05:43	(unrelated sample)
ZZZZZZ	A193168.D	03/29/13	14:43	06:27	(unrelated sample)
JB32713-4	A193169.D	03/29/13	15:06	06:50	(used for QC only; not part of job JB31485)
ZZZZZZ	A193170.D	03/29/13	15:45	07:29	(unrelated sample)
ZZZZZZ	A193171.D	03/29/13	16:15	07:59	(unrelated sample)
ZZZZZZ	A193172.D	03/29/13	16:44	08:28	(unrelated sample)
JB32713-4MS	A193173.D	03/29/13	17:14	08:58	Matrix Spike
JB32713-4MSD	A193174.D	03/29/13	17:48	09:32	Matrix Spike Duplicate
ZZZZZZ	A193175.D	03/29/13	18:18	10:02	(unrelated sample)
ZZZZZZ	A193176.D	03/29/13	18:47	10:31	(unrelated sample)
JB31485-23	A193177.D	03/29/13	19:17	11:01	MH597-3 (5.0-5.5)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VE8801-BFB
Lab File ID: E200194.D
Instrument ID: GCMSE
Injection Date: 02/22/13
Injection Time: 08:23

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	6576	16.7		Pass
75	30.0 - 60.0% of mass 95	17805	45.3		Pass
95	Base peak, 100% relative abundance	39293	100.0		Pass
96	5.0 - 9.0% of mass 95	2733	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	38072	96.9		Pass
175	5.0 - 9.0% of mass 174	2908	7.40	(7.64) [a]	Pass
176	95.0 - 101.0% of mass 174	36725	93.5	(96.5) [a]	Pass
177	5.0 - 9.0% of mass 176	2537	6.46	(6.91) [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
VE8801-IC8801	E200198.D	02/22/13	10:38	02:15	Initial cal 5
VE8801-IC8801	E200199.D	02/22/13	12:19	03:56	Initial cal 10
VE8801-IC8801	E200200.D	02/22/13	12:49	04:26	Initial cal 20
VE8801-ICC8801	E200201.D	02/22/13	13:19	04:56	Initial cal 50
VE8801-IC8801	E200202.D	02/22/13	13:50	05:27	Initial cal 100
VE8801-IC8801	E200203.D	02/22/13	14:20	05:57	Initial cal 200
VE8801-IC8801	E200206.D	02/22/13	15:50	07:27	Initial cal 1
VE8801-IC8801	E200207.D	02/22/13	16:19	07:56	Initial cal 0.5
VE8801-IC8801	E200208.D	02/22/13	16:49	08:26	Initial cal 2
VE8801-ICV8801	E200209.D	02/22/13	17:19	08:56	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VE8847-BFB
Lab File ID: E201212.D
Instrument ID: GCMSE
Injection Date: 03/22/13
Injection Time: 21:26

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8229	15.8		Pass
75	30.0 - 60.0% of mass 95	22800	43.9		Pass
95	Base peak, 100% relative abundance	51962	100.0		Pass
96	5.0 - 9.0% of mass 95	3401	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	53370	102.7		Pass
175	5.0 - 9.0% of mass 174	3999	7.70	(7.49) [a]	Pass
176	95.0 - 101.0% of mass 174	52592	101.2	(98.5) [a]	Pass
177	5.0 - 9.0% of mass 176	3603	6.93	(6.85) [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
VE8847-CC8801	E201213.D	03/22/13	21:56	00:30	Continuing cal 50
VE8847-MB	E201215.D	03/22/13	22:56	01:30	Method Blank
VE8847-BS	E201216.D	03/22/13	23:26	02:00	Blank Spike
JB31359-2MS	E201217.D	03/22/13	23:57	02:31	Matrix Spike
JB31359-2MSD	E201218.D	03/23/13	00:27	03:01	Matrix Spike Duplicate
JB31359-2	E201220.D	03/23/13	01:27	04:01	(used for QC only; not part of job JB31485)
ZZZZZZ	E201221.D	03/23/13	01:57	04:31	(unrelated sample)
ZZZZZZ	E201222.D	03/23/13	02:27	05:01	(unrelated sample)
ZZZZZZ	E201224.D	03/23/13	03:27	06:01	(unrelated sample)
ZZZZZZ	E201226.D	03/23/13	04:27	07:01	(unrelated sample)
ZZZZZZ	E201227.D	03/23/13	04:57	07:31	(unrelated sample)
ZZZZZZ	E201228.D	03/23/13	05:27	08:01	(unrelated sample)
JB31485-25	E201230.D	03/23/13	06:27	09:01	MH597-5 (3.0-3.5)
JB31485-26	E201231.D	03/23/13	06:57	09:31	MH597-6 (3.0-3.5)
JB31485-27	E201232.D	03/23/13	07:27	10:01	MH597-7 (3.0-3.5)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample:	VE8849-BFB	**Injection Date:**	03/23/13
Lab File ID:	E201259.D	**Injection Time:**	21:47
Instrument ID:	GCMSE		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8449	15.7		Pass
75	30.0 - 60.0% of mass 95	23917	44.4		Pass
95	Base peak, 100% relative abundance	53925	100.0		Pass
96	5.0 - 9.0% of mass 95	3739	6.93		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	54493	101.1		Pass
175	5.0 - 9.0% of mass 174	4432	8.22	(8.13) [a]	Pass
176	95.0 - 101.0% of mass 174	53098	98.5	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	3328	6.17	(6.27) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VE8849-CC8801	E201260.D	03/23/13	22:17	00:30	Continuing cal 50
VE8849-MB	E201262.D	03/23/13	23:17	01:30	Method Blank
VE8849-BS	E201263.D	03/23/13	23:47	02:00	Blank Spike
JB31485-1MS	E201264.D	03/24/13	00:18	02:31	Matrix Spike
JB31485-1MSD	E201265.D	03/24/13	00:48	03:01	Matrix Spike Duplicate
JB31485-1	E201267.D	03/24/13	01:47	04:00	MH201-1 (4.5-5.0)
JB31485-3	E201268.D	03/24/13	02:17	04:30	MH201-3 (3.0-3.5)
JB31485-4	E201269.D	03/24/13	02:46	04:59	MH201-4 (3.0-3.5)
JB31485-6	E201270.D	03/24/13	03:17	05:30	MH201-6 (3.0-3.5)
JB31485-9	E201272.D	03/24/13	04:17	06:30	MH201-9 (5.0-5.5)
JB31485-13	E201276.D	03/24/13	06:17	08:30	MH595-3 (3.0-3.5)
JB31485-18	E201278.D	03/24/13	07:17	09:30	MH595-8 (3.0-3.5)
ZZZZZZ	E201281.D	03/24/13	08:48	11:01	(unrelated sample)
ZZZZZZ	E201282.D	03/24/13	09:18	11:31	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VE8854-BFB
Lab File ID: E201373.D
Instrument ID: GCMSE
Injection Date: 03/27/13
Injection Time: 08:29

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8264	15.3		Pass
75	30.0 - 60.0% of mass 95	23888	44.3		Pass
95	Base peak, 100% relative abundance	53909	100.0		Pass
96	5.0 - 9.0% of mass 95	3585	6.65		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	54352	100.8		Pass
175	5.0 - 9.0% of mass 174	4491	8.33	(8.26) [a]	Pass
176	95.0 - 101.0% of mass 174	54474	101.0	(100.2) [a]	Pass
177	5.0 - 9.0% of mass 176	3505	6.50	(6.43) [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
VE8854-CC8801	E201374.D	03/27/13	09:02	00:33	Continuing cal 20
VE8854-MB	E201376.D	03/27/13	10:06	01:37	Method Blank
VE8854-BS	E201377.D	03/27/13	10:36	02:07	Blank Spike
ZZZZZZ	E201381.D	03/27/13	12:43	04:14	(unrelated sample)
ZZZZZZ	E201382.D	03/27/13	13:13	04:44	(unrelated sample)
ZZZZZZ	E201383.D	03/27/13	13:43	05:14	(unrelated sample)
ZZZZZZ	E201384.D	03/27/13	14:14	05:45	(unrelated sample)
ZZZZZZ	E201385.D	03/27/13	14:44	06:15	(unrelated sample)
ZZZZZZ	E201386.D	03/27/13	15:14	06:45	(unrelated sample)
ZZZZZZ	E201387.D	03/27/13	15:44	07:15	(unrelated sample)
ZZZZZZ	E201388.D	03/27/13	16:14	07:45	(unrelated sample)
JB31856-5	E201389.D	03/27/13	16:44	08:15	(used for QC only; not part of job JB31485)
ZZZZZZ	E201390.D	03/27/13	17:14	08:45	(unrelated sample)
ZZZZZZ	E201391.D	03/27/13	17:44	09:15	(unrelated sample)
JB31485-11	E201393.D	03/27/13	18:45	10:16	MH595-1 (5.0-5.5)
JB31856-5MS	E201394.D	03/27/13	19:15	10:46	Matrix Spike
JB31856-5MSD	E201395.D	03/27/13	19:45	11:16	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VE8855-BFB
Lab File ID: E201396.D
Instrument ID: GCMSE
Injection Date: 03/27/13
Injection Time: 20:15

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8431	15.8		Pass
75	30.0 - 60.0% of mass 95	24200	45.5		Pass
95	Base peak, 100% relative abundance	53216	100.0		Pass
96	5.0 - 9.0% of mass 95	3658	6.87		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	54000	101.5		Pass
175	5.0 - 9.0% of mass 174	4247	7.98	(7.86) [a]	Pass
176	95.0 - 101.0% of mass 174	53264	100.1	(98.6) [a]	Pass
177	5.0 - 9.0% of mass 176	3583	6.73	(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
VE8855-CC8801	E201397.D	03/27/13	20:45	00:30	Continuing cal 50
VE8855-MB	E201399.D	03/27/13	21:46	01:31	Method Blank
VE8855-BS	E201400.D	03/27/13	22:16	02:01	Blank Spike
JB31820-1MS	E201401.D	03/27/13	22:46	02:31	Matrix Spike
JB31820-1MSD	E201402.D	03/27/13	23:16	03:01	Matrix Spike Duplicate
JB31820-1	E201404.D	03/28/13	00:16	04:01	(used for QC only; not part of job JB31485)
ZZZZZZ	E201406.D	03/28/13	01:16	05:01	(unrelated sample)
JB31485-17	E201417.D	03/28/13	06:43	10:28	MH595-7 (3.0-3.5)
JB31485-19	E201418.D	03/28/13	07:13	10:58	MH595-9 (5.0-5.5)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VE8856-BFB
Lab File ID: E201419.D
Instrument ID: GCMSE
Injection Date: 03/28/13
Injection Time: 08:36

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8221	15.6		Pass
75	30.0 - 60.0% of mass 95	23408	44.4		Pass
95	Base peak, 100% relative abundance	52778	100.0		Pass
96	5.0 - 9.0% of mass 95	3505	6.64		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	54322	102.9		Pass
175	5.0 - 9.0% of mass 174	4302	8.15	(7.92) [a]	Pass
176	95.0 - 101.0% of mass 174	53882	102.1	(99.2) [a]	Pass
177	5.0 - 9.0% of mass 176	3545	6.72	(6.58) [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
VE8856-CC8801	E201420.D	03/28/13	09:07	00:31	Continuing cal 20
VE8856-MB	E201422.D	03/28/13	10:11	01:35	Method Blank
VE8856-BS	E201423.D	03/28/13	10:42	02:06	Blank Spike
ZZZZZZ	E201424.D	03/28/13	11:11	02:35	(unrelated sample)
ZZZZZZ	E201425.D	03/28/13	11:41	03:05	(unrelated sample)
ZZZZZZ	E201426.D	03/28/13	12:19	03:43	(unrelated sample)
JB31485-10	E201427.D	03/28/13	12:49	04:13	MH201-10 (0.25-0.50)
ZZZZZZ	E201428.D	03/28/13	13:19	04:43	(unrelated sample)
ZZZZZZ	E201429.D	03/28/13	13:49	05:13	(unrelated sample)
ZZZZZZ	E201430.D	03/28/13	14:19	05:43	(unrelated sample)
ZZZZZZ	E201431.D	03/28/13	14:49	06:13	(unrelated sample)
ZZZZZZ	E201432.D	03/28/13	15:20	06:44	(unrelated sample)
ZZZZZZ	E201433.D	03/28/13	15:50	07:14	(unrelated sample)
ZZZZZZ	E201434.D	03/28/13	16:20	07:44	(unrelated sample)
ZZZZZZ	E201436.D	03/28/13	17:20	08:44	(unrelated sample)
JB31700-13MS	E201439.D	03/28/13	19:21	10:45	Matrix Spike
JB31700-13MSD	E201440.D	03/28/13	19:51	11:15	Matrix Spike Duplicate
JB31700-13	E201441.D	03/28/13	20:21	11:45	(used for QC only; not part of job JB31485)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VE8857-BFB
Lab File ID: E201445.D
Instrument ID: GCMSE
Injection Date: 03/28/13
Injection Time: 22:21

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	7650	15.3		Pass
75	30.0 - 60.0% of mass 95	21992	43.9		Pass
95	Base peak, 100% relative abundance	50050	100.0		Pass
96	5.0 - 9.0% of mass 95	3307	6.61		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	50554	101.0		Pass
175	5.0 - 9.0% of mass 174	4165	8.32	(8.24) [a]	Pass
176	95.0 - 101.0% of mass 174	50549	101.0	(100.0) [a]	Pass
177	5.0 - 9.0% of mass 176	3164	6.32	(6.26) [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
VE8857-CC8801	E201446.D	03/28/13	22:51	00:30	Continuing cal 50
VE8857-MB	E201448.D	03/28/13	23:51	01:30	Method Blank
VE8857-BS	E201449.D	03/29/13	00:21	02:00	Blank Spike
JB31734-2MS	E201450.D	03/29/13	00:51	02:30	Matrix Spike
JB31734-2MSD	E201451.D	03/29/13	01:21	03:00	Matrix Spike Duplicate
JB31734-2	E201453.D	03/29/13	02:20	03:59	(used for QC only; not part of job JB31485)
ZZZZZZ	E201454.D	03/29/13	02:51	04:30	(unrelated sample)
ZZZZZZ	E201455.D	03/29/13	03:21	05:00	(unrelated sample)
ZZZZZZ	E201456.D	03/29/13	03:52	05:31	(unrelated sample)
ZZZZZZ	E201457.D	03/29/13	04:22	06:01	(unrelated sample)
JB31485-29	E201459.D	03/29/13	05:22	07:01	MH597-9 (3.0-3.5)
JB31485-28	E201460.D	03/29/13	05:53	07:32	MH597-8 (3.0-3.5)
ZZZZZZ	E201461.D	03/29/13	06:23	08:02	(unrelated sample)
ZZZZZZ	E201462.D	03/29/13	06:53	08:32	(unrelated sample)
ZZZZZZ	E201463.D	03/29/13	07:23	09:02	(unrelated sample)
ZZZZZZ	E201464.D	03/29/13	07:53	09:32	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VI7342-BFB
Lab File ID: I181796.D
Instrument ID: GCMSI
Injection Date: 02/26/13
Injection Time: 16:48

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	24578	16.6		Pass
75	30.0 - 60.0% of mass 95	66755	45.2		Pass
95	Base peak, 100% relative abundance	147648	100.0		Pass
96	5.0 - 9.0% of mass 95	9915	6.72		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	140653	95.3		Pass
175	5.0 - 9.0% of mass 174	12281	8.32	(8.73) [a]	Pass
176	95.0 - 101.0% of mass 174	135866	92.0	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	9216	6.24	(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
VI7342-IC7342	I181797.D	02/26/13	18:20	01:32	Initial cal 0.5
VI7342-IC7342	I181798.D	02/26/13	18:49	02:01	Initial cal 1
VI7342-IC7342	I181799.D	02/26/13	19:18	02:30	Initial cal 2
VI7342-IC7342	I181800.D	02/26/13	19:46	02:58	Initial cal 5
VI7342-IC7342	I181801.D	02/26/13	20:15	03:27	Initial cal 10
VI7342-IC7342	I181802.D	02/26/13	20:44	03:56	Initial cal 20
VI7342-IC7342	I181803.D	02/26/13	21:13	04:25	Initial cal 200
VI7342-IC7342	I181804.D	02/26/13	22:11	05:23	Initial cal 100
VI7342-ICC7342	I181805.D	02/26/13	23:08	06:20	Initial cal 50
VI7342-ICV7342	I181807.D	02/27/13	00:36	07:48	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VI7384-BFB
Lab File ID: I182794.D
Instrument ID: GCMSI
Injection Date: 03/29/13
Injection Time: 09:16

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	12245	17.5		Pass
75	30.0 - 60.0% of mass 95	32056	45.9		Pass
95	Base peak, 100% relative abundance	69906	100.0		Pass
96	5.0 - 9.0% of mass 95	4777	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	62261	89.1		Pass
175	5.0 - 9.0% of mass 174	5366	7.68	(8.62) [a]	Pass
176	95.0 - 101.0% of mass 174	61448	87.9	(98.7) [a]	Pass
177	5.0 - 9.0% of mass 176	4151	5.94	(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
VI7384-CC7342	I182795.D	03/29/13	09:57	00:41	Continuing cal 50
VI7384-MB1	I182797.D	03/29/13	11:10	01:54	Method Blank
VI7384-BS	I182798.D	03/29/13	11:50	02:34	Blank Spike
JB31485-20	I182800.D	03/29/13	13:02	03:46	MH595-10 (0.25-0.50)
JB32637-4	I182801.D	03/29/13	13:31	04:15	(used for QC only; not part of job JB31485)
ZZZZZZ	I182802.D	03/29/13	14:00	04:44	(unrelated sample)
ZZZZZZ	I182803.D	03/29/13	14:29	05:13	(unrelated sample)
ZZZZZZ	I182804.D	03/29/13	14:58	05:42	(unrelated sample)
ZZZZZZ	I182805.D	03/29/13	15:26	06:10	(unrelated sample)
ZZZZZZ	I182807.D	03/29/13	16:24	07:08	(unrelated sample)
ZZZZZZ	I182808.D	03/29/13	16:53	07:37	(unrelated sample)
ZZZZZZ	I182809.D	03/29/13	17:22	08:06	(unrelated sample)
ZZZZZZ	I182810.D	03/29/13	17:50	08:34	(unrelated sample)
ZZZZZZ	I182811.D	03/29/13	18:19	09:03	(unrelated sample)
ZZZZZZ	I182812.D	03/29/13	18:48	09:32	(unrelated sample)
ZZZZZZ	I182813.D	03/29/13	19:17	10:01	(unrelated sample)
ZZZZZZ	I182814.D	03/29/13	19:46	10:30	(unrelated sample)
ZZZZZZ	I182815.D	03/29/13	20:14	10:58	(unrelated sample)
JB32637-4MS	I182816.D	03/29/13	20:43	11:27	Matrix Spike
JB32637-4MSD	I182817.D	03/29/13	21:12	11:56	Matrix Spike Duplicate

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	V3C4303-CC4301	**Injection Date:**	03/28/13
Lab File ID:	3C96948.D	**Injection Time:**	10:08
Instrument ID:	GCMS3C	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	74946	7.37	214217	9.60	310061	10.52	257780	13.65	122445	15.94
Upper Limit [a]	149892	7.87	428434	10.10	620122	11.02	515560	14.15	244890	16.44
Lower Limit [b]	37473	6.87	107109	9.10	155031	10.02	128890	13.15	61223	15.44

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3C4303-MB1	57183	7.37	208286	9.60	300592	10.52	248926	13.65	107517	15.94
V3C4303-BS	70619	7.37	199720	9.60	290701	10.52	240197	13.64	116740	15.94
ZZZZZZ	78606	7.37	209018	9.60	302609	10.52	257930	13.64	115927	15.94
ZZZZZZ	59766	7.38	211257	9.60	304671	10.52	251578	13.65	107648	15.94
JB32462-29	74793	7.38	212829	9.60	313523	10.52	262377	13.65	116083	15.94
JB31485-16	59686	7.37	206207	9.60	301038	10.52	253016	13.65	114004	15.94
JB32462-29MS	61790	7.38	208530	9.61	307385	10.52	260074	13.65	124093	15.94
JB32462-29MSD	67928	7.37	212039	9.60	314305	10.52	266172	13.65	123893	15.94
ZZZZZZ	56861	7.38	194423	9.60	284247	10.52	233848	13.65	104742	15.94
ZZZZZZ	64604	7.38	204648	9.61	299948	10.52	245456	13.65	103204	15.94
ZZZZZZ	82075	7.38	218332	9.60	326239	10.52	268539	13.65	125112	15.94
ZZZZZZ	77228	7.37	216786	9.60	322774	10.52	265350	13.65	114729	15.94
ZZZZZZ	82280	7.38	204562	9.61	304805	10.52	253409	13.65	108080	15.94
ZZZZZZ	59145	7.38	199941	9.61	293561	10.52	244219	13.65	106215	15.94
ZZZZZZ	67293	7.38	202355	9.60	298753	10.52	249805	13.65	110993	15.94

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.

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VA7267-CC7222	**Injection Date:**	03/22/13
Lab File ID:	A192888.D	**Injection Time:**	08:35
Instrument ID:	GCMSA	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	73729	7.01	176380	9.35	243550	10.30	226339	13.74	133537	16.38
Upper Limit [a]	147458	7.51	352760	9.85	487100	10.80	452678	14.24	267074	16.88
Lower Limit [b]	36865	6.51	88190	8.85	121775	9.80	113170	13.24	66769	15.88

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VA7267-MB	73431	7.02	182964	9.35	250347	10.30	236872	13.74	122780	16.38
VA7267-BS	77965	7.03	182366	9.35	251497	10.30	246778	13.74	153096	16.38
ZZZZZZ	64849	7.02	201702	9.35	270612	10.30	255715	13.74	131049	16.38
ZZZZZZ	67011	7.02	186808	9.35	262280	10.30	246406	13.74	128845	16.37
ZZZZZZ	81908	7.02	196615	9.35	269624	10.30	267694	13.74	143193	16.38
JB31810-9	74555	7.01	178354	9.35	249012	10.30	248588	13.74	130884	16.38
ZZZZZZ	68432	7.02	185715	9.35	258978	10.30	252608	13.74	124691	16.38
ZZZZZZ	63515	7.01	195392	9.35	269534	10.30	259744	13.75	131343	16.38
JB31810-9MS	59880	7.02	185929	9.35	255224	10.30	235884	13.74	139335	16.38
JB31810-9MSD	54814	7.02	197372	9.35	272874	10.30	266988	13.74	155448	16.38
ZZZZZZ	69908	7.02	194160	9.35	273596	10.30	267037	13.74	133508	16.37
JB31485-22	71779	7.02	197153	9.35	269845	10.30	263040	13.74	136337	16.38
JB31485-24	61124	7.02	179408	9.35	248474	10.30	238933	13.74	133168	16.38
JB31485-30	65336	7.02	180928	9.35	247856	10.30	242825	13.74	123830	16.38

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VA7271-CC7222	**Injection Date:**	03/25/13
Lab File ID:	A192983.D	**Injection Time:**	09:29
Instrument ID:	GCMSA	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	76738	7.03	181508	9.36	243846	10.31	223768	13.76	132582	16.39
Upper Limit [a]	153476	7.53	363016	9.86	487692	10.81	447536	14.26	265164	16.89
Lower Limit [b]	38369	6.53	90754	8.86	121923	9.81	111884	13.26	66291	15.89

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VA7271-MB	69547	7.02	171088	9.36	234635	10.31	217445	13.75	103547	16.39
VA7271-BS	57813	7.04	173898	9.36	234348	10.31	217843	13.75	130521	16.39
JB31583-12	63032	7.03	184996	9.37	248928	10.31	226586	13.76	114951	16.39
ZZZZZZ	67534	7.03	191903	9.37	264704	10.31	255564	13.76	141163	16.39
ZZZZZZ	77715	7.03	201802	9.37	274217	10.32	257799	13.76	132677	16.39
JB32254-2	71076	7.03	210314	9.37	281219	10.31	253311	13.76	134304	16.39
JB31583-12DUP	71185	7.03	212220	9.37	282260	10.32	260661	13.76	141211	16.40
ZZZZZZ	77946	7.04	210100	9.37	292715	10.31	270154	13.76	155963	16.39
JB32254-2MS	56730	7.04	221001	9.37	298048	10.31	266426	13.76	150238	16.39
ZZZZZZ	69978	7.04	197457	9.37	269455	10.32	254062	13.76	131295	16.39
ZZZZZZ	83713	7.04	206363	9.37	281461	10.31	269206	13.76	134930	16.40
ZZZZZZ	82592	7.04	211134	9.37	285496	10.32	260401	13.76	134221	16.39
JB31485-29	39345	7.03	96075	9.37	132169	10.32	124538	13.76	65484*	16.40
ZZZZZZ	73333	7.03	216557	9.37	296538	10.32	275637	13.76	148601	16.39
ZZZZZZ	72343	7.04	212079	9.37	295969	10.32	271577	13.75	148121	16.39

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VA7273-CC7222	**Injection Date:**	03/26/13
Lab File ID:	A193027.D	**Injection Time:**	11:02
Instrument ID:	GCMSA	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	66207	7.02	196228	9.36	273023	10.30	251493	13.74	141418	16.38
Upper Limit [a]	132414	7.52	392456	9.86	546046	10.80	502986	14.24	282836	16.88
Lower Limit [b]	33104	6.52	98114	8.86	136512	9.80	125747	13.24	70709	15.88

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VA7273-MB	71609	7.02	182453	9.35	246428	10.30	223960	13.75	113327	16.38
VA7273-BS	60534	7.01	182763	9.35	251066	10.30	231806	13.74	135852	16.38
ZZZZZZ	62553	7.01	190620	9.35	258764	10.30	245251	13.74	138278	16.38
JB32364-36	65779	7.03	199931	9.35	269998	10.30	264098	13.74	130906	16.38
JB32364-38	67587	7.02	198151	9.35	268253	10.30	251324	13.74	137075	16.38
JB32364-36DUP	72047	7.01	195443	9.35	260403	10.30	243856	13.74	124400	16.38
JB32364-38MS	52287	7.03	201295	9.36	277306	10.30	250815	13.74	148522	16.38
ZZZZZZ	69728	7.02	216462	9.35	289191	10.31	281181	13.74	136467	16.38
ZZZZZZ	69934	7.02	213492	9.35	289044	10.30	271319	13.74	133378	16.38
ZZZZZZ	79032	7.03	207743	9.35	278572	10.30	263890	13.75	135846	16.38
ZZZZZZ	71470	7.01	210595	9.35	287630	10.30	266458	13.74	137526	16.38
JB31485-21	71605	7.01	193870	9.35	266931	10.30	243235	13.74	105194	16.38
ZZZZZZ	69373	7.01	185490	9.35	263010	10.30	249249	13.74	119323	16.38

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VA7274-CC7222	**Injection Date:**	03/26/13
Lab File ID:	A193049.D	**Injection Time:**	22:52
Instrument ID:	GCMSA	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	54133	7.02	185630	9.35	245450	10.30	220028	13.74	135148	16.37
Upper Limit [a]	108266	7.52	371260	9.85	490900	10.80	440056	14.24	270296	16.87
Lower Limit [b]	27067	6.52	92815	8.85	122725	9.80	110014	13.24	67574	15.87

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VA7274-MB	56004	7.02	169975	9.35	240471	10.30	225798	13.74	109464	16.38
VA7274-BS	63609	7.01	181028	9.35	249932	10.30	240827	13.74	145537	16.37
JB32267-3MS	47132	7.02	190932	9.35	263696	10.29	236380	13.74	122226	16.37
JB32267-3MSD	50324	7.01	187417	9.35	260900	10.29	233765	13.74	123902	16.37
JB32267-3	66845	7.00	174518	9.35	243185	10.30	235368	13.74	115922	16.37
ZZZZZZ	51798	7.01	158925	9.35	216137	10.30	208164	13.74	97121	16.38
JB31485-8	67953	7.02	180799	9.35	247026	10.30	243418	13.74	134759	16.37
JB31485-12	61283	7.02	194866	9.35	266200	10.30	255003	13.74	138171	16.37
ZZZZZZ	57675	7.01	194827	9.35	264587	10.30	248052	13.74	131422	16.37
ZZZZZZ	62795	7.01	198206	9.35	269260	10.30	240360	13.74	127383	16.37
ZZZZZZ	62776	7.01	191308	9.35	270051	10.30	248433	13.74	125279	16.37
ZZZZZZ	57975	7.02	203678	9.34	274717	10.29	262415	13.74	142134	16.37
ZZZZZZ	66763	7.01	198131	9.35	271233	10.29	263959	13.74	132244	16.37
ZZZZZZ	65721	7.01	205632	9.35	278588	10.29	262487	13.74	131666	16.37

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VA7275-CC7222	**Injection Date:**	03/27/13
Lab File ID:	A193068.D	**Injection Time:**	09:01
Instrument ID:	GCMSA	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	56543	7.01	195297	9.34	262415	10.29	233779	13.73	132362	16.37
Upper Limit [a]	113086	7.51	390594	9.84	524830	10.79	467558	14.23	264724	16.87
Lower Limit [b]	28272	6.51	97649	8.84	131208	9.79	116890	13.23	66181	15.87

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VA7275-MB	71520	7.01	183502	9.34	252064	10.29	230955	13.73	115090	16.37
VA7275-BS	74326	7.01	190116	9.34	261925	10.29	242193	13.74	149506	16.37
ZZZZZZ	63690	7.01	194813	9.34	273892	10.29	251656	13.73	132488	16.37
JB32371-16	74798	7.01	200700	9.34	267993	10.29	249238	13.74	130546	16.37
JB32371-17	79838	7.01	210393	9.35	287075	10.29	274596	13.74	140286	16.37
ZZZZZZ	68226	7.02	204034	9.35	276153	10.30	259980	13.74	131880	16.37
ZZZZZZ	65282	7.02	196662	9.35	270356	10.30	256300	13.74	123063	16.37
ZZZZZZ	63998	7.01	191156	9.35	262688	10.30	244830	13.74	122930	16.37
ZZZZZZ	65594	7.01	198876	9.35	274592	10.30	257623	13.74	124624	16.37
ZZZZZZ	67785	7.01	200446	9.35	278671	10.30	266129	13.74	135337	16.37
JB32371-17MS	46896	7.02	206463	9.35	280516	10.29	251483	13.74	143518	16.37
JB32371-16DUP	64771	7.01	195180	9.35	264991	10.30	251190	13.74	119499	16.37
ZZZZZZ	72250	7.02	203883	9.35	274777	10.30	258142	13.74	127538	16.38
JB31485-14	52803	7.01	135592	9.35	190619	10.30	183028	13.74	83495	16.37
JB31485-15	55043	7.01	159110	9.35	212437	10.30	200983	13.74	98440	16.38
JB31485-7	75466	7.01	199584	9.34	271235	10.29	259753	13.73	140477	16.37
JB31485-5	66151	7.01	191708	9.35	256045	10.29	242555	13.73	134048	16.37
JB31485-2	69603	7.00	181400	9.34	243808	10.29	236172	13.73	136206	16.37

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VA7279-CC7222	**Injection Date:**	03/29/13
Lab File ID:	A193158.D	**Injection Time:**	08:56
Instrument ID:	GCMSA	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	53242	7.00	173826	9.33	235836	10.28	216217	13.72	121308	16.36
Upper Limit [a]	106484	7.50	347652	9.83	471672	10.78	432434	14.22	242616	16.86
Lower Limit [b]	26621	6.50	86913	8.83	117918	9.78	108109	13.22	60654	15.86

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VA7279-MB	55785	6.99	164537	9.33	222110	10.28	213005	13.73	100792	16.36
VA7279-BS	64715	7.00	175308	9.32	237042	10.28	228868	13.72	138490	16.36
ZZZZZZ	55959	7.00	178997	9.33	245934	10.28	231501	13.73	117275	16.36
ZZZZZZ	58158	7.01	178711	9.33	250638	10.29	234169	13.73	110735	16.36
ZZZZZZ	62670	7.01	185842	9.34	251686	10.28	238676	13.73	119050	16.36
ZZZZZZ	61101	7.00	185045	9.33	252219	10.29	239337	13.73	116314	16.36
ZZZZZZ	62300	7.00	178496	9.34	247816	10.29	239621	13.73	112983	16.36
ZZZZZZ	56451	7.01	174677	9.34	239782	10.28	228714	13.73	111143	16.37
ZZZZZZ	54219	7.00	180597	9.33	247983	10.29	231582	13.73	114204	16.36
JB32713-4	77823	7.01	175920	9.34	236273	10.29	223266	13.73	110958	16.36
ZZZZZZ	72529	7.01	162249	9.34	223730	10.29	211166	13.73	98809	16.36
ZZZZZZ	68825	7.00	166643	9.34	224693	10.28	212948	13.73	105052	16.36
ZZZZZZ	72176	7.00	176049	9.34	247965	10.29	231517	13.73	119507	16.37
JB32713-4MS	47366	7.00	175329	9.33	238671	10.29	228229	13.73	125346	16.36
JB32713-4MSD	51563	7.00	180501	9.33	248946	10.28	226280	13.72	127554	16.36
ZZZZZZ	71190	7.00	177318	9.34	241617	10.29	229583	13.73	121740	16.36
ZZZZZZ	58520	7.00	183286	9.34	249547	10.29	236316	13.73	121880	16.36
JB31485-23	67428	7.00	178181	9.34	245986	10.28	244494	13.73	136524	16.37

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VE8847-CC8801	**Injection Date:**	03/22/13
Lab File ID:	E201213.D	**Injection Time:**	21:56
Instrument ID:	GCMSE	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	82870	7.69	172052	9.90	226762	10.82	213994	14.15	125976	16.72
Upper Limit [a]	165740	8.19	344104	10.40	453524	11.32	427988	14.65	251952	17.22
Lower Limit [b]	41435	7.19	86026	9.40	113381	10.32	106997	13.65	62988	16.22

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE8847-MB	91479	7.70	181259	9.91	229074	10.82	215550	14.15	122228	16.72
VE8847-BS	81113	7.70	167231	9.91	217385	10.82	209963	14.15	122530	16.72
JB31359-2MS	62916	7.68	165358	9.90	219185	10.82	209340	14.15	122837	16.72
JB31359-2MSD	65340	7.67	164921	9.90	219775	10.83	211804	14.15	123972	16.72
JB31359-2	71872	7.68	177133	9.91	230269	10.82	211495	14.15	130413	16.72
ZZZZZZ	86000	7.68	176578	9.90	225160	10.82	203839	14.15	120624	16.72
ZZZZZZ	77731	7.68	184910	9.90	239198	10.82	211971	14.15	127304	16.72
ZZZZZZ	93094	7.67	194940	9.91	245454	10.82	227607	14.15	138630	16.72
ZZZZZZ	93646	7.68	190723	9.91	240093	10.82	217204	14.15	133995	16.72
ZZZZZZ	75346	7.68	184562	9.90	237644	10.82	214192	14.15	122629	16.72
ZZZZZZ	82749	7.68	181599	9.90	228447	10.82	184853	14.15	117411	16.72
JB31485-25 [c]	81017	7.69	193771	9.90	249073	10.82	220748	14.15	123089	16.72
JB31485-26 [c]	80458	7.68	192173	9.90	246551	10.82	220684	14.15	132610	16.72
JB31485-27 [c]	79440	7.69	195205	9.90	248836	10.82	221386	14.15	126657	16.72

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VE8849-CC8801	**Injection Date:**	03/23/13
Lab File ID:	E201260.D	**Injection Time:**	22:17
Instrument ID:	GCMSE	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	86358	7.69	171824	9.91	230085	10.82	218745	14.15	127503	16.72
Upper Limit [a]	172716	8.19	343648	10.41	460170	11.32	437490	14.65	255006	17.22
Lower Limit [b]	43179	7.19	85912	9.41	115043	10.32	109373	13.65	63752	16.22

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE8849-MB	106650	7.72	185524	9.91	237382	10.83	220963	14.15	132665	16.72
VE8849-BS	84698	7.69	170497	9.90	227401	10.83	215493	14.15	126967	16.72
JB31485-1MS	65047	7.68	167399	9.90	222369	10.82	212236	14.15	126252	16.72
JB31485-1MSD	68523	7.69	172780	9.91	230667	10.82	222704	14.15	130707	16.72
JB31485-1 [c]	92553	7.68	185756	9.90	238115	10.82	219482	14.15	133477	16.72
JB31485-3 [c]	94151	7.70	187619	9.90	240263	10.82	218724	14.15	131240	16.72
JB31485-4	89041	7.68	191528	9.91	244991	10.82	224871	14.15	136306	16.72
JB31485-6	81114	7.69	192606	9.90	245445	10.82	221945	14.15	135958	16.72
JB31485-9	82972	7.68	186070	9.90	239393	10.82	216609	14.15	134098	16.72
JB31485-13 [c]	93502	7.69	190657	9.90	242790	10.82	216926	14.15	131568	16.72
JB31485-18	94530	7.69	190092	9.90	243987	10.82	212740	14.15	129772	16.72
ZZZZZZ	72856	7.68	182901	9.91	237350	10.82	218899	14.15	134564	16.72
ZZZZZZ	82527	7.68	185411	9.90	237441	10.82	220969	14.15	129916	16.72

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VE8854-CC8801	**Injection Date:**	03/27/13
Lab File ID:	E201374.D	**Injection Time:**	09:02
Instrument ID:	GCMSE	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	93096	7.69	174415	9.91	232719	10.82	222207	14.15	125821	16.72
Upper Limit [a]	186192	8.19	348830	10.41	465438	11.32	444414	14.65	251642	17.22
Lower Limit [b]	46548	7.19	87208	9.41	116360	10.32	111104	13.65	62911	16.22

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE8854-MB	84205	7.69	185779	9.91	238057	10.82	224198	14.15	130487	16.72
VE8854-BS	82843	7.70	170969	9.90	231895	10.82	220387	14.15	124194	16.72
ZZZZZZ	109570	7.68	170382	9.90	221123	10.82	203935	14.15	124957	16.72
ZZZZZZ	94697	7.73	184115	9.90	230425	10.82	209617	14.15	124125	16.72
ZZZZZZ	96711	7.68	191548	9.90	246658	10.82	229580	14.15	134364	16.72
ZZZZZZ	81698	7.68	185141	9.90	241030	10.82	225273	14.15	135907	16.72
ZZZZZZ	79089	7.68	187613	9.90	241407	10.82	222757	14.15	134692	16.72
ZZZZZZ	87589	7.70	190804	9.91	246022	10.82	222426	14.15	134402	16.72
ZZZZZZ	72197	7.68	187676	9.90	240896	10.83	219223	14.15	134437	16.72
ZZZZZZ	66124	7.68	184085	9.91	233266	10.82	219483	14.15	136732	16.72
JB31856-5	71768	7.68	185785	9.90	240132	10.82	223942	14.15	139529	16.72
ZZZZZZ	71228	7.68	188838	9.90	240223	10.83	222237	14.15	133407	16.72
ZZZZZZ	72975	7.68	183350	9.90	236981	10.82	219436	14.15	134387	16.72
JB31485-11	70250	7.68	182380	9.90	236465	10.82	200118	14.15	124727	16.72
JB31856-5MS	66264	7.69	169282	9.90	233430	10.82	224980	14.15	131526	16.72
JB31856-5MSD	66221	7.69	175883	9.90	228141	10.82	218493	14.15	126766	16.72

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VE8855-CC8801	**Injection Date:**	03/27/13
Lab File ID:	E201397.D	**Injection Time:**	20:45
Instrument ID:	GCMSE	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	90291	7.71	175470	9.91	236519	10.82	217473	14.15	126163	16.72
Upper Limit [a]	180582	8.21	350940	10.41	473038	11.32	434946	14.65	252326	17.22
Lower Limit [b]	45146	7.21	87735	9.41	118260	10.32	108737	13.65	63082	16.22

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE8855-MB	93696	7.69	182793	9.90	235183	10.83	221376	14.15	126795	16.72
VE8855-BS	80284	7.70	166520	9.90	219138	10.82	213468	14.15	125282	16.72
JB31820-1MS	67055	7.67	168877	9.90	221685	10.82	211411	14.15	128843	16.72
JB31820-1MSD	70320	7.68	171887	9.90	225608	10.83	210019	14.15	128046	16.72
JB31820-1	71451	7.67	179119	9.90	222721	10.82	210237	14.15	130620	16.72
ZZZZZZ	92883	7.68	187530	9.90	239541	10.82	219159	14.15	130017	16.72
JB31485-17 [c]	75907	7.68	186298	9.91	227661	10.82	202827	14.15	124601	16.72
JB31485-19 [c]	98039	7.70	180900	9.90	227743	10.82	195594	14.15	127829	16.72

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VE8856-CC8801	**Injection Date:**	03/28/13
Lab File ID:	E201420.D	**Injection Time:**	09:07
Instrument ID:	GCMSE	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	96399	7.69	174481	9.90	228219	10.82	220096	14.15	126381	16.72
Upper Limit [a]	192798	8.19	348962	10.40	456438	11.32	440192	14.65	252762	17.22
Lower Limit [b]	48200	7.19	87241	9.40	114110	10.32	110048	13.65	63191	16.22

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE8856-MB	105555	7.72	188169	9.90	237558	10.82	216645	14.15	128915	16.72
VE8856-BS	89556	7.69	170781	9.90	223486	10.82	208125	14.15	120682	16.72
ZZZZZZ	71204	7.67	174066	9.91	217872	10.82	207193	14.15	127531	16.72
ZZZZZZ	102142	7.72	188270	9.91	229961	10.82	223003	14.15	116500	16.72
ZZZZZZ	93949	7.67	184888	9.91	234168	10.82	216549	14.15	129924	16.72
JB31485-10 [c]	86843	7.69	182992	9.90	231412	10.82	211660	14.15	129043	16.72
ZZZZZZ	79573	7.68	184552	9.90	236149	10.82	206482	14.15	118146	16.72
ZZZZZZ	91237	7.70	189172	9.90	240762	10.82	201447	14.15	120950	16.72
ZZZZZZ	94112	7.68	169479	9.90	213974	10.82	201228	14.15	123193	16.72
ZZZZZZ	84988	7.68	181759	9.90	231006	10.82	204250	14.15	125233	16.72
ZZZZZZ	90295	7.68	188621	9.90	241630	10.82	214836	14.15	128658	16.72
ZZZZZZ	83492	7.69	180781	9.90	230595	10.82	204782	14.15	121034	16.72
ZZZZZZ	81541	7.69	174836	9.90	221239	10.82	198536	14.15	123992	16.72
ZZZZZZ	108491	7.70	177980	9.91	228033	10.82	212568	14.15	135246	16.72
JB31700-13MS	63998	7.68	160164	9.90	210778	10.82	198797	14.15	119089	16.72
JB31700-13MSD	63236	7.68	162691	9.90	216929	10.82	206197	14.15	121081	16.72
JB31700-13	65525	7.68	183443	9.90	230434	10.82	213896	14.15	132425	16.72

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

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

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VE8857-CC8801	**Injection Date:**	03/28/13
Lab File ID:	E201446.D	**Injection Time:**	22:51
Instrument ID:	GCMSE	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	75497	7.69	156879	9.91	206244	10.82	198865	14.15	115414	16.72
Upper Limit [a]	150994	8.19	313758	10.41	412488	11.32	397730	14.65	230828	17.22
Lower Limit [b]	37749	7.19	78440	9.41	103122	10.32	99433	13.65	57707	16.22

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE8857-MB	90743	7.69	171740	9.90	217285	10.83	202987	14.15	121332	16.72
VE8857-BS	70407	7.69	161397	9.91	212377	10.82	203654	14.15	119964	16.72
JB31734-2MS	59902	7.68	158391	9.90	208548	10.82	199347	14.15	118142	16.72
JB31734-2MSD	62598	7.69	164152	9.90	218878	10.82	206113	14.15	121318	16.72
JB31734-2	66164	7.70	171970	9.90	217646	10.82	201222	14.15	122628	16.72
ZZZZZZ	64279	7.69	169240	9.90	218115	10.82	203087	14.15	124285	16.72
ZZZZZZ	65486	7.69	167815	9.90	213973	10.82	199759	14.15	126569	16.72
ZZZZZZ	64497	7.68	165704	9.90	208798	10.82	194913	14.15	121765	16.72
ZZZZZZ	61506	7.67	166745	9.90	205446	10.82	200184	14.15	126398	16.72
JB31485-29 [c]	66396	7.68	167472	9.90	207544	10.82	195622	14.15	117956	16.72
JB31485-28 [d]	64335	7.69	166338	9.90	209389	10.82	188228	14.15	112944	16.72
ZZZZZZ	86276	7.68	176883	9.90	213813	10.82	197132	14.15	125314	16.72
ZZZZZZ	95839	7.70	176640	9.90	221914	10.82	199963	14.15	126312	16.72
ZZZZZZ	88670	7.68	178614	9.91	221300	10.82	193110	14.15	118368	16.72
ZZZZZZ	73217	7.68	176109	9.90	230678	10.82	210185	14.15	125491	16.72

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 for internal standard areas.
(d) Dilution required due to matrix interference.

Internal Standard Area Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VI7384-CC7342	**Injection Date:**	03/29/13
Lab File ID:	I182795.D	**Injection Time:**	09:57
Instrument ID:	GCMSI	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	71053	7.19	235855	9.46	321730	10.38	255293	13.55	152634	15.91
Upper Limit [a]	142106	7.69	471710	9.96	643460	10.88	510586	14.05	305268	16.41
Lower Limit [b]	35527	6.69	117928	8.96	160865	9.88	127647	13.05	76317	15.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VI7384-MB1	51075	7.20	200574	9.46	274727	10.38	223190	13.55	119455	15.91
VI7384-BS	84994	7.20	236072	9.46	325610	10.38	263775	13.55	157645	15.91
JB31485-20	48837	7.20	218012	9.46	292332	10.38	220373	13.55	112232	15.90
JB32637-4	57545	7.20	225296	9.46	306266	10.38	236328	13.55	126478	15.90
ZZZZZZ	55259	7.21	220709	9.46	299740	10.38	229808	13.54	121152	15.90
ZZZZZZ	58717	7.20	222916	9.46	302000	10.38	231365	13.55	122812	15.90
ZZZZZZ	63032	7.20	206261	9.46	282033	10.38	215390	13.55	116170	15.90
ZZZZZZ	55858	7.21	203968	9.46	278878	10.38	215679	13.55	114109	15.90
ZZZZZZ	52562	7.20	202666	9.46	273304	10.38	208560	13.55	111128	15.90
ZZZZZZ	65148	7.20	212371	9.46	285259	10.38	218045	13.55	119322	15.90
ZZZZZZ	63795	7.20	215856	9.46	294400	10.38	222485	13.55	121539	15.91
ZZZZZZ	58714	7.20	207604	9.46	281061	10.38	215151	13.55	116812	15.90
ZZZZZZ	63079	7.20	214967	9.46	291586	10.38	223600	13.55	118944	15.90
ZZZZZZ	46582	7.20	186979	9.46	257110	10.38	175538	13.55	59284*	15.90
ZZZZZZ	65309	7.20	210837	9.46	288077	10.38	224283	13.55	118213	15.90
ZZZZZZ	65716	7.20	219729	9.46	301250	10.38	233515	13.55	123659	15.90
ZZZZZZ	50556	7.20	193511	9.46	265453	10.38	207530	13.55	110100	15.90
JB32637-4MS	59215	7.20	218515	9.46	302628	10.38	233841	13.55	130981	15.90
JB32637-4MSD	58289	7.20	212964	9.46	298314	10.38	227081	13.55	126526	15.90

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.

Surrogate Recovery Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB31485-1	E201267.D	84	85	95	90
JB31485-2	A193088.D	103	92	111	100
JB31485-3	E201268.D	84	85	94	91
JB31485-4	E201269.D	83	85	93	87
JB31485-5	A193087.D	105	91	108	105
JB31485-6	E201270.D	83	85	94	88
JB31485-7	A193086.D	102	93	108	105
JB31485-8	A193058.D	105	0*	111	106
JB31485-9	E201272.D	83	85	94	88
JB31485-10	E201427.D	83	84	93	86
JB31485-11	E201393.D	82	86	89	89
JB31485-12	A193059.D	101	90	108	106
JB31485-13	E201276.D	83	85	93	90
JB31485-14	A193084.D	105	97	112	119
JB31485-15	A193085.D	102	92	107	117
JB31485-16	3C96956.D	99	93	104	106
JB31485-17	E201417.D	83	81	107	109
JB31485-18	E201278.D	83	84	94	95
JB31485-19	E201418.D	85	81	98	97
JB31485-20	I182800.D	92	99	107	115
JB31485-21	A193043.D	103	93	106	123
JB31485-22	A192902.D	103	91	106	109
JB31485-23	A193177.D	107	98	111	103
JB31485-24	A192903.D	106	92	107	103
JB31485-25	E201230.D	83	85	93	99
JB31485-26	E201231.D	84	84	94	90
JB31485-27	E201232.D	84	85	92	93
JB31485-28	E201460.D	83	85	102	108
JB31485-29	E201459.D	84	85	94	89
JB31485-29	A192999.D	100	90	108	103
JB31485-30	A192905.D	102	89	108	107
JB31359-2MS	E201217.D	87	85	95	90
JB31359-2MSD	E201218.D	88	91	95	89
JB31485-1MS	E201264.D	87	84	95	90
JB31485-1MSD	E201265.D	87	84	95	90
JB31583-12DUP	A192992.D	101	87	107	106
JB31700-13MS	E201439.D	86	89	95	92
JB31700-13MSD	E201440.D	87	85	95	90
JB31734-2MS	E201450.D	86	89	95	87
JB31734-2MSD	E201451.D	86	85	94	89

Surrogate Recovery Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB31810-9MS	A192898.D	101	91	106	100
JB31810-9MSD	A192899.D	101	87	111	101
JB31820-1MS	E201401.D	87	84	94	90
JB31820-1MSD	E201402.D	88	84	94	93
JB31856-5MS	E201394.D	88	92	96	90
JB31856-5MSD	E201395.D	88	83	96	94
JB32254-2MS	A192994.D	87	82	109	104
JB32267-3MS	A193053.D	94	90	109	111
JB32267-3MSD	A193054.D	95	95	109	110
JB32364-36DUP	A193035.D	102	91	106	109
JB32364-38MS	A193036.D	98	89	107	96
JB32371-16DUP	A193082.D	101	90	106	116
JB32371-17MS	A193080.D	96	81	110	102
JB32462-29MS	3C96958.D	102	97	105	103
JB32462-29MSD	3C96959.D	104	102	104	105
JB32637-4MS	I182816.D	31* [a]	109	106	110
JB32637-4MSD	I182817.D	33* [a]	107	106	111
JB32713-4MS	A193173.D	103	90	112	106
JB32713-4MSD	A193174.D	102	89	108	104
V3C4303-BS	3C96951.D	100	94	104	101
V3C4303-MB1	3C96950.D	95	89	103	109
VA7267-BS	A192890.D	108	103	109	98
VA7267-MB	A192889.D	103	92	104	108
VA7271-BS	A192985.D	102	96	110	101
VA7271-MB	A192984.D	109	100	107	116
VA7273-BS	A193029.D	104	97	109	102
VA7273-MB	A193028.D	103	92	104	110
VA7274-BS	A193052.D	104	100	112	100
VA7274-MB	A193051.D	104	96	107	114
VA7275-BS	A193070.D	106	100	110	100
VA7275-MB	A193069.D	103	96	103	112
VA7279-BS	A193160.D	106	101	111	102
VA7279-MB	A193159.D	104	95	108	114
VE8847-BS	E201216.D	88	84	97	90
VE8847-MB	E201215.D	84	87	96	94
VE8849-BS	E201263.D	88	86	95	90
VE8849-MB	E201262.D	84	86	95	90
VE8854-BS	E201377.D	88	85	95	91
VE8854-MB	E201376.D	84	85	95	92
VE8855-BS	E201400.D	87	89	95	89

Surrogate Recovery Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
VE8855-MB	E201399.D	84	85	96	93
VE8856-BS	E201423.D	90	89	95	90
VE8856-MB	E201422.D	83	83	92	92
VE8857-BS	E201449.D	87	83	95	87
VE8857-MB	E201448.D	84	86	95	90
VI7384-BS	I182798.D	105	116	106	111
VI7384-MB1	I182797.D	102	109	105	117

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = 1,2-Dichloroethane-D4	70-122%
S3 = Toluene-D8	81-127%
S4 = 4-Bromofluorobenzene	66-132%

(a) Outside control limits due to matrix interference.

Initial Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: V3C4301-ICC4301
Lab FileID: 3C96914.D

Response Factor Report MS3C

```
Method       : C:\MSDCHEM\1\METHODS\M3C4301.M (RTE Integrator)
Title        : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Sep 13 11:48:20 2010
Response via : Initial Calibration

Calibration Files
5   =3C96909.D   10  =3C96908.D   0.5 =3C96912.D   50  =3C96914.D
100 =3C96916.D   1   =3C96911.D   200 =3C96917.D   20  =3C96913.D
2   =3C96910.D   75  =3C96915.D       =                 =

Compound
        5     10    0.5   50    100   1     200   20    2     75     Avg   %RSD
-------------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.132 0.137       0.142 0.146       0.151 0.150 0.135 0.134  0.141    5.22
3)  tertiary butyl alcohol
     1.504 1.444       1.415 1.402       1.533 1.512 1.711 1.319  1.480    7.88
4)  Ethanol
                                                                   0.000#  -1.00

5) I   pentafluorobenzene    ----------------ISTD---------------------
6)  chlorodifluoromethane
     0.538 0.373 0.514 0.451 0.502 0.524 0.509 0.490 0.538 0.443  0.488   10.65
7)  dichlorodifluoromethane
     0.808 0.576 0.658 0.673 0.732 0.696 0.727 0.723 0.778 0.626  0.700    9.90
8)  chloromethane
     0.733 0.634       0.649 0.652 0.864 0.640 0.703 0.793 0.598  0.696   12.43
9)  vinyl chloride
     0.894 0.751 0.944 0.781 0.810 0.959 0.795 0.865 0.941 0.720  0.846   10.22
10)  bromomethane
     0.502 0.435 0.552 0.440 0.431 0.524 0.376 0.483 0.516 0.399  0.466   12.48
11)  chloroethane
     0.438 0.380 0.384 0.394 0.398 0.441 0.373 0.427 0.457 0.364  0.406    8.06
12)  Vinyl Bromide
                                                                   0.000#  -1.00
13)  Pentane
                                                                   0.000#  -1.00
14)  trichlorofluoromethane
     0.918 0.739 0.755 0.783 0.826 0.877 0.797 0.868 0.890 0.730  0.818    8.23
15)  ethyl ether
     0.290 0.269       0.267 0.280 0.354 0.282 0.271 0.326 0.265  0.289   10.58
16)  acrolein
     0.069 0.074 0.075 0.071       0.075       0.071 0.076 0.070  0.073    3.74
17)  1,1-dichloroethene
     0.501 0.369       0.424 0.463 0.480 0.458 0.446 0.554 0.416  0.457   11.63
18)  acetone
            0.036      0.031 0.030       0.031 0.031       0.031  0.032    6.76
19)  allyl chloride
     0.313 0.263 0.301 0.282 0.307 0.293 0.312 0.301 0.319 0.280  0.297    5.97
20)  acetonitrile
     0.031 0.031       0.029 0.029 0.041 0.031 0.030 0.037 0.029  0.032   13.01
21)  iodomethane
     0.883 0.749 0.936 0.832 0.873 0.841 0.855 0.858 0.898 0.809  0.853    6.01
22)  iso-butyl alcohol
     0.014 0.014       0.012 0.013 0.013 0.014 0.012 0.014 0.013  0.013    6.66
23)  carbon disulfide
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** V3C4301-ICC4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96914.D
Project: Sunoco - Marcus Hook Facility, PA

	1.691	1.330	1.880	1.489	1.617	1.544	1.589	1.574	1.776	1.467	1.596	9.90
24)	methylene chloride											
	0.547	0.499		0.529	0.535	0.573	0.527	0.532	0.584	0.494	0.536	5.56
25)	methyl acetate											
	0.086	0.098		0.093	0.094		0.100	0.089		0.092	0.093	5.06
26)	methyl tert butyl ether											
	1.314	1.289	1.439	1.329	1.334	1.315	1.344	1.313	1.404	1.274	1.335	3.76
27)	trans-1,2-dichloroethene											
	0.578	0.461		0.504	0.543	0.572	0.533	0.539	0.599	0.498	0.536	8.12
28)	di-isopropyl ether											
	1.542	1.394	1.663	1.549	1.618	1.716	1.639	1.581	1.544	1.501	1.575	5.78
29)	ethyl tert-butyl ether											
	1.497	1.402	1.555	1.506	1.558	1.637	1.583	1.533	1.467	1.470	1.521	4.41
30)	2-butanone											
	0.038	0.048		0.046	0.046		0.049	0.046		0.045	0.046	7.99
31)	1,1-dichloroethane											
	0.892	0.754	0.903	0.842	0.900	0.810	0.887	0.869	0.919	0.828	0.860	5.99
32)	chloroprene											
	0.734	0.545	0.778	0.684	0.762	0.783	0.774	0.728	0.722	0.681	0.719	9.90
33)	acrylonitrile											
	0.118	0.129	0.094	0.125	0.125	0.093	0.132	0.120	0.116	0.122	0.117	11.57
34)	vinyl acetate											
		0.032		0.039	0.039		0.043	0.036		0.038	0.038	9.74
35)	ethyl acetate											
	0.039	0.052		0.047	0.047		0.052	0.043		0.047	0.047	9.56
36)	2,2-dichloropropane											
	0.840	0.671	0.892	0.720	0.772	0.704	0.757	0.784	0.833	0.709	0.768	9.15
37)	cis-1,2-dichloroethene											
	0.585	0.519		0.562	0.591	0.602	0.583	0.581	0.652	0.551	0.581	6.33
38)	propionitrile											
	0.044	0.051		0.049	0.049		0.052	0.047	0.044	0.048	0.048	5.87
39)	Methyl Acrylate											
	0.048	0.052		0.058	0.060		0.064	0.054		0.057	0.056	8.88
40)	bromochloromethane											
	0.252	0.239	0.236	0.257	0.263	0.239	0.261	0.259	0.263	0.247	0.252	4.22
41)	tetrahydrofuran											
	0.125	0.136		0.119	0.120	0.132	0.126	0.118	0.115	0.118	0.123	5.73
42)	chloroform											
	0.876	0.775	0.995	0.847	0.889	0.828	0.873	0.872	0.919	0.820	0.870	6.89
43)	tert-Butyl Formate											
	0.372	0.366	0.345	0.388	0.398	0.371	0.415	0.386	0.362	0.380	0.378	5.24
44)	dibromofluoromethane (s)											
	0.506	0.468		0.479	0.491	0.615	0.489	0.495	0.523	0.457	0.503	9.22
45)	1,2-dichloroethane-d4 (s)											
	0.502	0.487		0.468	0.471	0.587	0.465	0.471	0.529	0.440	0.491	8.96
46)	freon 113											
	0.454	0.295		0.384	0.427	0.451	0.438	0.420	0.422	0.369	0.407	12.43
47)	methacrylonitrile											
	0.180	0.192		0.195	0.198		0.210	0.185	0.178	0.193	0.191	5.50
48)	1,1,1-trichloroethane											
	0.814	0.649	0.864	0.730	0.794	0.749	0.781	0.779	0.845	0.724	0.773	8.16
49)	Cyclohexane											
	0.850	0.614		0.704	0.814	0.733	0.815	0.768	0.861	0.708	0.763	10.57
50)	Tert Amyl Alcohol											
	0.057	0.063		0.051	0.051		0.057	0.051		0.053	0.055	8.32
51)	2,2,4-trimethylpentane											
	2.151	1.483		1.761	2.123	2.289	2.186	1.923	2.055	1.764	1.971	13.15
52)	tert-amyl methyl ether											
	1.418	1.381	1.744	1.446	1.486	1.671	1.515	1.464	1.438	1.405	1.497	7.94

Initial Calibration Summary

Job Number: JB31485 **Sample:** V3C4301-ICC4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96914.D
Project: Sunoco - Marcus Hook Facility, PA

```
53) I   1,4-difluorobenzene   ----------------ISTD--------------------
54)  epichlorohydrin
      0.025 0.028       0.025 0.025 0.024 0.027 0.025 0.022 0.026  0.025    7.04
55)  n-butyl alcohol
      0.007 0.008       0.008 0.008       0.009 0.008 0.006 0.009  0.008#  11.76
56)  carbon tetrachloride
      0.505 0.383 0.540 0.437 0.481 0.436 0.472 0.479 0.516 0.437  0.468    9.89
57)  1,1-dichloropropene
      0.504 0.392 0.568 0.432 0.479 0.436 0.476 0.462 0.522 0.437  0.471   10.81
58)  hexane
      0.552 0.371       0.446 0.507       0.519 0.491 0.553 0.434  0.484   13.06
59)  benzene
      1.546 1.282 1.810 1.390 1.482 1.442 1.433 1.456 1.624 1.365  1.483   10.02
60)  heptane
      0.326 0.223       0.259 0.304 0.336 0.315 0.284 0.313 0.256  0.291   12.97
61)  isopropyl acetate
      0.478 0.518 0.482 0.497 0.508 0.478 0.535 0.502 0.475 0.502  0.498    3.98
62)  1,2-dichloroethane
      0.388 0.369 0.387 0.379 0.384 0.364 0.377 0.388 0.403 0.367  0.381    3.13
63)  trichloroethene
      0.378 0.312 0.408 0.343 0.367 0.344 0.358 0.366 0.388 0.337  0.360    7.69
64)  ethyl acrylate
      0.274 0.293       0.302 0.310       0.331 0.295       0.307  0.302    5.79
65)  Tert-Amyl ethyl ether
      0.494 0.472       0.499 0.513 0.470 0.505 0.527 0.505 0.484  0.497    3.79
66)  2-nitropropane
      0.087 0.098       0.085 0.084 0.095 0.086 0.090 0.101 0.084  0.090    7.01
67)  2-chloroethyl vinyl ether
      0.140 0.149 0.130 0.149 0.153 0.139 0.157 0.149 0.132 0.148  0.145    6.24
68)  methyl methacrylate
      0.073 0.077       0.079 0.081       0.083 0.073 0.060 0.078  0.075    9.59
69)  1,2-dichloropropane
      0.341 0.311 0.399 0.347 0.358 0.319 0.354 0.349 0.352 0.335  0.346    6.90
70)  methylcyclohexane
      0.738 0.503       0.609 0.685 0.790 0.684 0.667 0.703 0.589  0.663   12.89
71)  dibromomethane
      0.183 0.181 0.155 0.183 0.183 0.173 0.181 0.183 0.191 0.175  0.179    5.45
72)  bromodichloromethane
      0.423 0.406 0.446 0.438 0.452 0.418 0.443 0.438 0.443 0.426  0.433    3.33
73)  cis-1,3-dichloropropene
      0.561 0.516 0.568 0.555 0.568 0.500 0.557 0.554 0.574 0.534  0.549    4.42
74)  toluene-d8 (s)
      1.497 1.359       1.335 1.335       1.279 1.416 1.607 1.243  1.384    8.64
75)  4-methyl-2-pentanone
      0.100 0.117       0.109 0.106       0.111 0.103       0.107  0.108    5.18
76)  toluene
      1.013 0.827 1.016 0.895 0.926 0.877 0.885 0.933 0.991 0.866  0.923    7.06
77)  3-methyl-1-butanol
      0.007 0.008       0.008 0.008 0.005 0.009 0.008 0.007 0.009  0.008#  14.74
78)  trans-1,3-dichloropropene
      0.472 0.465 0.491 0.483 0.477 0.402 0.469 0.483 0.473 0.457  0.467    5.35
79)  ethyl methacrylate
      0.341 0.373 0.259 0.392 0.391 0.291 0.399 0.367 0.320 0.379  0.351   13.45
80)  1,1,2-trichloroethane
      0.226 0.226 0.225 0.226 0.223 0.209 0.221 0.228 0.222 0.216  0.222    2.62
81)  2-hexanone
      0.084 0.101       0.095 0.093       0.099 0.089 0.080 0.094  0.092    7.96

82) I   chlorobenzene-d5      ----------------ISTD--------------------
83)  tetrachloroethene
```

```
       0.550 0.426       0.452 0.492 0.482 0.470 0.486 0.543 0.451  0.484    8.50
 84)  1,3-dichloropropane
       0.586 0.566 0.606 0.562 0.561 0.527 0.550 0.550 0.570 0.535  0.561    4.17
 85)  butyl acetate
       0.203 0.224       0.218 0.219 0.191 0.230 0.209 0.187 0.217  0.211    6.96
 86)  dibromochloromethane
       0.368 0.372 0.349 0.389 0.395 0.336 0.390 0.375 0.376 0.372  0.372    4.91
 87)  1,2-dibromoethane
       0.325 0.322 0.270 0.323 0.320 0.279 0.316 0.311 0.304 0.309  0.308    6.10
 88)  3,3-Dimethyl-1-Butanol
       0.029 0.034       0.032 0.034 0.027 0.037 0.030 0.028 0.035  0.031   11.22
 89)  chlorobenzene
       1.275 1.122 1.354 1.151 1.182 1.142 1.139 1.184 1.272 1.109  1.193    6.77
 90)  1,1,1,2-tetrachloroethane
       0.430 0.410 0.459 0.428 0.435 0.402 0.422 0.427 0.440 0.408  0.426    3.99
 91)  ethylbenzene
       2.265 1.900 2.428 1.973 2.066 1.996 1.945 2.096 2.291 1.907  2.087    8.74
 92)  m,p-xylene
       0.897 0.733 0.955 0.764 0.796 0.754 0.750 0.814 0.892 0.739  0.809    9.70
 93)  o-xylene
       0.852 0.729 0.885 0.767 0.789 0.777 0.750 0.800 0.836 0.734  0.792    6.56
 94)  styrene
       1.214 1.128 1.245 1.235 1.285 1.036 1.226 1.232 1.198 1.193  1.199    5.87
 95)  BUTYL ACRYLATE
                                                                    0.000#  -1.00
 96)  bromoform
       0.243 0.252 0.224 0.252 0.254 0.209 0.259 0.237 0.231 0.245  0.241    6.46

 97) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 98)  isopropylbenzene
       4.779 3.957 5.255 3.961 4.138 4.215 3.794 4.264 4.838 3.811  4.301   11.48
 99)  4-bromofluorobenzene (s)
             1.474       1.177 1.159       1.093 1.247       1.095  1.208   11.80
100)  bromobenzene
       1.104 1.026 1.184 0.992 0.994 0.987 0.935 1.014 1.157 0.937  1.033    8.40
101)  cyclohexanone
       0.086 0.134 0.052 0.052 0.049 0.063 0.040 0.099 0.072 0.053  0.070   41.46
             ----- Linear regression -----  Coefficient =  0.9688
               Response Ratio = 0.09659 + 0.04035 *A

102)  1,1,2,2-tetrachloroethane
       0.889 0.973 0.845 0.863 0.826 0.836 0.803 0.854 0.915 0.815  0.862    5.99
103)  trans-1,4-dichloro-2-butene
       0.199 0.242       0.208 0.202 0.201 0.199 0.204 0.210 0.201  0.207    6.51
104)  1,2,3-trichloropropane
       0.245 0.261 0.267 0.231 0.215 0.238 0.210 0.223 0.224 0.216  0.233    8.35
105)  n-propylbenzene
       5.516 4.530       4.494 4.675 4.785 4.256 4.894 5.601 4.329  4.787   10.08
106)  4-Ethyltoluene
       4.522 3.966 5.008 3.789 3.872 4.120 3.620 4.189 4.537 3.559  4.118   11.12
107)  2-chlorotoluene
       1.098 0.959 1.261 0.952 0.977 1.008 0.906 1.014 1.131 0.905  1.021   10.98
108)  4-chlorotoluene
       1.071 0.980 1.229 0.964 0.987 0.999 0.944 1.014 1.162 0.921  1.027    9.62
109)  1,3,5-trimethylbenzene
       3.715 3.231 3.994 3.300 3.406 3.321 3.143 3.577 3.863 3.166  3.472    8.65
110)  tert-butylbenzene
       3.321 2.766 3.630 2.755 2.986 2.877 2.786 2.922 3.449 2.676  3.017   10.96
111)  pentachloroethane
       0.670 0.638 0.684 0.633 0.658 0.573 0.632 0.645 0.660 0.608  0.640    4.99
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** V3C4301-ICC4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96914.D
Project: Sunoco - Marcus Hook Facility, PA

```
112)  1,2,4-trimethylbenzene
       3.780 3.311 4.108 3.333 3.383 3.228 3.161 3.514 3.755 3.131  3.470    9.15
113)  sec-butylbenzene
       4.945 4.090 5.380 4.109 4.399 4.250 4.065 4.425 5.145 3.994  4.480   11.11
114)  1,3-dichlorobenzene
       2.052 1.891 2.301 1.826 1.862 1.825 1.786 1.925 2.158 1.734  1.936    9.29
115)  p-isopropyltoluene
       3.940 3.336 4.360 3.362 3.599 3.456 3.364 3.595 4.076 3.255  3.634   10.18
116)  1,4-dichlorobenzene
       2.047 1.898 2.321 1.825 1.854 1.992 1.786 1.908 2.079 1.720  1.943    8.99
117)  1,2-dichlorobenzene
       1.869 1.817 2.061 1.733 1.746 1.785 1.665 1.774 1.924 1.630  1.800    7.02
118)  1,4-Diethylbenzene
       2.312 2.050 2.551 2.059 2.180 2.133 2.088 2.249 2.347 1.969  2.194    7.93
119)  n-butylbenzene
       2.103 1.790 2.192 1.746 1.906 1.730 1.789 1.882 2.136 1.706  1.898    9.57
120)  1,2,4,5-Tetramethylbenzene
       3.327 3.129 3.553 3.077 3.269 3.083 3.061 3.364 3.405 2.984  3.225    5.73
121)  1,2-dibromo-3-chloropropane
       0.131 0.155       0.131 0.127 0.107 0.128 0.129 0.145 0.127  0.131   10.20
122)  1,3,5-Trichlorobenzene
       1.575 1.515 1.569 1.412 1.497 1.374 1.410 1.496 1.580 1.338  1.477    5.96
123)  1,2,4-trichlorobenzene
       1.105 1.195 0.953 1.142 1.227 0.912 1.160 1.138 1.089 1.095  1.102    9.04
124)  hexachlorobutadiene
       0.898 0.761       0.710 0.819 0.778 0.734 0.761 0.931 0.710  0.789   10.04
125)  naphthalene
       1.957 2.212       2.241 2.303 1.525 2.201 2.070 1.864 2.175  2.061   11.92
126)  1,2,3-trichlorobenzene
       0.973 1.093 0.880 1.022 1.080 0.716 0.993 1.013 0.968 0.983  0.972   11.11
127)  hexachloroethane
       0.751 0.660       0.635 0.712 0.690 0.680 0.654 0.764 0.639  0.687    6.81
128)  Benzyl chloride
       1.678 1.814       1.593 1.605 1.785 1.597 1.759 1.729 1.567  1.681    5.59
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3C4301.M         Thu Mar 28 12:25:41 2013   ACCNJ
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** V3C4301-ICV4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96920.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3C\v3c4301final\3C96920.D Vial: 14
Acq On : 26 Mar 2013 8:46 pm Operator: danat
Sample : ICV4301-50 Inst : MS3C
Misc : MS44872,V3C4301,5.0,,,,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3C4301.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Mon Sep 13 11:48:20 2010
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	-0.01	7.37
2		1,4-dioxane	0.141	0.153	-8.5	99	0.00	11.24
3		tertiary butyl alcohol	1.480	1.508	-1.9	98	-0.01	7.49
4		Ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	96	0.00	9.60
6		chlorodifluoromethane	0.488	0.506	-3.7	108	-0.01	3.99
7		dichlorodifluoromethane	0.700	0.630	10.0	90	-0.01	3.97
8		chloromethane	0.696	0.736	-5.7	109	-0.01	4.33
9		vinyl chloride	0.846	0.717	15.2	88	-0.01	4.58
10		bromomethane	0.466	0.476	-2.1	104	-0.02	5.24
11		chloroethane	0.406	0.438	-7.9	107	0.00	5.42
12		Vinyl Bromide		----------NA----------				
13		Pentane		----------NA----------				
14		trichlorofluoromethane	0.818	0.779	4.8	96	0.00	5.85
15		ethyl ether	0.289	0.300	-3.8	108	0.00	6.27
16		acrolein	0.073	0.074	-1.4	99	0.00	6.53
17		1,1-dichloroethene	0.457	0.484	-5.9	110	0.00	6.70
18		acetone	0.032	0.030	6.3	96	0.00	6.76
19		allyl chloride	0.297	0.334	-12.5	114	0.00	7.23
20		acetonitrile	0.032	0.031	3.1	102	0.01	7.21
21		iodomethane	0.853	0.925	-8.4	107	0.00	6.98
22		iso-butyl alcohol	0.013	0.013	0.0	98	0.00	9.89
23		carbon disulfide	1.596	1.713	-7.3	111	0.00	7.11
24		methylene chloride	0.536	0.565	-5.4	103	0.00	7.42
25		methyl acetate	0.093	0.063	32.3#	65	0.00	7.21
26		methyl tert butyl ether	1.335	1.361	-1.9	99	0.00	7.74
27		trans-1,2-dichloroethene	0.536	0.559	-4.3	107	0.00	7.80
28		di-isopropyl ether	1.575	1.617	-2.7	100	0.00	8.33
29		ethyl tert-butyl ether	1.521	1.576	-3.6	101	0.00	8.79
30		2-butanone	0.046	0.047	-2.2	97	0.00	9.06
31		1,1-dichloroethane	0.860	0.950	-10.5	109	0.00	8.36
32		chloroprene		----------NA----------				
33		acrylonitrile	0.117	0.130	-11.1	101	0.00	7.75
34		vinyl acetate	0.038	0.088	-131.6#	219#	0.00	8.34
35		ethyl acetate	0.047	0.048	-2.1	99	-0.01	9.07
36		2,2-dichloropropane	0.768	0.789	-2.7	105	0.00	9.10
37		cis-1,2-dichloroethene	0.581	0.615	-5.9	105	0.00	9.10
38		propionitrile	0.048	0.051	-6.2	101	0.00	9.17
39		Methyl Acrylate	0.056	0.059	-5.4	98	0.00	9.15
40		bromochloromethane	0.252	0.274	-8.7	102	0.00	9.41
41		tetrahydrofuran	0.123	0.121	1.6	98	0.00	9.44

Initial Calibration Verification

Job Number: JB31485 **Sample:** V3C4301-ICV4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96920.D
Project: Sunoco - Marcus Hook Facility, PA

42		chloroform	0.870	0.922	-6.0	105	0.00	9.46
43		tert-Butyl Formate	0.378	0.421	-11.4	105	0.00	9.49
44	S	dibromofluoromethane (s)	0.503	0.498	1.0	100	0.00	9.66
45	S	1,2-dichloroethane-d4 (s)	0.491	0.478	2.6	98	0.00	10.08
46		freon 113	0.407	0.354	13.0	89	0.00	6.67
47		methacrylonitrile	0.191	0.200	-4.7	99	0.00	9.34
48		1,1,1-trichloroethane	0.773	0.817	-5.7	108	0.00	9.71
49		Cyclohexane	0.763	0.830	-8.8	113	0.00	9.78
50		Tert Amyl Alcohol	0.055	0.045	18.2	85	0.00	10.02
51		2,2,4-trimethylpentane	1.971	1.972	-0.1	108	0.00	10.13
52		tert-amyl methyl ether	1.497	1.533	-2.4	102	0.00	10.17
53	I	1,4-difluorobenzene	1.000	1.000	0.0	98	0.00	10.52
54		epichlorohydrin	0.025	0.026	-4.0	102	0.00	11.78
55		n-butyl alcohol	0.008	0.008#	0.0	99	0.00	10.64
56		carbon tetrachloride	0.468	0.494	-5.6	110	0.00	9.91
57		1,1-dichloropropene	0.471	0.459	2.5	104	0.00	9.89
58		hexane	0.484	0.378	21.9#	83	0.00	8.08
59		benzene	1.483	1.530	-3.2	108	0.00	10.15
60		heptane	0.291	0.273	6.2	103	0.00	10.31
61		isopropyl acetate	0.498	0.555	-11.4	109	0.00	10.06
62		1,2-dichloroethane	0.381	0.399	-4.7	103	0.00	10.17
63		trichloroethene	0.360	0.382	-6.1	109	0.00	10.86
64		ethyl acrylate	0.302	0.302	0.0	98	0.00	10.86
65		Tert-Amyl ethyl ether	0.497	0.564	-13.5	111	0.00	11.01
66		2-nitropropane	0.090	0.087	3.3	100	0.00	11.64
67		2-chloroethyl vinyl ether	0.145	0.156	-7.6	102	0.00	11.64
68		methyl methacrylate	0.075	0.081	-8.0	100	0.00	11.12
69		1,2-dichloropropane	0.346	0.379	-9.5	107	0.00	11.13
70		methylcyclohexane	0.663	0.593	10.6	95	0.00	11.07
71		dibromomethane	0.179	0.192	-7.3	103	0.00	11.29
72		bromodichloromethane	0.433	0.470	-8.5	105	0.00	11.41
73		cis-1,3-dichloropropene	0.549	0.541	1.5	95	0.00	11.86
74	S	toluene-d8 (s)	1.384	1.357	2.0	99	0.00	12.15
75		4-methyl-2-pentanone	0.108	0.108	0.0	97	0.00	11.95
76		toluene	0.923	0.951	-3.0	104	0.00	12.22
77		3-methyl-1-butanol	0.008	0.009#	-12.5	102	0.00	11.97
78		trans-1,3-dichloropropene	0.467	0.496	-6.2	101	0.00	12.42
79		ethyl methacrylate	0.351	0.384	-9.4	96	0.00	12.40
80		1,1,2-trichloroethane	0.222	0.236	-6.3	102	0.00	12.63
81		2-hexanone	0.092	0.093	-1.1	96	0.00	12.80
82	I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	13.65
83		tetrachloroethene	0.484	0.492	-1.7	106	0.00	12.80
84		1,3-dichloropropane	0.561	0.573	-2.1	99	0.00	12.82
85		butyl acetate	0.211	0.225	-6.6	100	0.00	12.86
86		dibromochloromethane	0.372	0.402	-8.1	101	0.00	13.08
87		1,2-dibromoethane	0.308	0.322	-4.5	97	0.00	13.23
88		3,3-Dimethyl-1-Butanol	0.031	0.032	-3.2	98	0.00	12.97
89		chlorobenzene	1.193	1.210	-1.4	102	0.00	13.68
90		1,1,1,2-tetrachloroethane	0.426	0.447	-4.9	102	0.00	13.74
91		ethylbenzene	2.087	2.110	-1.1	104	0.00	13.73
92		m,p-xylene	0.809	0.815	-0.7	104	0.00	13.83
93		o-xylene	0.792	0.806	-1.8	102	0.00	14.24
94		styrene	1.199	1.309	-9.2	103	0.00	14.25
95		BUTYL ACRYLATE		----------NA----------				
96		bromoform	0.241	0.253	-5.0	98	0.00	14.53
97	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	15.94
98		isopropylbenzene	4.301	4.265	0.8	106	0.00	14.58

Initial Calibration Verification

Job Number: JB31485 **Sample:** V3C4301-ICV4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96920.D
Project: Sunoco - Marcus Hook Facility, PA

99	S	4-bromofluorobenzene (s)	1.208	1.188	1.7	99	0.00	14.79
100		bromobenzene	1.033	1.019	1.4	101	0.00	14.98
		----------	True	Calc.	% Drift	----------		
101		cyclohexanone	500.000	322.360	35.5#	68	0.00	14.76
		----------	AvgRF	CCRF	% Dev	----------		
102		1,1,2,2-tetrachloroethane	0.862	0.832	3.5	95	0.00	14.89
103		trans-1,4-dichloro-2-bute	0.207	0.199	3.9	94	0.00	14.93
104		1,2,3-trichloropropane	0.233	0.219	6.0	93	0.00	14.97
105		n-propylbenzene	4.787	4.977	-4.0	109	0.00	14.99
106		4-Ethyltoluene	4.118	3.887	5.6	101	0.00	15.09
107		2-chlorotoluene	1.021	1.016	0.5	105	0.00	15.13
108		4-chlorotoluene	1.027	1.009	1.8	103	0.00	15.23
109		1,3,5-trimethylbenzene	3.472	3.528	-1.6	105	0.00	15.13
110		tert-butylbenzene	3.017	3.101	-2.8	111	0.00	15.48
111		pentachloroethane	0.640	0.670	-4.7	104	0.00	15.57
112		1,2,4-trimethylbenzene	3.470	3.536	-1.9	104	0.00	15.52
113		sec-butylbenzene	4.480	4.712	-5.2	113	0.00	15.69
114		1,3-dichlorobenzene	1.936	1.942	-0.3	105	0.00	15.88
115		p-isopropyltoluene	3.634	3.947	-8.6	115	0.00	15.81
116		1,4-dichlorobenzene	1.943	1.925	0.9	104	0.00	15.97
117		1,2-dichlorobenzene	1.800	1.816	-0.9	103	0.00	16.36
118		1,4-Diethylbenzene	2.194	2.233	-1.8	107	0.00	16.18
119		n-butylbenzene	1.898	2.065	-8.8	116	0.00	16.22
120		1,2,4,5-Tetramethylbenzen	3.225	3.345	-3.7	107	0.00	16.97
121		1,2-dibromo-3-chloropropa	0.131	0.127	3.1	95	0.00	17.13
122		1,3,5-Trichlorobenzene	1.477	1.609	-8.9	112	0.00	17.30
123		1,2,4-trichlorobenzene	1.102	1.288	-16.9	111	0.00	17.94
124		hexachlorobutadiene	0.789	0.904	-14.6	125	0.00	18.05
125		naphthalene	2.061	2.254	-9.4	99	0.00	18.22
126		1,2,3-trichlorobenzene	0.972	1.160	-19.3	112	0.00	18.47
127		hexachloroethane	0.687	0.746	-8.6	115	0.00	16.61
128		Benzyl chloride	1.681	1.561	7.1	96	0.00	16.08

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3C96914.D M3C4301.M Thu Mar 28 12:24:56 2013 ACCNJ

Continuing Calibration Summary

Job Number: JB31485 **Sample:** V3C4303-CC4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96948.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3C\v3c4303\3C96948.D Vial: 2
Acq On : 28 Mar 2013 10:08 am Operator: danat
Sample : CC4301-20 Inst : MS3C
Misc : MS45547,V3C4303,5.0,,,,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3C4301.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Mon Sep 13 11:48:20 2010
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	116	-0.01	7.37
2		1,4-dioxane	0.141	0.138	2.1	107	0.00	11.24
3		tertiary butyl alcohol	1.480	1.511	-2.1	116	0.00	7.49
4		Ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	9.60
6		chlorodifluoromethane	0.488	0.543	-11.3	113	-0.01	3.99
7		dichlorodifluoromethane	0.700	0.795	-13.6	113	0.00	3.98
8		chloromethane	0.696	0.746	-7.2	109	-0.01	4.33
9		vinyl chloride	0.846	0.923	-9.1	109	-0.01	4.58
10		bromomethane	0.466	0.508	-9.0	108	0.00	5.25
11		chloroethane	0.406	0.457	-12.6	109	0.00	5.42
12		Vinyl Bromide		----------NA----------				
13		Pentane		----------NA----------				
14		trichlorofluoromethane	0.818	0.935	-14.3	110	-0.01	5.84
15		ethyl ether	0.289	0.288	0.3	109	0.00	6.27
16		acrolein	0.073	0.083	-13.7	119	0.00	6.54
17		1,1-dichloroethene	0.457	0.475	-3.9	109	0.00	6.70
18		acetone	0.032	0.032	0.0	105	0.01	6.76
19		allyl chloride	0.297	0.318	-7.1	108	0.00	7.24
20		acetonitrile	0.032	0.031	3.1	108	0.01	7.21
21		iodomethane	0.853	0.887	-4.0	106	0.00	6.98
22		iso-butyl alcohol	0.013	0.013	0.0	114	0.00	9.89
23		carbon disulfide	1.596	1.641	-2.8	107	0.00	7.11
24		methylene chloride	0.536	0.545	-1.7	105	0.00	7.42
25		methyl acetate	0.093	0.102	-9.7	117	0.00	7.22
26		methyl tert butyl ether	1.335	1.423	-6.6	111	0.00	7.74
27		trans-1,2-dichloroethene	0.536	0.561	-4.7	107	0.00	7.80
28		di-isopropyl ether	1.575	1.712	-8.7	111	0.00	8.33
29		ethyl tert-butyl ether	1.521	1.677	-10.3	112	0.00	8.79
30		2-butanone	0.046	0.049	-6.5	109	0.00	9.06
31		1,1-dichloroethane	0.860	0.916	-6.5	108	0.00	8.36
32		chloroprene	0.719	0.783	-8.9	110	0.00	8.46
33		acrylonitrile	0.117	0.132	-12.8	113	0.00	7.75
34		vinyl acetate	0.038	0.038	0.0	110	0.00	8.34
35		ethyl acetate	0.047	0.053	-12.8	125	0.00	9.07
36		2,2-dichloropropane	0.768	0.832	-8.3	109	0.00	9.09
37		cis-1,2-dichloroethene	0.581	0.610	-5.0	108	0.00	9.10
38		propionitrile	0.048	0.051	-6.2	111	0.00	9.17
39		Methyl Acrylate	0.056	0.058	-3.6	109	0.00	9.16
40		bromochloromethane	0.252	0.270	-7.1	107	0.00	9.41
41		tetrahydrofuran	0.123	0.134	-8.9	116	0.00	9.44

Continuing Calibration Summary

Job Number: JB31485 **Sample:** V3C4303-CC4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96948.D
Project: Sunoco - Marcus Hook Facility, PA

42		chloroform	0.870	0.915	-5.2	107	0.00	9.46
43		tert-Butyl Formate	0.378	0.424	-12.2	112	0.00	9.48
44	S	dibromofluoromethane (s)	0.503	0.499	0.8	103	0.00	9.66
45	S	1,2-dichloroethane-d4 (s)	0.491	0.467	4.9	101	0.00	10.08
46		freon 113	0.407	0.453	-11.3	110	0.00	6.67
47		methacrylonitrile	0.191	0.201	-5.2	112	0.00	9.34
48		1,1,1-trichloroethane	0.773	0.820	-6.1	108	0.00	9.71
49		Cyclohexane	0.763	0.820	-7.5	109	0.00	9.78
50		Tert Amyl Alcohol		----------NA----------				
51		2,2,4-trimethylpentane	1.971	2.168	-10.0	115	0.00	10.13
52		tert-amyl methyl ether	1.497	1.610	-7.5	113	0.00	10.17
53	I	1,4-difluorobenzene	1.000	1.000	0.0	104	0.00	10.52
54		epichlorohydrin	0.025	0.028	-12.0	118	0.00	11.78
55		n-butyl alcohol	0.008	0.008#	0.0	112	0.00	10.64
56		carbon tetrachloride	0.468	0.496	-6.0	108	0.00	9.91
57		1,1-dichloropropene	0.471	0.487	-3.4	110	0.00	9.89
58		hexane	0.484	0.531	-9.7	112	0.00	8.08
59		benzene	1.483	1.517	-2.3	108	0.00	10.15
60		heptane	0.291	0.313	-7.6	114	0.00	10.31
61		isopropyl acetate	0.498	0.504	-1.2	104	0.00	10.07
62		1,2-dichloroethane	0.381	0.402	-5.5	108	0.00	10.17
63		trichloroethene	0.360	0.376	-4.4	107	0.00	10.86
64		ethyl acrylate		----------NA----------				
65		Tert-Amyl ethyl ether		----------NA----------				
66		2-nitropropane	0.090	0.093	-3.3	108	0.00	11.63
67		2-chloroethyl vinyl ether	0.145	0.161	-11.0	113	0.00	11.64
68		methyl methacrylate	0.075	0.080	-6.7	113	0.00	11.12
69		1,2-dichloropropane	0.346	0.359	-3.8	107	0.00	11.13
70		methylcyclohexane	0.663	0.712	-7.4	111	0.00	11.07
71		dibromomethane	0.179	0.191	-6.7	108	0.00	11.29
72		bromodichloromethane	0.433	0.453	-4.6	107	0.00	11.41
73		cis-1,3-dichloropropene	0.549	0.577	-5.1	108	0.00	11.86
74	S	toluene-d8 (s)	1.384	1.437	-3.8	105	0.00	12.15
75		4-methyl-2-pentanone	0.108	0.110	-1.9	111	0.00	11.96
76		toluene	0.923	0.954	-3.4	106	0.00	12.22
77		3-methyl-1-butanol	0.008	0.009#	-12.5	115	0.00	11.97
78		trans-1,3-dichloropropene	0.467	0.502	-7.5	108	0.00	12.42
79		ethyl methacrylate	0.351	0.386	-10.0	109	0.00	12.40
80		1,1,2-trichloroethane	0.222	0.233	-5.0	106	0.00	12.63
81		2-hexanone	0.092	0.097	-5.4	114	0.00	12.80
82	I	chlorobenzene-d5	1.000	1.000	0.0	103	0.00	13.65
83		tetrachloroethene	0.484	0.504	-4.1	107	0.00	12.80
84		1,3-dichloropropane	0.561	0.578	-3.0	108	0.00	12.82
85		butyl acetate	0.211	0.238	-12.8	117	0.00	12.87
86		dibromochloromethane	0.372	0.384	-3.2	106	0.00	13.08
87		1,2-dibromoethane	0.308	0.329	-6.8	109	0.00	13.23
88		3,3-Dimethyl-1-Butanol	0.031	0.033	-6.5	115	0.00	12.97
89		chlorobenzene	1.193	1.198	-0.4	104	0.00	13.68
90		1,1,1,2-tetrachloroethane	0.426	0.438	-2.8	106	0.00	13.74
91		ethylbenzene	2.087	2.119	-1.5	104	0.00	13.73
92		m,p-xylene	0.809	0.817	-1.0	103	0.00	13.83
93		o-xylene	0.792	0.802	-1.3	103	0.00	14.24
94		styrene	1.199	1.232	-2.8	103	0.00	14.25
95		BUTYL ACRYLATE		----------NA----------				
96		bromoform	0.241	0.243	-0.8	106	0.00	14.53
97	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	15.94
98		isopropylbenzene	4.301	4.376	-1.7	104	0.00	14.58

Continuing Calibration Summary

Job Number: JB31485 **Sample:** V3C4303-CC4301
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3C96948.D
Project: Sunoco - Marcus Hook Facility, PA

99	S	4-bromofluorobenzene (s)	1.208	1.238	-2.5	101	0.00	14.79
100		bromobenzene	1.033	1.032	0.1	104	0.00	14.98
		----------	True	Calc.	% Drift	----------		
101		cyclohexanone	200.000	378.677	-89.3#	103	0.00	14.76
		----------	AvgRF	CCRF	% Dev	----------		
102		1,1,2,2-tetrachloroethane	0.862	0.906	-5.1	108	0.00	14.89
103		trans-1,4-dichloro-2-bute	0.207	0.214	-3.4	107	0.00	14.93
104		1,2,3-trichloropropane	0.233	0.236	-1.3	107	0.00	14.97
105		n-propylbenzene	4.787	4.992	-4.3	104	0.00	14.98
106		4-Ethyltoluene		----------NA----------				
107		2-chlorotoluene	1.021	1.012	0.9	101	0.00	15.13
108		4-chlorotoluene	1.027	1.018	0.9	102	0.00	15.23
109		1,3,5-trimethylbenzene	3.472	3.572	-2.9	102	0.00	15.13
110		tert-butylbenzene	3.017	3.032	-0.5	105	0.00	15.48
111		pentachloroethane	0.640	0.660	-3.1	104	0.00	15.57
112		1,2,4-trimethylbenzene	3.470	3.492	-0.6	101	0.00	15.53
113		sec-butylbenzene	4.480	4.589	-2.4	105	0.00	15.69
114		1,3-dichlorobenzene	1.936	1.909	1.4	101	0.00	15.88
115		p-isopropyltoluene	3.634	3.664	-0.8	104	0.00	15.81
116		1,4-dichlorobenzene	1.943	1.925	0.9	103	0.00	15.96
117		1,2-dichlorobenzene	1.800	1.786	0.8	102	0.00	16.36
118		1,4-Diethylbenzene		----------NA----------				
119		n-butylbenzene	1.898	1.884	0.7	102	0.00	16.22
120		1,2,4,5-Tetramethylbenzen		----------NA----------				
121		1,2-dibromo-3-chloropropa	0.131	0.135	-3.1	107	0.00	17.13
122		1,3,5-Trichlorobenzene	1.477	1.509	-2.2	103	0.00	17.30
123		1,2,4-trichlorobenzene	1.102	1.160	-5.3	104	0.00	17.94
124		hexachlorobutadiene	0.789	0.823	-4.3	110	0.00	18.05
125		naphthalene	2.061	2.083	-1.1	102	0.00	18.22
126		1,2,3-trichlorobenzene	0.972	1.027	-5.7	103	0.00	18.47
127		hexachloroethane	0.687	0.698	-1.6	108	0.00	16.61
128		Benzyl chloride	1.681	1.887	-12.3	109	0.00	16.08

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3C96913.D M3C4301.M Mon Apr 01 16:33:31 2013 ACCNJ

6.9.3
6

Initial Calibration Summary

Job Number: JB31485 **Sample:** VA7222-ICC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A191863.D
Project: Sunoco - Marcus Hook Facility, PA

Response Factor Report MSA

```
Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Feb 21 08:12:37 2013
Response via : Initial Calibration

Calibration Files
5   =A191860.D   2   =A191859.D   20  =A191862.D   50  =A191863.D
100 =A191864.D   1   =A191858.D   200 =A191865.D   0.5 =A191857.D
10  =A191861.D       =
```

Compound	5	2	20	50	100	1	200	0.5	10	Avg	%RSD
1) I Tert Butyl Alcohol-d9 ----------ISTD----------											
2) 1,4-dioxane	0.073		0.093	0.091	0.098		0.096		0.085	0.089	10.51
3) ethanol										0.000#	-1.00
4) tertiary butyl alcohol	0.985	0.840	0.988	0.966	1.006		1.013		0.952	0.964	6.09
5) I pentafluorobenzene ----------ISTD----------											
6) chlorotrifluoroethene										0.000#	-1.00
7) chlorodifluoromethane	0.279	0.273	0.277	0.269	0.300	0.262	0.307		0.319	0.286	7.08
8) dichlorodifluoromethane	0.392	0.361	0.396	0.362	0.425	0.388	0.391		0.334	0.381	7.23
9) chloromethane	0.516	0.536	0.483	0.471	0.519	0.594	0.501	0.672	0.431	0.525	13.60
10) vinyl chloride	0.476	0.504	0.470	0.448	0.475	0.594	0.470	0.483	0.419	0.482	9.96
11) bromomethane	0.353	0.386	0.324	0.296	0.303	0.423		0.381	0.285	0.344	14.49
12) chloroethane	0.234	0.244	0.235	0.222	0.237	0.255	0.208		0.203	0.230	7.61
13) vinyl bromide										0.000#	-1.00
14) trichlorofluoromethane	0.484	0.489	0.497	0.469	0.517	0.537	0.495		0.424	0.489	6.84
15) pentane	0.728	0.604	0.628	0.608	0.662	0.886	0.647	0.579	0.658	0.667	13.92
16) ethyl ether	0.201	0.179	0.196	0.188	0.190	0.236	0.200		0.176	0.196	9.53
17) Freon 123a										0.000#	-1.00
18) acrolein	0.061	0.067	0.060	0.059		0.067			0.047	0.060	12.08
19) 1,1-dichloroethene	0.298	0.244	0.319	0.308	0.311	0.278	0.316	0.223	0.328	0.292	12.47
20) acetone	0.098		0.068	0.074	0.082		0.092		0.077	0.082	13.70
21) allyl chloride	0.181		0.213	0.215	0.216		0.218		0.218	0.210	6.81
22) acetonitrile	0.019		0.020	0.024	0.026		0.029		0.020	0.023	17.22

----- Linear regression ----- Coefficient = 0.9977

```
                Response Ratio = -0.03162 + 0.02891 *A

23)  iodomethane
           0.625 0.538 0.682 0.668 0.664 0.571 0.683 0.730 0.676   0.649    9.29
24)  iso-butyl alcohol
           0.012       0.010 0.010 0.012       0.014       0.011   0.011   12.56
25)  carbon disulfide
           1.042 0.947 1.198 1.141 1.145 0.927 1.168 1.119 1.170   1.095    9.11
26)  methylene chloride
           0.407 0.401 0.401 0.392 0.391 0.553 0.394       0.401   0.418   13.20
27)  methyl acetate
           0.226       0.192 0.204 0.225       0.249       0.189   0.214   10.77
28)  methyl tert butyl ether
           1.011 0.796 0.997 0.984 0.987 0.918 1.030 1.137 0.934   0.977    9.44
29)  trans-1,2-dichloroethene
           0.322 0.277 0.361 0.343 0.350 0.300 0.352 0.303 0.348   0.328    8.88
30)  di-isopropyl ether
           1.204 1.158 1.253 1.237 1.291 1.103 1.328 1.200 1.245   1.224    5.54
31)  t-butyl formate
           0.253 0.199 0.253 0.261 0.281       0.298       0.240   0.255   12.39
32)  3,3-dimethyl-1-butanol
           0.034 0.025 0.032 0.035 0.039 0.032 0.044       0.030   0.034   17.00
            ----- Linear regression -----  Coefficient =  0.9949
              Response Ratio = -0.03444 + 0.04394 *A

33)  ethyl tert-butyl ether
           1.110 1.026 1.148 1.138 1.179 1.013 1.232 1.045 1.137   1.114    6.60
34)  2-butanone
                       0.028 0.031 0.034       0.038       0.022   0.031   20.07
            ----- Linear regression -----  Coefficient =  0.9977
              Response Ratio = -0.00374 + 0.03753 *A

35)  1,1-dichloroethane
           0.625 0.533 0.678 0.670 0.660 0.563 0.671 0.585 0.668   0.628    8.68
36)  chloroprene
           0.410 0.403 0.456 0.434 0.470 0.374 0.479       0.459   0.436    8.53
37)  acrylonitrile
           0.107       0.092 0.102 0.107       0.116       0.099   0.104    7.94
38)  vinyl acetate
                       0.038 0.045 0.049       0.053       0.026   0.042   25.07
            ----- Linear regression -----  Coefficient =  0.9992
              Response Ratio = -0.00778 + 0.05460 *A

39)  ethyl acetate
           0.034       0.036 0.039 0.043       0.047       0.031   0.038   16.43
            ----- Linear regression -----  Coefficient =  0.9979
              Response Ratio = -0.00498 + 0.04790 *A

40)  ethyl acrylate
                                                                   0.000#  -1.00
41)  2,2-dichloropropane
           0.428 0.352 0.490 0.475 0.469 0.417 0.474 0.536 0.495   0.460   11.63
42)  cis-1,2-dichloroethene
           0.359 0.325 0.397 0.388 0.394 0.335 0.398 0.408 0.394   0.378    7.99
43)  propionitrile
           0.041       0.036 0.040 0.042       0.046       0.037   0.040    9.28
44)  bromochloromethane
           0.188 0.146 0.194 0.197 0.198 0.163 0.204       0.183   0.184   10.79
45)  tetrahydrofuran
           0.163 0.149 0.121 0.121 0.124       0.126       0.124   0.133   12.44
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VA7222-ICC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A191863.D
Project: Sunoco - Marcus Hook Facility, PA

```
46)  chloroform
           0.579 0.503 0.639 0.627 0.630 0.600 0.637 0.680 0.636   0.615    8.15
47)  dibromofluoromethane (s)
           0.391 0.421 0.344 0.343 0.365       0.371       0.369   0.372    7.37
48)  1,2-dichloroethane-d4 (s)
           0.430 0.436 0.379 0.380 0.397 0.511 0.407       0.386   0.416   10.66
49)  freon 113
           0.198 0.191 0.233 0.223 0.234       0.242       0.246   0.224    9.52
50)  methacrylonitrile
           0.152       0.163 0.179 0.188       0.205       0.141   0.171   13.88
51)  cyclohexane
           0.451 0.381 0.517 0.497 0.501 0.448 0.512       0.527   0.479   10.26
52)  1,1,1-trichloroethane
           0.454 0.393 0.509 0.497 0.502 0.400 0.514 0.443 0.515   0.470   10.41
53)  tert-amyl methyl ether
           1.080 1.009 1.081 1.061 1.108 0.989 1.168 0.988 1.064   1.061    5.54

54) I   1,4-difluorobenzene   ----------------ISTD---------------------
55)  Di-isobutylene
                                                                   0.000#  -1.00
56)  epichlorohydrin
           0.021       0.019 0.020 0.022       0.024       0.019   0.021    8.97
57)  n-butyl alcohol
           0.005 0.004 0.006 0.007 0.007       0.009       0.004   0.006#  28.54
            ----- Linear regression -----  Coefficient =  0.9953
              Response Ratio = -0.04971 + 0.00855 *A

58)  carbon tetrachloride
           0.280 0.247 0.320 0.316 0.309 0.272 0.316 0.294 0.312   0.296    8.49
59)  1,1-dichloropropene
           0.295 0.262 0.344 0.333 0.328 0.291 0.335 0.318 0.333   0.315    8.60
60)  hexane
           0.243 0.263 0.258 0.256 0.267 0.245 0.266       0.285   0.260    5.15
61)  benzene
           0.964 0.809 1.042 1.020 1.006 0.926 1.021 1.145 1.034   0.996    9.24
62)  Iso-octane
           0.782 0.735 0.902 0.859 0.900 0.674 0.936 0.685 0.953   0.825   13.15
63)  heptane
           0.156 0.151 0.179 0.172 0.182 0.143 0.188       0.187   0.170   10.17
64)  tert amyl alcohol
           0.012       0.009 0.010 0.010       0.012       0.009   0.010   12.42
65)  isopropyl acetate
           0.405       0.421 0.436 0.469       0.507       0.379   0.436   10.51
66)  1,2-dichloroethane
           0.298 0.231 0.316 0.320 0.314 0.258 0.321 0.338 0.305   0.300   11.37
67)  trichloroethene
           0.217 0.195 0.256 0.246 0.247 0.205 0.249 0.246 0.249   0.234    9.66
68)  2-nitropropane
                                                                   0.000#  -1.00
69)  tert-amyl ethyl ether
           0.348 0.312 0.368 0.386 0.404 0.344 0.417 0.272 0.345   0.355   12.70
70)  methylcyclohexane
           0.338 0.332 0.390 0.371 0.399 0.273 0.411 0.308 0.405   0.358   13.48
71)  2-chloroethyl vinyl ether
           0.130 0.109 0.138 0.143 0.149       0.157       0.130   0.136   11.33
72)  methyl methacrylate
           0.146       0.139 0.146 0.151       0.171       0.127   0.147    9.90
73)  1,2-dichloropropane
           0.266 0.223 0.288 0.290 0.290 0.261 0.297 0.295 0.288   0.278    8.60
74)  dibromomethane
```

```
            0.148 0.108 0.152 0.155 0.154 0.119 0.163       0.144   0.143   13.34
 75)  bromodichloromethane
            0.318 0.272 0.349 0.346 0.350 0.287 0.361 0.363 0.332   0.331    9.82
 76)  cis-1,3-dichloropropene
            0.399 0.328 0.439 0.445 0.441 0.333 0.460 0.459 0.421   0.414   12.29
 77)  toluene-d8 (s)
            0.932 0.936 0.900 0.876 0.926 1.170 0.940       0.917   0.949    9.63
 78)  4-methyl-2-pentanone
            0.084 0.065 0.092 0.095 0.096       0.105       0.083   0.089   14.40
 79)  toluene
            0.577 0.505 0.649 0.639 0.641 0.539 0.664 0.739 0.647   0.622   11.35
 80)  3-methyl-1-butanol
            0.011 0.007 0.010 0.011 0.012       0.014       0.009   0.011   19.65
             ----- Linear regression -----  Coefficient =  0.9962
               Response Ratio = -0.02422 + 0.01377 *A

 81)  trans-1,3-dichloropropene
            0.347 0.284 0.384 0.387 0.387 0.286 0.407 0.326 0.355   0.351   12.84
 82)  ethyl methacrylate
            0.260       0.290 0.304 0.314       0.341       0.258   0.295   10.96
 83)  1,1,2-trichloroethane
            0.192 0.144 0.190 0.191 0.193 0.160 0.204 0.196 0.179   0.183   10.37
 84)  2-hexanone
            0.074       0.073 0.083 0.085       0.098       0.065   0.080   14.49

 85) I   chlorobenzene-d5      ----------------ISTD---------------------
 86)  tetrachloroethene
            0.219 0.205 0.260 0.249 0.249 0.212 0.257 0.237 0.256   0.238    8.87
 87)  1,3-dichloropropane
            0.403 0.331 0.405 0.410 0.410 0.380 0.438 0.456 0.395   0.403    8.72
 88)  butyl acetate
            0.151       0.150 0.159 0.179       0.196       0.137   0.162   13.30
 89)  dibromochloromethane
            0.293 0.237 0.306 0.311 0.320 0.244 0.339 0.309 0.291   0.294   11.44
 90)  1,2-dibromoethane
            0.241 0.184 0.246 0.247 0.256 0.217 0.275 0.208 0.237   0.234   11.69
 91)  n-butyl ether
                                                                    0.000#  -1.00
 92)  chlorobenzene
            0.789 0.680 0.851 0.839 0.847 0.731 0.863 0.977 0.840   0.824   10.27
 93)  1,1,1,2-tetrachloroethane
            0.293 0.248 0.320 0.313 0.320 0.261 0.332 0.349 0.304   0.304   10.72
 94)  ethylbenzene
            1.236 1.062 1.386 1.349 1.376 1.167 1.396 1.439 1.372   1.309    9.61
 95)  m,p-xylene
            0.485 0.425 0.547 0.535 0.542 0.464 0.551 0.579 0.553   0.520    9.70
 96)  o-xylene
            0.502 0.420 0.557 0.543 0.552 0.490 0.567 0.620 0.550   0.533   10.58
 97)  styrene
            0.802 0.668 0.917 0.933 0.953 0.735 0.993 0.858 0.884   0.860   12.41
 98)  bromoform
            0.218 0.172 0.217 0.223 0.230 0.195 0.251 0.245 0.202   0.217   11.34

 99) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
100)  isopropylbenzene
            2.077 1.812 2.368 2.291 2.304 2.029 2.294 2.519 2.327   2.225    9.59
101)  cyclohexanone
            0.017       0.017 0.017 0.017       0.018       0.022   0.018   11.27
102)  4-bromofluorobenzene (s)
            0.731 0.848 0.667 0.644 0.688       0.698       0.692   0.710    9.35
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VA7222-ICC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A191863.D
Project: Sunoco - Marcus Hook Facility, PA

103)	bromobenzene										
	0.628	0.557	0.658	0.665	0.666	0.583	0.681	0.725	0.648	0.646	7.84
104)	1,1,2,2-tetrachloroethane										
	0.649	0.533	0.606	0.613	0.621	0.661	0.646	0.861	0.603	0.644	13.93
105)	trans-1,4-dichloro-2-butene										
	0.131	0.119	0.142	0.149	0.153		0.162		0.132	0.141	10.40
106)	1,2,3-trichloropropane										
	0.150	0.111	0.136	0.136	0.140	0.128	0.150	0.171	0.134	0.139	12.02
107)	n-propylbenzene										
	2.469	2.160	2.772	2.716	2.732	2.315	2.713		2.772	2.581	9.17
108)	2-chlorotoluene										
	0.561	0.486	0.622	0.603	0.610	0.518	0.614	0.687	0.610	0.590	10.16
109)	4-chlorotoluene										
	1.634	1.486	1.763	1.758	1.759	1.677	1.773	2.106	1.741	1.744	9.42
110)	p-ethyltoluene										
	2.133	2.085	2.236	2.243	2.391	2.205	2.380	1.943	2.204	2.202	6.34
111)	1,3,5-trimethylbenzene										
	1.898	1.647	2.123	2.058	2.075	1.850	2.051		2.094	1.975	8.29
112)	tert-butylbenzene										
	1.542	1.375	1.761	1.739	1.732	1.506	1.734	1.791	1.731	1.657	8.75
113)	pentachloroethane										
	0.403	0.370	0.444	0.452	0.454	0.380	0.468	0.544	0.426	0.438	11.98
114)	1,2,4-trimethylbenzene										
	1.865	1.673	2.149	2.086	2.070	1.871	2.089	2.402	2.079	2.032	10.20
115)	sec-butylbenzene										
	2.416	2.134	2.744	2.667	2.627	2.455	2.640	3.009	2.741	2.604	9.48
116)	1,3-dichlorobenzene										
	1.177	1.052	1.290	1.270	1.274	1.215	1.300		1.274	1.232	6.77
117)	p-isopropyltoluene										
	2.011	1.774	2.295	2.219	2.224	1.864	2.228	2.520	2.252	2.154	10.73
118)	1,2,3-trimethylbenzene										
										0.000#	-1.00
119)	1,4-dichlorobenzene										
	1.265	1.169	1.330	1.312	1.311	1.356	1.338		1.333	1.302	4.62
120)	p-diethylbenzene										
	1.247	1.243	1.337	1.322	1.425	1.301	1.413	1.097	1.297	1.298	7.58
121)	1,2-dichlorobenzene										
	1.206	1.064	1.254	1.249	1.241	1.187	1.257		1.222	1.210	5.29
122)	n-butylbenzene										
	1.103	0.980	1.274	1.225	1.244	1.058	1.247	1.231	1.273	1.182	9.04
123)	1,2,4,5-tetramethylbenzene										
	1.998	1.952	2.175	2.162	2.266	2.074	2.257	1.730	2.058	2.075	8.14
124)	1,2-dibromo-3-chloropropane										
	0.103	0.071	0.090	0.097	0.096	0.087	0.107		0.089	0.093	12.21
125)	1,3,5-trichlorobenzene										
	0.988	0.890	1.097	1.052	1.038	1.024	1.053		1.073	1.027	6.23
126)	1,2,4-trichlorobenzene										
	0.815	0.736	0.921	0.910	0.901	0.795	0.934		0.881	0.862	8.25
127)	hexachlorobutadiene										
	0.502	0.446	0.574	0.531	0.522	0.509	0.543		0.570	0.525	7.82
128)	naphthalene										
	1.618	1.346	1.687	1.727	1.700	1.604	1.795		1.560	1.630	8.39
129)	1,2,3-trichlorobenzene										
	0.760	0.652	0.838	0.822	0.779	0.767	0.798		0.791	0.776	7.29
130)	hexachloroethane										
	0.372	0.305	0.427	0.427	0.430	0.352	0.440	0.427	0.407	0.399	11.47
131)	Ethylenimine										
										0.000#	-1.00
132)	Bis(chloromethyl)ether										
										0.000#	-1.00

Initial Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7222-ICC7222
Lab FileID: A191863.D

```
133)  2-methylnaphthalene
                                                                    0.000#  -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MA7222.M          Thu Feb 21 08:15:50 2013   MSA
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** VA7222-ICV7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A191868.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\A191868.D                    Vial: 100
Acq On    : 20 Feb 2013   6:45 pm                    Operator: Oksanat
Sample    : icv7222-50                               Inst    : MSA
Misc      : MS43382,VA7222,5,,,,1                    Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Feb 21 08:12:37 2013
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	109	0.00	7.02
2	M	1,4-dioxane	0.089	0.095	-6.7	115	0.00	11.06
3	M	ethanol		----------NA----------				
4	M	tertiary butyl alcohol	0.964	1.061	-10.1	120	-0.01	7.14
5	I	pentafluorobenzene	1.000	1.000	0.0	96	0.00	9.35
6		chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.286	0.267	6.6	95	0.00	3.70
8	M	dichlorodifluoromethane	0.381	0.344	9.7	91	0.00	3.68
9	M	chloromethane	0.525	0.554	-5.5	113	0.00	3.98
10	M	vinyl chloride	0.482	0.476	1.2	102	0.00	4.23
11	M	bromomethane	0.344	0.339	1.5	110	0.00	4.82
12	M	chloroethane	0.230	0.253	-10.0	109	0.00	4.99
13		vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.489	0.475	2.9	97	0.00	5.48
15	m	pentane	0.667	0.640	4.0	101	0.00	5.52
16	M	ethyl ether	0.196	0.203	-3.6	104	0.00	5.86
17		Freon 123a		----------NA----------				
18	M	acrolein	0.060	0.065	-8.3	105	0.00	6.11
19	M	1,1-dichloroethene	0.292	0.308	-5.5	96	0.00	6.29
20	M	acetone	0.082	0.097	-18.3	125	-0.02	6.36
21	M	allyl chloride	0.210	0.217	-3.3	97	0.00	6.82
		----------	True	Calc.	% Drift	----------		
22	M	acetonitrile	500.000	493.625	1.3	103	0.00	6.81
		----------	AvgRF	CCRF	% Dev	----------		
23	M	iodomethane	0.649	0.677	-4.3	97	0.00	6.56
24	M	iso-butyl alcohol	0.011	0.012	-9.1	112	0.00	9.67
25	M	carbon disulfide	1.095	1.101	-0.5	92	0.00	6.68
26	M	methylene chloride	0.418	0.407	2.6	99	0.00	7.02
27	M	methyl acetate	0.214	0.215	-0.5	101	0.00	6.84
28	M	methyl tert butyl ether	0.977	1.036	-6.0	101	0.00	7.37
29	M	trans-1,2-dichloroethene	0.328	0.347	-5.8	97	0.00	7.41
30	M	di-isopropyl ether	1.224	1.331	-8.7	103	0.00	8.00
31	m	t-butyl formate	0.255	0.304	-19.2	111	0.00	9.20
		----------	True	Calc.	% Drift	----------		
32	m	3,3-dimethyl-1-butanol	500.000	638.717	-27.7#	144	0.00	13.00
		----------	AvgRF	CCRF	% Dev	----------		
33	M	ethyl tert-butyl ether	1.114	1.200	-7.7	101	0.00	8.50

Initial Calibration Verification

Job Number: JB31485 **Sample:** VA7222-ICV7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A191868.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	2-butanone	50.000	53.550	-7.1	111	-0.01	8.78

			AvgRF	CCRF	% Dev			
35	M	1,1-dichloroethane	0.628	0.681	-8.4	97	0.00	8.00
36	M	chloroprene	0.436	0.426	2.3	94	0.00	8.12
37	M	acrylonitrile	0.104	0.118	-13.5	110	0.00	7.37

			True	Calc.	% Drift			
38	M	vinyl acetate	50.000	52.552	-5.1	107	-0.02	8.02
39	M	ethyl acetate	50.000	57.431	-14.9	123	-0.02	8.79

			AvgRF	CCRF	% Dev			
40		ethyl acrylate		----------NA----------				
41	M	2,2-dichloropropane	0.460	0.458	0.4	92	0.00	8.78
42	M	cis-1,2-dichloroethene	0.378	0.404	-6.9	100	0.00	8.79
43	M	propionitrile	0.040	0.047	-17.5	112	0.00	8.85
44	M	bromochloromethane	0.184	0.204	-10.9	99	-0.01	9.11
45	M	tetrahydrofuran	0.133	0.138	-3.8	110	0.00	9.17
46	M	chloroform	0.615	0.650	-5.7	99	0.00	9.17
47	S	dibromofluoromethane (s)	0.372	0.377	-1.3	105	0.00	9.38
48	S	1,2-dichloroethane-d4 (s)	0.416	0.418	-0.5	105	0.00	9.82
49	M	freon 113	0.224	0.192	14.3	83	-0.01	6.25
50	M	methacrylonitrile	0.171	0.189	-10.5	101	0.00	9.05
51		cyclohexane	0.479	0.481	-0.4	93	0.00	9.50
52	M	1,1,1-trichloroethane	0.470	0.495	-5.3	95	0.00	9.42
53	M	tert-amyl methyl ether	1.061	1.162	-9.5	105	-0.01	9.94
54	I	1,4-difluorobenzene	1.000	1.000	0.0	97	0.00	10.30
55	M	Di-isobutylene		----------NA----------				
56	M	epichlorohydrin	0.021	0.024	-14.3	112	0.00	11.64

			True	Calc.	% Drift			
57	M	n-butyl alcohol	2500.000	2685.037	-7.4	120	0.00	10.46

			AvgRF	CCRF	% Dev			
58	M	carbon tetrachloride	0.296	0.304	-2.7	93	0.00	9.64
59	M	1,1-dichloropropene	0.315	0.325	-3.2	95	0.00	9.62
60	M	hexane	0.260	0.228	12.3	86	0.00	7.73
61	M	benzene	0.996	1.041	-4.5	99	0.00	9.89
62	M	Iso-octane	0.825	0.771	6.5	87	0.00	9.91
63	M	heptane	0.170	0.162	4.7	91	0.00	10.09
64	m	tert amyl alcohol	0.010	0.012	-15.0	113	-0.02	9.79
65	M	isopropyl acetate	0.436	0.520	-19.3	115	0.00	9.84
66	M	1,2-dichloroethane	0.300	0.334	-11.3	101	0.00	9.91
67	M	trichloroethene	0.234	0.250	-6.8	98	0.00	10.65
68	M	2-nitropropane		----------NA----------				
69	m	tert-amyl ethyl ether	0.355	0.403	-14.0	101	0.00	10.83
70	m	methylcyclohexane	0.358	0.339	5.3	88	0.00	10.87
71	M	2-chloroethyl vinyl ether	0.136	0.161	-18.4	109	0.00	11.51
72	M	methyl methacrylate	0.147	0.167	-13.6	110	0.00	10.96
73	M	1,2-dichloropropane	0.278	0.301	-8.3	100	0.00	10.92
74	M	dibromomethane	0.143	0.171	-19.6	107	0.00	11.10
75	M	bromodichloromethane	0.331	0.370	-11.8	103	0.00	11.24
76	M	cis-1,3-dichloropropene	0.414	0.439	-6.0	95	0.00	11.74
77	S	toluene-d8 (s)	0.949	0.937	1.3	103	0.00	12.05
78	M	4-methyl-2-pentanone	0.089	0.104	-16.9	106	0.00	11.85
79	M	toluene	0.622	0.642	-3.2	97	0.00	12.13

Initial Calibration Verification

Job Number: JB31485 **Sample:** VA7222-ICV7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A191868.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
80	M	3-methyl-1-butanol	1000.000	1056.178	-5.6	115	0.00	11.89

			AvgRF	CCRF	% Dev			
81	M	trans-1,3-dichloropropene	0.351	0.401	-14.2	100	0.00	12.36
82	M	ethyl methacrylate	0.295	0.321	-8.8	102	0.00	12.36
83	M	1,1,2-trichloroethane	0.183	0.208	-13.7	105	0.00	12.59
84	M	2-hexanone	0.080	0.091	-13.7	106	0.00	12.80
85	I	chlorobenzene-d5	1.000	1.000	0.0	95	0.00	13.74
86	M	tetrachloroethene	0.238	0.242	-1.7	93	0.00	12.78
87	M	1,3-dichloropropane	0.403	0.443	-9.9	103	0.00	12.79
88	M	butyl acetate	0.162	0.191	-17.9	115	0.00	12.89
89	M	dibromochloromethane	0.294	0.325	-10.5	100	0.00	13.09
90	M	1,2-dibromoethane	0.234	0.266	-13.7	102	0.00	13.25
91	M	n-butyl ether		----------NA----------				
92	M	chlorobenzene	0.824	0.855	-3.8	97	0.00	13.78
93	M	1,1,1,2-tetrachloroethane	0.304	0.330	-8.6	100	0.00	13.84
94	M	ethylbenzene	1.309	1.360	-3.9	96	0.00	13.84
95	M	m,p-xylene	0.520	0.536	-3.1	96	0.00	13.96
96	M	o-xylene	0.533	0.563	-5.6	99	0.00	14.43
97	M	styrene	0.860	0.950	-10.5	97	0.00	14.45
98	M	bromoform	0.217	0.239	-10.1	102	0.00	14.74
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	16.38
100	M	isopropylbenzene	2.225	2.238	-0.6	96	0.00	14.82
101	m	cyclohexanone	0.018	0.017	5.6	99	0.00	15.00
102	S	4-bromofluorobenzene (s)	0.710	0.683	3.8	104	0.00	15.05
103	M	bromobenzene	0.646	0.674	-4.3	99	0.00	15.27
104	M	1,1,2,2-tetrachloroethane	0.644	0.630	2.2	101	0.00	15.17
105	M	trans-1,4-dichloro-2-bute	0.141	0.147	-4.3	96	0.00	15.22
106	M	1,2,3-trichloropropane	0.139	0.145	-4.3	105	0.00	15.25
107	M	n-propylbenzene	2.581	2.695	-4.4	97	0.00	15.28
108	M	2-chlorotoluene	0.590	0.600	-1.7	97	0.00	15.45
109	M	4-chlorotoluene	1.744	1.726	1.0	96	0.00	15.56
110	m	p-ethyltoluene		----------NA----------				
111	M	1,3,5-trimethylbenzene	1.975	1.970	0.3	94	0.00	15.46
112	M	tert-butylbenzene	1.657	1.684	-1.6	95	0.00	15.85
113	M	pentachloroethane	0.438	0.465	-6.2	101	0.00	15.94
114	M	1,2,4-trimethylbenzene	2.032	2.075	-2.1	97	0.00	15.90
115	M	sec-butylbenzene	2.604	2.568	1.4	94	0.00	16.09
116	M	1,3-dichlorobenzene	1.232	1.271	-3.2	98	0.00	16.31
117	M	p-isopropyltoluene	2.154	2.253	-4.6	99	0.00	16.23
118	M	1,2,3-trimethylbenzene		----------NA----------				
119	M	1,4-dichlorobenzene	1.302	1.304	-0.2	97	0.00	16.40
120	m	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.210	1.269	-4.9	100	0.00	16.84
122	M	n-butylbenzene	1.182	1.199	-1.4	96	0.00	16.70
123	m	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.093	0.105	-12.9	106	0.00	17.70
125	M	1,3,5-trichlorobenzene	1.027	1.001	2.5	93	0.00	17.91
126	M	1,2,4-trichlorobenzene	0.862	0.933	-8.2	100	0.00	18.61
127	M	hexachlorobutadiene	0.525	0.534	-1.7	99	0.00	18.73
128	M	naphthalene	1.630	1.797	-10.2	102	0.00	18.91
129	M	1,2,3-trichlorobenzene	0.776	0.819	-5.5	98	0.00	19.19
130	M	hexachloroethane	0.399	0.425	-6.5	98	0.00	17.13
131		Ethylenimine		----------NA----------				
132		Bis(chloromethyl)ether		----------NA----------				
133		2-methylnaphthalene		----------NA----------				

Initial Calibration Verification

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7222-ICV7222
Lab FileID: A191868.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 A191863.D  MA7222.M         Thu Feb 21 08:15:53 2013   MSA
```

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7267-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A192888.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\A192888.D                    Vial: 100
Acq On    : 22 Mar 2013   8:35 am                    Operator: Oksanat
Sample    : cc7222-20                                Inst    : MSA
Misc      : MS45025,VA7267,5,,,,1                    Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Feb 21 15:26:34 2013
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	91	-0.01	7.01
2	M	1,4-dioxane	0.089	0.089	0.0	87	0.00	11.07
3	M	ethanol		----------NA----------				
4	M	tertiary butyl alcohol	0.964	1.059	-9.9	97	0.00	7.14
5	I	pentafluorobenzene	1.000	1.000	0.0	74	0.00	9.35
6		chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.286	0.314	-9.8	84	0.00	3.70
8	M	dichlorodifluoromethane	0.381	0.461	-21.0#	86	0.00	3.67
9	M	chloromethane	0.525	0.516	1.7	79	-0.03	3.96
10	M	vinyl chloride	0.482	0.557	-15.6	87	-0.03	4.21
11	M	bromomethane	0.344	0.351	-2.0	80	0.00	4.82
12	M	chloroethane	0.230	0.252	-9.6	79	0.00	5.00
13		vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.489	0.556	-13.7	83	0.01	5.48
15	m	pentane		----------NA----------				
16	M	ethyl ether	0.196	0.196	0.0	74	0.00	5.87
17		Freon 123a		----------NA----------				
18	M	acrolein	0.060	0.057	5.0	70	0.00	6.12
19	M	1,1-dichloroethene	0.292	0.327	-12.0	76	0.00	6.28
20	M	acetone	0.082	0.094	-14.6	101	0.03	6.40
21	M	allyl chloride	0.210	0.239	-13.8	83	0.01	6.83
		----------	True	Calc.	% Drift	----------		
22	M	acetonitrile	200.000	238.439	-19.2	99	0.02	6.83
		----------	AvgRF	CCRF	% Dev	----------		
23	M	iodomethane	0.649	0.762	-17.4	83	0.00	6.55
24	M	iso-butyl alcohol	0.011	0.012	-9.1	90	0.00	9.68
25	M	carbon disulfide	1.095	1.202	-9.8	74	0.00	6.69
26	M	methylene chloride	0.418	0.420	-0.5	77	0.00	7.02
27	M	methyl acetate	0.214	0.215	-0.5	83	0.00	6.85
28	M	methyl tert butyl ether	0.977	1.140	-16.7	84	0.00	7.37
29	M	trans-1,2-dichloroethene	0.328	0.369	-12.5	75	0.00	7.42
30	M	di-isopropyl ether	1.224	1.370	-11.9	81	0.00	8.00
31	m	t-butyl formate	0.255	0.331	-29.8#	97	0.00	9.21
		----------	True	Calc.	% Drift	----------		
32	m	3,3-dimethyl-1-butanol	200.000	223.877	-11.9	93	0.00	13.00
		----------	AvgRF	CCRF	% Dev	----------		
33	M	ethyl tert-butyl ether	1.114	1.291	-15.9	83	0.00	8.49

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7267-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A192888.D
Project: Sunoco - Marcus Hook Facility, PA

		----------	True	Calc.	% Drift	----------		
34	M	2-butanone	20.000	5.235	73.8#	1	-0.03	8.76
		----------	AvgRF	CCRF	% Dev	----------		
35	M	1,1-dichloroethane	0.628	0.726	-15.6	79	0.00	8.01
36	M	chloroprene	0.436	0.529	-21.3#	86	0.00	8.13
37	M	acrylonitrile	0.104	0.092	11.5	74	0.02	7.39
		----------	True	Calc.	% Drift	----------		
38	M	vinyl acetate	20.000	22.422	-12.1	80	0.00	8.04
39	M	ethyl acetate	20.000	23.479	-17.4	91	0.00	8.82
		----------	AvgRF	CCRF	% Dev	----------		
40		ethyl acrylate		----------NA----------				
41	M	2,2-dichloropropane	0.460	0.596	-29.6#	90	0.00	8.79
42	M	cis-1,2-dichloroethene	0.378	0.429	-13.5	80	0.00	8.79
43	M	propionitrile	0.040	0.039	2.5	80	0.02	8.88
44	M	bromochloromethane	0.184	0.216	-17.4	82	0.00	9.12
45	M	tetrahydrofuran	0.133	0.140	-5.3	85	0.01	9.18
46	M	chloroform	0.615	0.714	-16.1	83	0.00	9.18
47	S	dibromofluoromethane (s)	0.372	0.383	-3.0	82	0.00	9.38
48	S	1,2-dichloroethane-d4 (s)	0.416	0.397	4.6	77	0.00	9.82
49	M	freon 113	0.224	0.249	-11.2	79	0.01	6.28
50	M	methacrylonitrile	0.171	0.165	3.5	75	0.01	9.07
51		cyclohexane	0.479	0.486	-1.5	69	0.00	9.51
52	M	1,1,1-trichloroethane	0.470	0.591	-25.7#	86	0.00	9.43
53	M	tert-amyl methyl ether	1.061	1.177	-10.9	80	-0.01	9.94
54	I	1,4-difluorobenzene	1.000	1.000	0.0	72	0.00	10.30
55	M	Di-isobutylene		----------NA----------				
56	M	epichlorohydrin	0.021	0.024	-14.3	89	0.00	11.65
		----------	True	Calc.	% Drift	----------		
57	M	n-butyl alcohol	1000.000	1058.500	-5.9	85	0.01	10.48
		----------	AvgRF	CCRF	% Dev	----------		
58	M	carbon tetrachloride	0.296	0.370	-25.0#	84	0.00	9.64
59	M	1,1-dichloropropene	0.315	0.353	-12.1	74	0.00	9.63
60	M	hexane	0.260	0.266	-2.3	74	0.00	7.73
61	M	benzene	0.996	1.075	-7.9	75	0.00	9.89
62	M	Iso-octane	0.825	0.913	-10.7	73	0.00	9.91
63	M	heptane	0.170	0.173	-1.8	70	0.00	10.09
64	m	tert amyl alcohol		----------NA----------				
65	M	isopropyl acetate	0.436	0.460	-5.5	79	0.00	9.84
66	M	1,2-dichloroethane	0.300	0.387	-29.0#	89	0.00	9.92
67	M	trichloroethene	0.234	0.270	-15.4	76	0.00	10.66
68	M	2-nitropropane		----------NA----------				
69	m	tert-amyl ethyl ether		----------NA----------				
70	m	methylcyclohexane	0.358	0.379	-5.9	70	0.00	10.87
71	M	2-chloroethyl vinyl ether	0.136	0.149	-9.6	78	0.00	11.51
72	M	methyl methacrylate	0.147	0.156	-6.1	81	0.01	10.97
73	M	1,2-dichloropropane	0.278	0.300	-7.9	75	0.00	10.93
74	M	dibromomethane	0.143	0.170	-18.9	81	0.00	11.10
75	M	bromodichloromethane	0.331	0.402	-21.5#	83	0.00	11.24
76	M	cis-1,3-dichloropropene	0.414	0.478	-15.5	79	0.00	11.74
77	S	toluene-d8 (s)	0.949	1.006	-6.0	81	0.00	12.06
78	M	4-methyl-2-pentanone	0.089	0.102	-14.6	80	0.00	11.86
79	M	toluene	0.622	0.678	-9.0	75	0.00	12.14

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7267-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A192888.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
80	M	3-methyl-1-butanol	400.000	466.233	-16.6	91	0.00	11.90

			AvgRF	CCRF	% Dev			
81	M	trans-1,3-dichloropropene	0.351	0.416	-18.5	78	0.00	12.37
82	M	ethyl methacrylate	0.295	0.310	-5.1	77	0.00	12.37
83	M	1,1,2-trichloroethane	0.183	0.207	-13.1	79	0.00	12.59
84	M	2-hexanone	0.080	0.083	-3.8	83	0.01	12.81
85	I	chlorobenzene-d5	1.000	1.000	0.0	74	0.00	13.74
86	M	tetrachloroethene	0.238	0.275	-15.5	78	0.00	12.79
87	M	1,3-dichloropropane	0.403	0.439	-8.9	80	0.00	12.80
88	M	butyl acetate	0.162	0.171	-5.6	84	0.00	12.90
89	M	dibromochloromethane	0.294	0.358	-21.8#	86	0.00	13.09
90	M	1,2-dibromoethane	0.234	0.277	-18.4	83	0.00	13.25
91	M	n-butyl ether		----------NA----------				
92	M	chlorobenzene	0.824	0.880	-6.8	76	0.00	13.78
93	M	1,1,1,2-tetrachloroethane	0.304	0.351	-15.5	81	0.00	13.84
94	M	ethylbenzene	1.309	1.397	-6.7	74	0.00	13.84
95	M	m,p-xylene	0.520	0.551	-6.0	74	0.00	13.96
96	M	o-xylene	0.533	0.564	-5.8	75	0.00	14.44
97	M	styrene	0.860	0.914	-6.3	73	0.00	14.46
98	M	bromoform	0.217	0.256	-18.0	87	0.00	14.74
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	72	0.00	16.38
100	M	isopropylbenzene	2.225	2.428	-9.1	74	0.00	14.82
101	m	cyclohexanone	0.018	0.060	-233.3#	257#	0.00	15.00
102	S	4-bromofluorobenzene (s)	0.710	0.706	0.6	76	0.00	15.06
103	M	bromobenzene	0.646	0.715	-10.7	78	0.00	15.27
104	M	1,1,2,2-tetrachloroethane	0.644	0.674	-4.7	80	0.00	15.18
105	M	trans-1,4-dichloro-2-bute	0.141	0.147	-4.3	74	0.00	15.23
106	M	1,2,3-trichloropropane	0.139	0.157	-12.9	84	0.00	15.25
107	M	n-propylbenzene	2.581	2.770	-7.3	72	0.00	15.29
108	M	2-chlorotoluene	0.590	0.647	-9.7	75	0.00	15.46
109	M	4-chlorotoluene	1.744	1.765	-1.2	72	0.00	15.57
110	m	p-ethyltoluene		----------NA----------				
111	M	1,3,5-trimethylbenzene	1.975	2.162	-9.5	73	0.00	15.47
112	M	tert-butylbenzene	1.657	1.818	-9.7	74	0.00	15.85
113	M	pentachloroethane	0.438	0.513	-17.1	83	0.00	15.94
114	M	1,2,4-trimethylbenzene	2.032	2.166	-6.6	73	0.00	15.91
115	M	sec-butylbenzene	2.604	2.707	-4.0	71	0.00	16.10
116	M	1,3-dichlorobenzene	1.232	1.291	-4.8	72	0.00	16.31
117	M	p-isopropyltoluene	2.154	2.281	-5.9	72	0.00	16.23
118	M	1,2,3-trimethylbenzene		----------NA----------				
119	M	1,4-dichlorobenzene	1.302	1.310	-0.6	71	0.00	16.40
120	m	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.210	1.332	-10.1	77	0.00	16.85
122	M	n-butylbenzene	1.182	1.078	8.8	61	0.00	16.71
123	m	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.093	0.110	-18.3	88	0.00	17.70
125	M	1,3,5-trichlorobenzene	1.027	1.110	-8.1	73	0.00	17.92
126	M	1,2,4-trichlorobenzene	0.862	0.841	2.4	66	0.00	18.61
127	M	hexachlorobutadiene	0.525	0.649	-23.6#	81	0.00	18.74
128	M	naphthalene	1.630	1.574	3.4	67	0.00	18.92
129	M	1,2,3-trichlorobenzene	0.776	0.822	-5.9	71	0.00	19.19
130	M	hexachloroethane	0.399	0.511	-28.1#	86	0.00	17.13
131		Ethylenimine		----------NA----------				
132		Bis(chloromethyl)ether		----------NA----------				
133		2-methylnaphthalene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7267-CC7222
Lab FileID: A192888.D

```
---------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 0  CCC's out = 0
    A191862.D  MA7222.M         Fri Mar 22 12:53:01 2013   MSA
```

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7271-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A192983.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\A192983.D                    Vial: 100
Acq On    : 25 Mar 2013   9:29 am                    Operator: Oksanat
Sample    : cc7222-20                                Inst    : MSA
Misc      : MS45128,VA7271,5,,,,1                    Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Feb 21 15:26:34 2013
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	94	0.00	7.03
2	M	1,4-dioxane	0.089	0.086	3.4	87	0.01	11.08
3	M	ethanol		----------NA----------				
4	M	tertiary butyl alcohol	0.964	1.096	-13.7	105	0.00	7.16
5	I	pentafluorobenzene	1.000	1.000	0.0	76	0.00	9.36
6		chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.286	0.260	9.1	71	0.01	3.71
8	M	dichlorodifluoromethane	0.381	0.427	-12.1	82	0.02	3.68
9	M	chloromethane	0.525	0.416	20.8#	65	-0.02	3.97
10	M	vinyl chloride	0.482	0.487	-1.0	79	-0.01	4.22
11	M	bromomethane	0.344	0.307	10.8	72	0.00	4.83
12	M	chloroethane	0.230	0.208	9.6	67	0.00	5.01
13		vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.489	0.524	-7.2	80	0.02	5.48
15	m	pentane		----------NA----------				
16	M	ethyl ether	0.196	0.170	13.3	66	0.02	5.89
17		Freon 123a		----------NA----------				
18	M	acrolein	0.060	0.059	1.7	75	0.02	6.14
19	M	1,1-dichloroethene	0.292	0.272	6.8	65	0.01	6.29
20	M	acetone	0.082	0.114	-39.0#	126	0.02	6.40
21	M	allyl chloride	0.210	0.183	12.9	65	0.02	6.84
		----------	True	Calc.	% Drift		----------	
22	M	acetonitrile	200.000	194.199	2.9	77	0.02	6.83
		----------	AvgRF	CCRF	% Dev		----------	
23	M	iodomethane	0.649	0.624	3.9	70	0.01	6.57
24	M	iso-butyl alcohol	0.011	0.013	-18.2	102	0.01	9.69
25	M	carbon disulfide	1.095	0.939	14.2	60	0.01	6.70
26	M	methylene chloride	0.418	0.364	12.9	69	0.01	7.04
27	M	methyl acetate	0.214	0.203	5.1	80	0.02	6.86
28	M	methyl tert butyl ether	0.977	1.035	-5.9	79	0.01	7.39
29	M	trans-1,2-dichloroethene	0.328	0.297	9.5	63	0.02	7.43
30	M	di-isopropyl ether	1.224	1.204	1.6	73	0.00	8.01
31	m	t-butyl formate	0.255	0.307	-20.4#	92	0.01	9.22
		----------	True	Calc.	% Drift		----------	
32	m	3,3-dimethyl-1-butanol	200.000	220.509	-10.3	94	0.01	13.01
		----------	AvgRF	CCRF	% Dev		----------	
33	M	ethyl tert-butyl ether	1.114	1.148	-3.1	76	0.01	8.51

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7271-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A192983.D
Project: Sunoco - Marcus Hook Facility, PA

		----------	True	Calc.	% Drift	----------		
34	M	2-butanone	20.000	22.594	-13.0	91	0.03	8.82
		----------	AvgRF	CCRF	% Dev	----------		
35	M	1,1-dichloroethane	0.628	0.598	4.8	67	0.02	8.02
36	M	chloroprene	0.436	0.449	-3.0	75	0.02	8.14
37	M	acrylonitrile	0.104	0.092	11.5	76	0.03	7.40
		----------	True	Calc.	% Drift	----------		
38	M	vinyl acetate	20.000	21.954	-9.8	80	0.02	8.05
39	M	ethyl acetate	20.000	18.902	5.5	70	0.01	8.82
		----------	AvgRF	CCRF	% Dev	----------		
40		ethyl acrylate		----------NA----------				
41	M	2,2-dichloropropane	0.460	0.474	-3.0	73	0.02	8.80
42	M	cis-1,2-dichloroethene	0.378	0.350	7.4	67	0.02	8.80
43	M	propionitrile	0.040	0.038	5.0	79	0.02	8.88
44	M	bromochloromethane	0.184	0.183	0.5	72	0.01	9.13
45	M	tetrahydrofuran	0.133	0.130	2.3	81	0.02	9.20
46	M	chloroform	0.615	0.602	2.1	72	0.02	9.19
47	S	dibromofluoromethane (s)	0.372	0.393	-5.6	87	0.00	9.39
48	S	1,2-dichloroethane-d4 (s)	0.416	0.407	2.2	82	0.00	9.83
49	M	freon 113	0.224	0.227	-1.3	74	0.01	6.28
50	M	methacrylonitrile	0.171	0.165	3.5	77	0.02	9.08
51		cyclohexane	0.479	0.418	12.7	61	0.01	9.51
52	M	1,1,1-trichloroethane	0.470	0.481	-2.3	72	0.01	9.44
53	M	tert-amyl methyl ether	1.061	1.081	-1.9	76	0.00	9.95
54	I	1,4-difluorobenzene	1.000	1.000	0.0	72	0.01	10.31
55	M	Di-isobutylene		----------NA----------				
56	M	epichlorohydrin	0.021	0.023	-9.5	87	0.02	11.66
		----------	True	Calc.	% Drift	----------		
57	M	n-butyl alcohol	1000.000	1151.966	-15.2	95	0.02	10.48
		----------	AvgRF	CCRF	% Dev	----------		
58	M	carbon tetrachloride	0.296	0.328	-10.8	74	0.01	9.66
59	M	1,1-dichloropropene	0.315	0.301	4.4	63	0.01	9.64
60	M	hexane	0.260	0.250	3.8	70	0.01	7.75
61	M	benzene	0.996	0.902	9.4	63	0.01	9.91
62	M	Iso-octane	0.825	0.880	-6.7	71	0.00	9.91
63	M	heptane	0.170	0.167	1.8	67	0.02	10.11
64	m	tert amyl alcohol		----------NA----------				
65	M	isopropyl acetate	0.436	0.471	-8.0	81	0.02	9.86
66	M	1,2-dichloroethane	0.300	0.344	-14.7	79	0.01	9.93
67	M	trichloroethene	0.234	0.226	3.4	64	0.01	10.67
68	M	2-nitropropane		----------NA----------				
69	m	tert-amyl ethyl ether		----------NA----------				
70	m	methylcyclohexane	0.358	0.364	-1.7	68	0.01	10.89
71	M	2-chloroethyl vinyl ether	0.136	0.137	-0.7	72	0.02	11.53
72	M	methyl methacrylate	0.147	0.144	2.0	75	0.02	10.98
73	M	1,2-dichloropropane	0.278	0.256	7.9	64	0.01	10.94
74	M	dibromomethane	0.143	0.157	-9.8	75	0.01	11.11
75	M	bromodichloromethane	0.331	0.355	-7.3	73	0.01	11.26
76	M	cis-1,3-dichloropropene	0.414	0.417	-0.7	69	0.01	11.75
77	S	toluene-d8 (s)	0.949	1.020	-7.5	82	0.01	12.07
78	M	4-methyl-2-pentanone	0.089	0.097	-9.0	76	0.02	11.87
79	M	toluene	0.622	0.579	6.9	65	0.02	12.15

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7271-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A192983.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
80	M	3-methyl-1-butanol	400.000	464.165	-16.0	90	0.01	11.91

			AvgRF	CCRF	% Dev			
81	M	trans-1,3-dichloropropene	0.351	0.378	-7.7	71	0.02	12.38
82	M	ethyl methacrylate	0.295	0.306	-3.7	76	0.02	12.39
83	M	1,1,2-trichloroethane	0.183	0.184	-0.5	70	0.02	12.61
84	M	2-hexanone	0.080	0.084	-5.0	84	0.02	12.82
85	I	chlorobenzene-d5	1.000	1.000	0.0	73	0.02	13.76
86	M	tetrachloroethene	0.238	0.235	1.3	66	0.01	12.80
87	M	1,3-dichloropropane	0.403	0.404	-0.2	73	0.02	12.81
88	M	butyl acetate	0.162	0.170	-4.9	82	0.02	12.91
89	M	dibromochloromethane	0.294	0.323	-9.9	77	0.01	13.10
90	M	1,2-dibromoethane	0.234	0.255	-9.0	75	0.02	13.27
91	M	n-butyl ether		----------NA----------				
92	M	chlorobenzene	0.824	0.778	5.6	67	0.01	13.79
93	M	1,1,1,2-tetrachloroethane	0.304	0.303	0.3	69	0.01	13.86
94	M	ethylbenzene	1.309	1.183	9.6	62	0.01	13.86
95	M	m,p-xylene	0.520	0.483	7.1	64	0.01	13.98
96	M	o-xylene	0.533	0.476	10.7	62	0.01	14.45
97	M	styrene	0.860	0.813	5.5	65	0.01	14.46
98	M	bromoform	0.217	0.244	-12.4	82	0.01	14.76
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	72	0.01	16.39
100	M	isopropylbenzene	2.225	2.049	7.9	62	0.01	14.83
101	m	cyclohexanone	0.018	0.094	-422.2#	399#	0.01	15.01
102	S	4-bromofluorobenzene (s)	0.710	0.724	-2.0	78	0.00	15.06
103	M	bromobenzene	0.646	0.653	-1.1	71	0.02	15.28
104	M	1,1,2,2-tetrachloroethane	0.644	0.645	-0.2	76	0.01	15.18
105	M	trans-1,4-dichloro-2-bute	0.141	0.149	-5.7	75	0.01	15.24
106	M	1,2,3-trichloropropane	0.139	0.155	-11.5	82	0.02	15.27
107	M	n-propylbenzene	2.581	2.411	6.6	62	0.01	15.30
108	M	2-chlorotoluene	0.590	0.572	3.1	66	0.02	15.47
109	M	4-chlorotoluene	1.744	1.580	9.4	64	0.01	15.58
110	m	p-ethyltoluene		----------NA----------				
111	M	1,3,5-trimethylbenzene	1.975	1.841	6.8	62	0.02	15.48
112	M	tert-butylbenzene	1.657	1.550	6.5	63	0.01	15.86
113	M	pentachloroethane	0.438	0.455	-3.9	73	0.00	15.95
114	M	1,2,4-trimethylbenzene	2.032	1.912	5.9	64	0.02	15.92
115	M	sec-butylbenzene	2.604	2.317	11.0	60	0.01	16.11
116	M	1,3-dichlorobenzene	1.232	1.194	3.1	66	0.02	16.32
117	M	p-isopropyltoluene	2.154	1.997	7.3	62	0.01	16.25
118	M	1,2,3-trimethylbenzene		----------NA----------				
119	M	1,4-dichlorobenzene	1.302	1.202	7.7	65	0.00	16.41
120	m	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.210	1.176	2.8	67	0.01	16.86
122	M	n-butylbenzene	1.182	0.974	17.6	55	0.01	16.72
123	m	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.093	0.109	-17.2	87	0.02	17.72
125	M	1,3,5-trichlorobenzene	1.027	1.026	0.1	67	0.01	17.93
126	M	1,2,4-trichlorobenzene	0.862	0.775	10.1	60	0.01	18.62
127	M	hexachlorobutadiene	0.525	0.570	-8.6	71	0.01	18.75
128	M	naphthalene	1.630	1.419	12.9	60	0.01	18.93
129	M	1,2,3-trichlorobenzene	0.776	0.735	5.3	63	0.01	19.21
130	M	hexachloroethane	0.399	0.430	-7.8	72	0.01	17.15
131		Ethylenimine		----------NA----------				
132		Bis(chloromethyl)ether		----------NA----------				
133		2-methylnaphthalene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7271-CC7222
Lab FileID: A192983.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 A191862.D  MA7222.M         Mon Mar 25 17:00:56 2013   MSA
```

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7273-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193027.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\A193027.D                    Vial: 100
Acq On    : 26 Mar 2013  11:02 am                    Operator: Oksanat
Sample    : cc7222-20                                Inst    : MSA
Misc      : MS45375,VA7273,5,,,,1                    Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Feb 21 15:26:34 2013
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	81	0.00	7.02
2	M	1,4-dioxane	0.089	0.106	-19.1	93	0.00	11.07
3	M	ethanol		----------NA----------				
4	M	tertiary butyl alcohol	0.964	1.047	-8.6	86	0.01	7.16
5	I	pentafluorobenzene	1.000	1.000	0.0	82	0.00	9.36
6		chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.286	0.293	-2.4	87	0.00	3.70
8	M	dichlorodifluoromethane	0.381	0.439	-15.2	91	0.03	3.69
9	M	chloromethane	0.525	0.463	11.8	79	-0.02	3.96
10	M	vinyl chloride	0.482	0.532	-10.4	93	-0.02	4.22
11	M	bromomethane	0.344	0.343	0.3	87	0.00	4.83
12	M	chloroethane	0.230	0.237	-3.0	83	0.00	5.00
13		vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.489	0.557	-13.9	92	0.02	5.48
15	m	pentane		----------NA----------				
16	M	ethyl ether	0.196	0.194	1.0	81	0.01	5.88
17		Freon 123a		----------NA----------				
18	M	acrolein	0.060	0.051	15.0	70	0.01	6.13
19	M	1,1-dichloroethene	0.292	0.318	-8.9	82	0.01	6.29
20	M	acetone	0.082	0.079	3.7	94	0.03	6.41
21	M	allyl chloride	0.210	0.221	-5.2	85	0.02	6.84
		----------	True	Calc.	% Drift	----------		
22	M	acetonitrile	200.000	186.527	6.7	79	0.01	6.82
		----------	AvgRF	CCRF	% Dev	----------		
23	M	iodomethane	0.649	0.741	-14.2	89	0.01	6.57
24	M	iso-butyl alcohol	0.011	0.011	0.0	97	0.01	9.69
25	M	carbon disulfide	1.095	1.158	-5.8	79	0.01	6.69
26	M	methylene chloride	0.418	0.400	4.3	82	0.01	7.03
27	M	methyl acetate	0.214	0.210	1.9	90	0.03	6.87
28	M	methyl tert butyl ether	0.977	1.079	-10.4	89	0.00	7.38
29	M	trans-1,2-dichloroethene	0.328	0.363	-10.7	83	0.00	7.42
30	M	di-isopropyl ether	1.224	1.331	-8.7	87	0.00	8.01
31	m	t-butyl formate	0.255	0.314	-23.1#	102	0.01	9.22
		----------	True	Calc.	% Drift	----------		
32	m	3,3-dimethyl-1-butanol	200.000	200.922	-0.5	90	0.00	13.00
		----------	AvgRF	CCRF	% Dev	----------		
33	M	ethyl tert-butyl ether	1.114	1.267	-13.7	91	0.00	8.50

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7273-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193027.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	2-butanone	20.000	20.641	-3.2	87	0.03	8.82

			AvgRF	CCRF	% Dev			
35	M	1,1-dichloroethane	0.628	0.677	-7.8	82	0.00	8.01
36	M	chloroprene	0.436	0.535	-22.7#	96	0.02	8.14
37	M	acrylonitrile	0.104	0.082	21.2#	73	0.03	7.40

			True	Calc.	% Drift			
38	M	vinyl acetate	20.000	21.985	-9.9	87	0.02	8.05
39	M	ethyl acetate	20.000	16.289	18.6	61	0.02	8.83

			AvgRF	CCRF	% Dev			
40		ethyl acrylate		----------NA----------				
41	M	2,2-dichloropropane	0.460	0.558	-21.3#	93	0.00	8.79
42	M	cis-1,2-dichloroethene	0.378	0.407	-7.7	84	0.00	8.79
43	M	propionitrile	0.040	0.037	7.5	82	0.02	8.88
44	M	bromochloromethane	0.184	0.203	-10.3	86	0.00	9.12
45	M	tetrahydrofuran	0.133	0.131	1.5	89	0.01	9.18
46	M	chloroform	0.615	0.692	-12.5	89	0.00	9.18
47	S	dibromofluoromethane (s)	0.372	0.386	-3.8	92	0.00	9.39
48	S	1,2-dichloroethane-d4 (s)	0.416	0.381	8.4	83	0.00	9.82
49	M	freon 113	0.224	0.276	-23.2#	97	0.00	6.27
50	M	methacrylonitrile	0.171	0.158	7.6	80	0.03	9.08
51		cyclohexane	0.479	0.486	-1.5	77	0.01	9.51
52	M	1,1,1-trichloroethane	0.470	0.563	-19.8	91	0.00	9.43
53	M	tert-amyl methyl ether	1.061	1.134	-6.9	86	0.00	9.95
54	I	1,4-difluorobenzene	1.000	1.000	0.0	81	0.00	10.30
55	M	Di-isobutylene		----------NA----------				
56	M	epichlorohydrin	0.021	0.021	0.0	91	0.00	11.65

			True	Calc.	% Drift			
57	M	n-butyl alcohol	1000.000	941.820	5.8	81	0.02	10.48

			AvgRF	CCRF	% Dev			
58	M	carbon tetrachloride	0.296	0.364	-23.0#	92	0.00	9.65
59	M	1,1-dichloropropene	0.315	0.354	-12.4	83	0.00	9.63
60	M	hexane	0.260	0.288	-10.8	91	0.01	7.75
61	M	benzene	0.996	1.046	-5.0	81	0.00	9.89
62	M	Iso-octane	0.825	1.019	-23.5#	92	0.00	9.90
63	M	heptane	0.170	0.200	-17.6	90	0.00	10.10
64	m	tert amyl alcohol		----------NA----------				
65	M	isopropyl acetate	0.436	0.416	4.6	80	0.01	9.85
66	M	1,2-dichloroethane	0.300	0.357	-19.0	91	0.00	9.92
67	M	trichloroethene	0.234	0.272	-16.2	86	0.01	10.66
68	M	2-nitropropane		----------NA----------				
69	m	tert-amyl ethyl ether		----------NA----------				
70	m	methylcyclohexane	0.358	0.419	-17.0	87	0.00	10.88
71	M	2-chloroethyl vinyl ether	0.136	0.149	-9.6	88	0.00	11.52
72	M	methyl methacrylate	0.147	0.144	2.0	84	0.01	10.97
73	M	1,2-dichloropropane	0.278	0.290	-4.3	81	0.00	10.93
74	M	dibromomethane	0.143	0.167	-16.8	89	0.00	11.10
75	M	bromodichloromethane	0.331	0.379	-14.5	88	0.00	11.25
76	M	cis-1,3-dichloropropene	0.414	0.465	-12.3	86	0.01	11.75
77	S	toluene-d8 (s)	0.949	1.035	-9.1	93	0.00	12.06
78	M	4-methyl-2-pentanone	0.089	0.093	-4.5	83	0.00	11.86
79	M	toluene	0.622	0.676	-8.7	84	0.00	12.14

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7273-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193027.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
80	M	3-methyl-1-butanol	400.000	419.042	-4.8	89	0.00	11.90

			AvgRF	CCRF	% Dev			
81	M	trans-1,3-dichloropropene	0.351	0.408	-16.2	86	0.01	12.37
82	M	ethyl methacrylate	0.295	0.303	-2.7	85	0.01	12.38
83	M	1,1,2-trichloroethane	0.183	0.200	-9.3	85	0.00	12.60
84	M	2-hexanone	0.080	0.078	2.5	87	0.01	12.81
85	I	chlorobenzene-d5	1.000	1.000	0.0	82	0.00	13.74
86	M	tetrachloroethene	0.238	0.280	-17.6	88	0.00	12.79
87	M	1,3-dichloropropane	0.403	0.429	-6.5	87	0.01	12.80
88	M	butyl acetate	0.162	0.161	0.6	87	0.00	12.90
89	M	dibromochloromethane	0.294	0.350	-19.0	94	0.00	13.09
90	M	1,2-dibromoethane	0.234	0.269	-15.0	89	0.00	13.26
91	M	n-butyl ether		----------NA----------				
92	M	chlorobenzene	0.824	0.899	-9.1	86	0.00	13.78
93	M	1,1,1,2-tetrachloroethane	0.304	0.350	-15.1	89	0.00	13.85
94	M	ethylbenzene	1.309	1.414	-8.0	83	0.00	13.85
95	M	m,p-xylene	0.520	0.564	-8.5	84	0.00	13.97
96	M	o-xylene	0.533	0.567	-6.4	83	0.00	14.44
97	M	styrene	0.860	0.953	-10.8	85	0.00	14.46
98	M	bromoform	0.217	0.252	-16.1	95	0.00	14.74
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	76	0.00	16.38
100	M	isopropylbenzene	2.225	2.569	-15.5	83	0.00	14.83
101	m	cyclohexanone	0.018	0.066	-266.7#	297#	0.00	15.00
102	S	4-bromofluorobenzene (s)	0.710	0.734	-3.4	84	0.00	15.06
103	M	bromobenzene	0.646	0.767	-18.7	89	0.01	15.28
104	M	1,1,2,2-tetrachloroethane	0.644	0.672	-4.3	85	0.00	15.18
105	M	trans-1,4-dichloro-2-bute	0.141	0.141	0.0	76	0.00	15.23
106	M	1,2,3-trichloropropane	0.139	0.155	-11.5	87	0.01	15.26
107	M	n-propylbenzene	2.581	2.944	-14.1	81	0.00	15.29
108	M	2-chlorotoluene	0.590	0.685	-16.1	84	0.00	15.45
109	M	4-chlorotoluene	1.744	1.869	-7.2	81	0.00	15.57
110	m	p-ethyltoluene		----------NA----------				
111	M	1,3,5-trimethylbenzene		----------NA----------				
112	M	tert-butylbenzene	1.657	1.882	-13.6	82	0.00	15.86
113	M	pentachloroethane	0.438	0.533	-21.7#	92	0.00	15.95
114	M	1,2,4-trimethylbenzene	2.032	2.238	-10.1	79	0.00	15.91
115	M	sec-butylbenzene	2.604	2.885	-10.8	80	0.00	16.10
116	M	1,3-dichlorobenzene	1.232	1.375	-11.6	81	0.00	16.31
117	M	p-isopropyltoluene	2.154	2.406	-11.7	80	0.00	16.24
118	M	1,2,3-trimethylbenzene		----------NA----------				
119	M	1,4-dichlorobenzene	1.302	1.396	-7.2	80	0.00	16.41
120	m	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.210	1.329	-9.8	81	0.00	16.85
122	M	n-butylbenzene	1.182	1.150	2.7	69	0.00	16.71
123	m	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.093	0.101	-8.6	86	0.00	17.71
125	M	1,3,5-trichlorobenzene	1.027	1.158	-12.8	81	0.00	17.92
126	M	1,2,4-trichlorobenzene	0.862	0.832	3.5	69	0.00	18.61
127	M	hexachlorobutadiene	0.525	0.657	-25.1#	87	0.00	18.74
128	M	naphthalene	1.630	1.443	11.5	65	0.00	18.92
129	M	1,2,3-trichlorobenzene	0.776	0.756	2.6	69	0.00	19.19
130	M	hexachloroethane	0.399	0.516	-29.3#	92	0.00	17.14
131		Ethylenimine		----------NA----------				
132		Bis(chloromethyl)ether		----------NA----------				
133		2-methylnaphthalene	0.000	0.000#	0.0	0#	0.01	18.73

Continuing Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7273-CC7222
Lab FileID: A193027.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 A191862.D  MA7222.M         Tue Mar 26 12:47:57 2013   MSA
```

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7274-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193049.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\A193049.D                    Vial: 100
Acq On    : 26 Mar 2013  10:52 pm                    Operator: Oksanat
Sample    : cc7222-50                                Inst    : MSA
Misc      : MS45441,VA7274,5,,,,1                    Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Feb 21 15:26:34 2013
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	62	0.00	7.02
2	M	1,4-dioxane	0.089	0.106	-19.1	73	0.00	11.06
3	M	ethanol		----------NA----------				
4	M	tertiary butyl alcohol	0.964	1.062	-10.2	68	0.00	7.14
5	I	pentafluorobenzene	1.000	1.000	0.0	74	0.00	9.35
6		chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.286	0.298	-4.2	81	0.00	3.70
8	M	dichlorodifluoromethane	0.381	0.458	-20.2#	93	0.02	3.68
9	M	chloromethane	0.525	0.496	5.5	77	-0.02	3.97
10	M	vinyl chloride	0.482	0.563	-16.8	92	-0.01	4.22
11	M	bromomethane	0.344	0.351	-2.0	87	0.00	4.83
12	M	chloroethane	0.230	0.255	-10.9	85	0.00	5.00
13		vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.489	0.603	-23.3#	95	0.00	5.47
15	m	pentane		----------NA----------				
16	M	ethyl ether	0.196	0.180	8.2	70	0.00	5.87
17		Freon 123a		----------NA----------				
18	M	acrolein	0.060	0.052	13.3	64	0.00	6.12
19	M	1,1-dichloroethene	0.292	0.325	-11.3	77	0.00	6.28
20	M	acetone	0.082	0.070	14.6	69	0.00	6.38
21	M	allyl chloride	0.210	0.156	25.7#	53	0.00	6.82
		----------	True	Calc.	% Drift	----------		
22	M	acetonitrile	500.000	417.497	16.5	65	0.00	6.81
		----------	AvgRF	CCRF	% Dev	----------		
23	M	iodomethane	0.649	0.750	-15.6	83	0.00	6.56
24	M	iso-butyl alcohol	0.011	0.010#	9.1	70	0.00	9.67
25	M	carbon disulfide	1.095	1.088	0.6	70	0.00	6.68
26	M	methylene chloride	0.418	0.422	-1.0	79	0.00	7.02
27	M	methyl acetate	0.214	0.199	7.0	72	0.00	6.84
28	M	methyl tert butyl ether	0.977	1.019	-4.3	76	-0.01	7.37
29	M	trans-1,2-dichloroethene	0.328	0.358	-9.1	77	0.00	7.42
30	M	di-isopropyl ether	1.224	1.308	-6.9	78	0.00	8.00
31	m	t-butyl formate	0.255	0.302	-18.4	85	0.00	9.21
		----------	True	Calc.	% Drift	----------		
32	m	3,3-dimethyl-1-butanol	500.000	398.816	20.2#	66	0.00	13.00
		----------	AvgRF	CCRF	% Dev	----------		
33	M	ethyl tert-butyl ether	1.114	1.199	-7.6	77	0.00	8.49

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7274-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193049.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	2-butanone	50.000	44.207	11.6	69	0.00	8.79

			AvgRF	CCRF	% Dev			
35	M	1,1-dichloroethane	0.628	0.695	-10.7	76	0.00	8.01
36	M	chloroprene	0.436	0.527	-20.9#	89	0.00	8.12
37	M	acrylonitrile	0.104	0.072	30.8#	52	0.00	7.37

			True	Calc.	% Drift			
38	M	vinyl acetate	50.000	46.818	6.4	72	-0.01	8.02
39	M	ethyl acetate	50.000	42.362	15.3	67	0.00	8.80

			AvgRF	CCRF	% Dev			
40		ethyl acrylate		----------NA----------				
41	M	2,2-dichloropropane	0.460	0.541	-17.6	84	0.00	8.78
42	M	cis-1,2-dichloroethene	0.378	0.429	-13.5	81	0.00	8.79
43	M	propionitrile	0.040	0.034	15.0	62	0.00	8.86
44	M	bromochloromethane	0.184	0.206	-12.0	77	-0.01	9.11
45	M	tetrahydrofuran	0.133	0.109	18.0	66	0.00	9.17
46	M	chloroform	0.615	0.703	-14.3	82	0.00	9.17
47	S	dibromofluoromethane (s)	0.372	0.375	-0.8	80	0.00	9.38
48	S	1,2-dichloroethane-d4 (s)	0.416	0.385	7.5	74	0.00	9.82
49	M	freon 113	0.224	0.258	-15.2	85	0.00	6.27
50	M	methacrylonitrile	0.171	0.145	15.2	59	0.00	9.06
51		cyclohexane	0.479	0.474	1.0	70	0.00	9.50
52	M	1,1,1-trichloroethane	0.470	0.577	-22.8#	85	0.00	9.42
53	M	tert-amyl methyl ether	1.061	1.083	-2.1	75	0.00	9.94
54	I	1,4-difluorobenzene	1.000	1.000	0.0	69	0.00	10.30
55	M	Di-isobutylene		----------NA----------				
56	M	epichlorohydrin	0.021	0.019	9.5	63	0.00	11.64

			True	Calc.	% Drift			
57	M	n-butyl alcohol	2500.000	1976.568	20.9#	61	0.00	10.46

			AvgRF	CCRF	% Dev			
58	M	carbon tetrachloride	0.296	0.392	-32.4#	86	0.00	9.64
59	M	1,1-dichloropropene	0.315	0.370	-17.5	77	0.00	9.62
60	M	hexane	0.260	0.293	-12.7	79	0.00	7.74
61	M	benzene	0.996	1.094	-9.8	74	0.00	9.89
62	M	Iso-octane	0.825	1.005	-21.8#	81	0.00	9.91
63	M	heptane	0.170	0.189	-11.2	76	0.00	10.09
64	m	tert amyl alcohol		----------NA----------				
65	M	isopropyl acetate	0.436	0.274	37.2#	43#	0.00	9.84
66	M	1,2-dichloroethane	0.300	0.362	-20.7#	78	0.00	9.91
67	M	trichloroethene	0.234	0.280	-19.7	79	0.00	10.65
68	M	2-nitropropane		----------NA----------				
69	m	tert-amyl ethyl ether		----------NA----------				
70	m	methylcyclohexane	0.358	0.425	-18.7	79	0.00	10.87
71	M	2-chloroethyl vinyl ether	0.136	0.141	-3.7	69	0.00	11.51
72	M	methyl methacrylate	0.147	0.131	10.9	62	0.00	10.96
73	M	1,2-dichloropropane	0.278	0.307	-10.4	73	0.00	10.93
74	M	dibromomethane	0.143	0.167	-16.8	75	0.00	11.10
75	M	bromodichloromethane	0.331	0.399	-20.5#	80	0.00	11.24
76	M	cis-1,3-dichloropropene	0.414	0.468	-13.0	73	0.00	11.74
77	S	toluene-d8 (s)	0.949	1.013	-6.7	80	0.00	12.05
78	M	4-methyl-2-pentanone	0.089	0.085	4.5	62	0.00	11.85
79	M	toluene	0.622	0.684	-10.0	74	0.00	12.13

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7274-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193049.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
80	M	3-methyl-1-butanol	1000.000	823.816	17.6	63	0.00	11.89

			AvgRF	CCRF	% Dev			
81	M	trans-1,3-dichloropropene	0.351	0.411	-17.1	74	0.00	12.36
82	M	ethyl methacrylate	0.295	0.310	-5.1	71	0.00	12.36
83	M	1,1,2-trichloroethane	0.183	0.200	-9.3	73	0.00	12.59
84	M	2-hexanone	0.080	0.067	16.2	56	0.00	12.80
85	I	chlorobenzene-d5	1.000	1.000	0.0	68	0.00	13.74
86	M	tetrachloroethene	0.238	0.284	-19.3	78	0.00	12.78
87	M	1,3-dichloropropane	0.403	0.432	-7.2	71	0.00	12.79
88	M	butyl acetate	0.162	0.148	8.6	63	0.00	12.89
89	M	dibromochloromethane	0.294	0.356	-21.1#	77	0.00	13.09
90	M	1,2-dibromoethane	0.234	0.276	-17.9	76	0.00	13.25
91	M	n-butyl ether		----------NA----------				
92	M	chlorobenzene	0.824	0.924	-12.1	75	0.00	13.77
93	M	1,1,1,2-tetrachloroethane	0.304	0.380	-25.0#	82	0.00	13.84
94	M	ethylbenzene	1.309	1.464	-11.8	74	0.00	13.84
95	M	m,p-xylene	0.520	0.587	-12.9	74	0.00	13.96
96	M	o-xylene	0.533	0.603	-13.1	75	0.00	14.43
97	M	styrene	0.860	1.002	-16.5	73	0.00	14.45
98	M	bromoform	0.217	0.260	-19.8	79	0.00	14.74
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	69	0.00	16.37
100	M	isopropylbenzene	2.225	2.478	-11.4	75	0.00	14.82
101	m	cyclohexanone	0.018	0.022	-22.2#	89	0.00	15.00
102	S	4-bromofluorobenzene (s)	0.710	0.684	3.7	73	0.00	15.05
103	M	bromobenzene	0.646	0.733	-13.5	76	0.00	15.27
104	M	1,1,2,2-tetrachloroethane	0.644	0.613	4.8	69	0.00	15.17
105	M	trans-1,4-dichloro-2-bute	0.141	0.128	9.2	59	0.00	15.22
106	M	1,2,3-trichloropropane	0.139	0.146	-5.0	74	0.00	15.25
107	M	n-propylbenzene	2.581	2.842	-10.1	72	0.00	15.29
108	M	2-chlorotoluene	0.590	0.650	-10.2	74	0.00	15.45
109	M	4-chlorotoluene	1.744	1.786	-2.4	70	0.00	15.56
110	m	p-ethyltoluene		----------NA----------				
111	M	1,3,5-trimethylbenzene	1.975	2.180	-10.4	73	0.00	15.46
112	M	tert-butylbenzene	1.657	1.717	-3.6	68	0.00	15.85
113	M	pentachloroethane	0.438	0.528	-20.5#	81	0.00	15.95
114	M	1,2,4-trimethylbenzene	2.032	2.213	-8.9	73	0.00	15.90
115	M	sec-butylbenzene	2.604	2.814	-8.1	73	0.00	16.09
116	M	1,3-dichlorobenzene	1.232	1.327	-7.7	72	0.00	16.31
117	M	p-isopropyltoluene	2.154	2.374	-10.2	74	0.00	16.23
118	M	1,2,3-trimethylbenzene		----------NA----------				
119	M	1,4-dichlorobenzene	1.302	1.334	-2.5	70	0.00	16.40
120	m	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.210	1.324	-9.4	73	0.00	16.85
122	M	n-butylbenzene	1.182	1.172	0.8	66	0.00	16.70
123	m	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.093	0.098	-5.4	70	0.00	17.71
125	M	1,3,5-trichlorobenzene	1.027	1.125	-9.5	74	0.00	17.92
126	M	1,2,4-trichlorobenzene	0.862	0.861	0.1	65	0.00	18.60
127	M	hexachlorobutadiene	0.525	0.645	-22.9#	84	0.00	18.73
128	M	naphthalene	1.630	1.457	10.6	58	0.00	18.91
129	M	1,2,3-trichlorobenzene	0.776	0.768	1.0	65	0.00	19.19
130	M	hexachloroethane	0.399	0.517	-29.6#	84	0.00	17.13
131		Ethylenimine		----------NA----------				
132		Bis(chloromethyl)ether		----------NA----------				
133		2-methylnaphthalene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7274-CC7222
Lab FileID: A193049.D

```
---------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 0  CCC's out = 0
    A191863.D  MA7222.M         Wed Mar 27 16:14:32 2013   MSA
```

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7275-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193068.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\A193068.D                    Vial: 100
Acq On    : 27 Mar 2013   9:01 am                    Operator: Oksanat
Sample    : cc7222-20                                Inst    : MSA
Misc      : MS45423,VA7275,5,,,,1                    Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Feb 21 15:26:34 2013
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	69	-0.02	7.01
2	M	1,4-dioxane	0.089	0.098	-10.1	73	0.00	11.07
3	M	ethanol		----------NA----------				
4	M	tertiary butyl alcohol	0.964	1.141	-18.4	80	0.00	7.14
5	I	pentafluorobenzene	1.000	1.000	0.0	82	-0.01	9.34
6		chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.286	0.276	3.5	82	0.00	3.70
8	M	dichlorodifluoromethane	0.381	0.421	-10.5	87	0.02	3.68
9	M	chloromethane	0.525	0.498	5.1	84	-0.04	3.95
10	M	vinyl chloride	0.482	0.547	-13.5	95	-0.03	4.20
11	M	bromomethane	0.344	0.354	-2.9	89	-0.01	4.82
12	M	chloroethane	0.230	0.249	-8.3	87	0.00	4.99
13		vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.489	0.539	-10.2	89	0.00	5.46
15	m	pentane		----------NA----------				
16	M	ethyl ether	0.196	0.177	9.7	74	0.00	5.86
17		Freon 123a		----------NA----------				
18	M	acrolein	0.060	0.047	21.7#	65	0.00	6.12
19	M	1,1-dichloroethene	0.292	0.319	-9.2	82	0.00	6.28
20	M	acetone	0.082	0.071	13.4	85	0.00	6.38
21	M	allyl chloride	0.210	0.220	-4.8	84	0.00	6.82
		----------	True	Calc.	% Drift	----------		
22	M	acetonitrile	200.000	202.397	-1.2	88	0.00	6.81
		----------	AvgRF	CCRF	% Dev	----------		
23	M	iodomethane	0.649	0.750	-15.6	90	0.00	6.55
24	M	iso-butyl alcohol	0.011	0.009#	18.2	76	0.00	9.67
25	M	carbon disulfide	1.095	1.156	-5.6	79	0.00	6.68
26	M	methylene chloride	0.418	0.429	-2.6	87	-0.01	7.01
27	M	methyl acetate	0.214	0.200	6.5	85	0.00	6.85
28	M	methyl tert butyl ether	0.977	1.008	-3.2	83	-0.02	7.36
29	M	trans-1,2-dichloroethene	0.328	0.361	-10.1	82	-0.01	7.41
30	M	di-isopropyl ether	1.224	1.348	-10.1	88	0.00	8.00
31	m	t-butyl formate	0.255	0.295	-15.7	95	-0.01	9.20
		----------	True	Calc.	% Drift	----------		
32	m	3,3-dimethyl-1-butanol	200.000	174.616	12.7	75	0.00	13.00
		----------	AvgRF	CCRF	% Dev	----------		
33	M	ethyl tert-butyl ether	1.114	1.239	-11.2	88	-0.01	8.49

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7275-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193068.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	2-butanone	20.000	16.841	15.8	66	0.00	8.80

			AvgRF	CCRF	% Dev			
35	M	1,1-dichloroethane	0.628	0.698	-11.1	84	-0.01	8.00
36	M	chloroprene	0.436	0.501	-14.9	90	0.00	8.12
37	M	acrylonitrile	0.104	0.079	24.0#	70	0.00	7.38

			True	Calc.	% Drift			
38	M	vinyl acetate	20.000	19.833	0.8	74	0.01	8.04
39	M	ethyl acetate	20.000	15.043	24.8#	54	0.00	8.82

			AvgRF	CCRF	% Dev			
40		ethyl acrylate		----------NA----------				
41	M	2,2-dichloropropane	0.460	0.561	-22.0#	93	-0.01	8.77
42	M	cis-1,2-dichloroethene	0.378	0.410	-8.5	84	0.00	8.79
43	M	propionitrile	0.040	0.031	22.5#	69	0.00	8.86
44	M	bromochloromethane	0.184	0.201	-9.2	85	-0.01	9.10
45	M	tetrahydrofuran	0.133	0.102	23.3#	68	0.00	9.18
46	M	chloroform	0.615	0.694	-12.8	89	0.00	9.17
47	S	dibromofluoromethane (s)	0.372	0.380	-2.2	90	-0.01	9.38
48	S	1,2-dichloroethane-d4 (s)	0.416	0.364	12.5	79	-0.01	9.81
49	M	freon 113	0.224	0.257	-14.7	90	-0.01	6.25
50	M	methacrylonitrile	0.171	0.145	15.2	73	0.01	9.07
51		cyclohexane	0.479	0.446	6.9	70	0.00	9.50
52	M	1,1,1-trichloroethane	0.470	0.556	-18.3	89	0.00	9.42
53	M	tert-amyl methyl ether	1.061	1.079	-1.7	82	-0.02	9.93
54	I	1,4-difluorobenzene	1.000	1.000	0.0	78	0.00	10.29
55	M	Di-isobutylene		----------NA----------				
56	M	epichlorohydrin	0.021	0.019	9.5	77	0.00	11.65

			True	Calc.	% Drift			
57	M	n-butyl alcohol	1000.000	863.158	13.7	68	0.00	10.46

			AvgRF	CCRF	% Dev			
58	M	carbon tetrachloride	0.296	0.357	-20.6#	87	0.00	9.64
59	M	1,1-dichloropropene	0.315	0.344	-9.2	78	-0.01	9.62
60	M	hexane	0.260	0.265	-1.9	80	0.00	7.73
61	M	benzene	0.996	1.094	-9.8	82	0.00	9.89
62	M	Iso-octane	0.825	0.913	-10.7	79	0.00	9.90
63	M	heptane	0.170	0.170	0.0	74	0.00	10.09
64	m	tert amyl alcohol		----------NA----------				
65	M	isopropyl acetate	0.436	0.369	15.4	68	0.00	9.84
66	M	1,2-dichloroethane	0.300	0.351	-17.0	87	0.00	9.91
67	M	trichloroethene	0.234	0.270	-15.4	82	0.00	10.65
68	M	2-nitropropane		----------NA----------				
69	m	tert-amyl ethyl ether		----------NA----------				
70	m	methylcyclohexane	0.358	0.390	-8.9	78	0.00	10.87
71	M	2-chloroethyl vinyl ether	0.136	0.130	4.4	74	0.00	11.51
72	M	methyl methacrylate	0.147	0.133	9.5	74	0.00	10.96
73	M	1,2-dichloropropane	0.278	0.288	-3.6	78	0.00	10.92
74	M	dibromomethane	0.143	0.153	-7.0	79	0.00	11.10
75	M	bromodichloromethane	0.331	0.380	-14.8	85	0.00	11.24
76	M	cis-1,3-dichloropropene	0.414	0.450	-8.7	80	0.00	11.74
77	S	toluene-d8 (s)	0.949	1.012	-6.6	88	0.00	12.05
78	M	4-methyl-2-pentanone	0.089	0.081	9.0	69	0.00	11.85
79	M	toluene	0.622	0.684	-10.0	82	0.00	12.13

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7275-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193068.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
80	M	3-methyl-1-butanol	400.000	369.631	7.6	73	0.00	11.90

			AvgRF	CCRF	% Dev			
81	M	trans-1,3-dichloropropene	0.351	0.384	-9.4	78	0.00	12.36
82	M	ethyl methacrylate	0.295	0.279	5.4	75	0.00	12.37
83	M	1,1,2-trichloroethane	0.183	0.185	-1.1	76	0.00	12.59
84	M	2-hexanone	0.080	0.061	23.8#	65	0.00	12.81
85	I	chlorobenzene-d5	1.000	1.000	0.0	76	0.00	13.73
86	M	tetrachloroethene	0.238	0.277	-16.4	81	-0.01	12.78
87	M	1,3-dichloropropane	0.403	0.404	-0.2	76	0.00	12.79
88	M	butyl acetate	0.162	0.146	9.9	74	0.00	12.89
89	M	dibromochloromethane	0.294	0.336	-14.3	84	0.00	13.09
90	M	1,2-dibromoethane	0.234	0.257	-9.8	79	0.00	13.25
91	M	n-butyl ether		----------NA----------				
92	M	chlorobenzene	0.824	0.912	-10.7	82	0.00	13.77
93	M	1,1,1,2-tetrachloroethane	0.304	0.364	-19.7	86	0.00	13.84
94	M	ethylbenzene	1.309	1.462	-11.7	80	-0.01	13.83
95	M	m,p-xylene	0.520	0.578	-11.2	80	0.00	13.96
96	M	o-xylene	0.533	0.594	-11.4	81	0.00	14.43
97	M	styrene	0.860	0.950	-10.5	79	0.00	14.44
98	M	bromoform	0.217	0.236	-8.8	83	0.00	14.74
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	71	0.00	16.37
100	M	isopropylbenzene	2.225	2.627	-18.1	79	0.00	14.82
101	m	cyclohexanone	0.018	0.054	-200.0#	230#	0.00	15.00
102	S	4-bromofluorobenzene (s)	0.710	0.736	-3.7	79	-0.01	15.05
103	M	bromobenzene	0.646	0.745	-15.3	81	0.00	15.27
104	M	1,1,2,2-tetrachloroethane	0.644	0.620	3.7	73	0.00	15.17
105	M	trans-1,4-dichloro-2-bute	0.141	0.134	5.0	67	-0.01	15.21
106	M	1,2,3-trichloropropane	0.139	0.150	-7.9	79	0.00	15.25
107	M	n-propylbenzene	2.581	2.960	-14.7	76	0.00	15.28
108	M	2-chlorotoluene	0.590	0.696	-18.0	80	0.00	15.45
109	M	4-chlorotoluene	1.744	1.911	-9.6	77	0.00	15.56
110	m	p-ethyltoluene		----------NA----------				
111	M	1,3,5-trimethylbenzene	1.975	2.317	-17.3	78	0.00	15.45
112	M	tert-butylbenzene	1.657	1.974	-19.1	80	0.00	15.85
113	M	pentachloroethane	0.438	0.545	-24.4#	88	-0.01	15.94
114	M	1,2,4-trimethylbenzene	2.032	2.353	-15.8	78	0.00	15.90
115	M	sec-butylbenzene	2.604	2.903	-11.5	76	0.00	16.09
116	M	1,3-dichlorobenzene	1.232	1.379	-11.9	76	0.00	16.31
117	M	p-isopropyltoluene	2.154	2.428	-12.7	76	0.00	16.23
118	M	1,2,3-trimethylbenzene		----------NA----------				
119	M	1,4-dichlorobenzene	1.302	1.407	-8.1	76	-0.01	16.40
120	m	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.210	1.363	-12.6	78	0.00	16.84
122	M	n-butylbenzene	1.182	1.114	5.8	62	0.00	16.70
123	m	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.093	0.093	0.0	74	0.00	17.70
125	M	1,3,5-trichlorobenzene	1.027	1.153	-12.3	75	0.00	17.91
126	M	1,2,4-trichlorobenzene	0.862	0.804	6.7	62	0.00	18.60
127	M	hexachlorobutadiene	0.525	0.635	-21.0#	79	0.00	18.73
128	M	naphthalene	1.630	1.308	19.8	55	0.00	18.91
129	M	1,2,3-trichlorobenzene	0.776	0.745	4.0	64	-0.01	19.18
130	M	hexachloroethane	0.399	0.534	-33.8#	89	-0.01	17.13
131		Ethylenimine		----------NA----------				
132		Bis(chloromethyl)ether		----------NA----------				
133		2-methylnaphthalene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7275-CC7222
Lab FileID: A193068.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 A191862.D  MA7222.M         Wed Mar 27 16:55:51 2013   MSA
```

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7279-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193158.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\A193158.D                    Vial: 100
Acq On    : 29 Mar 2013   8:56 am                    Operator: Oksanat
Sample    : cc7222-20                                Inst    : MSA
Misc      : MS45579,VA7279,5,,,,1                    Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title        : SW 846  8260bB ZB624 60m x 0.25mm x 1.4um
Last Update  : Fri Mar 29 09:21:40 2013
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	65	-0.03	7.00
2	M	1,4-dioxane	0.089	0.087	2.2	61	0.00	11.06
3	M	ethanol		----------NA----------				
4	M	tertiary butyl alcohol	0.964	1.018	-5.6	67	-0.02	7.13
5	I	pentafluorobenzene	1.000	1.000	0.0	73	-0.02	9.33
6		chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.286	0.338	-18.2	89	-0.02	3.68
8	M	dichlorodifluoromethane	0.381	0.503	-32.0#	92	-0.01	3.66
9	M	chloromethane	0.525	0.518	1.3	78	-0.04	3.94
10	M	vinyl chloride	0.482	0.553	-14.7	86	-0.04	4.19
11	M	bromomethane	0.344	0.363	-5.5	82	-0.02	4.81
12	M	chloroethane	0.230	0.244	-6.1	76	-0.02	4.98
13		vinyl bromide		----------NA----------				
14	M	trichlorofluoromethane	0.489	0.576	-17.8	84	-0.01	5.45
15	m	pentane		----------NA----------				
16	M	ethyl ether	0.196	0.178	9.2	66	-0.03	5.84
17		Freon 123a		----------NA----------				
18	M	acrolein	0.060	0.047	21.7#	58	-0.01	6.11
19	M	1,1-dichloroethene	0.292	0.306	-4.8	70	-0.02	6.26
20	M	acetone	0.082	0.067	18.3	72	0.02	6.39
21	M	allyl chloride	0.210	0.222	-5.7	76	-0.02	6.80
		----------	True	Calc.	% Drift		----------	
22	M	acetonitrile	200.000	193.878	3.1	74	0.00	6.81
		----------	AvgRF	CCRF	% Dev		----------	
23	M	iodomethane	0.649	0.728	-12.2	78	-0.02	6.54
24	M	iso-butyl alcohol	0.011	0.008#	27.3#	61	-0.01	9.66
25	M	carbon disulfide	1.095	1.181	-7.9	72	-0.02	6.67
26	M	methylene chloride	0.418	0.425	-1.7	77	-0.03	7.00
27	M	methyl acetate	0.214	0.268	-25.2#	102	0.00	6.84
28	M	methyl tert butyl ether	0.977	1.004	-2.8	73	-0.02	7.36
29	M	trans-1,2-dichloroethene	0.328	0.356	-8.5	72	-0.02	7.39
30	M	di-isopropyl ether	1.224	1.312	-7.2	76	-0.02	7.99
31	m	t-butyl formate	0.255	0.274	-7.5	79	-0.02	9.19
		----------	True	Calc.	% Drift		----------	
32	m	3,3-dimethyl-1-butanol	200.000	168.123	15.9	64	-0.01	12.99
		----------	AvgRF	CCRF	% Dev		----------	
33	M	ethyl tert-butyl ether	1.114	1.169	-4.9	74	-0.02	8.48

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7279-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193158.D
Project: Sunoco - Marcus Hook Facility, PA

		----------	True	Calc.	% Drift	----------		
34	M	2-butanone	20.000	16.873	15.6	59	0.01	8.80
		----------	AvgRF	CCRF	% Dev	----------		
35	M	1,1-dichloroethane	0.628	0.701	-11.6	75	-0.02	7.99
36	M	chloroprene	0.436	0.508	-16.5	81	-0.02	8.11
37	M	acrylonitrile	0.104	0.092	11.5	73	0.00	7.38
		----------	True	Calc.	% Drift	----------		
38	M	vinyl acetate	20.000	9.740	51.3#	14	0.03	8.06
39	M	ethyl acetate	20.000	18.949	5.3	67	0.00	8.81
		----------	AvgRF	CCRF	% Dev	----------		
40		ethyl acrylate		----------NA----------				
41	M	2,2-dichloropropane	0.460	0.573	-24.6#	85	-0.02	8.76
42	M	cis-1,2-dichloroethene	0.378	0.401	-6.1	73	-0.02	8.77
43	M	propionitrile	0.040	0.030	25.0#	59	0.00	8.85
44	M	bromochloromethane	0.184	0.191	-3.8	72	-0.02	9.09
45	M	tetrahydrofuran	0.133	0.110	17.3	66	0.00	9.17
46	M	chloroform	0.615	0.685	-11.4	78	-0.02	9.16
47	S	dibromofluoromethane (s)	0.372	0.387	-4.0	82	-0.02	9.37
48	S	1,2-dichloroethane-d4 (s)	0.416	0.383	7.9	74	-0.02	9.80
49	M	freon 113	0.224	0.260	-16.1	81	-0.03	6.24
50	M	methacrylonitrile	0.171	0.141	17.5	63	0.00	9.06
51		cyclohexane	0.479	0.453	5.4	64	-0.02	9.48
52	M	1,1,1-trichloroethane	0.470	0.552	-17.4	79	-0.02	9.41
53	M	tert-amyl methyl ether	1.061	1.056	0.5	71	-0.02	9.93
54	I	1,4-difluorobenzene	1.000	1.000	0.0	70	-0.02	10.28
55	M	Di-isobutylene		----------NA----------				
56	M	epichlorohydrin	0.021	0.018	14.3	66	-0.01	11.64
		----------	True	Calc.	% Drift	----------		
57	M	n-butyl alcohol	1000.000	889.649	11.0	64	0.00	10.46
		----------	AvgRF	CCRF	% Dev	----------		
58	M	carbon tetrachloride	0.296	0.360	-21.6#	79	-0.02	9.62
59	M	1,1-dichloropropene	0.315	0.339	-7.6	69	-0.02	9.61
60	M	hexane	0.260	0.288	-10.8	78	-0.02	7.71
61	M	benzene	0.996	1.030	-3.4	69	-0.02	9.87
62	M	Iso-octane	0.825	0.905	-9.7	70	-0.02	9.88
63	M	heptane	0.170	0.176	-3.5	69	-0.02	10.07
64	m	tert amyl alcohol		----------NA----------				
65	M	isopropyl acetate	0.436	0.405	7.1	67	-0.02	9.83
66	M	1,2-dichloroethane	0.300	0.347	-15.7	77	-0.03	9.89
67	M	trichloroethene	0.234	0.261	-11.5	71	-0.02	10.64
68	M	2-nitropropane		----------NA----------				
69	m	tert-amyl ethyl ether		----------NA----------				
70	m	methylcyclohexane	0.358	0.377	-5.3	68	-0.02	10.86
71	M	2-chloroethyl vinyl ether	0.136	0.125	8.1	63	-0.01	11.50
72	M	methyl methacrylate	0.147	0.114	22.4#	57	0.00	10.96
73	M	1,2-dichloropropane	0.278	0.286	-2.9	70	-0.02	10.90
74	M	dibromomethane	0.143	0.151	-5.6	69	-0.01	11.09
75	M	bromodichloromethane	0.331	0.376	-13.6	75	-0.02	11.22
76	M	cis-1,3-dichloropropene	0.414	0.435	-5.1	69	-0.02	11.73
77	S	toluene-d8 (s)	0.949	1.035	-9.1	81	-0.02	12.04
78	M	4-methyl-2-pentanone	0.089	0.079	11.2	60	-0.01	11.85
79	M	toluene	0.622	0.668	-7.4	72	-0.01	12.12

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VA7279-CC7222
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** A193158.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
80	M	3-methyl-1-butanol	400.000	338.911	15.3	58	-0.02	11.88

			AvgRF	CCRF	% Dev			
81	M	trans-1,3-dichloropropene	0.351	0.382	-8.8	70	-0.02	12.35
82	M	ethyl methacrylate	0.295	0.257	12.9	62	-0.01	12.36
83	M	1,1,2-trichloroethane	0.183	0.179	2.2	66	-0.02	12.58
84	M	2-hexanone	0.080	0.062	22.5#	60	0.00	12.80
85	I	chlorobenzene-d5	1.000	1.000	0.0	70	-0.02	13.72
86	M	tetrachloroethene	0.238	0.258	-8.4	70	-0.02	12.77
87	M	1,3-dichloropropane	0.403	0.388	3.7	67	-0.01	12.78
88	M	butyl acetate	0.162	0.136	16.0	63	-0.01	12.88
89	M	dibromochloromethane	0.294	0.324	-10.2	75	-0.02	13.07
90	M	1,2-dibromoethane	0.234	0.233	0.4	67	-0.02	13.24
91	M	n-butyl ether		----------NA----------				
92	M	chlorobenzene	0.824	0.857	-4.0	71	-0.02	13.76
93	M	1,1,1,2-tetrachloroethane	0.304	0.341	-12.2	75	-0.02	13.83
94	M	ethylbenzene	1.309	1.381	-5.5	70	-0.02	13.83
95	M	m,p-xylene	0.520	0.554	-6.5	71	-0.02	13.95
96	M	o-xylene	0.533	0.563	-5.6	71	-0.02	14.42
97	M	styrene	0.860	0.890	-3.5	68	-0.02	14.43
98	M	bromoform	0.217	0.225	-3.7	73	-0.02	14.73
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	65	-0.02	16.36
100	M	isopropylbenzene	2.225	2.504	-12.5	69	-0.02	14.81
101	m	cyclohexanone	0.018	0.052	-188.9#	203#	-0.02	14.98
102	S	4-bromofluorobenzene (s)	0.710	0.759	-6.9	74	-0.02	15.04
103	M	bromobenzene	0.646	0.741	-14.7	74	-0.01	15.26
104	M	1,1,2,2-tetrachloroethane	0.644	0.595	7.6	64	-0.01	15.16
105	M	trans-1,4-dichloro-2-bute	0.141	0.125	11.3	58	-0.01	15.21
106	M	1,2,3-trichloropropane	0.139	0.153	-10.1	74	-0.01	15.24
107	M	n-propylbenzene	2.581	2.861	-10.8	68	-0.02	15.27
108	M	2-chlorotoluene	0.590	0.676	-14.6	71	-0.01	15.44
109	M	4-chlorotoluene	1.744	1.849	-6.0	69	-0.02	15.55
110	m	p-ethyltoluene		----------NA----------				
111	M	1,3,5-trimethylbenzene	1.975	2.217	-12.3	68	-0.01	15.45
112	M	tert-butylbenzene	1.657	1.879	-13.4	70	-0.02	15.84
113	M	pentachloroethane	0.438	0.515	-17.6	76	-0.02	15.93
114	M	1,2,4-trimethylbenzene	2.032	2.225	-9.5	68	-0.01	15.89
115	M	sec-butylbenzene	2.604	2.780	-6.8	66	-0.02	16.08
116	M	1,3-dichlorobenzene	1.232	1.298	-5.4	66	-0.01	16.30
117	M	p-isopropyltoluene	2.154	2.334	-8.4	67	-0.02	16.22
118	M	1,2,3-trimethylbenzene		----------NA----------				
119	M	1,4-dichlorobenzene	1.302	1.302	0.0	64	-0.02	16.39
120	m	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.210	1.280	-5.8	67	-0.02	16.83
122	M	n-butylbenzene	1.182	1.063	10.1	55	-0.02	16.69
123	m	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.093	0.093	0.0	68	0.00	17.70
125	M	1,3,5-trichlorobenzene	1.027	1.076	-4.8	64	-0.02	17.90
126	M	1,2,4-trichlorobenzene	0.862	0.728	15.5	52	-0.02	18.59
127	M	hexachlorobutadiene	0.525	0.592	-12.8	67	-0.02	18.72
128	M	naphthalene	1.630	1.180	27.6#	46#	-0.02	18.90
129	M	1,2,3-trichlorobenzene	0.776	0.672	13.4	52	-0.02	19.18
130	M	hexachloroethane	0.399	0.516	-29.3#	79	-0.02	17.12
131		Ethylenimine		----------NA----------				
132		Bis(chloromethyl)ether		----------NA----------				
133		2-methylnaphthalene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VA7279-CC7222
Lab FileID: A193158.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 A191862.D  MA7222.M         Fri Mar 29 14:51:46 2013   MSA
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VE8801-ICC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200201.D
Project: Sunoco - Marcus Hook Facility, PA

Response Factor Report MSE

```
Method       : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Fri Feb 22 18:41:55 2013
Response via : Initial Calibration

Calibration Files
5   =E200198.D   2   =E200208.D   20  =E200200.D   50  =E200201.D
100 =E200202.D   1   =E200206.D   200 =E200203.D   0.5 =E200207.D
10  =E200199.D       =

 Compound
           5     2     20    50    100   1     200   0.5   10      Avg    %RSD
-------------------------------------------------------------------------------

1)     Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
          0.060       0.094 0.103 0.102       0.099       0.072   0.088   20.14
           ----- Linear regression -----  Coefficient =  0.9994
             Response Ratio = -0.00503 + 0.10041 *A

3)  tertiary butyl alcohol
          1.046 1.174 1.252 1.237 1.204       1.100       1.210   1.175    6.42
4)  ethanol
                                                                  0.000#  -1.00

5) I   pentafluorobenzene    ----------------ISTD---------------------
6)  freon 23
                                                                  0.000#  -1.00
7)  freon 115
                                                                  0.000#  -1.00
8)  freon 143a
                                                                  0.000#  -1.00
9)  freon 152a
                                                                  0.000#  -1.00
10)  chlorotrifluoroethene
                                                                  0.000#  -1.00
11)  chlorodifluoromethane
          0.463 0.430 0.589 0.607 0.583       0.561       0.618   0.550   13.38
12)  dichlorodifluoromethane
          0.589 0.626 0.753 0.802 0.764 0.784 0.748       0.796   0.733   10.98
13)  freon 114
                                                                  0.000#  -1.00
14)  freon 142b
                                                                  0.000#  -1.00
15)  chloromethane
          0.703 0.724 0.843 0.871 0.825 0.889 0.799       0.892   0.818    8.81
16)  vinyl chloride
          0.697 0.746 0.861 0.879 0.816 0.897 0.789       0.869   0.819    8.65
17)  1,3-Butadiene
                                                                  0.000#  -1.00
18)  acetaldehyde
                                                                  0.000    1.00
19)  bromomethane
          0.460 0.465 0.499 0.498 0.459 0.626 0.433 0.493 0.529   0.496   11.42
20)  chloroethane
          0.339 0.328 0.400 0.409 0.376 0.384 0.351       0.404   0.374    8.35
21)  vinyl bromide
                                                                  0.000#  -1.00
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VE8801-ICC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200201.D
Project: Sunoco - Marcus Hook Facility, PA

```
22)  trichlorofluoromethane
           0.703 0.688 0.857 0.883 0.817 0.884 0.793       0.883   0.813    9.82
23)  pentane
           0.866 1.016 1.076 1.089 1.015 1.103 0.989       1.205   1.045    9.49
24)  ethyl ether
           0.315 0.282 0.346 0.328 0.326 0.309 0.315 0.280 0.343   0.316    7.38
25)  freon 141b
                                                                   0.000#  -1.00
26)  freon 123a
                                                                   0.000#  -1.00
27)  freon 123
                                                                   0.000#  -1.00
28)  2-chloropropane
           0.844 0.861 1.046 1.021 0.984 0.807 0.961       1.036   0.945    9.98
29)  acrolein
           0.121 0.114 0.130 0.128       0.116             0.127   0.123    5.44
30)  1,1-dichloroethene
           0.445 0.435 0.539 0.525 0.502 0.345 0.491       0.530   0.476   13.76
31)  isopropyl alcohol
                                                                   0.000#  -1.00
32)  acetone
           0.028       0.053 0.050 0.050       0.048       0.044   0.045   20.12
            ----- Linear regression -----  Coefficient =  0.9986
              Response Ratio = 0.00076 + 0.04797 *A

33)  allyl chloride
           0.778 0.976 0.953 0.957 0.920 0.873 0.882       0.967   0.913    7.33
34)  acetonitrile
           0.028       0.034 0.029 0.026       0.022       0.032   0.029   15.33
            ----- Linear regression -----  Coefficient =  0.9906
              Response Ratio = 0.04112 + 0.02186 *A

35)  iodomethane
           0.893 0.862 1.058 1.053 1.022 0.785 1.002       1.039   0.964   10.71
36)  iso-butyl alcohol
           0.003       0.005 0.005 0.004       0.004       0.005   0.004#  16.56
            ----- Linear regression -----  Coefficient =  0.9995
              Response Ratio = 0.00065 + 0.00447 *A

37)  carbon disulfide
           1.506 1.535 1.822 1.823 1.711 1.441 1.503 1.279 1.804   1.603   12.17
38)  methylene chloride
           0.534 0.662 0.601 0.585 0.573 0.807 0.558       0.604   0.615   13.96
39)  1-chloropropane
           0.832 0.918 0.989 0.953 0.915 0.837 0.875 0.989 0.982   0.921    6.77
40)  methyl acetate
           0.369 0.365 0.477 0.448 0.439 0.388 0.426       0.455   0.421   10.01
41)  methyl tert butyl ether
           1.508 1.458 1.687 1.626 1.590 1.441 1.538 1.168 1.708   1.525   10.71
42)  trans-1,2-dichloroethene
           0.481 0.454 0.547 0.536 0.513 0.405 0.493 0.341 0.545   0.480   14.53
43)  di-isopropyl ether
           1.607 1.718 1.848 1.803 1.727 1.780 1.636 1.939 1.821   1.764    5.91
44)  ethyl tert-butyl ether
           1.595 1.708 1.821 1.806 1.772 1.784 1.719 1.843 1.775   1.758    4.28
45)  2-butanone
           0.034       0.063 0.068 0.070       0.064       0.056   0.059   22.16
            ----- Linear regression -----  Coefficient =  0.9972
              Response Ratio = 0.00040 + 0.06503 *A
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VE8801-ICC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200201.D
Project: Sunoco - Marcus Hook Facility, PA

```
46)  1,1-dichloroethane
           0.868 0.862 1.010 0.982 0.937 0.793 0.892 0.617 1.004   0.885   14.01
47)  chloroprene
           0.607 0.556 0.741 0.735 0.708 0.607 0.677       0.724   0.669   10.50
48)  acrylonitrile
           0.199 0.190 0.226 0.216 0.215 0.159 0.208       0.225   0.205   10.78
49)  vinyl acetate
           0.051       0.090 0.090 0.090       0.089       0.078   0.081   19.20
            ----- Linear regression -----  Coefficient =  0.9998
              Response Ratio = -0.00136 + 0.08979 *A

50)  ethyl acetate
           0.057       0.079 0.076 0.079       0.077       0.079   0.075   11.81
51)  2,2-dichloropropane
           0.667 0.702 0.765 0.758 0.707 0.626 0.675       0.793   0.712    7.94
52)  cis-1,2-dichloroethene
           0.545 0.519 0.605 0.579 0.562 0.470 0.540       0.602   0.553    8.11
53)  methyl acrylate
           0.436       0.517 0.497 0.505       0.490       0.513   0.493    6.02
54)  propionitrile
           0.076 0.072 0.088 0.082 0.082 0.060 0.079       0.086   0.078   11.27
55)  bromochloromethane
           0.261 0.239 0.303 0.300 0.298       0.293       0.300   0.285    8.67
56)  tetrahydrofuran
           0.189 0.179 0.211 0.200 0.201       0.195       0.212   0.198    5.81
57)  chloroform
           0.822 0.804 0.946 0.915 0.880 0.791 0.858 0.630 0.941   0.843   11.65
58)  t-butyl formate
           0.423 0.422 0.504 0.510 0.499 0.443 0.498       0.488   0.474    7.87
59)  Iso-octane
           1.216 1.276 1.518 1.541 1.446 1.412 1.407       1.485   1.412    8.09
60)  dibromofluoromethane (s)
           0.485 0.423 0.486 0.504 0.496 0.370 0.489       0.500   0.469   10.11
61)  1,2-dichloroethane-d4 (s)
           0.520 0.475 0.551 0.543 0.535 0.409 0.507       0.585   0.516   10.44
62)  freon 113
           0.311 0.273 0.408 0.413 0.387       0.375       0.386   0.365   14.42
63)  methacrylonitrile
           0.303 0.284 0.351 0.343 0.345       0.345       0.348   0.331    8.04
64)  1,1,1-trichloroethane
           0.673 0.681 0.831 0.819 0.791 0.605 0.774       0.815   0.749   11.24
65)  tert-amyl methyl ether
           1.521 1.627 1.707 1.666 1.617 1.835 1.555 1.850 1.671   1.672    6.72

66) I   1,4-difluorobenzene   ----------------ISTD---------------------
67)  Di-isobutylene
                                                                   0.000#  -1.00
68)  tert amyl alcohol
           0.014 0.012 0.017 0.016 0.014       0.013       0.016   0.015   12.94
69)  epichlorohydrin
           0.036 0.036 0.042 0.041 0.041       0.040       0.040   0.039    6.10
70)  n-butyl alcohol
           0.010 0.009 0.013 0.012 0.011 0.013 0.011       0.011   0.011   12.38
71)  tert-amyl ethyl ether
           0.540 0.493 0.624 0.604 0.575 0.580 0.568 0.381 0.582   0.550   13.35
72)  carbon tetrachloride
           0.439 0.435 0.534 0.519 0.493 0.400 0.480 0.337 0.519   0.462   14.05
73)  1,1-dichloropropene
           0.422 0.450 0.529 0.504 0.484 0.404 0.470       0.517   0.473    9.49
74)  hexane
```

```
            0.320 0.301 0.400 0.402 0.384       0.371       0.398   0.368   11.12
 75)  benzene
            1.345 1.407 1.558 1.465 1.404 1.361 1.346 1.182 1.539   1.401    8.12
 76)  heptane
            0.186 0.169 0.216 0.220 0.209 0.182 0.204       0.226   0.202   10.08
 77)  isopropyl acetate
            0.676 0.698 0.755 0.719 0.713 0.804 0.687       0.745   0.725    5.77
 78)  1,2-dichloroethane
            0.452 0.434 0.500 0.469 0.460 0.379 0.441       0.486   0.453    8.19
 79)  ethyl acrylate
                                                                    0.000#  -1.00
 80)  trichloroethene
            0.322 0.326 0.402 0.387 0.373 0.283 0.361       0.386   0.355   11.51
 81)  2-nitropropane
                                                                    0.000#  -1.00
 82)  2-chloroethyl vinyl ether
            0.218 0.224 0.258 0.252 0.248 0.245 0.234       0.244   0.240    5.71
 83)  methylcyclohexane
            0.493 0.499 0.603 0.589 0.552 0.542 0.533 0.475 0.594   0.542    8.66
 84)  methyl methacrylate
            0.333 0.301 0.390 0.381 0.375 0.280 0.359       0.381   0.350   11.73
 85)  1,2-dichloropropane
            0.353 0.370 0.419 0.390 0.379 0.314 0.364       0.405   0.374    8.69
 86)  dibromomethane
            0.208 0.209 0.244 0.233 0.235 0.150 0.230       0.235   0.218   13.84
 87)  bromodichloromethane
            0.444 0.433 0.518 0.498 0.495 0.429 0.487       0.499   0.476    7.24
 88)  cis-1,3-dichloropropene
            0.557 0.538 0.665 0.654 0.645 0.493 0.626       0.638   0.602   10.59
 89)  toluene-d8 (s)
            1.285 1.236 1.398 1.363 1.310 1.118 1.240 1.081 1.363   1.266    8.66
 90)  4-methyl-2-pentanone
            0.153 0.152 0.169 0.163 0.162       0.156       0.164   0.160    3.97
 91)  toluene
            0.825 0.827 0.970 0.930 0.900 0.763 0.872 0.599 0.964   0.850   13.72
 92)  3-methyl-1-butanol
            0.017 0.018 0.020 0.019 0.019 0.025 0.018       0.019   0.019   13.17
 93)  trans-1,3-dichloropropene
            0.493 0.475 0.587 0.574 0.568 0.405 0.552       0.557   0.526   11.94
 94)  ethyl methacrylate
            0.427 0.392 0.516 0.516 0.510 0.364 0.490       0.493   0.464   13.07
 95)  1,1,2-trichloroethane
            0.270 0.251 0.303 0.292 0.293 0.219 0.284       0.295   0.276   10.24
 96)  2-hexanone
            0.118       0.146 0.149 0.151       0.151       0.138   0.142    9.11

 97) I   chlorobenzene-d5      ----------------ISTD--------------------
 98)  cyclohexanone
            0.014       0.015 0.015 0.014       0.013       0.014   0.014    6.52
 99)  tetrachloroethene
            0.436 0.491 0.508 0.478 0.456 0.393 0.427       0.508   0.462    9.03
100)  1,3-dichloropropane
            0.615 0.603 0.663 0.629 0.621 0.568 0.580 0.454 0.664   0.600   10.62
101)  butyl acetate
            0.235 0.233 0.280 0.269 0.271 0.262 0.257       0.266   0.259    6.50
102)  3,3-dimethyl-1-butanol
            0.042 0.045 0.049 0.045 0.042       0.039       0.044   0.044    7.15
103)  dibromochloromethane
            0.420 0.395 0.476 0.459 0.463 0.373 0.442       0.461   0.436    8.37
104)  1,2-dibromoethane
```

```
            0.381 0.380 0.421 0.396 0.400 0.311 0.382       0.417   0.386    8.89
105)  n-butyl ether
                                                                    0.000#  -1.00
106)  chlorobenzene
            1.071 1.089 1.204 1.154 1.124 1.041 1.067 0.810 1.205   1.085   10.95
107)  1,1,1,2-tetrachloroethane
            0.404 0.397 0.455 0.436 0.418 0.352 0.401 0.287 0.451   0.400   13.19
108)  ethylbenzene
            1.715 1.743 1.967 1.833 1.757 1.589 1.640 1.420 1.961   1.736   10.08
109)  m,p-xylene
            0.679 0.670 0.775 0.731 0.706 0.626 0.670 0.518 0.765   0.682   11.48
110)  o-xylene
            0.687 0.701 0.800 0.751 0.728 0.578 0.701 0.556 0.786   0.699   12.04
111)  butyl acrylate
                                                                    0.000#  -1.00
112)  styrene
            1.121 1.085 1.318 1.238 1.213 0.873 1.159       1.269   1.160   11.99
113)  bromoform
            0.317 0.300 0.366 0.352 0.358 0.258 0.355       0.346   0.332   11.17

114) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
115)  isopropylbenzene
            3.085 3.213 3.641 3.447 3.258 2.964 3.138 2.705 3.496   3.216    8.94
116)  4-bromofluorobenzene (s)
            0.970 0.866 1.016 0.993 0.964 0.796 0.942 0.724 0.978   0.917   10.88
117)  bromobenzene
            0.922 0.880 1.021 0.947 0.916 0.824 0.889 0.643 0.987   0.892   12.33
118)  1,1,2,2-tetrachloroethane
            0.925 0.896 0.986 0.938 0.904 0.850 0.887 0.791 0.957   0.904    6.44
119)  trans-1,4-dichloro-2-butene
            0.185       0.235 0.239 0.242       0.241       0.217   0.227    9.96
120)  1,2,3-trichloropropane
            0.241 0.201 0.263 0.245 0.237       0.238       0.249   0.239    7.91
121)  n-propylbenzene
            3.480 3.631 4.001 3.741 3.557 3.437 3.413 3.031 3.943   3.582    8.25
122)  p-ethyltoluene
            3.128 2.699 3.456 3.296 3.097 3.592 3.055 2.507 3.236   3.119   10.98
123)  2-chlorotoluene
            0.794 0.809 0.875 0.828 0.792 0.758 0.779 0.658 0.841   0.793    7.75
124)  4-chlorotoluene
            2.259 2.344 2.561 2.418 2.310 2.204 2.272 2.127 2.473   2.330    5.83
125)  1,3,5-trimethylbenzene
            2.754 2.773 2.945 2.757 2.608 2.861 2.497 2.527 2.946   2.741    6.08
126)  tert-butylbenzene
            2.262 2.265 2.640 2.542 2.405 2.319 2.333 1.826 2.561   2.350   10.20
127)  pentachloroethane
            0.585 0.550 0.657 0.623 0.599 0.536 0.593 0.491 0.624   0.584    8.76
128)  1,2,4-trimethylbenzene
            2.679 2.592 3.022 2.840 2.712 2.636 2.604 2.423 2.884   2.710    6.64
129)  sec-butylbenzene
            3.134 3.267 3.727 3.578 3.393 3.231 3.234 2.887 3.617   3.341    7.93
130)  1,3-dichlorobenzene
            1.578 1.584 1.799 1.728 1.680 1.584 1.621 1.477 1.739   1.643    6.13
131)  p-isopropyltoluene
            2.645 2.630 3.161 3.033 2.859 2.586 2.720 2.303 3.029   2.774    9.76
132)  1,4-dichlorobenzene
            1.613 1.647 1.816 1.770 1.722 1.545 1.658 1.452 1.768   1.666    7.06
133)  benzyl chloride
            1.350 1.449 1.627 1.743 1.715 1.893 1.662 1.903 1.499   1.649   11.54
134)  p-diethylbenzene
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VE8801-ICC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200201.D
Project: Sunoco - Marcus Hook Facility, PA

```
            1.577 1.297 1.820 1.831 1.697 1.598 1.620 1.191 1.695   1.592   13.68
135)  1,2-dichlorobenzene
            1.579 1.470 1.774 1.714 1.643 1.481 1.579 1.342 1.697   1.587    8.66
136)  n-butylbenzene
            1.201 1.182 1.529 1.475 1.417 1.066 1.343       1.441   1.332   12.33
137)  1,2,4,5-tetramethylbenzene
            2.505 2.016 3.029 2.967 2.567 2.774 2.331       2.753   2.618   12.86
138)  1,2-dibromo-3-chloropropane
            0.135       0.161 0.160 0.146       0.140       0.149   0.148    7.14
139)  1,3,5-trichlorobenzene
            1.015 0.961 1.377 1.350 1.193 1.005 1.078       1.264   1.155   14.13
140)  1,2,4-trichlorobenzene
            0.721       1.032 1.056 0.966       0.895       0.925   0.933   12.90
141)  hexachlorobutadiene
            0.490 0.540 0.617 0.584 0.490 0.580 0.425 0.444 0.579   0.528   12.88
142)  naphthalene
            1.555       2.068 2.084 1.881       1.806       1.826   1.870   10.43
143)  MMT
                                                                    0.000#  -1.00
144)  1,2,3-trichlorobenzene
            0.598       0.833 0.829 0.742       0.690       0.753   0.741   11.96
145)  hexachloroethane
            0.484 0.477 0.615 0.596 0.572 0.430 0.545       0.561   0.535   12.07
146)  Cyclohexane
            0.961 1.008 1.195 1.104 1.038 0.915 1.008       1.186   1.052    9.64
147)  ethyleinimine
                                                                    0.000#  -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           ME8801.M          Mon Feb 25 09:59:04 2013
```

6.9.12

6

Initial Calibration Verification

Job Number: JB31485 **Sample:** VE8801-ICV8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200209.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e-core initial\E200209.D Vial: 16
Acq On : 22 Feb 2013 5:19 pm Operator: OksanaT
Sample : icv8801-50 Inst : MSE
Misc : MS43512,VE8801,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Feb 22 18:41:55 2013
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	0.01	7.68
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	1250.000	1187.360	5.0	93	0.00	11.54
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.191	-1.4	98	0.00	7.80
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	104	0.00	9.91
6		freon 23		----------NA----------				
7		freon 115		----------NA----------				
8		freon 143a		----------NA----------				
9		freon 152a		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.550	0.568	-3.3	97	0.00	4.32
12	M	dichlorodifluoromethane	0.733	0.739	-0.8	96	0.00	4.32
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.915	-11.9	109	0.00	4.66
16	M	vinyl chloride	0.819	0.827	-1.0	98	0.00	4.96
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.500	-0.8	104	0.00	5.59
20	M	chloroethane	0.374	0.421	-12.6	107	0.00	5.77
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.823	-1.2	97	0.00	6.28
23	M	pentane	1.045	1.046	-0.1	100	0.00	6.34
24	M	ethyl ether	0.316	0.323	-2.2	102	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.994	-5.2	101	0.00	6.84
29	M	acrolein	0.123	0.124	-0.8	101	0.00	6.85
30	M	1,1-dichloroethene	0.476	0.494	-3.8	98	0.00	7.09
31	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
32	M	acetone	50.000	51.965	-3.9	105	0.00	7.07
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.871	4.6	95	0.00	7.58

Initial Calibration Verification

Job Number: JB31485 **Sample:** VE8801-ICV8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200209.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	acetonitrile	500.000	549.696	-9.9	99	0.00	7.46

			AvgRF	CCRF	% Dev			
35	M	iodomethane	0.964	0.978	-1.5	96	0.00	7.35

			True	Calc.	% Drift			
36	M	iso-butyl alcohol	500.000	495.545	0.9	100	0.00	10.22

			AvgRF	CCRF	% Dev			
37	M	carbon disulfide	1.603	1.533	4.4	87	0.00	7.50
38	M	methylene chloride	0.615	0.558	9.3	99	0.00	7.75
39	m	1-chloropropane	0.921	0.922	-0.1	100	0.00	7.81
40	M	methyl acetate	0.421	0.388	7.8	90	0.00	7.54
41	M	methyl tert butyl ether	1.525	1.507	1.2	96	0.00	8.10
42	M	trans-1,2-dichloroethene	0.480	0.501	-4.4	97	0.00	8.14
43	M	di-isopropyl ether	1.764	1.708	3.2	98	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.640	6.7	94	0.00	9.15

			True	Calc.	% Drift			
45	M	2-butanone	50.000	46.842	6.3	94	0.00	9.33

			AvgRF	CCRF	% Dev			
46	M	1,1-dichloroethane	0.885	0.968	-9.4	102	0.00	8.68
47	M	chloroprene	0.669	0.648	3.1	91	0.00	8.81
48	M	acrylonitrile	0.205	0.223	-8.8	107	0.00	8.01

			True	Calc.	% Drift			
49	M	vinyl acetate	50.000	51.515	-3.0	105	0.00	8.65

			AvgRF	CCRF	% Dev			
50	M	ethyl acetate	0.075	0.076	-1.3	104	0.00	9.37
51	M	2,2-dichloropropane	0.712	0.676	5.1	93	0.00	9.43
52	M	cis-1,2-dichloroethene	0.553	0.562	-1.6	101	0.00	9.41
53	m	methyl acrylate	0.493	0.493	0.0	103	0.00	9.45
54	M	propionitrile	0.078	0.083	-6.4	105	0.00	9.40
55	M	bromochloromethane	0.285	0.291	-2.1	101	0.00	9.71
56	M	tetrahydrofuran	0.198	0.206	-4.0	107	0.00	9.77
57	M	chloroform	0.843	0.884	-4.9	100	0.00	9.76
58	m	t-butyl formate	0.474	0.486	-2.5	99	0.00	9.80
59	M	Iso-octane	1.412	1.195	15.4	81	0.00	10.53
60	S	dibromofluoromethane (s)	0.469	0.490	-4.5	101	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.522	-1.2	100	0.00	10.36
62	M	freon 113	0.365	0.324	11.2	81	0.00	7.06
63	M	methacrylonitrile	0.331	0.340	-2.7	103	0.00	9.60
64	M	1,1,1-trichloroethane	0.749	0.785	-4.8	99	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.525	8.8	95	0.00	10.52
66	I	1,4-difluorobenzene	1.000	1.000	0.0	103	0.00	10.83
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol	0.015	0.016	-3.3	103	0.00	10.30
69	M	epichlorohydrin	0.039	0.039	0.0	98	0.00	12.06
70	M	n-butyl alcohol	0.011	0.012	-9.1	101	0.00	10.90
71	M	tert-amyl ethyl ether	0.550	0.568	-3.3	97	0.00	11.36
72	M	carbon tetrachloride	0.462	0.499	-8.0	99	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.489	-3.4	100	0.00	10.22
74	M	hexane	0.368	0.298	19.0	77	0.00	8.48
75	M	benzene	1.401	1.433	-2.3	101	0.00	10.48
76	M	heptane	0.202	0.172	14.9	81	0.00	10.68

Initial Calibration Verification

Job Number: JB31485 **Sample:** VE8801-ICV8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200209.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.689	5.0	99	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.458	-1.1	101	0.00	10.45
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.377	-6.2	101	0.00	11.19
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.243	-1.3	99	0.00	11.95
83	M	methylcyclohexane	0.542	0.470	13.3	82	0.00	11.45
84	M	methyl methacrylate	0.350	0.360	-2.9	97	0.00	11.43
85	M	1,2-dichloropropane	0.374	0.386	-3.2	102	0.00	11.43
86	M	dibromomethane	0.218	0.233	-6.9	103	0.00	11.59
87	M	bromodichloromethane	0.476	0.497	-4.4	103	0.00	11.72
88	M	cis-1,3-dichloropropene	0.602	0.605	-0.5	96	0.00	12.20
89	S	toluene-d8 (s)	1.266	1.325	-4.7	100	0.00	12.53
90	M	4-methyl-2-pentanone	0.160	0.164	-2.5	104	0.00	12.27
91	M	toluene	0.850	0.903	-6.2	100	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.018	5.3	100	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.551	-4.8	99	0.00	12.77
94	M	ethyl methacrylate	0.464	0.482	-3.9	96	0.00	12.78
95	M	1,1,2-trichloroethane	0.276	0.292	-5.8	104	0.00	13.00
96	M	2-hexanone	0.142	0.144	-1.4	100	0.00	13.18
97	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.15
98	M	cyclohexanone	0.014	0.014	0.0	94	0.00	15.35
99	M	tetrachloroethene	0.462	0.466	-0.9	99	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.627	-4.5	101	0.00	13.20
101	M	butyl acetate	0.259	0.266	-2.7	100	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.053	-20.5#	120	0.00	13.36
103	M	dibromochloromethane	0.436	0.448	-2.8	99	0.00	13.50
104	M	1,2-dibromoethane	0.386	0.397	-2.8	101	0.00	13.67
105	M	n-butyl ether		----------NA----------				
106	M	chlorobenzene	1.085	1.144	-5.4	100	0.00	14.19
107	M	1,1,1,2-tetrachloroethane	0.400	0.425	-6.2	98	0.00	14.25
108	M	ethylbenzene	1.736	1.830	-5.4	101	0.00	14.25
109	M	m,p-xylene	0.682	0.725	-6.3	100	0.00	14.37
110	M	o-xylene	0.699	0.748	-7.0	101	0.00	14.83
111	M	butyl acrylate		----------NA----------				
112	M	styrene	1.160	1.221	-5.3	100	0.00	14.83
113	M	bromoform	0.332	0.348	-4.8	100	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.72
115	M	isopropylbenzene	3.216	3.343	-3.9	101	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.955	-4.1	100	0.00	15.42
117	M	bromobenzene	0.892	0.915	-2.6	100	0.00	15.65
118	M	1,1,2,2-tetrachloroethane	0.904	0.886	2.0	98	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.214	5.7	93	0.00	15.54
120	M	1,2,3-trichloropropane	0.239	0.236	1.3	100	0.00	15.59
121	M	n-propylbenzene	3.582	3.715	-3.7	103	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.785	1.0	99	0.00	15.83
124	M	4-chlorotoluene	2.330	2.328	0.1	100	0.00	15.93
125	M	1,3,5-trimethylbenzene	2.741	2.631	4.0	99	0.00	15.83
126	M	tert-butylbenzene	2.350	2.474	-5.3	101	0.00	16.22
127	M	pentachloroethane	0.584	0.607	-3.9	101	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.804	-3.5	103	0.00	16.26
129	M	sec-butylbenzene	3.341	3.448	-3.2	100	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.664	-1.3	100	0.00	16.66
131	M	p-isopropyltoluene	2.774	3.009	-8.5	103	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.675	-0.5	98	0.00	16.75
133		benzyl chloride	1.649	1.482	10.1	88	0.00	16.86
134	M	p-diethylbenzene		----------NA----------				

Initial Calibration Verification

Job Number: JB31485 **Sample:** VE8801-ICV8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E200209.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.652	-4.1	100	0.00	17.19
136	M	n-butylbenzene	1.332	1.444	-8.4	102	0.00	17.04
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.155	-4.7	101	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.252	-8.4	96	0.00	18.25
140	M	1,2,4-trichlorobenzene	0.933	1.047	-12.2	103	0.00	18.96
141	M	hexachlorobutadiene	0.528	0.549	-4.0	98	0.00	19.10
142	M	naphthalene	1.870	1.992	-6.5	99	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.784	-5.8	98	0.00	19.54
145	M	hexachloroethane	0.535	0.585	-9.3	102	0.00	17.50
146	M	Cyclohexane	1.052	1.065	-1.2	100	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200201.D ME8801.M Mon Feb 25 09:59:18 2013

6.9.13

6

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8847-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201213.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E201213.D                    Vial: 29
Acq On    : 22 Mar 2013   9:56 pm                     Operator: OksanaT
Sample    : cc8801-50                                 Inst    : MSE
Misc      : MS45025,VE8847,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Feb 25 11:43:47 2013
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	125	0.02	7.69
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	1250.000	1198.940	4.1	115	0.00	11.54
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.150	2.1	116	0.00	7.79
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	139	0.00	9.90
6		freon 23		----------NA----------				
7		freon 115		----------NA----------				
8		freon 143a		----------NA----------				
9		freon 152a		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.550	0.430	21.8#	99	0.00	4.32
12	M	dichlorodifluoromethane	0.733	0.647	11.7	112	0.00	4.31
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.583	28.7#	93	0.01	4.67
16	M	vinyl chloride	0.819	0.689	15.9	109	0.00	4.95
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.404	18.5	113	0.00	5.59
20	M	chloroethane	0.374	0.297	20.6#	101	0.00	5.77
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.764	6.0	120	0.00	6.27
23	M	pentane		----------NA----------				
24	M	ethyl ether	0.316	0.283	10.4	120	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.745	21.2#	101	0.00	6.84
29	M	acrolein	0.123	0.102	17.1	111	0.00	6.86
30	M	1,1-dichloroethene	0.476	0.423	11.1	112	0.00	7.09
31	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
32	M	acetone	50.000	43.652	12.7	119	0.01	7.07
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.715	21.7#	104	0.00	7.58

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8847-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201213.D
Project: Sunoco - Marcus Hook Facility, PA

			True / AvgRF	Calc. / CCRF	% Drift / % Dev			
34	M	acetonitrile	500.000	328.725	34.3#	87	0.01	7.47
35	M	iodomethane	0.964	0.884	8.3	117	0.00	7.35
36	M	iso-butyl alcohol	500.000	449.091	10.2	121	0.00	10.22
37	M	carbon disulfide	1.603	1.317	17.8	101	0.00	7.50
38	M	methylene chloride	0.615	0.486	21.0#	116	0.00	7.75
39	m	1-chloropropane	0.921	0.737	20.0	108	0.00	7.81
40	M	methyl acetate	0.421	0.377	10.5	117	0.00	7.54
41	M	methyl tert butyl ether	1.525	1.386	9.1	119	0.00	8.10
42	M	trans-1,2-dichloroethene	0.480	0.445	7.3	116	0.00	8.15
43	M	di-isopropyl ether	1.764	1.423	19.3	110	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.501	14.6	116	0.00	9.15
45	M	2-butanone	50.000	45.668	8.7	123	0.00	9.34
46	M	1,1-dichloroethane	0.885	0.776	12.3	110	0.00	8.68
47	M	chloroprene	0.669	0.639	4.5	121	0.00	8.81
48	M	acrylonitrile	0.205	0.186	9.3	120	0.00	8.02
49	M	vinyl acetate	50.000	42.837	14.3	117	0.00	8.65
50	M	ethyl acetate	0.075	0.069	8.0	127	0.00	9.38
51	M	2,2-dichloropropane	0.712	0.577	19.0	106	0.00	9.43
52	M	cis-1,2-dichloroethene	0.553	0.491	11.2	118	0.00	9.40
53	m	methyl acrylate	0.493	0.424	14.0	119	0.00	9.45
54	M	propionitrile	0.078	0.070	10.3	119	0.00	9.40
55	M	bromochloromethane	0.285	0.270	5.3	125	0.00	9.71
56	M	tetrahydrofuran	0.198	0.172	13.1	120	0.00	9.77
57	M	chloroform	0.843	0.776	7.9	118	0.00	9.76
58	m	t-butyl formate	0.474	0.450	5.1	123	0.00	9.80
59	M	Iso-octane	1.412	1.317	6.7	119	0.00	10.52
60	S	dibromofluoromethane (s)	0.469	0.408	13.0	113	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.440	14.7	113	0.00	10.36
62	M	freon 113	0.365	0.349	4.4	118	0.00	7.06
63	M	methacrylonitrile	0.331	0.304	8.2	123	0.00	9.60
64	M	1,1,1-trichloroethane	0.749	0.694	7.3	118	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.345	19.6	112	0.00	10.52
66	I	1,4-difluorobenzene	1.000	1.000	0.0	130	0.00	10.82
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol		----------NA----------				
69	M	epichlorohydrin	0.039	0.039	0.0	124	0.00	12.06
70	M	n-butyl alcohol	0.011	0.011	0.0	120	0.00	10.90
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	carbon tetrachloride	0.462	0.475	-2.8	119	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.436	7.8	112	0.00	10.22
74	M	hexane	0.368	0.397	-7.9	128	0.00	8.48
75	M	benzene	1.401	1.276	8.9	113	0.00	10.47
76	M	heptane	0.202	0.213	-5.4	126	0.00	10.68

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8847-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201213.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.647	10.8	117	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.431	4.9	119	0.00	10.45
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.350	1.4	117	0.00	11.19
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.223	7.1	114	0.00	11.95
83	M	methylcyclohexane	0.542	0.540	0.4	119	0.00	11.45
84	M	methyl methacrylate	0.350	0.366	-4.6	124	0.00	11.43
85	M	1,2-dichloropropane	0.374	0.340	9.1	113	0.00	11.43
86	M	dibromomethane	0.218	0.222	-1.8	123	0.00	11.59
87	M	bromodichloromethane	0.476	0.469	1.5	122	0.00	11.71
88	M	cis-1,3-dichloropropene	0.602	0.585	2.8	116	0.00	12.20
89	S	toluene-d8 (s)	1.266	1.191	5.9	113	0.00	12.52
90	M	4-methyl-2-pentanone	0.160	0.156	2.5	124	0.00	12.27
91	M	toluene	0.850	0.841	1.1	117	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.019	0.0	131	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.527	-0.2	119	0.00	12.77
94	M	ethyl methacrylate	0.464	0.484	-4.3	122	0.00	12.77
95	M	1,1,2-trichloroethane	0.276	0.280	-1.4	125	0.00	13.00
96	M	2-hexanone	0.142	0.147	-3.5	128	0.00	13.18
97	I	chlorobenzene-d5	1.000	1.000	0.0	130	0.00	14.15
98	M	cyclohexanone	0.014	0.015	-7.1	134	0.00	15.35
99	M	tetrachloroethene	0.462	0.454	1.7	124	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.571	4.8	118	0.00	13.20
101	M	butyl acetate	0.259	0.248	4.2	120	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.046	-4.5	135	0.00	13.36
103	M	dibromochloromethane	0.436	0.451	-3.4	128	0.00	13.50
104	M	1,2-dibromoethane	0.386	0.398	-3.1	131	0.00	13.66
105	M	n-butyl ether		----------NA----------				
106	M	chlorobenzene	1.085	1.019	6.1	115	0.00	14.19
107	M	1,1,1,2-tetrachloroethane	0.400	0.391	2.3	117	0.00	14.24
108	M	ethylbenzene	1.736	1.615	7.0	115	0.00	14.25
109	M	m,p-xylene	0.682	0.657	3.7	117	0.00	14.37
110	M	o-xylene	0.699	0.687	1.7	119	0.00	14.82
111	M	butyl acrylate		----------NA----------				
112	M	styrene	1.160	1.141	1.6	120	0.00	14.83
113	M	bromoform	0.332	0.364	-9.6	135	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	138	0.00	16.72
115	M	isopropylbenzene	3.216	2.967	7.7	118	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.833	9.2	115	0.00	15.42
117	M	bromobenzene	0.892	0.854	4.3	124	0.00	15.65
118	M	1,1,2,2-tetrachloroethane	0.904	0.860	4.9	126	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.213	6.2	123	0.00	15.54
120	M	1,2,3-trichloropropane	0.239	0.233	2.5	131	0.00	15.58
121	M	n-propylbenzene	3.582	3.183	11.1	117	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.717	9.6	119	0.00	15.82
124	M	4-chlorotoluene	2.330	2.123	8.9	121	0.00	15.92
125	M	1,3,5-trimethylbenzene	2.741	2.419	11.7	121	0.00	15.82
126	M	tert-butylbenzene	2.350	2.272	3.3	123	0.00	16.21
127	M	pentachloroethane	0.584	0.566	3.1	125	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.500	7.7	121	0.00	16.26
129	M	sec-butylbenzene	3.341	3.155	5.6	121	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.550	5.7	123	0.00	16.66
131	M	p-isopropyltoluene	2.774	2.673	3.6	121	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.543	7.4	120	0.00	16.75
133		benzyl chloride	1.649	1.523	7.6	120	0.00	16.86
134	M	p-diethylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8847-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201213.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.570	1.1	126	0.00	17.18
136	M	n-butylbenzene	1.332	1.321	0.8	123	0.00	17.04
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.157	-6.1	135	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.251	-8.3	127	0.00	18.24
140	M	1,2,4-trichlorobenzene	0.933	0.963	-3.2	125	0.00	18.96
141	M	hexachlorobutadiene	0.528	0.577	-9.3	136	0.00	19.10
142	M	naphthalene	1.870	1.960	-4.8	129	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.765	-3.2	127	0.00	19.54
145	M	hexachloroethane	0.535	0.544	-1.7	125	0.00	17.49
146	M	Cyclohexane	1.052	0.866	17.7	108	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200201.D ME8801.M Sat Mar 23 10:09:07 2013 RPT1

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8849-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201260.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E201260.D                    Vial: 27
Acq On    : 23 Mar 2013  10:17 pm                     Operator: OksanaT
Sample    : cc8801-50                                 Inst    : MSE
Misc      : MS45033,VE8849,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Feb 25 11:43:47 2013
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	130	0.02	7.69
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	1250.000	1132.958	9.4	113	0.02	11.56
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.183	-0.7	125	0.02	7.81
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	139	0.00	9.91
6		freon 23		----------NA----------				
7		freon 115		----------NA----------				
8		freon 143a		----------NA----------				
9		freon 152a		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.550	0.463	15.8	106	0.00	4.32
12	M	dichlorodifluoromethane	0.733	0.690	5.9	120	0.00	4.31
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.636	22.2#	101	0.00	4.66
16	M	vinyl chloride	0.819	0.759	7.3	120	0.01	4.96
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.436	12.1	122	0.00	5.60
20	M	chloroethane	0.374	0.327	12.6	111	0.00	5.77
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.812	0.1	128	0.00	6.28
23	M	pentane		----------NA----------				
24	M	ethyl ether	0.316	0.285	9.8	121	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.778	17.7	106	0.00	6.84
29	M	acrolein	0.123	0.105	14.6	114	0.00	6.85
30	M	1,1-dichloroethene	0.476	0.453	4.8	120	0.00	7.09
31	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
32	M	acetone	50.000	49.334	1.3	134	0.00	7.07
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.718	21.4#	104	0.00	7.57

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8849-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201260.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	acetonitrile	500.000	384.893	23.0#	99	0.03	7.49

			AvgRF	CCRF	% Dev			
35	M	iodomethane	0.964	0.933	3.2	123	0.00	7.35

			True	Calc.	% Drift			
36	M	iso-butyl alcohol	500.000	483.846	3.2	130	0.00	10.22

			AvgRF	CCRF	% Dev			
37	M	carbon disulfide	1.603	1.369	14.6	104	0.01	7.51
38	M	methylene chloride	0.615	0.507	17.6	120	0.00	7.75
39	m	1-chloropropane	0.921	0.774	16.0	113	0.00	7.81
40	M	methyl acetate	0.421	0.393	6.7	122	0.00	7.54
41	M	methyl tert butyl ether	1.525	1.448	5.0	124	0.00	8.10
42	M	trans-1,2-dichloroethene	0.480	0.465	3.1	121	0.00	8.14
43	M	di-isopropyl ether	1.764	1.456	17.5	112	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.550	11.8	119	0.00	9.15

			True	Calc.	% Drift			
45	M	2-butanone	50.000	48.955	2.1	132	0.00	9.34

			AvgRF	CCRF	% Dev			
46	M	1,1-dichloroethane	0.885	0.816	7.8	115	0.00	8.68
47	M	chloroprene	0.669	0.665	0.6	126	0.00	8.81
48	M	acrylonitrile	0.205	0.197	3.9	126	0.00	8.02

			True	Calc.	% Drift			
49	M	vinyl acetate	50.000	45.582	8.8	125	0.00	8.66

			AvgRF	CCRF	% Dev			
50	M	ethyl acetate	0.075	0.069	8.0	127	0.00	9.37
51	M	2,2-dichloropropane	0.712	0.540	24.2#	99	0.00	9.43
52	M	cis-1,2-dichloroethene	0.553	0.521	5.8	125	0.00	9.41
53	m	methyl acrylate	0.493	0.457	7.3	128	0.00	9.45
54	M	propionitrile	0.078	0.074	5.1	125	0.00	9.40
55	M	bromochloromethane	0.285	0.277	2.8	128	0.00	9.71
56	M	tetrahydrofuran	0.198	0.180	9.1	125	0.00	9.77
57	M	chloroform	0.843	0.801	5.0	122	0.00	9.76
58	m	t-butyl formate	0.474	0.470	0.8	128	0.00	9.80
59	M	Iso-octane	1.412	1.290	8.6	116	0.00	10.52
60	S	dibromofluoromethane (s)	0.469	0.412	12.2	113	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.436	15.5	111	0.00	10.36
62	M	freon 113	0.365	0.380	-4.1	128	0.00	7.07
63	M	methacrylonitrile	0.331	0.310	6.3	125	0.00	9.60
64	M	1,1,1-trichloroethane	0.749	0.720	3.9	122	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.376	17.7	115	0.00	10.52
66	I	1,4-difluorobenzene	1.000	1.000	0.0	132	0.00	10.82
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol		----------NA----------				
69	M	epichlorohydrin	0.039	0.040	-2.6	128	0.00	12.06
70	M	n-butyl alcohol	0.011	0.012	-9.1	130	0.00	10.91
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	carbon tetrachloride	0.462	0.488	-5.6	124	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.448	5.3	117	0.00	10.22
74	M	hexane	0.368	0.385	-4.6	126	0.00	8.48
75	M	benzene	1.401	1.310	6.5	118	0.00	10.47
76	M	heptane	0.202	0.191	5.4	115	0.00	10.68

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8849-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201260.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.645	11.0	118	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.434	4.2	122	0.00	10.45
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.365	-2.8	124	0.00	11.19
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.228	5.0	119	0.00	11.95
83	M	methylcyclohexane	0.542	0.558	-3.0	125	0.00	11.45
84	M	methyl methacrylate	0.350	0.374	-6.9	129	0.00	11.43
85	M	1,2-dichloropropane	0.374	0.350	6.4	118	0.00	11.43
86	M	dibromomethane	0.218	0.224	-2.8	127	0.00	11.59
87	M	bromodichloromethane	0.476	0.480	-0.8	127	0.00	11.71
88	M	cis-1,3-dichloropropene	0.602	0.587	2.5	118	0.00	12.19
89	S	toluene-d8 (s)	1.266	1.189	6.1	115	0.00	12.52
90	M	4-methyl-2-pentanone	0.160	0.160	0.0	129	0.00	12.27
91	M	toluene	0.850	0.862	-1.4	122	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.019	0.0	129	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.518	1.5	119	0.00	12.77
94	M	ethyl methacrylate	0.464	0.488	-5.2	124	0.00	12.78
95	M	1,1,2-trichloroethane	0.276	0.287	-4.0	129	0.00	13.00
96	M	2-hexanone	0.142	0.154	-8.5	136	0.00	13.18
97	I	chlorobenzene-d5	1.000	1.000	0.0	133	0.00	14.15
98	M	cyclohexanone	0.014	0.014	0.0	126	0.00	15.35
99	M	tetrachloroethene	0.462	0.462	0.0	129	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.568	5.3	120	0.00	13.20
101	M	butyl acetate	0.259	0.257	0.8	128	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.046	-4.5	137	0.00	13.36
103	M	dibromochloromethane	0.436	0.455	-4.4	132	0.00	13.50
104	M	1,2-dibromoethane	0.386	0.400	-3.6	135	0.00	13.66
105	M	n-butyl ether		----------NA----------				
106	M	chlorobenzene	1.085	1.023	5.7	118	0.00	14.19
107	M	1,1,1,2-tetrachloroethane	0.400	0.401	-0.3	122	0.00	14.24
108	M	ethylbenzene	1.736	1.643	5.4	119	0.00	14.25
109	M	m,p-xylene	0.682	0.664	2.6	121	0.00	14.37
110	M	o-xylene	0.699	0.697	0.3	123	0.00	14.83
111	M	butyl acrylate		----------NA----------				
112	M	styrene	1.160	1.155	0.4	124	0.00	14.83
113	M	bromoform	0.332	0.365	-9.9	138	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	139	0.00	16.72
115	M	isopropylbenzene	3.216	3.073	4.4	124	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.831	9.4	117	0.00	15.42
117	M	bromobenzene	0.892	0.874	2.0	129	0.00	15.64
118	M	1,1,2,2-tetrachloroethane	0.904	0.881	2.5	131	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.207	8.8	121	0.00	15.54
120	M	1,2,3-trichloropropane	0.239	0.239	0.0	136	0.00	15.58
121	M	n-propylbenzene	3.582	3.282	8.4	122	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.748	5.7	126	0.00	15.82
124	M	4-chlorotoluene	2.330	2.168	7.0	125	0.00	15.92
125	M	1,3,5-trimethylbenzene	2.741	2.509	8.5	127	0.00	15.82
126	M	tert-butylbenzene	2.350	2.338	0.5	128	0.00	16.21
127	M	pentachloroethane	0.584	0.591	-1.2	132	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.545	6.1	125	0.00	16.26
129	M	sec-butylbenzene	3.341	3.276	1.9	127	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.584	3.6	128	0.00	16.66
131	M	p-isopropyltoluene	2.774	2.767	0.3	127	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.586	4.8	125	0.00	16.75
133		benzyl chloride	1.649	1.266	23.2#	101	0.00	16.85
134	M	p-diethylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8849-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201260.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.598	-0.7	130	0.00	17.18
136	M	n-butylbenzene	1.332	1.362	-2.3	129	0.00	17.04
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.171	-15.5	149	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.283	-11.1	132	0.00	18.25
140	M	1,2,4-trichlorobenzene	0.933	1.029	-10.3	136	0.00	18.96
141	M	hexachlorobutadiene	0.528	0.567	-7.4	135	0.00	19.10
142	M	naphthalene	1.870	2.154	-15.2	144	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.838	-13.1	141	0.00	19.54
145	M	hexachloroethane	0.535	0.572	-6.9	134	0.00	17.49
146	M	Cyclohexane	1.052	0.912	13.3	115	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200201.D ME8801.M Mon Mar 25 12:40:50 2013 RPT1

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8854-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201374.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E201374.D                    Vial: 2
Acq On    : 27 Mar 2013   9:02 am                     Operator: OksanaT
Sample    : cc8801-20                                 Inst    : MSE
Misc      : MS45375,VE8854,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Feb 25 11:43:47 2013
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	132	0.02	7.69
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	500.000	455.703	8.9	121	0.00	11.54
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.177	-0.2	124	0.01	7.81
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	135	0.00	9.91
6		freon 23		----------NA----------				
7		freon 115		----------NA----------				
8		freon 143a		----------NA----------				
9		freon 152a		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.550	0.418	24.0#	96	0.00	4.32
12	M	dichlorodifluoromethane	0.733	0.686	6.4	123	0.00	4.31
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.641	21.6#	102	0.00	4.66
16	M	vinyl chloride	0.819	0.769	6.1	120	-0.02	4.94
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.446	10.1	121	0.00	5.59
20	M	chloroethane	0.374	0.331	11.5	112	0.00	5.77
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.826	-1.6	130	-0.01	6.27
23	M	pentane		----------NA----------				
24	M	ethyl ether	0.316	0.294	7.0	115	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.785	16.9	101	0.00	6.84
29	M	acrolein	0.123	0.113	8.1	117	0.00	6.85
30	M	1,1-dichloroethene	0.476	0.456	4.2	114	0.00	7.08
31	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
32	M	acetone	20.000	19.463	2.7	123	0.01	7.07
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.705	22.8#	100	0.00	7.58

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8854-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201374.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	acetonitrile	200.000	183.276	8.4	119	0.02	7.48

			AvgRF	CCRF	% Dev			
35	M	iodomethane	0.964	0.937	2.8	119	0.00	7.35

			True	Calc.	% Drift			
36	M	iso-butyl alcohol	200.000	650.475	-225.2#	392	0.25	10.47

			AvgRF	CCRF	% Dev			
37	M	carbon disulfide	1.603	1.378	14.0	102	0.00	7.50
38	M	methylene chloride	0.615	0.497	19.2	111	0.00	7.75
39	m	1-chloropropane	0.921	0.726	21.2#	99	0.00	7.81
40	M	methyl acetate	0.421	0.384	8.8	109	0.01	7.55
41	M	methyl tert butyl ether	1.525	1.446	5.2	116	0.00	8.10
42	M	trans-1,2-dichloroethene	0.480	0.472	1.7	116	0.00	8.15
43	M	di-isopropyl ether	1.764	1.432	18.8	104	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.510	14.1	112	0.00	9.15

			True	Calc.	% Drift			
45	M	2-butanone	20.000	18.576	7.1	130	0.01	9.35

			AvgRF	CCRF	% Dev			
46	M	1,1-dichloroethane	0.885	0.803	9.3	107	0.00	8.69
47	M	chloroprene	0.669	0.642	4.0	117	0.00	8.81
48	M	acrylonitrile	0.205	0.194	5.4	116	0.00	8.02

			True	Calc.	% Drift			
49	M	vinyl acetate	20.000	17.188	14.1	110	0.00	8.65

			AvgRF	CCRF	% Dev			
50	M	ethyl acetate	0.075	0.069	8.0	119	0.01	9.38
51	M	2,2-dichloropropane	0.712	0.687	3.5	121	0.00	9.43
52	M	cis-1,2-dichloroethene	0.553	0.519	6.1	116	0.00	9.41
53	m	methyl acrylate	0.493	0.439	11.0	114	0.00	9.46
54	M	propionitrile	0.078	0.076	2.6	116	0.00	9.40
55	M	bromochloromethane	0.285	0.276	3.2	123	0.00	9.71
56	M	tetrahydrofuran	0.198	0.184	7.1	118	0.00	9.77
57	M	chloroform	0.843	0.797	5.5	114	0.00	9.76
58	m	t-butyl formate	0.474	0.458	3.4	122	0.00	9.80
59	M	Iso-octane	1.412	1.494	-5.8	133	0.00	10.52
60	S	dibromofluoromethane (s)	0.469	0.402	14.3	111	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.457	11.4	112	0.00	10.36
62	M	freon 113	0.365	0.187	48.8#	62	0.00	7.06
63	M	methacrylonitrile	0.331	0.297	10.3	114	0.00	9.61
64	M	1,1,1-trichloroethane	0.749	0.706	5.7	115	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.395	16.6	110	0.00	10.52
66	I	1,4-difluorobenzene	1.000	1.000	0.0	130	0.00	10.82
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol		----------NA----------				
69	M	epichlorohydrin	0.039	0.042	-7.7	130	0.00	12.06
70	M	n-butyl alcohol	0.011	0.012	-9.1	121	0.00	10.90
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	carbon tetrachloride	0.462	0.495	-7.1	120	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.452	4.4	111	0.00	10.23
74	M	hexane	0.368	0.426	-15.8	138	0.00	8.48
75	M	benzene	1.401	1.339	4.4	111	0.00	10.48
76	M	heptane	0.202	0.238	-17.8	143	0.00	10.67

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8854-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201374.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.639	11.9	110	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.434	4.2	113	0.00	10.45
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.366	-3.1	118	0.00	11.20
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.235	2.1	119	0.00	11.95
83	M	methylcyclohexane	0.542	0.595	-9.8	128	0.00	11.45
84	M	methyl methacrylate	0.350	0.371	-6.0	124	0.00	11.44
85	M	1,2-dichloropropane	0.374	0.355	5.1	110	0.00	11.44
86	M	dibromomethane	0.218	0.225	-3.2	120	0.00	11.59
87	M	bromodichloromethane	0.476	0.468	1.7	117	0.00	11.72
88	M	cis-1,3-dichloropropene	0.602	0.616	-2.3	120	0.00	12.19
89	S	toluene-d8 (s)	1.266	1.214	4.1	113	0.00	12.52
90	M	4-methyl-2-pentanone	0.160	0.157	1.9	120	0.00	12.27
91	M	toluene	0.850	0.878	-3.3	117	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.020	-5.3	127	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.538	-2.3	119	0.00	12.78
94	M	ethyl methacrylate	0.464	0.488	-5.2	123	0.00	12.78
95	M	1,1,2-trichloroethane	0.276	0.284	-2.9	122	0.00	13.01
96	M	2-hexanone	0.142	0.148	-4.2	131	0.00	13.18
97	I	chlorobenzene-d5	1.000	1.000	0.0	136	0.00	14.15
98	M	cyclohexanone	0.014	0.033	-135.7#	287#	0.00	15.35
99	M	tetrachloroethene	0.462	0.478	-3.5	128	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.594	1.0	122	0.00	13.20
101	M	butyl acetate	0.259	0.244	5.8	118	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.045	-2.3	127	0.00	13.36
103	M	dibromochloromethane	0.436	0.457	-4.8	131	0.00	13.50
104	M	1,2-dibromoethane	0.386	0.397	-2.8	128	0.00	13.66
105	M	n-butyl ether		----------NA----------				
106	M	chlorobenzene	1.085	1.056	2.7	119	0.00	14.19
107	M	1,1,1,2-tetrachloroethane	0.400	0.404	-1.0	121	0.00	14.24
108	M	ethylbenzene	1.736	1.721	0.9	119	0.00	14.25
109	M	m,p-xylene	0.682	0.699	-2.5	122	0.00	14.37
110	M	o-xylene	0.699	0.728	-4.1	124	0.00	14.83
111	M	butyl acrylate		----------NA----------				
112	M	styrene	1.160	1.207	-4.1	124	0.00	14.83
113	M	bromoform	0.332	0.360	-8.4	134	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	137	0.00	16.72
115	M	isopropylbenzene	3.216	3.337	-3.8	126	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.835	8.9	113	0.00	15.42
117	M	bromobenzene	0.892	0.925	-3.7	124	0.00	15.65
118	M	1,1,2,2-tetrachloroethane	0.904	0.906	-0.2	126	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.216	4.8	126	0.00	15.55
120	M	1,2,3-trichloropropane	0.239	0.249	-4.2	130	0.00	15.58
121	M	n-propylbenzene	3.582	3.570	0.3	122	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.792	0.1	124	0.00	15.82
124	M	4-chlorotoluene	2.330	2.309	0.9	124	0.00	15.93
125	M	1,3,5-trimethylbenzene	2.741	2.721	0.7	127	0.00	15.82
126	M	tert-butylbenzene	2.350	2.430	-3.4	126	0.00	16.22
127	M	pentachloroethane	0.584	0.605	-3.6	126	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.709	0.0	123	0.00	16.26
129	M	sec-butylbenzene	3.341	3.455	-3.4	127	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.663	-1.2	127	0.00	16.66
131	M	p-isopropyltoluene	2.774	2.911	-4.9	126	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.620	2.8	122	0.00	16.75
133		benzyl chloride	1.649	1.808	-9.6	152	0.00	16.86
134	M	p-diethylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8854-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201374.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.650	-4.0	128	0.00	17.18
136	M	n-butylbenzene	1.332	1.409	-5.8	126	0.00	17.04
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.166	-12.2	141	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.335	-15.6	133	0.00	18.25
140	M	1,2,4-trichlorobenzene	0.933	1.033	-10.7	137	0.00	18.96
141	M	hexachlorobutadiene	0.528	0.630	-19.3	140	0.00	19.10
142	M	naphthalene	1.870	2.137	-14.3	142	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.836	-12.8	138	0.00	19.54
145	M	hexachloroethane	0.535	0.563	-5.2	126	0.00	17.49
146	M	Cyclohexane	1.052	0.939	10.7	108	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200200.D ME8801.M Thu Mar 28 12:38:11 2013 RPT1

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8855-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201397.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E201397.D                    Vial: 25
Acq On    : 27 Mar 2013   8:45 pm                     Operator: OksanaT
Sample    : cc8801-50                                 Inst    : MSE
Misc      : MS45251,VE8855,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Feb 25 11:43:47 2013
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	136	0.04	7.71
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	1250.000	1178.183	5.7	123	0.01	11.55
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.113	5.3	123	0.01	7.81
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	142	0.00	9.91
6		freon 23		----------NA----------				
7		freon 115		----------NA----------				
8		freon 143a		----------NA----------				
9		freon 152a		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.550	0.379	31.1#	89	0.00	4.32
12	M	dichlorodifluoromethane	0.733	0.606	17.3	107	0.00	4.31
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.572	30.1#	93	0.00	4.66
16	M	vinyl chloride	0.819	0.690	15.8	111	0.00	4.96
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.404	18.5	115	0.00	5.59
20	M	chloroethane	0.374	0.301	19.5	104	0.00	5.77
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.744	8.5	120	0.00	6.27
23	M	pentane		----------NA----------				
24	M	ethyl ether	0.316	0.289	8.5	125	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.729	22.9#	101	0.00	6.84
29	M	acrolein	0.123	0.104	15.4	115	0.00	6.85
30	M	1,1-dichloroethene	0.476	0.426	10.5	115	0.00	7.09
31	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
32	M	acetone	50.000	49.879	0.2	138	0.01	7.07
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.700	23.3#	104	0.00	7.57

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8855-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201397.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	acetonitrile	500.000	439.287	12.1	112	0.03	7.49

			AvgRF	CCRF	% Dev			
35	M	iodomethane	0.964	0.895	7.2	121	0.00	7.35

			True	Calc.	% Drift			
36	M	iso-butyl alcohol		----------NA----------				

			AvgRF	CCRF	% Dev			
37	M	carbon disulfide	1.603	1.309	18.3	102	0.00	7.50
38	M	methylene chloride	0.615	0.491	20.2#	119	0.00	7.75
39	m	1-chloropropane	0.921	0.724	21.4#	108	0.00	7.81
40	M	methyl acetate	0.421	0.362	14.0	115	0.00	7.54
41	M	methyl tert butyl ether	1.525	1.399	8.3	122	0.00	8.09
42	M	trans-1,2-dichloroethene	0.480	0.440	8.3	116	0.00	8.15
43	M	di-isopropyl ether	1.764	1.340	24.0#	105	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.452	17.4	114	0.00	9.15

			True	Calc.	% Drift			
45	M	2-butanone	50.000	47.734	4.5	131	0.00	9.34

			AvgRF	CCRF	% Dev			
46	M	1,1-dichloroethane	0.885	0.775	12.4	112	0.00	8.68
47	M	chloroprene	0.669	0.616	7.9	119	0.00	8.81
48	M	acrylonitrile	0.205	0.190	7.3	124	0.00	8.01

			True	Calc.	% Drift			
49	M	vinyl acetate	50.000	44.721	10.6	125	0.00	8.65

			AvgRF	CCRF	% Dev			
50	M	ethyl acetate	0.075	0.067	10.7	124	0.00	9.37
51	M	2,2-dichloropropane	0.712	0.588	17.4	110	0.00	9.43
52	M	cis-1,2-dichloroethene	0.553	0.499	9.8	122	0.00	9.41
53	m	methyl acrylate	0.493	0.447	9.3	128	0.00	9.45
54	M	propionitrile	0.078	0.075	3.8	129	0.00	9.40
55	M	bromochloromethane	0.285	0.271	4.9	128	0.00	9.71
56	M	tetrahydrofuran	0.198	0.181	8.6	129	0.00	9.77
57	M	chloroform	0.843	0.772	8.4	120	0.00	9.76
58	m	t-butyl formate	0.474	0.447	5.7	125	0.00	9.80
59	M	Iso-octane	1.412	1.303	7.7	120	0.00	10.52
60	S	dibromofluoromethane (s)	0.469	0.413	11.9	116	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.437	15.3	114	0.00	10.36
62	M	freon 113	0.365	0.350	4.1	120	0.00	7.06
63	M	methacrylonitrile	0.331	0.301	9.1	124	0.00	9.60
64	M	1,1,1-trichloroethane	0.749	0.682	8.9	118	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.299	22.3#	111	0.00	10.52
66	I	1,4-difluorobenzene	1.000	1.000	0.0	135	0.00	10.82
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol		----------NA----------				
69	M	epichlorohydrin	0.039	0.039	0.0	130	0.00	12.06
70	M	n-butyl alcohol	0.011	0.012	-9.1	131	0.00	10.91
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	carbon tetrachloride	0.462	0.457	1.1	119	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.428	9.5	115	0.00	10.22
74	M	hexane	0.368	0.383	-4.1	129	0.00	8.48
75	M	benzene	1.401	1.261	10.0	116	0.00	10.47
76	M	heptane	0.202	0.214	-5.9	131	0.00	10.68

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8855-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201397.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.607	16.3	114	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.421	7.1	121	0.00	10.45
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.345	2.8	120	0.00	11.19
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.220	8.3	118	0.00	11.95
83	M	methylcyclohexane	0.542	0.517	4.6	119	0.00	11.45
84	M	methyl methacrylate	0.350	0.352	-0.6	125	0.00	11.43
85	M	1,2-dichloropropane	0.374	0.340	9.1	118	0.00	11.43
86	M	dibromomethane	0.218	0.221	-1.4	128	0.00	11.59
87	M	bromodichloromethane	0.476	0.461	3.2	125	0.00	11.71
88	M	cis-1,3-dichloropropene	0.602	0.584	3.0	121	0.00	12.19
89	S	toluene-d8 (s)	1.266	1.176	7.1	117	0.00	12.52
90	M	4-methyl-2-pentanone	0.160	0.155	3.1	129	0.00	12.27
91	M	toluene	0.850	0.818	3.8	119	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.018	5.3	130	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.505	4.0	119	0.00	12.77
94	M	ethyl methacrylate	0.464	0.467	-0.6	122	0.00	12.77
95	M	1,1,2-trichloroethane	0.276	0.270	2.2	125	0.00	13.00
96	M	2-hexanone	0.142	0.145	-2.1	132	0.00	13.18
97	I	chlorobenzene-d5	1.000	1.000	0.0	132	0.00	14.15
98	M	cyclohexanone	0.014	0.015	-7.1	133	0.00	15.35
99	M	tetrachloroethene	0.462	0.444	3.9	123	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.568	5.3	120	0.00	13.20
101	M	butyl acetate	0.259	0.244	5.8	120	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.044	0.0	129	0.00	13.36
103	M	dibromochloromethane	0.436	0.447	-2.5	129	0.00	13.50
104	M	1,2-dibromoethane	0.386	0.403	-4.4	135	0.00	13.66
105	M	n-butyl ether		----------NA----------				
106	M	chlorobenzene	1.085	1.017	6.3	117	0.00	14.19
107	M	1,1,1,2-tetrachloroethane	0.400	0.388	3.0	118	0.00	14.24
108	M	ethylbenzene	1.736	1.598	7.9	115	0.00	14.25
109	M	m,p-xylene	0.682	0.646	5.3	117	0.00	14.37
110	M	o-xylene	0.699	0.674	3.6	119	0.00	14.83
111	M	butyl acrylate		----------NA----------				
112	M	styrene	1.160	1.128	2.8	121	0.00	14.83
113	M	bromoform	0.332	0.363	-9.3	137	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	138	0.00	16.72
115	M	isopropylbenzene	3.216	2.965	7.8	119	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.839	8.5	116	0.00	15.42
117	M	bromobenzene	0.892	0.872	2.2	127	0.00	15.64
118	M	1,1,2,2-tetrachloroethane	0.904	0.867	4.1	127	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.217	4.4	125	0.00	15.54
120	M	1,2,3-trichloropropane	0.239	0.238	0.4	134	0.00	15.58
121	M	n-propylbenzene	3.582	3.198	10.7	118	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.718	9.5	119	0.00	15.82
124	M	4-chlorotoluene	2.330	2.128	8.7	121	0.00	15.92
125	M	1,3,5-trimethylbenzene	2.741	2.450	10.6	122	0.00	15.82
126	M	tert-butylbenzene	2.350	2.271	3.4	123	0.00	16.21
127	M	pentachloroethane	0.584	0.578	1.0	128	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.470	8.9	120	0.00	16.26
129	M	sec-butylbenzene	3.341	3.152	5.7	121	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.566	4.7	125	0.00	16.66
131	M	p-isopropyltoluene	2.774	2.695	2.8	122	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.553	6.8	121	0.00	16.75
133		benzyl chloride	1.649	1.611	2.3	127	0.00	16.86
134	M	p-diethylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8855-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201397.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.580	0.4	127	0.00	17.18
136	M	n-butylbenzene	1.332	1.331	0.1	124	0.00	17.04
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.163	-10.1	140	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.246	-7.9	127	0.00	18.24
140	M	1,2,4-trichlorobenzene	0.933	1.008	-8.0	132	0.00	18.95
141	M	hexachlorobutadiene	0.528	0.569	-7.8	134	0.00	19.10
142	M	naphthalene	1.870	2.069	-10.6	137	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.790	-6.6	131	0.00	19.54
145	M	hexachloroethane	0.535	0.545	-1.9	126	0.00	17.49
146	M	Cyclohexane	1.052	0.885	15.9	110	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200201.D ME8801.M Thu Mar 28 12:44:41 2013 RPT1

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8856-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201420.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E201420.D                    Vial: 2
Acq On    : 28 Mar 2013   9:07 am                     Operator: OksanaT
Sample    : cc8801-20                                 Inst    : MSE
Misc      : MS45033,VE8856,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Feb 25 11:43:47 2013
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	136	0.02	7.69
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	500.000	432.475	13.5	118	0.02	11.56
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.167	0.7	127	0.02	7.81
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	135	0.00	9.90
6		freon 23		----------NA----------				
7		freon 115		----------NA----------				
8		freon 143a		----------NA----------				
9		freon 152a		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.550	0.365	33.6#	84	0.00	4.32
12	M	dichlorodifluoromethane	0.733	0.644	12.1	115	0.00	4.31
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.615	24.8#	98	0.00	4.66
16	M	vinyl chloride	0.819	0.759	7.3	119	-0.01	4.94
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.432	12.9	117	0.00	5.58
20	M	chloroethane	0.374	0.323	13.6	109	0.00	5.77
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.806	0.9	127	0.00	6.27
23	M	pentane		----------NA----------				
24	M	ethyl ether	0.316	0.277	12.3	108	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.754	20.2#	97	0.00	6.85
29	M	acrolein	0.123	0.110	10.6	114	0.00	6.86
30	M	1,1-dichloroethene	0.476	0.450	5.5	113	0.00	7.09
31	M	isopropyl alcohol	0.000	0.005#	0.0	0#	-0.02	7.71
		----------	True	Calc.	% Drift	----------		
32	M	acetone	20.000	17.902	10.5	114	0.02	7.09
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.798	12.6	113	0.00	7.58

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8856-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201420.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	acetonitrile	200.000	153.838	23.1#	106	0.04	7.50

			AvgRF	CCRF	% Dev			
35	M	iodomethane	0.964	0.914	5.2	117	0.00	7.35

			True	Calc.	% Drift			
36	M	iso-butyl alcohol	200.000	179.672	10.2	112	0.00	10.23

			AvgRF	CCRF	% Dev			
37	M	carbon disulfide	1.603	1.373	14.3	102	0.00	7.50
38	M	methylene chloride	0.615	0.493	19.8	110	0.00	7.75
39	m	1-chloropropane	0.921	0.750	18.6	102	0.00	7.81
40	M	methyl acetate	0.421	0.367	12.8	104	0.00	7.54
41	M	methyl tert butyl ether	1.525	1.457	4.5	116	0.00	8.10
42	M	trans-1,2-dichloroethene	0.480	0.466	2.9	115	0.00	8.15
43	M	di-isopropyl ether	1.764	1.351	23.4#	99	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.464	16.7	108	0.00	9.15

			True	Calc.	% Drift			
45	M	2-butanone	20.000	19.891	0.5	140	0.00	9.34

			AvgRF	CCRF	% Dev			
46	M	1,1-dichloroethane	0.885	0.816	7.8	109	0.00	8.68
47	M	chloroprene	0.669	0.597	10.8	109	0.00	8.81
48	M	acrylonitrile	0.205	0.193	5.9	115	0.00	8.02

			True	Calc.	% Drift			
49	M	vinyl acetate	20.000	15.899	20.5#	102	0.00	8.65

			AvgRF	CCRF	% Dev			
50	M	ethyl acetate	0.075	0.061	18.7	106	0.01	9.38
51	M	2,2-dichloropropane	0.712	0.678	4.8	119	0.00	9.42
52	M	cis-1,2-dichloroethene	0.553	0.524	5.2	117	0.00	9.41
53	m	methyl acrylate	0.493	0.464	5.9	121	0.00	9.45
54	M	propionitrile	0.078	0.078	0.0	120	0.00	9.40
55	M	bromochloromethane	0.285	0.273	4.2	122	0.00	9.71
56	M	tetrahydrofuran	0.198	0.183	7.6	117	0.00	9.76
57	M	chloroform	0.843	0.812	3.7	116	0.00	9.76
58	m	t-butyl formate	0.474	0.435	8.2	117	0.00	9.81
59	M	Iso-octane	1.412	1.337	5.3	119	0.00	10.52
60	S	dibromofluoromethane (s)	0.469	0.405	13.6	112	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.449	13.0	110	0.00	10.36
62	M	freon 113	0.365	0.346	5.2	115	0.00	7.07
63	M	methacrylonitrile	0.331	0.297	10.3	114	0.00	9.61
64	M	1,1,1-trichloroethane	0.749	0.703	6.1	114	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.333	20.3#	105	0.00	10.52
66	I	1,4-difluorobenzene	1.000	1.000	0.0	127	0.00	10.82
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol		----------NA----------				
69	M	epichlorohydrin	0.039	0.041	-5.1	124	0.00	12.07
70	M	n-butyl alcohol	0.011	0.012	-9.1	122	0.00	10.91
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	carbon tetrachloride	0.462	0.487	-5.4	116	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.453	4.2	109	0.00	10.22
74	M	hexane	0.368	0.376	-2.2	120	0.00	8.48
75	M	benzene	1.401	1.360	2.9	111	0.00	10.47
76	M	heptane	0.202	0.217	-7.4	127	0.00	10.67

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8856-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201420.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.606	16.4	102	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.445	1.8	113	0.00	10.45
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.356	-0.3	113	0.00	11.20
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.222	7.5	110	0.00	11.95
83	M	methylcyclohexane	0.542	0.536	1.1	113	0.00	11.45
84	M	methyl methacrylate	0.350	0.365	-4.3	119	0.00	11.43
85	M	1,2-dichloropropane	0.374	0.358	4.3	109	0.00	11.43
86	M	dibromomethane	0.218	0.226	-3.7	118	0.00	11.59
87	M	bromodichloromethane	0.476	0.486	-2.1	119	0.00	11.72
88	M	cis-1,3-dichloropropene	0.602	0.625	-3.8	120	0.00	12.20
89	S	toluene-d8 (s)	1.266	1.240	2.1	113	0.00	12.52
90	M	4-methyl-2-pentanone	0.160	0.166	-3.8	124	0.00	12.28
91	M	toluene	0.850	0.900	-5.9	118	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.021	-10.5	134	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.550	-4.6	119	0.00	12.78
94	M	ethyl methacrylate	0.464	0.500	-7.8	123	0.00	12.78
95	M	1,1,2-trichloroethane	0.276	0.293	-6.2	123	0.00	13.00
96	M	2-hexanone	0.142	0.150	-5.6	131	0.00	13.18
97	I	chlorobenzene-d5	1.000	1.000	0.0	135	0.00	14.15
98	M	cyclohexanone	0.014	0.039	-178.6#	343#	0.00	15.35
99	M	tetrachloroethene	0.462	0.492	-6.5	130	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.596	0.7	121	0.00	13.20
101	M	butyl acetate	0.259	0.242	6.6	116	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.049	-11.4	136	0.00	13.36
103	M	dibromochloromethane	0.436	0.462	-6.0	131	0.00	13.49
104	M	1,2-dibromoethane	0.386	0.405	-4.9	129	0.00	13.67
105	M	n-butyl ether		----------NA----------				
106	M	chlorobenzene	1.085	1.046	3.6	117	0.00	14.19
107	M	1,1,1,2-tetrachloroethane	0.400	0.411	-2.7	122	0.00	14.24
108	M	ethylbenzene	1.736	1.711	1.4	117	0.00	14.25
109	M	m,p-xylene	0.682	0.695	-1.9	121	0.00	14.37
110	M	o-xylene	0.699	0.726	-3.9	122	0.00	14.83
111	M	butyl acrylate		----------NA----------				
112	M	styrene	1.160	1.186	-2.2	121	0.00	14.83
113	M	bromoform	0.332	0.364	-9.6	134	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	138	0.00	16.72
115	M	isopropylbenzene	3.216	3.236	-0.6	122	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.829	9.6	112	0.00	15.42
117	M	bromobenzene	0.892	0.911	-2.1	123	0.00	15.64
118	M	1,1,2,2-tetrachloroethane	0.904	0.898	0.7	125	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.209	7.9	122	0.00	15.55
120	M	1,2,3-trichloropropane	0.239	0.249	-4.2	130	0.00	15.58
121	M	n-propylbenzene	3.582	3.391	5.3	117	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.759	4.3	119	0.00	15.82
124	M	4-chlorotoluene	2.330	2.212	5.1	119	0.00	15.93
125	M	1,3,5-trimethylbenzene	2.741	2.624	4.3	123	0.00	15.82
126	M	tert-butylbenzene	2.350	2.422	-3.1	126	0.00	16.21
127	M	pentachloroethane	0.584	0.606	-3.8	127	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.636	2.7	120	0.00	16.26
129	M	sec-butylbenzene	3.341	3.348	-0.2	124	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.569	4.5	120	0.00	16.66
131	M	p-isopropyltoluene	2.774	2.817	-1.6	123	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.546	7.2	117	0.00	16.75
133		benzyl chloride	1.649	1.643	0.4	139	0.00	16.86
134	M	p-diethylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8856-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201420.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.553	2.1	120	0.00	17.18
136	M	n-butylbenzene	1.332	1.303	2.2	117	0.00	17.04
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.154	-4.1	132	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.262	-9.3	126	0.00	18.24
140	M	1,2,4-trichlorobenzene	0.933	0.937	-0.4	125	0.00	18.96
141	M	hexachlorobutadiene	0.528	0.623	-18.0	139	0.00	19.10
142	M	naphthalene	1.870	1.933	-3.4	129	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.766	-3.4	127	0.00	19.54
145	M	hexachloroethane	0.535	0.553	-3.4	124	0.00	17.49
146	M	Cyclohexane	1.052	0.937	10.9	108	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200200.D ME8801.M Thu Mar 28 13:34:17 2013 RPT1

6.9.18

6

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8857-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201446.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E201446.D                    Vial: 29
Acq On    : 28 Mar 2013  10:51 pm                     Operator: OksanaT
Sample    : cc8801-50                                 Inst    : MSE
Misc      : MS45249,VE8857,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\ME8801.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Feb 25 11:43:47 2013
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	114	0.02	7.69
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	1250.000	956.274	23.5#	83	0.00	11.54
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.189	-1.2	109	0.00	7.80
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	127	0.00	9.91
6		freon 23		----------NA----------				
7		freon 115		----------NA----------				
8		freon 143a		----------NA----------				
9		freon 152a		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.550	0.440	20.0#	92	0.00	4.31
12	M	dichlorodifluoromethane	0.733	0.727	0.8	115	0.00	4.31
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.617	24.6#	90	0.00	4.67
16	M	vinyl chloride	0.819	0.765	6.6	110	0.00	4.96
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.442	10.9	113	0.00	5.59
20	M	chloroethane	0.374	0.318	15.0	99	0.00	5.76
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.835	-2.7	120	-0.01	6.27
23	M	pentane		----------NA----------				
24	M	ethyl ether	0.316	0.275	13.0	106	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.718	24.0#	89	0.00	6.84
29	M	acrolein	0.123	0.102	17.1	101	0.00	6.85
30	M	1,1-dichloroethene	0.476	0.423	11.1	102	0.00	7.09
31	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
32	M	acetone	50.000	46.044	7.9	114	0.00	7.07
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.729	20.2#	97	0.00	7.57

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8857-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201446.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	acetonitrile	500.000	541.949	-8.4	120	0.04	7.50

			AvgRF	CCRF	% Dev			
35	M	iodomethane	0.964	0.892	7.5	108	0.00	7.35

			True	Calc.	% Drift			
36	M	iso-butyl alcohol	500.000	422.994	15.4	104	0.00	10.23

			AvgRF	CCRF	% Dev			
37	M	carbon disulfide	1.603	1.311	18.2	91	0.00	7.50
38	M	methylene chloride	0.615	0.481	21.8#	104	0.00	7.75
39	m	1-chloropropane	0.921	0.704	23.6#	94	0.00	7.81
40	M	methyl acetate	0.421	0.499	-18.5	141	0.00	7.54
41	M	methyl tert butyl ether	1.525	1.399	8.3	109	0.00	8.10
42	M	trans-1,2-dichloroethene	0.480	0.436	9.2	103	0.00	8.14
43	M	di-isopropyl ether	1.764	1.364	22.7#	96	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.439	18.1	101	0.00	9.15

			True	Calc.	% Drift			
45	M	2-butanone	50.000	48.281	3.4	118	0.00	9.34

			AvgRF	CCRF	% Dev			
46	M	1,1-dichloroethane	0.885	0.761	14.0	98	0.00	8.68
47	M	chloroprene	0.669	0.604	9.7	104	0.00	8.81
48	M	acrylonitrile	0.205	0.180	12.2	105	0.00	8.01

			True	Calc.	% Drift			
49	M	vinyl acetate	50.000	18.599	62.8#	45	0.00	8.66

			AvgRF	CCRF	% Dev			
50	M	ethyl acetate	0.075	0.070	6.7	116	0.00	9.37
51	M	2,2-dichloropropane	0.712	0.553	22.3#	92	0.00	9.42
52	M	cis-1,2-dichloroethene	0.553	0.489	11.6	107	0.00	9.40
53	m	methyl acrylate	0.493	0.415	15.8	106	0.00	9.46
54	M	propionitrile	0.078	0.071	9.0	109	0.00	9.39
55	M	bromochloromethane	0.285	0.265	7.0	112	0.00	9.70
56	M	tetrahydrofuran	0.198	0.166	16.2	105	0.00	9.76
57	M	chloroform	0.843	0.762	9.6	106	0.00	9.76
58	m	t-butyl formate	0.474	0.429	9.5	107	0.00	9.80
59	M	Iso-octane	1.412	1.136	19.5	94	0.00	10.52
60	S	dibromofluoromethane (s)	0.469	0.410	12.6	103	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.473	8.3	111	0.00	10.37
62	M	freon 113	0.365	0.346	5.2	106	0.00	7.06
63	M	methacrylonitrile	0.331	0.290	12.4	107	0.00	9.60
64	M	1,1,1-trichloroethane	0.749	0.680	9.2	105	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.309	21.7#	100	0.00	10.51
66	I	1,4-difluorobenzene	1.000	1.000	0.0	118	0.00	10.82
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol		----------NA----------				
69	M	epichlorohydrin	0.039	0.039	0.0	111	0.00	12.07
70	M	n-butyl alcohol	0.011	0.011	0.0	104	0.00	10.90
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	carbon tetrachloride	0.462	0.465	-0.6	106	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.427	9.7	100	0.00	10.23
74	M	hexane	0.368	0.381	-3.5	112	0.00	8.47
75	M	benzene	1.401	1.259	10.1	101	0.00	10.48
76	M	heptane	0.202	0.198	2.0	106	0.00	10.67

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8857-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201446.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.630	13.1	103	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.431	4.9	108	0.00	10.46
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.346	2.5	105	0.00	11.19
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.220	8.3	103	0.00	11.95
83	M	methylcyclohexane	0.542	0.487	10.1	97	0.00	11.45
84	M	methyl methacrylate	0.350	0.344	1.7	106	0.00	11.42
85	M	1,2-dichloropropane	0.374	0.332	11.2	100	0.00	11.43
86	M	dibromomethane	0.218	0.223	-2.3	113	0.00	11.58
87	M	bromodichloromethane	0.476	0.465	2.3	110	0.00	11.72
88	M	cis-1,3-dichloropropene	0.602	0.577	4.2	104	0.00	12.19
89	S	toluene-d8 (s)	1.266	1.210	4.4	105	0.00	12.52
90	M	4-methyl-2-pentanone	0.160	0.147	8.1	107	0.00	12.27
91	M	toluene	0.850	0.822	3.3	104	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.017	10.5	104	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.523	0.6	108	0.00	12.77
94	M	ethyl methacrylate	0.464	0.480	-3.4	110	0.00	12.77
95	M	1,1,2-trichloroethane	0.276	0.276	0.0	112	0.00	13.00
96	M	2-hexanone	0.142	0.142	0.0	112	0.00	13.17
97	I	chlorobenzene-d5	1.000	1.000	0.0	121	0.00	14.15
98	M	cyclohexanone	0.014	0.013	7.1	110	0.00	15.35
99	M	tetrachloroethene	0.462	0.441	4.5	112	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.548	8.7	106	0.00	13.20
101	M	butyl acetate	0.259	0.246	5.0	111	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.040	9.1	109	0.00	13.36
103	M	dibromochloromethane	0.436	0.446	-2.3	118	0.00	13.49
104	M	1,2-dibromoethane	0.386	0.392	-1.6	120	0.00	13.66
105	M	n-butyl ether	0.000	0.008#	0.0	0#	-0.01	14.10
106	M	chlorobenzene	1.085	1.001	7.7	105	0.00	14.18
107	M	1,1,1,2-tetrachloroethane	0.400	0.388	3.0	108	0.00	14.24
108	M	ethylbenzene	1.736	1.581	8.9	104	0.00	14.25
109	M	m,p-xylene	0.682	0.635	6.9	105	0.00	14.36
110	M	o-xylene	0.699	0.669	4.3	108	0.00	14.82
111	M	butyl acrylate	0.000	0.000#	0.0	0#	0.00	14.93
112	M	styrene	1.160	1.120	3.4	110	0.00	14.83
113	M	bromoform	0.332	0.361	-8.7	124	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	126	0.00	16.72
115	M	isopropylbenzene	3.216	2.920	9.2	107	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.821	10.5	104	0.00	15.42
117	M	bromobenzene	0.892	0.858	3.8	114	0.00	15.64
118	M	1,1,2,2-tetrachloroethane	0.904	0.839	7.2	113	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.206	9.3	108	0.00	15.54
120	M	1,2,3-trichloropropane	0.239	0.236	1.3	122	0.00	15.58
121	M	n-propylbenzene	3.582	3.117	13.0	105	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.707	10.8	108	0.00	15.82
124	M	4-chlorotoluene	2.330	2.096	10.0	109	0.00	15.93
125	M	1,3,5-trimethylbenzene	2.741	2.409	12.1	110	0.00	15.82
126	M	tert-butylbenzene	2.350	2.177	7.4	108	0.00	16.21
127	M	pentachloroethane	0.584	0.567	2.9	115	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.445	9.8	108	0.00	16.26
129	M	sec-butylbenzene	3.341	3.011	9.9	106	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.544	6.0	113	0.00	16.66
131	M	p-isopropyltoluene	2.774	2.561	7.7	106	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.529	8.2	109	0.00	16.75
133		benzyl chloride	1.649	1.521	7.8	110	0.00	16.86
134	M	p-diethylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VE8857-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201446.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.542	2.8	113	0.00	17.18
136	M	n-butylbenzene	1.332	1.251	6.1	107	0.00	17.03
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.152	-2.7	120	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.230	-6.5	115	0.00	18.24
140	M	1,2,4-trichlorobenzene	0.933	1.000	-7.2	119	0.00	18.95
141	M	hexachlorobutadiene	0.528	0.540	-2.3	117	0.00	19.10
142	M	naphthalene	1.870	2.080	-11.2	126	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.801	-8.1	122	0.00	19.54
145	M	hexachloroethane	0.535	0.536	-0.2	113	0.00	17.49
146	M	Cyclohexane	1.052	0.835	20.6#	95	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200201.D ME8801.M Fri Mar 29 12:38:20 2013 RPT1

Initial Calibration Summary

Job Number: JB31485 **Sample:** VI7342-ICC7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I181805.D
Project: Sunoco - Marcus Hook Facility, PA

Response Factor Report MSI

Method : C:\MSDCHEM\1\METHODS\MI7342.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Apr 30 15:08:41 2013
Response via : Initial Calibration

Calibration Files
0.5 =I181797.D 1 =I181798.D 2 =I181799.D 5 =I181800.D
10 =I181801.D 20 =I181802.D 50 =I181805.D 100 =I181804.D
200 =I181803.D =

Compound	0.5	1	2	5	10	20	50	100	200	Avg	%RSD
1) I Tert Butyl Alcohol-d9 ----------ISTD----------											
2) tertiary butyl alcohol	0.124	0.127	0.112	0.116	0.115	0.105	0.111	0.100		0.114	7.81
3) iso-butyl alcohol				0.030	0.033	0.033	0.029	0.033	0.029	0.031	6.85
4) 1,4-dioxane			0.009	0.008	0.010	0.009	0.009	0.009	0.009	0.009#	4.54
5) I pentafluorobenzene ----------ISTD----------											
6) chlorodifluoromethane	0.444	0.422	0.424	0.434	0.382	0.392	0.395	0.381		0.409	6.03
7) dichlorodifluoromethane	0.559	0.550	0.535	0.663	0.591	0.582	0.619	0.577		0.584	7.01
8) chloromethane			0.596	0.547	0.584	0.542	0.527	0.544	0.498	0.548	6.06
9) vinyl chloride	0.573	0.530	0.549	0.605	0.554	0.540	0.569	0.521		0.555	4.85
10) bromomethane			0.328	0.357	0.372	0.360	0.336	0.359	0.337	0.350	4.62
11) chloroethane	0.299	0.269	0.244	0.255	0.247	0.234	0.243	0.226		0.252	9.10
12) trichlorofluoromethane	0.580	0.611	0.647	0.699	0.654	0.640	0.671	0.632		0.642	5.66
13) ethyl ether				0.180	0.180	0.171	0.167	0.172	0.161	0.172	4.40
14) acrolein	0.050	0.053	0.046	0.047	0.046	0.046	0.047			0.048	5.50
15) freon 113	0.197	0.198	0.243	0.260	0.282	0.258	0.268	0.274	0.262	0.249	12.55
16) 1,1-dichloroethene	0.469	0.443	0.480	0.495	0.532	0.508	0.522	0.528	0.505	0.498	5.89
17) acetone					0.026	0.021	0.021	0.020	0.019	0.021	12.25
18) iodomethane	0.626	0.600	0.673	0.653	0.729	0.684	0.702	0.716	0.682	0.674	6.17
19) carbon disulfide	1.133	1.096	1.221	1.221	1.338	1.242	1.292	1.316	1.255	1.235	6.46
20) methyl acetate				0.037	0.039	0.037	0.040	0.042	0.039	0.039	4.69
21) allyl chloride	0.187	0.203	0.202	0.210	0.202	0.201	0.206	0.200		0.201	3.24
22) acetonitrile	0.080	0.078	0.078	0.074	0.081	0.076	0.078	0.080	0.076	0.078	2.63
23) methylene chloride											

```
                                0.719 0.611 0.460 0.411 0.397 0.375   0.495   27.96
             ----- Linear regression -----  Coefficient =  0.9997
               Response Ratio = 0.04378 + 0.36631 *A

24)  methyl tert butyl ether
           0.930 1.113 1.040 0.907 0.958 0.898 0.925 0.965 0.901   0.960    7.56
25)  acrylonitrile
           0.078 0.074 0.085 0.079 0.082 0.077 0.083 0.086 0.081   0.081    4.92
26)  trans-1,2-dichloroethene
                  0.531 0.387 0.384 0.399 0.376 0.386 0.394 0.377   0.404   12.77
27)  hexane
                                0.480 0.453 0.366 0.351 0.337 0.327   0.386   16.76
             ----- Linear regression -----  Coefficient =  0.9998
               Response Ratio = 0.02267 + 0.32223 *A

28)  di-isopropyl ether
           0.999 1.141 1.129 1.051 1.091 1.042 1.048 1.072 1.022   1.066    4.42
29)  vinyl acetate
                  0.196 0.206 0.190 0.218 0.205 0.206 0.213 0.201   0.204    4.41
30)  1,1-dichloroethane
           0.611 0.585 0.608 0.611 0.666 0.628 0.638 0.659 0.625   0.626    4.11
31)  chloroprene
           0.447 0.428 0.429 0.459 0.503 0.470 0.488 0.490 0.478   0.466    5.81
32)  ethyl tert-butyl ether
           1.069 1.046 1.131 1.072 1.117 1.084 1.102 1.128 1.078   1.092    2.67
33)  2-butanone
                                      0.028 0.028 0.029 0.030 0.029   0.029    3.20
34)  ethyl acetate
                                0.026 0.039 0.035 0.033 0.033 0.030   0.033   13.42
35)  2,2-dichloropropane
           0.615 0.595 0.547 0.558 0.598 0.545 0.544 0.569 0.546   0.569    4.84
36)  cis-1,2-dichloroethene
           0.534 0.390 0.403 0.413 0.432 0.412 0.412 0.434 0.408   0.426   10.01
37)  methacrylonitrile
                                0.096 0.108 0.100 0.104 0.110 0.106   0.104    5.15
38)  propionitrile
                  0.028 0.030 0.030 0.031 0.030 0.032 0.033 0.032   0.031    5.85
39)  bromochloromethane
           0.166 0.184 0.193 0.177 0.196 0.187 0.190 0.198 0.188   0.187    5.38
40)  tetrahydrofuran
                                0.108 0.092 0.083 0.084 0.082 0.077   0.088   12.57
41)  chloroform
           0.696 0.685 0.700 0.641 0.699 0.659 0.661 0.689 0.658   0.677    3.20
42)  tert-Butyl Formate
           0.289 0.269 0.285 0.270 0.281 0.272 0.279 0.289 0.276   0.279    2.79
43)  dibromofluoromethane (s)
                                0.388 0.384 0.376 0.353 0.364 0.342   0.368    4.89
44)  1,1,1-trichloroethane
           0.566 0.571 0.568 0.563 0.622 0.581 0.587 0.612 0.587   0.584    3.57
45)  cyclohexane
           0.523 0.452 0.494 0.504 0.553 0.507 0.523 0.544 0.518   0.513    5.75

46) I   1,4-difluorobenzene   ----------------ISTD---------------------
47)   1,2-dichloroethane-d4 (s)
                                0.267 0.259 0.256 0.240 0.252 0.235   0.252    4.76
48)  carbon tetrachloride
                  0.308 0.334 0.354 0.392 0.365 0.372 0.389 0.371   0.361    7.86
49)  1,1-dichloropropene
           0.369 0.323 0.345 0.346 0.383 0.345 0.357 0.375 0.353   0.355    5.13
50)  isopropyl acetate
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VI7342-ICC7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I181805.D
Project: Sunoco - Marcus Hook Facility, PA

```
                  0.068 0.080 0.074 0.077 0.074 0.077 0.082 0.078   0.076    5.67
51)  benzene
            1.116 1.076 1.072 1.054 1.151 1.090 1.098 1.157 1.077   1.099    3.25
52)  2,2,4-trimethylpentane
                  0.795 0.825 0.882 0.924 0.855 0.887 0.905 0.859   0.866    4.87
53)  tert-amyl methyl ether
                  0.761 0.784 0.744 0.755 0.739 0.746 0.776 0.731   0.755    2.40
54)  1,2-dichloroethane
            0.288 0.295 0.302 0.292 0.311 0.293 0.301 0.318 0.302   0.300    3.15
55)  heptane
                  0.184 0.179 0.175 0.183 0.164 0.169 0.175 0.168   0.175    4.14
56)  n-butyl alcohol
                              0.004 0.005 0.004 0.005 0.005 0.005   0.005#   7.18
57)  trichloroethene
            0.284 0.249 0.265 0.270 0.301 0.281 0.284 0.300 0.284   0.280    5.93
58)  ethyl acrylate
                  0.332 0.389 0.328 0.350 0.324 0.339 0.346 0.333   0.343    5.99
59)  methyl methacrylate
                  0.138 0.141 0.122 0.130 0.121 0.123 0.135 0.126   0.129    5.94
60)  1,2-dichloropropane
            0.263 0.232 0.260 0.245 0.269 0.249 0.257 0.271 0.254   0.256    4.85
61)  methylcyclohexane
            0.409 0.364 0.404 0.411 0.445 0.408 0.423 0.433 0.417   0.413    5.49
62)  dibromomethane
            0.123 0.144 0.146 0.141 0.152 0.144 0.148 0.157 0.147   0.145    6.56
63)  bromodichloromethane
            0.325 0.340 0.341 0.330 0.355 0.340 0.347 0.368 0.349   0.344    3.72
64)  2-nitropropane
                              0.059 0.058 0.054 0.057 0.060 0.058   0.058    3.32
65)  2-chloroethyl vinyl ether
            0.061 0.057 0.063 0.062 0.065 0.056 0.062 0.063 0.063   0.061    4.94
66)  epichlorohydrin
                              0.015 0.016 0.015 0.015 0.016 0.015   0.016    2.33
67)  cis-1,3-dichloropropene
            0.432 0.395 0.406 0.390 0.418 0.401 0.404 0.428 0.404   0.409    3.52
68)  4-methyl-2-pentanone
            0.016             0.060 0.064 0.062 0.066 0.070 0.067   0.058   32.26
69)  3-methyl-1-butanol
                        0.004 0.004 0.004 0.004 0.004 0.005 0.004   0.004#   4.81
70)  toluene
            1.204 1.057 1.126 1.107 1.200 1.133 1.144 1.209 1.137   1.146    4.40
71)  trans-1,3-dichloropropene
            0.390 0.373 0.344 0.336 0.353 0.335 0.342 0.365 0.341   0.353    5.36
72)  ethyl methacrylate
                  0.238 0.252 0.235 0.246 0.235 0.247 0.266 0.250   0.246    4.28
73)  1,1,2-trichloroethane
            0.168 0.173 0.180 0.160 0.173 0.163 0.167 0.177 0.167   0.170    3.82
74)  2-hexanone
                              0.051 0.053 0.053 0.057 0.060 0.057   0.055    6.15

75) I   chlorobenzene-d5      ----------------ISTD---------------------
76)  toluene-d8 (s)
                              1.072 1.184 1.245 1.181 1.217 1.133   1.172    5.26
77)  tetrachloroethene
            0.423 0.327 0.370 0.370 0.423 0.383 0.396 0.415 0.393   0.389    7.96
78)  1,3-dichloropropane
            0.433 0.367 0.380 0.347 0.386 0.364 0.374 0.396 0.367   0.379    6.47
79)  butyl acetate
                  0.149 0.145 0.129 0.130 0.124 0.126 0.134 0.125   0.133    6.90
80)  3,3-Dimethyl-1-Butanol
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VI7342-ICC7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I181805.D
Project: Sunoco - Marcus Hook Facility, PA

```
                  0.022 0.023 0.020 0.020 0.018 0.020 0.020 0.019   0.020    6.73
 81)  dibromochloromethane
            0.299 0.308 0.329 0.305 0.329 0.315 0.331 0.352 0.335   0.322    5.28
 82)  1,2-dibromoethane
            0.260 0.245 0.261 0.251 0.269 0.252 0.263 0.274 0.261   0.260    3.49
 83)  chlorobenzene
            0.998 0.827 0.933 0.868 0.953 0.895 0.919 0.957 0.898   0.916    5.61
 84)  1,1,1,2-tetrachloroethane
            0.335 0.320 0.329 0.315 0.353 0.333 0.342 0.359 0.339   0.336    4.24
 85)  ethylbenzene
            1.774 1.489 1.536 1.485 1.637 1.529 1.562 1.631 1.528   1.574    5.85
 86)  m,p-xylene
            0.661 0.541 0.566 0.572 0.650 0.592 0.607 0.633 0.591   0.602    6.70
 87)  o-xylene
            0.622 0.524 0.574 0.576 0.620 0.577 0.597 0.626 0.584   0.589    5.43
 88)  styrene
            1.082 0.917 0.994 0.947 1.030 0.976 1.005 1.060 0.995   1.000    5.19
 89)  bromoform
            0.187 0.189 0.197 0.191 0.211 0.203 0.221 0.236 0.228   0.207    8.70

 90) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 91)  4-bromofluorobenzene (s)
                              0.699 0.742 0.772 0.721 0.752 0.715   0.733    3.64
 92)  isopropylbenzene
            2.965 2.551 2.642 2.611 2.890 2.669 2.712 2.819 2.694   2.728    4.98
 93)  cyclohexanone
                              0.012 0.011 0.010 0.010 0.010 0.010   0.010    7.74
 94)  1,1,2,2-tetrachloroethane
            0.671 0.591 0.564 0.543 0.564 0.540 0.557 0.574 0.545   0.572    7.09
 95)  trans-1,4-dichloro-2-butene
                  0.117 0.137 0.129 0.133 0.123 0.129 0.136 0.132   0.130    5.07
 96)  1,2,3-trichloropropane
                  0.121 0.122 0.112 0.121 0.114 0.122 0.125 0.120   0.120    3.66
 97)  n-propylbenzene
            3.870 2.714 3.018 3.072 3.369 3.153 3.152 3.275 3.115   3.193    9.78
 98)  bromobenzene
            0.817 0.776 0.756 0.716 0.771 0.742 0.743 0.778 0.740   0.760    3.87
 99)  2-chlorotoluene
            0.839 0.652 0.665 0.661 0.724 0.674 0.682 0.702 0.668   0.696    8.31
100)  4-chlorotoluene
            2.349 1.877 1.933 1.876 2.053 1.940 1.963 2.046 1.940   1.998    7.30
101)  1,3,5-trimethylbenzene
            2.847 2.266 2.390 2.301 2.490 2.338 2.342 2.457 2.326   2.417    7.31
102)  tert-butylbenzene
            2.290 1.900 1.957 1.880 2.110 1.975 1.979 2.084 2.003   2.020    6.23
103)  pentachloroethane
            0.443 0.425 0.488 0.453 0.500 0.471 0.489 0.522 0.489   0.476    6.42
104)  1,2,4-trimethylbenzene
            3.183 2.441 2.383 2.289 2.511 2.351 2.345 2.502 2.362   2.485   10.95
105)  sec-butylbenzene
            3.509 2.773 2.993 2.984 3.302 3.036 3.065 3.212 3.031   3.100    6.86
106)  p-isopropyltoluene
            3.589 2.386 2.615 2.441 2.748 2.555 2.554 2.703 2.540   2.681   13.38
107)  benzyl chloride
            1.374 1.109 1.114 1.098 1.061 1.022 1.001 1.089 1.073   1.105    9.78
108)  1,3-dichlorobenzene
            1.852 1.455 1.466 1.398 1.537 1.416 1.441 1.527 1.431   1.503    9.26
109)  1,4-dichlorobenzene
            1.951 1.518 1.488 1.422 1.521 1.418 1.452 1.531 1.439   1.527   10.81
110)  1,2-dichlorobenzene
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** VI7342-ICC7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I181805.D
Project: Sunoco - Marcus Hook Facility, PA

```
            1.706 1.340 1.391 1.323 1.418 1.339 1.357 1.431 1.329   1.404    8.54
111)  n-butylbenzene
            1.896 1.196 1.280 1.296 1.418 1.334 1.340 1.414 1.333   1.390   14.51
112)  hexachloroethane
                        0.495 0.475 0.534 0.503 0.514 0.546 0.506   0.511    4.70
113)  1,2-dibromo-3-chloropropane
                  0.138 0.118 0.121 0.120 0.114 0.118 0.122 0.108   0.120    7.01
114)  1,3,5-Trichlorobenzene
                  1.320 1.221 1.187 1.261 1.174 1.193 1.242 1.103   1.213    5.33
115)  1,2,4-trichlorobenzene
                  1.017 1.017 0.972 1.046 0.990 1.020 1.052 0.917   1.004    4.38
116)  hexachlorobutadiene
                  0.676 0.732 0.670 0.760 0.690 0.668 0.701 0.613   0.689    6.45
117)  naphthalene
                  1.941 1.885 1.699 1.826 1.727 1.816 1.828 1.564   1.786    6.64
118)  1,2,3-trichlorobenzene
                  0.966 0.883 0.849 0.918 0.869 0.885 0.888 0.756   0.877    6.88
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MI7342.M          Tue Apr 30 15:52:49 2013   RPT1
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** VI7342-ICV7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I181807.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\VI7342\I181807.D Vial: 28
Acq On : 27 Feb 2013 12:36 am Operator: SCOTTM
Sample : ICV7342-50 Inst : MSI
Misc : MS43614,VI7342,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MI7342.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Apr 30 15:08:41 2013
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	94	0.00	7.22
2	tertiary butyl alcohol	0.114	0.114	0.0	103	0.00	7.34
3	iso-butyl alcohol	0.031	0.040	-29.0#	129	0.00	10.01
4	1,4-dioxane	0.009	0.010#	-11.1	102	0.00	11.11
5 I	pentafluorobenzene	1.000	1.000	0.0	96	0.00	9.47
6	chlorodifluoromethane	0.409	0.422	-3.2	103	0.00	3.79
7	dichlorodifluoromethane	0.584	0.516	11.6	85	0.00	3.76
8	chloromethane	0.548	0.486	11.3	88	0.00	4.13
9	vinyl chloride	0.555	0.484	12.8	86	0.00	4.37
10	bromomethane	0.350	0.327	6.6	93	0.00	5.02
11	chloroethane	0.252	0.212	15.9	86	0.00	5.20
12	trichlorofluoromethane	0.642	0.572	10.9	85	0.00	5.65
13	ethyl ether	0.172	0.170	1.2	98	0.00	6.09
14	acrolein	0.048	0.046	4.2	96	0.00	6.34
15	freon 113	0.249	0.232	6.8	83	0.00	6.48
16	1,1-dichloroethene	0.498	0.468	6.0	86	0.00	6.50
17	acetone	0.021	0.022	-4.8	100	0.00	6.57
18	iodomethane	0.674	0.663	1.6	90	0.00	6.78
19	carbon disulfide	1.235	1.153	6.6	85	0.00	6.90
20	methyl acetate	0.039	0.041	-5.1	98	0.00	7.04
21	allyl chloride	0.201	0.191	5.0	91	0.00	7.04
22	acetonitrile	0.078	0.077	1.3	94	0.00	7.04
	----------	True	Calc.	% Drift	----------		
23	methylene chloride	50.000	49.655	0.7	95	0.00	7.24
	----------	AvgRF	CCRF	% Dev	----------		
24	methyl tert butyl ether	0.960	0.938	2.3	97	0.00	7.58
25	acrylonitrile	0.081	0.088	-8.6	101	0.00	7.57
26	trans-1,2-dichloroethene	0.404	0.363	10.1	90	0.00	7.62
	----------	True	Calc.	% Drift	----------		
27	hexane	50.000	56.816	-13.6	106	0.00	7.93
	----------	AvgRF	CCRF	% Dev	----------		
28	di-isopropyl ether	1.066	1.078	-1.1	98	0.00	8.19
29	vinyl acetate	0.204	0.198	2.9	92	0.00	8.19
30	1,1-dichloroethane	0.626	0.611	2.4	92	0.00	8.19
31	chloroprene	0.466	0.470	-0.9	92	0.00	8.30
32	ethyl tert-butyl ether	1.092	1.096	-0.4	95	0.00	8.66
33	2-butanone	0.029	0.031	-6.9	101	0.00	8.91

Initial Calibration Verification

Job Number: JB31485 **Sample:** VI7342-ICV7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I181807.D
Project: Sunoco - Marcus Hook Facility, PA

34		ethyl acetate	0.033	0.034	-3.0	101	0.00	8.94
35		2,2-dichloropropane	0.569	0.496	12.8	87	0.00	8.94
36		cis-1,2-dichloroethene	0.426	0.408	4.2	95	0.00	8.94
37		methacrylonitrile	0.104	0.107	-2.9	99	0.00	9.19
38		propionitrile	0.031	0.034	-9.7	102	0.00	9.01
39		bromochloromethane	0.187	0.191	-2.1	96	0.00	9.25
40		tetrahydrofuran	0.088	0.087	1.1	99	0.00	9.29
41		chloroform	0.677	0.648	4.3	94	0.00	9.31
42		tert-Butyl Formate	0.279	0.298	-6.8	102	0.00	9.35
43	S	dibromofluoromethane (s)	0.368	0.355	3.5	96	0.00	9.51
44		1,1,1-trichloroethane	0.584	0.542	7.2	88	0.00	9.57
45		cyclohexane	0.513	0.462	9.9	85	0.00	9.64
46	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	10.39
47	s	1,2-dichloroethane-d4 (s	0.252	0.249	1.2	100	0.00	9.94
48		carbon tetrachloride	0.361	0.338	6.4	87	0.00	9.77
49		1,1-dichloropropene	0.355	0.327	7.9	88	0.00	9.75
50		isopropyl acetate	0.076	0.082	-7.9	103	0.00	9.95
51		benzene	1.099	1.060	3.5	93	0.00	10.01
52		2,2,4-trimethylpentane	0.866	0.813	6.1	88	0.00	10.02
53		tert-amyl methyl ether	0.755	0.753	0.3	97	0.00	10.05
54		1,2-dichloroethane	0.300	0.307	-2.3	98	0.00	10.03
55		heptane	0.175	0.168	4.0	95	0.00	10.19
56		n-butyl alcohol	0.005	0.005#	0.0	104	0.00	10.52
57		trichloroethene	0.280	0.269	3.9	91	0.00	10.73
58		ethyl acrylate	0.343	0.326	5.0	92	0.00	10.95
59		methyl methacrylate	0.129	0.133	-3.1	104	0.00	11.01
60		1,2-dichloropropane	0.256	0.255	0.4	95	0.00	11.00
61		methylcyclohexane	0.413	0.400	3.1	91	0.00	10.95
62		dibromomethane	0.145	0.152	-4.8	98	0.00	11.16
63		bromodichloromethane	0.344	0.350	-1.7	97	0.00	11.29
64		2-nitropropane	0.058	0.061	-5.2	102	0.00	11.51
65		2-chloroethyl vinyl ether	0.061	0.069	-13.1	106	0.00	11.53
66		epichlorohydrin	0.016	0.017	-6.3	106	0.00	11.65
67		cis-1,3-dichloropropene	0.409	0.402	1.7	96	0.00	11.75
68		4-methyl-2-pentanone	0.058	0.069	-19.0	101	0.00	11.85
69		3-methyl-1-butanol	0.004	0.005#	-25.0#	100	0.00	11.87
70		toluene	1.146	1.095	4.5	92	0.00	12.11
71		trans-1,3-dichloropropene	0.353	0.345	2.3	97	0.00	12.31
72		ethyl methacrylate	0.246	0.256	-4.1	99	0.00	12.31
73		1,1,2-trichloroethane	0.170	0.171	-0.6	98	0.00	12.53
74		2-hexanone	0.055	0.059	-7.3	101	0.00	12.70
75	I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	13.56
76	S	toluene-d8 (s)	1.172	1.126	3.9	92	0.00	12.04
77		tetrachloroethene	0.389	0.366	5.9	89	0.00	12.70
78		1,3-dichloropropane	0.379	0.380	-0.3	98	0.00	12.71
79		butyl acetate	0.133	0.132	0.8	101	0.00	12.78
80		3,3-Dimethyl-1-Butanol	0.020	0.021	-5.0	104	0.00	12.88
81		dibromochloromethane	0.322	0.336	-4.3	98	0.00	12.98
82		1,2-dibromoethane	0.260	0.268	-3.1	98	0.00	13.12
83		chlorobenzene	0.916	0.895	2.3	94	0.00	13.59
84		1,1,1,2-tetrachloroethane	0.336	0.338	-0.6	95	0.00	13.64
85		ethylbenzene	1.574	1.469	6.7	91	0.00	13.64
86		m,p-xylene	0.602	0.574	4.7	91	0.00	13.75
87		o-xylene	0.589	0.574	2.5	93	0.00	14.17
88		styrene	1.000	0.980	2.0	94	0.00	14.18
89		bromoform	0.207	0.224	-8.2	98	0.00	14.44
90	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	15.92

Initial Calibration Verification

Job Number: JB31485 **Sample:** VI7342-ICV7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I181807.D
Project: Sunoco - Marcus Hook Facility, PA

91	S	4-bromofluorobenzene (s)	0.733	0.713	2.7	96	0.00	14.72
92		isopropylbenzene	2.728	2.522	7.6	90	0.00	14.51
93		cyclohexanone	0.010	0.011	-10.0	100	0.00	14.68
94		1,1,2,2-tetrachloroethane	0.572	0.566	1.0	98	0.00	14.82
95		trans-1,4-dichloro-2-bute	0.130	0.132	-1.5	99	0.00	14.86
96		1,2,3-trichloropropane	0.120	0.124	-3.3	98	0.00	14.89
97		n-propylbenzene	3.193	2.919	8.6	90	0.00	14.93
98		bromobenzene	0.760	0.732	3.7	95	0.00	14.91
99		2-chlorotoluene	0.696	0.646	7.2	92	0.00	15.07
100		4-chlorotoluene	1.998	1.866	6.6	92	0.00	15.18
101		1,3,5-trimethylbenzene	2.417	2.196	9.1	91	0.00	15.08
102		tert-butylbenzene	2.020	1.855	8.2	91	0.00	15.44
103		pentachloroethane	0.476	0.487	-2.3	97	0.00	15.52
104		1,2,4-trimethylbenzene	2.485	2.267	8.8	94	0.00	15.49
105		sec-butylbenzene	3.100	2.830	8.7	89	0.00	15.66
106		p-isopropyltoluene	2.681	2.383	11.1	90	0.00	15.79
107		benzyl chloride	1.105	1.025	7.2	99	0.00	16.07
108		1,3-dichlorobenzene	1.503	1.384	7.9	93	0.00	15.86
109		1,4-dichlorobenzene	1.527	1.414	7.4	94	0.00	15.95
110		1,2-dichlorobenzene	1.404	1.349	3.9	96	0.00	16.36
111		n-butylbenzene	1.390	1.225	11.9	89	0.00	16.23
112		hexachloroethane	0.511	0.486	4.9	91	0.00	16.63
113		1,2-dibromo-3-chloropropa	0.120	0.123	-2.5	101	0.00	17.18
114		1,3,5-Trichlorobenzene	1.213	1.127	7.1	91	0.00	17.38
115		1,2,4-trichlorobenzene	1.004	0.988	1.6	94	0.00	18.04
116		hexachlorobutadiene	0.689	0.634	8.0	92	0.00	18.16
117		naphthalene	1.786	1.844	-3.2	98	0.00	18.33
118		1,2,3-trichlorobenzene	0.877	0.884	-0.8	97	0.00	18.58

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I181805.D MI7342.M Tue Apr 30 17:07:39 2013 RPT1

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VI7384-CC7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I182795.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\VI7384\I182795.D          Vial: 1
Acq On    : 29 Mar 2013   9:57 am                   Operator: SCOTTM
Sample    : CC7342-50                               Inst    : MSI
Misc      : MS45601,VI7384,,,,,1                    Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MI7342.M (RTE Integrator)
Title        : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Mar 25 12:14:03 2013
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	90	-0.04	7.19
2	tertiary butyl alcohol	0.114	0.112	1.8	96	-0.03	7.31
3	iso-butyl alcohol	0.031	0.041	-32.3#	124	-0.01	9.99
4	1,4-dioxane	0.009	0.009#	0.0	89	-0.01	11.10
5 I	pentafluorobenzene	1.000	1.000	0.0	86	-0.02	9.46
6	chlorodifluoromethane	0.409	0.509	-24.4#	112	-0.02	3.78
7	dichlorodifluoromethane	0.593	0.658	-11.0	98	0.00	3.76
8	chloromethane	0.548	0.499	8.9	82	-0.01	4.11
9	vinyl chloride	0.555	0.575	-3.6	92	-0.02	4.36
10	bromomethane	0.350	0.331	5.4	85	0.00	5.01
11	chloroethane	0.252	0.218	13.5	80	0.00	5.19
12	trichlorofluoromethane	0.642	0.668	-4.0	90	-0.02	5.63
13	ethyl ether	0.172	0.157	8.7	81	-0.02	6.08
14	acrolein	0.048	0.044	8.3	82	-0.02	6.32
15	freon 113	0.249	0.336	-34.9#	108	-0.01	6.47
16	1,1-dichloroethene	0.498	0.594	-19.3	98	-0.02	6.48
17	acetone	0.021	0.019	9.5	76	-0.03	6.54
18	iodomethane	0.674	0.753	-11.7	93	-0.02	6.76
19	carbon disulfide	1.235	1.344	-8.8	90	-0.02	6.88
20	methyl acetate	0.039	0.040	-2.6	86	-0.03	7.02
21	allyl chloride	0.201	0.205	-2.0	88	-0.02	7.02
22	acetonitrile	0.078	0.064	17.9	71	-0.02	7.02
	----------	True	Calc.	% Drift		----------	
23	methylene chloride	50.000	44.717	10.6	78	-0.02	7.22
	----------	AvgRF	CCRF	% Dev		----------	
24	methyl tert butyl ether	0.960	1.000	-4.2	93	-0.02	7.56
25	acrylonitrile	0.081	0.085	-4.9	88	-0.03	7.55
26	trans-1,2-dichloroethene	0.404	0.391	3.2	88	-0.02	7.60
	----------	True	Calc.	% Drift		----------	
27	hexane	50.000	64.268	-28.5#	107	-0.01	7.92
	----------	AvgRF	CCRF	% Dev		----------	
28	di-isopropyl ether	1.066	1.076	-0.9	89	-0.02	8.17
29	vinyl acetate	0.204	0.219	-7.4	92	-0.02	8.17
30	1,1-dichloroethane	0.626	0.684	-9.3	93	-0.02	8.17
31	chloroprene	0.466	0.601	-29.0#	106	-0.02	8.28
32	ethyl tert-butyl ether	1.092	1.164	-6.6	91	-0.02	8.64
33	2-butanone	0.029	0.029	0.0	85	-0.01	8.90

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VI7384-CC7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I182795.D
Project: Sunoco - Marcus Hook Facility, PA

34		ethyl acetate	0.033	0.034	-3.0	91	-0.02	8.92
35		2,2-dichloropropane	0.569	0.679	-19.3	108	-0.02	8.92
36		cis-1,2-dichloroethene	0.426	0.408	4.2	86	-0.02	8.92
37		methacrylonitrile	0.104	0.103	1.0	86	-0.02	9.17
38		propionitrile	0.031	0.033	-6.5	88	-0.02	8.98
39		bromochloromethane	0.187	0.187	0.0	85	-0.02	9.24
40		tetrahydrofuran	0.088	0.088	0.0	91	-0.02	9.28
41		chloroform	0.677	0.711	-5.0	93	-0.02	9.30
42		tert-Butyl Formate	0.279	0.308	-10.4	95	-0.02	9.33
43	S	dibromofluoromethane (s)	0.368	0.387	-5.2	95	-0.01	9.50
44		1,1,1-trichloroethane	0.584	0.683	-17.0	101	-0.02	9.55
45		cyclohexane	0.513	0.537	-4.7	89	-0.02	9.62
46	I	1,4-difluorobenzene	1.000	1.000	0.0	86	-0.02	10.38
47	s	1,2-dichloroethane-d4 (s	0.252	0.292	-15.9	104	-0.02	9.92
48		carbon tetrachloride	0.361	0.449	-24.4#	104	-0.01	9.76
49		1,1-dichloropropene	0.355	0.402	-13.2	96	-0.02	9.73
50		isopropyl acetate	0.076	0.082	-7.9	91	0.00	9.93
51		benzene	1.099	1.109	-0.9	87	-0.02	9.99
52		2,2,4-trimethylpentane	0.866	1.031	-19.1	100	-0.02	10.00
53		tert-amyl methyl ether	0.755	0.753	0.3	87	-0.02	10.04
54		1,2-dichloroethane	0.300	0.374	-24.7#	107	-0.02	10.01
55		heptane	0.175	0.198	-13.1	100	-0.01	10.18
56		n-butyl alcohol	0.005	0.004#	20.0	76	-0.02	10.51
57		trichloroethene	0.280	0.309	-10.4	93	-0.02	10.72
58		ethyl acrylate	0.343	0.416	-21.3#	105	-0.01	10.94
59		methyl methacrylate	0.129	0.127	1.6	89	-0.01	11.00
60		1,2-dichloropropane	0.256	0.259	-1.2	86	-0.02	10.98
61		methylcyclohexane	0.413	0.468	-13.3	95	-0.01	10.94
62		dibromomethane	0.145	0.156	-7.6	90	-0.02	11.14
63		bromodichloromethane	0.344	0.374	-8.7	93	-0.02	11.28
64		2-nitropropane	0.058	0.083	-43.1#	125	-0.02	11.49
65		2-chloroethyl vinyl ether	0.061	0.089	-45.9#	123	-0.01	11.52
66		epichlorohydrin	0.016	0.017	-6.3	95	-0.02	11.64
67		cis-1,3-dichloropropene	0.409	0.420	-2.7	89	-0.02	11.74
68		4-methyl-2-pentanone	0.058	0.069	-19.0	90	-0.01	11.84
69		3-methyl-1-butanol	0.004	0.004#	0.0	77	-0.01	11.86
70		toluene	1.146	1.158	-1.0	87	-0.01	12.10
71		trans-1,3-dichloropropene	0.353	0.368	-4.2	92	-0.01	12.30
72		ethyl methacrylate	0.246	0.252	-2.4	87	-0.01	12.30
73		1,1,2-trichloroethane	0.170	0.166	2.4	85	-0.01	12.52
74		2-hexanone	0.055	0.061	-10.9	92	-0.01	12.69
75	I	chlorobenzene-d5	1.000	1.000	0.0	88	-0.01	13.55
76	S	toluene-d8 (s)	1.172	1.252	-6.8	93	-0.01	12.03
77		tetrachloroethene	0.389	0.408	-4.9	90	-0.01	12.69
78		1,3-dichloropropane	0.379	0.385	-1.6	90	-0.01	12.70
79		butyl acetate	0.133	0.133	0.0	92	-0.01	12.77
80		3,3-Dimethyl-1-Butanol	0.020	0.018	10.0	80	-0.01	12.87
81		dibromochloromethane	0.322	0.330	-2.5	87	-0.02	12.96
82		1,2-dibromoethane	0.260	0.257	1.2	86	-0.02	13.11
83		chlorobenzene	0.916	0.903	1.4	86	-0.01	13.58
84		1,1,1,2-tetrachloroethane	0.336	0.346	-3.0	89	-0.01	13.63
85		ethylbenzene	1.574	1.554	1.3	87	-0.01	13.63
86		m,p-xylene	0.602	0.593	1.5	86	-0.01	13.74
87		o-xylene	0.589	0.565	4.1	83	-0.01	14.16
88		styrene	1.000	0.930	7.0	81	-0.01	14.17
89		bromoform	0.207	0.223	-7.7	88	-0.01	14.43
90	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	91	-0.01	15.91

Continuing Calibration Summary

Job Number: JB31485 **Sample:** VI7384-CC7342
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** I182795.D
Project: Sunoco - Marcus Hook Facility, PA

91	S	4-bromofluorobenzene (s)	0.733	0.805	-9.8	102	-0.01	14.71
92		isopropylbenzene	2.728	2.561	6.1	86	-0.01	14.50
93		cyclohexanone	0.010	0.025	-150.0#	223#	-0.01	14.66
94		1,1,2,2-tetrachloroethane	0.572	0.512	10.5	84	-0.01	14.81
95		trans-1,4-dichloro-2-bute	0.130	0.145	-11.5	102	0.00	14.85
96		1,2,3-trichloropropane	0.120	0.116	3.3	87	0.00	14.88
97		n-propylbenzene	3.193	3.021	5.4	88	0.00	14.92
98		bromobenzene	0.760	0.695	8.6	85	-0.01	14.90
99		2-chlorotoluene	0.696	0.651	6.5	87	-0.01	15.07
100		4-chlorotoluene	1.998	1.954	2.2	91	-0.01	15.17
101		1,3,5-trimethylbenzene	2.417	2.275	5.9	89	-0.01	15.07
102		tert-butylbenzene	2.020	1.907	5.6	88	0.00	15.43
103		pentachloroethane	0.476	0.466	2.1	87	-0.01	15.51
104		1,2,4-trimethylbenzene	2.485	2.285	8.0	89	-0.01	15.48
105		sec-butylbenzene	3.100	2.904	6.3	86	-0.01	15.65
106		p-isopropyltoluene	2.681	2.454	8.5	88	0.00	15.78
107		benzyl chloride	1.105	1.160	-5.0	106	-0.01	16.06
108		1,3-dichlorobenzene	1.503	1.342	10.7	85	-0.01	15.85
109		1,4-dichlorobenzene	1.527	1.345	11.9	85	-0.01	15.94
110		1,2-dichlorobenzene	1.404	1.249	11.0	84	-0.02	16.34
111		n-butylbenzene	1.390	1.293	7.0	88	0.00	16.22
112		hexachloroethane	0.511	0.500	2.2	89	-0.02	16.62
113		1,2-dibromo-3-chloropropa	0.120	0.114	5.0	88	-0.02	17.16
114		1,3,5-Trichlorobenzene	1.213	1.213	0.0	93	-0.01	17.37
115		1,2,4-trichlorobenzene	1.004	0.996	0.8	89	-0.02	18.03
116		hexachlorobutadiene	0.689	0.711	-3.2	97	0.00	18.15
117		naphthalene	1.786	1.645	7.9	83	-0.01	18.32
118		1,2,3-trichlorobenzene	0.877	0.860	1.9	89	-0.01	18.57

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I181805.D MI7342.M Fri Mar 29 13:08:56 2013 RPT1

6.9.22

6

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201267.D
Acq On : 24 Mar 2013 1:47 am
Operator : OksanaT
Sample : jb31485-1
Misc : MS45033,VE8849,6.4,,100,10,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Mar 25 12:46:00 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.681	65	92553	500.00	ug/L	0.01
5) pentafluorobenzene	9.904	168	185756	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.819	114	238115	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	219482	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.719	152	133477	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.946	113	73273	42.04	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 84.08%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	81809	42.69	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 85.38%			
89) toluene-d8 (s)	12.524	98	286260	47.48	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 94.96%			
116) 4-bromofluorobenzene (s)	15.422	95	109875	44.91	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 89.82%			

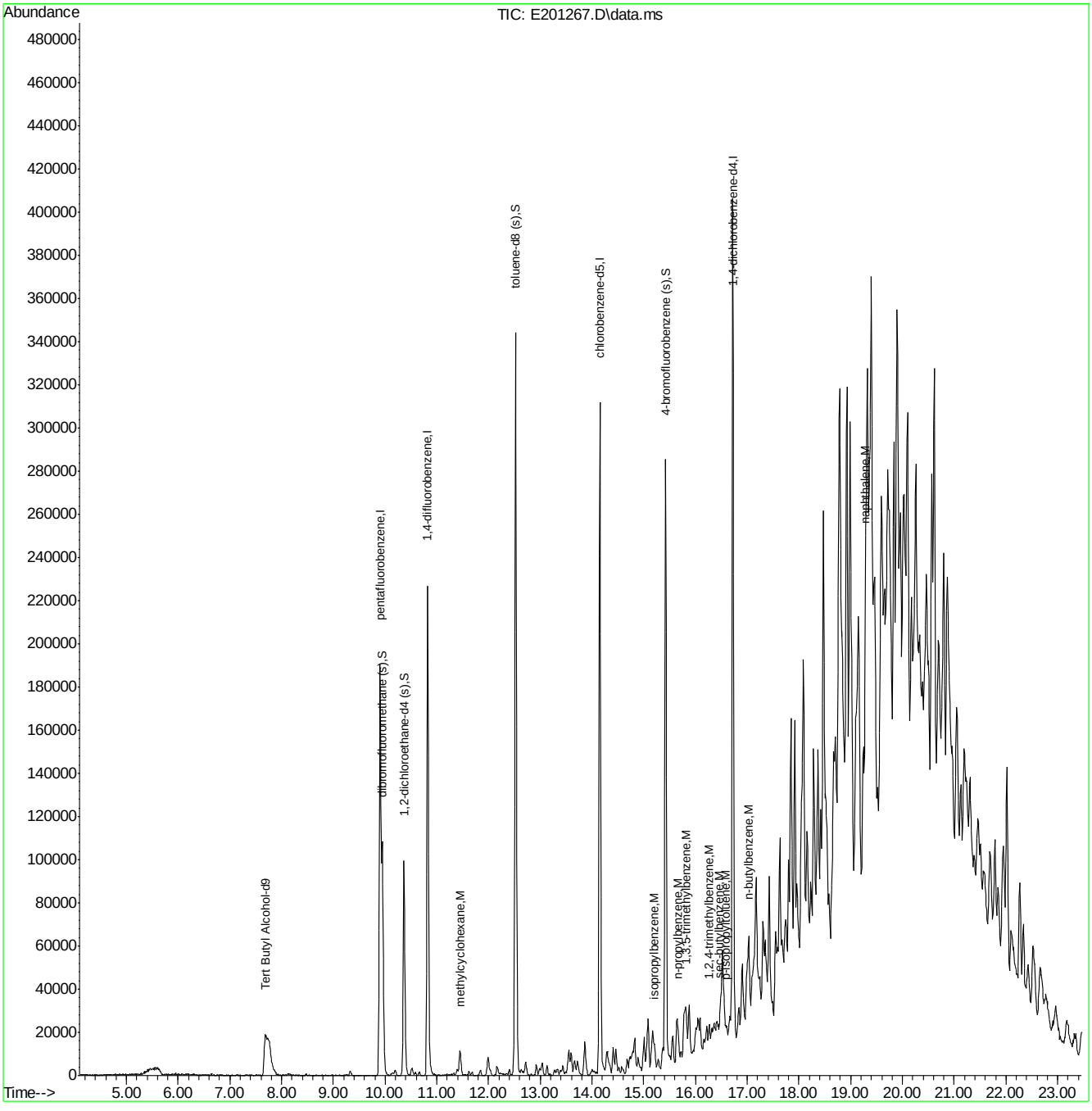
Target Compounds						Qvalue
83) methylcyclohexane	11.447	83	6306	2.44	ug/L	99
115) isopropylbenzene	15.202	105	3281	0.38	ug/L	78
121) n-propylbenzene	15.657	91	10730	1.12	ug/L	93
125) 1,3,5-trimethylbenzene	15.824	105	1830	0.25	ug/L	85
128) 1,2,4-trimethylbenzene	16.264	105	5858	0.81	ug/L	99
129) sec-butylbenzene	16.457	105	4066	0.46	ug/L	91
131) p-isopropyltoluene	16.583	119	6314	0.85	ug/L	97
136) n-butylbenzene	17.038	92	5030	1.41	ug/L	89
142) naphthalene	19.276	128	3970	0.80	ug/L	60

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

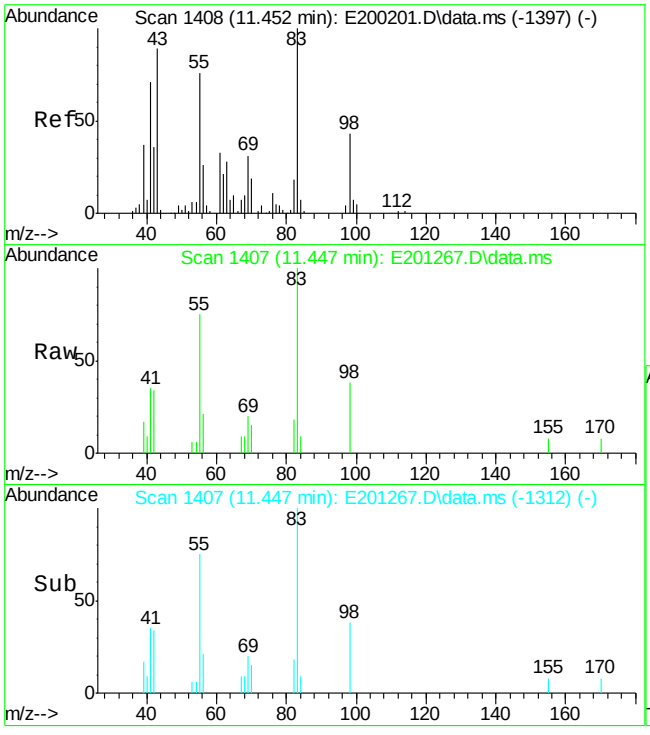
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201267.D
Acq On : 24 Mar 2013 1:47 am
Operator : OksanaT
Sample : jb31485-1
Misc : MS45033,VE8849,6.4,,100,10,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Mar 25 12:46:00 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



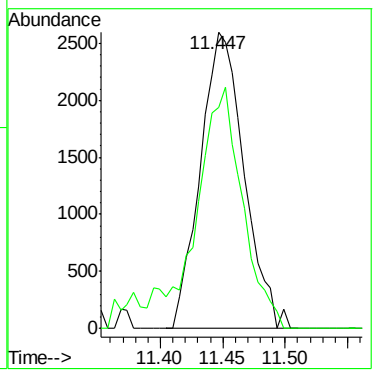
SGS ACCUTEST JB31485

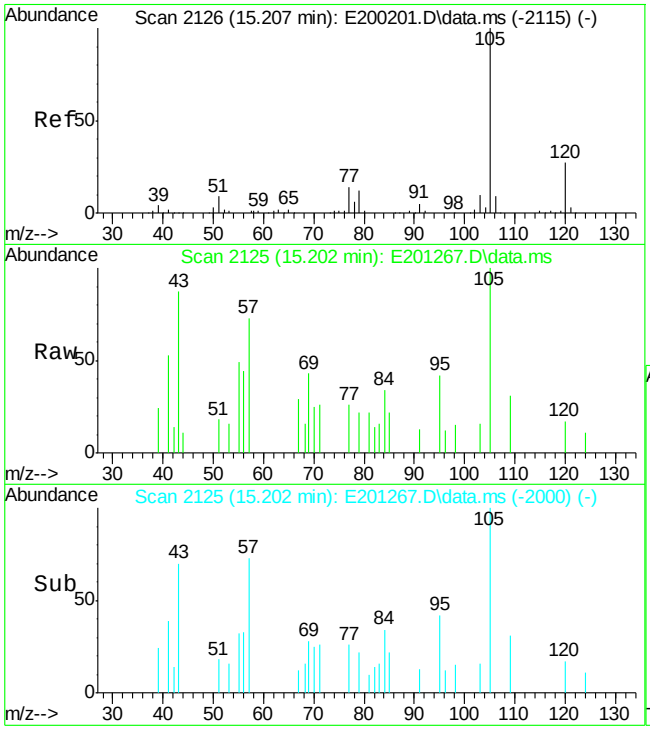


#83
methylcyclohexane
Concen: 2.44 ug/L
RT: 11.447 min Scan# 1407
Delta R.T. -0.005 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion: 83 Resp: 6306

Ion	Ratio	Lower	Upper
83	100		
55	81.5	57.5	106.9

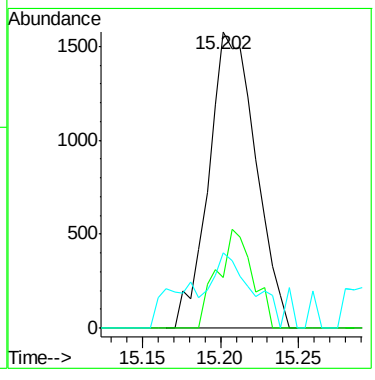


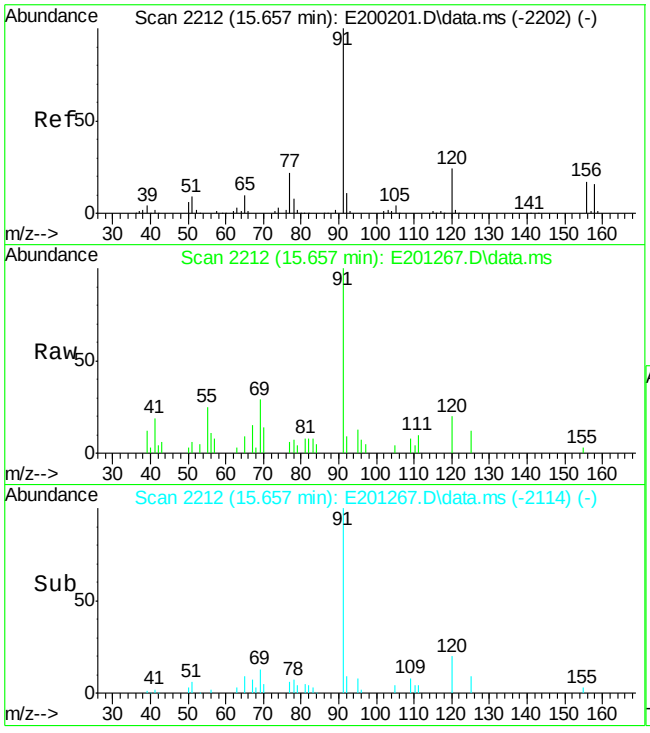


#115
isopropylbenzene
Concen: 0.38 ug/L
RT: 15.202 min Scan# 2125
Delta R.T. -0.005 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion:105 Resp: 3281

Ion	Ratio	Lower	Upper
105	100		
120	17.1	0.0	57.0
77	25.6	0.0	44.4

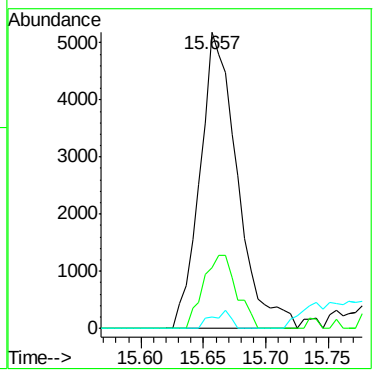


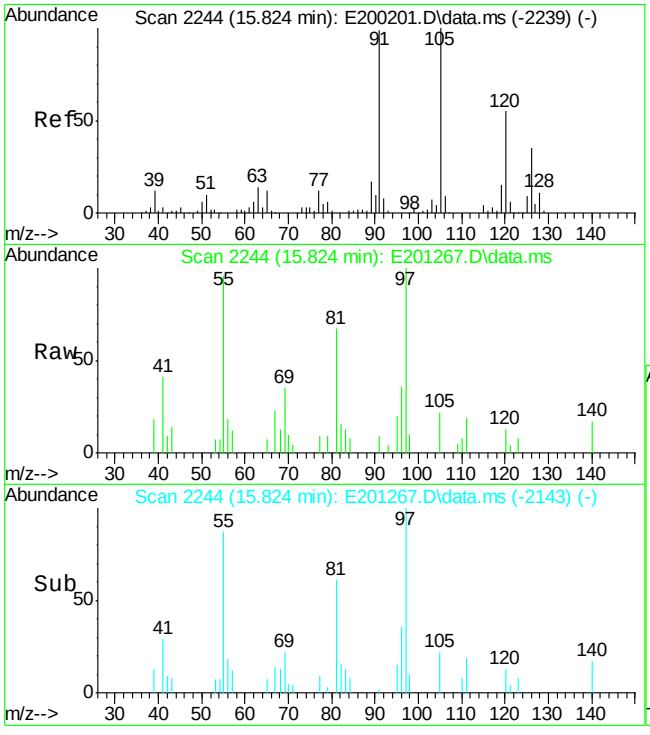


#121
n-propylbenzene
Concen: 1.12 ug/L
RT: 15.657 min Scan# 2212
Delta R.T. 0.000 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion: 91 Resp: 10730

Ion	Ratio	Lower	Upper
91	100		
120	20.5	0.0	54.3
105	4.0	0.0	34.0

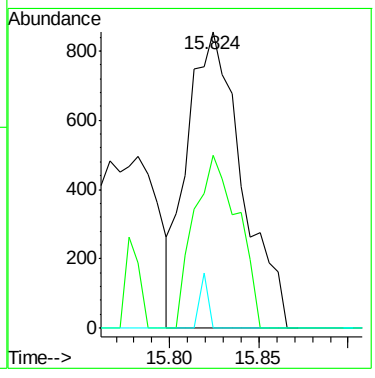


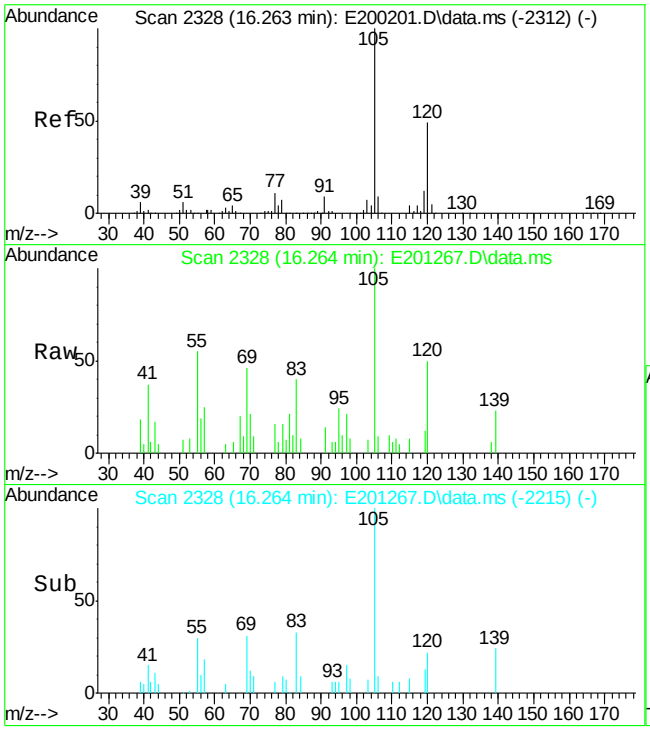


#125
1,3,5-trimethylbenzene
Concen: 0.25 ug/L
RT: 15.824 min Scan# 2244
Delta R.T. 0.000 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion:105 Resp: 1830

Ion	Ratio	Lower	Upper
105	100		
120	58.5	21.5	81.5
119	0.0	0.0	43.2

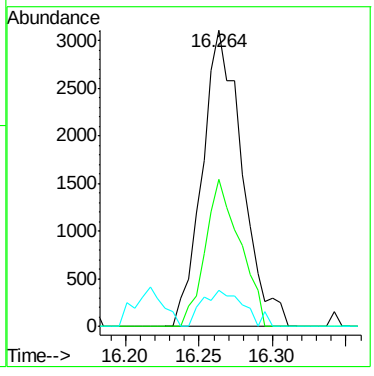


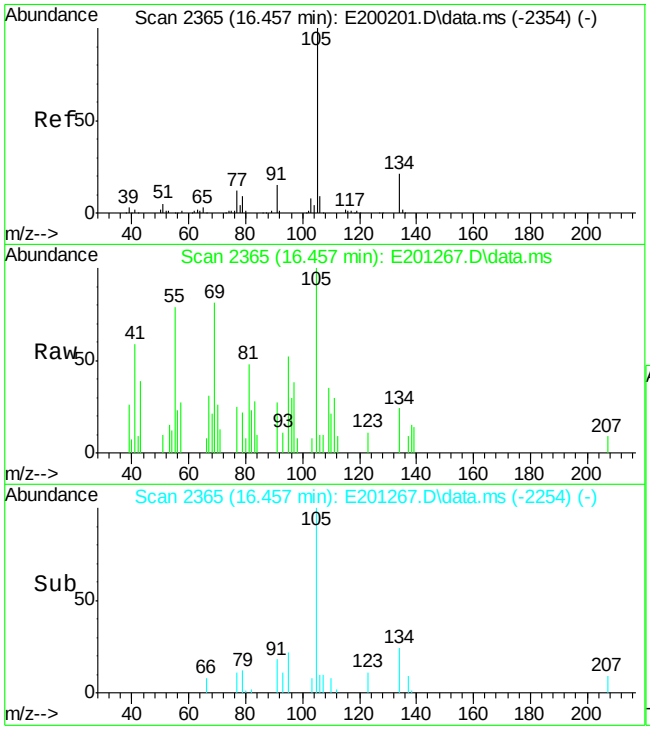


#128
1,2,4-trimethylbenzene
Concen: 0.81 ug/L
RT: 16.264 min Scan# 2328
Delta R.T. 0.000 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion:105 Resp: 5858

Ion	Ratio	Lower	Upper
105	100		
120	49.7	19.4	79.4
119	12.0	0.0	43.7

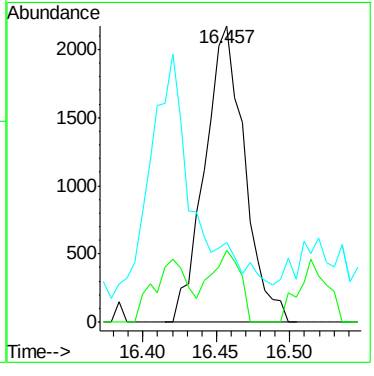


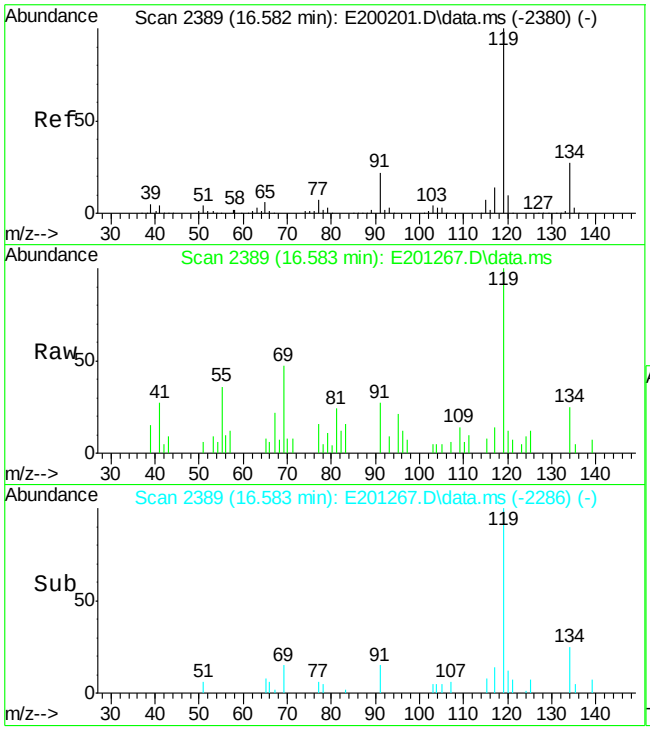


#129
sec-butylbenzene
Concen: 0.46 ug/L
RT: 16.457 min Scan# 2365
Delta R.T. 0.000 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion:105 Resp: 4066

Ion	Ratio	Lower	Upper
105	100		
134	15.8	0.0	50.8
91	12.5	0.0	45.6

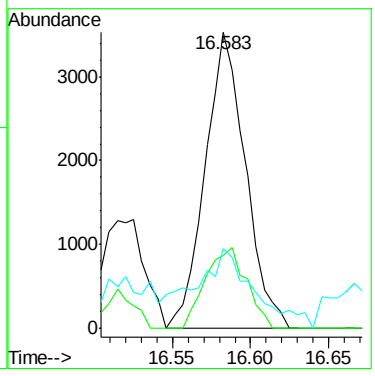


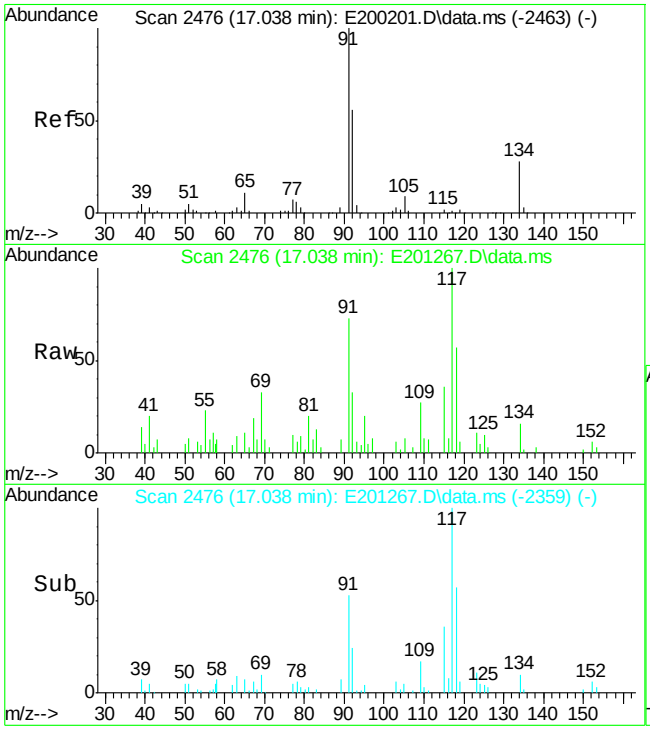


#131
p-isopropyltoluene
Concen: 0.85 ug/L
RT: 16.583 min Scan# 2389
Delta R.T. 0.000 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion:119 Resp: 6314

Ion	Ratio	Lower	Upper
119	100		
134	24.6	0.0	57.1
91	22.3	0.0	52.0

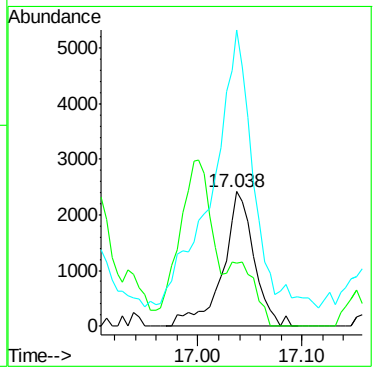


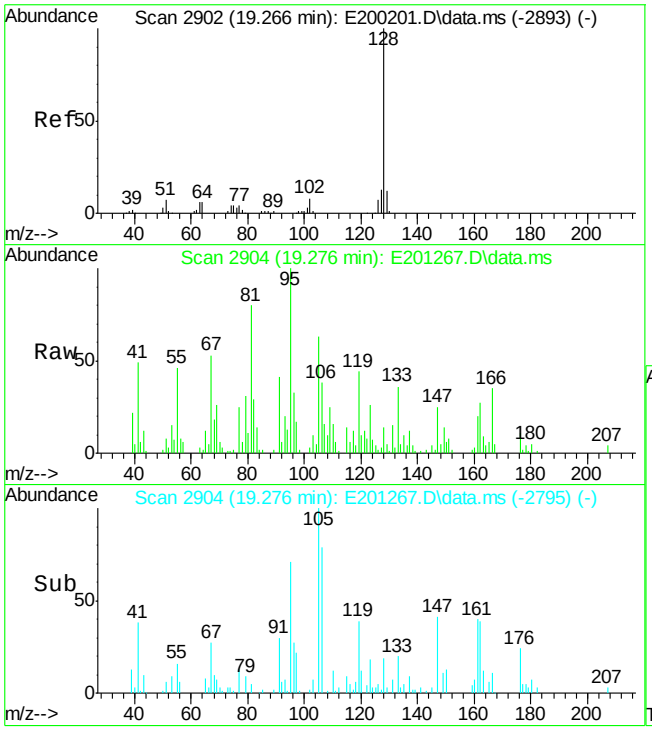


#136
n-butylbenzene
Concen: 1.41 ug/L
RT: 17.038 min Scan# 2476
Delta R.T. 0.001 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion: 92 Resp: 5030

Ion	Ratio	Lower	Upper
92	100		
134	46.8	21.0	81.0
91	198.4	150.4	210.4

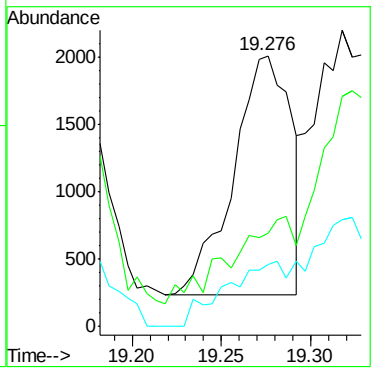




#142
naphthalene
Concen: 0.80 ug/L
RT: 19.276 min Scan# 2904
Delta R.T. 0.011 min
Lab File: E201267.D
Acq: 24 Mar 2013 1:47 am

Tgt Ion:128 Resp: 3970

Ion	Ratio	Lower	Upper
128	100		
129	30.0	0.0	41.5
127	26.0	0.0	43.2



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193088.D Vial: 100
Acq On : 27 Mar 2013 7:38 pm Operator: Oksanat
Sample : jb31485-2 Inst : MSA
Misc : MS45033,VA7275,6.5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:56 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.00	65	69603	500.00	ug/L	-0.02
5) pentafluorobenzene	9.34	168	181400	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	10.29	114	243808	50.00	ug/L	0.00
85) chlorobenzene-d5	13.73	117	236172	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	136206	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.38	113	69603	51.57	ug/L	-0.01
Spiked Amount 50.000	Range 81 - 121		Recovery = 103.14%			
48) 1,2-dichloroethane-d4 (s)	9.81	65	69681	46.20	ug/L	-0.01
Spiked Amount 50.000	Range 74 - 127		Recovery = 92.40%			
77) toluene-d8 (s)	12.05	98	256176	55.33	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 110.66%			
102) 4-bromofluorobenzene (s)	15.05	95	96294	49.80	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 99.60%			

Target Compounds

						Qvalue
94) ethylbenzene	13.85	91	1978	0.32	ug/L	84
96) o-xylene	14.44	106	8130	3.23	ug/L	95
100) isopropylbenzene	14.82	105	3965	0.65	ug/L	86
111) 1,3,5-trimethylbenzene	15.46	105	14300	2.66	ug/L	99
114) 1,2,4-trimethylbenzene	15.91	105	1178	0.21	ug/L	82
128) naphthalene	18.91	128	4258	0.96	ug/L	94

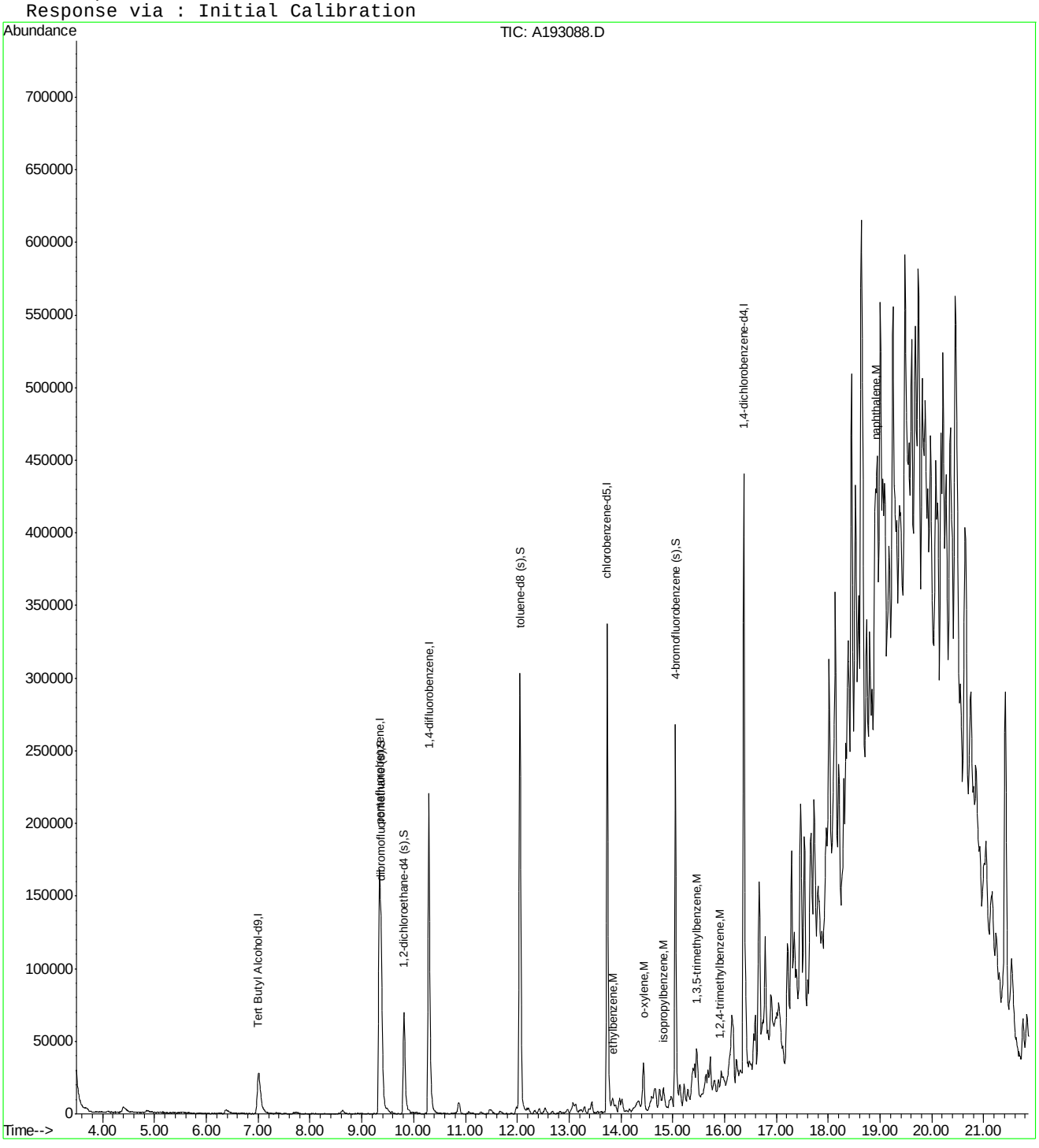
(#) = qualifier out of range (m) = manual integration

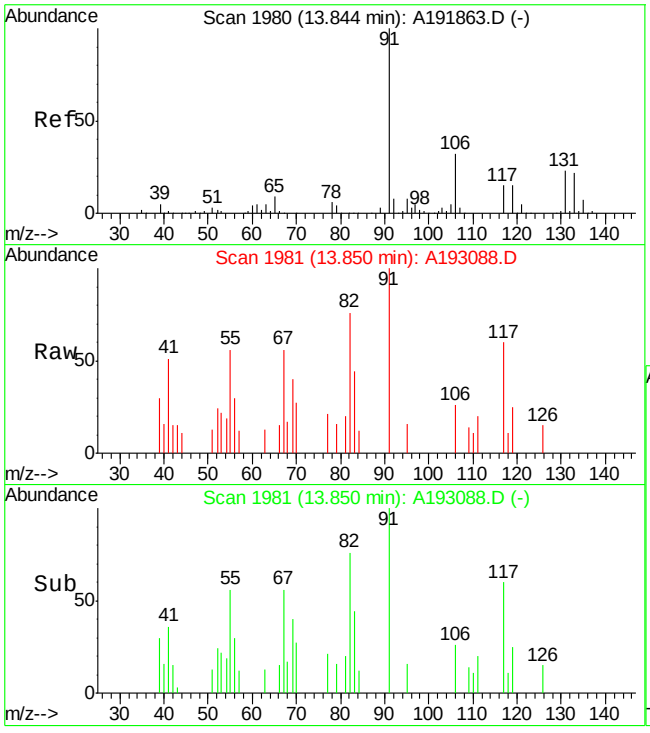
SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193088.D Vial: 100
Acq On : 27 Mar 2013 7:38 pm Operator: Oksanat
Sample : jb31485-2 Inst : MSA
Misc : MS45033,VA7275,6.5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:56 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

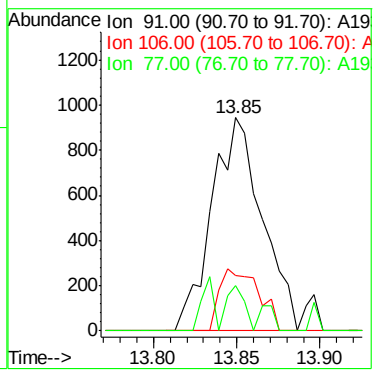


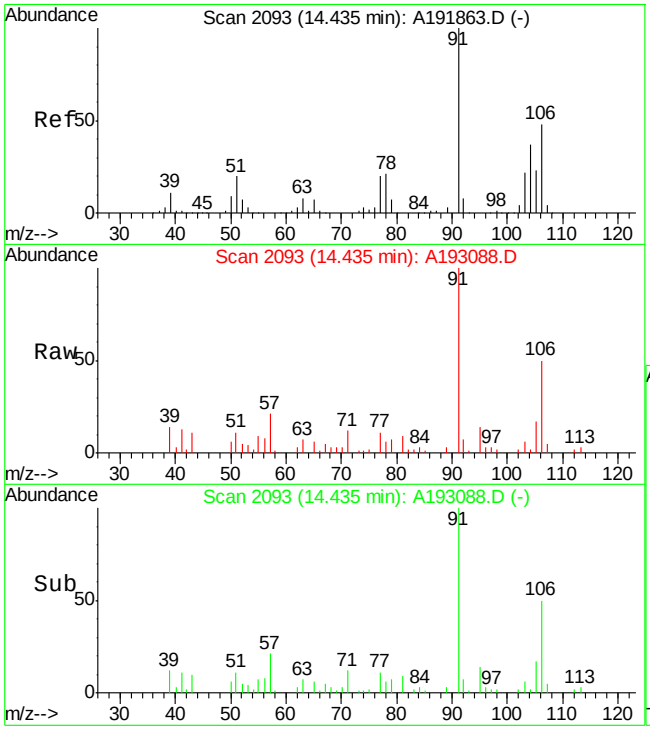


#94
ethylbenzene
Concen: 0.32 ug/L
RT: 13.85 min Scan# 1981
Delta R.T. 0.01 min
Lab File: A193088.D
Acq: 27 Mar 2013 7:38 pm

Tgt Ion: 91 Resp: 1978

Ion	Ratio	Lower	Upper
91	100		
106	25.7	1.9	61.9
77	21.2	0.0	38.4

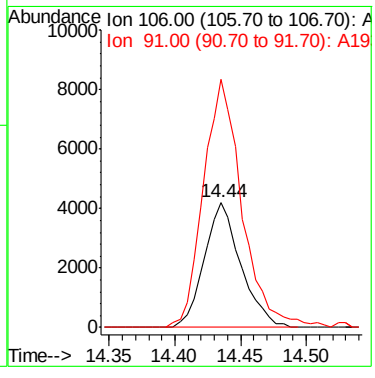


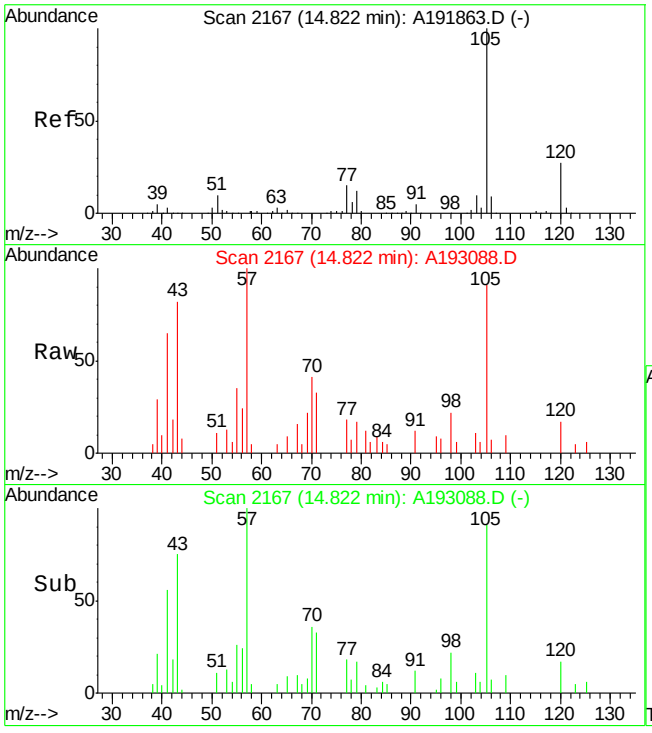


#96
o-xylene
Concen: 3.23 ug/L
RT: 14.44 min Scan# 2093
Delta R.T. 0.00 min
Lab File: A193088.D
Acq: 27 Mar 2013 7:38 pm

Tgt Ion:106 Resp: 8130

Ion	Ratio	Lower	Upper
106	100		
91	198.3	176.4	236.4

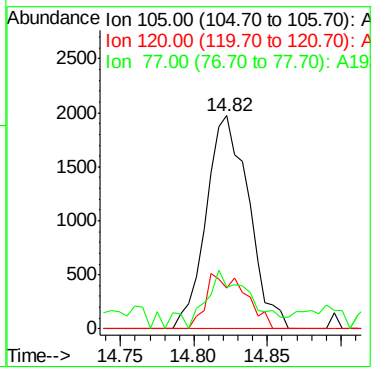


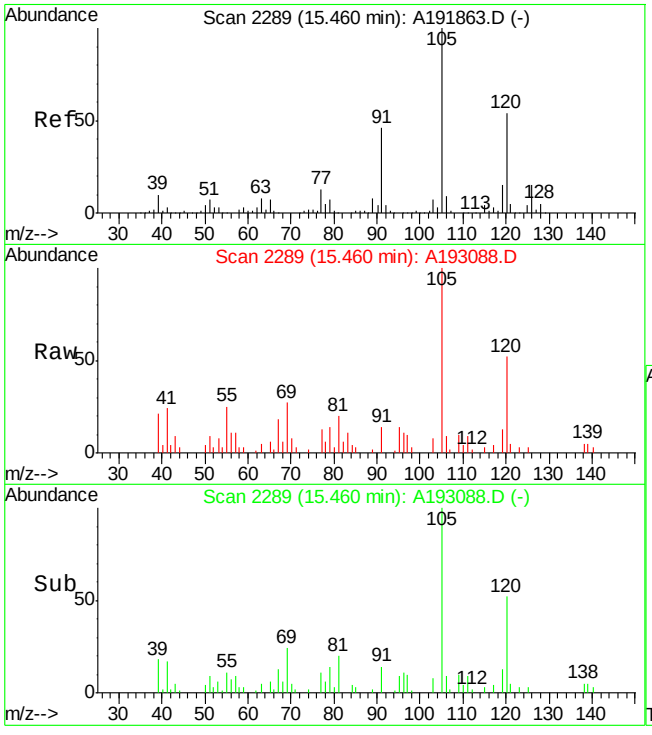


#100
isopropylbenzene
Concen: 0.65 ug/L
RT: 14.82 min Scan# 2167
Delta R.T. 0.00 min
Lab File: A193088.D
Acq: 27 Mar 2013 7:38 pm

Tgt Ion:105 Resp: 3965

Ion	Ratio	Lower	Upper
105	100		
120	19.0	0.0	56.9
77	19.6	0.0	44.9

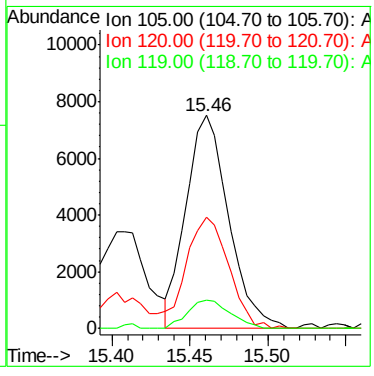


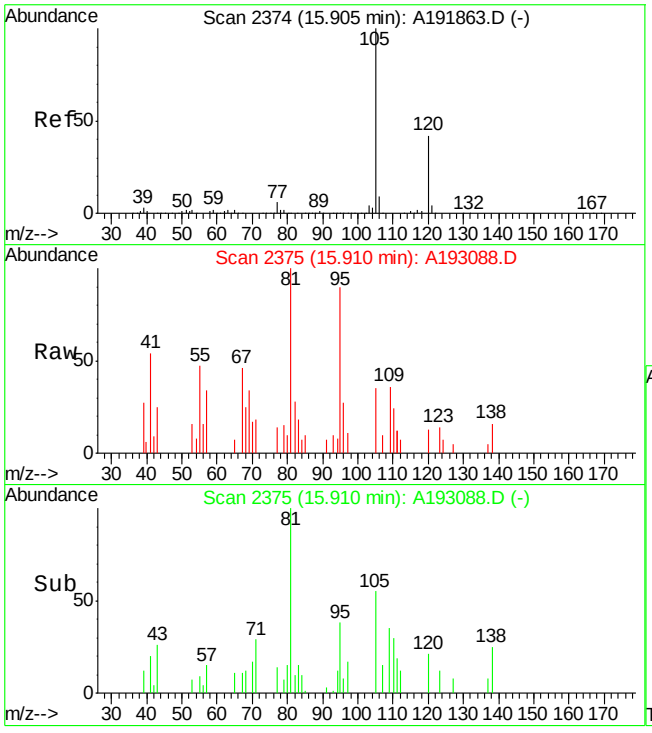


#111
1,3,5-trimethylbenzene
Concen: 2.66 ug/L
RT: 15.46 min Scan# 2289
Delta R.T. 0.00 min
Lab File: A193088.D
Acq: 27 Mar 2013 7:38 pm

Tgt Ion:105 Resp: 14300

Ion	Ratio	Lower	Upper
105	100		
120	52.2	21.5	81.5
119	13.4	0.0	43.3

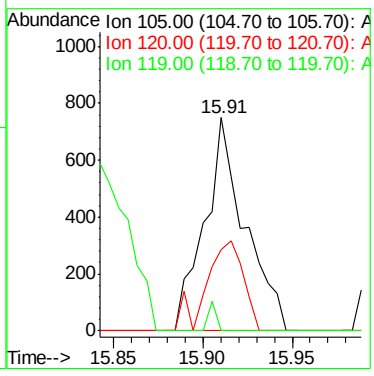


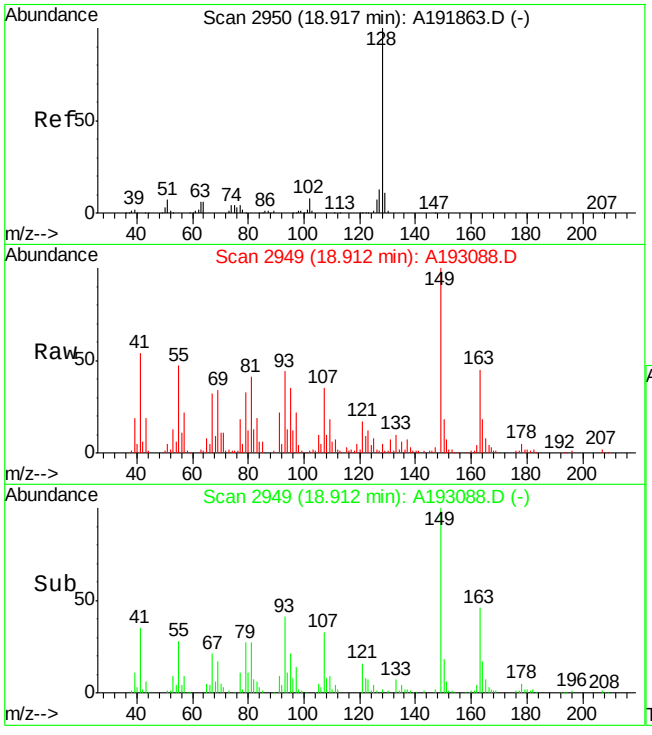


#114
1,2,4-trimethylbenzene
Concen: 0.21 ug/L
RT: 15.91 min Scan# 2375
Delta R.T. 0.01 min
Lab File: A193088.D
Acq: 27 Mar 2013 7:38 pm

Tgt Ion:105 Resp: 1178

Ion	Ratio	Lower	Upper
105	100		
120	38.0	17.0	77.0
119	0.0	0.0	43.0

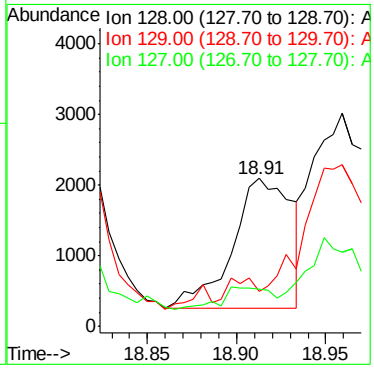




#128
naphthalene
Concen: 0.96 ug/L
RT: 18.91 min Scan# 2949
Delta R.T. -0.01 min
Lab File: A193088.D
Acq: 27 Mar 2013 7:38 pm

Tgt Ion:128 Resp: 4258

Ion	Ratio	Lower	Upper
128	100		
129	13.8	0.0	40.7
127	14.0	0.0	42.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201268.D
Acq On : 24 Mar 2013 2:17 am
Operator : OksanaT
Sample : jb31485-3
Misc : MS45033,VE8849,6.3,,100,10,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Mar 25 12:47:34 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.697	65	94151	500.00	ug/L	0.03
5) pentafluorobenzene	9.904	168	187619	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.819	114	240263	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	218724	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.724	152	131240	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.946	113	73754	41.90	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.80%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	82597	42.67	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 85.34%			
89) toluene-d8 (s)	12.519	98	287207	47.21	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 94.42%			
116) 4-bromofluorobenzene (s)	15.422	95	108971	45.29	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 90.58%			

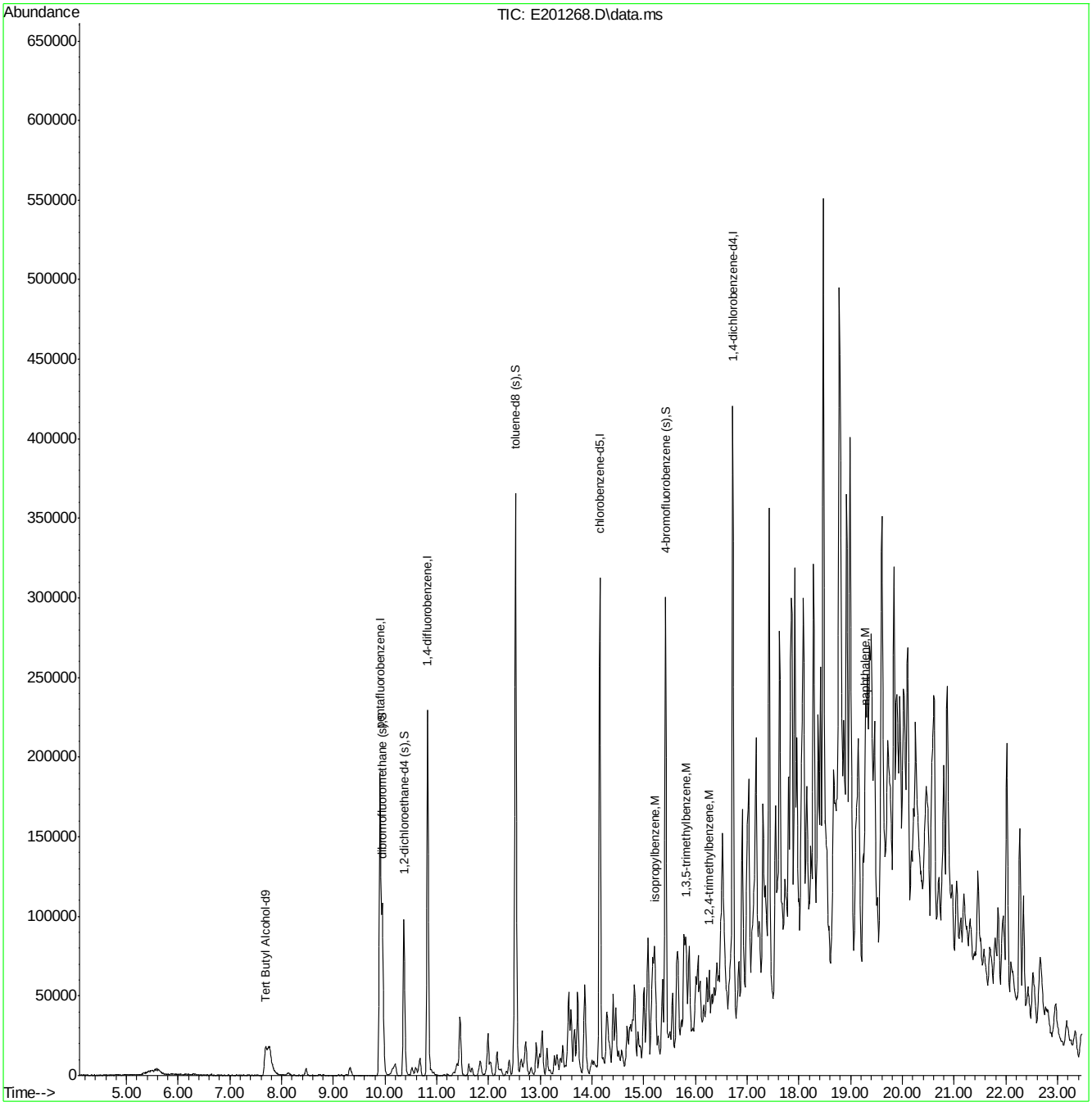
Target Compounds						Qvalue
115) isopropylbenzene	15.207	105	14947	1.77	ug/L	96
125) 1,3,5-trimethylbenzene	15.824	105	4317	0.60	ug/L	95
128) 1,2,4-trimethylbenzene	16.264	105	17209	2.42	ug/L	95
142) naphthalene	19.271	128	26384	5.37	ug/L	95

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

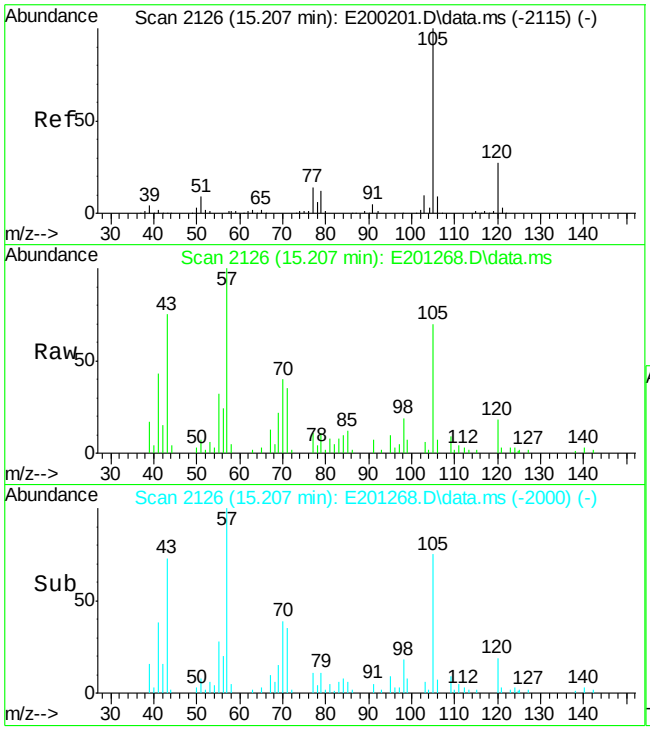
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201268.D
Acq On : 24 Mar 2013 2:17 am
Operator : OksanaT
Sample : jb31485-3
Misc : MS45033,VE8849,6.3,,100,10,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Mar 25 12:47:34 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



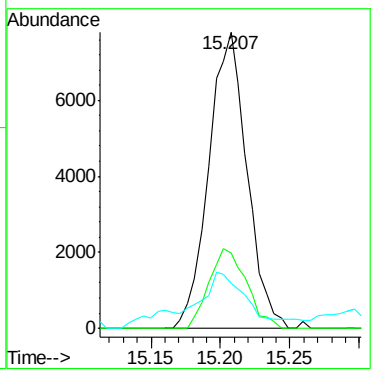
ME8801.M Mon Mar 25 12:47:54 2013 RPT1 Page: 2

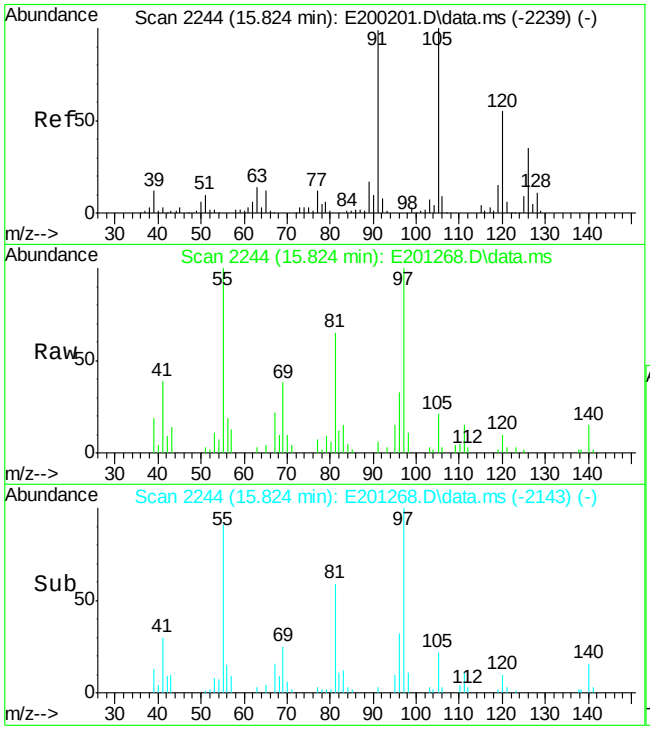


#115
isopropylbenzene
Concen: 1.77 ug/L
RT: 15.207 min Scan# 2126
Delta R.T. 0.000 min
Lab File: E201268.D
Acq: 24 Mar 2013 2:17 am

Tgt Ion:105 Resp: 14947

Ion	Ratio	Lower	Upper
105	100		
120	25.3	0.0	57.0
77	12.1	0.0	44.4

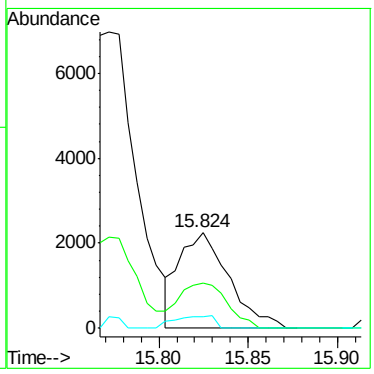


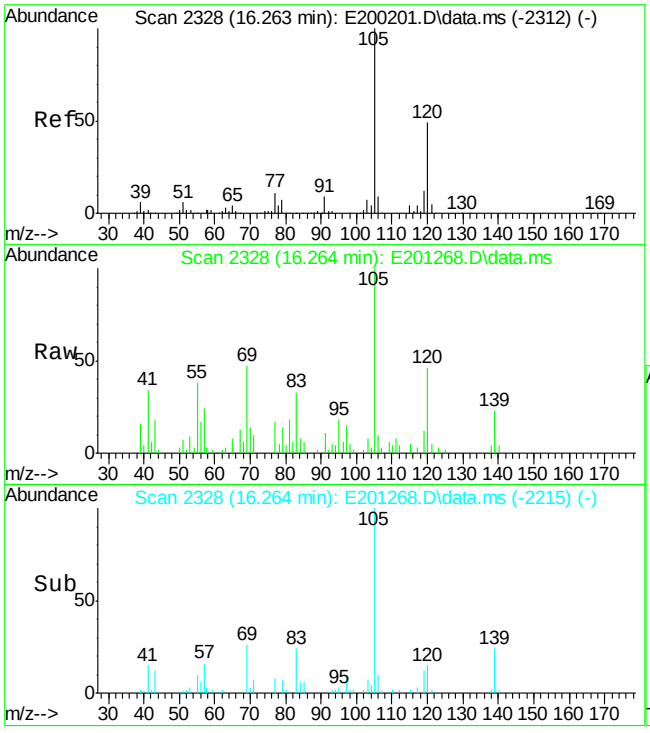


#125
1,3,5-trimethylbenzene
Concen: 0.60 ug/L
RT: 15.824 min Scan# 2244
Delta R.T. 0.000 min
Lab File: E201268.D
Acq: 24 Mar 2013 2:17 am

Tgt Ion:105 Resp: 4317

Ion	Ratio	Lower	Upper
105	100		
120	47.6	21.5	81.5
119	11.5	0.0	43.2

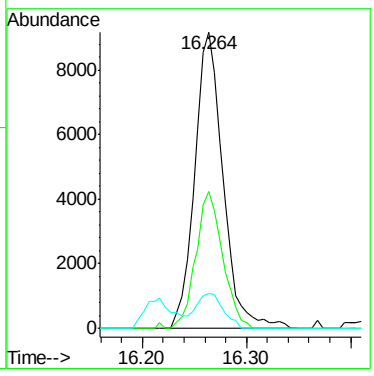


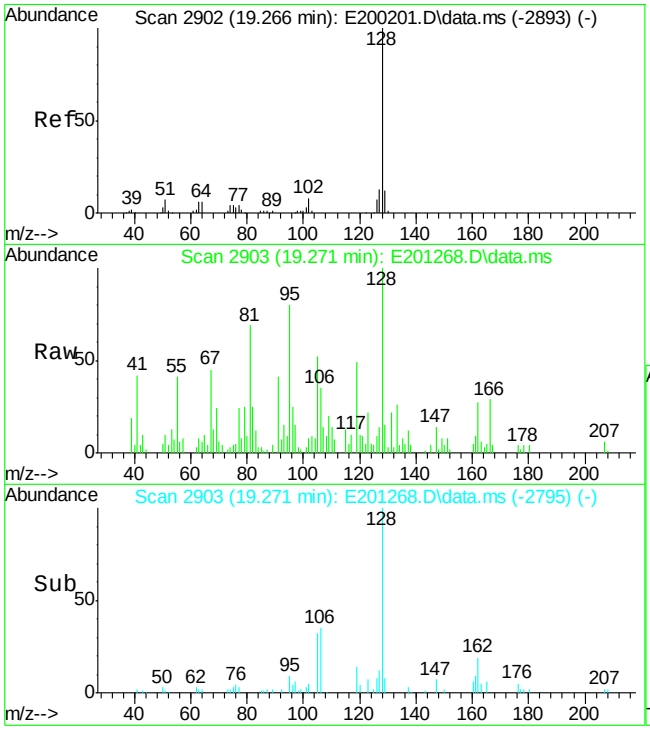


#128
1,2,4-trimethylbenzene
Concen: 2.42 ug/L
RT: 16.264 min Scan# 2328
Delta R.T. 0.000 min
Lab File: E201268.D
Acq: 24 Mar 2013 2:17 am

Tgt Ion:105 Resp: 17209

Ion	Ratio	Lower	Upper
105	100		
120	46.1	19.4	79.4
119	11.7	0.0	43.7

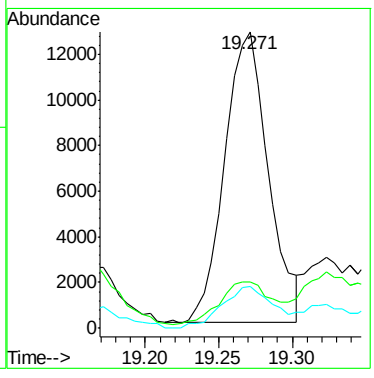




#142
naphthalene
Concen: 5.37 ug/L
RT: 19.271 min Scan# 2903
Delta R.T. 0.006 min
Lab File: E201268.D
Acq: 24 Mar 2013 2:17 am

Tgt Ion:128 Resp: 26384

Ion	Ratio	Lower	Upper
128	100		
129	14.3	0.0	41.5
127	14.5	0.0	43.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201269.D
Acq On : 24 Mar 2013 2:46 am
Operator : OksanaT
Sample : jb31485-4
Misc : MS45033,VE8849,5.6,,100,10,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Mar 25 12:49:19 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.675	65	89041	500.00	ug/L	0.00
5) pentafluorobenzene	9.909	168	191528	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.824	114	244991	50.00	ug/L	0.00
97) chlorobenzene-d5	14.150	117	224871	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.718	152	136306	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.945	113	74668	41.55	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.10%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	83893	42.46	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.92%			
89) toluene-d8 (s)	12.524	98	289678	46.70	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 93.40%			
116) 4-bromofluorobenzene (s)	15.421	95	109157	43.69	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 87.38%			

Target Compounds						Qvalue
115) isopropylbenzene	15.212	105	7659	0.87	ug/L	95
125) 1,3,5-trimethylbenzene	15.777	105	2100	0.28	ug/L	64

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

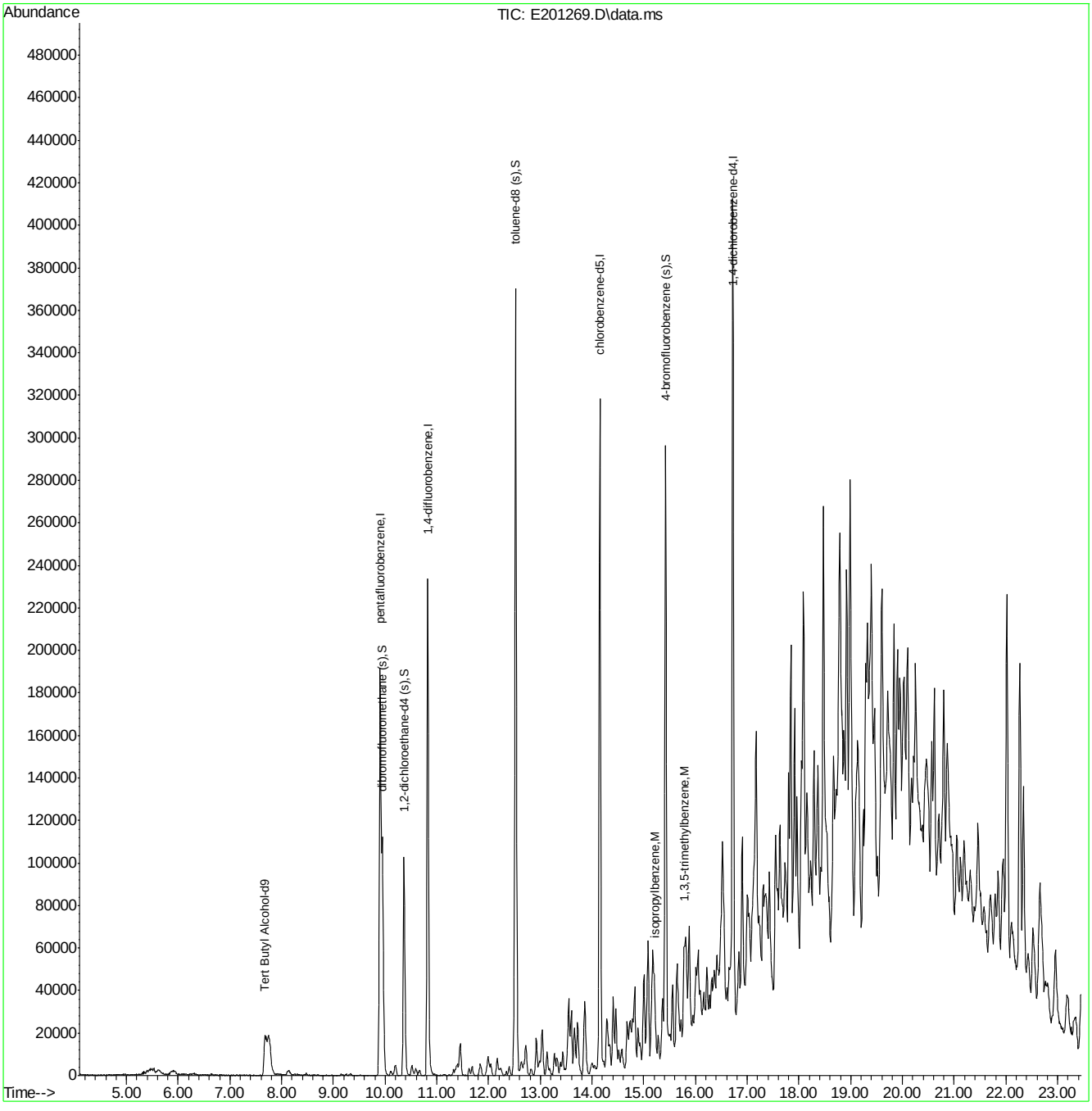
7.1.4

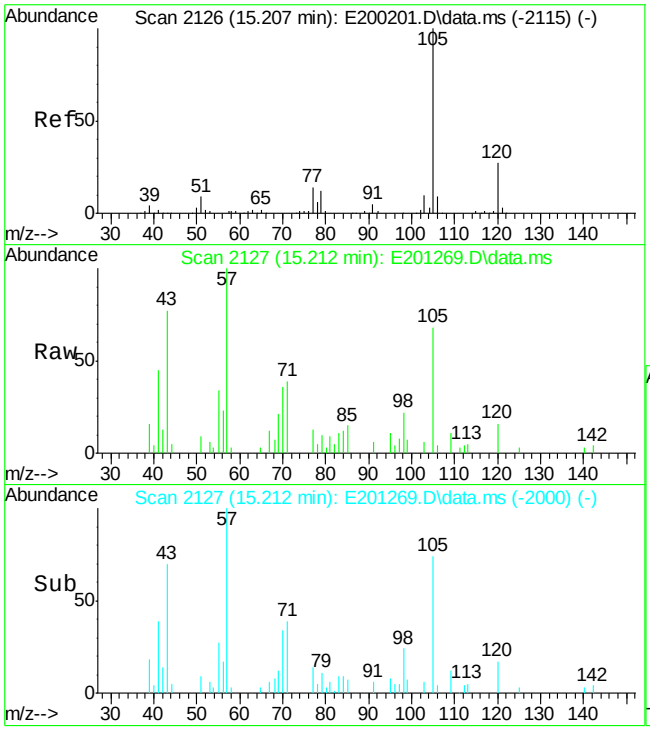
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201269.D
Acq On : 24 Mar 2013 2:46 am
Operator : OksanaT
Sample : jb31485-4
Misc : MS45033,VE8849,5.6,,100,10,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Mar 25 12:49:19 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

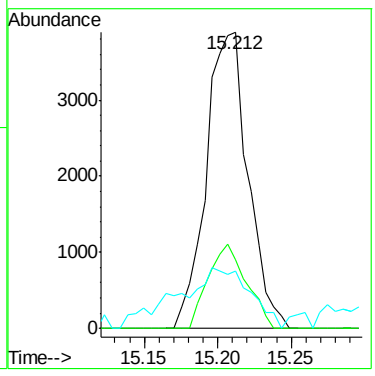


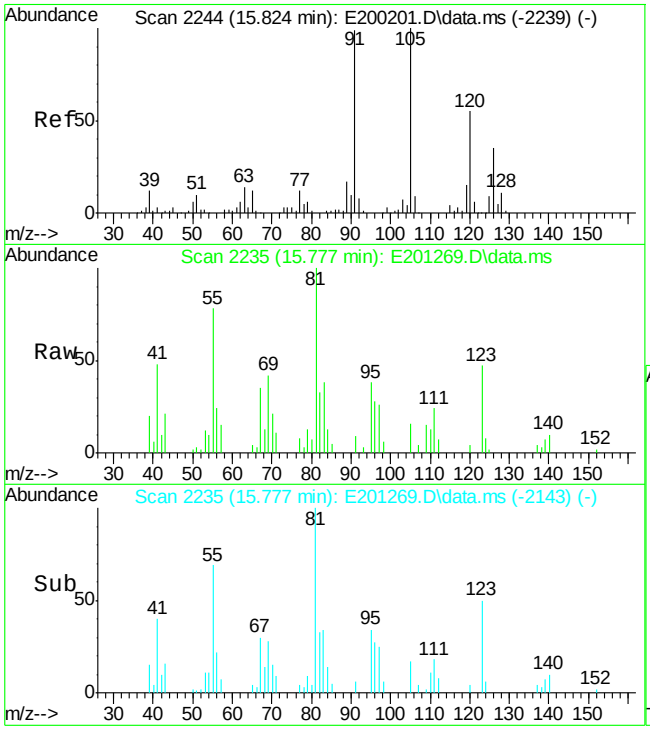


#115
isopropylbenzene
Concen: 0.87 ug/L
RT: 15.212 min Scan# 2127
Delta R.T. 0.005 min
Lab File: E201269.D
Acq: 24 Mar 2013 2:46 am

Tgt Ion:105 Resp: 7659

Ion	Ratio	Lower	Upper
105	100		
120	23.3	0.0	57.0
77	14.8	0.0	44.4

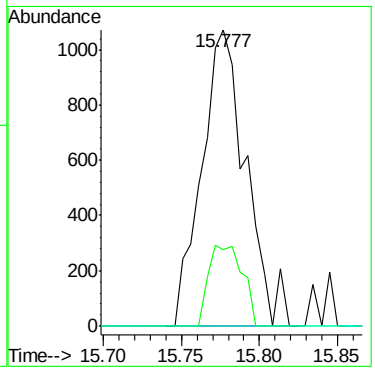




#125
1,3,5-trimethylbenzene
Concen: 0.28 ug/L
RT: 15.777 min Scan# 2235
Delta R.T. -0.047 min
Lab File: E201269.D
Acq: 24 Mar 2013 2:46 am

Tgt Ion:105 Resp: 2100

Ion	Ratio	Lower	Upper
105	100		
120	26.0	21.5	81.5
119	0.0	0.0	43.2



7.1.4

7

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193087.D Vial: 100
Acq On : 27 Mar 2013 7:08 pm Operator: Oksanat
Sample : jb31485-5 Inst : MSA
Misc : MS45033,VA7275,6.2,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:55 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.01	65	66151	500.00	ug/L	-0.01
5) pentafluorobenzene	9.35	168	191708	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.29	114	256045	50.00	ug/L	0.00
85) chlorobenzene-d5	13.73	117	242555	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	134048	50.00	ug/L	0.00

System Monitoring Compounds						
47) dibromofluoromethane (s)	9.38	113	74886	52.50	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 105.00%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	72364	45.40	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 90.80%			
77) toluene-d8 (s)	12.05	98	262240	53.94	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 107.88%			
102) 4-bromofluorobenzene (s)	15.05	95	99637	52.36	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 104.72%			

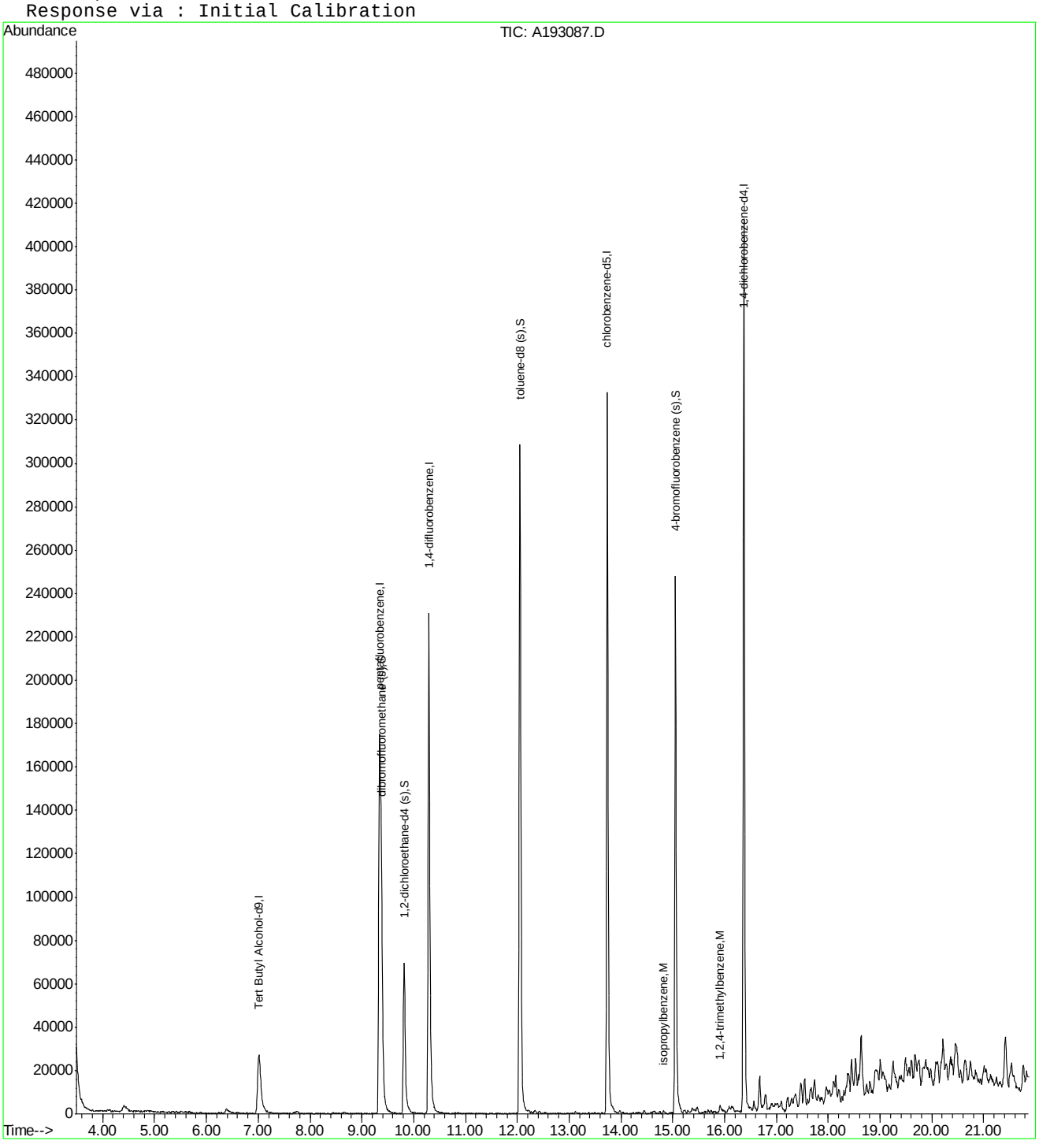
Target Compounds						Qvalue
100) isopropylbenzene	14.82	105	1163	0.20	ug/L	75
114) 1,2,4-trimethylbenzene	15.91	105	2884	0.53	ug/L	96

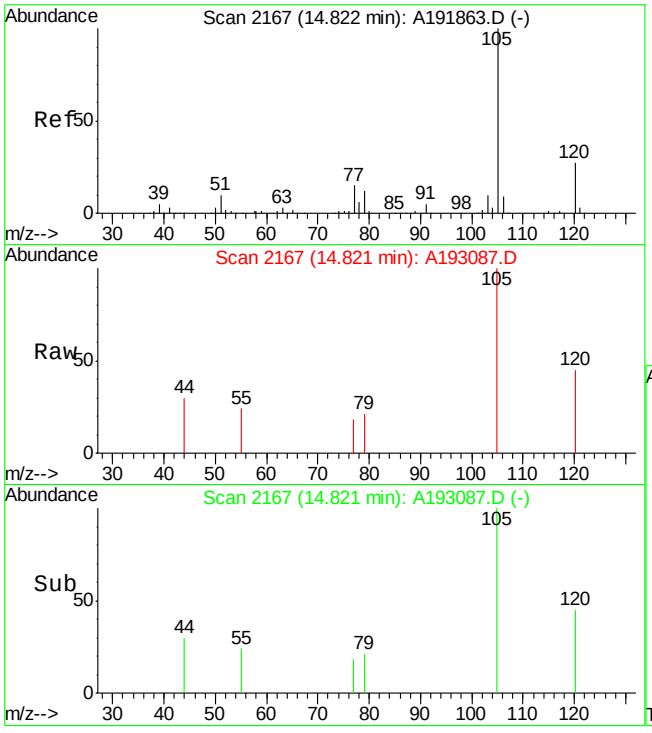
(#) = qualifier out of range (m) = manual integration
A193087.D MA7222.M Thu Mar 28 09:56:00 2013 MSA

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193087.D Vial: 100
Acq On : 27 Mar 2013 7:08 pm Operator: Oksanat
Sample : jb31485-5 Inst : MSA
Misc : MS45033,VA7275,6.2,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:55 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

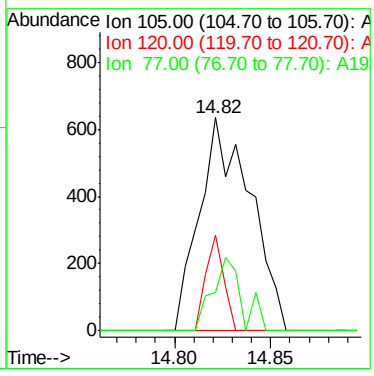


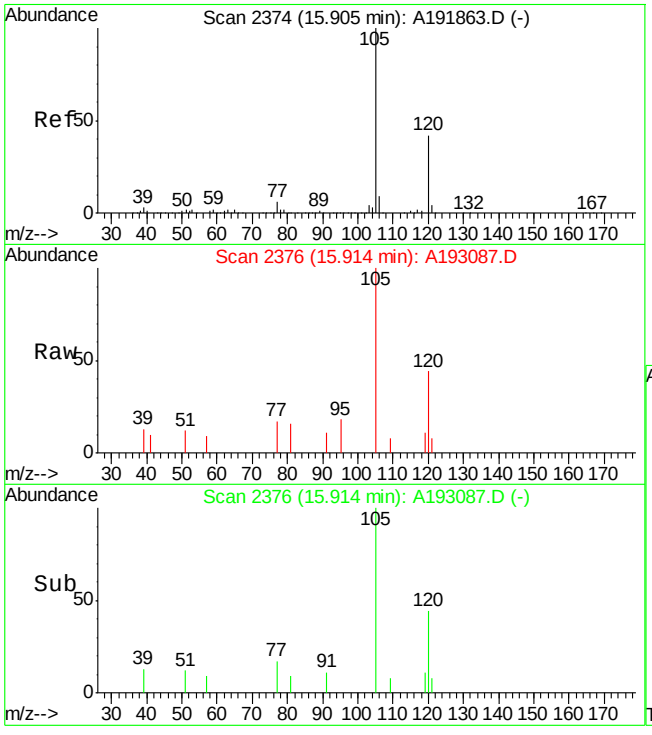


#100
isopropylbenzene
Concen: 0.20 ug/L
RT: 14.82 min Scan# 2167
Delta R.T. -0.00 min
Lab File: A193087.D
Acq: 27 Mar 2013 7:08 pm

Tgt Ion:105 Resp: 1163

Ion	Ratio	Lower	Upper
105	100		
120	44.9	0.0	56.9
77	17.8	0.0	44.9

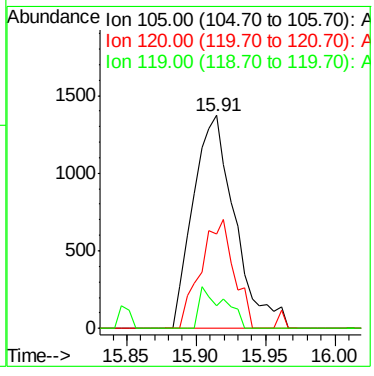




#114
1,2,4-trimethylbenzene
Concen: 0.53 ug/L
RT: 15.91 min Scan# 2376
Delta R.T. 0.01 min
Lab File: A193087.D
Acq: 27 Mar 2013 7:08 pm

Tgt Ion:105 Resp: 2884

Ion	Ratio	Lower	Upper
105	100		
120	44.2	17.0	77.0
119	10.9	0.0	43.0



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201270.D
Acq On : 24 Mar 2013 3:17 am
Operator : OksanaT
Sample : jb31485-6
Misc : MS45033,VE8849,6.5,,100,10,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Mar 25 12:50:10 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.687	65	81114	500.00	ug/L	0.02
5) pentafluorobenzene	9.904	168	192606	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.820	114	245445	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	221945	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.719	152	135958	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.946	113	75267	41.65	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.30%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	84016	42.28	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.56%			
89) toluene-d8 (s)	12.519	98	291489	46.90	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 93.80%			
116) 4-bromofluorobenzene (s)	15.422	95	109186	43.81	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 87.62%			

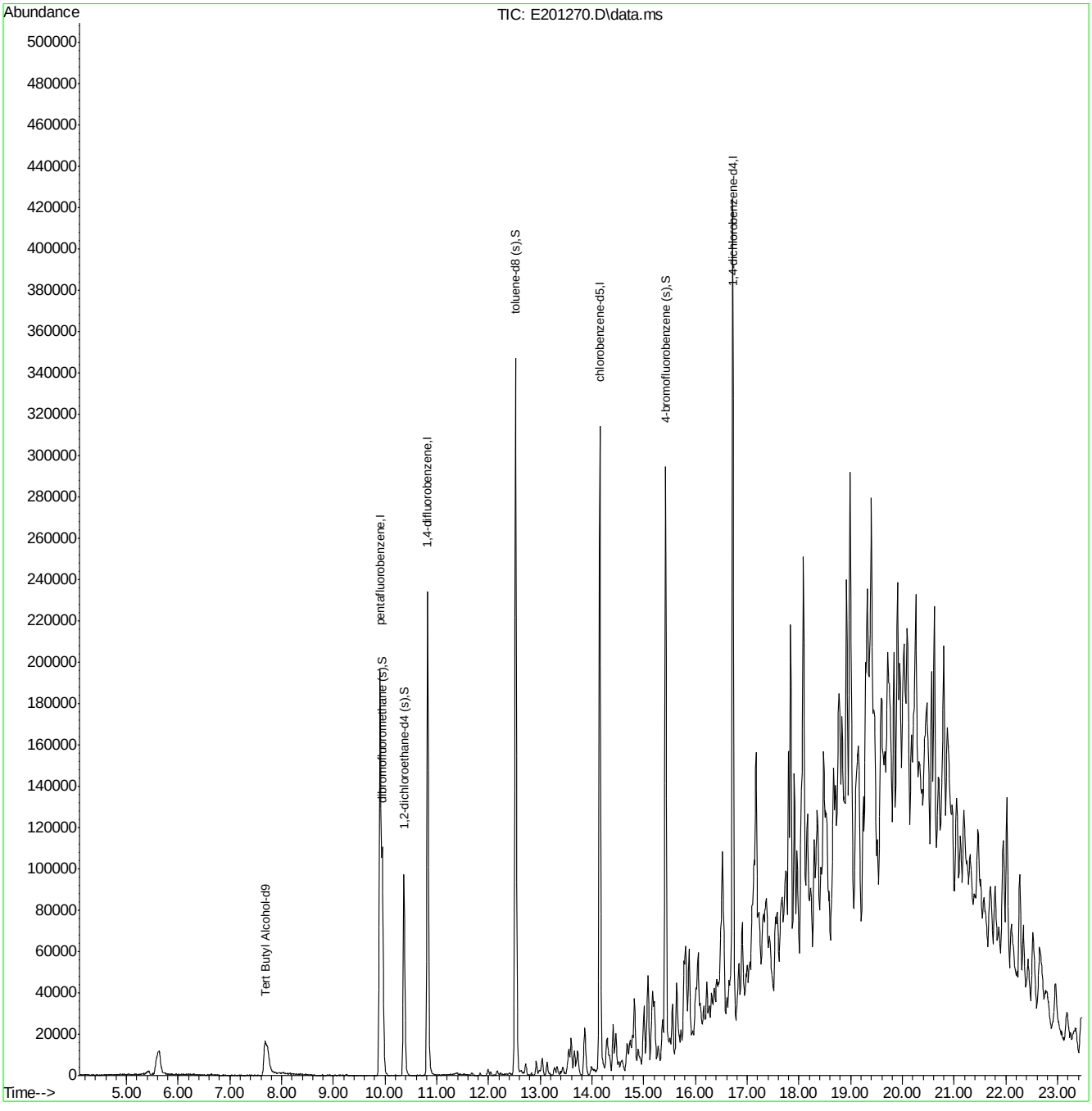
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201270.D
Acq On : 24 Mar 2013 3:17 am
Operator : OksanaT
Sample : jb31485-6
Misc : MS45033,VE8849,6.5,,100,10,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Mar 25 12:50:10 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193086.D Vial: 100
Acq On : 27 Mar 2013 6:39 pm Operator: Oksanat
Sample : jb31485-7 Inst : MSA
Misc : MS45033,VA7275,6.2,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:54 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.01	65	75466	500.00	ug/L	-0.01
5) pentafluorobenzene	9.34	168	199584	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	10.29	114	271235	50.00	ug/L	0.00
85) chlorobenzene-d5	13.73	117	259753	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	140477	50.00	ug/L	0.00

System Monitoring Compounds						
47) dibromofluoromethane (s)	9.38	113	75587	50.90	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 101.80%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	77087	46.46	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 92.92%			
77) toluene-d8 (s)	12.05	98	279198	54.21	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 108.42%			
102) 4-bromofluorobenzene (s)	15.05	95	105192	52.75	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 105.50%			

Target Compounds						Qvalue
100) isopropylbenzene	14.82	105	4728	0.76	ug/L	98

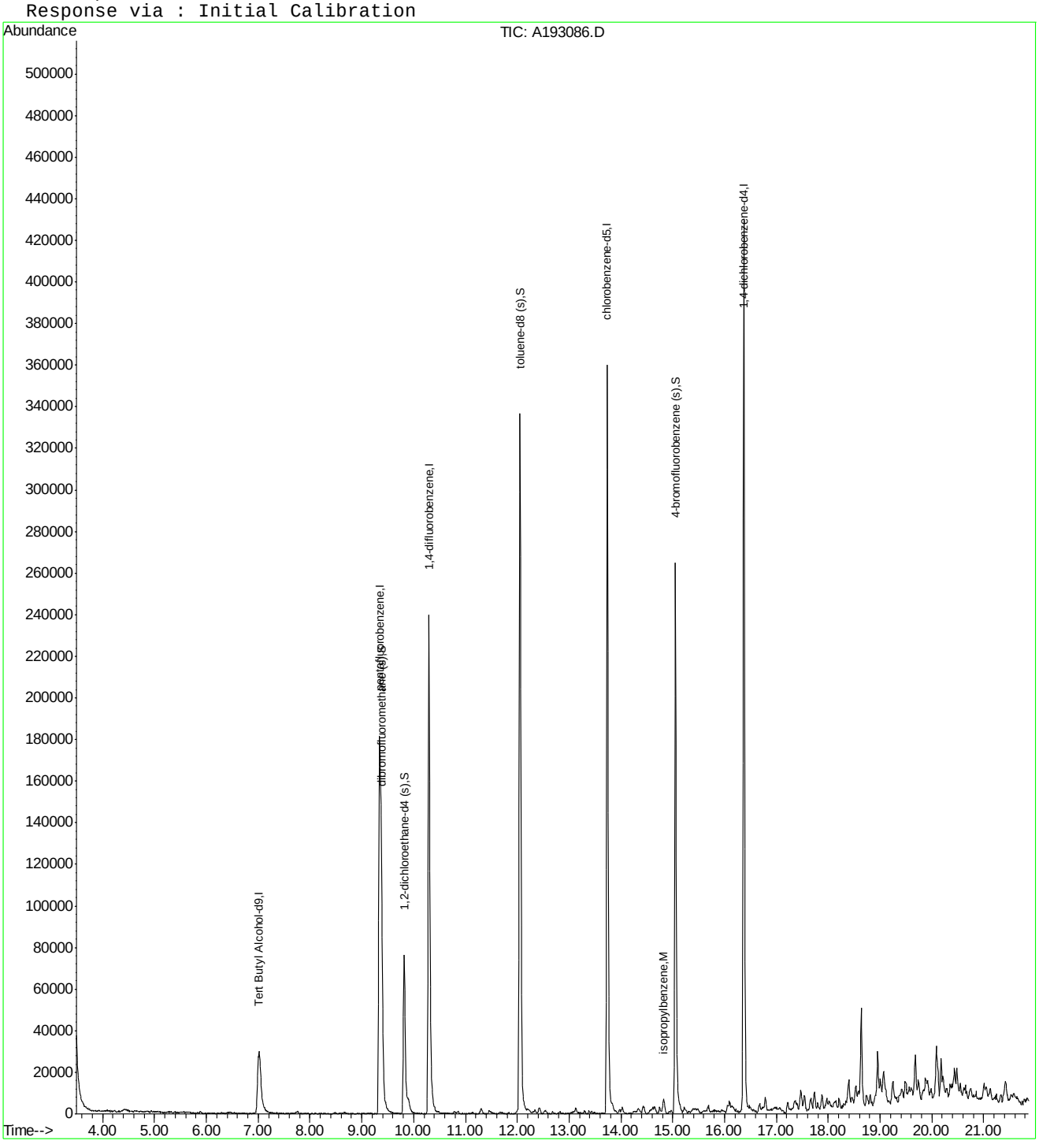
(#) = qualifier out of range (m) = manual integration
A193086.D MA7222.M Thu Mar 28 09:54:59 2013 MSA

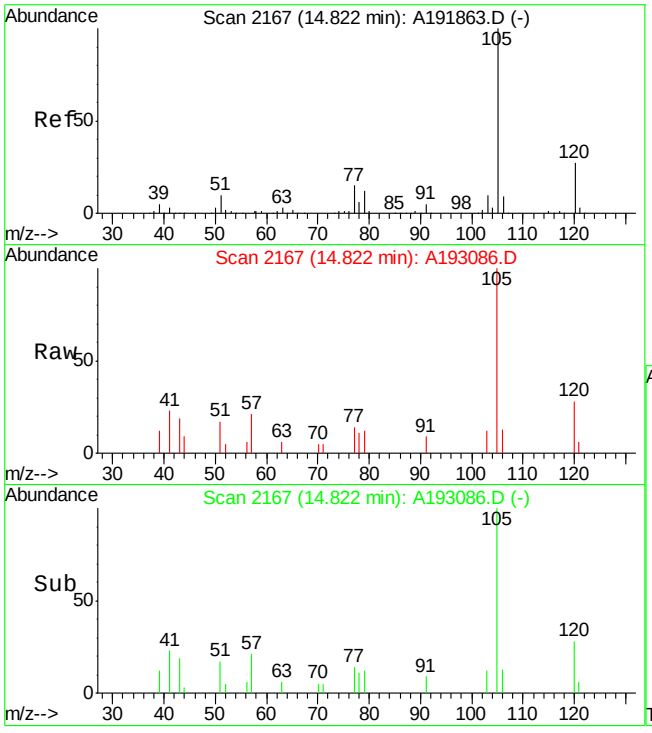
SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193086.D Vial: 100
Acq On : 27 Mar 2013 6:39 pm Operator: Oksanat
Sample : jb31485-7 Inst : MSA
Misc : MS45033,VA7275,6.2,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:54 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

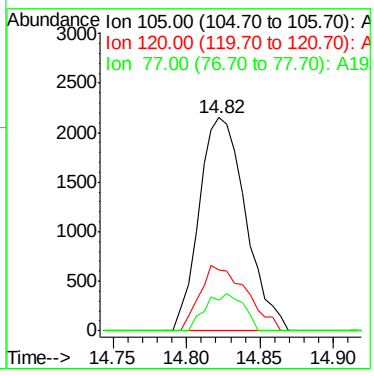




#100
isopropylbenzene
Concen: 0.76 ug/L
RT: 14.82 min Scan# 2167
Delta R.T. -0.00 min
Lab File: A193086.D
Acq: 27 Mar 2013 6:39 pm

Tgt Ion:105 Resp: 4728

Ion	Ratio	Lower	Upper
105	100		
120	28.3	0.0	56.9
77	14.4	0.0	44.9



Manual Integrations APPROVED (compounds with "m" flag)
Wen Wen Chi
03/31/13 22:58

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193058.D Vial: 100
Acq On : 27 Mar 2013 3:33 am Operator: Oksanat
Sample : jb31485-8 Inst : MSA
Misc : MS45033,VA7274,6.5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:25 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	67953	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	180799	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	247026	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	243418	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	134759	50.00	ug/L	0.00

System Monitoring Compounds						
47) dibromofluoromethane (s)	9.38	113	70866	52.68	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 105.36%			
48) 1,2-dichloroethane-d4 (s)	0.00	65	0d	0.00	ug/L	
Spiked Amount 50.000	Range 74 - 127		Recovery = 0.00%#			
77) toluene-d8 (s)	12.05	98	259312	55.28	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 110.56%			
102) 4-bromofluorobenzene (s)	15.05	95	101255	52.93	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 105.86%			

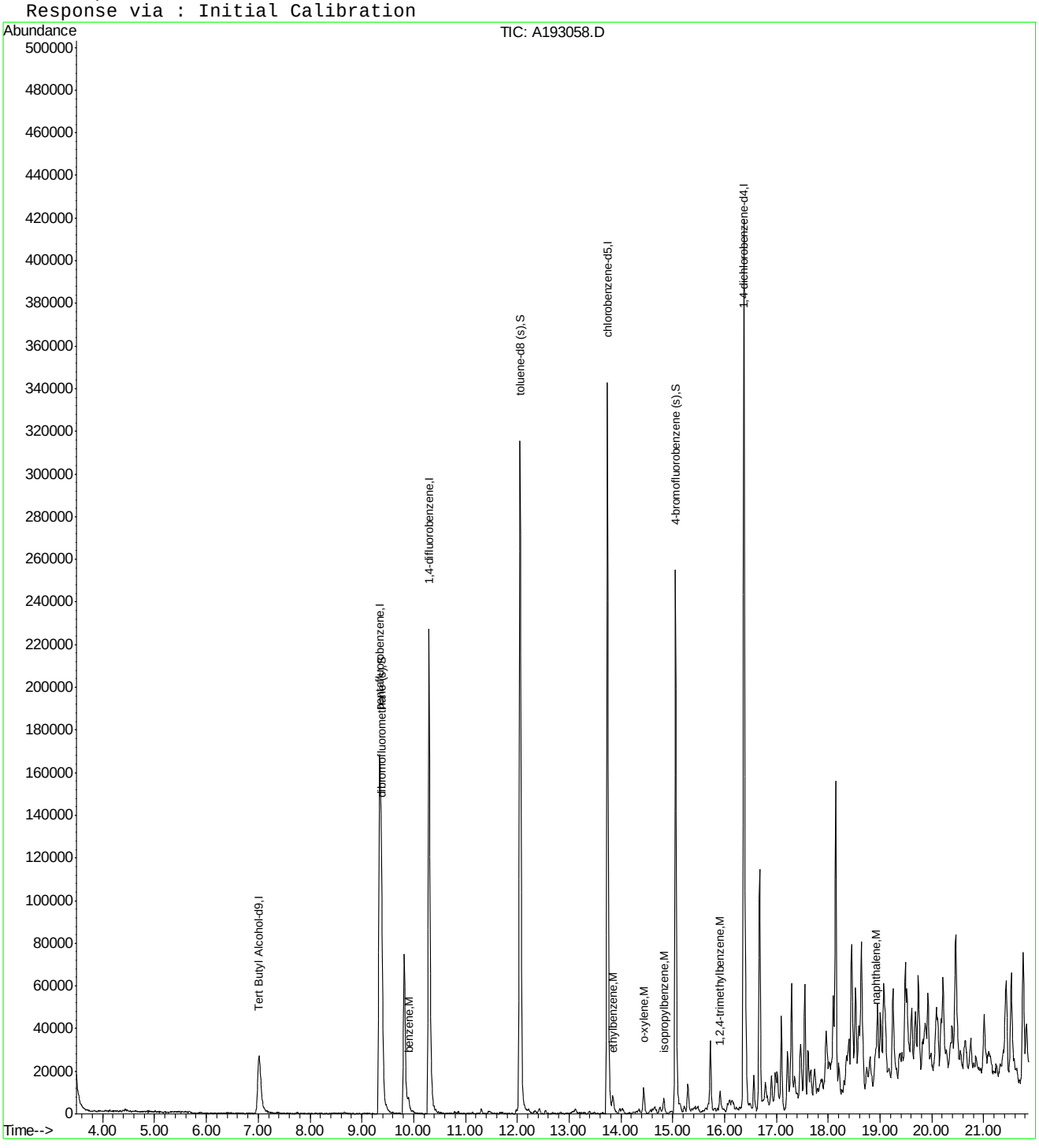
Target Compounds						Qvalue
61) benzene	9.91	78	1256	0.26	ug/L	80
94) ethylbenzene	13.85	91	4654	0.73	ug/L	90
96) o-xylene	14.44	106	3384	1.30	ug/L	99
100) isopropylbenzene	14.83	105	5206	0.87	ug/L	98
114) 1,2,4-trimethylbenzene	15.91	105	6106	1.12	ug/L	95
128) naphthalene	18.92	128	8465m	1.93	ug/L	

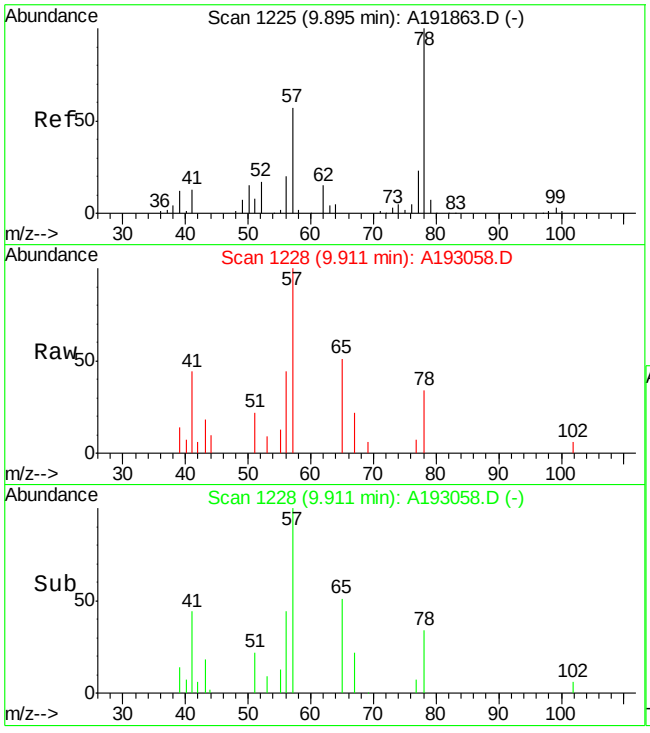
(#) = qualifier out of range (m) = manual integration
A193058.D MA7222.M Wed Mar 27 16:25:39 2013 MSA Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193058.D Vial: 100
Acq On : 27 Mar 2013 3:33 am Operator: Oksanat
Sample : jb31485-8 Inst : MSA
Misc : MS45033,VA7274,6.5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:25 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

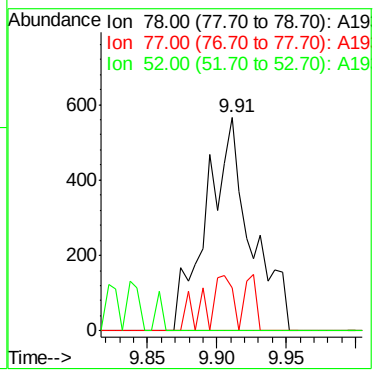


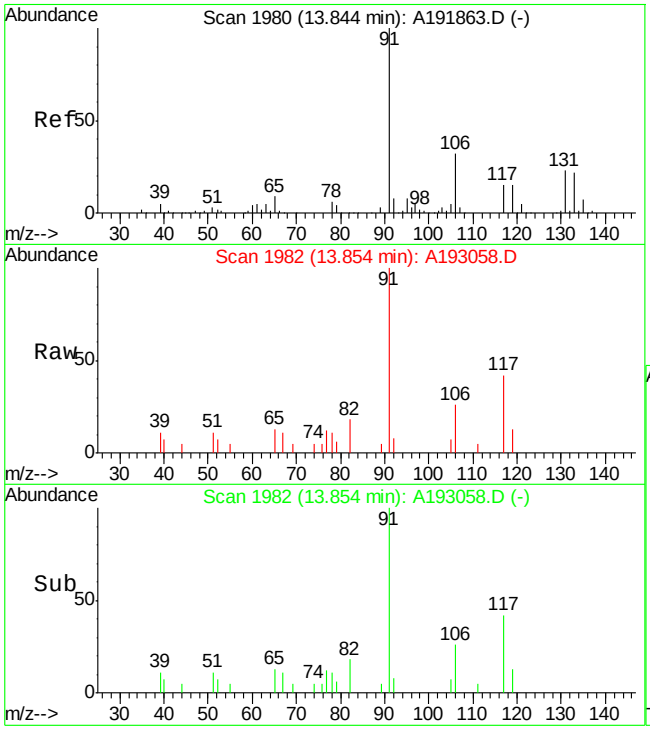


#61
benzene
Concen: 0.26 ug/L
RT: 9.91 min Scan# 1228
Delta R.T. 0.02 min
Lab File: A193058.D
Acq: 27 Mar 2013 3:33 am

Tgt Ion: 78 Resp: 1256

Ion	Ratio	Lower	Upper
78	100		
77	20.3	0.0	52.8
52	0.0	0.0	47.0

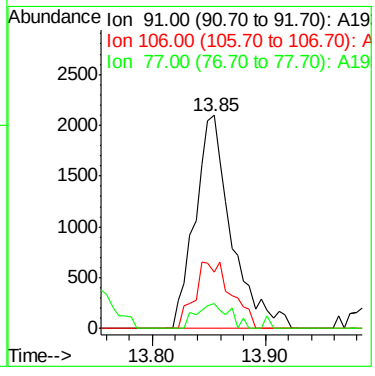


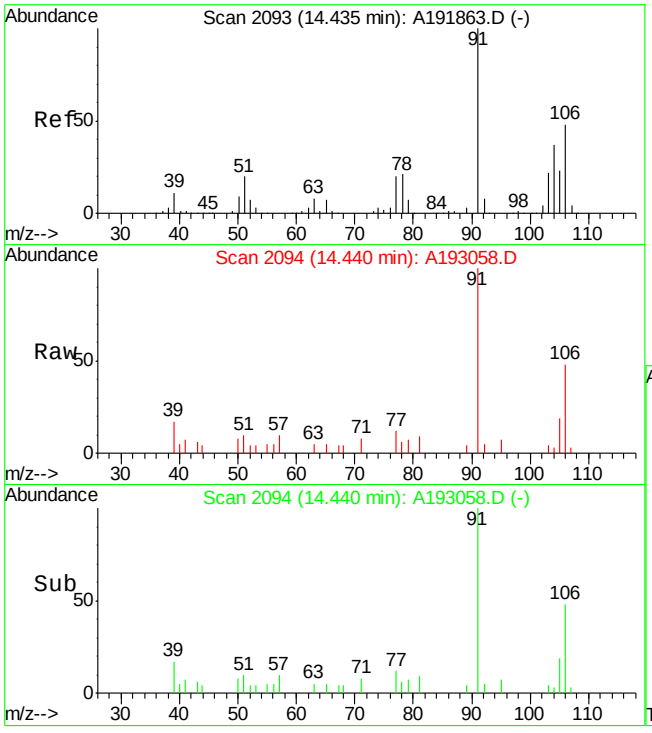


#94
ethylbenzene
Concen: 0.73 ug/L
RT: 13.85 min Scan# 1982
Delta R.T. 0.01 min
Lab File: A193058.D
Acq: 27 Mar 2013 3:33 am

Tgt Ion: 91 Resp: 4654

Ion	Ratio	Lower	Upper
91	100		
106	26.4	1.9	61.9
77	11.8	0.0	38.4

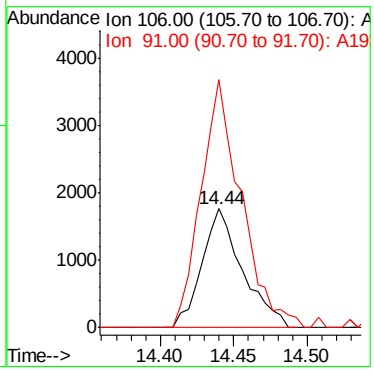


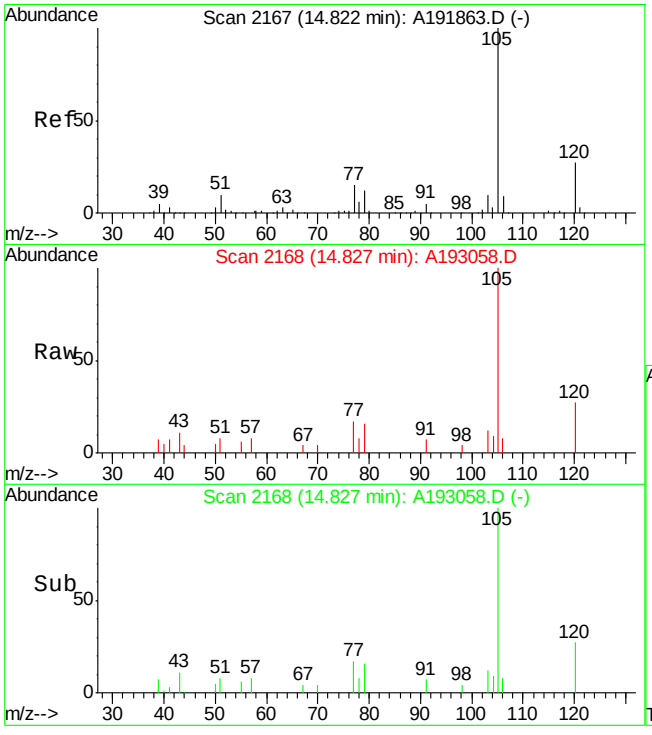


#96
o-xylene
Concen: 1.30 ug/L
RT: 14.44 min Scan# 2094
Delta R.T. 0.00 min
Lab File: A193058.D
Acq: 27 Mar 2013 3:33 am

Tgt Ion:106 Resp: 3384

Ion	Ratio	Lower	Upper
106	100		
91	208.6	176.4	236.4

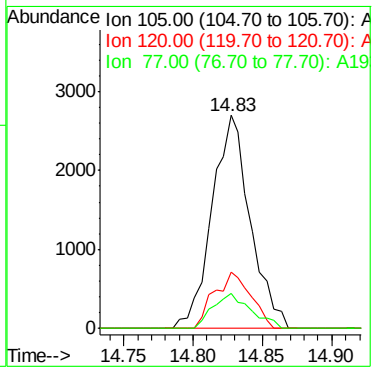


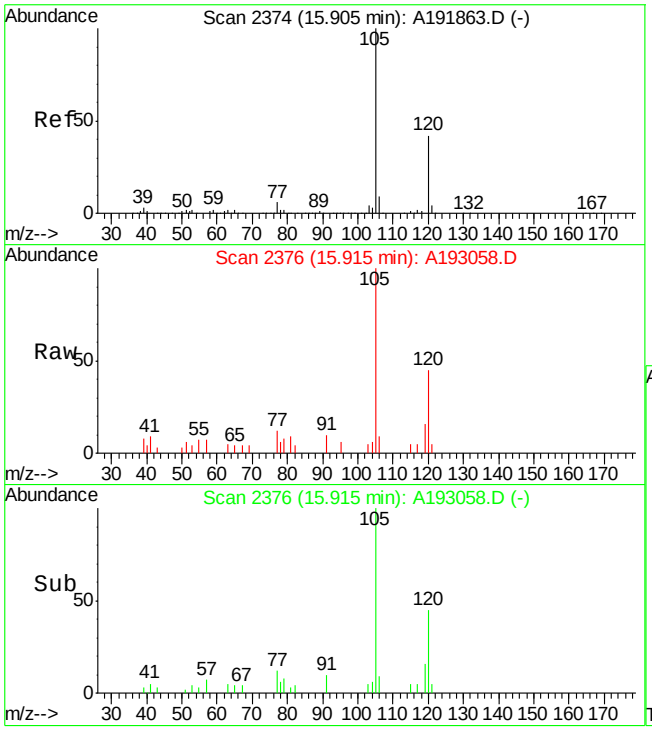


#100
isopropylbenzene
Concen: 0.87 ug/L
RT: 14.83 min Scan# 2168
Delta R.T. 0.00 min
Lab File: A193058.D
Acq: 27 Mar 2013 3:33 am

Tgt Ion:105 Resp: 5206

Ion	Ratio	Lower	Upper
105	100		
120	26.5	0.0	56.9
77	16.7	0.0	44.9

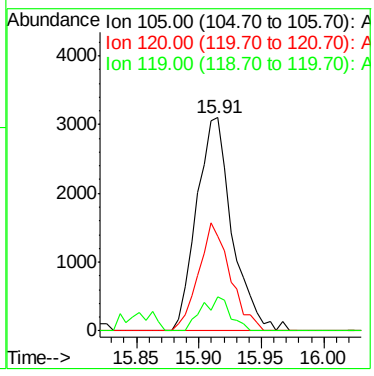


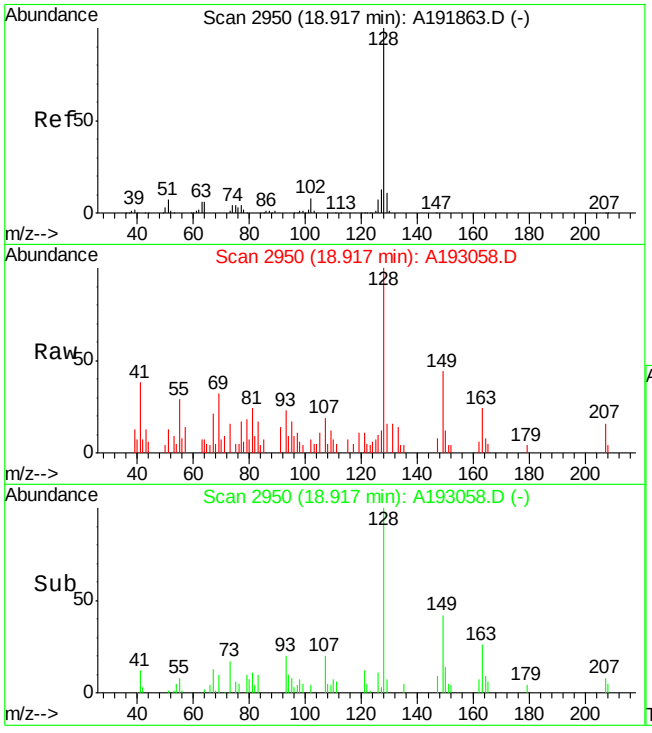


#114
1,2,4-trimethylbenzene
Concen: 1.12 ug/L
RT: 15.91 min Scan# 2376
Delta R.T. 0.01 min
Lab File: A193058.D
Acq: 27 Mar 2013 3:33 am

Tgt Ion:105 Resp: 6106

Ion	Ratio	Lower	Upper
105	100		
120	44.5	17.0	77.0
119	16.2	0.0	43.0

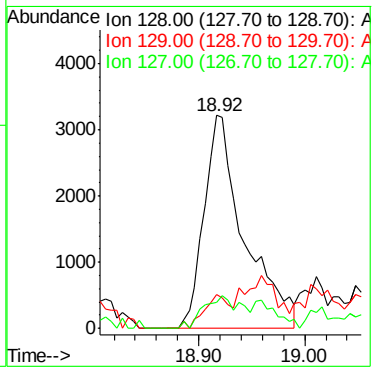




#128
naphthalene
Concen: 1.93 ug/L m
RT: 18.92 min Scan# 2950
Delta R.T. -0.00 min
Lab File: A193058.D
Acq: 27 Mar 2013 3:33 am

Tgt Ion:128 Resp: 8465

Ion	Ratio	Lower	Upper
128	100		
129	15.7	0.0	40.7
127	12.1	0.0	42.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201272.D
Acq On : 24 Mar 2013 4:17 am
Operator : OksanaT
Sample : jb31485-9
Misc : MS45033,VE8849,6.1,,100,10,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Mar 25 12:51:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.677	65	82972	500.00	ug/L	0.00
5) pentafluorobenzene	9.905	168	186070	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.820	114	239393	50.00	ug/L	0.00
97) chlorobenzene-d5	14.152	117	216609	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.720	152	134098	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.947	113	72733	41.66	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.32%			
61) 1,2-dichloroethane-d4 (s)	10.360	65	81997	42.72	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 85.44%			
89) toluene-d8 (s)	12.520	98	283556	46.78	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 93.56%			
116) 4-bromofluorobenzene (s)	15.423	95	108612	44.18	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 88.36%			

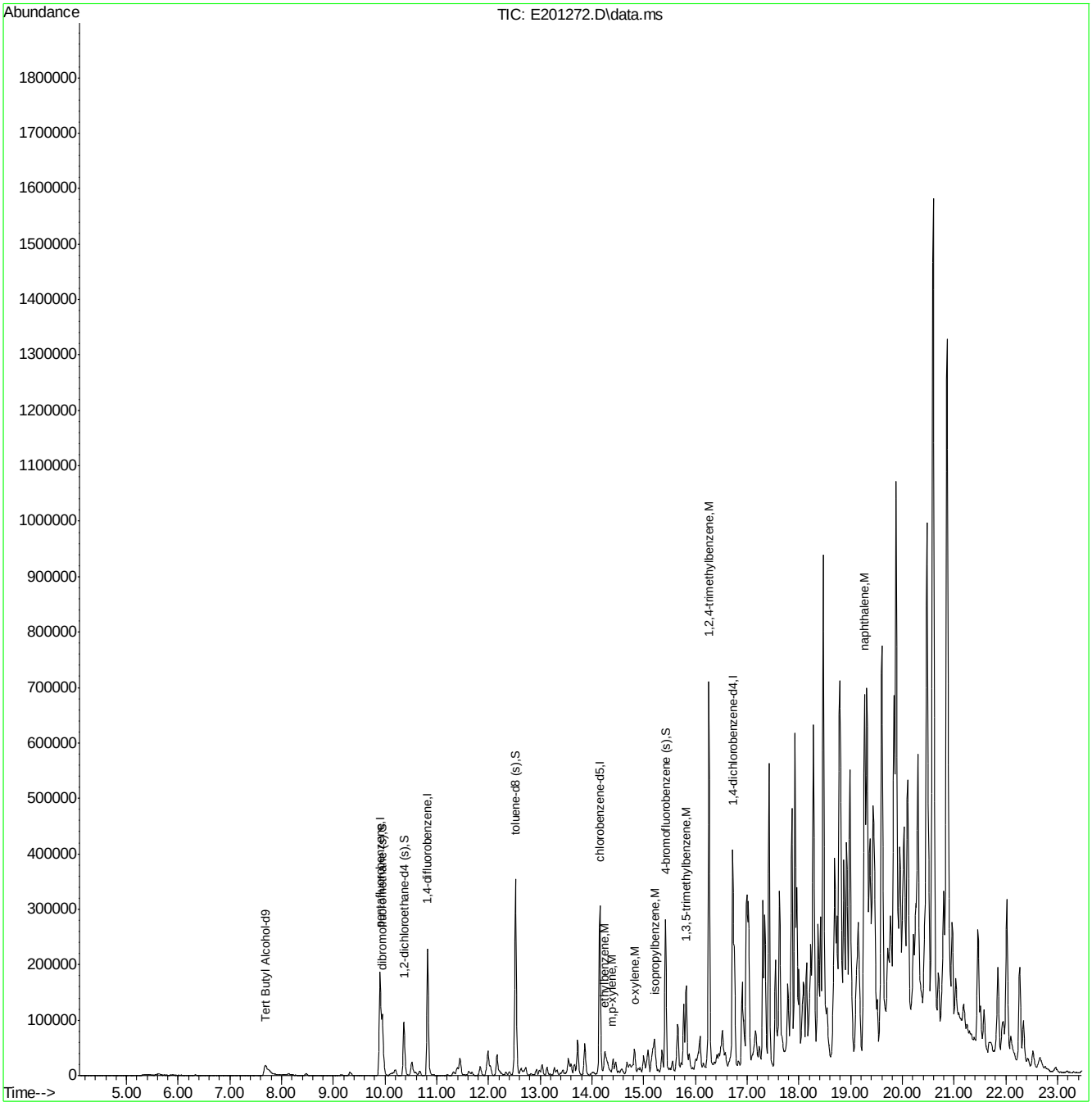
Target Compounds						Qvalue
108) ethylbenzene	14.251	91	34627	4.60	ug/L	97
109) m,p-xylene	14.377	106	988	0.33	ug/L #	70
110) o-xylene	14.832	106	2253	0.74	ug/L	86
115) isopropylbenzene	15.203	105	11760	1.36	ug/L	95
125) 1,3,5-trimethylbenzene	15.820	105	91781	12.49	ug/L	98
128) 1,2,4-trimethylbenzene	16.259	105	470063	64.67	ug/L	98
142) naphthalene	19.267	128	579609	115.55	ug/L	99

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

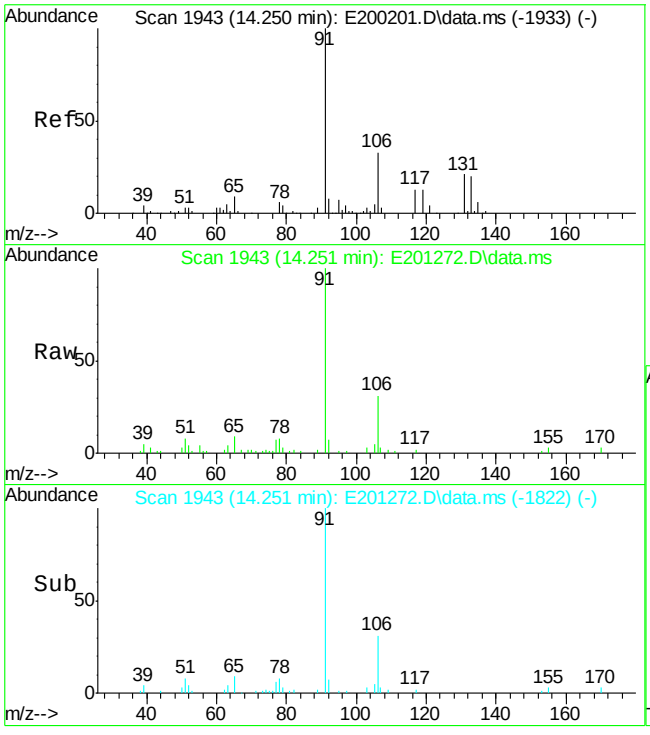
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201272.D
Acq On : 24 Mar 2013 4:17 am
Operator : OksanaT
Sample : jb31485-9
Misc : MS45033,VE8849,6.1,,100,10,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Mar 25 12:51:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



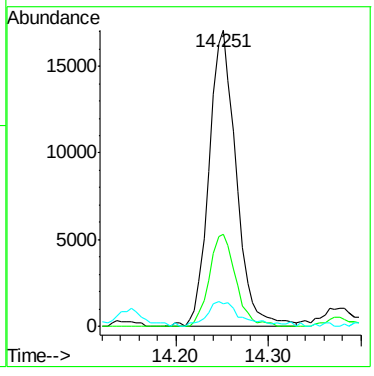
SGS ACCUTEST JB31485

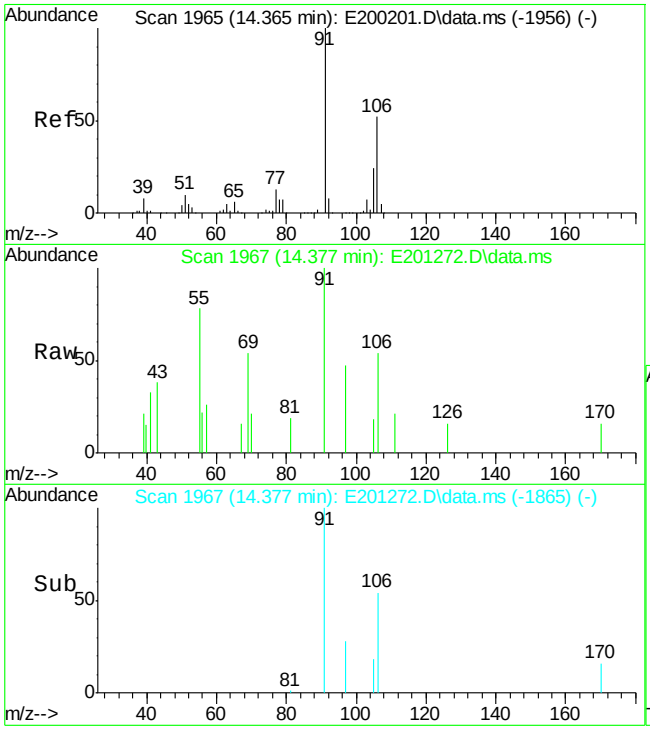


#108
ethylbenzene
Concen: 4.60 ug/L
RT: 14.251 min Scan# 1943
Delta R.T. 0.001 min
Lab File: E201272.D
Acq: 24 Mar 2013 4:17 am

Tgt Ion: 91 Resp: 34627

Ion	Ratio	Lower	Upper
91	100		
106	31.1	2.9	62.9
77	7.4	0.0	38.7

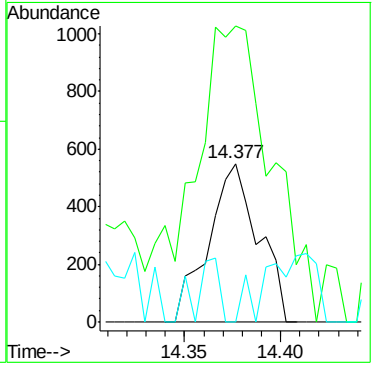




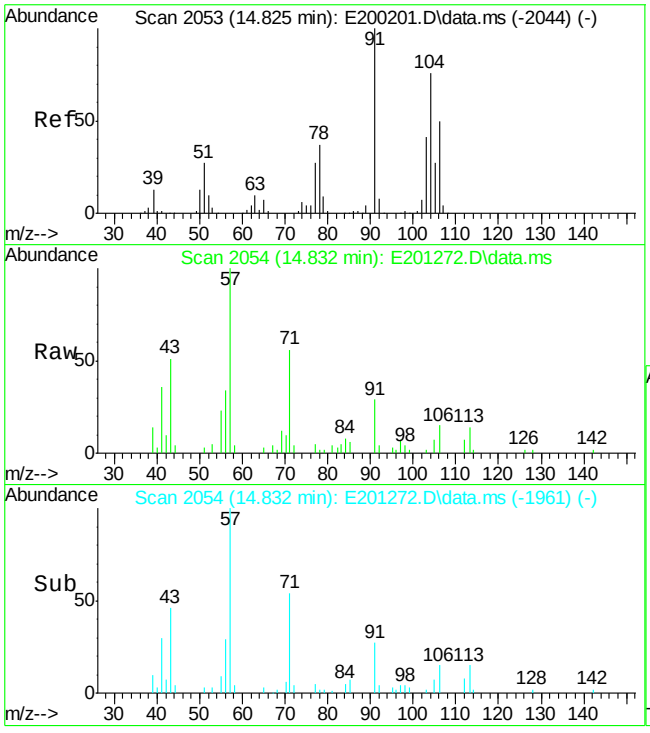
#109
m,p-xylene
Concen: 0.33 ug/L
RT: 14.377 min Scan# 1967
Delta R.T. 0.012 min
Lab File: E201272.D
Acq: 24 Mar 2013 4:17 am

Tgt Ion:106 Resp: 988

Ion	Ratio	Lower	Upper
106	100		
91	150.7	161.1	221.1#
77	0.0	0.0	54.5



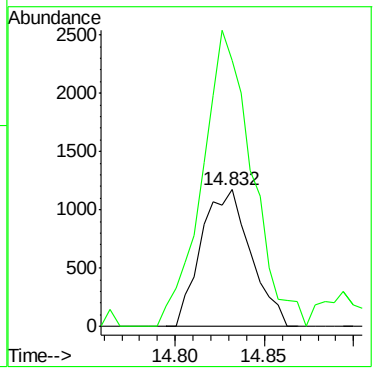
SGS ACCUTEST JB31485

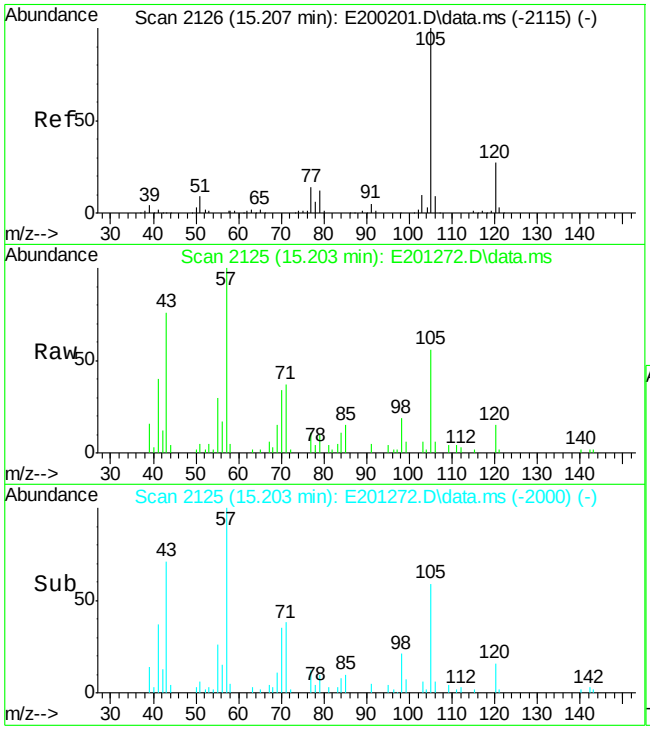


#110
o-xylene
Concen: 0.74 ug/L
RT: 14.832 min Scan# 2054
Delta R.T. 0.006 min
Lab File: E201272.D
Acq: 24 Mar 2013 4:17 am

Tgt Ion:106 Resp: 2253

Ion	Ratio	Lower	Upper
106	100		
91	180.1	170.7	230.7

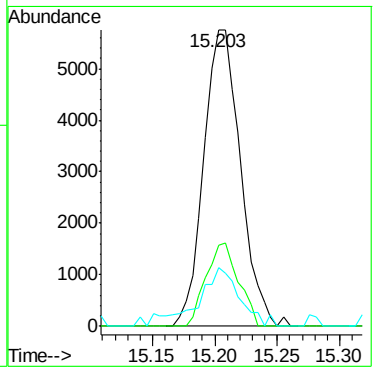


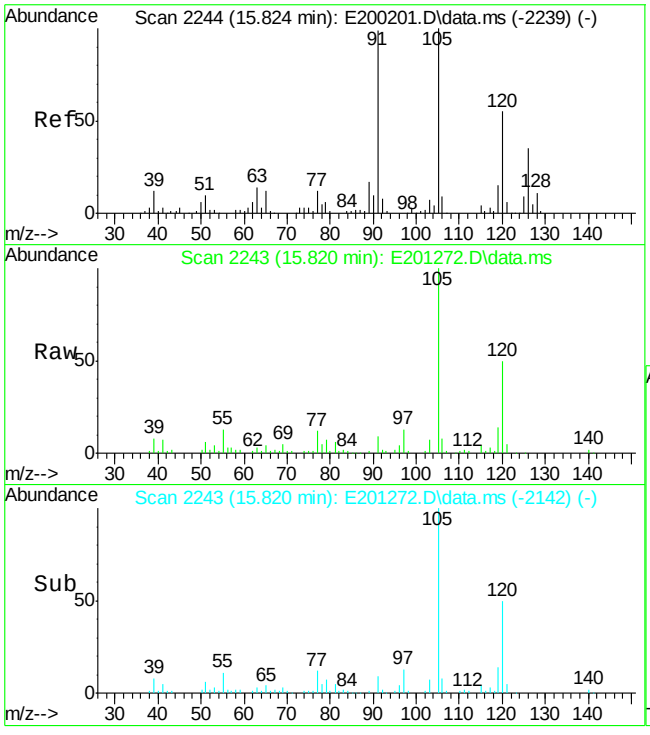


#115
isopropylbenzene
Concen: 1.36 ug/L
RT: 15.203 min Scan# 2125
Delta R.T. -0.004 min
Lab File: E201272.D
Acq: 24 Mar 2013 4:17 am

Tgt Ion:105 Resp: 11760

Ion	Ratio	Lower	Upper
105	100		
120	27.1	0.0	57.0
77	19.8	0.0	44.4

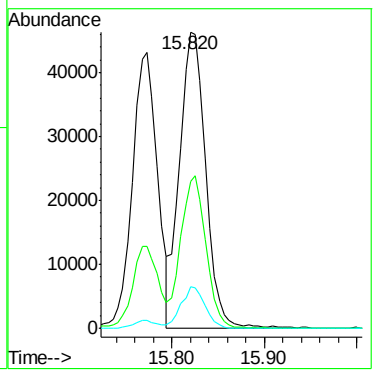


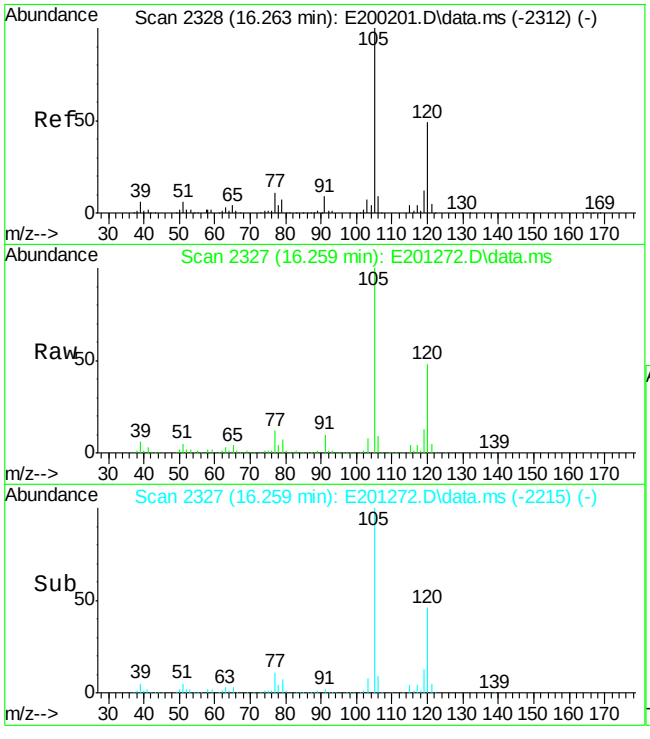


#125
1,3,5-trimethylbenzene
Concen: 12.49 ug/L
RT: 15.820 min Scan# 2243
Delta R.T. -0.004 min
Lab File: E201272.D
Acq: 24 Mar 2013 4:17 am

Tgt Ion:105 Resp: 91781

Ion	Ratio	Lower	Upper
105	100		
120	49.8	21.5	81.5
119	14.0	0.0	43.2

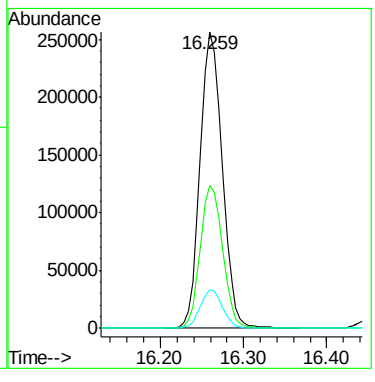




#128
1,2,4-trimethylbenzene
Concen: 64.67 ug/L
RT: 16.259 min Scan# 2327
Delta R.T. -0.004 min
Lab File: E201272.D
Acq: 24 Mar 2013 4:17 am

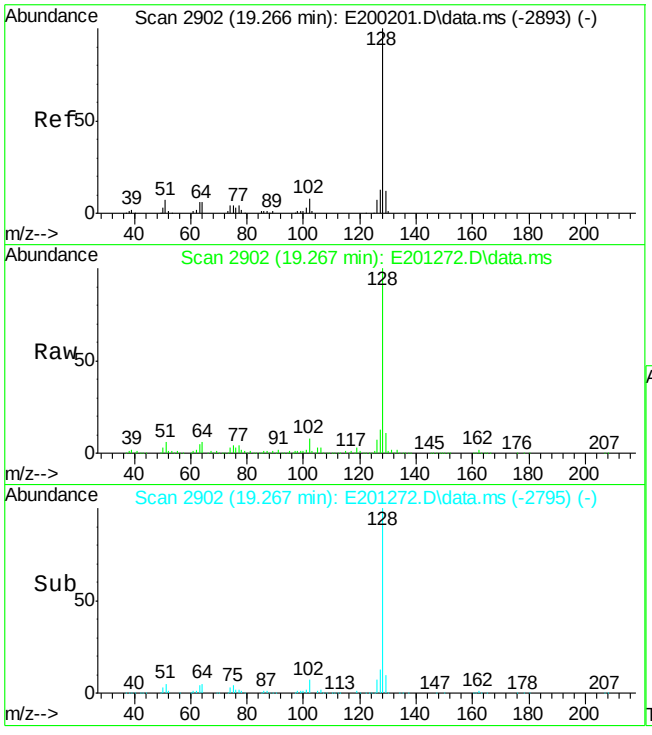
Tgt Ion:105 Resp: 470063

Ion	Ratio	Lower	Upper
105	100		
120	48.0	19.4	79.4
119	13.0	0.0	43.7



7.1.9

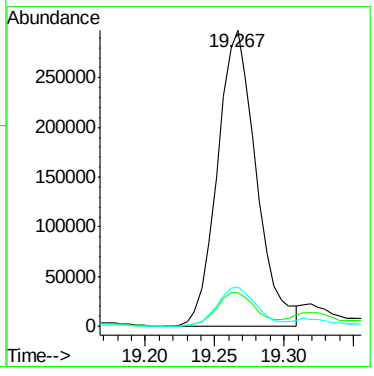
7



#142
naphthalene
Concen: 115.55 ug/L
RT: 19.267 min Scan# 2902
Delta R.T. 0.002 min
Lab File: E201272.D
Acq: 24 Mar 2013 4:17 am

Tgt Ion:128 Resp: 579609

Ion	Ratio	Lower	Upper
128	100		
129	11.3	0.0	41.5
127	13.5	0.0	43.2



7.1.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201427.D
Acq On : 28 Mar 2013 12:49 pm
Operator : OksanaT
Sample : jb31485-10
Misc : MS45033,VE8856,6.1,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 28 13:38:09 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.687	65	86843	500.00	ug/L	0.02
5) pentafluorobenzene	9.905	168	182992	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.820	114	231412	50.00	ug/L	0.00
97) chlorobenzene-d5	14.152	117	211660	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.720	152	129043	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.947	113	71145	41.44	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 82.88%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	79073	41.89	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 83.78%			
89) toluene-d8 (s)	12.520	98	271286	46.30	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 92.60%			
116) 4-bromofluorobenzene (s)	15.423	95	101143	42.76	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 85.52%			

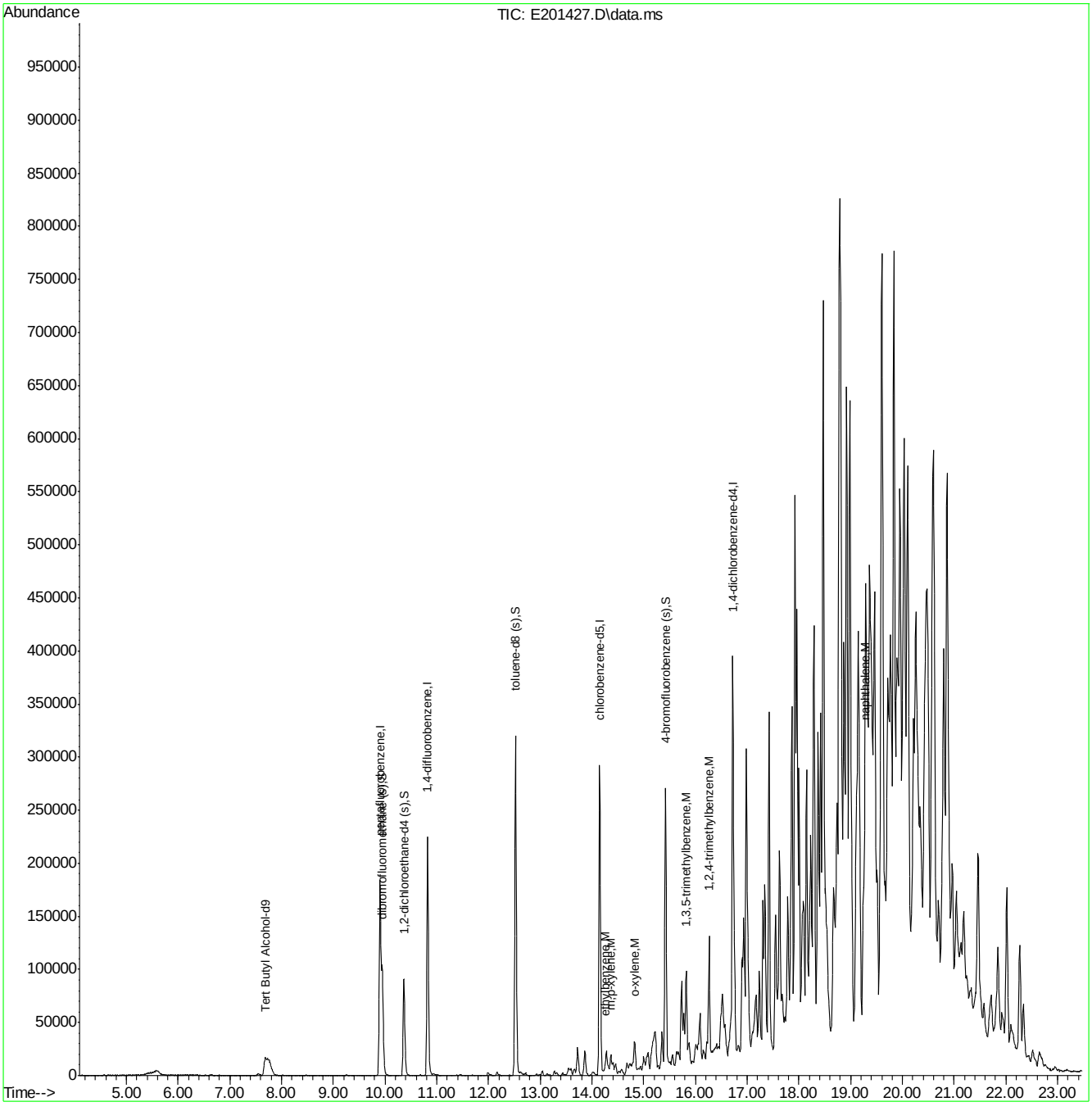
Target Compounds						Qvalue
108) ethylbenzene	14.256	91	2956	0.40	ug/L	84
109) m,p-xylene	14.366	106	7099	2.46	ug/L	99
110) o-xylene	14.826	106	4824	1.63	ug/L	99
125) 1,3,5-trimethylbenzene	15.820	105	48414	6.84	ug/L	100
128) 1,2,4-trimethylbenzene	16.265	105	77791	11.12	ug/L	99
142) naphthalene	19.267	128	68414	14.17	ug/L	97

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

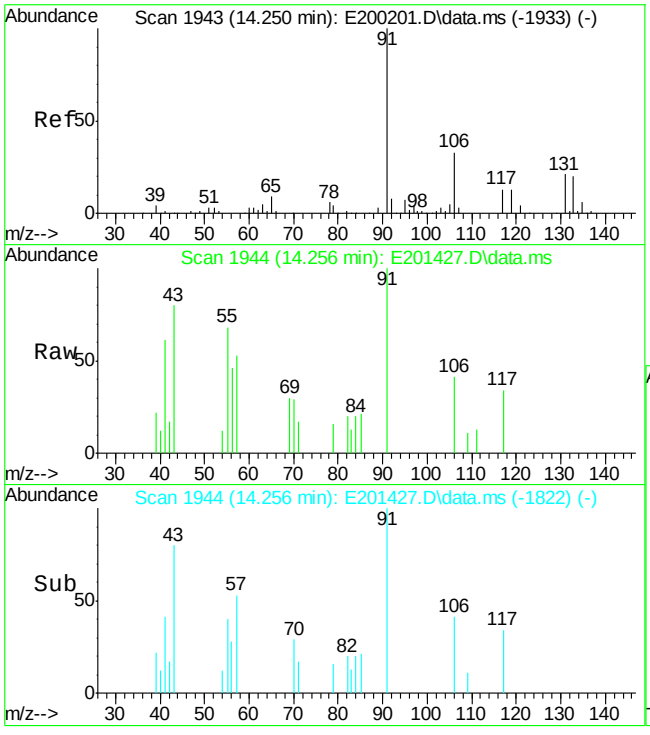
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201427.D
Acq On : 28 Mar 2013 12:49 pm
Operator : OksanaT
Sample : jb31485-10
Misc : MS45033,VE8856,6.1,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 28 13:38:09 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



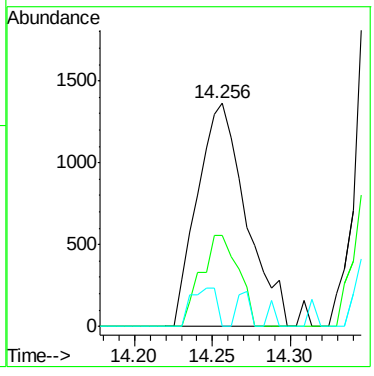
SGS ACCUTEST JB31485

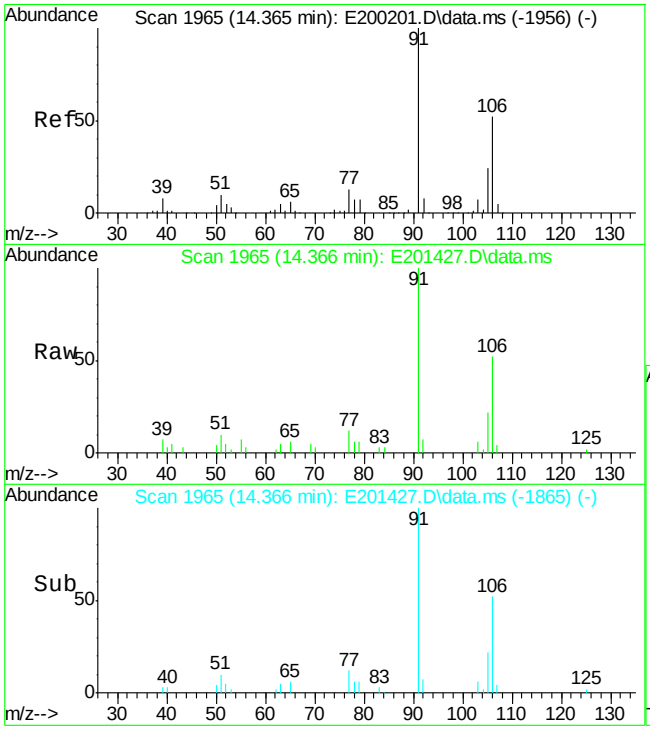


#108
ethylbenzene
Concen: 0.40 ug/L
RT: 14.256 min Scan# 1944
Delta R.T. 0.007 min
Lab File: E201427.D
Acq: 28 Mar 2013 12:49 pm

Tgt Ion: 91 Resp: 2956

Ion	Ratio	Lower	Upper
91	100		
106	40.6	2.9	62.9
77	0.0	0.0	38.7

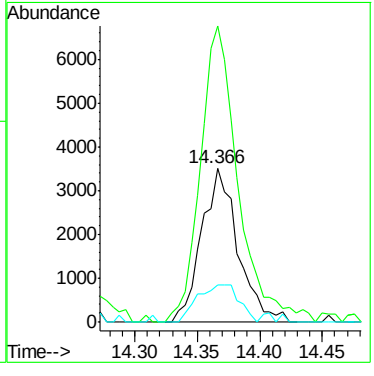


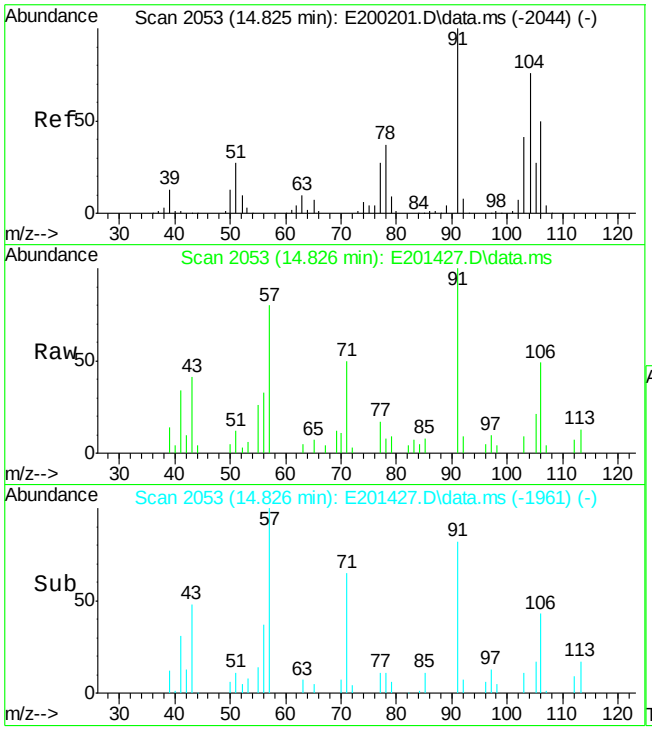


#109
m,p-xylene
Concen: 2.46 ug/L
RT: 14.366 min Scan# 1965
Delta R.T. 0.001 min
Lab File: E201427.D
Acq: 28 Mar 2013 12:49 pm

Tgt Ion:106 Resp: 7099

Ion	Ratio	Lower	Upper
106	100		
91	192.4	161.1	221.1
77	23.8	0.0	54.5

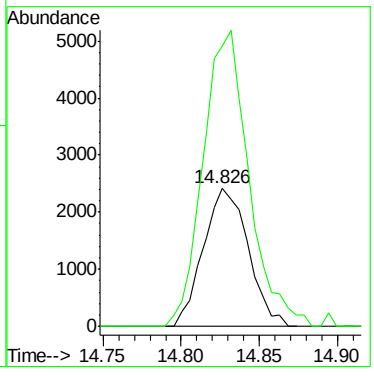


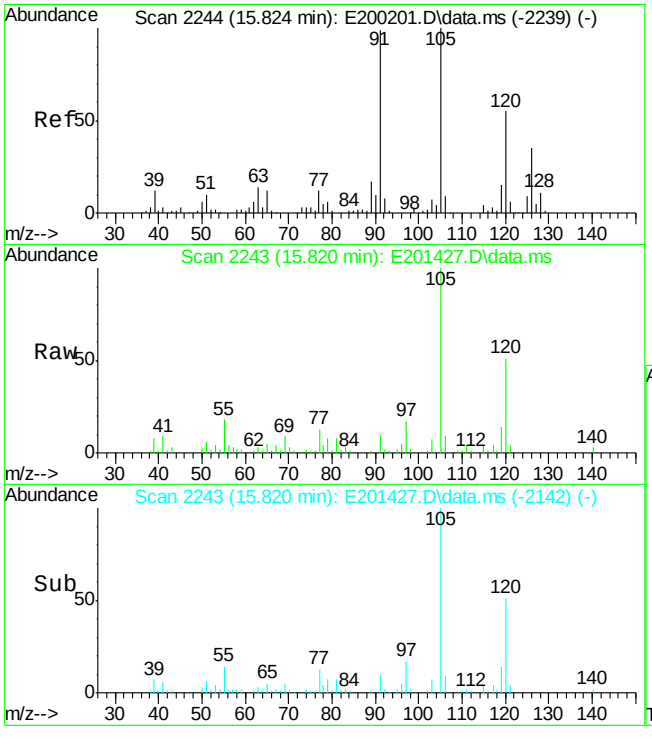


#110
o-xylene
Concen: 1.63 ug/L
RT: 14.826 min Scan# 2053
Delta R.T. 0.001 min
Lab File: E201427.D
Acq: 28 Mar 2013 12:49 pm

Tgt Ion:106 Resp: 4824

Ion	Ratio	Lower	Upper
106	100		
91	202.3	170.7	230.7

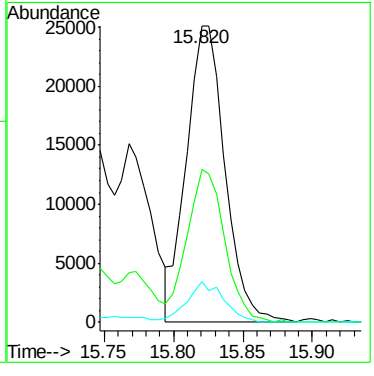




#125
1,3,5-trimethylbenzene
Concen: 6.84 ug/L
RT: 15.820 min Scan# 2243
Delta R.T. -0.004 min
Lab File: E201427.D
Acq: 28 Mar 2013 12:49 pm

Tgt Ion:105 Resp: 48414

Ion	Ratio	Lower	Upper
105	100		
120	51.4	21.5	81.5
119	13.5	0.0	43.2



7.1.10

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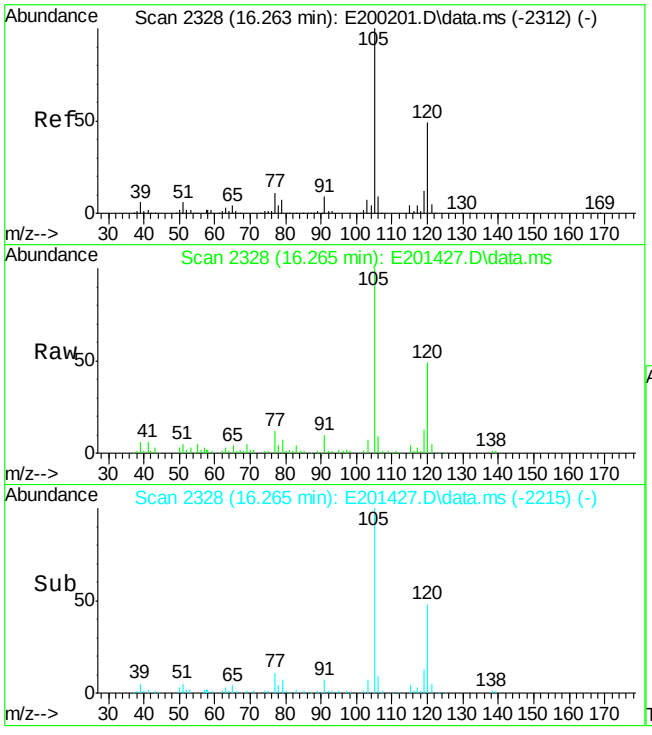
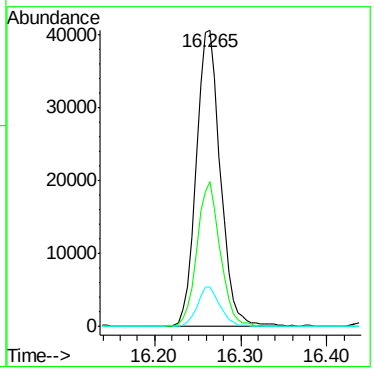
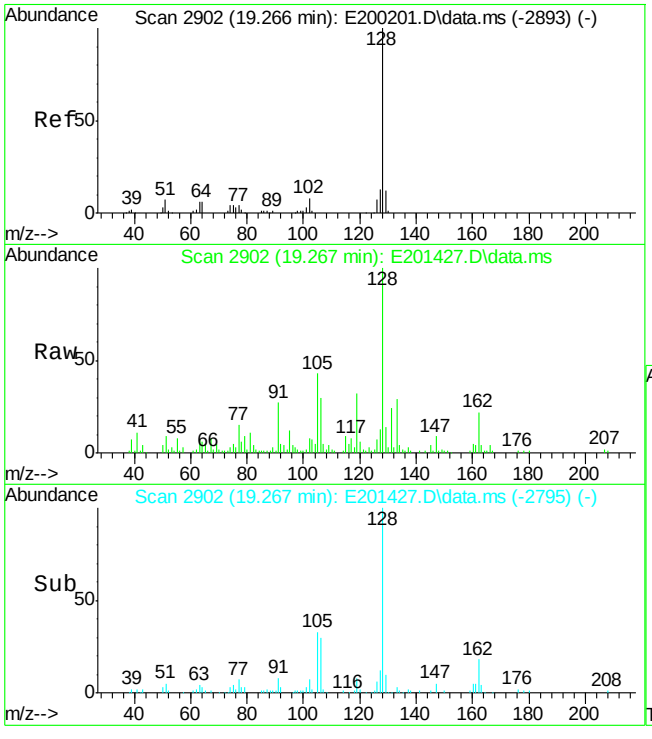


#128
1,2,4-trimethylbenzene
Concen: 11.12 ug/L
RT: 16.265 min Scan# 2328
Delta R.T. 0.001 min
Lab File: E201427.D
Acq: 28 Mar 2013 12:49 pm

Tgt Ion:105 Resp: 77791

Ion	Ratio	Lower	Upper
105	100		
120	48.8	19.4	79.4
119	13.1	0.0	43.7

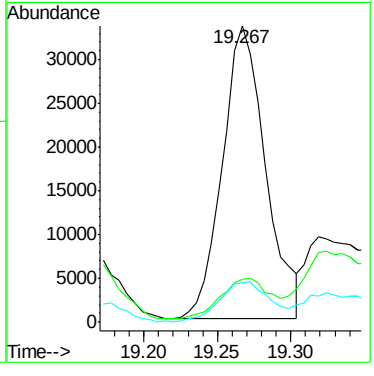




#142
naphthalene
Concen: 14.17 ug/L
RT: 19.267 min Scan# 2902
Delta R.T. 0.002 min
Lab File: E201427.D
Acq: 28 Mar 2013 12:49 pm

Tgt Ion:128 Resp: 68414

Ion	Ratio	Lower	Upper
128	100		
129	13.1	0.0	41.5
127	12.8	0.0	43.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201393.D
Acq On : 27 Mar 2013 6:45 pm
Operator : OksanaT
Sample : jb31485-11
Misc : MS45033,VE8854,5.8,,100,10,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Mar 28 12:33:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.682	65	70250	500.00	ug/L	0.01
5) pentafluorobenzene	9.905	168	182380	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.820	114	236465	50.00	ug/L	0.00
97) chlorobenzene-d5	14.147	117	200118	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.720	152	124727	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.947	113	70407	41.14	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 82.28%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	80467	42.77	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 85.54%			
89) toluene-d8 (s)	12.525	98	267382	44.66	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 89.32%			
116) 4-bromofluorobenzene (s)	15.423	95	102222	44.71	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 89.42%			

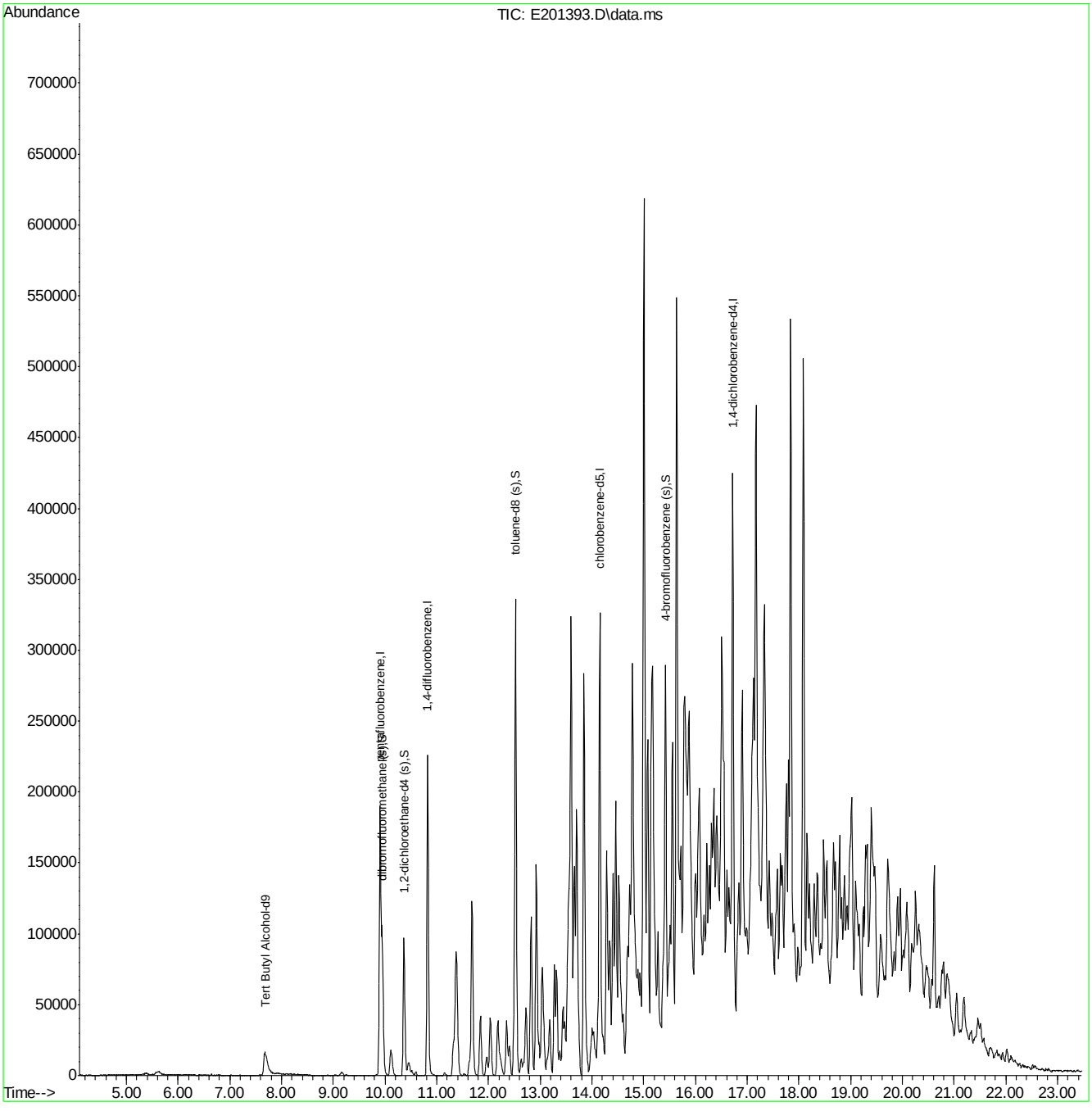
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201393.D
Acq On : 27 Mar 2013 6:45 pm
Operator : OksanaT
Sample : jb31485-11
Misc : MS45033,VE8854,5.8,,100,10,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Mar 28 12:33:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193059.D Vial: 100
Acq On : 27 Mar 2013 4:17 am Operator: Oksanat
Sample : jb31485-12 Inst : MSA
Misc : MS45033,VA7274,6.6,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:26 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	61283	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	194866	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	266200	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	255003	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	138171	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.38	113	73552	50.73	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 101.46%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	73168	45.16	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 90.32%			
77) toluene-d8 (s)	12.06	98	272958	54.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 108.00%			
102) 4-bromofluorobenzene (s)	15.05	95	104129	53.09	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 106.18%			

Target Compounds						Qvalue
100) isopropylbenzene	14.83	105	1290	0.21	ug/L	85

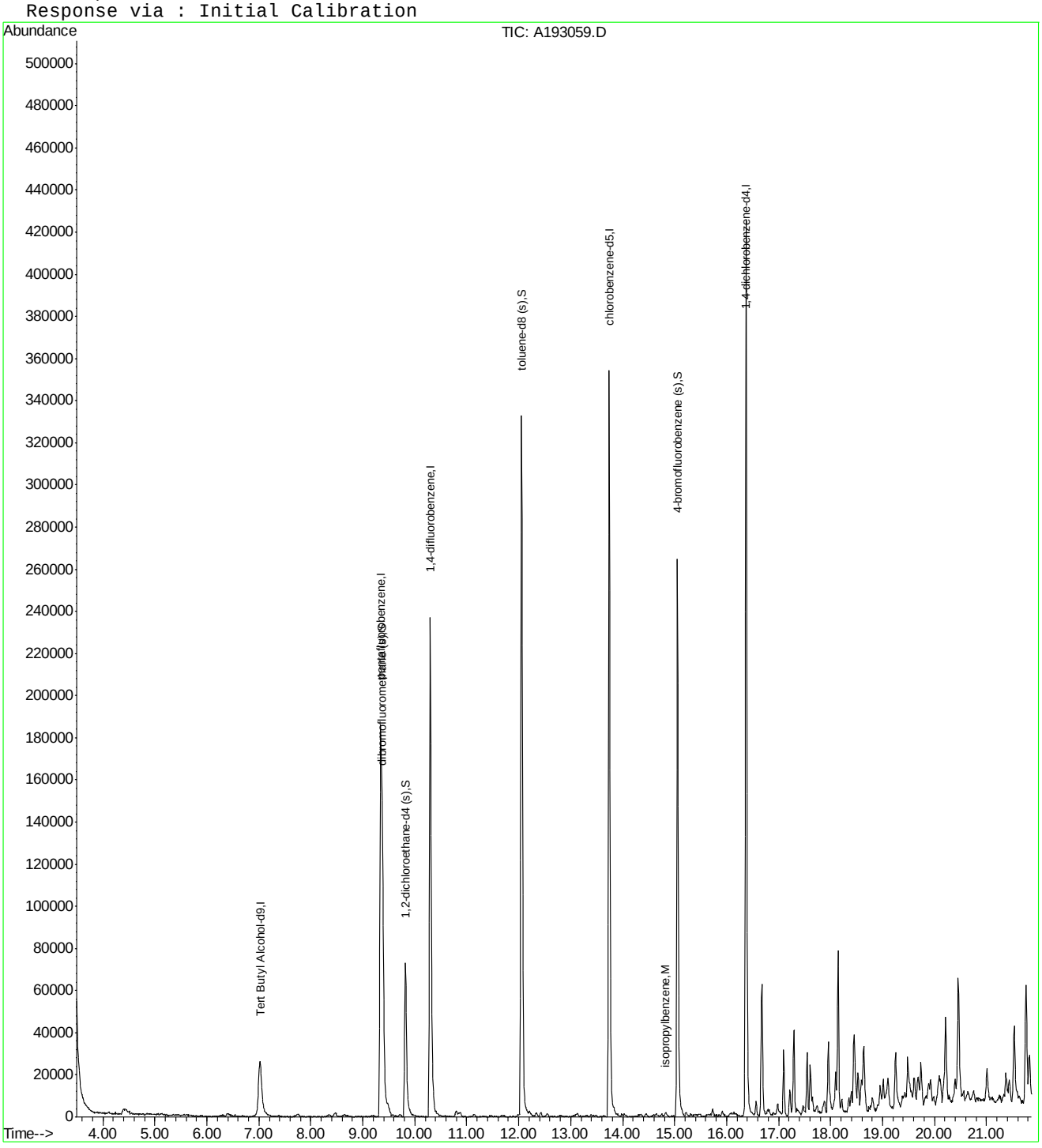
(#) = qualifier out of range (m) = manual integration

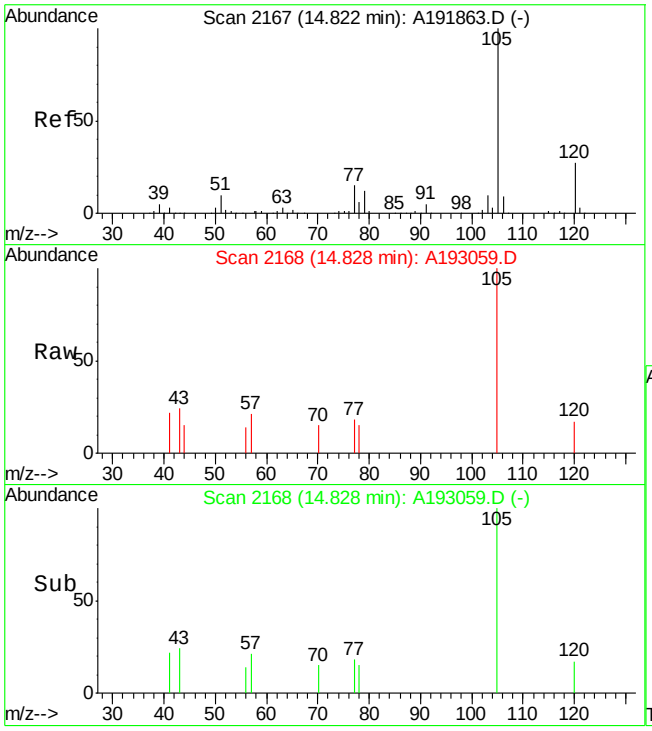
SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193059.D Vial: 100
Acq On : 27 Mar 2013 4:17 am Operator: Oksanat
Sample : jb31485-12 Inst : MSA
Misc : MS45033,VA7274,6.6,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:26 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

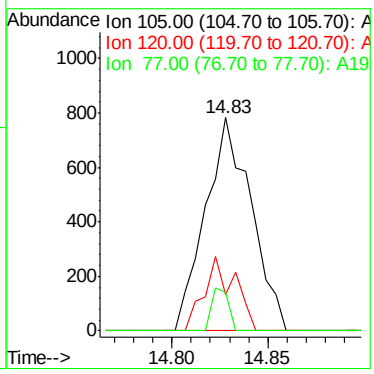




#100
isopropylbenzene
Concen: 0.21 ug/L
RT: 14.83 min Scan# 2168
Delta R.T. 0.01 min
Lab File: A193059.D
Acq: 27 Mar 2013 4:17 am

Tgt Ion:105 Resp: 1290

Ion	Ratio	Lower	Upper
105	100		
120	16.9	0.0	56.9
77	18.1	0.0	44.9



7.1.12

7

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201276.D
Acq On : 24 Mar 2013 6:17 am
Operator : OksanaT
Sample : jb31485-13
Misc : MS45033,VE8849,6.4,,100,10,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 25 12:59:39 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.692	65	93502	500.00	ug/L	0.02
5) pentafluorobenzene	9.905	168	190657	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.820	114	242790	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	216926	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.719	152	131568	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.946	113	74376	41.58	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.16%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	83230	42.31	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.62%			
89) toluene-d8 (s)	12.520	98	284821	46.33	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 92.66%			
116) 4-bromofluorobenzene (s)	15.417	95	108845	45.13	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 90.26%			

Target Compounds						Qvalue
83) methylcyclohexane	11.453	83	9058	3.44	ug/L	97
115) isopropylbenzene	15.208	105	6059	0.72	ug/L	84
128) 1,2,4-trimethylbenzene	16.270	105	2289	0.32	ug/L	98

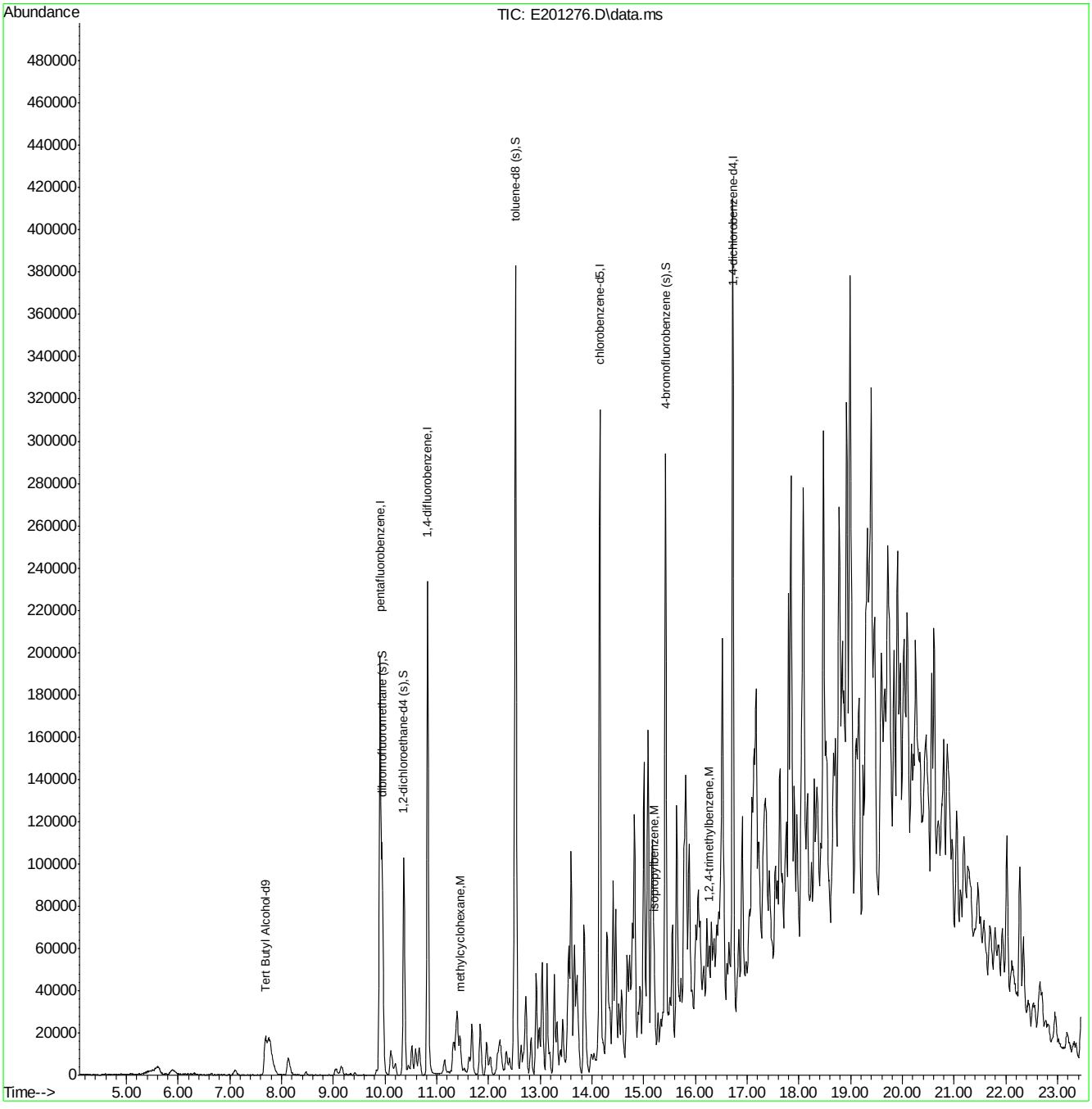
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31485

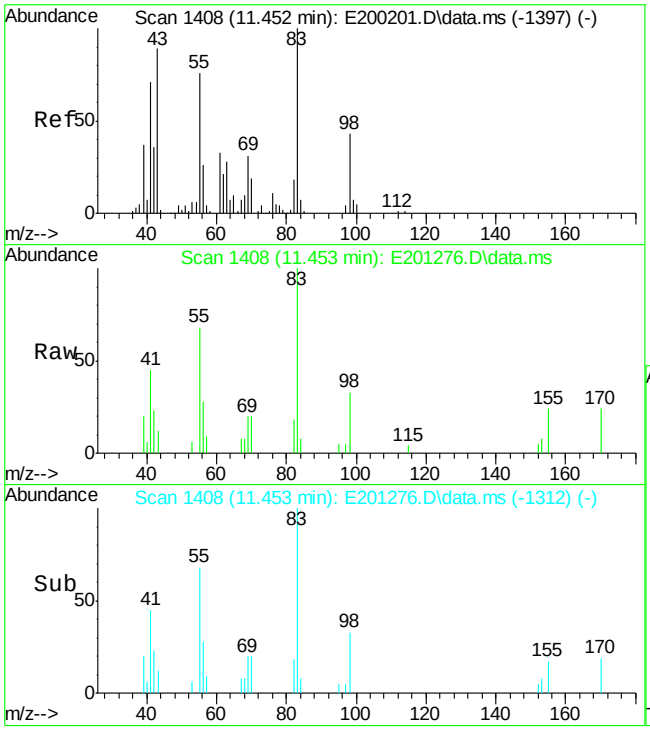
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201276.D
Acq On : 24 Mar 2013 6:17 am
Operator : OksanaT
Sample : jb31485-13
Misc : MS45033,VE8849,6.4,,100,10,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 25 12:59:39 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



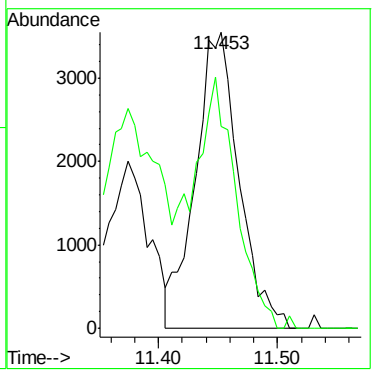
ME8801.M Mon Mar 25 12:59:50 2013 RPT1 Page: 2

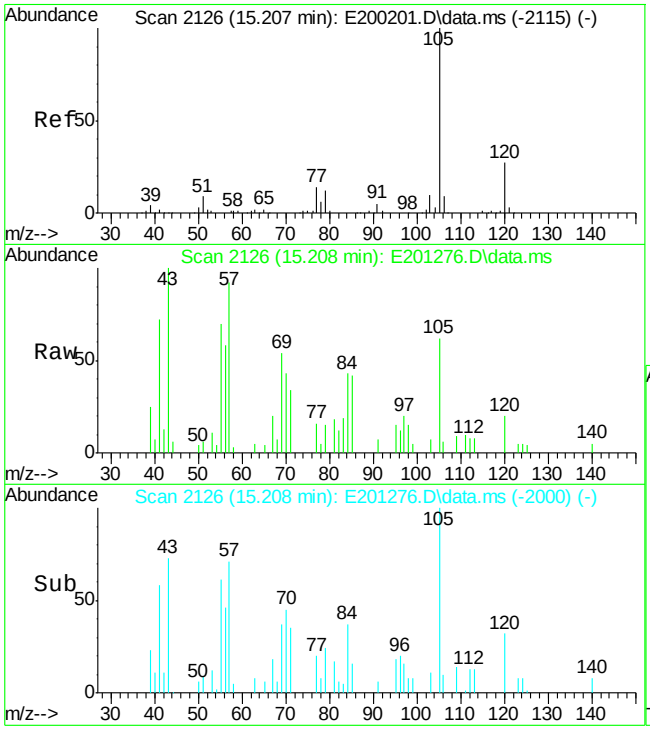


#83
methylcyclohexane
Concen: 3.44 ug/L
RT: 11.453 min Scan# 1408
Delta R.T. 0.001 min
Lab File: E201276.D
Acq: 24 Mar 2013 6:17 am

Tgt Ion: 83 Resp: 9058

Ion	Ratio	Lower	Upper
83	100		
55	85.1	57.5	106.9

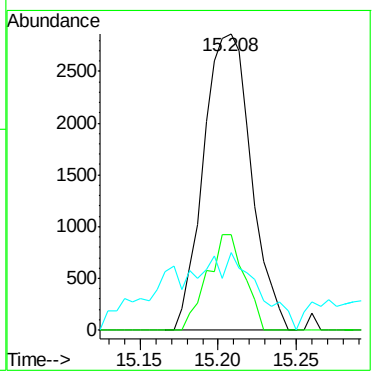


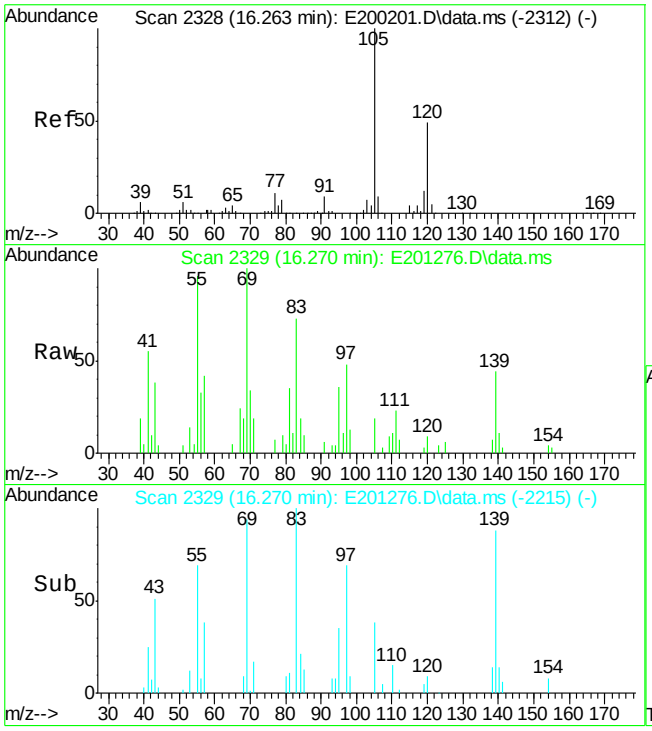


#115
isopropylbenzene
Concen: 0.72 ug/L
RT: 15.208 min Scan# 2126
Delta R.T. 0.001 min
Lab File: E201276.D
Acq: 24 Mar 2013 6:17 am

Tgt Ion:105 Resp: 6059

Ion	Ratio	Lower	Upper
105	100		
120	32.2	0.0	57.0
77	26.0	0.0	44.4

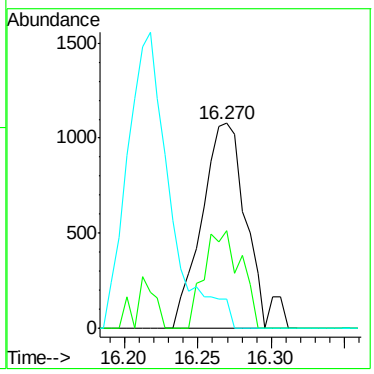




#128
1,2,4-trimethylbenzene
Concen: 0.32 ug/L
RT: 16.270 min Scan# 2329
Delta R.T. 0.006 min
Lab File: E201276.D
Acq: 24 Mar 2013 6:17 am

Tgt Ion:105 Resp: 2289

Ion	Ratio	Lower	Upper
105	100		
120	47.9	19.4	79.4
119	14.3	0.0	43.7



7.1.13

7

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193084.D Vial: 100
Acq On : 27 Mar 2013 5:40 pm Operator: Oksanat
Sample : jb31485-14 Inst : MSA
Misc : MS45033,VA7275,6.3,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:53 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.01	65	52803	500.00	ug/L	-0.01
5) pentafluorobenzene	9.35	168	135592	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	190619	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	183028	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	83495	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.38	113	53014	52.55	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 105.10%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	54497	48.34	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 96.68%			
77) toluene-d8 (s)	12.05	98	202270	55.88	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 111.76%			
102) 4-bromofluorobenzene (s)	15.06	95	70577	59.54	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 119.08%#			

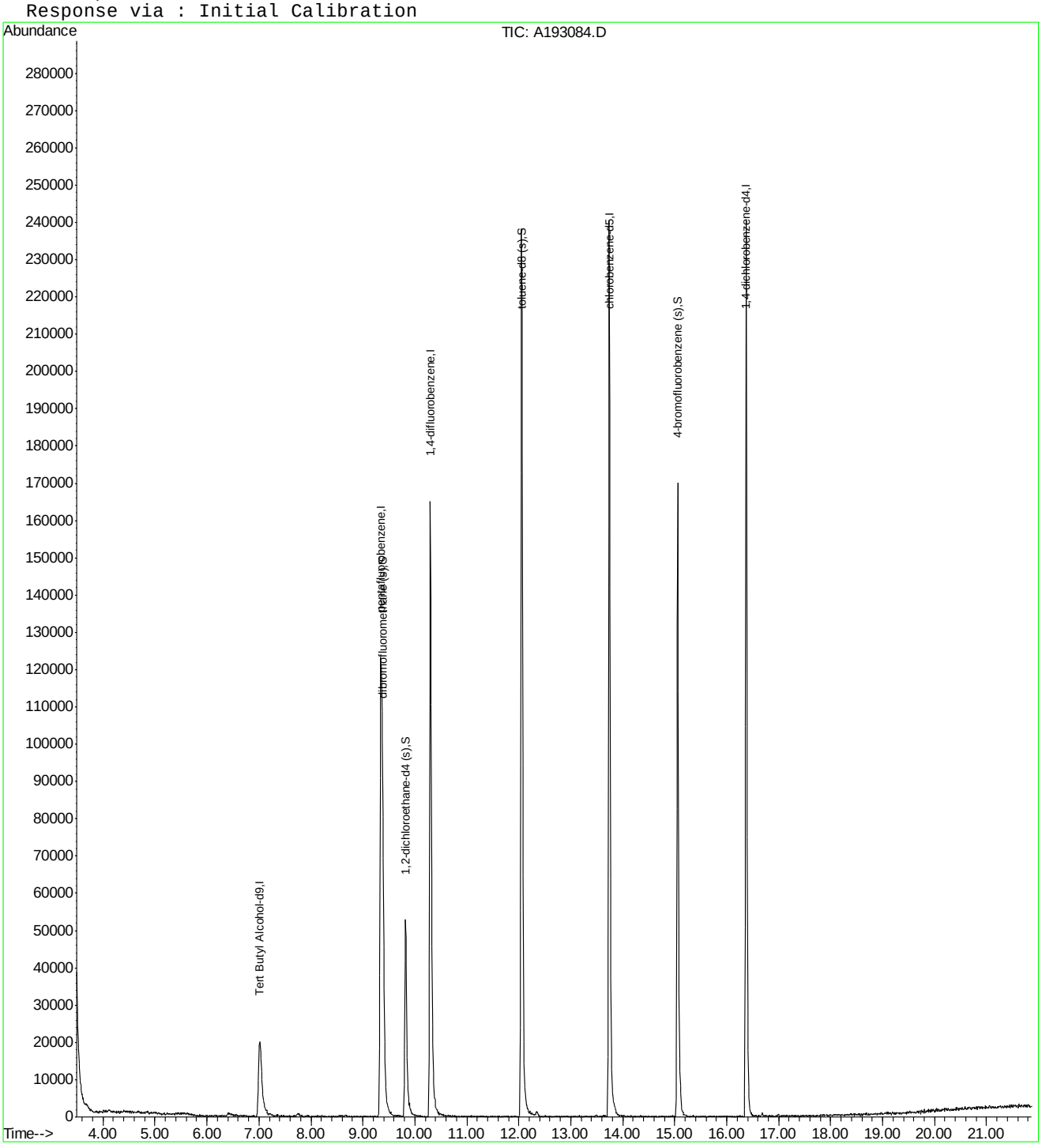
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
A193084.D MA7222.M Thu Mar 28 09:53:37 2013 MSA

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193084.D Vial: 100
Acq On : 27 Mar 2013 5:40 pm Operator: Oksanat
Sample : jb31485-14 Inst : MSA
Misc : MS45033,VA7275,6.3,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:53 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193085.D Vial: 100
Acq On : 27 Mar 2013 6:09 pm Operator: Oksanat
Sample : jb31485-15 Inst : MSA
Misc : MS45033,VA7275,5.7,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:54 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.01	65	55043	500.00	ug/L	-0.01
5) pentafluorobenzene	9.35	168	159110	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	212437	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	200983	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	98440	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.38	113	60595	51.18	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 102.36%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	60620	45.83	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 91.66%			
77) toluene-d8 (s)	12.05	98	215280	53.37	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 106.74%			
102) 4-bromofluorobenzene (s)	15.05	95	81807	58.54	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 117.08%#			

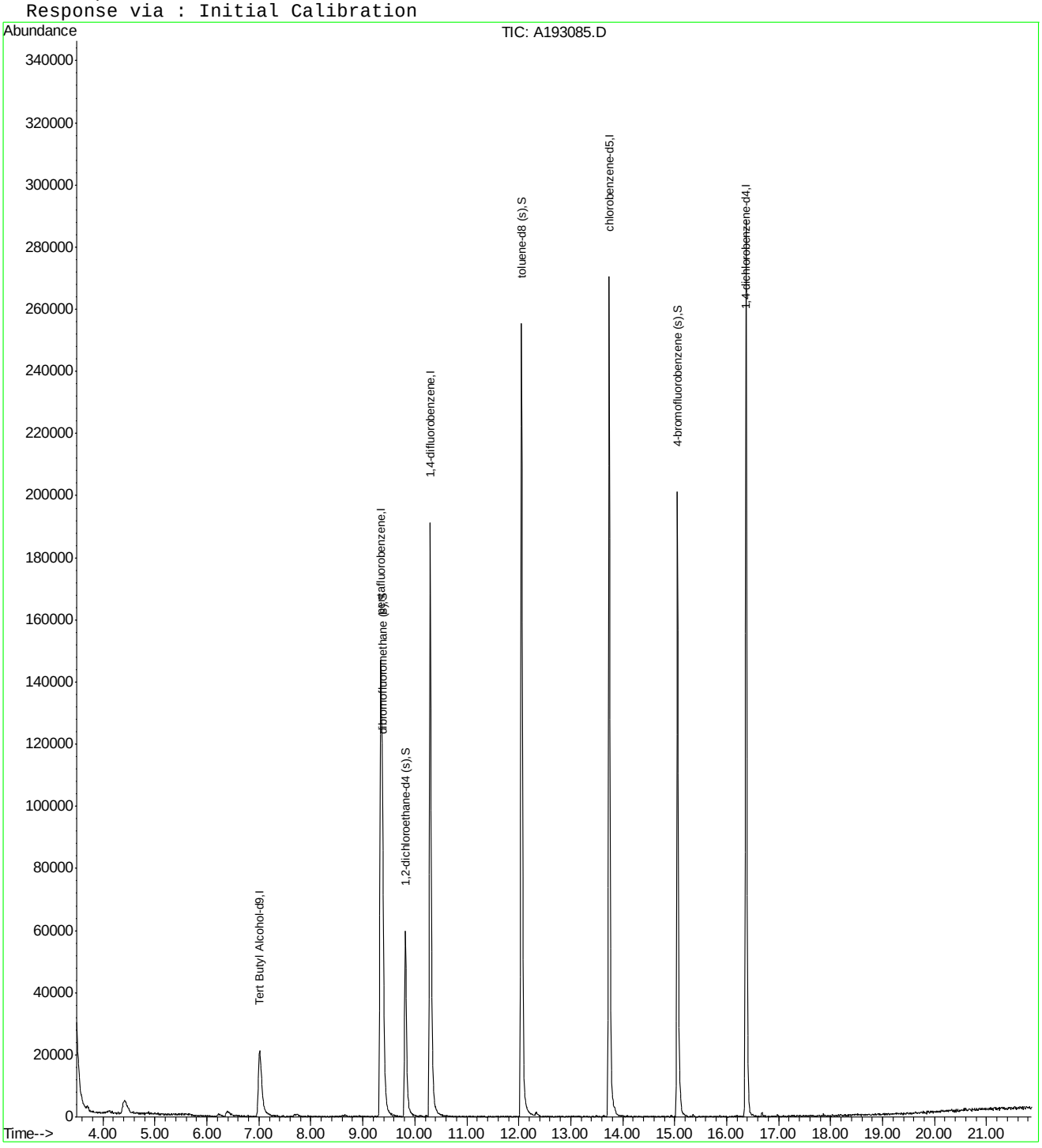
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
A193085.D MA7222.M Thu Mar 28 09:54:09 2013 MSA

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193085.D Vial: 100
Acq On : 27 Mar 2013 6:09 pm Operator: Oksanat
Sample : jb31485-15 Inst : MSA
Misc : MS45033,VA7275,5.7,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 28 9:54 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3C\v3c4303\
Data File : 3C96956.D
Acq On : 28 Mar 2013 2:41 pm
Operator : danat
Sample : JB31485-16
Misc : MS45033,V3C4303,6.1,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 01 16:48:11 2013
Quant Method : C:\MSDCHEM\1\METHODS\M3C4301.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 12:17:32 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.372	65	59686	500.00	ug/L	-0.01
5) pentafluorobenzene	9.600	168	206207	50.00	ug/L	0.00
53) 1,4-difluorobenzene	10.520	114	301038	50.00	ug/L	0.00
82) chlorobenzene-d5	13.648	117	253016	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	15.939	152	114004	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	9.662	113	102481	49.44	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.88%			
45) 1,2-dichloroethane-d4 (s)	10.081	65	94349	46.57	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 93.14%			
74) toluene-d8 (s)	12.152	98	434589	52.16	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 104.32%			
99) 4-bromofluorobenzene (s)	14.788	95	146132	53.07	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 106.14%			
Target Compounds						Qvalue
24) methylene chloride	7.424	84	5033	2.28	ug/L	87

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

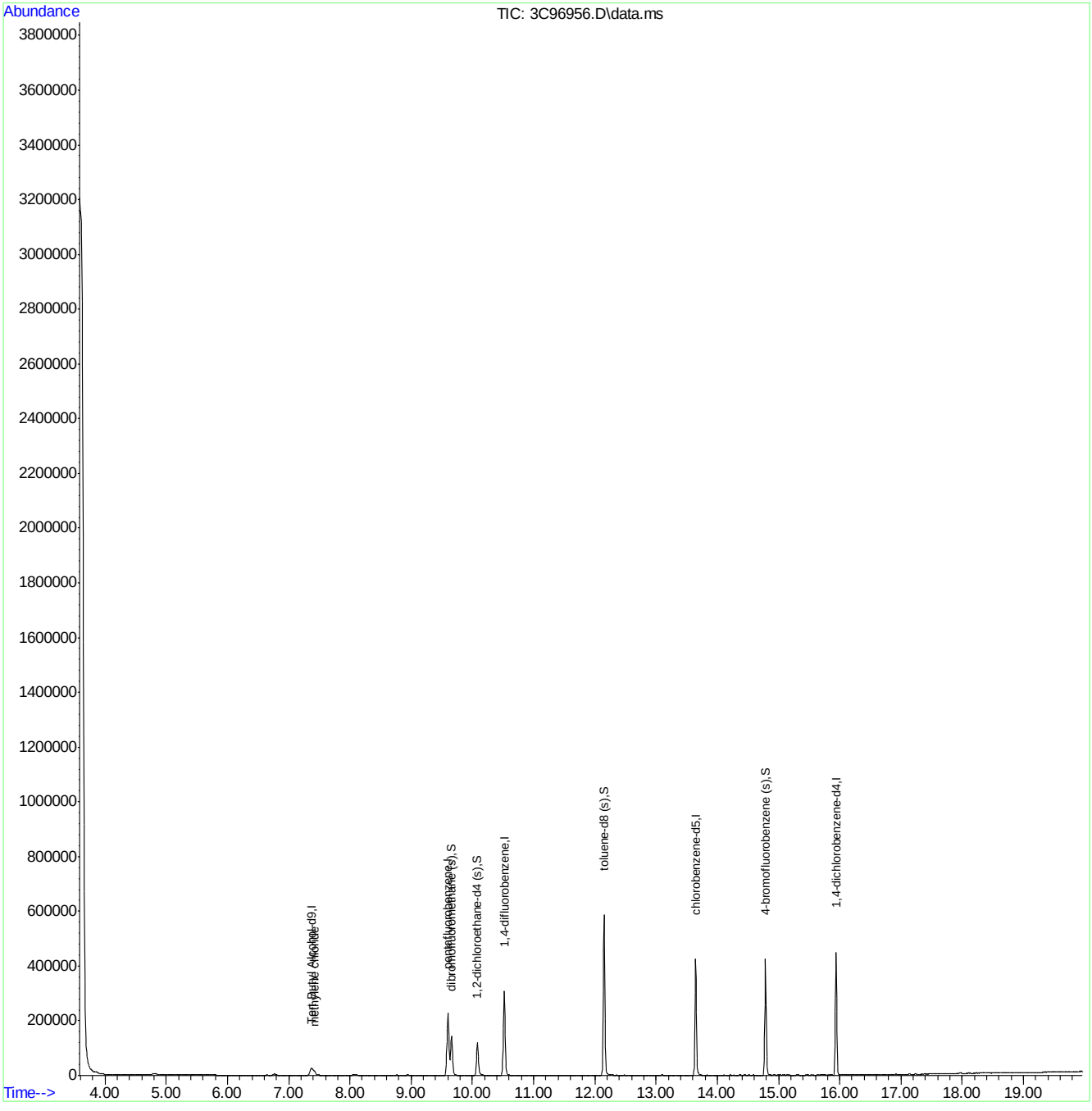
7.1.16

7

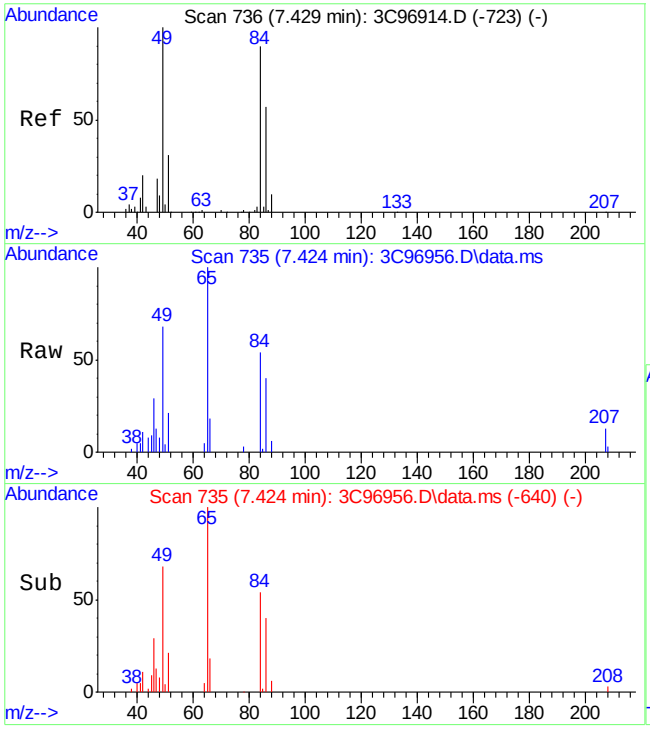
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3C\v3c4303\
Data File : 3C96956.D
Acq On : 28 Mar 2013 2:41 pm
Operator : danat
Sample : JB31485-16
Misc : MS45033,V3C4303,6.1,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 01 16:48:11 2013
Quant Method : C:\MSDCHEM\1\METHODS\M3C4301.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 12:17:32 2013
Response via : Initial Calibration



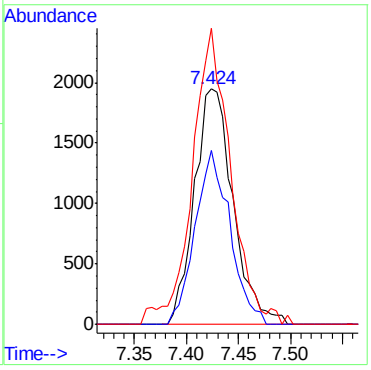
M3C4301.M Mon Apr 01 16:51:49 2013 ACCNJ



#24
methylene chloride
Concen: 2.28 ug/L
RT: 7.424 min Scan# 735
Delta R.T. -0.005 min
Lab File: 3C96956.D
Acq: 28 Mar 2013 2:41 pm

Tgt Ion: 84 Resp: 5033

Ion	Ratio	Lower	Upper
84	100		
86	73.8	44.6	82.8
49	125.8	78.3	145.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201417.D
Acq On : 28 Mar 2013 6:43 am
Operator : OksanaT
Sample : jb31485-17
Misc : MS45033,VE8855,5.9,,100,10,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Apr 03 16:53:15 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.677	65	75907	500.00	ug/L	0.00
5) pentafluorobenzene	9.905	168	186298	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.820	114	227661	50.00	ug/L	0.00
97) chlorobenzene-d5	14.152	117	202827	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.720	152	124601	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.952	113	72674	41.57	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.14%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	78202	40.69	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 81.38%			
89) toluene-d8 (s)	12.520	98	308835	53.58	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 107.16%			
116) 4-bromofluorobenzene (s)	15.418	95	124380	54.45	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 108.90%			

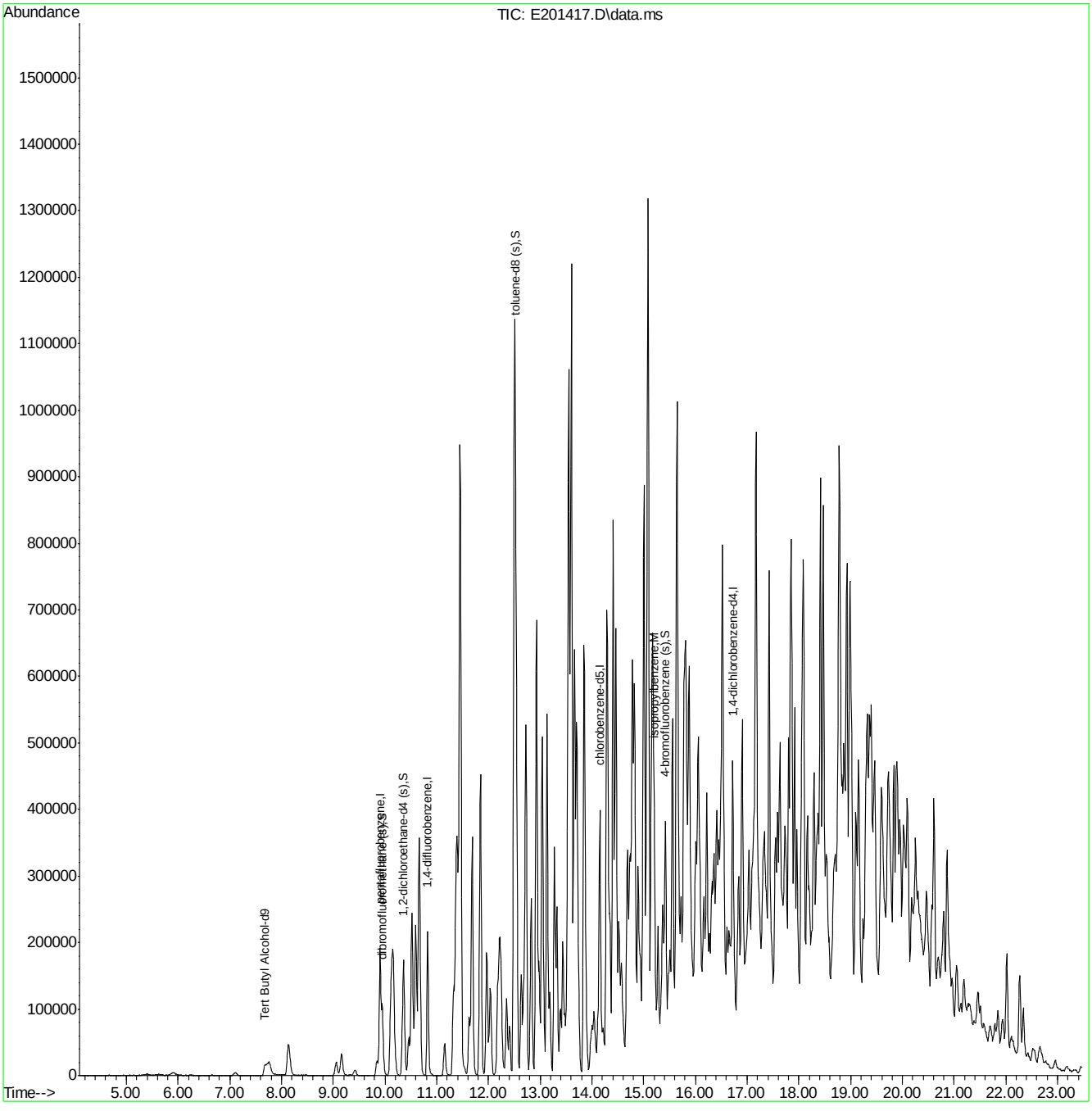
Target Compounds						Qvalue
115) isopropylbenzene	15.203	105	126866	15.83	ug/L	99

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

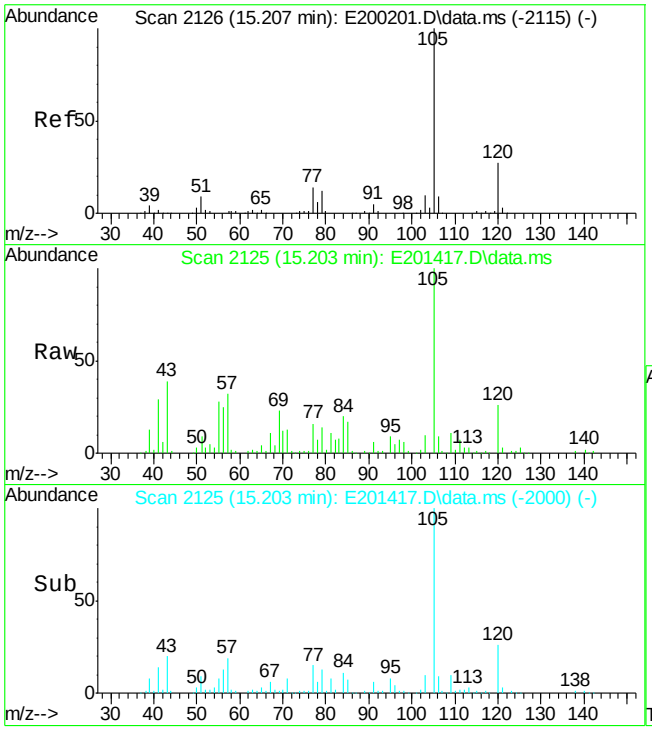
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201417.D
Acq On : 28 Mar 2013 6:43 am
Operator : OksanaT
Sample : jb31485-17
Misc : MS45033,VE8855,5.9,,100,10,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Apr 03 16:53:15 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



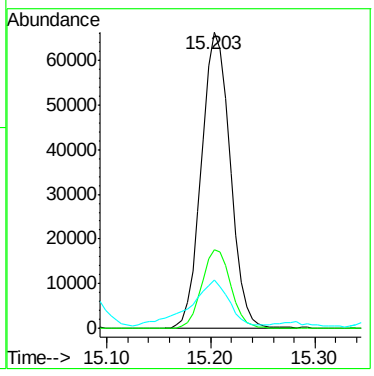
ME8801.M Wed Apr 03 16:53:22 2013 RPT1 Page: 2



#115
isopropylbenzene
Concen: 15.83 ug/L
RT: 15.203 min Scan# 2125
Delta R.T. -0.004 min
Lab File: E201417.D
Acq: 28 Mar 2013 6:43 am

Tgt Ion:105 Resp: 126866

Ion	Ratio	Lower	Upper
105	100		
120	26.4	0.0	57.0
77	14.0	0.0	44.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201278.D
Acq On : 24 Mar 2013 7:17 am
Operator : OksanaT
Sample : jb31485-18
Misc : MS45033,VE8849,5.9,,100,10,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Mar 25 13:06:47 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.691	65	94530	500.00	ug/L	0.02
5) pentafluorobenzene	9.903	168	190092	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.824	114	243987	50.00	ug/L	0.00
97) chlorobenzene-d5	14.150	117	212740	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.723	152	129772	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.945	113	73912	41.44	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 82.88%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	82585	42.11	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.22%			
89) toluene-d8 (s)	12.524	98	288905	46.77	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 93.54%			
116) 4-bromofluorobenzene (s)	15.421	95	112873	47.45	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 94.90%			

Target Compounds						Qvalue
115) isopropylbenzene	15.201	105	3405	0.41	ug/L	93

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

7.1.18

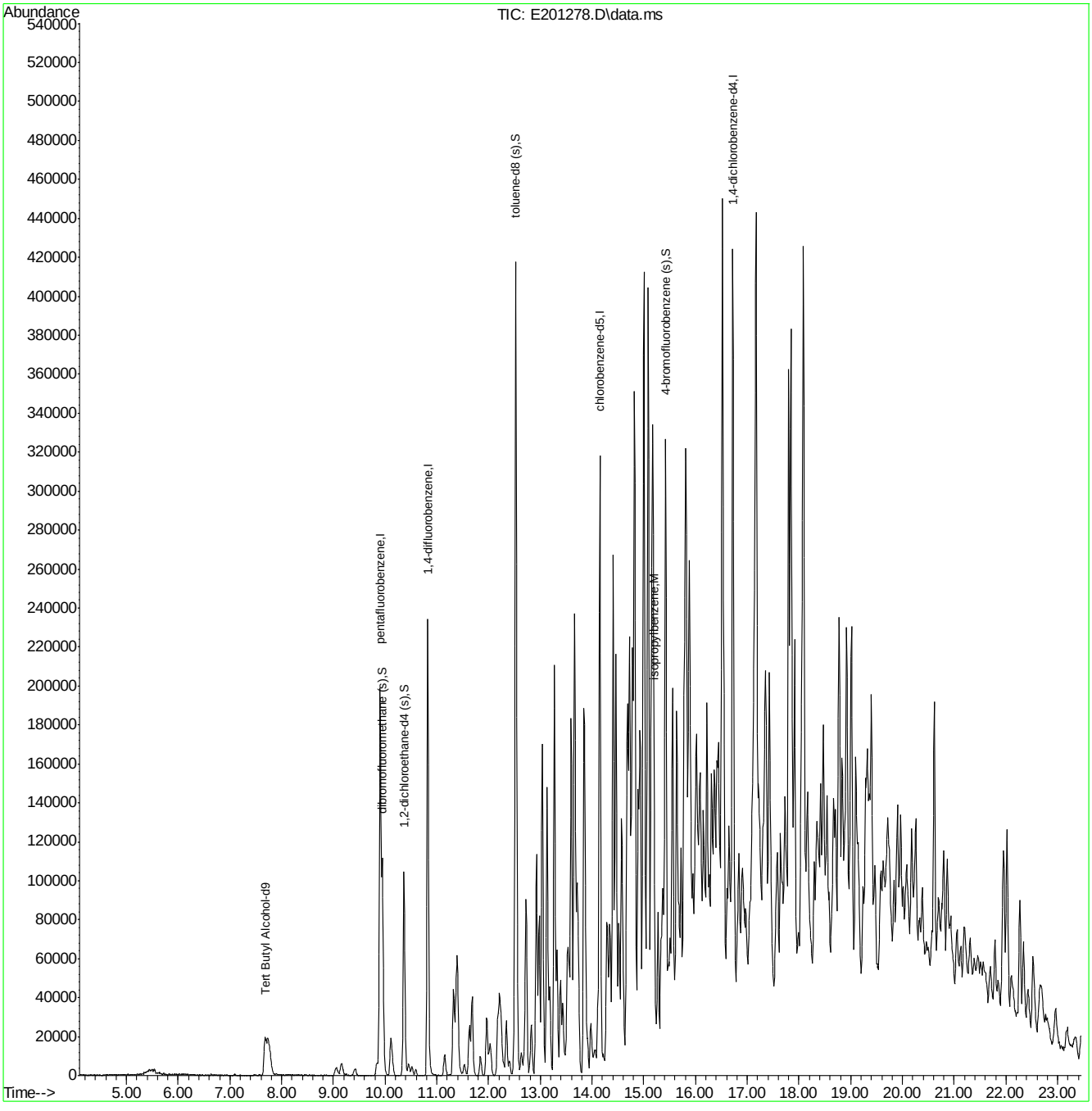
7

SGS ACCUTEST JB31485

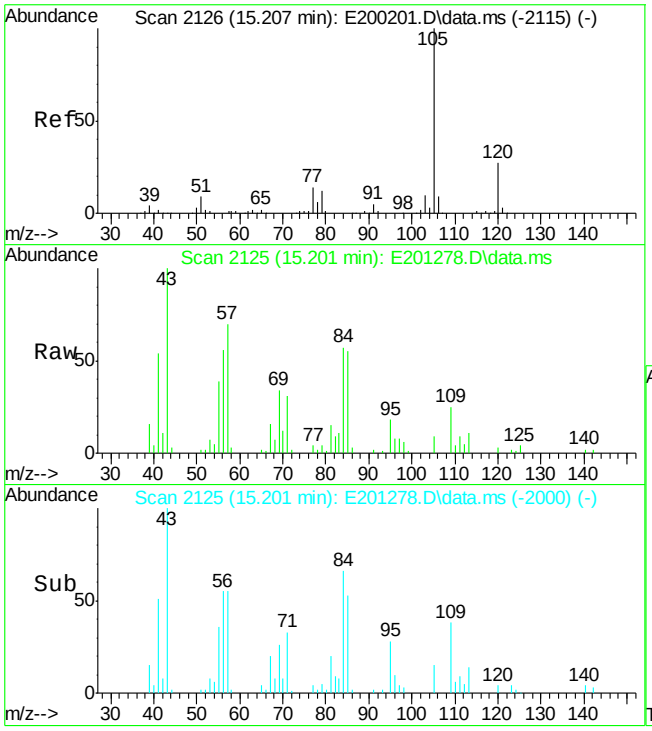
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201278.D
Acq On : 24 Mar 2013 7:17 am
Operator : OksanaT
Sample : jb31485-18
Misc : MS45033,VE8849,5.9,,100,10,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Mar 25 13:06:47 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



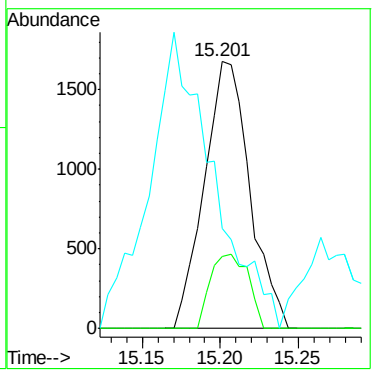
ME8801.M Mon Mar 25 13:06:57 2013 RPT1 Page: 2



#115
isopropylbenzene
Concen: 0.41 ug/L
RT: 15.201 min Scan# 2125
Delta R.T. -0.006 min
Lab File: E201278.D
Acq: 24 Mar 2013 7:17 am

Tgt Ion:105 Resp: 3405

Ion	Ratio	Lower	Upper
105	100		
120	27.0	0.0	57.0
77	22.3	0.0	44.4



7.1.18

7

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201418.D
Acq On : 28 Mar 2013 7:13 am
Operator : OksanaT
Sample : jb31485-19
Misc : MS45033,VE8855,6.3,,100,10,1
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Mar 28 13:16:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.697	65	98039	500.00	ug/L	0.03
5) pentafluorobenzene	9.904	168	180900	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.820	114	227743	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	195594	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.719	152	127829	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.946	113	71730	42.26	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 84.52%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	75794	40.61	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 81.22%			
89) toluene-d8 (s)	12.525	98	282356	48.97	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 97.94%			
116) 4-bromofluorobenzene (s)	15.422	95	113645	48.50	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 97.00%			

Target Compounds						Qvalue
75) benzene	10.480	78	1894	0.30	ug/L	63
91) toluene	12.603	92	2607	0.67	ug/L #	74
115) isopropylbenzene	15.208	105	16533	2.01	ug/L	96

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

7.1.19

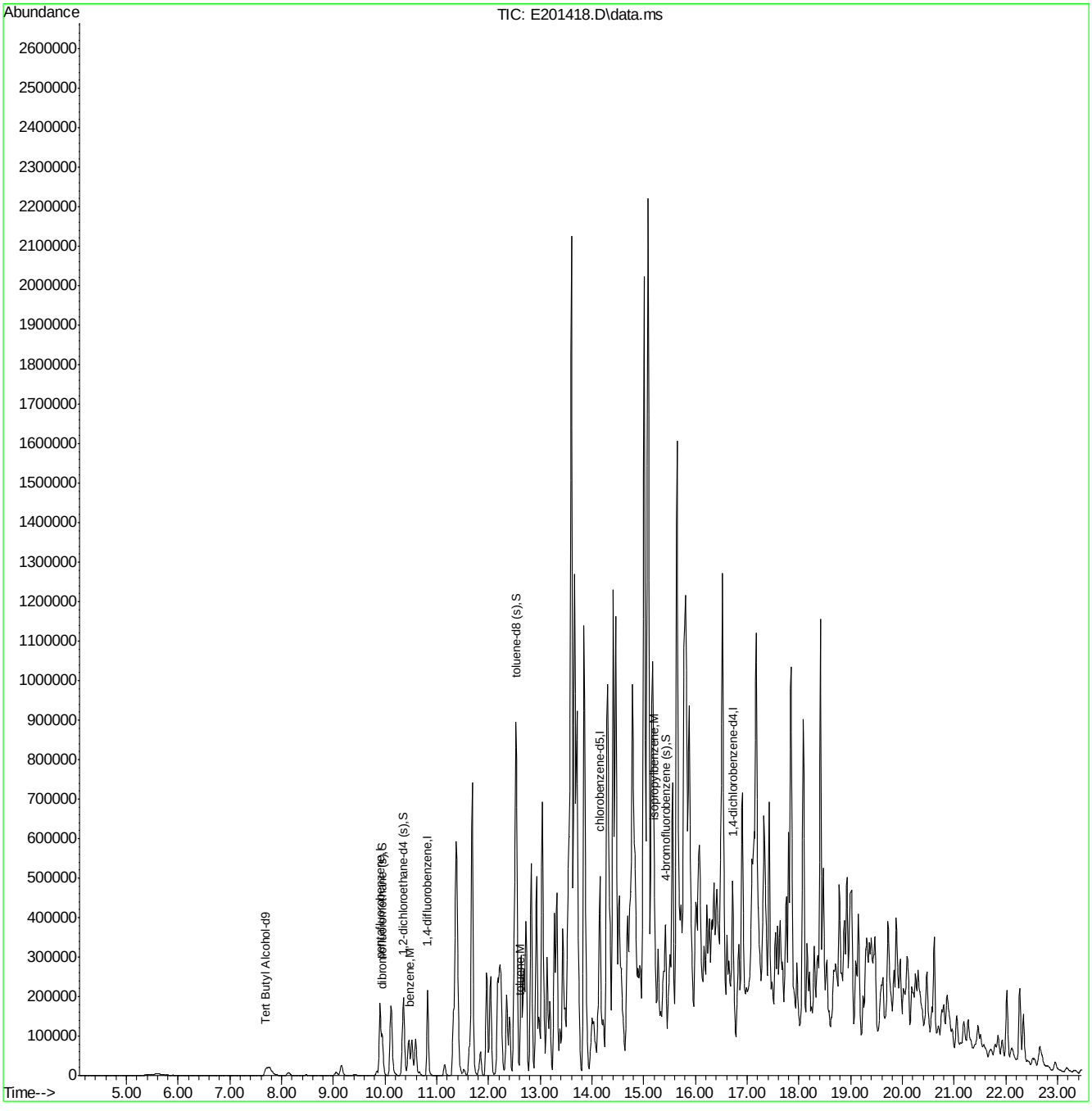
7

SGS ACCUTEST JB31485

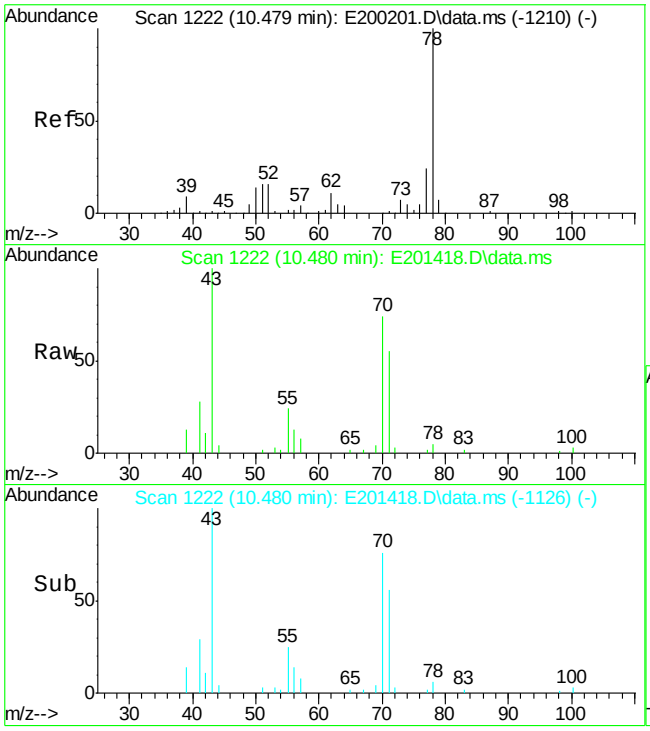
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201418.D
Acq On : 28 Mar 2013 7:13 am
Operator : OksanaT
Sample : jb31485-19
Misc : MS45033,VE8855,6.3,,100,10,1
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Mar 28 13:16:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



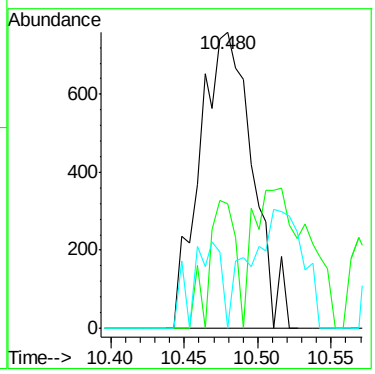
ME8801.M Thu Mar 28 13:17:05 2013 RPT1 Page: 2

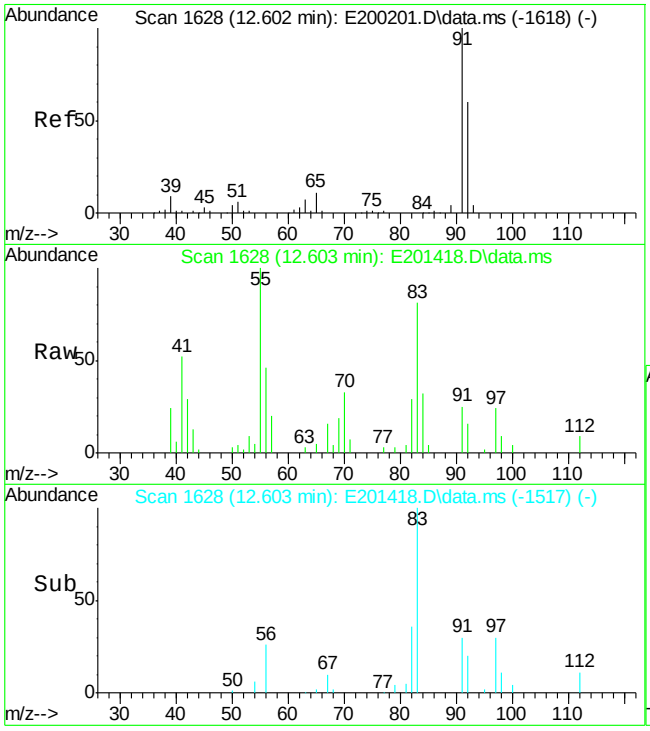


#75
benzene
Concen: 0.30 ug/L
RT: 10.480 min Scan# 1222
Delta R.T. 0.001 min
Lab File: E201418.D
Acq: 28 Mar 2013 7:13 am

Tgt Ion: 78 Resp: 1894

Ion	Ratio	Lower	Upper
78	100		
77	42.0	0.0	53.8
52	0.0	0.0	45.9

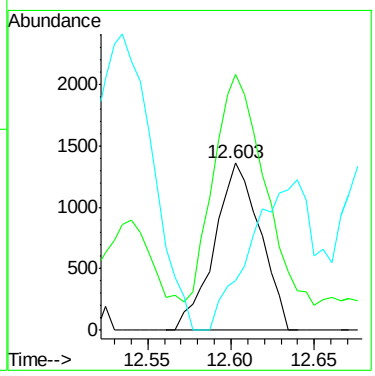




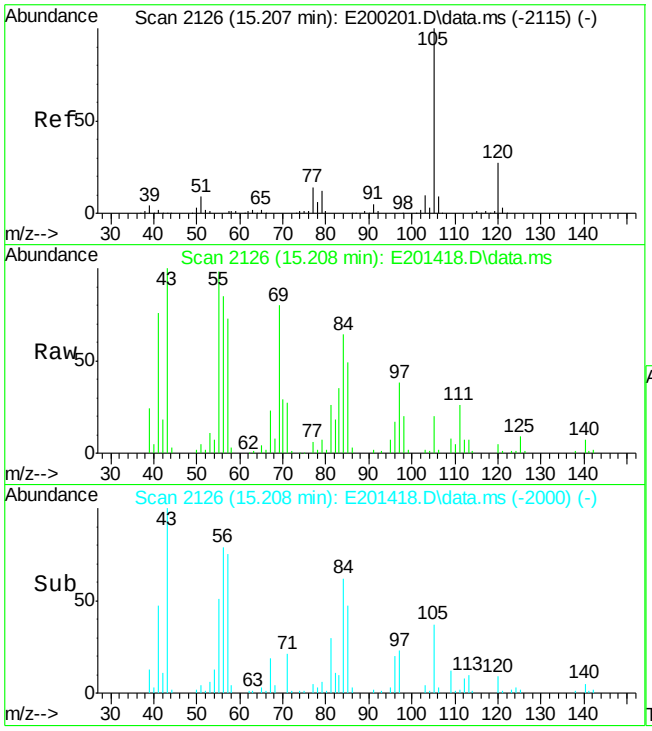
#91
toluene
Concen: 0.67 ug/L
RT: 12.603 min Scan# 1628
Delta R.T. 0.001 min
Lab File: E201418.D
Acq: 28 Mar 2013 7:13 am

Tgt Ion: 92 Resp: 2607

Ion	Ratio	Lower	Upper
92	100		
91	134.1	136.3	196.3#
65	0.0	0.0	48.8



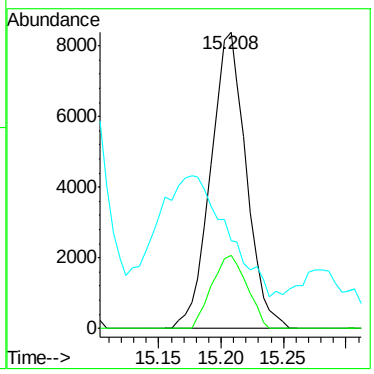
SGS ACCUTEST JB31485



#115
isopropylbenzene
Concen: 2.01 ug/L
RT: 15.208 min Scan# 2126
Delta R.T. 0.001 min
Lab File: E201418.D
Acq: 28 Mar 2013 7:13 am

Tgt Ion:105 Resp: 16533

Ion	Ratio	Lower	Upper
105	100		
120	24.8	0.0	57.0
77	15.4	0.0	44.4



SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI7384\
Data File : I182800.D
Acq On : 29 Mar 2013 1:02 pm
Operator : SCOTTM
Sample : JB31485-20
Misc : MS45033,VI7384,5.5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 13:43:24 2013
Quant Method : C:\MSDCHEM\1\METHODS\MI7342.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Mar 25 12:14:03 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.196	65	48837	50.00 ug/L	-0.03
5) pentafluorobenzene	9.461	168	218012	50.00 ug/L	-0.01
46) 1,4-difluorobenzene	10.376	114	292332	50.00 ug/L	-0.02
75) chlorobenzene-d5	13.546	117	220373	50.00 ug/L	-0.01
90) 1,4-dichlorobenzene-d4	15.904	152	112232	50.00 ug/L	-0.02

System Monitoring Compounds

43) dibromofluoromethane (s)	9.503	113	73399	45.76 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 91.52%		
47) 1,2-dichloroethane-d4...	9.921	65	73098	49.71 ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 99.42%		
76) toluene-d8 (s)	12.029	98	275189	53.27 ug/L	-0.01
Spiked Amount 50.000	Range 81 - 127		Recovery = 106.54%		
91) 4-bromofluorobenzene (s)	14.707	95	94632	57.48 ug/L	-0.01
Spiked Amount 50.000	Range 66 - 132		Recovery = 114.96%		

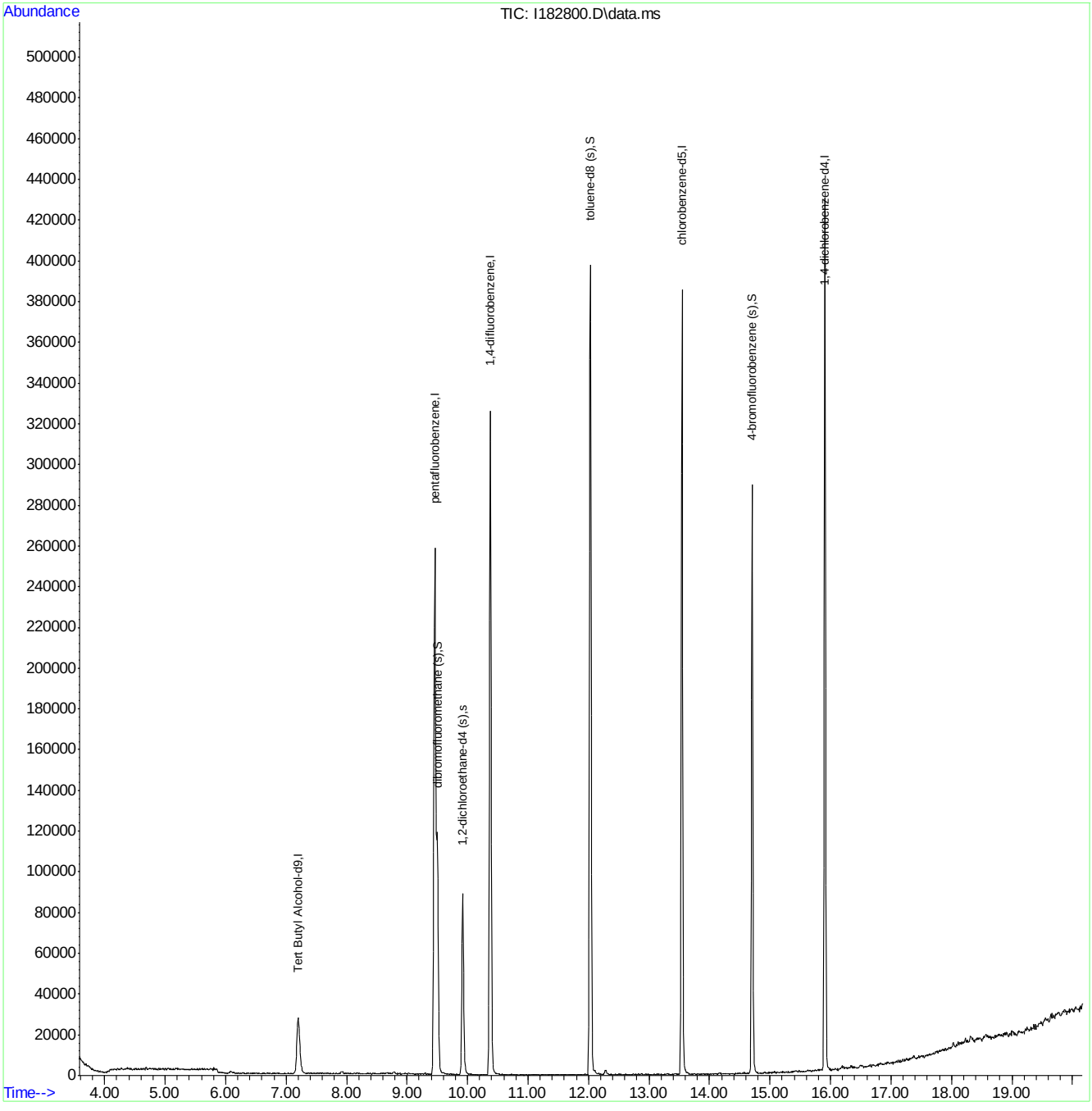
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI7384\
Data File : I182800.D
Acq On : 29 Mar 2013 1:02 pm
Operator : SCOTTM
Sample : JB31485-20
Misc : MS45033,VI7384,5.5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 13:43:24 2013
Quant Method : C:\MSDCHEM\1\METHODS\MI7342.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Mar 25 12:14:03 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193043.D Vial: 100
Acq On : 26 Mar 2013 7:40 pm Operator: Oksanat
Sample : jb31485-21 Inst : MSA
Misc : MS45033,VA7273,4.9,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:09 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.01	65	71605	500.00	ug/L	-0.01
5) pentafluorobenzene	9.35	168	193870	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	266931	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	243235	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	105194	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.39	113	74397	51.57	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 103.14%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	75020	46.54	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 93.08%			
77) toluene-d8 (s)	12.06	98	269805	53.23	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 106.46%			
102) 4-bromofluorobenzene (s)	15.06	95	91685	61.40	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 122.80%#			

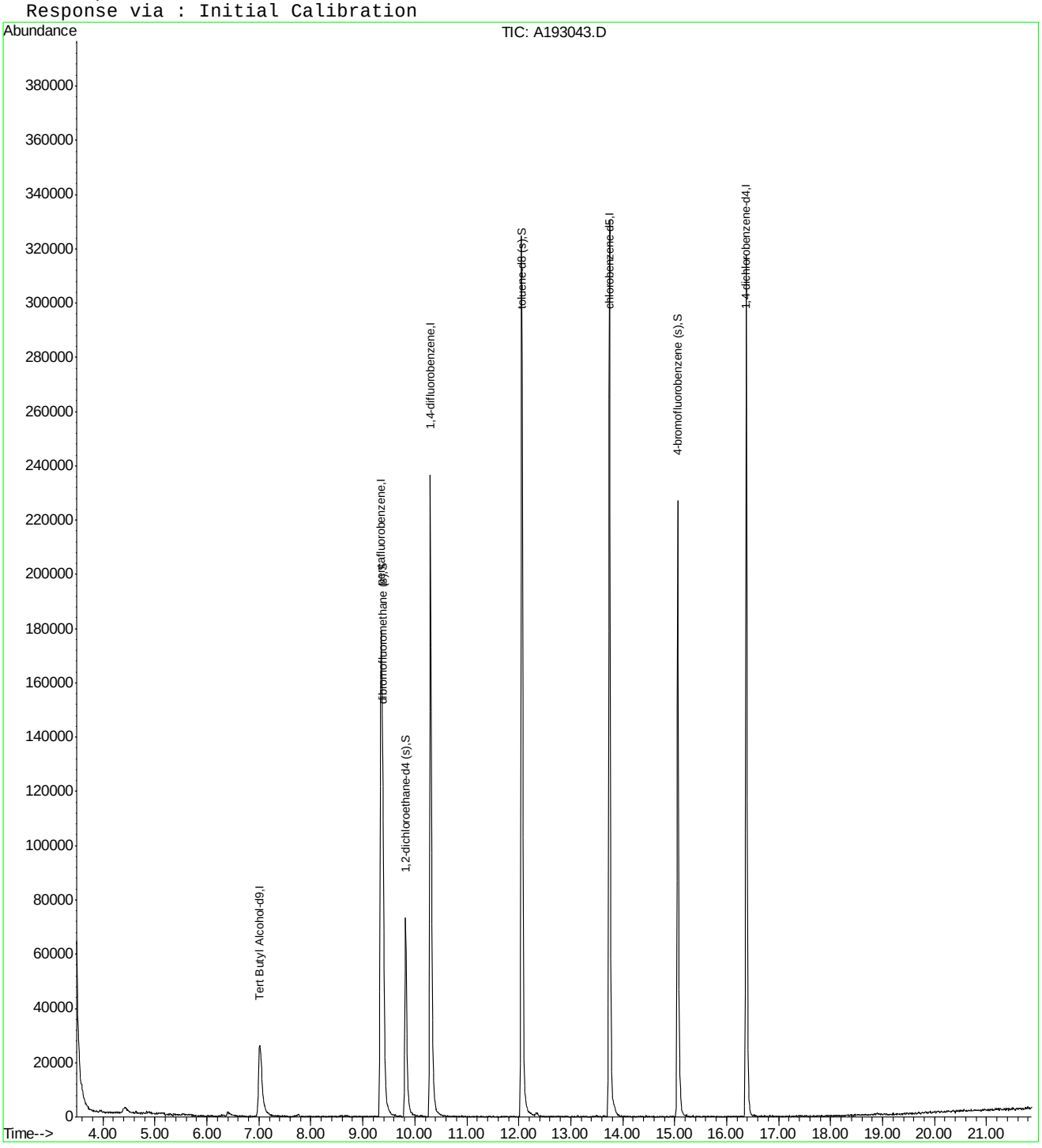
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
A193043.D MA7222.M Wed Mar 27 16:09:46 2013 MSA

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193043.D Vial: 100
Acq On : 26 Mar 2013 7:40 pm Operator: Oksanat
Sample : jb31485-21 Inst : MSA
Misc : MS45033,VA7273,4.9,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:09 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A192902.D Vial: 100
Acq On : 22 Mar 2013 4:15 pm Operator: Oksanat
Sample : JB31485-22 Inst : MSA
Misc : MS45033,VA7267,6.2,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 16:57 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	71779	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	197153	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	269845	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	263040	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	136337	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.39	113	75760	51.64	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 103.28%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	74798	45.63	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 91.26%			
77) toluene-d8 (s)	12.06	98	271554	52.99	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 105.98%			
102) 4-bromofluorobenzene (s)	15.06	95	105394	54.46	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 108.92%			

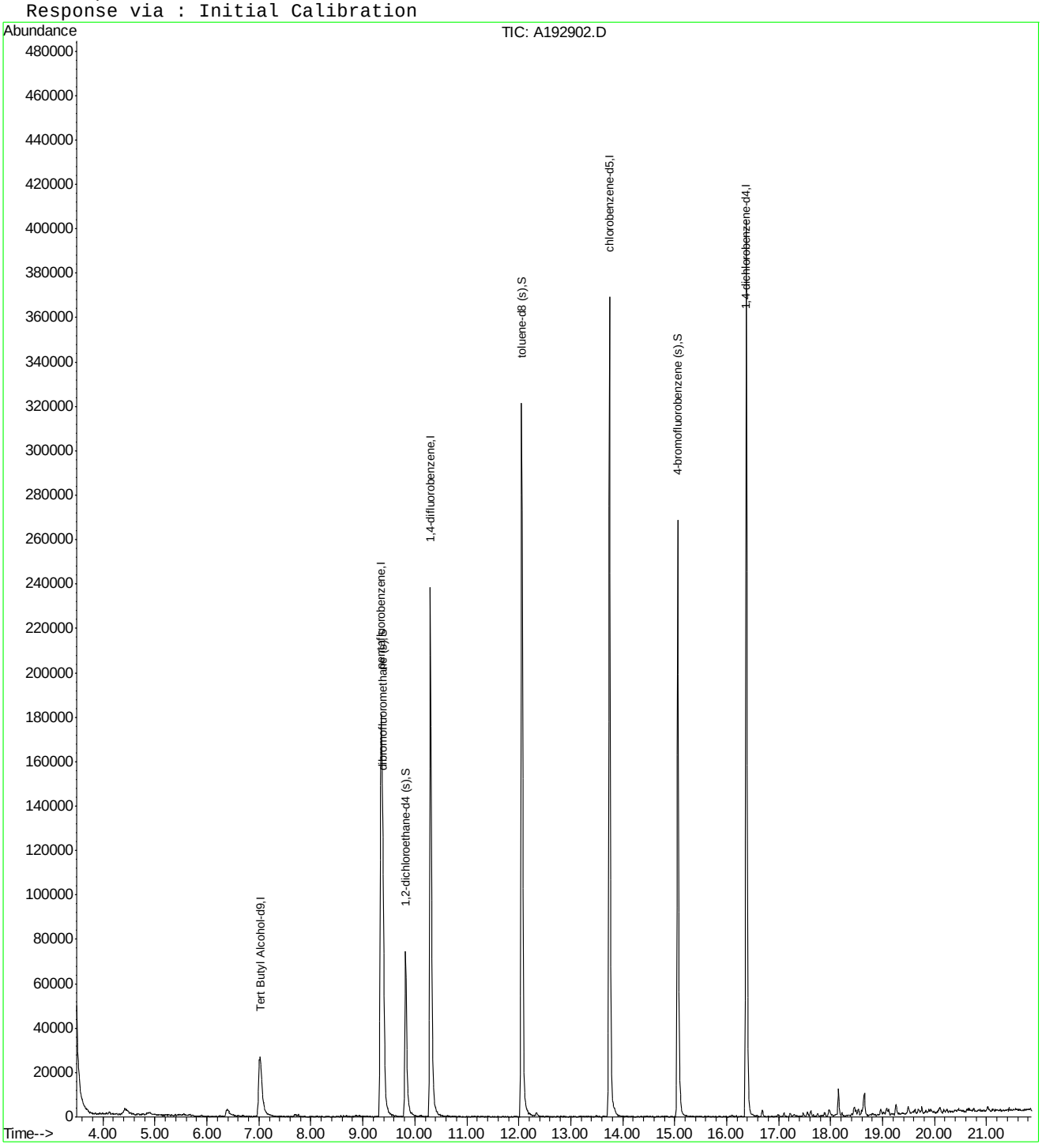
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
A192902.D MA7222.M Fri Mar 22 16:57:49 2013 MSA Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A192902.D Vial: 100
Acq On : 22 Mar 2013 4:15 pm Operator: Oksanat
Sample : JB31485-22 Inst : MSA
Misc : MS45033,VA7267,6.2,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 16:57 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/03/13 06:35

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193177.D Vial: 100
Acq On : 29 Mar 2013 7:17 pm Operator: Oksanat
Sample : jb31485-23 Inst : MSA
Misc : MS45033,VA7279,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Apr 1 14:58 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.00	65	67428	500.00	ug/L	-0.03
5) pentafluorobenzene	9.34	168	178181	50.00	ug/L	-0.02
54) 1,4-difluorobenzene	10.28	114	245986	50.00	ug/L	-0.02
85) chlorobenzene-d5	13.73	117	244494	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	136524	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.37	113	70688	53.32	ug/L	-0.02
Spiked Amount 50.000	Range 81 - 121		Recovery = 106.64%			
48) 1,2-dichloroethane-d4 (s)	9.80	65	72222	48.75	ug/L	-0.02
Spiked Amount 50.000	Range 74 - 127		Recovery = 97.50%			
77) toluene-d8 (s)	12.04	98	259936	55.65	ug/L	-0.01
Spiked Amount 50.000	Range 80 - 122		Recovery = 111.30%			
102) 4-bromofluorobenzene (s)	15.04	95	99775	51.48	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 116		Recovery = 102.96%			

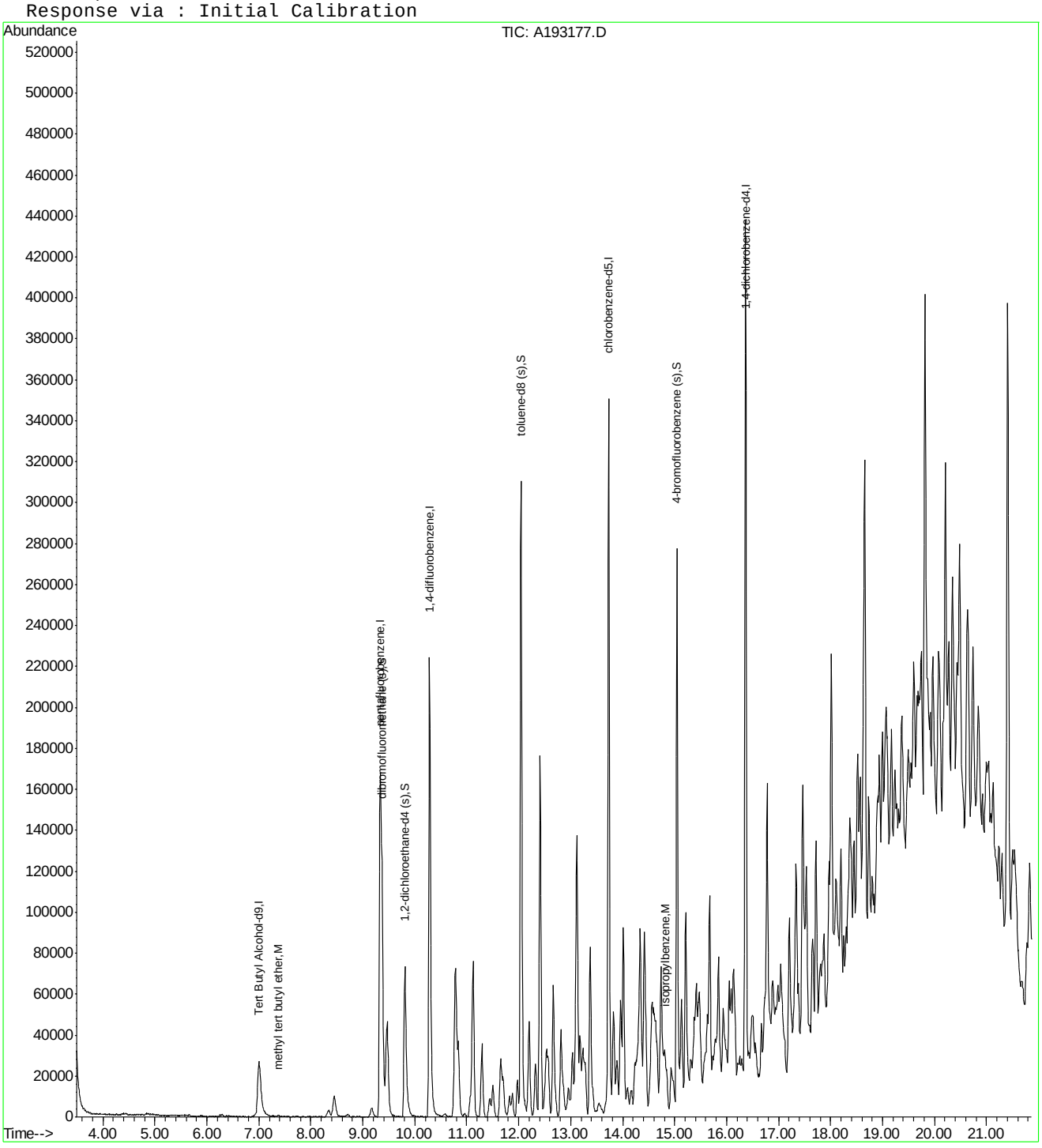
Target Compounds						Qvalue
28) methyl tert butyl ether	7.37	73	1170m	0.34	ug/L	
100) isopropylbenzene	14.82	105	3047	0.50	ug/L	86

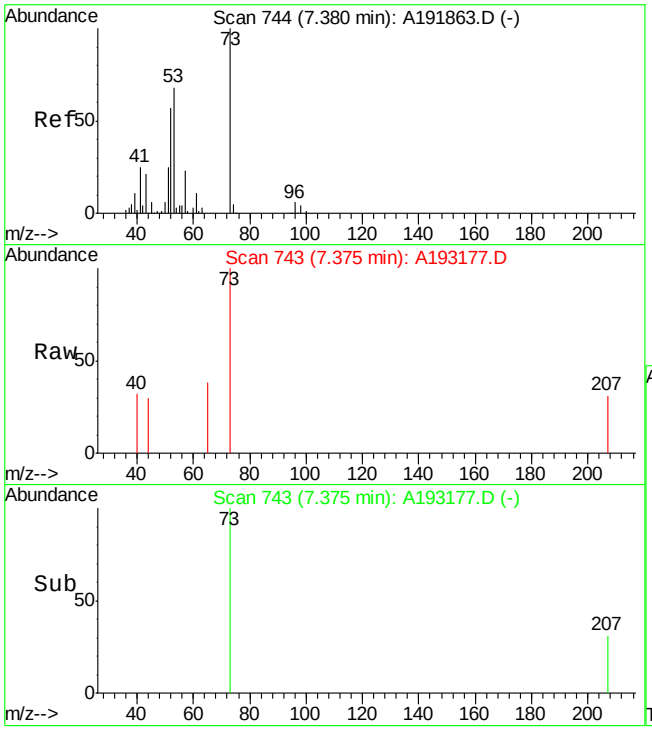
(#) = qualifier out of range (m) = manual integration
A193177.D MA7222.M Mon Apr 01 14:58:19 2013 MSA

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193177.D Vial: 100
Acq On : 29 Mar 2013 7:17 pm Operator: Oksanat
Sample : jb31485-23 Inst : MSA
Misc : MS45033,VA7279,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Apr 1 14:58 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

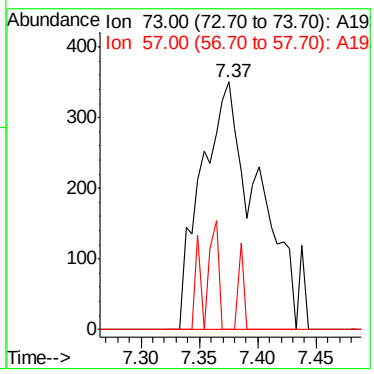


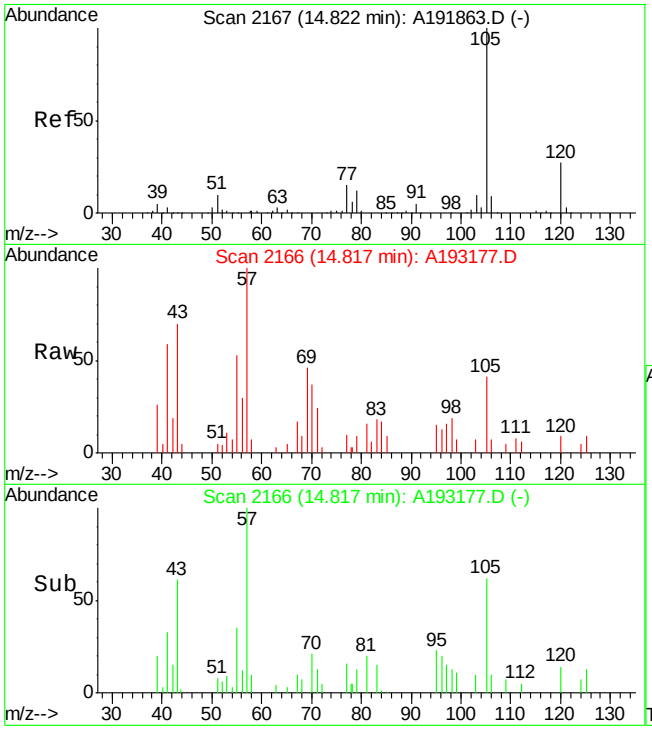


#28
methyl tert butyl ether
Concen: 0.34 ug/L m
RT: 7.37 min Scan# 743
Delta R.T. -0.00 min
Lab File: A193177.D
Acq: 29 Mar 2013 7:17 pm

Tgt Ion: 73 Resp: 1170

Ion	Ratio	Lower	Upper
73	100		
57	3.2	0.0	53.4

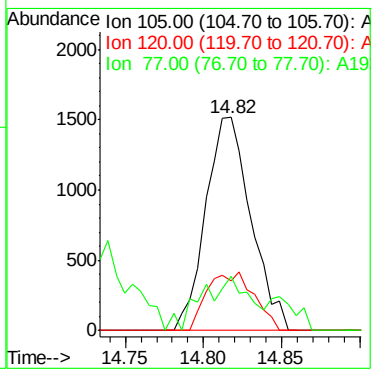




#100
isopropylbenzene
Concen: 0.50 ug/L
RT: 14.82 min Scan# 2166
Delta R.T. -0.00 min
Lab File: A193177.D
Acq: 29 Mar 2013 7:17 pm

Tgt Ion:105 Resp: 3047

Ion	Ratio	Lower	Upper
105	100		
120	23.3	0.0	56.9
77	25.6	0.0	44.9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A192903.D Vial: 100
Acq On : 22 Mar 2013 4:45 pm Operator: Oksanat
Sample : JB31485-24 Inst : MSA
Misc : MS45033,VA7267,6.3,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 17:04 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	61124	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	179408	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	248474	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	238933	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	133168	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.39	113	70485	52.80	ug/L	0.00
Spiked Amount 50.000 Range 81 - 121 Recovery = 105.60%						
48) 1,2-dichloroethane-d4 (s)	9.82	65	68530	45.95	ug/L	0.00
Spiked Amount 50.000 Range 74 - 127 Recovery = 91.90%						
77) toluene-d8 (s)	12.06	98	253309	53.69	ug/L	0.00
Spiked Amount 50.000 Range 80 - 122 Recovery = 107.38%						
102) 4-bromofluorobenzene (s)	15.06	95	97502	51.58	ug/L	0.00
Spiked Amount 50.000 Range 78 - 116 Recovery = 103.16%						

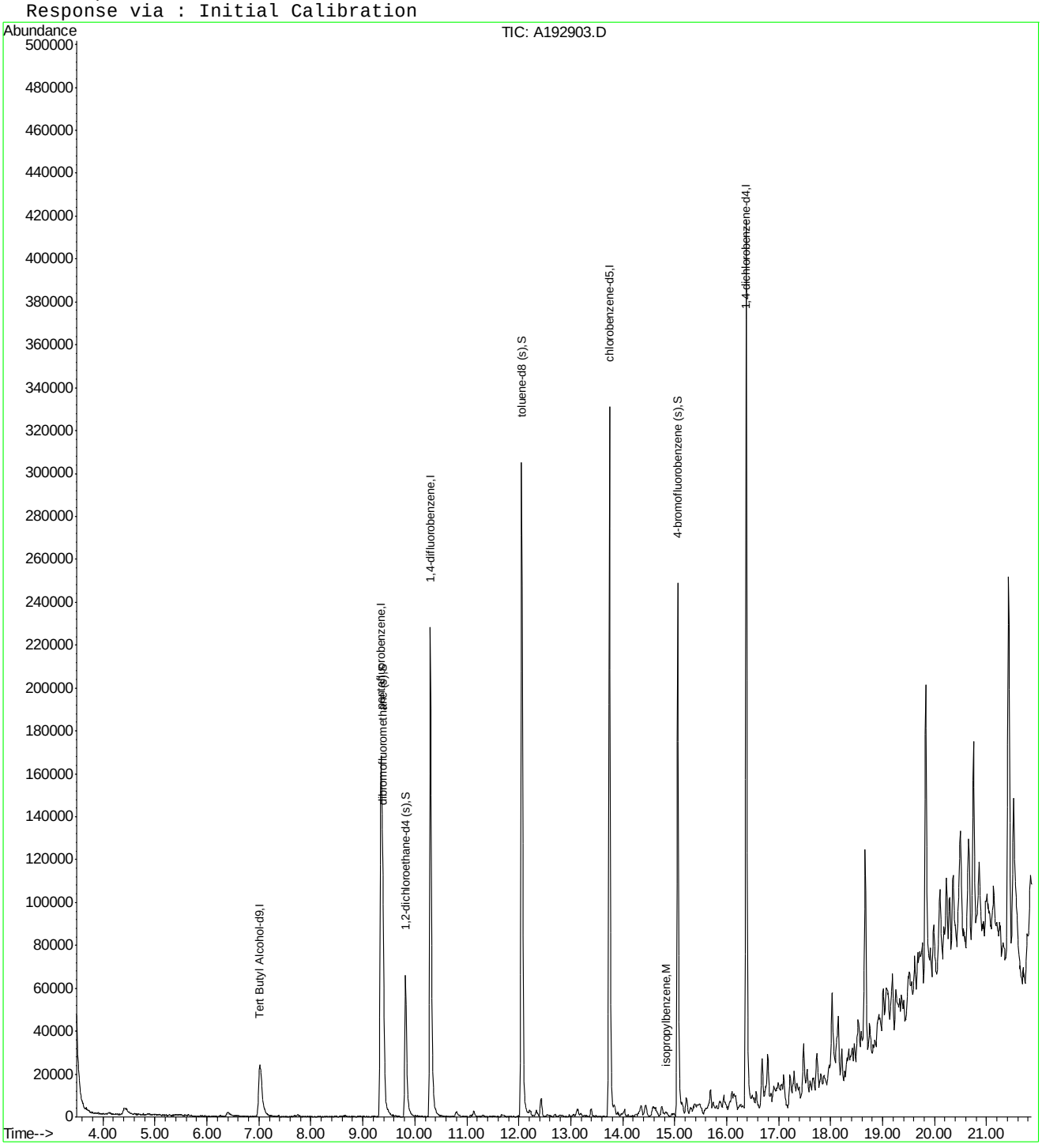
Target Compounds						Qvalue
100) isopropylbenzene	14.84	105	1375	0.23	ug/L	85

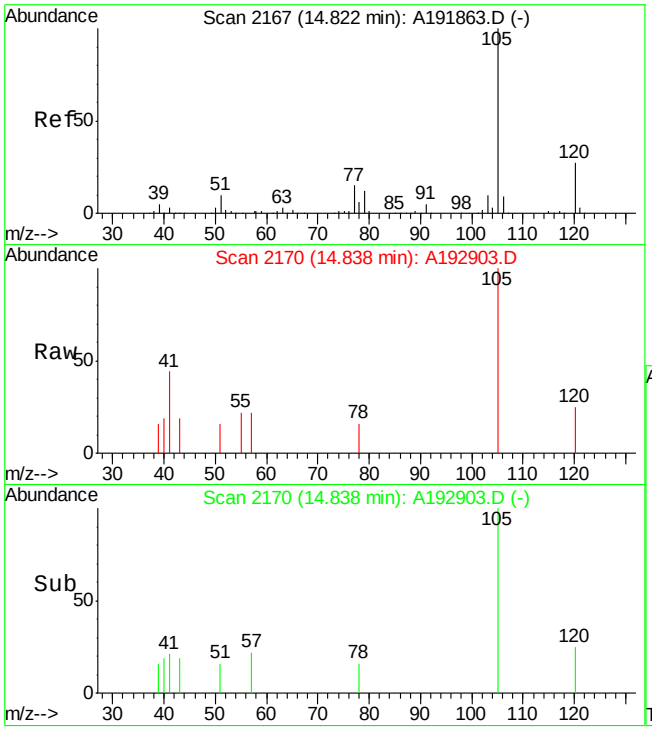
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A192903.D Vial: 100
Acq On : 22 Mar 2013 4:45 pm Operator: Oksanat
Sample : JB31485-24 Inst : MSA
Misc : MS45033,VA7267,6.3,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 17:04 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

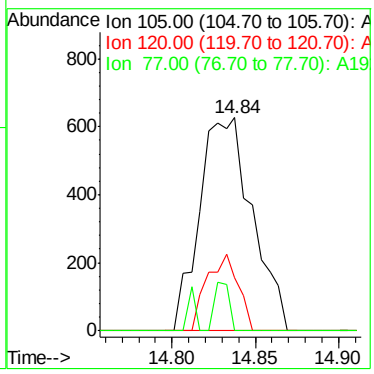




#100
isopropylbenzene
Concen: 0.23 ug/L
RT: 14.84 min Scan# 2170
Delta R.T. 0.02 min
Lab File: A192903.D
Acq: 22 Mar 2013 4:45 pm

Tgt Ion:105 Resp: 1375

Ion	Ratio	Lower	Upper
105	100		
120	24.9	0.0	56.9
77	0.0	0.0	44.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201230.D
Acq On : 23 Mar 2013 6:27 am
Operator : OksanaT
Sample : jb31485-25
Misc : MS45033,VE8847,6.3,,100,10,1
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Mar 23 15:10:51 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.692	65	81017	500.00	ug/L	0.02
5) pentafluorobenzene	9.905	168	193771	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	249073	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	220748	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.725	152	123089	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.946	113	75714	41.64	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.28%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	84777	42.41	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.82%			
89) toluene-d8 (s)	12.525	98	292307	46.35	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 92.70%			
116) 4-bromofluorobenzene (s)	15.422	95	111813	49.55	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 99.10%			

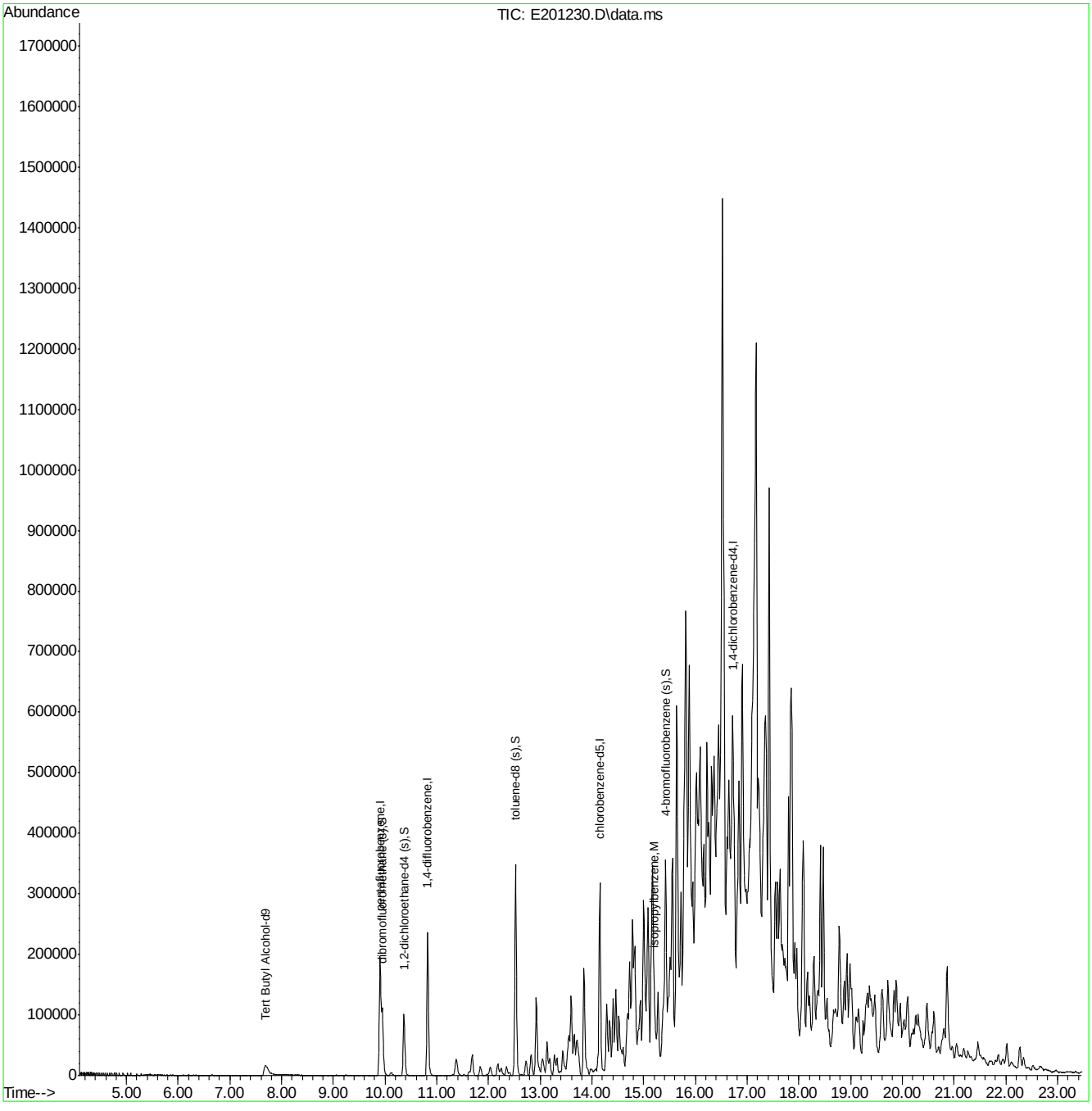
Target Compounds						Qvalue
115) isopropylbenzene	15.208	105	8796	1.11	ug/L	92

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

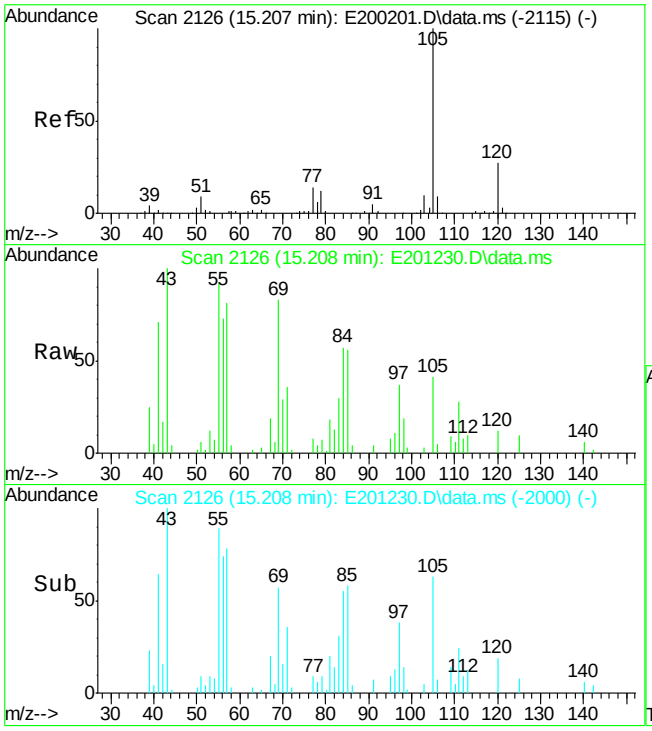
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201230.D
Acq On : 23 Mar 2013 6:27 am
Operator : OksanaT
Sample : jb31485-25
Misc : MS45033,VE8847,6.3,,100,10,1
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Mar 23 15:10:51 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



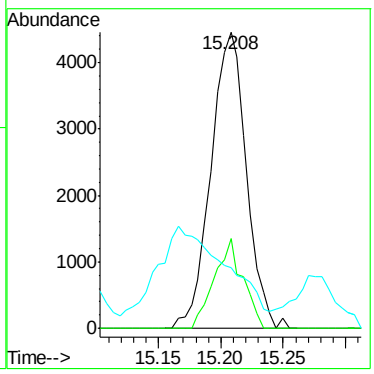
SGS ACCUTEST JB31485



#115
isopropylbenzene
Concen: 1.11 ug/L
RT: 15.208 min Scan# 2126
Delta R.T. 0.001 min
Lab File: E201230.D
Acq: 23 Mar 2013 6:27 am

Tgt Ion:105 Resp: 8796

Ion	Ratio	Lower	Upper
105	100		
120	30.4	0.0	57.0
77	10.3	0.0	44.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201231.D
Acq On : 23 Mar 2013 6:57 am
Operator : OksanaT
Sample : jb31485-26
Misc : MS45033,VE8847,6.5,,100,10,1
ALS Vial : 47 Sample Multiplier: 1

Quant Time: Mar 23 15:12:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.681	65	80458	500.00	ug/L	0.01
5) pentafluorobenzene	9.904	168	192173	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.824	114	246551	50.00	ug/L	0.00
97) chlorobenzene-d5	14.150	117	220684	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.724	152	132610	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.951	113	75722	41.99	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.98%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	83401	42.07	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.14%			
89) toluene-d8 (s)	12.524	98	292201	46.81	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 93.62%			
116) 4-bromofluorobenzene (s)	15.421	95	109913	45.21	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 90.42%			

Target Compounds						Qvalue
115) isopropylbenzene	15.202	105	2312	0.27	ug/L	95

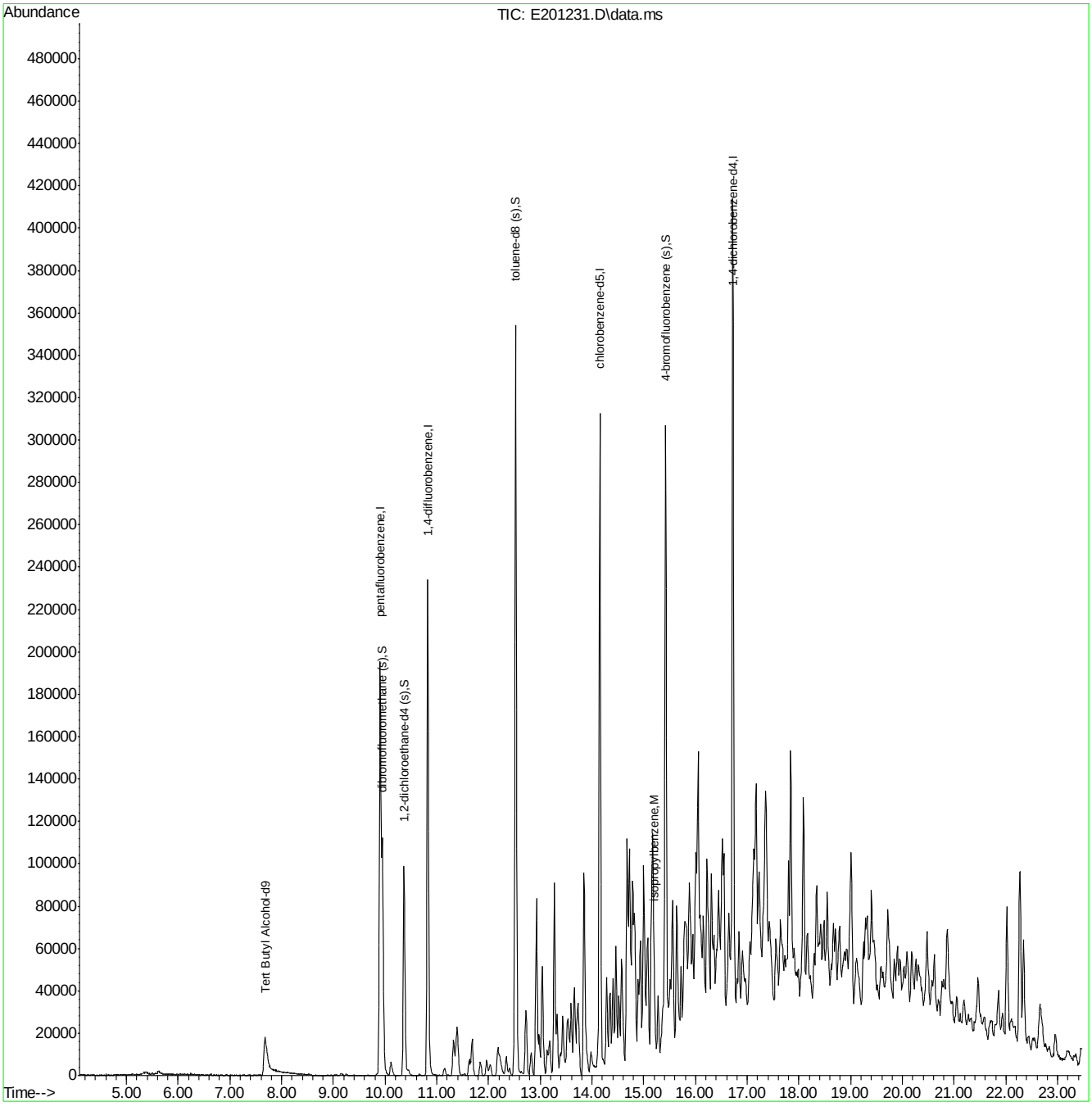
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31485

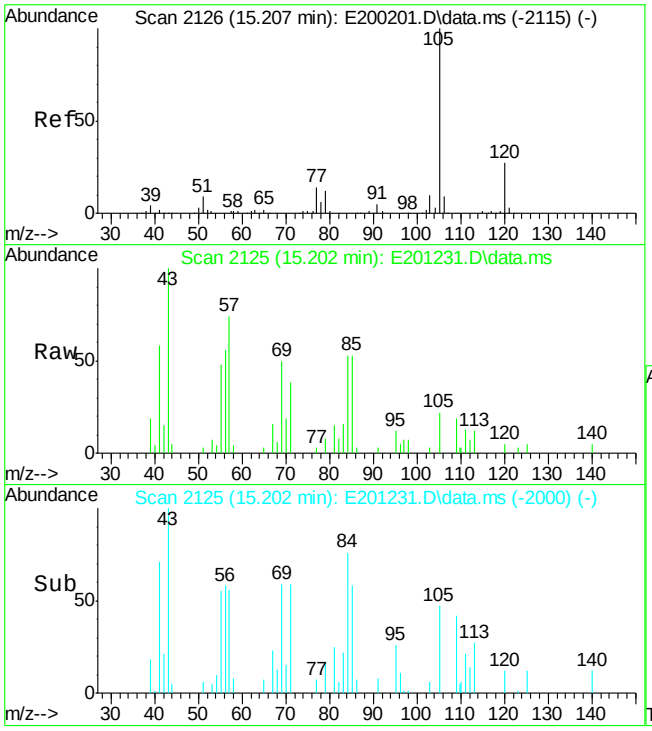
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201231.D
Acq On : 23 Mar 2013 6:57 am
Operator : OksanaT
Sample : jb31485-26
Misc : MS45033,VE8847,6.5,,100,10,1
ALS Vial : 47 Sample Multiplier: 1

Quant Time: Mar 23 15:12:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



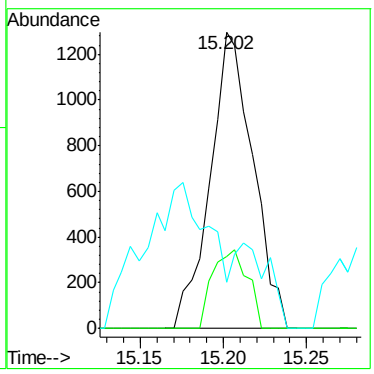
ME8801.M Sat Mar 23 15:13:57 2013 RPT1 Page: 2



#115
isopropylbenzene
Concen: 0.27 ug/L
RT: 15.202 min Scan# 2125
Delta R.T. -0.005 min
Lab File: E201231.D
Acq: 23 Mar 2013 6:57 am

Tgt Ion:105 Resp: 2312

Ion	Ratio	Lower	Upper
105	100		
120	24.3	0.0	57.0
77	15.7	0.0	44.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201232.D
Acq On : 23 Mar 2013 7:27 am
Operator : OksanaT
Sample : jb31485-27
Misc : MS45033,VE8847,6.6,,100,10,1
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Mar 23 15:13:40 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.687	65	79440	500.00	ug/L	0.02
5) pentafluorobenzene	9.904	168	195205	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	248836	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	221386	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.725	152	126657	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.946	113	76685	41.87	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.74%			
61) 1,2-dichloroethane-d4 (s)	10.370	65	85784	42.60	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 85.20%			
89) toluene-d8 (s)	12.525	98	290810	46.16	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 92.32%			
116) 4-bromofluorobenzene (s)	15.422	95	107849	46.45	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 92.90%			

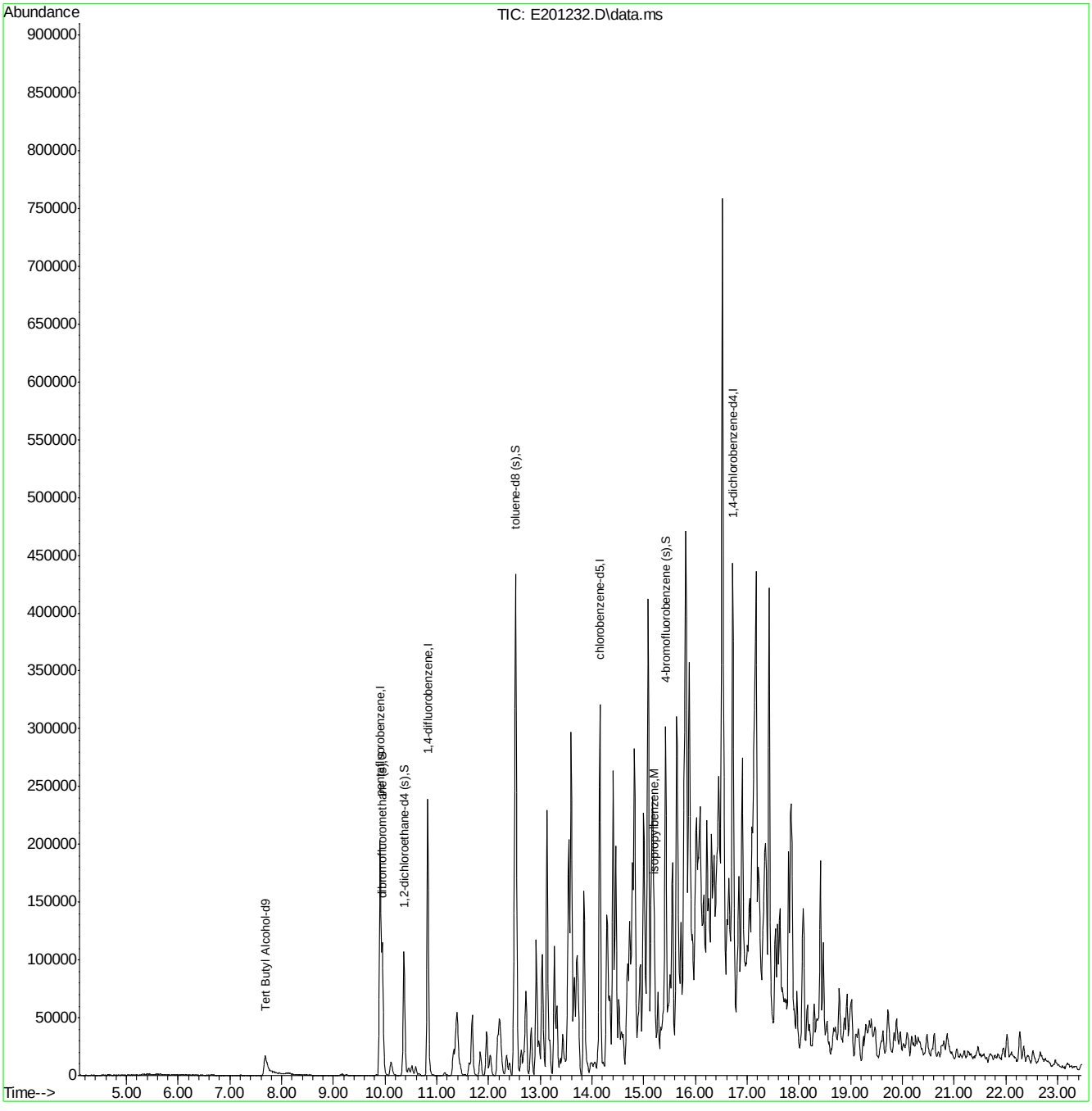
Target Compounds						Qvalue
115) isopropylbenzene	15.208	105	33335	4.09	ug/L	97

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

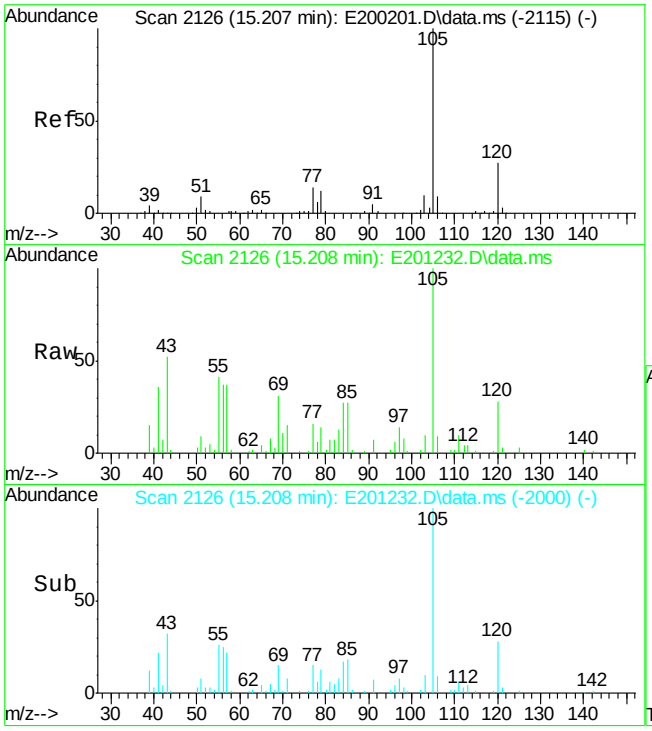
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201232.D
Acq On : 23 Mar 2013 7:27 am
Operator : OksanaT
Sample : jb31485-27
Misc : MS45033,VE8847,6.6,,100,10,1
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Mar 23 15:13:40 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



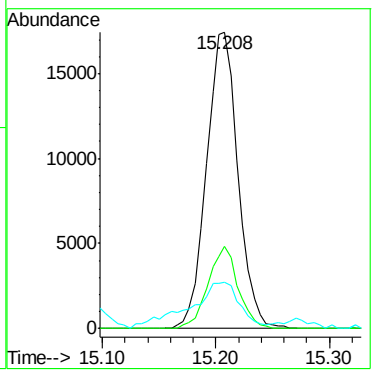
ME8801.M Sat Mar 23 15:13:46 2013 RPT1 Page: 2



#115
isopropylbenzene
Concen: 4.09 ug/L
RT: 15.208 min Scan# 2126
Delta R.T. 0.001 min
Lab File: E201232.D
Acq: 23 Mar 2013 7:27 am

Tgt Ion:105 Resp: 33335

Ion	Ratio	Lower	Upper
105	100		
120	27.6	0.0	57.0
77	12.2	0.0	44.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201460.D
Acq On : 29 Mar 2013 5:53 am
Operator : OksanaT
Sample : jb31485-28
Misc : MS45033,VE8857,5.1,,100,10,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 29 13:12:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.686	65	64335	500.00	ug/L	0.02
5) pentafluorobenzene	9.903	168	166338	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.819	114	209389	50.00	ug/L	0.00
97) chlorobenzene-d5	14.150	117	188228	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.718	152	112944	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.945	113	65094	41.71	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.42%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	72674	42.35	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.70%			
89) toluene-d8 (s)	12.524	98	269062	50.75	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 101.50%			
116) 4-bromofluorobenzene (s)	15.421	95	111560	53.88	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 107.76%			

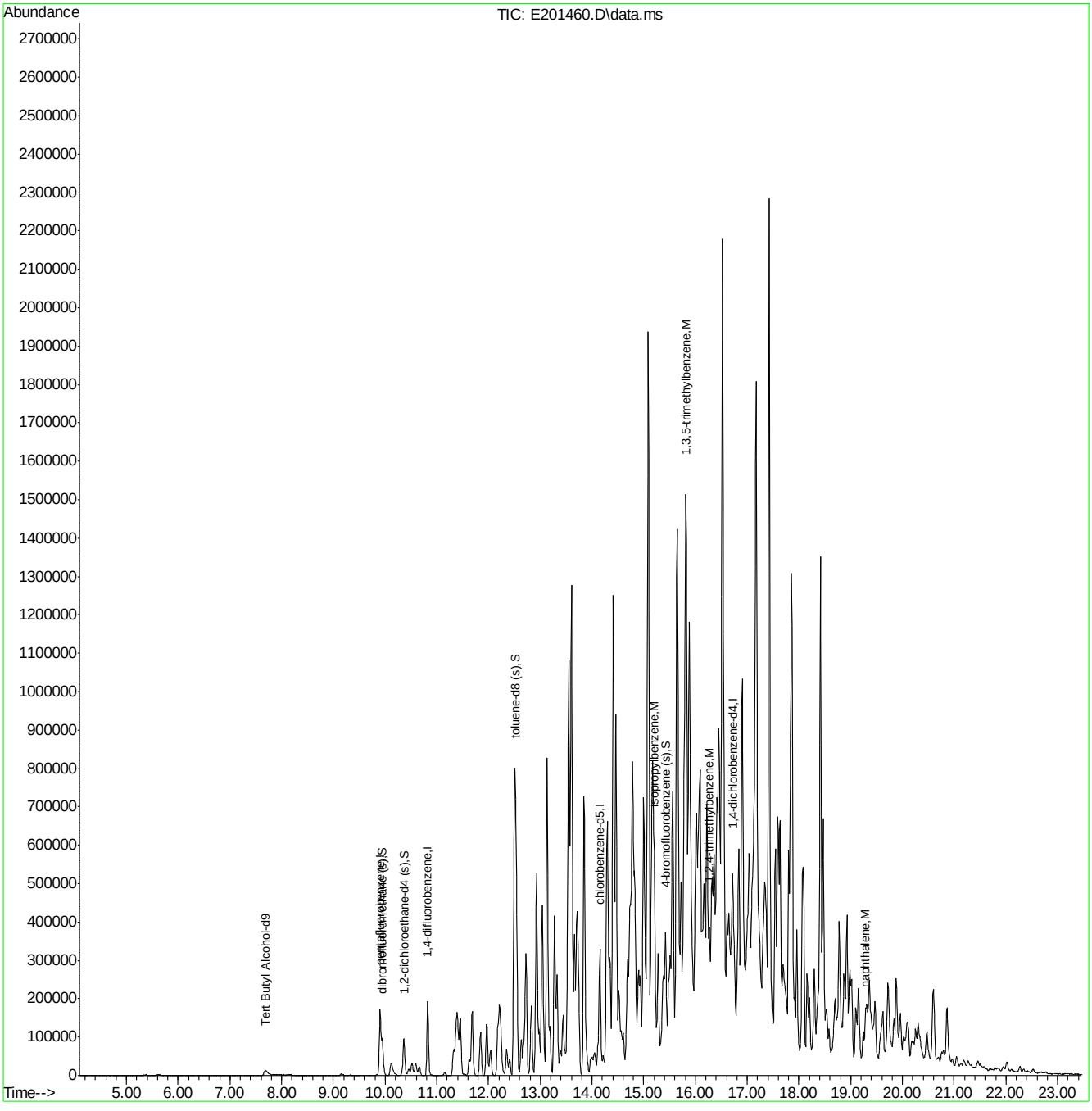
Target Compounds						Qvalue
115) isopropylbenzene	15.207	105	254135	34.98	ug/L	98
125) 1,3,5-trimethylbenzene	15.824	105	3267	0.53	ug/L	96
128) 1,2,4-trimethylbenzene	16.263	105	5012	0.82	ug/L	86
142) naphthalene	19.265	128	15192	3.60	ug/L	92

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

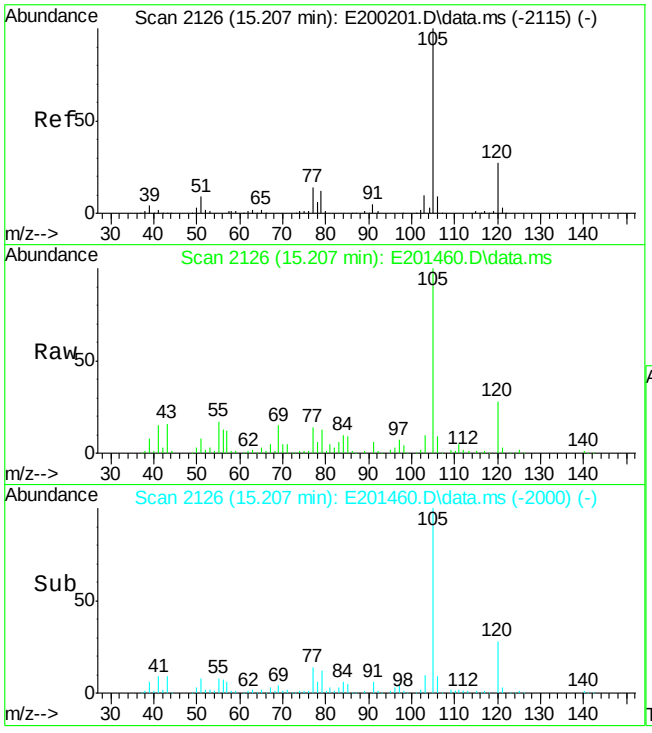
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201460.D
Acq On : 29 Mar 2013 5:53 am
Operator : OksanaT
Sample : jb31485-28
Misc : MS45033,VE8857,5.1,,100,10,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 29 13:12:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



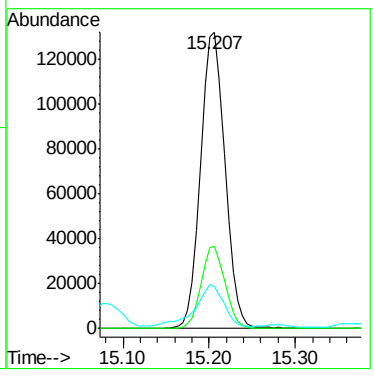
ME8801.M Fri Mar 29 13:12:32 2013 RPT1 Page: 2

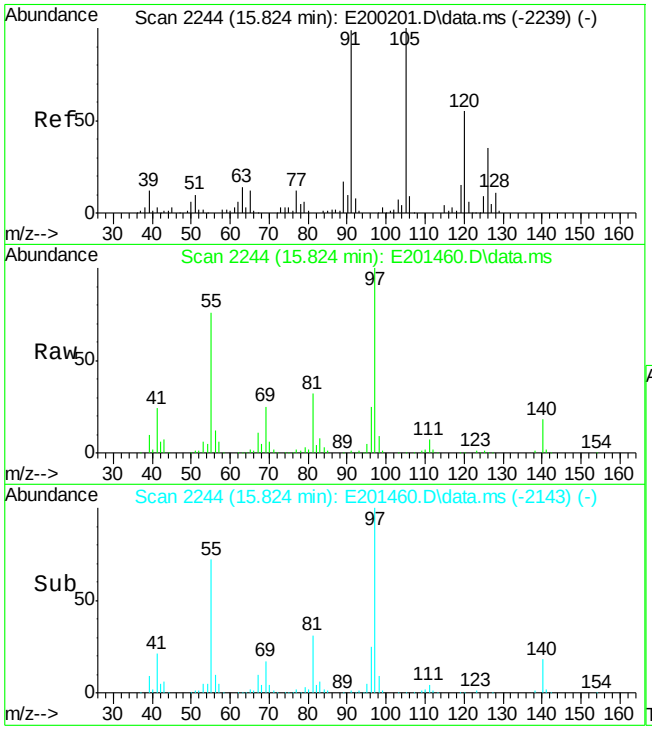


#115
isopropylbenzene
Concen: 34.98 ug/L
RT: 15.207 min Scan# 2126
Delta R.T. -0.000 min
Lab File: E201460.D
Acq: 29 Mar 2013 5:53 am

Tgt Ion:105 Resp: 254135

Ion	Ratio	Lower	Upper
105	100		
120	27.8	0.0	57.0
77	13.6	0.0	44.4

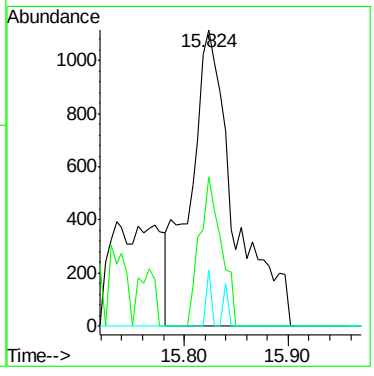


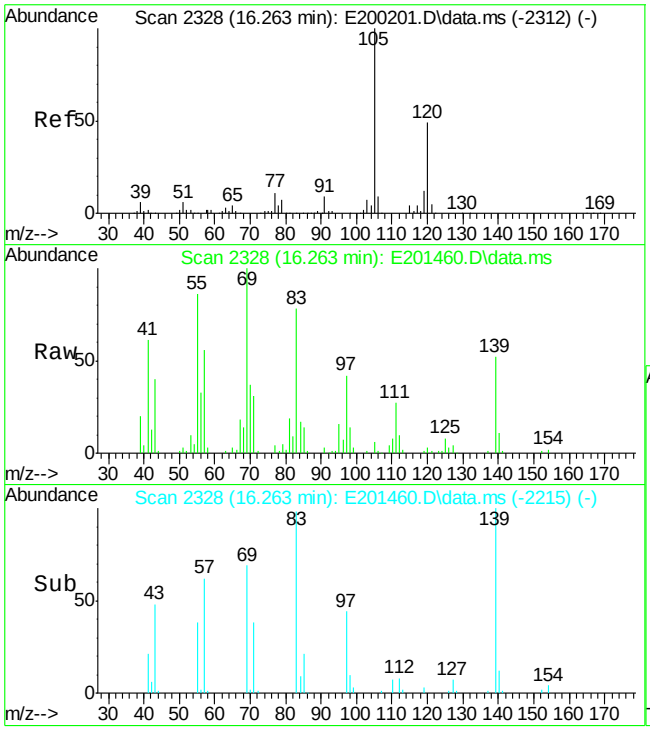


#125
1,3,5-trimethylbenzene
Concen: 0.53 ug/L
RT: 15.824 min Scan# 2244
Delta R.T. -0.000 min
Lab File: E201460.D
Acq: 29 Mar 2013 5:53 am

Tgt Ion:105 Resp: 3267

Ion	Ratio	Lower	Upper
105	100		
120	50.4	21.5	81.5
119	18.9	0.0	43.2

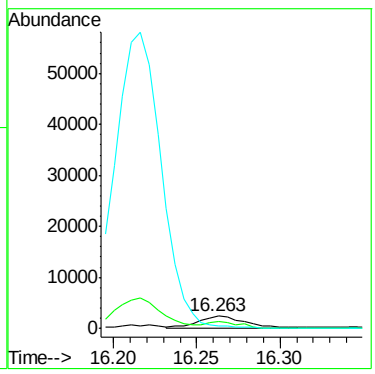


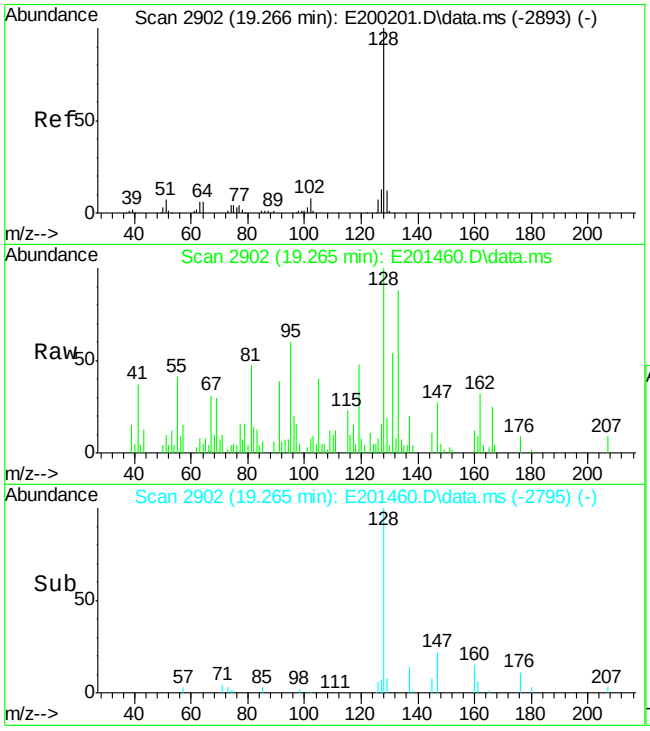


#128
1,2,4-trimethylbenzene
Concen: 0.82 ug/L
RT: 16.263 min Scan# 2328
Delta R.T. -0.000 min
Lab File: E201460.D
Acq: 29 Mar 2013 5:53 am

Tgt Ion:105 Resp: 5012

Ion	Ratio	Lower	Upper
105	100		
120	56.7	19.4	79.4
119	24.6	0.0	43.7

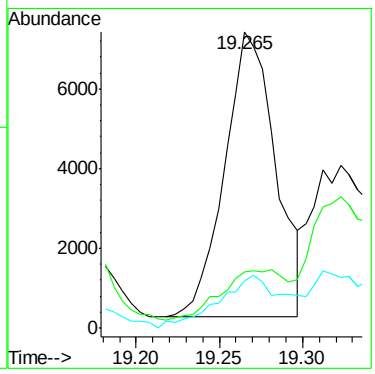




#142
naphthalene
Concen: 3.60 ug/L
RT: 19.265 min Scan# 2902
Delta R.T. 0.000 min
Lab File: E201460.D
Acq: 29 Mar 2013 5:53 am

Tgt Ion:128 Resp: 15192

Ion	Ratio	Lower	Upper
128	100		
129	16.9	0.0	41.5
127	14.3	0.0	43.2



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A192999.D Vial: 100
Acq On : 25 Mar 2013 6:14 pm Operator: Oksanat
Sample : jb31485-29 Inst : MSA
Misc : MS45033,VA7271,6.1,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 26 12:03 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.03	65	39345	500.00	ug/L	0.00
5) pentafluorobenzene	9.37	168	96075	50.00	ug/L	0.02
54) 1,4-difluorobenzene	10.32	114	132169	50.00	ug/L	0.02
85) chlorobenzene-d5	13.76	117	124538	50.00	ug/L	0.02
99) 1,4-dichlorobenzene-d4	16.40	152	65484	50.00	ug/L	0.02

System Monitoring Compounds

47) dibromofluoromethane (s)	9.40	113	35664	49.89	ug/L	0.02
Spiked Amount 50.000 Range 81 - 121 Recovery = 99.78%						
48) 1,2-dichloroethane-d4 (s)	9.84	65	35759	44.77	ug/L	0.02
Spiked Amount 50.000 Range 74 - 127 Recovery = 89.54%						
77) toluene-d8 (s)	12.08	98	135651	54.05	ug/L	0.02
Spiked Amount 50.000 Range 80 - 122 Recovery = 108.10%						
102) 4-bromofluorobenzene (s)	15.07	95	47756	51.37	ug/L	0.02
Spiked Amount 50.000 Range 78 - 116 Recovery = 102.74%						

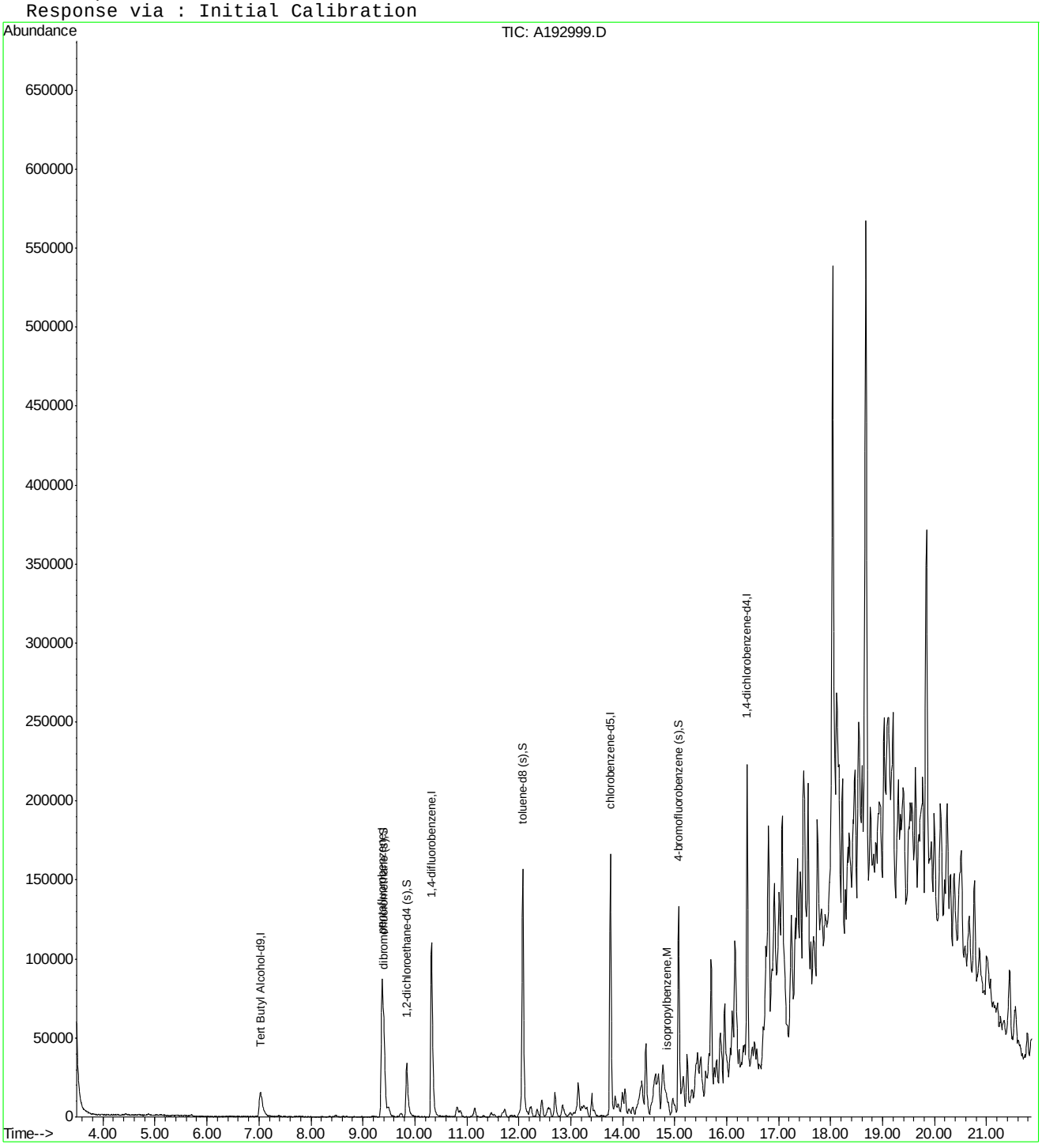
Target Compounds						Qvalue
100) isopropylbenzene	14.85	105	3677	1.26	ug/L	97

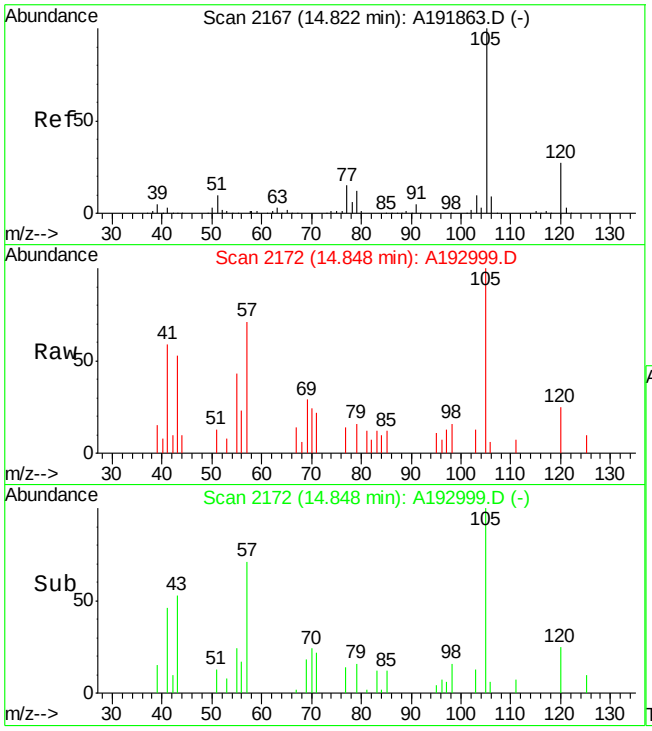
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A192999.D Vial: 100
Acq On : 25 Mar 2013 6:14 pm Operator: Oksanat
Sample : jb31485-29 Inst : MSA
Misc : MS45033,VA7271,6.1,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 26 12:03 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration

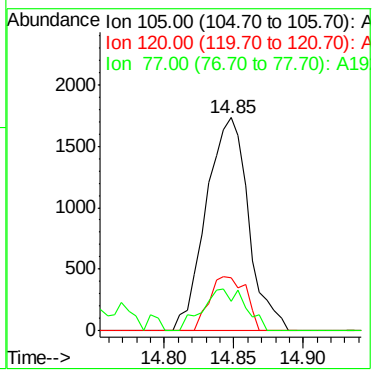




#100
isopropylbenzene
Concen: 1.26 ug/L
RT: 14.85 min Scan# 2172
Delta R.T. 0.03 min
Lab File: A192999.D
Acq: 25 Mar 2013 6:14 pm

Tgt Ion:105 Resp: 3677

Ion	Ratio	Lower	Upper
105	100		
120	24.9	0.0	56.9
77	13.9	0.0	44.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201459.D
Acq On : 29 Mar 2013 5:22 am
Operator : OksanaT
Sample : jb31485-29cfi
Misc : MS45033,VE8857,6.6,,100,10,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Mar 29 12:49:56 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.681	65	66396	500.00	ug/L	0.01
5) pentafluorobenzene	9.903	168	167472	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.819	114	207544	50.00	ug/L	0.00
97) chlorobenzene-d5	14.150	117	195622	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.718	152	117956	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.951	113	66301	42.19	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 84.38%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	73122	42.32	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.64%			
89) toluene-d8 (s)	12.524	98	246994	47.00	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 94.00%			
116) 4-bromofluorobenzene (s)	15.421	95	95954	44.38	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 88.76%			

Target Compounds						Qvalue
109) m,p-xylene	14.370	106	914	0.34	ug/L	78

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

7.1.30

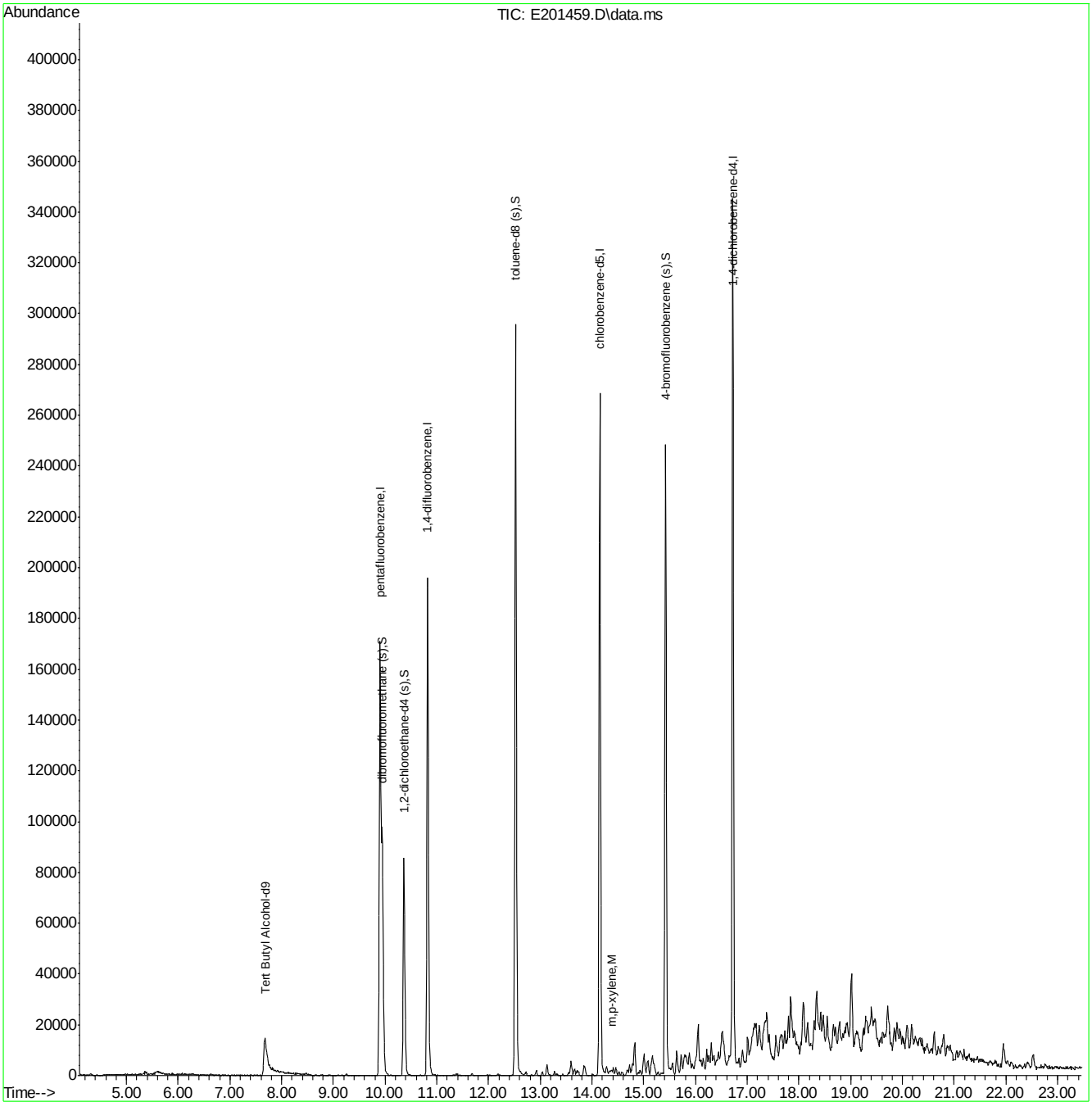
7

SGS ACCUTEST JB31485

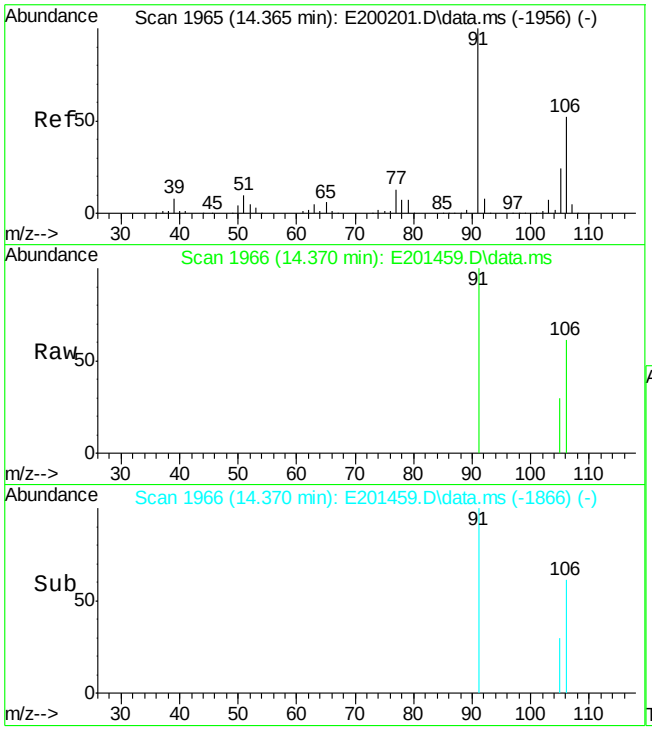
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201459.D
Acq On : 29 Mar 2013 5:22 am
Operator : OksanaT
Sample : jb31485-29cfi
Misc : MS45033,VE8857,6.6,,100,10,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Mar 29 12:49:56 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



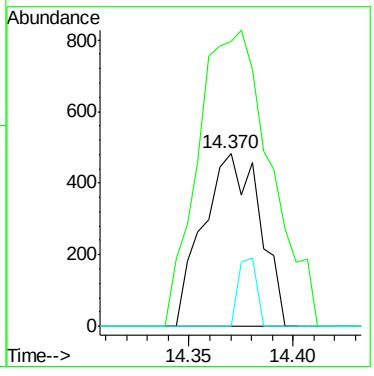
SGS ACCUTEST JB31485



#109
m,p-xylene
Concen: 0.34 ug/L
RT: 14.370 min Scan# 1966
Delta R.T. 0.005 min
Lab File: E201459.D
Acq: 29 Mar 2013 5:22 am

Tgt Ion:106 Resp: 914

Ion	Ratio	Lower	Upper
106	100		
91	164.5	161.1	221.1
77	0.0	0.0	54.5



7.1.30

7

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A192905.D Vial: 100
Acq On : 22 Mar 2013 5:50 pm Operator: Oksanat
Sample : JB31485-30 Inst : MSA
Misc : MS45033,VA7267,6.3,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 18:09 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	65336	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	180928	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	247856	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	242825	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	123830	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.39	113	68822	51.12	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 102.24%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	66720	44.36	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 88.72%			
77) toluene-d8 (s)	12.06	98	253582	53.88	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 107.76%			
102) 4-bromofluorobenzene (s)	15.06	95	94283	53.63	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 107.26%			

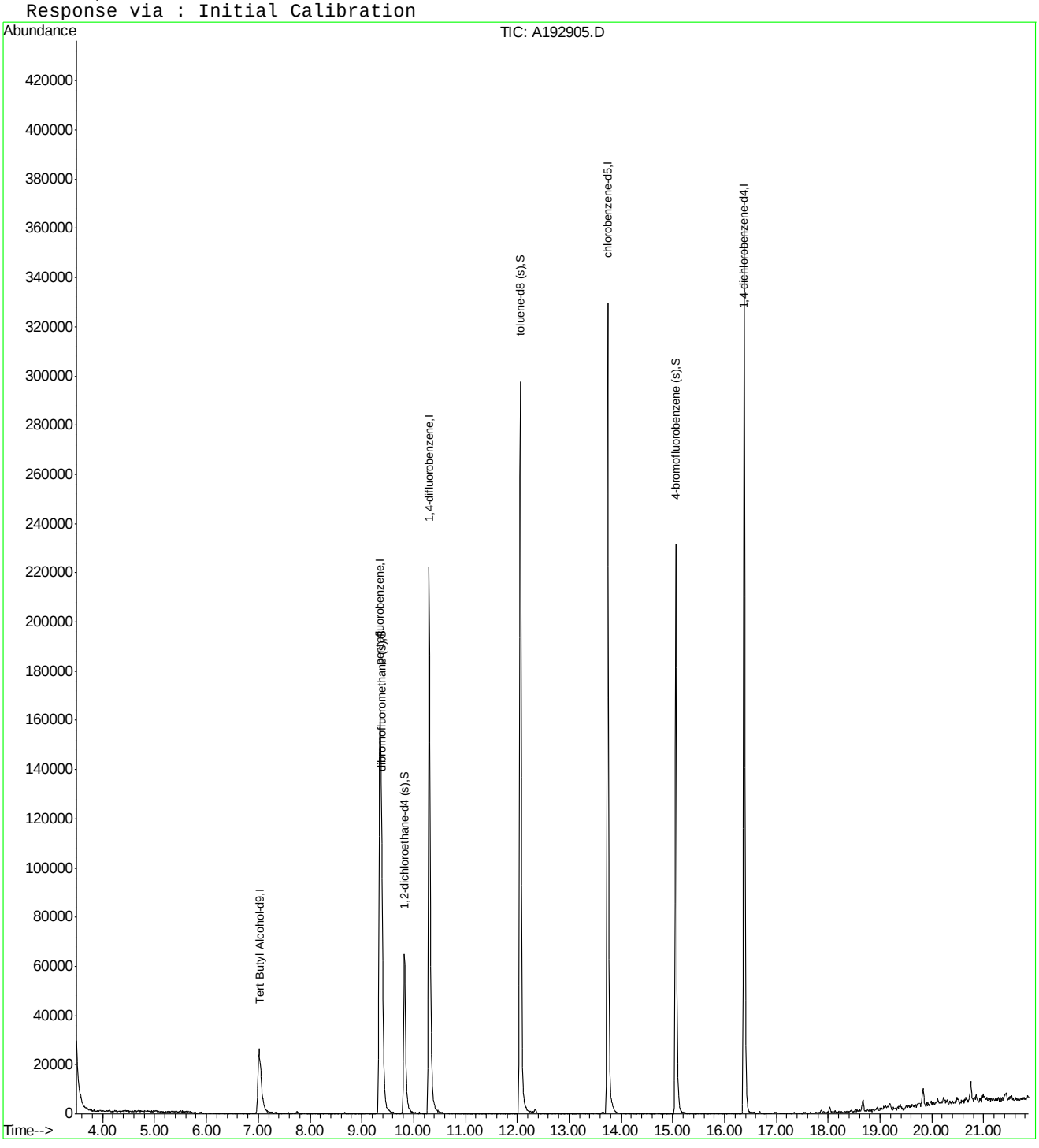
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
A192905.D MA7222.M Fri Mar 22 18:09:46 2013 MSA

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A192905.D Vial: 100
Acq On : 22 Mar 2013 5:50 pm Operator: Oksanat
Sample : JB31485-30 Inst : MSA
Misc : MS45033,VA7267,6.3,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 18:09 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3C\v3c4303\
Data File : 3C96950.D
Acq On : 28 Mar 2013 11:15 am
Operator : danat
Sample : MB1
Misc : MS45547,V3C4303,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 01 16:34:24 2013
Quant Method : C:\MSDCHEM\1\METHODS\M3C4301.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 12:17:32 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.372	65	57183	500.00	ug/L	-0.01
5) pentafluorobenzene	9.600	168	208286	50.00	ug/L	0.00
53) 1,4-difluorobenzene	10.520	114	300592	50.00	ug/L	0.00
82) chlorobenzene-d5	13.648	117	248926	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	15.939	152	107517	50.00	ug/L	0.00
System Monitoring Compounds						
44) dibromofluoromethane (s)	9.657	113	99563	47.55	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 95.10%			
45) 1,2-dichloroethane-d4 (s)	10.081	65	91176	44.55	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 89.10%			
74) toluene-d8 (s)	12.147	98	429182	51.59	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 103.18%			
99) 4-bromofluorobenzene (s)	14.788	95	141206	54.38	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 108.76%			

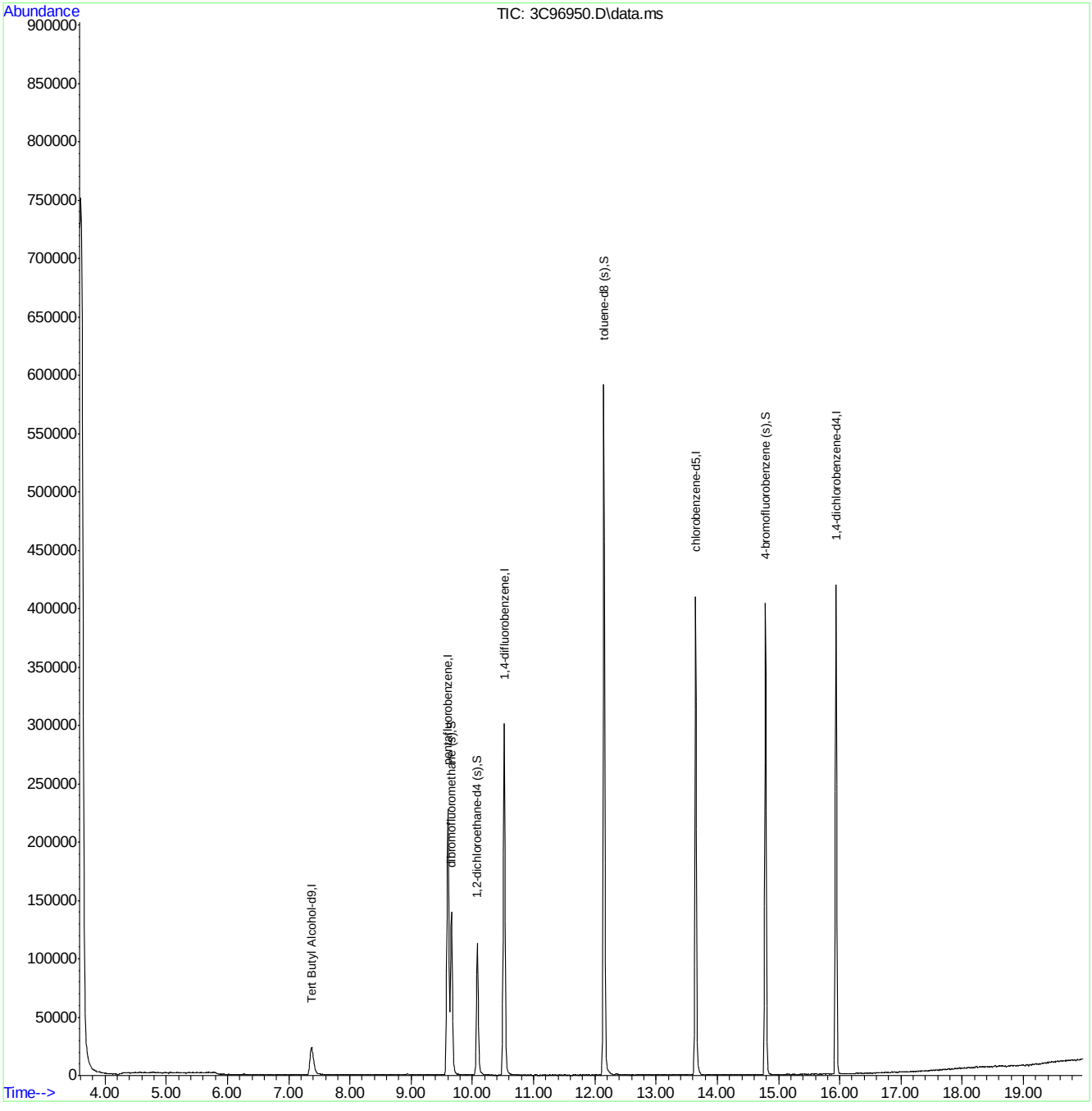
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3C\v3c4303\
Data File : 3C96950.D
Acq On : 28 Mar 2013 11:15 am
Operator : danat
Sample : MB1
Misc : MS45547,V3C4303,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 01 16:34:24 2013
Quant Method : C:\MSDCHEM\1\METHODS\M3C4301.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 12:17:32 2013
Response via : Initial Calibration



SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A192889.D Vial: 100
Acq On : 22 Mar 2013 8:58 am Operator: Oksanat
Sample : MB Inst : MSA
Misc : MS45025,VA7267,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 12:54 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	73431	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	182964	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	250347	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	236872	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	122780	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.38	113	69791	51.26	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 102.52%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	70028	46.04	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 92.08%			
77) toluene-d8 (s)	12.05	98	247735	52.11	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 104.22%			
102) 4-bromofluorobenzene (s)	15.05	95	94090	53.98	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 107.96%			

Target Compounds Qvalue

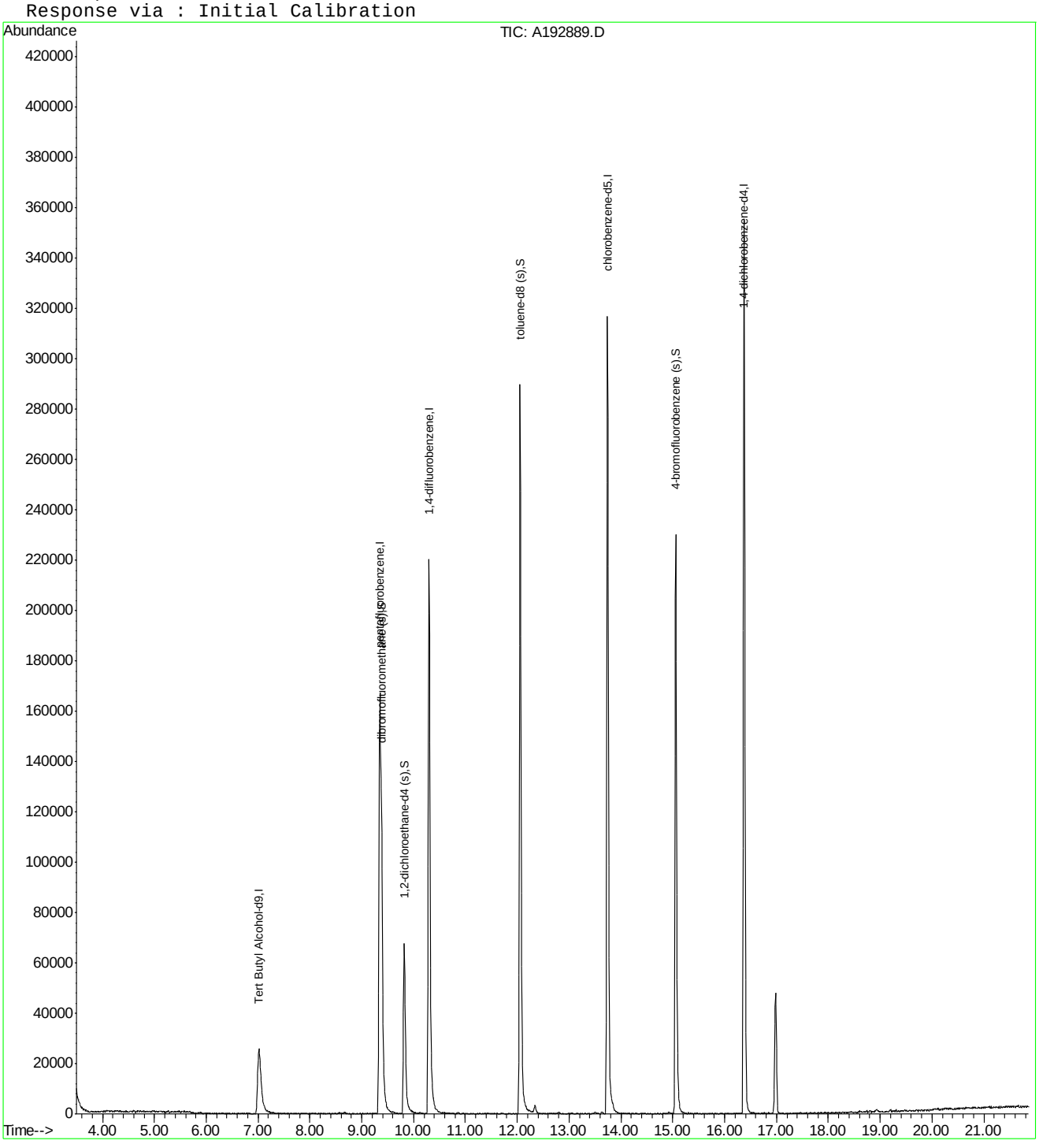
(#) = qualifier out of range (m) = manual integration
A192889.D MA7222.M Fri Mar 22 12:54:12 2013 MSA Page 1

SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A192889.D Vial: 100
Acq On : 22 Mar 2013 8:58 am Operator: Oksanat
Sample : MB Inst : MSA
Misc : MS45025,VA7267,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 22 12:54 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A192984.D Vial: 100
Acq On : 25 Mar 2013 10:09 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45128,VA7271,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 25 17:01 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	69547	500.00	ug/L	0.00
5) pentafluorobenzene	9.36	168	171088	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.31	114	234635	50.00	ug/L	0.01
85) chlorobenzene-d5	13.75	117	217445	50.00	ug/L	0.01
99) 1,4-dichlorobenzene-d4	16.39	152	103547	50.00	ug/L	0.01

System Monitoring Compounds

47) dibromofluoromethane (s)	9.40	113	69316	54.45	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 108.90%			
48) 1,2-dichloroethane-d4 (s)	9.83	65	71146	50.02	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 100.04%			
77) toluene-d8 (s)	12.07	98	237492	53.30	ug/L	0.01
Spiked Amount 50.000	Range 80 - 122		Recovery = 106.60%			
102) 4-bromofluorobenzene (s)	15.07	95	85586	58.22	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 116.44%#			

Target Compounds Qvalue

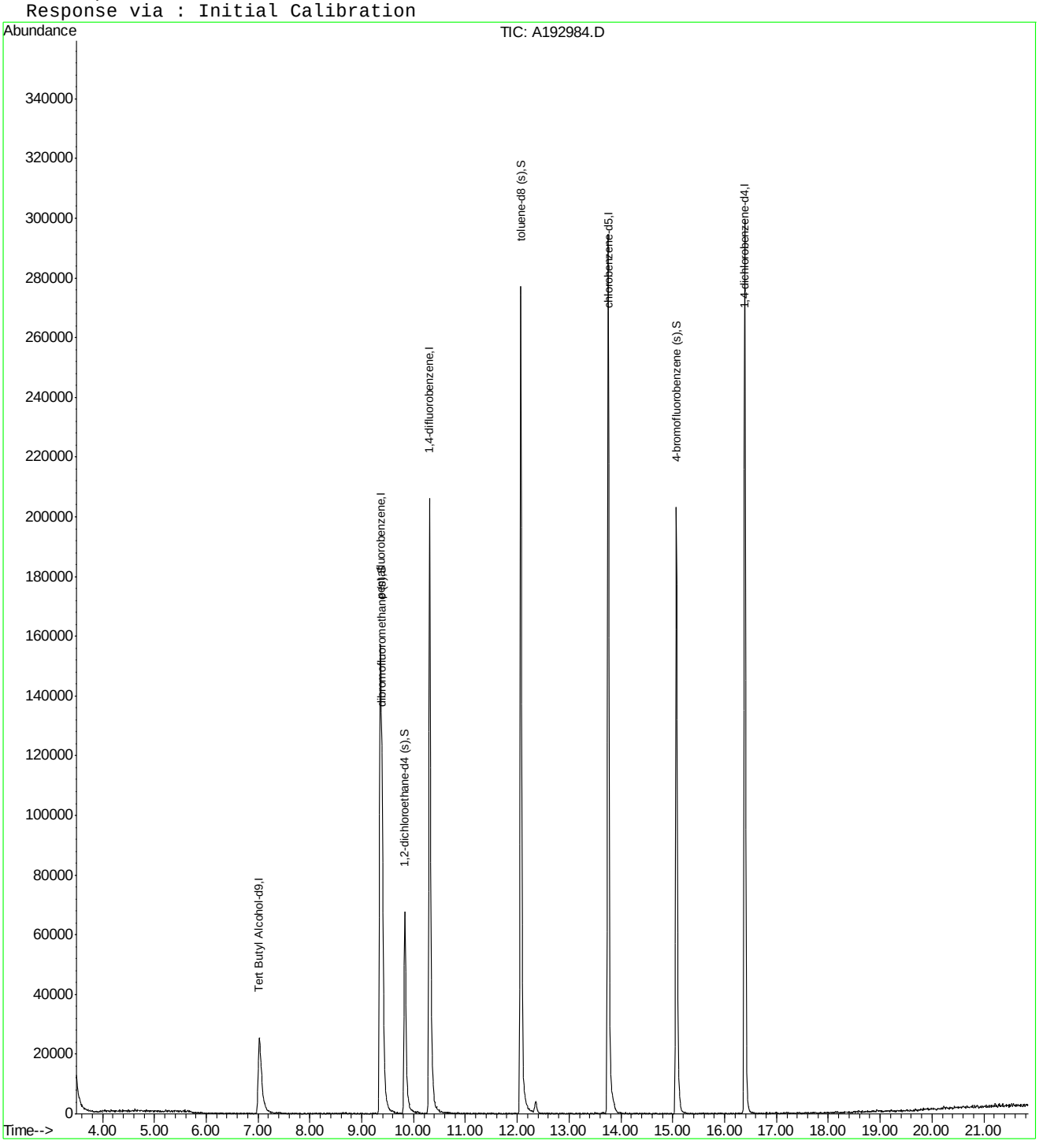
(#) = qualifier out of range (m) = manual integration
A192984.D MA7222.M Mon Mar 25 17:01:55 2013 MSA Page 1

SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A192984.D Vial: 100
Acq On : 25 Mar 2013 10:09 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45128,VA7271,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 25 17:01 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



A192984.D MA7222.M Mon Mar 25 17:01:55 2013 MSA Page 2

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193028.D Vial: 100
Acq On : 26 Mar 2013 11:41 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45375,VA7273,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 26 12:51 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	71609	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	182453	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	246428	50.00	ug/L	0.00
85) chlorobenzene-d5	13.75	117	223960	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	113327	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.39	113	69739	51.37	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 102.74%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	69788	46.01	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 92.02%			
77) toluene-d8 (s)	12.06	98	244264	52.20	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 104.40%			
102) 4-bromofluorobenzene (s)	15.06	95	88690	55.13	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 110.26%			

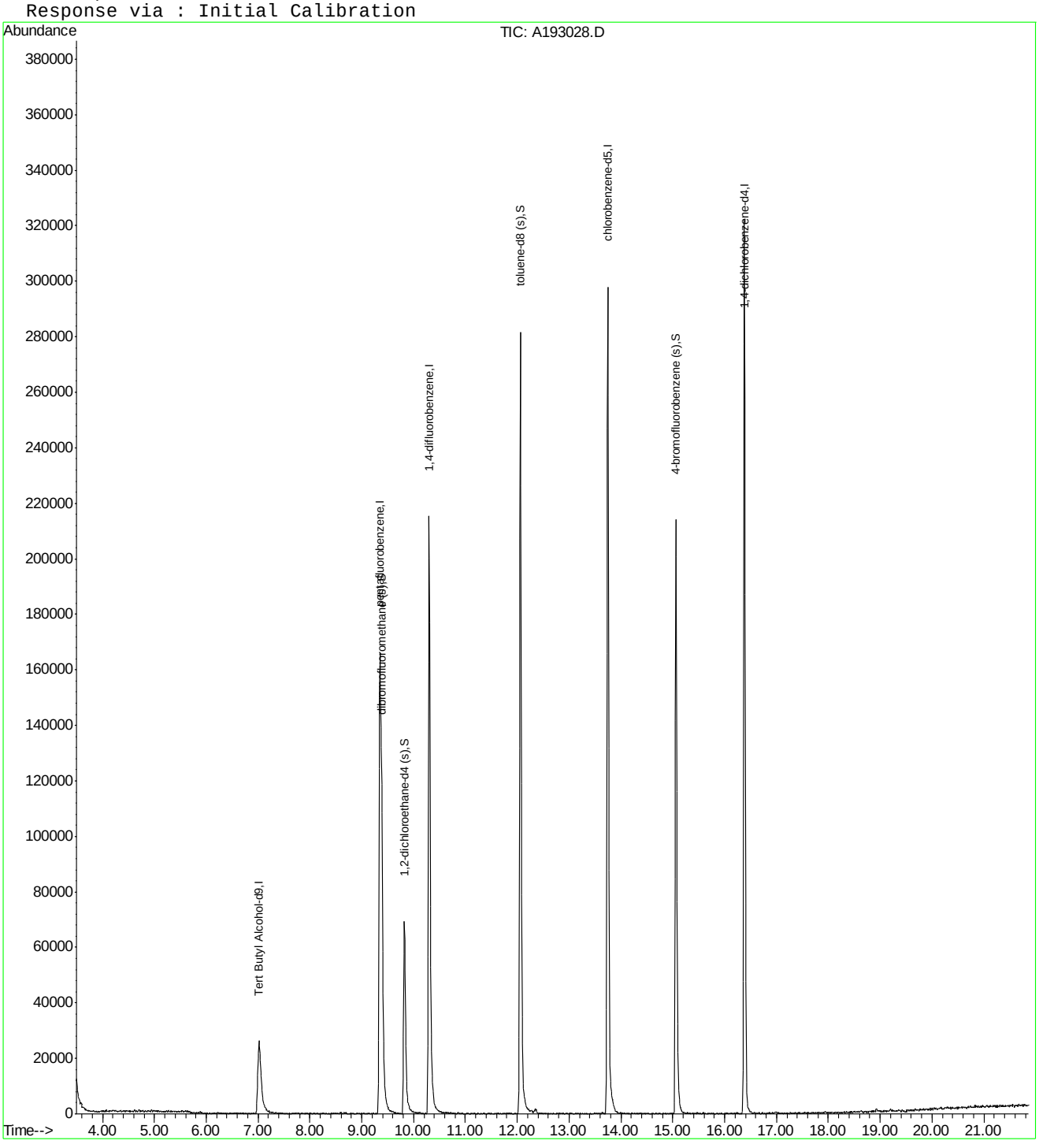
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
A193028.D MA7222.M Tue Mar 26 12:51:32 2013 MSA Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193028.D Vial: 100
Acq On : 26 Mar 2013 11:41 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45375,VA7273,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 26 12:51 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193051.D Vial: 100
Acq On : 26 Mar 2013 12:06 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45441,VA7274,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:15 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.02	65	56004	500.00	ug/L	0.00
5) pentafluorobenzene	9.35	168	169975	50.00	ug/L	0.00
54) 1,4-difluorobenzene	10.30	114	240471	50.00	ug/L	0.00
85) chlorobenzene-d5	13.74	117	225798	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.38	152	109464	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.38	113	65592	51.86	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 103.72%			
48) 1,2-dichloroethane-d4 (s)	9.82	65	68039	48.15	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 96.30%			
77) toluene-d8 (s)	12.06	98	243568	53.34	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 106.68%			
102) 4-bromofluorobenzene (s)	15.06	95	88868	57.19	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 114.38%			

Target Compounds Qvalue

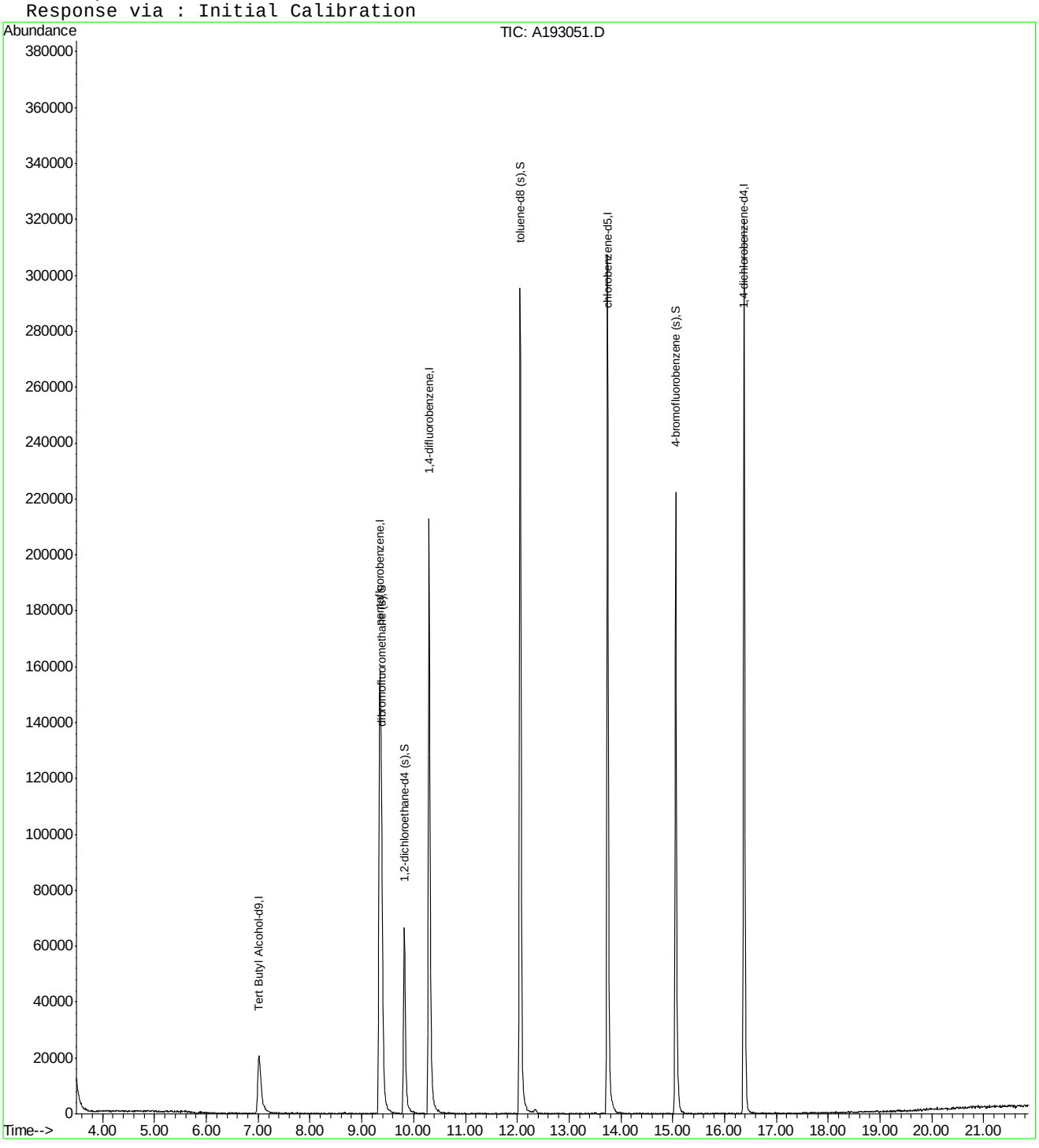
(#) = qualifier out of range (m) = manual integration
A193051.D MA7222.M Wed Mar 27 16:15:10 2013 MSA Page 1

SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193051.D Vial: 100
Acq On : 26 Mar 2013 12:06 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45441,VA7274,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:15 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



A193051.D MA7222.M Wed Mar 27 16:15:10 2013 MSA Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193069.D Vial: 100
Acq On : 27 Mar 2013 9:40 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45423,VA7275,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:56 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.01	65	71520	500.00	ug/L	-0.02
5) pentafluorobenzene	9.34	168	183502	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	10.29	114	252064	50.00	ug/L	0.00
85) chlorobenzene-d5	13.73	117	230955	50.00	ug/L	0.00
99) 1,4-dichlorobenzene-d4	16.37	152	115090	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	9.38	113	70565	51.68	ug/L	-0.01
Spiked Amount 50.000	Range 81 - 121		Recovery = 103.36%			
48) 1,2-dichloroethane-d4 (s)	9.81	65	73202	47.98	ug/L	-0.01
Spiked Amount 50.000	Range 74 - 127		Recovery = 95.96%			
77) toluene-d8 (s)	12.05	98	247326	51.67	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 103.34%			
102) 4-bromofluorobenzene (s)	15.05	95	91554	56.04	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 112.08%			

Target Compounds Qvalue

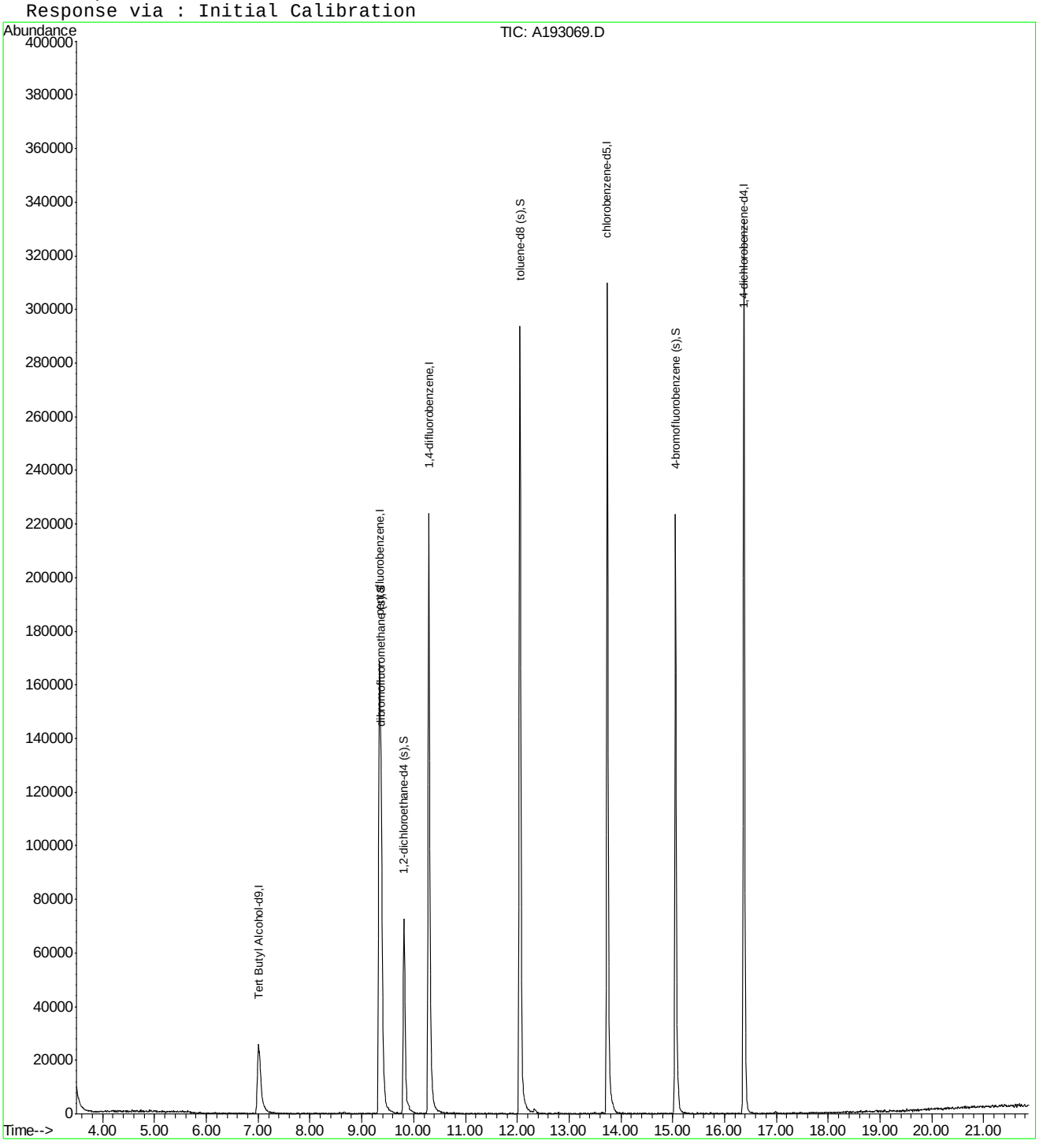
(#) = qualifier out of range (m) = manual integration
A193069.D MA7222.M Wed Mar 27 16:56:27 2013 MSA Page 1

SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193069.D Vial: 100
Acq On : 27 Mar 2013 9:40 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45423,VA7275,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 27 16:56 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration



A193069.D MA7222.M Wed Mar 27 16:56:27 2013 MSA Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\A193159.D Vial: 100
Acq On : 29 Mar 2013 9:33 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45579,VA7279,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 29 14:52 2013 Quant Results File: MA7222.RES

Quant Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Feb 21 15:26:34 2013
Response via : Initial Calibration
DataAcq Meth : MA7222

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	6.99	65	55785	500.00	ug/L	-0.03
5) pentafluorobenzene	9.33	168	164537	50.00	ug/L	-0.02
54) 1,4-difluorobenzene	10.28	114	222110	50.00	ug/L	-0.02
85) chlorobenzene-d5	13.73	117	213005	50.00	ug/L	-0.01
99) 1,4-dichlorobenzene-d4	16.36	152	100792	50.00	ug/L	-0.01

System Monitoring Compounds

47) dibromofluoromethane (s)	9.36	113	63513	51.88	ug/L	-0.02
Spiked Amount 50.000 Range 81 - 121 Recovery = 103.76%						
48) 1,2-dichloroethane-d4 (s)	9.80	65	64734	47.32	ug/L	-0.02
Spiked Amount 50.000 Range 74 - 127 Recovery = 94.64%						
77) toluene-d8 (s)	12.04	98	228237	54.11	ug/L	-0.02
Spiked Amount 50.000 Range 80 - 122 Recovery = 108.22%						
102) 4-bromofluorobenzene (s)	15.04	95	81744	57.13	ug/L	-0.02
Spiked Amount 50.000 Range 78 - 116 Recovery = 114.26%						

Target Compounds Qvalue

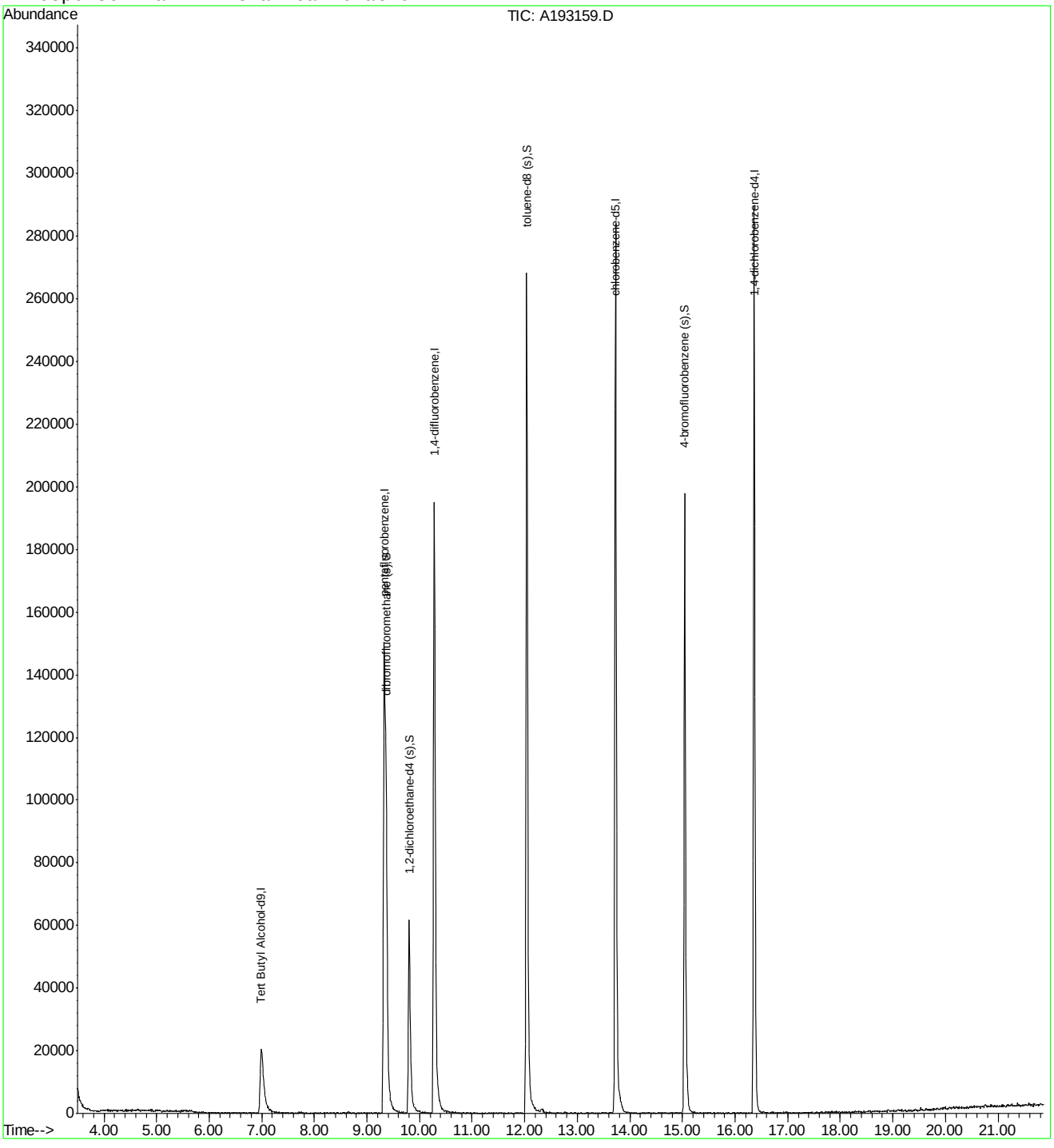
(#) = qualifier out of range (m) = manual integration
A193159.D MA7222.M Fri Mar 29 14:52:32 2013 MSA Page 1

SGS ACCUTEST JB31485

Quantitation Report

Data File : C:\HPCHEM\1\DATA\A193159.D Vial: 100
Acq On : 29 Mar 2013 9:33 am Operator: Oksanat
Sample : mb Inst : MSA
Misc : MS45579,VA7279,5,,,,1 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Mar 29 14:52 2013 Quant Results File: MA7222.RES

Method : C:\HPCHEM\1\METHODS\MA7222.M (RTE Integrator)
Title : SW 846 8260bB ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Mar 29 09:21:40 2013
Response via : Initial Calibration



SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201215.D
Acq On : 22 Mar 2013 10:56 pm
Operator : OksanaT
Sample : mb
Misc : MS45025,VE8847,5,,100,5,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 10:11:56 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.697	65	91479	500.00	ug/L	0.03
5) pentafluorobenzene	9.910	168	181259	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	229074	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	215550	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.719	152	122228	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.951	113	71652	42.13	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 84.26%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	81292	43.47	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 86.94%			
89) toluene-d8 (s)	12.525	98	277181	47.79	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 95.58%			
116) 4-bromofluorobenzene (s)	15.422	95	105565	47.11	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 94.22%			

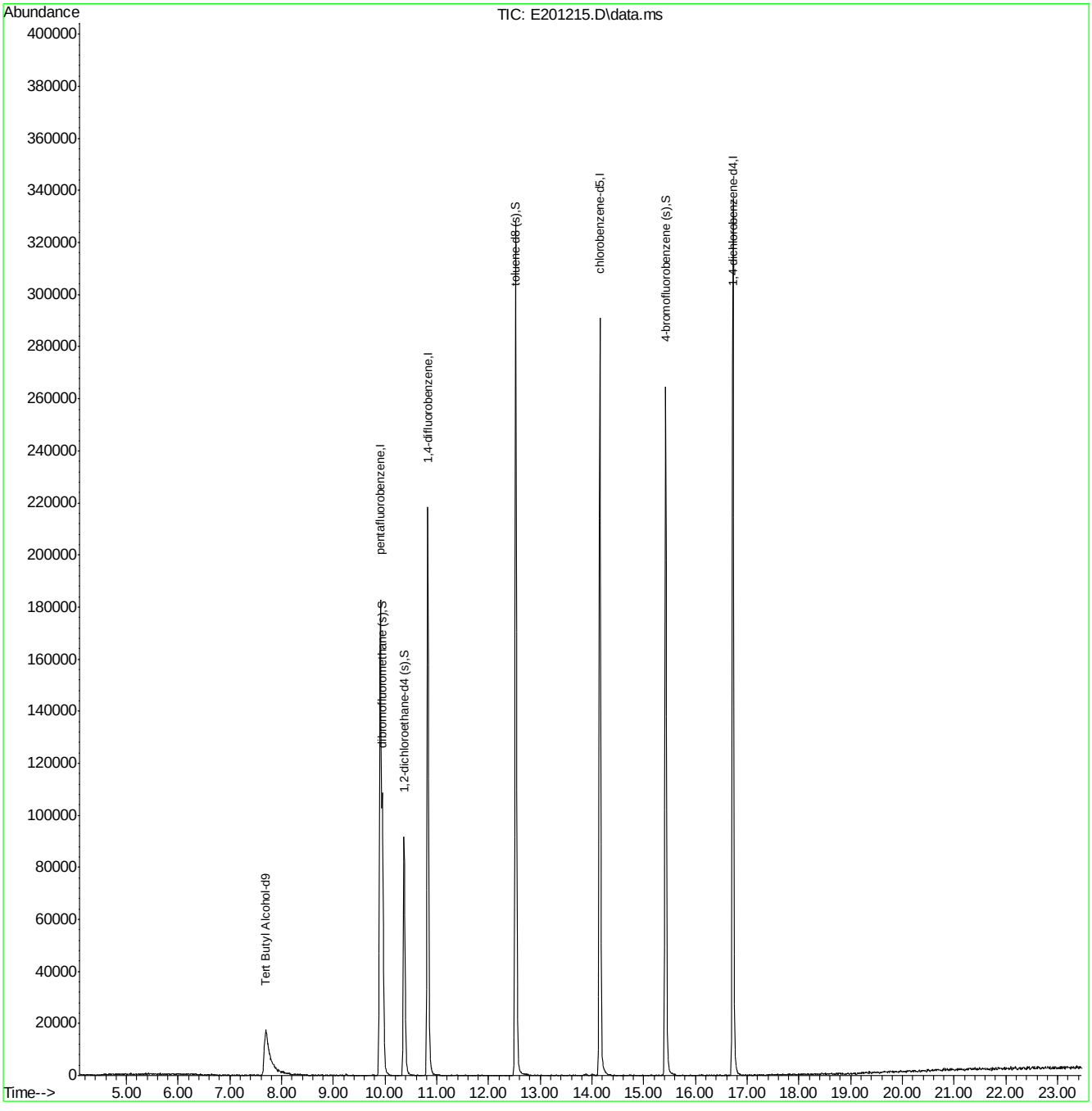
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201215.D
Acq On : 22 Mar 2013 10:56 pm
Operator : OksanaT
Sample : mb
Misc : MS45025,VE8847,5,,100,5,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 10:11:56 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



ME8801.M Sat Mar 23 11:06:50 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201262.D
Acq On : 23 Mar 2013 11:17 pm
Operator : OksanaT
Sample : mb
Misc : MS45034,VE8849,5,,100,5,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 25 12:41:43 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.719	65	106650	500.00	ug/L	0.05
5) pentafluorobenzene	9.905	168	185524	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.826	114	237382	50.00	ug/L	0.00
97) chlorobenzene-d5	14.152	117	220963	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.720	152	132665	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.947	113	72890	41.87	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.74%			
61) 1,2-dichloroethane-d4 (s)	10.366	65	82084	42.89	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 85.78%			
89) toluene-d8 (s)	12.526	98	285349	47.48	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 94.96%			
116) 4-bromofluorobenzene (s)	15.423	95	109652	45.09	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 90.18%			

Target Compounds Qvalue

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

7.2.9

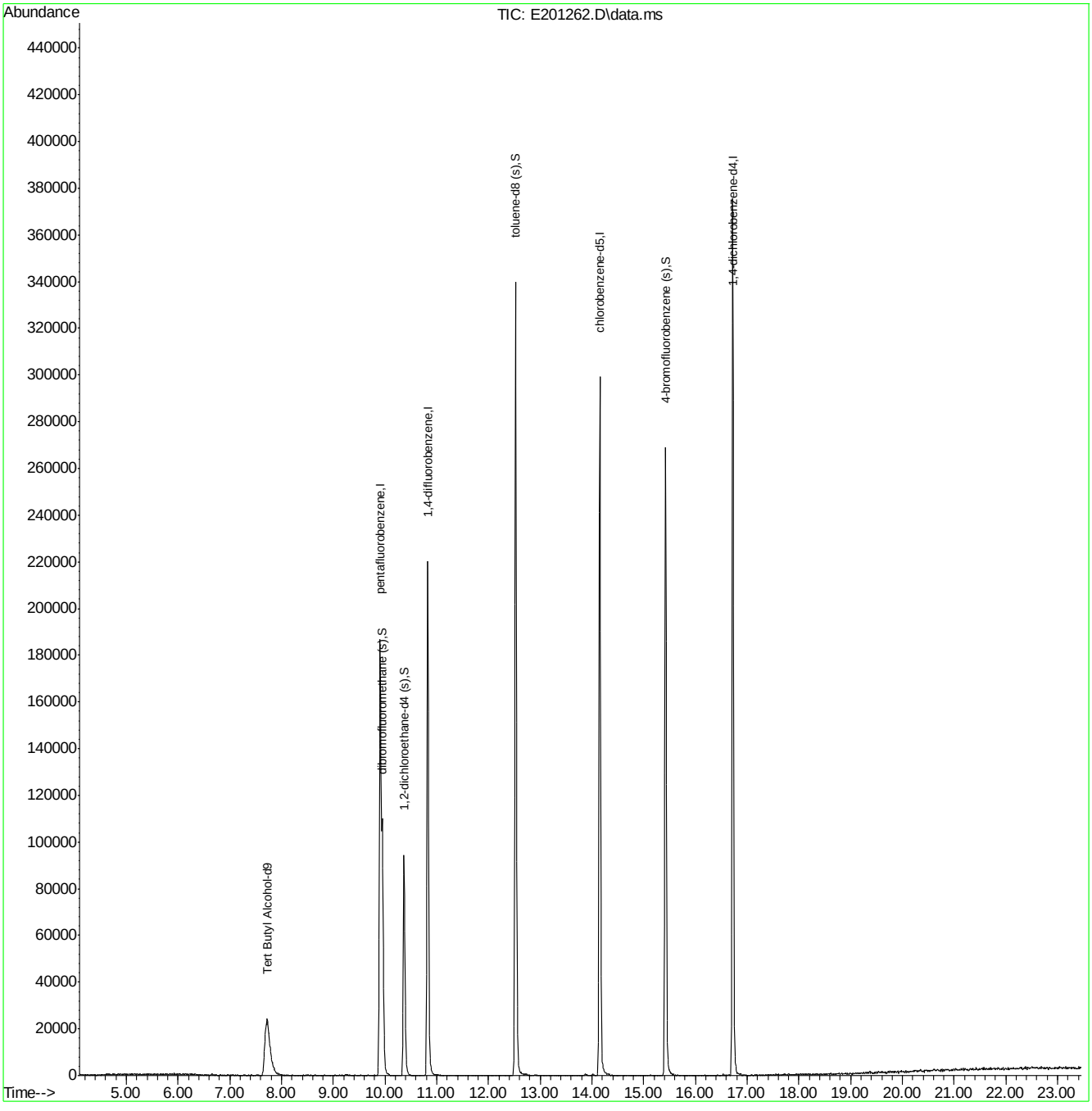
7

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201262.D
Acq On : 23 Mar 2013 11:17 pm
Operator : OksanaT
Sample : mb
Misc : MS45034,VE8849,5,,100,5,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 25 12:41:43 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



ME8801.M Mon Mar 25 12:42:09 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201376.D
Acq On : 27 Mar 2013 10:06 am
Operator : OksanaT
Sample : mb
Misc : MS45375,VE8854,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 28 12:38:55 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.689	65	84205	500.00	ug/L	0.02
5) pentafluorobenzene	9.906	168	185779	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.822	114	238057	50.00	ug/L	0.00
97) chlorobenzene-d5	14.148	117	224198	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.721	152	130487	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.948	113	73639	42.24	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 84.48%			
61) 1,2-dichloroethane-d4 (s)	10.367	65	81783	42.67	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 85.34%			
89) toluene-d8 (s)	12.521	98	286441	47.52	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 95.04%			
116) 4-bromofluorobenzene (s)	15.419	95	110029	46.00	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 92.00%			

Target Compounds Qvalue

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

7.2.10

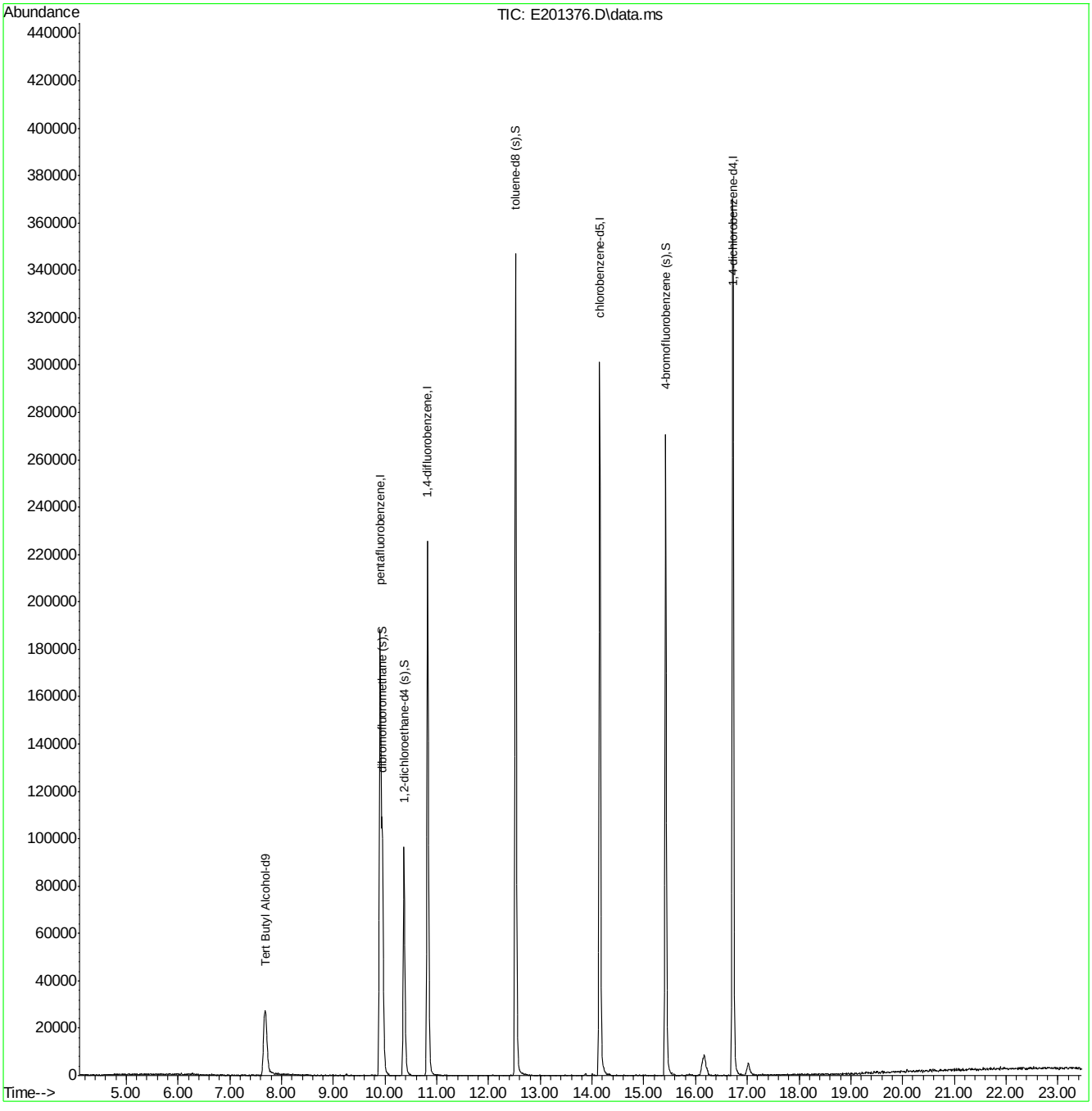
7

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201376.D
Acq On : 27 Mar 2013 10:06 am
Operator : OksanaT
Sample : mb
Misc : MS45375,VE8854,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 28 12:38:55 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



ME8801.M Thu Mar 28 12:39:08 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201399.D
Acq On : 27 Mar 2013 9:46 pm
Operator : OksanaT
Sample : mb
Misc : MS45251,VE8855,5,,100,5,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 28 12:45:20 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.687	65	93696	500.00	ug/L	0.02
5) pentafluorobenzene	9.905	168	182793	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	235183	50.00	ug/L	0.00
97) chlorobenzene-d5	14.152	117	221376	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.720	152	126795	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.952	113	72016	41.99	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.98%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	79904	42.37	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 84.74%			
89) toluene-d8 (s)	12.525	98	284597	47.79	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 95.58%			
116) 4-bromofluorobenzene (s)	15.423	95	108542	46.70	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 93.40%			

Target Compounds Qvalue

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

7.2.11

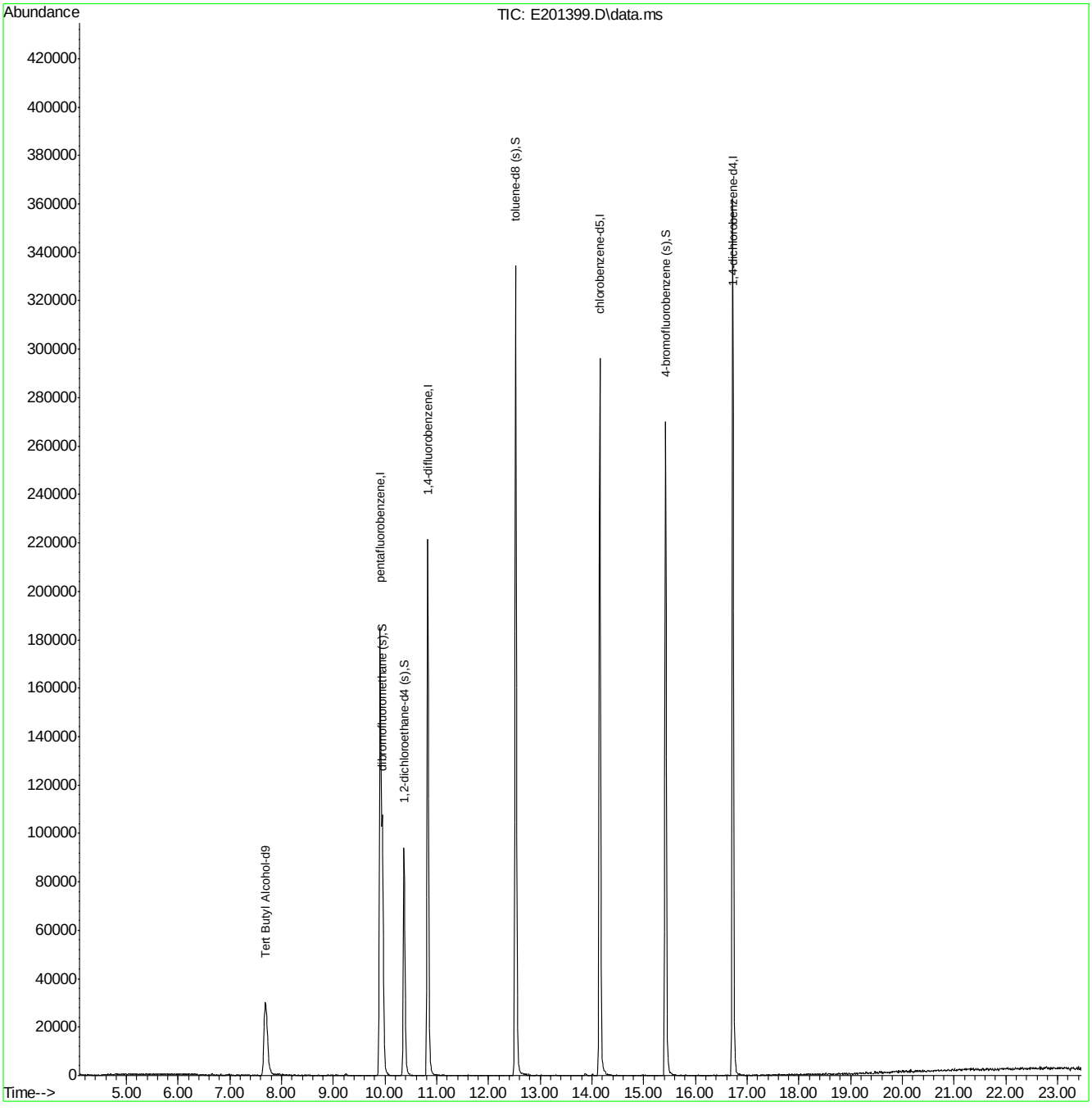
7

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201399.D
Acq On : 27 Mar 2013 9:46 pm
Operator : OksanaT
Sample : mb
Misc : MS45251,VE8855,5,,100,5,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 28 12:45:20 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



ME8801.M Thu Mar 28 12:45:27 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201422.D
Acq On : 28 Mar 2013 10:11 am
Operator : OksanaT
Sample : mb
Misc : MS45033,VE8856,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 28 13:34:54 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.723	65	105555	500.00	ug/L	0.05
5) pentafluorobenzene	9.904	168	188169	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.824	114	237558	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	216645	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.719	152	128915	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.951	113	73593	41.68	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.36%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	80942	41.70	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 83.40%			
89) toluene-d8 (s)	12.524	98	277876	46.20	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 92.40%			
116) 4-bromofluorobenzene (s)	15.422	95	108477	45.90	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 91.80%			

Target Compounds Qvalue

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

7.2.12

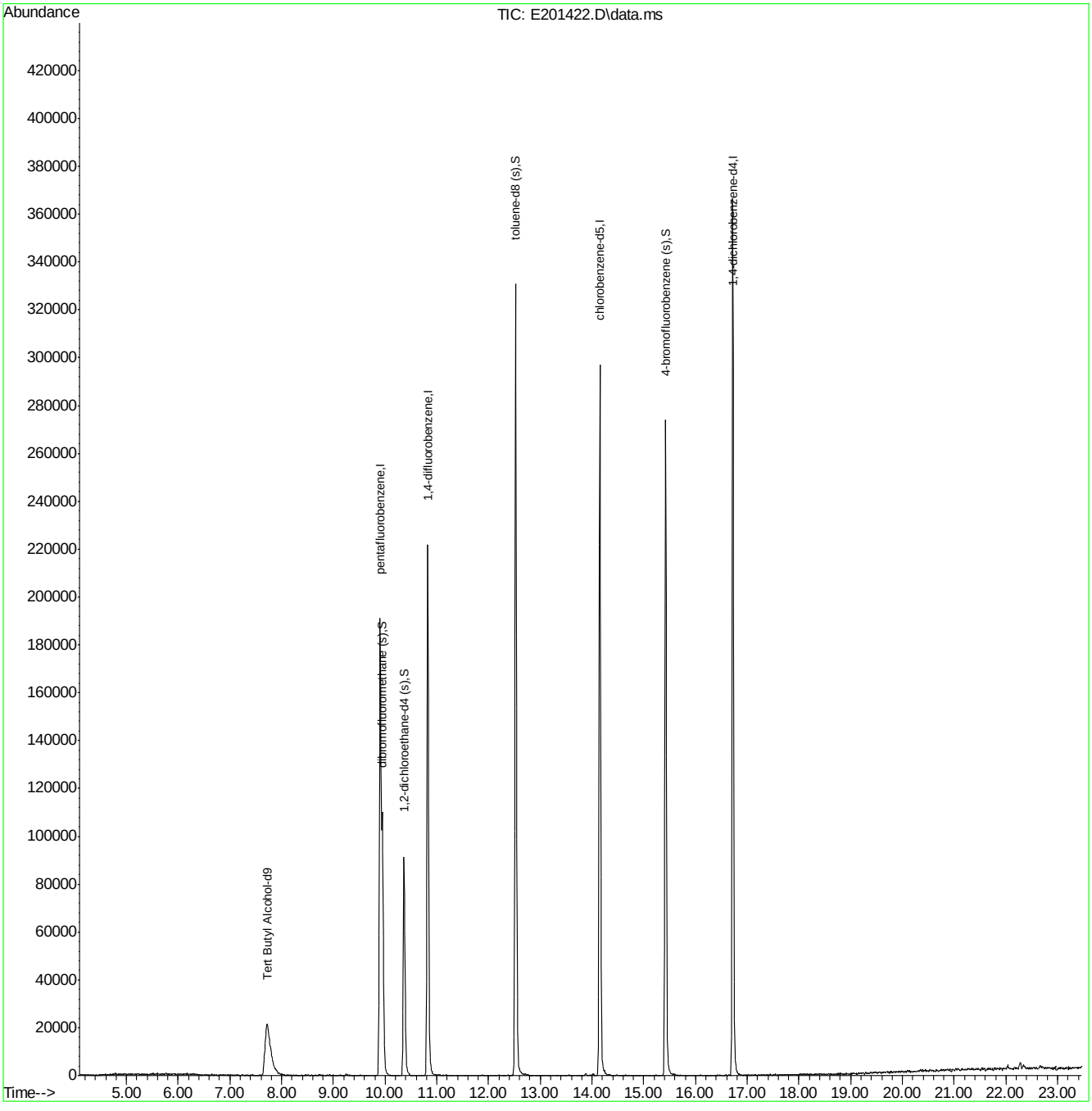
7

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201422.D
Acq On : 28 Mar 2013 10:11 am
Operator : OksanaT
Sample : mb
Misc : MS45033,VE8856,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 28 13:34:54 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



ME8801.M Thu Mar 28 13:35:01 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201448.D
Acq On : 28 Mar 2013 11:51 pm
Operator : OksanaT
Sample : mb
Misc : MS45249,VE8857,5,,100,5,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 29 12:39:02 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.692	65	90743	500.00	ug/L	0.02
5) pentafluorobenzene	9.905	168	171740	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	217285	50.00	ug/L	0.00
97) chlorobenzene-d5	14.152	117	202987	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.720	152	121332	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.952	113	67631	41.97	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 83.94%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	76578	43.22	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 86.44%			
89) toluene-d8 (s)	12.525	98	260203	47.30	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 94.60%			
116) 4-bromofluorobenzene (s)	15.417	95	99703	44.83	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 89.66%			

Target Compounds Qvalue

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

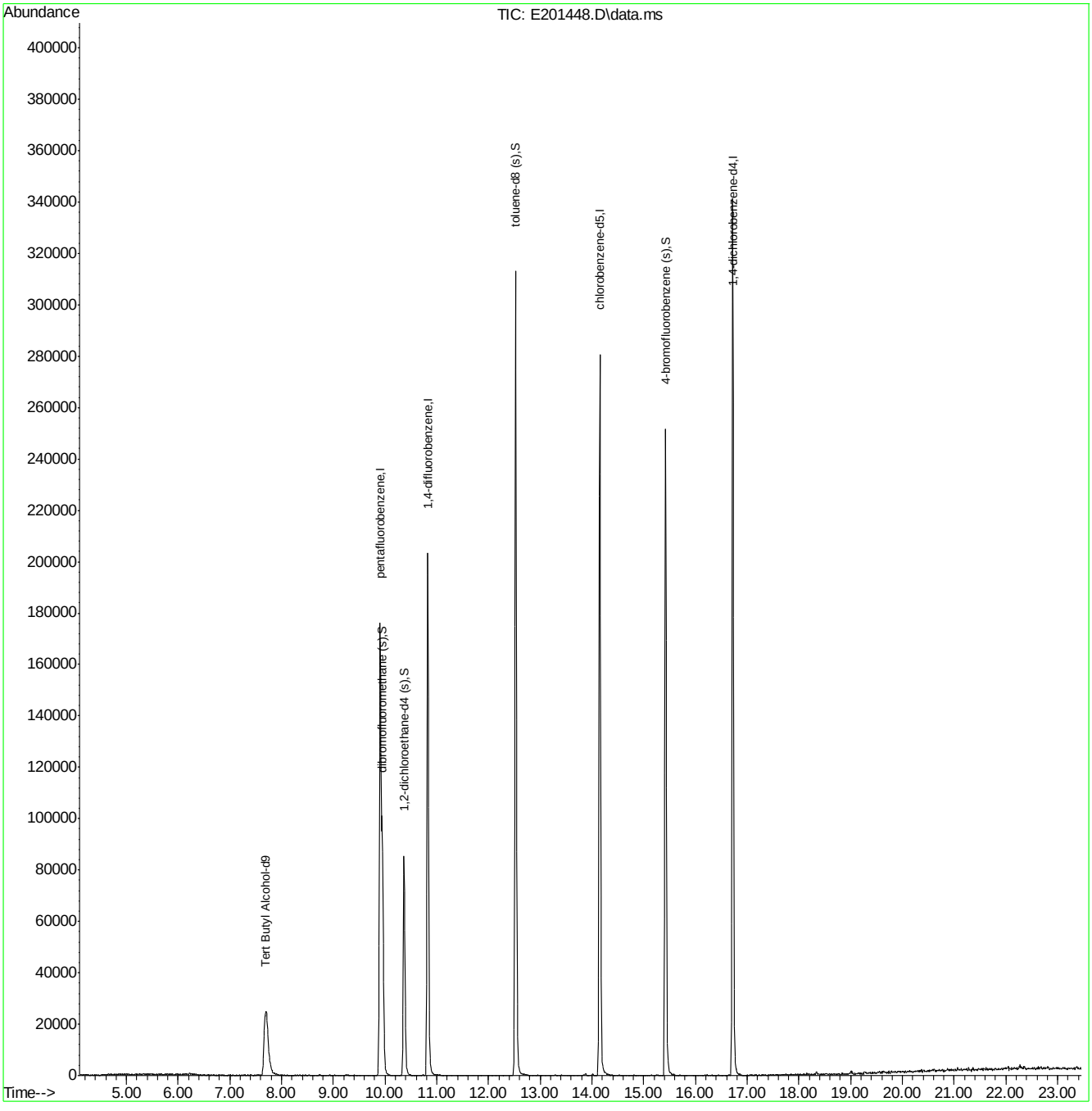
7.2.13

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201448.D
Acq On : 28 Mar 2013 11:51 pm
Operator : OksanaT
Sample : mb
Misc : MS45249,VE8857,5,,100,5,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 29 12:39:02 2013
Quant Method : C:\MSDCHEM\1\METHODS\ME8801.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Feb 25 11:43:47 2013
Response via : Initial Calibration



ME8801.M Fri Mar 29 12:39:10 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI7384\
Data File : I182797.D
Acq On : 29 Mar 2013 11:10 am
Operator : SCOTTM
Sample : MB1
Misc : MS45601,VI7384,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 13:10:09 2013
Quant Method : C:\MSDCHEM\1\METHODS\MI7342.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Mar 25 12:14:03 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.196	65	51075	50.00	ug/L	-0.03
5) pentafluorobenzene	9.461	168	200574	50.00	ug/L	-0.01
46) 1,4-difluorobenzene	10.376	114	274727	50.00	ug/L	-0.02
75) chlorobenzene-d5	13.546	117	223190	50.00	ug/L	-0.01
90) 1,4-dichlorobenzene-d4	15.910	152	119455	50.00	ug/L	-0.01

System Monitoring Compounds

43) dibromofluoromethane (s)	9.497	113	74986	50.82	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.64%			
47) 1,2-dichloroethane-d4...	9.921	65	75610	54.71	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 109.42%			
76) toluene-d8 (s)	12.029	98	275220	52.60	ug/L	-0.01
Spiked Amount 50.000	Range 81 - 127		Recovery = 105.20%			
91) 4-bromofluorobenzene (s)	14.707	95	102190	58.32	ug/L	-0.01
Spiked Amount 50.000	Range 66 - 132		Recovery = 116.64%			

Target Compounds Qvalue

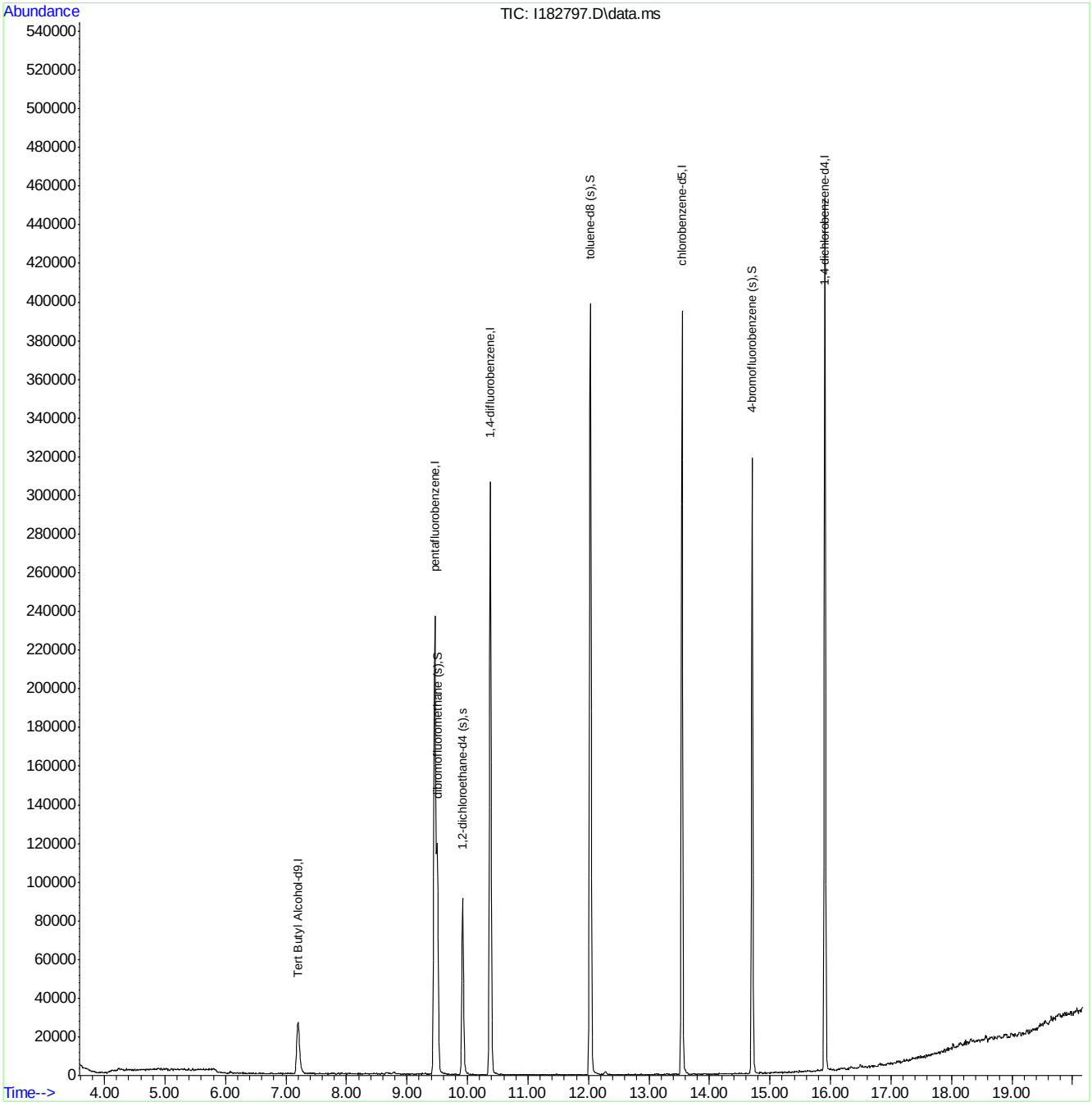
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI7384\
Data File : I182797.D
Acq On : 29 Mar 2013 11:10 am
Operator : SCOTTM
Sample : MB1
Misc : MS45601,VI7384,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 29 13:10:09 2013
Quant Method : C:\MSDCHEM\1\METHODS\MI7342.M
Quant Title : Method SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Mar 25 12:14:03 2013
Response via : Initial Calibration



MI7342.M Fri Mar 29 13:10:25 2013 RPT1 Page: 2

Misc. Forms

Custody Documents and Other Forms

(SGS Accutest New England)

Includes the following where applicable:

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

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

PAGE ___ OF ___

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 #: JB31485

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: Kristin Beebe E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: Sunoco, Marcus Hook
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	%SOL	PB	B8270PALO								LAB USE ONLY
1			3/14/2013			Soil	1					X				X	X	X								
2			3/14/2013			Soil	1					X				X	X	X								
3			3/14/2013			Soil	1					X				X	X	X								
4			3/14/2013			Soil	1					X				X	X	X								
5			3/14/2013			Soil	1					X				X	X	X								
6			3/14/2013			Soil	1					X				X	X	X								
7			3/14/2013			Soil	1					X				X	X	X								
8			3/14/2013			Soil	1					X				X	X	X								
9			3/14/2013			Soil	1					X				X	X	X								11C
10			3/14/2013			Soil	1					X				X	X	X								
11			3/14/2013			Soil	1					X				X	X	X								
12			3/14/2013			Soil	1					X				X	X	X								

Turnaround Time (Business days)

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

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [X] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format _____
- [ ] Other _____

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

Comments / Special Instructions

Due 3/29

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	3-22-13 1700	1 FED EX	2 FX	3/23/13 10	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable
5		5			

On Ice: ☑ Cooler Temp. 0.3° 2.0°

8.1

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JB31485: Chain of Custody
Page 1 of 4
SGS Accutest New England

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

PAGE ___ OF ___

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 # JB31485

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: Kristin Beebe E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: Sunoco, Marcus Hook
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
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SED-Sediment
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WP - Wipe
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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	%SOL	PB	B8270PALO								LAB USE ONLY
13			3/15/2013			Soil	1					X				X	X	X								
14			3/15/2013			Soil	1					X				X	X	X								
15			3/15/2013			Soil	1					X				X	X	X								
16			3/15/2013			Soil	1					X				X	X	X								
17			3/15/2013			Soil	1					X				X	X	X								
18			3/14/2013			Soil	1					X				X	X	X								
19			3/14/2013			Soil	1					X				X	X	X								
20			3/15/2013			Soil	1					X				X	X	X								
21			3/15/2013			Soil	1					X				X	X	X								
22			3/15/2013			Soil	1					X				X	X	X								
23			3/15/2013			Soil	1					X				X	X	X								
24			3/15/2013			Soil	1					X				X	X	X								

Turnaround Time (Business days)

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

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

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- [ ] Commercial "B" (Level 2)
- [ ] FULL.T1 (Level 3+4)
- [X] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format _____
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Relinquished by Sampler:	Date Tin	Received By:	Relinquished By:	Date Time:	Received By:
1	3-22-13 1700	1 FED EX	2 FX	3/22/13 10am	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp.
5		5					

8.1

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JB31485: Chain of Custody
Page 2 of 4

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

PAGE ___ OF ___

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 # JB31485

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: Kristin Beebe E-mail:
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s) Phone:

Project Information

Project Name: Sunoco, Marcus Hook
Street
City State
Project #
Client Purchase Order #
Project Manager

Billing Information (if different from Report to)

Company Name
Street Address
City State Zip
Attention:

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25			3/15/2013			Soil	1					X				X	X	X								
26			3/15/2013			Soil	1					X				X	X	X								
27			3/15/2013			Soil	1					X				X	X	X								
28			3/15/2013			Soil	1					X				X	X	X								
29			3/15/2013			Soil	1					X				X	X	X								
30			3/15/2013			Soil	1					X				X	X	X								

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

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- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [X] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
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Comments / Special Instructions

Due 3/29

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	3-22-13 1700	1 FEDEX	2	3/23/13 10	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. 0.5 2.0

8.1

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JB31485: Chain of Custody
Page 3 of 4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB31485 **Client:** ACNJ **Immediate Client Services Action Required:** No

Date / Time Received: 3/23/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: SUB/ SUNOCO HOOK **No. Coolers:** 2 **Airbill #'s:**

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

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

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

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

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

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

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

8.1

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JB31485: Chain of Custody
Page 4 of 4

Internal Sample Tracking Chronicle

SGS Accutest New Jersey

Job No: JB31485

SECORPAE: Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-1	Collected: 14-MAR-13 09:30 By: PM		Received: 15-MAR-13 By:			
MH201-1 (4.5-5.0)						
JB31485-1	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-1	SW846 6010C	25-MAR-13 19:25	EAL	25-MAR-13	DA	PB
JB31485-1	SW846 8270C	28-MAR-13 10:43	NS	26-MAR-13	MR	B8270PALO
JB31485-2	Collected: 14-MAR-13 10:20 By: PM		Received: 15-MAR-13 By:			
MH201-2 (5.0-5.5)						
JB31485-2	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-2	SW846 6010C	25-MAR-13 19:30	EAL	25-MAR-13	DA	PB
JB31485-2	SW846 8270C	28-MAR-13 11:06	NS	26-MAR-13	MR	B8270PALO
JB31485-3	Collected: 14-MAR-13 10:50 By: PM		Received: 15-MAR-13 By:			
MH201-3 (3.0-3.5)						
JB31485-3	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-3	SW846 6010C	25-MAR-13 19:34	EAL	25-MAR-13	DA	PB
JB31485-3	SW846 8270C	28-MAR-13 11:28	NS	26-MAR-13	MR	B8270PALO
JB31485-4	Collected: 14-MAR-13 11:10 By: PM		Received: 15-MAR-13 By:			
MH201-4 (3.0-3.5)						
JB31485-4	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-4	SW846 6010C	25-MAR-13 19:49	EAL	25-MAR-13	DA	PB
JB31485-4	SW846 8270C	28-MAR-13 11:51	NS	26-MAR-13	MR	B8270PALO
JB31485-5	Collected: 14-MAR-13 11:40 By: PM		Received: 15-MAR-13 By:			
MH201-5 (3.0-3.5)						
JB31485-5	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-5	SW846 6010C	25-MAR-13 19:54	EAL	25-MAR-13	DA	PB
JB31485-5	SW846 8270C	28-MAR-13 12:13	NS	26-MAR-13	MR	B8270PALO
JB31485-6	Collected: 14-MAR-13 12:40 By: PM		Received: 15-MAR-13 By:			
MH201-6 (3.0-3.5)						
JB31485-6	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-6	SW846 6010C	25-MAR-13 19:58	EAL	25-MAR-13	DA	PB

Internal Sample Tracking Chronicle

SGS Accutest New Jersey

Job No: JB31485

SECORPAE: Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-6	SW846 8270C	28-MAR-13 12:36	NS	26-MAR-13	MR	B8270PALO
JB31485-7 Collected: 14-MAR-13 13:00 By: PM Received: 15-MAR-13 By: MH201-7 (3.0-3.5)						
JB31485-7	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-7	SW846 6010C	25-MAR-13 20:03	EAL	25-MAR-13	DA	PB
JB31485-7	SW846 8270C	28-MAR-13 12:58	NS	26-MAR-13	MR	B8270PALO
JB31485-8 Collected: 14-MAR-13 13:20 By: PM Received: 15-MAR-13 By: MH201-8 (3.0-3.5)						
JB31485-8	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-8	SW846 6010C	25-MAR-13 20:08	EAL	25-MAR-13	DA	PB
JB31485-8	SW846 8270C	28-MAR-13 13:21	NS	26-MAR-13	MR	B8270PALO
JB31485-9 Collected: 14-MAR-13 08:50 By: PM Received: 15-MAR-13 By: MH201-9 (5.0-5.5)						
JB31485-9	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-9	SW846 6010C	25-MAR-13 20:13	EAL	25-MAR-13	DA	PB
JB31485-9	SW846 8270C	28-MAR-13 13:43	NS	26-MAR-13	MR	B8270PALO
JB31485-10 Collected: 14-MAR-13 11:20 By: PM Received: 15-MAR-13 By: MH201-10 (0.25-0.50)						
JB31485-10	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-10	SW846 6010C	27-MAR-13 14:39	EAL	25-MAR-13	DA	PB
JB31485-10	SW846 8270C	28-MAR-13 14:06	NS	26-MAR-13	MR	B8270PALO
JB31485-11 Collected: 14-MAR-13 14:55 By: PM Received: 15-MAR-13 By: MH595-1 (5.0-5.5)						
JB31485-11	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-11	SW846 6010C	27-MAR-13 14:44	EAL	25-MAR-13	DA	PB
JB31485-11	SW846 8270C	28-MAR-13 14:29	NS	26-MAR-13	MR	B8270PALO
JB31485-12 Collected: 14-MAR-13 14:25 By: PM Received: 15-MAR-13 By: MH595-2 (5.0-5.5)						

Internal Sample Tracking Chronicle

SGS Accutest New Jersey

Job No: JB31485

SECORPAE: Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-12	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-12	SW846 6010C	27-MAR-13 14:27	EAL	25-MAR-13	DA	PB
JB31485-12	SW846 8270C	28-MAR-13 14:51	NS	26-MAR-13	MR	B8270PALO
JB31485-13	Collected: 15-MAR-13 09:20 By: PM		Received: 15-MAR-13 By:			
MH595-3 (3.0-3.5)						
JB31485-13	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-13	SW846 6010C	27-MAR-13 14:59	EAL	25-MAR-13	DA	PB
JB31485-13	SW846 8270C	28-MAR-13 15:14	NS	26-MAR-13	MR	B8270PALO
JB31485-14	Collected: 15-MAR-13 09:05 By: PM		Received: 15-MAR-13 By:			
MH595-4 (3.0-3.5)						
JB31485-14	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-14	SW846 6010C	27-MAR-13 15:04	EAL	25-MAR-13	DA	PB
JB31485-14	SW846 8270C	28-MAR-13 15:36	NS	26-MAR-13	MR	B8270PALO
JB31485-15	Collected: 15-MAR-13 08:50 By: PM		Received: 15-MAR-13 By:			
MH595-5 (3.0-3.5)						
JB31485-15	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-15	SW846 6010C	27-MAR-13 15:08	EAL	25-MAR-13	DA	PB
JB31485-15	SW846 8270C	28-MAR-13 15:59	NS	26-MAR-13	MR	B8270PALO
JB31485-16	Collected: 15-MAR-13 08:30 By: PM		Received: 15-MAR-13 By:			
MH595-6 (3.0-3.5)						
JB31485-16	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-16	SW846 6010C	27-MAR-13 15:12	EAL	25-MAR-13	DA	PB
JB31485-16	SW846 8270C	28-MAR-13 16:22	NS	26-MAR-13	MR	B8270PALO
JB31485-17	Collected: 15-MAR-13 08:10 By: PM		Received: 15-MAR-13 By:			
MH595-7 (3.0-3.5)						
JB31485-17	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-17	SW846 6010C	27-MAR-13 15:17	EAL	25-MAR-13	DA	PB
JB31485-17	SW846 8270C	28-MAR-13 16:44	NS	26-MAR-13	MR	B8270PALO

Internal Sample Tracking Chronicle

SGS Accutest New Jersey

Job No: JB31485

SECORPAE: Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-18 Collected: 14-MAR-13 15:40 By: PM Received: 15-MAR-13 By: MH595-8 (3.0-3.5)						
JB31485-18	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-18	SW846 6010C	27-MAR-13 15:21	EAL	25-MAR-13	DA	PB
JB31485-18	SW846 8270C	28-MAR-13 17:07	NS	26-MAR-13	MR	B8270PALO
JB31485-19 Collected: 14-MAR-13 15:20 By: PM Received: 15-MAR-13 By: MH595-9 (5.0-5.5)						
JB31485-19	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-19	SW846 6010C	27-MAR-13 15:25	EAL	25-MAR-13	DA	PB
JB31485-19	SW846 8270C	28-MAR-13 17:29	NS	26-MAR-13	MR	B8270PALO
JB31485-20 Collected: 15-MAR-13 09:54 By: PM Received: 15-MAR-13 By: MH595-10 (0.25-0.50)						
JB31485-20	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-20	SW846 6010C	27-MAR-13 15:30	EAL	25-MAR-13	DA	PB
JB31485-20	SW846 8270C	28-MAR-13 17:52	NS	26-MAR-13	MR	B8270PALO
JB31485-21 Collected: 15-MAR-13 10:30 By: PM Received: 15-MAR-13 By: MH597-1 (2.0-2.5)						
JB31485-21	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-21	SW846 6010C	27-MAR-13 15:34	EAL	25-MAR-13	DA	PB
JB31485-21	SW846 8270C	27-MAR-13 23:14	KR	26-MAR-13	AJ	B8270PALO
JB31485-22 Collected: 15-MAR-13 10:45 By: PM Received: 15-MAR-13 By: MH597-2 (2.0-2.5)						
JB31485-22	SM21 2540 B MOD.	25-MAR-13	HS			%SOL
JB31485-22	SW846 6010C	27-MAR-13 15:38	EAL	25-MAR-13	DA	PB
JB31485-22	SW846 8270C	27-MAR-13 23:37	KR	26-MAR-13	AJ	B8270PALO
JB31485-23 Collected: 15-MAR-13 11:20 By: PM Received: 15-MAR-13 By: MH597-3 (5.0-5.5)						
JB31485-23	SM21 2540 B MOD.	26-MAR-13	HS			%SOL

Internal Sample Tracking Chronicle

SGS Accutest New Jersey

Job No: JB31485

SECORPAE: Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-23	SW846 6010C	27-MAR-13 15:53	EAL	25-MAR-13	DA	PB
JB31485-23	SW846 8270C	28-MAR-13 00:01	KR	26-MAR-13	AJ	B8270PALO
JB31485-24	Collected: 15-MAR-13 12:30 By: PM		Received: 15-MAR-13 By:			
MH597-4 (3.0-3.5)						
JB31485-24	SM21 2540 B MOD.	26-MAR-13	HS			%SOL
JB31485-24	SW846 6010C	27-MAR-13 15:57	EAL	25-MAR-13	DA	PB
JB31485-24	SW846 8270C	28-MAR-13 00:24	KR	26-MAR-13	AJ	B8270PALO
JB31485-25	Collected: 15-MAR-13 12:50 By: PM		Received: 15-MAR-13 By:			
MH597-5 (3.0-3.5)						
JB31485-25	SM21 2540 B MOD.	26-MAR-13	HS			%SOL
JB31485-25	SW846 6010C	27-MAR-13 16:02	EAL	25-MAR-13	DA	PB
JB31485-25	SW846 8270C	28-MAR-13 00:48	KR	26-MAR-13	AJ	B8270PALO
JB31485-26	Collected: 15-MAR-13 13:05 By: PM		Received: 15-MAR-13 By:			
MH597-6 (3.0-3.5)						
JB31485-26	SM21 2540 B MOD.	26-MAR-13	HS			%SOL
JB31485-26	SW846 6010C	27-MAR-13 16:06	EAL	25-MAR-13	DA	PB
JB31485-26	SW846 8270C	28-MAR-13 01:11	KR	26-MAR-13	AJ	B8270PALO
JB31485-27	Collected: 15-MAR-13 13:30 By: PM		Received: 15-MAR-13 By:			
MH597-7 (3.0-3.5)						
JB31485-27	SM21 2540 B MOD.	26-MAR-13	HS			%SOL
JB31485-27	SW846 6010C	27-MAR-13 16:10	EAL	25-MAR-13	DA	PB
JB31485-27	SW846 8270C	28-MAR-13 01:35	KR	26-MAR-13	AJ	B8270PALO
JB31485-28	Collected: 15-MAR-13 13:43 By: PM		Received: 15-MAR-13 By:			
MH597-8 (3.0-3.5)						
JB31485-28	SM21 2540 B MOD.	26-MAR-13	HS			%SOL
JB31485-28	SW846 6010C	27-MAR-13 16:15	EAL	25-MAR-13	DA	PB
JB31485-28	SW846 8270C	28-MAR-13 01:58	KR	26-MAR-13	AJ	B8270PALO

Internal Sample Tracking Chronicle

SGS Accutest New Jersey

Job No: JB31485

SECORPAE: Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31485-29 Collected: 15-MAR-13 13:55 By: PM Received: 15-MAR-13 By: MH597-9 (3.0-3.5)						
JB31485-29	SM21 2540 B MOD.	26-MAR-13	HS			%SOL
JB31485-29	SW846 6010C	27-MAR-13 16:19	EAL	25-MAR-13	DA	PB
JB31485-29	SW846 8270C	28-MAR-13 02:22	KR	26-MAR-13	AJ	B8270PALO
JB31485-30 Collected: 15-MAR-13 13:10 By: PM Received: 15-MAR-13 By: MH597-10 (0.25-0.50)						
JB31485-30	SM21 2540 B MOD.	26-MAR-13	HS			%SOL
JB31485-30	SW846 6010C	27-MAR-13 11:04	EAL	26-MAR-13	DA	PB
JB31485-30	SW846 8270C	28-MAR-13 02:45	KR	26-MAR-13	AJ	B8270PALO

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-1.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-1.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-1.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-1.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-1.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-1.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-1.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-2.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-2.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-2.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-2.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-2.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-2.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-2.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-3.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-3.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-3.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-3.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-3.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-3.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-3.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-4.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-4.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-4.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-4.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-4.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-5.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-5.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-5.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-5.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-5.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-5.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-5.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-6.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-6.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-6.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-6.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-6.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-6.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-6.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-7.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-7.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-7.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-7.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-7.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-7.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-7.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-8.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-8.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-8.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-8.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-8.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-8.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-8.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-9.1	Walk In Ref #9	Dorina Antonovici	03/25/13 11:01	Retrieve from Storage
JB31485-9.1	Dorina Antonovici	Walk In Ref #9	03/25/13 12:17	Return to Storage
JB31485-9.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-9.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-9.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-10.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-10.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-10.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-10.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-10.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-10.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-10.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-11.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-11.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-11.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-11.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-11.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-11.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-11.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-12.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-12.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-12.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-12.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-12.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-12.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-12.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-13.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-13.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-13.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-13.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-13.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-13.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-13.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-14.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-14.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-14.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-14.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-14.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-14.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-14.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-15.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-15.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-15.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-15.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-15.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-15.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-15.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-16.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-16.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-16.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-16.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-16.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-16.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-16.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-17.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-17.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-17.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-17.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-17.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-17.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-17.1	Scott Parsick		07/24/13 13:55	Disposed

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-18.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-18.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-18.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-18.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-18.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-18.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-18.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-19.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-19.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-19.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-19.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-19.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-19.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-19.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-20.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-20.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-20.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-20.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-20.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-20.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-20.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-21.1	Walk In Ref #9	Hamid Siamak	03/25/13 08:25	Retrieve from Storage
JB31485-21.1	Hamid Siamak	Walk In Ref #9	03/25/13 09:40	Return to Storage
JB31485-21.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-21.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-21.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-21.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-21.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-22.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-22.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-22.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-22.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-22.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-23.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-23.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-23.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-23.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-23.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-23.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-23.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-24.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-24.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-24.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-24.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-24.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-24.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-24.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-25.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-25.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-25.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-25.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-25.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-25.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-25.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-26.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-26.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-26.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-26.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-26.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-26.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-26.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-27.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-27.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-27.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-27.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-27.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-27.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-27.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-28.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-28.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage
JB31485-28.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-28.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-28.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-28.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-28.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-29.1	Walk In Ref #9	Dorina Antonovici	03/25/13 12:24	Retrieve from Storage
JB31485-29.1	Dorina Antonovici	Walk In Ref #9	03/25/13 13:24	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Received: 03/15/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31485-29.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-29.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-29.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-29.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-29.1	Scott Parsick		07/24/13 13:55	Disposed
JB31485-30.1	Walk In Ref #9	Mehdi Abdolrahim	03/26/13 08:42	Retrieve from Storage
JB31485-30.1	Mehdi Abdolrahim	Walk In Ref #9	03/26/13 09:45	Return to Storage
JB31485-30.1	Walk In Ref #9	Dorina Antonovici	03/26/13 10:02	Retrieve from Storage
JB31485-30.1	Dorina Antonovici	Walk In Ref #9	03/26/13 11:13	Return to Storage
JB31485-30.1	Walk In Ref #9	Thomas Abruzzise	03/26/13 14:27	Retrieve from Storage
JB31485-30.1	Thomas Abruzzise	Walk In Ref #9	03/26/13 23:19	Return to Storage
JB31485-30.1	Scott Parsick		07/24/13 13:55	Disposed

MS Semi-volatiles

QC Data Summaries

(SGS Accutest New England)

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: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP32397-MB	W10640.D	1	03/27/13	KR	03/26/13	OP32397	MSW500

The QC reported here applies to the following samples: **Method:** SW846 8270C

JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29, JB31485-30

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	99	34	ug/kg	
56-55-3	Benzo(a)anthracene	ND	99	38	ug/kg	
50-32-8	Benzo(a)pyrene	ND	99	23	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	99	24	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	99	45	ug/kg	
218-01-9	Chrysene	ND	99	40	ug/kg	
86-73-7	Fluorene	ND	99	35	ug/kg	
85-01-8	Phenanthrene	ND	99	30	ug/kg	
129-00-0	Pyrene	ND	99	30	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	69%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	88%	30-130%

Method Blank Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP32398-MB	U13163.D	1	03/28/13	NS	03/26/13	OP32398	MSU673

The QC reported here applies to the following samples: **Method:** SW846 8270C

JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9, JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	99	34	ug/kg	
56-55-3	Benzo(a)anthracene	ND	99	38	ug/kg	
50-32-8	Benzo(a)pyrene	ND	99	23	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	99	24	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	99	45	ug/kg	
218-01-9	Chrysene	ND	99	40	ug/kg	
86-73-7	Fluorene	ND	99	35	ug/kg	
85-01-8	Phenanthrene	ND	99	30	ug/kg	
129-00-0	Pyrene	ND	99	30	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	75%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	80%	30-130%

Blank Spike Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP32397-BS	W10641.D	1	03/27/13	KR	03/26/13	OP32397	MSW500

The QC reported here applies to the following samples: **Method:** SW846 8270C

JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29, JB31485-30

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
120-12-7	Anthracene	2450	1720	70	40-140
56-55-3	Benzo(a)anthracene	2450	1950	79	40-140
50-32-8	Benzo(a)pyrene	2450	1650	67	40-140
205-99-2	Benzo(b)fluoranthene	2450	2140	87	40-140
191-24-2	Benzo(g,h,i)perylene	2450	2070	84	40-140
218-01-9	Chrysene	2450	1850	75	40-140
86-73-7	Fluorene	2450	1790	73	40-140
85-01-8	Phenanthrene	2450	1770	72	40-140
129-00-0	Pyrene	2450	1810	74	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	55%	30-130%
321-60-8	2-Fluorobiphenyl	64%	30-130%
1718-51-0	Terphenyl-d14	81%	30-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP32398-BS	U13164.D	1	03/28/13	NS	03/26/13	OP32398	MSU673

The QC reported here applies to the following samples: **Method:** SW846 8270C

JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9, JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
120-12-7	Anthracene	2400	1750	73	40-140
56-55-3	Benzo(a)anthracene	2400	1910	79	40-140
50-32-8	Benzo(a)pyrene	2400	1710	71	40-140
205-99-2	Benzo(b)fluoranthene	2400	1840	77	40-140
191-24-2	Benzo(g,h,i)perylene	2400	1860	77	40-140
218-01-9	Chrysene	2400	1770	74	40-140
86-73-7	Fluorene	2400	1890	79	40-140
85-01-8	Phenanthrene	2400	1910	79	40-140
129-00-0	Pyrene	2400	1820	76	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	64%	30-130%
321-60-8	2-Fluorobiphenyl	68%	30-130%
1718-51-0	Terphenyl-d14	75%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP32397-MS	W10653.D	1	03/27/13	KR	03/26/13	OP32397	MSW500
OP32397-MSD	W10654.D	1	03/27/13	KR	03/26/13	OP32397	MSW500
JB31485-21	W10655.D	1	03/27/13	KR	03/26/13	OP32397	MSW500

The QC reported here applies to the following samples: **Method:** SW846 8270C

JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29, JB31485-30

CAS No.	Compound	JB31485-21 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	183		3000	1630	48	3000	1850	55	13	40-140/30
56-55-3	Benzo(a)anthracene	496		3000	1770	42	3000	2240	58	23	40-140/30
50-32-8	Benzo(a)pyrene	410		3000	1450	35* [a]	3000	1830	47	23	40-140/30
205-99-2	Benzo(b)fluoranthene	274		3000	1940	55	3000	2690	80	32* [b]	40-140/30
191-24-2	Benzo(g,h,i)perylene	364		3000	1650	43	3000	1960	53	17	40-140/30
218-01-9	Chrysene	650		3000	1830	39* [a]	3000	2320	56	24	40-140/30
86-73-7	Fluorene	79.0	J	3000	1860	59	3000	1980	63	6	40-140/30
85-01-8	Phenanthrene	634		3000	2010	46	3000	2610	66	26	40-140/30
129-00-0	Pyrene	344		3000	1810	49	3000	2450	70	30	40-140/30

CAS No.	Surrogate Recoveries	MS	MSD	JB31485-21	Limits
4165-60-0	Nitrobenzene-d5	46%	47%	64%	30-130%
321-60-8	2-Fluorobiphenyl	59%	59%	71%	30-130%
1718-51-0	Terphenyl-d14	60%	64%	79%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP32398-MS	U13165.D	1	03/28/13	NS	03/26/13	OP32398	MSU673
OP32398-MSD	U13166.D	1	03/28/13	NS	03/26/13	OP32398	MSU673
JB31485-1	U13167.D	1	03/28/13	NS	03/26/13	OP32398	MSU673

The QC reported here applies to the following samples: **Method:** SW846 8270C

JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9, JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20

CAS No.	Compound	JB31485-1 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		2950	2420	82	2910	1910	66	24	40-140/30
56-55-3	Benzo(a)anthracene	ND		2950	2440	83	2910	2010	69	19	40-140/30
50-32-8	Benzo(a)pyrene	ND		2950	2210	75	2910	1830	63	19	40-140/30
205-99-2	Benzo(b)fluoranthene	ND		2950	2400	81	2910	1840	63	26	40-140/30
191-24-2	Benzo(g,h,i)perylene	ND		2950	2380	81	2910	1960	67	19	40-140/30
218-01-9	Chrysene	ND		2950	2280	77	2910	1830	63	22	40-140/30
86-73-7	Fluorene	ND		2950	2720	92	2910	2180	75	22	40-140/30
85-01-8	Phenanthrene	ND		2950	2880	98	2910	2200	76	27	40-140/30
129-00-0	Pyrene	ND		2950	2380	81	2910	1900	65	22	40-140/30

CAS No.	Surrogate Recoveries	MS	MSD	JB31485-1	Limits
4165-60-0	Nitrobenzene-d5	67%	56%	70%	30-130%
321-60-8	2-Fluorobiphenyl	75%	62%	72%	30-130%
1718-51-0	Terphenyl-d14	78%	66%	72%	30-130%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSU623-DFTPP
Lab File ID: U12012.D
Instrument ID: GCMSU
Injection Date: 01/29/13
Injection Time: 11:21

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	28277	30.2		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	33448	35.7		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	39693	42.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	93779	100.0		Pass
199	5.0 - 9.0% of mass 198	6419	6.84		Pass
275	10.0 - 30.0% of mass 198	22836	24.4		Pass
365	1.0 - 100.0% of mass 198	2453	2.62		Pass
441	Present, but less than mass 443	6526	6.96	(76.1) [b]	Pass
442	40.0 - 100.0% of mass 198	44240	47.2		Pass
443	17.0 - 23.0% of mass 442	8580	9.15	(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
MSU623-ICC623	U12013.D	01/29/13	11:50	00:29	Initial cal 80
MSU652-ICC652	U12013A.D	01/29/13	11:50	00:29	Initial cal 80
MSU623-IC623	U12014.D	01/29/13	12:12	00:51	Initial cal 160
MSU652-IC652	U12014A.D	01/29/13	12:12	00:51	Initial cal 160
MSU623-IC623	U12015.D	01/29/13	12:35	01:14	Initial cal 120
MSU652-IC652	U12015A.D	01/29/13	12:35	01:14	Initial cal 120
MSU652-IC652	U12016A.D	01/29/13	12:57	01:36	Initial cal 50
MSU623-IC623	U12016.D	01/29/13	12:57	01:36	Initial cal 50
MSU652-IC652	U12017A.D	01/29/13	13:19	01:58	Initial cal 20
MSU623-IC623	U12017.D	01/29/13	13:19	01:58	Initial cal 20
MSU652-IC652	U12018A.D	01/29/13	13:42	02:21	Initial cal 10
MSU623-IC623	U12018.D	01/29/13	13:42	02:21	Initial cal 10
MSU652-IC652	U12019A.D	01/29/13	14:04	02:43	Initial cal 5
MSU623-IC623	U12019.D	01/29/13	14:04	02:43	Initial cal 5
MSU652-IC652	U12020A.D	01/29/13	14:27	03:06	Initial cal 2
MSU623-IC623	U12020.D	01/29/13	14:27	03:06	Initial cal 2

Instrument Performance Check (DFTPP)

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSU673-DFTPP
Lab File ID: U13161.D
Instrument ID: GCMSU
Injection Date: 03/28/13
Injection Time: 08:28

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	43335	33.7		Pass
68	Less than 2.0% of mass 69	112	0.09	(0.23) [a]	Pass
69	Mass 69 relative abundance	49299	38.3		Pass
70	Less than 2.0% of mass 69	114	0.09	(0.23) [a]	Pass
127	40.0 - 60.0% of mass 198	57815	45.0		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	128565	100.0		Pass
199	5.0 - 9.0% of mass 198	8717	6.78		Pass
275	10.0 - 30.0% of mass 198	31586	24.6		Pass
365	1.0 - 100.0% of mass 198	3517	2.74		Pass
441	Present, but less than mass 443	9105	7.08	(82.2) [b]	Pass
442	40.0 - 100.0% of mass 198	58382	45.4		Pass
443	17.0 - 23.0% of mass 442	11081	8.62	(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
MSU673-CC623	U13162.D	03/28/13	08:50	00:22	Continuing cal 50
OP32398-MB	U13163.D	03/28/13	09:13	00:45	Method Blank
OP32398-BS	U13164.D	03/28/13	09:35	01:07	Blank Spike
OP32398-MS	U13165.D	03/28/13	09:58	01:30	Matrix Spike
OP32398-MSD	U13166.D	03/28/13	10:20	01:52	Matrix Spike Duplicate
JB31485-1	U13167.D	03/28/13	10:43	02:15	MH201-1 (4.5-5.0)
JB31485-2	U13168.D	03/28/13	11:06	02:38	MH201-2 (5.0-5.5)
JB31485-3	U13169.D	03/28/13	11:28	03:00	MH201-3 (3.0-3.5)
JB31485-4	U13170.D	03/28/13	11:51	03:23	MH201-4 (3.0-3.5)
JB31485-5	U13171.D	03/28/13	12:13	03:45	MH201-5 (3.0-3.5)
JB31485-6	U13172.D	03/28/13	12:36	04:08	MH201-6 (3.0-3.5)
JB31485-7	U13173.D	03/28/13	12:58	04:30	MH201-7 (3.0-3.5)
JB31485-8	U13174.D	03/28/13	13:21	04:53	MH201-8 (3.0-3.5)
JB31485-9	U13175.D	03/28/13	13:43	05:15	MH201-9 (5.0-5.5)
JB31485-10	U13176.D	03/28/13	14:06	05:38	MH201-10 (0.25-0.50)
JB31485-11	U13177.D	03/28/13	14:29	06:01	MH595-1 (5.0-5.5)
JB31485-12	U13178.D	03/28/13	14:51	06:23	MH595-2 (5.0-5.5)
JB31485-13	U13179.D	03/28/13	15:14	06:46	MH595-3 (3.0-3.5)
JB31485-14	U13180.D	03/28/13	15:36	07:08	MH595-4 (3.0-3.5)

Instrument Performance Check (DFTPP)

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSU673-DFTPP
Lab File ID: U13161.D
Instrument ID: GCMSU
Injection Date: 03/28/13
Injection Time: 08:28

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JB31485-15	U13181.D	03/28/13	15:59	07:31	MH595-5 (3.0-3.5)
JB31485-16	U13182.D	03/28/13	16:22	07:54	MH595-6 (3.0-3.5)
JB31485-17	U13183.D	03/28/13	16:44	08:16	MH595-7 (3.0-3.5)
JB31485-18	U13184.D	03/28/13	17:07	08:39	MH595-8 (3.0-3.5)
JB31485-19	U13185.D	03/28/13	17:29	09:01	MH595-9 (5.0-5.5)
JB31485-20	U13186.D	03/28/13	17:52	09:24	MH595-10 (0.25-0.50)

Instrument Performance Check (DFTPP)

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSW474-DFTPP
Lab File ID: W9994.D
Instrument ID: GCMSW
Injection Date: 03/08/13
Injection Time: 11:18

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	15408	49.8		Pass
68	Less than 2.0% of mass 69	102	0.33	(0.63) [a]	Pass
69	Mass 69 relative abundance	16301	52.7		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	18431	59.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	30937	100.0		Pass
199	5.0 - 9.0% of mass 198	2121	6.86		Pass
275	10.0 - 30.0% of mass 198	8054	26.0		Pass
365	1.0 - 100.0% of mass 198	1691	5.47		Pass
441	Present, but less than mass 443	3191	10.3	(83.8) [b]	Pass
442	40.0 - 100.0% of mass 198	19927	64.4		Pass
443	17.0 - 23.0% of mass 442	3808	12.3	(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
MSW474-ICC474	W9995.D	03/08/13	11:40	00:22	Initial cal 50
MSW474-IC474	W9996.D	03/08/13	12:03	00:45	Initial cal 2
MSW474-IC474	W9997.D	03/08/13	12:26	01:08	Initial cal 5
MSW474-IC474	W9998.D	03/08/13	12:49	01:31	Initial cal 10
MSW474-IC474	W9999.D	03/08/13	13:12	01:54	Initial cal 20
MSW474-IC474	W10000.D	03/08/13	13:36	02:18	Initial cal 80
MSW474-IC474	W10001.D	03/08/13	13:59	02:41	Initial cal 120
MSW474-IC474	W10002.D	03/08/13	14:22	03:04	Initial cal 1
MSW474-IC474	W10003.D	03/08/13	14:45	03:27	Initial cal 160
MSW474-ICV474	W10004.D	03/08/13	15:08	03:50	Initial cal verification 20
MSW474-ICV474	W10005.D	03/08/13	15:32	04:14	Initial cal verification 50
MSW474-ICV474	W10006.D	03/08/13	15:55	04:37	Initial cal verification 20
MSW474-ICV474	W10007.D	03/08/13	16:18	05:00	Initial cal verification 20

Instrument Performance Check (DFTPP)

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSW500-DFTPP
Lab File ID: W10638.D
Instrument ID: GCMSW
Injection Date: 03/27/13
Injection Time: 16:38

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	6095	33.6		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	7185	39.7		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	8734	48.2		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	18114	100.0		Pass
199	5.0 - 9.0% of mass 198	1188	6.56		Pass
275	10.0 - 30.0% of mass 198	5041	27.8		Pass
365	1.0 - 100.0% of mass 198	836	4.62		Pass
441	Present, but less than mass 443	2609	14.4	(80.4) [b]	Pass
442	40.0 - 100.0% of mass 198	16753	92.5		Pass
443	17.0 - 23.0% of mass 442	3247	17.9	(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
MSW500-CC474	W10639.D	03/27/13	17:02	00:24	Continuing cal 50
OP32397-MB	W10640.D	03/27/13	17:25	00:47	Method Blank
OP32397-BS	W10641.D	03/27/13	17:48	01:10	Blank Spike
OP32384-MB	W10642.D	03/27/13	18:11	01:33	Method Blank
OP32384-BS	W10643.D	03/27/13	18:34	01:56	Blank Spike
OP32384-MS	W10644.D	03/27/13	18:57	02:19	Matrix Spike
OP32384-MSD	W10645.D	03/27/13	19:21	02:43	Matrix Spike Duplicate
MC19200-4	W10646.D	03/27/13	19:44	03:06	(used for QC only; not part of job JB31485)
ZZZZZZ	W10647.D	03/27/13	20:07	03:29	(unrelated sample)
ZZZZZZ	W10648.D	03/27/13	20:30	03:52	(unrelated sample)
ZZZZZZ	W10649.D	03/27/13	20:53	04:15	(unrelated sample)
ZZZZZZ	W10650.D	03/27/13	21:17	04:39	(unrelated sample)
ZZZZZZ	W10651.D	03/27/13	21:40	05:02	(unrelated sample)
ZZZZZZ	W10652.D	03/27/13	22:03	05:25	(unrelated sample)
OP32397-MS	W10653.D	03/27/13	22:27	05:49	Matrix Spike
OP32397-MSD	W10654.D	03/27/13	22:50	06:12	Matrix Spike Duplicate
JB31485-21	W10655.D	03/27/13	23:14	06:36	MH597-1 (2.0-2.5)
JB31485-22	W10656.D	03/27/13	23:37	06:59	MH597-2 (2.0-2.5)
JB31485-23	W10657.D	03/28/13	00:01	07:23	MH597-3 (5.0-5.5)

Instrument Performance Check (DFTPP)

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSW500-DFTPP
Lab File ID: W10638.D
Instrument ID: GCMSW
Injection Date: 03/27/13
Injection Time: 16:38

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JB31485-24	W10658.D	03/28/13	00:24	07:46	MH597-4 (3.0-3.5)
JB31485-25	W10659.D	03/28/13	00:48	08:10	MH597-5 (3.0-3.5)
JB31485-26	W10660.D	03/28/13	01:11	08:33	MH597-6 (3.0-3.5)
JB31485-27	W10661.D	03/28/13	01:35	08:57	MH597-7 (3.0-3.5)
JB31485-28	W10662.D	03/28/13	01:58	09:20	MH597-8 (3.0-3.5)
JB31485-29	W10663.D	03/28/13	02:22	09:44	MH597-9 (3.0-3.5)
JB31485-30	W10664.D	03/28/13	02:45	10:07	MH597-10 (0.25-0.50)

Internal Standard Area Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Check Std:	MSU673-CC623	**Injection Date:**	03/28/13
Lab File ID:	U13162.D	**Injection Time:**	08:50
Instrument ID:	GCMSU	**Method:**	SW846 8270C

	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	158896	3.08	552467	4.05	350371	5.44	642451	6.67	698317	9.40	673760	10.94
Upper Limit [a]	317792	3.58	1104934	4.55	700742	5.94	1284902	7.17	1396634	9.90	1347520	11.44
Lower Limit [b]	79448	2.58	276234	3.55	175186	4.94	321226	6.17	349159	8.90	336880	10.44

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
OP32398-MB	194672	3.08	689686	4.05	419524	5.44	735464	6.66	807425	9.40	746658	10.94
OP32398-BS	165301	3.08	585932	4.05	349469	5.44	635850	6.67	686021	9.40	635843	10.94
OP32398-MS	178263	3.08	620235	4.05	335168	5.45	589592	6.67	653823	9.40	630893	10.94
OP32398-MSD	164756	3.08	596552	4.05	341663	5.45	612554	6.67	688054	9.40	644104	10.94
JB31485-1	173528	3.08	601698	4.05	343956	5.44	607352	6.67	700896	9.40	639072	10.94
JB31485-2	179259	3.08	661631	4.05	384165	5.44	693486	6.67	765470	9.40	701404	10.94
JB31485-3	186866	3.08	632013	4.05	363512	5.45	648509	6.67	757550	9.40	691721	10.94
JB31485-4	162764	3.08	530130	4.05	303049	5.45	535071	6.67	650839	9.40	601223	10.94
JB31485-5	169533	3.08	609268	4.05	360359	5.44	650028	6.67	722999	9.39	647556	10.94
JB31485-6	164555	3.08	582651	4.05	326434	5.45	582190	6.67	669159	9.40	637206	10.94
JB31485-7	166276	3.08	601322	4.05	355914	5.44	635047	6.67	691819	9.40	638195	10.94
JB31485-8	171177	3.08	623316	4.05	372957	5.44	662095	6.67	741219	9.40	667254	10.94
JB31485-9	167705	3.08	544846	4.05	313595	5.46	562828	6.67	692473	9.40	649129	10.94
JB31485-10	141096	3.08	484651	4.05	279308	5.45	448676	6.68	592257	9.42	589610	10.96
JB31485-11	149809	3.08	502354	4.05	290349	5.45	457019	6.67	601051	9.42	598759	10.96
JB31485-12	145865	3.08	529354	4.05	325580	5.44	588057	6.67	644498	9.40	597915	10.94
JB31485-13	131942	3.08	440798	4.05	254626	5.45	445747	6.67	558189	9.41	551743	10.96
JB31485-14	149836	3.08	555795	4.05	338221	5.44	609758	6.67	666071	9.40	614855	10.94
JB31485-15	178049	3.08	642408	4.05	385316	5.44	690032	6.67	736108	9.40	652666	10.94
JB31485-16	116813	3.08	408877	4.05	243850	5.44	423975	6.67	484652	9.40	476090	10.94
JB31485-17	134066	3.08	452217	4.05	275637	5.46	449118	6.68	613537	9.42	592946	10.96
JB31485-18	164139	3.08	562533	4.05	331434	5.45	587745	6.67	678997	9.40	624284	10.95
JB31485-19	158286	3.09	500882	4.05	286848	5.46	442507	6.68	605376	9.43	594893	10.97
JB31485-20	138917	3.08	490504	4.05	310598	5.45	555723	6.67	628244	9.40	584771	10.96

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

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

Internal Standard Area Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Check Std:	MSW500-CC474	**Injection Date:**	03/27/13
Lab File ID:	W10639.D	**Injection Time:**	17:02
Instrument ID:	GCMSW	**Method:**	SW846 8270C

	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	33915	3.84	133657	4.83	84471	6.27	152230	7.58	185051	10.49	168292	12.07
Upper Limit [a]	67830	4.34	267314	5.33	168942	6.77	304460	8.08	370102	10.99	336584	12.57
Lower Limit [b]	16958	3.34	66829	4.33	42236	5.77	76115	7.08	92526	9.99	84146	11.57

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
OP32397-MB	34945	3.84	136266	4.83	84430	6.26	151053	7.58	170156	10.49	160500	12.07
OP32397-BS	32315	3.84	123719	4.83	76516	6.26	136538	7.58	156770	10.49	147574	12.07
OP32384-MB	30841	3.84	121158	4.83	76568	6.26	137283	7.58	159740	10.48	154235	12.07
OP32384-BS	37770	3.84	145386	4.83	90966	6.27	159525	7.58	186049	10.49	173525	12.07
OP32384-MS	31948	3.84	122086	4.83	76472	6.27	139960	7.58	165996	10.49	156492	12.07
OP32384-MSD	30921	3.84	119066	4.83	74474	6.26	134698	7.58	161870	10.49	151275	12.07
MC19200-4	38528	3.84	150045	4.83	94044	6.26	168477	7.58	191762	10.48	181820	12.07
ZZZZZZ	39518	3.84	151182	4.83	96514	6.26	173185	7.58	195608	10.49	183731	12.07
ZZZZZZ	46974	3.85	171315	4.84	112649	6.28	206272	7.61	248875	10.51	242428	12.09
ZZZZZZ	40224	3.84	155593	4.83	96523	6.26	171608	7.58	194811	10.49	192260	12.07
ZZZZZZ	38350	3.84	150810	4.83	92770	6.26	167641	7.58	189704	10.49	184493	12.07
ZZZZZZ	39208	3.84	152094	4.83	96044	6.26	173181	7.58	195799	10.49	187683	12.07
ZZZZZZ	39713	3.84	153173	4.83	95547	6.26	172244	7.58	196327	10.49	187093	12.07
OP32397-MS	41873	3.84	157765	4.83	97807	6.27	169304	7.58	188163	10.49	181559	12.08
OP32397-MSD	38838	3.84	149735	4.83	93706	6.27	166765	7.58	193942	10.49	194843	12.08
JB31485-21	39379	3.84	151021	4.83	93738	6.27	165425	7.58	192993	10.49	207608	12.08
JB31485-22	42154	3.85	159859	4.83	99848	6.27	171982	7.59	233083	10.50	257085	12.11
JB31485-23	39685	3.85	150226	4.83	96129	6.27	169653	7.59	187607	10.49	191141	12.08
JB31485-24	43283	3.85	162206	4.83	99680	6.27	178807	7.59	181478	10.49	179275	12.08
JB31485-25	42694	3.85	144580	4.84	95140	6.27	168426	7.59	186351	10.50	187283	12.08
JB31485-26	41587	3.85	155195	4.83	106527	6.27	196134	7.59	198379	10.50	191169	12.08
JB31485-27	40105	3.85	145492	4.83	96455	6.27	198729	7.60	192044	10.50	185350	12.08
JB31485-28	46286	3.85	158301	4.83	98836	6.27	191641	7.59	185031	10.50	180178	12.08
JB31485-29	44584	3.85	167176	4.83	101216	6.27	174277	7.58	181991	10.49	179600	12.08
JB31485-30	44799	3.85	166037	4.83	99929	6.27	171346	7.58	183452	10.49	189585	12.08

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

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

Surrogate Recovery Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Method: SW846 8270C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JB31485-1	U13167.D	70	72	72
JB31485-2	U13168.D	73	76	75
JB31485-3	U13169.D	74	73	75
JB31485-4	U13170.D	78	72	71
JB31485-5	U13171.D	73	76	76
JB31485-6	U13172.D	69	70	68
JB31485-7	U13173.D	69	72	78
JB31485-8	U13174.D	71	71	72
JB31485-9	U13175.D	75	71	72
JB31485-10	U13176.D	73	83	77
JB31485-11	U13177.D	65	66	70
JB31485-12	U13178.D	58	73	74
JB31485-13	U13179.D	74	76	74
JB31485-14	U13180.D	69	74	78
JB31485-15	U13181.D	73	79	80
JB31485-16	U13182.D	68	72	71
JB31485-17	U13183.D	81	86	77
JB31485-18	U13184.D	79	71	74
JB31485-19	U13185.D	81	67	75
JB31485-20	U13186.D	64	74	74
JB31485-21	W10655.D	64	71	79
JB31485-22	W10656.D	39	62	60
JB31485-23	W10657.D	63	67	73
JB31485-24	W10658.D	66	74	82
JB31485-25	W10659.D	62	66	74
JB31485-26	W10660.D	56	58	76
JB31485-27	W10661.D	63	66	84
JB31485-28	W10662.D	59	64	74
JB31485-29	W10663.D	61	71	78
JB31485-30	W10664.D	61	67	75
OP32397-BS	W10641.D	55	64	81
OP32397-MB	W10640.D	69	76	88
OP32397-MS	W10653.D	46	59	60
OP32397-MSD	W10654.D	47	59	64
OP32398-BS	U13164.D	64	68	75
OP32398-MB	U13163.D	75	76	80
OP32398-MS	U13165.D	67	75	78
OP32398-MSD	U13166.D	56	62	66

Surrogate Recovery Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Method: SW846 8270C **Matrix:** SO

Samples and QC shown here apply to the above method

Surrogate Compounds	Recovery Limits

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSU623-ICC623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12013.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Response Factor Report MSU

```
Method       : C:\msdchem\1\METHODS\U130129_8270.m (RTE Integrator)
Title        : SW-864 Method 8270
Last Update  : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Calibration Files
2   =U12020.D    5   =U12019.D    10  =U12018.D    50  =U13162.D
80  =U12955.D    120 =U12015.D    20  =U12017.D    160 =U12014.D

 Compound         2     5     10    50    80    120   20    160   Avg %RSD
-------------------------------------------------------------------------------

1) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
2) N-Nitrosodim 0.710 0.738 0.799 0.836 0.831 0.770 0.802 0.826 0.789   5.84
3) Pyridine     1.217 1.370 1.558 1.570 1.549 1.472 1.494 1.531 1.470   8.21
4) Aniline            2.119 2.122 2.138 2.041 1.862 2.113 1.918 2.045   5.44
5) 2-Fluorophen       1.305 1.299 1.349 1.319 1.264 1.287 1.305 1.304   2.02
6) bis(2-Chloro       1.399 1.360 1.031 1.328 1.263 1.345 1.293 1.288   9.46
7) Phenol-d5          1.542 1.600 1.628 1.574 1.499 1.604 1.517 1.567   3.08
8) Phenol             1.822 1.829 1.838 1.735 1.565 1.813       1.767   5.99
            ---- Quadratic regression ----  Coefficient =  0.9998
              Response Ratio = -0.05736 + 2.09347 *A + -0.16906 *A^2

9) 2-Chlorophen 1.352 1.412 1.443 1.433 1.391 1.336 1.440 1.364 1.396   3.01
10) 1,3-Dichloro 1.612 1.658 1.628 1.566 1.534 1.410 1.606 1.456 1.559   5.59
11) 1,4-Dichloro      1.717 1.691 1.644 1.542 1.515 1.663       1.629   5.03
12) 1,2-Dichloro      1.559 1.547 1.507 1.413 1.309 1.539       1.479   6.68
            ---- Quadratic regression ----  Coefficient =  1.0000
              Response Ratio = -0.01584 + 1.64858 *A + -0.11165 *A^2

13) Benzyl alcoh 0.696 0.838 0.853 0.875 0.815 0.762 0.851 0.786 0.810   7.30
14) bis(2-chloro 1.597 1.671 1.604 1.587 1.529 1.416 1.594 1.437 1.554   5.66
15) o-cresol    1.190 1.227 1.251 1.256 1.200 1.108 1.277 1.141 1.206   4.84
16) Acetophenone 1.814 1.872 1.877 1.866 1.798 1.668 1.874 1.697 1.808   4.62
17) Hexachloroet 0.604 0.613 0.611 0.616 0.583 0.559 0.606 0.557 0.594   4.10
18) N-Nitroso-di 0.907 0.937 0.927 0.921 0.874 0.798 0.933       0.900   5.52
            ---- Quadratic regression ----  Coefficient =  0.9999
              Response Ratio = -0.01436 + 1.02444 *A + -0.07359 *A^2

19) m+p-cresols  1.240 1.303 1.297 1.238 1.183 1.078 1.287 1.106 1.217   7.12
            ---- Linear regression ----  Coefficient =  0.9975
              Response Ratio = 0.14577 + 1.09021 *A

20) 4-methylphen 1.240 1.303 1.297 1.238 1.183 1.078 1.287 1.106 1.217   7.12
            ---- Linear regression ----  Coefficient =  0.9975
              Response Ratio = 0.14577 + 1.09021 *A


21) I   Naphthalene-d8        ----------------ISTD---------------------
22) Nitrobenzene 0.368 0.412 0.375 0.380 0.366 0.358 0.417 0.351 0.378   6.38
23) Nitrobenzene      0.379 0.376 0.378 0.353 0.338 0.388 0.348 0.366   5.16
24) Isophorone   0.656 0.649 0.676 0.693 0.659 0.634 0.679 0.652 0.662   2.89
25) 2-Nitropheno      0.196 0.204 0.220 0.209 0.218 0.214 0.217 0.211   4.10
26) 2,4-Dimethyl 0.339 0.357 0.366 0.370 0.354 0.338 0.363 0.338 0.353   3.76
27) bis(2-Chloro 0.424 0.432 0.439 0.437 0.414 0.395 0.432 0.400 0.422   3.98
28) Benzoic acid            0.200 0.259 0.251 0.264 0.228 0.266 0.245  10.66
            ---- Linear regression ----  Coefficient =  0.9995
              Response Ratio = -0.02076 + 0.27004 *A
```

```
29) 2,4-Dichloro       0.319 0.336 0.343 0.326 0.311 0.339 0.311 0.326   4.06
30) 1,2,4-Trichl 0.381 0.375 0.387 0.381 0.361 0.345 0.381 0.344 0.369   4.64
31) Naphthalene  1.150 1.113 1.100 1.049 0.972 0.930 1.069 0.923 1.038   8.33
            ---- Linear regression ----  Coefficient =  0.9985
              Response Ratio = 0.06226 + 0.91674 *A

32) 2,6-Dichloro       0.331 0.330 0.330 0.304 0.293 0.334       0.320   5.37
33) 4-Chloroanil       0.482 0.482 0.470 0.433 0.405 0.487       0.460   7.26
            ---- Linear regression ----  Coefficient =  0.9954
              Response Ratio = 0.03576 + 0.40381 *A

34) Hexachlorobu 0.225 0.232 0.235 0.233 0.218 0.213 0.236 0.208 0.225   4.80
35) 4-Chloro-3-m       0.273 0.300 0.313 0.301 0.287 0.300 0.285 0.294   4.44
36) 2-Methylnaph 0.754 0.767 0.774 0.745 0.698 0.666 0.770       0.739   5.58
            ---- Linear regression ----  Coefficient =  0.9976
              Response Ratio = 0.03422 + 0.66879 *A

37) 1-Methylnaph 0.727 0.754 0.750 0.747 0.701 0.669 0.755       0.729   4.49
            ---- Linear regression ----  Coefficient =  0.9977
              Response Ratio = 0.02941 + 0.67373 *A

38) 1,2,4,5-Tetr 0.408 0.400 0.411 0.411 0.393 0.368 0.411 0.357 0.395   5.33
            ---- Linear regression ----  Coefficient =  0.9971
              Response Ratio = 0.02432 + 0.35951 *A


39) I   Acenaphthene-d10      ----------------ISTD---------------------
40) Pentachloron       0.185 0.200 0.201 0.195 0.192 0.195 0.193 0.194   2.76
41) Hexachlorocy             0.223 0.344 0.335 0.388 0.267 0.370 0.321  19.78
            ---- Linear regression ----  Coefficient =  0.9963
              Response Ratio = -0.05662 + 0.38852 *A

42) 2,4,6-Trichl             0.409 0.424 0.407 0.425 0.415 0.410 0.415   1.85
43) 2,4,5-Trichl             0.457 0.468 0.453 0.449 0.453 0.443 0.454   1.87
44) 2-Fluorobiph 1.455 1.436 1.479 1.405 1.314 1.323 1.427       1.406   4.53
45) 2-Chloronaph 1.211 1.229 1.245 1.216 1.165 1.139 1.219       1.203   3.13
46) Acenaphthyle 1.903 1.947 2.008 1.898 1.768 1.732 1.940       1.885   5.30
            ---- Linear regression ----  Coefficient =  0.9986
              Response Ratio = 0.07313 + 1.72856 *A

47) Dimethylphth 1.398 1.369 1.427 1.390 1.361 1.337 1.400 1.316 1.375   2.64
48) 2,6-Dinitrot             0.326 0.341 0.335 0.331 0.333 0.342 0.335   1.86
49) Acenaphthene 1.211 1.197 1.219 1.183 1.113 1.117 1.235       1.182   4.14
50) 2,4-Dinitrop             0.068 0.127 0.130 0.166 0.100 0.165 0.126  29.93
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9941
              Response Ratio = 0.00000 + 0.11043 *A + 0.01453 *A^2

51) Dibenzofuran       1.779 1.821 1.728 1.621 1.567 1.778       1.716   5.85
            ---- Linear regression ----  Coefficient =  0.9984
              Response Ratio = 0.09537 + 1.55732 *A

52) 2,4-Dinitrot       0.404 0.422 0.429 0.415 0.407 0.419 0.416 0.416   2.03
53) 4-Nitropheno             0.201 0.232 0.229 0.222 0.219 0.226 0.222   4.95
54) 2,3,4,6-Tetr       0.320 0.354 0.392 0.383 0.390 0.371 0.388 0.371   7.06
55) Fluorene     1.383 1.384 1.400 1.350 1.246 1.188 1.373       1.332   6.14
            ---- Linear regression ----  Coefficient =  0.9972
              Response Ratio = 0.06598 + 1.19307 *A

56) 4-Chlorophen       0.696 0.713 0.705 0.658 0.629 0.704       0.684   4.87
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSU623-ICC623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12013.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
57) Diethylphtha 2.194 2.334 2.426 2.425 2.361 2.214 2.423 2.244 2.328   4.21
58) 2-nitroanili 0.358 0.398 0.417 0.426 0.415 0.416 0.418 0.413 0.408   5.28
59) 3-nitroanili 0.288 0.327 0.363 0.365 0.345 0.355 0.351 0.342 0.342   7.33
60) 4-nitroanili 0.303 0.347 0.373 0.379 0.374 0.359 0.370 0.367 0.359   6.86

61) I   Phenanthrene-d10      ----------------ISTD---------------------
62) 4,6-Dinitro-             0.108 0.147 0.138 0.148 0.128 0.147 0.136  11.69
            ---- Linear regression ----  Coefficient =  0.9989
              Response Ratio = -0.01123 + 0.15007 *A

63) n-Nitrosodip 0.554 0.559 0.579 0.561 0.528 0.516 0.561 0.492 0.544   5.35
            ---- Linear regression ----  Coefficient =  0.9978
              Response Ratio = 0.03060 + 0.49657 *A

64) 1,2-Diphenyl 0.735 0.775 0.788 0.735 0.685 0.674 0.748       0.734   5.79
65) 2,4,6-Tribro       0.105 0.115 0.122 0.118 0.122 0.118 0.118 0.117   4.90
66) 4-Bromopheny 0.246 0.250 0.262 0.256 0.247 0.252 0.253 0.235 0.250   3.18
67) Hexachlorobe 0.275 0.280 0.277 0.274 0.263 0.264 0.262 0.250 0.268   3.73
68) Pentachlorop       0.103 0.126 0.170 0.162 0.171 0.143 0.168 0.149  17.44
            ---- Linear regression ----  Coefficient =  0.9993
              Response Ratio = -0.00971 + 0.17112 *A

69) Phenanthrene 1.207 1.184 1.186 1.123 1.034 0.981 1.142 0.928 1.098   9.51
            ---- Linear regression ----  Coefficient =  0.9956
              Response Ratio = 0.09324 + 0.93583 *A

70) Anthracene   1.184 1.230 1.240 1.179 1.095 1.041 1.200       1.167   6.25
            ---- Linear regression ----  Coefficient =  0.9972
              Response Ratio = 0.05825 + 1.04533 *A

71) Carbazole    1.052 1.098 1.091 1.080 1.027 0.975 1.081 0.964 1.046   5.00
            ---- Quadratic regression ----  Coefficient =  0.9997
              Response Ratio = 0.00676 + 1.08487 *A + -0.03196 *A^2

72) Di-n-butylph 1.253 1.348 1.395 1.385 1.324 1.262 1.381 1.216 1.320   5.21
            ---- Quadratic regression ----  Coefficient =  0.9999
              Response Ratio = -0.00829 + 1.44278 *A + -0.05689 *A^2

73) Fluoranthene 1.245 1.249 1.310 1.303 1.206 1.142 1.290       1.249   4.81

74) I   Chrysene-d12         ----------------ISTD---------------------
75) Benzidine    0.576 0.644 0.674 0.658 0.630 0.626 0.682       0.641   5.57
76) Pyrene       1.240 1.274 1.288 1.250 1.225 1.202 1.252 1.176 1.238   2.97
77) Terphenyl-d1 0.877 0.915 0.913 0.919 0.925 0.913 0.901 0.899 0.908   1.68
78) 3,3-Dimethyl       0.676 0.724 0.693 0.643 0.651 0.721       0.685   4.98
79) Butylbenzylp 0.465 0.511 0.552 0.560 0.553 0.548 0.553 0.553 0.537   6.07
80) 3,3'-Dichlor       0.444 0.461 0.480 0.465 0.463 0.481 0.469 0.466   2.69
81) Benzo[a]anth 1.183 1.172 1.184 1.188 1.146 1.178 1.201 1.165 1.177   1.40
82) Chrysene     1.139 1.118 1.153 1.109 1.111 1.072 1.129 1.070 1.113   2.66
83) bis(2-Ethylh 0.623 0.710 0.773 0.807 0.802 0.803 0.785 0.786 0.761   8.40

84) I   Perylene-d12         ----------------ISTD---------------------
85) Di-n-octylph 0.939 1.196 1.306 1.444 1.407 1.341 1.363       1.285  13.39
86) Benzo[b]fluo 1.167 1.207 1.263 1.283 1.306 1.241 1.243 1.408 1.265   5.70
            ---- Linear regression ----  Coefficient =  0.9944
              Response Ratio = -0.05954 + 1.35962 *A

87) Benzo[k]fluo 1.208 1.259 1.298 1.291 1.185 1.152 1.275       1.238   4.59
88) Benzo[a]pyre 1.024 1.095 1.157 1.222 1.181 1.144 1.165 1.129 1.140   5.24
89) Indeno[1,2,3 1.246 1.327 1.402 1.459 1.443 1.410 1.398 1.386 1.384   4.94
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSU623-ICC623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12013.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
90) Dibenz[a,h]a 1.040 1.132 1.181 1.214 1.187 1.118 1.171 1.078 1.140   5.21
91) Benzo[g,h,i] 1.060 1.129 1.177 1.210 1.193 1.158 1.160 1.138 1.153   4.00
---------------------------------------------------------------------------
(#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          U130129_8270.m        Mon Apr 01 14:23:28 2013
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSU625-ICV623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12034.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\U130130\U12034.D          Vial: 4
Acq On    : 30 Jan 2013  10:42 am                   Operator: NatalyaS
Sample    : icv623-20                               Inst    : MSU
Misc      : op31805,msu625,,,,1,1                   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\U130129_8270.m (RTE Integrator)
Title        : SW-864 Method 8270
Last Update  : Thu Jan 31 10:40:34 2013
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	126	0.00	3.34
2	T	N-Nitrosodimethylamine	0.789	0.798	-1.1	126	0.02	1.56
3	T	Pyridine	1.470	1.398	4.9	118	0.02	1.58
4	T	Aniline		----------NA----------				
5	S	2-Fluorophenol		----------NA----------				
6	T	bis(2-Chloroethyl)ether	1.288	1.238	3.9	116	0.00	3.15
7	S	Phenol-d5		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
8	C	Phenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
9	M	2-Chlorophenol		----------NA----------				
10	T	1,3-Dichlorobenzene	1.559	1.542	1.1	121	0.00	3.29
11	C	1,4-Dichlorobenzene	1.629	1.597	2.0	121	0.00	3.35
		----------	Amount	Calc.	%Drift	----------		
12	T	1,2-Dichlorobenzene	20.000	18.781	6.1	120	0.00	3.46
		----------	AvgRF	CCRF	%Dev	----------		
13	T	Benzyl alcohol	0.810	0.814	-0.5	121	0.00	3.45
14	T	bis(2-chloroisopropyl)eth	1.554	1.779	-14.5	141	0.00	3.55
15	T	o-cresol		----------NA----------				
16	T	Acetophenone	1.808	1.727	4.5	116	0.00	3.65
17	T	Hexachloroethane	0.594	0.592	0.3	123	0.00	3.71
		----------	Amount	Calc.	%Drift	----------		
18	P	N-Nitroso-di-n-propylamin	20.000	18.464	7.7	120	-0.01	3.65
19	T	m+p-cresols		----------NA----------				
20		4-methylphenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
21	I	Naphthalene-d8	1.000	1.000	0.0	127	0.00	4.31
22	S	Nitrobenzene-d5	0.378	0.370	2.1	113	0.00	3.76
23	T	Nitrobenzene	0.366	0.349	4.6	115	0.00	3.78
24	T	Isophorone	0.662	0.621	6.2	116	-0.02	3.96
25	C	2-Nitrophenol		----------NA----------				
26	T	2,4-Dimethylphenol		----------NA----------				
27	T	bis(2-Chloroethoxy)methan	0.422	0.360	14.7	106	0.00	4.14
		----------	Amount	Calc.	%Drift	----------		

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSU625-ICV623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12034.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

28 T	Benzoic acid		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
29 C	2,4-Dichlorophenol		----------NA----------				
30 M	1,2,4-Trichlorobenzene	0.369	0.367	0.5	123	0.00	4.27
	----------	Amount	Calc.	%Drift	----------		
31 T	Naphthalene	20.000	19.855	0.7	123	0.00	4.33
	----------	AvgRF	CCRF	%Dev	----------		
32 T	2,6-Dichlorophenol		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
33 T	4-Chloroaniline	20.000	16.774	16.1	107	-0.01	4.38
	----------	AvgRF	CCRF	%Dev	----------		
34 C	Hexachlorobutadiene	0.225	0.231	-2.7	124	0.00	4.43
35 C	4-Chloro-3-methylphenol		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
36 T	2-Methylnaphthalene	20.000	18.755	6.2	115	0.00	4.88
37 T	1-Methylnaphthalene	20.000	19.406	3.0	120	0.00	4.96
38 T	1,2,4,5-Tetrachlorobenzen	20.000	18.709	6.5	119	0.00	5.02
	----------	AvgRF	CCRF	%Dev	----------		
39 I	Acenaphthene-d10	1.000	1.000	0.0	122	0.00	5.72
40 T	Pentachloronitrobenzene	0.194	0.172	11.3	107	0.00	6.82
	----------	Amount	Calc.	%Drift	----------		
41 P	Hexachlorocyclopentadiene	20.000	11.844	40.8#	53	0.00	5.01
	----------	AvgRF	CCRF	%Dev	----------		
42 C	2,4,6-Trichlorophenol		----------NA----------				
43 T	2,4,5-Trichlorophenol		----------NA----------				
44 S	2-Fluorobiphenyl	1.406	1.360	3.3	116	0.00	5.19
45 T	2-Chloronaphthalene	1.203	1.218	-1.2	122	0.00	5.27
	----------	Amount	Calc.	%Drift	----------		
46 M	Acenaphthylene	20.000	20.711	-3.6	121	0.00	5.60
	----------	AvgRF	CCRF	%Dev	----------		
47 T	Dimethylphthalate	1.375	1.293	6.0	112	-0.01	5.53
48 T	2,6-Dinitrotoluene	0.335	0.312	6.9	114	-0.01	5.57
49 C	Acenaphthene	1.182	1.162	1.7	114	0.00	5.74
	----------	Amount	Calc.	%Drift	----------		
50 P	2,4-Dinitrophenol		----------NA----------				
51 T	Dibenzofuran	20.000	18.887	5.6	114	0.00	5.89
	----------	AvgRF	CCRF	%Dev	----------		
52 M	2,4-Dinitrotoluene	0.416	0.393	5.5	114	-0.01	5.90
53 P	4-Nitrophenol		----------NA----------				
54 T	2,3,4,6-Tetrachlorophenol		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
55 T	Fluorene	20.000	20.623	-3.1	121	0.00	6.17
	----------	AvgRF	CCRF	%Dev	----------		
56 T	4-Chlorophenyl-phenylethe	0.684	0.692	-1.2	120	0.00	6.18

9.7.2

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSU625-ICV623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12034.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

57	T	Diethylphthalate	2.328	2.154	7.5	108	0.00	7.58
58	T	2-nitroaniline	0.408	0.407	0.2	119	0.00	5.37
59	T	3-nitroaniline	0.342	0.297	13.2	103	-0.01	5.70
60	T	4-nitroaniline	0.359	0.330	8.1	109	-0.02	6.20
61	I	Phenanthrene-d10	1.000	1.000	0.0	120	0.00	6.97
		----------	Amount	Calc.	%Drift		----------	
62	T	4,6-Dinitro-2-methylpheno		----------NA----------				
63	C	n-Nitrosodiphenylamine	20.000	17.906	10.5	109	-0.01	6.28
		----------	AvgRF	CCRF	%Dev		----------	
64	T	1,2-Diphenylhydrazine	0.734	0.692	5.7	111	-0.01	6.30
65	S	2,4,6-Tribromophenol	0.117	0.186	-59.0#	189	0.00	6.37
66	T	4-Bromophenyl-phenylether	0.250	0.239	4.4	114	0.00	6.58
67	T	Hexachlorobenzene	0.268	0.263	1.9	121	0.00	6.63
		----------	Amount	Calc.	%Drift		----------	
68	C	Pentachlorophenol		----------NA----------				
69	T	Phenanthrene	20.000	19.456	2.7	116	-0.01	6.99
70	T	Anthracene	20.000	18.936	5.3	111	-0.01	7.04
71	T	Carbazole	20.000	19.063	4.7	115	-0.01	7.20
72	T	Di-n-butylphthalate	20.000	17.754	11.2	108	0.00	7.58
		----------	AvgRF	CCRF	%Dev		----------	
73	C	Fluoranthene	1.249	1.244	0.4	116	-0.01	8.17
74	I	Chrysene-d12	1.000	1.000	0.0	118	-0.01	9.77
75	T	Benzidine	0.641	0.283	55.9#	49#	-0.01	8.35
76	M	Pyrene	1.238	1.199	3.2	113	-0.01	8.41
77	S	Terphenyl-d14	0.908	0.819	9.8	107	0.00	8.62
78		3,3-Dimethylbenzidine		----------NA----------				
79	T	Butylbenzylphthalate	0.537	0.503	6.3	107	0.00	9.20
80	T	3,3'-Dichlorobenzidine	0.466	0.269	42.3#	66	-0.01	9.76
81	T	Benzo[a]anthracene	1.177	1.148	2.5	112	-0.01	9.75
82	T	Chrysene	1.113	1.055	5.2	110	-0.01	9.80
83	T	bis(2-Ethylhexyl)phthalat	0.761	0.723	5.0	108	-0.01	9.90
84	I	Perylene-d12	1.000	1.000	0.0	113	0.00	11.32
85	C	Di-n-octylphthalate	1.285	1.367	-6.4	113	-0.01	10.63
		----------	Amount	Calc.	%Drift		----------	
86	T	Benzo[b]fluoranthene	20.000	20.785	-3.9	117	-0.02	10.93
		----------	AvgRF	CCRF	%Dev		----------	
87	T	Benzo[k]fluoranthene	1.238	1.126	9.0	100	-0.02	10.96
88	C	Benzo[a]pyrene	1.140	1.063	6.8	103	-0.01	11.26
89	T	Indeno[1,2,3-cd]pyrene	1.384	1.294	6.5	104	-0.02	12.31
90	T	Dibenz[a,h]anthracene	1.140	1.109	2.7	107	-0.02	12.32
91	T	Benzo[g,h,i]perylene	1.153	1.109	3.8	108	-0.02	12.53

(#) = Out of Range SPCC's out = 1 CCC's out = 6
U12017.D U130129_8270.m Thu Jan 31 13:36:17 2013

9.7.2

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSU625-ICV623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12035.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\U130130\U12035.D          Vial: 5
Acq On    : 30 Jan 2013  12:16 pm                   Operator: NatalyaS
Sample    : icv623-50                               Inst    : MSU
Misc      : op31805,msu625,,,,1,1                   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\U130129_8270.m (RTE Integrator)
Title        : SW-864 Method 8270
Last Update  : Thu Jan 31 10:40:34 2013
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  116   0.00    3.34
2 T   N-Nitrosodimethylamine              ----------NA----------
3 T   Pyridine                            ----------NA----------
4 T   Aniline                             ----------NA----------
5 S   2-Fluorophenol               1.304   1.265      3.0  109   0.00    2.42
6 T   bis(2-Chloroethyl)ether             ----------NA----------
7 S   Phenol-d5                    1.567   1.480      5.6  106   0.00    3.09

          ----------------------- Amount  Calc.    %Drift   -------------
8 C   Phenol                      50.000  43.149     13.7  102   0.00    3.10

          ----------------------- AvgRF   CCRF      %Dev   --------------
9 M   2-Chlorophenol               1.396   1.346      3.6  109   0.00    3.19
10 T  1,3-Dichlorobenzene                 ----------NA----------
11 C  1,4-Dichlorobenzene                 ----------NA----------

          ----------------------- Amount  Calc.    %Drift   -------------
12 T  1,2-Dichlorobenzene                 ----------NA----------

          ----------------------- AvgRF   CCRF      %Dev   --------------
13 T  Benzyl alcohol                      ----------NA----------
14 T  bis(2-chloroisopropyl)eth           ----------NA----------
15 T  o-cresol                     1.206   1.150      4.6  107   0.00    3.54
16 T  Acetophenone                        ----------NA----------
17 T  Hexachloroethane                    ----------NA----------

          ----------------------- Amount  Calc.    %Drift   -------------
18 P  N-Nitroso-di-n-propylamin           ----------NA----------
19 T  m+p-cresols                 100.000 101.264     -1.3  109  -0.01    3.66
20    4-methylphenol              100.000 101.264     -1.3  109  -0.01    3.66


          ----------------------- AvgRF   CCRF      %Dev   --------------
21 I  Naphthalene-d8               1.000   1.000      0.0  113   0.00    4.32
22 S  Nitrobenzene-d5              0.378   0.184     51.3#  55   0.00    3.76
23 T  Nitrobenzene                        ----------NA----------
24 T  Isophorone                          ----------NA----------
25 C  2-Nitrophenol                0.211   0.213     -0.9  109   0.00    4.02
26 T  2,4-Dimethylphenol           0.353   0.293     17.0   89   0.00    4.07
27 T  bis(2-Chloroethoxy)methan           ----------NA----------

          ----------------------- Amount  Calc.    %Drift   -------------
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSU625-ICV623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12035.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

28	T	Benzoic acid	50.000	42.346	15.3	92	-0.03	4.18
			AvgRF	CCRF	%Dev			
29	C	2,4-Dichlorophenol	0.326	0.328	-0.6	108	0.00	4.21
30	M	1,2,4-Trichlorobenzene		NA				
			Amount	Calc.	%Drift			
31	T	Naphthalene	50.000	-1.708	103.4#	2	0.05	4.39
			AvgRF	CCRF	%Dev			
32	T	2,6-Dichlorophenol	0.320	0.321	-0.3	110	0.00	4.39
			Amount	Calc.	%Drift			
33	T	4-Chloroaniline	50.000	-2.954	105.9#	1	0.00	4.39
			AvgRF	CCRF	%Dev			
34	C	Hexachlorobutadiene		NA				
35	C	4-Chloro-3-methylphenol	0.294	0.289	1.7	104	0.00	4.79
			Amount	Calc.	%Drift			
36	T	2-Methylnaphthalene		NA				
37	T	1-Methylnaphthalene		NA				
38	T	1,2,4,5-Tetrachlorobenzen		NA				
			AvgRF	CCRF	%Dev			
39	I	Acenaphthene-d10	1.000	1.000	0.0	111	0.00	5.72
40	T	Pentachloronitrobenzene		NA				
			Amount	Calc.	%Drift			
41	P	Hexachlorocyclopentadiene		NA				
			AvgRF	CCRF	%Dev			
42	C	2,4,6-Trichlorophenol	0.415	0.422	-1.7	111	0.00	5.12
43	T	2,4,5-Trichlorophenol	0.454	0.458	-0.9	109	0.00	5.14
44	S	2-Fluorobiphenyl		NA				
45	T	2-Chloronaphthalene		NA				
			Amount	Calc.	%Drift			
46	M	Acenaphthylene	50.000	-0.725	101.4#	2	-0.42	5.19
			AvgRF	CCRF	%Dev			
47	T	Dimethylphthalate		NA				
48	T	2,6-Dinitrotoluene		NA				
49	C	Acenaphthene		NA				
			Amount	Calc.	%Drift			
50	P	2,4-Dinitrophenol	50.000	32.085	35.8#	68	0.00	5.80
51	T	Dibenzofuran		NA				
			AvgRF	CCRF	%Dev			
52	M	2,4-Dinitrotoluene		NA				
53	P	4-Nitrophenol	0.222	0.196	11.7	94	0.00	5.86
54	T	2,3,4,6-Tetrachlorophenol	0.371	0.378	-1.9	107	0.00	6.00
			Amount	Calc.	%Drift			
55	T	Fluorene	50.000	-1.672	103.3#	1	0.19	6.37
			AvgRF	CCRF	%Dev			
56	T	4-Chlorophenyl-phenylethe		NA				

9.7.3

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSU625-ICV623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12035.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

57	T	Diethylphthalate		----------NA----------				
58	T	2-nitroaniline		----------NA----------				
59	T	3-nitroaniline		----------NA----------				
60	T	4-nitroaniline		----------NA----------				
61	I	Phenanthrene-d10	1.000	1.000	0.0	106	0.00	6.97
		----------	Amount	Calc.	%Drift		----------	
62	T	4,6-Dinitro-2-methylpheno	50.000	41.591	16.8	84	-0.01	6.23
63	C	n-Nitrosodiphenylamine	50.000	-2.038	104.1#	1	0.08	6.37
		----------	AvgRF	CCRF	%Dev		----------	
64	T	1,2-Diphenylhydrazine		----------NA----------				
65	S	2,4,6-Tribromophenol	0.117	0.120	-2.6	105	0.00	6.37
66	T	4-Bromophenyl-phenylether		----------NA----------				
67	T	Hexachlorobenzene		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
68	C	Pentachlorophenol	50.000	49.965	0.1	102	-0.01	6.81
69	T	Phenanthrene		----------NA----------				
70	T	Anthracene		----------NA----------				
71	T	Carbazole		----------NA----------				
72	T	Di-n-butylphthalate		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
73	C	Fluoranthene		----------NA----------				
74	I	Chrysene-d12	1.000	1.000	0.0	103	-0.01	9.77
75	T	Benzidine		----------NA----------				
76	M	Pyrene		----------NA----------				
77	S	Terphenyl-d14	0.908	0.457	49.7#	51	0.00	8.62
78		3,3-Dimethylbenzidine		----------NA----------				
79	T	Butylbenzylphthalate		----------NA----------				
80	T	3,3'-Dichlorobenzidine		----------NA----------				
81	T	Benzo[a]anthracene		----------NA----------				
82	T	Chrysene		----------NA----------				
83	T	bis(2-Ethylhexyl)phthalat		----------NA----------				
84	I	Perylene-d12	1.000	1.000	0.0	102	0.00	11.32
85	C	Di-n-octylphthalate		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
86	T	Benzo[b]fluoranthene		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
87	T	Benzo[k]fluoranthene	1.238	0.003#	99.8#	0#	0.34	11.32
88	C	Benzo[a]pyrene	1.140	0.003#	99.7#	0#	0.05	11.32
89	T	Indeno[1,2,3-cd]pyrene		----------NA----------				
90	T	Dibenz[a,h]anthracene		----------NA----------				
91	T	Benzo[g,h,i]perylene		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 7
U12016.D U130129_8270.m Thu Jan 31 13:36:50 2013

9.7.3

9

Initial Calibration Verification

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Sample: MSU626-ICV623
Lab FileID: U12058.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\U130131\U12058.D          Vial: 1
Acq On    : 31 Jan 2013  11:22 am                   Operator: NatalyaS
Sample    : icv623-20                               Inst    : MSU
Misc      : op31771,msu626,,,,1,1                   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\U130129_8270.m (RTE Integrator)
Title        : SW-864 Method 8270
Last Update  : Thu Jan 31 10:40:34 2013
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	80	0.00	3.34
2	T	N-Nitrosodimethylamine	0.789	0.756	4.2	76	0.00	1.54
3	T	Pyridine	1.470	1.368	6.9	73	0.00	1.56
4	T	Aniline	2.045	1.876	8.3	71	0.00	3.10
5	S	2-Fluorophenol		----------NA----------				
6	T	bis(2-Chloroethyl)ether		----------NA----------				
7	S	Phenol-d5		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
8	C	Phenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
9	M	2-Chlorophenol		----------NA----------				
10	T	1,3-Dichlorobenzene		----------NA----------				
11	C	1,4-Dichlorobenzene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
12	T	1,2-Dichlorobenzene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
13	T	Benzyl alcohol		----------NA----------				
14	T	bis(2-chloroisopropyl)eth		----------NA----------				
15	T	o-cresol		----------NA----------				
16	T	Acetophenone		----------NA----------				
17	T	Hexachloroethane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
18	P	N-Nitroso-di-n-propylamin		----------NA----------				
19	T	m+p-cresols		----------NA----------				
20		4-methylphenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
21	I	Naphthalene-d8	1.000	1.000	0.0	81	0.00	4.31
22	S	Nitrobenzene-d5		----------NA----------				
23	T	Nitrobenzene		----------NA----------				
24	T	Isophorone		----------NA----------				
25	C	2-Nitrophenol		----------NA----------				
26	T	2,4-Dimethylphenol		----------NA----------				
27	T	bis(2-Chloroethoxy)methan		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		

9.7.4

9

Initial Calibration Verification

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA
Sample: MSU626-ICV623
Lab FileID: U12058.D

```
28 T   Benzoic acid                          ----------NA----------

           ------------------------ AvgRF   CCRF      %Dev   --------------
29 C   2,4-Dichlorophenol                    ----------NA----------
30 M   1,2,4-Trichlorobenzene                ----------NA----------

           ------------------------ Amount  Calc.    %Drift   -------------
31 T   Naphthalene                  20.000  -2.021    110.1#   2   0.05    4.38

           ------------------------ AvgRF   CCRF      %Dev   --------------
32 T   2,6-Dichlorophenol                    ----------NA----------

           ------------------------ Amount  Calc.    %Drift   -------------
33 T   4-Chloroaniline              20.000  17.190     14.0   70  -0.01    4.38

           ------------------------ AvgRF   CCRF      %Dev   --------------
34 C   Hexachlorobutadiene                   ----------NA----------
35 C   4-Chloro-3-methylphenol               ----------NA----------

           ------------------------ Amount  Calc.    %Drift   -------------
36 T   2-Methylnaphthalene                   ----------NA----------
37 T   1-Methylnaphthalene                   ----------NA----------
38 T   1,2,4,5-Tetrachlorobenzen             ----------NA----------


           ------------------------ AvgRF   CCRF      %Dev   --------------
39 I   Acenaphthene-d10              1.000   1.000      0.0   79   0.00    5.72
40 T   Pentachloronitrobenzene               ----------NA----------

           ------------------------ Amount  Calc.    %Drift   -------------
41 P   Hexachlorocyclopentadiene             ----------NA----------

           ------------------------ AvgRF   CCRF      %Dev   --------------
42 C   2,4,6-Trichlorophenol                 ----------NA----------
43 T   2,4,5-Trichlorophenol                 ----------NA----------
44 S   2-Fluorobiphenyl                      ----------NA----------
45 T   2-Chloronaphthalene                   ----------NA----------

           ------------------------ Amount  Calc.    %Drift   -------------
46 M   Acenaphthylene                        ----------NA----------

           ------------------------ AvgRF   CCRF      %Dev   --------------
47 T   Dimethylphthalate                     ----------NA----------
48 T   2,6-Dinitrotoluene                    ----------NA----------
49 C   Acenaphthene                          ----------NA----------

           ------------------------ Amount  Calc.    %Drift   -------------
50 P   2,4-Dinitrophenol                     ----------NA----------
51 T   Dibenzofuran                          ----------NA----------

           ------------------------ AvgRF   CCRF      %Dev   --------------
52 M   2,4-Dinitrotoluene                    ----------NA----------
53 P   4-Nitrophenol                         ----------NA----------
54 T   2,3,4,6-Tetrachlorophenol             ----------NA----------

           ------------------------ Amount  Calc.    %Drift   -------------
55 T   Fluorene                     20.000  -1.221    106.1#   3   0.10    6.27

           ------------------------ AvgRF   CCRF      %Dev   --------------
56 T   4-Chlorophenyl-phenylethe             ----------NA----------
```

9.7.4

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSU626-ICV623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U12058.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

57	T	Diethylphthalate		----------NA----------				
58	T	2-nitroaniline	0.408	0.366	10.3	69	0.00	5.37
59	T	3-nitroaniline	0.342	0.320	6.4	72	-0.01	5.70
60	T	4-nitroaniline	0.359	0.313	12.8	67	-0.03	6.19
61	I	Phenanthrene-d10	1.000	1.000	0.0	81	0.00	6.97
		----------	Amount	Calc.	%Drift	----------		
62	T	4,6-Dinitro-2-methylpheno		----------NA----------				
63	C	n-Nitrosodiphenylamine	20.000	21.589	-7.9	86	-0.02	6.27
		----------	AvgRF	CCRF	%Dev	----------		
64	T	1,2-Diphenylhydrazine		----------NA----------				
65	S	2,4,6-Tribromophenol		----------NA----------				
66	T	4-Bromophenyl-phenylether		----------NA----------				
67	T	Hexachlorobenzene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
68	C	Pentachlorophenol		----------NA----------				
69	T	Phenanthrene		----------NA----------				
70	T	Anthracene		----------NA----------				
71	T	Carbazole		----------NA----------				
72	T	Di-n-butylphthalate		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
73	C	Fluoranthene		----------NA----------				
74	I	Chrysene-d12	1.000	1.000	0.0	80	-0.01	9.77
75	T	Benzidine	0.641	0.714	-11.4	84	-0.01	8.35
76	M	Pyrene		----------NA----------				
77	S	Terphenyl-d14		----------NA----------				
78		3,3-Dimethylbenzidine		----------NA----------				
79	T	Butylbenzylphthalate		----------NA----------				
80	T	3,3'-Dichlorobenzidine	0.466	0.413	11.4	69	-0.01	9.76
81	T	Benzo[a]anthracene		----------NA----------				
82	T	Chrysene		----------NA----------				
83	T	bis(2-Ethylhexyl)phthalat		----------NA----------				
84	I	Perylene-d12	1.000	1.000	0.0	78	0.00	11.32
85	C	Di-n-octylphthalate		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
86	T	Benzo[b]fluoranthene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
87	T	Benzo[k]fluoranthene	1.238	0.007#	99.4#	0#	0.34	11.32
88	C	Benzo[a]pyrene	1.140	0.007#	99.4#	0#	0.05	11.32
89	T	Indeno[1,2,3-cd]pyrene		----------NA----------				
90	T	Dibenz[a,h]anthracene		----------NA----------				
91	T	Benzo[g,h,i]perylene		----------NA----------				

(#) = Out of Range SPCC's out = 1 CCC's out = 12
U12017.D U130129_8270.m Mon Feb 04 12:18:37 2013

9.7.4

9

Continuing Calibration Summary

Job Number: JB31485 **Sample:** MSU673-CC623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U13162.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\U130328\U13162.D          Vial: 100
Acq On    : 28 Mar 2013   8:50 am                   Operator: NatalyaS
Sample    : cc623-50                                Inst    : MSU
Misc      : op32346,msu673,,,,1,1                   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\METHODS\U130129_8270.m (RTE Integrator)
Title        : SW-864 Method 8270
Last Update  : Fri Mar 29 11:20:02 2013
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	180	0.00	3.08
2	T	N-Nitrosodimethylamine	0.789	0.830	-5.2	178	0.00	1.28
3	T	Pyridine	1.470	1.470	0.0	168	0.00	1.30
4	T	Aniline	2.045	1.955	4.4	164	0.00	2.85
5	S	2-Fluorophenol	1.304	1.343	-3.0	179	0.00	2.17
6	T	bis(2-Chloroethyl)ether	1.288	0.967	24.9#	168	0.00	2.91
7	S	Phenol-d5	1.567	1.527	2.6	168	0.00	2.85
		----------	Amount	Calc.	%Drift		----------	
8	C	Phenol	50.000	49.637	0.7	178	0.00	2.86
		----------	AvgRF	CCRF	%Dev		----------	
9	M	2-Chlorophenol	1.396	1.418	-1.6	178	0.00	2.93
10	T	1,3-Dichlorobenzene	1.559	1.594	-2.2	183	0.00	3.04
11	C	1,4-Dichlorobenzene	1.629	1.648	-1.2	180	0.00	3.09
		----------	Amount	Calc.	%Drift		----------	
12	T	1,2-Dichlorobenzene	50.000	50.870	-1.7	181	0.00	3.20
		----------	AvgRF	CCRF	%Dev		----------	
13	T	Benzyl alcohol	0.810	0.620	23.5#	127	0.00	3.29
14	T	bis(2-chloroisopropyl)eth	1.554	1.485	4.4	168	0.00	3.30
15	T	o-cresol	1.206	1.283	-6.4	183	0.00	3.30
16	T	Acetophenone	1.808	1.869	-3.4	180	0.00	3.39
17	T	Hexachloroethane	0.594	0.638	-7.4	186	0.00	3.45
		----------	Amount	Calc.	%Drift		----------	
18	P	N-Nitroso-di-n-propylamin	50.000	49.821	0.4	179	0.00	3.41
19	T	m+p-cresols	100.000	107.980	-8.0	179	0.00	3.43
20		4-methylphenol	100.000	107.980	-8.0	179	0.00	3.43
		----------	AvgRF	CCRF	%Dev		----------	
21	I	Naphthalene-d8	1.000	1.000	0.0	170	0.00	4.05
22	S	Nitrobenzene-d5	0.378	0.400	-5.8	179	0.00	3.51
23	T	Nitrobenzene	0.366	0.405	-10.7	183	0.00	3.52
24	T	Isophorone	0.662	0.714	-7.9	176	0.00	3.71
25	C	2-Nitrophenol	0.211	0.230	-9.0	178	0.00	3.76
26	T	2,4-Dimethylphenol	0.353	0.383	-8.5	176	0.00	3.82
27	T	bis(2-Chloroethoxy)methan	0.422	0.440	-4.3	172	0.00	3.89
		----------	Amount	Calc.	%Drift		----------	

Continuing Calibration Summary

Job Number: JB31485 **Sample:** MSU673-CC623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U13162.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

28	T	Benzoic acid	50.000	58.963	-17.9	199	0.00	3.97
			AvgRF	CCRF	%Dev			
29	C	2,4-Dichlorophenol	0.326	0.369	-13.2	184	0.00	3.96
30	M	1,2,4-Trichlorobenzene	0.369	0.406	-10.0	181	0.00	4.01
			Amount	Calc.	%Drift			
31	T	Naphthalene	50.000	55.374	-10.7	173	0.00	4.06
			AvgRF	CCRF	%Dev			
32	T	2,6-Dichlorophenol	0.320	0.332	-3.8	171	0.00	4.13
			Amount	Calc.	%Drift			
33	T	4-Chloroaniline	50.000	55.212	-10.4	172	0.00	4.13
			AvgRF	CCRF	%Dev			
34	C	Hexachlorobutadiene	0.225	0.268	-19.1	197	0.00	4.17
35	C	4-Chloro-3-methylphenol	0.294	0.342	-16.3	186	0.00	4.54
			Amount	Calc.	%Drift			
36	T	2-Methylnaphthalene	50.000	58.781	-17.6	186	0.00	4.62
37	T	1-Methylnaphthalene	50.000	56.053	-12.1	178	0.00	4.69
38	T	1,2,4,5-Tetrachlorobenzen	50.000	61.380	-22.8#	191	0.00	4.76
			AvgRF	CCRF	%Dev			
39	I	Acenaphthene-d10	1.000	1.000	0.0	179	0.00	5.44
40	T	Pentachloronitrobenzene	0.194	0.226	-16.5	201#	0.00	6.53
			Amount	Calc.	%Drift			
41	P	Hexachlorocyclopentadiene	50.000	42.139	15.7	147	0.00	4.74
			AvgRF	CCRF	%Dev			
42	C	2,4,6-Trichlorophenol	0.415	0.439	-5.8	186	0.00	4.86
43	T	2,4,5-Trichlorophenol	0.454	0.428	5.7	164	0.00	4.86
44	S	2-Fluorobiphenyl	1.406	1.420	-1.0	181	0.00	4.92
45	T	2-Chloronaphthalene	1.203	1.186	1.4	175	0.00	5.00
			Amount	Calc.	%Drift			
46	M	Acenaphthylene	50.000	53.451	-6.9	180	0.00	5.33
			AvgRF	CCRF	%Dev			
47	T	Dimethylphthalate	1.375	1.459	-6.1	188	0.00	5.27
48	T	2,6-Dinitrotoluene	0.335	0.341	-1.8	179	0.00	5.32
49	C	Acenaphthene	1.182	1.191	-0.8	181	0.00	5.47
			Amount	Calc.	%Drift			
50	P	2,4-Dinitrophenol	50.000	67.828	-35.7#	258	0.00	5.54
51	T	Dibenzofuran	50.000	52.664	-5.3	178	0.00	5.61
			AvgRF	CCRF	%Dev			
52	M	2,4-Dinitrotoluene	0.416	0.437	-5.0	183	0.00	5.64
53	P	4-Nitrophenol	0.222	0.197	11.3	152	0.00	5.64
54	T	2,3,4,6-Tetrachlorophenol	0.371	0.416	-12.1	190	0.00	5.73
			Amount	Calc.	%Drift			
55	T	Fluorene	50.000	54.945	-9.9	181	0.00	5.89
			AvgRF	CCRF	%Dev			
56	T	4-Chlorophenyl-phenylethe	0.684	0.701	-2.5	179	0.00	5.91

Continuing Calibration Summary

Job Number: JB31485 **Sample:** MSU673-CC623
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** U13162.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

57	T	Diethylphthalate	2.328	2.598	-11.6	192	0.00	7.28
58	T	2-nitroaniline	0.408	0.423	-3.7	178	0.00	5.11
59	T	3-nitroaniline	0.342	0.346	-1.2	170	0.00	5.44
60	T	4-nitroaniline	0.359	0.356	0.8	169	0.00	5.94
61	I	Phenanthrene-d10	1.000	1.000	0.0	188	0.00	6.67
		----------	Amount	Calc.	%Drift		----------	
62	T	4,6-Dinitro-2-methylpheno	50.000	54.839	-9.7	199	0.00	5.98
63	C	n-Nitrosodiphenylamine	50.000	52.305	-4.6	182	0.00	6.01
		----------	AvgRF	CCRF	%Dev		----------	
64	T	1,2-Diphenylhydrazine	0.734	0.749	-2.0	192	0.00	6.04
65	S	2,4,6-Tribromophenol	0.117	0.129	-10.3	198	0.00	6.09
66	T	4-Bromophenyl-phenylether	0.250	0.272	-8.8	200	0.00	6.30
67	T	Hexachlorobenzene	0.268	0.286	-6.7	196	0.00	6.34
		----------	Amount	Calc.	%Drift		----------	
68	C	Pentachlorophenol	50.000	46.692	6.6	168	0.00	6.53
69	T	Phenanthrene	50.000	53.092	-6.2	179	0.00	6.69
70	T	Anthracene	50.000	52.405	-4.8	182	0.00	6.74
71	T	Carbazole	50.000	49.465	1.1	181	0.00	6.90
72	T	Di-n-butylphthalate	50.000	51.999	-4.0	192	0.00	7.28
		----------	AvgRF	CCRF	%Dev		----------	
73	C	Fluoranthene	1.249	1.292	-3.4	186	0.00	7.83
74	I	Chrysene-d12	1.000	1.000	0.0	185	0.00	9.40
75	T	Benzidine	0.641	0.482	24.8#	135	0.00	8.01
76	M	Pyrene	1.238	1.258	-1.6	186	0.00	8.05
77	S	Terphenyl-d14	0.908	0.933	-2.8	188	0.00	8.27
78		3,3-Dimethylbenzidine	0.685	0.577	15.8	154	0.00	8.81
79	T	Butylbenzylphthalate	0.537	0.568	-5.8	188	0.00	8.86
80	T	3,3'-Dichlorobenzidine	0.466	0.487	-4.5	188	0.00	9.41
81	T	Benzo[a]anthracene	1.177	1.244	-5.7	194	0.00	9.39
82	T	Chrysene	1.113	1.076	3.3	179	0.00	9.43
83	T	bis(2-Ethylhexyl)phthalat	0.761	0.849	-11.6	194	0.00	9.56
84	I	Perylene-d12	1.000	1.000	0.0	191	0.00	10.94
85	C	Di-n-octylphthalate	1.285	1.502	-16.9	198	0.00	10.29
		----------	Amount	Calc.	%Drift		----------	
86	T	Benzo[b]fluoranthene	50.000	52.923	-5.8	207	0.00	10.56
		----------	AvgRF	CCRF	%Dev		----------	
87	T	Benzo[k]fluoranthene	1.238	1.156	6.6	171	0.00	10.59
88	C	Benzo[a]pyrene	1.140	1.195	-4.8	186	0.00	10.88
89	T	Indeno[1,2,3-cd]pyrene	1.384	1.466	-5.9	191	0.00	11.94
90	T	Dibenz[a,h]anthracene	1.140	1.196	-4.9	188	0.00	11.95
91	T	Benzo[g,h,i]perylene	1.153	1.184	-2.7	187	0.00	12.15

(#) = Out of Range SPCC's out = 0 CCC's out = 0
U13162.D U130129_8270.m Fri Mar 29 11:20:20 2013

9.7.5 9

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSW474-ICC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W9995.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Response Factor Report MSW

```
Method       : C:\msdchem\1\methods\W130308_8270.M (RTE Integrator)
Title        : AB8270TCL42
Last Update  : Fri Mar 08 15:11:35 2013
Response via : Initial Calibration

Calibration Files
50  =W9995.D     120 =W0001.D     80  =W0000.D     160 =W10003.D
10  =W9998.D     5   =W9997.D     2   =W9996.D     20  =W9999.D
1   =W0002.D         =
```

Compound	50	120	80	160	10	5	2	20	1	Avg	%RSD
1) I 1,4-Dichlorobenzene-d ----------ISTD----------											
2) N-Nitrosodimethylamine	0.961	0.920	0.912	0.922	0.906	0.889	0.865	0.907		0.910	3.05
3) Pyridine	1.751	1.668	1.648	1.634	1.635	1.580	1.367	1.606		1.611	6.87
4) Aniline	2.500	2.417	2.395	2.367	2.405	2.212	1.850	2.414		2.320	8.90
5) 2-Fluorophenol	1.354	1.341	1.339	1.340	1.297	1.241	1.145	1.313		1.296	5.48
6) bis(2-Chloroethyl)ether	1.205	1.132	1.123	1.105	1.164	1.132	1.089	1.135		1.136	3.17
7) Phenol-d5	1.810	1.765	1.734	1.755	1.742	1.649	1.553	1.734		1.718	4.68
8) Phenol	2.090	2.047	2.010	2.041	2.037	1.973	1.813	2.022		2.004	4.20
9) 2-Chlorophenol	1.467	1.447	1.420	1.434	1.423	1.390	1.347	1.420		1.419	2.56
10) 1,3-Dichlorobenzene	1.554	1.568	1.539	1.565	1.562	1.491	1.527	1.535	1.527	1.541	1.60
11) 1,4-Dichlorobenzene	1.647	1.669	1.616	1.656	1.656	1.619	1.569	1.600	1.670	1.633	2.12
12) 1,2-Dichlorobenzene	1.490	1.504	1.465	1.515	1.471	1.457	1.419	1.469	1.481	1.474	1.90
13) Benzyl alcohol	1.012	1.021	0.994	1.012	0.964	0.829		0.963		0.971	6.86
14) bis(2-chloroisopropyl)ether	1.903	1.703	1.737	1.630	1.845	1.835	1.877	1.822	1.858	1.801	5.04
15) o-cresol	1.382	1.367	1.343	1.379	0.964	0.829		0.963		1.175	20.81
---- Linear regression ---- Coefficient = 0.9992											
Response Ratio = -0.11541 + 1.40812 *A											
16) Acetophenone	2.287	2.274	2.244	2.239	2.159	2.124	1.990	2.148		2.183	4.52
17) Hexachloroethane	0.704	0.703	0.682	0.701	0.675	0.678	0.661	0.673		0.685	2.35
18) N-Nitroso-di-n-propylamine	1.242	1.204	1.187	1.221	1.169	1.093	1.023	1.182		1.165	6.22
19) m+p-cresols	1.505	1.538	1.474	1.527	1.422	1.402	1.291	1.414		1.447	5.65
20) 4-methylphenol	1.505	1.538	1.474	1.527	1.422	1.402	1.291	1.414		1.447	5.65
21) Benzaldehyde	0.538		0.559		0.319	0.213	0.144	0.496		0.378	46.93

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSW474-ICC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W9995.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
          ---- Quadratic regression ----  Coefficient =  0.9992
            Response Ratio = -0.03632 + 0.54375 *A + 0.01693 *A^2


22) I   Naphthalene-d8        ----------------ISTD--------------------
23)  Nitrobenzene-d5
           0.472 0.470 0.470 0.463 0.451 0.429 0.392 0.462         0.451    6.15
24)  Nitrobenzene
           0.487 0.461 0.467 0.456 0.473 0.453 0.431 0.476         0.463    3.66
25)  Isophorone
           0.753 0.728 0.722 0.718 0.736 0.710 0.673 0.731         0.721    3.22
26)  2-Nitrophenol
           0.199 0.205 0.198 0.205 0.183 0.171       0.196         0.194    6.43
27)  2,4-Dimethylphenol
           0.420 0.425 0.418 0.426 0.400 0.388 0.362 0.408         0.406    5.42
28)  bis(2-Chloroethoxy)methane
           0.458 0.450 0.443 0.442 0.444 0.446 0.422 0.444         0.444    2.29
29)  Benzoic acid
           0.265 0.326 0.305 0.331 0.161             0.217         0.268   25.17
          ---- Quadratic regression ----  Coefficient =  0.9993
            Response Ratio = -0.04718 + 0.30833 *A + 0.00925 *A^2

30)  2,4-Dichlorophenol
           0.296 0.315 0.302 0.315 0.280 0.269       0.289         0.295    5.87
31)  1,2,4-Trichlorobenzene
           0.306 0.331 0.319 0.339 0.300 0.295       0.308         0.314    5.16
32)  Naphthalene
           1.100 1.102 1.085 1.082 1.081 1.068 1.051 1.065 1.069   1.078    1.55
33)  2,6-Dichlorophenol
           0.297 0.315 0.306 0.325 0.287 0.274       0.288         0.299    5.87
34)  4-Chloroaniline
           0.471 0.483 0.472 0.491 0.457 0.417 0.344 0.465         0.450   10.73
35)  Hexachlorobutadiene
           0.214 0.254 0.236 0.263 0.192 0.181 0.184 0.196         0.215   14.94
          ---- Quadratic regression ----  Coefficient =  0.9997
            Response Ratio = -0.01249 + 0.21104 *A + 0.00684 *A^2

36)  4-Chloro-3-methylphenol
           0.350 0.355 0.351 0.354 0.324 0.310 0.254 0.337         0.329   10.43
37)  2-Methylnaphthalene
           0.763 0.796 0.763 0.791 0.752 0.734 0.687 0.759 0.681   0.747    5.44
38)  1-methylnaphthalene
           0.703 0.723 0.711 0.742 0.688 0.667 0.656 0.697 0.641   0.692    4.73
39)  Caprolactam
           0.181 0.179 0.178 0.176 0.162 0.152 0.112 0.170         0.164   14.18

40) I   Acenaphthene-d10      ----------------ISTD--------------------
41)  Hexachlorocyclopentadiene
           0.318 0.406 0.366 0.429 0.225 0.180 0.125 0.260         0.289   37.96
          ---- Quadratic regression ----  Coefficient =  0.9995
            Response Ratio = -0.04470 + 0.31304 *A + 0.01554 *A^2

42)  1,2,4,5-Tetrachlorobenzene
           0.572 0.668 0.631 0.705 0.521 0.525       0.548         0.596   12.18
43)  2,4,6-Trichlorophenol
           0.371 0.409 0.390 0.417 0.328 0.308       0.354         0.368   11.07
44)  2,4,5-Trichlorophenol
           0.392 0.432 0.409 0.447 0.354 0.323       0.368         0.389   11.35
45)  2-Fluorobiphenyl
           1.400 1.454 1.445 1.506 1.323 1.329 1.305 1.371         1.392    5.18
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSW474-ICC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W9995.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
46)  2-Chloronaphthalene
           1.180 1.249 1.211 1.280 1.102 1.069 1.063 1.098         1.156    7.32
47)  Acenaphthylene
           2.028 2.121 2.056 2.003 1.868 1.860 1.751 1.919 1.749   1.928    6.88
48)  Dimethylphthalate
           1.409 1.427 1.426 1.407 1.320 1.331 1.274 1.352         1.368    4.16
49)  2,6-Dinitrotoluene
           0.320 0.360 0.340       0.275 0.251 0.207 0.290         0.292   18.20
            ---- Linear regression ----  Coefficient =  0.9980
              Response Ratio = -0.04898 + 0.36029 *A

50)  Acenaphthene
           1.263 1.298 1.288       1.171 1.149 1.152 1.177 1.149   1.206    5.40
51)  2,4-Dinitrophenol
           0.159 0.203 0.186 0.205 0.061             0.122         0.156   35.88
            ---- Quadratic regression ----  Coefficient =  0.9991
              Response Ratio = -0.03933 + 0.19504 *A + 0.00540 *A^2

52)  Dibenzofuran
           1.755 1.802 1.797       1.675 1.679 1.604 1.714 1.623   1.706    4.38
53)  2,4-Dinitrotoluene
           0.419 0.427 0.423 0.436 0.370 0.338 0.280 0.388         0.385   14.01
54)  4-Nitrophenol
           0.350 0.352 0.351 0.350 0.260             0.301         0.327   11.75
55)  2,3,4,6-Tetrachlorophenol
           0.317 0.374 0.342 0.398 0.258             0.282         0.329   16.23
            ---- Quadratic regression ----  Coefficient =  1.0000
              Response Ratio = -0.01415 + 0.29868 *A + 0.02584 *A^2

56)  Fluorene
           1.508 1.624 1.565       1.318 1.310 1.255 1.370 1.292   1.405    9.97
57)  4-Chlorophenyl-phenylether
           0.719 0.836 0.776 0.866 0.601 0.586       0.633         0.717   15.86
            ---- Linear regression ----  Coefficient =  0.9973
              Response Ratio = -0.11117 + 0.87554 *A

58)  Diethylphthalate
           1.475 1.444 1.457 1.454 1.424 1.390 1.406 1.406         1.432    2.08
59)  2-nitroaniline
           0.415 0.419 0.421 0.418 0.355 0.312       0.385         0.389   10.76
60)  3-nitroaniline
           0.359 0.365 0.357 0.356 0.315 0.296       0.344         0.342    7.63
61)  4-nitroaniline
           0.363 0.361 0.361 0.355 0.320 0.276       0.341         0.340    9.44
62)  1,1'-Biphenyl
           1.570 1.610 1.575 1.649 1.471 1.486 1.445 1.489 1.375   1.519    5.76

63) I   Phenanthrene-d10      ----------------ISTD---------------------
64)  4,6-Dinitro-2-methylphenol
           0.141 0.162 0.148 0.173 0.104             0.126         0.142   17.49
            ---- Quadratic regression ----  Coefficient =  1.0000
              Response Ratio = -0.00659 + 0.13158 *A + 0.01078 *A^2

65)  n-Nitrosodiphenylamine
           0.579 0.608 0.575 0.615 0.556 0.541 0.510 0.550         0.567    6.13
66)  1,2-Diphenylhydrazine
           1.079 0.990 0.984 1.095 1.015 1.006 0.966 0.996         1.016    4.53
67)  2,4,6-Tribromophenol
           0.113 0.139 0.123 0.151 0.092 0.085       0.104         0.115   20.95
            ---- Quadratic regression ----  Coefficient =  0.9999
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSW474-ICC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W9995.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
                Response Ratio = -0.00202 + 0.09844 *A + 0.01334 *A^2

68)  4-Bromophenyl-phenylether
           0.221 0.258 0.234 0.269 0.198 0.202       0.210         0.227   12.09
69)  Hexachlorobenzene
           0.260 0.335 0.291 0.348 0.217 0.215 0.205 0.223         0.262   21.73
            ---- Quadratic regression ----  Coefficient =  0.9991
                Response Ratio = -0.02000 + 0.24652 *A + 0.01350 *A^2

70)  Pentachlorophenol
           0.127 0.156 0.137 0.164 0.084             0.104         0.129   23.58#
            ---- Quadratic regression ----  Coefficient =  0.9996
                Response Ratio = -0.01280 + 0.12510 *A + 0.01071 *A^2

71)  Pentachloronitrobenzene
           0.126 0.135 0.132 0.136 0.112 0.103       0.117         0.123   10.39
72)  Phenanthrene
           1.229 1.277 1.223 1.271 1.120 1.115 1.113 1.123 1.103   1.175    6.25
73)  Anthracene
           1.291 1.371 1.293 1.370 1.150 1.151 1.085 1.170 1.077   1.217    9.47
74)  Carbazole
           1.171 1.246 1.170 1.224 1.086 1.066 1.013 1.092 0.992   1.118    8.02
75)  Di-n-butylphthalate
           1.492 1.501 1.448 1.478 1.340 1.244 1.077 1.391         1.371   10.78
76)  Fluoranthene
           1.303 1.448 1.336 1.460 1.144 1.094 1.013 1.183 1.033   1.224   13.87
77)  Atrazine
           0.227 0.227 0.224 0.223 0.214 0.207 0.173 0.214         0.214    8.42

78) I   Chrysene-d12          ----------------ISTD---------------------
79)  Benzidine
           0.362 0.329 0.361 0.296 0.235 0.171       0.322         0.296   23.75
            ---- Quadratic regression ----  Coefficient =  0.9997
                Response Ratio = -0.04747 + 0.45147 *A + -0.03572 *A^2

80)  Pyrene
           1.310 1.367 1.320 1.368 1.194 1.176 1.107 1.225 1.074   1.238    8.83
81)  Terphenyl-d14
           0.893 0.987 0.936 1.044 0.805 0.798 0.749 0.857         0.884   11.43
82)  3,3'-Dimethylbenzidine
           0.258 0.246 0.288 0.215 0.154 0.131       0.223         0.216   26.03
            ---- Quadratic regression ----  Coefficient =  0.9963
                Response Ratio = -0.04933 + 0.36613 *A + -0.03447 *A^2

83)  Butylbenzylphthalate
           0.627 0.595 0.597 0.583 0.546 0.490 0.397 0.583         0.552   13.55
84)  3,3'-Dichlorobenzidine
           0.437 0.549 0.515 0.527 0.322 0.273       0.366         0.427   25.49
            ---- Quadratic regression ----  Coefficient =  0.9971
                Response Ratio = -0.06512 + 0.53559 *A + 0.00404 *A^2

85)  Benzo[a]anthracene
           1.253 1.425 1.352 1.395 1.059 1.007 0.952 1.107 0.971   1.169   16.16
            ---- Linear regression ----  Coefficient =  0.9987
                Response Ratio = -0.16222 + 1.41702 *A

86)  Chrysene
           1.215 1.338 1.273 1.356 1.073 1.059 1.048 1.109 1.030   1.167   11.13
            ---- Quadratic regression ----  Coefficient =  0.9998
                Response Ratio = -0.05119 + 1.20616 *A + 0.02034 *A^2
```

Initial Calibration Summary

Job Number: JB31485 **Sample:** MSW474-ICC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W9995.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
87)  bis(2-Ethylhexyl)phthalate
           0.881 0.853 0.844 0.846 0.743 0.632 0.463 0.798         0.757   18.91
            ---- Linear regression ----  Coefficient =  0.9997
              Response Ratio = -0.01678 + 0.85477 *A


88) I   Perylene-d12          ----------------ISTD--------------------
89)  Di-n-octylphthalate
           1.574 1.635 1.575 1.608 1.118 0.863       1.327 0.559   1.282   31.32#
            ---- Linear regression ----  Coefficient =  0.9996
              Response Ratio = -0.09826 + 1.64173 *A

90)  Benzo[b]fluoranthene
           1.408 1.689 1.512 1.995 1.173 1.106 0.769 1.248 0.824   1.303   30.42
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.04222 + 1.01428 *A + 0.11969 *A^2

91)  Benzo[k]fluoranthene
           1.370 1.535 1.458 1.374 1.153 1.106 1.192 1.251 1.125   1.285   12.06
92)  Benzo[a]pyrene
           1.332 1.524 1.417 1.570 1.134 1.080 0.919 1.180 0.984   1.238   18.90
            ---- Quadratic regression ----  Coefficient =  0.9998
              Response Ratio = -0.06972 + 1.29075 *A + 0.03699 *A^2

93)  Indeno[1,2,3-cd]pyrene
           1.575 1.870 1.714 1.928 1.222 1.111 1.032 1.332 0.992   1.420   25.47
            ---- Quadratic regression ----  Coefficient =  0.9996
              Response Ratio = -0.12557 + 1.53847 *A + 0.05243 *A^2

94)  Dibenz[a,h]anthracene
           1.294 1.641 1.460 1.672 0.995 0.901 0.809 1.072 0.841   1.187   28.62
            ---- Quadratic regression ----  Coefficient =  0.9988
              Response Ratio = -0.13113 + 1.29390 *A + 0.05194 *A^2

95)  Benzo[g,h,i]perylene
           1.180 1.306 1.216 1.354 1.013 0.960 0.881 1.074 0.879   1.096   16.17
            ---- Quadratic regression ----  Coefficient =  0.9999
              Response Ratio = -0.03935 + 1.11294 *A + 0.03120 *A^2

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

          W130308_8270.M        Fri Mar 08 15:36:05 2013
```

9.7.6

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10004.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\2\DATA\W130308\W10004.D          Vial: 9
Acq On    :  8 Mar 2013   3:08 pm                   Operator: KristinR
Sample    : ICV474-20, BN                           Inst    : MSW
Misc      : op32156,msw474,,,,1,1                   Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\msdchem\1\methods\W130308_8270.M (RTE Integrator)
Title        : AB8270TCL42
Last Update  : Fri Mar 08 15:11:35 2013
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	3.93
2	T	N-Nitrosodimethylamine	0.910	0.958	-5.3	125	0.00	2.17
3	T	Pyridine	1.611	1.550	3.8	114	0.01	2.18
4	T	Aniline		----------NA----------				
5	S	2-Fluorophenol		----------NA----------				
6	T	bis(2-Chloroethyl)ether	1.136	1.114	1.9	116	0.00	3.75
7	S	Phenol-d5		----------NA----------				
8	C	Phenol		----------NA----------				
9	M	2-Chlorophenol		----------NA----------				
10	T	1,3-Dichlorobenzene	1.541	1.557	-1.0	120	0.00	3.90
11	C	1,4-Dichlorobenzene	1.633	1.629	0.2	120	0.00	3.95
12	T	1,2-Dichlorobenzene	1.474	1.513	-2.6	122	0.00	4.09
13	T	Benzyl alcohol	0.971	0.962	0.9	118	0.00	4.05
14	T	bis(2-chloroisopropyl)eth	1.801	2.120	-17.7	137	0.00	4.16
		----------	Amount	Calc.	%Drift		----------	
15	T	o-cresol		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
16	T	Acetophenone	2.183	2.124	2.7	118	0.00	4.25
17	T	Hexachloroethane	0.685	0.707	-3.2	126	0.00	4.32
18	P	N-Nitroso-di-n-propylamin	1.165	1.228	-5.4	123	-0.01	4.26
19	T	m+p-cresols		----------NA----------				
20		4-methylphenol		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
21		Benzaldehyde		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
22	I	Naphthalene-d8	1.000	1.000	0.0	117	0.00	4.92
23	S	Nitrobenzene-d5	0.451	0.485	-7.5	122	0.00	4.37
24	T	Nitrobenzene	0.463	0.486	-5.0	120	0.00	4.39
25	T	Isophorone	0.721	0.804	-11.5	128	0.00	4.56
26	C	2-Nitrophenol		----------NA----------				
27	T	2,4-Dimethylphenol		----------NA----------				
28	T	bis(2-Chloroethoxy)methan	0.444	0.382	14.0	100	0.00	4.73
		----------	Amount	Calc.	%Drift		----------	
29	T	Benzoic acid		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	

9.7.7

6

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10004.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

30	C	2,4-Dichlorophenol		----------NA----------				
31	M	1,2,4-Trichlorobenzene	0.314	0.324	-3.2	123	0.00	4.89
32	T	Naphthalene	1.078	1.127	-4.5	122	0.00	4.94
33	T	2,6-Dichlorophenol		----------NA----------				
34	T	4-Chloroaniline		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
35	C	Hexachlorobutadiene	20.000	21.765	-8.8	127	0.00	5.08
		----------	AvgRF	CCRF	%Dev	----------		
36	C	4-Chloro-3-methylphenol		----------NA----------				
37	T	2-Methylnaphthalene	0.747	0.735	1.6	113	0.00	5.49
38		1-methylnaphthalene		----------NA----------				
39		Caprolactam		----------NA----------				
40	I	Acenaphthene-d10	1.000	1.000	0.0	117	0.00	6.35
		----------	Amount	Calc.	%Drift	----------		
41	P	Hexachlorocyclopentadiene	20.000	13.557	32.2#	65	0.00	5.68
		----------	AvgRF	CCRF	%Dev	----------		
42	T	1,2,4,5-Tetrachlorobenzen	0.596	0.561	5.9	119	0.00	5.66
43	C	2,4,6-Trichlorophenol		----------NA----------				
44	T	2,4,5-Trichlorophenol		----------NA----------				
45	S	2-Fluorobiphenyl	1.392	1.441	-3.5	122	0.00	5.80
46	T	2-Chloronaphthalene	1.156	1.147	0.8	121	0.00	5.88
47	M	Acenaphthylene	1.928	1.893	1.8	118	0.00	6.23
48	T	Dimethylphthalate	1.368	1.319	3.6	114	0.00	6.16
		----------	Amount	Calc.	%Drift	----------		
49	T	2,6-Dinitrotoluene	20.000	21.248	-6.2	121	0.00	6.22
		----------	AvgRF	CCRF	%Dev	----------		
50	C	Acenaphthene	1.206	1.220	-1.2	121	0.00	6.38
		----------	Amount	Calc.	%Drift	----------		
51	P	2,4-Dinitrophenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
52	T	Dibenzofuran	1.706	1.621	5.0	110	0.00	6.52
53	M	2,4-Dinitrotoluene	0.385	0.377	2.1	119	0.00	6.55
54	P	4-Nitrophenol		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
55	T	2,3,4,6-Tetrachlorophenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
56	T	Fluorene	1.405	1.409	-0.3	124	0.00	6.81
		----------	Amount	Calc.	%Drift	----------		
57	T	4-Chlorophenyl-phenylethe	20.000	19.691	1.5	118	0.00	6.81
		----------	AvgRF	CCRF	%Dev	----------		
58	T	Diethylphthalate	1.432	1.437	-0.3	119	0.00	6.75
59	T	2-nitroaniline	0.389	0.394	-1.3	119	0.00	6.00
60	T	3-nitroaniline	0.342	0.290	15.2	98	0.00	6.34
61	T	4-nitroaniline	0.340	0.314	7.6	107	0.00	6.87
62		1,1'-Biphenyl	1.519	1.518	0.1	119	0.00	5.87
63	I	Phenanthrene-d10	1.000	1.000	0.0	114	0.00	7.69

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10004.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

			Amount	Calc.	%Drift			
64	T	4,6-Dinitro-2-methylpheno		NA				
			AvgRF	CCRF	%Dev			
65	C	n-Nitrosodiphenylamine	0.567	0.530	6.5	110	0.00	6.92
66	T	1,2-Diphenylhydrazine	1.016	0.983	3.2	113	0.00	6.95
			Amount	Calc.	%Drift			
67	S	2,4,6-Tribromophenol		NA				
			AvgRF	CCRF	%Dev			
68	T	4-Bromophenyl-phenylether	0.227	0.208	8.4	113	0.00	7.25
			Amount	Calc.	%Drift			
69	T	Hexachlorobenzene	20.000	21.689	-8.4	124	0.00	7.39
70	C	Pentachlorophenol		NA				
			AvgRF	CCRF	%Dev			
71	T	Pentachloronitrobenzene	0.123	0.116	5.7	113	-0.01	7.64
72	T	Phenanthrene	1.175	1.163	1.0	119	0.00	7.71
73	T	Anthracene	1.217	1.141	6.2	114	-0.01	7.75
74	T	Carbazole	1.118	1.080	3.4	114	-0.01	7.92
75	T	Di-n-butylphthalate	1.371	1.347	1.8	111	0.00	8.33
76	C	Fluoranthene	1.224	1.208	1.3	121	0.00	8.96
77		Atrazine		NA				
78	I	Chrysene-d12	1.000	1.000	0.0	114	0.00	10.60
			Amount	Calc.	%Drift			
79	T	Benzidine	20.000	21.509	-7.5	131	0.00	9.11
			AvgRF	CCRF	%Dev			
80	M	Pyrene	1.238	1.216	1.8	117	0.00	9.20
81	S	Terphenyl-d14	0.884	0.892	-0.9	119	0.00	9.40
			Amount	Calc.	%Drift			
82		3,3'-Dimethylbenzidine		NA				
			AvgRF	CCRF	%Dev			
83	T	Butylbenzylphthalate	0.552	0.593	-7.4	116	0.00	10.01
			Amount	Calc.	%Drift			
84	T	3,3'-Dichlorobenzidine	20.000	16.548	17.3	98	0.00	10.58
85	T	Benzo[a]anthracene	20.000	20.594	-3.0	123	0.00	10.59
86	T	Chrysene	20.000	19.162	4.2	114	-0.01	10.63
87	T	bis(2-Ethylhexyl)phthalat	20.000	19.962	0.2	117	0.00	10.73
			AvgRF	CCRF	%Dev			
88	I	Perylene-d12	1.000	1.000	0.0	111	0.00	12.19
			Amount	Calc.	%Drift			
89	C	Di-n-octylphthalate	20.000	20.724	-3.6	126	0.00	11.41
90	T	Benzo[b]fluoranthene	20.000	21.030	-5.2	116	-0.01	11.80
			AvgRF	CCRF	%Dev			
91	T	Benzo[k]fluoranthene	1.285	1.185	7.8	115	-0.01	11.82
			Amount	Calc.	%Drift			

9.7.7

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10004.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

92	C	Benzo[a]pyrene	20.000	18.791	6.0	107	-0.01	12.12
93	T	Indeno[1,2,3-cd]pyrene	20.000	19.402	3.0	116	-0.02	13.29
94	T	Dibenz[a,h]anthracene	20.000	19.949	0.3	118	-0.02	13.31
95	T	Benzo[g,h,i]perylene	20.000	20.209	-1.0	117	-0.02	13.59

(#) = Out of Range SPCC's out = 1 CCC's out = 10
W9999.D W130308_8270.M Fri Mar 08 15:28:59 2013

9.7.7

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10005.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : W:\2\DATA\W130308\W10005.D                    Vial: 10
Acq On    :  8 Mar 2013   3:32 pm                    Operator: KristinR
Sample    : ICV474-50, Acids                         Inst    : MSW
Misc      : op32156,msw474,,,,1,1                    Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : W:\1\methods\W130308_8270.M (RTE Integrator)
Title        : AB8270TCL42
Last Update  : Fri Mar 08 15:11:35 2013
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  128   0.00    3.93
2 T   N-Nitrosodimethylamine              ----------NA----------
3 T   Pyridine                            ----------NA----------
4 T   Aniline                             ----------NA----------
5 S   2-Fluorophenol               1.296   1.359     -4.9  128   0.00    3.05
6 T   bis(2-Chloroethyl)ether             ----------NA----------
7 S   Phenol-d5                    1.718   1.697      1.2  120   0.00    3.69
8 C   Phenol                       2.004   1.866      6.9  114   0.00    3.70
9 M   2-Chlorophenol               1.419   1.461     -3.0  127   0.00    3.80
10 T  1,3-Dichlorobenzene                 ----------NA----------
11 C  1,4-Dichlorobenzene                 ----------NA----------
12 T  1,2-Dichlorobenzene                 ----------NA----------
13 T  Benzyl alcohol                      ----------NA----------
14 T  bis(2-chloroisopropyl)eth           ----------NA----------

          ----------------------- Amount  Calc.    %Drift   -------------
15 T  o-cresol                    50.000  50.885     -1.8  124   0.00    4.15

          ----------------------- AvgRF   CCRF      %Dev   --------------
16 T  Acetophenone                        ----------NA----------
17 T  Hexachloroethane                    ----------NA----------
18 P  N-Nitroso-di-n-propylamin           ----------NA----------
19 T  m+p-cresols                  1.447   1.444      0.2  122   0.00    4.26
20    4-methylphenol               1.447   1.444      0.2  122   0.00    4.26

          ----------------------- Amount  Calc.    %Drift   -------------
21    Benzaldehyde                        ----------NA----------


          ----------------------- AvgRF   CCRF      %Dev   --------------
22 I  Naphthalene-d8               1.000   1.000      0.0  127   0.00    4.92
23 S  Nitrobenzene-d5              0.451   0.228     49.4#  61   0.00    4.37
24 T  Nitrobenzene                        ----------NA----------
25 T  Isophorone                          ----------NA----------
26 C  2-Nitrophenol                0.194   0.204     -5.2  130   0.00    4.64
27 T  2,4-Dimethylphenol           0.406   0.345     15.0  104   0.00    4.67
28 T  bis(2-Chloroethoxy)methan           ----------NA----------

          ----------------------- Amount  Calc.    %Drift   -------------
29 T  Benzoic acid                50.000  48.062      3.9  129   0.00    4.77

          ----------------------- AvgRF   CCRF      %Dev   --------------
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10005.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

30	C	2,4-Dichlorophenol	0.295	0.297	-0.7	127	0.00	4.82
31	M	1,2,4-Trichlorobenzene		----------NA----------				
32	T	Naphthalene		----------NA----------				
33	T	2,6-Dichlorophenol	0.299	0.297	0.7	127	0.00	5.00
34	T	4-Chloroaniline		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
35	C	Hexachlorobutadiene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
36	C	4-Chloro-3-methylphenol	0.329	0.342	-4.0	124	0.00	5.39
37	T	2-Methylnaphthalene		----------NA----------				
38		1-methylnaphthalene		----------NA----------				
39		Caprolactam		----------NA----------				
40	I	Acenaphthene-d10	1.000	1.000	0.0	126	0.00	6.35
		----------	Amount	Calc.	%Drift	----------		
41	P	Hexachlorocyclopentadiene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
42	T	1,2,4,5-Tetrachlorobenzen		----------NA----------				
43	C	2,4,6-Trichlorophenol	0.368	0.397	-7.9	135	0.00	5.74
44	T	2,4,5-Trichlorophenol	0.389	0.426	-9.5	137	0.00	5.78
45	S	2-Fluorobiphenyl		----------NA----------				
46	T	2-Chloronaphthalene		----------NA----------				
47	M	Acenaphthylene		----------NA----------				
48	T	Dimethylphthalate		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
49	T	2,6-Dinitrotoluene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
50	C	Acenaphthene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
51	P	2,4-Dinitrophenol	50.000	41.807	16.4	108	0.00	6.42
		----------	AvgRF	CCRF	%Dev	----------		
52	T	Dibenzofuran		----------NA----------				
53	M	2,4-Dinitrotoluene		----------NA----------				
54	P	4-Nitrophenol	0.327	0.327	0.0	118	0.00	6.48
		----------	Amount	Calc.	%Drift	----------		
55	T	2,3,4,6-Tetrachlorophenol	50.000	51.990	-4.0	133	0.00	6.66
		----------	AvgRF	CCRF	%Dev	----------		
56	T	Fluorene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
57	T	4-Chlorophenyl-phenylethe		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
58	T	Diethylphthalate		----------NA----------				
59	T	2-nitroaniline		----------NA----------				
60	T	3-nitroaniline		----------NA----------				
61	T	4-nitroaniline		----------NA----------				
62		1,1'-Biphenyl		----------NA----------				
63	I	Phenanthrene-d10	1.000	1.000	0.0	124	0.00	7.69

Initial Calibration Verification

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSW474-ICV474
Lab FileID: W10005.D

			Amount	Calc.	%Drift			
64	T	4,6-Dinitro-2-methylpheno	50.000	49.280	1.4	121	-0.01	6.90

			AvgRF	CCRF	%Dev
65	C	n-Nitrosodiphenylamine		NA	
66	T	1,2-Diphenylhydrazine		NA	

			Amount	Calc.	%Drift			
67	S	2,4,6-Tribromophenol	50.000	51.554	-3.1	130	0.00	7.05

			AvgRF	CCRF	%Dev
68	T	4-Bromophenyl-phenylether		NA	

			Amount	Calc.	%Drift			
69	T	Hexachlorobenzene		NA				
70	C	Pentachlorophenol	50.000	55.694	-11.4	142	0.00	7.57

			AvgRF	CCRF	%Dev
71	T	Pentachloronitrobenzene		NA	
72	T	Phenanthrene		NA	
73	T	Anthracene		NA	
74	T	Carbazole		NA	
75	T	Di-n-butylphthalate		NA	
76	C	Fluoranthene		NA	
77		Atrazine		NA	
78	I	Chrysene-d12	1.000	1.000	0.0

			Amount	Calc.	%Drift			
79	T	Benzidine		NA				

			AvgRF	CCRF	%Dev
80	M	Pyrene		NA	
81	S	Terphenyl-d14	0.884	0.464	47.5#

			Amount	Calc.	%Drift			
82		3,3'-Dimethylbenzidine		NA				

			AvgRF	CCRF	%Dev
83	T	Butylbenzylphthalate		NA	

			Amount	Calc.	%Drift			
84	T	3,3'-Dichlorobenzidine		NA				
85	T	Benzo[a]anthracene		NA				
86	T	Chrysene		NA				
87	T	bis(2-Ethylhexyl)phthalat		NA				

			AvgRF	CCRF	%Dev			
88	I	Perylene-d12	1.000	1.000	0.0	117	0.00	12.18

			Amount	Calc.	%Drift			
89	C	Di-n-octylphthalate		NA				
90	T	Benzo[b]fluoranthene		NA				

			AvgRF	CCRF	%Dev
91	T	Benzo[k]fluoranthene		NA	

			Amount	Calc.	%Drift			

9.7.8

9

Initial Calibration Verification

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: MSW474-ICV474
Lab FileID: W10005.D

```
92 C   Benzo[a]pyrene                      ----------NA----------
93 T   Indeno[1,2,3-cd]pyrene              ----------NA----------
94 T   Dibenz[a,h]anthracene               ----------NA----------
95 T   Benzo[g,h,i]perylene                ----------NA----------
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 1  CCC's out = 7
    W9995.D    W130308_8270.M       Tue Mar 12 09:43:38 2013
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10006.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : W:\2\DATA\W130308\W10006.D                    Vial: 11
Acq On    :  8 Mar 2013   3:55 pm                     Operator: KristinR
Sample    : ICV474-20, Aniline                        Inst    : MSW
Misc      : op32156,msw474,,,,1,1                     Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : W:\1\methods\W130308_8270.M (RTE Integrator)
Title        : AB8270TCL42
Last Update  : Fri Mar 08 15:11:35 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	3.93
2	T	N-Nitrosodimethylamine	0.910	0.916	-0.7	102	0.00	2.15
3	T	Pyridine	1.611	1.511	6.2	95	0.00	2.17
4	T	Aniline	2.320	2.188	5.7	91	0.00	3.72
5	S	2-Fluorophenol		----------NA----------				
6	T	bis(2-Chloroethyl)ether		----------NA----------				
7	S	Phenol-d5		----------NA----------				
8	C	Phenol		----------NA----------				
9	M	2-Chlorophenol		----------NA----------				
10	T	1,3-Dichlorobenzene		----------NA----------				
11	C	1,4-Dichlorobenzene		----------NA----------				
12	T	1,2-Dichlorobenzene		----------NA----------				
13	T	Benzyl alcohol		----------NA----------				
14	T	bis(2-chloroisopropyl)eth		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
15	T	o-cresol		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
16	T	Acetophenone		----------NA----------				
17	T	Hexachloroethane		----------NA----------				
18	P	N-Nitroso-di-n-propylamin	1.165	1.139	2.2	97	-0.01	4.26
19	T	m+p-cresols		----------NA----------				
20		4-methylphenol		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
21		Benzaldehyde		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
22	I	Naphthalene-d8	1.000	1.000	0.0	101	0.00	4.92
23	S	Nitrobenzene-d5		----------NA----------				
24	T	Nitrobenzene		----------NA----------				
25	T	Isophorone		----------NA----------				
26	C	2-Nitrophenol		----------NA----------				
27	T	2,4-Dimethylphenol		----------NA----------				
28	T	bis(2-Chloroethoxy)methan		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
29	T	Benzoic acid		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10006.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

30	C	2,4-Dichlorophenol		----------NA----------				
31	M	1,2,4-Trichlorobenzene		----------NA----------				
32	T	Naphthalene		----------NA----------				
33	T	2,6-Dichlorophenol		----------NA----------				
34	T	4-Chloroaniline	0.450	0.419	6.9	91	0.00	5.00
		----------	Amount	Calc.	%Drift		----------	
35	C	Hexachlorobutadiene		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
36	C	4-Chloro-3-methylphenol		----------NA----------				
37	T	2-Methylnaphthalene		----------NA----------				
38		1-methylnaphthalene		----------NA----------				
39		Caprolactam		----------NA----------				
40	I	Acenaphthene-d10	1.000	1.000	0.0	103	0.00	6.35
		----------	Amount	Calc.	%Drift		----------	
41	P	Hexachlorocyclopentadiene		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
42	T	1,2,4,5-Tetrachlorobenzen		----------NA----------				
43	C	2,4,6-Trichlorophenol		----------NA----------				
44	T	2,4,5-Trichlorophenol		----------NA----------				
45	S	2-Fluorobiphenyl		----------NA----------				
46	T	2-Chloronaphthalene		----------NA----------				
47	M	Acenaphthylene		----------NA----------				
48	T	Dimethylphthalate		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
49	T	2,6-Dinitrotoluene		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
50	C	Acenaphthene		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
51	P	2,4-Dinitrophenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
52	T	Dibenzofuran		----------NA----------				
53	M	2,4-Dinitrotoluene		----------NA----------				
54	P	4-Nitrophenol		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
55	T	2,3,4,6-Tetrachlorophenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
56	T	Fluorene		----------NA----------				
		----------	Amount	Calc.	%Drift		----------	
57	T	4-Chlorophenyl-phenylethe		----------NA----------				
		----------	AvgRF	CCRF	%Dev		----------	
58	T	Diethylphthalate		----------NA----------				
59	T	2-nitroaniline	0.389	0.341	12.3	91	0.00	6.00
60	T	3-nitroaniline	0.342	0.321	6.1	96	0.00	6.34
61	T	4-nitroaniline	0.340	0.294	13.5	89	-0.01	6.86
62		1,1'-Biphenyl		----------NA----------				
63	I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	7.69

9.7.9

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10006.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

			Amount	Calc.	%Drift			
64	T	4,6-Dinitro-2-methylpheno		NA				
			AvgRF	CCRF	%Dev			
65	C	n-Nitrosodiphenylamine	0.567	0.646	-13.9	120	0.00	6.92
66	T	1,2-Diphenylhydrazine		NA				
			Amount	Calc.	%Drift			
67	S	2,4,6-Tribromophenol		NA				
			AvgRF	CCRF	%Dev			
68	T	4-Bromophenyl-phenylether		NA				
			Amount	Calc.	%Drift			
69	T	Hexachlorobenzene		NA				
70	C	Pentachlorophenol		NA				
			AvgRF	CCRF	%Dev			
71	T	Pentachloronitrobenzene		NA				
72	T	Phenanthrene		NA				
73	T	Anthracene		NA				
74	T	Carbazole		NA				
75	T	Di-n-butylphthalate		NA				
76	C	Fluoranthene		NA				
77		Atrazine		NA				
78	I	Chrysene-d12	1.000	1.000	0.0	102	0.00	10.60
			Amount	Calc.	%Drift			
79	T	Benzidine	20.000	36.400	-82.0#	212	0.00	9.11
			AvgRF	CCRF	%Dev			
80	M	Pyrene		NA				
81	S	Terphenyl-d14		NA				
			Amount	Calc.	%Drift			
82		3,3'-Dimethylbenzidine		NA				
			AvgRF	CCRF	%Dev			
83	T	Butylbenzylphthalate		NA				
			Amount	Calc.	%Drift			
84	T	3,3'-Dichlorobenzidine	20.000	18.654	6.7	104	0.00	10.58
85	T	Benzo[a]anthracene		NA				
86	T	Chrysene		NA				
87	T	bis(2-Ethylhexyl)phthalat		NA				
			AvgRF	CCRF	%Dev			
88	I	Perylene-d12	1.000	1.000	0.0	103	0.00	12.18
			Amount	Calc.	%Drift			
89	C	Di-n-octylphthalate		NA				
90	T	Benzo[b]fluoranthene		NA				
			AvgRF	CCRF	%Dev			
91	T	Benzo[k]fluoranthene		NA				
			Amount	Calc.	%Drift			

9.7.9

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10006.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
92 C   Benzo[a]pyrene                      ----------NA----------
93 T   Indeno[1,2,3-cd]pyrene              ----------NA----------
94 T   Dibenz[a,h]anthracene               ----------NA----------
95 T   Benzo[g,h,i]perylene                ----------NA----------
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 1  CCC's out = 12
    W9999.D    W130308_8270.M       Tue Mar 12 09:49:57 2013
```

9.7.9

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10007.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : W:\2\DATA\W130308\W10007.D                    Vial: 12
Acq On    :  8 Mar 2013   4:18 pm                    Operator: KristinR
Sample    : ICV474-20, TCL11                         Inst    : MSW
Misc      : op32156,msw474,,,,1,1                    Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : W:\1\methods\W130308_8270.M (RTE Integrator)
Title        : AB8270TCL42
Last Update  : Fri Mar 08 15:11:35 2013
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  109   0.00    3.93
 2 T   N-Nitrosodimethylamine             ----------NA----------
 3 T   Pyridine                           ----------NA----------
 4 T   Aniline                            ----------NA----------
 5 S   2-Fluorophenol                     ----------NA----------
 6 T   bis(2-Chloroethyl)ether            ----------NA----------
 7 S   Phenol-d5                          ----------NA----------
 8 C   Phenol                             ----------NA----------
 9 M   2-Chlorophenol                     ----------NA----------
10 T   1,3-Dichlorobenzene                ----------NA----------
11 C   1,4-Dichlorobenzene                ----------NA----------
12 T   1,2-Dichlorobenzene                ----------NA----------
13 T   Benzyl alcohol                     ----------NA----------
14 T   bis(2-chloroisopropyl)eth          ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
15 T   o-cresol                           ----------NA----------

           ----------------------- AvgRF   CCRF      %Dev   --------------
16 T   Acetophenone                2.183   1.056     51.6#  54   0.00    4.25
17 T   Hexachloroethane            0.685   0.347     49.3#  56   0.00    4.32
18 P   N-Nitroso-di-n-propylamin          ----------NA----------
19 T   m+p-cresols                        ----------NA----------
20     4-methylphenol                     ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
21     Benzaldehyde               20.000  49.519    -147.6# 291   0.00    3.62


           ----------------------- AvgRF   CCRF      %Dev   --------------
22 I   Naphthalene-d8              1.000   1.000      0.0  109   0.00    4.92
23 S   Nitrobenzene-d5                    ----------NA----------
24 T   Nitrobenzene                0.463   0.231     50.1#  53   0.00    4.39
25 T   Isophorone                  0.721   0.411     43.0#  62   0.00    4.56
26 C   2-Nitrophenol                      ----------NA----------
27 T   2,4-Dimethylphenol                 ----------NA----------
28 T   bis(2-Chloroethoxy)methan          ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
29 T   Benzoic acid                       ----------NA----------

           ----------------------- AvgRF   CCRF      %Dev   --------------
```

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10007.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

30	C	2,4-Dichlorophenol		----------NA----------				
31	M	1,2,4-Trichlorobenzene		----------NA----------				
32	T	Naphthalene		----------NA----------				
33	T	2,6-Dichlorophenol		----------NA----------				
34	T	4-Chloroaniline		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
35	C	Hexachlorobutadiene	40.000	21.562	46.1#	58	0.00	5.08
		----------	AvgRF	CCRF	%Dev	----------		
36	C	4-Chloro-3-methylphenol		----------NA----------				
37	T	2-Methylnaphthalene		----------NA----------				
38		1-methylnaphthalene		----------NA----------				
39		Caprolactam	0.164	0.179	-9.1	115	-0.03	5.23
40	I	Acenaphthene-d10	1.000	1.000	0.0	108	0.00	6.35
		----------	Amount	Calc.	%Drift	----------		
41	P	Hexachlorocyclopentadiene	40.000	22.668	43.3#	57	0.00	5.68
		----------	AvgRF	CCRF	%Dev	----------		
42	T	1,2,4,5-Tetrachlorobenzen		----------NA----------				
43	C	2,4,6-Trichlorophenol		----------NA----------				
44	T	2,4,5-Trichlorophenol		----------NA----------				
45	S	2-Fluorobiphenyl		----------NA----------				
46	T	2-Chloronaphthalene	1.156	0.601	48.0#	59	0.00	5.88
47	M	Acenaphthylene		----------NA----------				
48	T	Dimethylphthalate		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
49	T	2,6-Dinitrotoluene	40.000	21.163	47.1#	53	-0.01	6.21
		----------	AvgRF	CCRF	%Dev	----------		
50	C	Acenaphthene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
51	P	2,4-Dinitrophenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
52	T	Dibenzofuran		----------NA----------				
53	M	2,4-Dinitrotoluene	0.385	0.189	50.9#	53	0.00	6.55
54	P	4-Nitrophenol		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
55	T	2,3,4,6-Tetrachlorophenol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
56	T	Fluorene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
57	T	4-Chlorophenyl-phenylethe		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
58	T	Diethylphthalate		----------NA----------				
59	T	2-nitroaniline		----------NA----------				
60	T	3-nitroaniline		----------NA----------				
61	T	4-nitroaniline		----------NA----------				
62		1,1'-Biphenyl	1.519	1.641	-8.0	119	0.00	5.87
63	I	Phenanthrene-d10	1.000	1.000	0.0	111	0.00	7.69

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10007.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

			Amount	Calc.	%Drift			
64	T	4,6-Dinitro-2-methylpheno		NA				
			AvgRF	CCRF	%Dev			
65	C	n-Nitrosodiphenylamine		NA				
66	T	1,2-Diphenylhydrazine		NA				
			Amount	Calc.	%Drift			
67	S	2,4,6-Tribromophenol		NA				
			AvgRF	CCRF	%Dev			
68	T	4-Bromophenyl-phenylether		NA				
			Amount	Calc.	%Drift			
69	T	Hexachlorobenzene	40.000	22.346	44.1#	60	0.00	7.39
70	C	Pentachlorophenol		NA				
			AvgRF	CCRF	%Dev			
71	T	Pentachloronitrobenzene		NA				
72	T	Phenanthrene		NA				
73	T	Anthracene		NA				
74	T	Carbazole		NA				
75	T	Di-n-butylphthalate		NA				
76	C	Fluoranthene		NA				
77		Atrazine	0.214	0.233	-8.9	120	-0.01	7.44
78	I	Chrysene-d12	1.000	1.000	0.0	110	0.00	10.60
			Amount	Calc.	%Drift			
79	T	Benzidine		NA				
			AvgRF	CCRF	%Dev			
80	M	Pyrene		NA				
81	S	Terphenyl-d14		NA				
			Amount	Calc.	%Drift			
82		3,3'-Dimethylbenzidine		NA				
			AvgRF	CCRF	%Dev			
83	T	Butylbenzylphthalate		NA				
			Amount	Calc.	%Drift			
84	T	3,3'-Dichlorobenzidine		NA				
85	T	Benzo[a]anthracene		NA				
86	T	Chrysene		NA				
87	T	bis(2-Ethylhexyl)phthalat		NA				
			AvgRF	CCRF	%Dev			
88	I	Perylene-d12	1.000	1.000	0.0	112	0.00	12.18
			Amount	Calc.	%Drift			
89	C	Di-n-octylphthalate		NA				
90	T	Benzo[b]fluoranthene		NA				
			AvgRF	CCRF	%Dev			
91	T	Benzo[k]fluoranthene		NA				
			Amount	Calc.	%Drift			

9.7.10

9

Initial Calibration Verification

Job Number: JB31485 **Sample:** MSW474-ICV474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10007.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

```
92 C   Benzo[a]pyrene                      ----------NA----------
93 T   Indeno[1,2,3-cd]pyrene              ----------NA----------
94 T   Dibenz[a,h]anthracene               ----------NA----------
95 T   Benzo[g,h,i]perylene                ----------NA----------
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 2  CCC's out = 13
    W9999.D    W130308_8270.M       Tue Mar 12 09:57:34 2013
```

Continuing Calibration Summary

Job Number: JB31485 **Sample:** MSW500-CC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10639.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : W:\2\DATA\W130327\W10639.D                    Vial: 100
Acq On    : 27 Mar 2013   5:02 pm                    Operator: KRISTINR
Sample    : cc474-50                                 Inst    : MSW
Misc      : op32326,msw500,,,,1,1                    Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : W:\1\methods\W130308_8270.M (RTE Integrator)
Title        : AB8270TCL42
Last Update  : Tue Mar 26 11:23:57 2013
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	90	-0.01	3.84
2	T	N-Nitrosodimethylamine	0.910	0.823	9.6	77	0.00	2.07
3	T	Pyridine	1.611	1.461	9.3	75	0.00	2.07
4	T	Aniline	2.320	2.164	6.7	78	0.00	3.63
5	S	2-Fluorophenol	1.296	1.291	0.4	86	0.00	2.96
6	T	bis(2-Chloroethyl)ether	1.136	1.225	-7.8	92	-0.01	3.66
7	S	Phenol-d5	1.718	1.642	4.4	82	0.00	3.61
8	C	Phenol	2.004	1.930	3.7	83	-0.01	3.62
9	M	2-Chlorophenol	1.419	1.399	1.4	86	0.00	3.72
10	T	1,3-Dichlorobenzene	1.541	1.546	-0.3	90	0.00	3.82
11	C	1,4-Dichlorobenzene	1.633	1.634	-0.1	90	-0.01	3.85
12	T	1,2-Dichlorobenzene	1.474	1.479	-0.3	90	0.00	4.00
13	T	Benzyl alcohol	0.971	0.992	-2.2	88	0.00	3.96
14	T	bis(2-chloroisopropyl)eth	1.801	1.554	13.7	74	0.00	4.07
		----------	Amount	Calc.	%Drift		----------	
15	T	o-cresol	50.000	50.071	-0.1	86	0.00	4.06
		----------	AvgRF	CCRF	%Dev		----------	
16	T	Acetophenone	2.183	2.075	4.9	82	0.00	4.17
17	T	Hexachloroethane	0.685	0.633	7.6	81	-0.01	4.23
18	P	N-Nitroso-di-n-propylamin	1.165	1.063	8.8	77	-0.01	4.18
19	T	m+p-cresols	1.447	1.388	4.1	83	-0.01	4.17
20		4-methylphenol	1.447	1.388	4.1	83	-0.01	4.17
		----------	Amount	Calc.	%Drift		----------	
21		Benzaldehyde	50.000	58.325	-16.7	106	-0.01	3.53
		----------	AvgRF	CCRF	%Dev		----------	
22	I	Naphthalene-d8	1.000	1.000	0.0	90	-0.01	4.83
23	S	Nitrobenzene-d5	0.451	0.416	7.8	79	0.00	4.29
24	T	Nitrobenzene	0.463	0.412	11.0	76	-0.01	4.30
25	T	Isophorone	0.721	0.650	9.8	77	0.00	4.48
26	C	2-Nitrophenol	0.194	0.211	-8.8	95	0.00	4.55
27	T	2,4-Dimethylphenol	0.406	0.403	0.7	86	-0.01	4.58
28	T	bis(2-Chloroethoxy)methan	0.444	0.418	5.9	82	0.00	4.65
		----------	Amount	Calc.	%Drift		----------	
29	T	Benzoic acid	50.000	50.776	-1.6	97	-0.02	4.68
		----------	AvgRF	CCRF	%Dev		----------	

Continuing Calibration Summary

Job Number: JB31485 **Sample:** MSW500-CC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10639.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

30	C	2,4-Dichlorophenol	0.295	0.319	-8.1	97	0.00	4.74
31	M	1,2,4-Trichlorobenzene	0.314	0.354	-12.7	104	0.00	4.80
32	T	Naphthalene	1.078	1.051	2.5	86	-0.01	4.85
33	T	2,6-Dichlorophenol	0.299	0.323	-8.0	97	-0.01	4.92
34	T	4-Chloroaniline	0.450	0.472	-4.9	90	-0.01	4.91
		----------	Amount	Calc.	%Drift		----------	
35	C	Hexachlorobutadiene	100.000	112.891	-12.9	107	-0.01	4.99
		----------	AvgRF	CCRF	%Dev		----------	
36	C	4-Chloro-3-methylphenol	0.329	0.342	-4.0	88	0.00	5.31
37	T	2-Methylnaphthalene	0.747	0.785	-5.1	92	0.00	5.40
38		1-methylnaphthalene	0.692	0.724	-4.6	92	0.00	5.49
39		Caprolactam	0.164	0.150	8.5	74	-0.02	5.17
40	I	Acenaphthene-d10	1.000	1.000	0.0	102	0.00	6.27
		----------	Amount	Calc.	%Drift		----------	
41	P	Hexachlorocyclopentadiene	100.000	90.435	9.6	95	0.00	5.58
		----------	AvgRF	CCRF	%Dev		----------	
42	T	1,2,4,5-Tetrachlorobenzen	0.596	0.663	-11.2	118	0.00	5.57
43	C	2,4,6-Trichlorophenol	0.368	0.412	-12.0	113	0.00	5.66
44	T	2,4,5-Trichlorophenol	0.389	0.434	-11.6	112	0.00	5.70
45	S	2-Fluorobiphenyl	1.392	1.398	-0.4	102	0.00	5.71
46	T	2-Chloronaphthalene	1.156	1.140	1.4	98	-0.01	5.80
47	M	Acenaphthylene	1.928	1.928	0.0	97	0.00	6.14
48	T	Dimethylphthalate	1.368	1.392	-1.8	100	0.00	6.08
		----------	Amount	Calc.	%Drift		----------	
49	T	2,6-Dinitrotoluene	100.000	122.317	-22.3#	134	0.00	6.47
		----------	AvgRF	CCRF	%Dev		----------	
50	C	Acenaphthene	1.206	1.161	3.7	93	-0.01	6.29
		----------	Amount	Calc.	%Drift		----------	
51	P	2,4-Dinitrophenol	50.000	46.745	6.5	100	-0.01	6.34
		----------	AvgRF	CCRF	%Dev		----------	
52	T	Dibenzofuran	1.706	1.757	-3.0	102	0.00	6.43
53	M	2,4-Dinitrotoluene	0.385	0.421	-9.4	102	0.00	6.47
54	P	4-Nitrophenol	0.327	0.303	7.3	88	-0.01	6.40
		----------	Amount	Calc.	%Drift		----------	
55	T	2,3,4,6-Tetrachlorophenol	50.000	58.138	-16.3	122	0.00	6.57
		----------	AvgRF	CCRF	%Dev		----------	
56	T	Fluorene	1.405	1.464	-4.2	99	0.00	6.72
		----------	Amount	Calc.	%Drift		----------	
57	T	4-Chlorophenyl-phenylethe	50.000	50.830	-1.7	113	0.00	6.72
		----------	AvgRF	CCRF	%Dev		----------	
58	T	Diethylphthalate	1.432	1.348	5.9	93	-0.01	6.67
59	T	2-nitroaniline	0.389	0.398	-2.3	97	0.00	5.91
60	T	3-nitroaniline	0.342	0.341	0.3	97	-0.01	6.25
61	T	4-nitroaniline	0.340	0.346	-1.8	97	-0.01	6.78
62		1,1'-Biphenyl	1.519	1.449	4.6	94	-0.01	5.78
63	I	Phenanthrene-d10	1.000	1.000	0.0	109	-0.01	7.58

Continuing Calibration Summary

Job Number: JB31485 **Sample:** MSW500-CC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10639.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

			Amount	Calc.	%Drift			
64	T	4,6-Dinitro-2-methylpheno	50.000	50.613	-1.2	110	-0.01	6.82
			AvgRF	CCRF	%Dev			
65	C	n-Nitrosodiphenylamine	0.567	0.534	5.8	101	0.00	6.83
66	T	1,2-Diphenylhydrazine	1.016	0.860	15.4	87	-0.01	6.85
			Amount	Calc.	%Drift			
67	S	2,4,6-Tribromophenol	50.000	64.446	-28.9#	148	0.00	6.95
			AvgRF	CCRF	%Dev			
68	T	4-Bromophenyl-phenylether	0.227	0.256	-12.8	126	0.00	7.15
			Amount	Calc.	%Drift			
69	T	Hexachlorobenzene	100.000	113.358	-13.4	132	-0.01	7.29
70	C	Pentachlorophenol	50.000	54.101	-8.2	121	-0.01	7.47
			AvgRF	CCRF	%Dev			
71	T	Pentachloronitrobenzene	0.123	0.123	0.0	107	-0.01	7.55
72	T	Phenanthrene	1.175	1.121	4.6	100	-0.01	7.61
73	T	Anthracene	1.217	1.216	0.1	103	-0.01	7.65
74	T	Carbazole	1.118	1.081	3.3	101	-0.01	7.82
75	T	Di-n-butylphthalate	1.371	1.295	5.5	95	-0.01	8.23
76	C	Fluoranthene	1.224	1.322	-8.0	111	0.00	8.85
77		Atrazine	0.214	0.201	6.1	97	-0.01	7.35
78	I	Chrysene-d12	1.000	1.000	0.0	126	0.00	10.49
			Amount	Calc.	%Drift			
79	T	Benzidine	50.000	48.083	3.8	124	0.00	9.00
			AvgRF	CCRF	%Dev			
80	M	Pyrene	1.238	1.142	7.8	110	-0.01	9.09
81	S	Terphenyl-d14	0.884	0.889	-0.6	125	0.00	9.29
			Amount	Calc.	%Drift			
82		3,3'-Dimethylbenzidine	50.000	69.881	-39.8#	190	0.00	9.84
			AvgRF	CCRF	%Dev			
83	T	Butylbenzylphthalate	0.552	0.475	13.9	96	0.00	9.90
			Amount	Calc.	%Drift			
84	T	3,3'-Dichlorobenzidine	50.000	49.808	0.4	141	-0.01	10.47
85	T	Benzo[a]anthracene	100.000	90.564	9.4	123	0.00	10.47
86	T	Chrysene	100.000	95.010	5.0	122	-0.01	10.52
87	T	bis(2-Ethylhexyl)phthalat	50.000	40.687	18.6	98	0.00	10.61
			AvgRF	CCRF	%Dev			
88	I	Perylene-d12	1.000	1.000	0.0	134	0.00	12.07
			Amount	Calc.	%Drift			
89	C	Di-n-octylphthalate	50.000	40.440	19.1	106	-0.01	11.30
90	T	Benzo[b]fluoranthene	100.000	99.441	0.6	125	-0.01	11.68
			AvgRF	CCRF	%Dev			
91	T	Benzo[k]fluoranthene	1.285	1.391	-8.2	136	-0.01	11.71
			Amount	Calc.	%Drift			

9.7.11

9

Continuing Calibration Summary

Job Number: JB31485 **Sample:** MSW500-CC474
Account: ALNJ SGS Accutest New Jersey **Lab FileID:** W10639.D
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

92	C	Benzo[a]pyrene	100.000	95.989	4.0	130	-0.01	12.02
93	T	Indeno[1,2,3-cd]pyrene	100.000	102.375	-2.4	141	-0.02	13.16
94	T	Dibenz[a,h]anthracene	100.000	103.288	-3.3	147	-0.01	13.18
95	T	Benzo[g,h,i]perylene	100.000	104.104	-4.1	139	-0.02	13.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
W10529.D W130308_8270.M Fri Mar 29 14:06:18 2013

MS Semi-volatiles

Raw Data

(SGS Accutest New England)

Manual Integrations
APPROVED
(compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13167.D
Acq On : 28 Mar 2013 10:43 am
Operator : NatalyaS
Sample : JB31485-1
Misc : op32398,msu673,20.25,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 29 11:26:17 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	173528	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	601698	40.00 ppb	0.00
39) Acenaphthene-d10	5.444	164	343956	40.00 ppb	0.00
61) Phenanthrene-d10	6.666	188	607352	40.00 ppb	0.00
74) Chrysene-d12	9.399	240	700896	40.00 ppb	0.00
84) Perylene-d12	10.938	264	639072	40.00 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.177	112	370621	65.51 ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 65.51%		
7) Phenol-d5	2.847	99	426375	62.74 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 62.74%		
22) Nitrobenzene-d5	3.499	82	199109	34.99 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 69.98%		
44) 2-Fluorobiphenyl	4.921	172	433644	35.88 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 71.76%		
65) 2,4,6-Tribromophenol	6.091	330	147710	83.25 ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 83.25%		
77) Terphenyl-d14	8.270	244	575425	36.18 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 72.36%		
Target Compounds					Qvalue
31) Naphthalene	4.052	128	6107	Below Cal	# 1
33) 4-Chloroaniline	4.093	127	1850	Below Cal	100
37) 1-Methylnaphthalene	4.692	142	27684m	0.99 ppb	
46) Acenaphthylene	5.338	152	9246	Below Cal	# 1
51) Dibenzofuran	5.615	168	20649	Below Cal	92
55) Fluorene	5.891	166	29655m	0.68 ppb	
71) Carbazole	6.978	167	2094	Below Cal	66

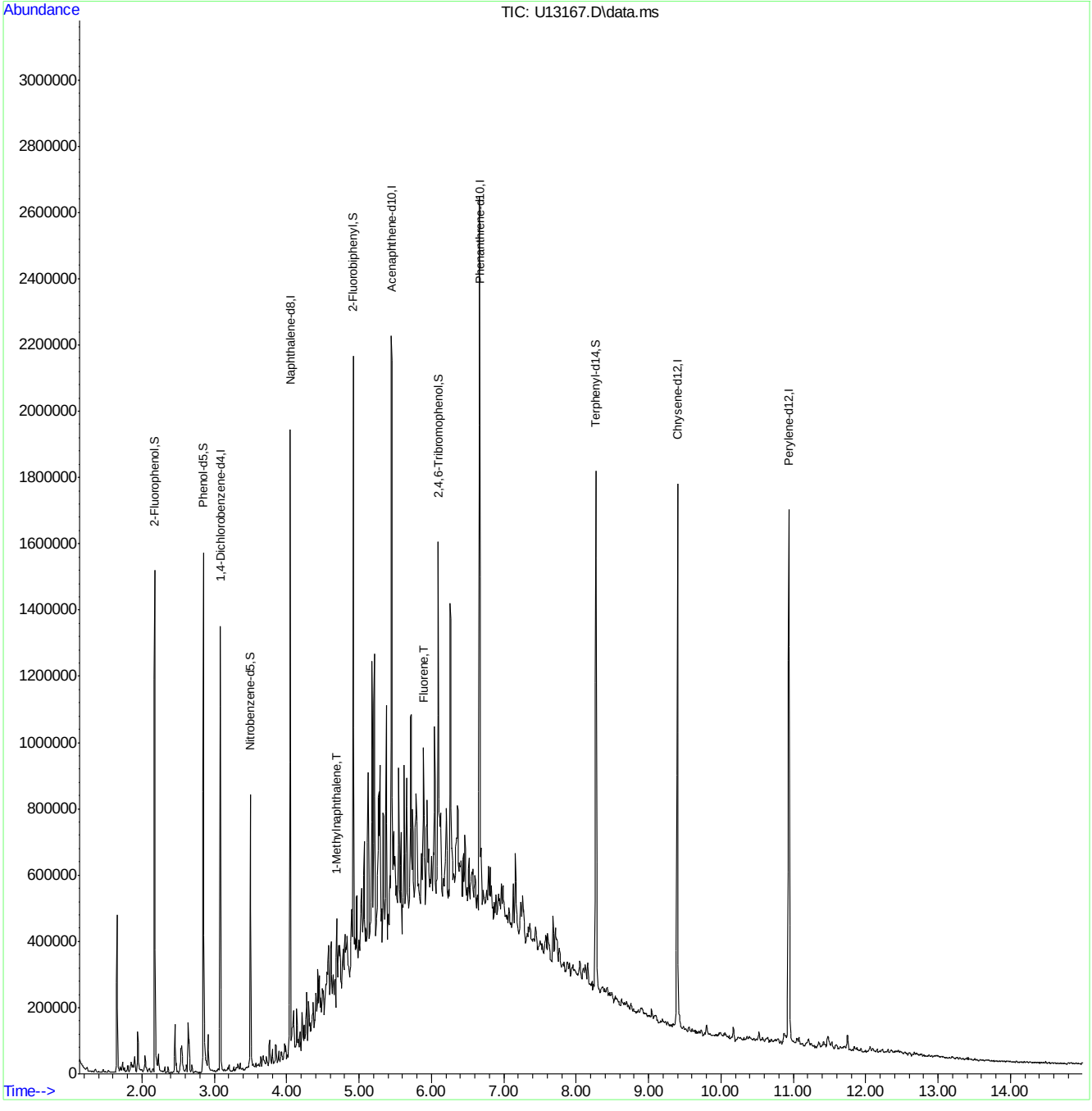
(#) = qualifier out of range (m) = manual integration (+) = signals summed

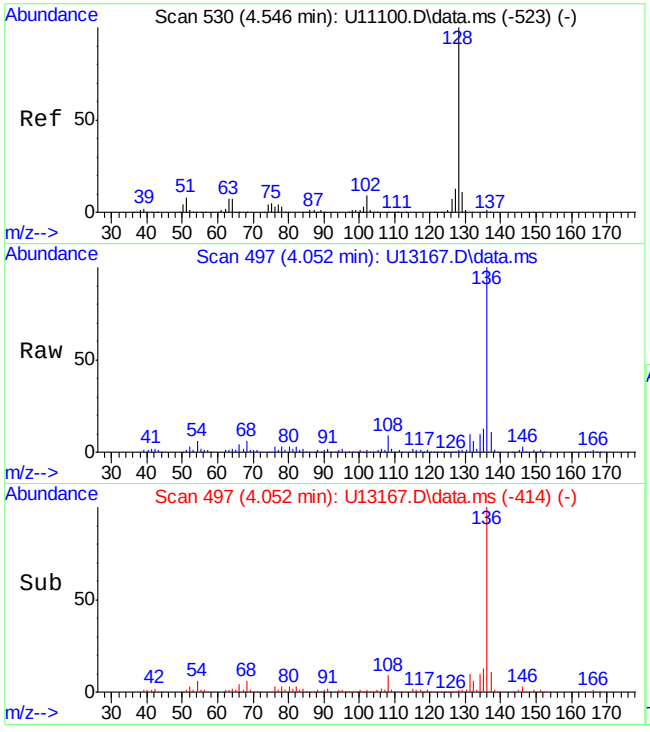
10.1.1
10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13167.D
Acq On : 28 Mar 2013 10:43 am
Operator : NatalyaS
Sample : JB31485-1
Misc : op32398,msu673,20.25,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 29 11:26:17 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

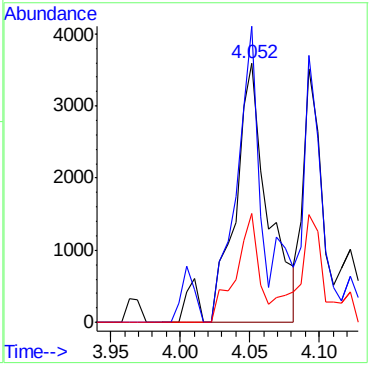


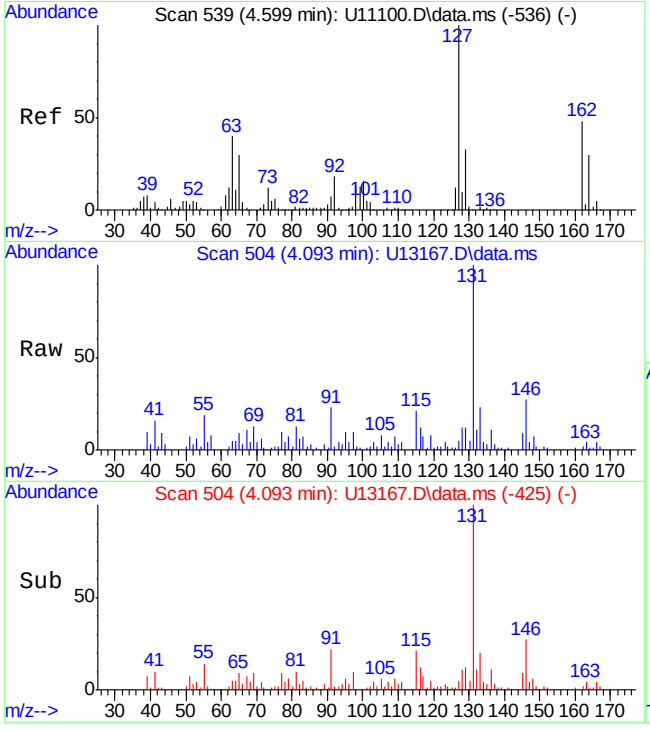


#31
Naphthalene
Concen: Below Cal
RT: 4.052 min Scan# 497
Delta R.T. -0.012 min
Lab File: U13167.D
Acq: 28 Mar 2013 10:43 am

Tgt Ion:128 Resp: 6107

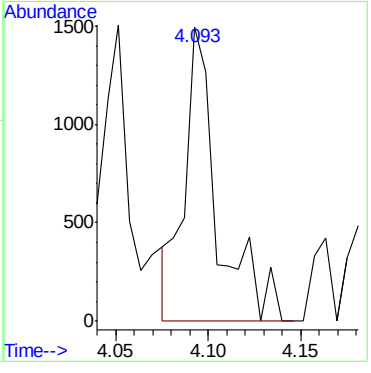
Ion	Ratio	Lower	Upper
128	100		
129	114.2	0.0	41.2#
127	41.9	0.0	43.6

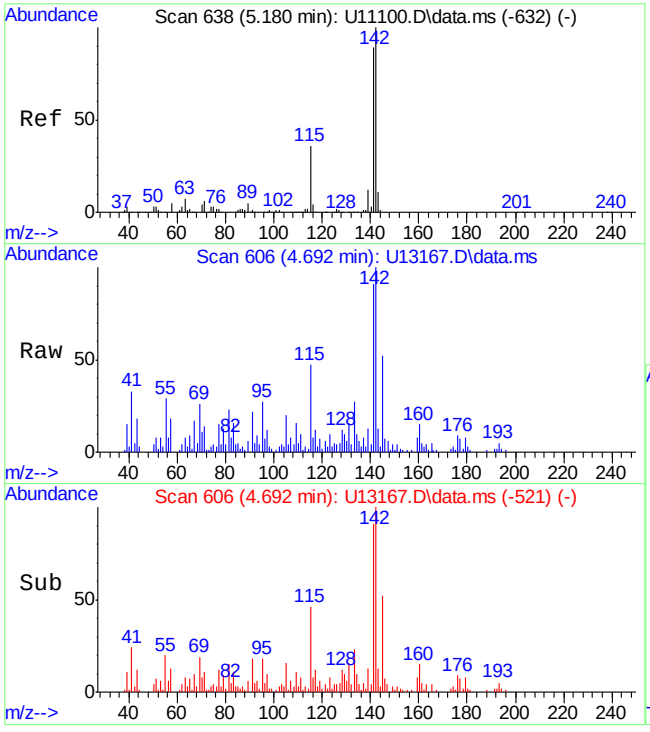




#33
4-Chloroaniline
Concen: Below Cal
RT: 4.093 min Scan# 504
Delta R.T. -0.035 min
Lab File: U13167.D
Acq: 28 Mar 2013 10:43 am

Tgt Ion:127 Resp: 1850

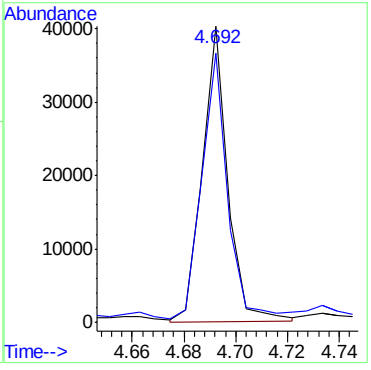


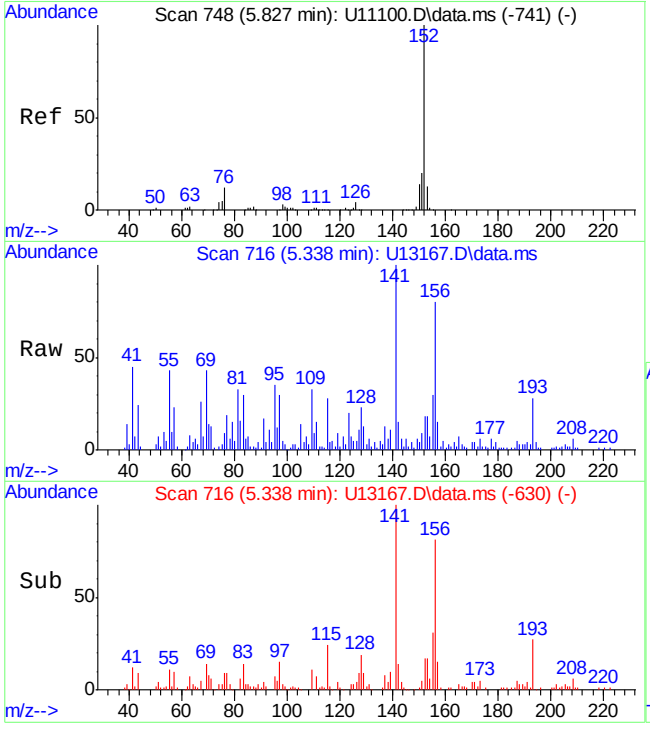


#37
1-Methylnaphthalene
Concen: 0.99 ppb m
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13167.D
Acq: 28 Mar 2013 10:43 am

Tgt Ion:142 Resp: 27684

Ion	Ratio	Lower	Upper
142	100		
141	90.8	68.6	108.6

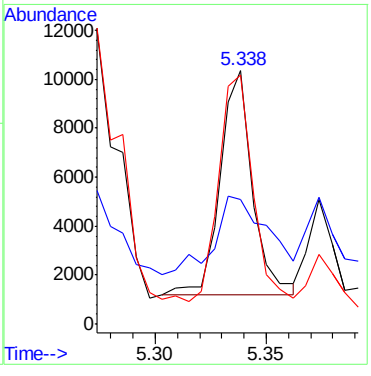


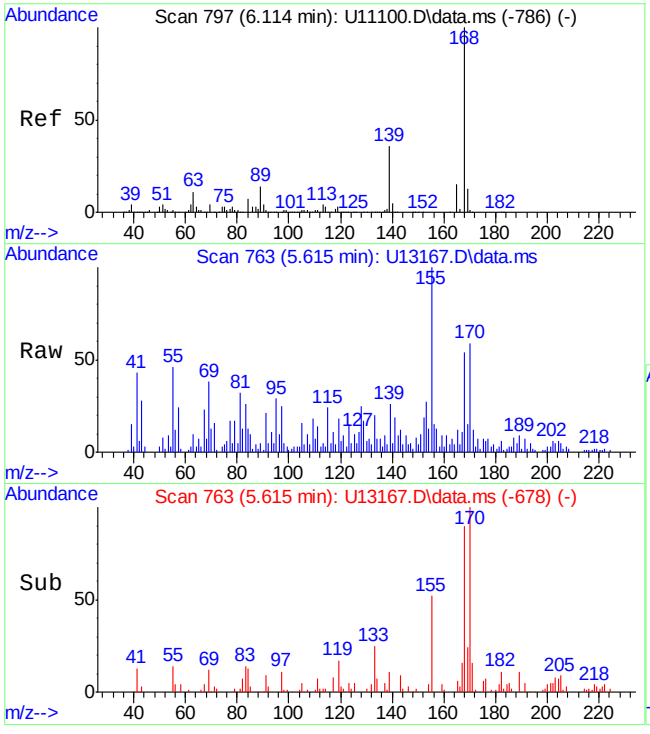


#46
Acenaphthylene
Concen: Below Cal
RT: 5.338 min Scan# 716
Delta R.T. 0.006 min
Lab File: U13167.D
Acq: 28 Mar 2013 10:43 am

Tgt Ion:152 Resp: 9246

Ion	Ratio	Lower	Upper
152	100		
151	33.7	0.0	49.7
153	100.4	0.0	43.1#

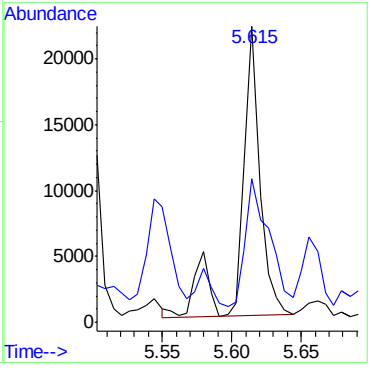


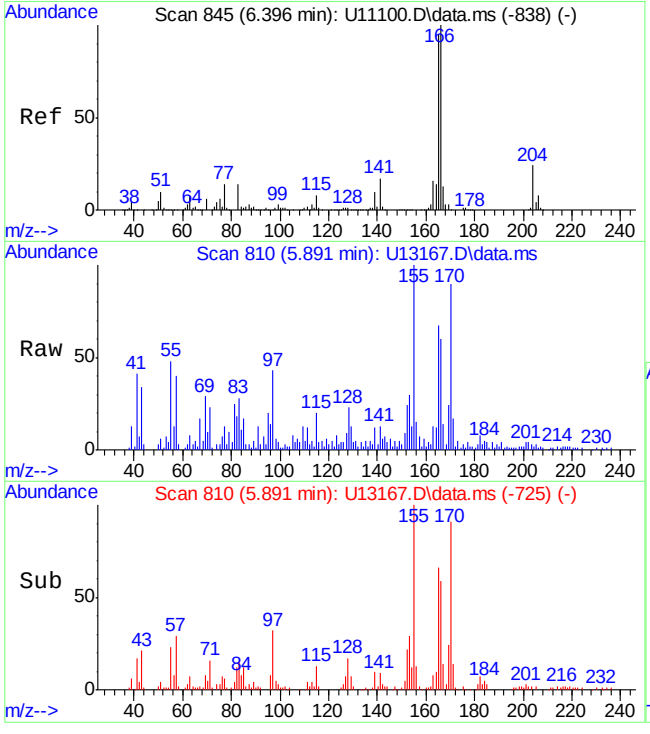


#51
Dibenzofuran
Concen: Below Cal
RT: 5.615 min Scan# 763
Delta R.T. 0.000 min
Lab File: U13167.D
Acq: 28 Mar 2013 10:43 am

Tgt Ion:168 Resp: 20649

Ion	Ratio	Lower	Upper
168	100		
139	41.6	7.0	67.0

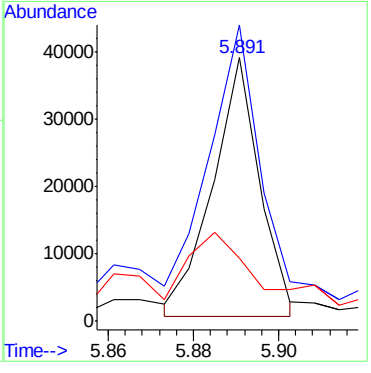


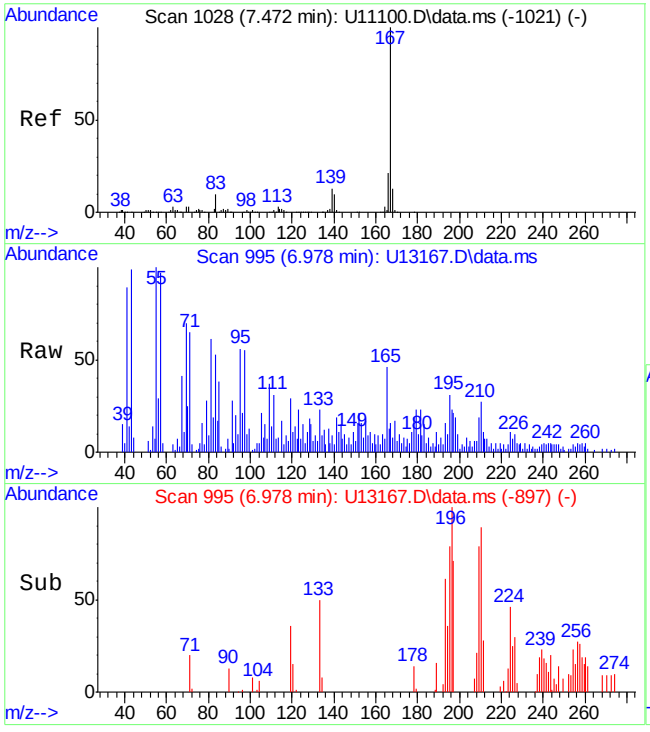


#55
Fluorene
Concen: 0.68 ppb m
RT: 5.891 min Scan# 810
Delta R.T. 0.000 min
Lab File: U13167.D
Acq: 28 Mar 2013 10:43 am

Tgt Ion:166 Resp: 29655

Ion	Ratio	Lower	Upper
166	100		
165	112.5	63.2	123.2
167	24.1	0.0	43.3

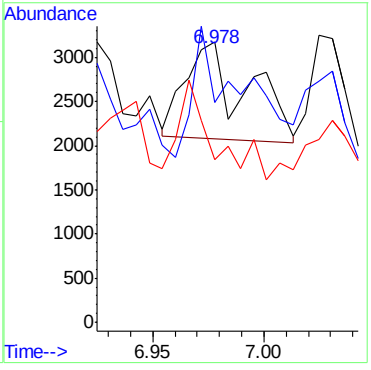




#71
Carbazole
Concen: Below Cal
RT: 6.978 min Scan# 995
Delta R.T. 0.077 min
Lab File: U13167.D
Acq: 28 Mar 2013 10:43 am

Tgt Ion:167 Resp: 2094

Ion	Ratio	Lower	Upper
167	100		
166	44.6	0.0	50.9
139	10.3	0.0	43.1



10.1.1

10

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13168.D
Acq On : 28 Mar 2013 11:06 am
Operator : NatalyaS
Sample : JB31485-2
Misc : op32398,msu673,20.13,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 29 11:27:02 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

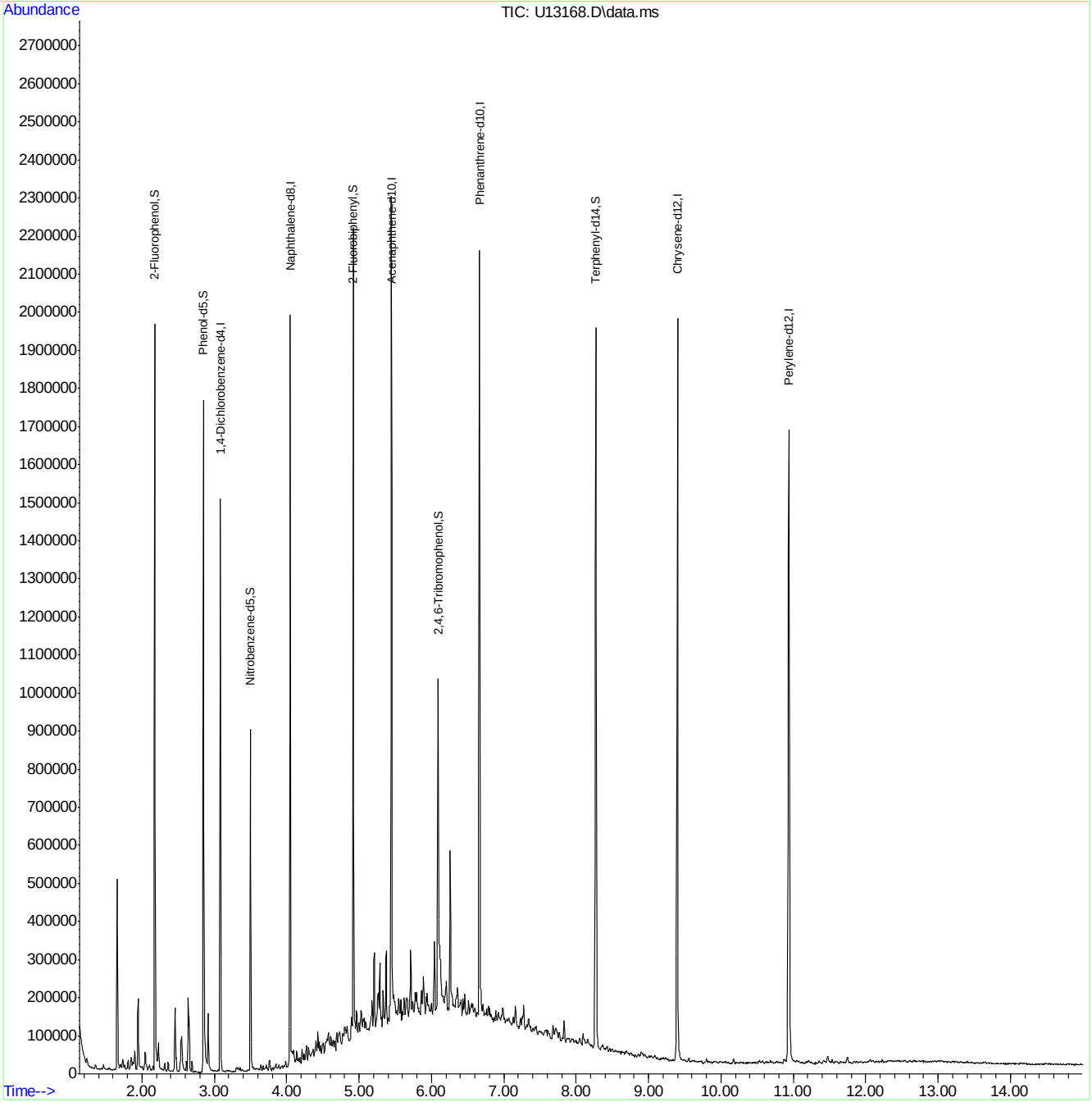
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	179259	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	661631	40.00 ppb	0.00
39) Acenaphthene-d10	5.444	164	384165	40.00 ppb	0.00
61) Phenanthrene-d10	6.666	188	693486	40.00 ppb	0.00
74) Chrysene-d12	9.399	240	765470	40.00 ppb	0.00
84) Perylene-d12	10.938	264	701404	40.00 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.177	112	410385	70.22 ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 70.22%		
7) Phenol-d5	2.847	99	480308	68.41 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.41%		
22) Nitrobenzene-d5	3.499	82	227273	36.32 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 72.64%		
44) 2-Fluorobiphenyl	4.921	172	512345	37.95 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 75.90%		
65) 2,4,6-Tribromophenol	6.091	330	166076	81.97 ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 81.97%		
77) Terphenyl-d14	8.270	244	649972	37.42 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 74.84%		
Target Compounds					Qvalue
31) Naphthalene	4.058	128	1677	Below Cal #	36
36) 2-Methylnaphthalene	4.692	142	2152	Below Cal	83
37) 1-Methylnaphthalene	4.692	142	2151	Below Cal	95
46) Acenaphthylene	5.333	152	1999	Below Cal #	1
51) Dibenzofuran	5.615	168	4582	Below Cal	81
55) Fluorene	5.891	166	7593	Below Cal	94
63) n-Nitrosodiphenylamine	5.938	169	7171	Below Cal	90
69) Phenanthrene	6.684	178	12804	Below Cal	97
70) Anthracene	6.684	178	12804	Below Cal	96
71) Carbazole	6.901	167	2533	Below Cal	45

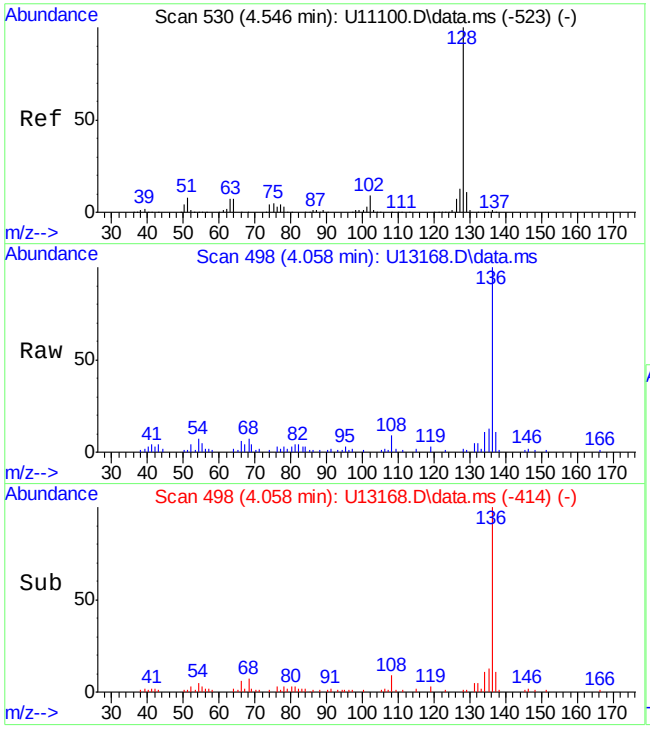
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13168.D
Acq On : 28 Mar 2013 11:06 am
Operator : NatalyaS
Sample : JB31485-2
Misc : op32398,msu673,20.13,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 29 11:27:02 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

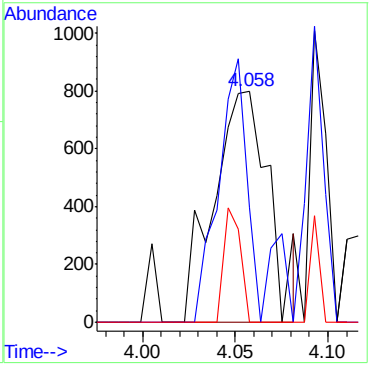


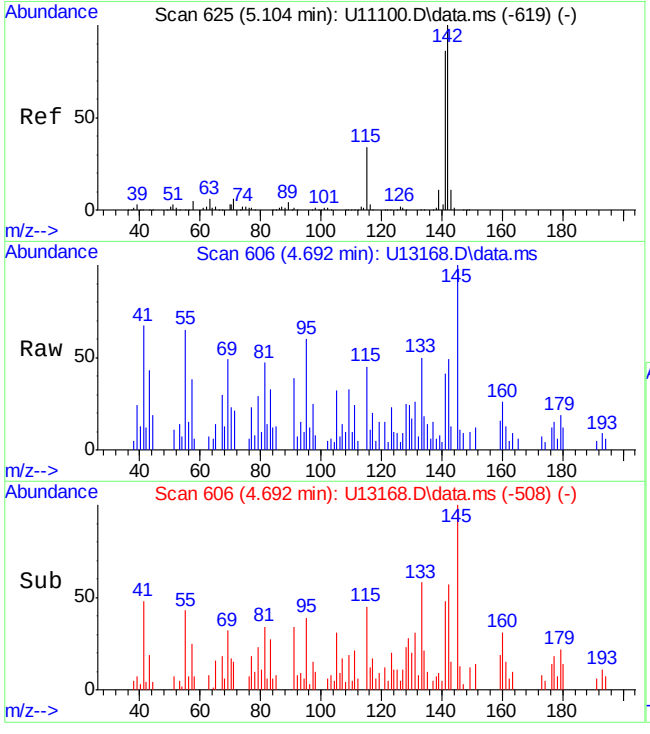


#31
Naphthalene
Concen: Below Cal
RT: 4.058 min Scan# 498
Delta R.T. -0.006 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:128 Resp: 1677

Ion	Ratio	Lower	Upper
128	100		
129	49.4	0.0	41.2#
127	0.0	0.0	43.6

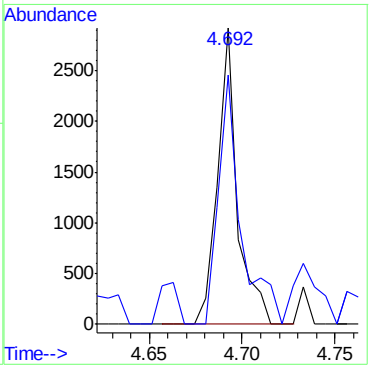




#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.077 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

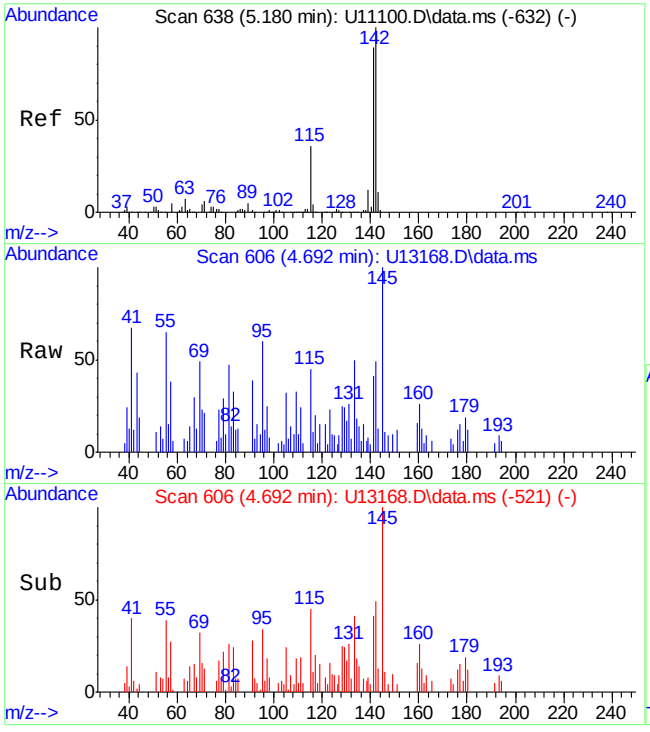
Tgt Ion:142 Resp: 2152

Ion	Ratio	Lower	Upper
142	100		
141	71.4	56.7	116.7



10.1.2 10

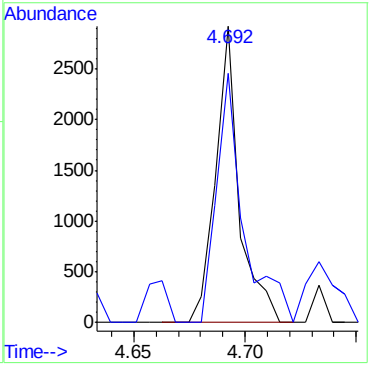
SGS ACCUTEST JB31485

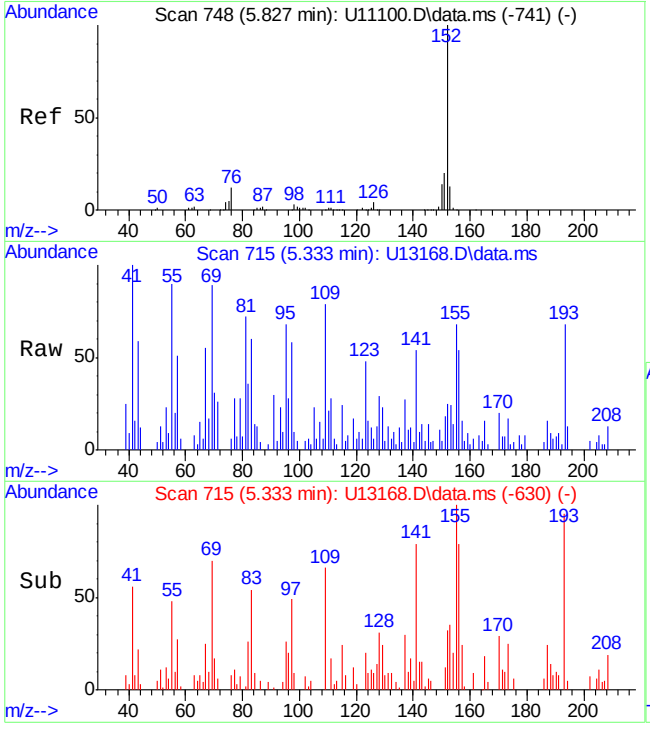


#37
1-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:142 Resp: 2151

Ion	Ratio	Lower	Upper
142	100		
141	84.2	68.6	108.6

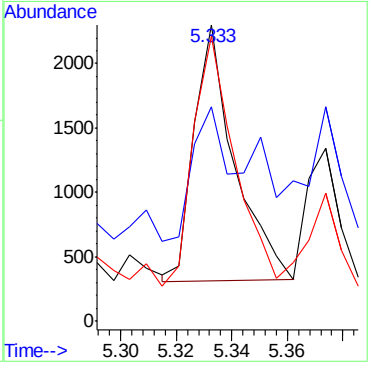


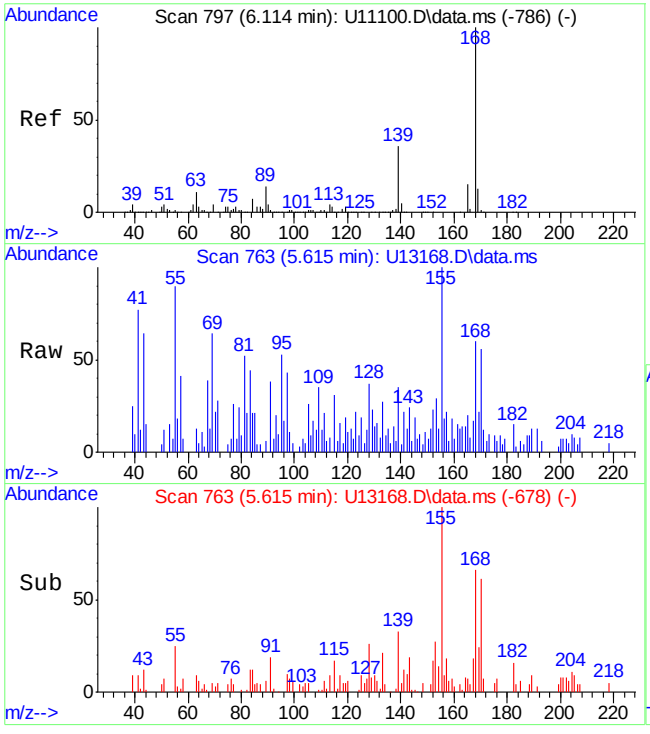


#46
Acenaphthylene
Concen: Below Cal
RT: 5.333 min Scan# 715
Delta R.T. 0.000 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:152 Resp: 1999

Ion	Ratio	Lower	Upper
152	100		
151	53.2	0.0	49.7#
153	98.2	0.0	43.1#

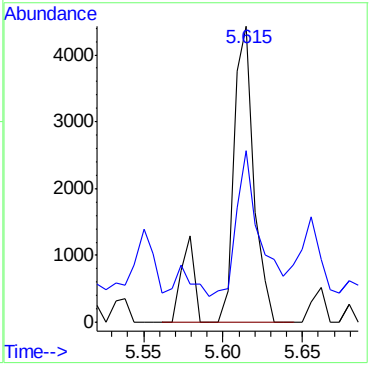


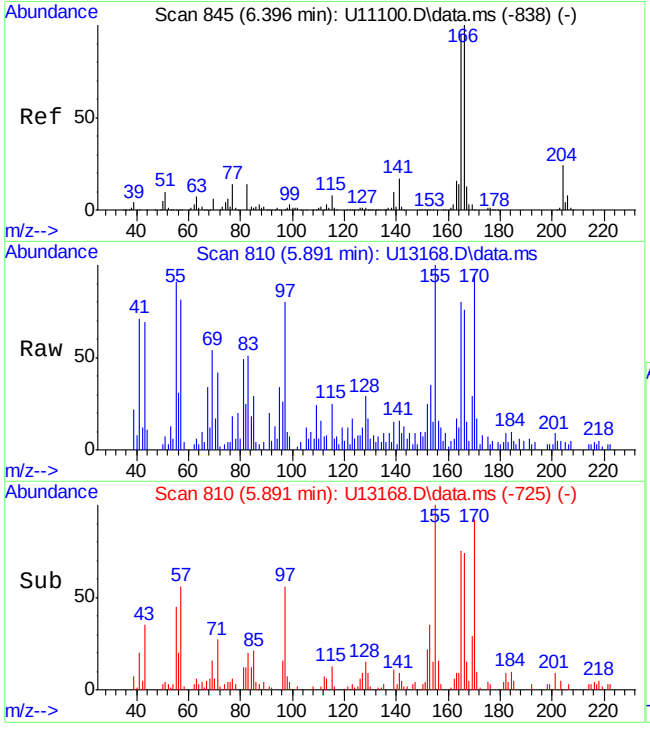


#51
Dibenzofuran
Concen: Below Cal
RT: 5.615 min Scan# 763
Delta R.T. 0.000 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:168 Resp: 4582

Ion	Ratio	Lower	Upper
168	100		
139	48.1	7.0	67.0

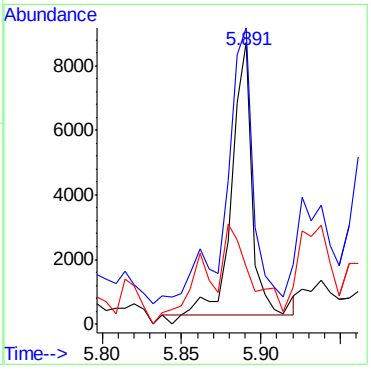


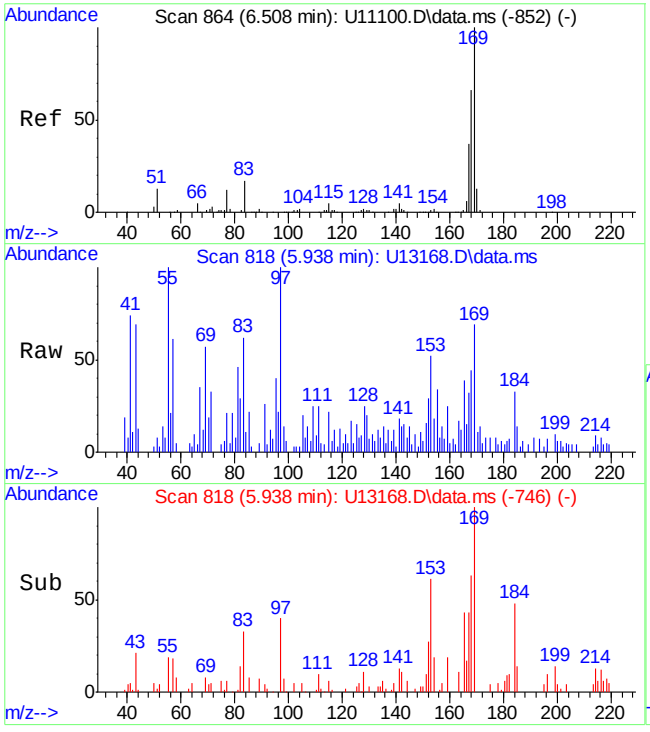


#55
Fluorene
Concen: Below Cal
RT: 5.891 min Scan# 810
Delta R.T. 0.000 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:166 Resp: 7593

Ion	Ratio	Lower	Upper
166	100		
165	98.2	63.2	123.2
167	16.8	0.0	43.3

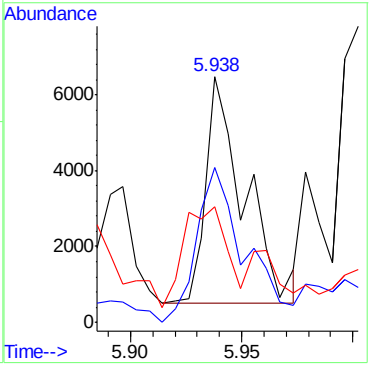


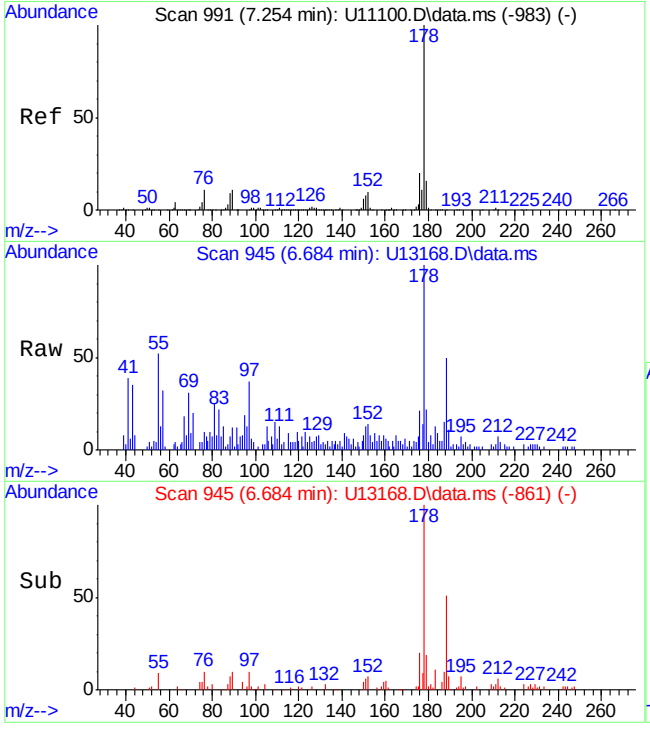


#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 5.938 min Scan# 818
Delta R.T. -0.076 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:169 Resp: 7171

Ion	Ratio	Lower	Upper
169	100		
168	68.6	33.9	93.9
167	44.5	4.0	64.0

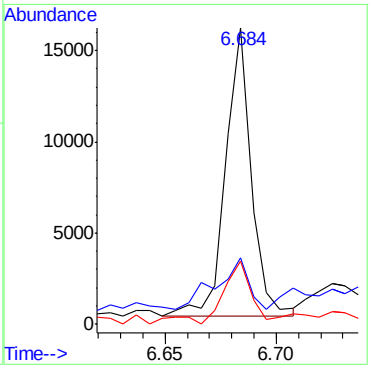


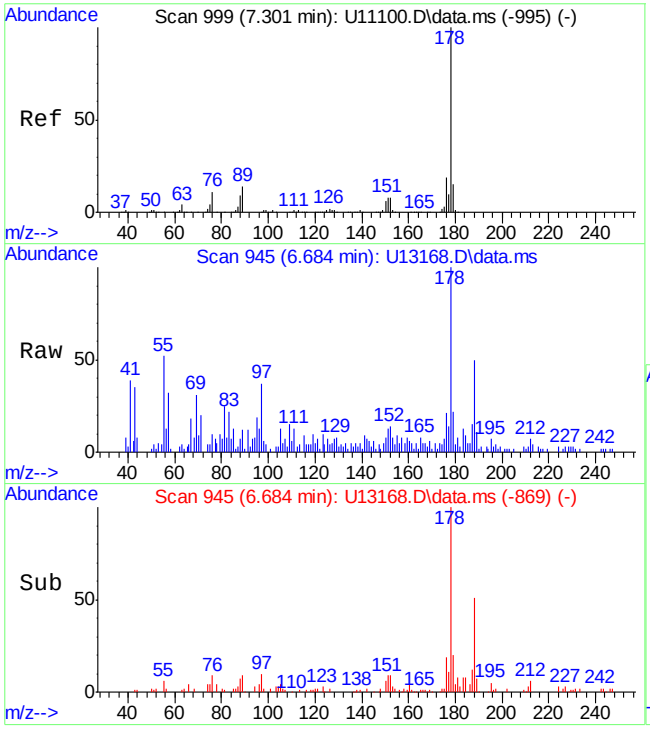


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:178 Resp: 12804

Ion	Ratio	Lower	Upper
178	100		
179	17.0	0.0	45.7
176	19.8	0.0	48.8

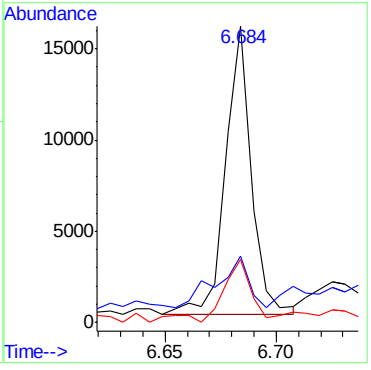


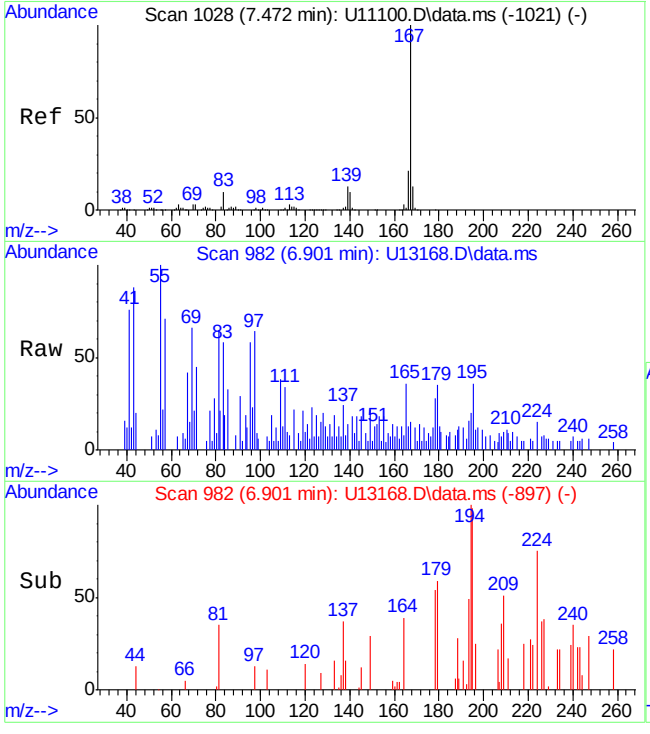


#70
Anthracene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.053 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:178 Resp: 12804

Ion	Ratio	Lower	Upper
178	100		
179	17.0	0.0	45.1
176	19.8	0.0	48.3

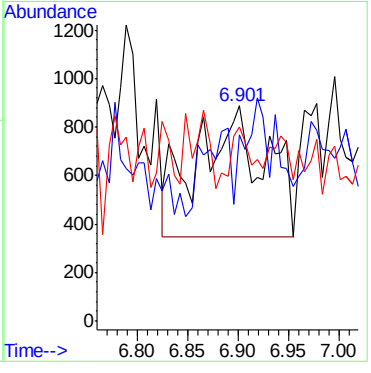




#71
Carbazole
Concen: Below Cal
RT: 6.901 min Scan# 982
Delta R.T. 0.000 min
Lab File: U13168.D
Acq: 28 Mar 2013 11:06 am

Tgt Ion:167 Resp: 2533

Ion	Ratio	Lower	Upper
167	100		
166	42.9	0.0	50.9
139	40.0	0.0	43.1



10.1.2 10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13169.D
Acq On : 28 Mar 2013 11:28 am
Operator : NatalyaS
Sample : JB31485-3
Misc : op32398,msu673,20.13,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 29 11:28:29 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	186866	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	632013	40.00	ppb	0.00
39) Acenaphthene-d10	5.450	164	363512	40.00	ppb	0.00
61) Phenanthrene-d10	6.666	188	648509	40.00	ppb	0.00
74) Chrysene-d12	9.398	240	757550	40.00	ppb	0.00
84) Perylene-d12	10.938	264	691721	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.177	112	402206	66.02	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 66.02%			
7) Phenol-d5	2.847	99	464207	63.43	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 63.43%			
22) Nitrobenzene-d5	3.499	82	220667	36.92	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 73.84%			
44) 2-Fluorobiphenyl	4.921	172	463551	36.29	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 72.58%			
65) 2,4,6-Tribromophenol	6.090	330	167030	88.16	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 88.16%			
77) Terphenyl-d14	8.270	244	648624	37.73	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 75.46%			
Target Compounds						Qvalue
19) m+p-cresols	3.488	108	2253	Below Cal	#	57
20) 4-methylphenol	3.488	108	2253	Below Cal	#	56
33) 4-Chloroaniline	4.163	127	2245	Below Cal		100
36) 2-Methylnaphthalene	4.616	142	72947	4.86	ppb	97
37) 1-Methylnaphthalene	4.692	142	107564	8.36	ppb	99
46) Acenaphthylene	5.338	152	13505	Below Cal	#	1
49) Acenaphthene	5.473	153	20772m	1.93	ppb	
51) Dibenzofuran	5.614	168	30593	Below Cal		87
55) Fluorene	5.891	166	44397m	1.88	ppb	
69) Phenanthrene	6.684	178	112163	3.41	ppb	97
76) Pyrene	8.053	202	25882	1.10	ppb	96

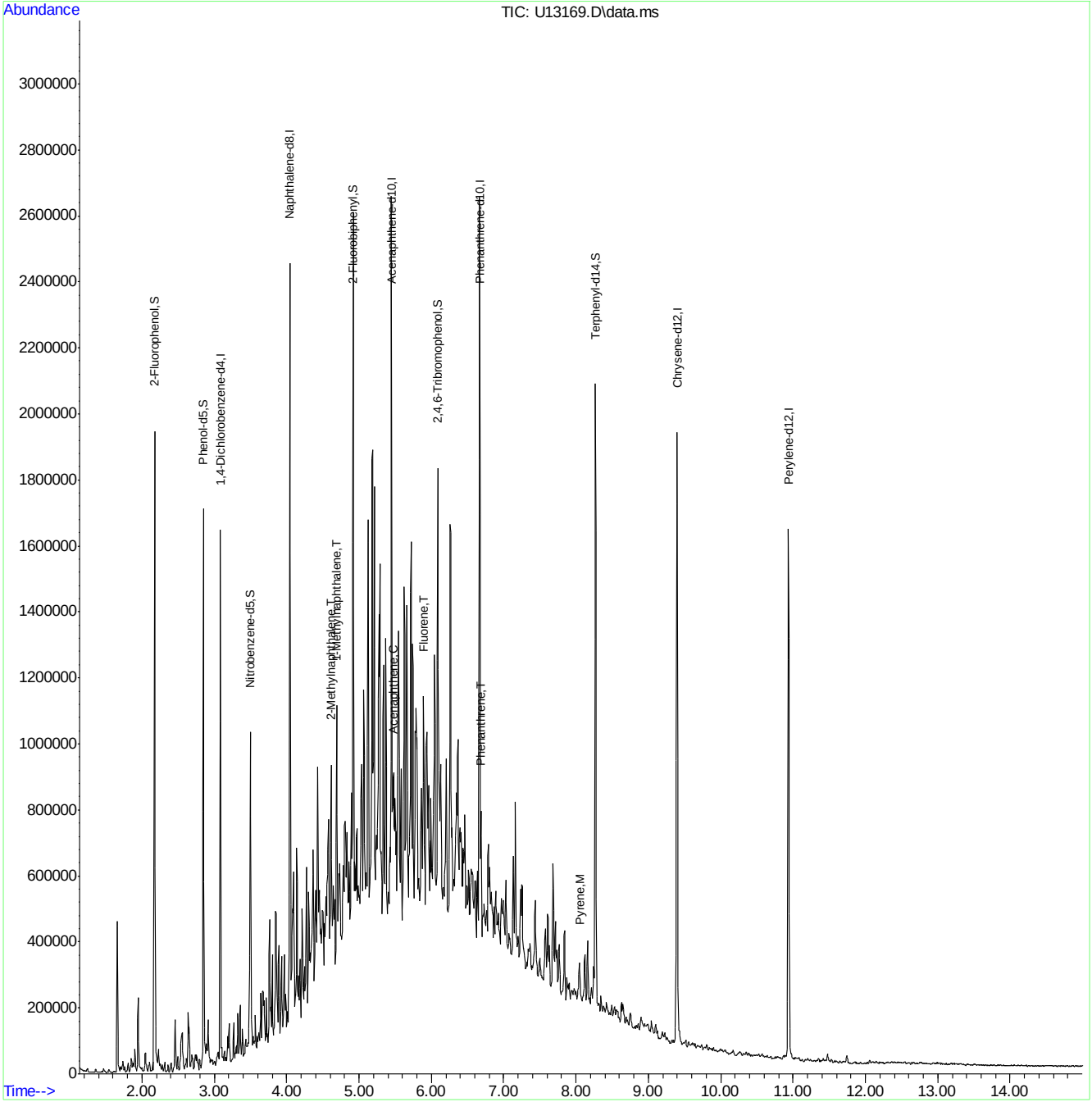
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.3 10

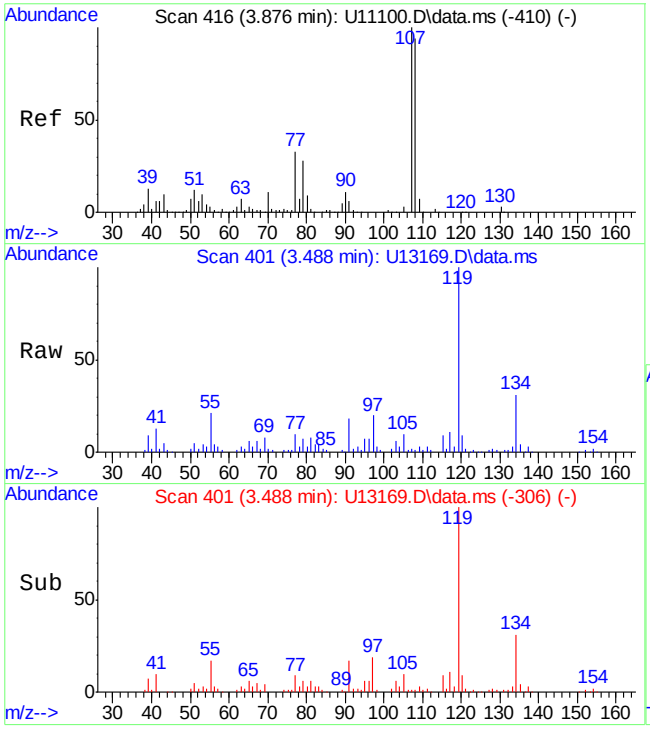
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13169.D
Acq On : 28 Mar 2013 11:28 am
Operator : NatalyaS
Sample : JB31485-3
Misc : op32398,msu673,20.13,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 29 11:28:29 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration



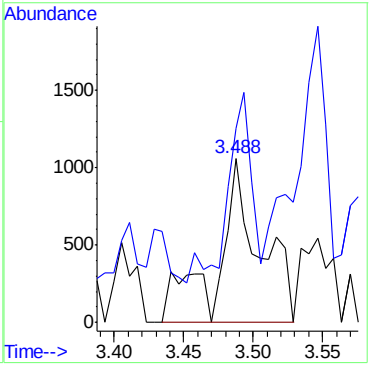
U130129_8270.m Fri Mar 29 11:28:32 2013 Page: 2

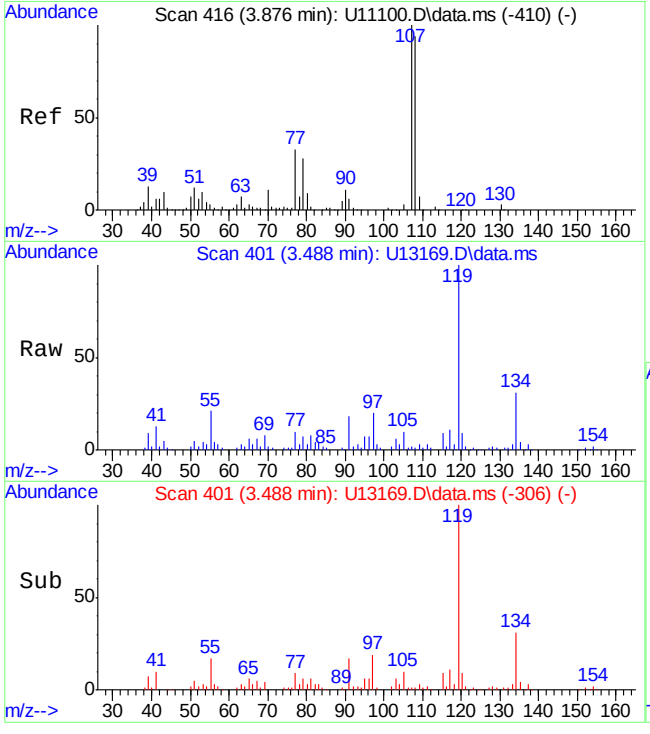


#19
m+p-cresols
Concen: Below Cal
RT: 3.488 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:108 Resp: 2253

Ion	Ratio	Lower	Upper
108	100		
107	63.1	77.8	137.8#

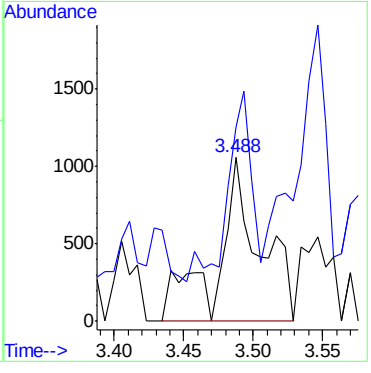


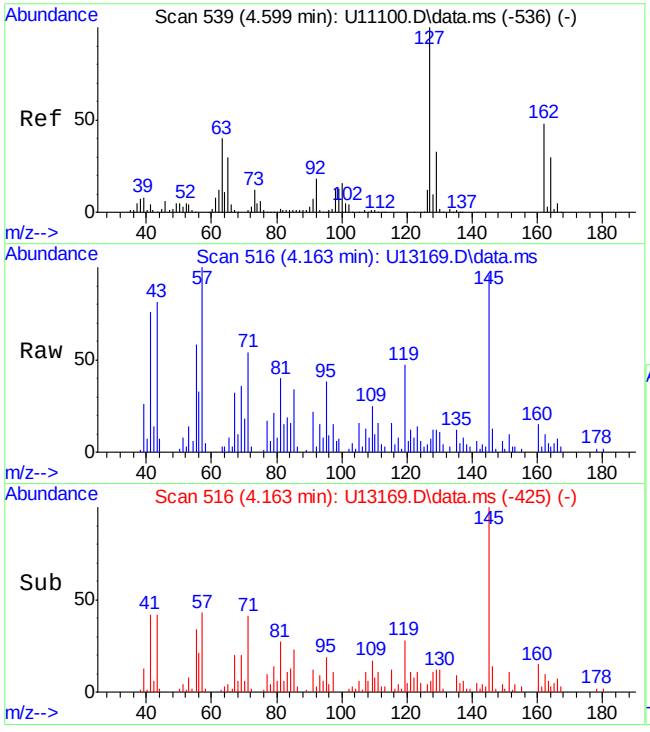


#20
4-methylphenol
Concen: Below Cal
RT: 3.488 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:108 Resp: 2253

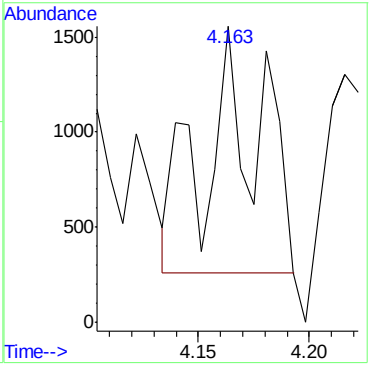
Ion	Ratio	Lower	Upper
108	100		
107	63.1	77.1	143.1#

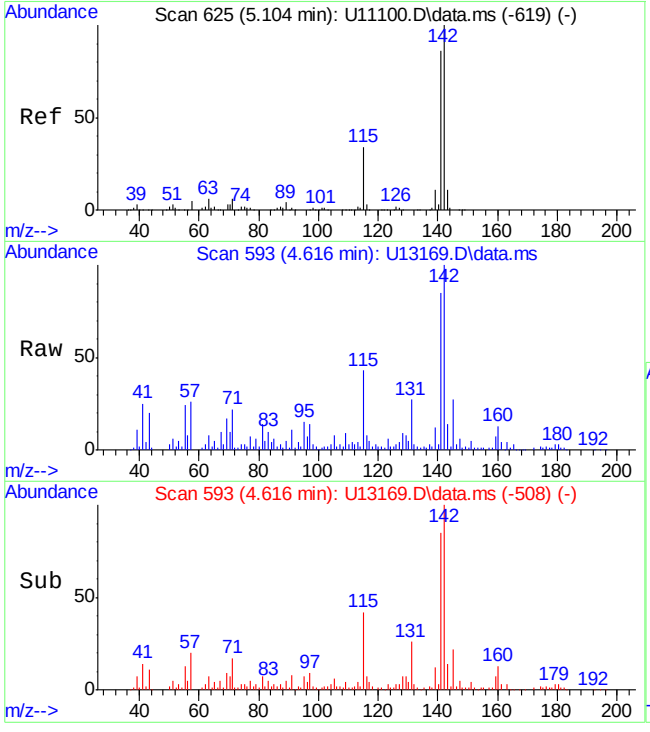




#33
4-Chloroaniline
Concen: Below Cal
RT: 4.163 min Scan# 516
Delta R.T. 0.035 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:127 Resp: 2245

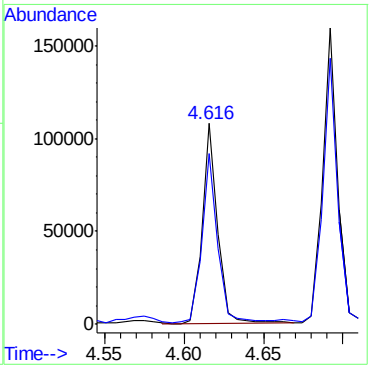


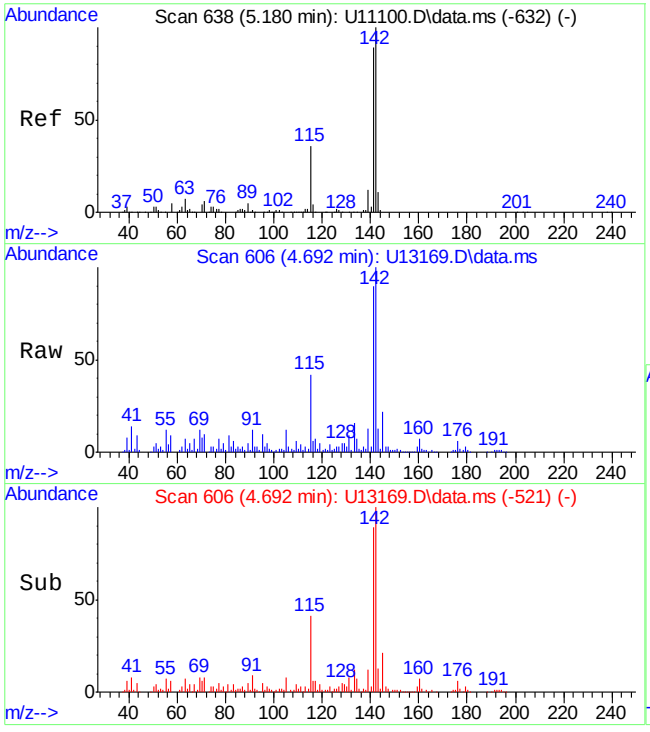


#36
2-Methylnaphthalene
Concen: 4.86 ppb
RT: 4.616 min Scan# 593
Delta R.T. -0.000 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:142 Resp: 72947

Ion	Ratio	Lower	Upper
142	100		
141	84.3	56.7	116.7

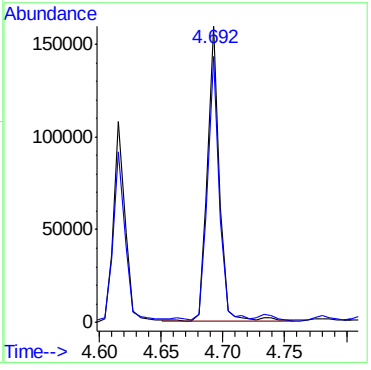


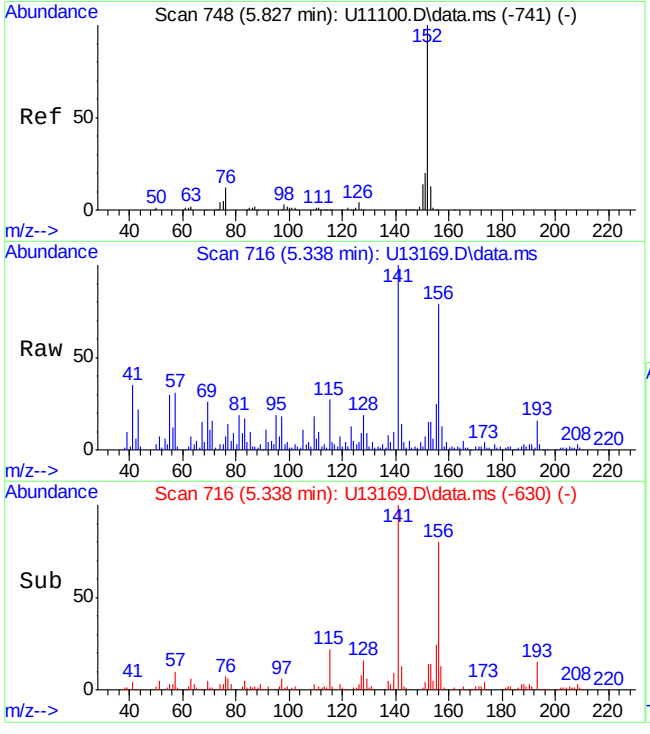


#37
1-Methylnaphthalene
Concen: 8.36 ppb
RT: 4.692 min Scan# 606
Delta R.T. -0.000 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:142 Resp: 107564

Ion	Ratio	Lower	Upper
142	100		
141	89.4	68.6	108.6

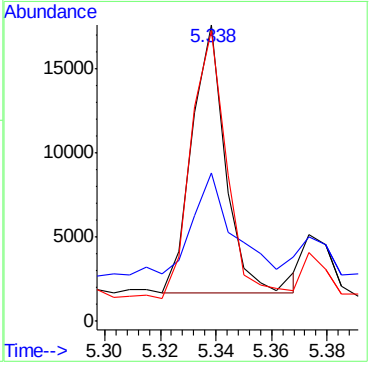


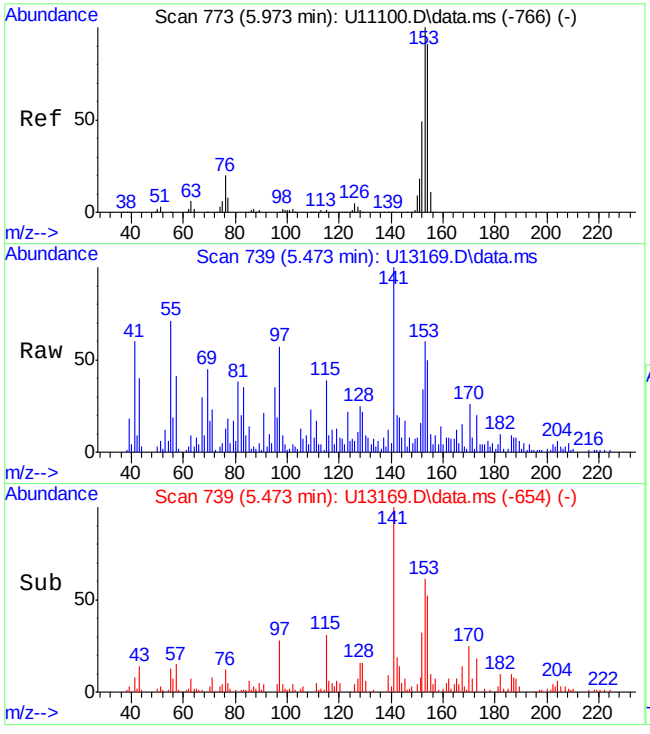


#46
Acenaphthylene
Concen: Below Cal
RT: 5.338 min Scan# 716
Delta R.T. 0.006 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:152 Resp: 13505

Ion	Ratio	Lower	Upper
152	100		
151	37.6	0.0	49.7
153	100.3	0.0	43.1#

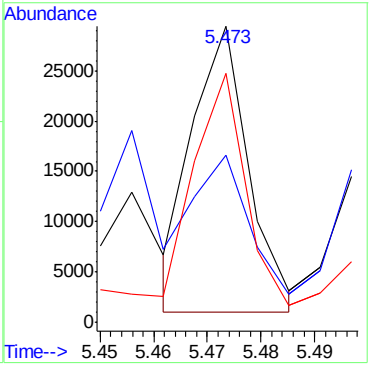


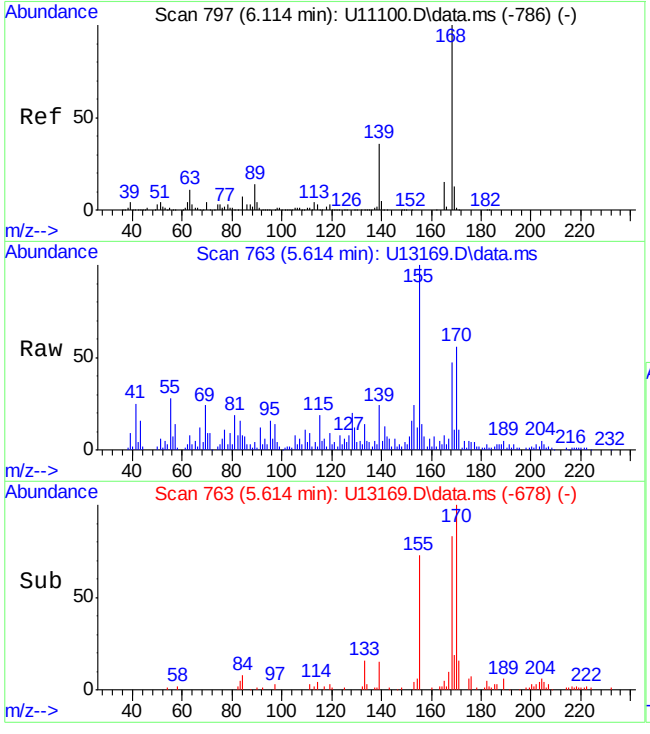


#49
Acenaphthene
Concen: 1.93 ppb m
RT: 5.473 min Scan# 739
Delta R.T. -0.000 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:153 Resp: 20772

Ion	Ratio	Lower	Upper
153	100		
152	56.3	16.6	76.6
154	84.1	64.3	124.3

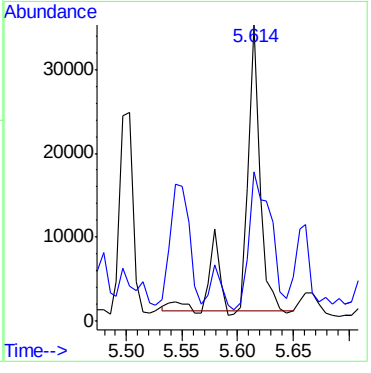


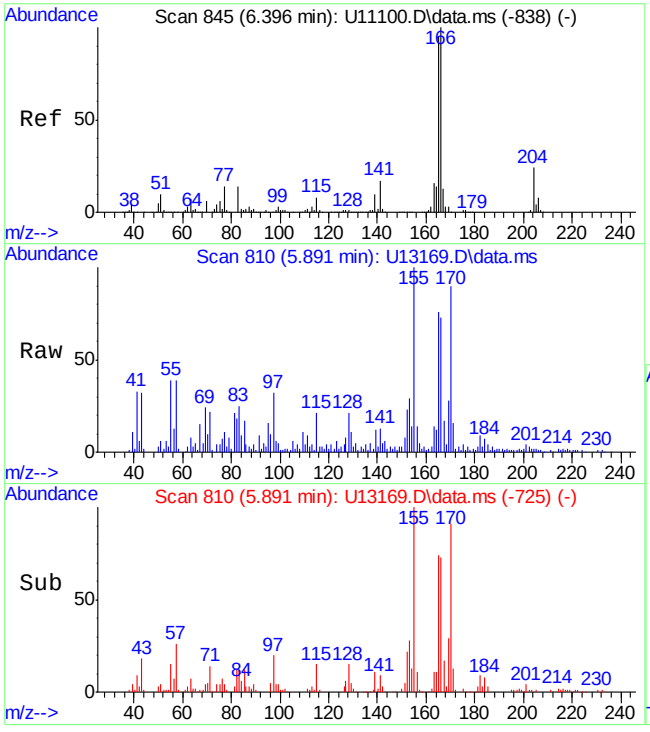


#51
Dibenzofuran
Concen: Below Cal
RT: 5.614 min Scan# 763
Delta R.T. -0.000 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:168 Resp: 30593

Ion	Ratio	Lower	Upper
168	100		
139	44.7	7.0	67.0

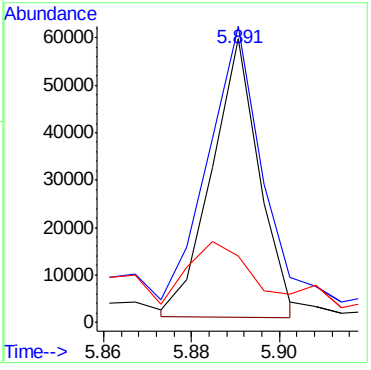


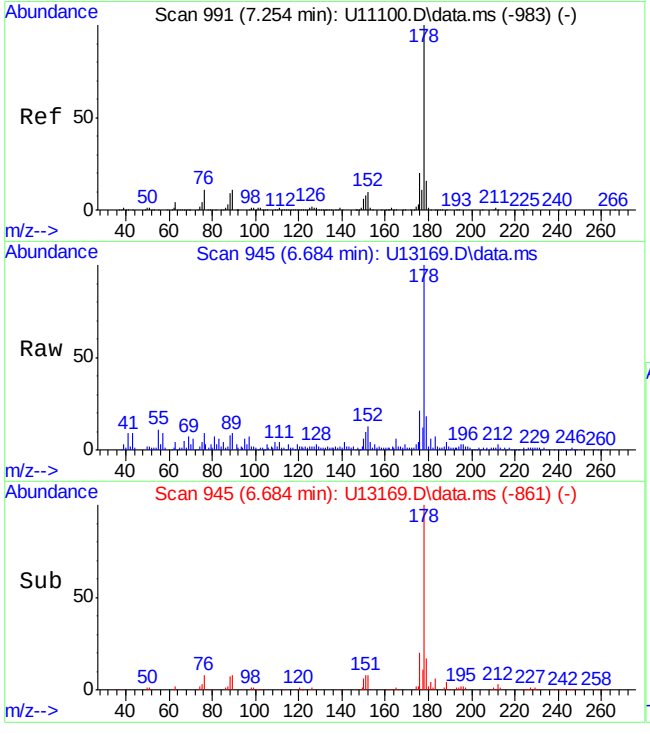


#55
Fluorene
Concen: 1.88 ppb m
RT: 5.891 min Scan# 810
Delta R.T. -0.000 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:166 Resp: 44397

Ion	Ratio	Lower	Upper
166	100		
165	104.2	63.2	123.2
167	23.2	0.0	43.3

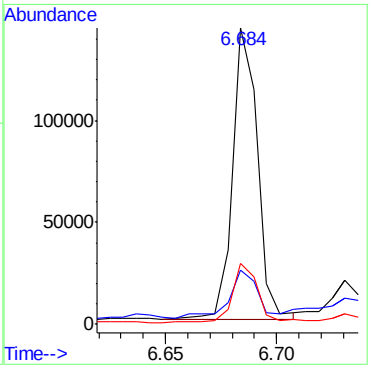


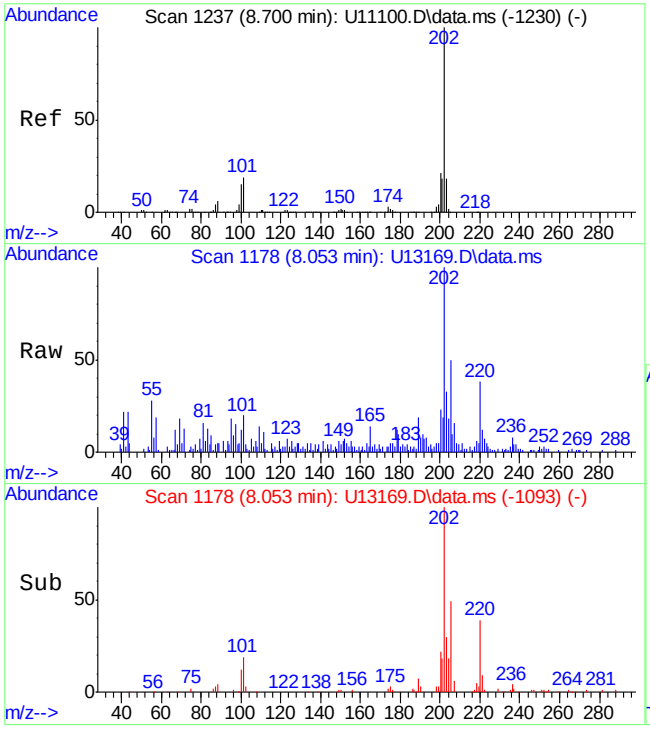


#69
Phenanthrene
Concen: 3.41 ppb
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:178 Resp: 112163

Ion	Ratio	Lower	Upper
178	100		
179	16.5	0.0	45.7
176	20.4	0.0	48.8

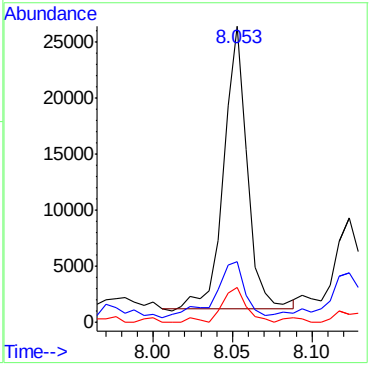




#76
Pyrene
Concen: 1.10 ppb
RT: 8.053 min Scan# 1178
Delta R.T. -0.000 min
Lab File: U13169.D
Acq: 28 Mar 2013 11:28 am

Tgt Ion:202 Resp: 25882

Ion	Ratio	Lower	Upper
202	100		
101	18.6	0.0	46.3
100	12.4	0.0	43.6



10.1.3

10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13170.D
Acq On : 28 Mar 2013 11:51 am
Operator : NatalyaS
Sample : JB31485-4
Misc : op32398,msu673,20.44,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 11:37:28 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	162764	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	530130	40.00 ppb	0.00
39) Acenaphthene-d10	5.450	164	303049	40.00 ppb	0.00
61) Phenanthrene-d10	6.672	188	535071	40.00 ppb	0.00
74) Chrysene-d12	9.404	240	650839	40.00 ppb	0.00
84) Perylene-d12	10.944	264	601223	40.00 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.177	112	356400	67.16 ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 67.16%		
7) Phenol-d5	2.847	99	402904	63.20 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 63.20%		
22) Nitrobenzene-d5	3.499	82	196166	39.13 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 78.26%		
44) 2-Fluorobiphenyl	4.927	172	384900	36.14 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 72.28%		
65) 2,4,6-Tribromophenol	6.096	330	127481	81.55 ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 81.55%		
77) Terphenyl-d14	8.276	244	527346	35.71 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 71.42%		
Target Compounds					Qvalue
19) m+p-cresols	3.335	108	1240	Below Cal	81
20) 4-methylphenol	3.335	108	1240	Below Cal	79
33) 4-Chloroaniline	4.099	127	11863	Below Cal	100
36) 2-Methylnaphthalene	4.622	142	14145	Below Cal	93
37) 1-Methylnaphthalene	4.698	142	51406	4.01 ppb	100
49) Acenaphthene	5.479	153	37549m	4.19 ppb	
55) Fluorene	5.897	166	102217m	9.10 ppb	
69) Phenanthrene	6.690	178	114217m	5.14 ppb	
76) Pyrene	8.059	202	61365	3.05 ppb	96

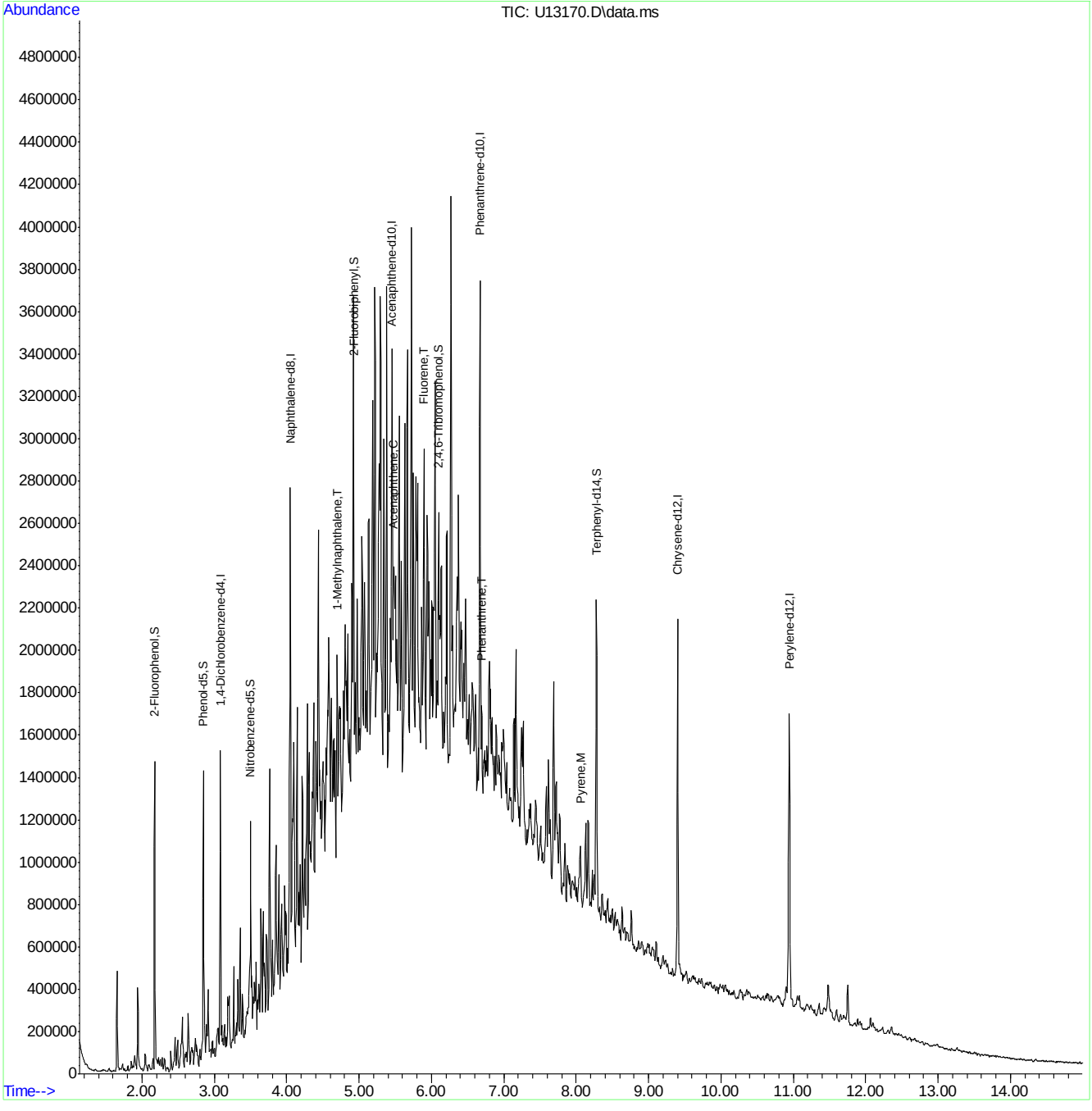
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.4 10

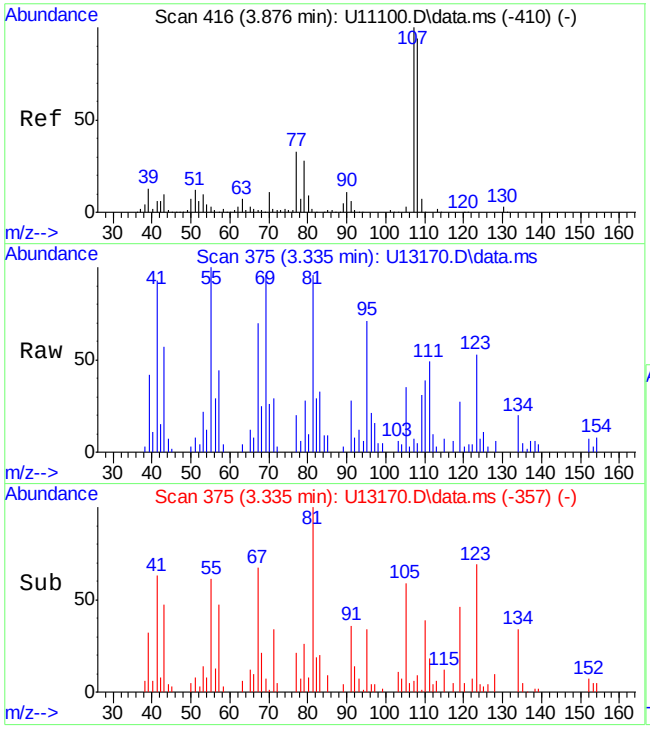
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13170.D
Acq On : 28 Mar 2013 11:51 am
Operator : NatalyaS
Sample : JB31485-4
Misc : op32398,msu673,20.44,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 29 11:37:28 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration



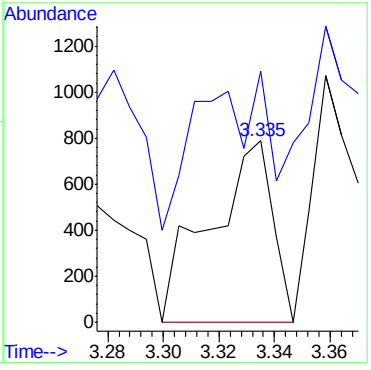
U130129_8270.m Fri Mar 29 11:37:32 2013 Page: 2

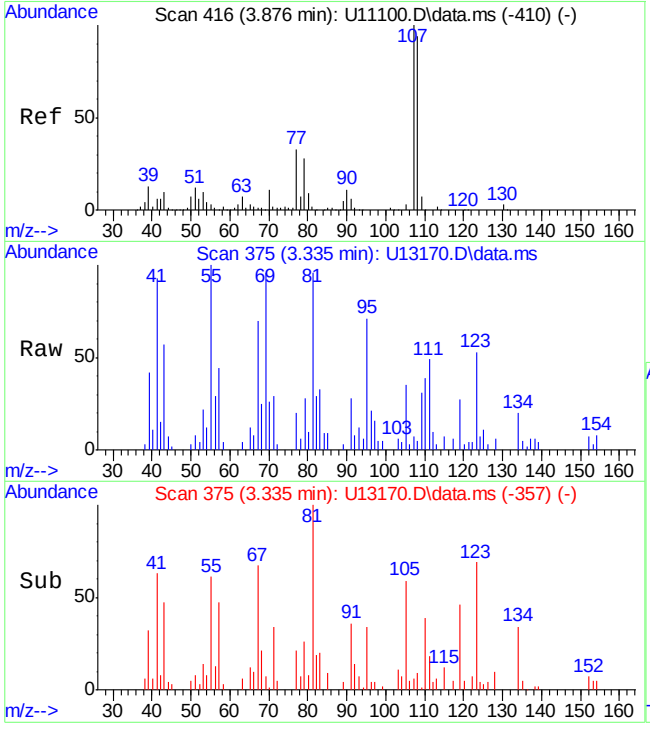


#19
m+p-cresols
Concen: Below Cal
RT: 3.335 min Scan# 375
Delta R.T. -0.094 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:108 Resp: 1240

Ion	Ratio	Lower	Upper
108	100		
107	87.6	77.8	137.8

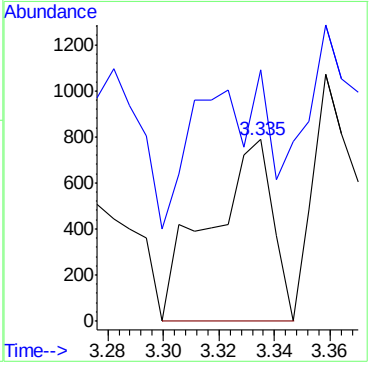


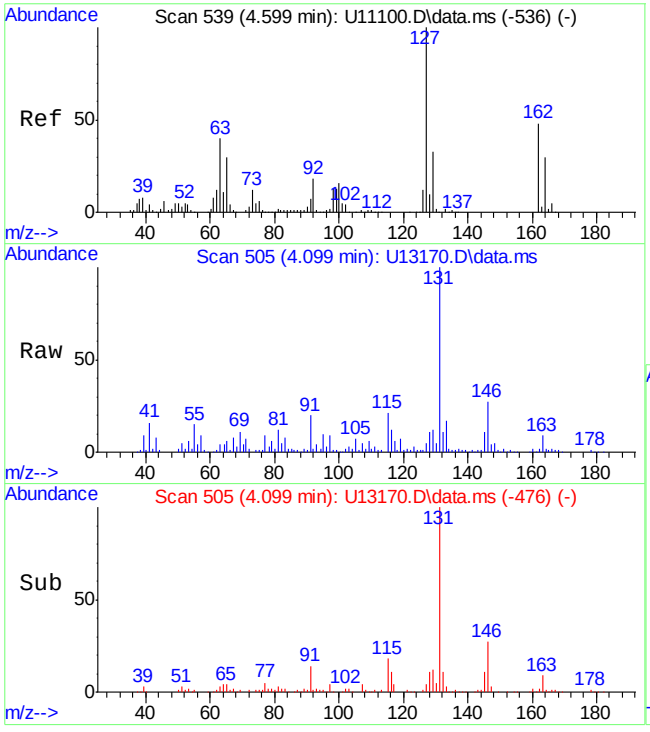


#20
4-methylphenol
Concen: Below Cal
RT: 3.335 min Scan# 375
Delta R.T. -0.094 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:108 Resp: 1240

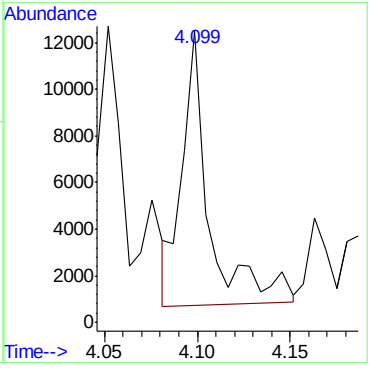
Ion	Ratio	Lower	Upper
108	100		
107	87.6	77.1	143.1

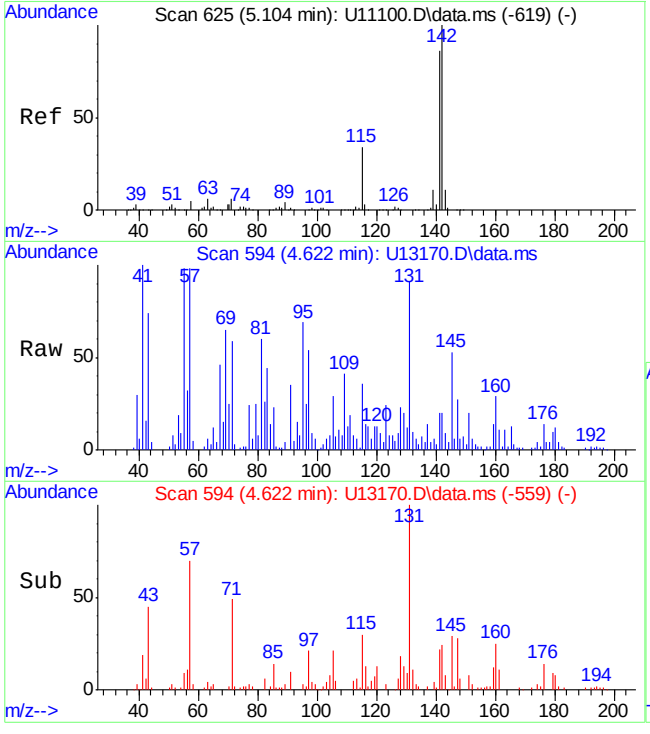




#33
4-Chloroaniline
Concen: Below Cal
RT: 4.099 min Scan# 505
Delta R.T. -0.029 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:127 Resp: 11863

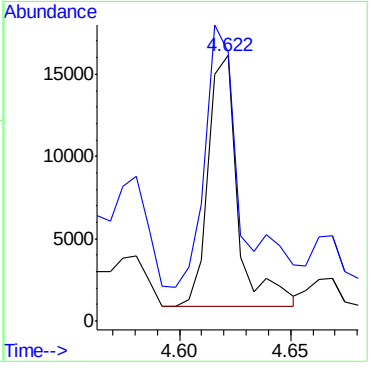




#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.622 min Scan# 594
Delta R.T. 0.006 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:142 Resp: 14145

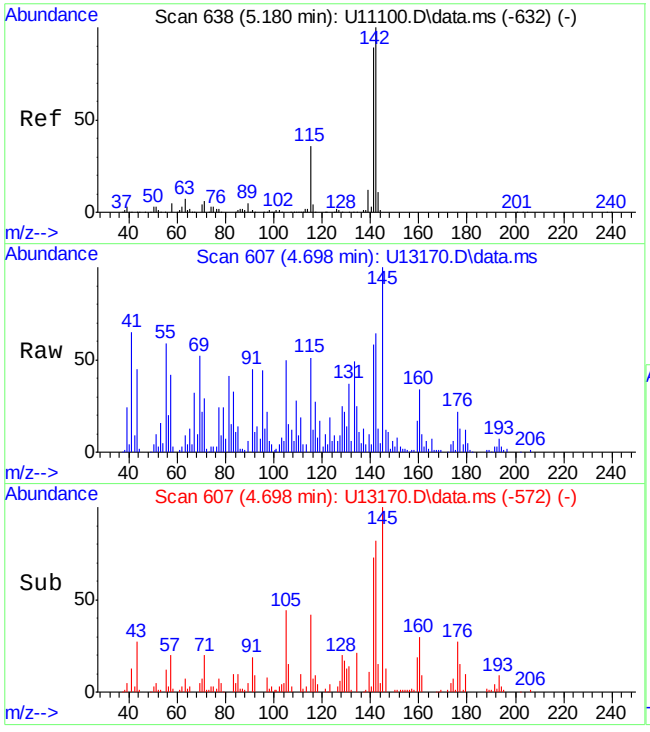
Ion	Ratio	Lower	Upper
142	100		
141	93.4	56.7	116.7



10.1.4

10

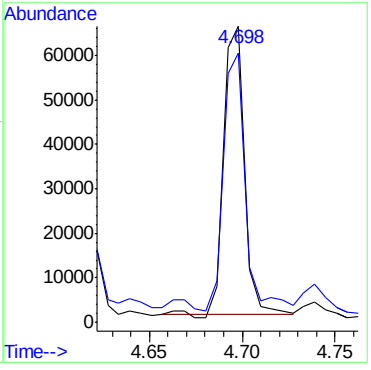
SGS ACCUTEST JB31485

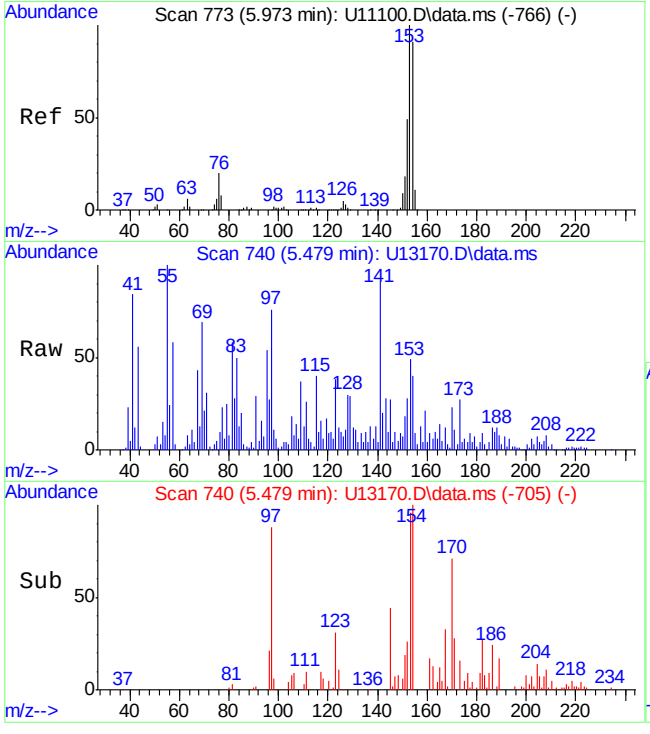


#37
1-Methylnaphthalene
Concen: 4.01 ppb
RT: 4.698 min Scan# 607
Delta R.T. 0.006 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:142 Resp: 51406

Ion	Ratio	Lower	Upper
142	100		
141	88.4	68.6	108.6

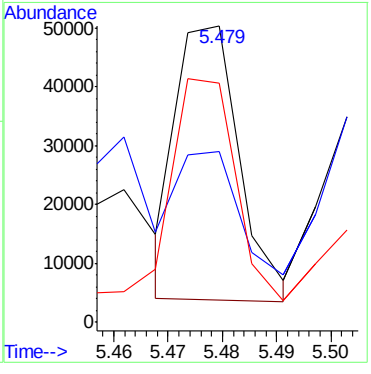




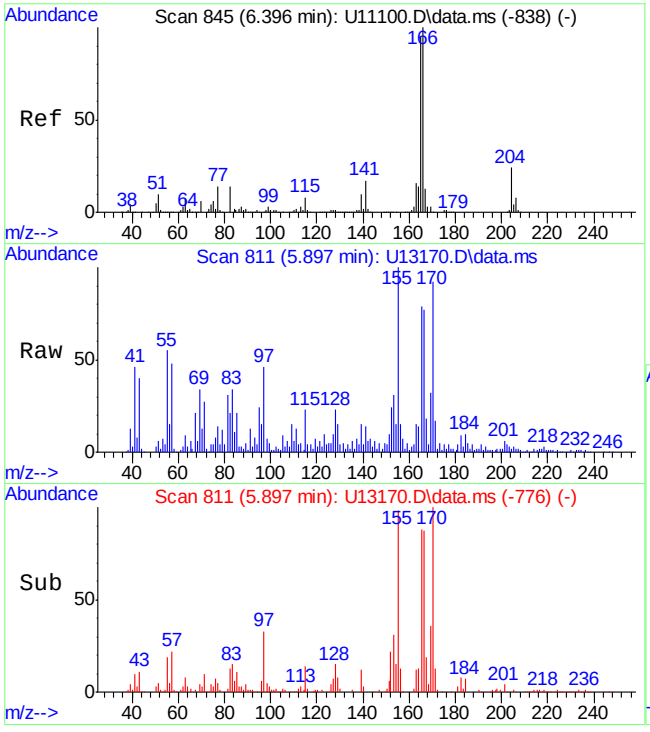
#49
Acenaphthene
Concen: 4.19 ppb m
RT: 5.479 min Scan# 740
Delta R.T. 0.006 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:153 Resp: 37549

Ion	Ratio	Lower	Upper
153	100		
152	57.5	16.6	76.6
154	80.9	64.3	124.3



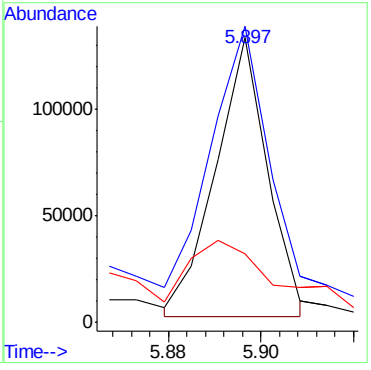
10.1.4 10

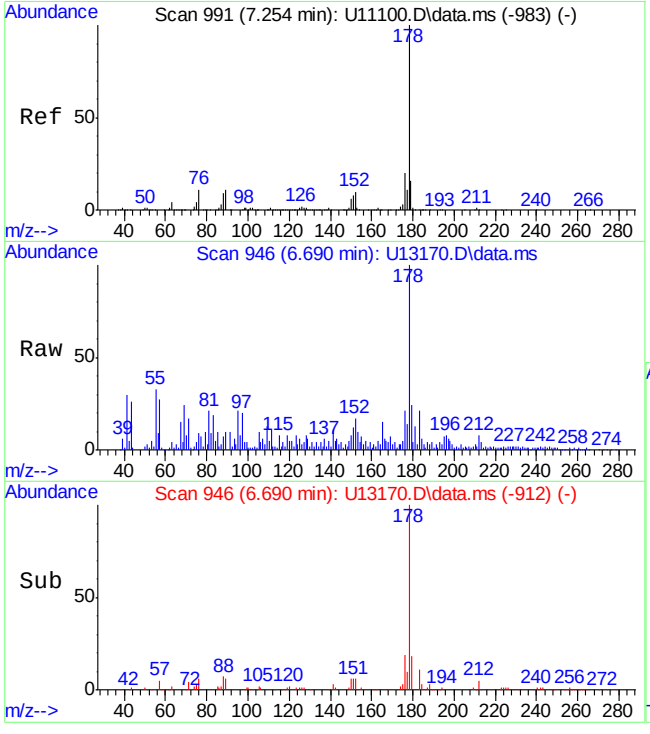


#55
Fluorene
Concen: 9.10 ppb m
RT: 5.897 min Scan# 811
Delta R.T. 0.006 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:166 Resp: 102217

Ion	Ratio	Lower	Upper
166	100		
165	103.8	63.2	123.2
167	23.9	0.0	43.3

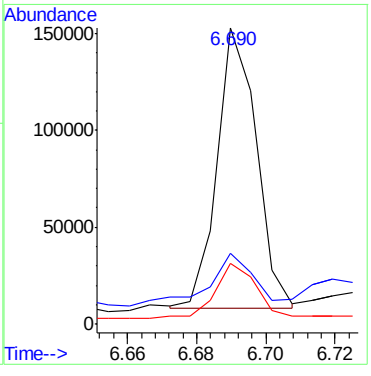




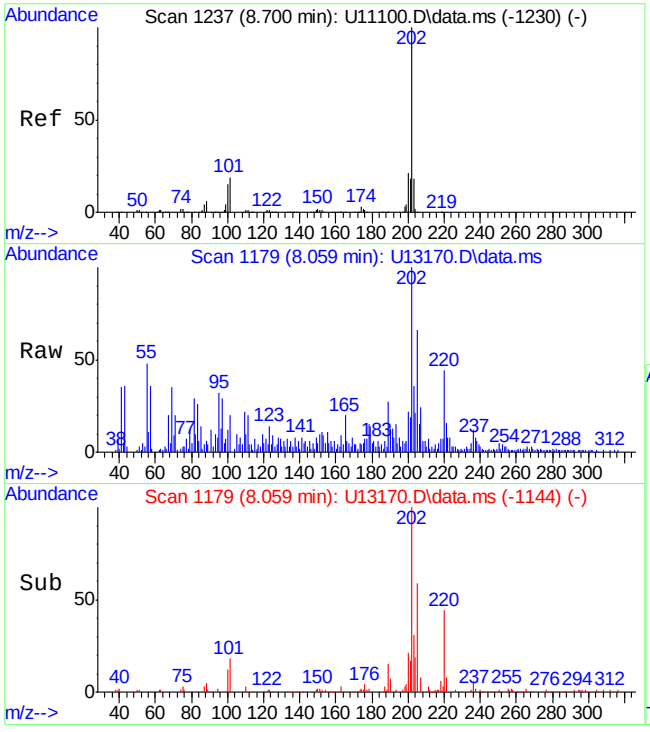
#69
Phenanthrene
Concen: 5.14 ppb m
RT: 6.690 min Scan# 946
Delta R.T. 0.000 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:178 Resp: 114217

Ion	Ratio	Lower	Upper
178	100		
179	24.0	0.0	45.7
176	20.6	0.0	48.8



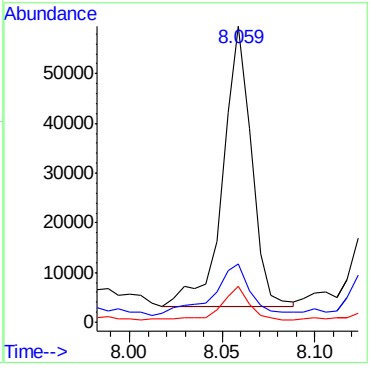
10.1.4 10



#76
Pyrene
Concen: 3.05 ppb
RT: 8.059 min Scan# 1179
Delta R.T. 0.006 min
Lab File: U13170.D
Acq: 28 Mar 2013 11:51 am

Tgt Ion:202 Resp: 61365

Ion	Ratio	Lower	Upper
202	100		
101	17.7	0.0	46.3
100	11.9	0.0	43.6



10.1.4 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13171.D
Acq On : 28 Mar 2013 12:13 pm
Operator : NatalyaS
Sample : JB31485-5
Misc : op32398,msu673,20.16,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 29 11:38:28 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	169533	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	609268	40.00	ppb	0.00
39) Acenaphthene-d10	5.444	164	360359	40.00	ppb	0.00
61) Phenanthrene-d10	6.666	188	650028	40.00	ppb	0.00
74) Chrysene-d12	9.393	240	722999	40.00	ppb	-0.01
84) Perylene-d12	10.938	264	647556	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.177	112	382921	69.28	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 69.28%			
7) Phenol-d5	2.847	99	432993	65.21	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 65.21%			
22) Nitrobenzene-d5	3.499	82	209156	36.30	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 72.60%			
44) 2-Fluorobiphenyl	4.921	172	481952	38.06	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 76.12%			
65) 2,4,6-Tribromophenol	6.091	330	150354	79.17	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 79.17%			
77) Terphenyl-d14	8.270	244	625507	38.13	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 76.26%			
Target Compounds						Qvalue
36) 2-Methylnaphthalene	4.692	142	1159	Below Cal		83
37) 1-Methylnaphthalene	4.692	142	1159	Below Cal		81
46) Acenaphthylene	5.333	152	1232	Below Cal		59
51) Dibenzofuran	5.615	168	3406	Below Cal		97
55) Fluorene	5.891	166	5176	Below Cal		88
63) n-Nitrosodiphenylamine	6.002	169	3699	Below Cal	#	46
69) Phenanthrene	6.684	178	12684	Below Cal		97
70) Anthracene	6.731	178	4285	Below Cal		84
71) Carbazole	6.890	167	2374	Below Cal		64
73) Fluoranthene	7.824	202	16209	0.80	ppb	96
76) Pyrene	8.053	202	15865	0.71	ppb	93
83) bis(2-Ethylhexyl)phtha...	9.551	149	126801	9.22	ppb	97

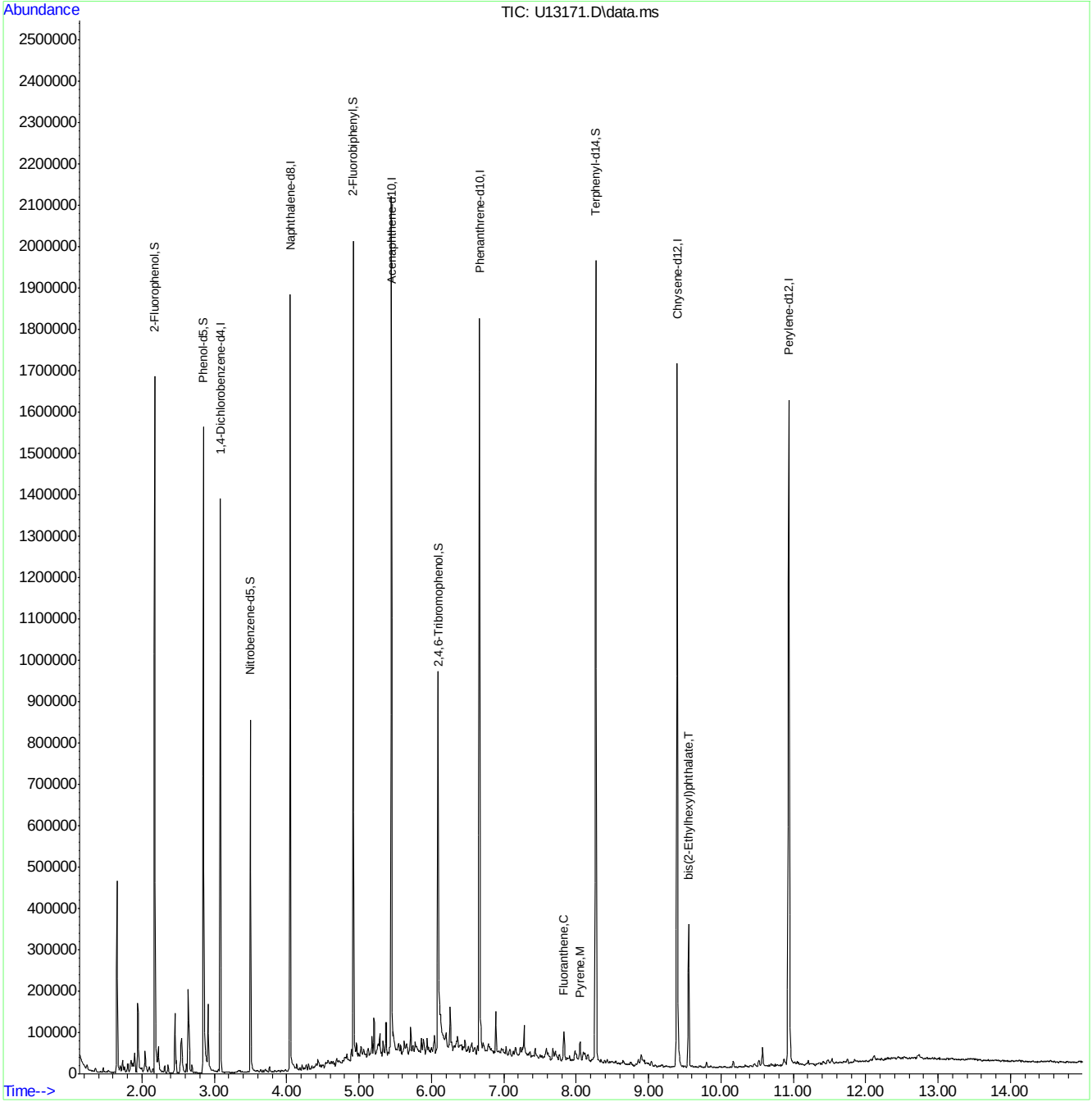
(#) = qualifier out of range (m) = manual integration (+) = signals summed

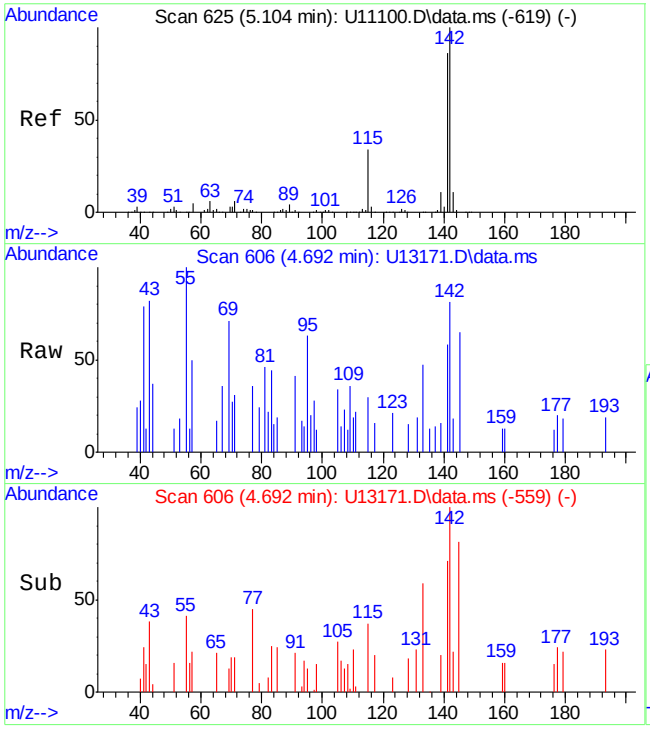
SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13171.D
Acq On : 28 Mar 2013 12:13 pm
Operator : NatalyaS
Sample : JB31485-5
Misc : op32398,msu673,20.16,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 29 11:38:28 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

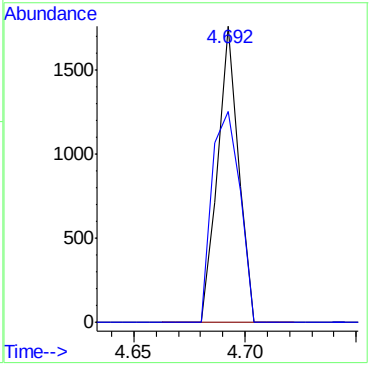


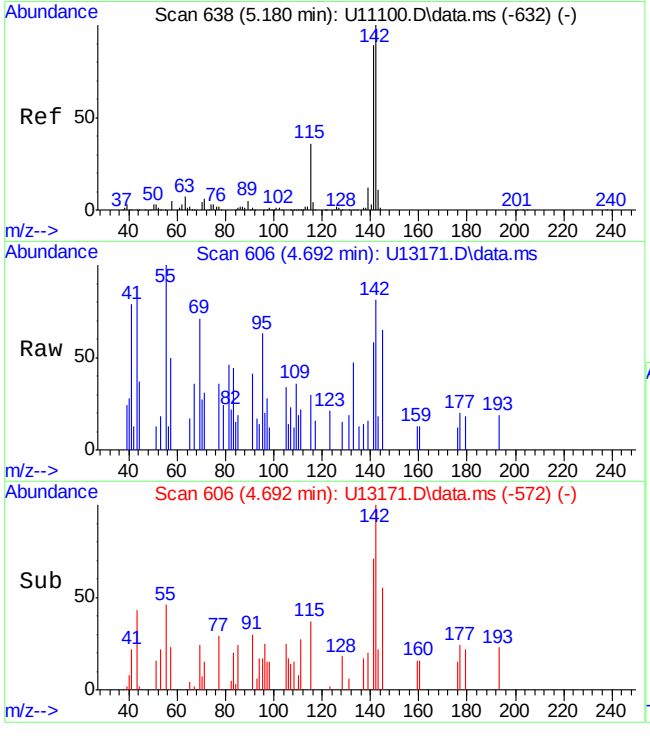


#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.077 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:142 Resp: 1159

Ion	Ratio	Lower	Upper
142	100		
141	71.3	56.7	116.7

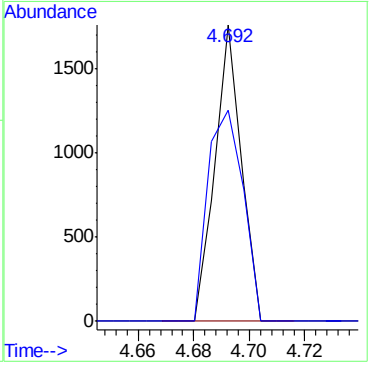




#37
1-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

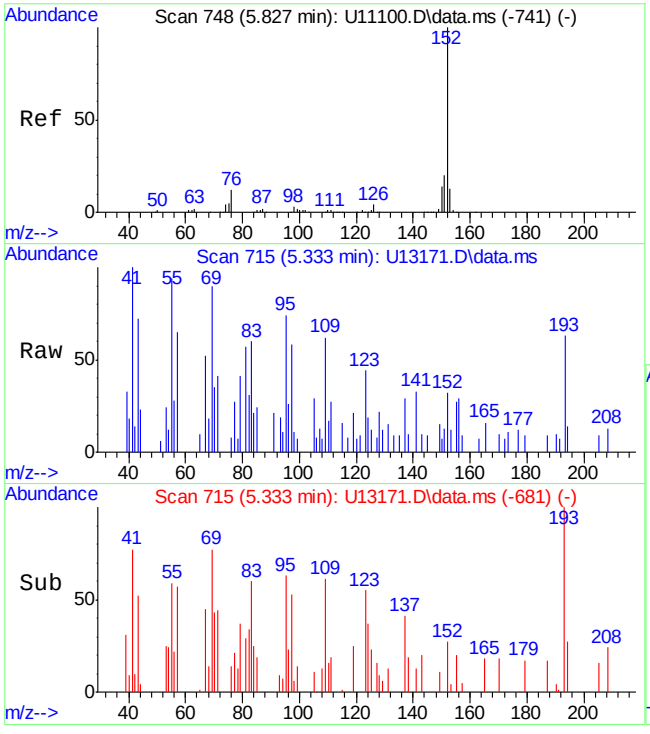
Tgt Ion:142 Resp: 1159

Ion	Ratio	Lower	Upper
142	100		
141	71.3	68.6	108.6



10.1.5

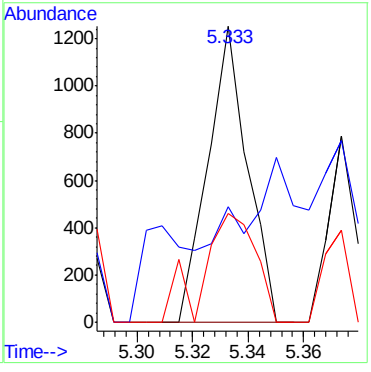
10

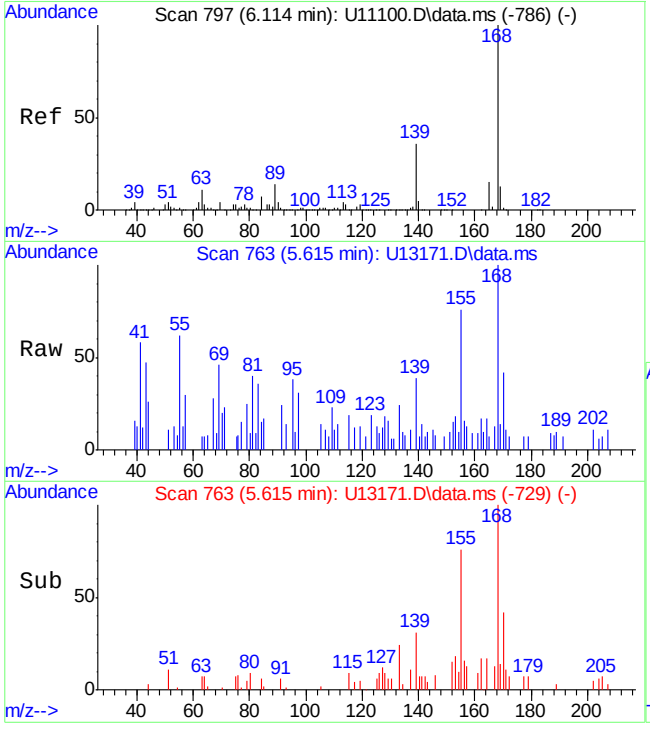


#46
Acenaphthylene
Concen: Below Cal
RT: 5.333 min Scan# 715
Delta R.T. 0.000 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:152 Resp: 1232

Ion	Ratio	Lower	Upper
152	100		
151	6.5	0.0	49.7
153	36.9	0.0	43.1

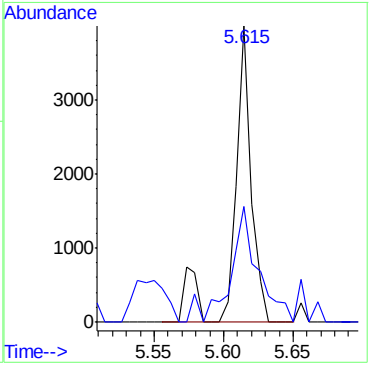




#51
Dibenzofuran
Concen: Below Cal
RT: 5.615 min Scan# 763
Delta R.T. 0.000 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:168 Resp: 3406

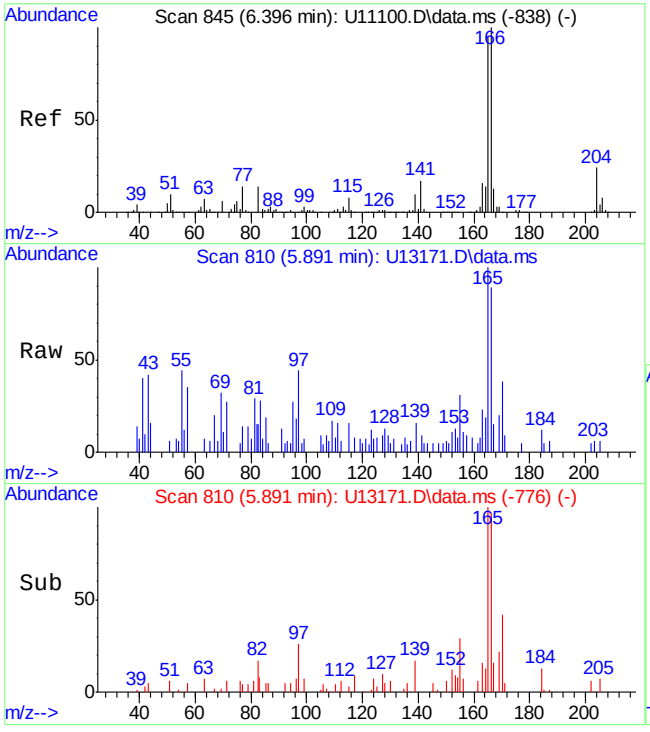
Ion	Ratio	Lower	Upper
168	100		
139	38.9	7.0	67.0



10.1.5

10

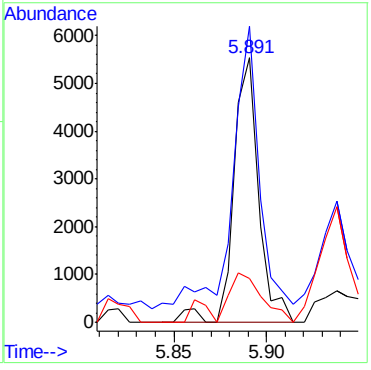
SGS ACCUTEST JB31485

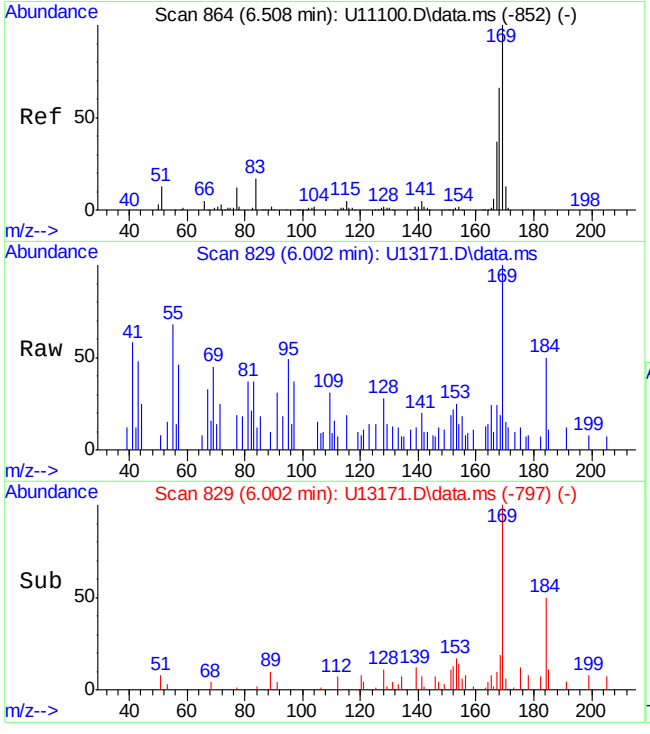


#55
Fluorene
Concen: Below Cal
RT: 5.891 min Scan# 810
Delta R.T. 0.000 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:166 Resp: 5176

Ion	Ratio	Lower	Upper
166	100		
165	105.0	63.2	123.2
167	16.6	0.0	43.3

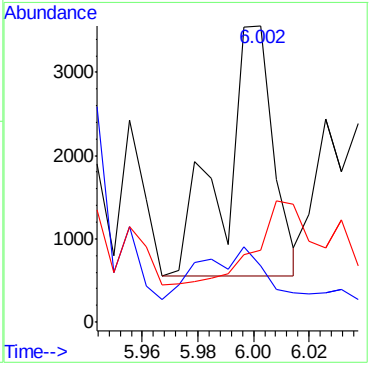




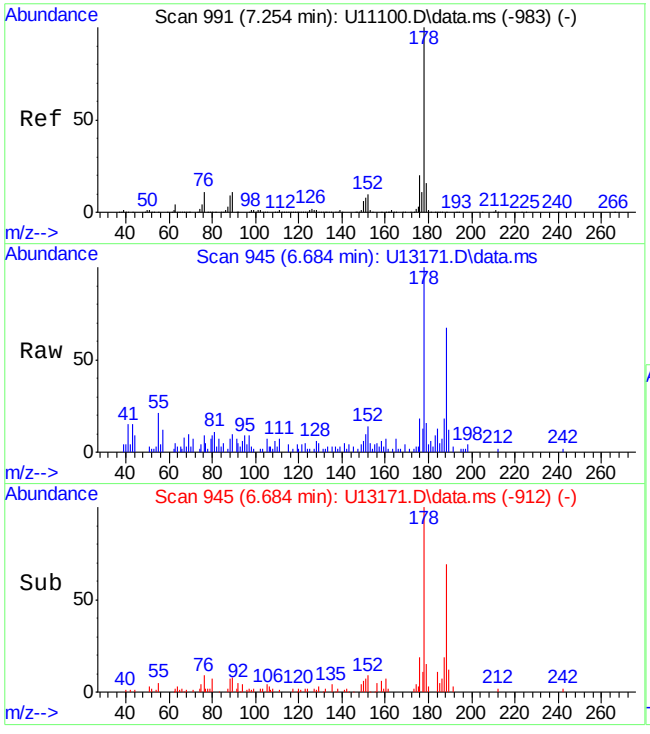
#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.002 min Scan# 829
Delta R.T. -0.012 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:169 Resp: 3699

Ion	Ratio	Lower	Upper
169	100		
168	13.6	33.9	93.9#
167	13.8	4.0	64.0



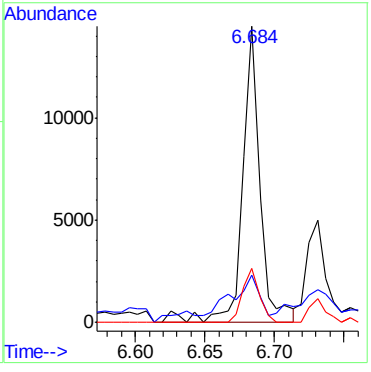
SGS ACCUTEST JB31485

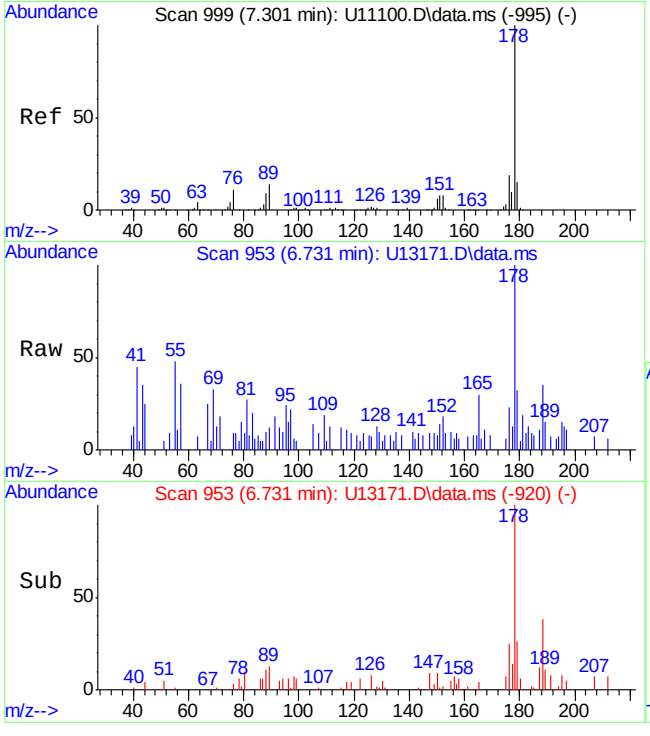


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:178 Resp: 12684

Ion	Ratio	Lower	Upper
178	100		
179	13.6	0.0	45.7
176	18.1	0.0	48.8

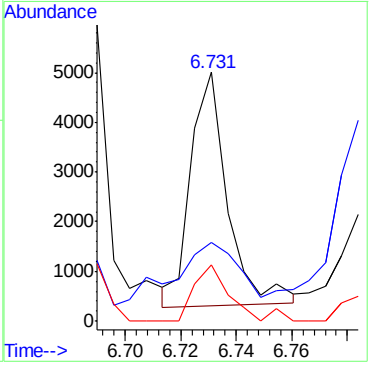


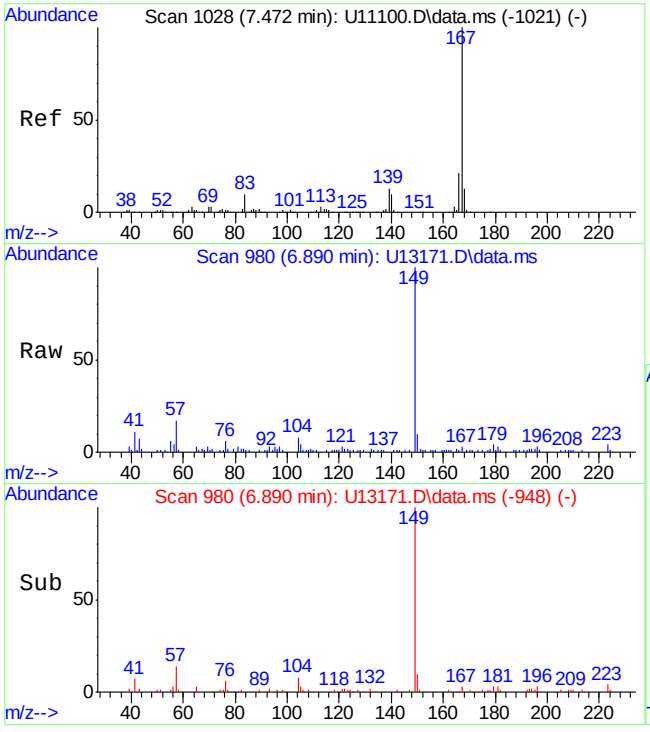


#70
Anthracene
Concen: Below Cal
RT: 6.731 min Scan# 953
Delta R.T. -0.006 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:178 Resp: 4285

Ion	Ratio	Lower	Upper
178	100		
179	21.7	0.0	45.1
176	25.4	0.0	48.3

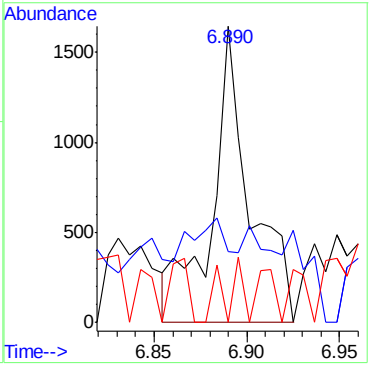


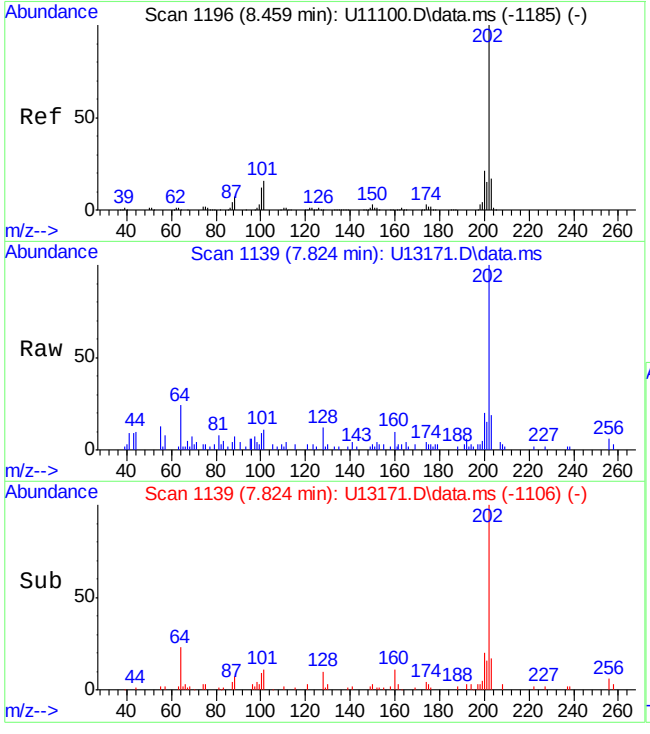


#71
Carbazole
Concen: Below Cal
RT: 6.890 min Scan# 980
Delta R.T. -0.012 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:167 Resp: 2374

Ion	Ratio	Lower	Upper
167	100		
166	2.8	0.0	50.9
139	0.0	0.0	43.1

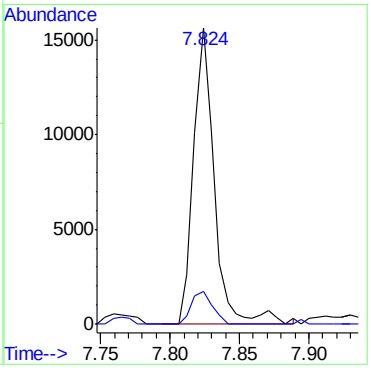


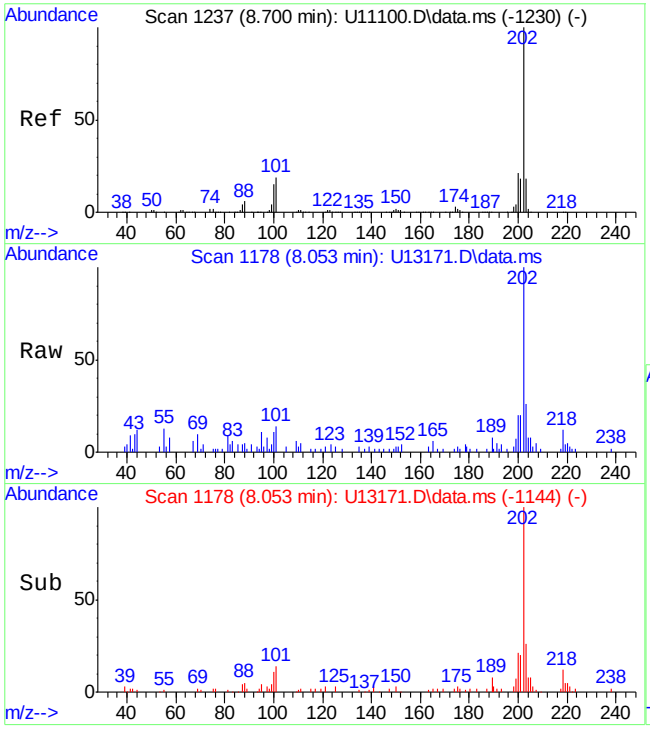


#73
Fluoranthene
Concen: 0.80 ppb
RT: 7.824 min Scan# 1139
Delta R.T. -0.006 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:202 Resp: 16209

Ion	Ratio	Lower	Upper
202	100		
101	11.1	0.0	42.6

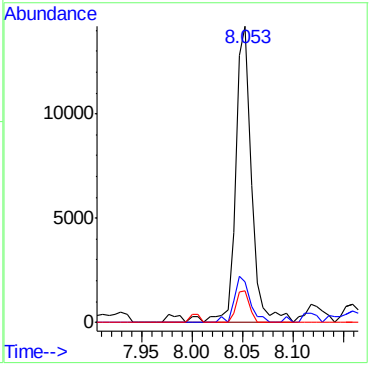


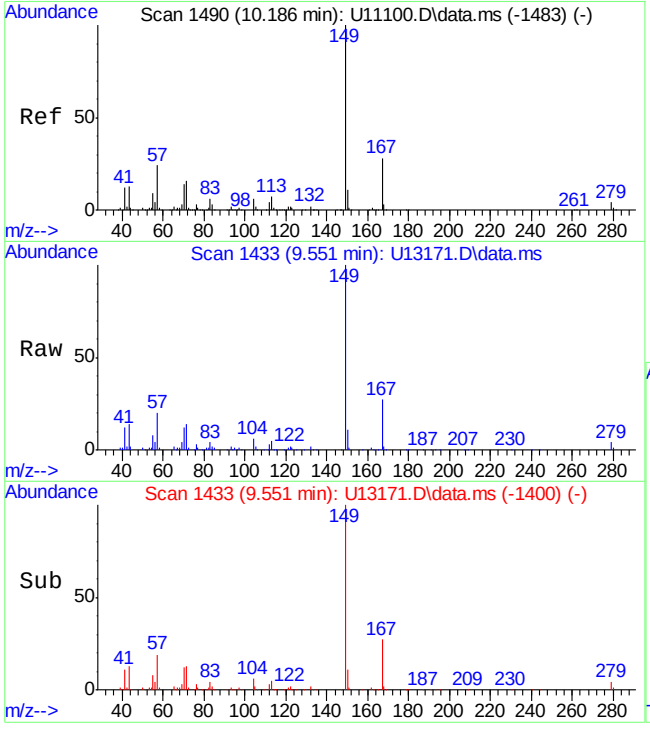


#76
Pyrene
Concen: 0.71 ppb
RT: 8.053 min Scan# 1178
Delta R.T. 0.000 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:202 Resp: 15865

Ion	Ratio	Lower	Upper
202	100		
101	13.6	0.0	46.3
100	10.7	0.0	43.6

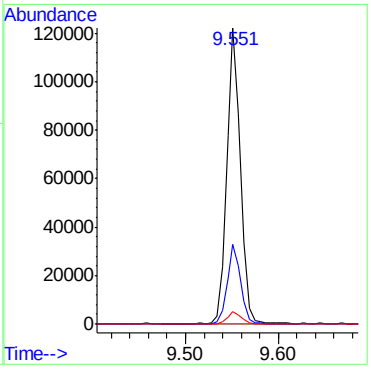




#83
bis(2-Ethylhexyl)phthalate
Concen: 9.22 ppb
RT: 9.551 min Scan# 1433
Delta R.T. -0.006 min
Lab File: U13171.D
Acq: 28 Mar 2013 12:13 pm

Tgt Ion:149 Resp: 126801

Ion	Ratio	Lower	Upper
149	100		
167	26.9	0.0	58.5
279	4.3	0.0	35.5



Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13172.D
Acq On : 28 Mar 2013 12:36 pm
Operator : NatalyaS
Sample : JB31485-6
Misc : op32398,msu673,20.41,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 29 11:39:32 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	164555	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	582651	40.00	ppb	0.00
39) Acenaphthene-d10	5.450	164	326434	40.00	ppb	0.00
61) Phenanthrene-d10	6.666	188	582190	40.00	ppb	0.00
74) Chrysene-d12	9.398	240	669159	40.00	ppb	0.00
84) Perylene-d12	10.938	264	637206	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.177	112	344425	64.20	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 64.20%			
7) Phenol-d5	2.847	99	389591	60.45	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 60.45%			
22) Nitrobenzene-d5	3.499	82	188951	34.29	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 68.58%			
44) 2-Fluorobiphenyl	4.921	172	402494	35.09	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 70.18%			
65) 2,4,6-Tribromophenol	6.091	330	123234	72.45	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 72.45%			
77) Terphenyl-d14	8.270	244	519922	34.24	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 68.48%			
Target Compounds						Qvalue
31) Naphthalene	4.052	128	3787	Below Cal	#	1
33) 4-Chloroaniline	4.093	127	4147	Below Cal		100
36) 2-Methylnaphthalene	4.610	142	1439	Below Cal	#	42
37) 1-Methylnaphthalene	4.692	142	2122	Below Cal		83
46) Acenaphthylene	5.338	152	6058	Below Cal	#	1
51) Dibenzofuran	5.615	168	18609	Below Cal		99
55) Fluorene	5.891	166	35551m	1.44	ppb	
69) Phenanthrene	6.731	178	24153	Below Cal		71
70) Anthracene	6.731	178	24153	Below Cal		69
76) Pyrene	8.053	202	28102m	1.36	ppb	

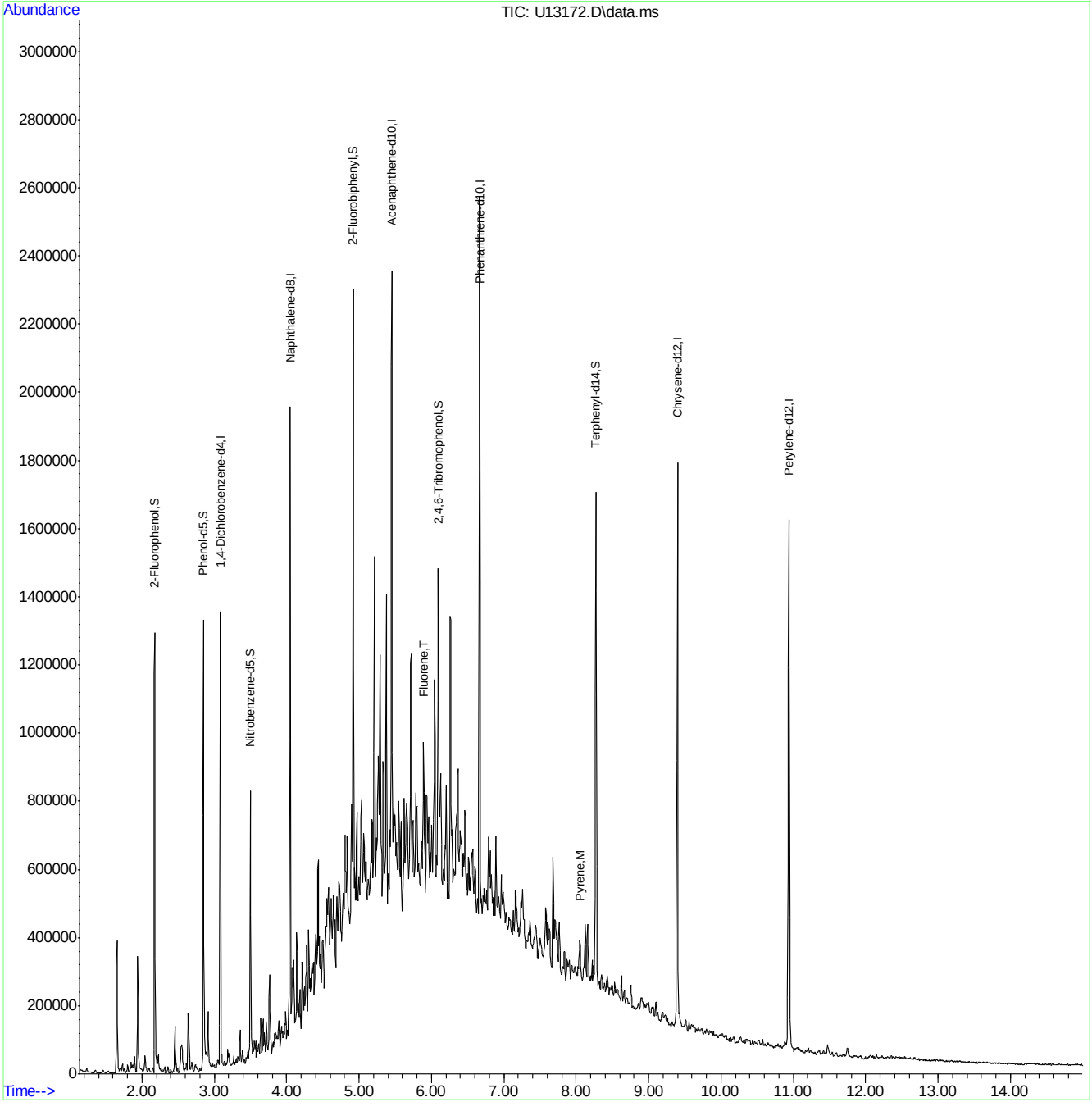
(#) = qualifier out of range (m) = manual integration (+) = signals summed

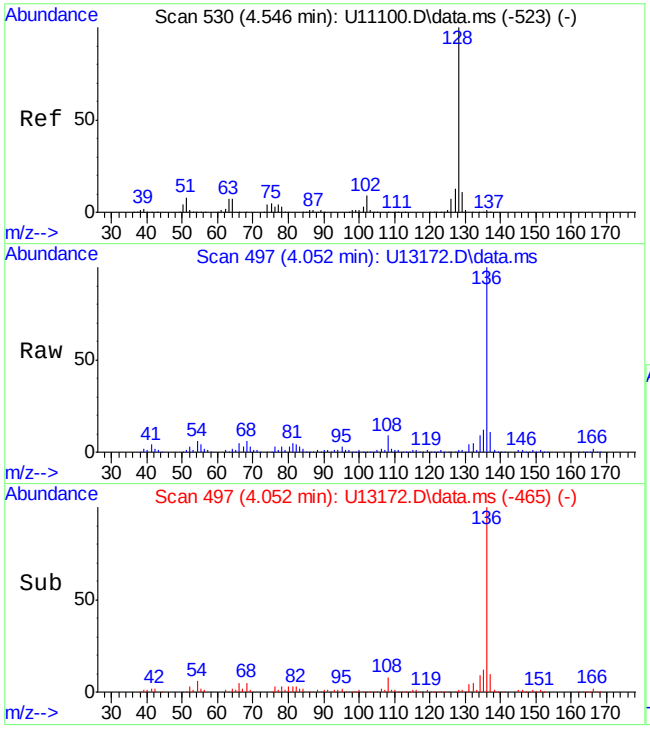
10.1.6 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13172.D
Acq On : 28 Mar 2013 12:36 pm
Operator : NatalyaS
Sample : JB31485-6
Misc : op32398,msu673,20.41,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 29 11:39:32 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

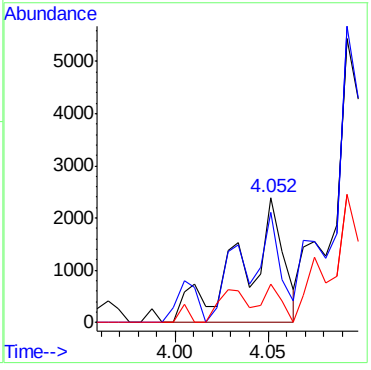


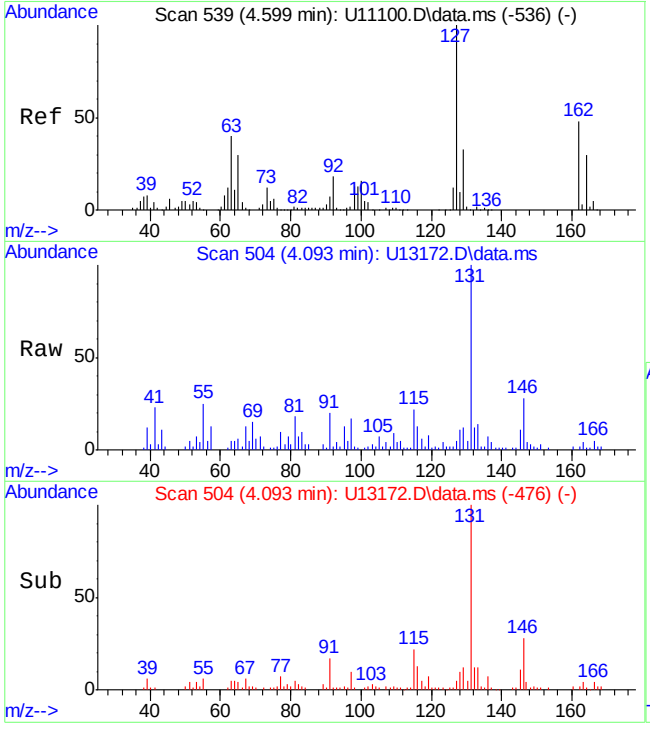


#31
Naphthalene
Concen: Below Cal
RT: 4.052 min Scan# 497
Delta R.T. -0.012 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:128 Resp: 3787

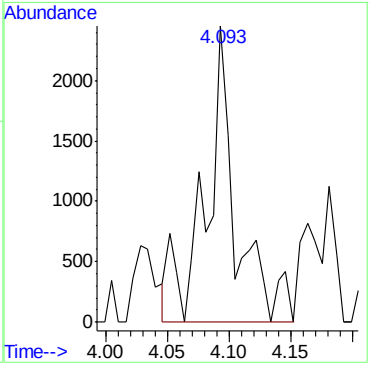
Ion	Ratio	Lower	Upper
128	100		
129	88.2	0.0	41.2#
127	30.9	0.0	43.6

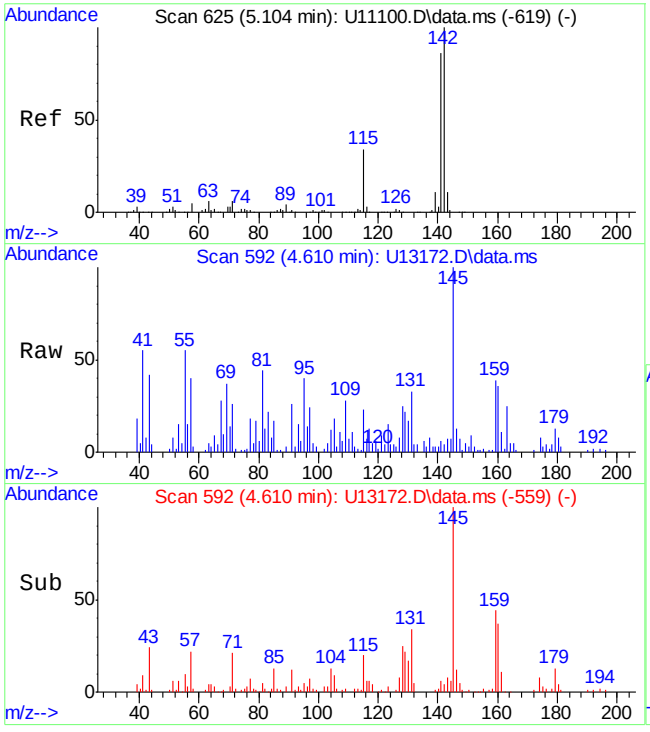




#33
4-Chloroaniline
Concen: Below Cal
RT: 4.093 min Scan# 504
Delta R.T. -0.035 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:127 Resp: 4147

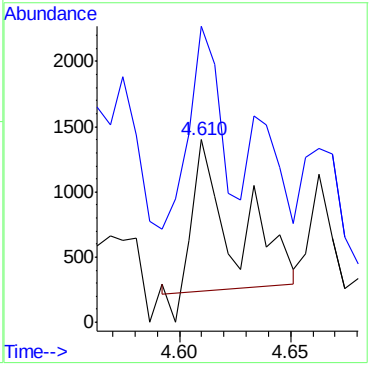


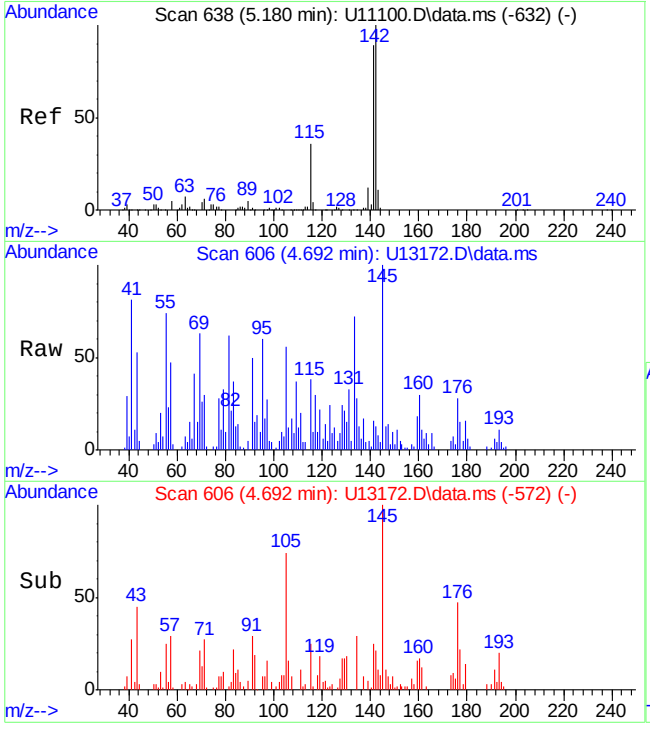


#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.610 min Scan# 592
Delta R.T. -0.006 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:142 Resp: 1439

Ion	Ratio	Lower	Upper
142	100		
141	140.4	56.7	116.7#

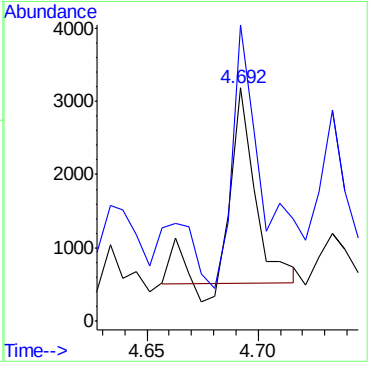




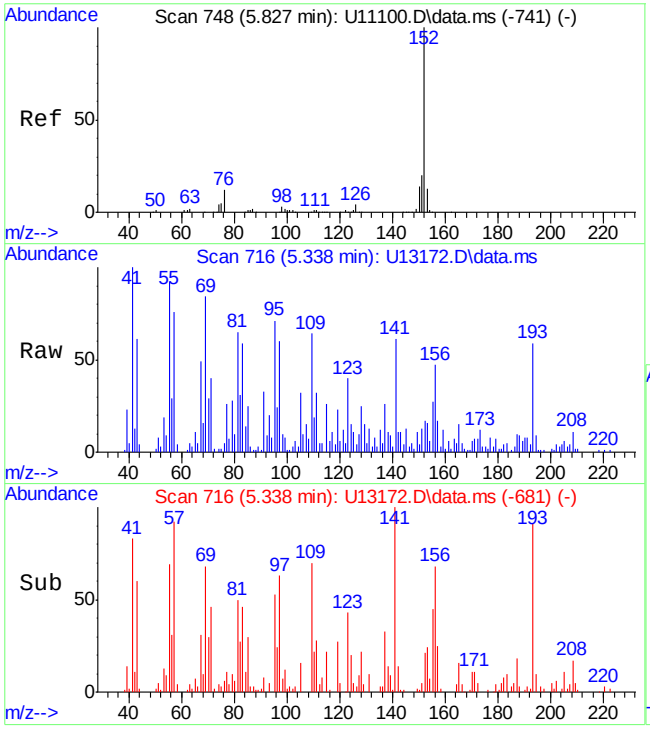
#37
1-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:142 Resp: 2122

Ion	Ratio	Lower	Upper
142	100		
141	104.6	68.6	108.6



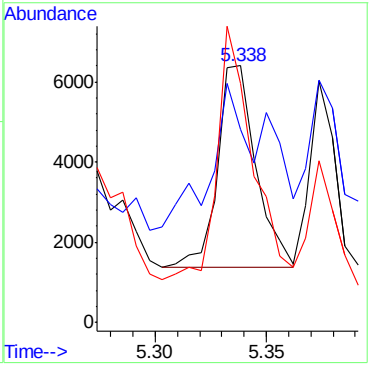
SGS ACCUTEST JB31485

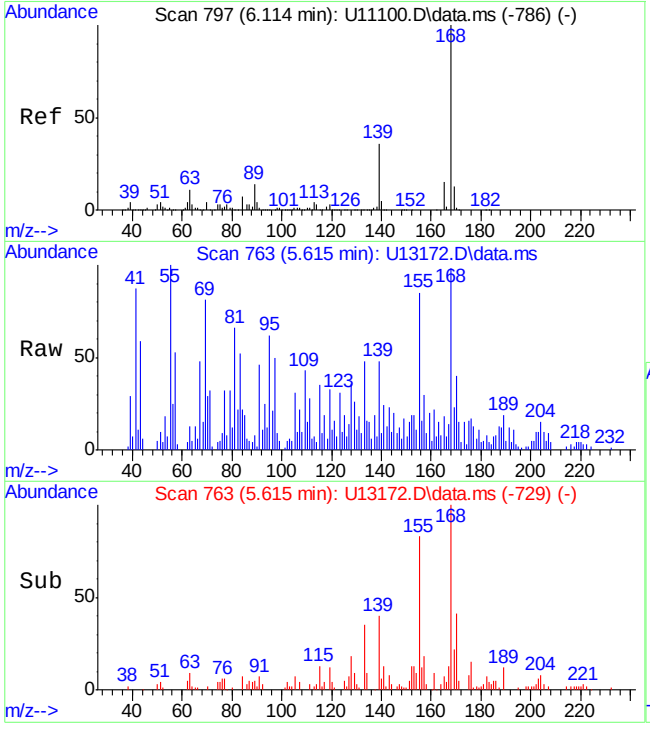


#46
Acenaphthylene
Concen: Below Cal
RT: 5.338 min Scan# 716
Delta R.T. 0.006 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:152 Resp: 6058

Ion	Ratio	Lower	Upper
152	100		
151	48.1	0.0	49.7
153	97.5	0.0	43.1#

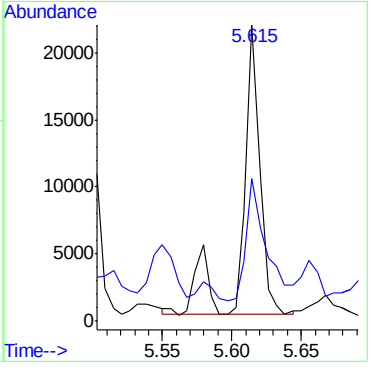


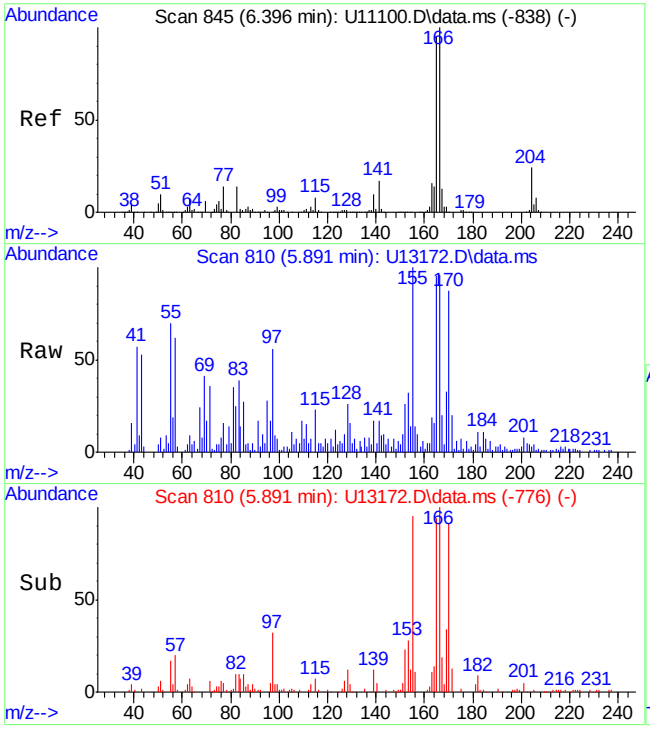


#51
Dibenzofuran
Concen: Below Cal
RT: 5.615 min Scan# 763
Delta R.T. 0.000 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:168 Resp: 18609

Ion	Ratio	Lower	Upper
168	100		
139	37.4	7.0	67.0

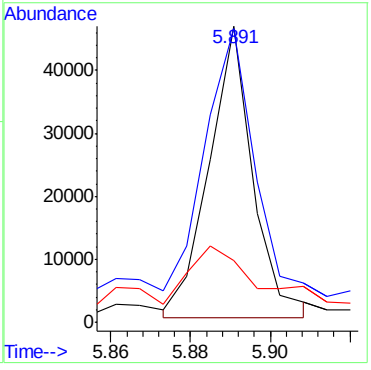


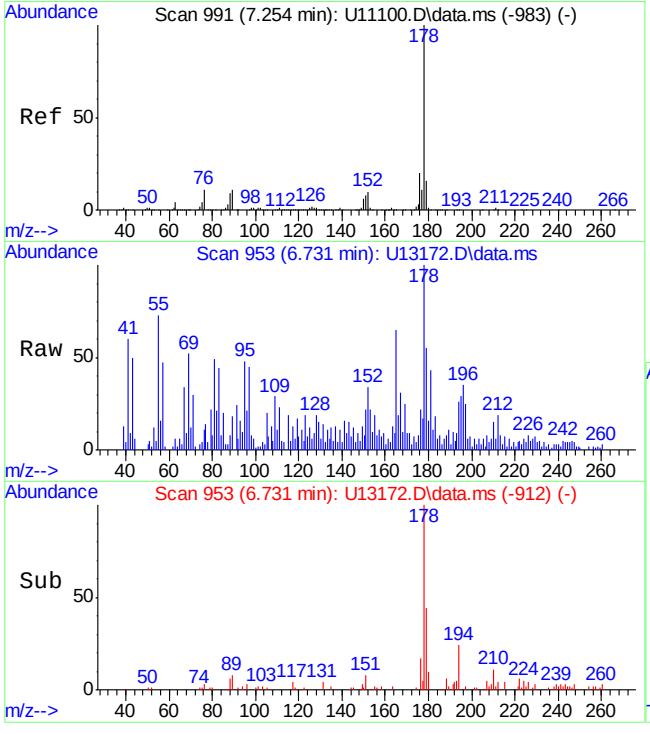


#55
Fluorene
Concen: 1.44 ppb m
RT: 5.891 min Scan# 810
Delta R.T. 0.000 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:166 Resp: 35551

Ion	Ratio	Lower	Upper
166	100		
165	99.1	63.2	123.2
167	20.7	0.0	43.3

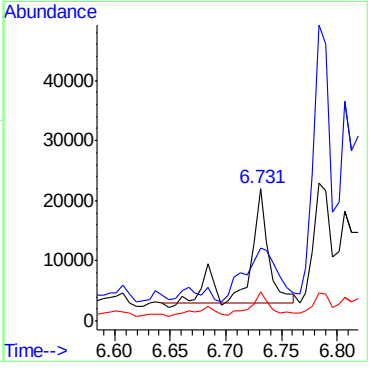




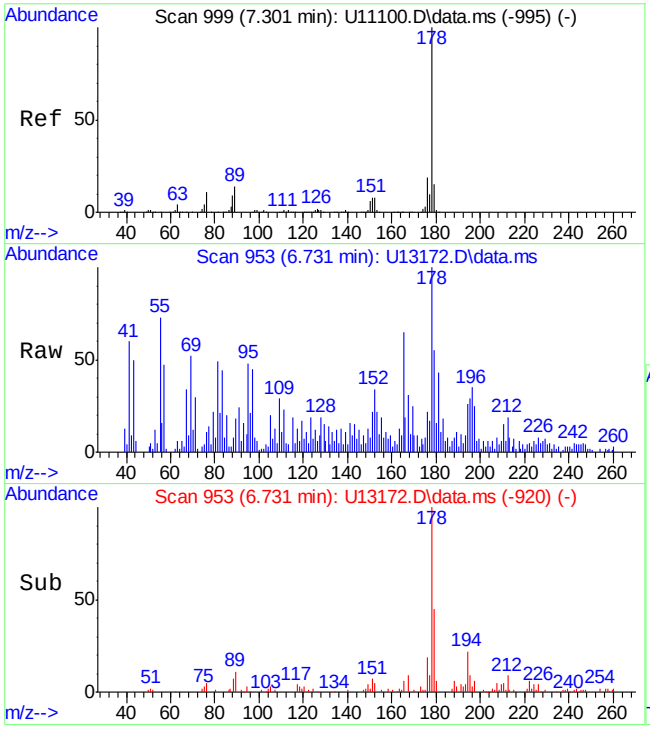
#69
Phenanthrene
Concen: Below Cal
RT: 6.731 min Scan# 953
Delta R.T. 0.041 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:178 Resp: 24153

Ion	Ratio	Lower	Upper
178	100		
179	41.4	0.0	45.7
176	19.9	0.0	48.8



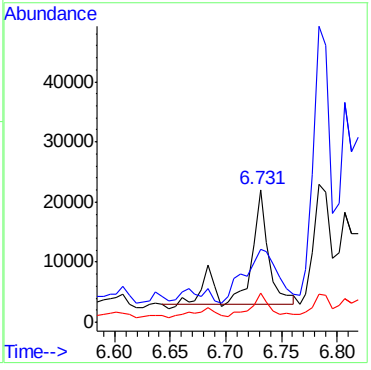
SGS ACCUTEST JB31485

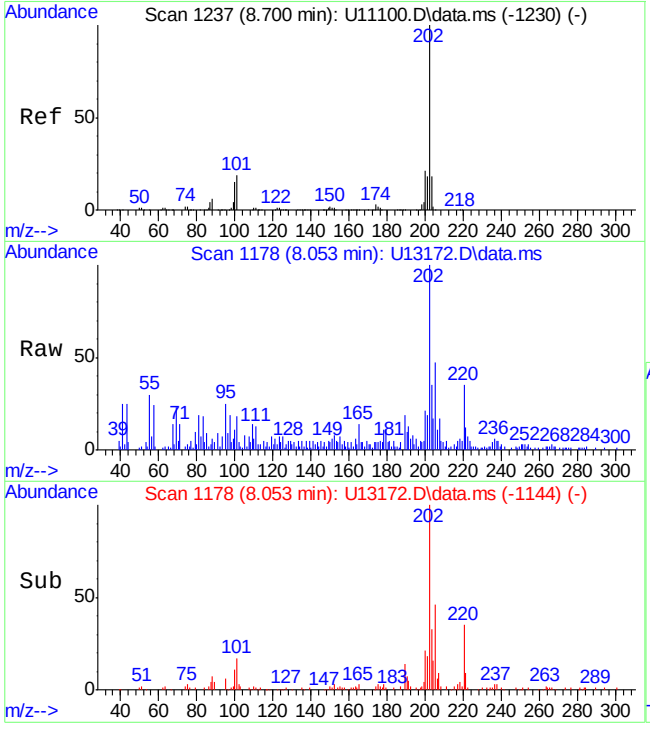


#70
Anthracene
Concen: Below Cal
RT: 6.731 min Scan# 953
Delta R.T. -0.006 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:178 Resp: 24153

Ion	Ratio	Lower	Upper
178	100		
179	41.4	0.0	45.1
176	19.9	0.0	48.3

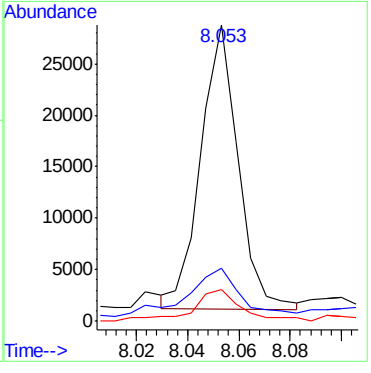




#76
Pyrene
Concen: 1.36 ppb m
RT: 8.053 min Scan# 1178
Delta R.T. 0.000 min
Lab File: U13172.D
Acq: 28 Mar 2013 12:36 pm

Tgt Ion:202 Resp: 28102

Ion	Ratio	Lower	Upper
202	100		
101	17.7	0.0	46.3
100	10.6	0.0	43.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13173.D
Acq On : 28 Mar 2013 12:58 pm
Operator : NatalyaS
Sample : JB31485-7
Misc : op32398,msu673,20.29,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 29 11:39:57 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	166276	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	601322	40.00	ppb	0.00
39) Acenaphthene-d10	5.444	164	355914	40.00	ppb	0.00
61) Phenanthrene-d10	6.666	188	635047	40.00	ppb	0.00
74) Chrysene-d12	9.398	240	691819	40.00	ppb	0.00
84) Perylene-d12	10.938	264	638195	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.177	112	352339	64.99	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 64.99%			
7) Phenol-d5	2.847	99	401870	61.71	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 61.71%			
22) Nitrobenzene-d5	3.499	82	195160	34.32	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 68.64%			
44) 2-Fluorobiphenyl	4.921	172	452594	36.19	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 72.38%			
65) 2,4,6-Tribromophenol	6.090	330	142066	76.57	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 76.57%			
77) Terphenyl-d14	8.270	244	615949	39.24	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 78.48%			
Target Compounds						Qvalue
46) Acenaphthylene	5.333	152	1861	Below Cal	#	6
51) Dibenzofuran	5.615	168	4273	Below Cal		96
55) Fluorene	5.891	166	8495	Below Cal		96
63) n-Nitrosodiphenylamine	5.996	169	8058	Below Cal	#	44
69) Phenanthrene	6.684	178	1882	Below Cal		74
70) Anthracene	6.731	178	2417	Below Cal		66
71) Carbazole	6.907	167	2643	Below Cal		75

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

10.1.7

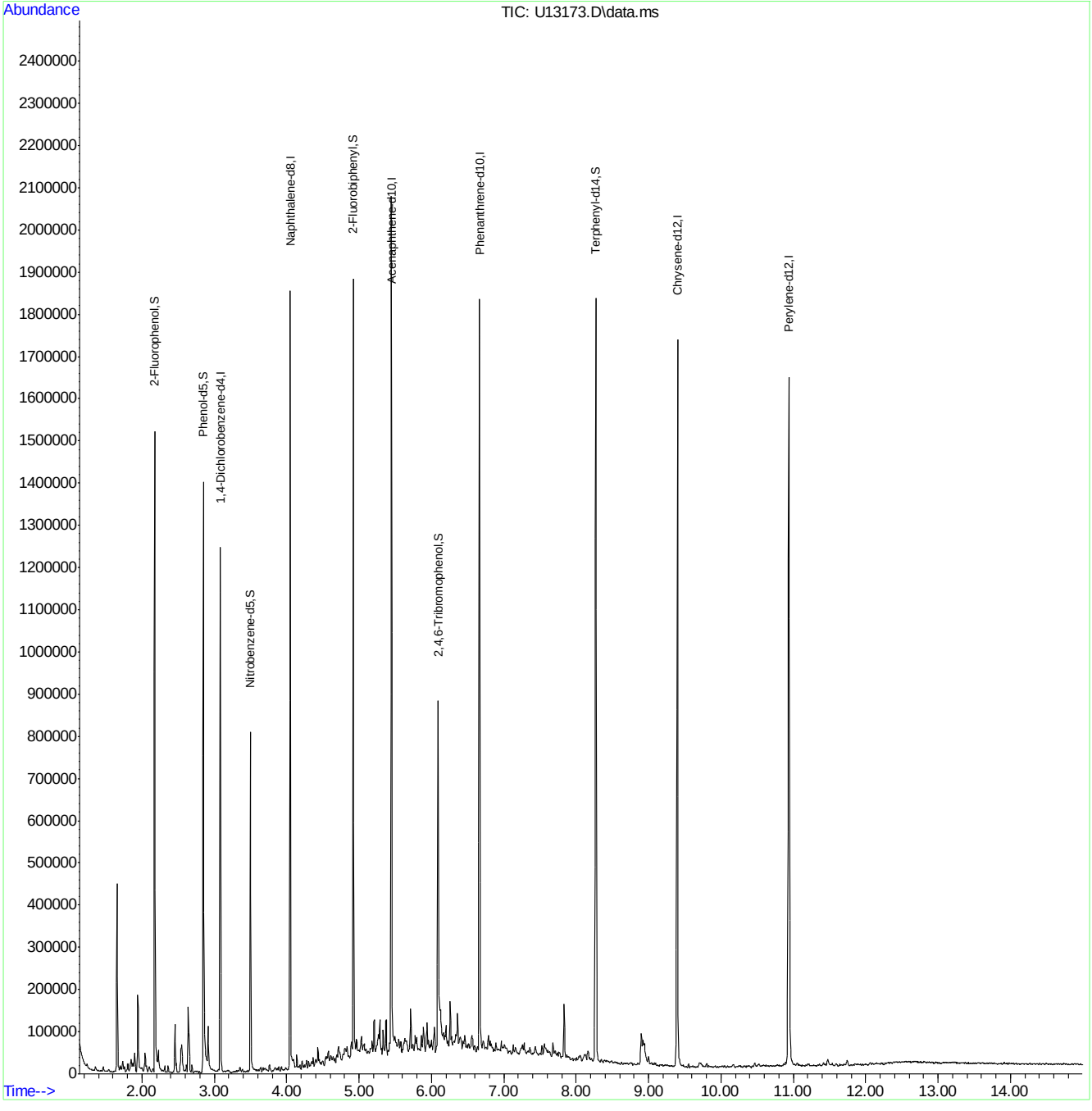
10

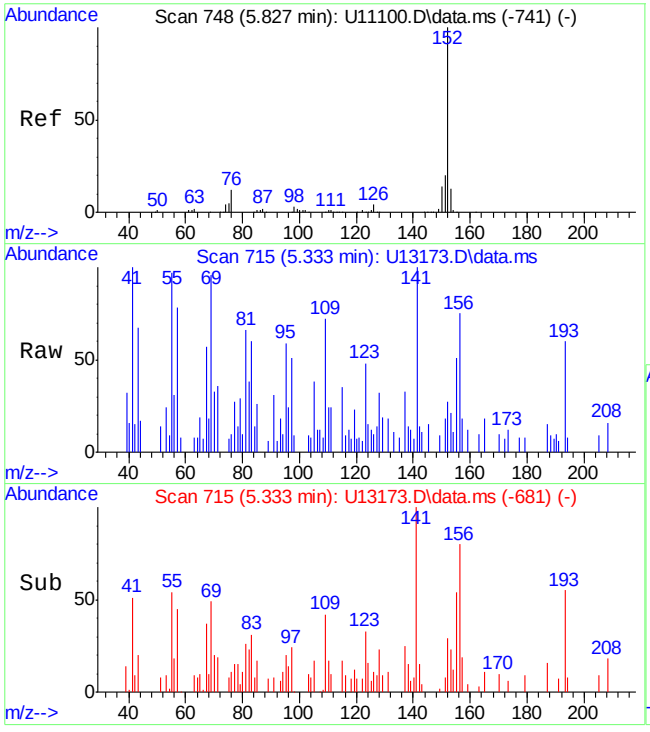
SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13173.D
Acq On : 28 Mar 2013 12:58 pm
Operator : NatalyaS
Sample : JB31485-7
Misc : op32398,msu673,20.29,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 29 11:39:57 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

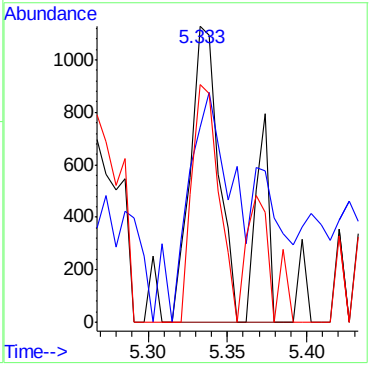


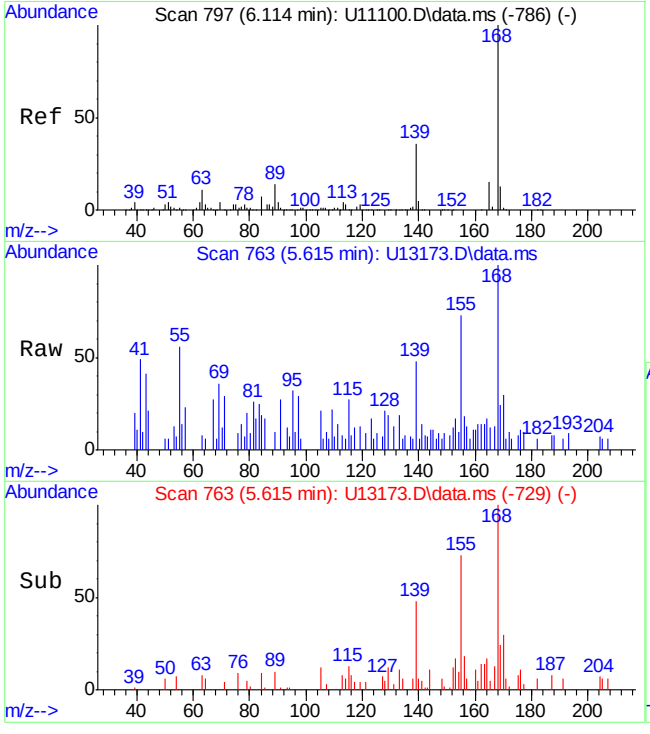


#46
Acenaphthylene
Concen: Below Cal
RT: 5.333 min Scan# 715
Delta R.T. 0.000 min
Lab File: U13173.D
Acq: 28 Mar 2013 12:58 pm

Tgt Ion:152 Resp: 1861

Ion	Ratio	Lower	Upper
152	100		
151	39.7	0.0	49.7
153	80.2	0.0	43.1#

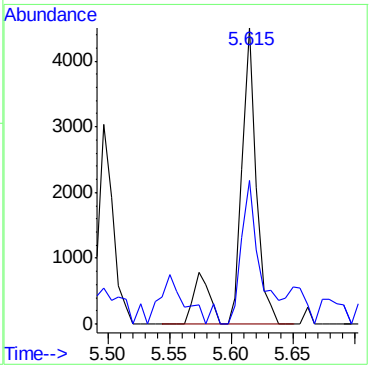


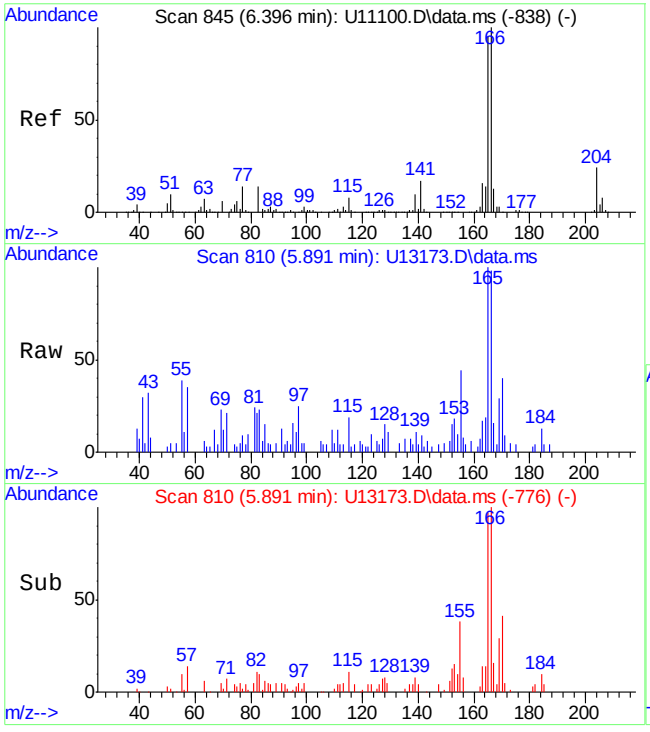


#51
Dibenzofuran
Concen: Below Cal
RT: 5.615 min Scan# 763
Delta R.T. 0.000 min
Lab File: U13173.D
Acq: 28 Mar 2013 12:58 pm

Tgt Ion:168 Resp: 4273

Ion	Ratio	Lower	Upper
168	100		
139	39.1	7.0	67.0

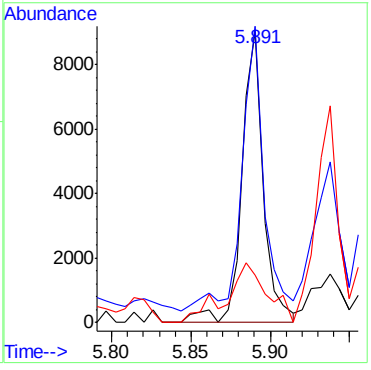


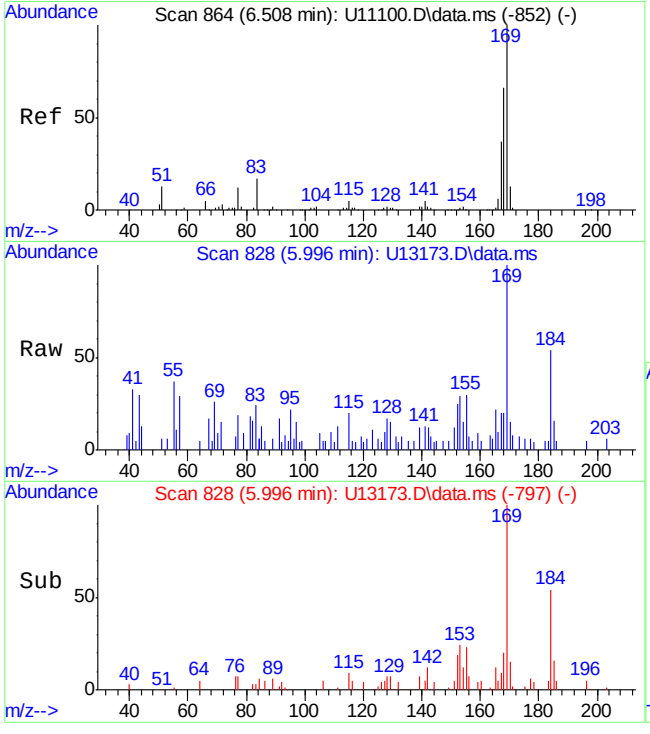


#55
Fluorene
Concen: Below Cal
RT: 5.891 min Scan# 810
Delta R.T. 0.000 min
Lab File: U13173.D
Acq: 28 Mar 2013 12:58 pm

Tgt Ion:166 Resp: 8495

Ion	Ratio	Lower	Upper
166	100		
165	96.4	63.2	123.2
167	16.1	0.0	43.3

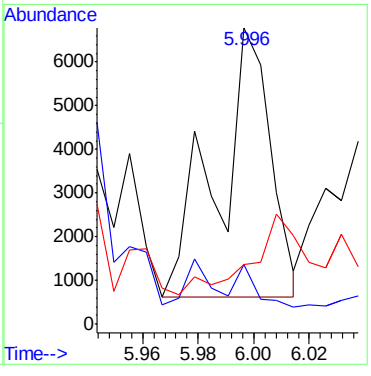


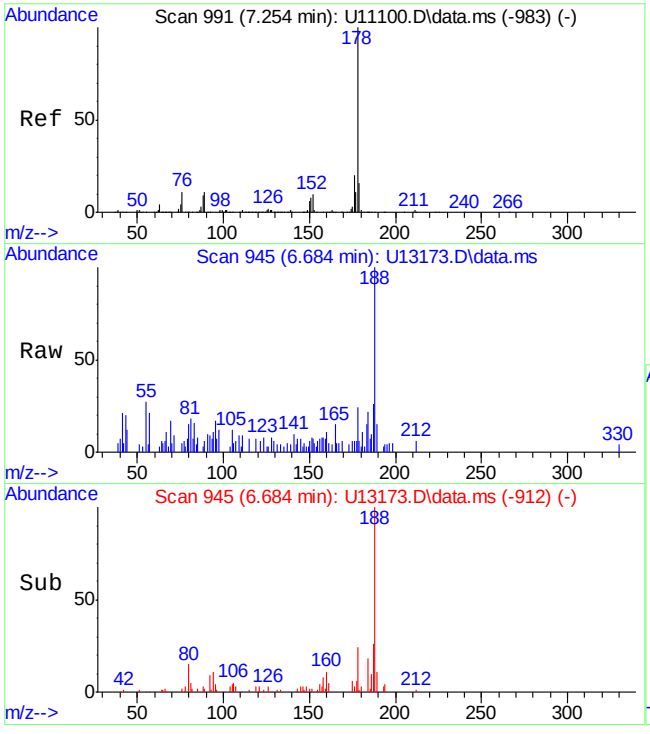


#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 5.996 min Scan# 828
Delta R.T. -0.018 min
Lab File: U13173.D
Acq: 28 Mar 2013 12:58 pm

Tgt Ion:169 Resp: 8058

Ion	Ratio	Lower	Upper
169	100		
168	15.8	33.9	93.9#
167	8.6	4.0	64.0

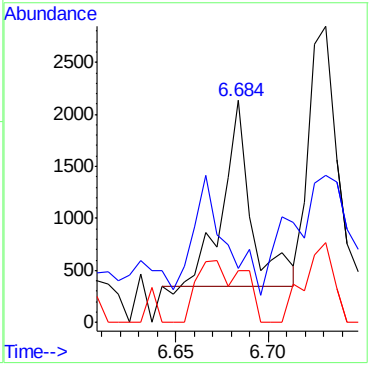


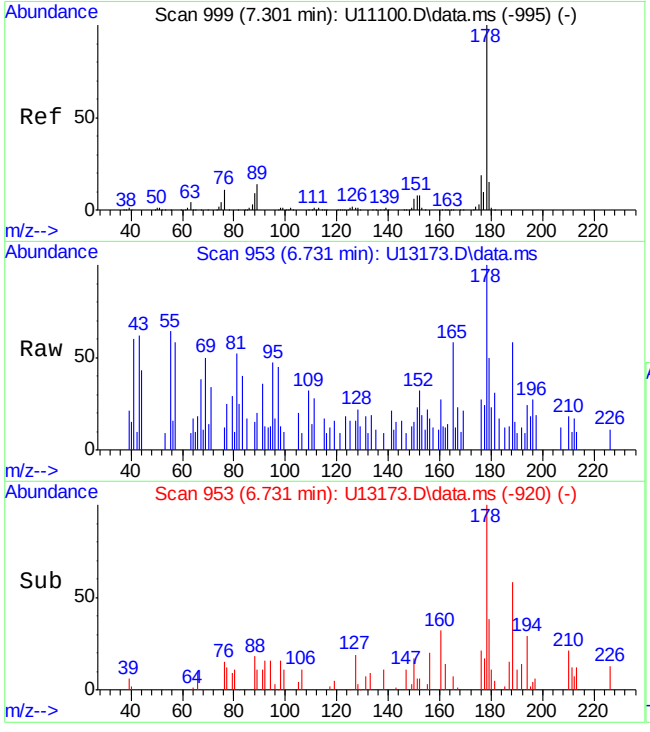


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13173.D
Acq: 28 Mar 2013 12:58 pm

Tgt Ion:178 Resp: 1882

Ion	Ratio	Lower	Upper
178	100		
179	1.1	0.0	45.7
176	27.7	0.0	48.8

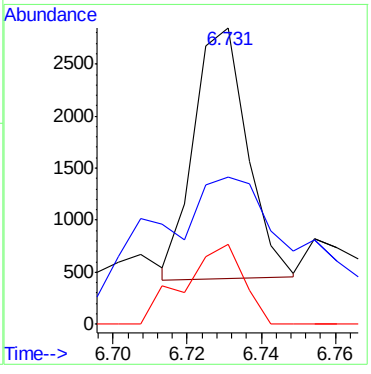


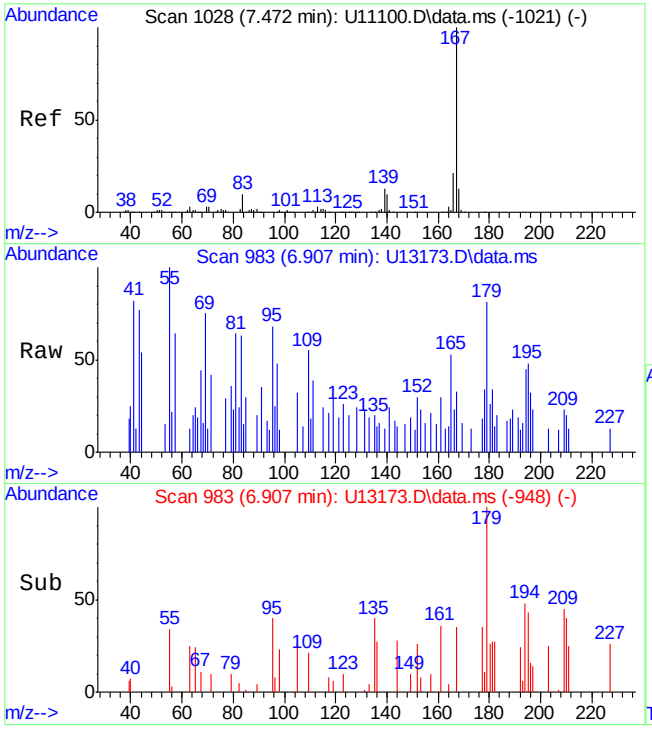


#70
Anthracene
Concen: Below Cal
RT: 6.731 min Scan# 953
Delta R.T. -0.006 min
Lab File: U13173.D
Acq: 28 Mar 2013 12:58 pm

Tgt Ion:178 Resp: 2417

Ion	Ratio	Lower	Upper
178	100		
179	30.1	0.0	45.1
176	32.5	0.0	48.3

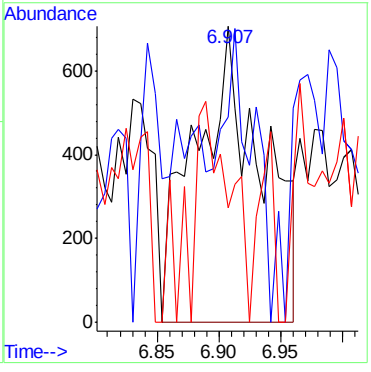




#71
Carbazole
Concen: Below Cal
RT: 6.907 min Scan# 983
Delta R.T. 0.006 min
Lab File: U13173.D
Acq: 28 Mar 2013 12:58 pm

Tgt Ion:167 Resp: 2643

Ion	Ratio	Lower	Upper
167	100		
166	20.7	0.0	50.9
139	38.8	0.0	43.1



Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13174.D
Acq On : 28 Mar 2013 1:21 pm
Operator : NatalyaS
Sample : JB31485-8
Misc : op32398,msu673,20.19,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 29 11:40:40 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	171177	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	623316	40.00	ppb	0.00
39) Acenaphthene-d10	5.444	164	372957	40.00	ppb	0.00
61) Phenanthrene-d10	6.666	188	662095	40.00	ppb	0.00
74) Chrysene-d12	9.398	240	741219	40.00	ppb	0.00
84) Perylene-d12	10.938	264	667254	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.177	112	380958	68.26	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.26%			
7) Phenol-d5	2.847	99	427293	63.73	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 63.73%			
22) Nitrobenzene-d5	3.499	82	207806	35.26	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 70.52%			
44) 2-Fluorobiphenyl	4.921	172	468332	35.74	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 71.48%			
65) 2,4,6-Tribromophenol	6.090	330	133386	68.96	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 68.96%			
77) Terphenyl-d14	8.270	244	607943	36.14	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 72.28%			
Target Compounds						Qvalue
31) Naphthalene	4.052	128	3158	Below Cal	#	1
36) 2-Methylnaphthalene	4.616	142	1084	Below Cal		88
37) 1-Methylnaphthalene	4.692	142	6856	Below Cal		96
46) Acenaphthylene	5.374	152	1139	Below Cal		55
49) Acenaphthene	5.468	153	3129m	0.28 ppb		
51) Dibenzofuran	5.614	168	6209	Below Cal		87
55) Fluorene	5.891	166	9444	Below Cal		94
63) n-Nitrosodiphenylamine	6.002	169	12031	Below Cal	#	36
69) Phenanthrene	6.684	178	26806	Below Cal		95
70) Anthracene	6.684	178	26806	Below Cal		94
71) Carbazole	6.901	167	2715	Below Cal		72

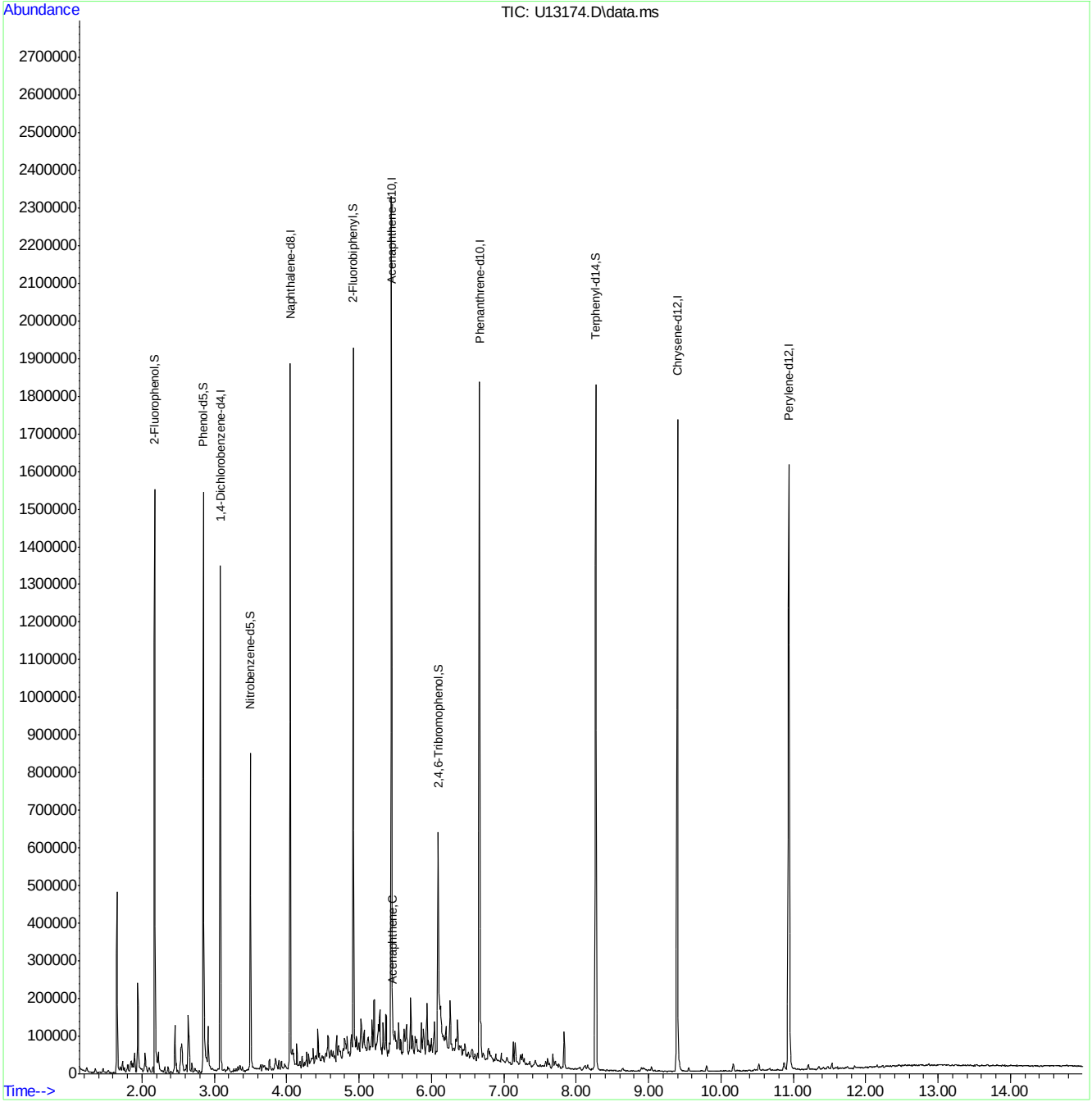
(#) = qualifier out of range (m) = manual integration (+) = signals summed

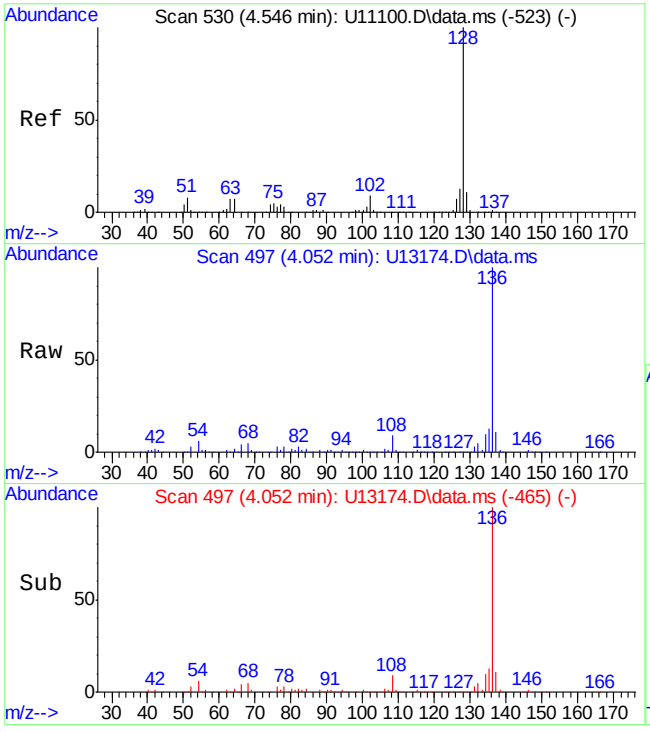
10.1.8 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13174.D
Acq On : 28 Mar 2013 1:21 pm
Operator : NatalyaS
Sample : JB31485-8
Misc : op32398,msu673,20.19,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 29 11:40:40 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

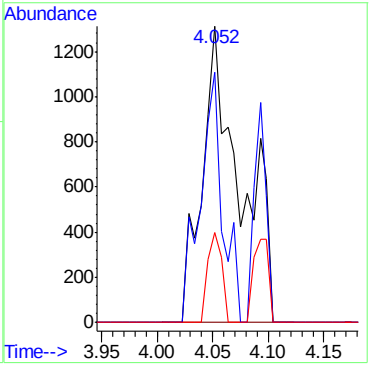


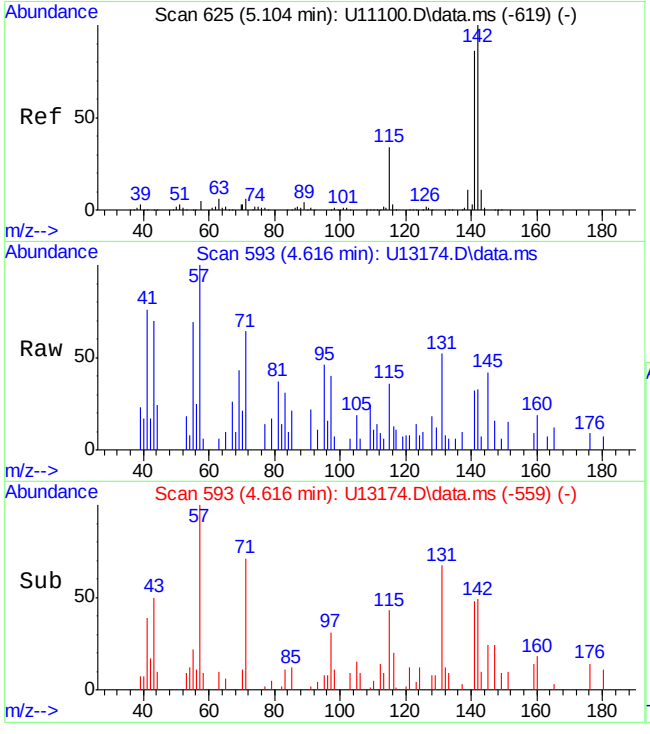


#31
Naphthalene
Concen: Below Cal
RT: 4.052 min Scan# 497
Delta R.T. -0.012 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:128 Resp: 3158

Ion	Ratio	Lower	Upper
128	100		
129	84.5	0.0	41.2#
127	30.4	0.0	43.6

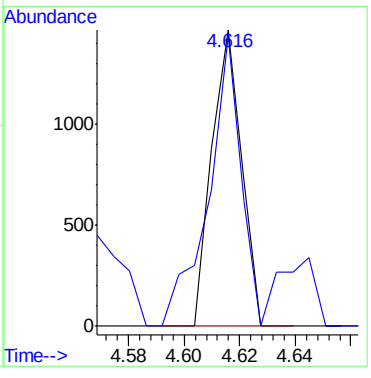


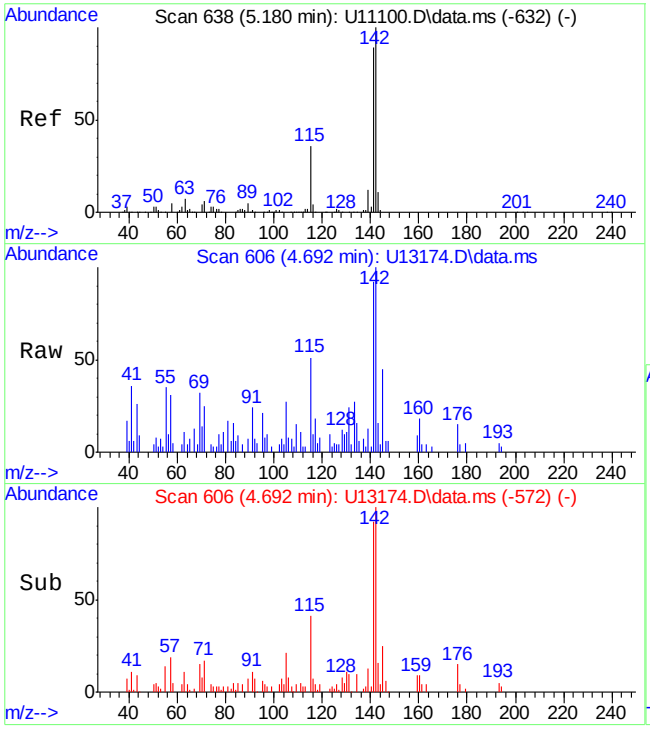


#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.616 min Scan# 593
Delta R.T. 0.000 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:142 Resp: 1084

Ion	Ratio	Lower	Upper
142	100		
141	98.0	56.7	116.7

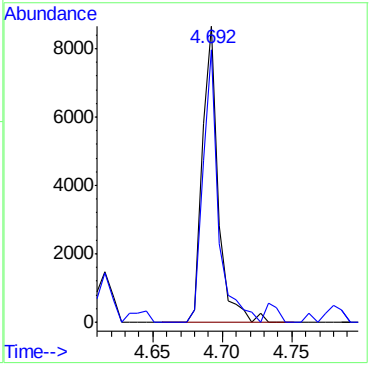


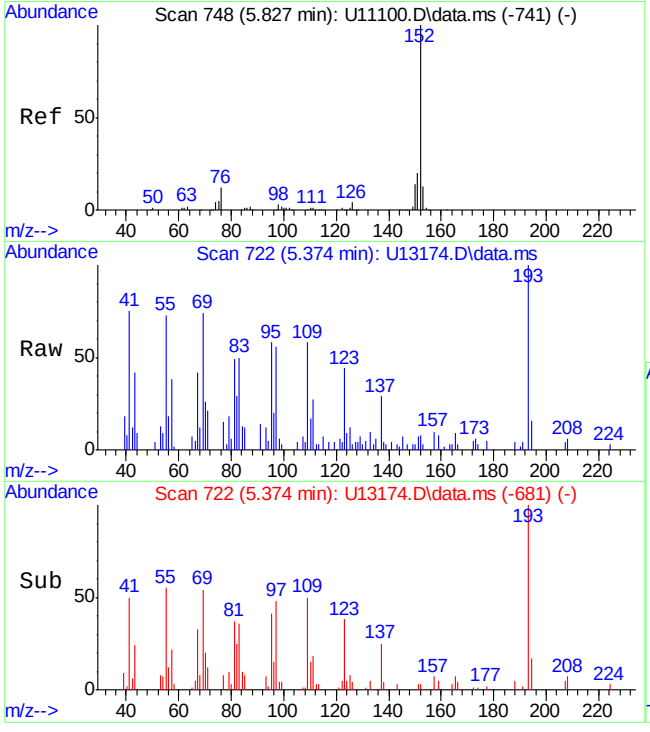


#37
1-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:142 Resp: 6856

Ion	Ratio	Lower	Upper
142	100		
141	92.2	68.6	108.6

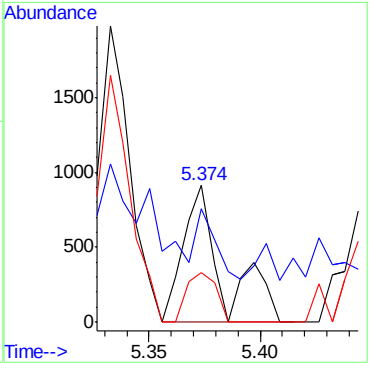


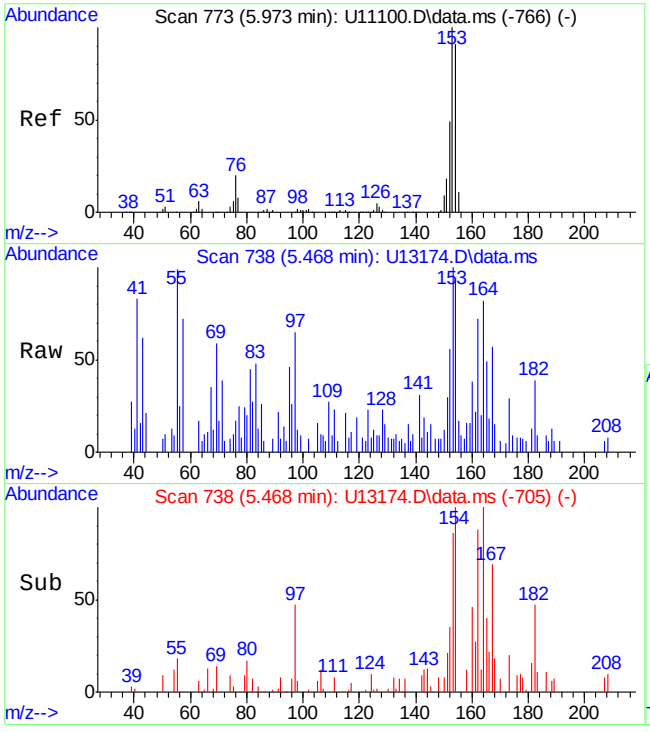


#46
Acenaphthylene
Concen: Below Cal
RT: 5.374 min Scan# 722
Delta R.T. 0.041 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:152 Resp: 1139

Ion	Ratio	Lower	Upper
152	100		
151	36.4	0.0	49.7
153	35.8	0.0	43.1

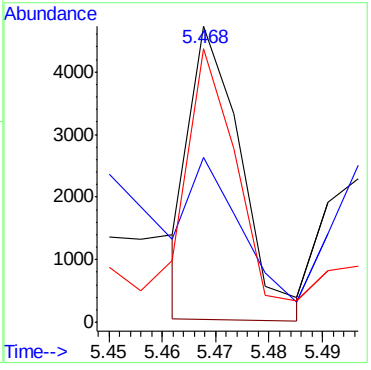


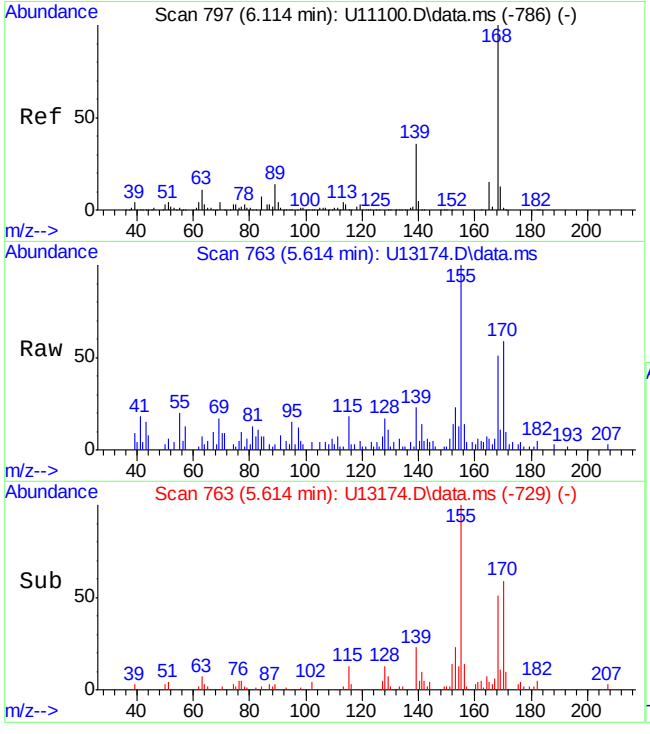


#49
Acenaphthene
Concen: 0.28 ppb m
RT: 5.468 min Scan# 738
Delta R.T. -0.006 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:153 Resp: 3129

Ion	Ratio	Lower	Upper
153	100		
152	55.9	16.6	76.6
154	92.5	64.3	124.3

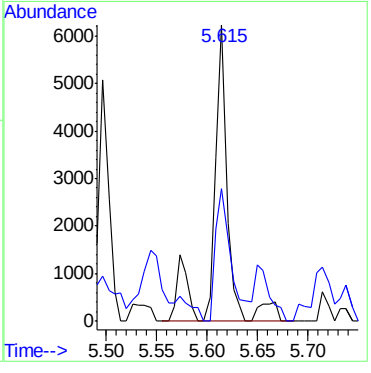




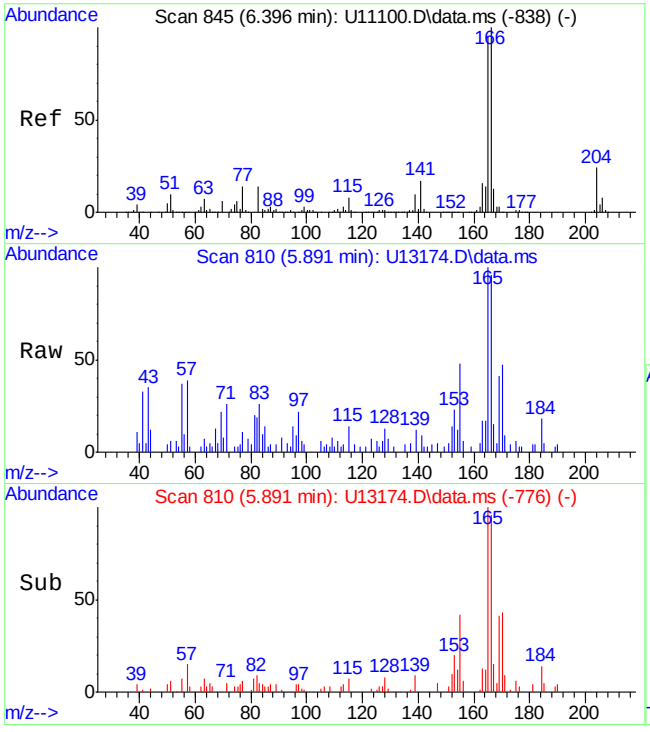
#51
Dibenzofuran
Concen: Below Cal
RT: 5.614 min Scan# 763
Delta R.T. 0.000 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:168 Resp: 6209

Ion	Ratio	Lower	Upper
168	100		
139	44.6	7.0	67.0



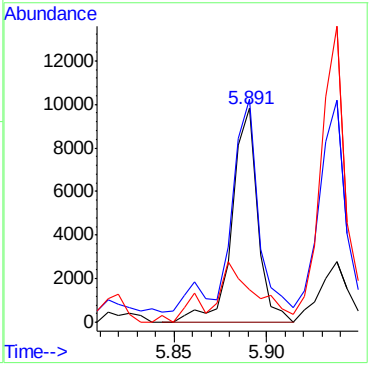
SGS ACCUTEST JB31485

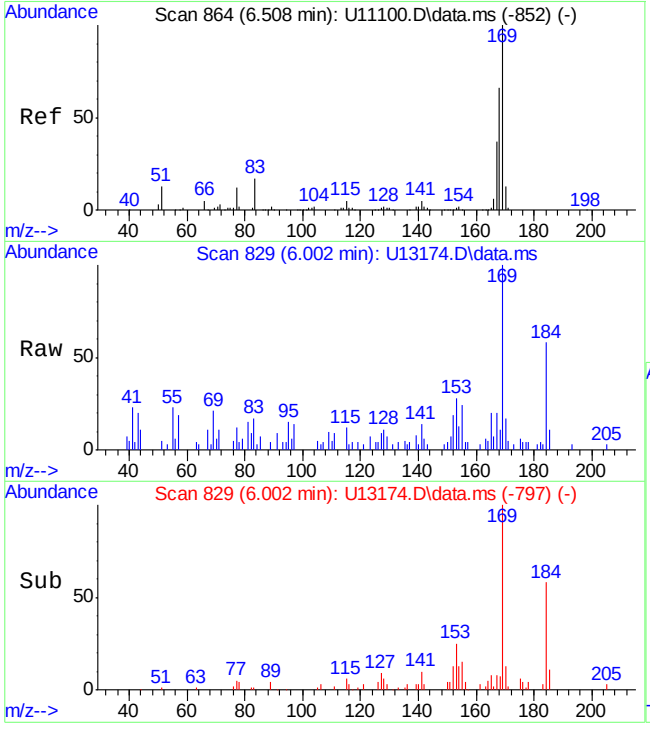


#55
Fluorene
Concen: Below Cal
RT: 5.891 min Scan# 810
Delta R.T. 0.000 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:166 Resp: 9444

Ion	Ratio	Lower	Upper
166	100		
165	99.3	63.2	123.2
167	12.1	0.0	43.3

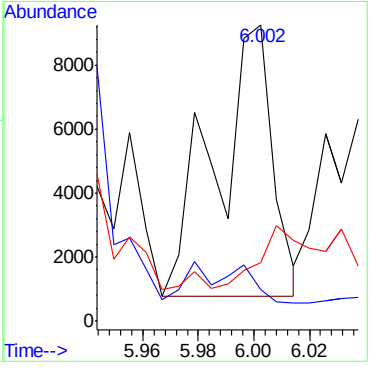


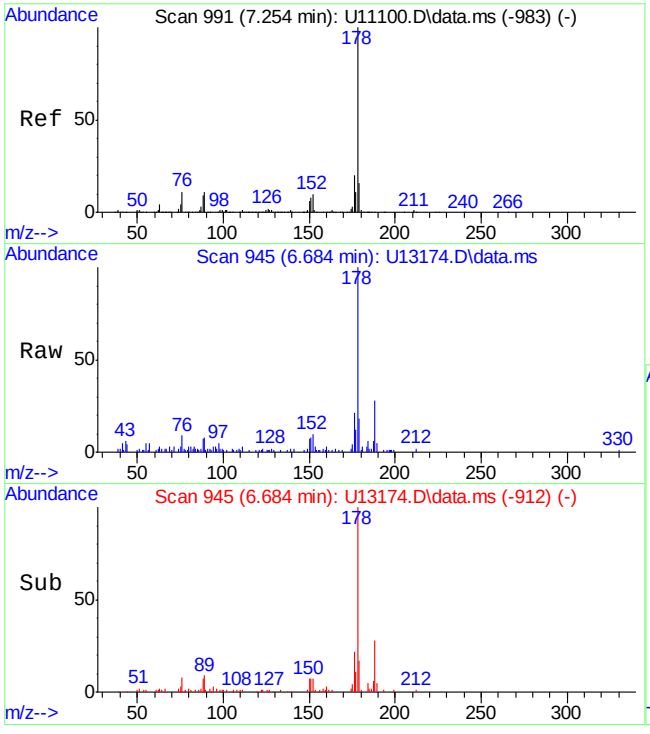


#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.002 min Scan# 829
Delta R.T. -0.012 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:169 Resp: 12031

Ion	Ratio	Lower	Upper
169	100		
168	4.7	33.9	93.9#
167	9.9	4.0	64.0

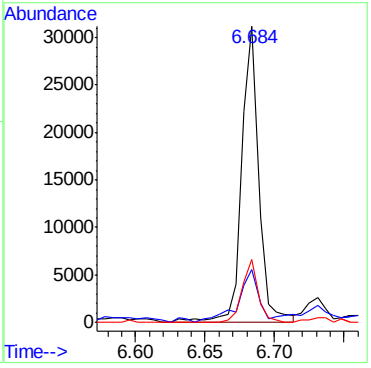


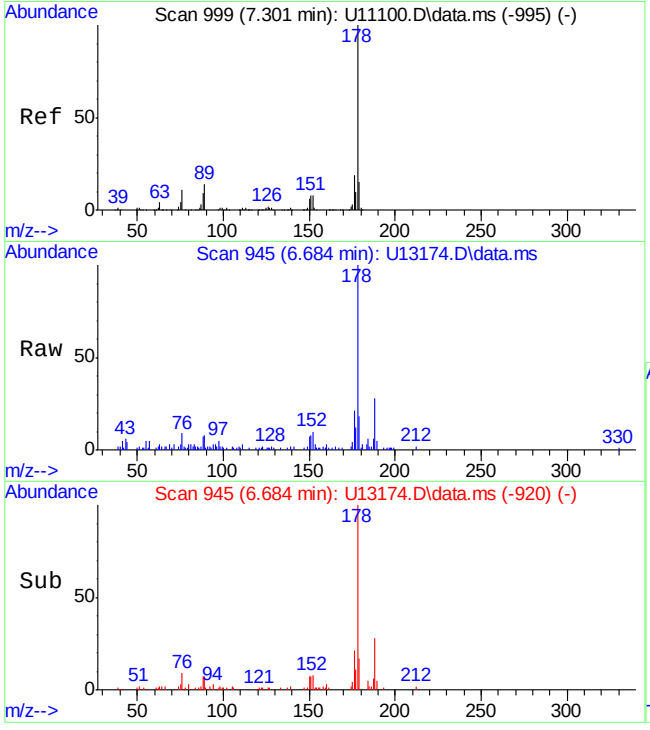


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:178 Resp: 26806

Ion	Ratio	Lower	Upper
178	100		
179	17.1	0.0	45.7
176	21.4	0.0	48.8

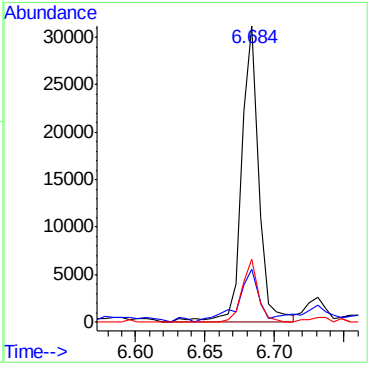


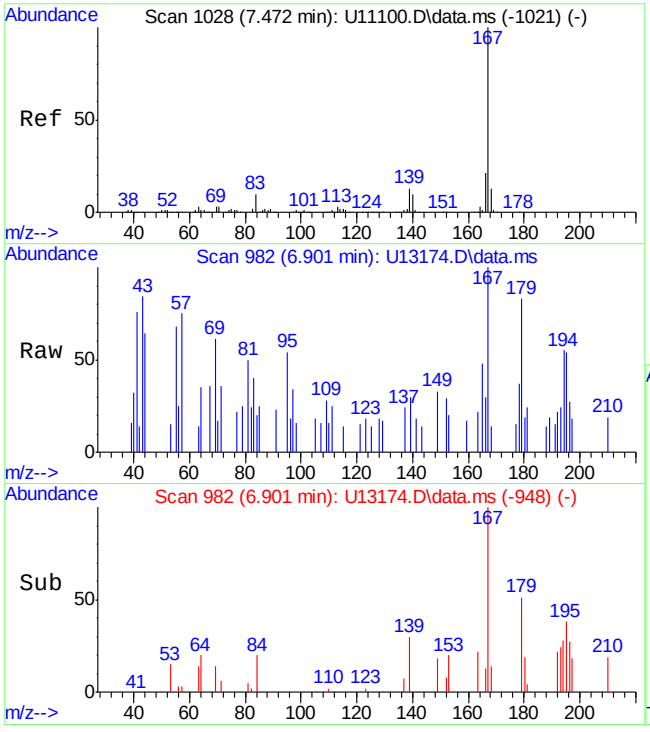


#70
Anthracene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.053 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:178 Resp: 26806

Ion	Ratio	Lower	Upper
178	100		
179	17.1	0.0	45.1
176	21.4	0.0	48.3

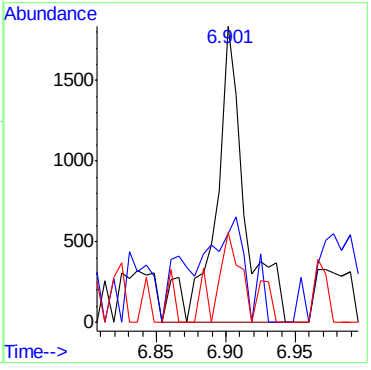




#71
Carbazole
Concen: Below Cal
RT: 6.901 min Scan# 982
Delta R.T. 0.000 min
Lab File: U13174.D
Acq: 28 Mar 2013 1:21 pm

Tgt Ion:167 Resp: 2715

Ion	Ratio	Lower	Upper
167	100		
166	29.8	0.0	50.9
139	30.4	0.0	43.1



10.1.8

10

SGS ACCUTEST JB31485

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13175.D
Acq On : 28 Mar 2013 1:43 pm
Operator : NatalyaS
Sample : JB31485-9
Misc : op32398,msu673,20.45,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:42:20 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	167705	40.00	ppb	0.00
21) Naphthalene-d8	4.052	136	544846	40.00	ppb	0.00
39) Acenaphthene-d10	5.462	164	313595	40.00	ppb	0.02
61) Phenanthrene-d10	6.672	188	562828	40.00	ppb	0.00
74) Chrysene-d12	9.398	240	692473	40.00	ppb	0.00
84) Perylene-d12	10.938	264	649129	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.177	112	360282	65.89	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 65.89%			
7) Phenol-d5	2.847	99	410178	62.45	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 62.45%			
22) Nitrobenzene-d5	3.505	82	192885	37.44	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 74.88%			
44) 2-Fluorobiphenyl	4.927	172	392627	35.63	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 71.26%			
65) 2,4,6-Tribromophenol	6.108	330	116847	71.06	ppb	0.02
Spiked Amount 100.000	Range 10 - 157		Recovery = 71.06%			
77) Terphenyl-d14	8.270	244	563205	35.84	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 71.68%			
Target Compounds						Qvalue
31) Naphthalene	4.069	128	910739	70.22	ppb	99
36) 2-Methylnaphthalene	4.633	142	2795345	304.81	ppb	99
37) 1-Methylnaphthalene	4.716	142	2685984	290.94	ppb	99
49) Acenaphthene	5.485	153	216350m	23.34	ppb	
55) Fluorene	5.908	166	477671m	48.86	ppb	
69) Phenanthrene	6.696	178	1311228	95.59	ppb	98
76) Pyrene	8.053	202	77144	3.60	ppb	94

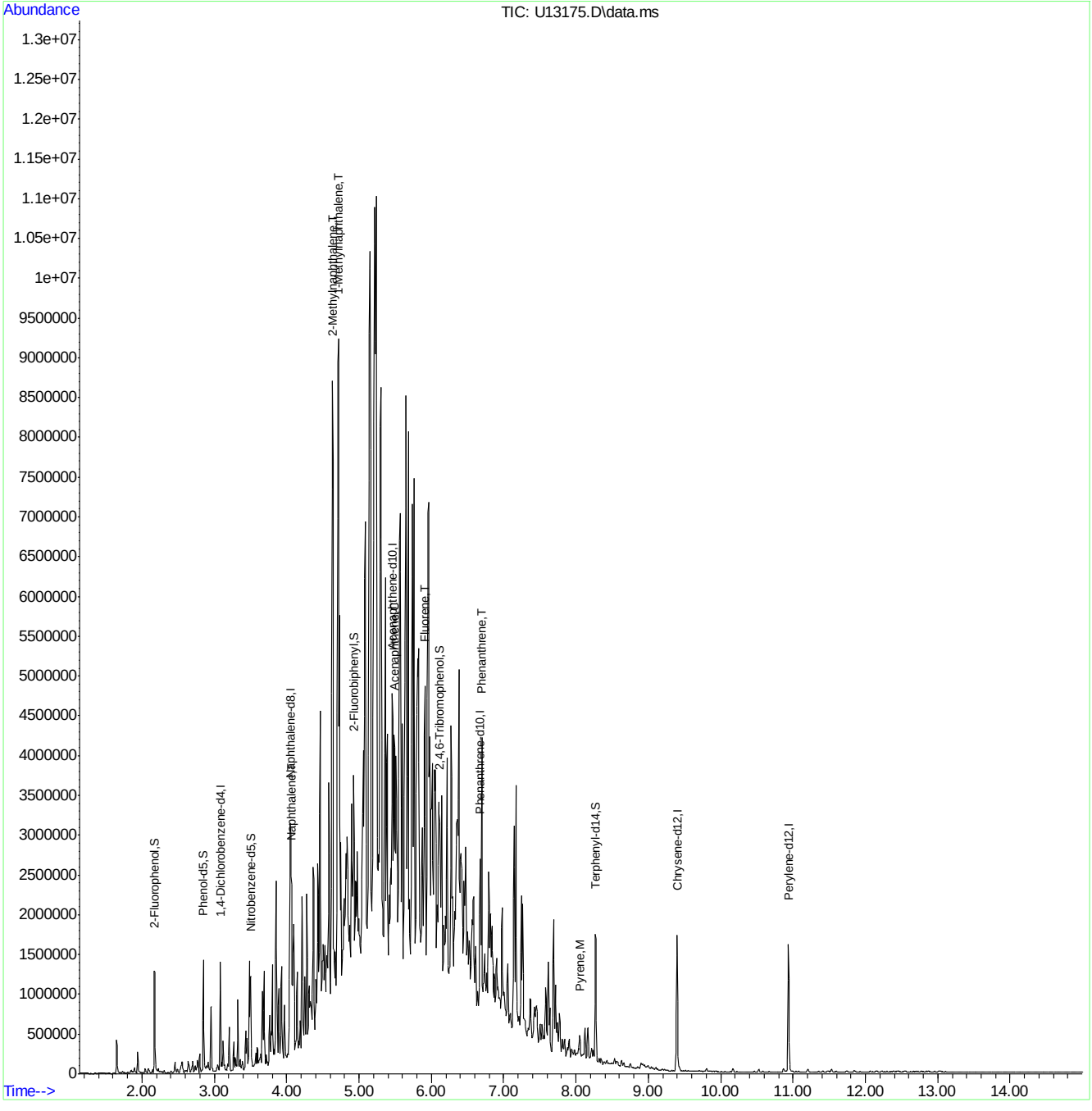
(#) = qualifier out of range (m) = manual integration (+) = signals summed

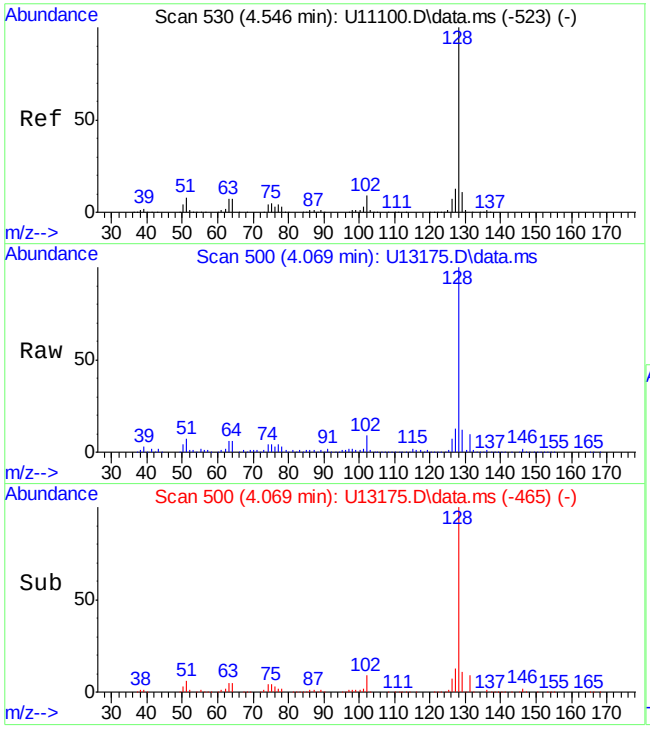
10.1.9 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13175.D
Acq On : 28 Mar 2013 1:43 pm
Operator : NatalyaS
Sample : JB31485-9
Misc : op32398,msu673,20.45,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 29 11:42:20 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

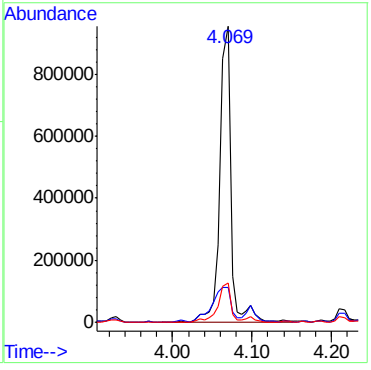


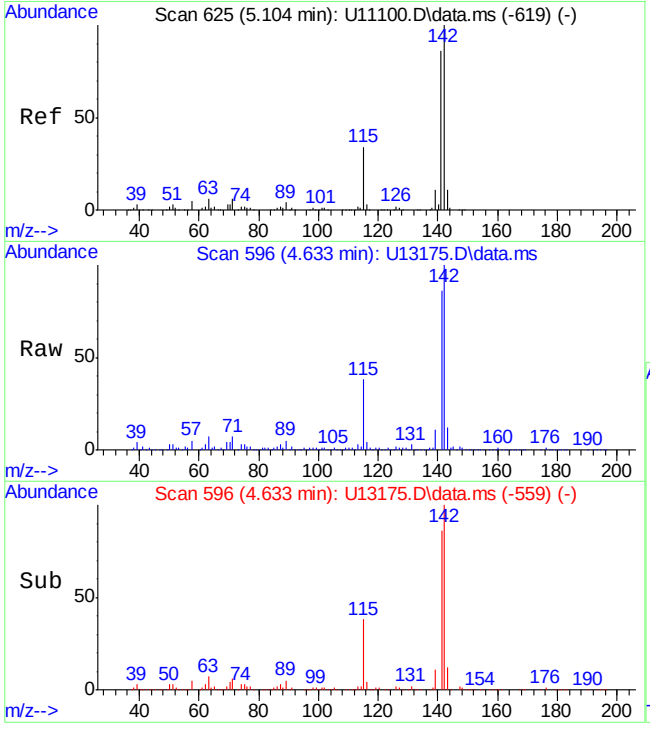


#31
Naphthalene
Concen: 70.22 ppb
RT: 4.069 min Scan# 500
Delta R.T. 0.006 min
Lab File: U13175.D
Acq: 28 Mar 2013 1:43 pm

Tgt Ion:128 Resp: 910739

Ion	Ratio	Lower	Upper
128	100		
129	11.8	0.0	41.2
127	13.4	0.0	43.6

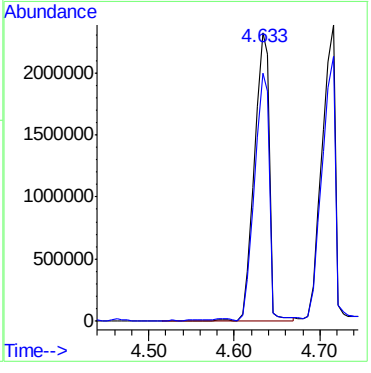


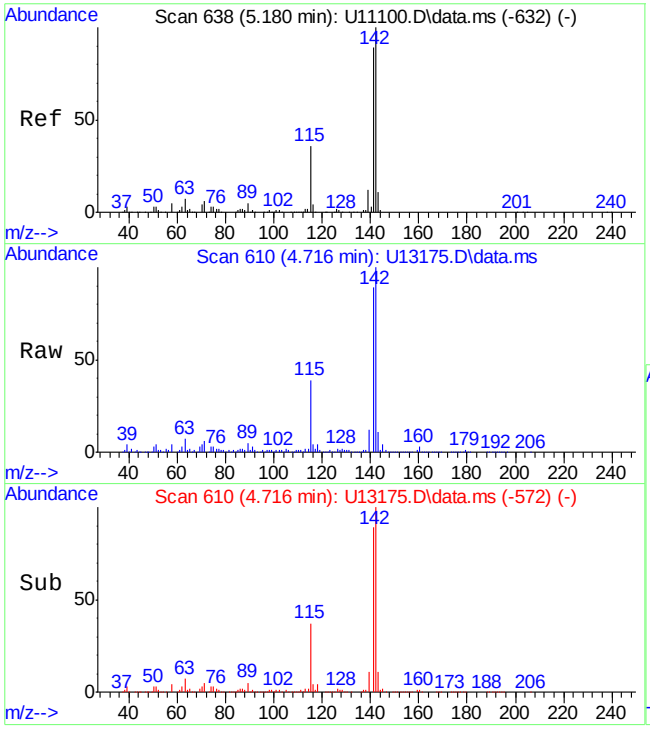


#36
2-Methylnaphthalene
Concen: 304.81 ppb
RT: 4.633 min Scan# 596
Delta R.T. 0.018 min
Lab File: U13175.D
Acq: 28 Mar 2013 1:43 pm

Tgt Ion:142 Resp: 2795345

Ion	Ratio	Lower	Upper
142	100		
141	85.9	56.7	116.7

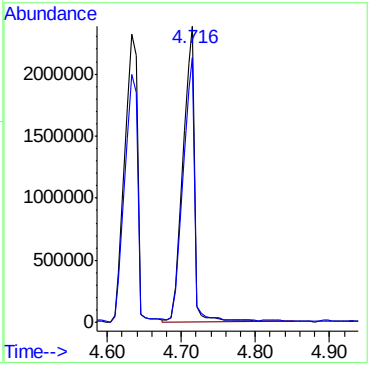


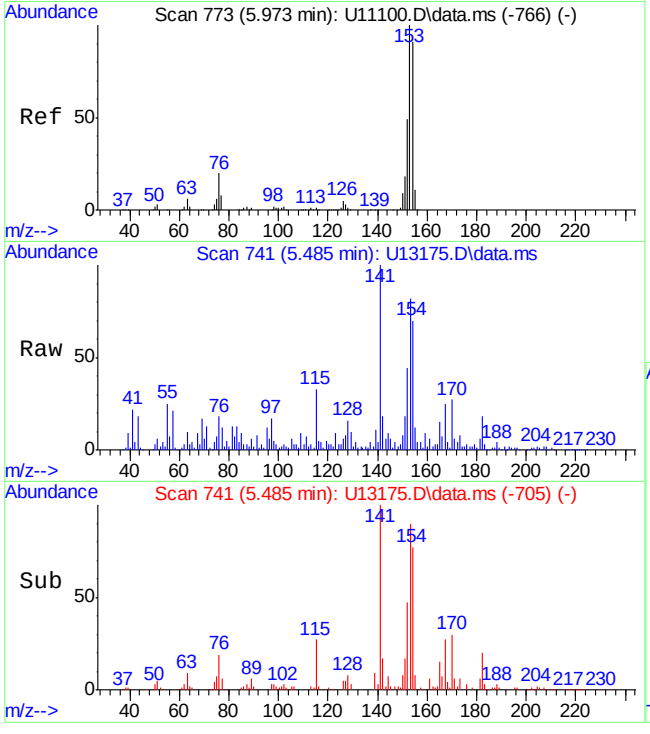


#37
1-Methylnaphthalene
Concen: 290.94 ppb
RT: 4.716 min Scan# 610
Delta R.T. 0.024 min
Lab File: U13175.D
Acq: 28 Mar 2013 1:43 pm

Tgt Ion:142 Resp: 2685984

Ion	Ratio	Lower	Upper
142	100		
141	89.2	68.6	108.6

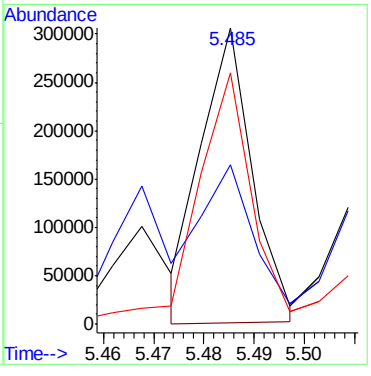


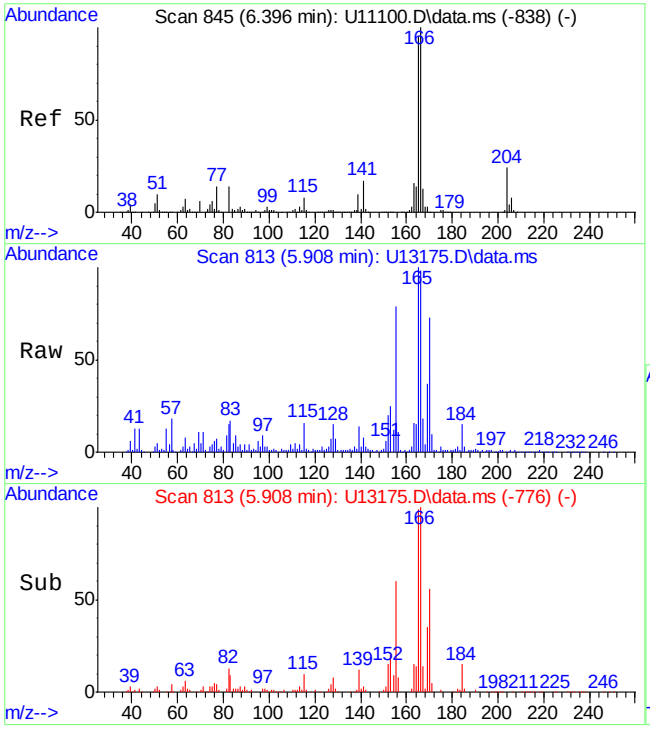


#49
Acenaphthene
Concen: 23.34 ppb m
RT: 5.485 min Scan# 741
Delta R.T. 0.012 min
Lab File: U13175.D
Acq: 28 Mar 2013 1:43 pm

Tgt Ion:153 Resp: 216350

Ion	Ratio	Lower	Upper
153	100		
152	53.9	16.6	76.6
154	84.9	64.3	124.3

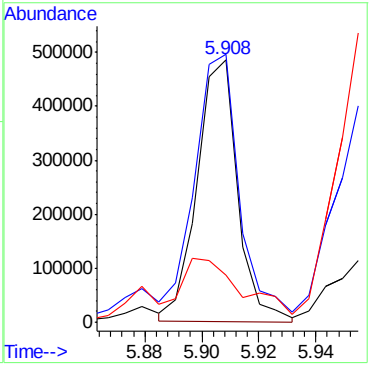


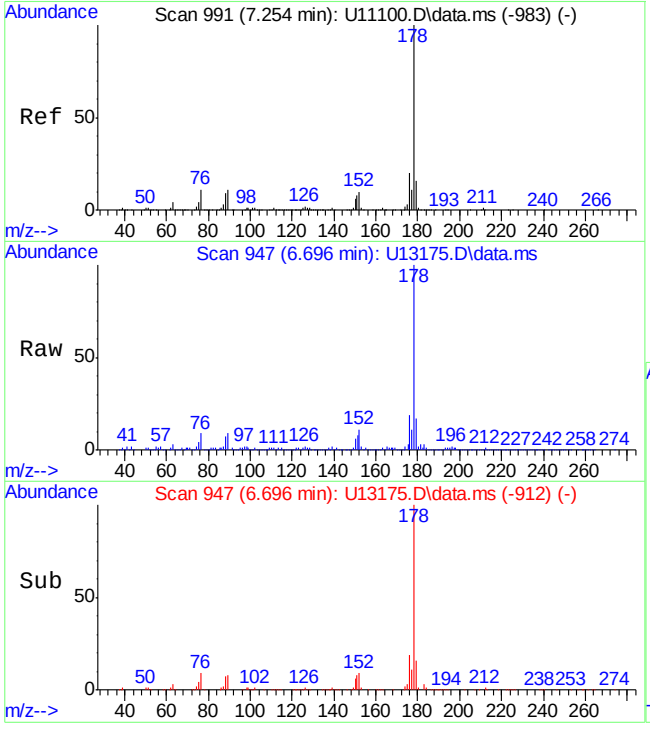


#55
Fluorene
Concen: 48.86 ppb m
RT: 5.908 min Scan# 813
Delta R.T. 0.018 min
Lab File: U13175.D
Acq: 28 Mar 2013 1:43 pm

Tgt Ion:166 Resp: 477671

Ion	Ratio	Lower	Upper
166	100		
165	102.1	63.2	123.2
167	17.9	0.0	43.3

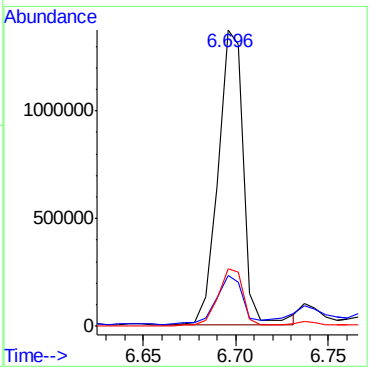


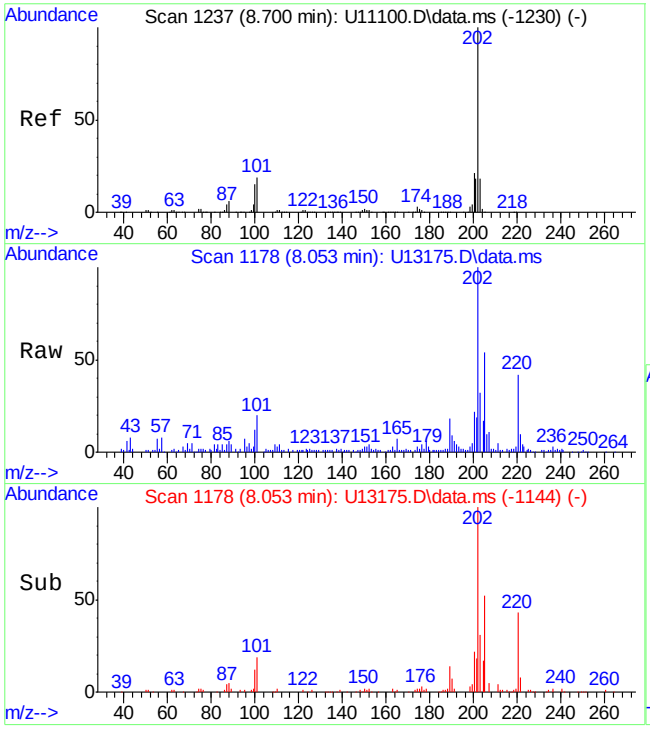


#69
Phenanthrene
Concen: 95.59 ppb
RT: 6.696 min Scan# 947
Delta R.T. 0.006 min
Lab File: U13175.D
Acq: 28 Mar 2013 1:43 pm

Tgt Ion:178 Resp: 1311228

Ion	Ratio	Lower	Upper
178	100		
179	16.6	0.0	45.7
176	19.4	0.0	48.8

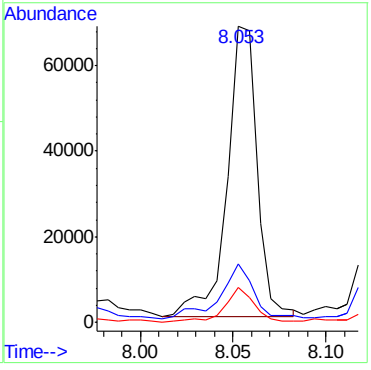




#76
Pyrene
Concen: 3.60 ppb
RT: 8.053 min Scan# 1178
Delta R.T. 0.000 min
Lab File: U13175.D
Acq: 28 Mar 2013 1:43 pm

Tgt Ion:202 Resp: 77144

Ion	Ratio	Lower	Upper
202	100		
101	19.2	0.0	46.3
100	11.9	0.0	43.6



10.1.9 10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13176.D
Acq On : 28 Mar 2013 2:06 pm
Operator : NatalyaS
Sample : JB31485-10,1:5
Misc : op32398,msu673,20.30,,,1,5
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:44:11 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.076	152	141096	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	484651	40.00	ppb	0.00
39) Acenaphthene-d10	5.450	164	279308	40.00	ppb	0.00
61) Phenanthrene-d10	6.678	188	448676	40.00	ppb	0.01
74) Chrysene-d12	9.416	240	592257	40.00	ppb	0.01
84) Perylene-d12	10.961	264	589610	40.00	ppb	0.02
System Monitoring Compounds						
5) 2-Fluorophenol	2.171	112	56081	12.19	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 12.19%			
7) Phenol-d5	2.853	99	62399	11.29	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 11.29%			
22) Nitrobenzene-d5	3.499	82	33460	7.30	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 14.60%#			
44) 2-Fluorobiphenyl	4.921	172	81489	8.30	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 16.60%#			
65) 2,4,6-Tribromophenol	6.155	330	24440m	18.65	ppb	0.06
Spiked Amount 100.000	Range 10 - 157		Recovery = 18.65%			
77) Terphenyl-d14	8.288	244	102942	7.66	ppb	0.02
Spiked Amount 50.000	Range 30 - 124		Recovery = 15.32%#			
Target Compounds						Qvalue
31) Naphthalene	4.063	128	17510m	Below Cal		
36) 2-Methylnaphthalene	4.622	142	360911	42.49	ppb	99
37) 1-Methylnaphthalene	4.698	142	343185	40.29	ppb	100
49) Acenaphthene	5.479	153	86940m	10.53	ppb	
52) 2,4-Dinitrotoluene	5.673	165	40600m	13.97	ppb	
55) Fluorene	5.897	166	126275m	12.95	ppb	
69) Phenanthrene	6.696	178	382973m	32.50	ppb	
70) Anthracene	6.743	178	73166	4.01	ppb	71
76) Pyrene	8.070	202	198677	10.83	ppb	93

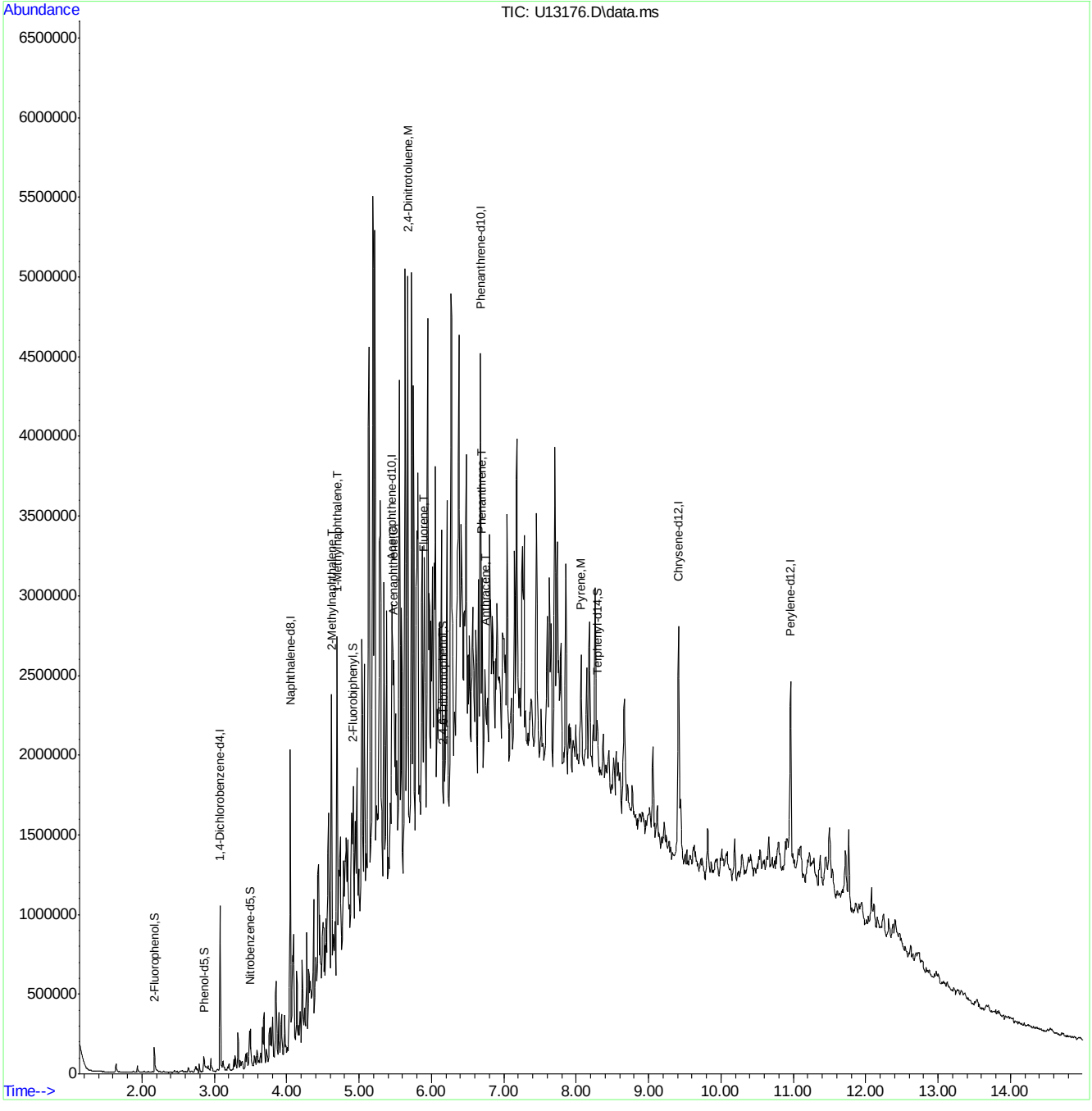
(#) = qualifier out of range (m) = manual integration (+) = signals summed

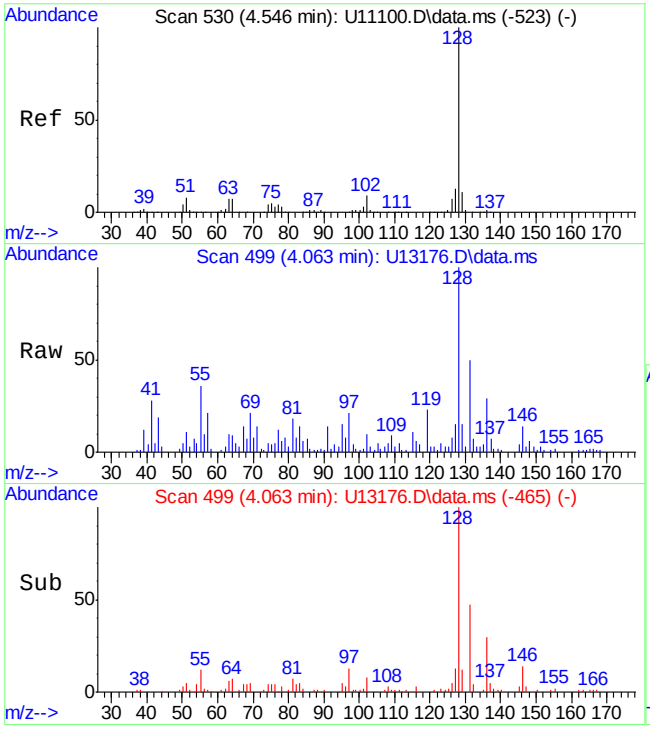
10.1.10 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13176.D
Acq On : 28 Mar 2013 2:06 pm
Operator : NatalyaS
Sample : JB31485-10,1:5
Misc : op32398,msu673,20.30,,,1,5
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 29 11:44:11 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

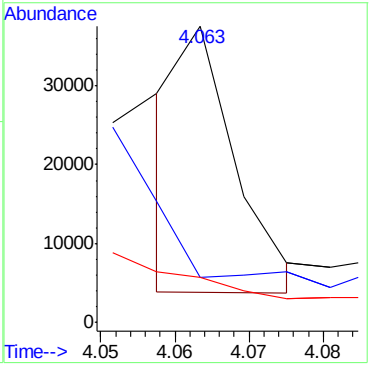


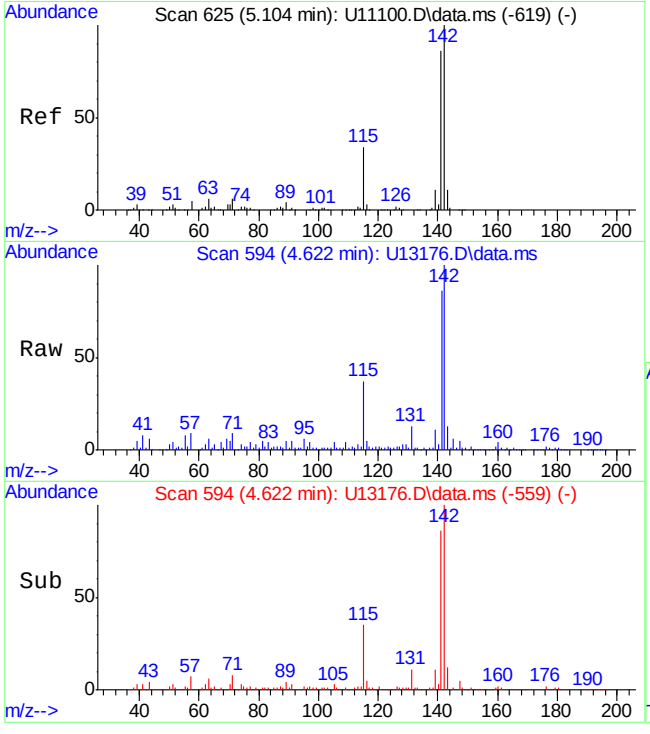


#31
Naphthalene
Concen: Below Cal m
RT: 4.063 min Scan# 499
Delta R.T. 0.000 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:128 Resp: 17510

Ion	Ratio	Lower	Upper
128	100		
129	15.3	0.0	41.2
127	15.1	0.0	43.6

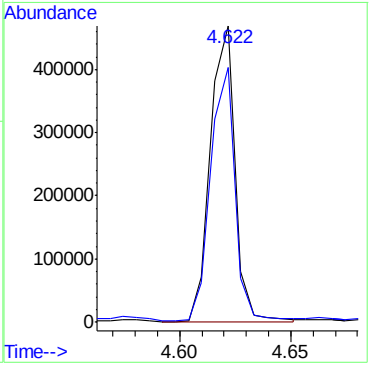




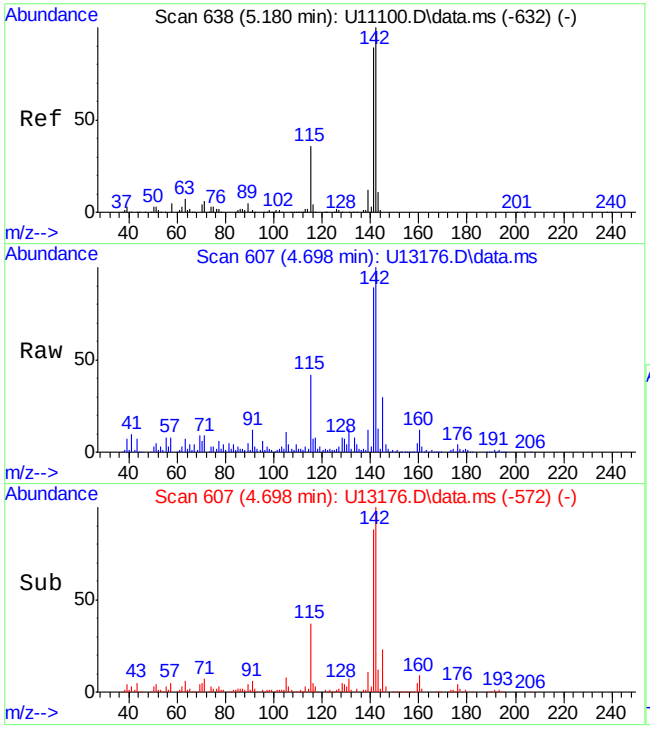
#36
2-Methylnaphthalene
Concen: 42.49 ppb
RT: 4.622 min Scan# 594
Delta R.T. 0.006 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:142 Resp: 360911

Ion	Ratio	Lower	Upper
142	100		
141	86.0	56.7	116.7



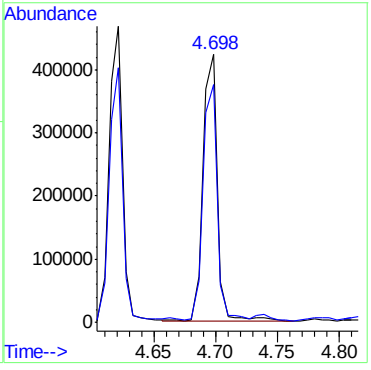
SGS ACCUTEST JB31485

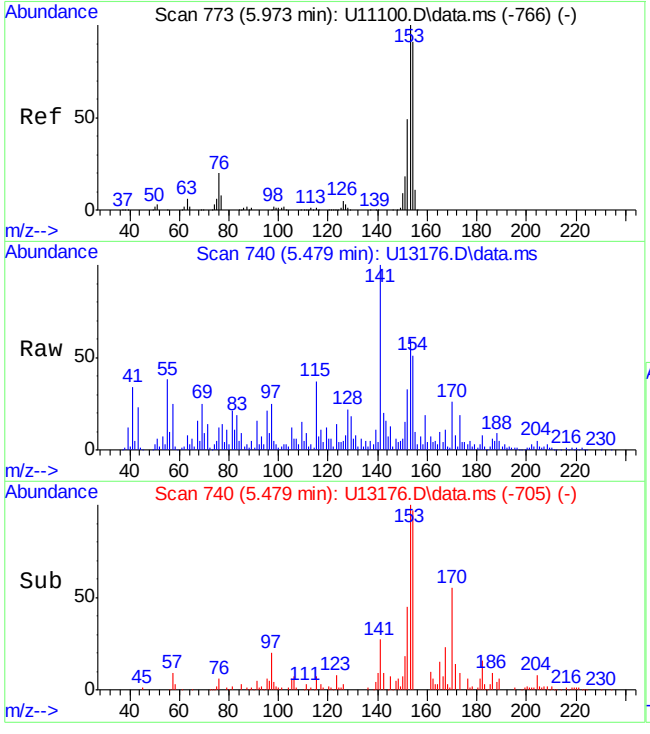


#37
1-Methylnaphthalene
Concen: 40.29 ppb
RT: 4.698 min Scan# 607
Delta R.T. 0.006 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:142 Resp: 343185

Ion	Ratio	Lower	Upper
142	100		
141	88.4	68.6	108.6

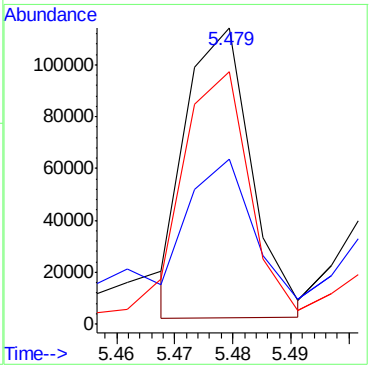


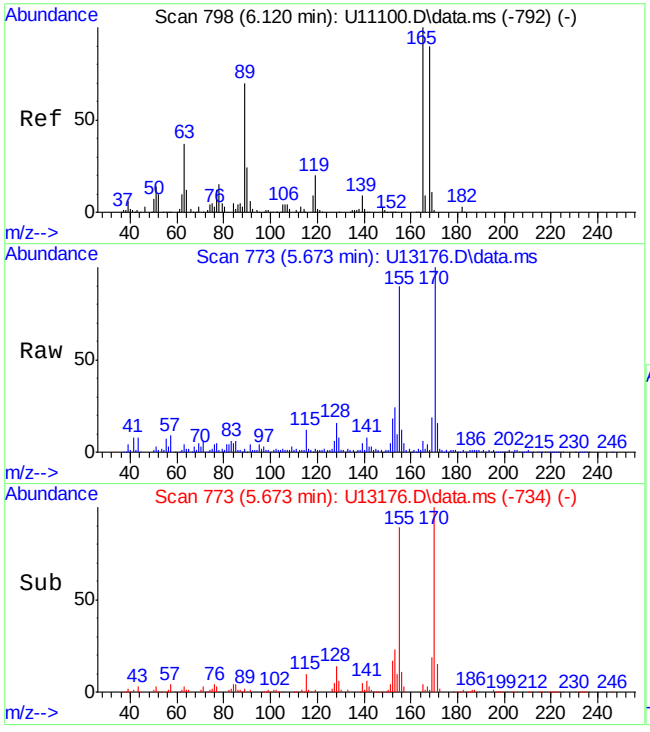


#49
Acenaphthene
Concen: 10.53 ppb m
RT: 5.479 min Scan# 740
Delta R.T. 0.006 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:153 Resp: 86940

Ion	Ratio	Lower	Upper
153	100		
152	55.8	16.6	76.6
154	85.3	64.3	124.3

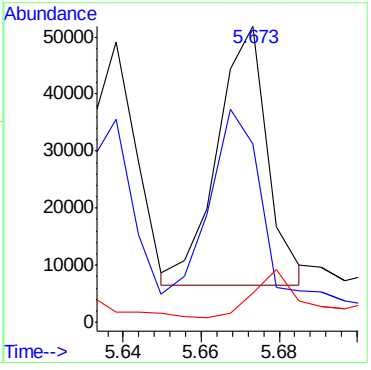


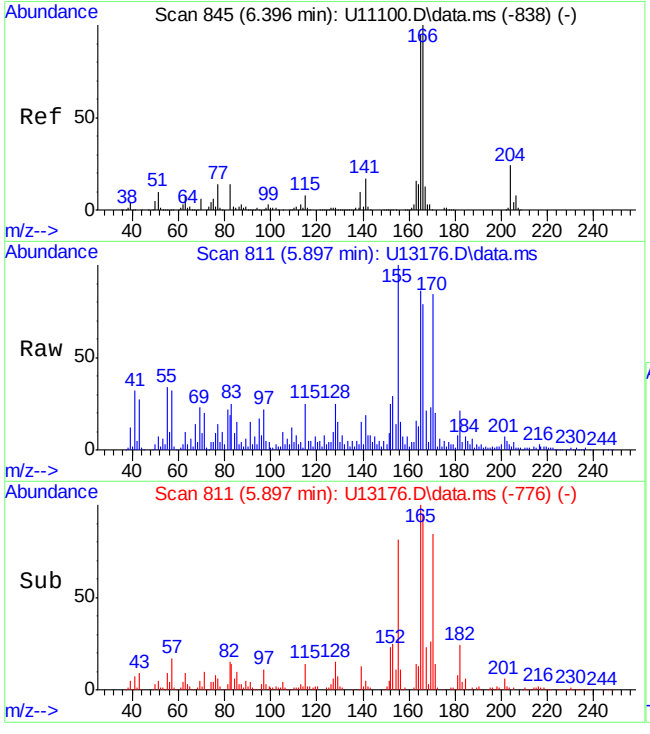


#52
2,4-Dinitrotoluene
Concen: 13.97 ppb m
RT: 5.673 min Scan# 773
Delta R.T. 0.029 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:165 Resp: 40600

Ion	Ratio	Lower	Upper
165	100		
63	60.2	12.4	72.4
182	10.1	0.0	34.8

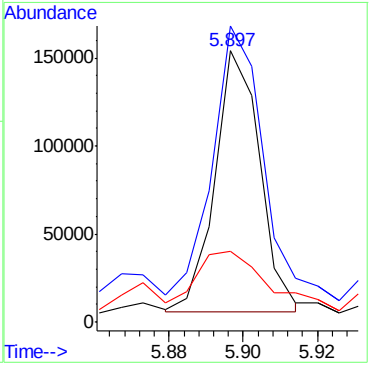


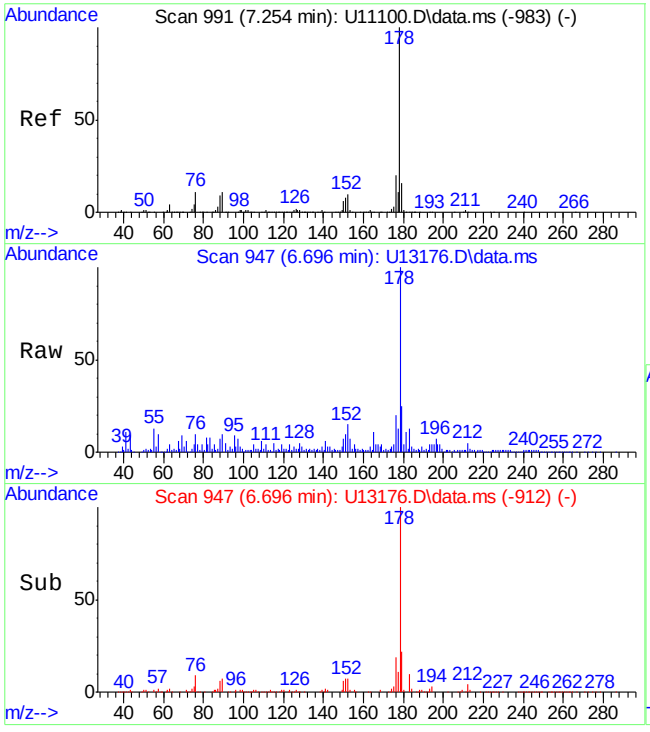


#55
Fluorene
Concen: 12.95 ppb m
RT: 5.897 min Scan# 811
Delta R.T. 0.006 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:166 Resp: 126275

Ion	Ratio	Lower	Upper
166	100		
165	109.1	63.2	123.2
167	26.2	0.0	43.3

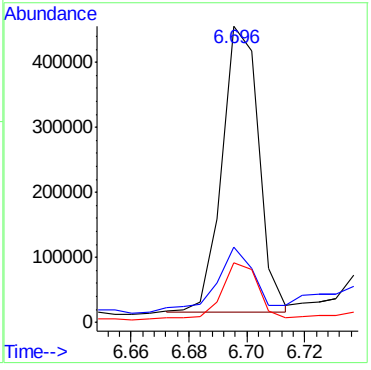


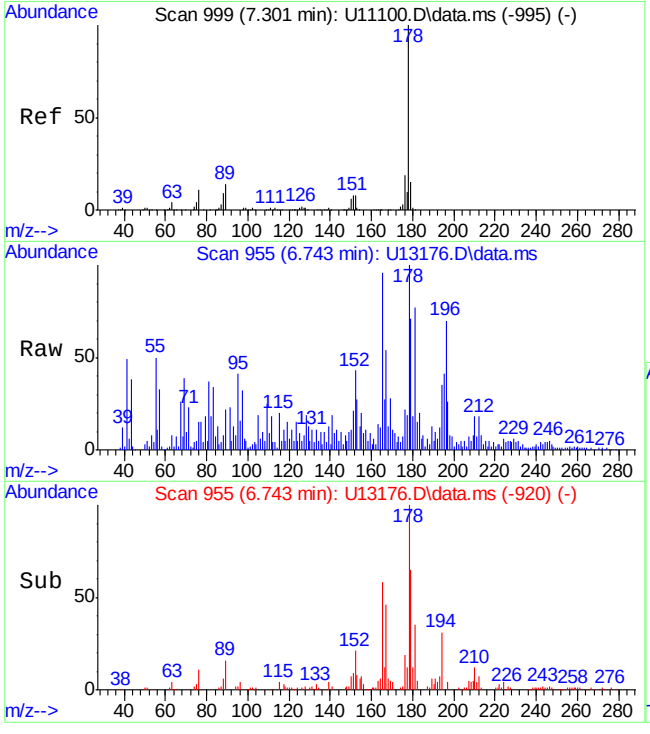


#69
Phenanthrene
Concen: 32.50 ppb m
RT: 6.696 min Scan# 947
Delta R.T. 0.006 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:178 Resp: 382973

Ion	Ratio	Lower	Upper
178	100		
179	25.4	0.0	45.7
176	20.0	0.0	48.8

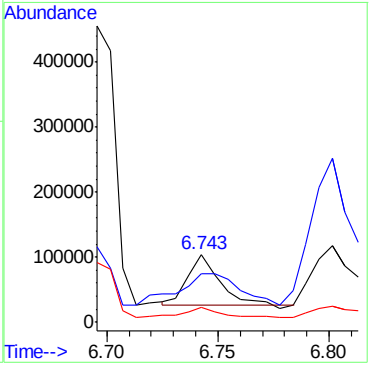




#70
Anthracene
Concen: 4.01 ppb
RT: 6.743 min Scan# 955
Delta R.T. 0.006 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:178 Resp: 73166

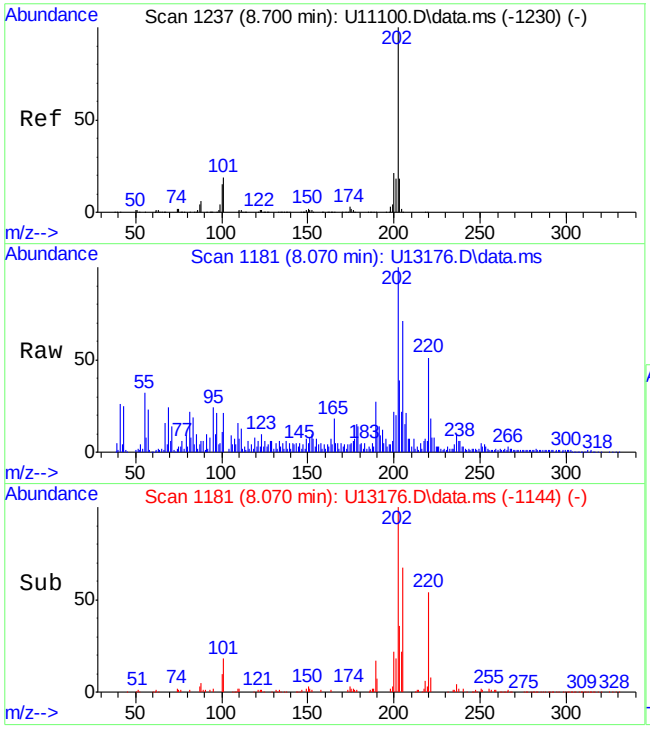
Ion	Ratio	Lower	Upper
178	100		
179	40.6	0.0	45.1
176	19.2	0.0	48.3



10.1.10

10

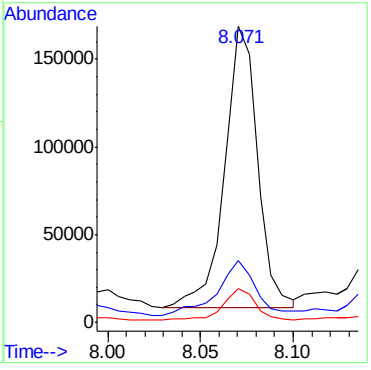
SGS ACCUTEST JB31485



#76
Pyrene
Concen: 10.83 ppb
RT: 8.070 min Scan# 1181
Delta R.T. 0.018 min
Lab File: U13176.D
Acq: 28 Mar 2013 2:06 pm

Tgt Ion:202 Resp: 198677

Ion	Ratio	Lower	Upper
202	100		
101	19.4	0.0	46.3
100	11.2	0.0	43.6



10.1.10

10

SGS ACCUTEST JB31485

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13177.D
Acq On : 28 Mar 2013 2:29 pm
Operator : NatalyaS
Sample : JB31485-11
Misc : op32398,msu673,20.16,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 29 11:45:47 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	149809	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	502354	40.00	ppb	0.00
39) Acenaphthene-d10	5.450	164	290349	40.00	ppb	0.00
61) Phenanthrene-d10	6.672	188	457019	40.00	ppb	0.00
74) Chrysene-d12	9.416	240	601051	40.00	ppb	0.01
84) Perylene-d12	10.961	264	598759	40.00	ppb	0.02
System Monitoring Compounds						
5) 2-Fluorophenol	2.172	112	315938	64.68	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 64.68%			
7) Phenol-d5	2.847	99	349582	59.58	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 59.58%			
22) Nitrobenzene-d5	3.499	82	154417m	32.51	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 65.02%			
44) 2-Fluorobiphenyl	4.927	172	338849	33.21	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 66.42%			
65) 2,4,6-Tribromophenol	6.096	330	112951	84.60	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 84.60%			
77) Terphenyl-d14	8.288	244	474512	34.79	ppb	0.02
Spiked Amount 50.000	Range 30 - 124		Recovery = 69.58%			
Target Compounds						Qvalue
19) m+p-cresols	3.488	108	4337	Below Cal	#	64
20) 4-methylphenol	3.488	108	4337	Below Cal	#	62
31) Naphthalene	4.099	128	19784	Below Cal	#	1
33) 4-Chloroaniline	4.099	127	8324	Below Cal		100
36) 2-Methylnaphthalene	4.616	142	3274	Below Cal	#	16
37) 1-Methylnaphthalene	4.692	142	5578	Below Cal	#	64
46) Acenaphthylene	5.344	152	3063	Below Cal	#	1
51) Dibenzofuran	5.679	168	3035	Below Cal		71
55) Fluorene	5.897	166	36437m	2.00	ppb	
69) Phenanthrene	6.737	178	19887	Below Cal	#	35
70) Anthracene	6.737	178	19887	Below Cal	#	34

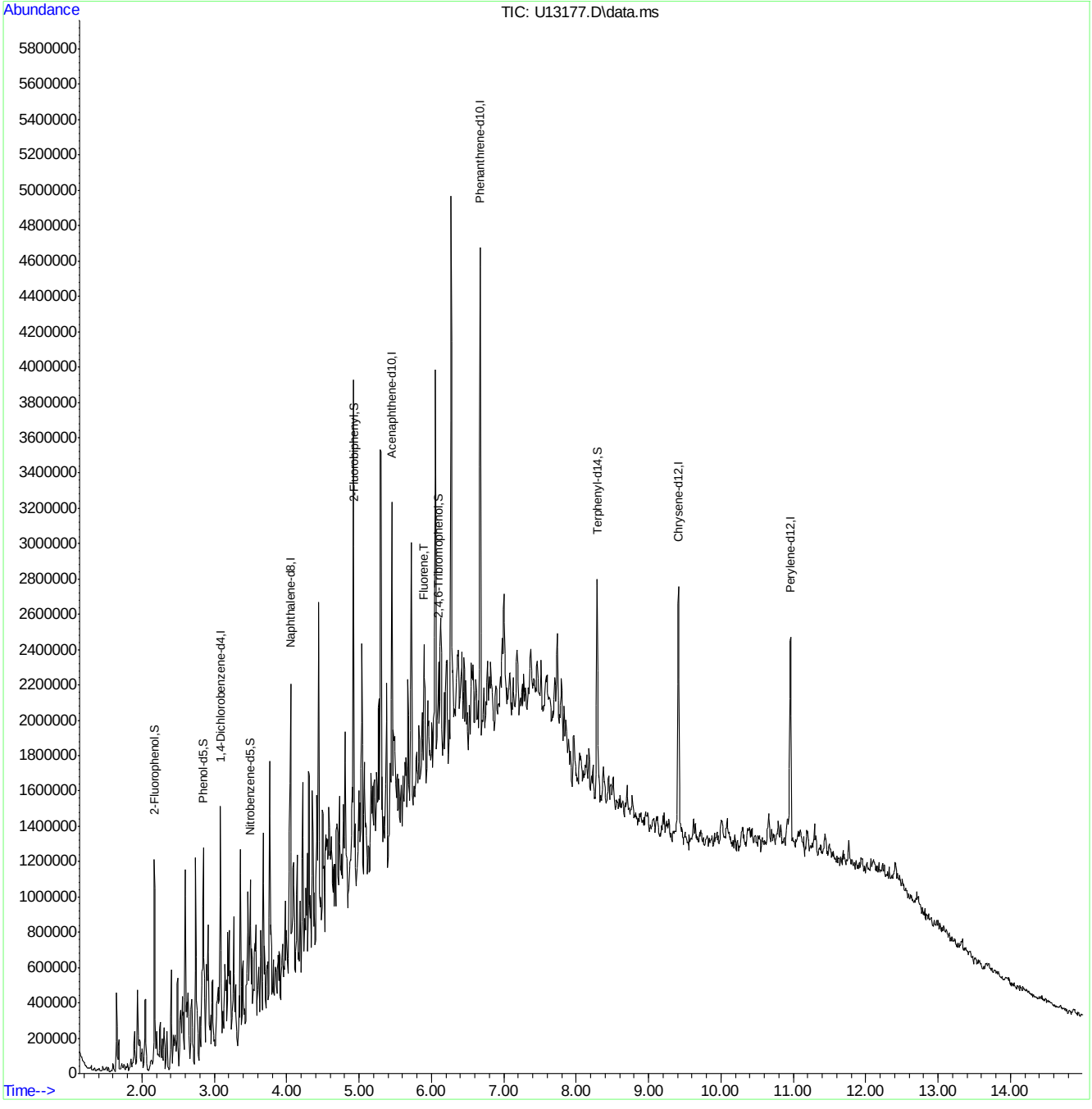
(#) = qualifier out of range (m) = manual integration (+) = signals summed

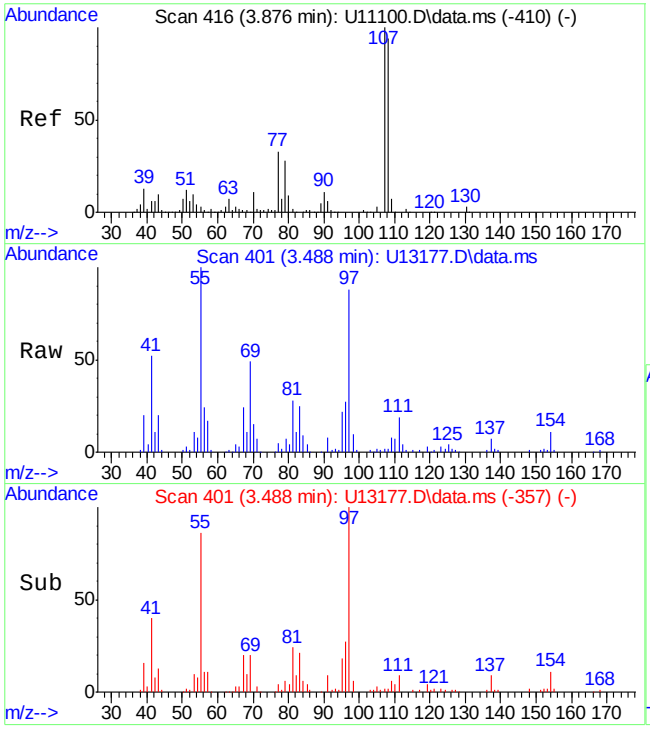
10.1.11 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13177.D
Acq On : 28 Mar 2013 2:29 pm
Operator : NatalyaS
Sample : JB31485-11
Misc : op32398,msu673,20.16,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 29 11:45:47 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

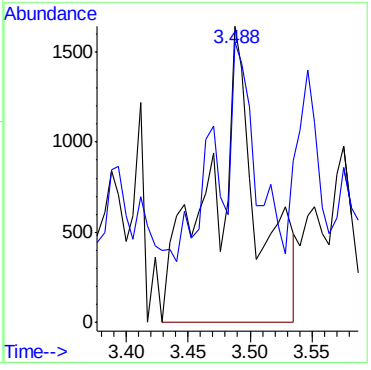


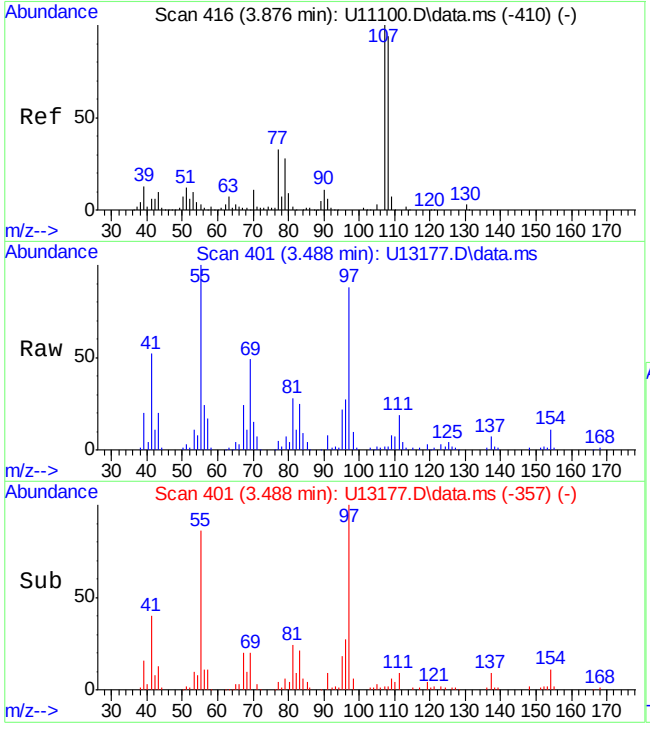


#19
m+p-cresols
Concen: Below Cal
RT: 3.488 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:108 Resp: 4337

Ion	Ratio	Lower	Upper
108	100		
107	70.4	77.8	137.8#

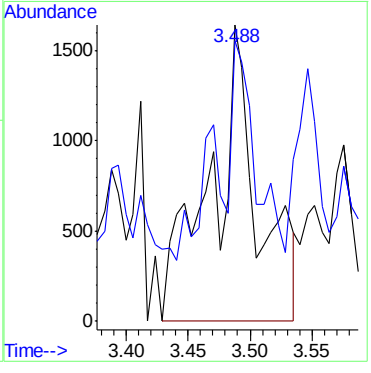


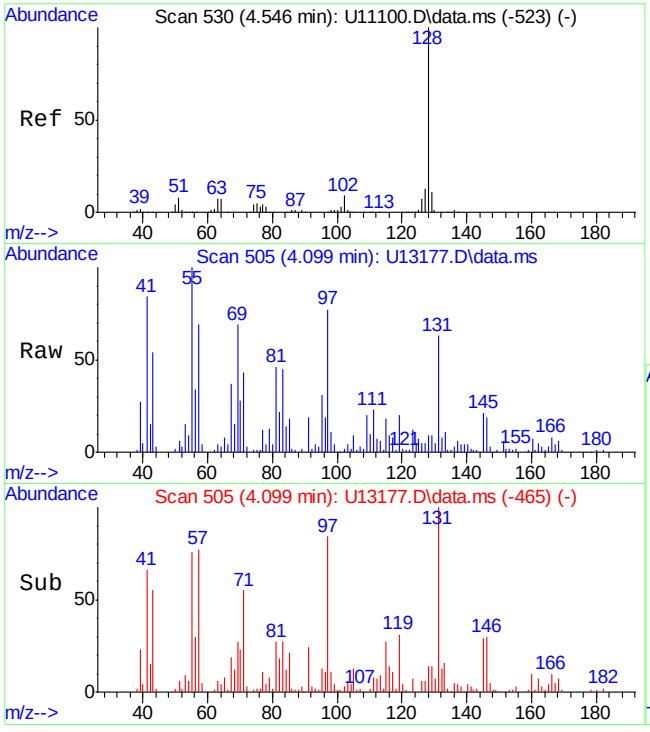


#20
4-methylphenol
Concen: Below Cal
RT: 3.488 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:108 Resp: 4337

Ion	Ratio	Lower	Upper
108	100		
107	70.4	77.1	143.1#

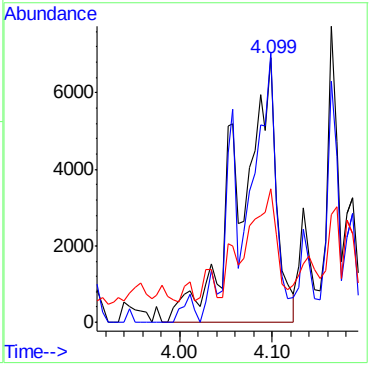


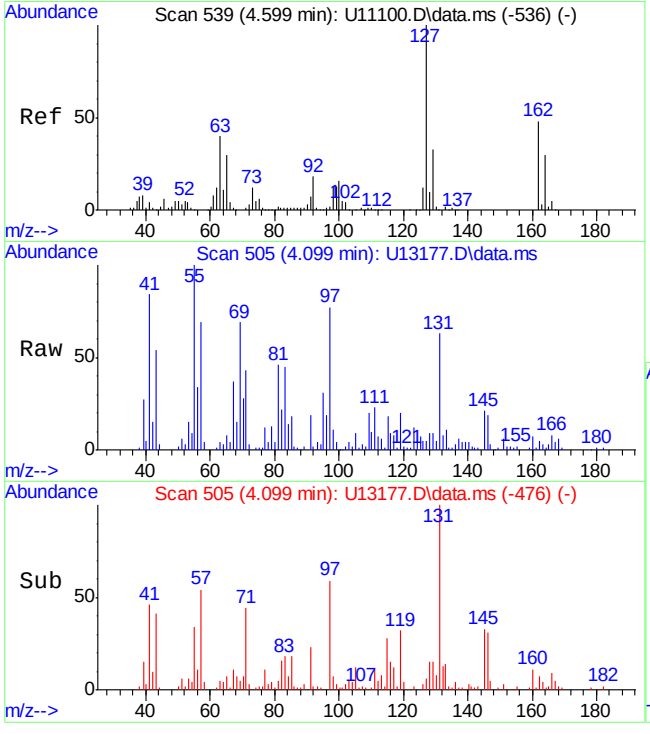


#31
Naphthalene
Concen: Below Cal
RT: 4.099 min Scan# 505
Delta R.T. 0.035 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:128 Resp: 19784

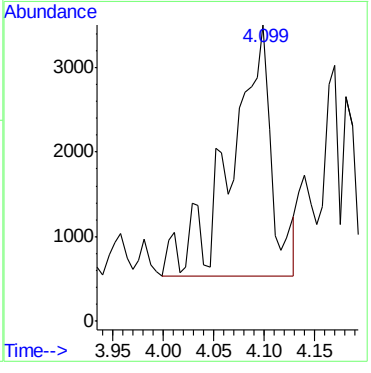
Ion	Ratio	Lower	Upper
128	100		
129	102.0	0.0	41.2#
127	36.6	0.0	43.6



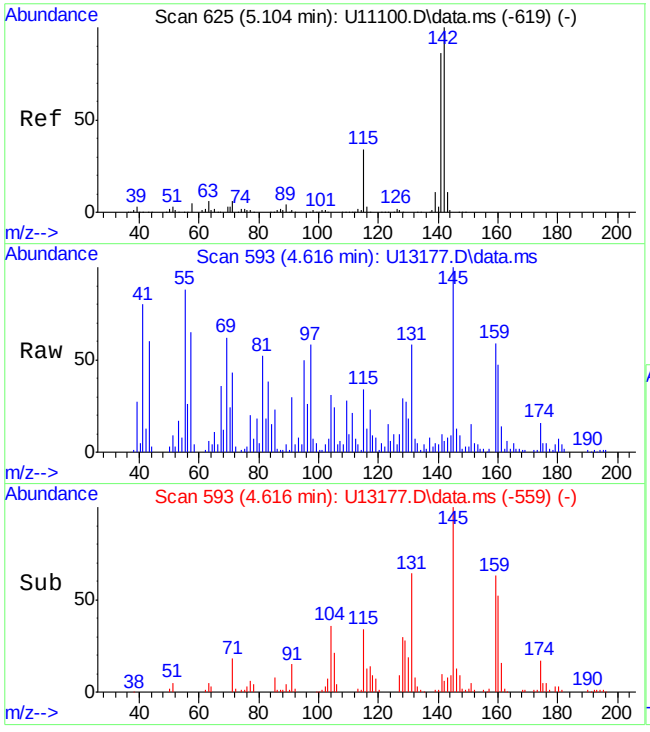


#33
4-Chloroaniline
Concen: Below Cal
RT: 4.099 min Scan# 505
Delta R.T. -0.029 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:127 Resp: 8324



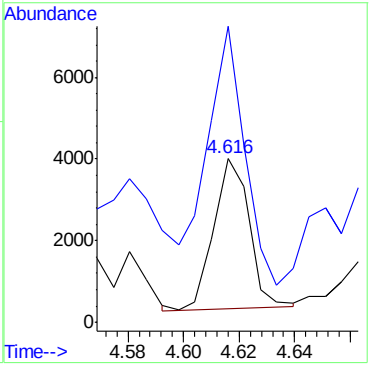
SGS ACCUTEST JB31485

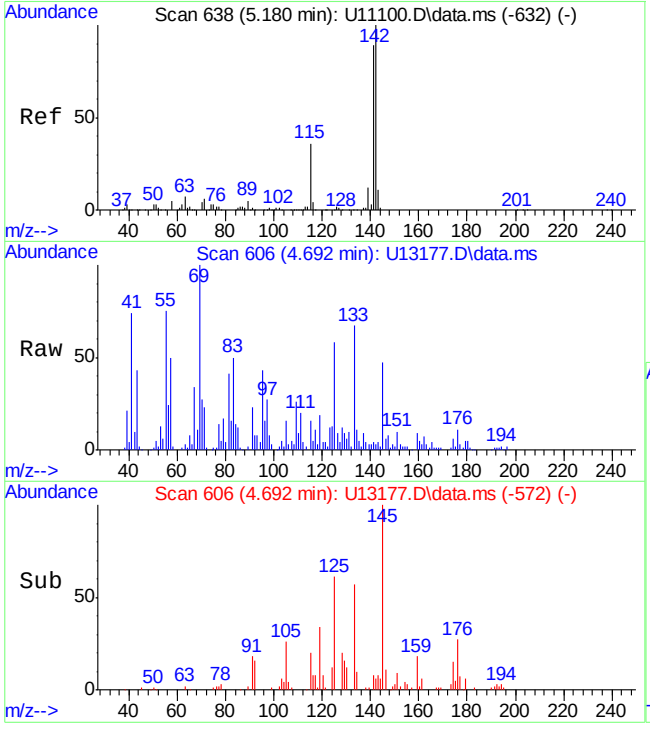


#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.616 min Scan# 593
Delta R.T. 0.000 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:142 Resp: 3274

Ion	Ratio	Lower	Upper
142	100		
141	164.0	56.7	116.7#

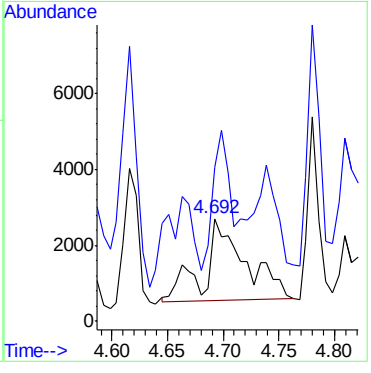


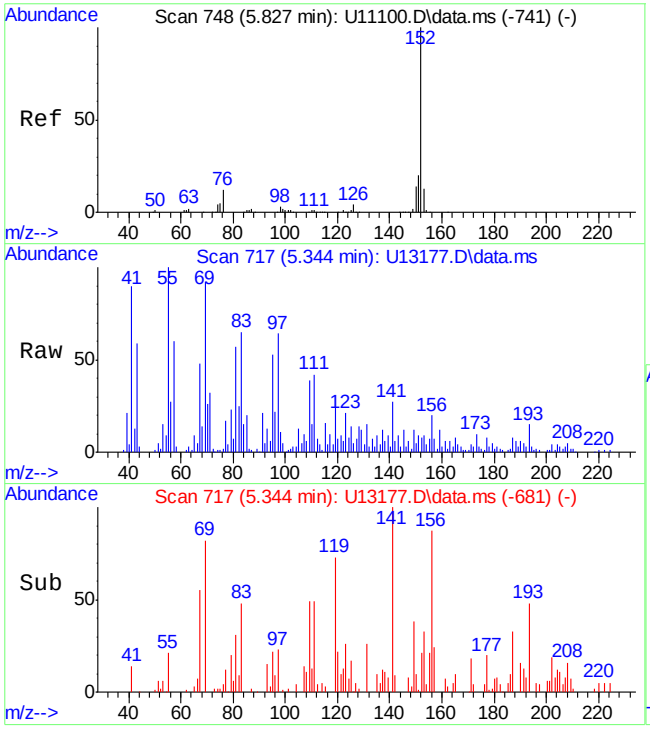


#37
1-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:142 Resp: 5578

Ion	Ratio	Lower	Upper
142	100		
141	122.3	68.6	108.6#

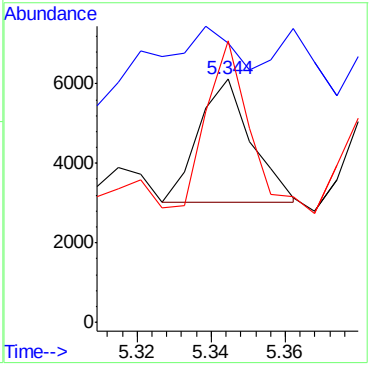


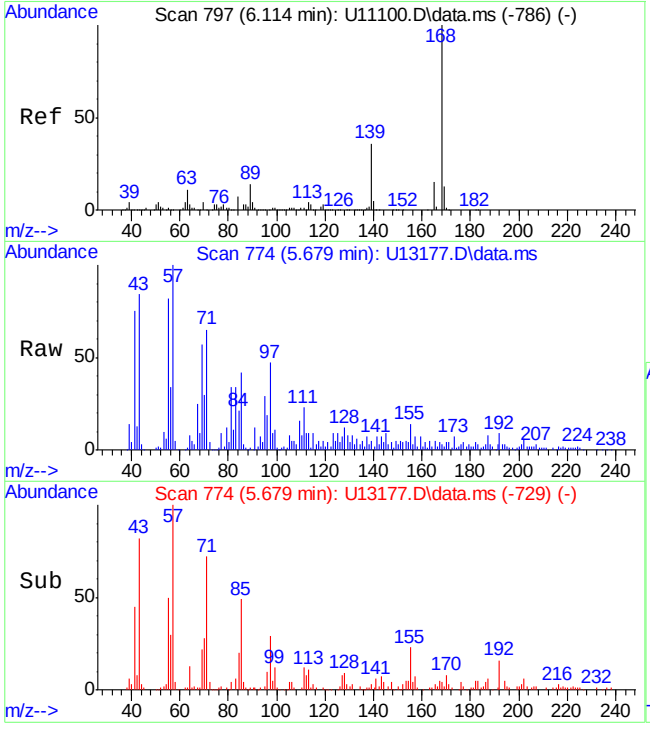


#46
Acenaphthylene
Concen: Below Cal
RT: 5.344 min Scan# 717
Delta R.T. 0.012 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:152 Resp: 3063

Ion	Ratio	Lower	Upper
152	100		
151	11.1	0.0	49.7
153	136.0	0.0	43.1#

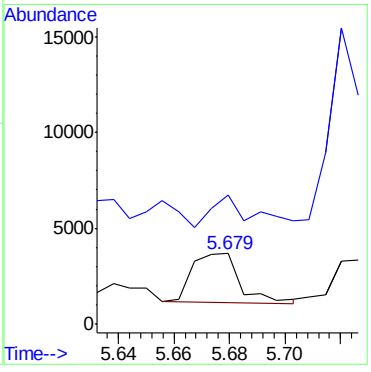


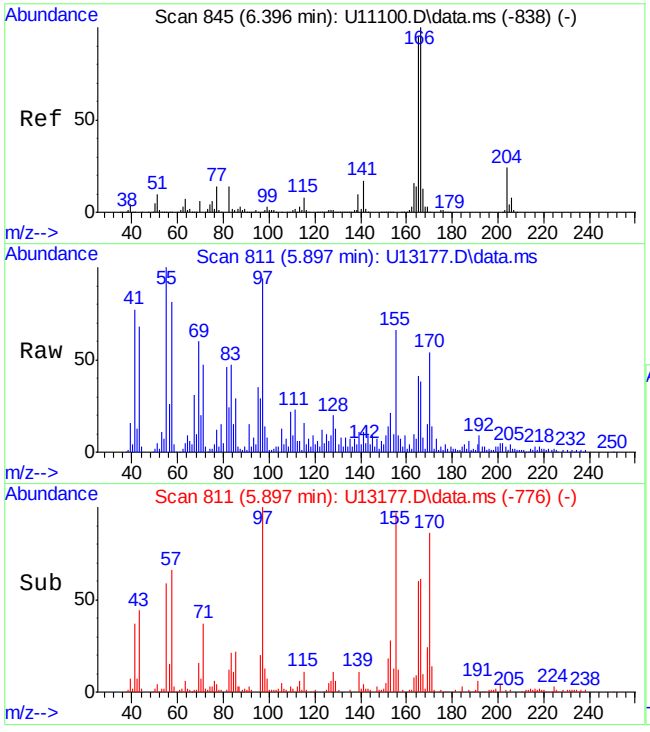


#51
Dibenzofuran
Concen: Below Cal
RT: 5.679 min Scan# 774
Delta R.T. 0.065 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:168 Resp: 3035

Ion	Ratio	Lower	Upper
168	100		
139	54.3	7.0	67.0

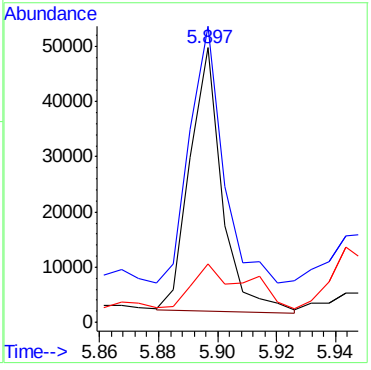


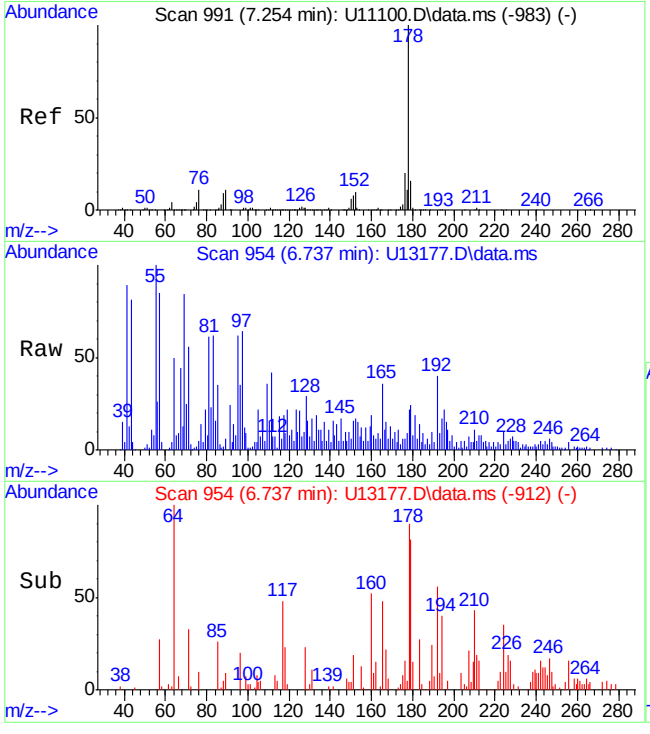


#55
Fluorene
Concen: 2.00 ppb m
RT: 5.897 min Scan# 811
Delta R.T. 0.006 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:166 Resp: 36437

Ion	Ratio	Lower	Upper
166	100		
165	107.7	63.2	123.2
167	21.2	0.0	43.3

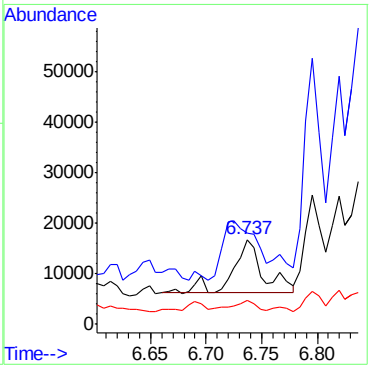


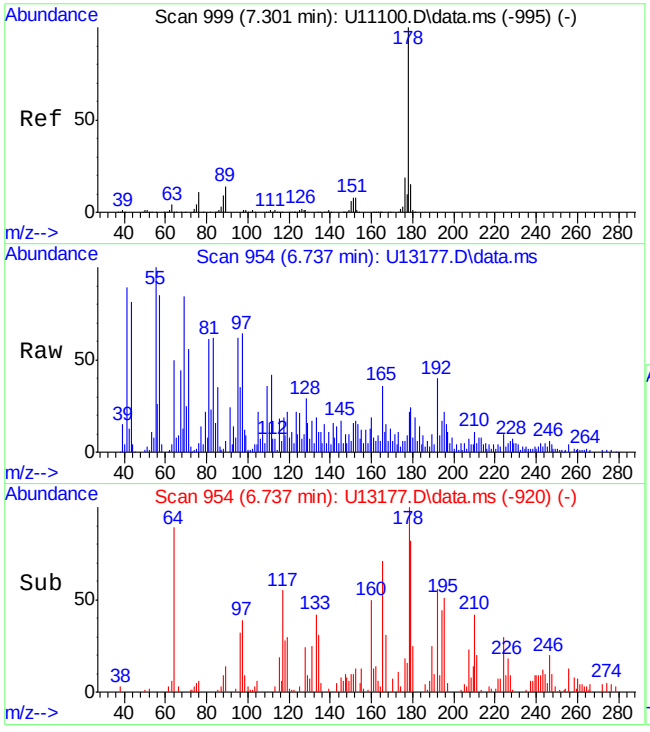


#69
Phenanthrene
Concen: Below Cal
RT: 6.737 min Scan# 954
Delta R.T. 0.047 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:178 Resp: 19887

Ion	Ratio	Lower	Upper
178	100		
179	73.8	0.0	45.7#
176	20.4	0.0	48.8

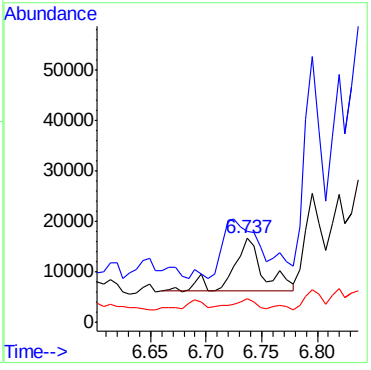




#70
Anthracene
Concen: Below Cal
RT: 6.737 min Scan# 954
Delta R.T. 0.000 min
Lab File: U13177.D
Acq: 28 Mar 2013 2:29 pm

Tgt Ion:178 Resp: 19887

Ion	Ratio	Lower	Upper
178	100		
179	73.8	0.0	45.1#
176	20.4	0.0	48.3



10.1.11

10

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13178.D
Acq On : 28 Mar 2013 2:51 pm
Operator : NatalyaS
Sample : JB31485-12
Misc : op32398,msu673,20.48,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 11:46:28 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	145865	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	529354	40.00 ppb	0.00
39) Acenaphthene-d10	5.444	164	325580	40.00 ppb	0.00
61) Phenanthrene-d10	6.666	188	588057	40.00 ppb	0.00
74) Chrysene-d12	9.398	240	644498	40.00 ppb	0.00
84) Perylene-d12	10.944	264	597915	40.00 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.171	112	325014	68.34 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.34%		
7) Phenol-d5	2.847	99	361710	63.31 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 63.31%		
22) Nitrobenzene-d5	3.499	82	146392	29.24 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 58.48%		
44) 2-Fluorobiphenyl	4.921	172	416573	36.41 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 72.82%		
65) 2,4,6-Tribromophenol	6.090	330	125322	72.95 ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 72.95%		
77) Terphenyl-d14	8.270	244	542418	37.09 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 74.18%		
Target Compounds					Qvalue
31) Naphthalene	4.063	128	5772	Below Cal	94
46) Acenaphthylene	5.338	152	1475	Below Cal #	1
51) Dibenzofuran	5.615	168	3042	Below Cal	75
55) Fluorene	5.891	166	4420	Below Cal	77
63) n-Nitrosodiphenylamine	6.002	169	8305	Below Cal #	45
69) Phenanthrene	6.684	178	19505	Below Cal	95
70) Anthracene	6.731	178	3215	Below Cal	57
71) Carbazole	6.895	167	1083	Below Cal #	1

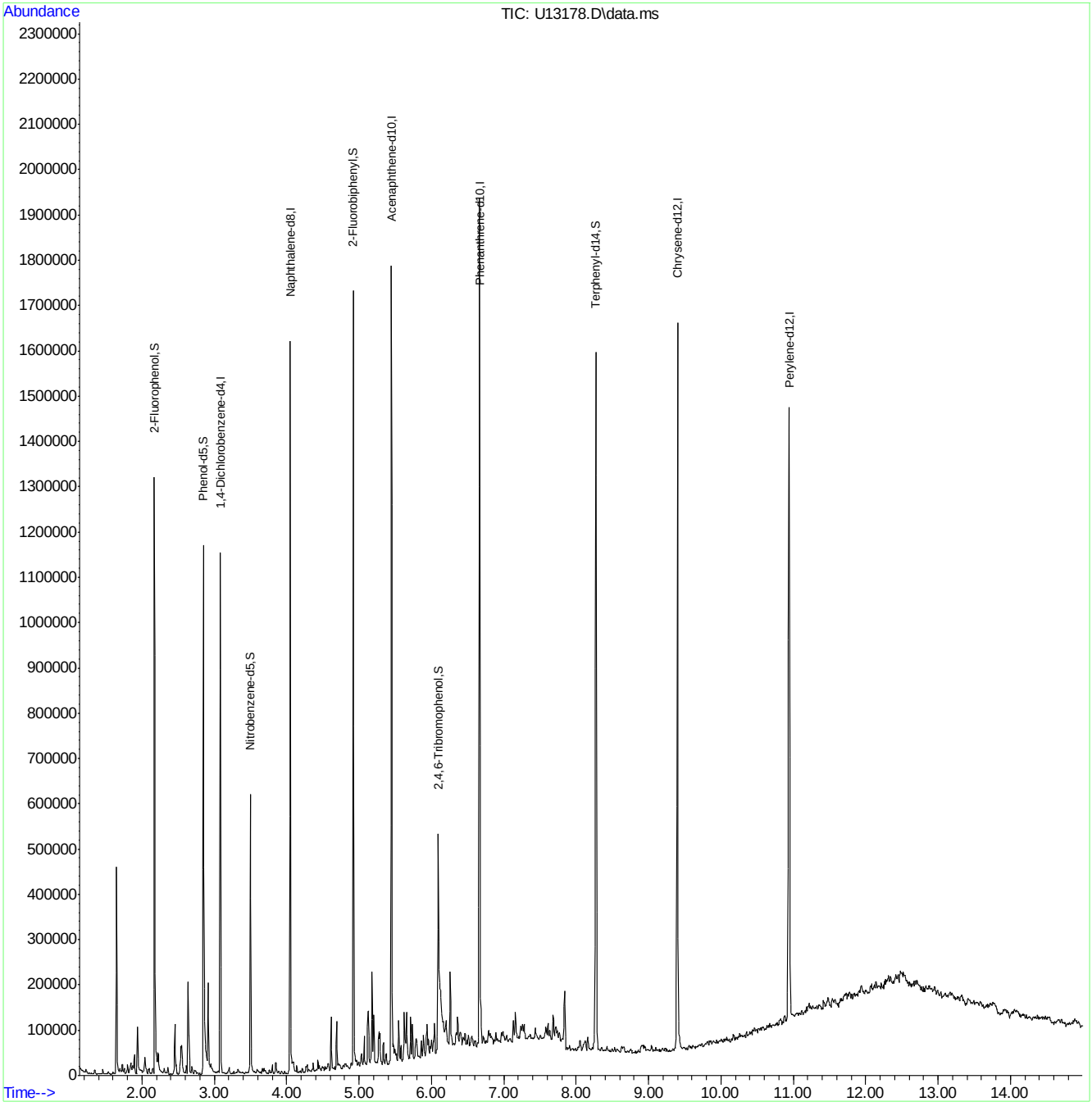
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31485

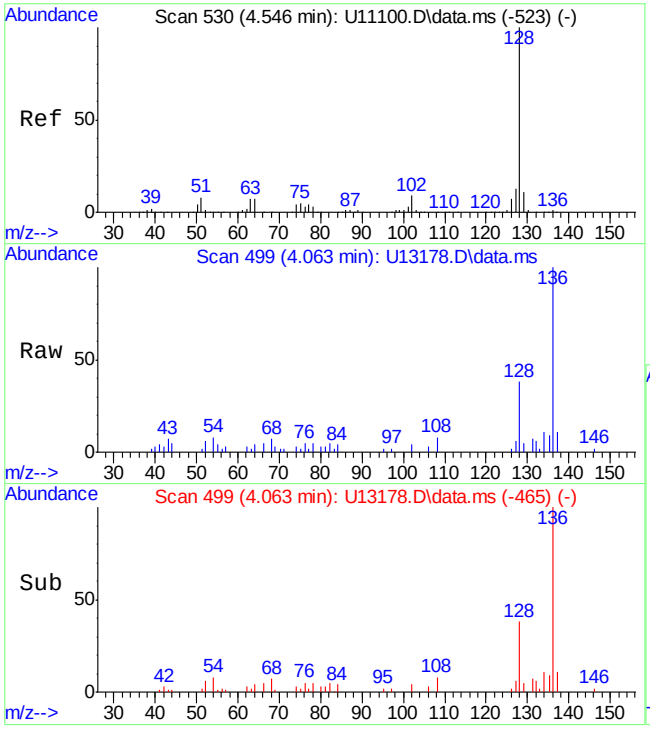
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13178.D
Acq On : 28 Mar 2013 2:51 pm
Operator : NatalyaS
Sample : JB31485-12
Misc : op32398,msu673,20.48,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 29 11:46:28 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration



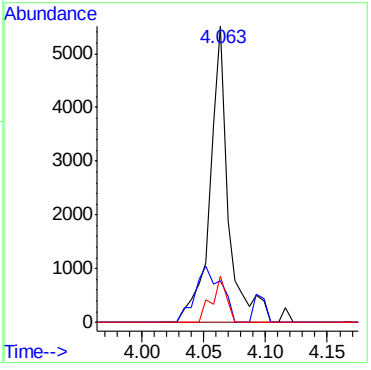
U130129_8270.m Fri Mar 29 11:46:32 2013 Page: 2

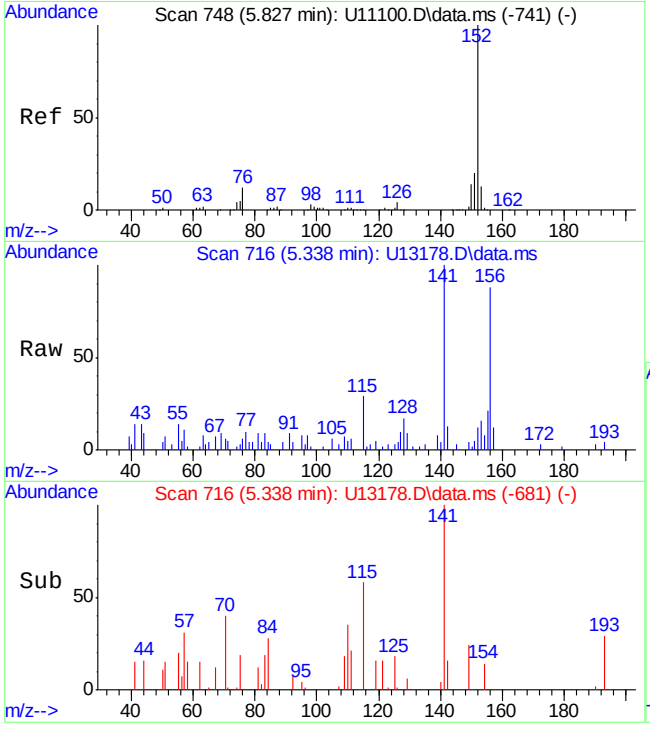


#31
Naphthalene
Concen: Below Cal
RT: 4.063 min Scan# 499
Delta R.T. 0.000 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:128 Resp: 5772

Ion	Ratio	Lower	Upper
128	100		
129	14.1	0.0	41.2
127	15.7	0.0	43.6

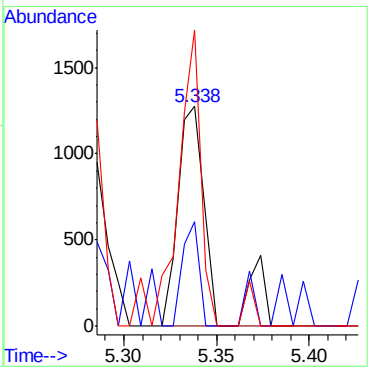


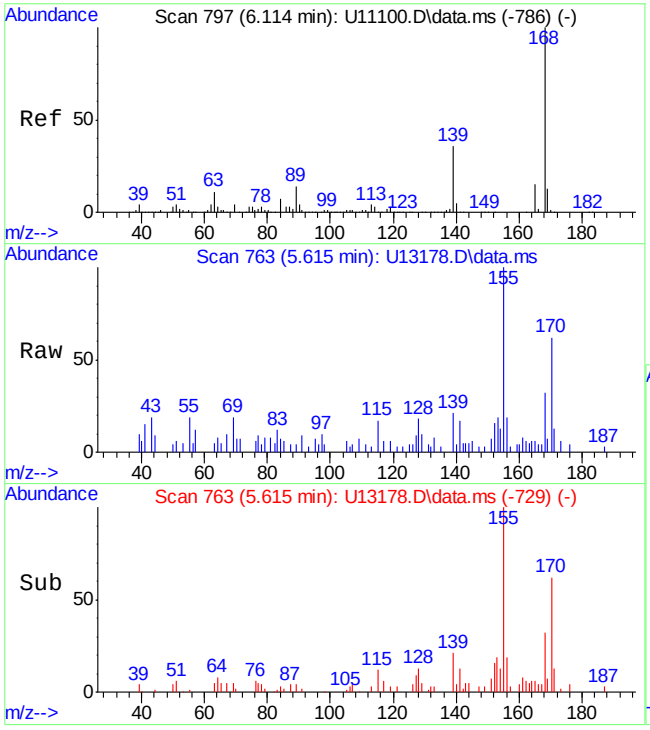


#46
Acenaphthylene
Concen: Below Cal
RT: 5.338 min Scan# 716
Delta R.T. 0.006 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:152 Resp: 1475

Ion	Ratio	Lower	Upper
152	100		
151	47.4	0.0	49.7
153	134.7	0.0	43.1#

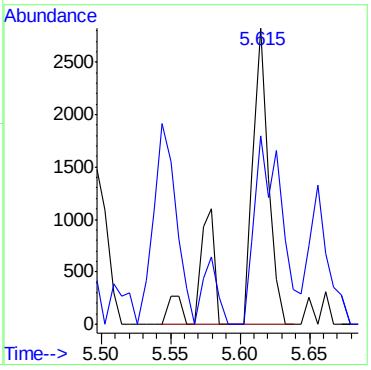


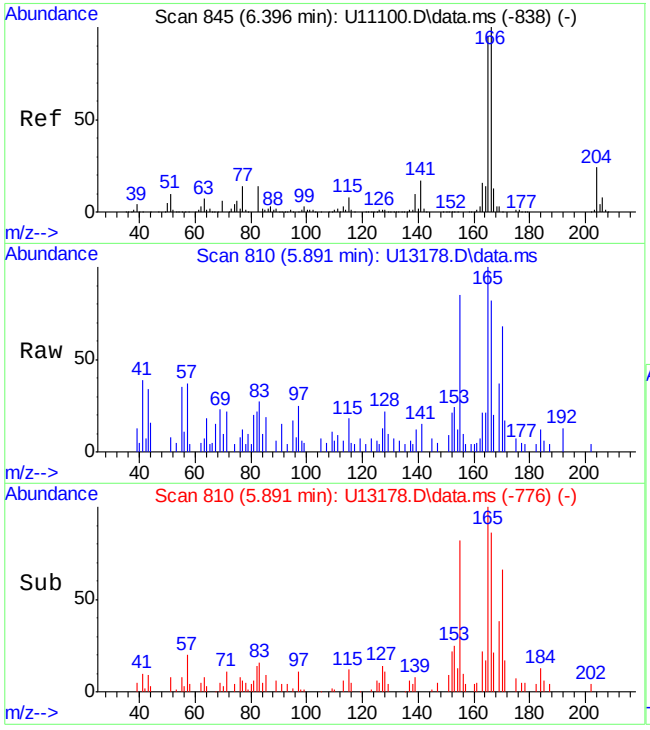


#51
Dibenzofuran
Concen: Below Cal
RT: 5.615 min Scan# 763
Delta R.T. 0.000 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:168 Resp: 3042

Ion	Ratio	Lower	Upper
168	100		
139	52.0	7.0	67.0

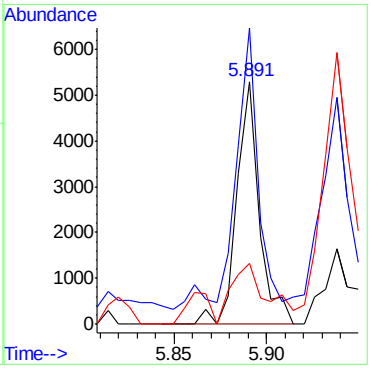




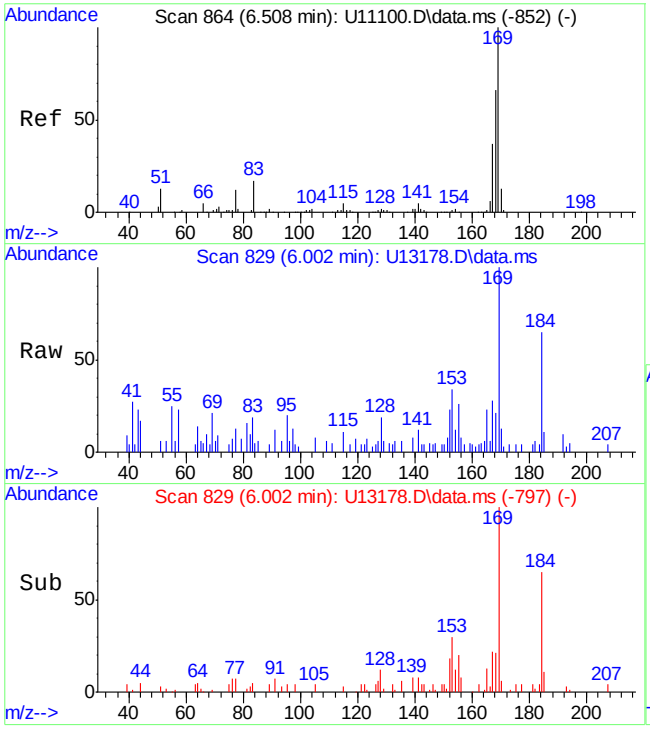
#55
Fluorene
Concen: Below Cal
RT: 5.891 min Scan# 810
Delta R.T. 0.000 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:166 Resp: 4420

Ion	Ratio	Lower	Upper
166	100		
165	114.5	63.2	123.2
167	25.0	0.0	43.3



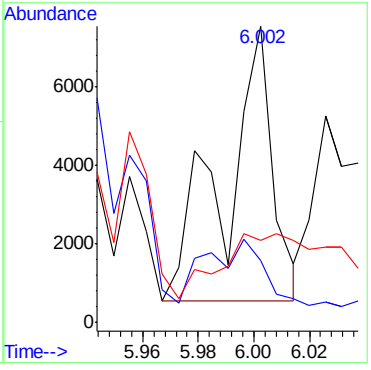
10.1.12
10

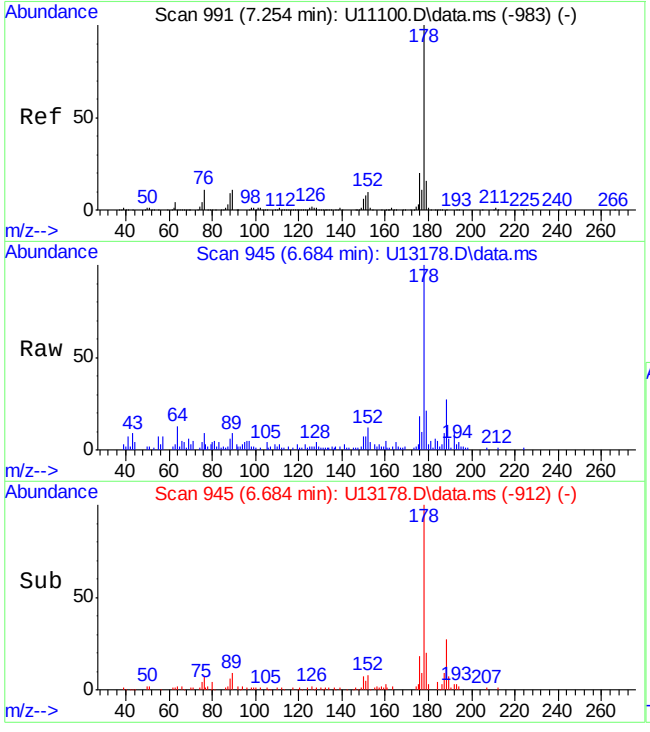


#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.002 min Scan# 829
Delta R.T. -0.012 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:169 Resp: 8305

Ion	Ratio	Lower	Upper
169	100		
168	13.9	33.9	93.9#
167	12.3	4.0	64.0

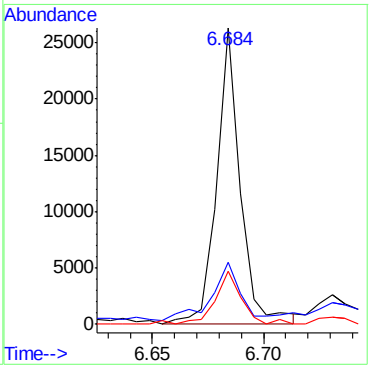


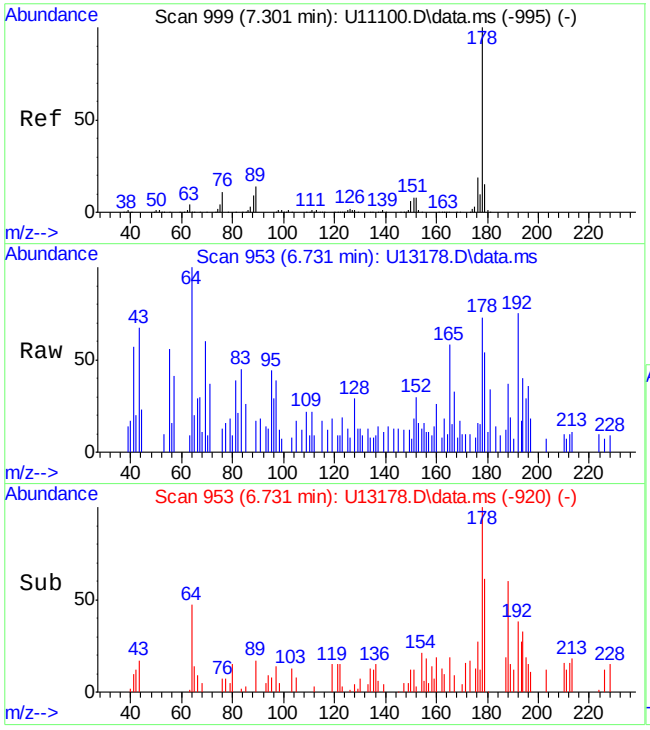


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:178 Resp: 19505

Ion	Ratio	Lower	Upper
178	100		
179	19.5	0.0	45.7
176	17.7	0.0	48.8

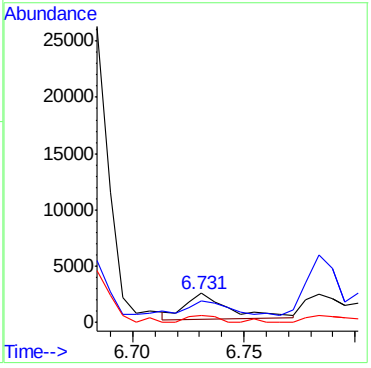


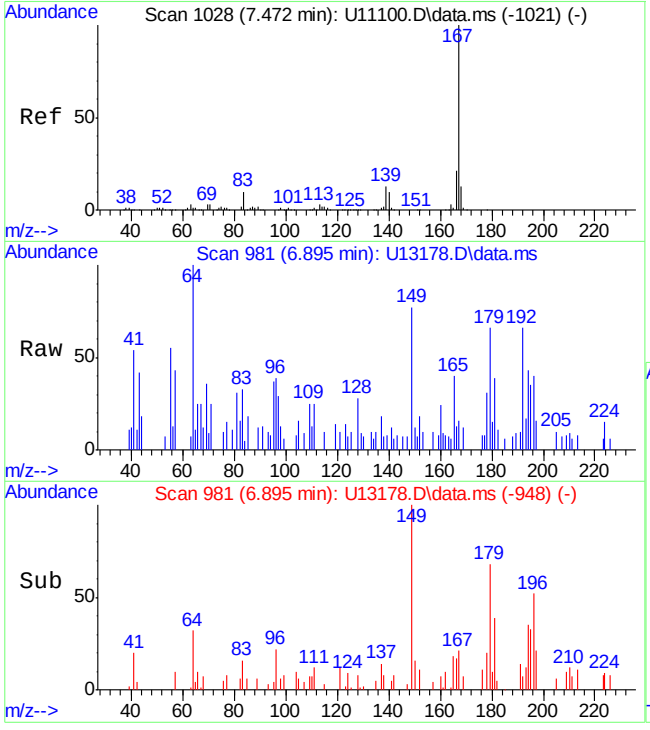


#70
Anthracene
Concen: Below Cal
RT: 6.731 min Scan# 953
Delta R.T. -0.006 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:178 Resp: 3215

Ion	Ratio	Lower	Upper
178	100		
179	43.5	0.0	45.1
176	28.5	0.0	48.3

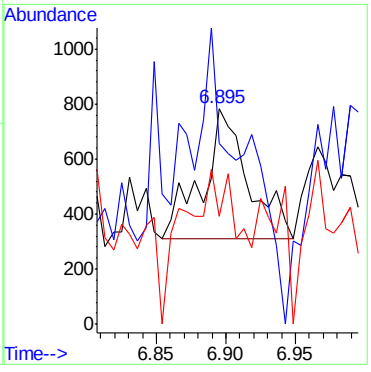




#71
Carbazole
Concen: Below Cal
RT: 6.895 min Scan# 981
Delta R.T. -0.006 min
Lab File: U13178.D
Acq: 28 Mar 2013 2:51 pm

Tgt Ion:167 Resp: 1083

Ion	Ratio	Lower	Upper
167	100		
166	74.6	0.0	50.9#
139	83.3	0.0	43.1#



Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13179.D
Acq On : 28 Mar 2013 3:14 pm
Operator : NatalyaS
Sample : JB31485-13
Misc : op32398,msu673,20.21,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 29 11:48:34 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	131942m	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	440798	40.00 ppb	0.00
39) Acenaphthene-d10	5.450	164	254626	40.00 ppb	0.00
61) Phenanthrene-d10	6.672	188	445747	40.00 ppb	0.00
74) Chrysene-d12	9.410	240	558189	40.00 ppb	0.00
84) Perylene-d12	10.956	264	551743	40.00 ppb	0.01
System Monitoring Compounds					
5) 2-Fluorophenol	2.172	112	287839	66.91 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 66.91%		
7) Phenol-d5	2.847	99	328339	63.54 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 63.54%		
22) Nitrobenzene-d5	3.499	82	154401	37.04 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 74.08%		
44) 2-Fluorobiphenyl	4.927	172	338075	37.78 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 75.56%		
65) 2,4,6-Tribromophenol	6.108	330	106940	82.12 ppb	0.02
Spiked Amount 100.000	Range 10 - 157		Recovery = 82.12%		
77) Terphenyl-d14	8.282	244	467704	36.92 ppb	0.01
Spiked Amount 50.000	Range 30 - 124		Recovery = 73.84%		
Target Compounds					Qvalue
19) m+p-cresols	3.488	108	1506	Below Cal	98
20) 4-methylphenol	3.488	108	1506	Below Cal	96
31) Naphthalene	4.064	128	45948m	1.83 ppb	
33) 4-Chloroaniline	4.163	127	2965	Below Cal	100
36) 2-Methylnaphthalene	4.616	142	90246	10.20 ppb	100
37) 1-Methylnaphthalene	4.692	142	31711m	2.52 ppb	
46) Acenaphthylene	5.344	152	17158	Below Cal #	1
49) Acenaphthene	5.474	153	21576m	2.87 ppb	
51) Dibenzofuran	5.621	168	47090m	2.30 ppb	
55) Fluorene	5.897	166	62236m	5.98 ppb	
69) Phenanthrene	6.690	178	27233	Below Cal	95
73) Fluoranthene	7.842	202	18697	1.34 ppb	88
76) Pyrene	8.065	202	110608	6.40 ppb	97
81) Benzo[a]anthracene	9.404	228	14681m	0.89 ppb	
82) Chrysene	9.428	228	34807m	2.24 ppb	

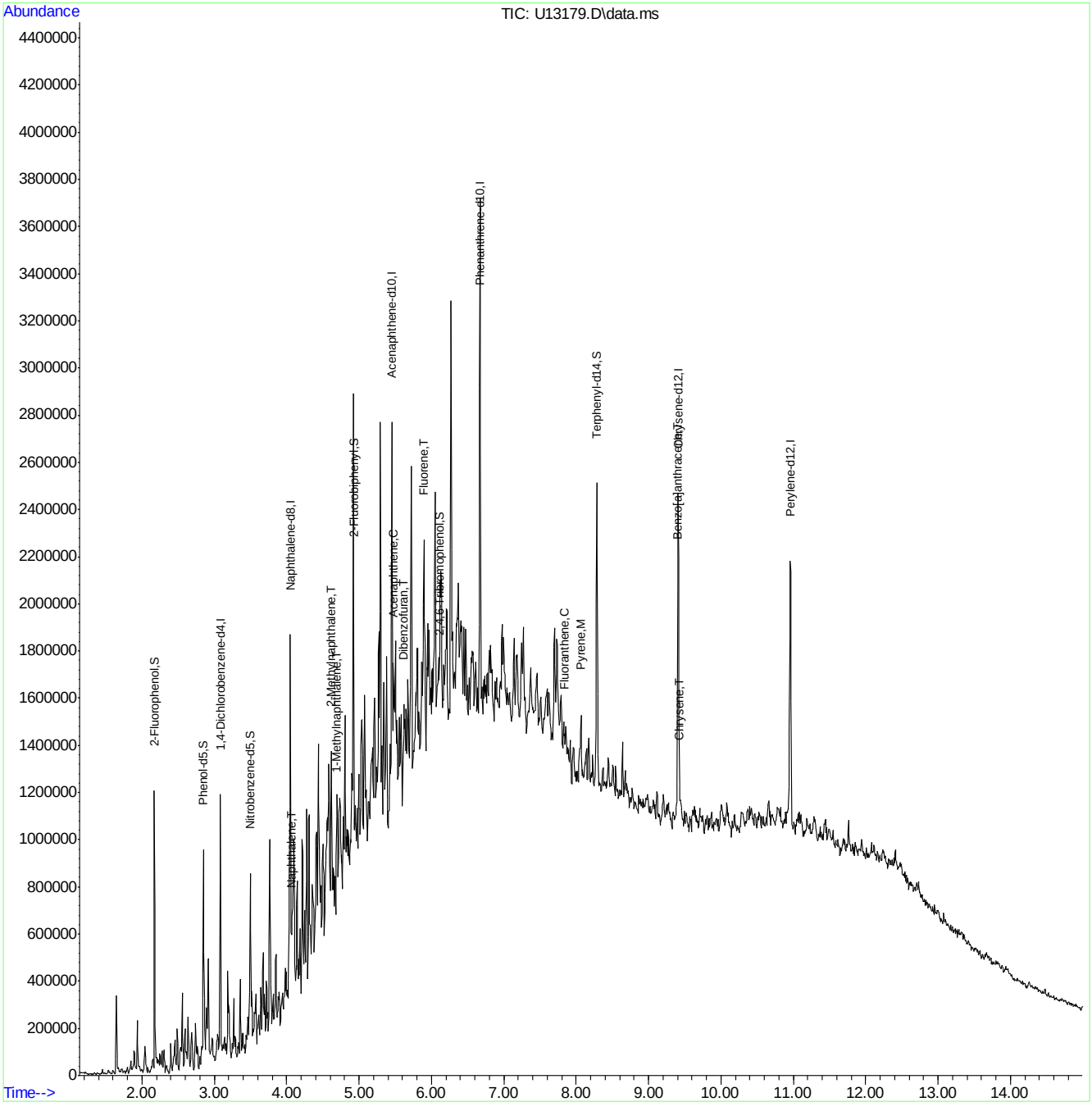
(#) = qualifier out of range (m) = manual integration (+) = signals summed

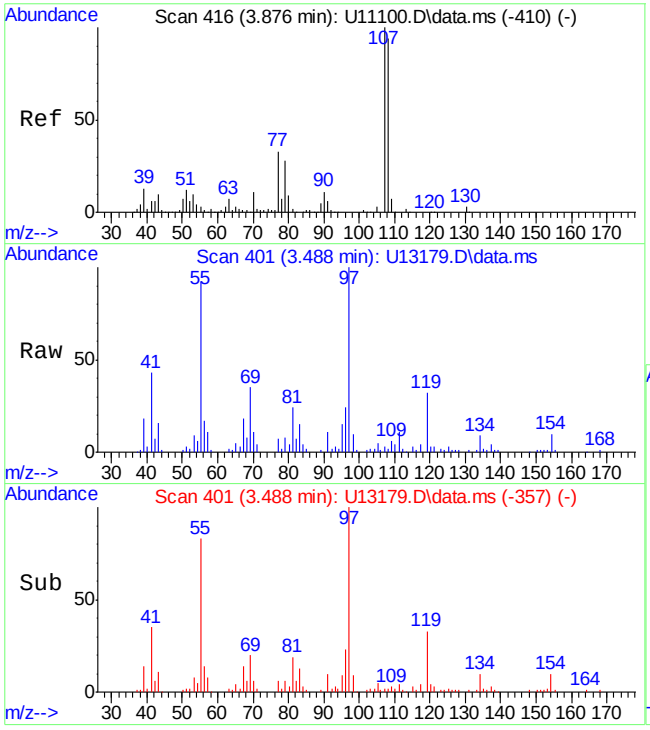
10.1.13 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13179.D
Acq On : 28 Mar 2013 3:14 pm
Operator : NatalyaS
Sample : JB31485-13
Misc : op32398,msu673,20.21,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 29 11:48:34 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

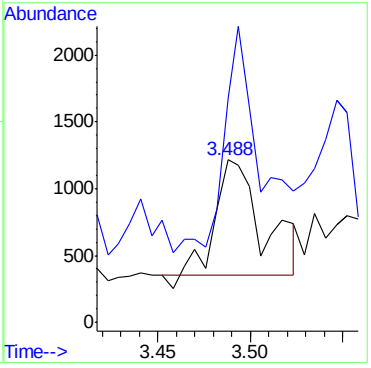


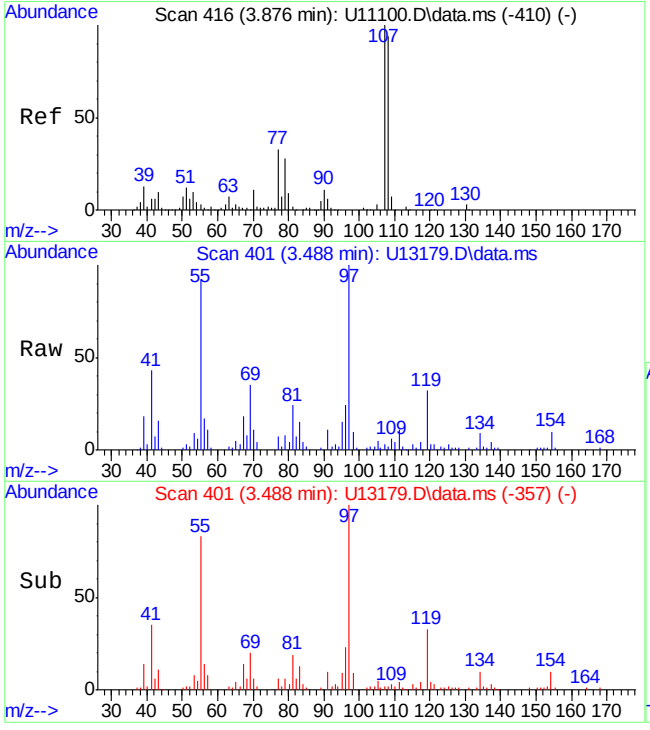


#19
m+p-cresols
Concen: Below Cal
RT: 3.488 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:108 Resp: 1506

Ion	Ratio	Lower	Upper
108	100		
107	105.9	77.8	137.8

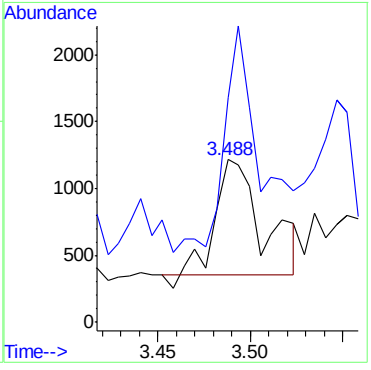


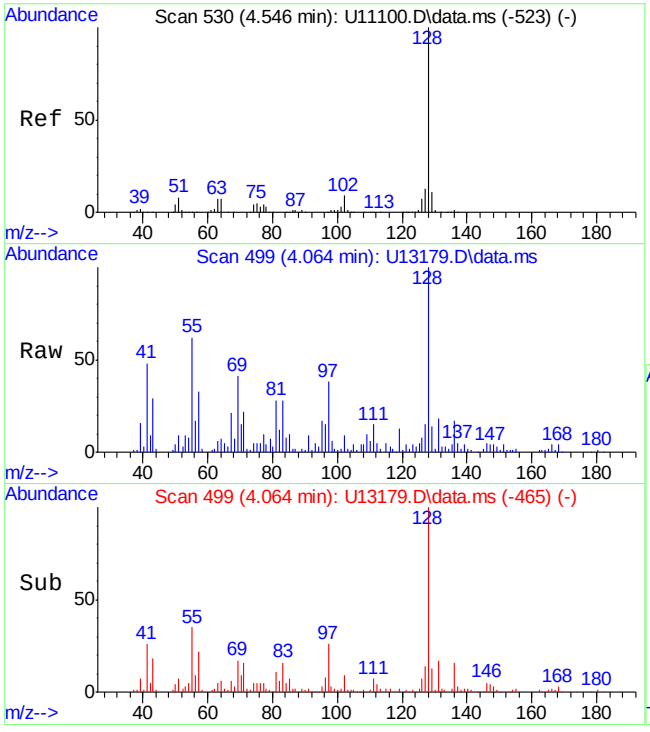


#20
4-methylphenol
Concen: Below Cal
RT: 3.488 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:108 Resp: 1506

Ion	Ratio	Lower	Upper
108	100		
107	105.9	77.1	143.1

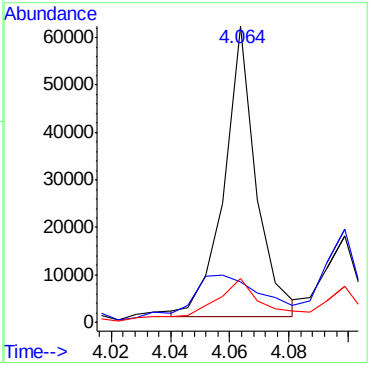


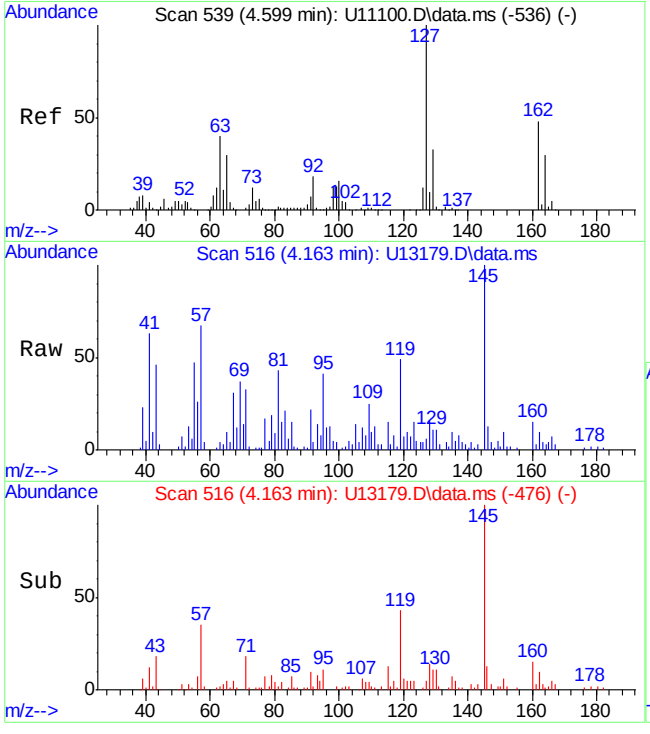


#31
Naphthalene
Concen: 1.83 ppb m
RT: 4.064 min Scan# 499
Delta R.T. 0.000 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:128 Resp: 45948

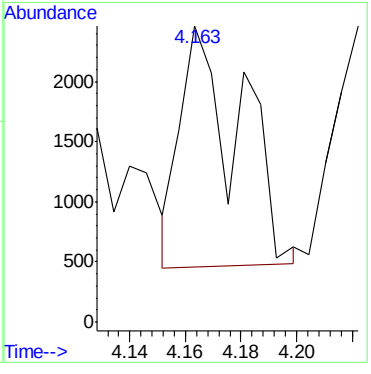
Ion	Ratio	Lower	Upper
128	100		
129	13.7	0.0	41.2
127	14.8	0.0	43.6



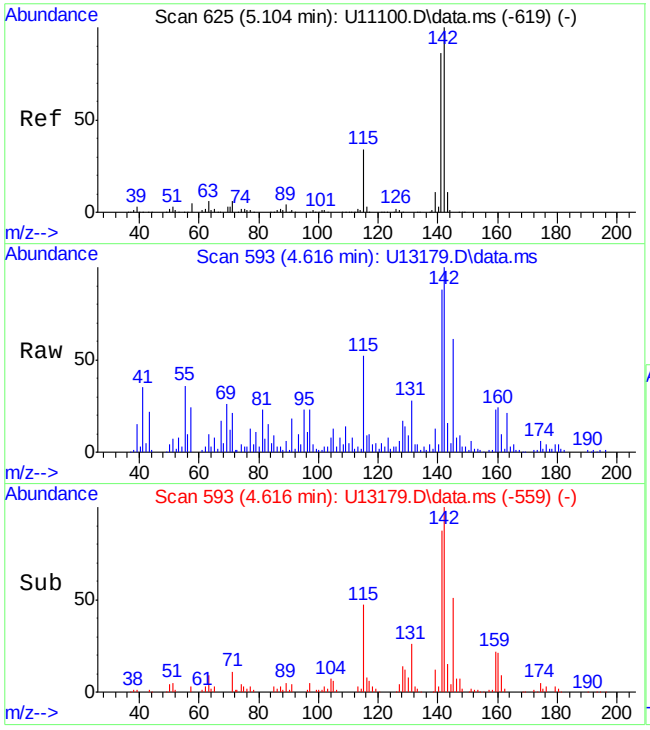


#33
4-Chloroaniline
Concen: Below Cal
RT: 4.163 min Scan# 516
Delta R.T. 0.035 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:127 Resp: 2965



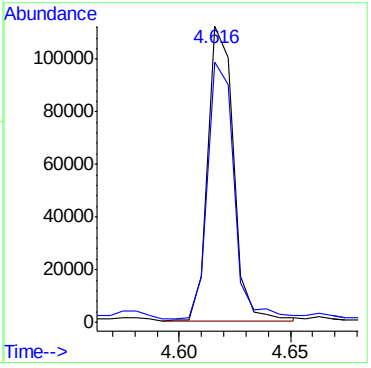
SGS ACCUTEST JB31485

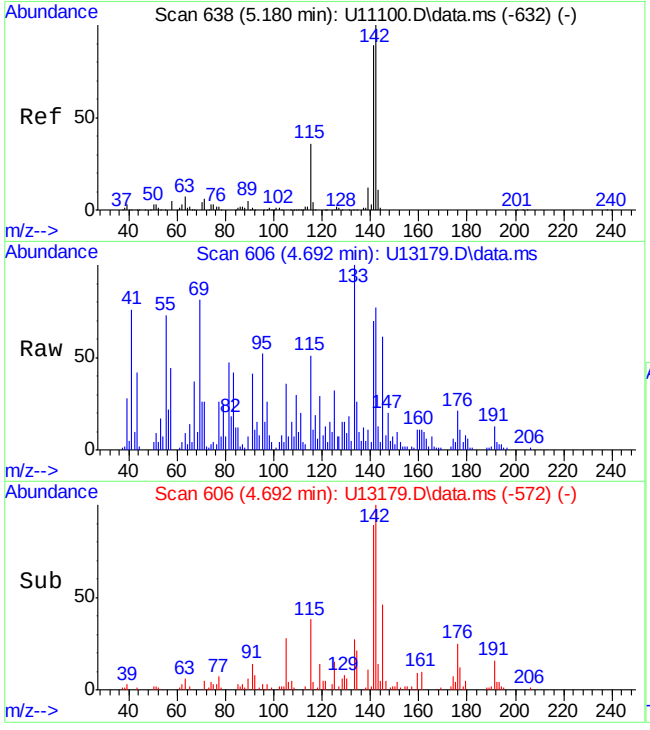


#36
2-Methylnaphthalene
Concen: 10.20 ppb
RT: 4.616 min Scan# 593
Delta R.T. 0.000 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:142 Resp: 90246

Ion	Ratio	Lower	Upper
142	100		
141	86.9	56.7	116.7

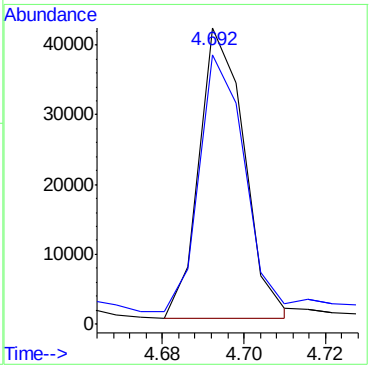




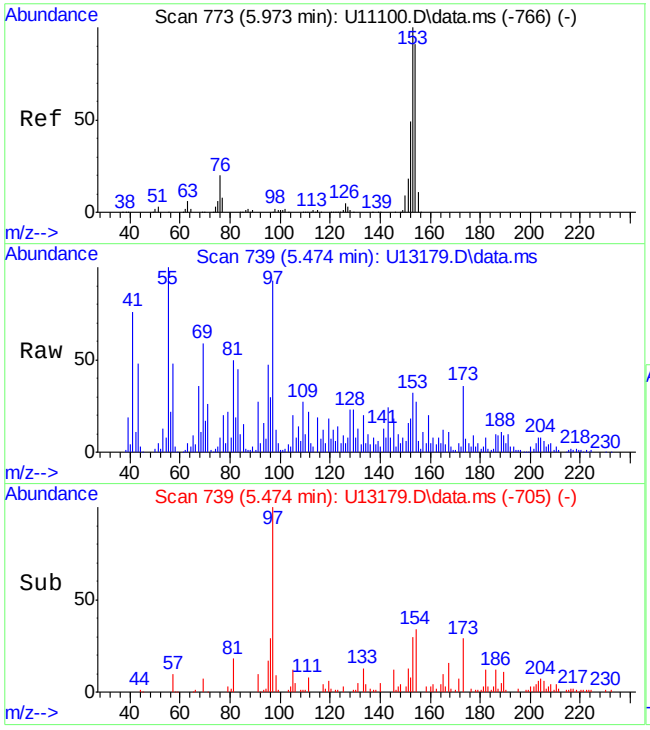
#37
1-Methylnaphthalene
Concen: 2.52 ppb m
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:142 Resp: 31711

Ion	Ratio	Lower	Upper
142	100		
141	90.9	68.6	108.6



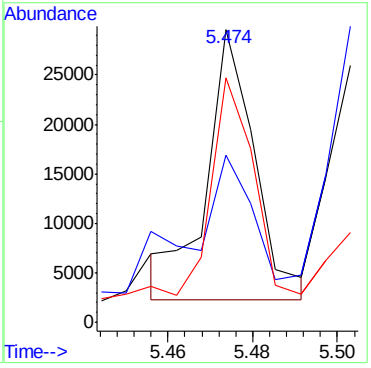
SGS 600 of 813 ACCUTEST JB31485

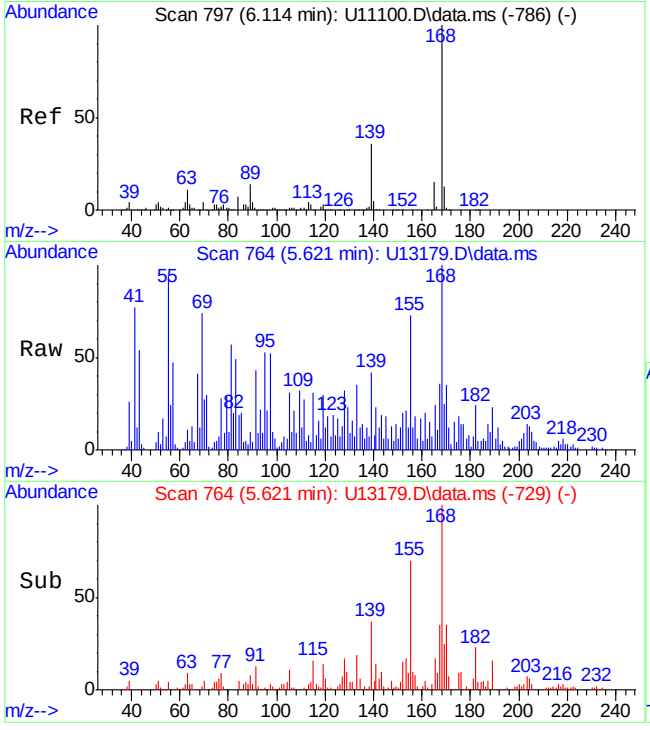


#49
Acenaphthene
Concen: 2.87 ppb m
RT: 5.474 min Scan# 739
Delta R.T. 0.000 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:153 Resp: 21576

Ion	Ratio	Lower	Upper
153	100		
152	57.0	16.6	76.6
154	83.5	64.3	124.3

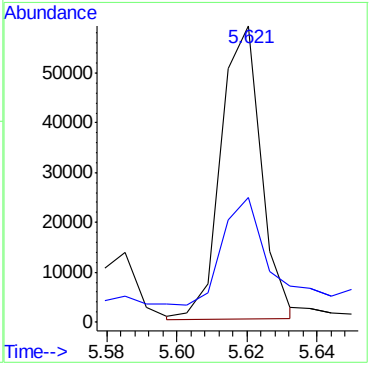


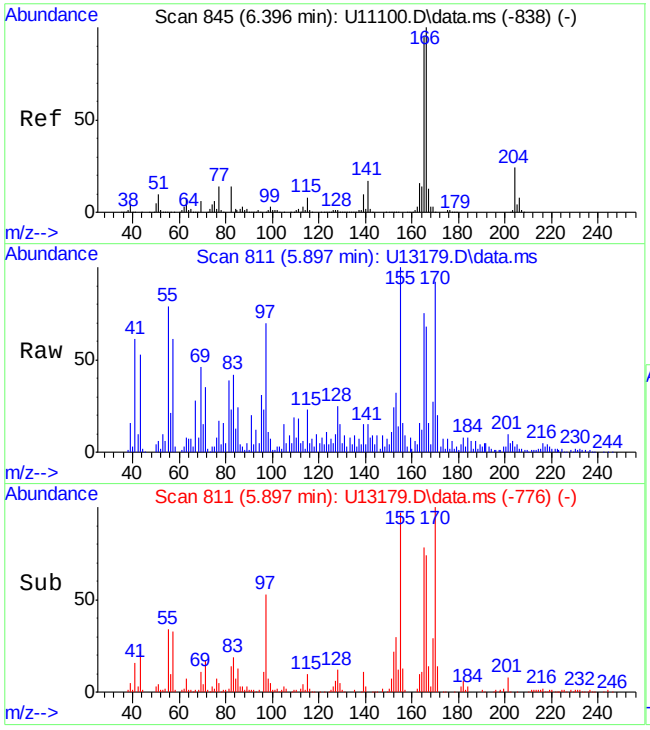


#51
Dibenzofuran
Concen: 2.30 ppb m
RT: 5.621 min Scan# 764
Delta R.T. 0.006 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:168 Resp: 47090

Ion	Ratio	Lower	Upper
168	100		
139	41.9	7.0	67.0

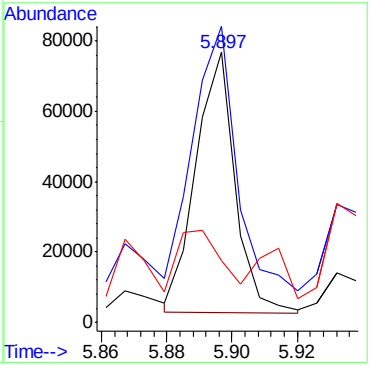


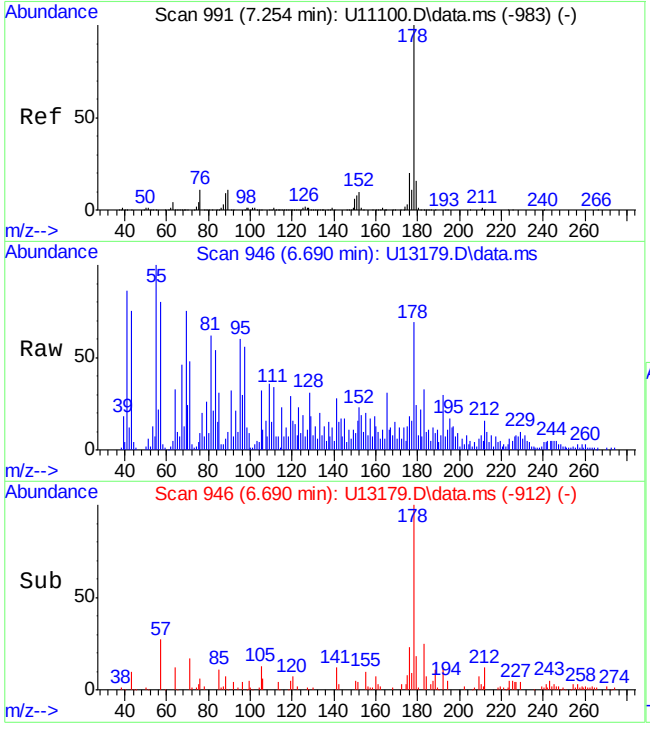


#55
Fluorene
Concen: 5.98 ppb m
RT: 5.897 min Scan# 811
Delta R.T. 0.006 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:166 Resp: 62236

Ion	Ratio	Lower	Upper
166	100		
165	109.7	63.2	123.2
167	23.0	0.0	43.3

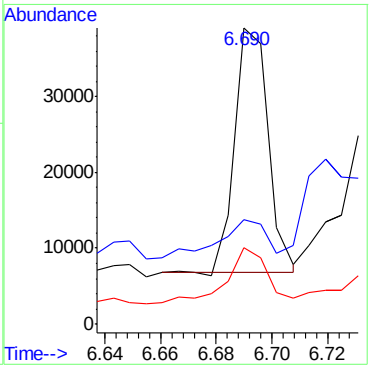


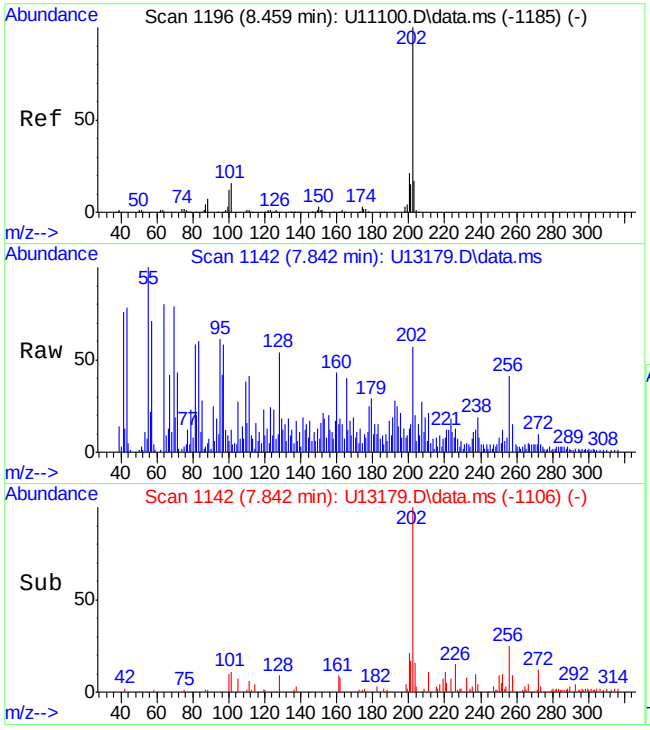


#69
Phenanthrene
Concen: Below Cal
RT: 6.690 min Scan# 946
Delta R.T. 0.000 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:178 Resp: 27233

Ion	Ratio	Lower	Upper
178	100		
179	15.6	0.0	45.7
176	22.5	0.0	48.8

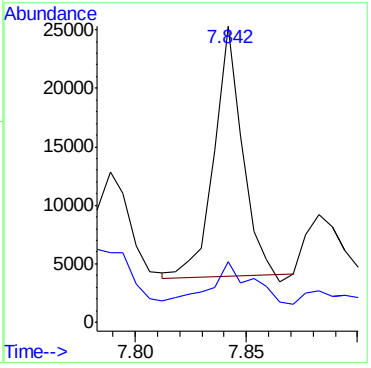


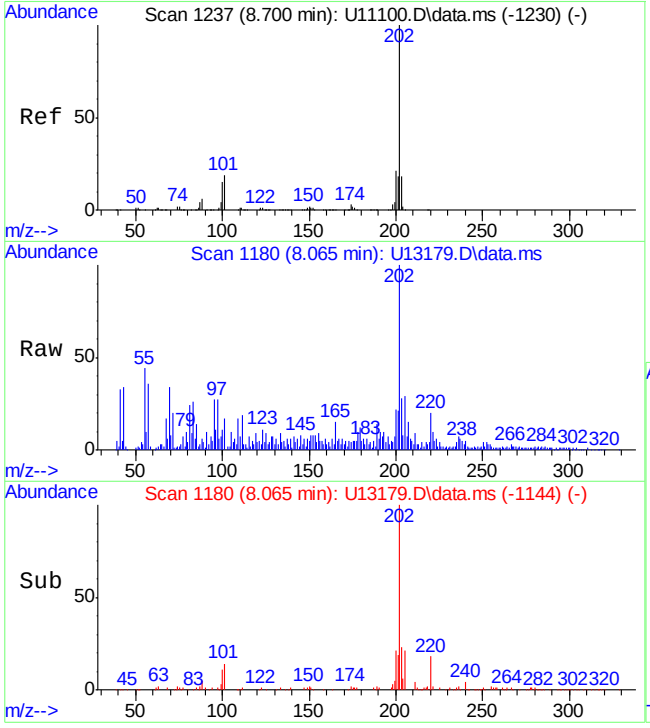


#73
Fluoranthene
Concen: 1.34 ppb
RT: 7.842 min Scan# 1142
Delta R.T. 0.012 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:202 Resp: 18697

Ion	Ratio	Lower	Upper
202	100		
101	17.4	0.0	42.6

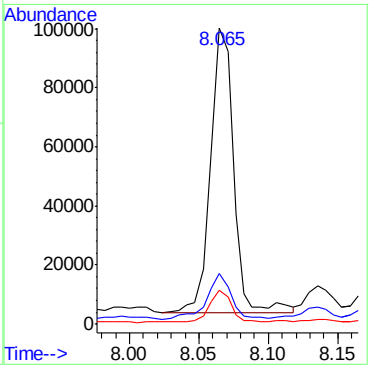


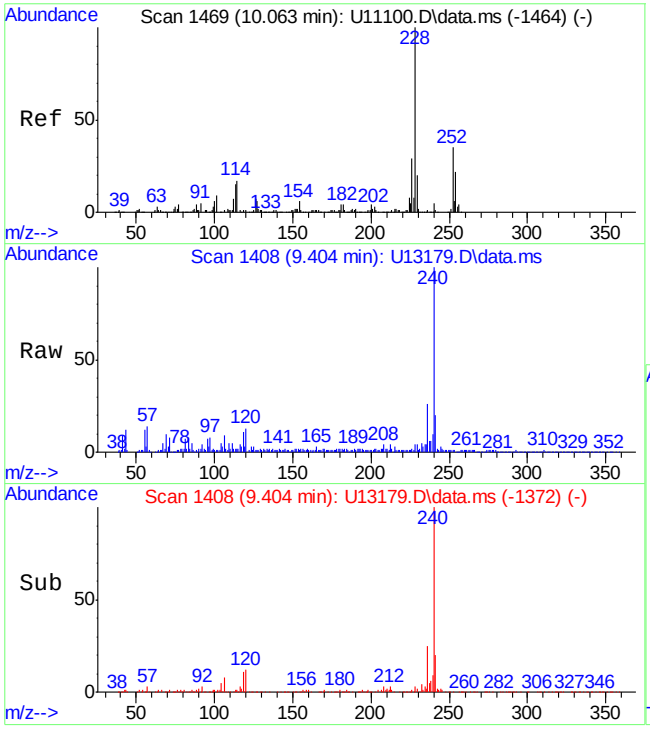


#76
Pyrene
Concen: 6.40 ppb
RT: 8.065 min Scan# 1180
Delta R.T. 0.012 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:202 Resp: 110608

Ion	Ratio	Lower	Upper
202	100		
101	16.1	0.0	46.3
100	11.3	0.0	43.6

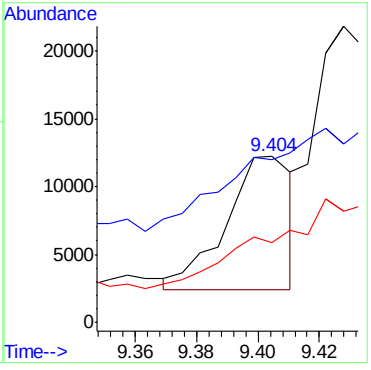


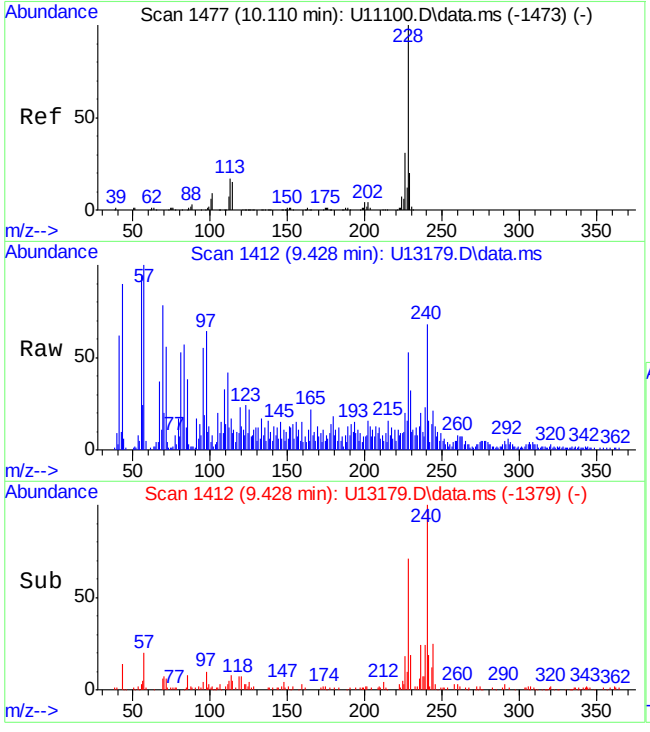


#81
Benzo[a]anthracene
Concen: 0.89 ppb m
RT: 9.404 min Scan# 1408
Delta R.T. 0.012 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:228 Resp: 14681

Ion	Ratio	Lower	Upper
228	100		
229	97.9	0.0	49.5#
226	47.7	0.0	56.2

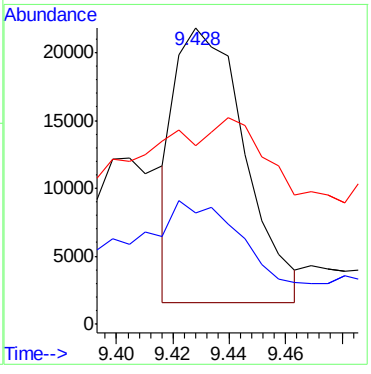




#82
Chrysene
Concen: 2.24 ppb m
RT: 9.428 min Scan# 1412
Delta R.T. -0.006 min
Lab File: U13179.D
Acq: 28 Mar 2013 3:14 pm

Tgt Ion:228 Resp: 34807

Ion	Ratio	Lower	Upper
228	100		
226	37.7	0.0	58.8
229	60.4	0.0	49.7#



10.1.13 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13180.D
Acq On : 28 Mar 2013 3:36 pm
Operator : NatalyaS
Sample : JB31485-14
Misc : op32398,msu673,20.16,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Mar 29 11:49:00 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	149836	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	555795	40.00	ppb	0.00
39) Acenaphthene-d10	5.444	164	338221	40.00	ppb	0.00
61) Phenanthrene-d10	6.666	188	609758	40.00	ppb	0.00
74) Chrysene-d12	9.399	240	666071	40.00	ppb	0.00
84) Perylene-d12	10.944	264	614855	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.178	112	333739	68.32	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.32%			
7) Phenol-d5	2.847	99	375304	63.95	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 63.95%			
22) Nitrobenzene-d5	3.500	82	180387	34.32	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 68.64%			
44) 2-Fluorobiphenyl	4.921	172	439708	37.00	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 74.00%			
65) 2,4,6-Tribromophenol	6.091	330	134477	75.49	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 75.49%			
77) Terphenyl-d14	8.270	244	590442	39.06	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 78.12%			
Target Compounds						Qvalue
63) n-Nitrosodiphenylamine	6.091	169	4635	Below Cal	#	37

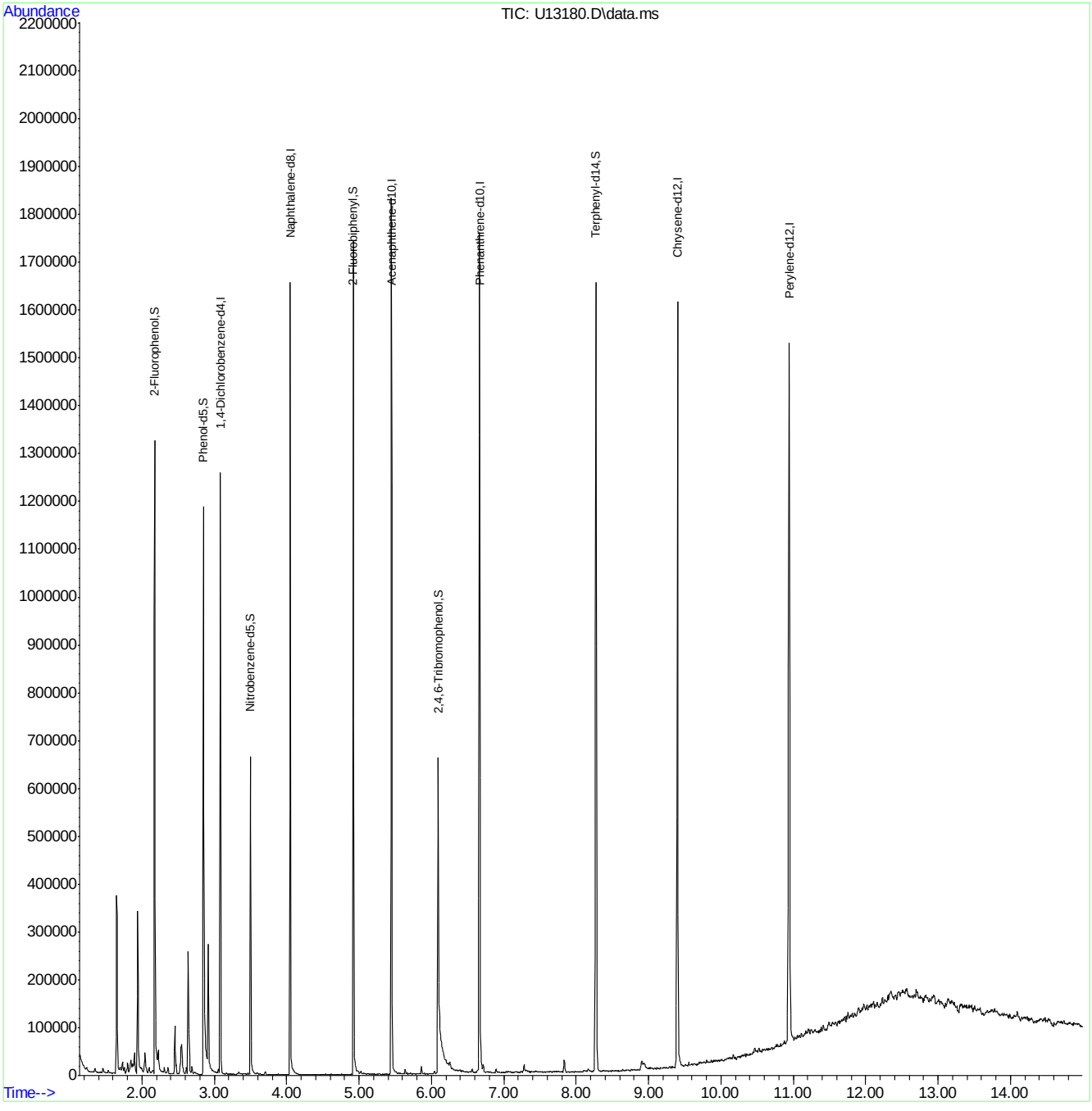
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.14 10

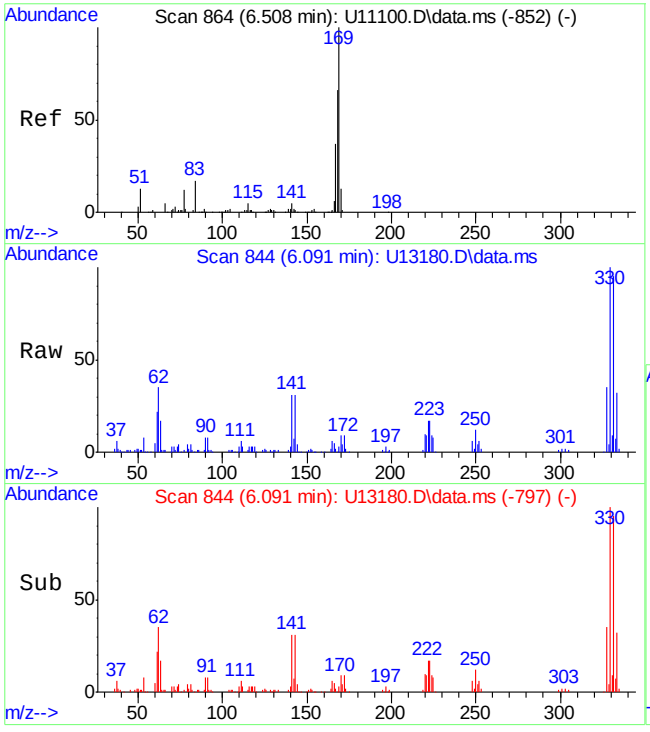
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13180.D
Acq On : 28 Mar 2013 3:36 pm
Operator : NatalyaS
Sample : JB31485-14
Misc : op32398,msu673,20.16,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Mar 29 11:49:00 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration



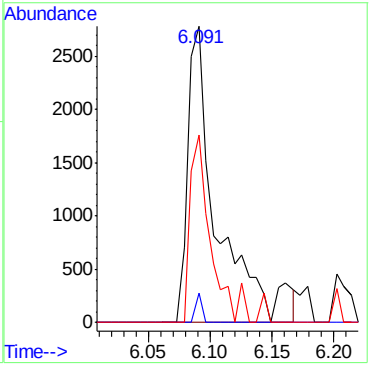
U130129_8270.m Fri Mar 29 11:49:03 2013 Page: 2



#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.091 min Scan# 844
Delta R.T. 0.077 min
Lab File: U13180.D
Acq: 28 Mar 2013 3:36 pm

Tgt Ion:169 Resp: 4635

Ion	Ratio	Lower	Upper
169	100		
168	10.1	33.9	93.9#
167	63.4	4.0	64.0



10.1.14

10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13181.D
Acq On : 28 Mar 2013 3:59 pm
Operator : NatalyaS
Sample : JB31485-15
Misc : op32398,msu673,20.29,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 29 11:49:23 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	178049	40.00	ppb	0.00
21) Naphthalene-d8	4.046	136	642408	40.00	ppb	0.00
39) Acenaphthene-d10	5.444	164	385316	40.00	ppb	0.00
61) Phenanthrene-d10	6.666	188	690032	40.00	ppb	0.00
74) Chrysene-d12	9.398	240	736108	40.00	ppb	0.00
84) Perylene-d12	10.944	264	652666	40.00	ppb	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.177	112	399472	68.81	ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.81%			
7) Phenol-d5	2.847	99	453872	65.09	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 65.09%			
22) Nitrobenzene-d5	3.499	82	220756	36.34	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 72.68%			
44) 2-Fluorobiphenyl	4.921	172	532690	39.34	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 78.68%			
65) 2,4,6-Tribromophenol	6.091	330	154302	76.54	ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 76.54%			
77) Terphenyl-d14	8.270	244	664976	39.81	ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 79.62%			
Target Compounds						Qvalue
63) n-Nitrosodiphenylamine	6.091	169	4126	Below Cal	#	50
69) Phenanthrene	6.684	178	1897	Below Cal		85
70) Anthracene	6.684	178	1897	Below Cal		84

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

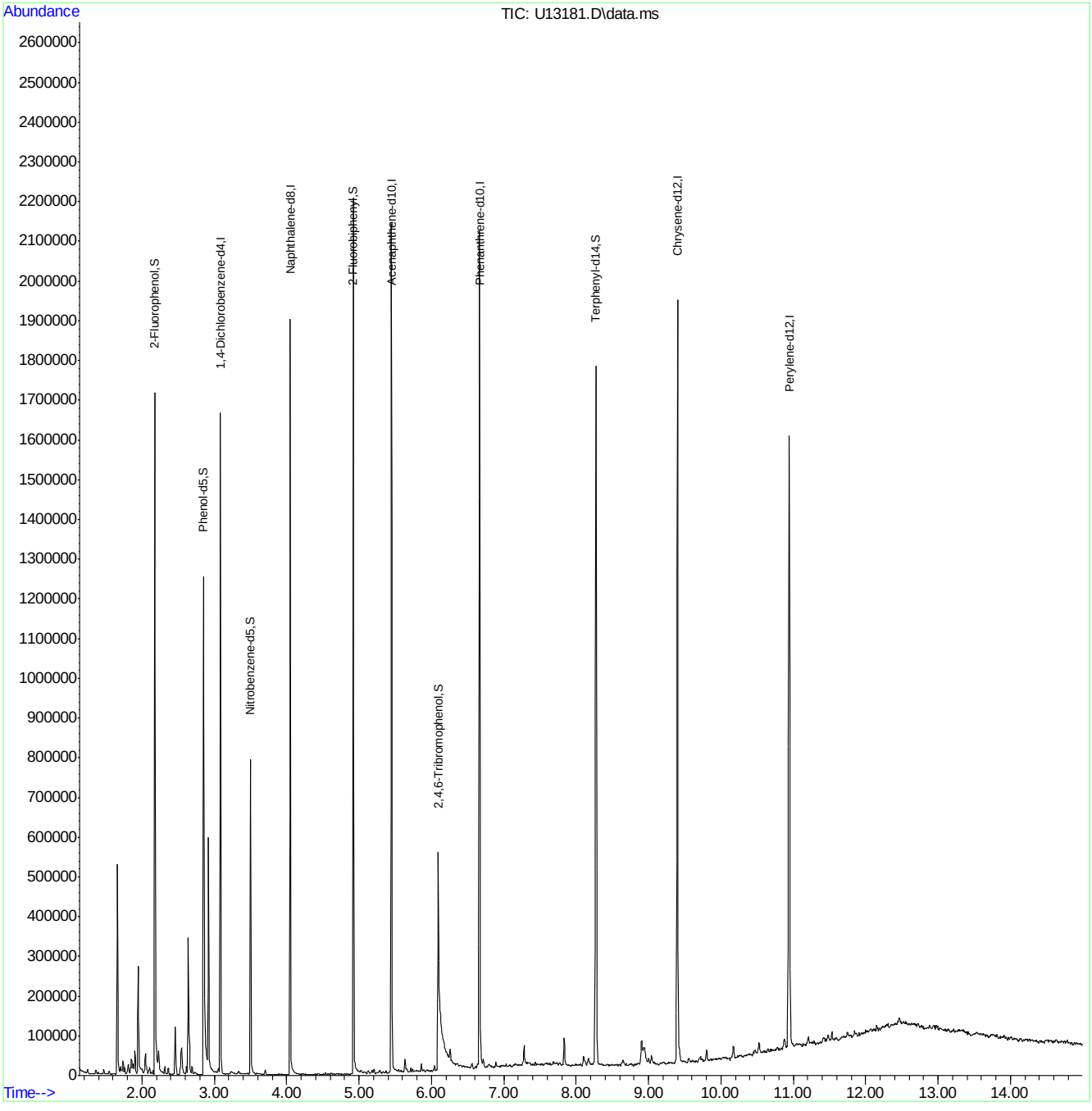
10.1.15 10

SGS ACCUTEST JB31485

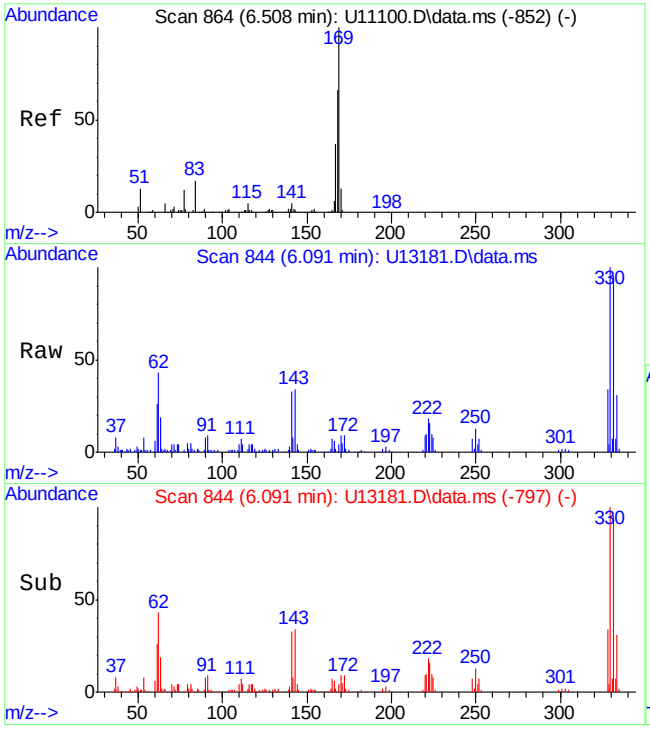
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13181.D
Acq On : 28 Mar 2013 3:59 pm
Operator : NatalyaS
Sample : JB31485-15
Misc : op32398,msu673,20.29,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 29 11:49:23 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration



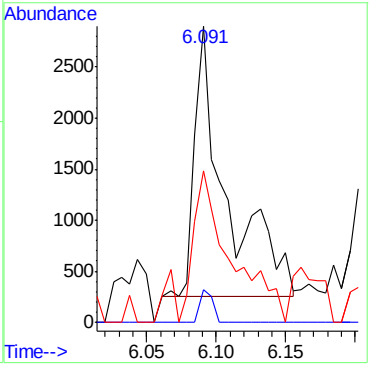
U130129_8270.m Fri Mar 29 11:49:26 2013 Page: 2

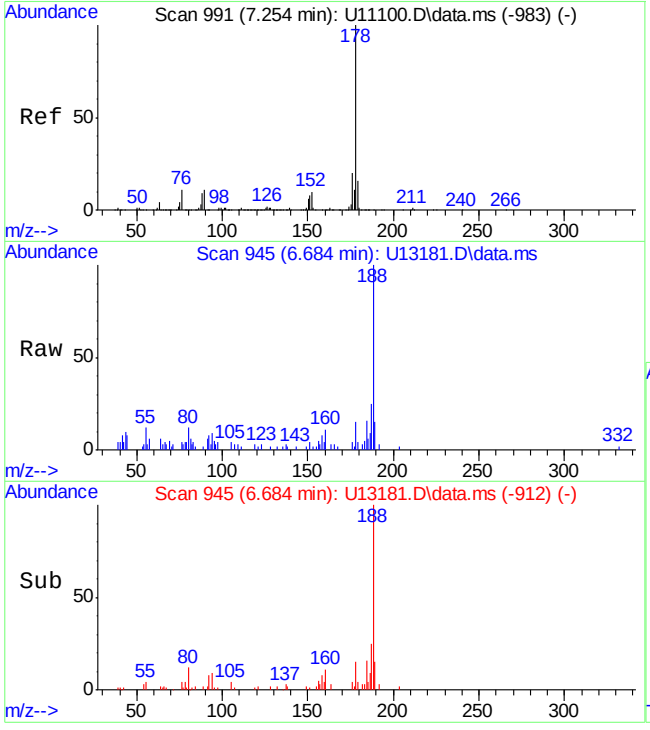


#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.091 min Scan# 844
Delta R.T. 0.077 min
Lab File: U13181.D
Acq: 28 Mar 2013 3:59 pm

Tgt Ion:169 Resp: 4126

Ion	Ratio	Lower	Upper
169	100		
168	12.2	33.9	93.9#
167	45.9	4.0	64.0

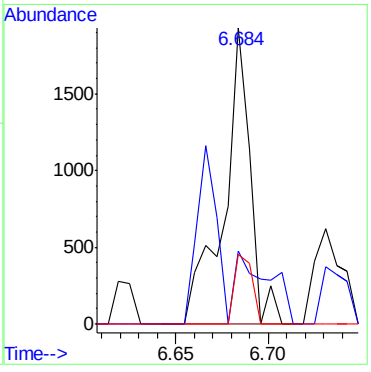


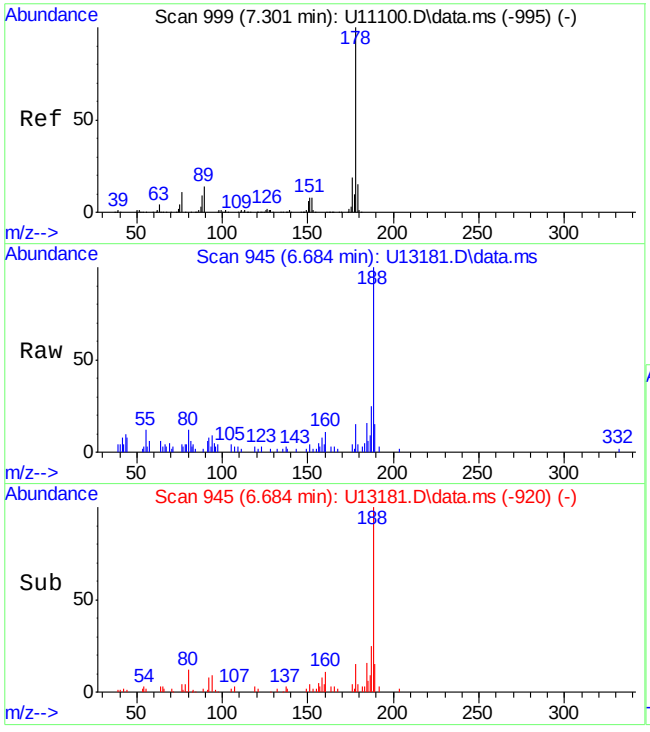


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13181.D
Acq: 28 Mar 2013 3:59 pm

Tgt Ion:178 Resp: 1897

Ion	Ratio	Lower	Upper
178	100		
179	24.5	0.0	45.7
176	23.3	0.0	48.8

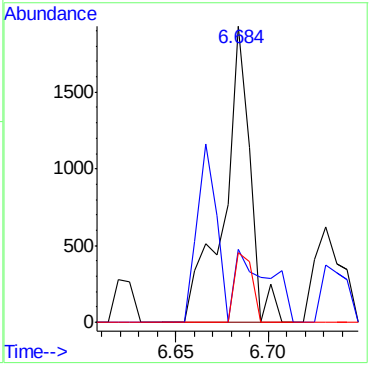




#70
Anthracene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.053 min
Lab File: U13181.D
Acq: 28 Mar 2013 3:59 pm

Tgt Ion:178 Resp: 1897

Ion	Ratio	Lower	Upper
178	100		
179	24.5	0.0	45.1
176	23.3	0.0	48.3



10.1.15

10

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13182.D
Acq On : 28 Mar 2013 4:22 pm
Operator : NatalyaS
Sample : JB31485-16
Misc : op32398,msu673,20.58,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 29 11:49:59 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.076	152	116813	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	408877	40.00 ppb	0.00
39) Acenaphthene-d10	5.444	164	243850	40.00 ppb	0.00
61) Phenanthrene-d10	6.666	188	423975	40.00 ppb	0.00
74) Chrysene-d12	9.398	240	484652	40.00 ppb	0.00
84) Perylene-d12	10.944	264	476090	40.00 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.171	112	236255	62.03 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 62.03%		
7) Phenol-d5	2.847	99	258941	56.60 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 56.60%		
22) Nitrobenzene-d5	3.499	82	130521	33.76 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 67.52%		
44) 2-Fluorobiphenyl	4.921	172	309135	36.08 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 72.16%		
65) 2,4,6-Tribromophenol	6.090	330	84270	68.04 ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 68.04%		
77) Terphenyl-d14	8.270	244	389590	35.42 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 70.84%		
Target Compounds					Qvalue
63) n-Nitrosodiphenylamine	6.002	169	1809	Below Cal #	42
69) Phenanthrene	6.684	178	3649	Below Cal	85
70) Anthracene	6.684	178	3649	Below Cal	84

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

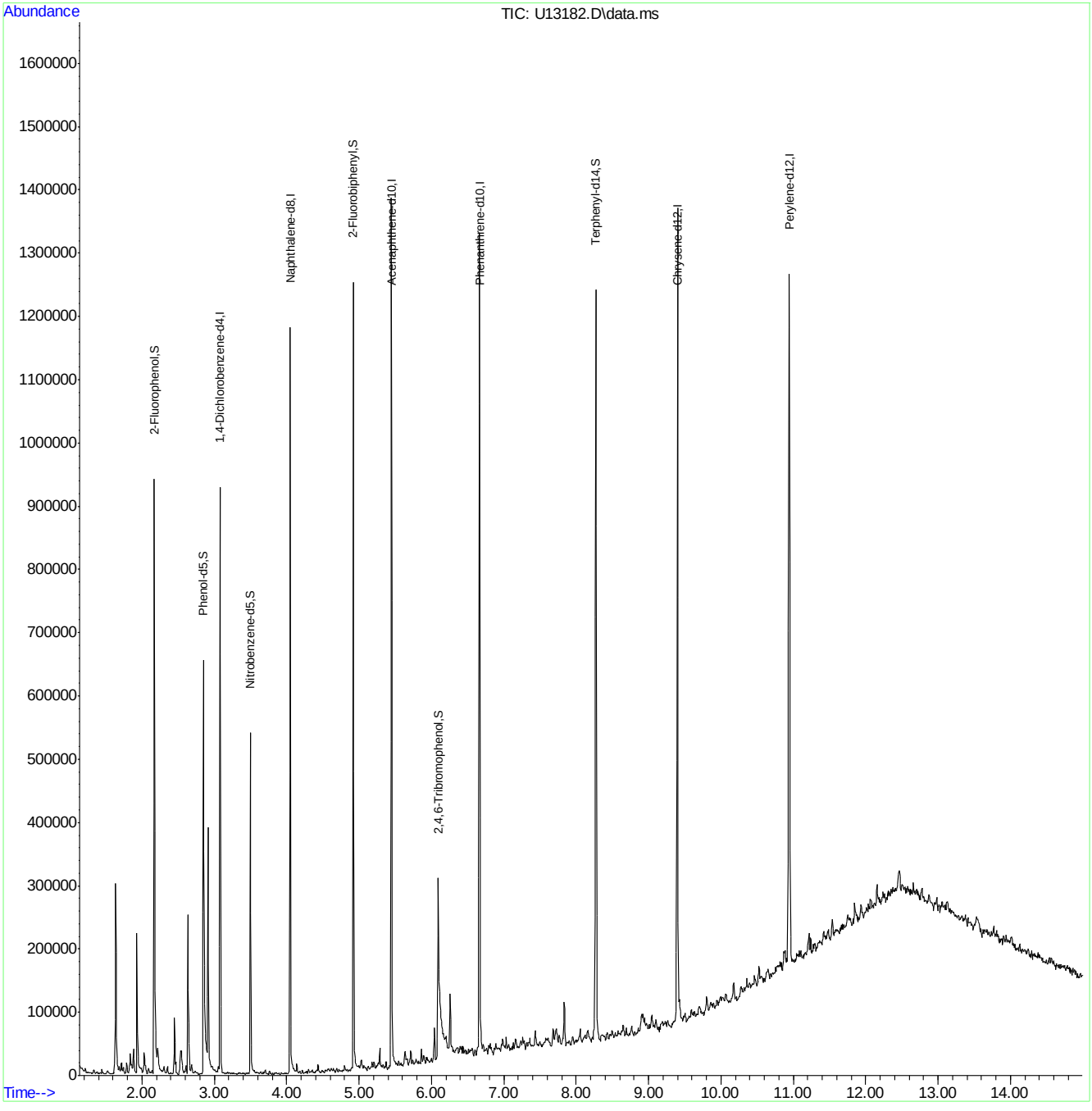
10.1.16 10

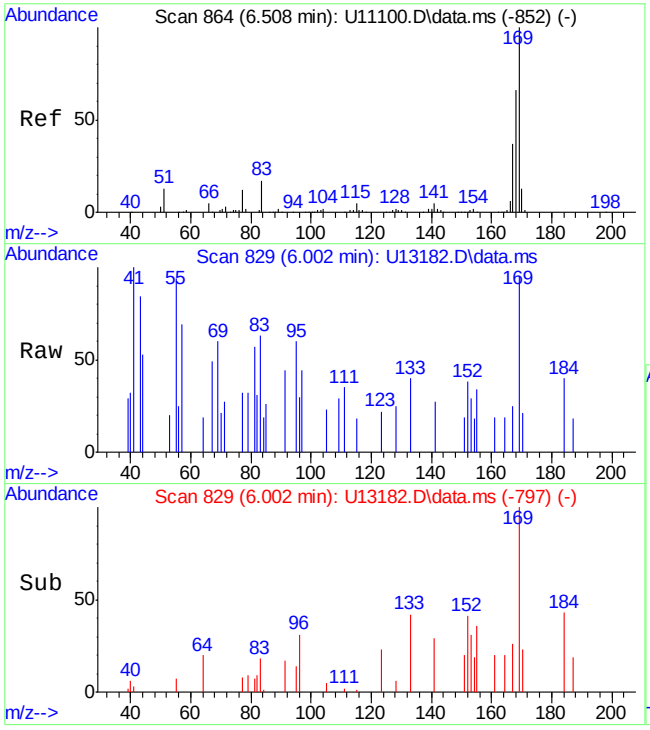
SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13182.D
Acq On : 28 Mar 2013 4:22 pm
Operator : NatalyaS
Sample : JB31485-16
Misc : op32398,msu673,20.58,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 29 11:49:59 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

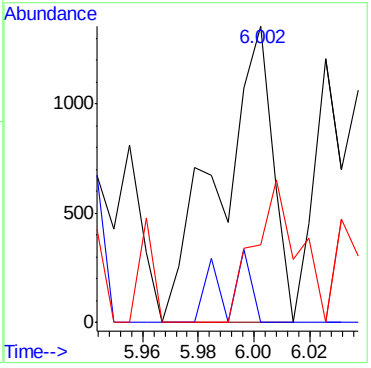


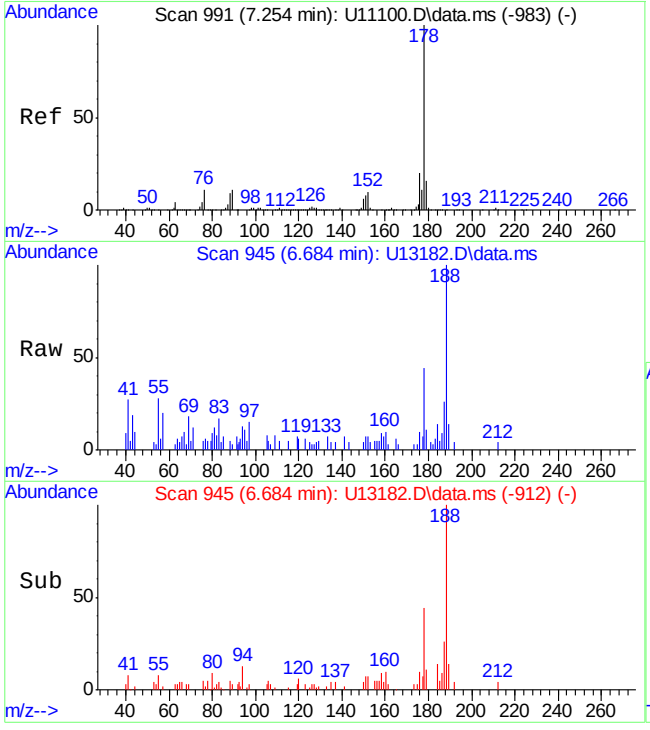


#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.002 min Scan# 829
Delta R.T. -0.012 min
Lab File: U13182.D
Acq: 28 Mar 2013 4:22 pm

Tgt Ion:169 Resp: 1809

Ion	Ratio	Lower	Upper
169	100		
168	0.0	33.9	93.9#
167	26.2	4.0	64.0

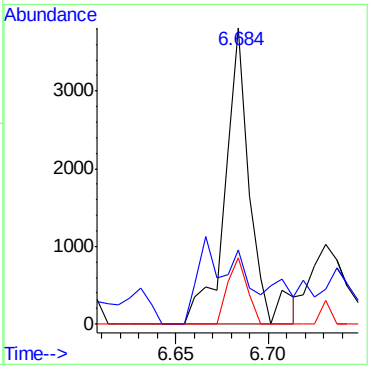


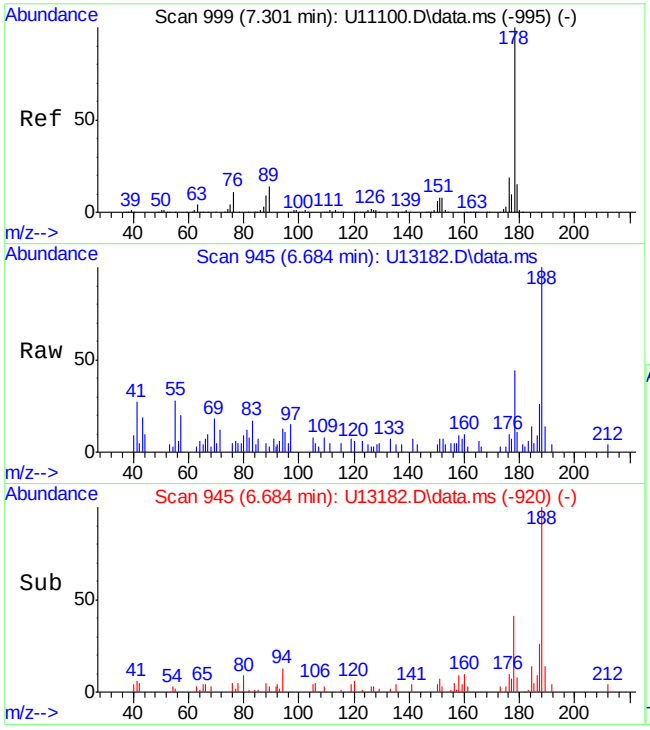


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13182.D
Acq: 28 Mar 2013 4:22 pm

Tgt Ion:178 Resp: 3649

Ion	Ratio	Lower	Upper
178	100		
179	25.0	0.0	45.7
176	22.6	0.0	48.8

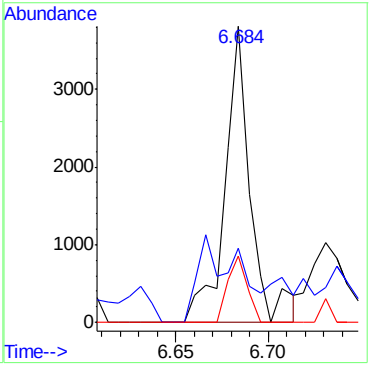




#70
Anthracene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.053 min
Lab File: U13182.D
Acq: 28 Mar 2013 4:22 pm

Tgt Ion:178 Resp: 3649

Ion	Ratio	Lower	Upper
178	100		
179	25.0	0.0	45.1
176	22.6	0.0	48.3



10.1.16

10

SGS ACCUTEST JB31485

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13183.D
Acq On : 28 Mar 2013 4:44 pm
Operator : NatalyaS
Sample : JB31485-17,1:5
Misc : op32398,msu673,20.30,,,1,5
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Mar 29 11:51:45 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.082	152	134066	40.00	ppb	0.00
21) Naphthalene-d8	4.051	136	452217	40.00	ppb	0.00
39) Acenaphthene-d10	5.456	164	275637	40.00	ppb	0.01
61) Phenanthrene-d10	6.678	188	449118	40.00	ppb	0.01
74) Chrysene-d12	9.416	240	613537	40.00	ppb	0.01
84) Perylene-d12	10.961	264	592946	40.00	ppb	0.02
System Monitoring Compounds						
5) 2-Fluorophenol	2.171	112	60856	13.92	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 13.92%			
7) Phenol-d5	2.847	99	66094	12.59	ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 12.59%			
22) Nitrobenzene-d5	3.505	82	34553m	8.08	ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 16.16%#			
44) 2-Fluorobiphenyl	4.927	172	83124	8.58	ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 17.16%#			
65) 2,4,6-Tribromophenol	6.149	330	24401m	18.60	ppb	0.06
Spiked Amount 100.000	Range 10 - 157		Recovery = 18.60%			
77) Terphenyl-d14	8.282	244	107307	7.71	ppb	0.01
Spiked Amount 50.000	Range 30 - 124		Recovery = 15.42%#			
Target Compounds						Qvalue
19) m+p-cresols	3.487	108	3953	Below Cal		91
20) 4-methylphenol	3.487	108	3953	Below Cal		93
33) 4-Chloroaniline	4.099	127	7398	Below Cal		100
36) 2-Methylnaphthalene	4.621	142	9773	Below Cal		99
37) 1-Methylnaphthalene	4.698	142	57193m	5.76	ppb	
51) Dibenzofuran	5.620	168	49833	2.19	ppb	99
55) Fluorene	5.896	166	61988m	5.33	ppb	
69) Phenanthrene	6.696	178	179494m	13.10	ppb	
76) Pyrene	8.070	202	78391	4.13	ppb	93
81) Benzo[a]anthracene	9.404	228	14642m	0.81	ppb	
82) Chrysene	9.439	228	34051m	2.00	ppb	

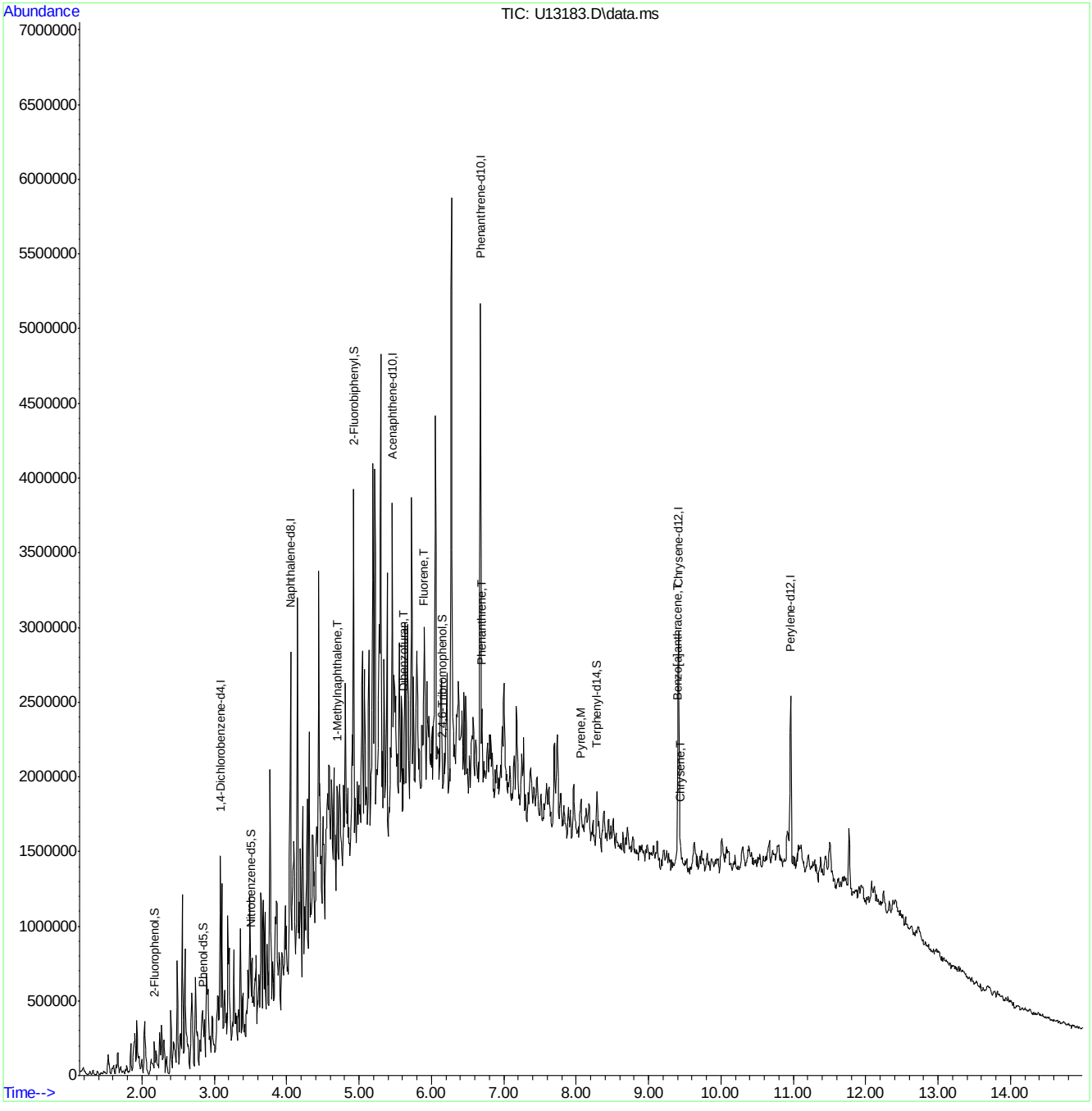
(#) = qualifier out of range (m) = manual integration (+) = signals summed

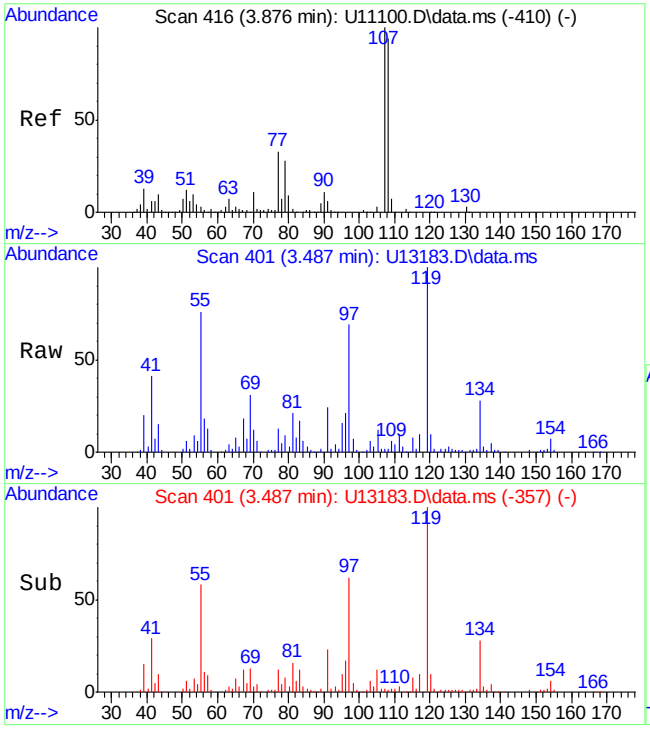
10.1.17 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13183.D
Acq On : 28 Mar 2013 4:44 pm
Operator : NatalyaS
Sample : JB31485-17,1:5
Misc : op32398,msu673,20.30,,,1,5
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Mar 29 11:51:45 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

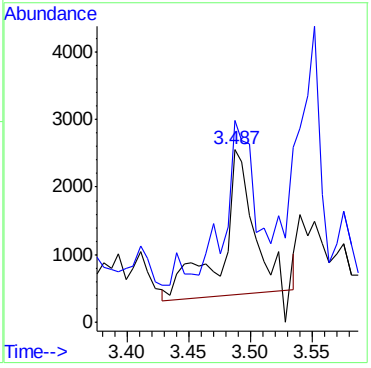


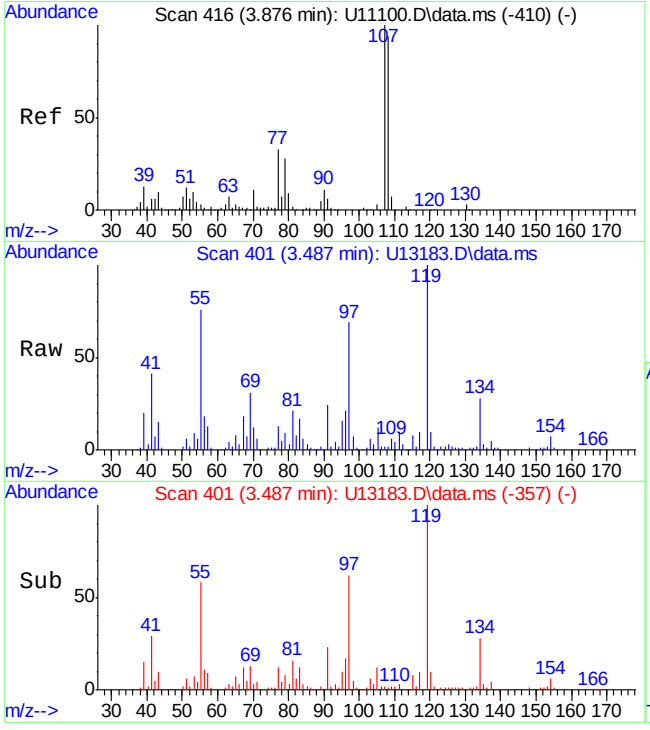


#19
m+p-cresols
Concen: Below Cal
RT: 3.487 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:108 Resp: 3953

Ion	Ratio	Lower	Upper
108	100		
107	117.0	77.8	137.8

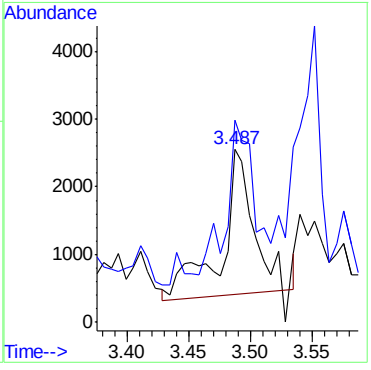




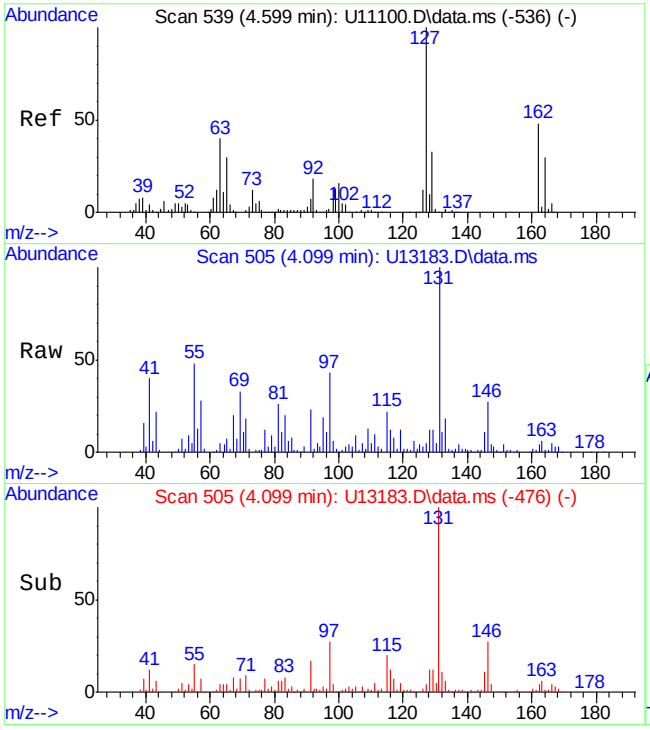
#20
4-methylphenol
Concen: Below Cal
RT: 3.487 min Scan# 401
Delta R.T. 0.059 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:108 Resp: 3953

Ion	Ratio	Lower	Upper
108	100		
107	117.0	77.1	143.1

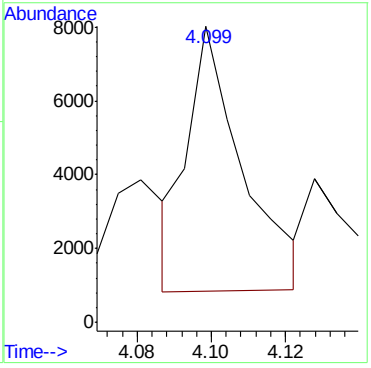


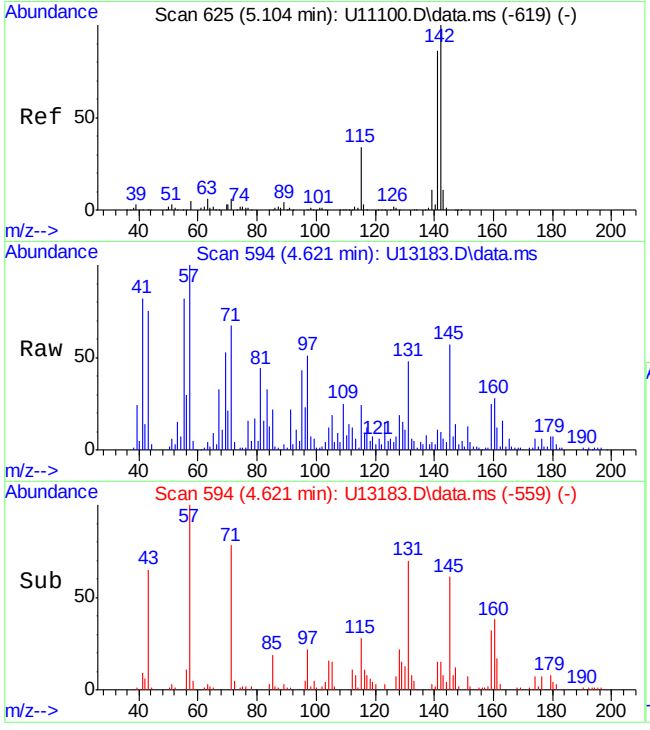
SGS ACCUTEST JB31485



#33
4-Chloroaniline
Concen: Below Cal
RT: 4.099 min Scan# 505
Delta R.T. -0.029 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:127 Resp: 7398

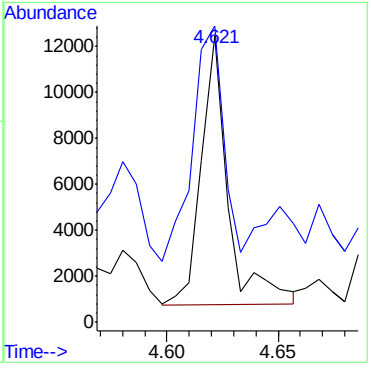




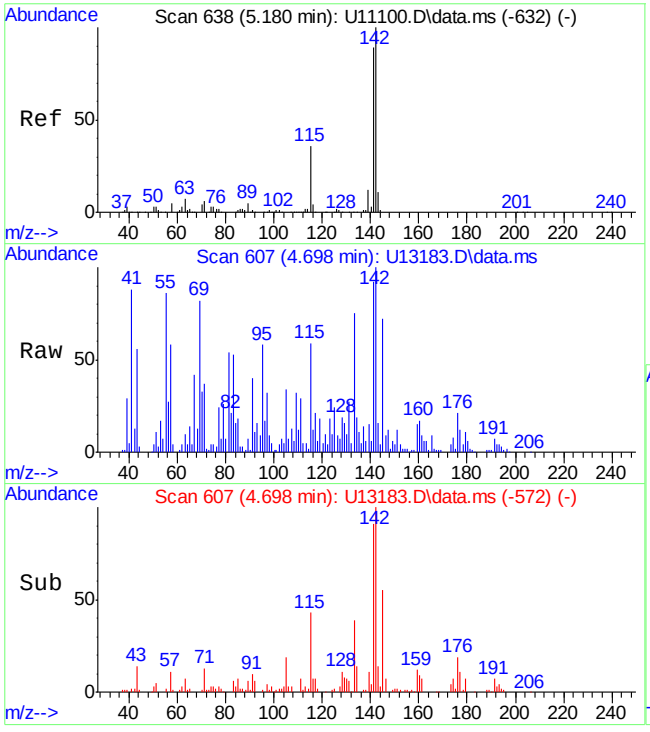
#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.621 min Scan# 594
Delta R.T. 0.006 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:142 Resp: 9773

Ion	Ratio	Lower	Upper
142	100		
141	87.8	56.7	116.7



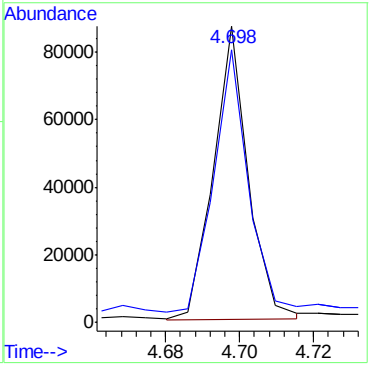
10.1.17 10

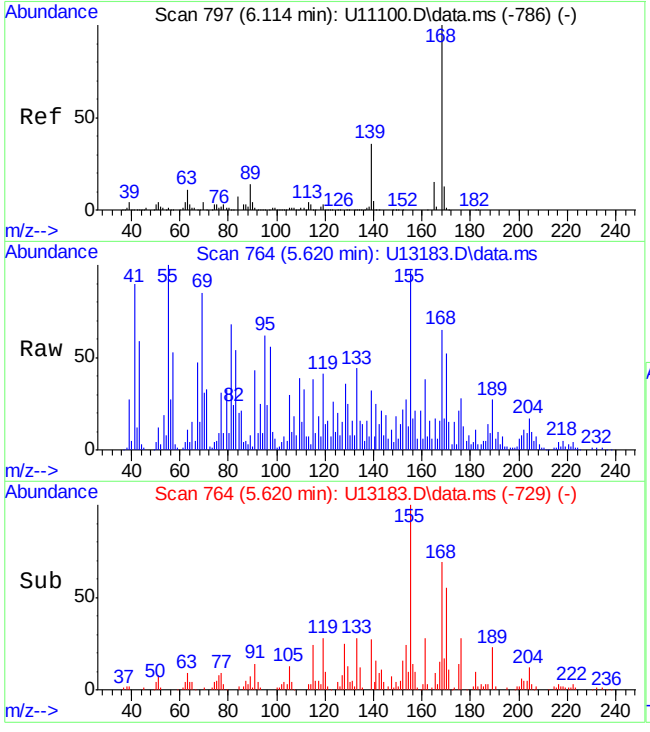


#37
1-Methylnaphthalene
Concen: 5.76 ppb m
RT: 4.698 min Scan# 607
Delta R.T. 0.006 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:142 Resp: 57193

Ion	Ratio	Lower	Upper
142	100		
141	92.2	68.6	108.6

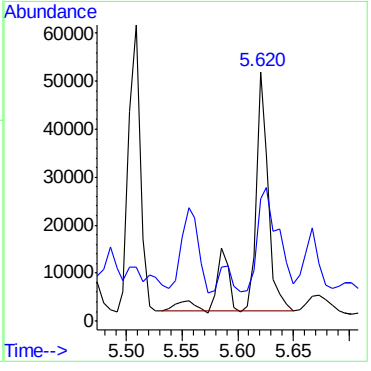


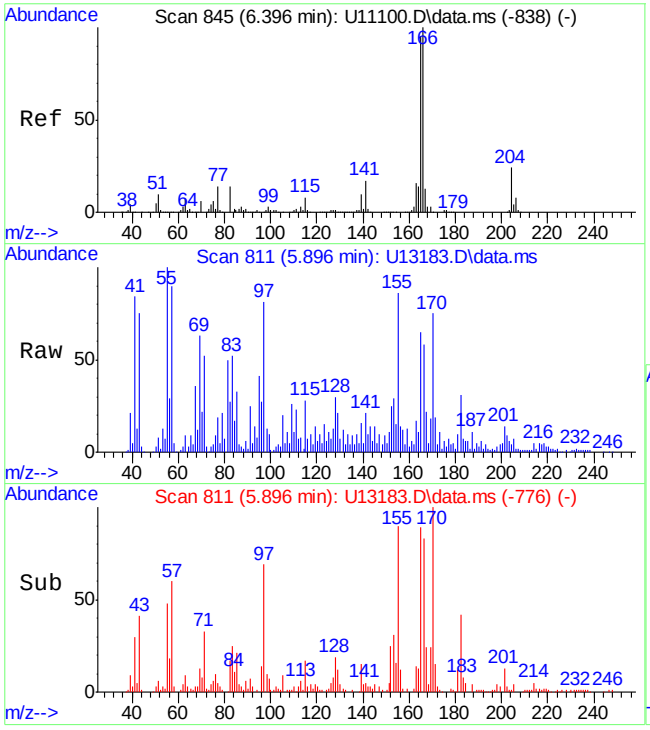


#51
Dibenzofuran
Concen: 2.19 ppb
RT: 5.620 min Scan# 764
Delta R.T. 0.006 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:168 Resp: 49833

Ion	Ratio	Lower	Upper
168	100		
139	36.3	7.0	67.0

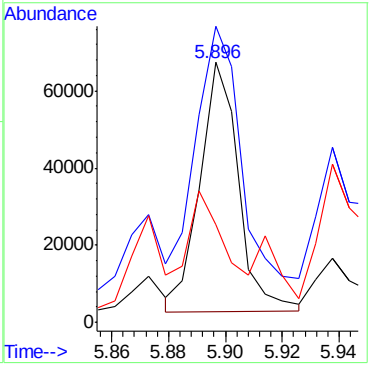


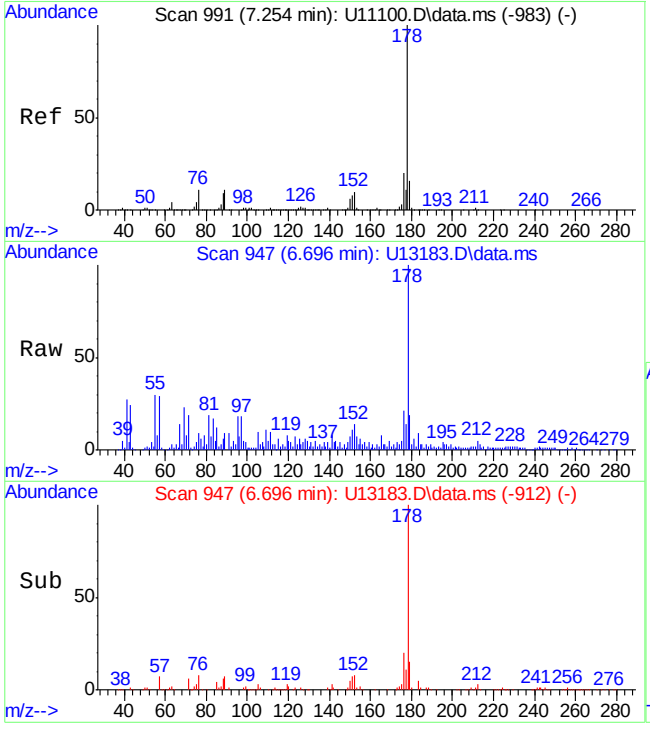


#55
Fluorene
Concen: 5.33 ppb m
RT: 5.896 min Scan# 811
Delta R.T. 0.006 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:166 Resp: 61988

Ion	Ratio	Lower	Upper
166	100		
165	113.8	63.2	123.2
167	37.6	0.0	43.3

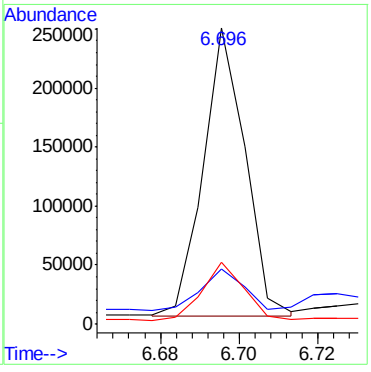




#69
Phenanthrene
Concen: 13.10 ppb m
RT: 6.696 min Scan# 947
Delta R.T. 0.006 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

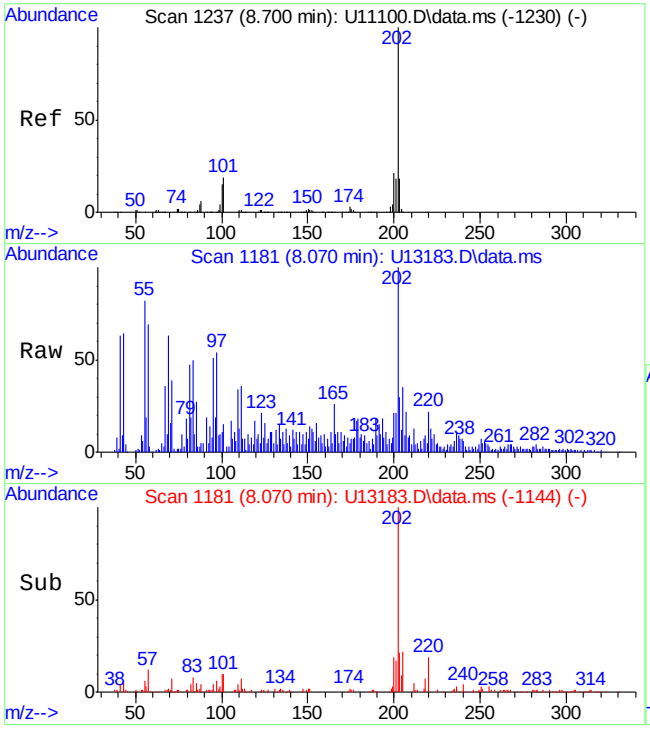
Tgt Ion:178 Resp: 179494

Ion	Ratio	Lower	Upper
178	100		
179	18.6	0.0	45.7
176	20.8	0.0	48.8



10.1.17

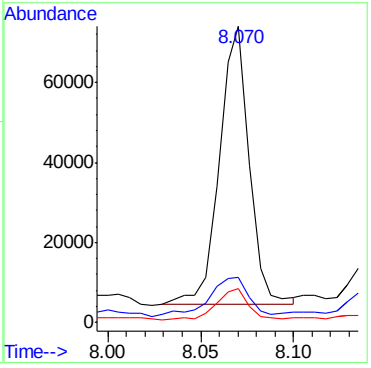
10

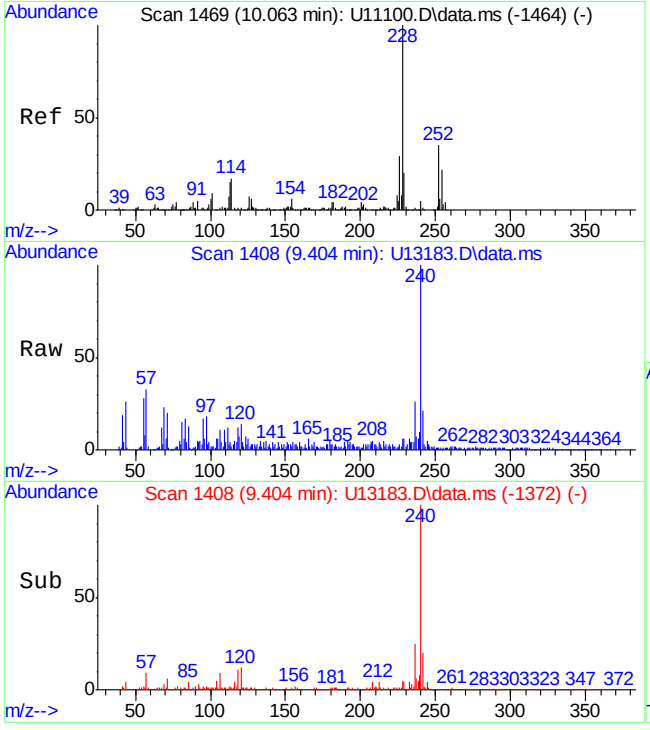


#76
Pyrene
Concen: 4.13 ppb
RT: 8.070 min Scan# 1181
Delta R.T. 0.018 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:202 Resp: 78391

Ion	Ratio	Lower	Upper
202	100		
101	13.0	0.0	46.3
100	11.0	0.0	43.6

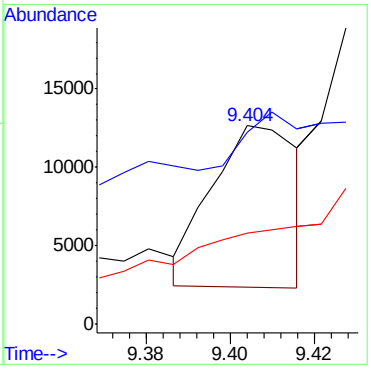


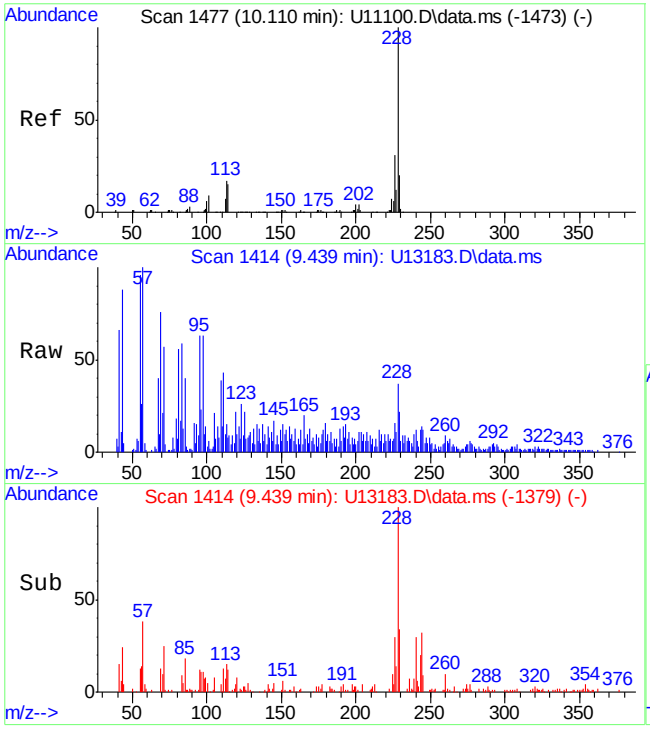


#81
Benzo[a]anthracene
Concen: 0.81 ppb m
RT: 9.404 min Scan# 1408
Delta R.T. 0.012 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:228 Resp: 14642

Ion	Ratio	Lower	Upper
228	100		
229	96.8	0.0	49.5#
226	45.9	0.0	56.2

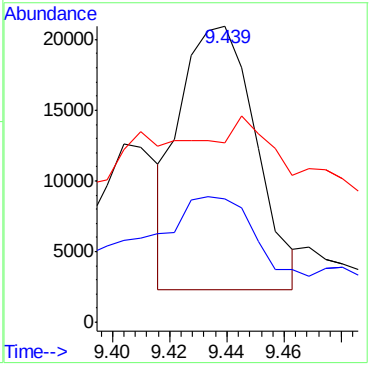




#82
Chrysene
Concen: 2.00 ppb m
RT: 9.439 min Scan# 1414
Delta R.T. 0.006 min
Lab File: U13183.D
Acq: 28 Mar 2013 4:44 pm

Tgt Ion:228 Resp: 34051

Ion	Ratio	Lower	Upper
228	100		
226	41.9	0.0	58.8
229	60.5	0.0	49.7#



10.1.17

10

SGS ACCUTEST JB31485

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13184.D
Acq On : 28 Mar 2013 5:07 pm
Operator : NatalyaS
Sample : JB31485-18
Misc : op32398,msu673,20.51,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 29 11:52:48 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	164139	40.00 ppb	0.00
21) Naphthalene-d8	4.052	136	562533	40.00 ppb	0.00
39) Acenaphthene-d10	5.450	164	331434	40.00 ppb	0.00
61) Phenanthrene-d10	6.672	188	587745	40.00 ppb	0.00
74) Chrysene-d12	9.404	240	678997	40.00 ppb	0.00
84) Perylene-d12	10.950	264	624284	40.00 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.177	112	367957	68.76 ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.76%		
7) Phenol-d5	2.847	99	414337	64.45 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 64.45%		
22) Nitrobenzene-d5	3.505	82	210584	39.59 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 79.18%		
44) 2-Fluorobiphenyl	4.927	172	412016	35.38 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 70.76%		
65) 2,4,6-Tribromophenol	6.096	330	135321	78.81 ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 78.81%		
77) Terphenyl-d14	8.276	244	572142	37.13 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 74.26%		
Target Compounds					Qvalue
19) m+p-cresols	3.364	108	3380	Below Cal	92
20) 4-methylphenol	3.364	108	3380	Below Cal	90
31) Naphthalene	4.057	128	5784	Below Cal #	1
33) 4-Chloroaniline	4.128	127	11269	Below Cal	100
36) 2-Methylnaphthalene	4.622	142	6252	Below Cal	96
37) 1-Methylnaphthalene	4.698	142	33838m	1.83 ppb	
46) Acenaphthylene	5.344	152	23450	Below Cal #	1
51) Dibenzofuran	5.620	168	28512	Below Cal	88
55) Fluorene	5.897	166	18312	Below Cal #	45
69) Phenanthrene	6.690	178	41181	Below Cal	98

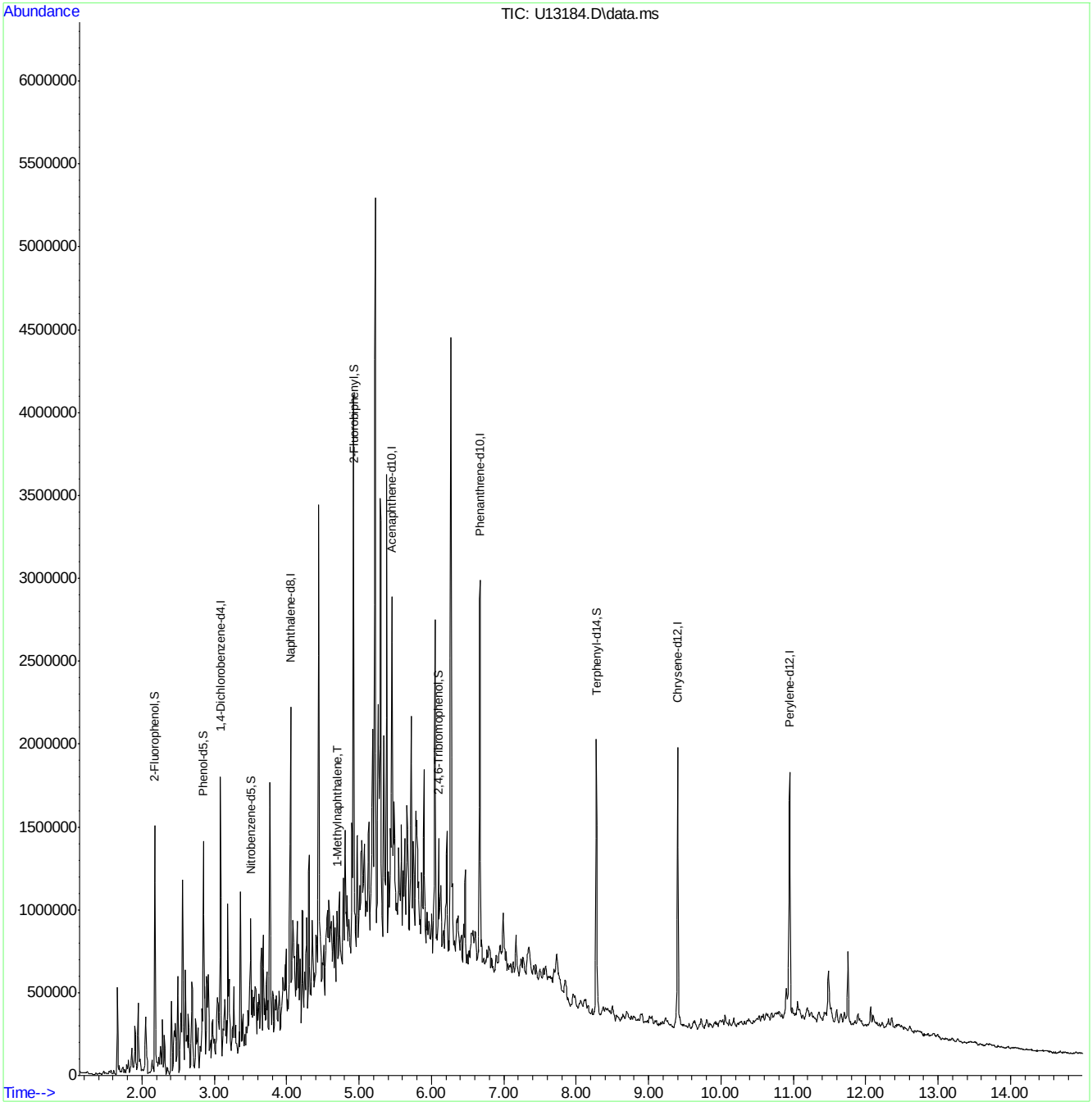
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.18 10

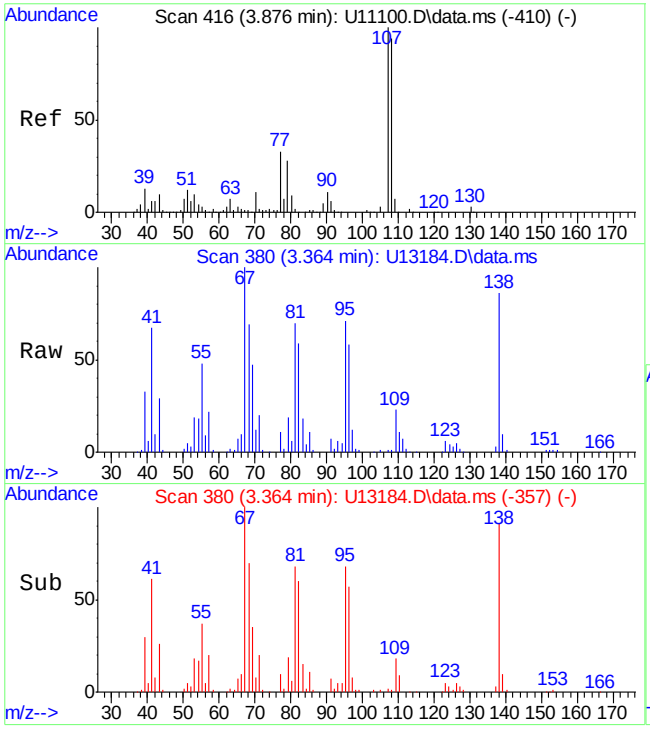
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13184.D
Acq On : 28 Mar 2013 5:07 pm
Operator : NatalyaS
Sample : JB31485-18
Misc : op32398,msu673,20.51,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 29 11:52:48 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration



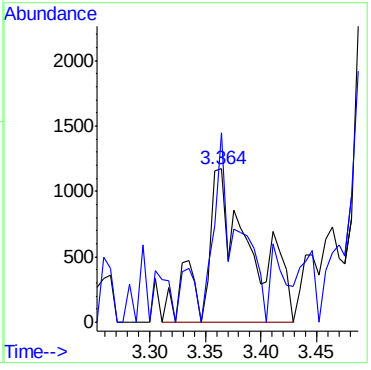
U130129_8270.m Fri Mar 29 11:52:52 2013 Page: 2

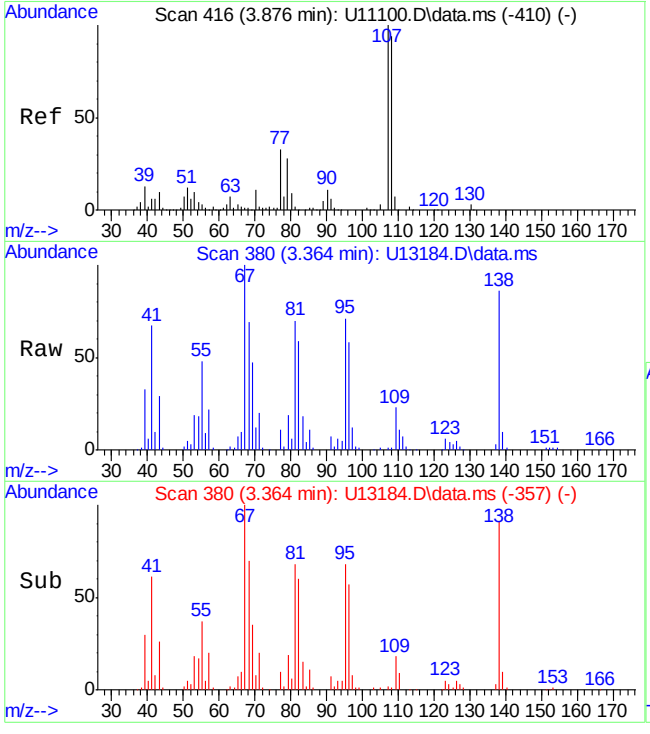


#19
m+p-cresols
Concen: Below Cal
RT: 3.364 min Scan# 380
Delta R.T. -0.065 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:108 Resp: 3380

Ion	Ratio	Lower	Upper
108	100		
107	99.8	77.8	137.8

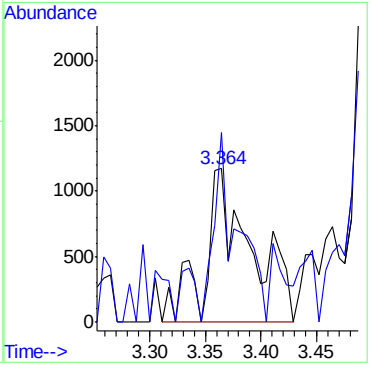


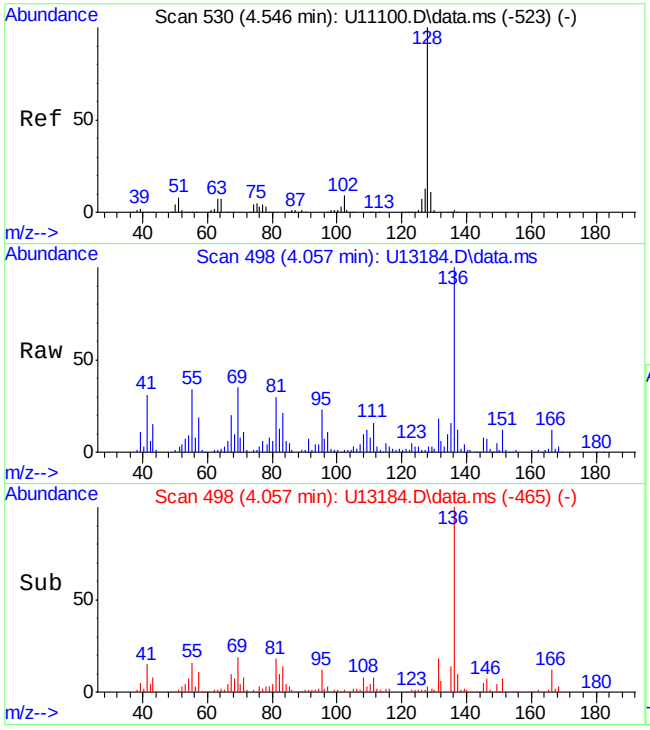


#20
4-methylphenol
Concen: Below Cal
RT: 3.364 min Scan# 380
Delta R.T. -0.065 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:108 Resp: 3380

Ion	Ratio	Lower	Upper
108	100		
107	99.8	77.1	143.1

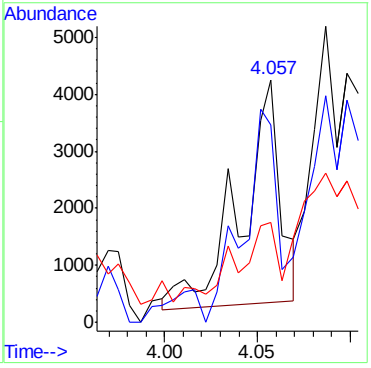


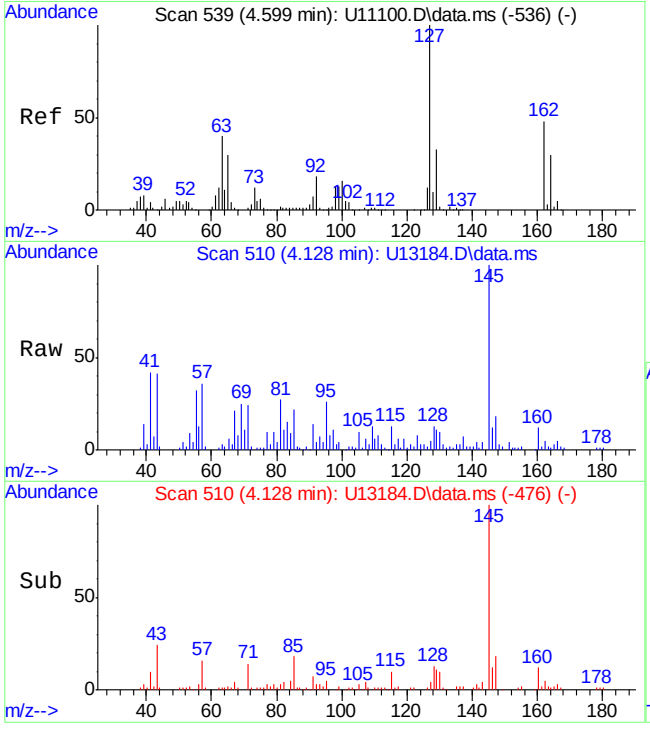


#31
Naphthalene
Concen: Below Cal
RT: 4.057 min Scan# 498
Delta R.T. -0.006 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:128 Resp: 5784

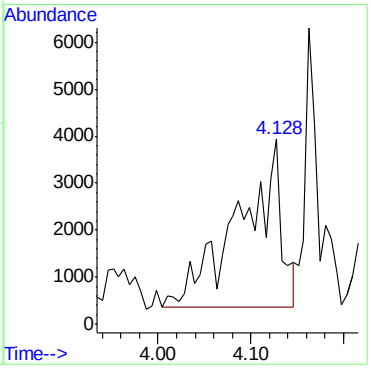
Ion	Ratio	Lower	Upper
128	100		
129	82.7	0.0	41.2#
127	27.1	0.0	43.6



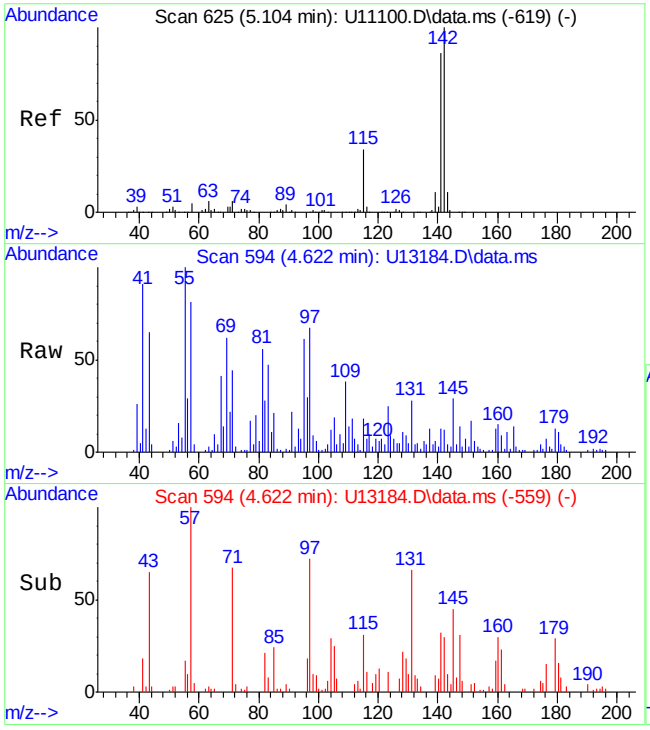


#33
4-Chloroaniline
Concen: Below Cal
RT: 4.128 min Scan# 510
Delta R.T. 0.000 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:127 Resp: 11269



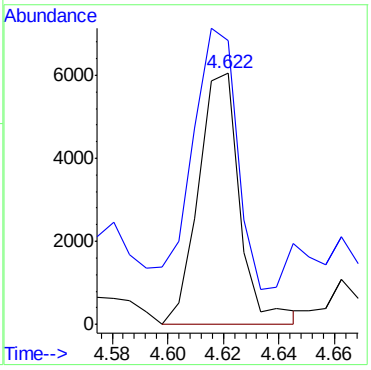
SGS ACCUTEST JB31485

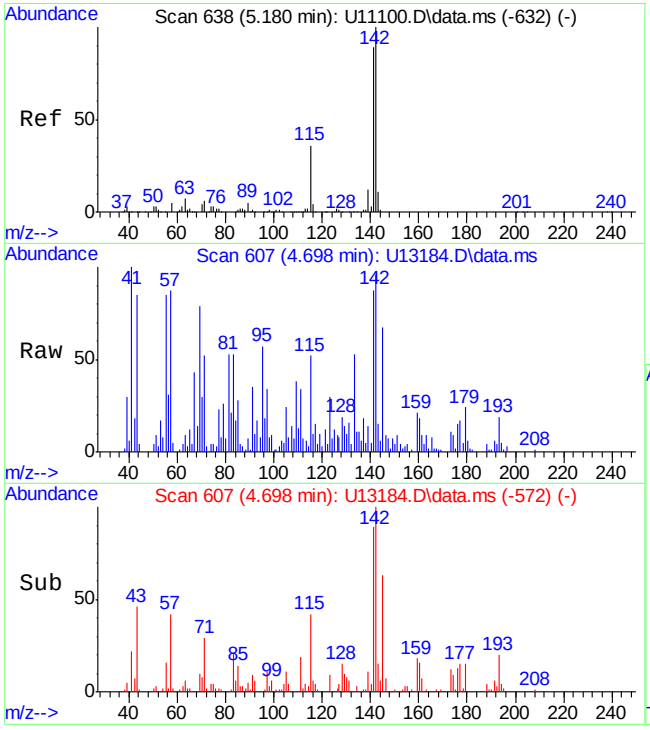


#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.622 min Scan# 594
Delta R.T. 0.006 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:142 Resp: 6252

Ion	Ratio	Lower	Upper
142	100		
141	90.1	56.7	116.7

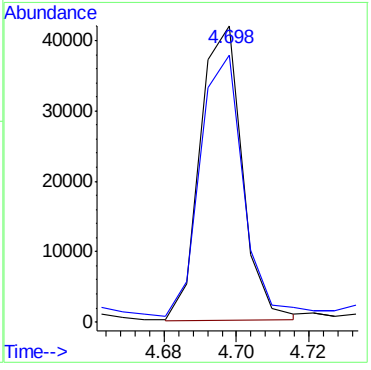


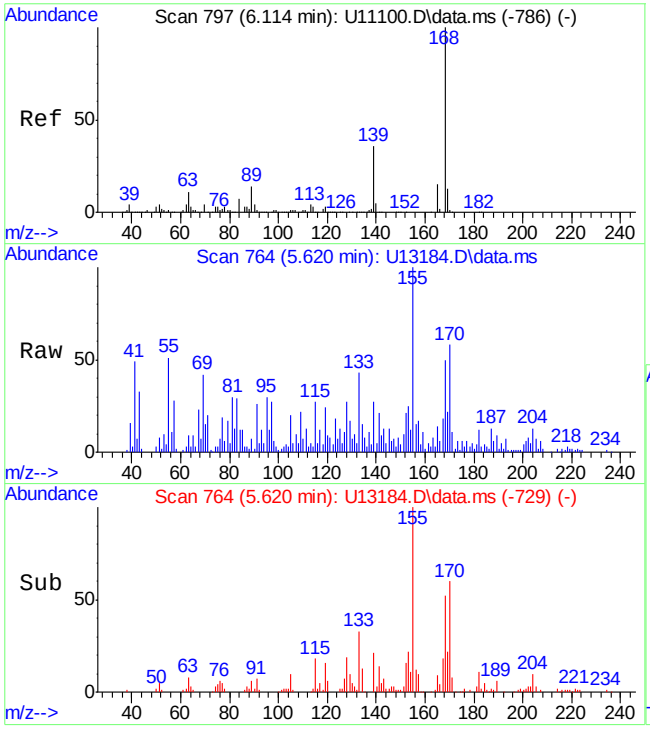


#37
1-Methylnaphthalene
Concen: 1.83 ppb m
RT: 4.698 min Scan# 607
Delta R.T. 0.006 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:142 Resp: 33838

Ion	Ratio	Lower	Upper
142	100		
141	90.1	68.6	108.6

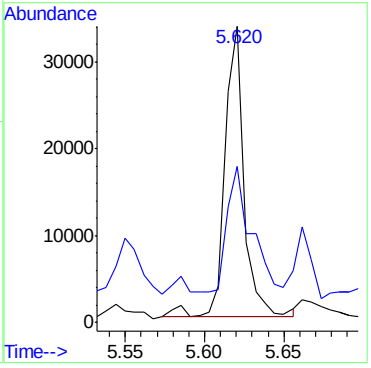


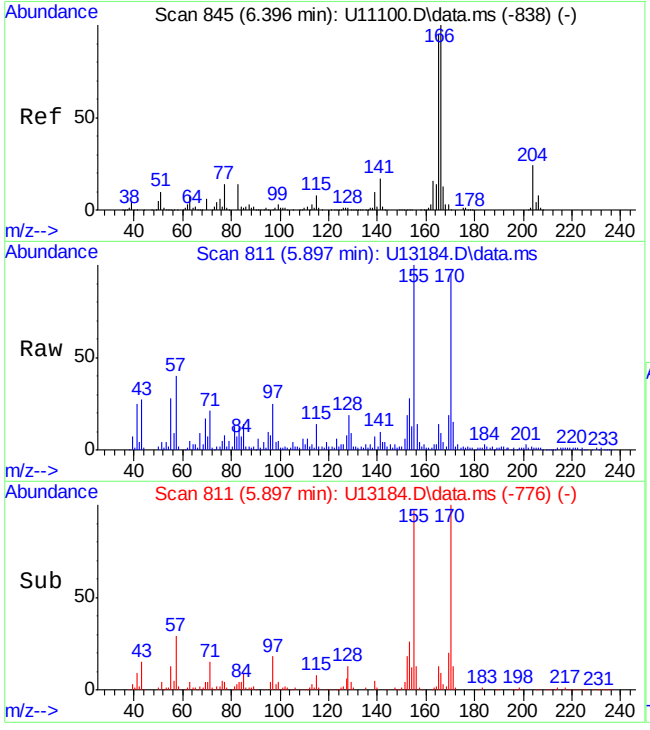


#51
Dibenzofuran
Concen: Below Cal
RT: 5.620 min Scan# 764
Delta R.T. 0.006 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:168 Resp: 28512

Ion	Ratio	Lower	Upper
168	100		
139	44.1	7.0	67.0

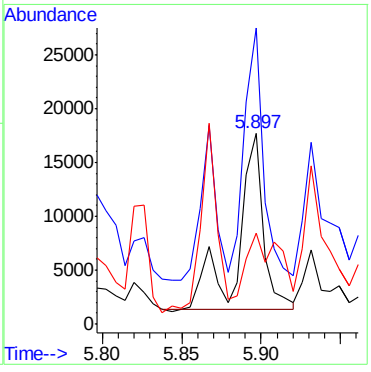




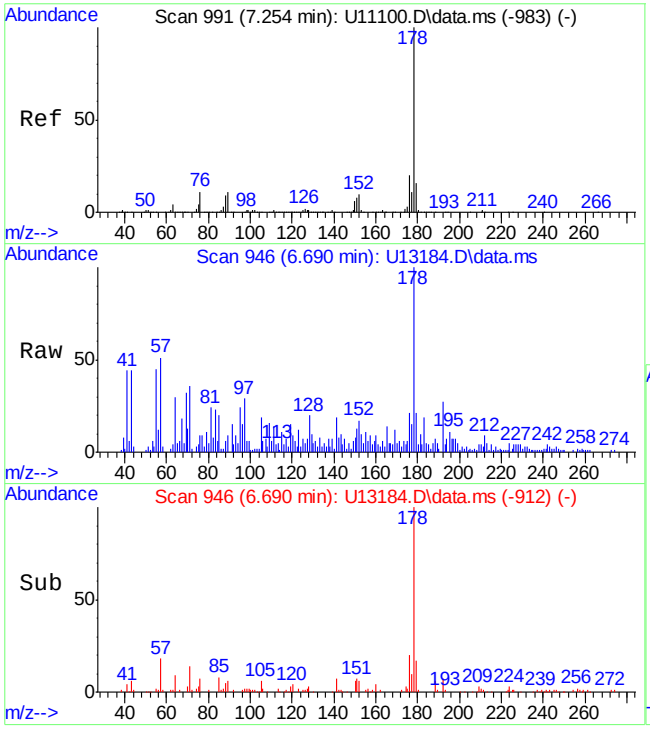
#55
Fluorene
Concen: Below Cal
RT: 5.897 min Scan# 811
Delta R.T. 0.006 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:166 Resp: 18312

Ion	Ratio	Lower	Upper
166	100		
165	142.2	63.2	123.2#
167	45.1	0.0	43.3#



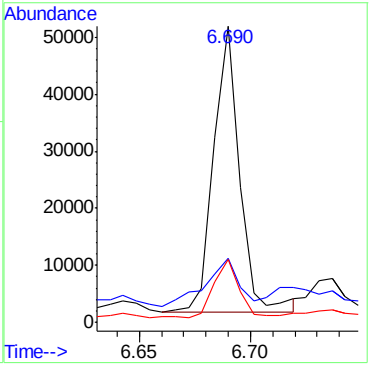
10.1.18 10



#69
Phenanthrene
Concen: Below Cal
RT: 6.690 min Scan# 946
Delta R.T. 0.000 min
Lab File: U13184.D
Acq: 28 Mar 2013 5:07 pm

Tgt Ion:178 Resp: 41181

Ion	Ratio	Lower	Upper
178	100		
179	16.7	0.0	45.7
176	20.0	0.0	48.8



10.1.18 10

Manual Integrations
APPROVED
(compounds with "m" flag)
James Roush
03/29/13 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13185.D
Acq On : 28 Mar 2013 5:29 pm
Operator : NatalyaS
Sample : JB31485-19
Misc : op32398,msu673,20.29,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Mar 29 11:54:48 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.088	152	158286	40.00 ppb	0.00
21) Naphthalene-d8	4.052	136	500882	40.00 ppb	0.00
39) Acenaphthene-d10	5.456	164	286848	40.00 ppb	0.01
61) Phenanthrene-d10	6.684	188	442507	40.00 ppb	0.02
74) Chrysene-d12	9.428	240	605376	40.00 ppb	0.02
84) Perylene-d12	10.973	264	594893	40.00 ppb	0.03
System Monitoring Compounds					
5) 2-Fluorophenol	2.177	112	342419	66.35 ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 66.35%		
7) Phenol-d5	2.853	99	360245	58.11 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 58.11%		
22) Nitrobenzene-d5	3.505	82	192348m	40.61 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 81.22%		
44) 2-Fluorobiphenyl	4.927	172	337870	33.52 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 67.04%		
65) 2,4,6-Tribromophenol	6.108	330	113366	87.69 ppb	0.02
Spiked Amount 100.000	Range 10 - 157		Recovery = 87.69%		
77) Terphenyl-d14	8.300	244	512625	37.32 ppb	0.03
Spiked Amount 50.000	Range 30 - 124		Recovery = 74.64%		
Target Compounds					Qvalue
19) m+p-cresols	3.494	108	4880	Below Cal	87
20) 4-methylphenol	3.494	108	4880	Below Cal	84
33) 4-Chloroaniline	4.105	127	14105	Below Cal	100
36) 2-Methylnaphthalene	4.628	142	10869	Below Cal	81
37) 1-Methylnaphthalene	4.704	142	85962m	8.44 ppb	
46) Acenaphthylene	5.350	152	19484	Below Cal #	1
51) Dibenzofuran	5.626	168	49690m	2.00 ppb	
55) Fluorene	5.903	166	42894m	2.80 ppb	
69) Phenanthrene	6.702	178	181299m	13.53 ppb	
76) Pyrene	8.077	202	28878m	1.54 ppb	
81) Benzo[a]anthracene	9.446	228	68000m	3.82 ppb	
82) Chrysene	9.446	228	64541m	3.83 ppb	

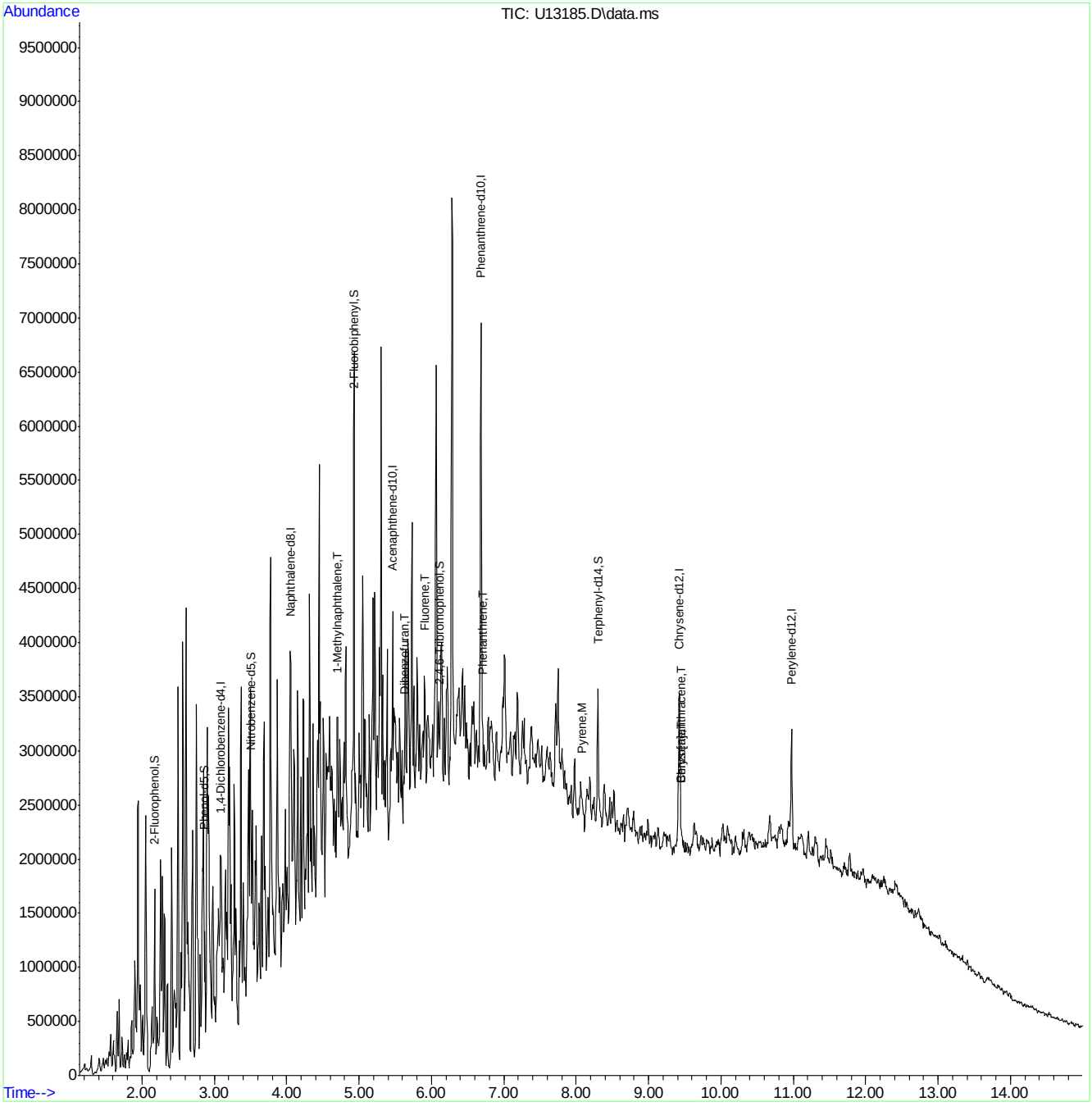
(#) = qualifier out of range (m) = manual integration (+) = signals summed

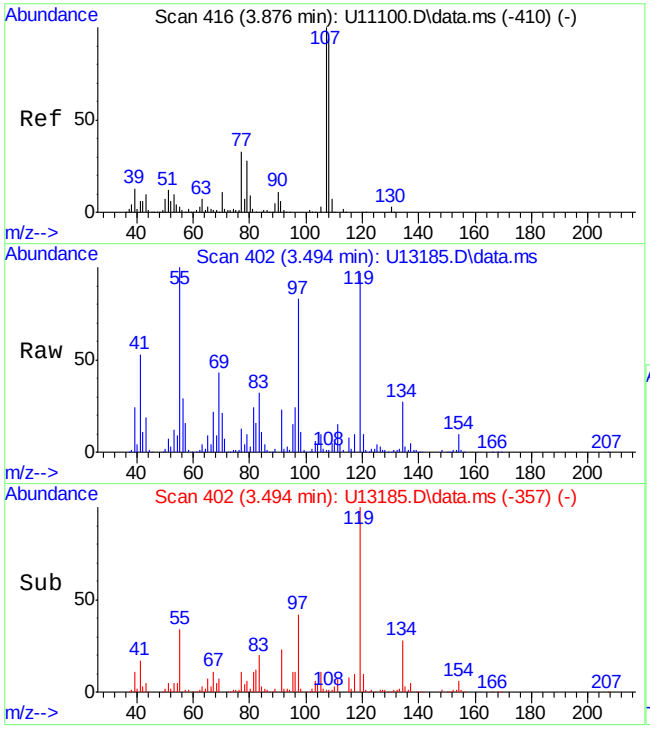
10.1.19 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13185.D
Acq On : 28 Mar 2013 5:29 pm
Operator : NatalyaS
Sample : JB31485-19
Misc : op32398,msu673,20.29,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Mar 29 11:54:48 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

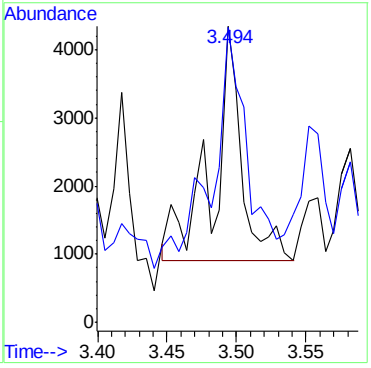


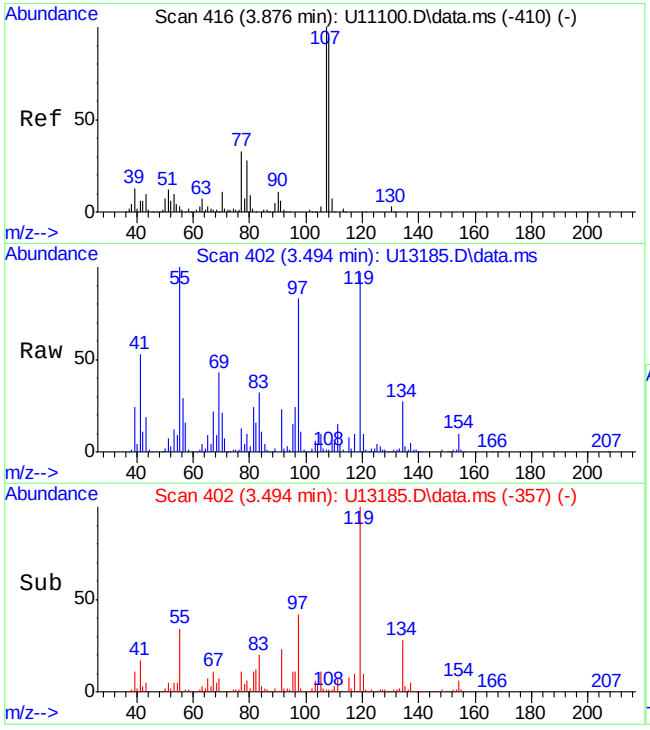


#19
m+p-cresols
Concen: Below Cal
RT: 3.494 min Scan# 402
Delta R.T. 0.065 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:108 Resp: 4880

Ion	Ratio	Lower	Upper
108	100		
107	93.7	77.8	137.8

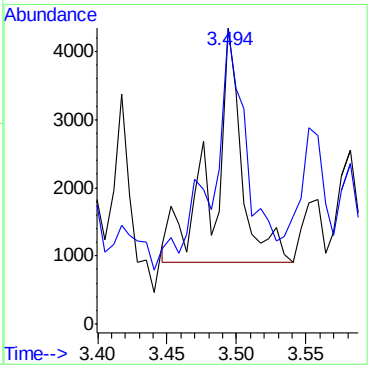


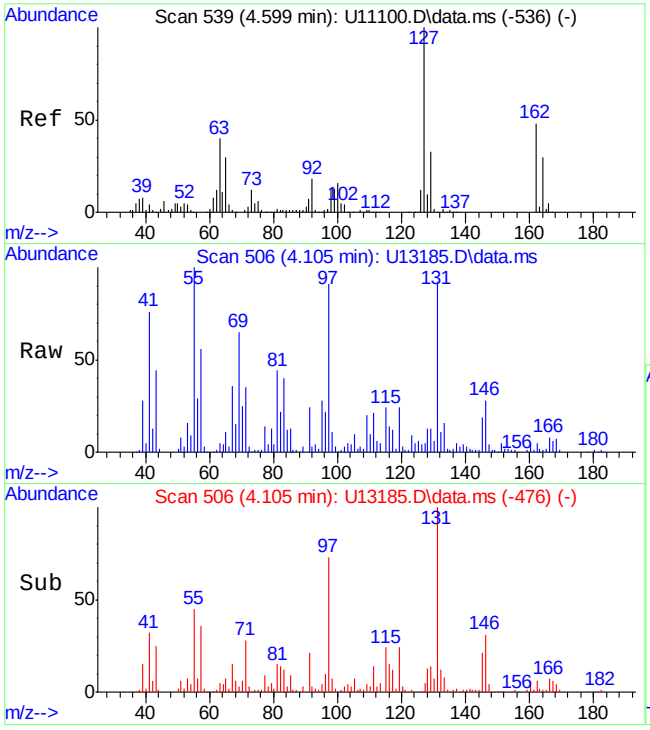


#20
4-methylphenol
Concen: Below Cal
RT: 3.494 min Scan# 402
Delta R.T. 0.065 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:108 Resp: 4880

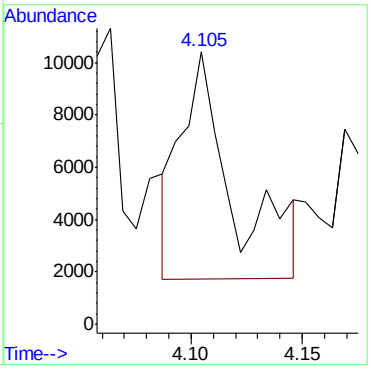
Ion	Ratio	Lower	Upper
108	100		
107	93.7	77.1	143.1

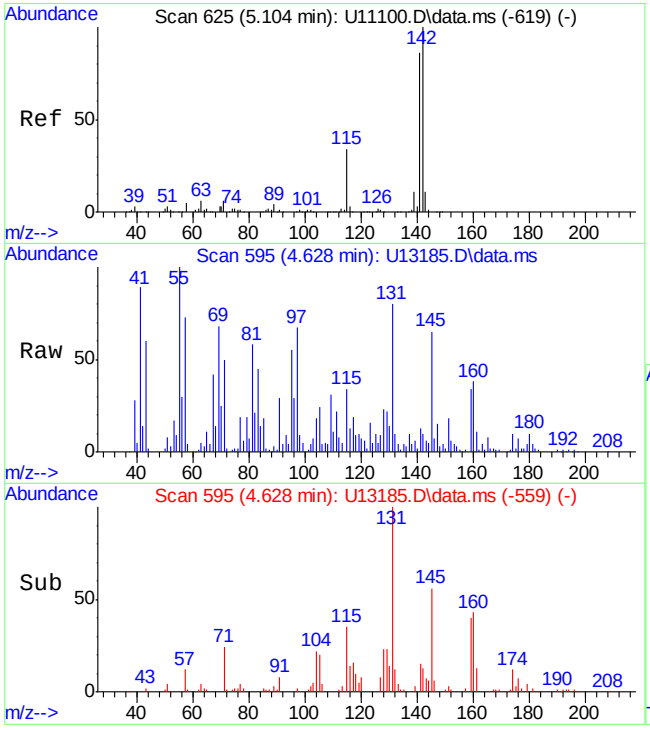




#33
4-Chloroaniline
Concen: Below Cal
RT: 4.105 min Scan# 506
Delta R.T. -0.023 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:127 Resp: 14105

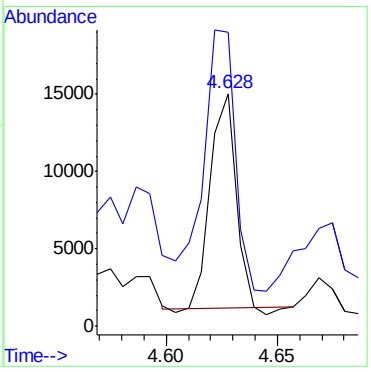


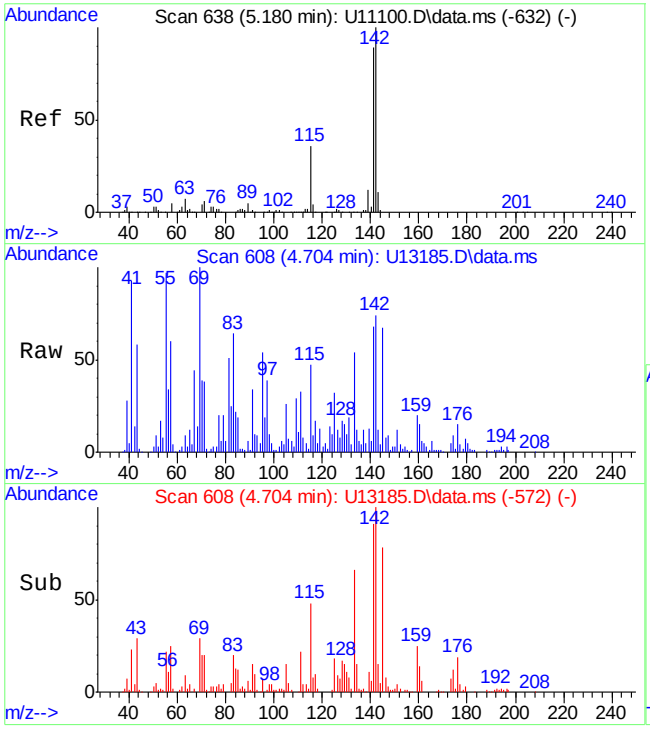


#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.628 min Scan# 595
Delta R.T. 0.012 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:142 Resp: 10869

Ion	Ratio	Lower	Upper
142	100		
141	104.6	56.7	116.7

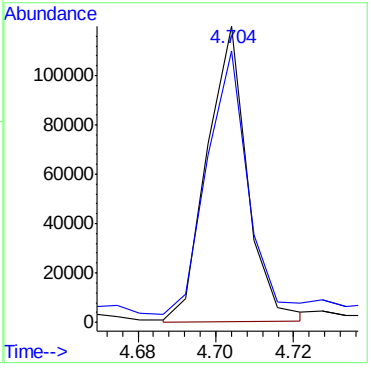


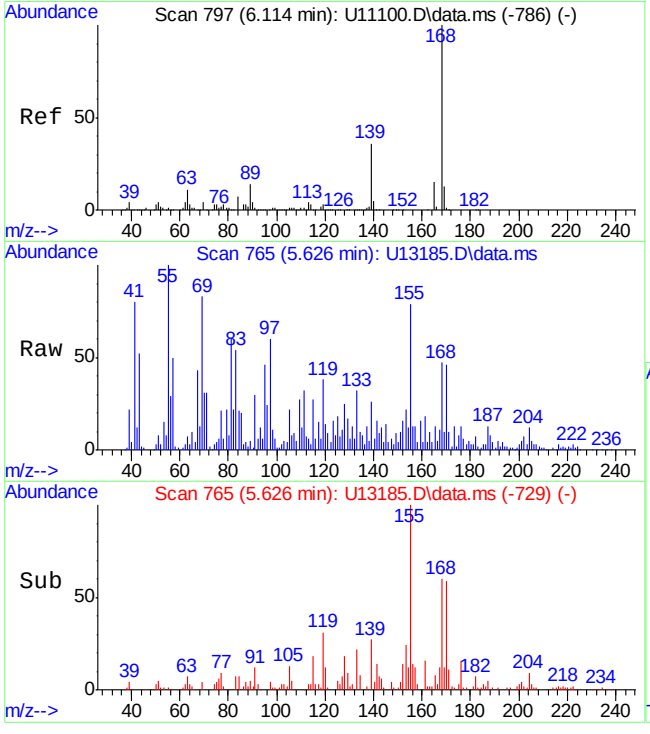


#37
1-Methylnaphthalene
Concen: 8.44 ppb m
RT: 4.704 min Scan# 608
Delta R.T. 0.012 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:142 Resp: 85962

Ion	Ratio	Lower	Upper
142	100		
141	91.8	68.6	108.6

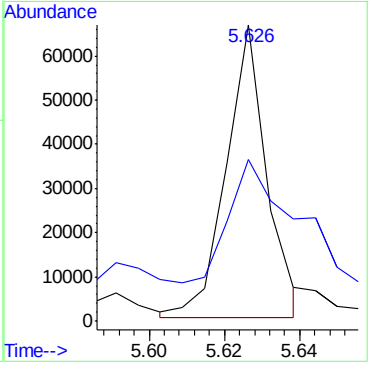


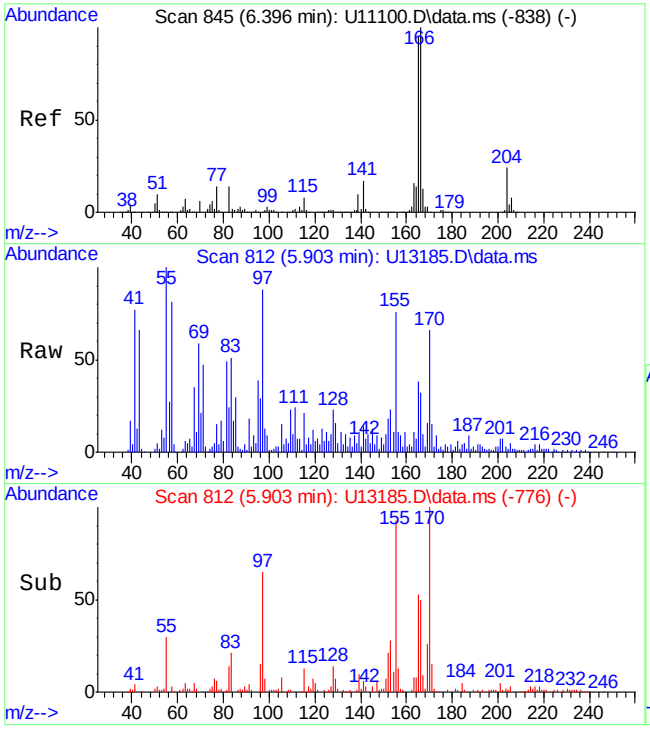


#51
Dibenzofuran
Concen: 2.00 ppb m
RT: 5.626 min Scan# 765
Delta R.T. 0.012 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:168 Resp: 49690

Ion	Ratio	Lower	Upper
168	100		
139	54.6	7.0	67.0

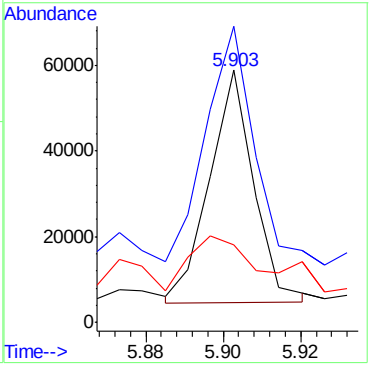


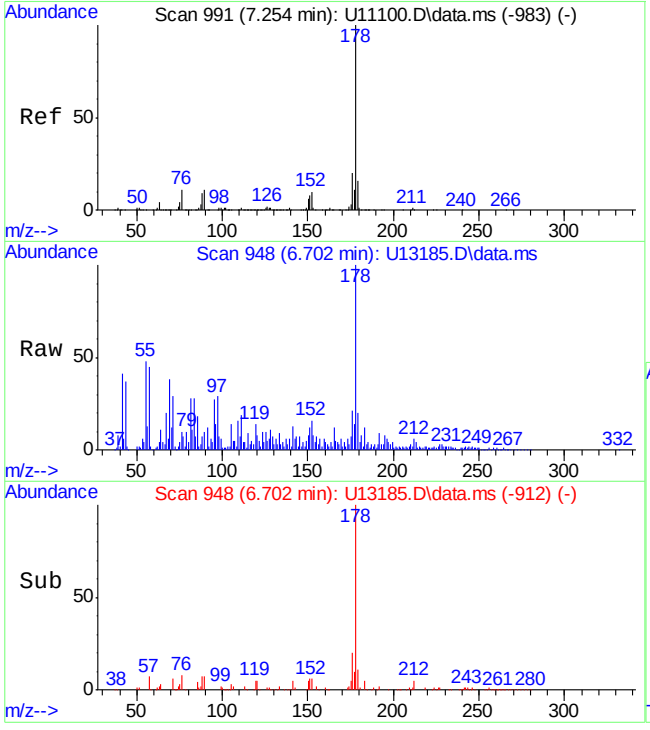


#55
Fluorene
Concen: 2.80 ppb m
RT: 5.903 min Scan# 812
Delta R.T. 0.012 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:166 Resp: 42894

Ion	Ratio	Lower	Upper
166	100		
165	117.4	63.2	123.2
167	30.8	0.0	43.3

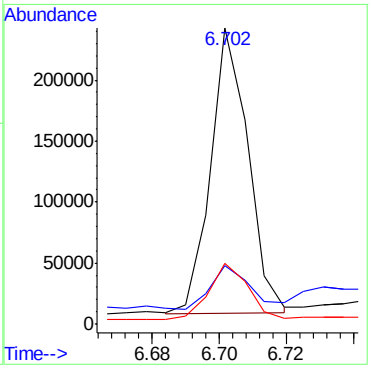




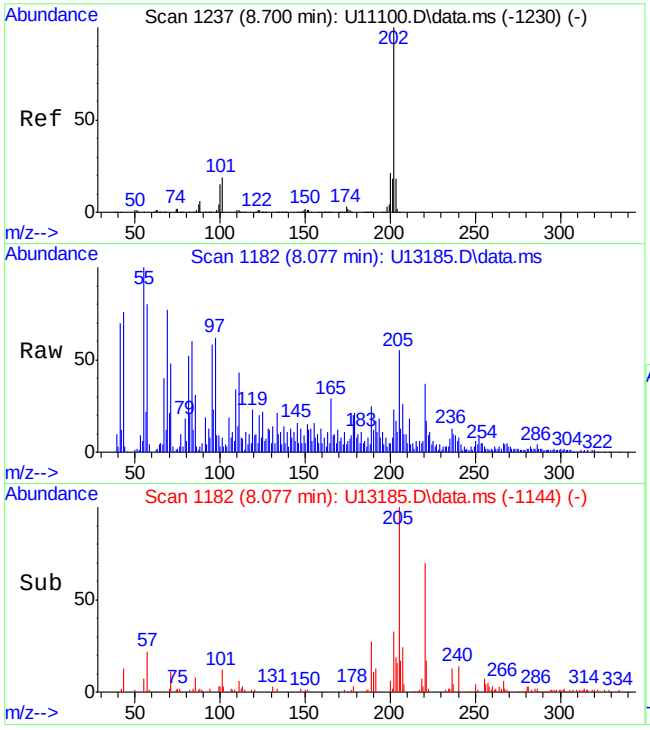
#69
Phenanthrene
Concen: 13.53 ppb m
RT: 6.702 min Scan# 948
Delta R.T. 0.012 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:178 Resp: 181299

Ion	Ratio	Lower	Upper
178	100		
179	19.6	0.0	45.7
176	20.6	0.0	48.8



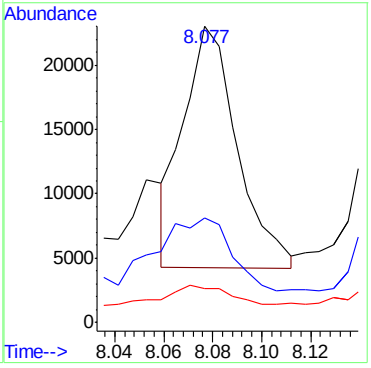
SGS ACCUTEST JB31485

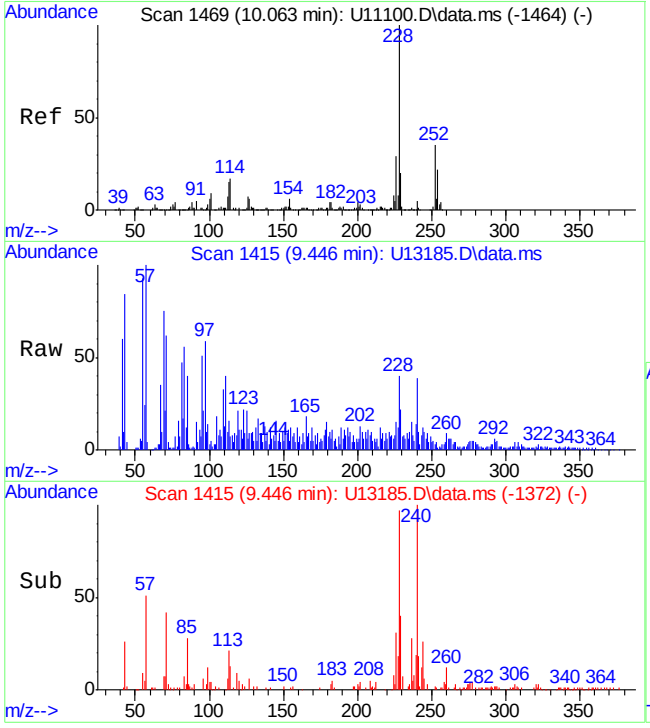


#76
Pyrene
Concen: 1.54 ppb m
RT: 8.077 min Scan# 1182
Delta R.T. 0.024 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:202 Resp: 28878

Ion	Ratio	Lower	Upper
202	100		
101	35.2	0.0	46.3
100	11.4	0.0	43.6

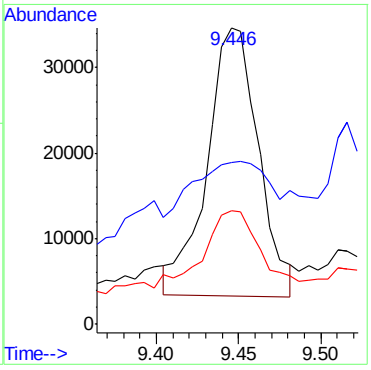


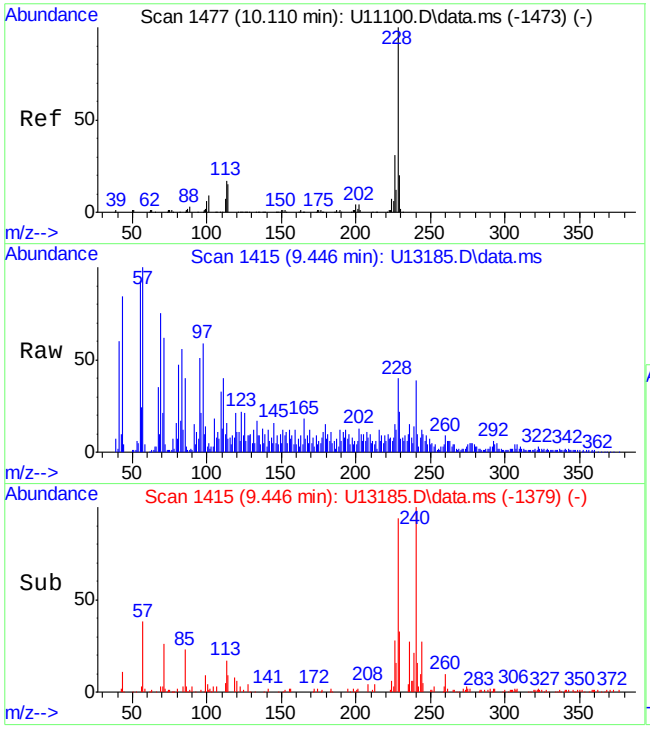


#81
Benzo[a]anthracene
Concen: 3.82 ppb m
RT: 9.446 min Scan# 1415
Delta R.T. 0.053 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:228 Resp: 68000

Ion	Ratio	Lower	Upper
228	100		
229	54.5	0.0	49.5#
226	38.5	0.0	56.2

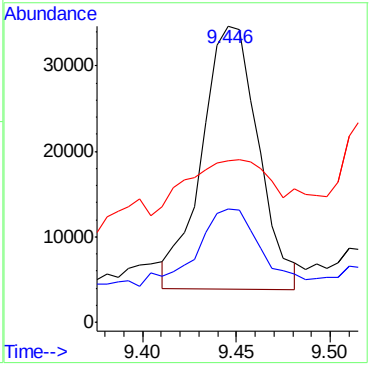




#82
Chrysene
Concen: 3.83 ppb m
RT: 9.446 min Scan# 1415
Delta R.T. 0.012 min
Lab File: U13185.D
Acq: 28 Mar 2013 5:29 pm

Tgt Ion:228 Resp: 64541

Ion	Ratio	Lower	Upper
228	100		
226	38.5	0.0	58.8
229	54.5	0.0	49.7#



10.1.19

10

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13186.D
Acq On : 28 Mar 2013 5:52 pm
Operator : NatalyaS
Sample : JB31485-20,1:5
Misc : op32398,msu673,20.34,,1,5
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 29 11:55:25 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

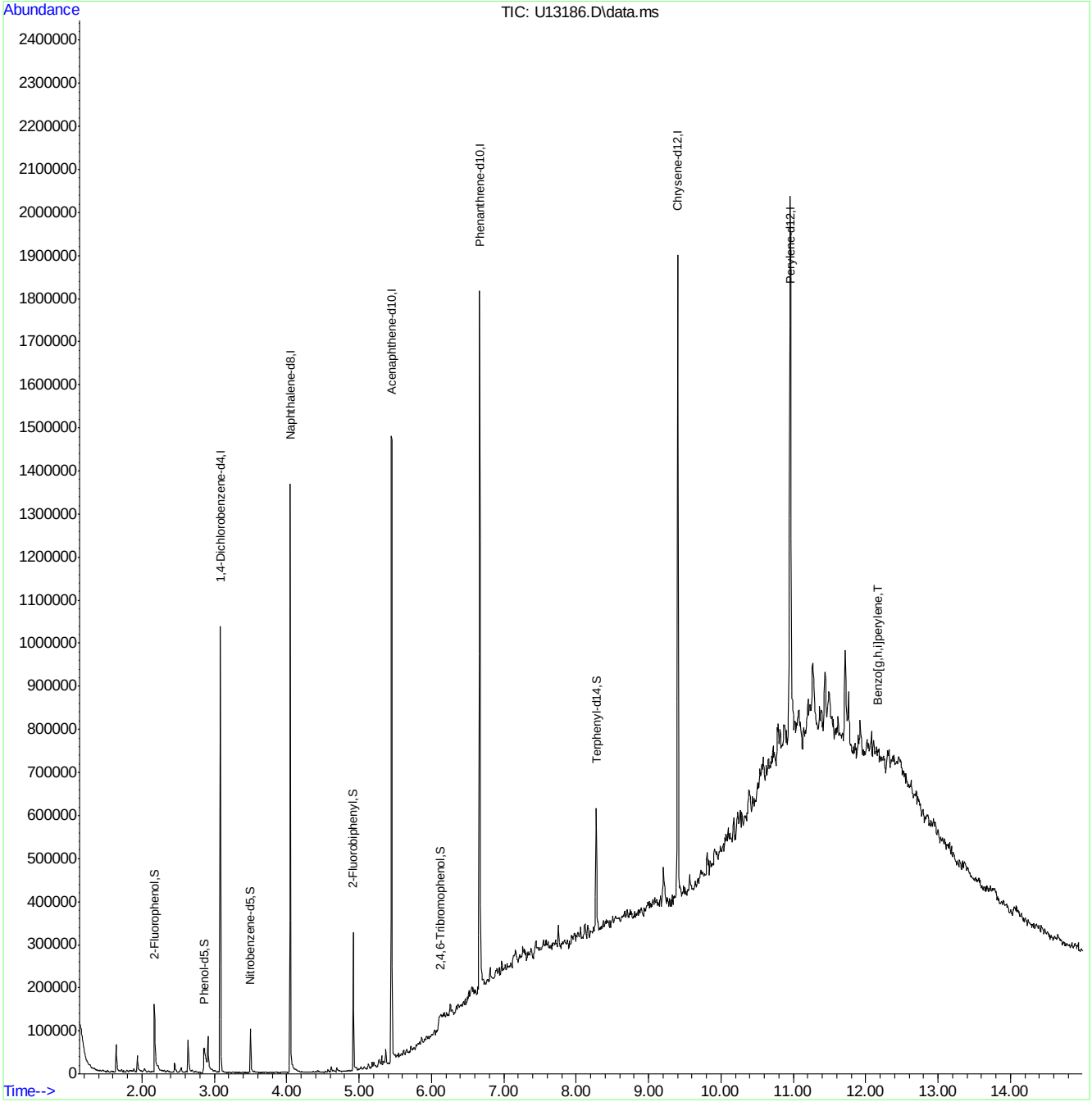
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	138917	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	490504	40.00 ppb	0.00
39) Acenaphthene-d10	5.450	164	310598	40.00 ppb	0.00
61) Phenanthrene-d10	6.666	188	555723	40.00 ppb	0.00
74) Chrysene-d12	9.404	240	628244	40.00 ppb	0.00
84) Perylene-d12	10.956	264	584771	40.00 ppb	0.01
System Monitoring Compounds					
5) 2-Fluorophenol	2.172	112	58504	12.92 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 12.92%		
7) Phenol-d5	2.853	99	62904	11.56 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 11.56%		
22) Nitrobenzene-d5	3.499	82	29770	6.42 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 12.84%#		
44) 2-Fluorobiphenyl	4.921	172	80811	7.40 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 14.80%#		
65) 2,4,6-Tribromophenol	6.126	330	19330	11.91 ppb	0.04
Spiked Amount 100.000	Range 10 - 157		Recovery = 11.91%		
77) Terphenyl-d14	8.276	244	105975	7.43 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 14.86%#		
Target Compounds					Qvalue
31) Naphthalene	4.064	128	1198	Below Cal	89
36) 2-Methylnaphthalene	4.616	142	3581	Below Cal	90
37) 1-Methylnaphthalene	4.692	142	1733	Below Cal	97
63) n-Nitrosodiphenylamine	6.002	169	1500	Below Cal #	26
69) Phenanthrene	6.684	178	7849	Below Cal	93
70) Anthracene	6.737	178	1316	Below Cal	65
71) Carbazole	6.890	167	2022	Below Cal	82
91) Benzo[g,h,i]perylene	12.172	276	5942	0.35 ppb	89

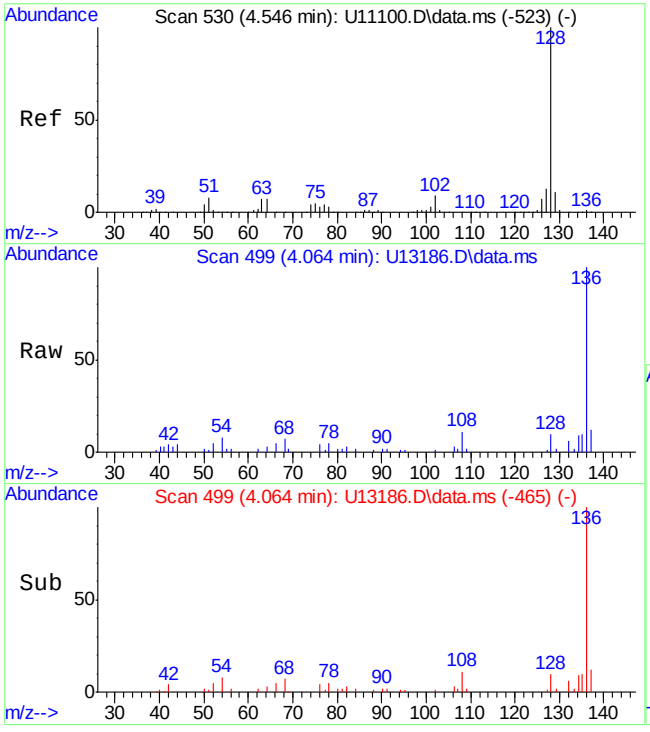
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13186.D
Acq On : 28 Mar 2013 5:52 pm
Operator : NatalyaS
Sample : JB31485-20,1:5
Misc : op32398,msu673,20.34,,1,5
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 29 11:55:25 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

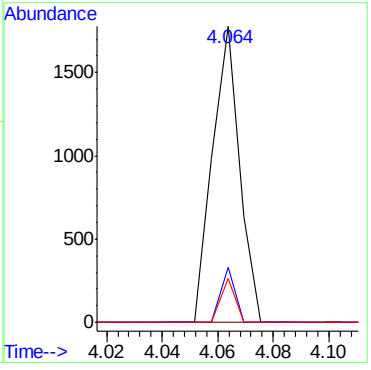


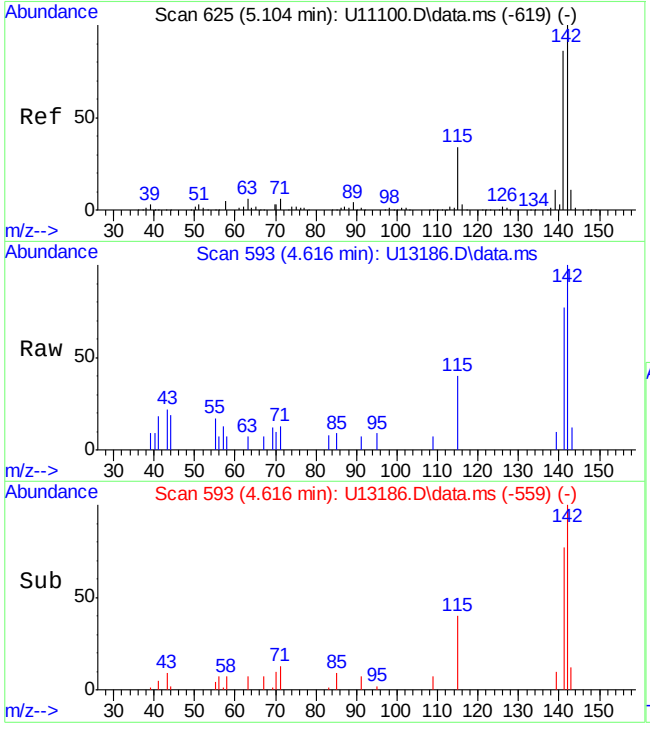


#31
Naphthalene
Concen: Below Cal
RT: 4.064 min Scan# 499
Delta R.T. 0.000 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:128 Resp: 1198

Ion	Ratio	Lower	Upper
128	100		
129	18.7	0.0	41.2
127	14.8	0.0	43.6

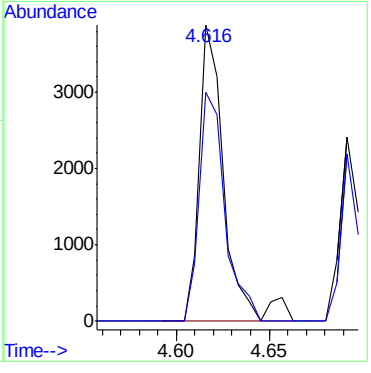




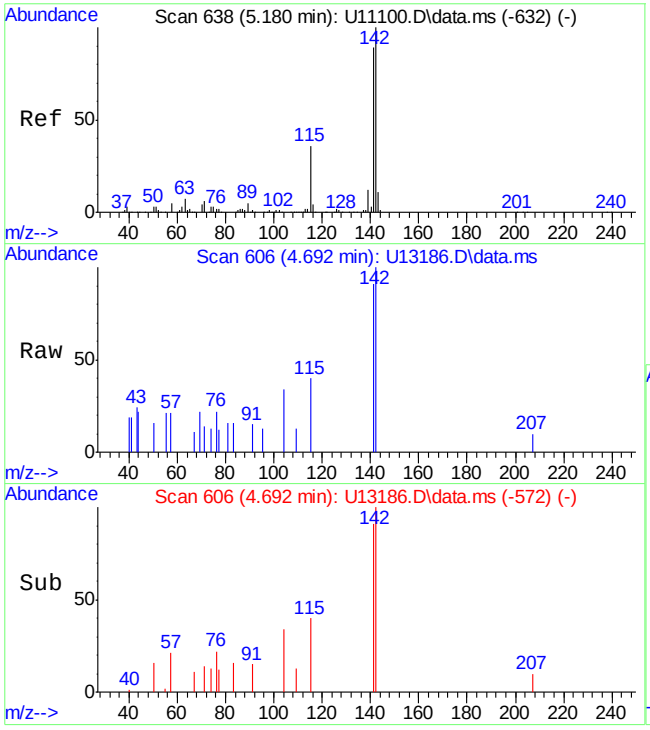
#36
2-Methylnaphthalene
Concen: Below Cal
RT: 4.616 min Scan# 593
Delta R.T. 0.000 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:142 Resp: 3581

Ion	Ratio	Lower	Upper
142	100		
141	77.4	56.7	116.7



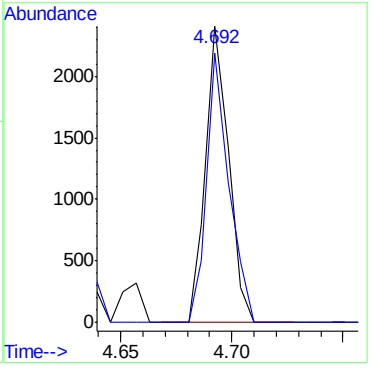
SGS ACCUTEST JB31485

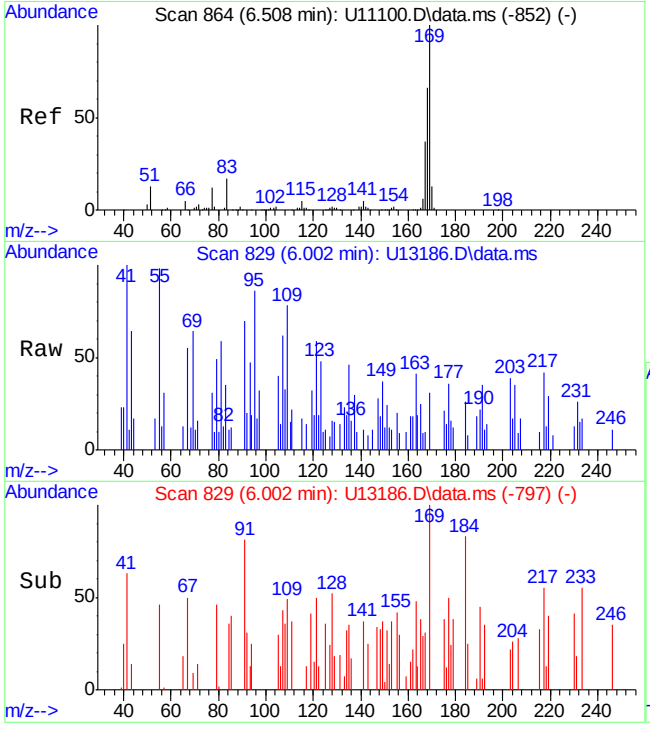


#37
1-Methylnaphthalene
Concen: Below Cal
RT: 4.692 min Scan# 606
Delta R.T. 0.000 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:142 Resp: 1733

Ion	Ratio	Lower	Upper
142	100		
141	91.0	68.6	108.6

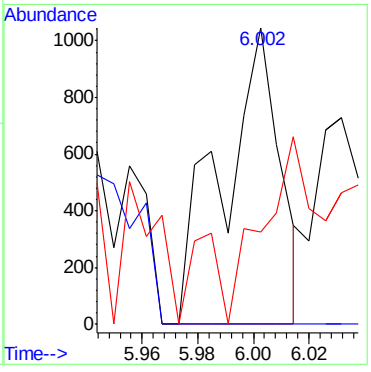


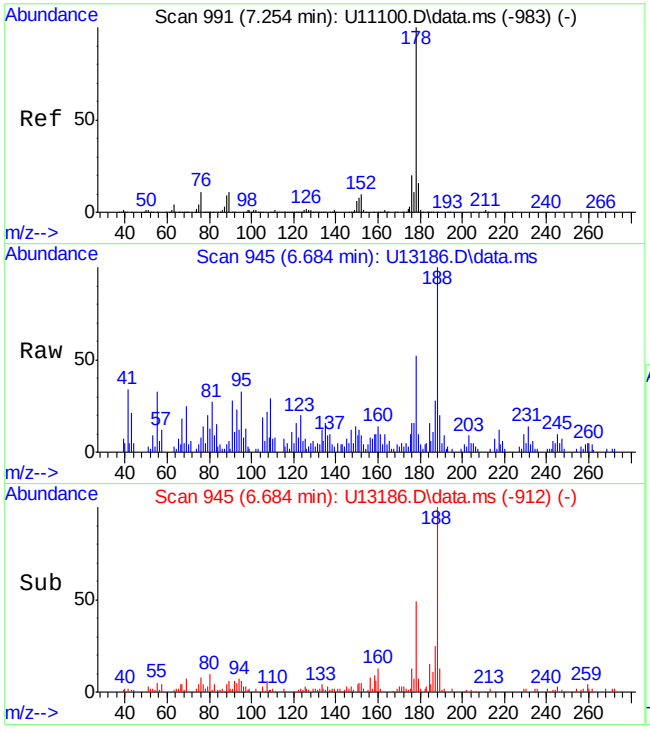


#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.002 min Scan# 829
Delta R.T. -0.012 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:169 Resp: 1500

Ion	Ratio	Lower	Upper
169	100		
168	0.0	33.9	93.9#
167	0.0	4.0	64.0#

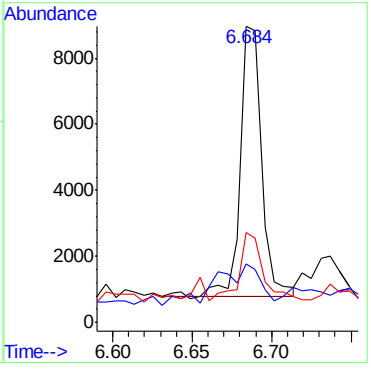


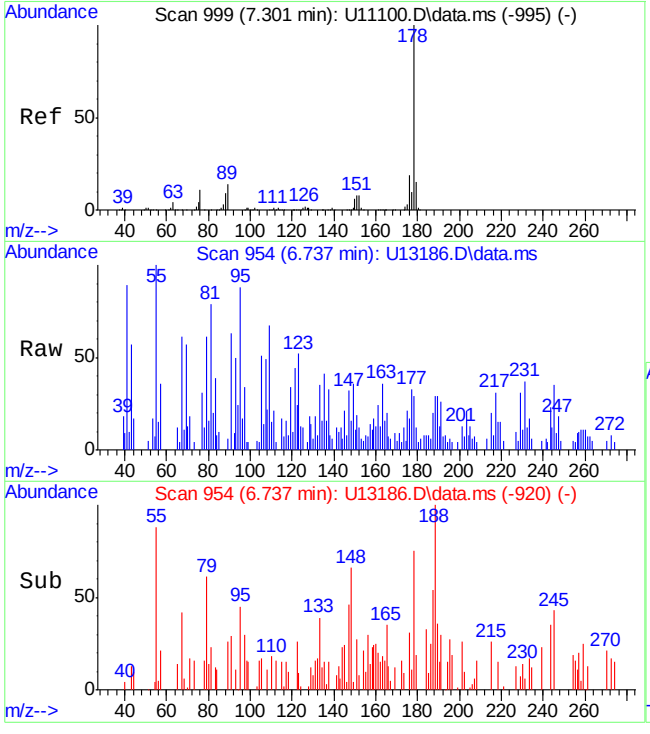


#69
Phenanthrene
Concen: Below Cal
RT: 6.684 min Scan# 945
Delta R.T. -0.006 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:178 Resp: 7849

Ion	Ratio	Lower	Upper
178	100		
179	15.4	0.0	45.7
176	23.9	0.0	48.8

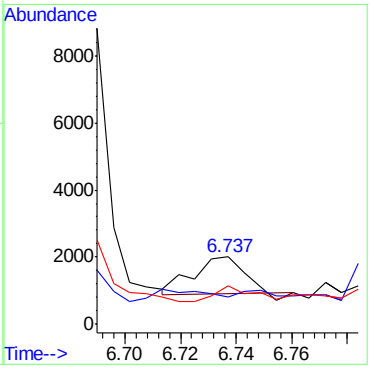




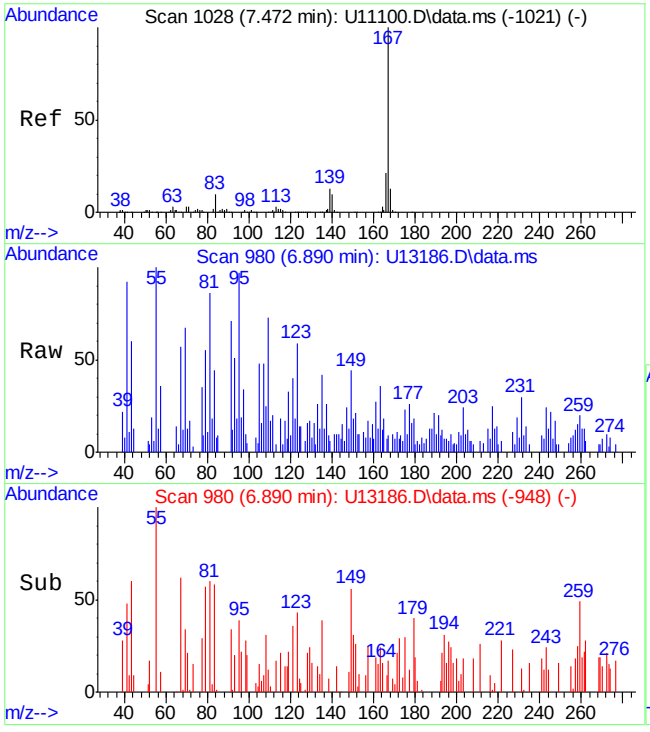
#70
Anthracene
Concen: Below Cal
RT: 6.737 min Scan# 954
Delta R.T. 0.000 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:178 Resp: 1316

Ion	Ratio	Lower	Upper
178	100		
179	0.0	0.0	45.1
176	33.6	0.0	48.3



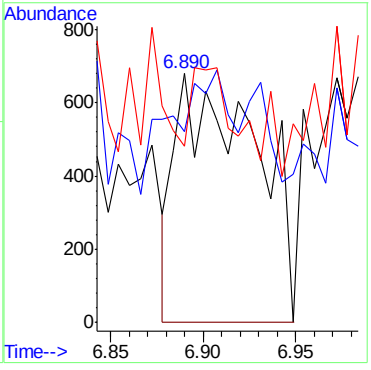
10.1.20
10

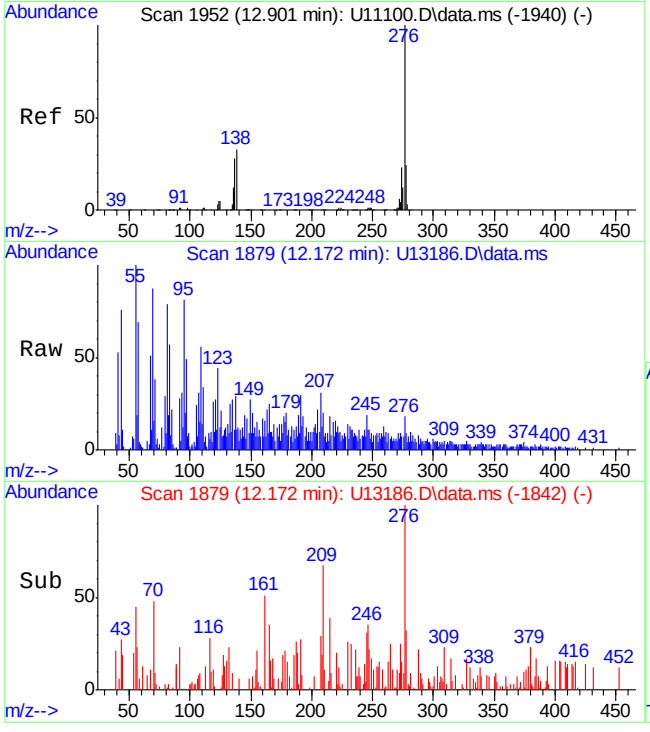


#71
Carbazole
Concen: Below Cal
RT: 6.890 min Scan# 980
Delta R.T. -0.012 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:167 Resp: 2022

Ion	Ratio	Lower	Upper
167	100		
166	17.0	0.0	50.9
139	0.0	0.0	43.1

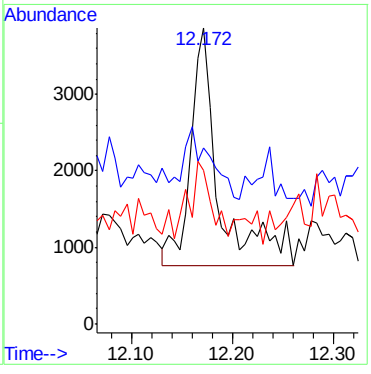




#91
Benzo[g,h,i]perylene
Concen: 0.35 ppb
RT: 12.172 min Scan# 1879
Delta R.T. 0.018 min
Lab File: U13186.D
Acq: 28 Mar 2013 5:52 pm

Tgt Ion:276 Resp: 5942

Ion	Ratio	Lower	Upper
276	100		
138	21.6	0.0	59.8
277	27.0	0.0	54.3



SGS ACCUTEST JB31485

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 17:16

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10655.D
Acq On : 27 Mar 2013 11:14 pm
Operator : KRISTINR
Sample : JB31485-21
Misc : op32397,msw500,20.13,,,1,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Mar 29 12:12:59 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.840	152	39379	40.00	ppm	-0.01
22) Naphthalene-d8	4.833	136	151021	40.00	ppm	-0.01
40) Acenaphthene-d10	6.267	164	93738	40.00	ppm	0.00
63) Phenanthrene-d10	7.583	188	165425	40.00	ppm	-0.01
78) Chrysene-d12	10.491	240	192993	40.00	ppm	0.00
88) Perylene-d12	12.083	264	207608	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.964	112	87226	68.35	ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 68.35%			
7) Phenol-d5	3.611	99	105823	62.58	ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 62.58%			
23) Nitrobenzene-d5	4.286	82	54287	31.88	ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 63.76%			
45) 2-Fluorobiphenyl	5.714	172	116021	35.58	ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 71.16%			
67) 2,4,6-Tribromophenol	6.954	330	50121	94.01	ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 94.01%			
81) Terphenyl-d14	9.292	244	168266	39.47	ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 78.94%			
Target Compounds						Qvalue
32) Naphthalene	4.851	128	14493	3.56	ppm	99
37) 2-Methylnaphthalene	5.403	142	13207	4.68	ppm	98
38) 1-methylnaphthalene	5.491	142	8633	3.30	ppm	100
52) Dibenzofuran	6.425	168	6065	1.52	ppm	97
56) Fluorene	6.719	166	4339m	1.32	ppm	
72) Phenanthrene	7.606	178	51304	10.56	ppm	98
73) Anthracene	7.647	178	15344	3.05	ppm	94
74) Carbazole	7.818	167	5546	1.20	ppm	94
76) Fluoranthene	8.852	202	34454	6.81	ppm	90
80) Pyrene	9.093	202	34274	5.74	ppm	93
85) Benzo[a]anthracene	10.473	228	25163	8.26	ppm	85
86) Chrysene	10.520	228	53425	10.83	ppm	96
90) Benzo[b]fluoranthene	11.690	252	33157m	4.57	ppm	
91) Benzo[k]fluoranthene	11.707	252	13975m	2.10	ppm	
92) Benzo[a]pyrene	12.025	252	31481	6.83	ppm	96
93) Indeno[1,2,3-cd]pyrene	13.170	276	19928	5.73	ppm	98
94) Dibenz[a,h]anthracene	13.176	278	14898m	6.23	ppm	
95) Benzo[g,h,i]perylene	13.458	276	27033	6.07	ppm	96

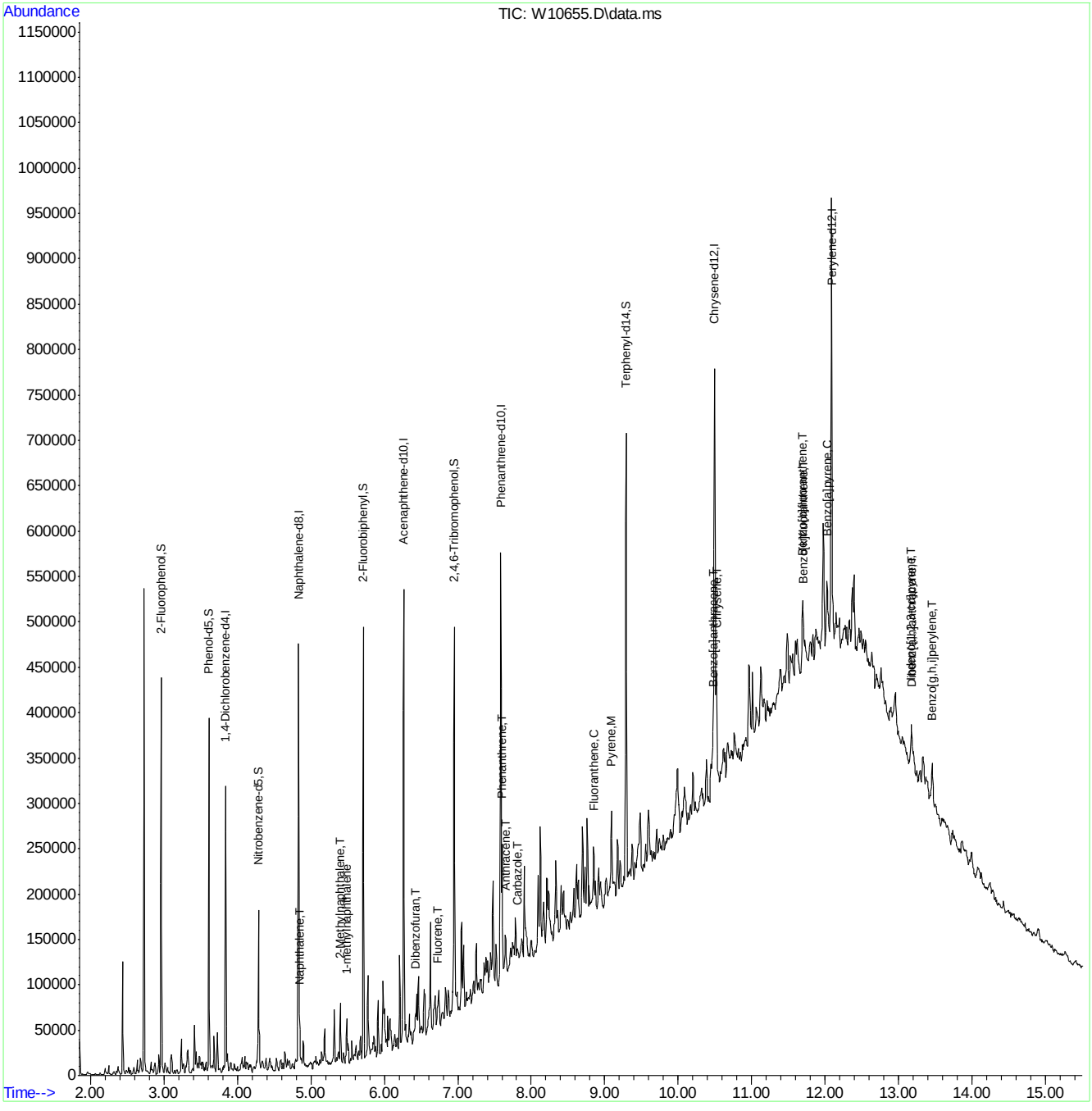
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.21 10

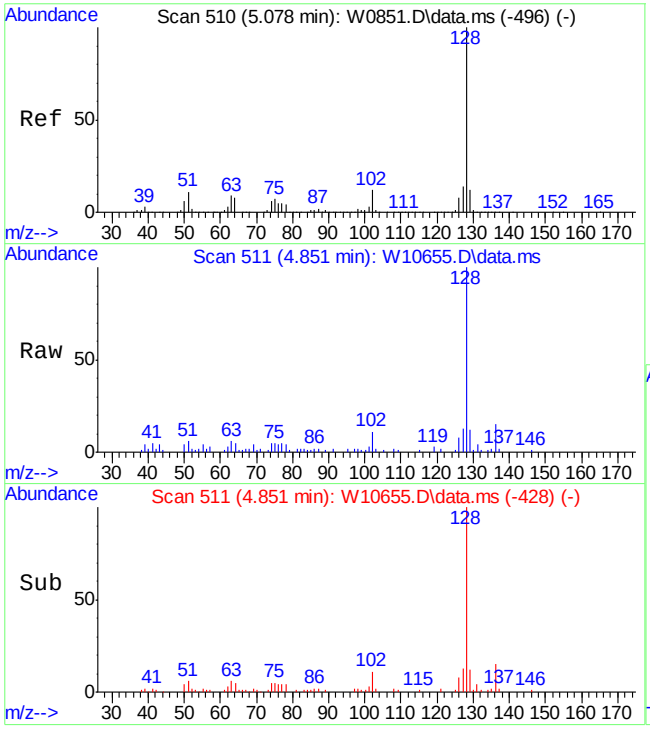
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10655.D
Acq On : 27 Mar 2013 11:14 pm
Operator : KRISTINR
Sample : JB31485-21
Misc : op32397,msw500,20.13,,,1,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Mar 29 12:12:59 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



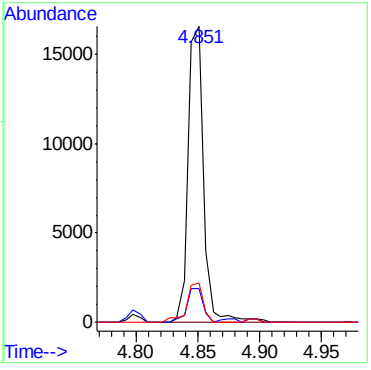
W130308_8270.M Fri Mar 29 12:13:09 2013 Page: 2

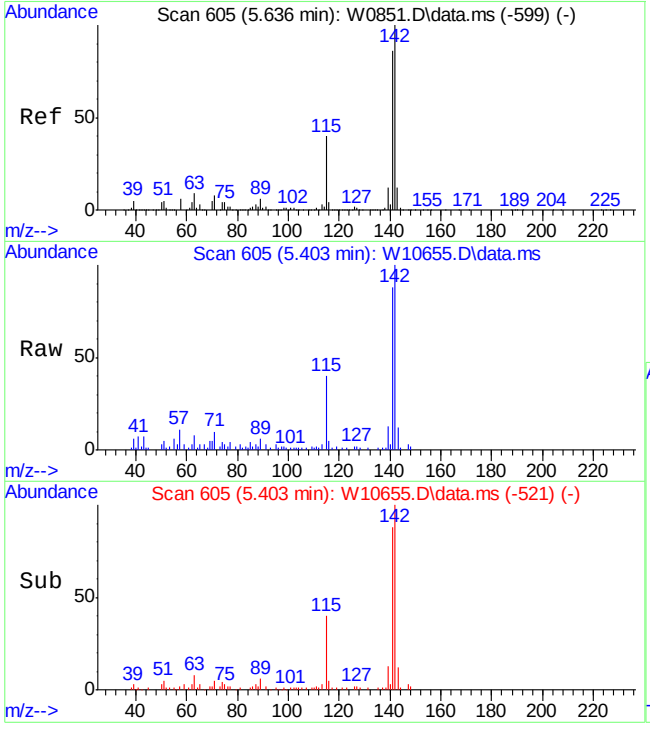


#32
Naphthalene
Concen: 3.56 ppm
RT: 4.851 min Scan# 511
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:128 Resp: 14493

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	41.0
127	13.4	0.0	43.3

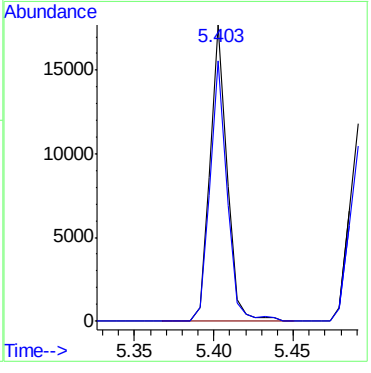


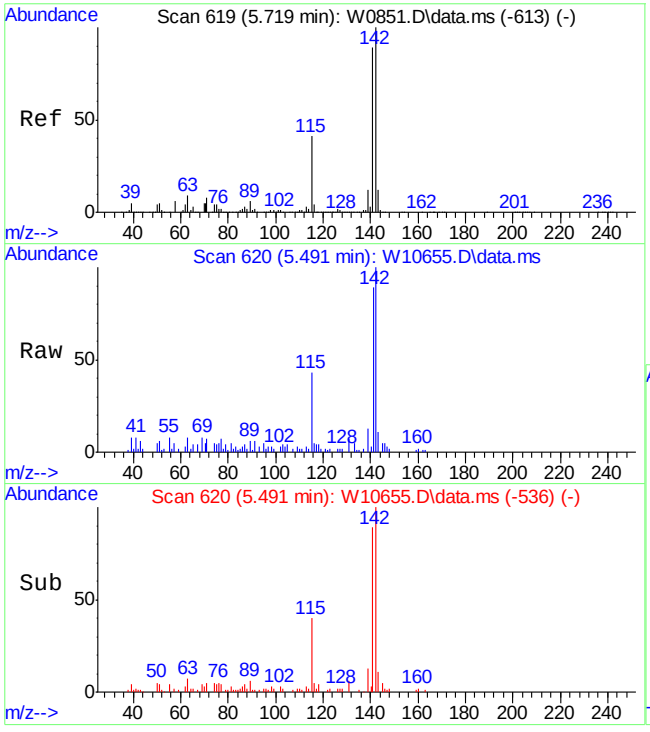


#37
2-Methylnaphthalene
Concen: 4.68 ppm
RT: 5.403 min Scan# 605
Delta R.T. -0.006 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:142 Resp: 13207

Ion	Ratio	Lower	Upper
142	100		
141	87.8	56.4	116.4

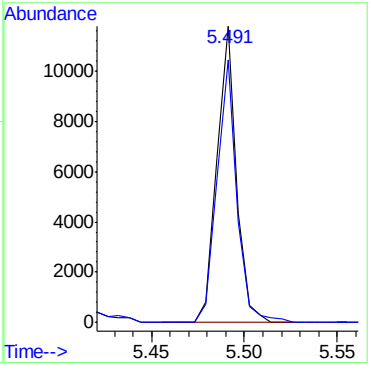


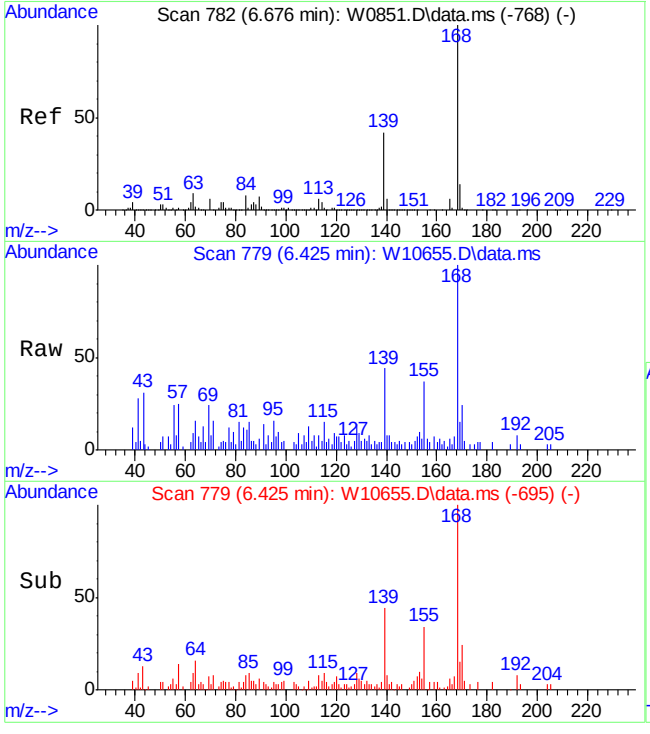


#38
1-methylnaphthalene
Concen: 3.30 ppm
RT: 5.491 min Scan# 620
Delta R.T. -0.006 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:142 Resp: 8633

Ion	Ratio	Lower	Upper
142	100		
141	88.6	71.0	106.4

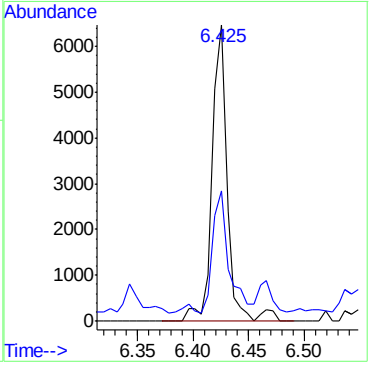


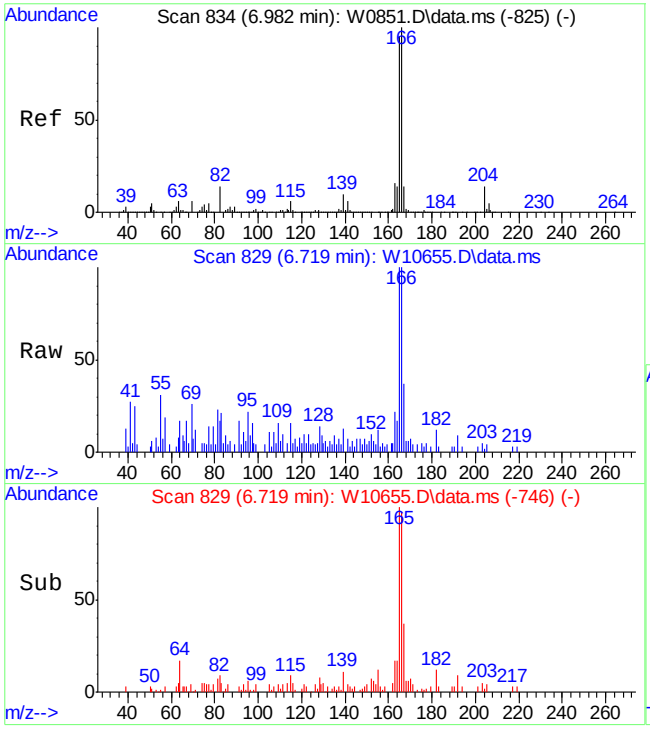


#52
Dibenzofuran
Concen: 1.52 ppm
RT: 6.425 min Scan# 779
Delta R.T. -0.006 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:168 Resp: 6065

Ion	Ratio	Lower	Upper
168	100		
139	40.6	12.4	72.4

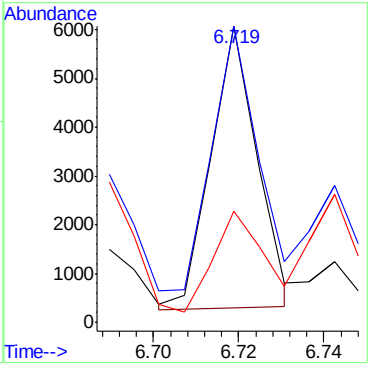


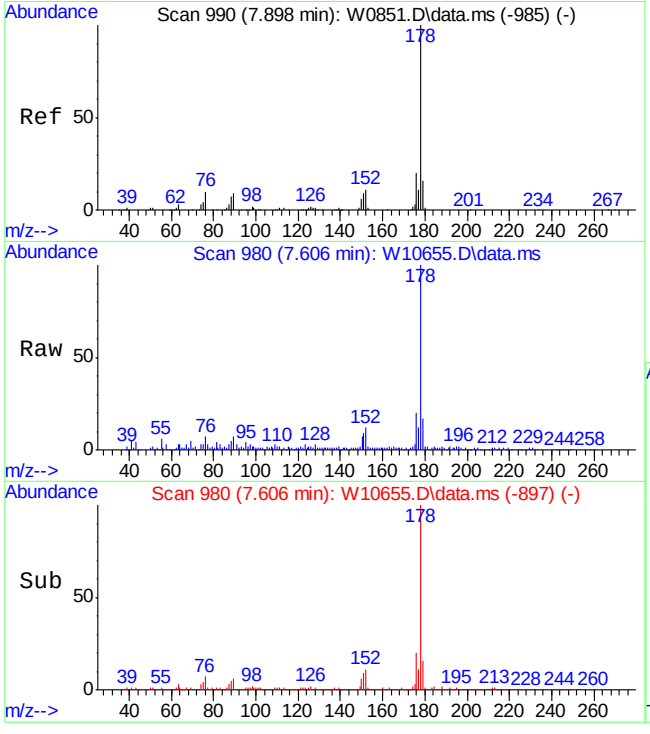


#56
Fluorene
Concen: 1.32 ppm m
RT: 6.719 min Scan# 829
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:166 Resp: 4339

Ion	Ratio	Lower	Upper
166	100		
165	99.9	64.1	124.1
167	37.4	0.0	43.8

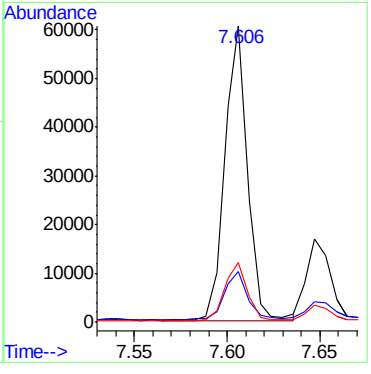




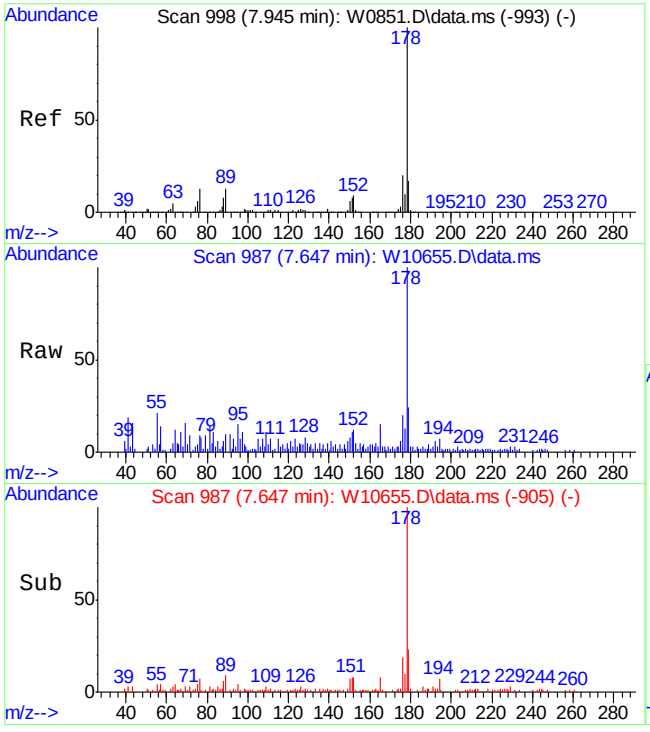
#72
Phenanthrene
Concen: 10.56 ppm
RT: 7.606 min Scan# 980
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:178 Resp: 51304

Ion	Ratio	Lower	Upper
178	100		
179	16.1	0.0	45.1
176	19.6	0.0	50.0



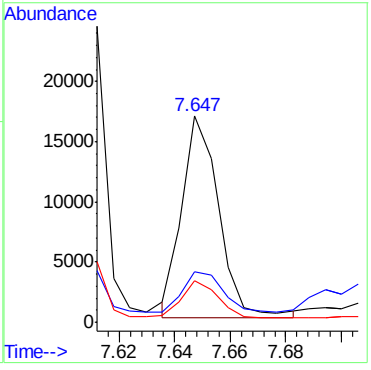
10.1.21
10

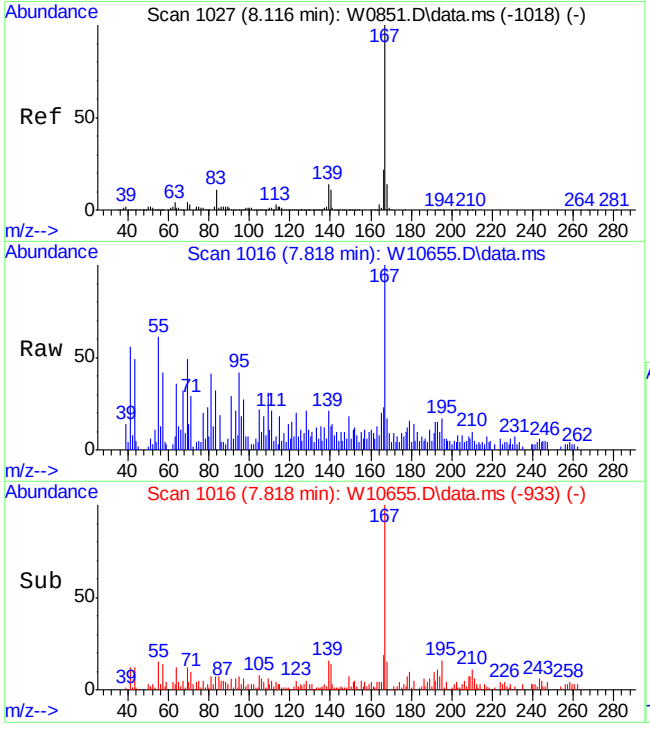


#73
Anthracene
Concen: 3.05 ppm
RT: 7.647 min Scan# 987
Delta R.T. -0.018 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:178 Resp: 15344

Ion	Ratio	Lower	Upper
178	100		
179	20.6	0.0	45.6
176	19.2	0.0	49.6

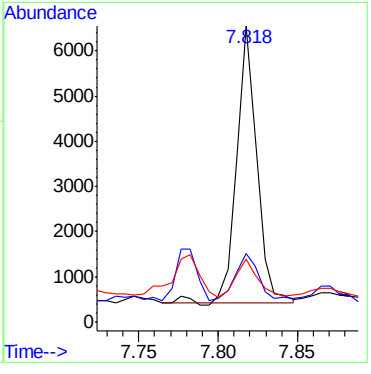


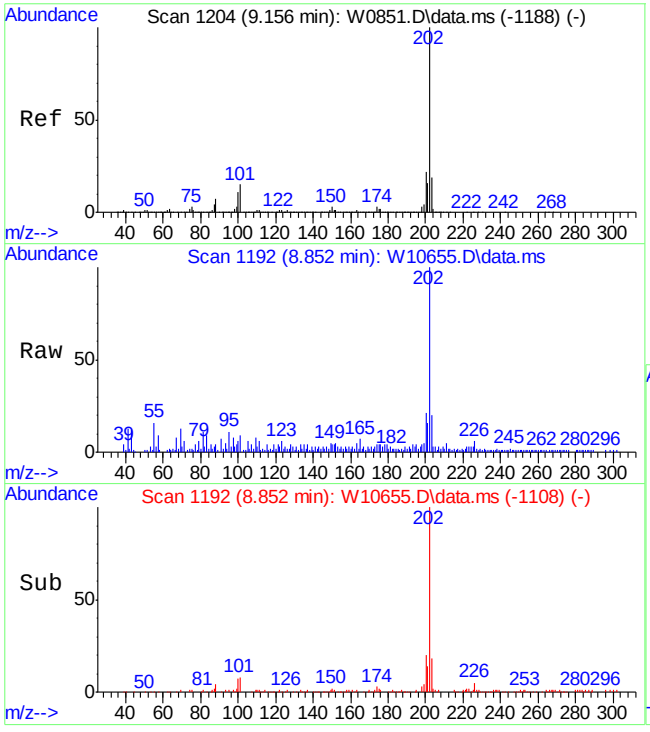


#74
Carbazole
Concen: 1.20 ppm
RT: 7.818 min Scan# 1016
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:167 Resp: 5546

Ion	Ratio	Lower	Upper
167	100		
166	17.0	0.0	50.9
139	12.7	0.0	43.9

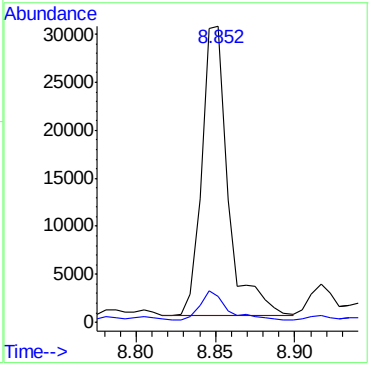


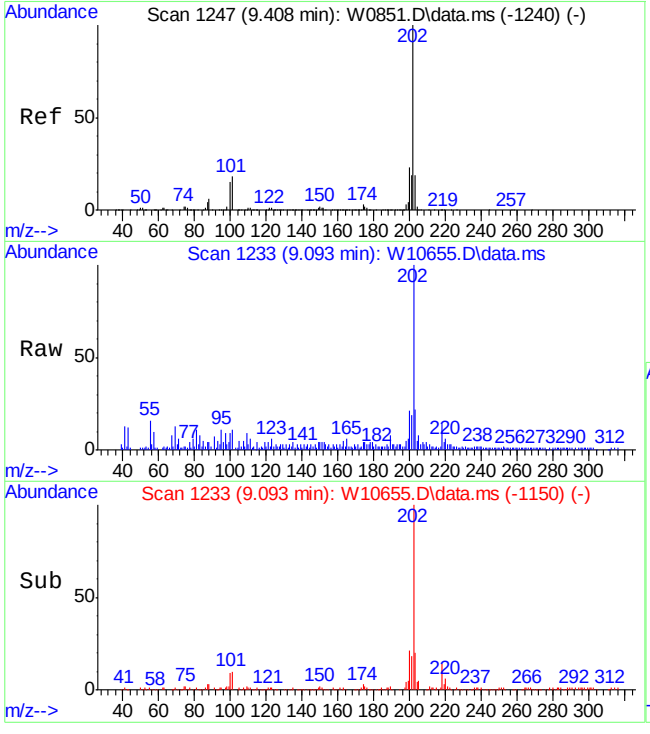


#76
Fluoranthene
Concen: 6.81 ppm
RT: 8.852 min Scan# 1192
Delta R.T. -0.006 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:202 Resp: 34454

Ion	Ratio	Lower	Upper
202	100		
101	8.0	0.0	41.9

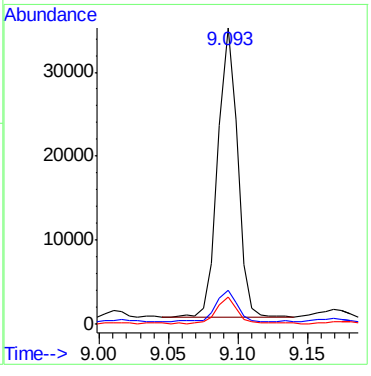


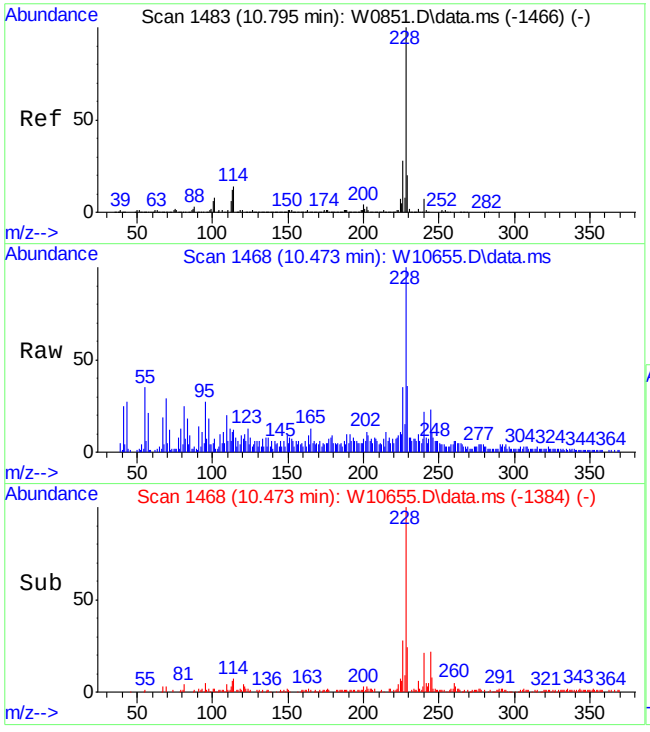


#80
Pyrene
Concen: 5.74 ppm
RT: 9.093 min Scan# 1233
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:202 Resp: 34274

Ion	Ratio	Lower	Upper
202	100		
101	10.8	0.0	44.2
100	9.0	0.0	41.3

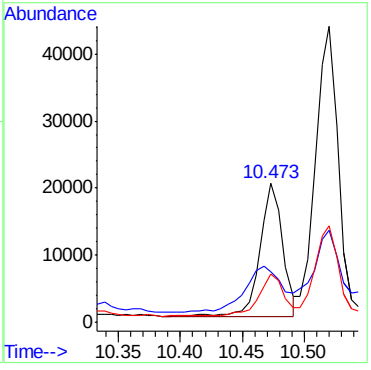


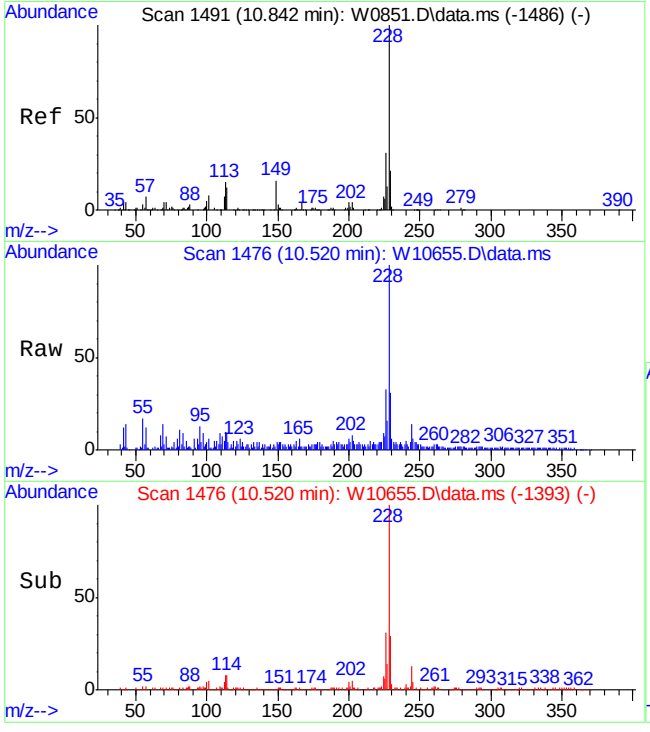


#85
Benzo[a]anthracene
Concen: 8.26 ppm
RT: 10.473 min Scan# 1468
Delta R.T. -0.006 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:228 Resp: 25163

Ion	Ratio	Lower	Upper
228	100		
229	30.4	0.0	49.9
226	32.1	0.0	57.4

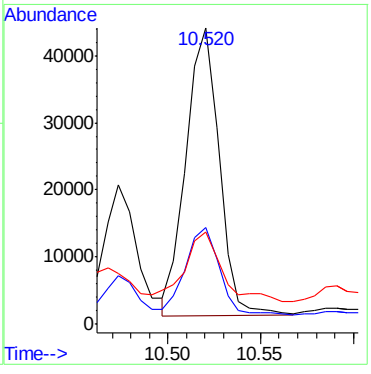


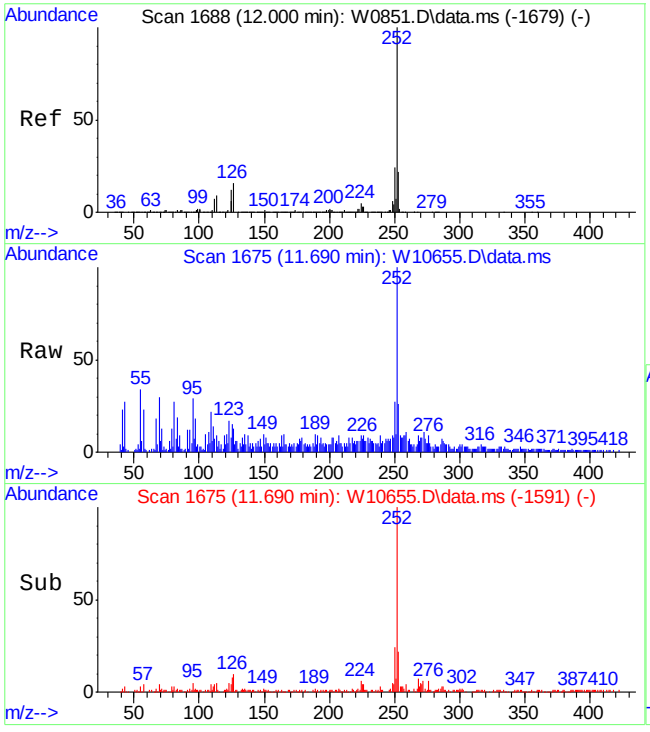


#86
Chrysene
Concen: 10.83 ppm
RT: 10.520 min Scan# 1476
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:228 Resp: 53425

Ion	Ratio	Lower	Upper
228	100		
226	30.5	0.2	60.2
229	24.5	0.0	50.1

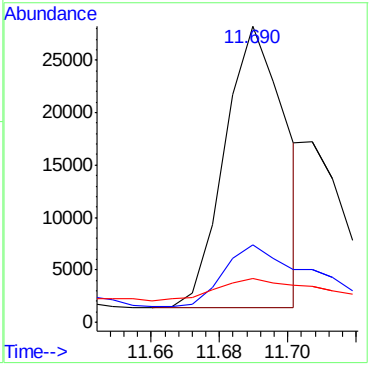


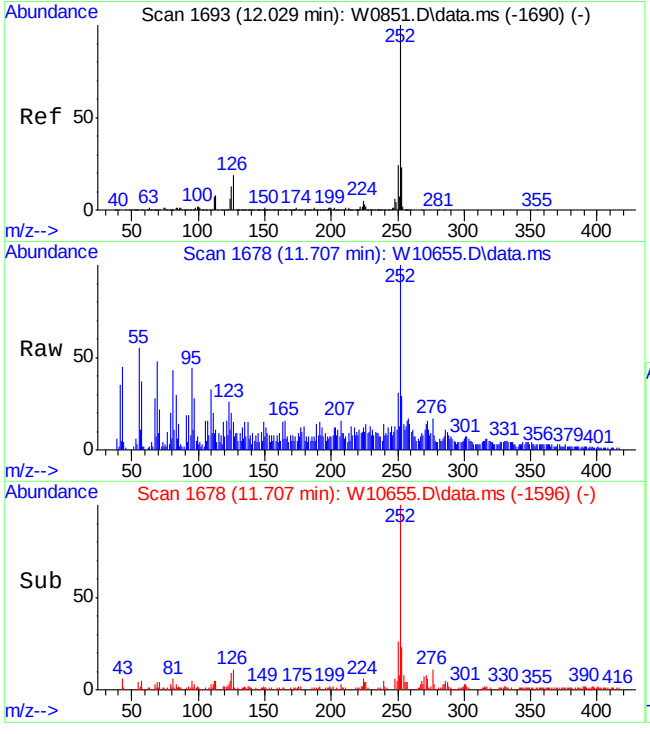


#90
Benzo[b]fluoranthene
Concen: 4.57 ppm m
RT: 11.690 min Scan# 1675
Delta R.T. -0.006 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:252 Resp: 33157

Ion	Ratio	Lower	Upper
252	100		
253	26.1	0.0	51.8
125	14.6	0.0	39.5

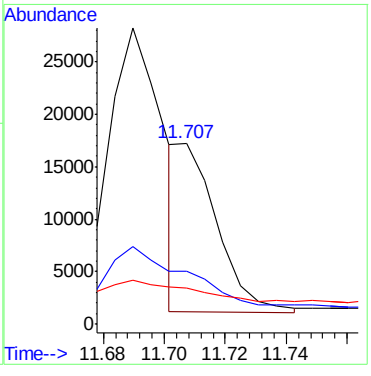


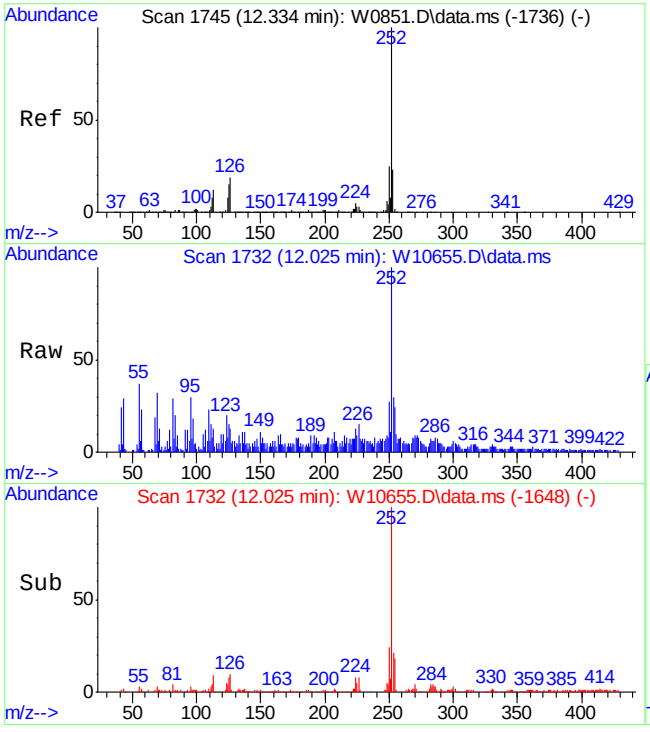


#91
Benzo[k]fluoranthene
Concen: 2.10 ppm m
RT: 11.707 min Scan# 1678
Delta R.T. -0.018 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:252 Resp: 13975

Ion	Ratio	Lower	Upper
252	100		
253	29.4	0.0	52.2
125	20.1	0.0	39.8

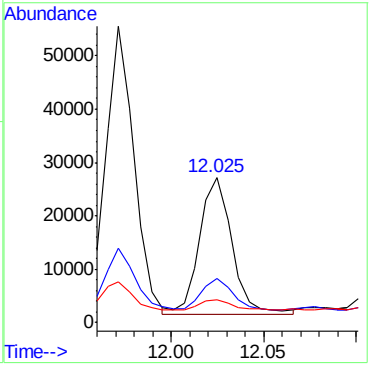


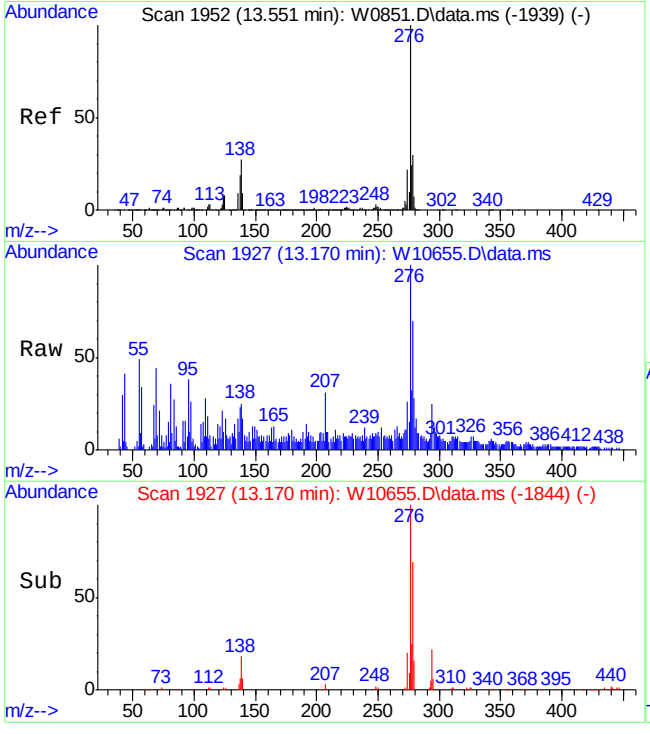


#92
Benzo[a]pyrene
Concen: 6.83 ppm
RT: 12.025 min Scan# 1732
Delta R.T. -0.006 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:252 Resp: 31481

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	51.8
125	7.5	0.0	41.1

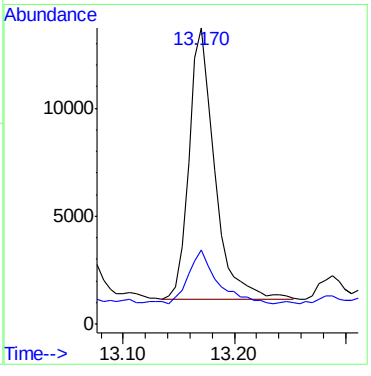


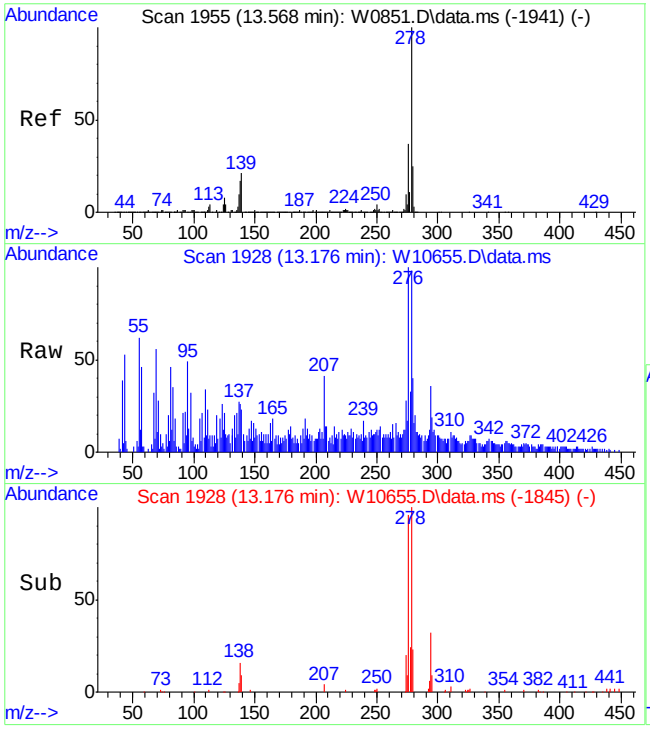


#93
Indeno[1,2,3-cd]pyrene
Concen: 5.73 ppm
RT: 13.170 min Scan# 1927
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:276 Resp: 19928

Ion	Ratio	Lower	Upper
276	100		
138	19.3	0.0	50.4

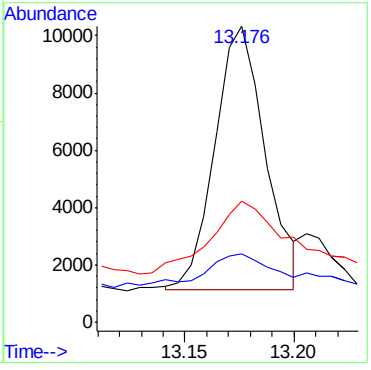


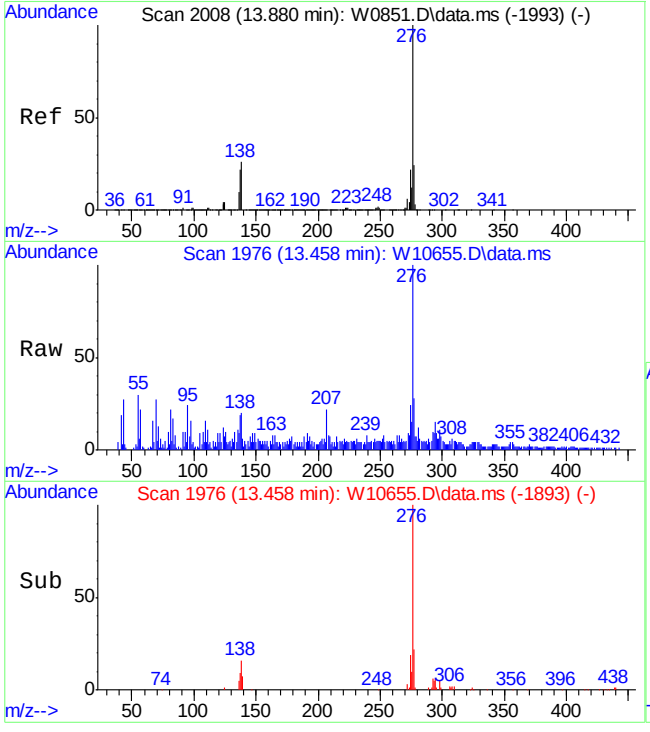


#94
Dibenz[a,h]anthracene
Concen: 6.23 ppm m
RT: 13.176 min Scan# 1928
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:278 Resp: 14898

Ion	Ratio	Lower	Upper
278	100		
139	23.0	0.0	45.1
279	40.8	0.0	54.1

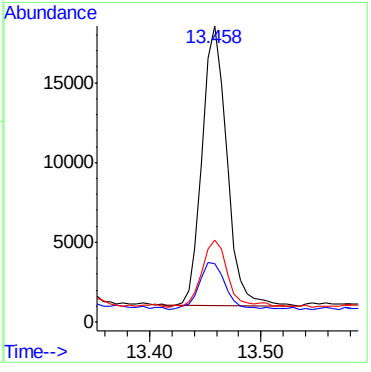




#95
Benzo[g,h,i]perylene
Concen: 6.07 ppm
RT: 13.458 min Scan# 1976
Delta R.T. -0.012 min
Lab File: W10655.D
Acq: 27 Mar 2013 11:14 pm

Tgt Ion:276 Resp: 27033

Ion	Ratio	Lower	Upper
276	100		
138	15.8	0.0	50.0
277	23.6	0.0	53.4



10.1.21
10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 17:16

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10656.D
Acq On : 27 Mar 2013 11:37 pm
Operator : KRISTINR
Sample : JB31485-22
Misc : op32397,msw500,20.62,,,1,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Mar 29 12:14:59 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	42154	40.00 ppm	0.00
22) Naphthalene-d8	4.833	136	159859m	40.00 ppm	-0.01
40) Acenaphthene-d10	6.266	164	99848	40.00 ppm	0.00
63) Phenanthrene-d10	7.588	188	171982	40.00 ppm	0.00
78) Chrysene-d12	10.503	240	233083	40.00 ppm	0.00
88) Perylene-d12	12.107	264	257085	40.00 ppm	0.03
System Monitoring Compounds					
5) 2-Fluorophenol	2.964	112	82391	60.31 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 60.31%		
7) Phenol-d5	3.617	99	97808	54.03 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 54.03%		
23) Nitrobenzene-d5	4.286	82	34905	19.37 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 38.74%		
45) 2-Fluorobiphenyl	5.714	172	107899	31.06 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 62.12%		
67) 2,4,6-Tribromophenol	6.954	330	44778	83.19 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 83.19%		
81) Terphenyl-d14	9.298	244	153832	29.88 ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 59.76%		
Target Compounds					Qvalue
19) m+p-cresols	4.175	108	2555	1.68 ppm	91
20) 4-methylphenol	4.175	108	2555	1.68 ppm	91
32) Naphthalene	4.850	128	17616	4.09 ppm	97
37) 2-Methylnaphthalene	5.403	142	24675	8.26 ppm	100
38) 1-methylnaphthalene	5.491	142	14905	5.39 ppm	100
50) Acenaphthene	6.290	153	2755m	0.92 ppm	
52) Dibenzofuran	6.425	168	4541m	1.07 ppm	
56) Fluorene	6.719	166	4542m	1.29 ppm	
72) Phenanthrene	7.606	178	30263	5.99 ppm	97
73) Anthracene	7.653	178	6956	1.33 ppm	91
76) Fluoranthene	8.852	202	16317	3.10 ppm	92
80) Pyrene	9.098	202	19281	2.67 ppm	93
85) Benzo[a]anthracene	10.485	228	29335	8.13 ppm	88
86) Chrysene	10.532	228	44092	7.94 ppm	96
90) Benzo[b]fluoranthene	11.707	252	39971m	4.41 ppm	
91) Benzo[k]fluoranthene	11.725	252	10928m	1.32 ppm	
92) Benzo[a]pyrene	12.048	252	41550	7.13 ppm	98
93) Indeno[1,2,3-cd]pyrene	13.211	276	37228	6.99 ppm	99
94) Dibenz[a,h]anthracene	13.211	278	41554	8.97 ppm	95
95) Benzo[g,h,i]perylene	13.505	276	111783	16.84 ppm	94

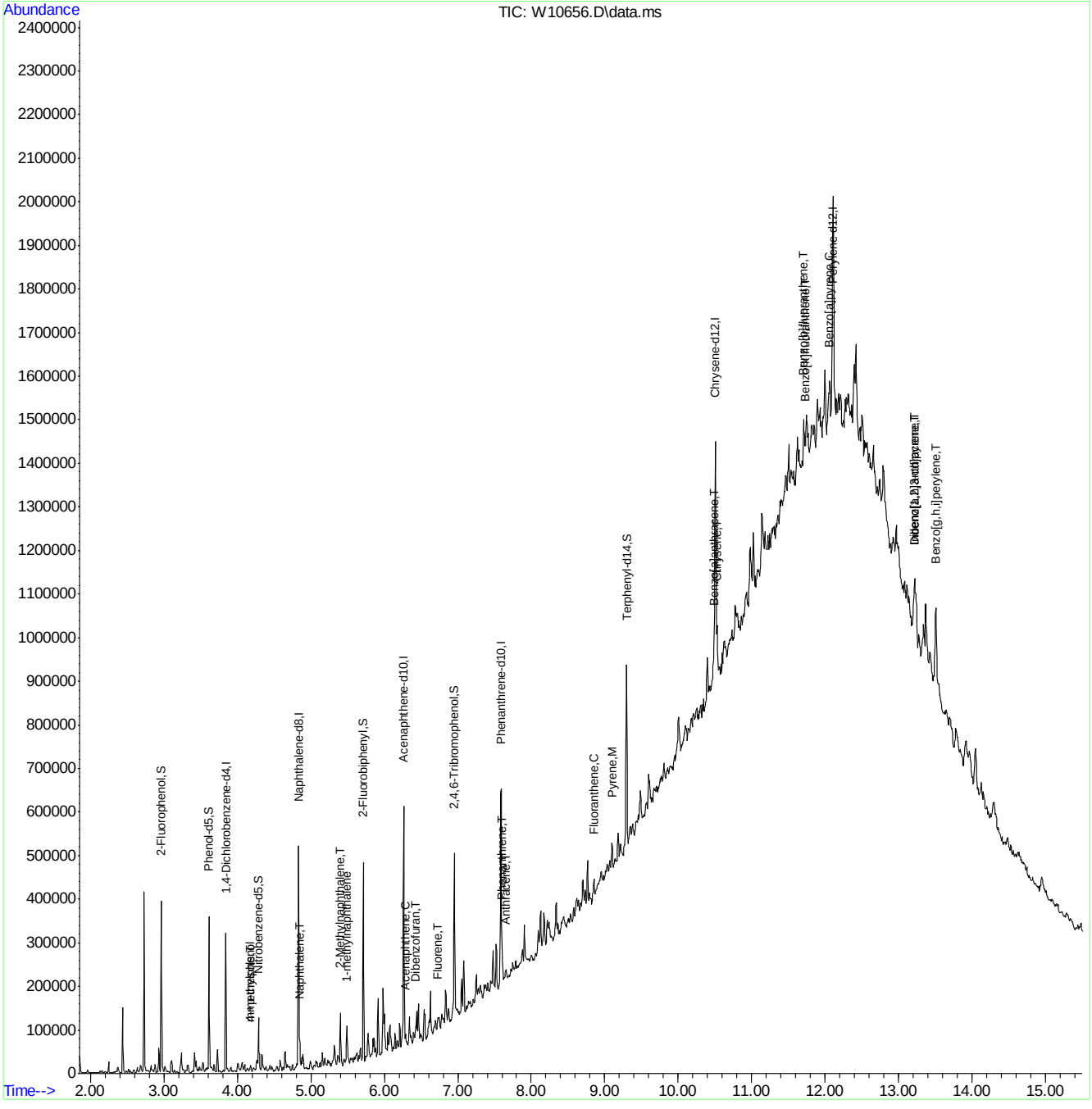
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.22 10

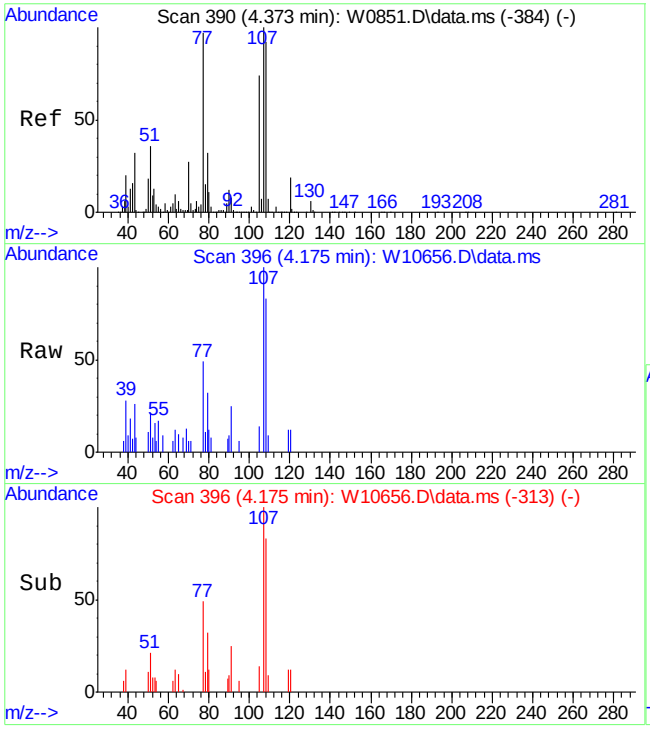
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10656.D
Acq On : 27 Mar 2013 11:37 pm
Operator : KRISTINR
Sample : JB31485-22
Misc : op32397,msw500,20.62,,,1,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Mar 29 12:14:59 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



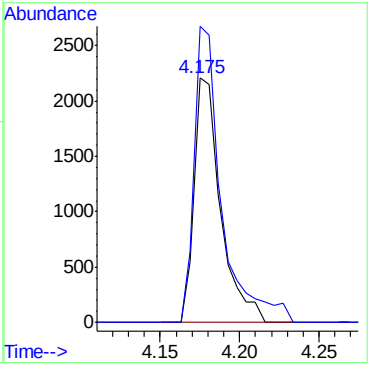
W130308_8270.M Fri Mar 29 12:15:05 2013 Page: 2

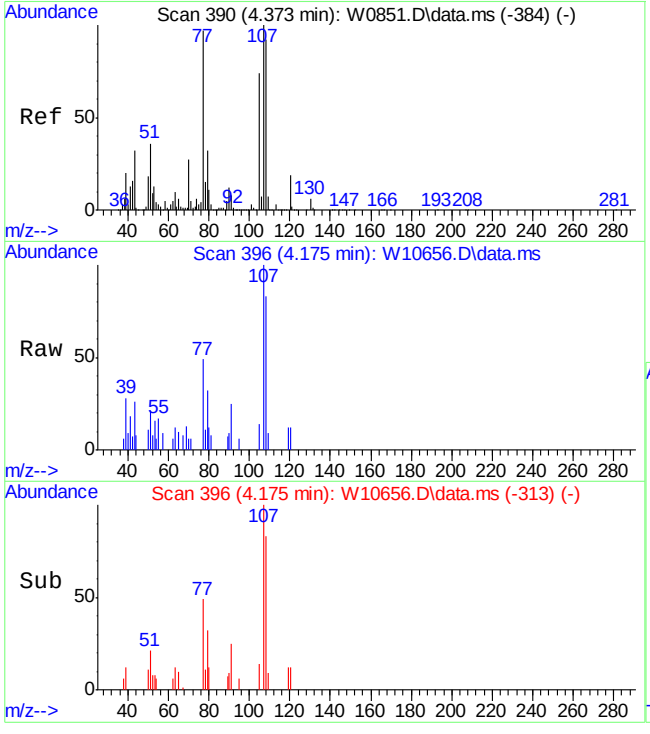


#19
m+p-cresols
Concen: 1.68 ppm
RT: 4.175 min Scan# 396
Delta R.T. -0.012 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:108 Resp: 2555

Ion	Ratio	Lower	Upper
108	100		
107	121.2	81.4	141.4

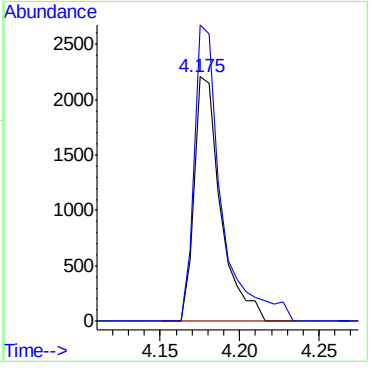




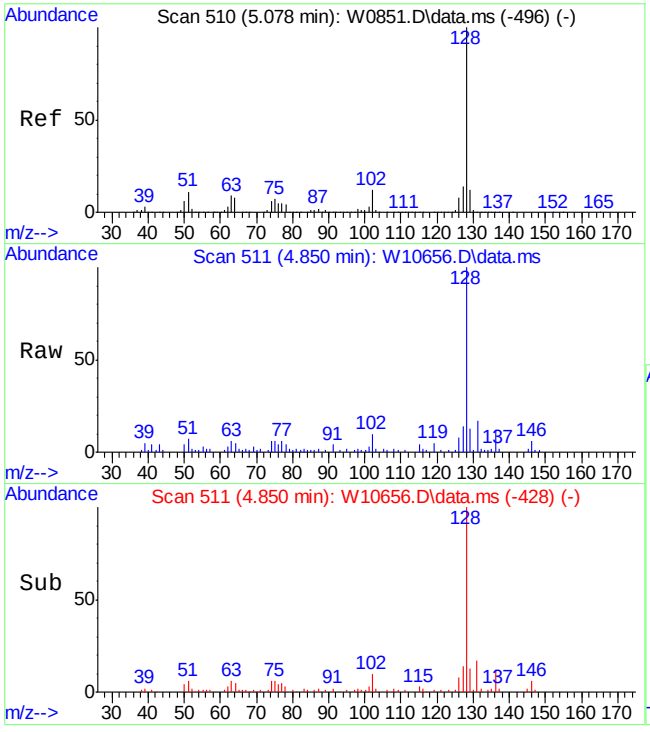
#20
4-methylphenol
Concen: 1.68 ppm
RT: 4.175 min Scan# 396
Delta R.T. -0.012 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:108 Resp: 2555

Ion	Ratio	Lower	Upper
108	100		
107	121.2	89.1	133.7



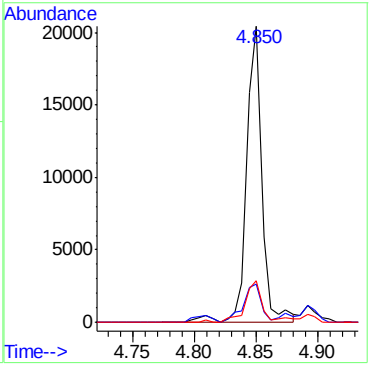
SGS ACCUTEST JB31485

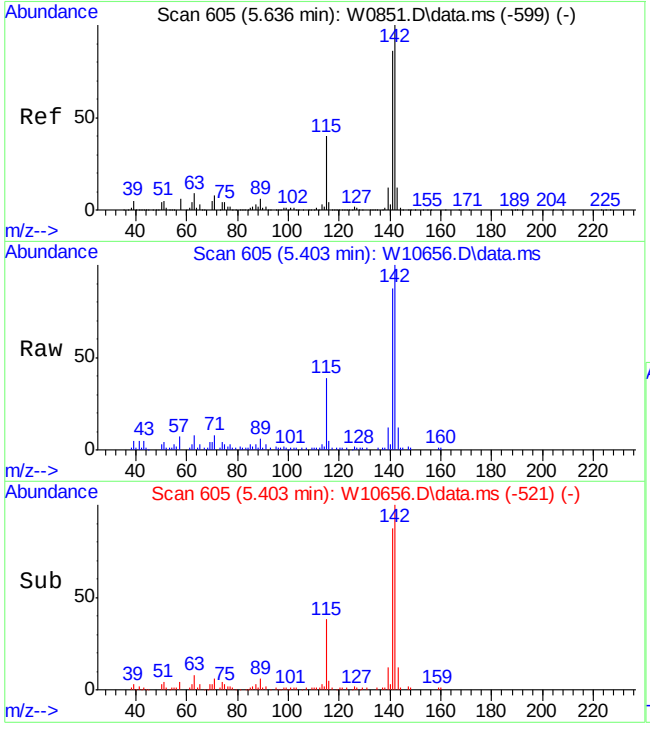


#32
Naphthalene
Concen: 4.09 ppm
RT: 4.850 min Scan# 511
Delta R.T. -0.012 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:128 Resp: 17616

Ion	Ratio	Lower	Upper
128	100		
129	13.0	0.0	41.0
127	14.1	0.0	43.3

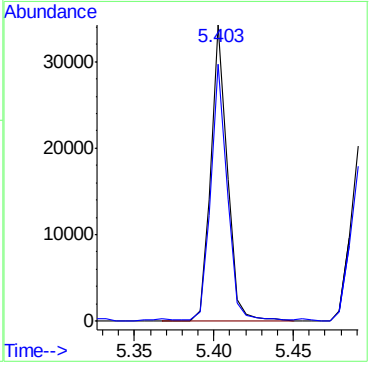




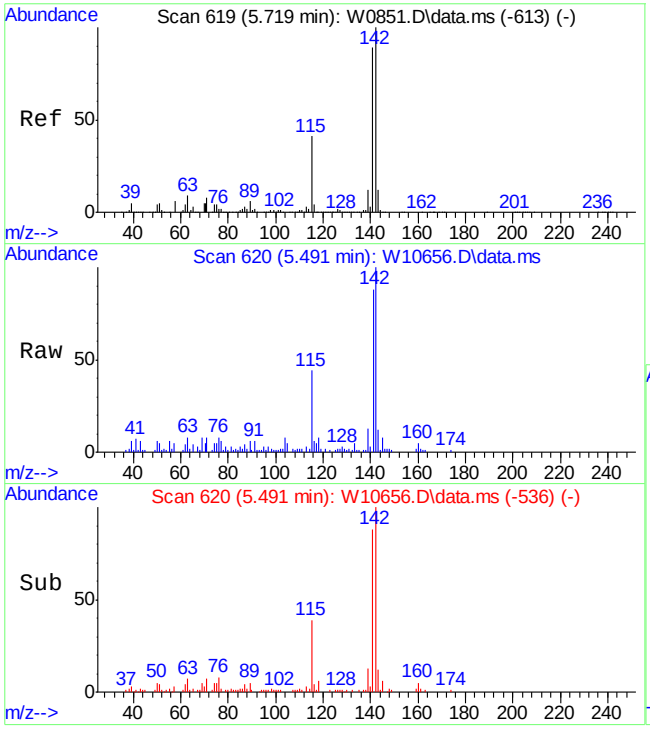
#37
2-Methylnaphthalene
Concen: 8.26 ppm
RT: 5.403 min Scan# 605
Delta R.T. -0.006 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:142 Resp: 24675

Ion	Ratio	Lower	Upper
142	100		
141	86.4	56.4	116.4



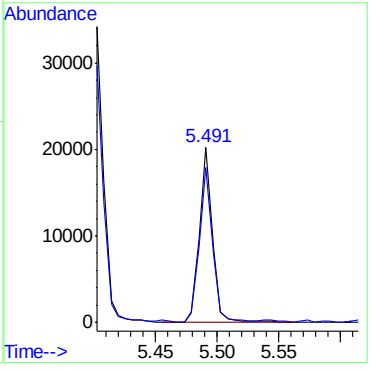
SGS ACCUTEST JB31485

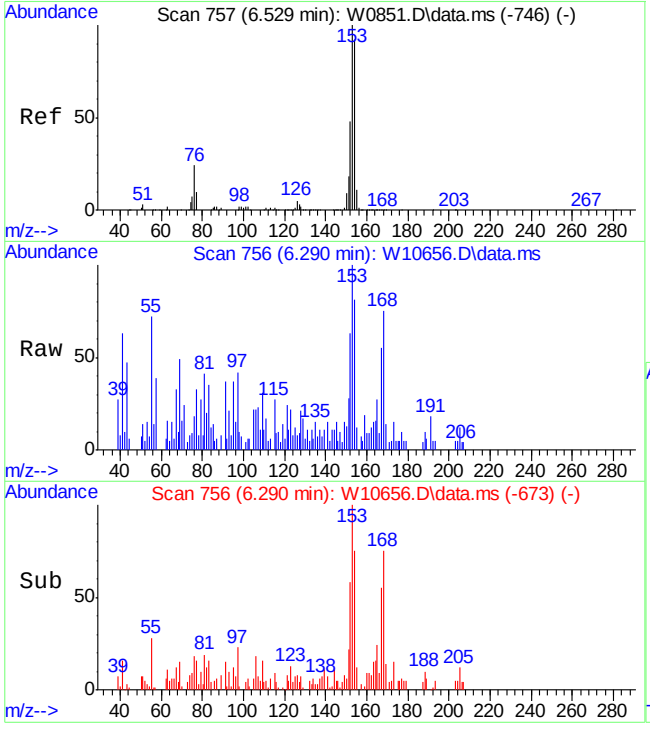


#38
1-methylnaphthalene
Concen: 5.39 ppm
RT: 5.491 min Scan# 620
Delta R.T. -0.006 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:142 Resp: 14905

Ion	Ratio	Lower	Upper
142	100		
141	88.5	71.0	106.4

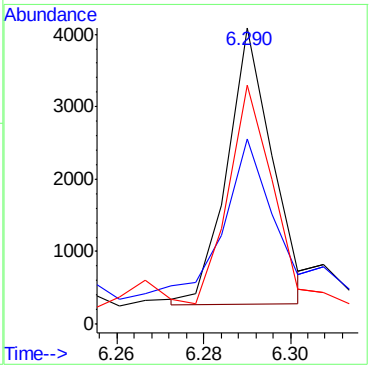


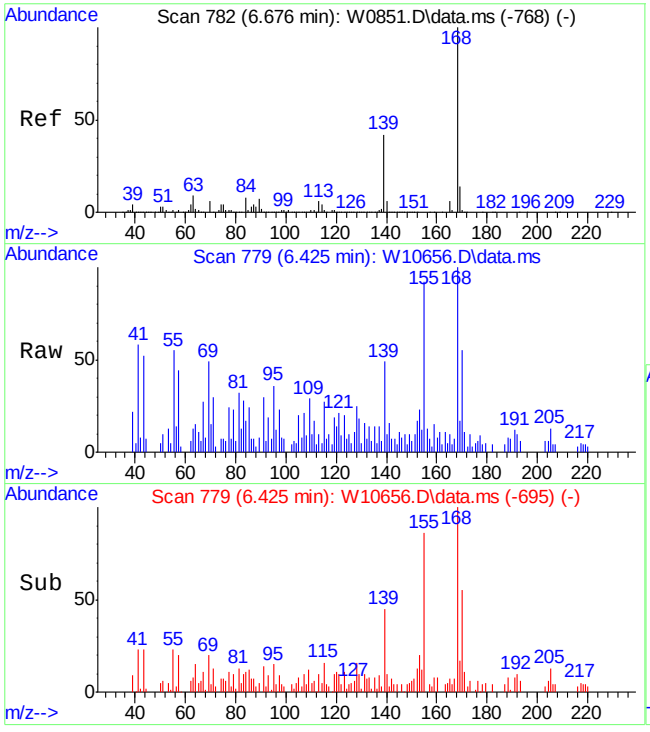


#50
Acenaphthene
Concen: 0.92 ppm m
RT: 6.290 min Scan# 756
Delta R.T. -0.012 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:153 Resp: 2755

Ion	Ratio	Lower	Upper
153	100		
152	62.6	18.8	78.8
154	80.7	61.9	121.9

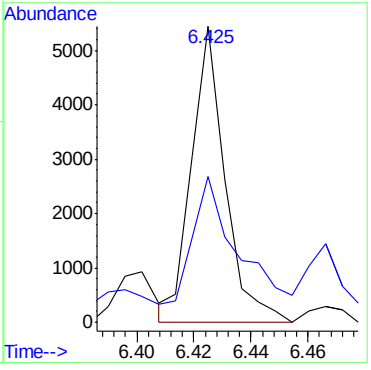


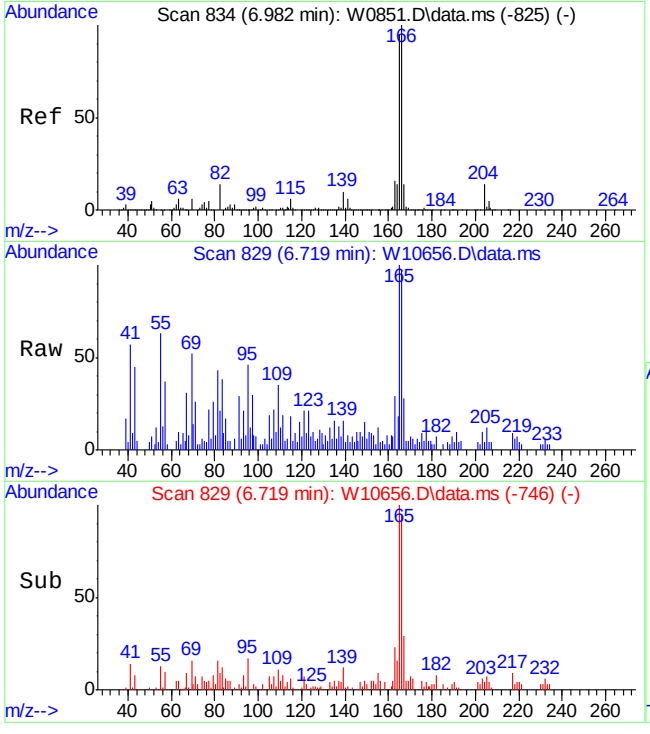


#52
Dibenzofuran
Concen: 1.07 ppm m
RT: 6.425 min Scan# 779
Delta R.T. -0.006 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:168 Resp: 4541

Ion	Ratio	Lower	Upper
168	100		
139	49.1	12.4	72.4

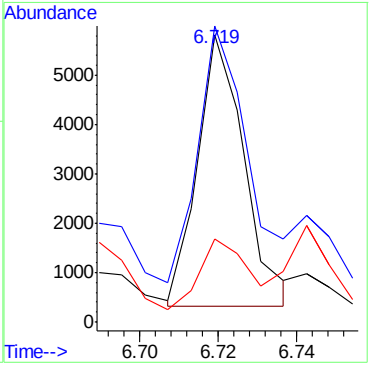




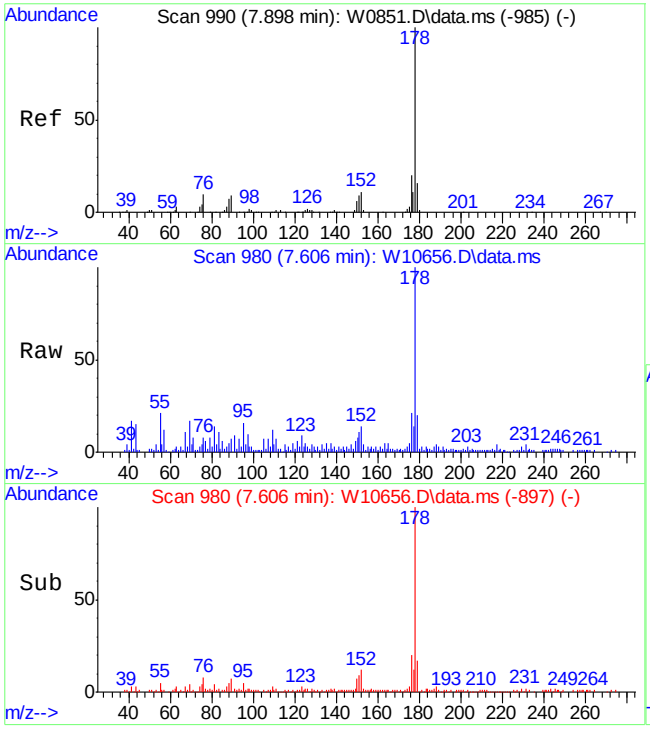
#56
Fluorene
Concen: 1.29 ppm m
RT: 6.719 min Scan# 829
Delta R.T. -0.012 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:166 Resp: 4542

Ion	Ratio	Lower	Upper
166	100		
165	103.1	64.1	124.1
167	28.9	0.0	43.8



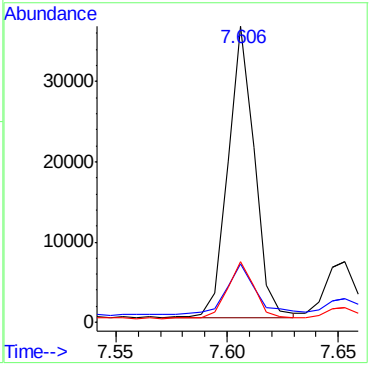
SGS ACCUTEST JB31485

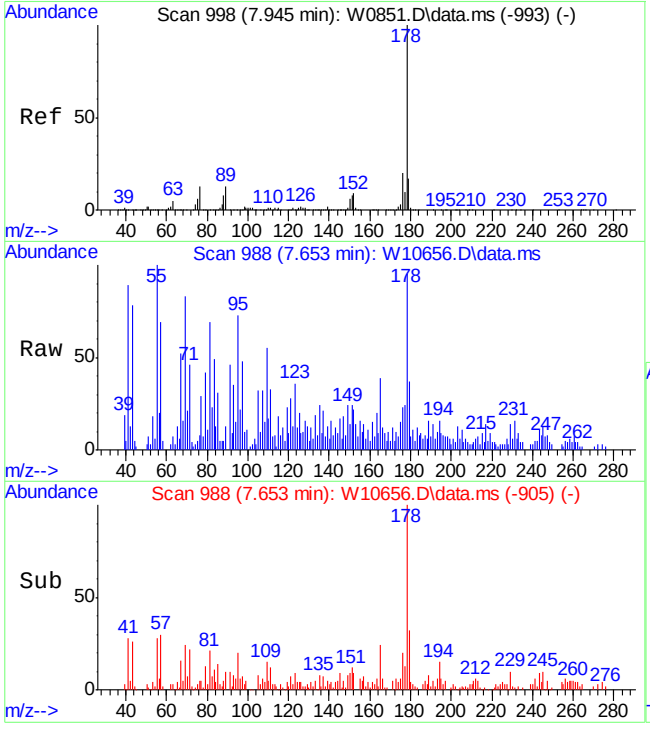


#72
Phenanthrene
Concen: 5.99 ppm
RT: 7.606 min Scan# 980
Delta R.T. -0.012 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:178 Resp: 30263

Ion	Ratio	Lower	Upper
178	100		
179	17.4	0.0	45.1
176	19.6	0.0	50.0

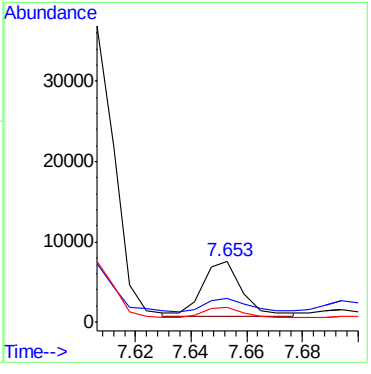


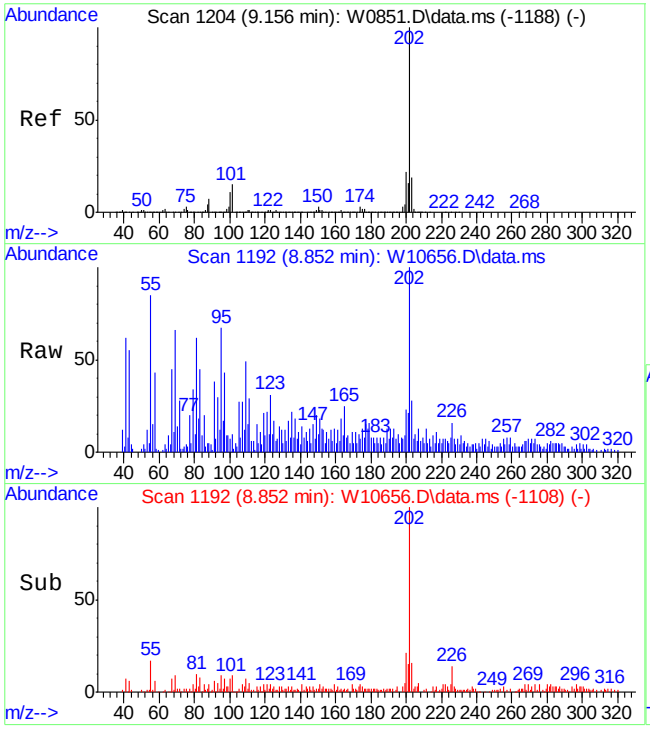


#73
Anthracene
Concen: 1.33 ppm
RT: 7.653 min Scan# 988
Delta R.T. -0.012 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:178 Resp: 6956

Ion	Ratio	Lower	Upper
178	100		
179	23.7	0.0	45.6
176	19.1	0.0	49.6

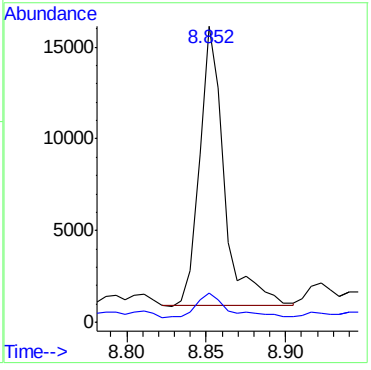


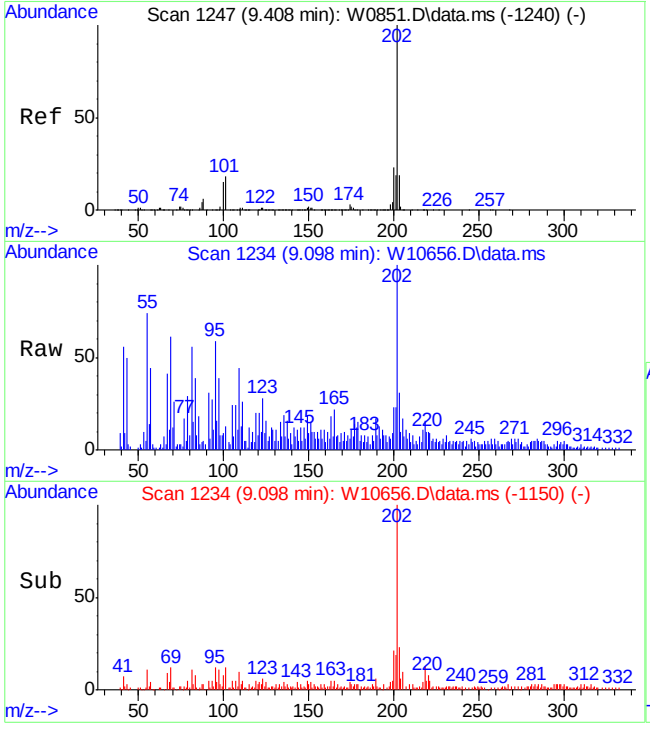


#76
Fluoranthene
Concen: 3.10 ppm
RT: 8.852 min Scan# 1192
Delta R.T. -0.006 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:202 Resp: 16317

Ion	Ratio	Lower	Upper
202	100		
101	8.8	0.0	41.9

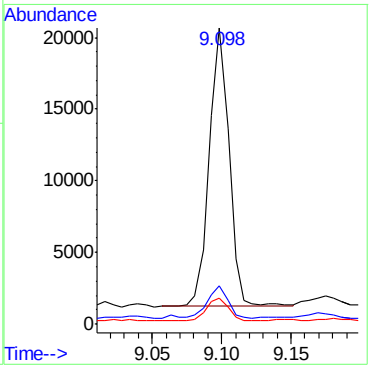


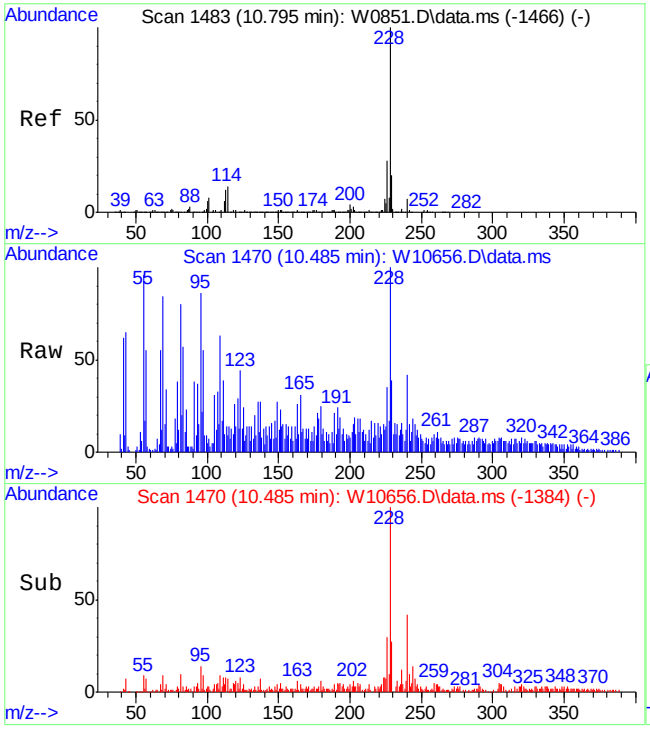


#80
Pyrene
Concen: 2.67 ppm
RT: 9.098 min Scan# 1234
Delta R.T. -0.006 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:202 Resp: 19281

Ion	Ratio	Lower	Upper
202	100		
101	11.6	0.0	44.2
100	8.0	0.0	41.3

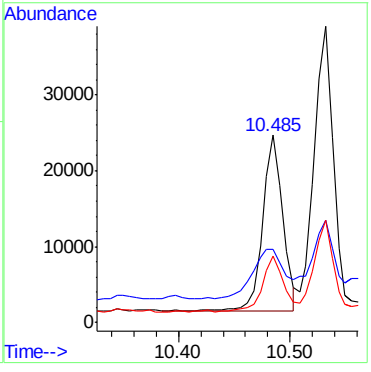


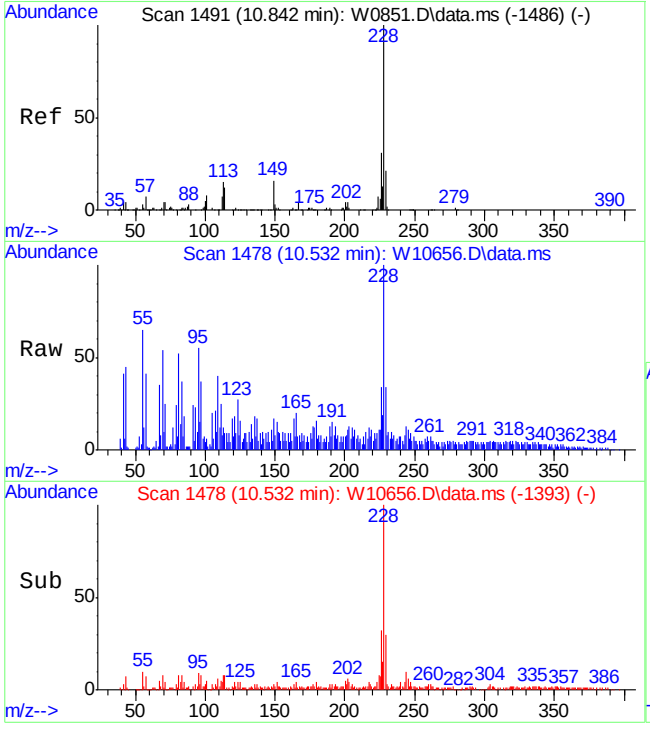


#85
Benzo[a]anthracene
Concen: 8.13 ppm
RT: 10.485 min Scan# 1470
Delta R.T. 0.006 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:228 Resp: 29335

Ion	Ratio	Lower	Upper
228	100		
229	28.3	0.0	49.9
226	31.5	0.0	57.4

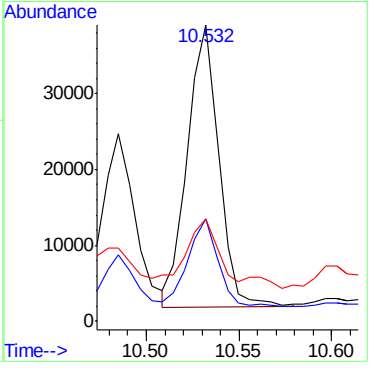


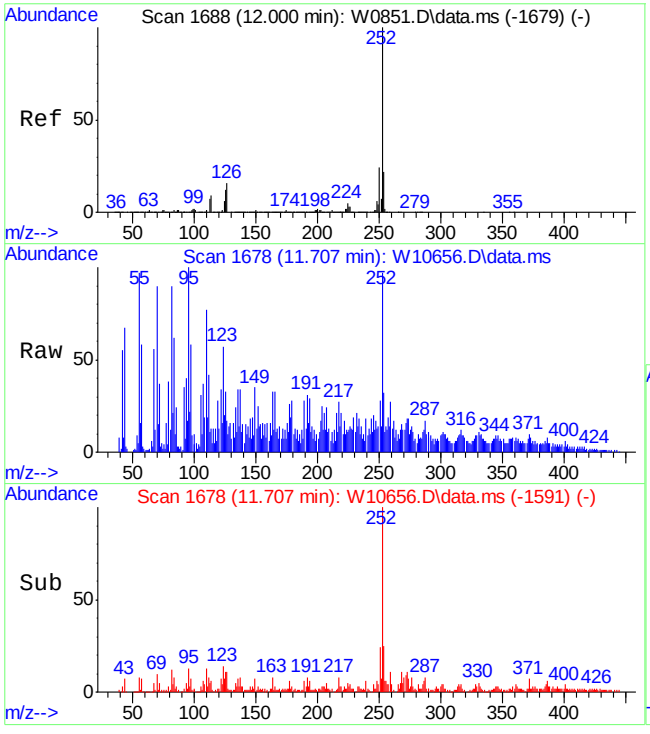


#86
Chrysene
Concen: 7.94 ppm
RT: 10.532 min Scan# 1478
Delta R.T. -0.000 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:228 Resp: 44092

Ion	Ratio	Lower	Upper
228	100		
226	31.2	0.2	60.2
229	23.7	0.0	50.1

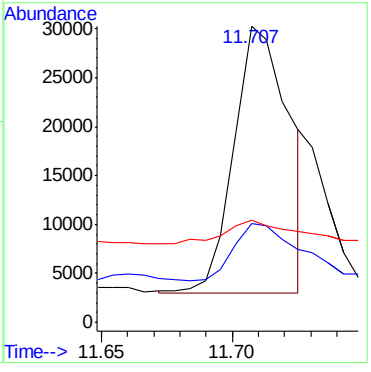


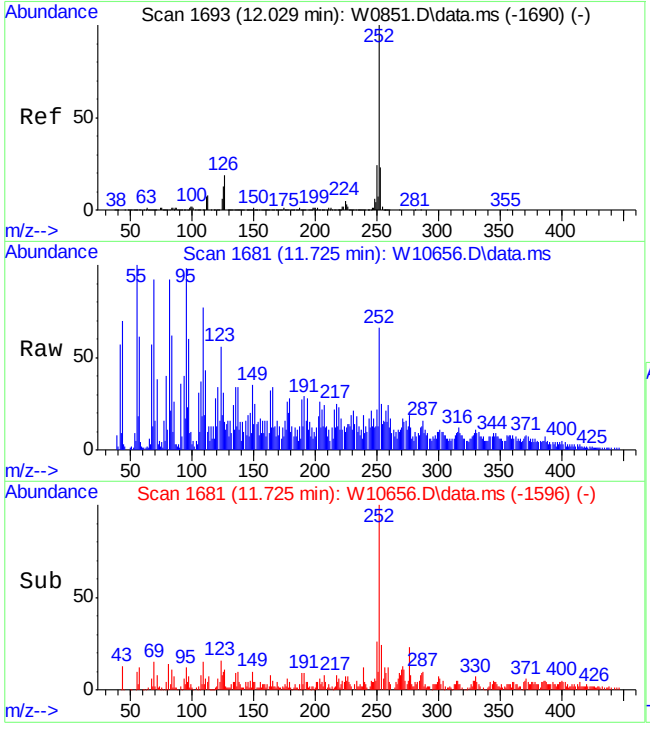


#90
Benzo[b]fluoranthene
Concen: 4.41 ppm m
RT: 11.707 min Scan# 1678
Delta R.T. 0.011 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:252 Resp: 39971

Ion	Ratio	Lower	Upper
252	100		
253	33.4	0.0	51.8
125	34.5	0.0	39.5

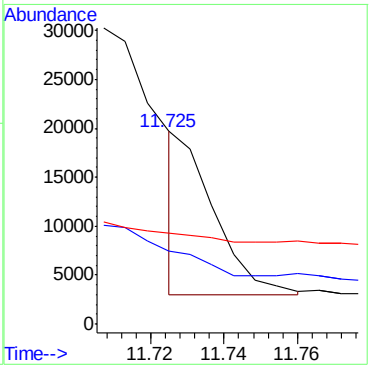


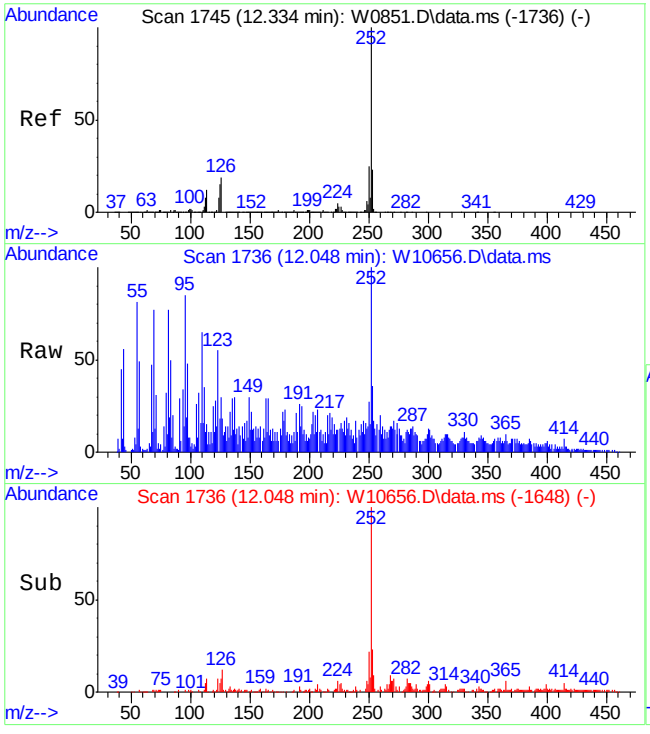


#91
Benzo[k]fluoranthene
Concen: 1.32 ppm m
RT: 11.725 min Scan# 1681
Delta R.T. -0.000 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:252 Resp: 10928

Ion	Ratio	Lower	Upper
252	100		
253	38.0	0.0	52.2
125	47.3	0.0	39.8#

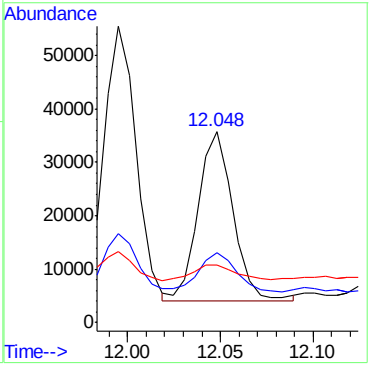


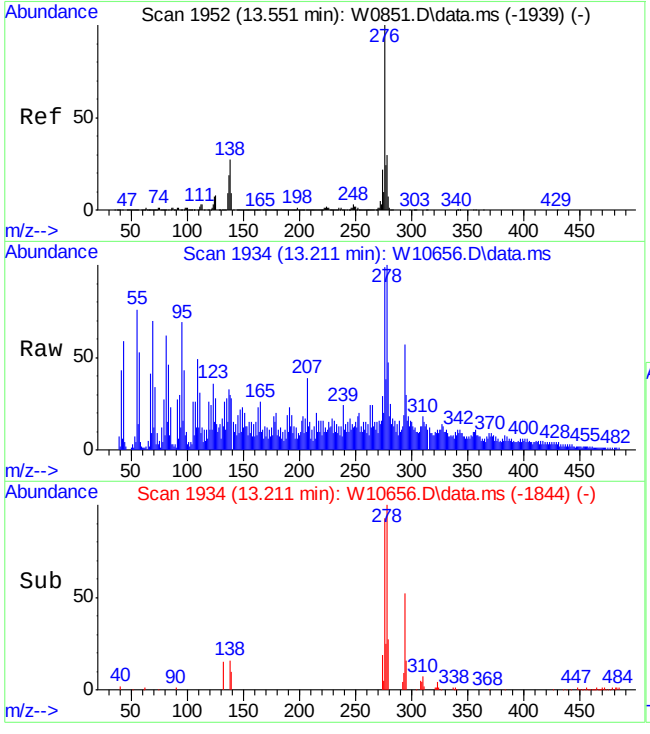


#92
Benzo[a]pyrene
Concen: 7.13 ppm
RT: 12.048 min Scan# 1736
Delta R.T. 0.017 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:252 Resp: 41550

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	51.8
125	9.6	0.0	41.1

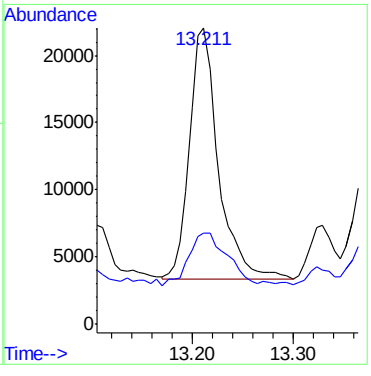




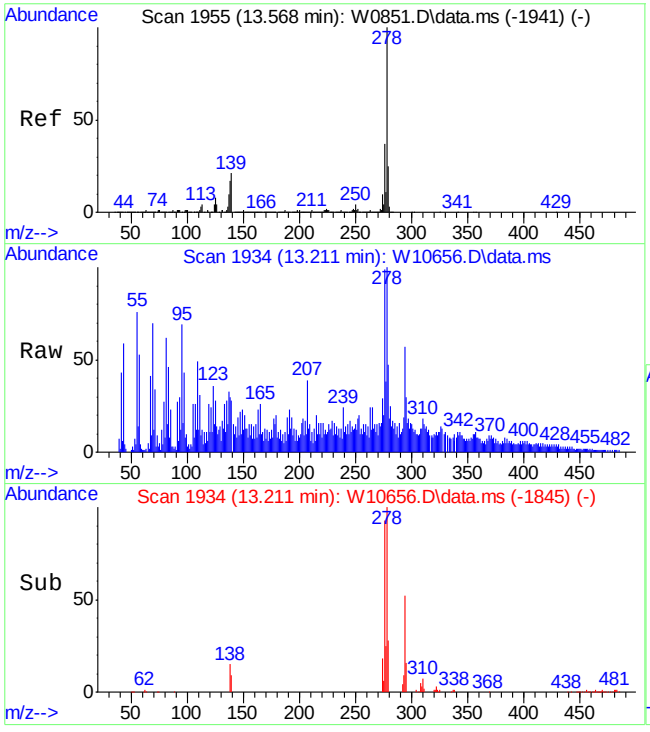
#93
Indeno[1,2,3-cd]pyrene
Concen: 6.99 ppm
RT: 13.211 min Scan# 1934
Delta R.T. 0.029 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:276 Resp: 37228

Ion	Ratio	Lower	Upper
276	100		
138	20.8	0.0	50.4



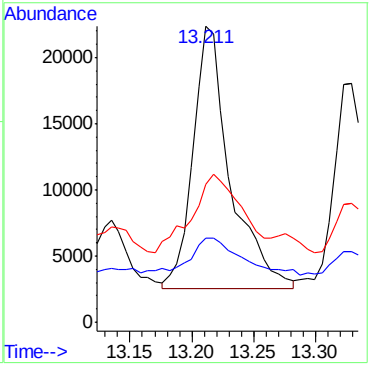
10.1.22
10

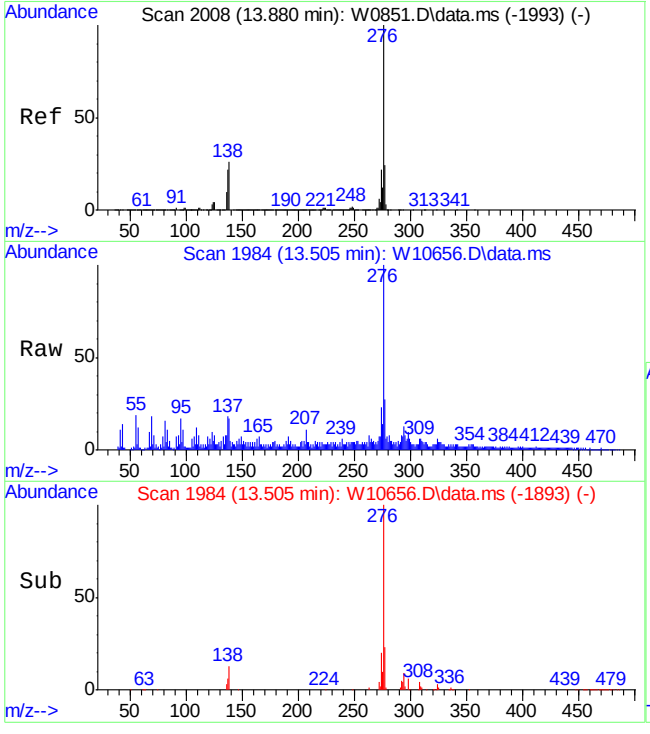


#94
Dibenz[a,h]anthracene
Concen: 8.97 ppm
RT: 13.211 min Scan# 1934
Delta R.T. 0.023 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:278 Resp: 41554

Ion	Ratio	Lower	Upper
278	100		
139	12.2	0.0	45.1
279	22.2	0.0	54.1

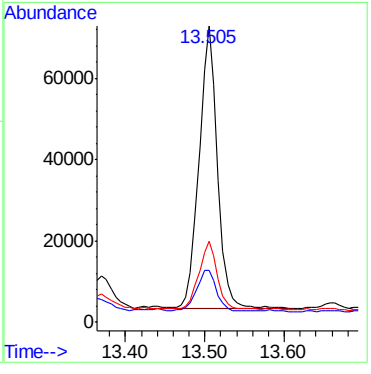




#95
Benzo[g,h,i]perylene
Concen: 16.84 ppm
RT: 13.505 min Scan# 1984
Delta R.T. 0.035 min
Lab File: W10656.D
Acq: 27 Mar 2013 11:37 pm

Tgt Ion:276 Resp: 111783

Ion	Ratio	Lower	Upper
276	100		
138	14.6	0.0	50.0
277	24.3	0.0	53.4



10.1.22 10

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10657.D
Acq On : 28 Mar 2013 12:01 am
Operator : KRISTINR
Sample : JB31485-23
Misc : op32397,msw500,20.27,,,1,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Mar 29 12:16:13 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	39685	40.00 ppm	0.00
22) Naphthalene-d8	4.833	136	150226	40.00 ppm	-0.01
40) Acenaphthene-d10	6.266	164	96129	40.00 ppm	0.00
63) Phenanthrene-d10	7.588	188	169653	40.00 ppm	0.00
78) Chrysene-d12	10.491	240	187607	40.00 ppm	0.00
88) Perylene-d12	12.077	264	191141	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.970	112	84239	65.50 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 65.50%		
7) Phenol-d5	3.617	99	102671	60.25 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 60.25%		
23) Nitrobenzene-d5	4.286	82	52952	31.26 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 62.52%		
45) 2-Fluorobiphenyl	5.714	172	111602	33.37 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 66.74%		
67) 2,4,6-Tribromophenol	6.960	330	47321	87.96 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 87.96%		
81) Terphenyl-d14	9.292	244	150789	36.39 ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 72.78%		
Target Compounds					Qvalue
90) Benzo[b]fluoranthene	12.077	252	1184	Below Cal	52

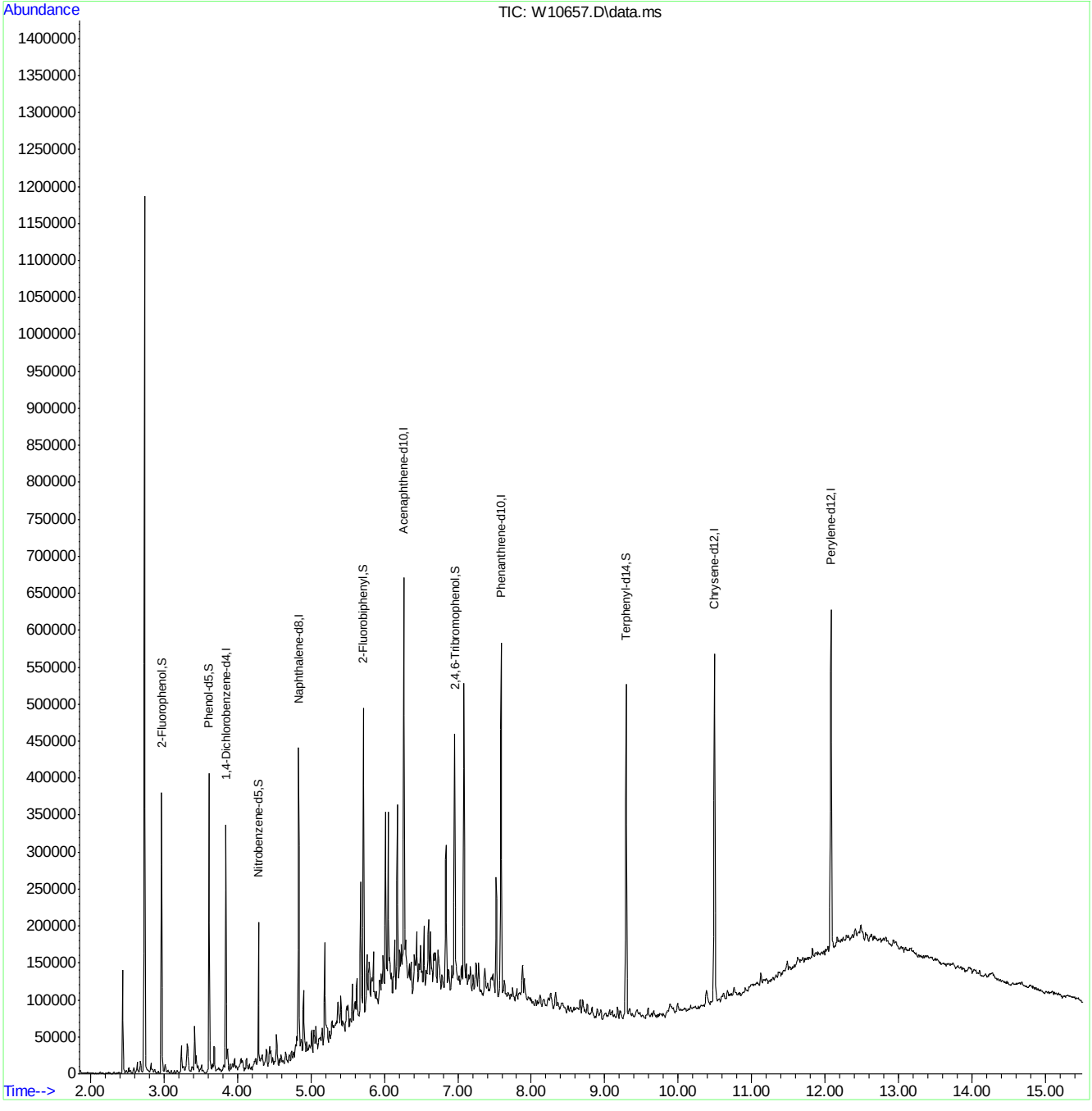
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.23 10

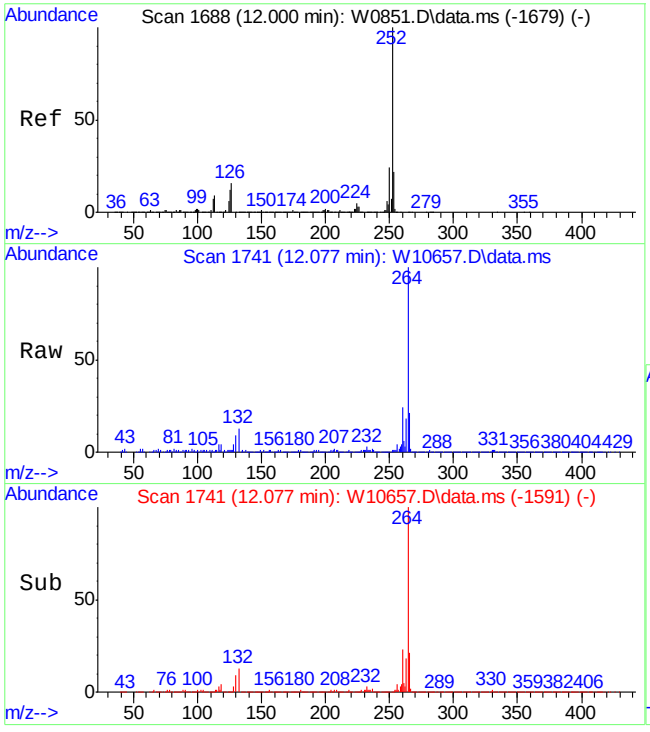
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10657.D
Acq On : 28 Mar 2013 12:01 am
Operator : KRISTINR
Sample : JB31485-23
Misc : op32397,msw500,20.27,,,1,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Mar 29 12:16:13 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



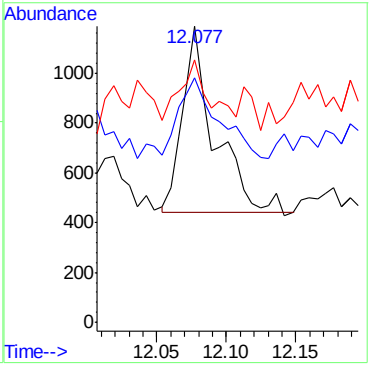
W130308_8270.M Fri Mar 29 12:16:16 2013 Page: 2



#90
Benzo[b]fluoranthene
Concen: Below Cal
RT: 12.077 min Scan# 1741
Delta R.T. 0.382 min
Lab File: W10657.D
Acq: 28 Mar 2013 12:01 am

Tgt Ion:252 Resp: 1184

Ion	Ratio	Lower	Upper
252	100		
253	41.5	0.0	51.8
125	33.1	0.0	39.5



10.1.23
10

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10658.D
Acq On : 28 Mar 2013 12:24 am
Operator : KRISTINR
Sample : JB31485-24
Misc : op32397,msw500,20.16,,,1,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Mar 29 12:17:43 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

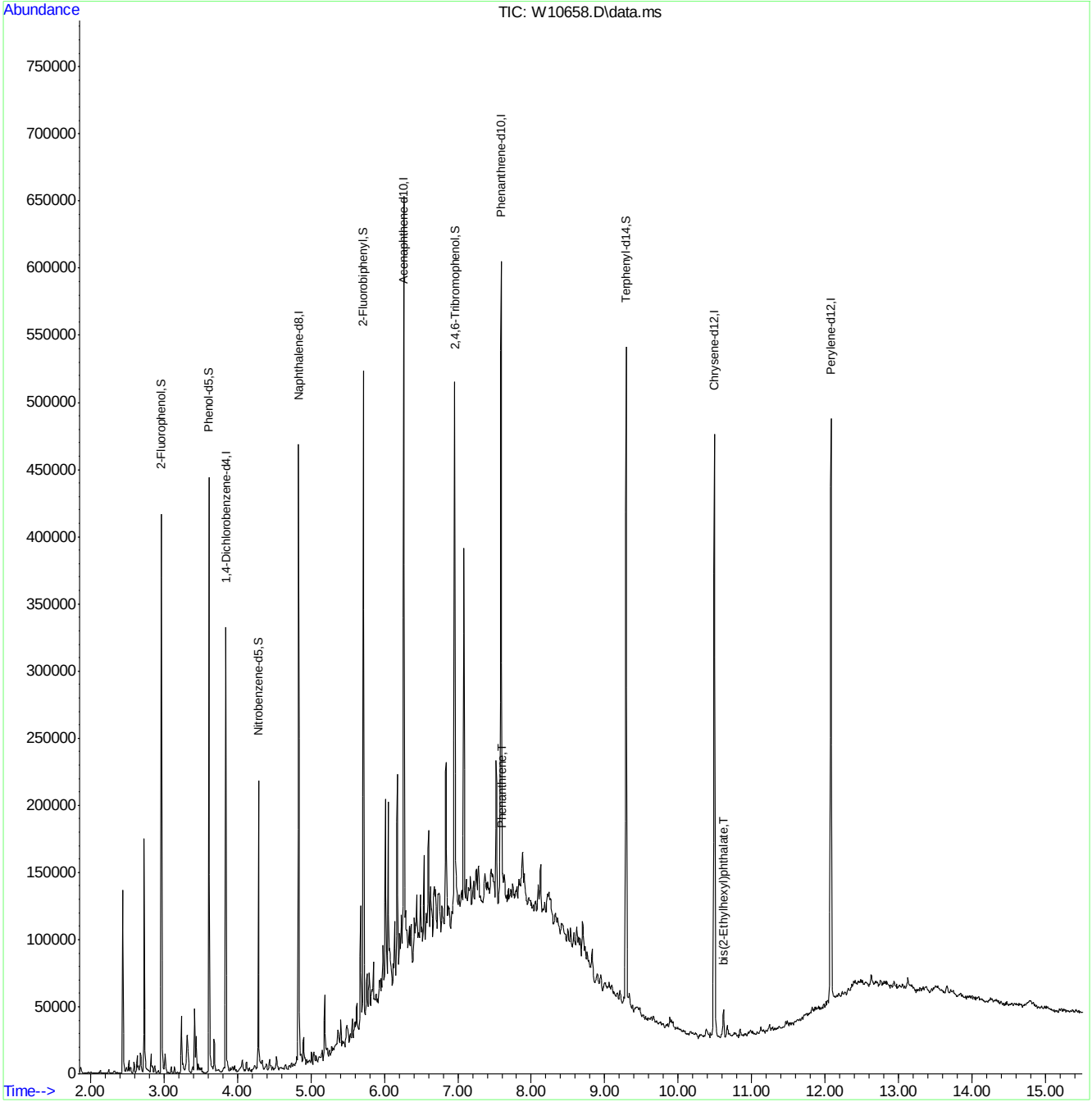
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	43283	40.00 ppm	0.00
22) Naphthalene-d8	4.833	136	162206	40.00 ppm	-0.01
40) Acenaphthene-d10	6.267	164	99680	40.00 ppm	0.00
63) Phenanthrene-d10	7.589	188	178807	40.00 ppm	0.00
78) Chrysene-d12	10.491	240	181478	40.00 ppm	0.00
88) Perylene-d12	12.078	264	179275	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.964	112	98540	70.25 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 70.25%		
7) Phenol-d5	3.617	99	117021	62.96 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 62.96%		
23) Nitrobenzene-d5	4.286	82	60400	33.03 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 66.06%		
45) 2-Fluorobiphenyl	5.714	172	128799	37.14 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 74.28%		
67) 2,4,6-Tribromophenol	6.960	330	55154	95.36 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 95.36%		
81) Terphenyl-d14	9.292	244	165262	41.22 ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 82.44%		
Target Compounds					Qvalue
72) Phenanthrene	7.606	178	5704	1.09 ppm	97
87) bis(2-Ethylhexyl)phtha...	10.614	149	5780	2.28 ppm	97
90) Benzo[b]fluoranthene	12.078	252	1636	Below Cal	74

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

Quantitation Report (QT Reviewed)

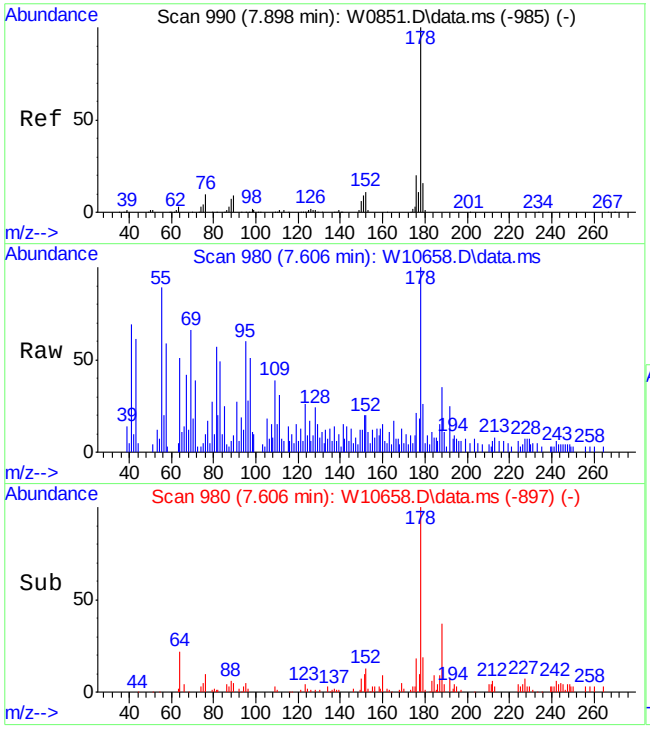
Data Path : W:\2\DATA\W130327\
Data File : W10658.D
Acq On : 28 Mar 2013 12:24 am
Operator : KRISTINR
Sample : JB31485-24
Misc : op32397,msw500,20.16,,,1,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Mar 29 12:17:43 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



W130308_8270.M Fri Mar 29 12:17:48 2013 Page: 2

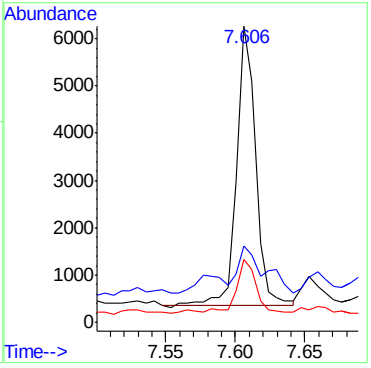
SGS ACCUTEST JB31485

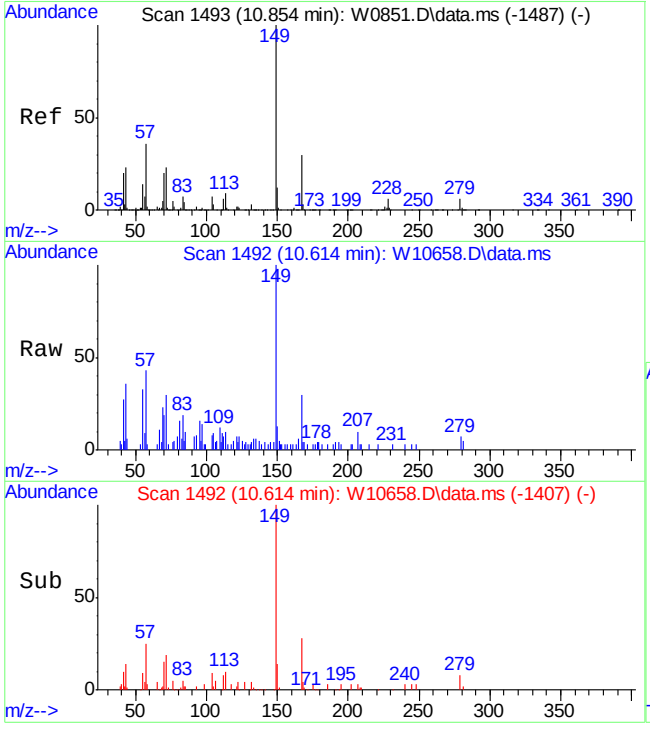


#72
Phenanthrene
Concen: 1.09 ppm
RT: 7.606 min Scan# 980
Delta R.T. -0.012 min
Lab File: W10658.D
Acq: 28 Mar 2013 12:24 am

Tgt Ion:178 Resp: 5704

Ion	Ratio	Lower	Upper
178	100		
179	16.8	0.0	45.1
176	19.1	0.0	50.0

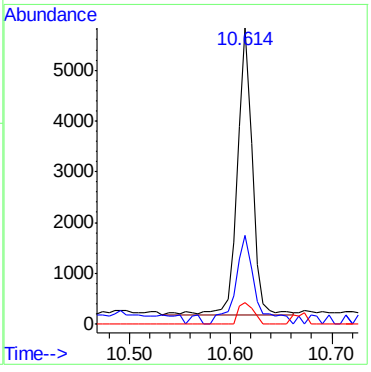


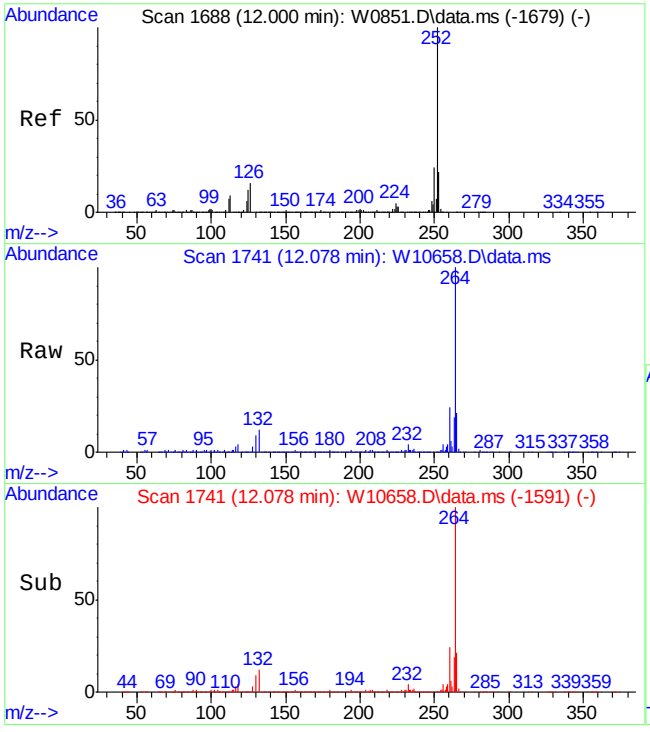


#87
bis(2-Ethylhexyl)phthalate
Concen: 2.28 ppm
RT: 10.614 min Scan# 1492
Delta R.T. -0.000 min
Lab File: W10658.D
Acq: 28 Mar 2013 12:24 am

Tgt Ion:149 Resp: 5780

Ion	Ratio	Lower	Upper
149	100		
167	31.1	0.0	59.0
279	7.4	0.0	37.1

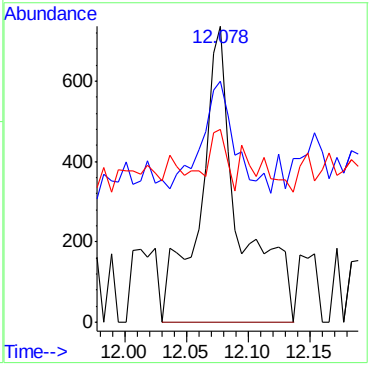




#90
Benzo[b]fluoranthene
Concen: Below Cal
RT: 12.078 min Scan# 1741
Delta R.T. 0.382 min
Lab File: W10658.D
Acq: 28 Mar 2013 12:24 am

Tgt Ion:252 Resp: 1636

Ion	Ratio	Lower	Upper
252	100		
253	33.1	0.0	51.8
125	21.0	0.0	39.5



10.1.24
10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 17:16

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10659.D
Acq On : 28 Mar 2013 12:48 am
Operator : KRISTINR
Sample : JB31485-25
Misc : op32397,msw500,20.21,,,1,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Mar 29 12:19:47 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	42694	40.00 ppm	0.00
22) Naphthalene-d8	4.839	136	144580	40.00 ppm	0.00
40) Acenaphthene-d10	6.273	164	95140	40.00 ppm	0.00
63) Phenanthrene-d10	7.589	188	168426	40.00 ppm	0.00
78) Chrysene-d12	10.497	240	186351	40.00 ppm	0.00
88) Perylene-d12	12.078	264	187283	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.965	112	79649	57.57 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 57.57%		
7) Phenol-d5	3.617	99	101049	55.11 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 55.11%		
23) Nitrobenzene-d5	4.287	82	50465m	30.96 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 61.92%		
45) 2-Fluorobiphenyl	5.720	172	109023	32.94 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 65.88%		
67) 2,4,6-Tribromophenol	6.960	330	48298	89.95 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 89.95%		
81) Terphenyl-d14	9.298	244	153108	37.19 ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 74.38%		
Target Compounds					Qvalue
37) 2-Methylnaphthalene	5.409	142	11990m	4.44 ppm	
38) 1-methylnaphthalene	5.497	142	114927	45.95 ppm	99
50) Acenaphthene	6.296	153	7827m	2.73 ppm	
52) Dibenzofuran	6.431	168	8231m	2.03 ppm	
53) 2,4-Dinitrotoluene	6.472	165	5823m	6.36 ppm	
56) Fluorene	6.725	166	13136m	3.93 ppm	
72) Phenanthrene	7.612	178	53971	10.91 ppm	96
80) Pyrene	9.099	202	8810	1.53 ppm	95
90) Benzo[b]fluoranthene	11.966	252	1992	Below Cal	84

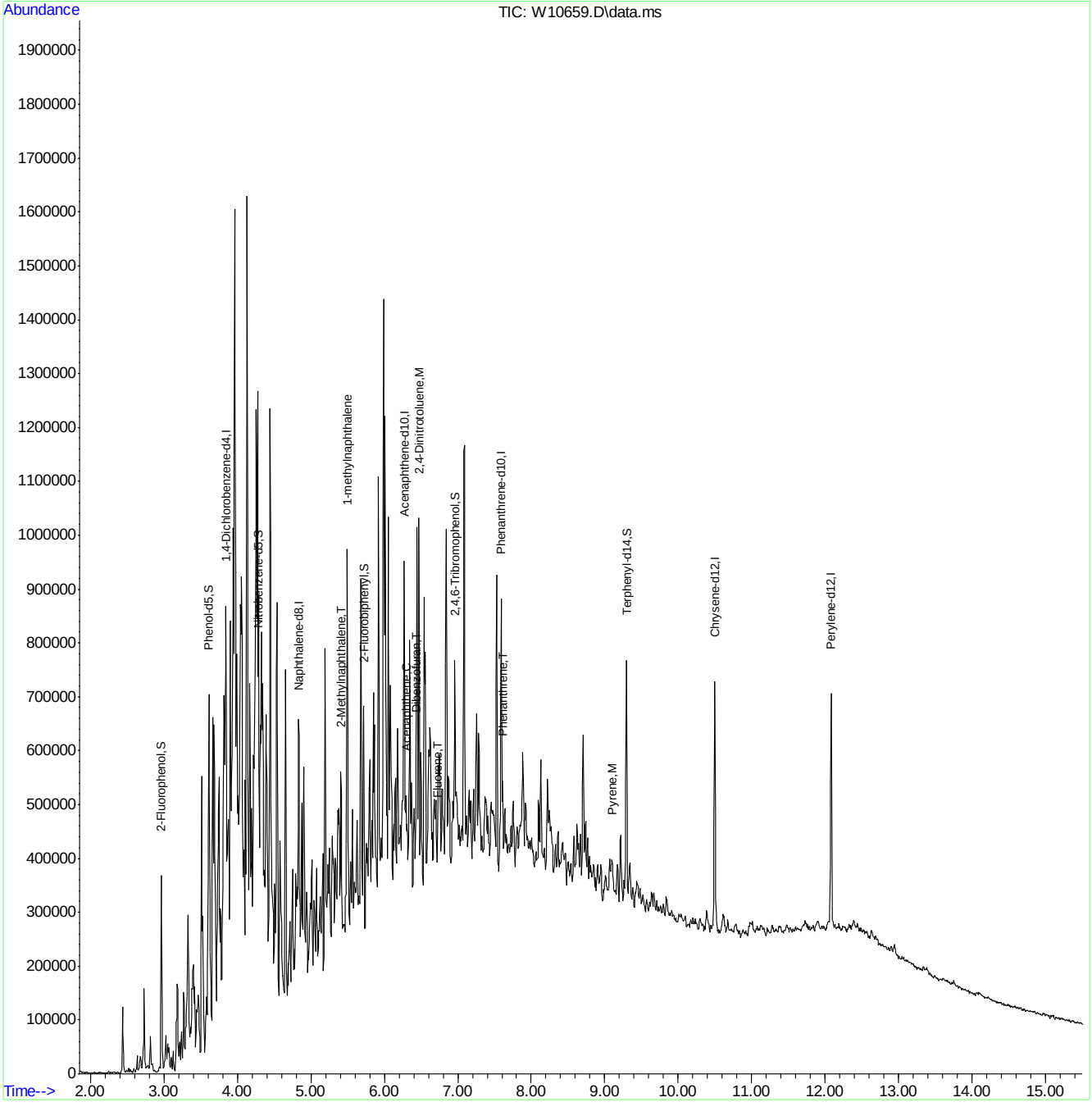
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.25 10

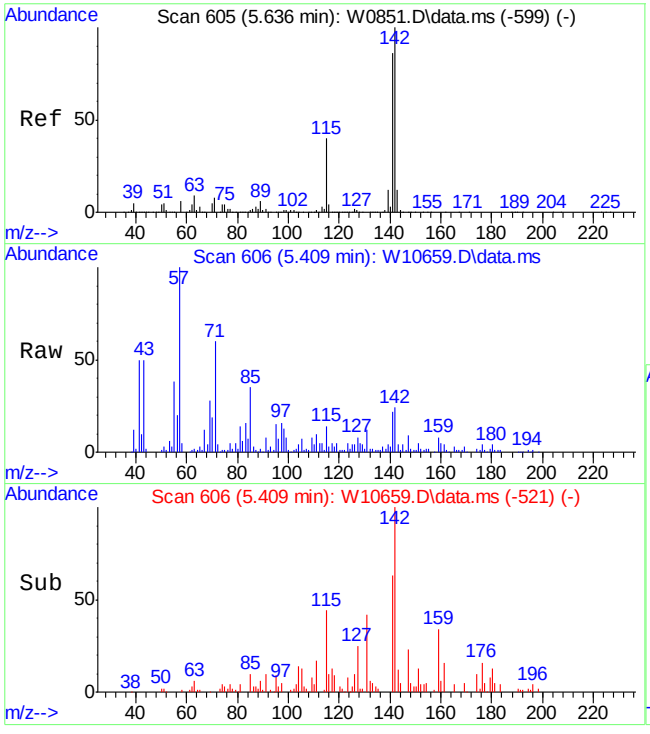
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10659.D
Acq On : 28 Mar 2013 12:48 am
Operator : KRISTINR
Sample : JB31485-25
Misc : op32397,msw500,20.21,,,1,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Mar 29 12:19:47 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



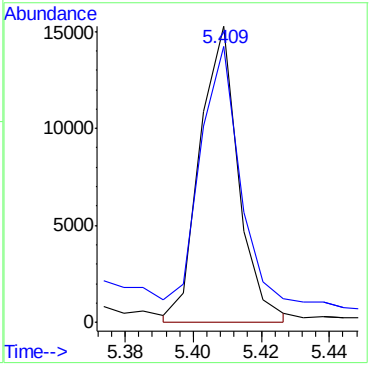
W130308_8270.M Fri Mar 29 12:19:50 2013 Page: 2

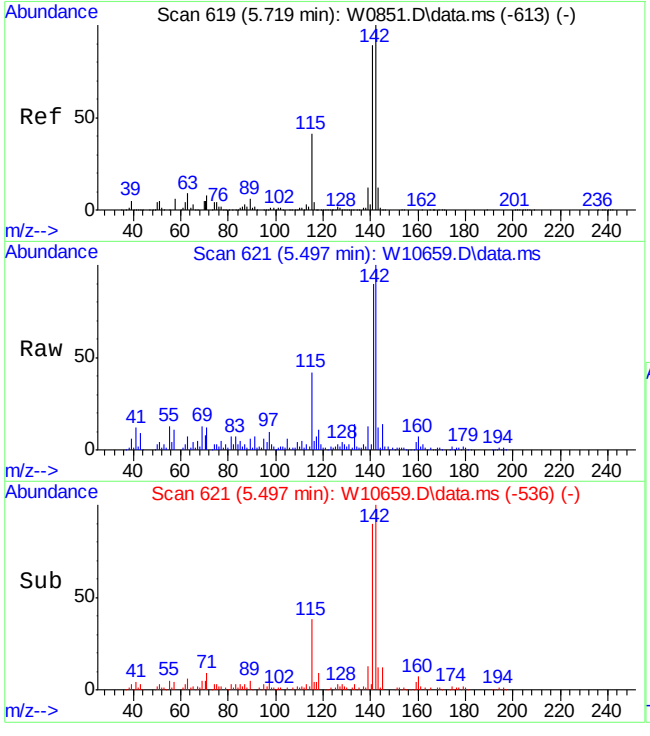


#37
2-Methylnaphthalene
Concen: 4.44 ppm m
RT: 5.409 min Scan# 606
Delta R.T. -0.000 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:142 Resp: 11990

Ion	Ratio	Lower	Upper
142	100		
141	93.0	56.4	116.4

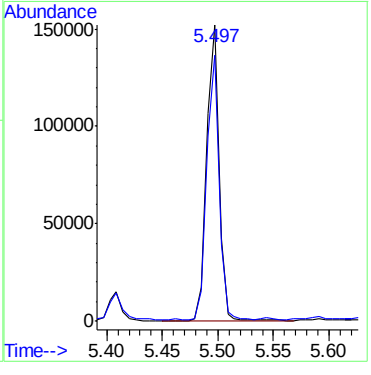


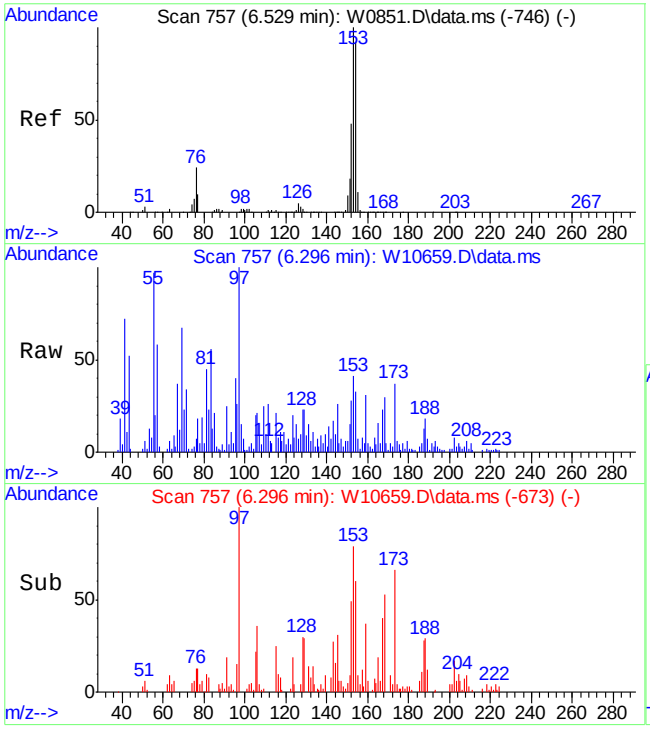


#38
1-methylnaphthalene
Concen: 45.95 ppm
RT: 5.497 min Scan# 621
Delta R.T. -0.000 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:142 Resp: 114927

Ion	Ratio	Lower	Upper
142	100		
141	89.6	71.0	106.4

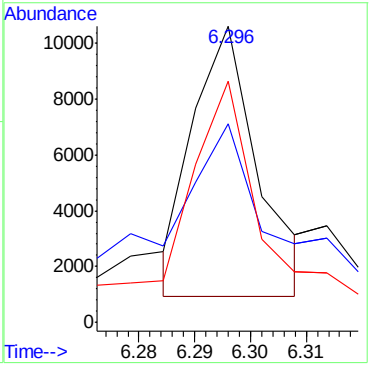


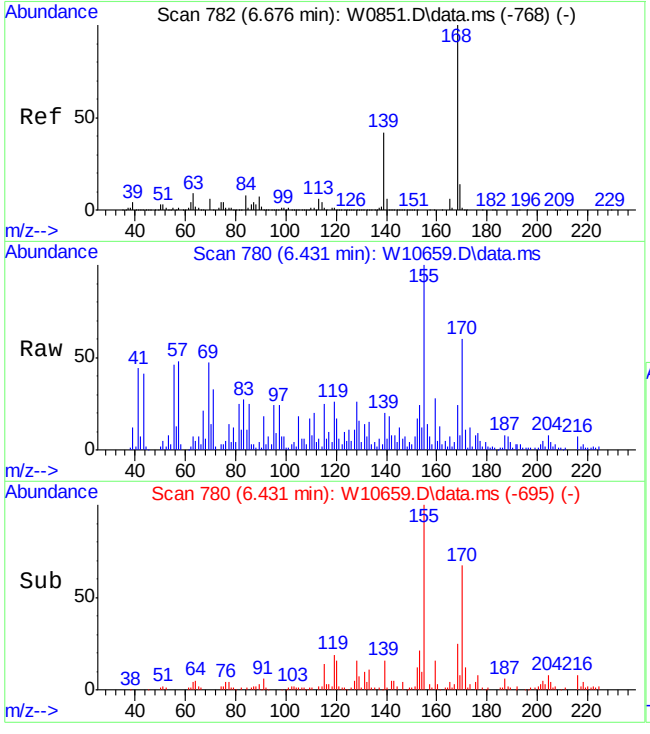


#50
Acenaphthene
Concen: 2.73 ppm m
RT: 6.296 min Scan# 757
Delta R.T. -0.006 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:153 Resp: 7827

Ion	Ratio	Lower	Upper
153	100		
152	67.0	18.8	78.8
154	81.5	61.9	121.9

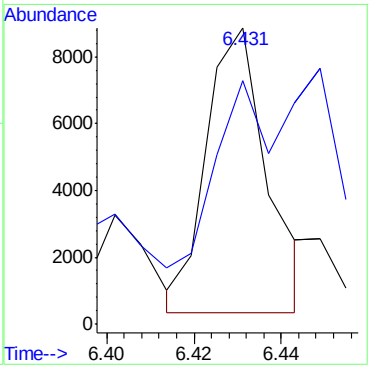


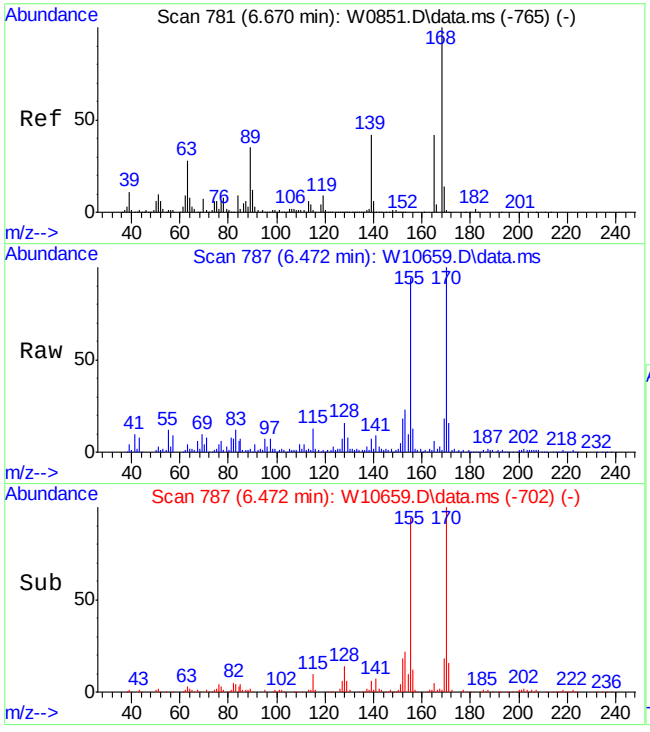


#52
Dibenzofuran
Concen: 2.03 ppm m
RT: 6.431 min Scan# 780
Delta R.T. -0.000 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:168 Resp: 8231

Ion	Ratio	Lower	Upper
168	100		
139	82.3	12.4	72.4#

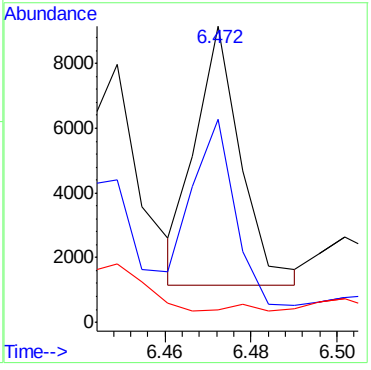


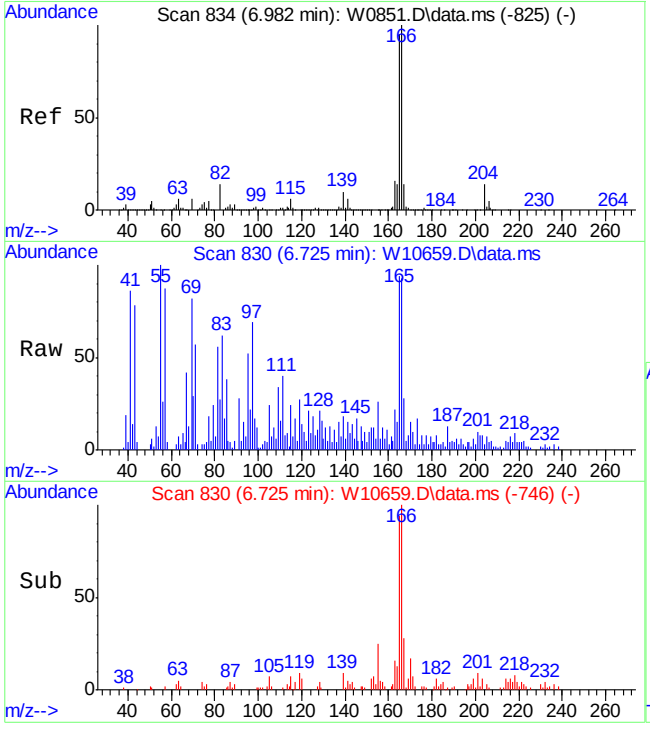


#53
2,4-Dinitrotoluene
Concen: 6.36 ppm m
RT: 6.472 min Scan# 787
Delta R.T. -0.000 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:165 Resp: 5823

Ion	Ratio	Lower	Upper
165	100		
63	68.7	27.9	87.9
182	4.4	0.0	34.0

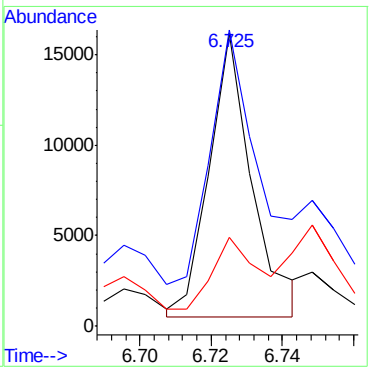


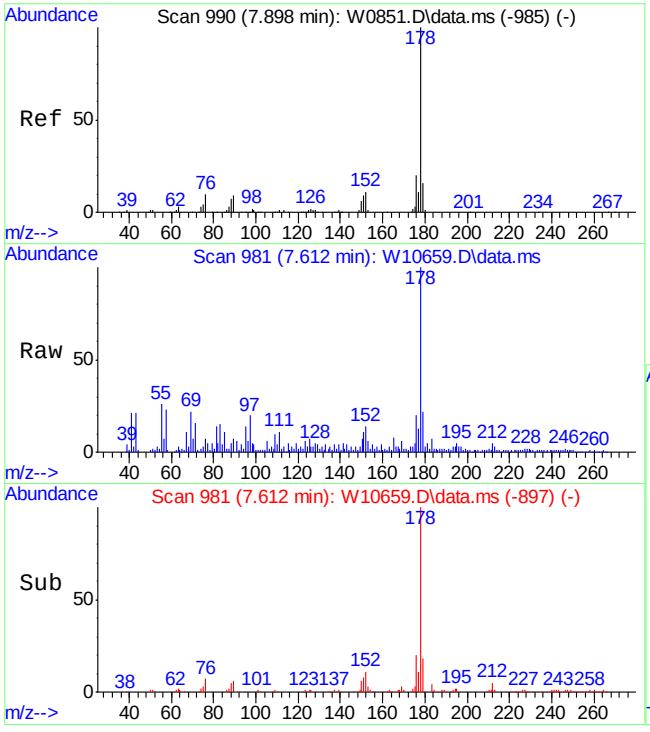


#56
Fluorene
Concen: 3.93 ppm m
RT: 6.725 min Scan# 830
Delta R.T. -0.006 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:166 Resp: 13136

Ion	Ratio	Lower	Upper
166	100		
165	101.0	64.1	124.1
167	30.2	0.0	43.8

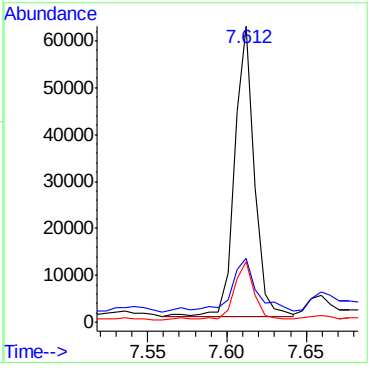


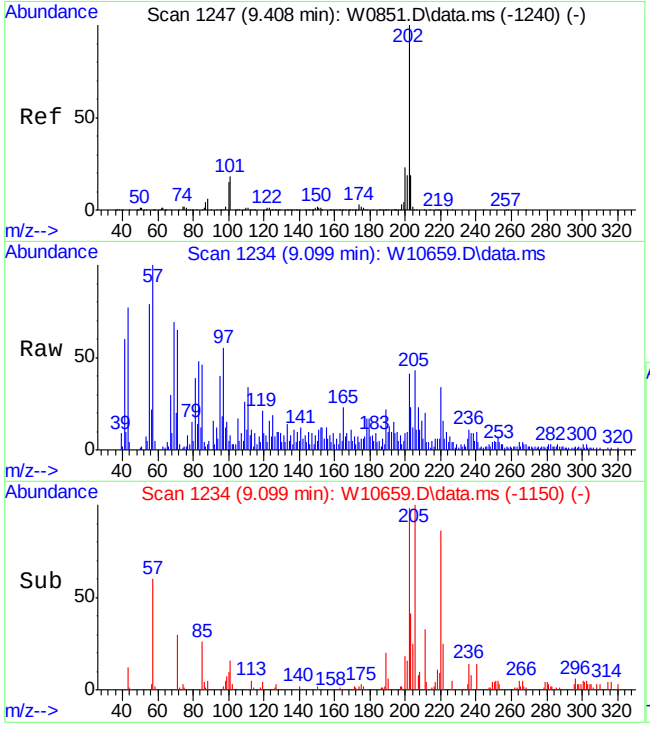


#72
Phenanthrene
Concen: 10.91 ppm
RT: 7.612 min Scan# 981
Delta R.T. -0.006 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:178 Resp: 53971

Ion	Ratio	Lower	Upper
178	100		
179	18.8	0.0	45.1
176	19.9	0.0	50.0

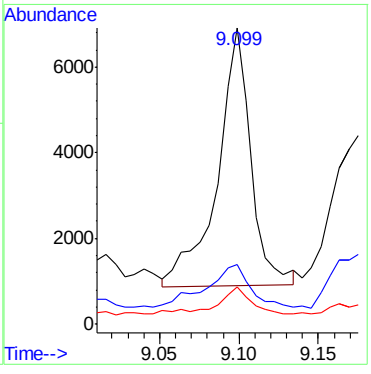


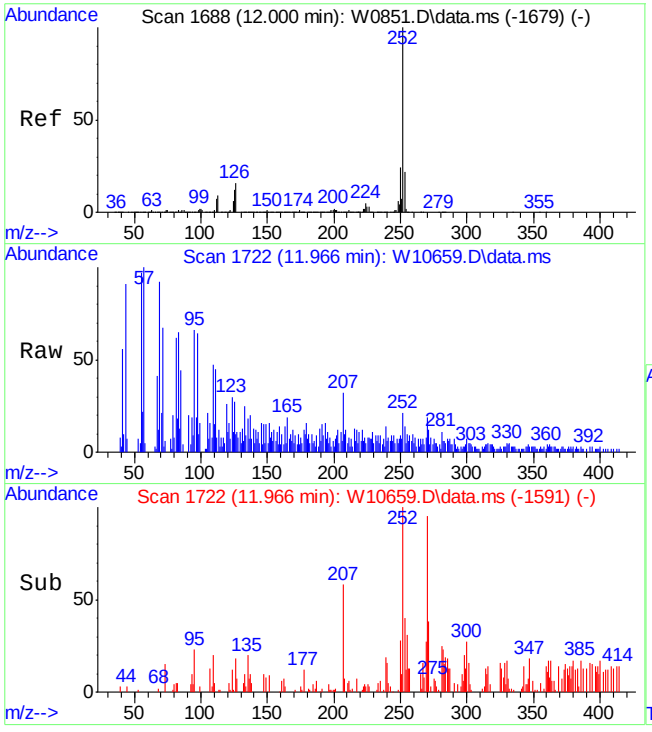


#80
Pyrene
Concen: 1.53 ppm
RT: 9.099 min Scan# 1234
Delta R.T. -0.006 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:202 Resp: 8810

Ion	Ratio	Lower	Upper
202	100		
101	17.3	0.0	44.2
100	10.6	0.0	41.3

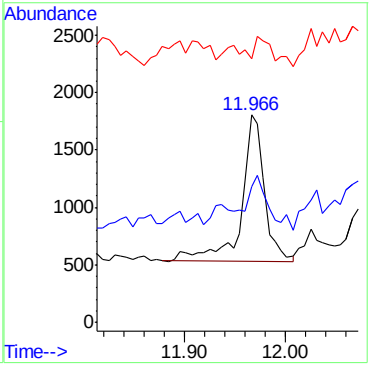




#90
Benzo[b]fluoranthene
Concen: Below Cal
RT: 11.966 min Scan# 1722
Delta R.T. 0.270 min
Lab File: W10659.D
Acq: 28 Mar 2013 12:48 am

Tgt Ion:252 Resp: 1992

Ion	Ratio	Lower	Upper
252	100		
253	30.2	0.0	51.8
125	5.4	0.0	39.5



10.1.25
10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 17:16

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10660.D
Acq On : 28 Mar 2013 1:11 am
Operator : KRISTINR
Sample : JB31485-26
Misc : op32397,msw500,20.70,,,1,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Mar 29 12:21:20 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	41587	40.00 ppm	0.00
22) Naphthalene-d8	4.833	136	155195	40.00 ppm	-0.01
40) Acenaphthene-d10	6.272	164	106527	40.00 ppm	0.00
63) Phenanthrene-d10	7.594	188	196134	40.00 ppm	0.00
78) Chrysene-d12	10.497	240	198379m	40.00 ppm	0.00
88) Perylene-d12	12.078	264	191169	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.965	112	71635	53.15 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 53.15%		
7) Phenol-d5	3.617	99	86378	48.37 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 48.37%		
23) Nitrobenzene-d5	4.287	82	49057	28.04 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 56.08%		
45) 2-Fluorobiphenyl	5.720	172	107505	29.01 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 58.02%		
67) 2,4,6-Tribromophenol	6.966	330	55397	88.85 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 88.85%		
81) Terphenyl-d14	9.298	244	166808	38.07 ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 76.14%		
Target Compounds					Qvalue
80) Pyrene	9.104	202	7451	1.21 ppm	96
85) Benzo[a]anthracene	10.479	228	987m	4.72 ppm	
86) Chrysene	10.521	228	2361m	2.09 ppm	

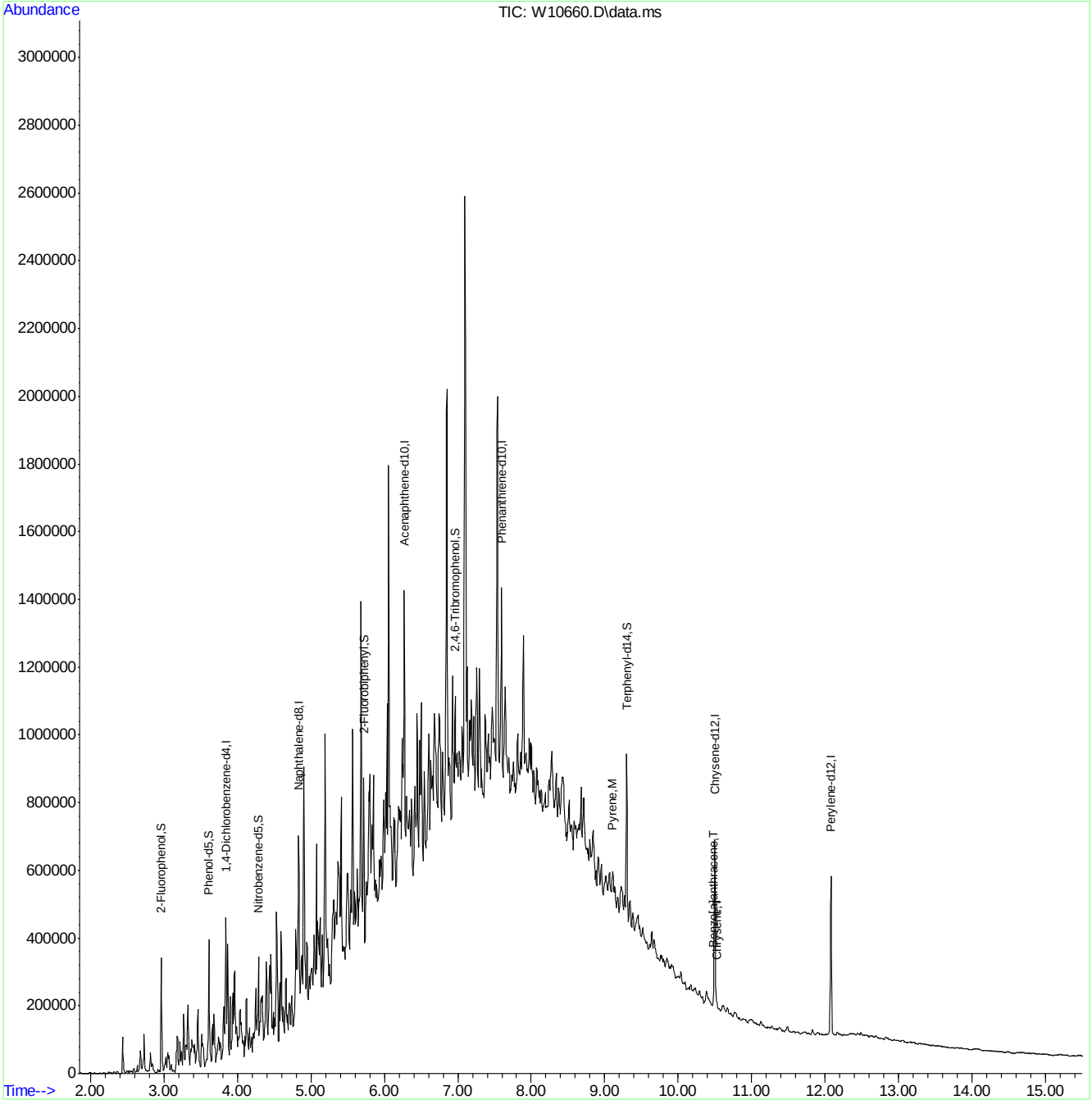
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.26 10

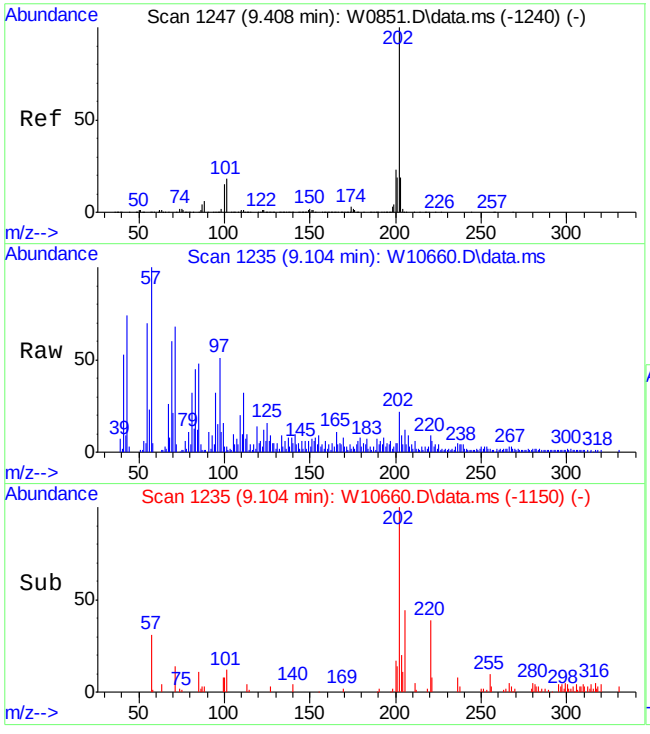
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10660.D
Acq On : 28 Mar 2013 1:11 am
Operator : KRISTINR
Sample : JB31485-26
Misc : op32397,msw500,20.70,,,1,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Mar 29 12:21:20 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



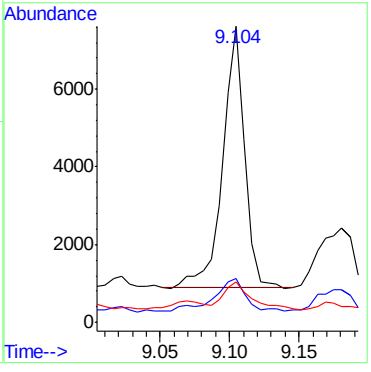
SGS ACCUTEST JB31485

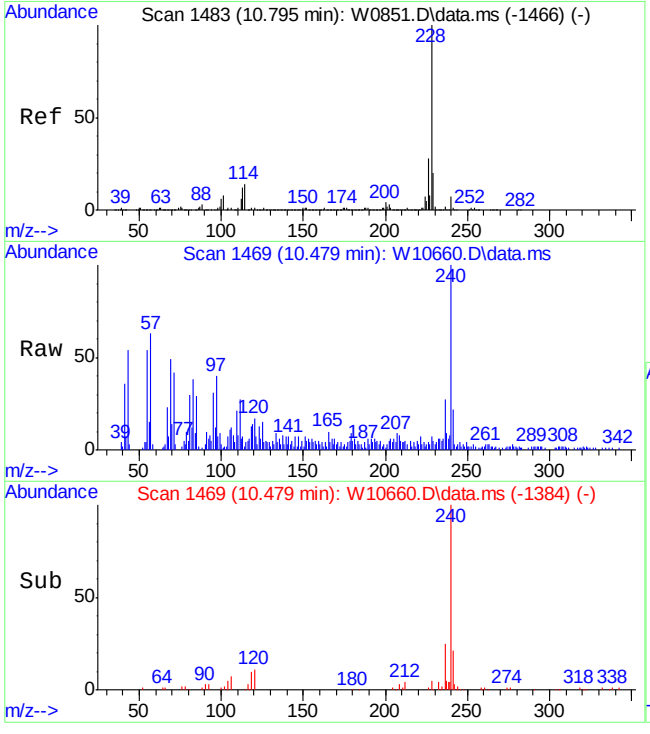


#80
Pyrene
Concen: 1.21 ppm
RT: 9.104 min Scan# 1235
Delta R.T. -0.000 min
Lab File: W10660.D
Acq: 28 Mar 2013 1:11 am

Tgt Ion:202 Resp: 7451

Ion	Ratio	Lower	Upper
202	100		
101	12.6	0.0	44.2
100	10.1	0.0	41.3

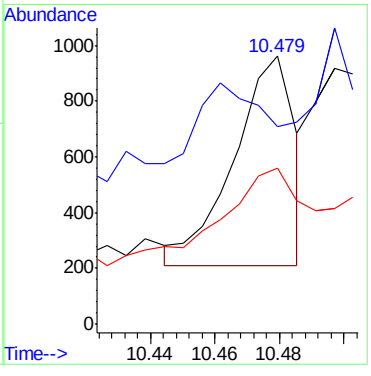


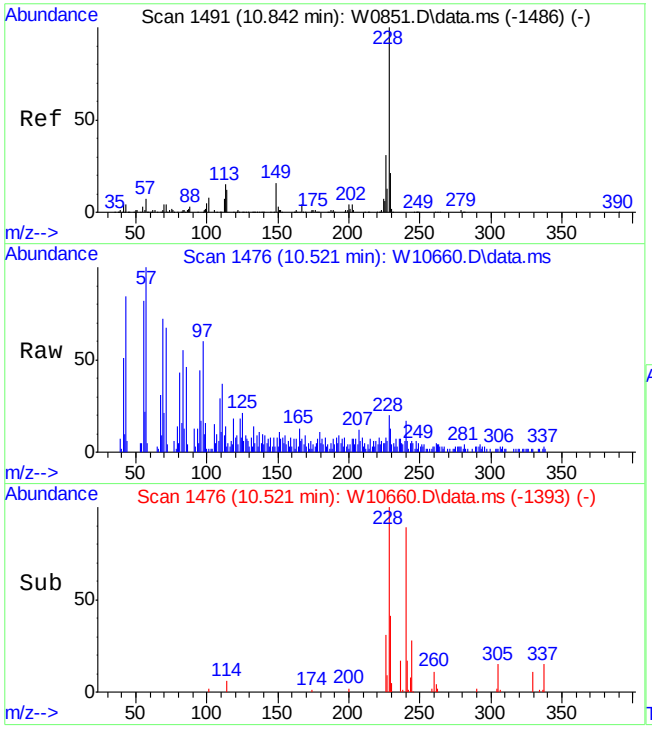


#85
Benzo[a]anthracene
Concen: 4.72 ppm m
RT: 10.479 min Scan# 1469
Delta R.T. -0.000 min
Lab File: W10660.D
Acq: 28 Mar 2013 1:11 am

Tgt Ion:228 Resp: 987

Ion	Ratio	Lower	Upper
228	100		
229	73.6	0.0	49.9#
226	58.1	0.0	57.4#

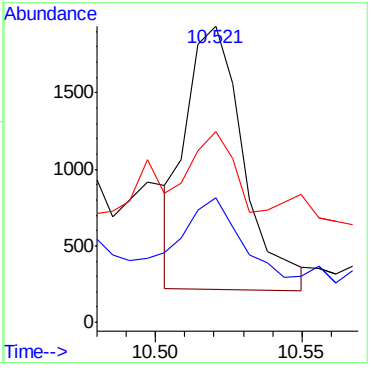




#86
Chrysene
Concen: 2.09 ppm m
RT: 10.521 min Scan# 1476
Delta R.T. -0.012 min
Lab File: W10660.D
Acq: 28 Mar 2013 1:11 am

Tgt Ion:228 Resp: 2361

Ion	Ratio	Lower	Upper
228	100		
226	42.2	0.2	60.2
229	64.3	0.0	50.1#



10.1.26
10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 17:16

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10661.D
Acq On : 28 Mar 2013 1:35 am
Operator : KRISTINR
Sample : JB31485-27
Misc : op32397,msw500,20.65,,,1,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: Mar 29 12:22:51 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	40105	40.00 ppm	0.00
22) Naphthalene-d8	4.833	136	145492	40.00 ppm	-0.01
40) Acenaphthene-d10	6.267	164	96455	40.00 ppm	0.00
63) Phenanthrene-d10	7.600	188	198729	40.00 ppm	0.00
78) Chrysene-d12	10.497	240	192044	40.00 ppm	0.00
88) Perylene-d12	12.078	264	185350	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.965	112	84435	64.97 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 64.97%		
7) Phenol-d5	3.617	99	100408	58.30 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 58.30%		
23) Nitrobenzene-d5	4.287	82	51317m	31.28 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 62.56%		
45) 2-Fluorobiphenyl	5.714	172	111380	33.19 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 66.38%		
67) 2,4,6-Tribromophenol	6.966	330	60876	94.84 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 94.84%		
81) Terphenyl-d14	9.304	244	177603	41.87 ppm	0.01
Spiked Amount 50.000	Range 33 - 141		Recovery = 83.74%		
Target Compounds					Qvalue
37) 2-Methylnaphthalene	5.403	142	6999m	2.57 ppm	
38) 1-methylnaphthalene	5.491	142	11506	4.57 ppm	100
72) Phenanthrene	7.624	178	19142m	3.28 ppm	
90) Benzo[b]fluoranthene	11.966	252	1216	Below Cal	91

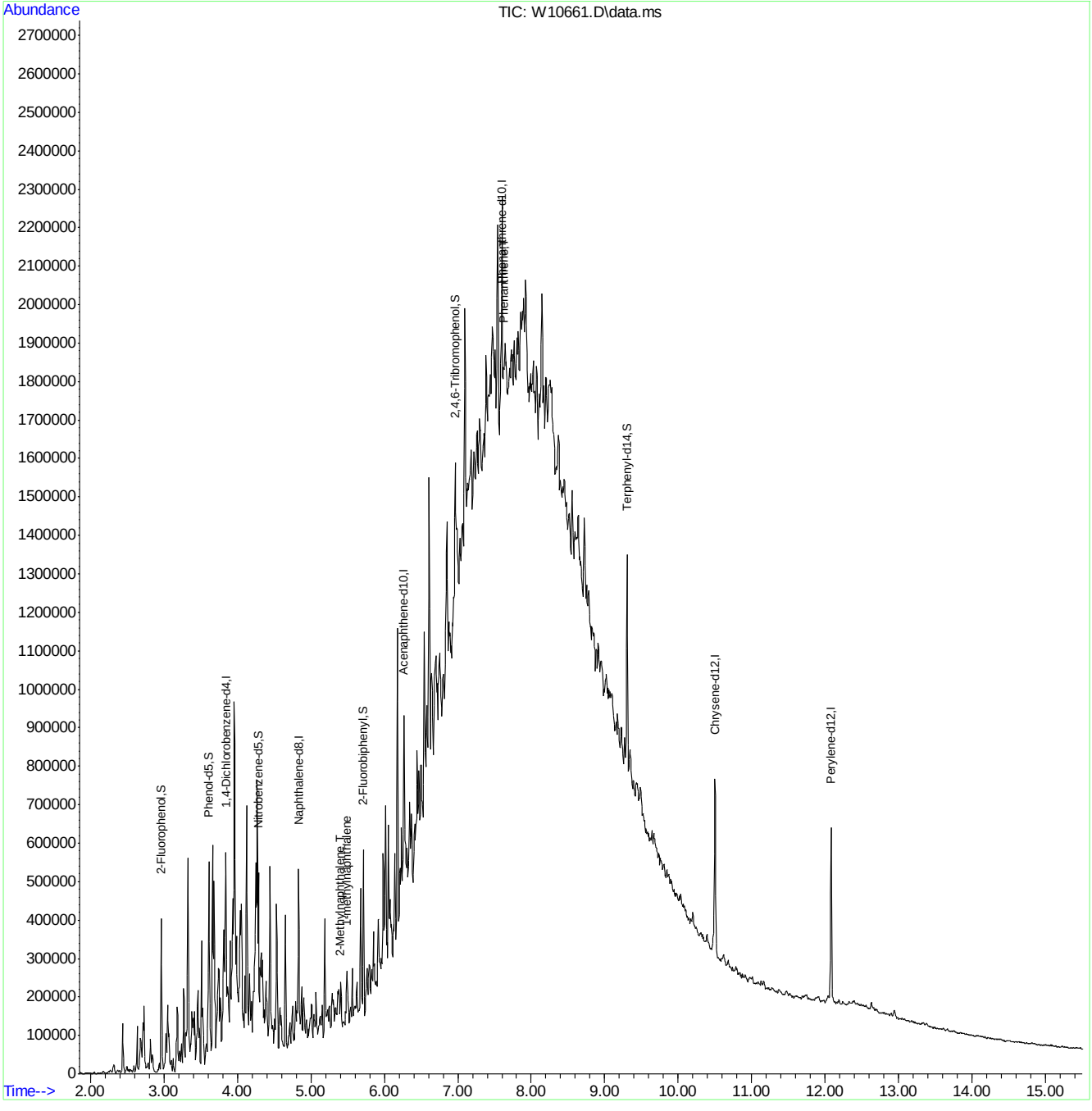
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.27 10

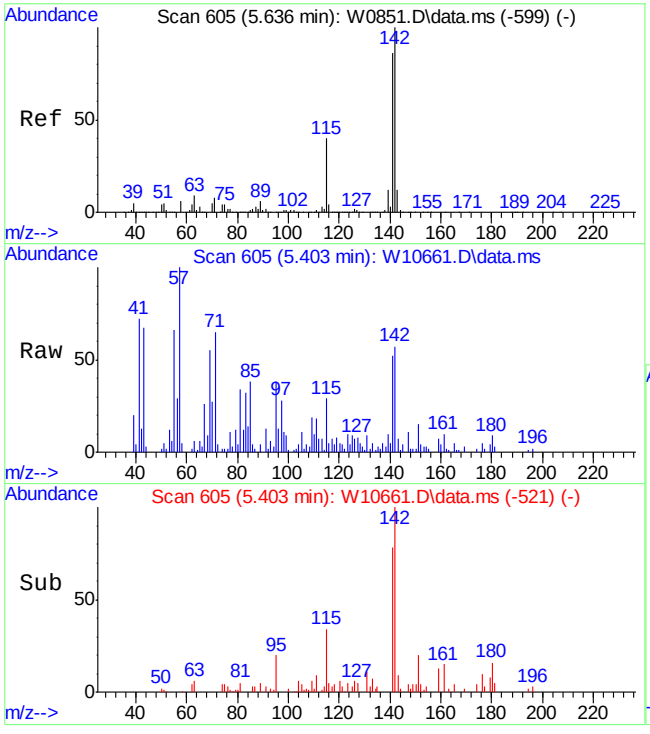
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10661.D
Acq On : 28 Mar 2013 1:35 am
Operator : KRISTINR
Sample : JB31485-27
Misc : op32397,msw500,20.65,,,1,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: Mar 29 12:22:51 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



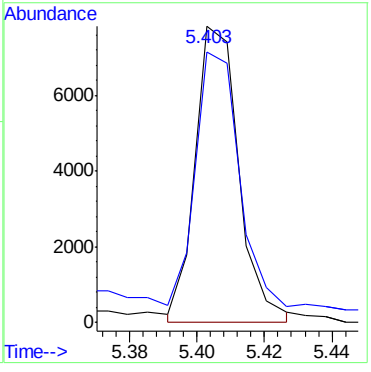
W130308_8270.M Fri Mar 29 12:22:58 2013 Page: 2

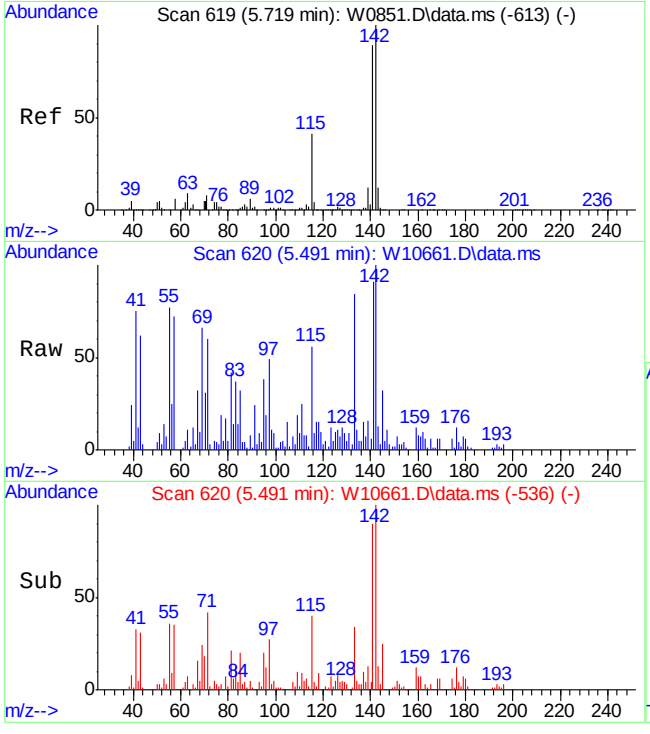


#37
2-Methylnaphthalene
Concen: 2.57 ppm m
RT: 5.403 min Scan# 605
Delta R.T. -0.006 min
Lab File: W10661.D
Acq: 28 Mar 2013 1:35 am

Tgt Ion:142 Resp: 6999

Ion	Ratio	Lower	Upper
142	100		
141	91.4	56.4	116.4

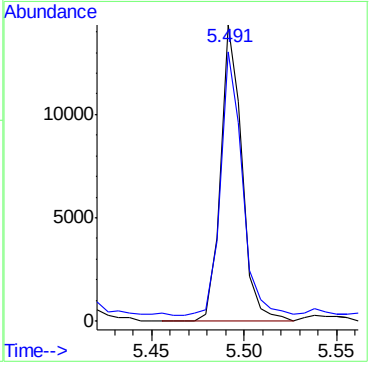




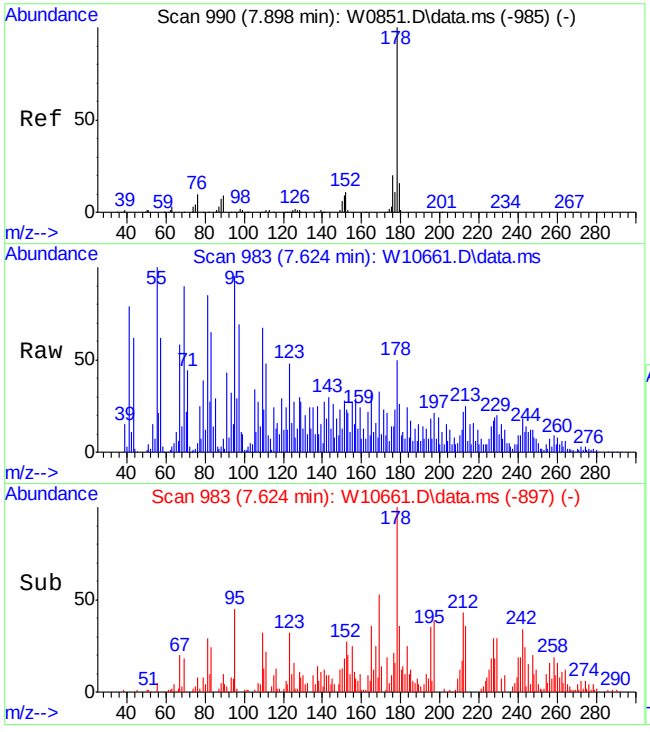
#38
1-methylnaphthalene
Concen: 4.57 ppm
RT: 5.491 min Scan# 620
Delta R.T. -0.006 min
Lab File: W10661.D
Acq: 28 Mar 2013 1:35 am

Tgt Ion:142 Resp: 11506

Ion	Ratio	Lower	Upper
142	100		
141	88.5	71.0	106.4



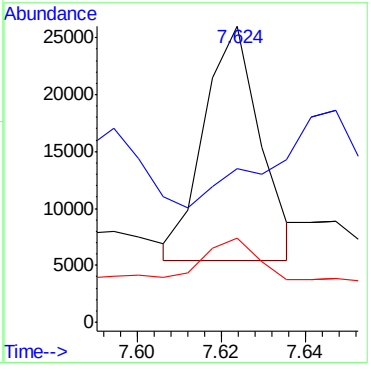
SGS ACCUTEST JB31485

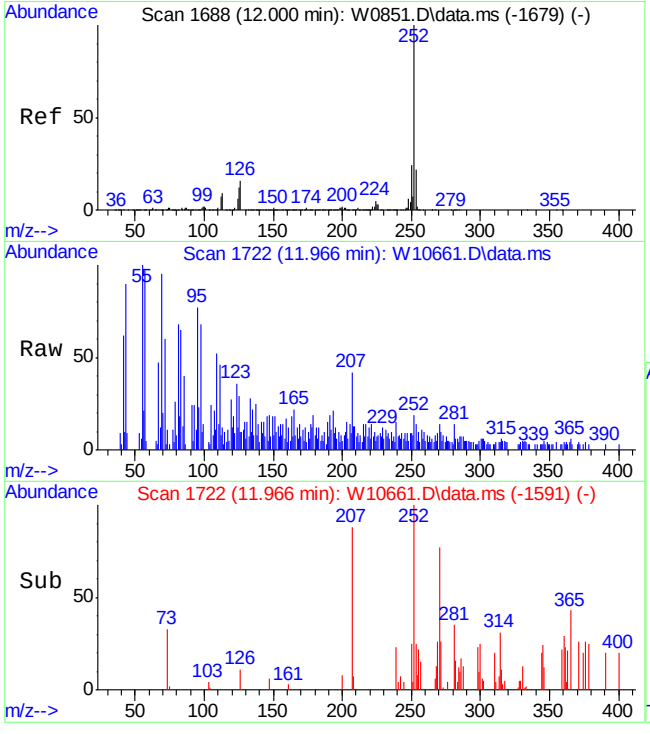


#72
Phenanthrene
Concen: 3.28 ppm m
RT: 7.624 min Scan# 983
Delta R.T. 0.006 min
Lab File: W10661.D
Acq: 28 Mar 2013 1:35 am

Tgt Ion:178 Resp: 19142

Ion	Ratio	Lower	Upper
178	100		
179	52.1	0.0	45.1#
176	28.5	0.0	50.0

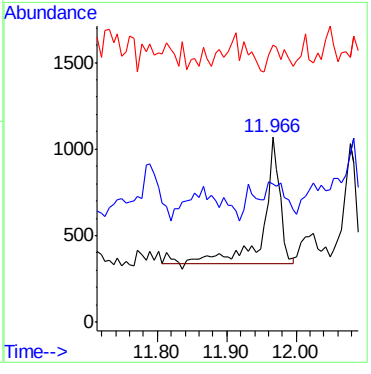




#90
Benzo[b]fluoranthene
Concen: Below Cal
RT: 11.966 min Scan# 1722
Delta R.T. 0.270 min
Lab File: W10661.D
Acq: 28 Mar 2013 1:35 am

Tgt Ion:252 Resp: 1216

Ion	Ratio	Lower	Upper
252	100		
253	20.2	0.0	51.8
125	17.3	0.0	39.5



10.1.27
10

Manual Integrations APPROVED (compounds with "m" flag)
James Roush
03/29/13 17:16

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10662.D
Acq On : 28 Mar 2013 1:58 am
Operator : KRISTINR
Sample : JB31485-28
Misc : op32397,msw500,20.58,,,1,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Mar 29 12:24:41 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	46286	40.00 ppm	0.00
22) Naphthalene-d8	4.833	136	158301	40.00 ppm	-0.01
40) Acenaphthene-d10	6.272	164	98836	40.00 ppm	0.00
63) Phenanthrene-d10	7.594	188	191641	40.00 ppm	0.00
78) Chrysene-d12	10.497	240	185031	40.00 ppm	0.00
88) Perylene-d12	12.078	264	180178	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.965	112	88410	58.94 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 58.94%		
7) Phenol-d5	3.617	99	106656	53.66 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 53.66%		
23) Nitrobenzene-d5	4.287	82	52988m	29.69 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 59.38%		
45) 2-Fluorobiphenyl	5.720	172	109403	31.82 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 63.64%		
67) 2,4,6-Tribromophenol	6.966	330	51505	85.36 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 85.36%		
81) Terphenyl-d14	9.298	244	152040	37.20 ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 74.40%		
Target Compounds					Qvalue
32) Naphthalene	4.851	128	23825m	5.58 ppm	
37) 2-Methylnaphthalene	5.409	142	88320	29.86 ppm	99
38) 1-methylnaphthalene	5.497	142	71841	26.23 ppm	99
72) Phenanthrene	7.618	178	30201m	5.37 ppm	
85) Benzo[a]anthracene	10.474	228	1334m	4.78 ppm	
86) Chrysene	10.521	228	6426m	2.85 ppm	
90) Benzo[b]fluoranthene	11.966	252	1389	Below Cal	91

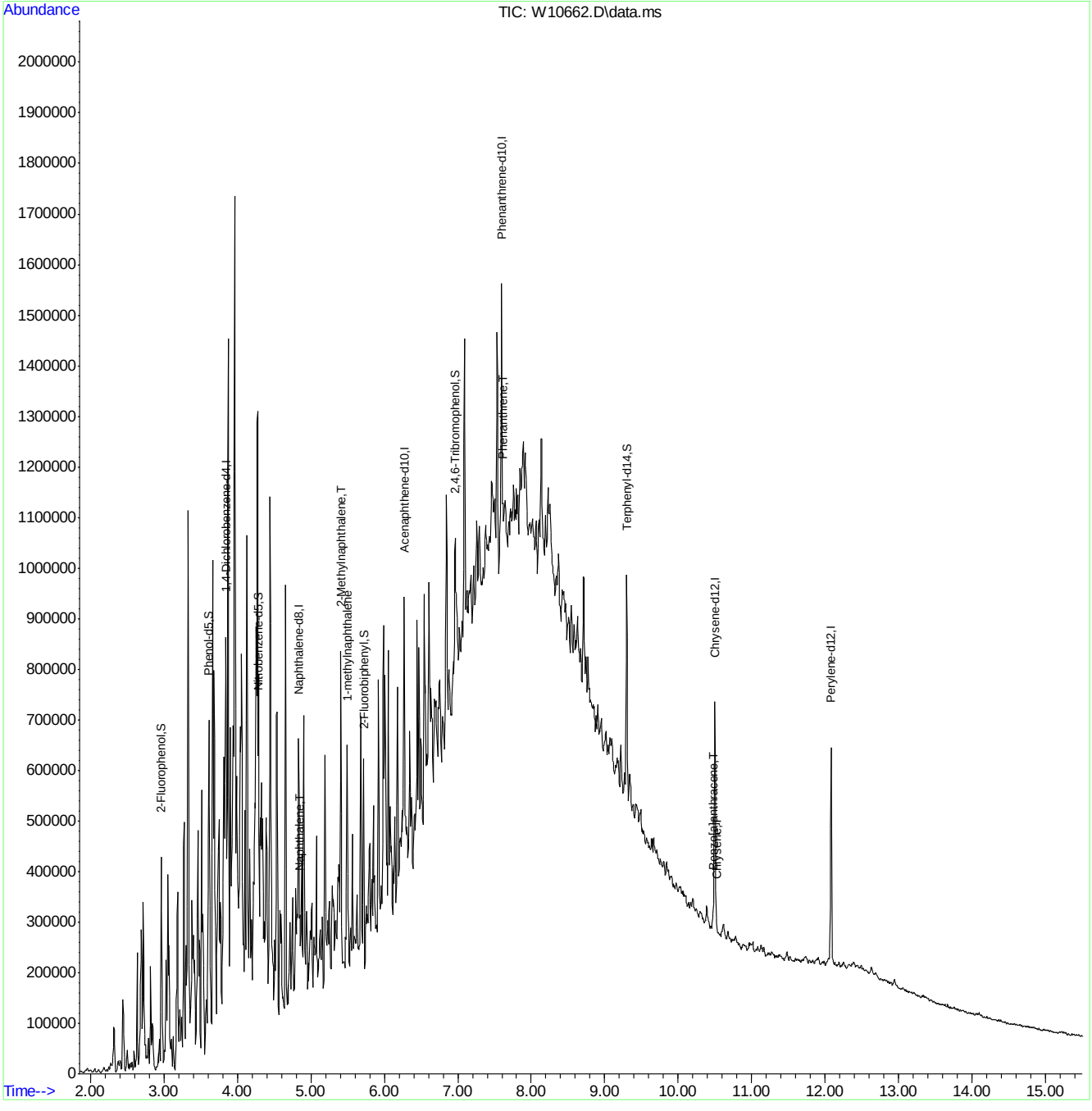
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.28 10

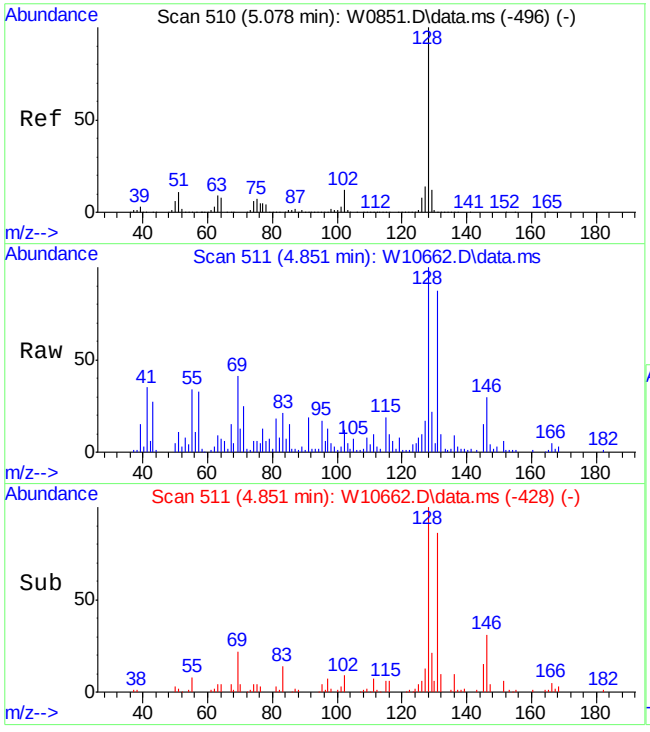
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10662.D
Acq On : 28 Mar 2013 1:58 am
Operator : KRISTINR
Sample : JB31485-28
Misc : op32397,msw500,20.58,,,1,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Mar 29 12:24:41 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



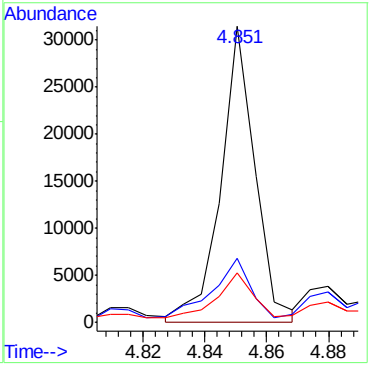
W130308_8270.M Fri Mar 29 12:24:44 2013 Page: 2

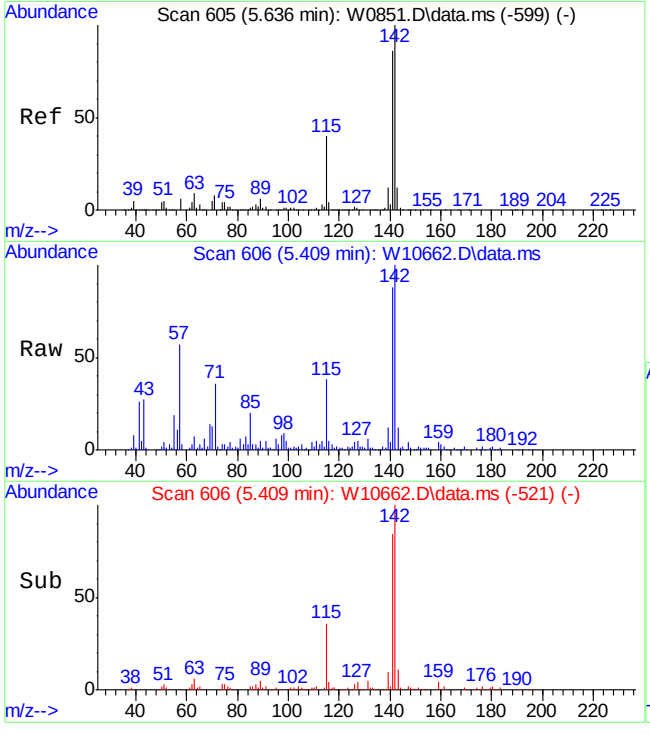


#32
Naphthalene
Concen: 5.58 ppm m
RT: 4.851 min Scan# 511
Delta R.T. -0.012 min
Lab File: W10662.D
Acq: 28 Mar 2013 1:58 am

Tgt Ion:128 Resp: 23825

Ion	Ratio	Lower	Upper
128	100		
129	21.7	0.0	41.0
127	16.8	0.0	43.3

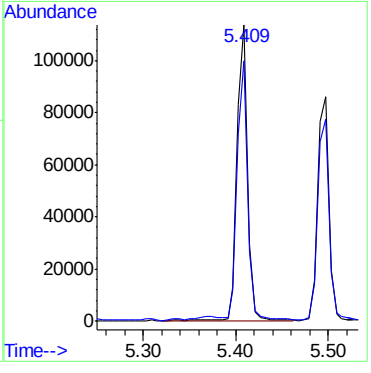


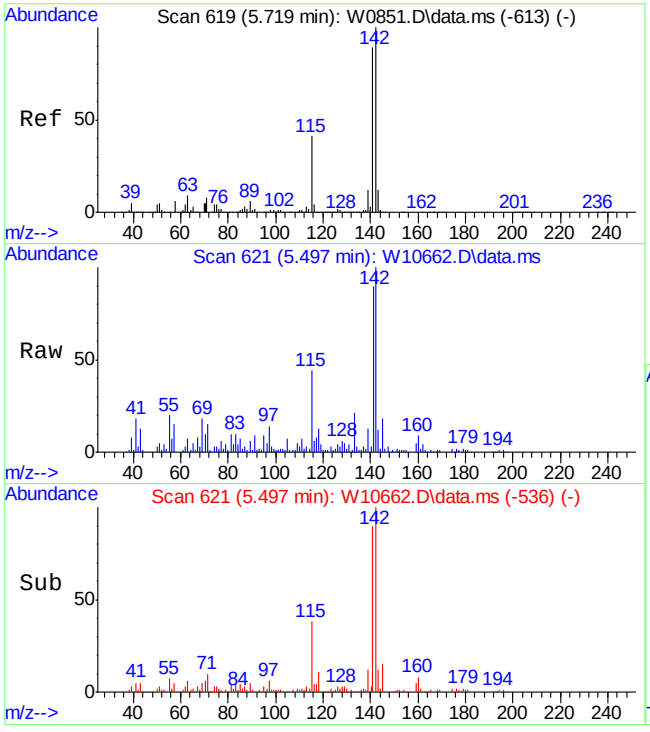


#37
2-Methylnaphthalene
Concen: 29.86 ppm
RT: 5.409 min Scan# 606
Delta R.T. -0.000 min
Lab File: W10662.D
Acq: 28 Mar 2013 1:58 am

Tgt Ion:142 Resp: 88320

Ion	Ratio	Lower	Upper
142	100		
141	87.7	56.4	116.4

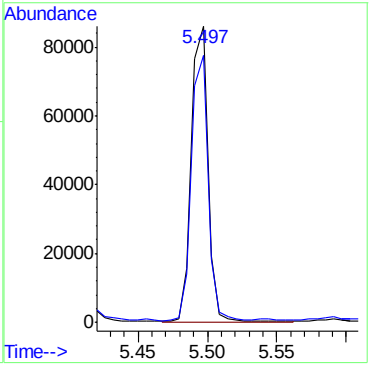


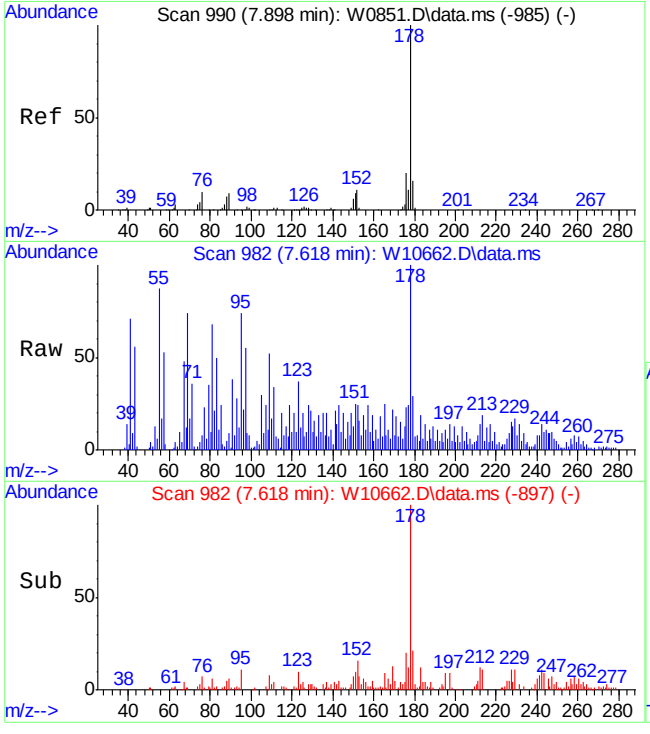


#38
1-methylnaphthalene
Concen: 26.23 ppm
RT: 5.497 min Scan# 621
Delta R.T. -0.000 min
Lab File: W10662.D
Acq: 28 Mar 2013 1:58 am

Tgt Ion:142 Resp: 71841

Ion	Ratio	Lower	Upper
142	100		
141	89.7	71.0	106.4

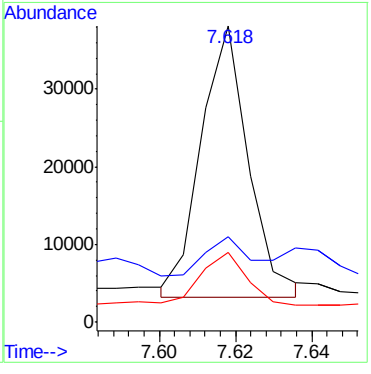




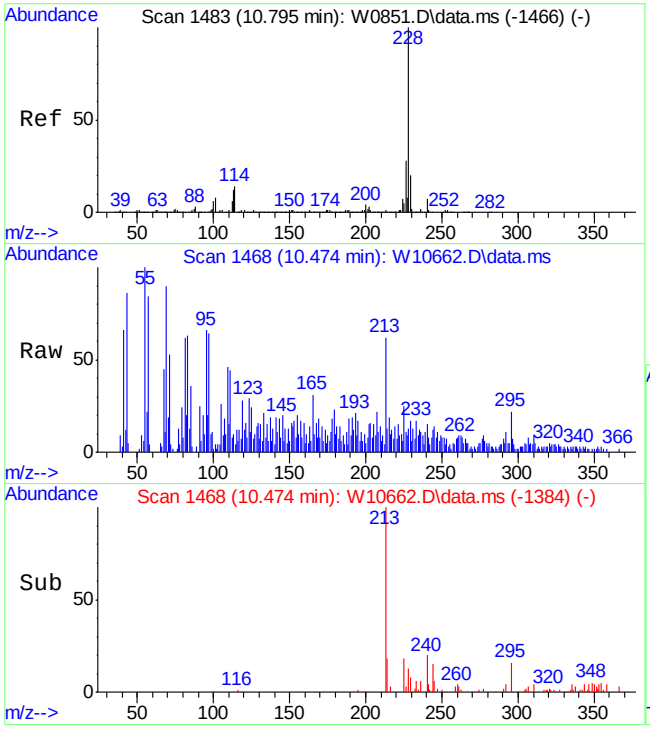
#72
Phenanthrene
Concen: 5.37 ppm m
RT: 7.618 min Scan# 982
Delta R.T. -0.000 min
Lab File: W10662.D
Acq: 28 Mar 2013 1:58 am

Tgt Ion:178 Resp: 30201

Ion	Ratio	Lower	Upper
178	100		
179	28.9	0.0	45.1
176	23.4	0.0	50.0



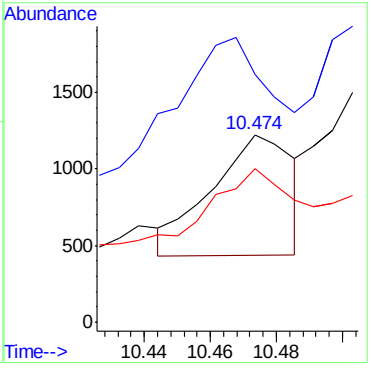
SGS ACCUTEST JB31485

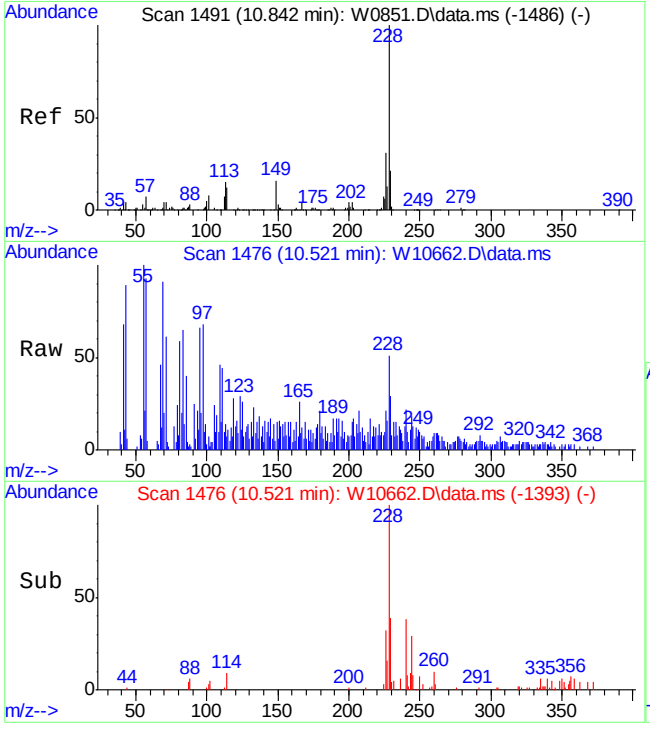


#85
Benzo[a]anthracene
Concen: 4.78 ppm m
RT: 10.474 min Scan# 1468
Delta R.T. -0.006 min
Lab File: W10662.D
Acq: 28 Mar 2013 1:58 am

Tgt Ion:228 Resp: 1334

Ion	Ratio	Lower	Upper
228	100		
229	132.1	0.0	49.9#
226	81.8	0.0	57.4#

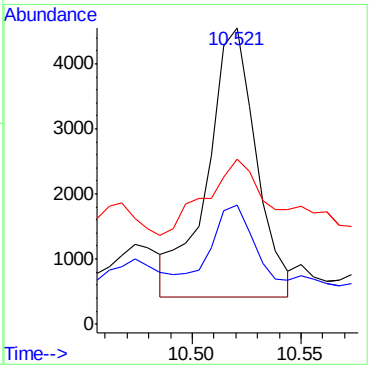


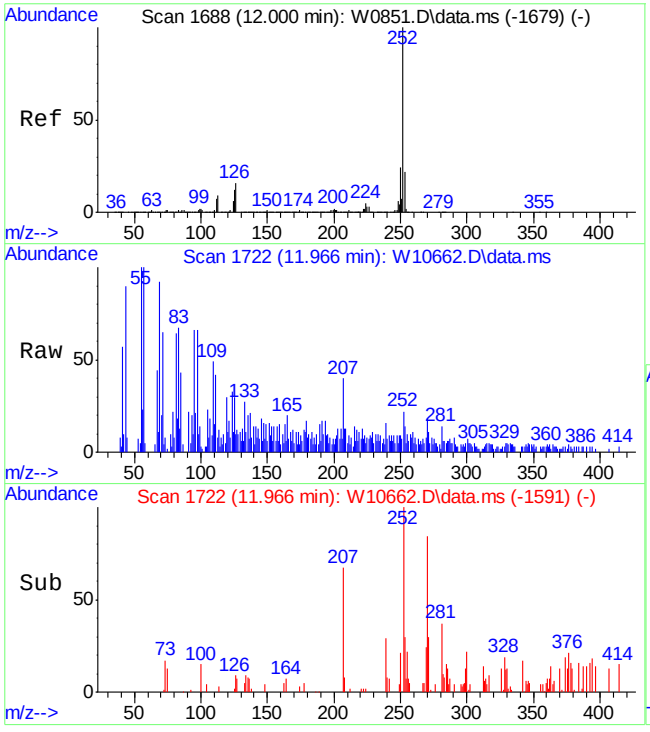


#86
Chrysene
Concen: 2.85 ppm m
RT: 10.521 min Scan# 1476
Delta R.T. -0.012 min
Lab File: W10662.D
Acq: 28 Mar 2013 1:58 am

Tgt Ion:228 Resp: 6426

Ion	Ratio	Lower	Upper
228	100		
226	40.3	0.2	60.2
229	55.7	0.0	50.1#

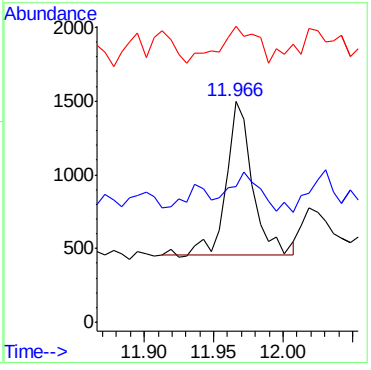




#90
Benzo[b]fluoranthene
Concen: Below Cal
RT: 11.966 min Scan# 1722
Delta R.T. 0.270 min
Lab File: W10662.D
Acq: 28 Mar 2013 1:58 am

Tgt Ion:252 Resp: 1389

Ion	Ratio	Lower	Upper
252	100		
253	16.7	0.0	51.8
125	11.9	0.0	39.5



10.1.28

10

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10663.D
Acq On : 28 Mar 2013 2:22 am
Operator : KRISTINR
Sample : JB31485-29
Misc : op32397,msw500,20.19,,,1,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 29 12:26:20 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

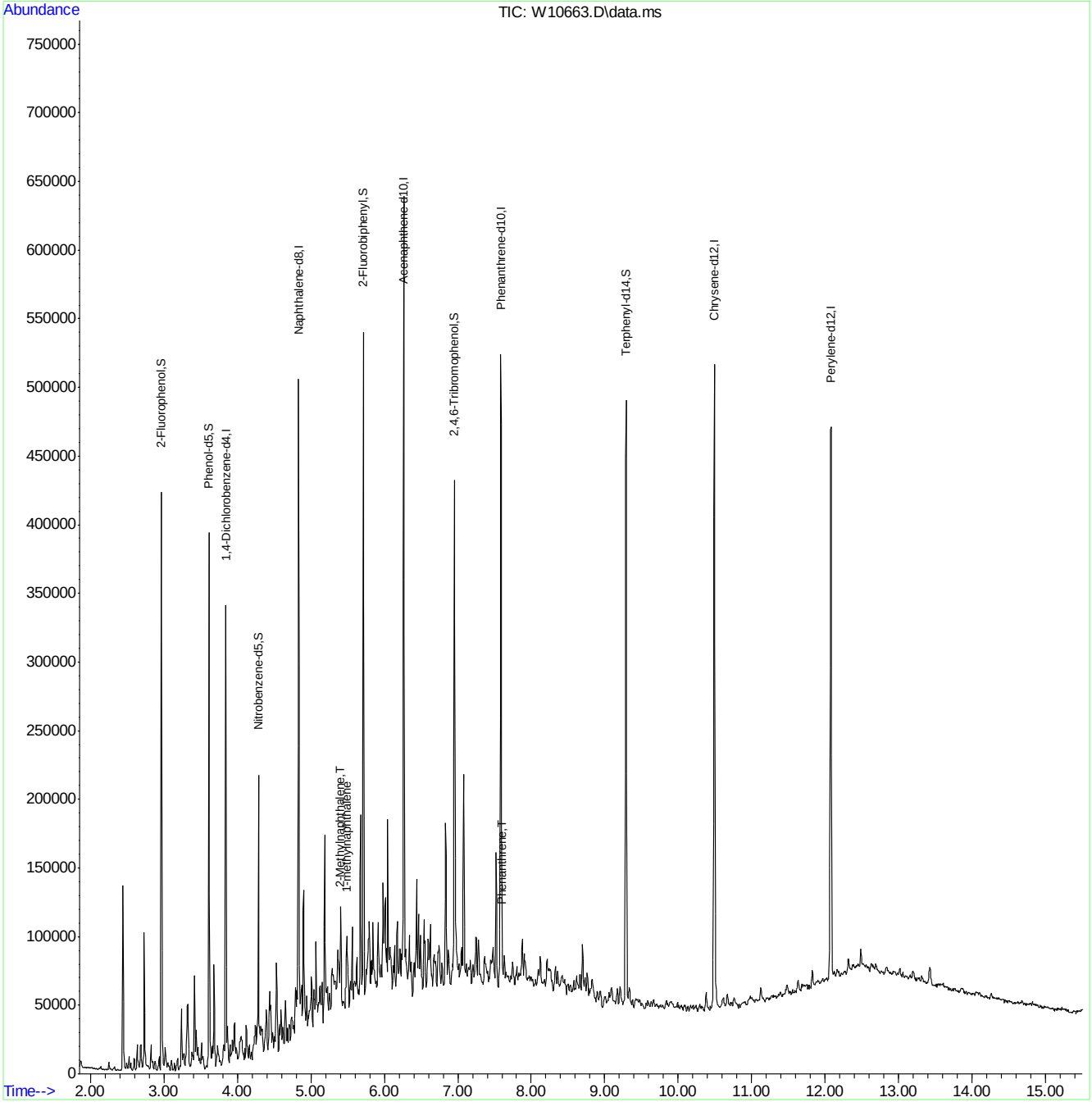
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.846	152	44584	40.00 ppm	0.00
22) Naphthalene-d8	4.833	136	167176	40.00 ppm	-0.01
40) Acenaphthene-d10	6.267	164	101216	40.00 ppm	0.00
63) Phenanthrene-d10	7.583	188	174277	40.00 ppm	-0.01
78) Chrysene-d12	10.491	240	181991	40.00 ppm	0.00
88) Perylene-d12	12.078	264	179600	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.965	112	99372	68.78 ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 68.78%		
7) Phenol-d5	3.617	99	117689	61.47 ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 61.47%		
23) Nitrobenzene-d5	4.287	82	57907	30.72 ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 61.44%		
45) 2-Fluorobiphenyl	5.714	172	125329	35.59 ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 71.18%		
67) 2,4,6-Tribromophenol	6.954	330	48567	87.90 ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 87.90%		
81) Terphenyl-d14	9.293	244	155942	38.79 ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 77.58%		
Target Compounds					Qvalue
37) 2-Methylnaphthalene	5.403	142	3736	1.20 ppm	98
38) 1-methylnaphthalene	5.491	142	3829	1.32 ppm	98
72) Phenanthrene	7.606	178	7073	1.38 ppm	96
90) Benzo[b]fluoranthene	11.684	252	2243	Below Cal	95

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

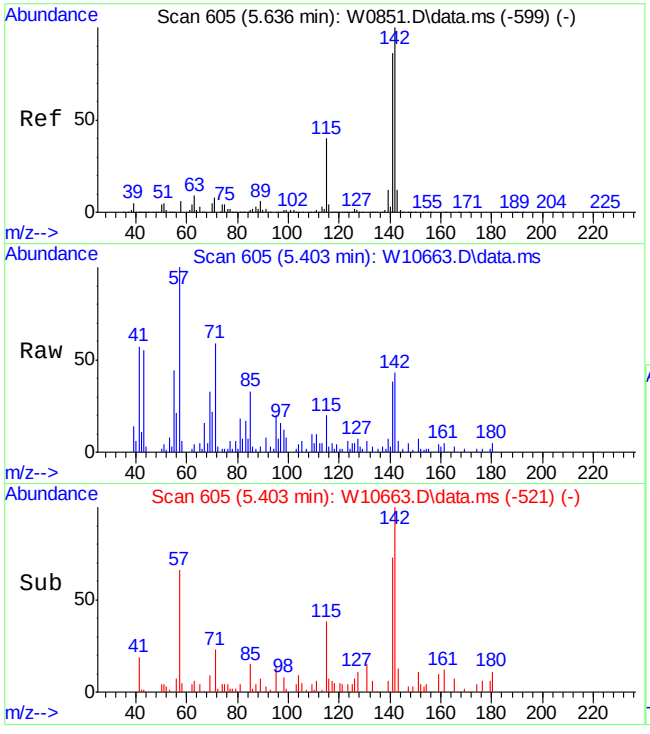
Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10663.D
Acq On : 28 Mar 2013 2:22 am
Operator : KRISTINR
Sample : JB31485-29
Misc : op32397,msw500,20.19,,,1,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 29 12:26:20 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



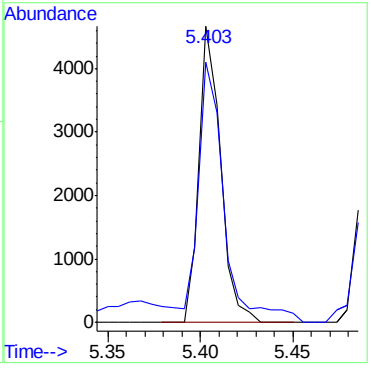
W130308_8270.M Fri Mar 29 12:26:24 2013 Page: 2

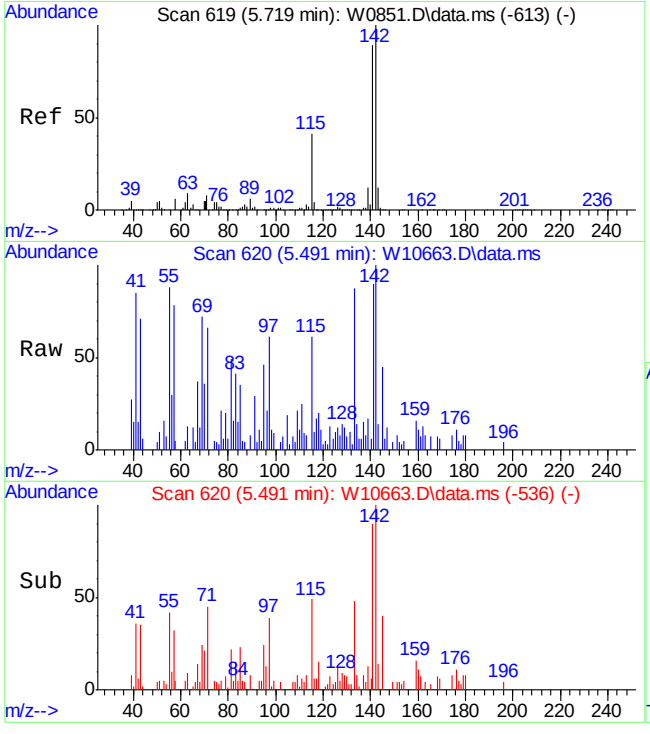


#37
2-Methylnaphthalene
Concen: 1.20 ppm
RT: 5.403 min Scan# 605
Delta R.T. -0.006 min
Lab File: W10663.D
Acq: 28 Mar 2013 2:22 am

Tgt Ion:142 Resp: 3736

Ion	Ratio	Lower	Upper
142	100		
141	84.5	56.4	116.4

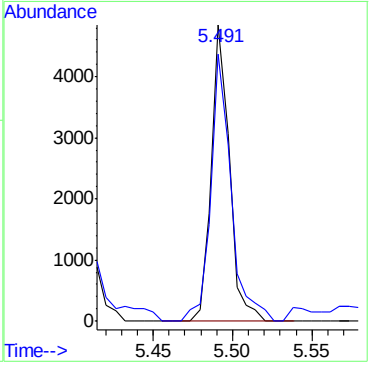


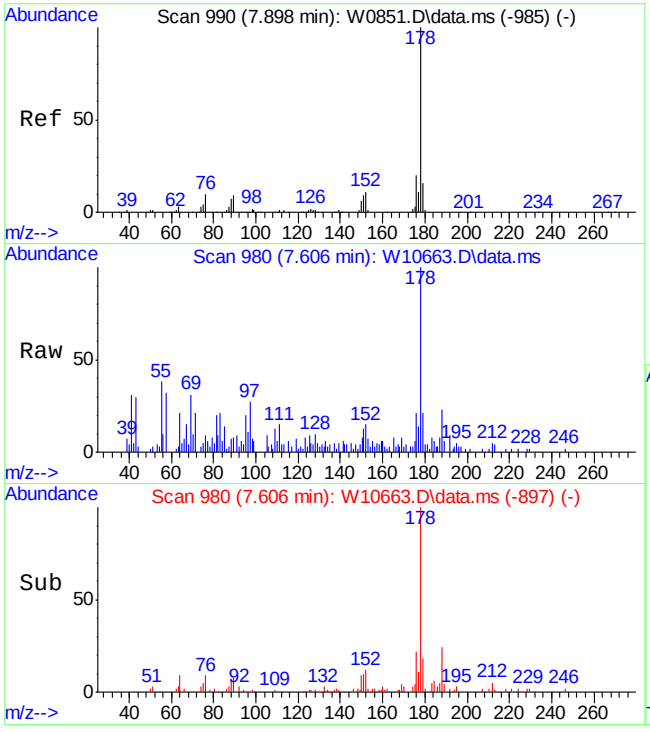


#38
1-methylnaphthalene
Concen: 1.32 ppm
RT: 5.491 min Scan# 620
Delta R.T. -0.006 min
Lab File: W10663.D
Acq: 28 Mar 2013 2:22 am

Tgt Ion:142 Resp: 3829

Ion	Ratio	Lower	Upper
142	100		
141	90.2	71.0	106.4

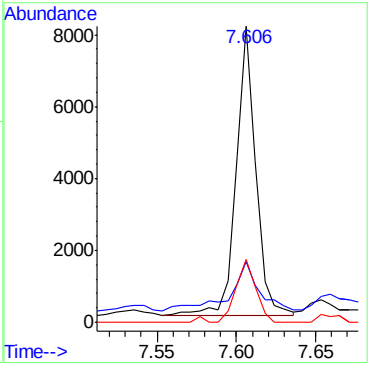


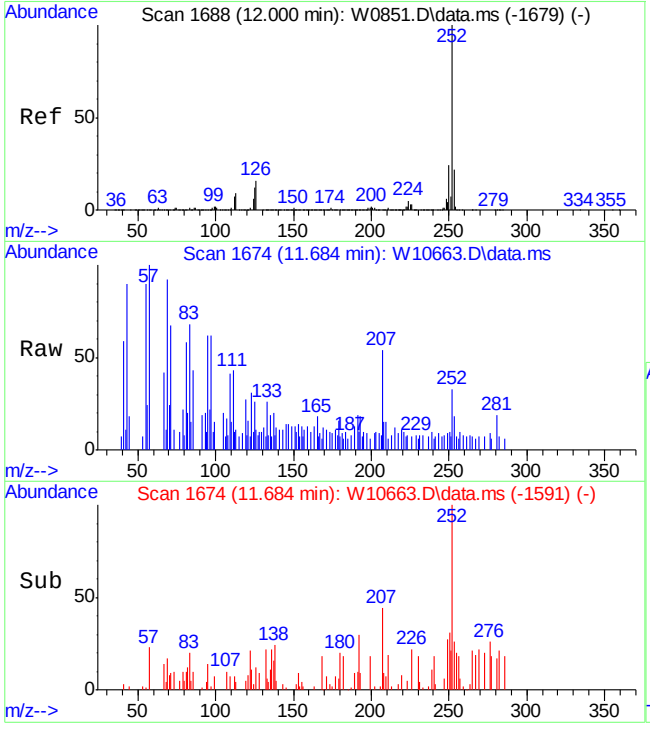


#72
Phenanthrene
Concen: 1.38 ppm
RT: 7.606 min Scan# 980
Delta R.T. -0.012 min
Lab File: W10663.D
Acq: 28 Mar 2013 2:22 am

Tgt Ion:178 Resp: 7073

Ion	Ratio	Lower	Upper
178	100		
179	17.0	0.0	45.1
176	21.9	0.0	50.0

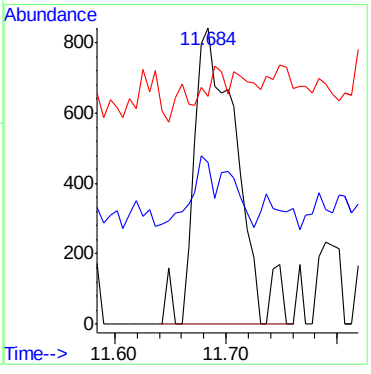




#90
Benzo[b]fluoranthene
Concen: Below Cal
RT: 11.684 min Scan# 1674
Delta R.T. -0.012 min
Lab File: W10663.D
Acq: 28 Mar 2013 2:22 am

Tgt Ion:252 Resp: 2243

Ion	Ratio	Lower	Upper
252	100		
253	20.7	0.0	51.8
125	5.0	0.0	39.5



Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10664.D
Acq On : 28 Mar 2013 2:45 am
Operator : KRISTINR
Sample : JB31485-30
Misc : op32397,msw500,20.38,,,1,1
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Mar 29 12:27:23 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.846	152	44799	40.00	ppm	0.00
22) Naphthalene-d8	4.833	136	166037	40.00	ppm	-0.01
40) Acenaphthene-d10	6.267	164	99929	40.00	ppm	0.00
63) Phenanthrene-d10	7.583	188	171346	40.00	ppm	-0.01
78) Chrysene-d12	10.491	240	183452	40.00	ppm	0.00
88) Perylene-d12	12.083	264	189585	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.965	112	92475	63.70	ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 63.70%			
7) Phenol-d5	3.617	99	109418	56.88	ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 56.88%			
23) Nitrobenzene-d5	4.287	82	57221	30.57	ppm	0.00
Spiked Amount 50.000	Range 34 - 114		Recovery = 61.14%			
45) 2-Fluorobiphenyl	5.714	172	116729	33.58	ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 67.16%			
67) 2,4,6-Tribromophenol	6.954	330	45711	84.85	ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 84.85%			
81) Terphenyl-d14	9.293	244	151741	37.44	ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 74.88%			

Target Compounds Qvalue

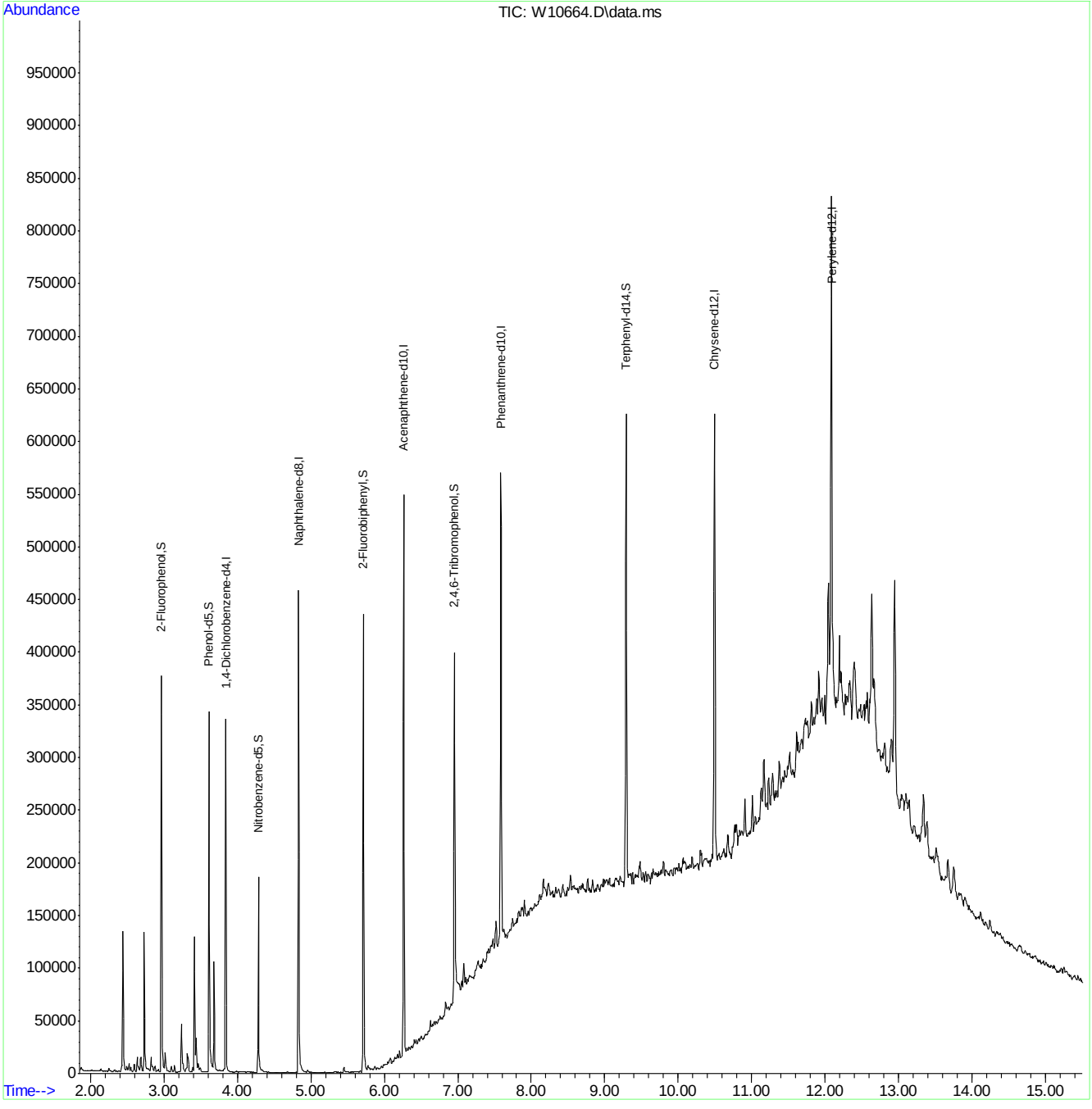
(#) = qualifier out of range (m) = manual integration (+) = signals summed

10.1.30 10

Quantitation Report (QT Reviewed)

Data Path : W:\2\DATA\W130327\
Data File : W10664.D
Acq On : 28 Mar 2013 2:45 am
Operator : KRISTINR
Sample : JB31485-30
Misc : op32397,msw500,20.38,,,1,1
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Mar 29 12:27:23 2013
Quant Method : W:\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



W130308_8270.M Fri Mar 29 12:27:26 2013 Page: 2

10.1.30 10
701 of 813
SGS ACCUTEST
JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13163.D
Acq On : 28 Mar 2013 9:13 am
Operator : NatalyaS
Sample : op32398-mb
Misc : op32398,msu673,20.12,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 11:21:09 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.082	152	194672	40.00 ppb	0.00
21) Naphthalene-d8	4.046	136	689686	40.00 ppb	0.00
39) Acenaphthene-d10	5.444	164	419524	40.00 ppb	0.00
61) Phenanthrene-d10	6.660	188	735464	40.00 ppb	0.00
74) Chrysene-d12	9.398	240	807425	40.00 ppb	0.00
84) Perylene-d12	10.938	264	746658	40.00 ppb	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.177	112	437017	68.85 ppb	0.01
Spiked Amount 100.000	Range 10 - 110		Recovery = 68.85%		
7) Phenol-d5	2.847	99	503264	66.01 ppb	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 66.01%		
22) Nitrobenzene-d5	3.499	82	243450	37.33 ppb	0.00
Spiked Amount 50.000	Range 30 - 119		Recovery = 74.66%		
44) 2-Fluorobiphenyl	4.921	172	558521	37.89 ppb	0.00
Spiked Amount 50.000	Range 40 - 110		Recovery = 75.78%		
65) 2,4,6-Tribromophenol	6.085	330	173144	80.58 ppb	0.00
Spiked Amount 100.000	Range 10 - 157		Recovery = 80.58%		
77) Terphenyl-d14	8.270	244	734894	40.11 ppb	0.00
Spiked Amount 50.000	Range 30 - 124		Recovery = 80.22%		
Target Compounds					Qvalue
46) Acenaphthylene	4.921	152	28942	Below Cal #	1
55) Fluorene	6.085	166	9575	Below Cal	76
63) n-Nitrosodiphenylamine	6.085	169	5210	Below Cal #	36

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

10.2.1

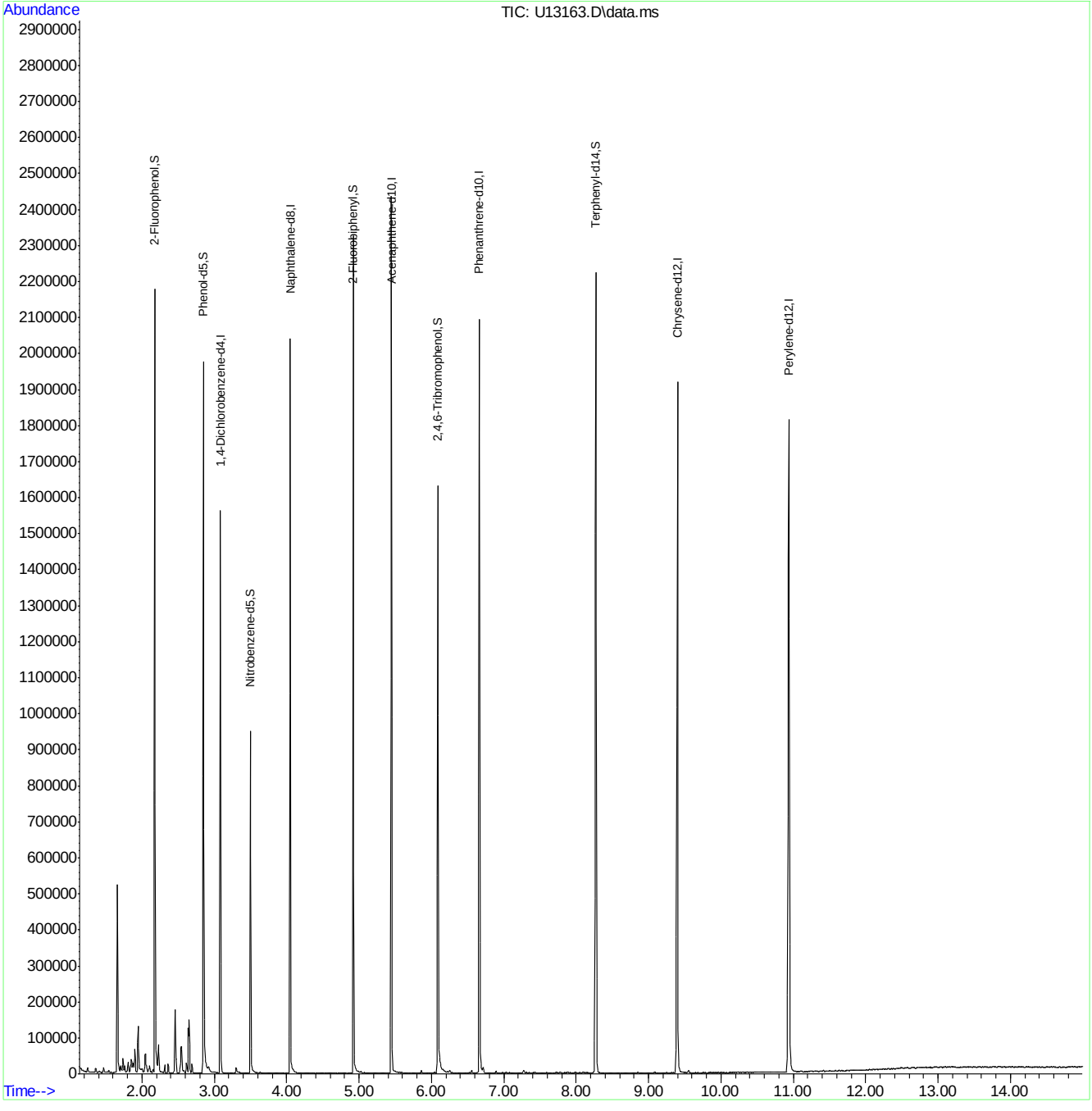
10

SGS ACCUTEST JB31485

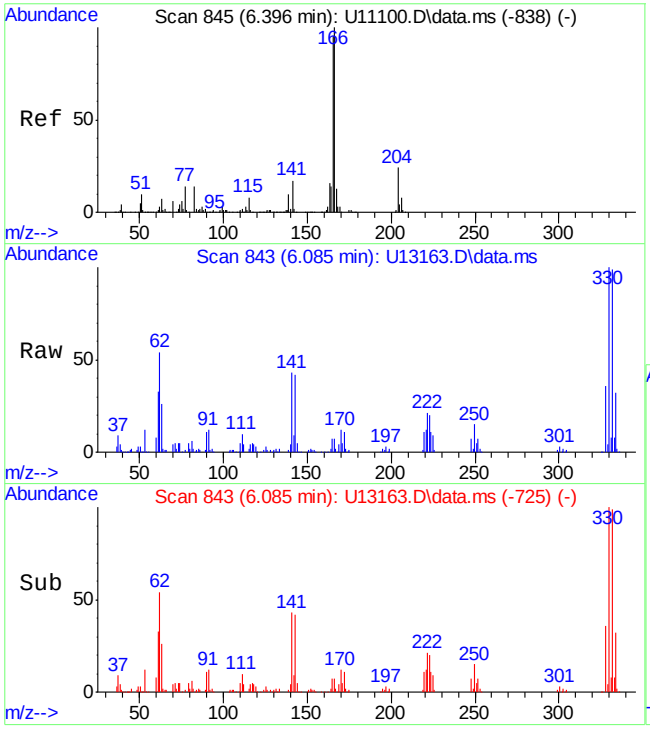
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U130328\
Data File : U13163.D
Acq On : 28 Mar 2013 9:13 am
Operator : NatalyaS
Sample : op32398-mb
Misc : op32398,msu673,20.12,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 11:21:09 2013
Quant Method : C:\msdchem\1\METHODS\U130129_8270.m
Quant Title : SW-864 Method 8270
QLast Update : Fri Mar 29 11:20:02 2013
Response via : Initial Calibration



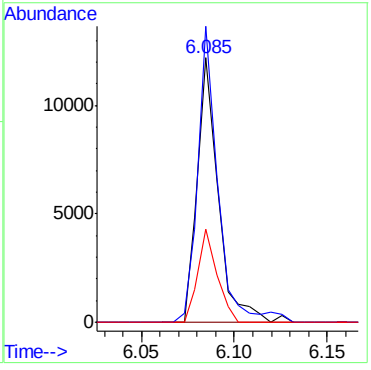
U130129_8270.m Fri Mar 29 11:21:12 2013 Page: 2

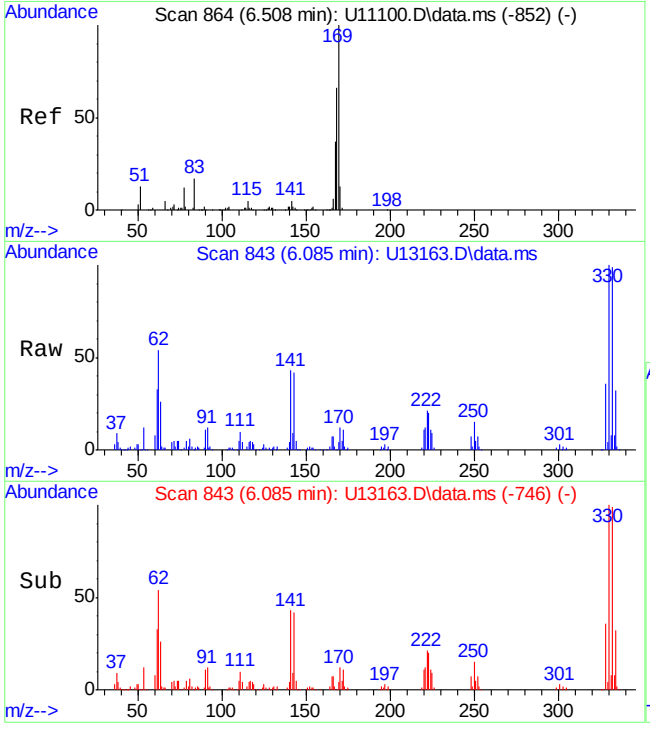


#55
Fluorene
Concen: Below Cal
RT: 6.085 min Scan# 843
Delta R.T. 0.194 min
Lab File: U13163.D
Acq: 28 Mar 2013 9:13 am

Tgt Ion:166 Resp: 9575

Ion	Ratio	Lower	Upper
166	100		
165	111.9	63.2	123.2
167	35.1	0.0	43.3

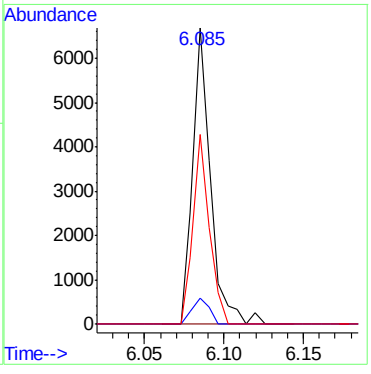




#63
n-Nitrosodiphenylamine
Concen: Below Cal
RT: 6.085 min Scan# 843
Delta R.T. 0.071 min
Lab File: U13163.D
Acq: 28 Mar 2013 9:13 am

Tgt Ion:169 Resp: 5210

Ion	Ratio	Lower	Upper
169	100		
168	8.9	33.9	93.9#
167	64.1	4.0	64.0#



10.2.1

10

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\W130327\
Data File : W10640.D
Acq On : 27 Mar 2013 5:25 pm
Operator : KRISTINR
Sample : op32397-mb
Misc : op32397,msw500,20.14,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 29 17:13:49 2013
Quant Method : C:\msdchem\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.840	152	34945	40.00	ppm	-0.01
22) Naphthalene-d8	4.833	136	136266	40.00	ppm	-0.01
40) Acenaphthene-d10	6.261	164	84430	40.00	ppm	-0.01
63) Phenanthrene-d10	7.583	188	151053	40.00	ppm	-0.01
78) Chrysene-d12	10.485	240	170156	40.00	ppm	-0.01
88) Perylene-d12	12.066	264	160500	40.00	ppm	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	2.959	112	85661	75.64	ppm	0.00
Spiked Amount 100.000	Range 21 - 110		Recovery = 75.64%			
7) Phenol-d5	3.611	99	105682	70.42	ppm	0.00
Spiked Amount 100.000	Range 10 - 110		Recovery = 70.42%			
23) Nitrobenzene-d5	4.281	82	52792	34.36	ppm	-0.01
Spiked Amount 50.000	Range 34 - 114		Recovery = 68.72%			
45) 2-Fluorobiphenyl	5.714	172	111879	38.09	ppm	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 76.18%			
67) 2,4,6-Tribromophenol	6.954	330	45492	93.56	ppm	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 93.56%			
81) Terphenyl-d14	9.287	244	164867	43.86	ppm	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 87.72%			

Target Compounds Qvalue

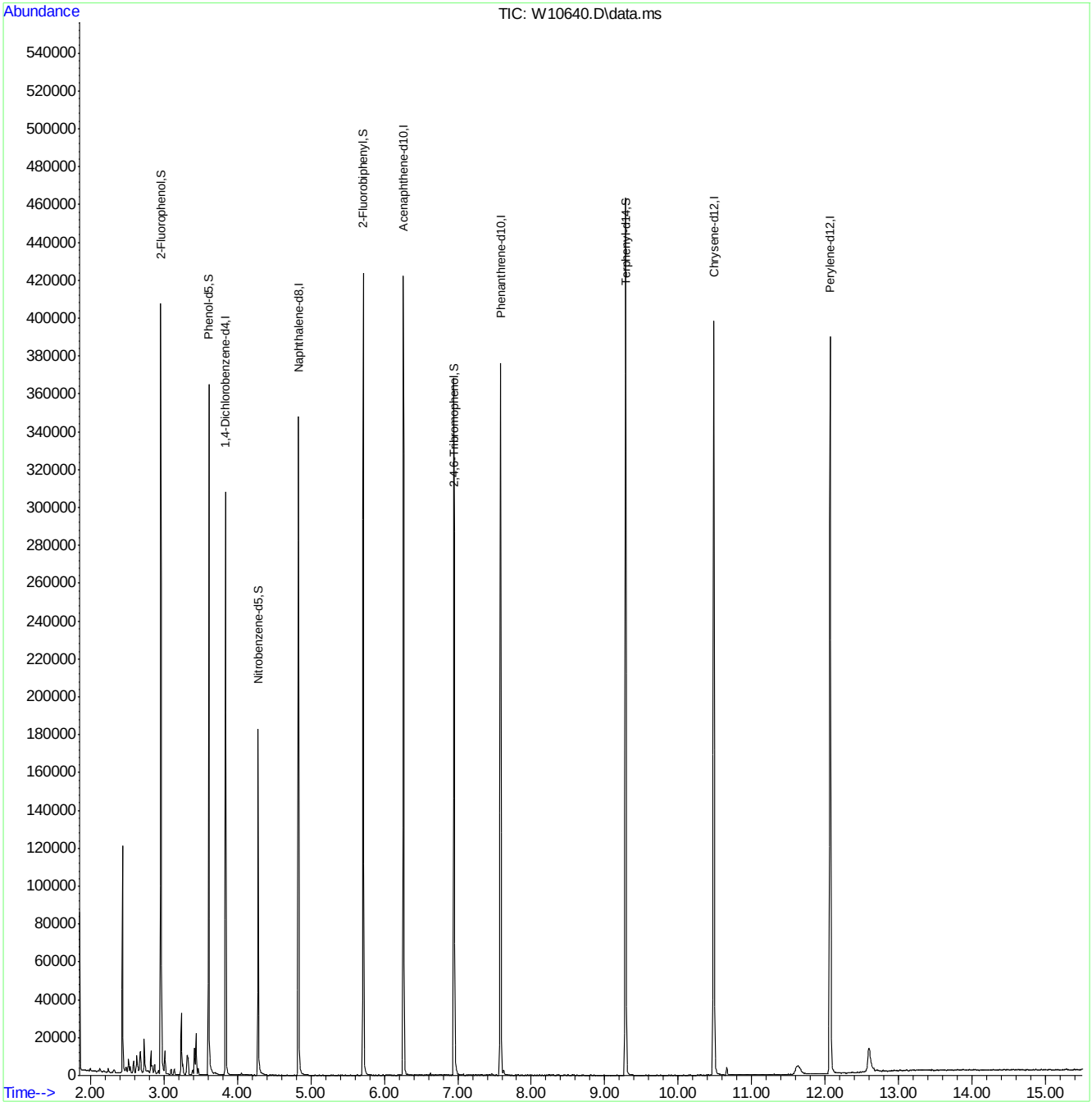
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31485

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\W130327\
Data File : W10640.D
Acq On : 27 Mar 2013 5:25 pm
Operator : KRISTINR
Sample : op32397-mb
Misc : op32397,msw500,20.14,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 29 17:13:49 2013
Quant Method : C:\msdchem\1\methods\W130308_8270.M
Quant Title : AB8270TCL42
QLast Update : Tue Mar 26 11:23:57 2013
Response via : Initial Calibration



W130308_8270.M Fri Mar 29 17:14:03 2013 Page: 2

SGS ACCUTEST JB31485

Metals Analysis

QC Data Summaries

(SGS Accutest New England)

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

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:44	MA15382-STD1	1		STD1
10:49	MA15382-STD2	1		STD2
10:54	MA15382-STD3	1		STD3
10:59	MA15382-STD4	1		STD4
11:03	MA15382-ICV1	1		
11:11	MA15382-ICB1	1		
11:16	ZZZZZZ	1		DNR: HIGH RSD, SEE RERUN FOR CCV.
11:21	MA15382-CCV1	1		
11:33	MA15382-CCB1	1		
11:39	MA15382-CRIA1	1		
11:44	MA15382-ICSA1	1		
11:49	MA15382-ICSAB1	1		
11:54	MP20655-B1	1		
11:59	MP20655-MB1	1		
12:04	MP20655-S1	1		
12:09	MP20655-S2	1		
12:13	MC19157-7	1		(sample used for QC only; not part of login JB31485)
12:18	MP20655-SD1	5		
12:23	MP20655-LC1	1		
12:28	MA15382-CCV2	1		
12:33	MA15382-CCB2	1		
12:37	ZZZZZZ	1		
12:42	ZZZZZZ	1		
12:47	ZZZZZZ	1		
12:52	ZZZZZZ	1		
12:57	ZZZZZZ	1		
13:01	ZZZZZZ	1		
13:06	ZZZZZZ	1		
13:11	ZZZZZZ	1		
13:16	ZZZZZZ	1		DNR: HIGH RSD, SEE RERUN.
13:21	ZZZZZZ	1		
13:25	MA15382-CCV3	1		
13:30	MA15382-CCB3	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:35	ZZZZZZ	1		
13:40	ZZZZZZ	1		
13:45	ZZZZZZ	1		
13:50	ZZZZZZ	1		
13:55	ZZZZZZ	1		
14:00	ZZZZZZ	1		
14:04	ZZZZZZ	1		
14:09	ZZZZZZ	1		
14:14	ZZZZZZ	1		
14:19	MP20655-PS1	1		
14:24	MA15382-CCV4	1		
14:29	MA15382-CCB4	1		
14:34	MP20655-S1	5		
14:39	MP20654-B1	1		
14:43	MP20654-MB1	1		
14:48	MP20654-S1	1		
14:53	MP20654-S2	1		
14:58	MC19031-19	1		(sample used for QC only; not part of login JB31485)
15:03	MP20654-SD1	5		
15:07	MP20654-B2	1		
15:12	MP20654-LC1	1		
15:17	ZZZZZZ	1		
15:22	MA15382-CCV5	1		
15:27	MA15382-CCB5	1		
15:31	ZZZZZZ	1		
15:36	ZZZZZZ	1		
15:41	ZZZZZZ	1		
15:46	ZZZZZZ	1		
15:51	ZZZZZZ	1		
15:56	ZZZZZZ	1		
16:01	ZZZZZZ	1		
16:06	ZZZZZZ	1		
16:11	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:15	ZZZZZZ	1		
16:20	MA15382-CCV6	1		
16:25	MA15382-CCB6	1		
16:30	ZZZZZZ	1		
16:35	ZZZZZZ	1		
16:40	ZZZZZZ	1		
16:45	ZZZZZZ	1		
16:50	ZZZZZZ	1		
16:55	ZZZZZZ	1		
17:00	ZZZZZZ	1		
17:05	ZZZZZZ	1		
17:10	ZZZZZZ	1		
17:14	ZZZZZZ	2		
17:19	MA15382-CCV7	1		
17:24	MA15382-CCB7	1		
17:29	MA15382-CRIA2	1		
17:34	MA15382-ICSA2	1		
17:39	MA15382-ICSAB2	1		
17:44	MA15382-CCV8	1		
17:48	MA15382-CCB8	1		
17:53	MP20663-B1	1		
17:58	MP20663-MB1	1		
18:03	MP20663-S1	1		
18:08	MP20663-S2	1		
18:12	JB31881-13	1		(sample used for QC only; not part of login JB31485)
18:17	MP20663-SD1	5		
18:22	MP20663-LC1	1		
18:27	ZZZZZZ	1		
18:32	ZZZZZZ	1		
18:37	ZZZZZZ	1		
18:41	MA15382-CCV9	1		
18:46	MA15382-CCB9	1		
18:51	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:56	ZZZZZZ	1		
19:01	ZZZZZZ	1		
19:05	ZZZZZZ	1		
19:10	ZZZZZZ	1		
19:15	ZZZZZZ	1		
19:20	ZZZZZZ	1		
19:25	JB31485-1	1		
19:30	JB31485-2	1		
19:34	JB31485-3	1		
19:39	MA15382-CCV10	1		
19:44	MA15382-CCB10	1		
19:49	JB31485-4	1		
19:54	JB31485-5	1		
19:58	JB31485-6	1		
20:03	JB31485-7	1		
20:08	JB31485-8	1		
20:13	JB31485-9	1		
---------->	Last reportable sample/prep for job JB31485			
20:18	ZZZZZZ	1		
20:23	MA15382-CRIA3	1		
20:27	MA15382-ICSA3	1		
20:32	MA15382-ICSAB3	1		
20:37	MA15382-CCV11	1		
20:42	MA15382-CCB11	1		
---------->	Last reportable CCB for job JB31485			

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
10:44	MA15382-STD1	4805 R	103680 R	13582 R
10:49	MA15382-STD2	4770	102970	13519
10:54	MA15382-STD3			13514
10:59	MA15382-STD4	4822	105050	13454
11:03	MA15382-ICV1	4790	103000	13474
11:11	MA15382-ICB1	4838	102590	13267
11:16	ZZZZZZ	4803	104710	13326
11:21	MA15382-CCV1	4837	103770	13543
11:33	MA15382-CCB1	4798	103510	13639
11:39	MA15382-CRIA1	4823	103050	13394
11:44	MA15382-ICSA1	4413	90215	13062
11:49	MA15382-ICSAB1	4435	94842	12980
11:54	MP20655-B1	4771	102680	13088
11:59	MP20655-MB1	4853	103720	13354
12:04	MP20655-S1	4954	106870	14087
12:09	MP20655-S2	4894	105860	14022
12:13	MC19157-7	5006	108000	14170
12:18	MP20655-SD1	4911	104190	12608
12:23	MP20655-LC1	5282	111560	14371
12:28	MA15382-CCV2	4811	101350	13226
12:33	MA15382-CCB2	4830	102630	13030
12:37	ZZZZZZ	5172	107800	14248
12:42	ZZZZZZ	5139	107430	13680
12:47	ZZZZZZ	5262	111040	14109
12:52	ZZZZZZ	5241	109550	14163
12:57	ZZZZZZ	5248	109760	14203
13:01	ZZZZZZ	5140	106410	14008
13:06	ZZZZZZ	5233	109170	14219
13:11	ZZZZZZ	5243	109270	14299
13:16	ZZZZZZ	5066	106790	14056
13:21	ZZZZZZ	5652	118780	15421
13:25	MA15382-CCV3	4835	102360	13160
13:30	MA15382-CCB3	4831	100950	13074

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
13:35	ZZZZZZ	5166	109890	14509
13:40	ZZZZZZ	5285	114560	14607
13:45	ZZZZZZ	5017	106490	13919
13:50	ZZZZZZ	5438	115220	14828
13:55	ZZZZZZ	5574	117950	15222
14:00	ZZZZZZ	5222	108520	13856
14:04	ZZZZZZ	5305	112090	14411
14:09	ZZZZZZ	4656	101740	13498
14:14	ZZZZZZ	5137	109040	14283
14:19	MP20655-PS1	5035	106360	13947
14:24	MA15382-CCV4	4873	101120	13120
14:29	MA15382-CCB4	4826	100790	13144
14:34	MP20655-S1	4922	102220	13176
14:39	MP20654-B1	4803	99790	12909
14:43	MP20654-MB1	4894	101240	13152
14:48	MP20654-S1	5156	107010	13786
14:53	MP20654-S2	5196	108130	14027
14:58	MC19031-19	5275	110500	14143
15:03	MP20654-SD1	4976	102300	13110
15:07	MP20654-B2	4791	99329	12972
15:12	MP20654-LC1	5263	111110	14146
15:17	ZZZZZZ	5956	123420	15887
15:22	MA15382-CCV5	4828	100840	12961
15:27	MA15382-CCB5	4837	99883	13016
15:31	ZZZZZZ	5141	105920	13532
15:36	ZZZZZZ	5129	105590	13511
15:41	ZZZZZZ	5047	104090	13453
15:46	ZZZZZZ	5286	109420	13892
15:51	ZZZZZZ	5501	116300	15273
15:56	ZZZZZZ	5426	113810	14798
16:01	ZZZZZZ	5352	115820	14876
16:06	ZZZZZZ	5226	108690	13975
16:11	ZZZZZZ	5606	114990	14699

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
16:15	ZZZZZZ	5600	113560	15097
16:20	MA15382-CCV6	4861	99400	12813
16:25	MA15382-CCB6	4832	99438	12912
16:30	ZZZZZZ	5642	117520	15203
16:35	ZZZZZZ	5558	114740	14617
16:40	ZZZZZZ	5877	122880	15955
16:45	ZZZZZZ	5408	111460	14362
16:50	ZZZZZZ	5602	116210	15114
16:55	ZZZZZZ	5145	102910	13332
17:00	ZZZZZZ	5066	107250	13805
17:05	ZZZZZZ	4793	110450	14747
17:10	ZZZZZZ	5131	103560	13557
17:14	ZZZZZZ	4740	99324	13062
17:19	MA15382-CCV7	4857	99336	12783
17:24	MA15382-CCB7	4854	99314	12658
17:29	MA15382-CRIA2	4858	99278	12392
17:34	MA15382-ICSA2	4450	91444	12322
17:39	MA15382-ICSAB2	4457	91549	12451
17:44	MA15382-CCV8	4880	98744	12699
17:48	MA15382-CCB8	4841	98626	12726
17:53	MP20663-B1	4786	98429	12574
17:58	MP20663-MB1	4816	99257	12716
18:03	MP20663-S1	4798	99013	12796
18:08	MP20663-S2	4833	98650	12891
18:12	JB31881-13	4927	100670	13048
18:17	MP20663-SD1	4833	99669	12862
18:22	MP20663-LC1	5262	107670	14165
18:27	ZZZZZZ	5227	107710	13965
18:32	ZZZZZZ	5203	108040	13768
18:37	ZZZZZZ	5208	107530	13980
18:41	MA15382-CCV9	4828	100490	13130
18:46	MA15382-CCB9	4849	99385	12824
18:51	ZZZZZZ	5138	106890	13641

INTERNAL STANDARD SUMMARY

Login Number: JB31485
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File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15382
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
18:56	ZZZZZZ	5345	110900	14400
19:01	ZZZZZZ	4894	101020	13224
19:05	ZZZZZZ	4917	101890	13277
19:10	ZZZZZZ	4893	100370	13146
19:15	ZZZZZZ	4871	101120	12467
19:20	ZZZZZZ	4896	98943	13262
19:25	JB31485-1	5510	115440	14630
19:30	JB31485-2	5526	109120	14837
19:34	JB31485-3	5522	113940	14717
19:39	MA15382-CCV10	4824	99980	12957
19:44	MA15382-CCB10	4830	99953	12889
19:49	JB31485-4	5370	111950	14382
19:54	JB31485-5	5534	114650	14782
19:58	JB31485-6	5388	112060	14442
20:03	JB31485-7	5590	115960	15096
20:08	JB31485-8	5805	120020	15612
20:13	JB31485-9	5433	110540	14308
20:18	ZZZZZZ	4839	99545	12914
20:23	MA15382-CRIA3	4845	99768	13004
20:27	MA15382-ICSA3	4458	92671	12557
20:32	MA15382-ICSAB3	4456	93289	12593
20:37	MA15382-CCV11	4855	100310	13014
20:42	MA15382-CCB11	4836	99790	12919

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 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15382 Units: ug/l

Time:			11:11		11:33		12:33		13:30	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	27	anr							
Antimony	10	1.1	anr							
Arsenic	10	1.5	anr							
Barium	50	.67	anr							
Beryllium	4.0	.24	anr							
Boron	100	.93								
Cadmium	4.0	.23	anr							
Calcium	5000	23	anr							
Chromium	10	.72	anr							
Cobalt	50	.25	anr							
Copper	25	.63	anr							
Gold	50	2.3								
Iron	100	3.8	anr							
Lead	10	1.5	-0.20	<10	0.10	<10	0.20	<10	-0.10	<10
Magnesium	5000	31	anr							
Manganese	15	.15	anr							
Molybdenum	100	.49								
Nickel	40	.36	anr							
Palladium	50	4.6								
Platinum	50	8.8								
Potassium	5000	79	anr							
Selenium	10	2.5	anr							
Silicon	100	7.7								
Silver	5.0	.61	anr							
Sodium	5000	24	anr							
Strontium	10	.24								
Thallium	10	1.3	anr							
Tin	100	.47								
Titanium	50	.47								
Tungsten	100	6.1								
Vanadium	10	1	anr							
Zinc	20	.24	anr							
Zirconium	50	.73								

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15382 Units: ug/l

Time:			11:11		11:33		12:33		13:30	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

(anr) Analyte not requested

11.1.2
11

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15382 Units: ug/l

Time:			14:29		15:27		16:25		17:24	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	27	anr							
Antimony	10	1.1	anr							
Arsenic	10	1.5	anr							
Barium	50	.67	anr							
Beryllium	4.0	.24	anr							
Boron	100	.93								
Cadmium	4.0	.23	anr							
Calcium	5000	23	anr							
Chromium	10	.72	anr							
Cobalt	50	.25	anr							
Copper	25	.63	anr							
Gold	50	2.3								
Iron	100	3.8	anr							
Lead	10	1.5	0.30	<10	0.0	<10	0.0	<10	-0.30	<10
Magnesium	5000	31	anr							
Manganese	15	.15	anr							
Molybdenum	100	.49								
Nickel	40	.36	anr							
Palladium	50	4.6								
Platinum	50	8.8								
Potassium	5000	79	anr							
Selenium	10	2.5	anr							
Silicon	100	7.7								
Silver	5.0	.61	anr							
Sodium	5000	24	anr							
Strontium	10	.24								
Thallium	10	1.3	anr							
Tin	100	.47								
Titanium	50	.47								
Tungsten	100	6.1								
Vanadium	10	1	anr							
Zinc	20	.24	anr							
Zirconium	50	.73								

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15382 Units: ug/l

Time:			14:29		15:27		16:25		17:24	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

(anr) Analyte not requested

11.1.2
11

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15382 Units: ug/l

Time:			17:48		18:46		19:44		20:42	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	27	anr							
Antimony	10	1.1	anr							
Arsenic	10	1.5	anr							
Barium	50	.67	anr							
Beryllium	4.0	.24	anr							
Boron	100	.93								
Cadmium	4.0	.23	anr							
Calcium	5000	23	anr							
Chromium	10	.72	anr							
Cobalt	50	.25	anr							
Copper	25	.63	anr							
Gold	50	2.3								
Iron	100	3.8	anr							
Lead	10	1.5	0.30	<10	0.0	<10	0.20	<10	0.60	<10
Magnesium	5000	31	anr							
Manganese	15	.15	anr							
Molybdenum	100	.49								
Nickel	40	.36	anr							
Palladium	50	4.6								
Platinum	50	8.8								
Potassium	5000	79	anr							
Selenium	10	2.5	anr							
Silicon	100	7.7								
Silver	5.0	.61	anr							
Sodium	5000	24	anr							
Strontium	10	.24								
Thallium	10	1.3	anr							
Tin	100	.47								
Titanium	50	.47								
Tungsten	100	6.1								
Vanadium	10	1	anr							
Zinc	20	.24	anr							
Zirconium	50	.73								

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15382 Units: ug/l

Time:			17:48		18:46		19:44		20:42	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

(anr) Analyte not requested

11.1.2
11

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		11:03			11:21			12:28	
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								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	3000	2930	97.7	2000	1920	96.0	2000	1940	97.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Platinum									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		11:03			11:21			12:28	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		13:25			14:24			15:22	
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								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	2000	1940	97.0	2000	1960	98.0	2000	1970	98.5
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Platinum									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		13:25			14:24			15:22	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		16:20			17:19			17:44	
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								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	2000	1960	98.0	2000	1980	99.0	2000	1960	98.0
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Platinum									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		16:20			17:19			17:44	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		18:41			19:39			20:37	
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								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	2000	1970	98.5	2000	1980	99.0	2000	1950	97.5
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Platinum									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15382 Units: ug/l

Time:		18:41			19:39			20:37	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15382 Units: ug/l

Time:			11:39		17:29		20:23	
Sample ID:	CRI	CRIA	CRIA1		CRIA2		CRIA3	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	200	anr					
Antimony	6.0	10	anr					
Arsenic	4.0	10	anr					
Barium	50	50	anr					
Beryllium	4.0	4.0	anr					
Boron	100	100						
Cadmium	4.0	4.0	anr					
Calcium	5000	5000	anr					
Chromium	10	10	anr					
Cobalt	50	50	anr					
Copper	25	25	anr					
Gold	50	50						
Iron	100	100	anr					
Lead	5.0	10	10.5	105.0	9.9	99.0	10.1	101.0
Magnesium	5000	5000	anr					
Manganese	15	15	anr					
Molybdenum	100	100						
Nickel	40	40	anr					
Palladium	50	50						
Platinum	50	50						
Potassium	5000	5000	anr					
Selenium	10	10	anr					
Silicon	100	100						
Silver	5.0	5.0	anr					
Sodium	5000	5000	anr					
Strontium	10	10						
Thallium	5.0	10	anr					
Tin	100	100						
Titanium	50	50						
Tungsten	100	100						
Vanadium	10	10	anr					
Zinc	20	20	anr					
Zirconium	50	50						

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15382 Units: ug/l

Time:			11:39		17:29		20:23	
Sample ID:	CRI	CRIA	CRIA1		CRIA2		CRIA3	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec

(anr) Analyte not requested

11.1.4

11

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA15382 Units: ug/l

Time:			11:44		11:49		17:34		17:39	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	519000	103.8	529000	105.8	558000	111.6	550000	110.0
Antimony		2000	2.1		1960	98.0	1.0		1890	94.5
Arsenic		2000	-0.20		2000	100.0	-1.0		2010	100.5
Barium		500	-1.0		513	102.6	-0.70		535	107.0
Beryllium		500	0.10		484	96.8	0.10		501	100.2
Boron		1000	2.3		970	97.0	1.6		974	97.4
Cadmium		1000	0.40		985	98.5	0.10		975	97.5
Calcium	500000	500000	469000	93.8	465000	93.0	463000	92.6	462000	92.4
Chromium		500	0.0		469	93.8	-0.20		479	95.8
Cobalt		500	0.10		442	88.4	-0.10		433	86.6
Copper		500	1.7		499	99.8	2.2		512	102.4
Gold		500	-27		462	92.4	-30		478	95.6
Iron	200000	200000	190000	95.0	191000	95.5	191000	95.5	190000	95.0
Lead		1000	-0.60		876	87.6	1.8		890	89.0
Magnesium	500000	500000	516000	103.2	520000	104.0	542000	108.4	538000	107.6
Manganese		500	1.2		473	94.6	0.90		470	94.0
Molybdenum		1000	-2.4		929	92.9	-2.6		913	91.3
Nickel		1000	-0.80		870	87.0	-0.90		873	87.3
Palladium		500	-30		488	97.6	-24		502	100.4
Platinum		500	-2.8		496	99.2	-7.6		487	97.4
Potassium			102		70.3		238		280	
Selenium		2000	0.20		1910	95.5	-1.2		1860	93.0
Silicon		2000	42.7		2070	103.5	42.7		2090	104.5
Silver		1000	0.60		1060	106.0	-0.10		1070	107.0
Sodium			361		389		346		374	
Strontium		1000	0.80		1010	101.0	1.5		1040	104.0
Thallium		2000	-0.40		1760	88.0	-0.60		1770	88.5
Tin		1000	-1.3		925	92.5	-1.2		893	89.3
Titanium		500	8.5		482	96.4	7.8		488	97.6
Tungsten		2000	-18		1970	98.5	-34		1970	98.5
Vanadium		500	1.3		480	96.0	1.6		487	97.4
Zinc		1000	0.40		883	88.3	1.3		878	87.8
Zirconium		500	13.4		452	90.4	12.4		465	93.0

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA15382 Units: ug/l

Time:			11:44		11:49		17:34		17:39	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec

(anr) Analyte not requested

11.1.5

11

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA15382 Units: ug/l

Time:			20:27		20:32	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	536000	107.2	536000	107.2
Antimony		2000	-0.10		1910	95.5
Arsenic		2000	-0.30		2000	100.0
Barium		500	-0.70		530	106.0
Beryllium		500	0.10		489	97.8
Boron		1000	1.3		970	97.0
Cadmium		1000	0.10		975	97.5
Calcium	500000	500000	464000	92.8	456000	91.2
Chromium		500	-0.20		475	95.0
Cobalt		500	-0.10		434	86.8
Copper		500	2.1		507	101.4
Gold		500	-27		478	95.6
Iron	200000	200000	188000	94.0	188000	94.0
Lead		1000	1.0		882	88.2
Magnesium	500000	500000	530000	106.0	528000	105.6
Manganese		500	1.0		465	93.0
Molybdenum		1000	-2.9		916	91.6
Nickel		1000	-0.80		870	87.0
Palladium		500	-24		495	99.0
Platinum		500	-2.8		487	97.4
Potassium			116		159	
Selenium		2000	0.40		1870	93.5
Silicon		2000	42.0		2070	103.5
Silver		1000	0.40		1070	107.0
Sodium			331		361	
Strontium		1000	1.3		1020	102.0
Thallium		2000	-1.3		1770	88.5
Tin		1000	-1.0		899	89.9
Titanium		500	7.8		486	97.2
Tungsten		2000	-31		1960	98.0
Vanadium		500	1.0		486	97.2
Zinc		1000	0.60		876	87.6
Zirconium		500	11.8		470	94.0

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SA032513M1.ICP Date Analyzed: 03/25/13 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA15382 Units: ug/l

Time:			20:27		20:32	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec

(anr) Analyte not requested

11.1.5

11

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:21	MA15390-STD1	1		STD1
09:25	MA15390-STD2	1		STD2
09:29	MA15390-STD3	1		STD3
09:34	MA15390-STD4	1		STD4
09:38	MA15390-ICV1	1		
09:45	MA15390-ICB1	1		
09:50	MA15390-CCV1	1		
09:57	MA15390-CCB1	1		
10:02	MA15390-CRIA1	1		
10:06	MA15390-ICSA1	1		
10:10	MA15390-ICSAB1	1		
10:15	ZZZZZZ	1		
10:19	MP20668-B1	1		
10:23	MP20668-MB1	1		
10:28	MP20668-S1	1		FE OVER RANGE.
10:32	MP20668-S2	1		FE OVER RANGE.
10:36	MC19188-1	1		(sample used for QC only; not part of login JB31485)
10:36	ZZZZZZ	1		
10:41	MP20668-SD1	5		
10:45	MA15390-CCV2	1		
10:51	MA15390-CCB2	1		
10:56	MP20668-B2	1		
11:00	MP20668-LC1	1		
11:04	JB31485-30	1		
11:08	ZZZZZZ	1		
11:12	ZZZZZZ	1		
11:17	ZZZZZZ	1		
11:17	ZZZZZZ	1		
11:21	ZZZZZZ	1		
11:21	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:30	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:30	ZZZZZZ	1		
11:34	ZZZZZZ	1		
11:34	ZZZZZZ	1		
11:38	MA15390-CCV3	1		
11:50	MA15390-CCB3	1		
11:54	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:59	ZZZZZZ	1		
11:59	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:12	ZZZZZZ	1		
12:12	ZZZZZZ	1		
12:16	ZZZZZZ	1		
12:16	ZZZZZZ	1		
12:20	ZZZZZZ	1		
12:20	ZZZZZZ	1		
12:25	ZZZZZZ	1		
12:25	ZZZZZZ	1		
12:29	ZZZZZZ	1		
12:29	ZZZZZZ	1		
12:34	ZZZZZZ	1		
12:34	ZZZZZZ	1		
12:38	MA15390-CCV4	1		
12:46	MA15390-CCB4	1		
12:51	ZZZZZZ	1		
12:51	ZZZZZZ	1		
12:56	ZZZZZZ	1		DNR: FOR CONFIRMATION ONLY.
13:13	ZZZZZZ	1		
13:17	MP20668-S1	3		
13:21	MP20668-S2	3		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:26	ZZZZZZ	5		
13:26	ZZZZZZ	5		
13:30	ZZZZZZ	5		
13:30	ZZZZZZ	5		
13:34	ZZZZZZ	100		
13:39	ZZZZZZ	5		
13:43	ZZZZZZ	5		
13:47	MA15390-CCV5	1		
13:53	MA15390-CCB5	1		
14:05	MP20668-PS1	1		
14:09	MP20664-B1	1		
14:14	MP20664-MB1	1		
14:18	MP20664-S1	1		
14:22	MP20664-S2	1		
14:27	JB31485-12	1		
14:31	MP20664-SD1	5		
14:35	MP20664-LC1	1		
14:39	JB31485-10	1		
14:44	JB31485-11	1		
14:48	MA15390-CCV6	1		
14:55	MA15390-CCB6	1		
14:59	JB31485-13	1		
15:04	JB31485-14	1		
15:08	JB31485-15	1		
15:12	JB31485-16	1		
15:17	JB31485-17	1		
15:21	JB31485-18	1		
15:25	JB31485-19	1		
15:30	JB31485-20	1		
15:34	JB31485-21	1		
15:38	JB31485-22	1		
15:43	MA15390-CCV7	1		
15:49	MA15390-CCB7	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	15:53	JB31485-23	1		
	15:57	JB31485-24	1		
	16:02	JB31485-25	1		
	16:06	JB31485-26	1		
	16:10	JB31485-27	1		
	16:15	JB31485-28	1		
	16:19	JB31485-29	1		
---------->	Last reportable sample/prep for job JB31485				
	16:29	MA15390-CRIA2	1		
	16:34	MA15390-ICSA2	1		
	16:38	MA15390-ICSAB2	1		
	16:43	MA15390-CCV8	1		
	16:50	MA15390-CCB8	1		
---------->	Last reportable CCB for job JB31485				
	16:54	MP20671-B1	1		
	16:58	MP20671-MB1	1		
	17:03	MP20671-S1	1		
	17:07	MP20671-S2	1		
	17:12	MC19188-23	1		(sample used for QC only; not part of login JB31485)
	17:12	ZZZZZZ	1		
	17:16	MP20671-SD1	5		
	17:21	MP20671-B2	1		
	17:25	MP20671-LC1	1		
	17:29	ZZZZZZ	1		
	17:29	ZZZZZZ	1		
	17:33	ZZZZZZ	1		
	17:33	ZZZZZZ	1		
	17:38	MA15390-CCV9	1		
	17:42	MA15390-CCB9	1		
	17:47	ZZZZZZ	1		
	17:47	ZZZZZZ	1		
	17:51	ZZZZZZ	1		
	17:51	ZZZZZZ	1		
	17:56	ZZZZZZ	1		
	17:56	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:00	ZZZZZZ	1		
18:04	ZZZZZZ	1		
18:09	ZZZZZZ	1		
18:13	ZZZZZZ	1		
18:17	ZZZZZZ	1		
18:22	ZZZZZZ	1		
18:26	ZZZZZZ	1		
18:31	MA15390-CCV10	1		
18:35	MA15390-CCB10	1		
18:39	ZZZZZZ	1		
18:44	ZZZZZZ	1		
18:48	ZZZZZZ	1		
18:53	ZZZZZZ	1		
18:57	ZZZZZZ	1		
19:01	ZZZZZZ	1		
19:06	ZZZZZZ	1		
19:10	MP20673-B1	1		
19:14	MP20673-MB1	1		
19:19	MP20673-S1	1		
19:23	MA15390-CCV11	1		
19:27	MA15390-CCB11	1		
19:32	MP20673-S2	1		
19:36	MC19188-60	1		(sample used for QC only; not part of login JB31485)
19:41	MP20673-SD1	5		
19:45	MP20673-B2	1		
19:49	MP20673-LC1	1		
19:53	ZZZZZZ	1		
19:58	ZZZZZZ	1		
20:02	ZZZZZZ	1		
20:06	ZZZZZZ	1		
20:11	ZZZZZZ	1		
20:15	MA15390-CCV12	1		
20:19	MA15390-CCB12	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:24	ZZZZZZ	1		
20:28	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:41	ZZZZZZ	1		
20:45	ZZZZZZ	1		
20:50	ZZZZZZ	1		
20:54	ZZZZZZ	1		
20:59	ZZZZZZ	1		
21:03	ZZZZZZ	1		
21:08	MA15390-CCV13	1		
21:12	MA15390-CCB13	1		
21:16	ZZZZZZ	1		
21:21	ZZZZZZ	1		
21:25	ZZZZZZ	1		
21:29	ZZZZZZ	1		
21:34	ZZZZZZ	1		RINSECONF
21:38	MA15390-CRIA3	1		
21:43	MA15390-ICSA3	1		
21:47	MA15390-ICSAB3	1		
21:52	MA15390-CCV14	1		
21:56	MA15390-CCB14	1		
22:00	MP20677-B1	1		
22:05	MP20677-MB1	1		
22:09	MP20677-S1	1		
22:13	MP20677-S2	1		
22:18	MC19188-86	1		(sample used for QC only; not part of login JB31485)
22:22	MP20677-SD1	5		
22:27	MP20677-B2	1		
22:31	MP20677-LC1	1		
22:35	ZZZZZZ	1		
22:40	ZZZZZZ	1		
22:44	MA15390-CCV15	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
22:48	MA15390-CCB15	1		
22:53	ZZZZZZ	1		
22:57	ZZZZZZ	1		
23:01	ZZZZZZ	1		
23:06	ZZZZZZ	1		
23:10	ZZZZZZ	1		
23:15	ZZZZZZ	1		
23:19	ZZZZZZ	1		
23:24	ZZZZZZ	1		
23:28	ZZZZZZ	1		
23:32	ZZZZZZ	1		
23:37	MA15390-CCV16	1		
23:41	MA15390-CCB16	1		
23:46	ZZZZZZ	1		
23:50	ZZZZZZ	1		
23:54	ZZZZZZ	1		
23:59	ZZZZZZ	1		
00:03	ZZZZZZ	1		
00:08	ZZZZZZ	1		
00:12	ZZZZZZ	1		
00:17	ZZZZZZ	1		RINSECONF
00:21	MA15390-CRIA4	1		
00:25	MA15390-CRIB1	1		
00:30	MA15390-CCV17	1		
00:34	MA15390-CCB17	1		
00:38	MP20675-B1	1		
00:43	MP20675-MB1	1		
00:47	MP20675-S1	1		
00:52	MP20675-S2	1		
00:56	JB31887-1	1		(sample used for QC only; not part of login JB31485)
01:01	MP20675-SD1	5		
01:05	MP20675-B2	1		
01:09	MP20675-LB1	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
01:14	ZZZZZZ	1		
01:18	ZZZZZZ	1		
01:23	MA15390-CCV18	1		
01:27	MA15390-CCB18	1		
01:32	ZZZZZZ	1		
01:36	ZZZZZZ	1		
01:41	ZZZZZZ	1		
01:45	ZZZZZZ	1		
01:50	MA15390-CRIB2	1		
01:54	MA15390-ICSA4	1		
01:59	MA15390-ICSAB4	1		
02:03	MA15390-CCV19	1		
02:07	MA15390-CCB19	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
09:21	MA15390-STD1	1214 R	49988 R	11526 R
09:25	MA15390-STD2	1212	49562	11558
09:29	MA15390-STD3			11477
09:34	MA15390-STD4	1214	51886	12011
09:38	MA15390-ICV1	1204	50815	12038
09:45	MA15390-ICB1	1219	51130	12068
09:50	MA15390-CCV1	1205	51035	12171
09:57	MA15390-CCB1	1223	51090	12013
10:02	MA15390-CRIA1	1207	50920	11910
10:06	MA15390-ICSA1	1091	47749	12062
10:10	MA15390-ICSAB1	1092	47194	11828
10:15	ZZZZZZ	1363	58907	14188
10:19	MP20668-B1	1211	51729	12239
10:23	MP20668-MB1	1231	52334	12233
10:28	MP20668-S1	1278	56067	13543
10:32	MP20668-S2	1204	53385	12813
10:36	MC19188-1	1234	55606	12924
10:36	ZZZZZZ	1234	55606	12924
10:41	MP20668-SD1	1220	51810	12244
10:45	MA15390-CCV2	1192	51107	12160
10:51	MA15390-CCB2	1220	51145	12116
10:56	MP20668-B2	1197	51280	12181
11:00	MP20668-LC1	1316	56640	13565
11:04	JB31485-30	1293	54979	13201
11:08	ZZZZZZ	1235	53189	12939
11:12	ZZZZZZ	1279	54690	13009
11:17	ZZZZZZ	1207	52854	12585
11:17	ZZZZZZ	1207	52854	12585
11:21	ZZZZZZ	1203	52193	12547
11:21	ZZZZZZ	1203	52193	12547
11:25	ZZZZZZ	1282	55020	13269
11:25	ZZZZZZ	1282	55020	13269
11:30	ZZZZZZ	1302	56513	13691

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
11:30	ZZZZZZ	1302	56513	13691
11:34	ZZZZZZ	1241	53427	12809
11:34	ZZZZZZ	1241	53427	12809
11:38	MA15390-CCV3	1199	52007	12400
11:50	MA15390-CCB3	1226	52115	12199
11:54	ZZZZZZ	1278	54770	13266
11:54	ZZZZZZ	1278	54770	13266
11:59	ZZZZZZ	1249	53208	13022
11:59	ZZZZZZ	1249	53208	13022
12:03	ZZZZZZ	1266	55144	13262
12:03	ZZZZZZ	1266	55144	13262
12:07	ZZZZZZ	1310	57166	14071
12:07	ZZZZZZ	1310	57166	14071
12:12	ZZZZZZ	1237	53217	13081
12:12	ZZZZZZ	1237	53217	13081
12:16	ZZZZZZ	1252	54324	13358
12:16	ZZZZZZ	1252	54324	13358
12:20	ZZZZZZ	1218	52834	12772
12:20	ZZZZZZ	1218	52834	12772
12:25	ZZZZZZ	1317	57407	14254
12:25	ZZZZZZ	1317	57407	14254
12:29	ZZZZZZ	1274	55705	13718
12:29	ZZZZZZ	1274	55705	13718
12:34	ZZZZZZ	1255	54603	13467
12:34	ZZZZZZ	1255	54603	13467
12:38	MA15390-CCV4	1205	51763	12399
12:46	MA15390-CCB4	1220	52319	12394
12:51	ZZZZZZ	1407	61200	14904
12:51	ZZZZZZ	1407	61200	14904
12:56	ZZZZZZ	1274	55109	13212
13:13	ZZZZZZ	1353	58405	14150
13:17	MP20668-S1	1225	53150	12925
13:21	MP20668-S2	1209	52505	12613

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
13:26	ZZZZZZ	1212	51731	12330
13:26	ZZZZZZ	1212	51731	12330
13:30	ZZZZZZ	1212	52002	12538
13:30	ZZZZZZ	1212	52002	12538
13:34	ZZZZZZ	1220	52298	12345
13:39	ZZZZZZ	1232	52523	12733
13:43	ZZZZZZ	1225	52776	12668
13:47	MA15390-CCV5	1195	51609	12246
13:53	MA15390-CCB5	1215	52097	12211
14:05	MP20668-PS1	1227	54406	13187
14:09	MP20664-B1	1203	51651	12331
14:14	MP20664-MB1	1217	52087	12434
14:18	MP20664-S1	1278	55424	13500
14:22	MP20664-S2	1285	55708	13454
14:27	JB31485-12	1302	55576	13331
14:31	MP20664-SD1	1224	52552	12584
14:35	MP20664-LC1	1316	56597	13936
14:39	JB31485-10	1355	57726	14308
14:44	JB31485-11	1235	53115	13002
14:48	MA15390-CCV6	1208	51807	12320
14:55	MA15390-CCB6	1221	52200	12458
14:59	JB31485-13	1277	55175	13498
15:04	JB31485-14	1292	55626	13545
15:08	JB31485-15	1360	58527	14272
15:12	JB31485-16	1341	58047	13879
15:17	JB31485-17	1398	60051	14601
15:21	JB31485-18	1287	55268	13552
15:25	JB31485-19	1237	53380	12937
15:30	JB31485-20	1282	55227	13281
15:34	JB31485-21	1341	57440	13857
15:38	JB31485-22	1309	56378	13528
15:43	MA15390-CCV7	1222	52160	12406
15:49	MA15390-CCB7	1232	52085	12236

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
15:53	JB31485-23	1381	58692	13973
15:57	JB31485-24	1364	58501	14066
16:02	JB31485-25	1322	56614	13088
16:06	JB31485-26	1337	57032	13665
16:10	JB31485-27	1278	54484	13131
16:15	JB31485-28	1263	53752	12985
16:19	JB31485-29	1334	56926	13529
16:29	MA15390-CRIA2	1232	52193	12080
16:34	MA15390-ICSA2	1097	47828	11977
16:38	MA15390-ICSAB2	1099	48138	11936
16:43	MA15390-CCV8	1217	51647	12185
16:50	MA15390-CCB8	1235	52193	12240
16:54	MP20671-B1	1216	51868	12119
16:58	MP20671-MB1	1233	52024	12166
17:03	MP20671-S1	1396	60898	14753
17:07	MP20671-S2	1399	61483	14685
17:12	MC19188-23	1428	61764	14642
17:12	ZZZZZZ	1428	61764	14642
17:16	MP20671-SD1	1271	53682	12682
17:21	MP20671-B2	1211	51439	12190
17:25	MP20671-LC1	1330	57078	13599
17:29	ZZZZZZ	1262	53435	12940
17:29	ZZZZZZ	1262	53435	12940
17:33	ZZZZZZ	1321	56365	13990
17:33	ZZZZZZ	1321	56365	13990
17:38	MA15390-CCV9	1216	51963	12306
17:42	MA15390-CCB9	1239	52811	12131
17:47	ZZZZZZ	1341	57070	13993
17:47	ZZZZZZ	1341	57070	13993
17:51	ZZZZZZ	1173	50930	12445
17:51	ZZZZZZ	1173	50930	12445
17:56	ZZZZZZ	1374	58809	13985
17:56	ZZZZZZ	1374	58809	13985

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
18:00	ZZZZZZ	1353	58122	13944
18:04	ZZZZZZ	1256	53250	12683
18:09	ZZZZZZ	1224	52083	12312
18:13	ZZZZZZ	1396	60631	14392
18:17	ZZZZZZ	1372	58305	13874
18:22	ZZZZZZ	1370	58405	14055
18:26	ZZZZZZ	1229	53210	12884
18:31	MA15390-CCV10	1230	52288	12211
18:35	MA15390-CCB10	1243	51855	12066
18:39	ZZZZZZ	1241	54117	13113
18:44	ZZZZZZ	1186	51625	12221
18:48	ZZZZZZ	1168	51524	12168
18:53	ZZZZZZ	1198	52332	12183
18:57	ZZZZZZ	1245	53650	12751
19:01	ZZZZZZ	1360	58365	13852
19:06	ZZZZZZ	1322	56121	13400
19:10	MP20673-B1	1225	51642	12028
19:14	MP20673-MB1	1244	52496	12281
19:19	MP20673-S1	1262	55130	13259
19:23	MA15390-CCV11	1231	52558	12320
19:27	MA15390-CCB11	1241	52410	12139
19:32	MP20673-S2	1262	55064	13099
19:36	MC19188-60	1262	55128	13086
19:41	MP20673-SD1	1234	52943	12498
19:45	MP20673-B2	1221	52257	12079
19:49	MP20673-LC1	1320	56592	13465
19:53	ZZZZZZ	1312	56624	13658
19:58	ZZZZZZ	1376	59733	14352
20:02	ZZZZZZ	1329	57479	13456
20:06	ZZZZZZ	1264	53766	12755
20:11	ZZZZZZ	1270	55302	13080
20:15	MA15390-CCV12	1223	52283	12261
20:19	MA15390-CCB12	1244	52650	11978

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
20:24	ZZZZZZ	1301	54875	13329
20:28	ZZZZZZ	1342	57590	13689
20:32	ZZZZZZ	1328	57124	13574
20:37	ZZZZZZ	1325	56510	13493
20:41	ZZZZZZ	1391	58915	13865
20:45	ZZZZZZ	1385	58960	13982
20:50	ZZZZZZ	1227	52549	12488
20:54	ZZZZZZ	1263	53503	12687
20:59	ZZZZZZ	1353	58455	14079
21:03	ZZZZZZ	1355	58938	14124
21:08	MA15390-CCV13	1225	52567	12385
21:12	MA15390-CCB13	1232	52914	12308
21:16	ZZZZZZ	1204	52267	12492
21:21	ZZZZZZ	1232	52813	12418
21:25	ZZZZZZ	1253	54816	12955
21:29	ZZZZZZ	1277	57500	13670
21:34	ZZZZZZ	1240	52582	12086
21:38	MA15390-CRIA3	1240	52844	12158
21:43	MA15390-ICSA3	1116	48673	11918
21:47	MA15390-ICSAB3	1099	48187	12019
21:52	MA15390-CCV14	1223	52184	12239
21:56	MA15390-CCB14	1234	52636	12224
22:00	MP20677-B1	1213	52342	12319
22:05	MP20677-MB1	1241	53109	12426
22:09	MP20677-S1	1363	59798	14278
22:13	MP20677-S2	1377	60289	14343
22:18	MC19188-86	1378	60028	14258
22:22	MP20677-SD1	1258	54009	12655
22:27	MP20677-B2	1208	52014	12323
22:31	MP20677-LC1	1328	57671	13667
22:35	ZZZZZZ	1249	55406	13247
22:40	ZZZZZZ	1141	52114	12441
22:44	MA15390-CCV15	1212	52752	12391

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
22:48	MA15390-CCB15	1235	52827	12329
22:53	ZZZZZZ	1284	55907	13380
22:57	ZZZZZZ	1301	57432	13624
23:01	ZZZZZZ	1295	56725	13772
23:06	ZZZZZZ	1282	56160	13622
23:10	ZZZZZZ	1223	53131	12585
23:15	ZZZZZZ	1372	60702	14752
23:19	ZZZZZZ	1347	59540	14277
23:24	ZZZZZZ	1231	53830	12623
23:28	ZZZZZZ	1382	60404	14481
23:32	ZZZZZZ	1333	57833	13762
23:37	MA15390-CCV16	1216	52268	12382
23:41	MA15390-CCB16	1229	52623	12294
23:46	ZZZZZZ	1231	53443	12738
23:50	ZZZZZZ	1240	53804	12550
23:54	ZZZZZZ	1340	58901	13806
23:59	ZZZZZZ	1328	57760	13701
00:03	ZZZZZZ	1299	56510	13591
00:08	ZZZZZZ	1322	57261	13702
00:12	ZZZZZZ	1345	58747	13986
00:17	ZZZZZZ	1235	52561	12427
00:21	MA15390-CRIA4	1222	53034	12483
00:25	MA15390-CRIB1	1226	52640	12509
00:30	MA15390-CCV17	1224	52837	12378
00:34	MA15390-CCB17	1233	52710	12374
00:38	MP20675-B1	1220	52428	12488
00:43	MP20675-MB1	1220	53146	12246
00:47	MP20675-S1	1243	52836	12580
00:52	MP20675-S2	1249	53311	12676
00:56	JB31887-1	1264	53498	12681
01:01	MP20675-SD1	1249	53874	12706
01:05	MP20675-B2	1253	52810	12543
01:09	MP20675-LB1	1265	53984	13122

INTERNAL STANDARD SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
Analyst: EAL Run ID: MA15390
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3
01:14	ZZZZZZ	1243	53435	12872
01:18	ZZZZZZ	1258	54221	12886
01:23	MA15390-CCV18	1206	52931	12594
01:27	MA15390-CCB18	1222	52720	12316
01:32	ZZZZZZ	1223	52681	12423
01:36	ZZZZZZ	1218	52913	12522
01:41	ZZZZZZ	1218	52581	12698
01:45	ZZZZZZ	1260	53431	12741
01:50	MA15390-CRIB2	1240	53600	12596
01:54	MA15390-ICSA4	1104	48882	12313
01:59	MA15390-ICSAB4	1097	48956	12151
02:03	MA15390-CCV19	1205	52750	12378
02:07	MA15390-CCB19	1222	52817	12244

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 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15390 Units: ug/l

Time:			09:45		09:57		10:51		11:50	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	15								
Antimony	6.0	1	anr							
Arsenic	10	1.7	anr							
Barium	500	.41	anr							
Beryllium	4.0	.17	anr							
Boron	100	.57								
Cadmium	4.0	.35	anr							
Calcium	5000	5.2								
Chromium	10	.6	anr							
Cobalt	50	.28	anr							
Copper	25	1.1	anr							
Gold	50	2.3								
Iron	100	5.4	anr							
Lead	10	.9	-0.20	<10	-0.80	<10	-1.7	<10	-0.40	<10
Magnesium	5000	40								
Manganese	15	.15								
Molybdenum	100	.34	anr							
Nickel	40	.43	anr							
Palladium	50	2.4								
Platinum	50	10								
Potassium	5000	57								
Selenium	25	1.6	anr							
Silicon	100	11								
Silver	5.0	.92	anr							
Sodium	5000	19								
Strontium	10	.2								
Thallium	5.0	1.2	anr							
Tin	100	.8								
Titanium	50	1.1								
Tungsten	100	8.6								
Vanadium	10	1.1	anr							
Zinc	100	.32	anr							
Zirconium	50	.56								

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15390 Units: ug/l

Time:			09:45		09:57		10:51		11:50	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15390 Units: ug/l

Time:			12:46		13:53		14:55		15:49	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	15								
Antimony	6.0	1	anr							
Arsenic	10	1.7	anr							
Barium	500	.41	anr							
Beryllium	4.0	.17	anr							
Boron	100	.57								
Cadmium	4.0	.35	anr							
Calcium	5000	5.2								
Chromium	10	.6	anr							
Cobalt	50	.28	anr							
Copper	25	1.1	anr							
Gold	50	2.3								
Iron	100	5.4	anr							
Lead	10	.9	-0.20	<10	0.10	<10	-0.10	<10	0.40	<10
Magnesium	5000	40								
Manganese	15	.15								
Molybdenum	100	.34	anr							
Nickel	40	.43	anr							
Palladium	50	2.4								
Platinum	50	10								
Potassium	5000	57								
Selenium	25	1.6	anr							
Silicon	100	11								
Silver	5.0	.92	anr							
Sodium	5000	19								
Strontium	10	.2								
Thallium	5.0	1.2	anr							
Tin	100	.8								
Titanium	50	1.1								
Tungsten	100	8.6								
Vanadium	10	1.1	anr							
Zinc	100	.32	anr							
Zirconium	50	.56								

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15390 Units: ug/l

Time:			12:46		13:53		14:55		15:49	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

(anr) Analyte not requested

11.2.2

11

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15390 Units: ug/l

Time:			16:50	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final
Aluminum	200	15		
Antimony	6.0	1	anr	
Arsenic	10	1.7	anr	
Barium	500	.41	anr	
Beryllium	4.0	.17	anr	
Boron	100	.57		
Cadmium	4.0	.35	anr	
Calcium	5000	5.2		
Chromium	10	.6	anr	
Cobalt	50	.28	anr	
Copper	25	1.1	anr	
Gold	50	2.3		
Iron	100	5.4	anr	
Lead	10	.9	-0.90	<10
Magnesium	5000	40		
Manganese	15	.15		
Molybdenum	100	.34	anr	
Nickel	40	.43	anr	
Palladium	50	2.4		
Platinum	50	10		
Potassium	5000	57		
Selenium	25	1.6	anr	
Silicon	100	11		
Silver	5.0	.92	anr	
Sodium	5000	19		
Strontium	10	.2		
Thallium	5.0	1.2	anr	
Tin	100	.8		
Titanium	50	1.1		
Tungsten	100	8.6		
Vanadium	10	1.1	anr	
Zinc	100	.32	anr	
Zirconium	50	.56		

(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA15390 Units: ug/l

Time:			16:50	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final

(anr) Analyte not requested

11.2.2

11

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15390 Units: ug/l

Time:		09:38			09:50			10:45	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	3000	3040	101.3	2000	2000	100.0	2000	2070	103.5
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	anr								
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15390 Units: ug/l

Time:		09:38			09:50			10:45	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15390 Units: ug/l

Time:		11:38			12:38			13:47	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	2000	2050	102.5	2000	2040	102.0	2000	2010	100.5
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	anr								
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15390 Units: ug/l

Time:		11:38			12:38			13:47	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15390 Units: ug/l

Time:		14:48			15:43			16:43	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	2000	2000	100.0	2000	1970	98.5	2000	1990	99.5
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	anr								
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

(*) Outside of QC limits

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA15390 Units: ug/l

Time:		14:48			15:43			16:43	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15390 Units: ug/l

Time:			10:02		16:29	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	200	200				
Antimony	6.0	10	anr			
Arsenic	4.0	10	anr			
Barium	50	50	anr			
Beryllium	4.0	4.0	anr			
Boron	100	100				
Cadmium	4.0	4.0	anr			
Calcium	5000	5000				
Chromium	10	10	anr			
Cobalt	50	50	anr			
Copper	25	25	anr			
Gold	50	50				
Iron	100	100	anr			
Lead	5.0	10	9.3	93.0	9.5	95.0
Magnesium	5000	5000				
Manganese	15	15				
Molybdenum	100	100	anr			
Nickel	40	40	anr			
Palladium	50	50				
Platinum	50	50				
Potassium	5000	5000				
Selenium	10	10	anr			
Silicon	100	100				
Silver	5.0	5.0	anr			
Sodium	5000	5000				
Strontium	10	10				
Thallium	5.0	10	anr			
Tin	100	100				
Titanium	50	50				
Tungsten	100	100				
Vanadium	10	10	anr			
Zinc	20	20	anr			
Zirconium	50	50				

(*) Outside of QC limits

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA15390 Units: ug/l

Time:			10:02		16:29	
Sample ID:	CRI	CRIA	CRIA1		CRIA2	
Metal	True	True	Results	% Rec	Results	% Rec

(anr) Analyte not requested

11.2.4

11

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA15390 Units: ug/l

Time:			10:06		10:10		16:34		16:38	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	516000	103.2	521000	104.2	507000	101.4	520000	104.0
Antimony		2000	0.0		2270	113.5	1.6		2230	111.5
Arsenic		2000	-0.90		2190	109.5	-1.3		2150	107.5
Barium		500	-1.0		505	101.0	-0.90		494	98.8
Beryllium		500	0.10		463	92.6	0.10		455	91.0
Boron		1000	2.9		1140	114.0	2.1		1110	111.0
Cadmium		1000	0.20		1120	112.0	0.10		1100	110.0
Calcium	500000	500000	455000	91.0	470000	94.0	454000	90.8	455000	91.0
Chromium		500	0.20		490	98.0	0.10		478	95.6
Cobalt		500	1.7		519	103.8	2.7		510	102.0
Copper		500	0.70		534	106.8	0.70		522	104.4
Gold		500	1.1		505	101.0	0.50		495	99.0
Iron	200000	200000	188000	94.0	189000	94.5	184000	92.0	183000	91.5
Lead		1000	6.1		1040	104.0	6.3		1020	102.0
Magnesium	500000	500000	500000	100.0	503000	100.6	494000	98.8	495000	99.0
Manganese		500	0.70		499	99.8	0.80		489	97.8
Molybdenum		1000	-1.7		1060	106.0	-1.6		1050	105.0
Nickel		1000	-2.8		1020	102.0	-3.0		1000	100.0
Palladium		500	-33		505	101.0	-33		500	100.0
Platinum		500	-22		484	96.8	-25		479	95.8
Potassium			35.7		47.2		111		81.2	
Selenium		2000	-0.40		2150	107.5	-2.4		2110	105.5
Silicon		2000	-20		2200	110.0	-20		2150	107.5
Silver		1000	0.60		1090	109.0	0.90		1060	106.0
Sodium			347		379		345		380	
Strontium		1000	0.80		978	97.8	0.70		953	95.3
Thallium		2000	-2.0		2160	108.0	-3.3		2130	106.5
Tin		1000	0.20		1100	110.0	0.50		1080	108.0
Titanium		500	8.3		521	104.2	8.3		507	101.4
Tungsten		2000	-31		1930	96.5	-55		1890	94.5
Vanadium		500	0.50		519	103.8	-0.40		514	102.8
Zinc		1000	-0.80		967	96.7	-0.60		949	94.9
Zirconium		500	1.0		477	95.4	0.80		460	92.0

(*) Outside of QC limits

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

File ID: SB032713M1.ICP Date Analyzed: 03/27/13 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA15390 Units: ug/l

Time:			10:06		10:10		16:34		16:38	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec

(anr) Analyte not requested

11.2.5

11

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/25/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	2.7	3.6		
Antimony	1.0	.11	.15		
Arsenic	1.0	.15	.21		
Barium	5.0	.067	.073		
Beryllium	0.40	.024	.024		
Boron	10	.093	.11		
Cadmium	0.40	.023	.042		
Calcium	500	2.3	6.3		
Chromium	1.0	.072	.095		
Cobalt	5.0	.025	.047		
Copper	2.5	.063	.56		
Gold	5.0	.23	.43		
Iron	10	.38	.87		
Lead	1.0	.15	.17	0.0	<1.0
Magnesium	500	3.1	5.1		
Manganese	1.5	.015	.04		
Molybdenum	10	.049	.07		
Nickel	4.0	.036	.044		
Palladium	5.0	.46	.64		
Platinum	5.0	.88	1.5		
Potassium	500	7.9	8.6		
Selenium	1.0	.25	.35		
Silicon	10	.77	3.3		
Silver	0.50	.061	.13		
Sodium	500	2.4	3.3		
Strontium	1.0	.024	.03		
Thallium	1.0	.13	.13		
Tin	10	.047	.14		
Titanium	5.0	.047	.14		
Tungsten	10	.61	.94		
Vanadium	1.0	.1	.13		
Zinc	2.0	.024	.16		
Zirconium	5.0	.073	.088		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/25/13

Metal	RL	IDL	MDL	MB raw	final

Associated samples MP20663: JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/25/13

Metal	JB31881-13 Original	MS	Spikelot MPICP	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Boron					
Cadmium	anr				
Calcium	anr				
Chromium	anr				
Cobalt	anr				
Copper	anr				
Gold					
Iron	anr				
Lead	1.4	103	105	96.7	75-125
Magnesium	anr				
Manganese	anr				
Molybdenum					
Nickel	anr				
Palladium					
Platinum					
Potassium	anr				
Selenium	anr				
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	anr				
Zinc	anr				
Zirconium					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/25/13

Metal	JB31881-13 Original MS	Spikelot MPICP	% Rec	QC Limits

Associated samples MP20663: JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/25/13

Metal	JB31881-13 Original	MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Boron						
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Gold						
Iron	anr					
Lead	1.4	102	105	95.8	1.0	20
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Palladium						
Platinum						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					
Zirconium						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/25/13

Metal	JB31881-13 Original MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit

Associated samples MP20663: JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:		03/25/13					03/25/13	
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	LCS Result	Spikelot MPLCS78	% Rec	QC Limits
Aluminum	anr							
Antimony	anr							
Arsenic	anr							
Barium	anr							
Beryllium	anr							
Boron								
Cadmium	anr							
Calcium	anr							
Chromium	anr							
Cobalt	anr							
Copper	anr							
Gold								
Iron	anr							
Lead	96.8	100	96.8	80-120	84.5	91.7	92.1	82-118
Magnesium	anr							
Manganese	anr							
Molybdenum								
Nickel	anr							
Palladium								
Platinum								
Potassium	anr							
Selenium	anr							
Silicon								
Silver	anr							
Sodium	anr							
Strontium								
Thallium	anr							
Tin								
Titanium								
Tungsten								
Vanadium	anr							
Zinc	anr							
Zirconium								

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date:	03/25/13				03/25/13			
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	LCS Result	Spikelot MPLCS78	% Rec	QC Limits

Associated samples MP20663: JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/25/13

Metal	JB31881-13 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	anr			
Gold				
Iron	anr			
Lead	13.2	14.8	12.1 (a)	0-10
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	anr			
Palladium				
Platinum				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			
Zirconium				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20663 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 03/25/13

Metal	JB31881-13 Original SDL 1:5	%DIF	QC Limits

Associated samples MP20663: JB31485-1, JB31485-2, JB31485-3, JB31485-4, JB31485-5, JB31485-6, JB31485-7, JB31485-8, JB31485-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

11.3.4 11

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/25/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.5	3.6		
Antimony	1.0	.1	.15		
Arsenic	1.0	.17	.21		
Barium	5.0	.041	.073		
Beryllium	0.40	.017	.024		
Boron	10	.057	.11		
Cadmium	0.40	.035	.042		
Calcium	500	.52	6.3		
Chromium	1.0	.06	.095		
Cobalt	5.0	.028	.047		
Copper	2.5	.11	.56		
Gold	5.0	.23	.43		
Iron	10	.54	.87		
Lead	1.0	.09	.17	0.040	<1.0
Magnesium	500	4	5.1		
Manganese	1.5	.015	.04		
Molybdenum	10	.034	.07		
Nickel	4.0	.043	.044		
Palladium	5.0	.24	.64		
Platinum	5.0	1	1.5		
Potassium	500	5.7	8.6		
Selenium	1.0	.16	.35		
Silicon	10	1.1	3.3		
Silver	0.50	.092	.13		
Sodium	500	1.9	3.3		
Strontium	1.0	.02	.03		
Thallium	1.0	.12	.13		
Tin	10	.08	.14		
Titanium	5.0	.11	.14		
Tungsten	10	.86	.94		
Vanadium	1.0	.11	.13		
Zinc	2.0	.032	.16		
Zirconium	5.0	.056	.088		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/25/13

Metal	RL	IDL	MDL	MB raw	final

Associated samples MP20664: JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20, JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/25/13

Metal	JB31485-12 Original	MS	Spikelot MPICP	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron					
Lead	10.0	122	117	95.3	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					
Zirconium					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/25/13

Metal	JB31485-12 Original MS	Spikelot MPICP	% Rec	QC Limits

Associated samples MP20664: JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20, JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/25/13

Metal	JB31485-12 Original	MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron						
Lead	10.0	119	117	92.8	2.5	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						
Zirconium						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/25/13

Metal	JB31485-12 Original MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit

Associated samples MP20664: JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20, JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:			03/25/13				03/25/13	
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	LCS Result	Spikelot MPLCS78	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Boron								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Gold								
Iron								
Lead	97.4	100	97.4	80-120	88.5	91.7	96.5	82-118
Magnesium								
Manganese								
Molybdenum								
Nickel								
Palladium								
Platinum								
Potassium								
Selenium								
Silicon								
Silver								
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Tungsten								
Vanadium								
Zinc								
Zirconium								

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/25/13 03/25/13

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	LCS Result	Spikelot MPLCS78	% Rec	QC Limits

Associated samples MP20664: JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20, JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/25/13

Metal	JB31485-12 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron				
Lead	86.1	87.0	1.0	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				
Zirconium				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20664 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 03/25/13

Metal	JB31485-12 Original SDL 1:5	%DIF	QC Limits

Associated samples MP20664: JB31485-10, JB31485-11, JB31485-12, JB31485-13, JB31485-14, JB31485-15, JB31485-16, JB31485-17, JB31485-18, JB31485-19, JB31485-20, JB31485-21, JB31485-22, JB31485-23, JB31485-24, JB31485-25, JB31485-26, JB31485-27, JB31485-28, JB31485-29

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/26/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	1.5	3.6		
Antimony	1.0	.1	.15		
Arsenic	1.0	.17	.21		
Barium	5.0	.041	.073		
Beryllium	0.40	.017	.024		
Boron	10	.057	.11		
Cadmium	0.40	.035	.042		
Calcium	500	.52	6.3		
Chromium	1.0	.06	.095		
Cobalt	5.0	.028	.047		
Copper	2.5	.11	.56		
Gold	5.0	.23	.43		
Iron	10	.54	.87		
Lead	1.0	.09	.17	0.090	<1.0
Magnesium	500	4	5.1		
Manganese	1.5	.015	.04		
Molybdenum	10	.034	.07		
Nickel	4.0	.043	.044		
Palladium	5.0	.24	.64		
Platinum	5.0	1	1.5		
Potassium	500	5.7	8.6		
Selenium	1.0	.16	.35		
Silicon	10	1.1	3.3		
Silver	0.50	.092	.13		
Sodium	500	1.9	3.3		
Strontium	1.0	.02	.03		
Thallium	1.0	.12	.13		
Tin	10	.08	.14		
Titanium	5.0	.11	.14		
Tungsten	10	.86	.94		
Vanadium	1.0	.11	.13		
Zinc	2.0	.032	.16		
Zirconium	5.0	.056	.088		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/26/13

Metal	RL	IDL	MDL	MB raw	final

Associated samples MP20668: JB31485-30

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: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/26/13

Metal	MC19188-1 Original	MS	Spikelot MPICP	% Rec	QC Limits
Aluminum					
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt	anr				
Copper	anr				
Gold					
Iron	anr				
Lead	1040	1230	103	185.1(a)	75-125
Magnesium					
Manganese					
Molybdenum	anr				
Nickel	anr				
Palladium					
Platinum					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	anr				
Zinc	anr				
Zirconium					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date: 03/26/13

Metal	MC19188-1 Original MS	Spikelot MPICP	% Rec	QC Limits

Associated samples MP20668: JB31485-30

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/26/13

Metal	MC19188-1 Original	MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Gold						
Iron	anr					
Lead	1040	1200	103	155.8(a)	2.5	20
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	anr					
Palladium						
Platinum						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					
Zirconium						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date: 03/26/13

Metal	MC19188-1 Original MSD	Spikelot MPICP	% Rec	MSD RPD	QC Limit

Associated samples MP20668: JB31485-30

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:			03/26/13					03/26/13	
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Gold									
Iron	anr								
Lead	96.9	100	96.9	80-120	98.6	100	98.6	1.7	20
Magnesium									
Manganese									
Molybdenum	anr								
Nickel	anr								
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								
Zirconium									

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:	03/26/13					03/26/13			
Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit

Associated samples MP20668: JB31485-30

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/26/13

Metal	LCS Result	Spikelot MPLCS78	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Gold				
Iron	anr			
Lead	87.2	91.7	95.1	82-118
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Palladium				
Platinum				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			
Zirconium				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/26/13

Metal	LCS Result	Spikelot MPLCS78	% Rec	QC Limits

Associated samples MP20668: JB31485-30

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/26/13

Metal	MC19188-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Gold				
Iron	anr			
Lead	10200	10200	0.0	0-10
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Palladium				
Platinum				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			
Zirconium				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/26/13

Metal	MC19188-1 Original SDL 1:5	%DIF	QC Limits

Associated samples MP20668: JB31485-30

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/26/13

Metal	Sample ml	Final ml	MC19188-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										
Zirconium										

POST DIGESTATE SPIKE SUMMARY

Login Number: JB31485
Account: ALNJ - SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP20668
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/26/13

Metal	Sample ml	Final ml	MC19188-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits

Associated samples MP20668: JB31485-30

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

General Chemistry

QC Data Summaries

(SGS Accutest New England)

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-1 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-1 (4.5-5.0)

Wet Weight (Total)	28.986	g
Tare Weight	21.264	g
Dry Weight (Total)	27.737	g
Solids, Percent	83.8	%

Sample: JB31485-2 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-2 (5.0-5.5)

Wet Weight (Total)	27.888	g
Tare Weight	19.836	g
Dry Weight (Total)	26.528	g
Solids, Percent	83.1	%

Sample: JB31485-3 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-3 (3.0-3.5)

Wet Weight (Total)	29.44	g
Tare Weight	19.061	g
Dry Weight (Total)	27.378	g
Solids, Percent	80.1	%

Sample: JB31485-4 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-4 (3.0-3.5)

Wet Weight (Total)	25.918	g
Tare Weight	18.644	g
Dry Weight (Total)	24.265	g
Solids, Percent	77.3	%

Sample: JB31485-5 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-5 (3.0-3.5)

Wet Weight (Total)	33.273	g
Tare Weight	23.946	g
Dry Weight (Total)	31.411	g
Solids, Percent	80	%

Sample: JB31485-6 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-6 (3.0-3.5)

Wet Weight (Total)	32.081	g
Tare Weight	20.516	g
Dry Weight (Total)	29.81	g
Solids, Percent	80.4	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-7 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-7 (3.0-3.5)

Wet Weight (Total)	35.628	g
Tare Weight	25.033	g
Dry Weight (Total)	33.948	g
Solids, Percent	84.1	%

Sample: JB31485-8 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-8 (3.0-3.5)

Wet Weight (Total)	42.225	g
Tare Weight	30.993	g
Dry Weight (Total)	40.111	g
Solids, Percent	81.2	%

Sample: JB31485-9 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-9 (5.0-5.5)

Wet Weight (Total)	39.151	g
Tare Weight	29.822	g
Dry Weight (Total)	37.611	g
Solids, Percent	83.5	%

Sample: JB31485-10 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH201-10 (0.25-0.50)

Wet Weight (Total)	28.227	g
Tare Weight	18.884	g
Dry Weight (Total)	26.625	g
Solids, Percent	82.9	%

Sample: JB31485-11 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-1 (5.0-5.5)

Wet Weight (Total)	37.546	g
Tare Weight	26.643	g
Dry Weight (Total)	35.117	g
Solids, Percent	77.7	%

Sample: JB31485-12 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-2 (5.0-5.5)

Wet Weight (Total)	28.448	g
Tare Weight	17.291	g
Dry Weight (Total)	26	g
Solids, Percent	78.1	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-13 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-3 (3.0-3.5)

Wet Weight (Total)	32.255	g
Tare Weight	24.083	g
Dry Weight (Total)	30.537	g
Solids, Percent	79	%

Sample: JB31485-14 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-4 (3.0-3.5)

Wet Weight (Total)	30.718	g
Tare Weight	20.954	g
Dry Weight (Total)	28.776	g
Solids, Percent	80.1	%

Sample: JB31485-15 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-5 (3.0-3.5)

Wet Weight (Total)	33.687	g
Tare Weight	23.375	g
Dry Weight (Total)	31.728	g
Solids, Percent	81	%

Sample: JB31485-16 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-6 (3.0-3.5)

Wet Weight (Total)	30.825	g
Tare Weight	22.513	g
Dry Weight (Total)	29.364	g
Solids, Percent	82.4	%

Sample: JB31485-17 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-7 (3.0-3.5)

Wet Weight (Total)	28.29	g
Tare Weight	19.952	g
Dry Weight (Total)	26.776	g
Solids, Percent	81.8	%

Sample: JB31485-18 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-8 (3.0-3.5)

Wet Weight (Total)	28.46	g
Tare Weight	18.38	g
Dry Weight (Total)	26.487	g
Solids, Percent	80.4	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-19 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-9 (5.0-5.5)

Wet Weight (Total)	35.037	g
Tare Weight	24.351	g
Dry Weight (Total)	32.742	g
Solids, Percent	78.5	%

Sample: JB31485-20 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH595-10 (0.25-0.50)

Wet Weight (Total)	30.066	g
Tare Weight	21.4	g
Dry Weight (Total)	28.388	g
Solids, Percent	80.6	%

Sample: JB31485-21 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-1 (2.0-2.5)

Wet Weight (Total)	27.119	g
Tare Weight	19.013	g
Dry Weight (Total)	25.728	g
Solids, Percent	82.8	%

Sample: JB31485-22 **Analyzed:** 25-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-2 (2.0-2.5)

Wet Weight (Total)	30.311	g
Tare Weight	24.546	g
Dry Weight (Total)	29.067	g
Solids, Percent	78.4	%

Sample: JB31485-23 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-3 (5.0-5.5)

Wet Weight (Total)	34.451	g
Tare Weight	24.874	g
Dry Weight (Total)	32.752	g
Solids, Percent	82.3	%

Sample: JB31485-24 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-4 (3.0-3.5)

Wet Weight (Total)	28.882	g
Tare Weight	20.926	g
Dry Weight (Total)	27.897	g
Solids, Percent	87.6	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: ALNJ SGS Accutest New Jersey
Project: SECORPAE: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-25 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-5 (3.0-3.5)

Wet Weight (Total)	33.976	g
Tare Weight	21.04	g
Dry Weight (Total)	32.1	g
Solids, Percent	85.5	%

Sample: JB31485-26 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-6 (3.0-3.5)

Wet Weight (Total)	40.876	g
Tare Weight	30.791	g
Dry Weight (Total)	39.181	g
Solids, Percent	83.2	%

Sample: JB31485-27 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-7 (3.0-3.5)

Wet Weight (Total)	30.84	g
Tare Weight	21.928	g
Dry Weight (Total)	29.216	g
Solids, Percent	81.8	%

Sample: JB31485-28 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-8 (3.0-3.5)

Wet Weight (Total)	31.506	g
Tare Weight	17.053	g
Dry Weight (Total)	29.228	g
Solids, Percent	84.2	%

Sample: JB31485-29 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-9 (3.0-3.5)

Wet Weight (Total)	35.237	g
Tare Weight	26.939	g
Dry Weight (Total)	33.698	g
Solids, Percent	81.5	%

Sample: JB31485-30 **Analyzed:** 26-MAR-13 by HS **Method:** SM21 2540 B MOD.
ClientID: MH597-10 (0.25-0.50)

Wet Weight (Total)	28.934	g
Tare Weight	18.268	g
Dry Weight (Total)	27.024	g
Solids, Percent	82.1	%

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-1 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-1 (4.5-5.0)

Wet Weight (Total)	28.986	g
Tare Weight	21.264	g
Dry Weight (Total)	27.737	g
Solids, Percent	83.8	%

Sample: JB31485-2 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-2 (5.0-5.5)

Wet Weight (Total)	27.888	g
Tare Weight	19.836	g
Dry Weight (Total)	26.528	g
Solids, Percent	83.1	%

Sample: JB31485-3 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-3 (3.0-3.5)

Wet Weight (Total)	29.44	g
Tare Weight	19.061	g
Dry Weight (Total)	27.378	g
Solids, Percent	80.1	%

Sample: JB31485-4 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-4 (3.0-3.5)

Wet Weight (Total)	25.918	g
Tare Weight	18.644	g
Dry Weight (Total)	24.265	g
Solids, Percent	77.3	%

Sample: JB31485-5 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-5 (3.0-3.5)

Wet Weight (Total)	33.273	g
Tare Weight	23.946	g
Dry Weight (Total)	31.411	g
Solids, Percent	80	%

Sample: JB31485-6 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-6 (3.0-3.5)

Wet Weight (Total)	32.081	g
Tare Weight	20.516	g
Dry Weight (Total)	29.81	g
Solids, Percent	80.4	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-7 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-7 (3.0-3.5)

Wet Weight (Total)	35.628	g
Tare Weight	25.033	g
Dry Weight (Total)	33.948	g
Solids, Percent	84.1	%

Sample: JB31485-8 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-8 (3.0-3.5)

Wet Weight (Total)	42.225	g
Tare Weight	30.993	g
Dry Weight (Total)	40.111	g
Solids, Percent	81.2	%

Sample: JB31485-9 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-9 (5.0-5.5)

Wet Weight (Total)	39.151	g
Tare Weight	29.822	g
Dry Weight (Total)	37.611	g
Solids, Percent	83.5	%

Sample: JB31485-10 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH201-10 (0.25-0.50)

Wet Weight (Total)	28.227	g
Tare Weight	18.884	g
Dry Weight (Total)	26.625	g
Solids, Percent	82.9	%

Sample: JB31485-11 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-1 (5.0-5.5)

Wet Weight (Total)	37.546	g
Tare Weight	26.643	g
Dry Weight (Total)	35.117	g
Solids, Percent	77.7	%

Sample: JB31485-12 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-2 (5.0-5.5)

Wet Weight (Total)	28.448	g
Tare Weight	17.291	g
Dry Weight (Total)	26	g
Solids, Percent	78.1	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-13 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-3 (3.0-3.5)

Wet Weight (Total)	32.255	g
Tare Weight	24.083	g
Dry Weight (Total)	30.537	g
Solids, Percent	79	%

Sample: JB31485-14 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-4 (3.0-3.5)

Wet Weight (Total)	30.718	g
Tare Weight	20.954	g
Dry Weight (Total)	28.776	g
Solids, Percent	80.1	%

Sample: JB31485-15 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-5 (3.0-3.5)

Wet Weight (Total)	33.687	g
Tare Weight	23.375	g
Dry Weight (Total)	31.728	g
Solids, Percent	81	%

Sample: JB31485-16 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-6 (3.0-3.5)

Wet Weight (Total)	30.825	g
Tare Weight	22.513	g
Dry Weight (Total)	29.364	g
Solids, Percent	82.4	%

Sample: JB31485-17 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-7 (3.0-3.5)

Wet Weight (Total)	28.29	g
Tare Weight	19.952	g
Dry Weight (Total)	26.776	g
Solids, Percent	81.8	%

Sample: JB31485-18 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-8 (3.0-3.5)

Wet Weight (Total)	28.46	g
Tare Weight	18.38	g
Dry Weight (Total)	26.487	g
Solids, Percent	80.4	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-19 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-9 (5.0-5.5)

Wet Weight (Total)	35.037	g
Tare Weight	24.351	g
Dry Weight (Total)	32.742	g
Solids, Percent	78.5	%

Sample: JB31485-20 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH595-10 (0.25-0.50)

Wet Weight (Total)	30.066	g
Tare Weight	21.4	g
Dry Weight (Total)	28.388	g
Solids, Percent	80.6	%

Sample: JB31485-21 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-1 (2.0-2.5)

Wet Weight (Total)	27.119	g
Tare Weight	19.013	g
Dry Weight (Total)	25.728	g
Solids, Percent	82.8	%

Sample: JB31485-22 **Analyzed:** 25-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-2 (2.0-2.5)

Wet Weight (Total)	30.311	g
Tare Weight	24.546	g
Dry Weight (Total)	29.067	g
Solids, Percent	78.4	%

Sample: JB31485-23 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-3 (5.0-5.5)

Wet Weight (Total)	34.451	g
Tare Weight	24.874	g
Dry Weight (Total)	32.752	g
Solids, Percent	82.3	%

Sample: JB31485-24 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-4 (3.0-3.5)

Wet Weight (Total)	28.882	g
Tare Weight	20.926	g
Dry Weight (Total)	27.897	g
Solids, Percent	87.6	%

Percent Solids Raw Data Summary

Job Number: JB31485
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31485-25 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-5 (3.0-3.5)

Wet Weight (Total)	33.976	g
Tare Weight	21.04	g
Dry Weight (Total)	32.1	g
Solids, Percent	85.5	%

Sample: JB31485-26 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-6 (3.0-3.5)

Wet Weight (Total)	40.876	g
Tare Weight	30.791	g
Dry Weight (Total)	39.181	g
Solids, Percent	83.2	%

Sample: JB31485-27 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-7 (3.0-3.5)

Wet Weight (Total)	30.84	g
Tare Weight	21.928	g
Dry Weight (Total)	29.216	g
Solids, Percent	81.8	%

Sample: JB31485-28 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-8 (3.0-3.5)

Wet Weight (Total)	31.506	g
Tare Weight	17.053	g
Dry Weight (Total)	29.228	g
Solids, Percent	84.2	%

Sample: JB31485-29 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-9 (3.0-3.5)

Wet Weight (Total)	35.237	g
Tare Weight	26.939	g
Dry Weight (Total)	33.698	g
Solids, Percent	81.5	%

Sample: JB31485-30 **Analyzed:** 26-MAR-13 by AMA **Method:** SM21 2540 B MOD.
ClientID: MH597-10 (0.25-0.50)

Wet Weight (Total)	28.934	g
Tare Weight	18.268	g
Dry Weight (Total)	27.024	g
Solids, Percent	82.1	%