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Automated Report

Technical Report for

Stantec Consulting Services Inc.

Sunoco - Marcus Hook Facility, PA

213402270

SGS Accutest Job Number: JB31800

Sampling Dates: 03/18/13 - 03/19/13

Report to:

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Total number of pages in report: 570

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

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Sample Summary

Stantec Consulting Services Inc.

Job No: JB31800

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB31800-1	03/18/13	08:45 PM		03/19/13	SO	Soil	MH 523-1 (4.0-4.5)
JB31800-2	03/18/13	09:00 PM		03/19/13	SO	Soil	MH 523-2 (2.5-3.0)
JB31800-3	03/18/13	09:45 PM		03/19/13	SO	Soil	MH 523-3 (3.0-3.5)
JB31800-4	03/18/13	10:00 PM		03/19/13	SO	Soil	MH 523-4 (2.0-2.5)
JB31800-5	03/18/13	10:20 PM		03/19/13	SO	Soil	MH 523-5 (2.7-3.2)
JB31800-6	03/18/13	10:50 PM		03/19/13	SO	Soil	MH 523-6 (3.0-3.5)
JB31800-7	03/18/13	11:05 PM		03/19/13	SO	Soil	MH 523-7 (1.9-2.4)
JB31800-8	03/18/13	11:30 PM		03/19/13	SO	Soil	MH 523-8 (3.0-3.5)
JB31800-9	03/18/13	08:20 PM		03/19/13	SO	Soil	MH 523-9 (5.0-5.5)
JB31800-10	03/18/13	10:25 PM		03/19/13	SO	Soil	MH 523-10 (0.25-0.50)
JB31800-11	03/18/13	13:25 PM		03/19/13	SO	Soil	MH 455-1 (4.5-5.0)
JB31800-12	03/19/13	09:23 PM		03/19/13	SO	Soil	MH 455-2 (2.5-3.0)
JB31800-13	03/19/13	08:55 PM		03/19/13	SO	Soil	MH 455-3 (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: JB31800

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB31800-14	03/19/13	08:40 PM		03/19/13	SO	Soil	MH 455-4 (3.0-3.5)
JB31800-15	03/19/13	08:25 PM		03/19/13	SO	Soil	MH 455-5 (2.5-3.0)
JB31800-16	03/19/13	08:15 PM		03/19/13	SO	Soil	MH 455-6 (3.0-3.5)
JB31800-17	03/19/13	08:00 PM		03/19/13	SO	Soil	MH 455-7 (3.0-3.5)
JB31800-18	03/18/13	15:10 PM		03/19/13	SO	Soil	MH 455-8 (5.0-5.5)
JB31800-19	03/18/13	14:20 PM		03/19/13	SO	Soil	MH 455-9 (5.0-5.5)
JB31800-20	03/18/13	14:40 PM		03/19/13	SO	Soil	MH 455-10 (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**	JB31800
Site:	Sunoco - Marcus Hook Facility, PA	**Report Date**	4/9/2013 9:35:35 AM

On 03/19/2013, 20 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 2.7 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB31800 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:** VC6473

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB31820-5MS, JB31820-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB31800-1 for 4-Bromofluorobenzene: Outside control limits due to matrix interference. Confirmed by reanalysis.

Matrix: SO **Batch ID:** VD8450

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB31800-12MS, JB31800-12MSD were used as the QC samples indicated.
- JB31800-19: Diluted due to high concentration of target compound.

Matrix: SO **Batch ID:** VD8451

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB32158-2MS, JB32158-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB31800-4: Diluted due to high concentration of non-target compound.
- JB31800-3: Dilution required due to matrix interference.
- JB31800-5: Dilution required due to matrix interference.
- JB31800-2: Dilution required due to matrix interference.

Matrix: SO **Batch ID:** VD8453

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB31800-13MS, JB31800-13MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** VE8862

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB32619-1MS, JB32619-1MSD were used as the QC samples indicated.
- JB31800-1: Confirmation run for surrogate recoveries.

Extractables by GCMS By Method SW846 8270D

Matrix: SO	Batch ID: OP64810

- All samples were extracted within the recommended method holding time.
- Sample(s) JB31800-1MS, JB31800-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for Benzo(a)anthracene, Benzo(b)fluoranthene, Fluorene are outside control limits for sample OP64810-MSD.
- JB31800-2: Dilution required due to matrix interference.

Metals By Method SW846 6010C

Matrix: SO	Batch ID: MP70844

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB31800-5MS, JB31800-5MSD, JB31800-5SDL were used as the QC samples for metals.

Wet Chemistry By Method SM2540 G-97

Matrix: SO	Batch ID: GN82225

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

Matrix: SO	Batch ID: GN82267

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

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

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

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

Summary of Hits

Job Number: JB31800
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/18/13 thru 03/19/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB31800-1	**MH 523-1 (4.0-4.5)**					
Ethylbenzene		0.36 J	1.0	0.28	ug/kg	SW846 8260B
Xylene (total)		0.58 J	1.0	0.15	ug/kg	SW846 8260B
Naphthalene		2.8 J	5.2	0.13	ug/kg	SW846 8260B
Isopropylbenzene		7.6	5.2	0.078	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.97 J	5.2	0.22	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.33 J	5.2	0.17	ug/kg	SW846 8260B
Anthracene		51.7	38	13	ug/kg	SW846 8270D
Benzo(a)anthracene		110	38	12	ug/kg	SW846 8270D
Benzo(a)pyrene		102	38	11	ug/kg	SW846 8270D
Benzo(b)fluoranthene		113	38	13	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		140	38	14	ug/kg	SW846 8270D
Chrysene		253	38	13	ug/kg	SW846 8270D
Fluorene		74.7	38	12	ug/kg	SW846 8270D
Phenanthrene		206	38	17	ug/kg	SW846 8270D
Pyrene		254	38	14	ug/kg	SW846 8270D
Lead		42.6	2.0	0.11	mg/kg	SW846 6010C
JB31800-2	**MH 523-2 (2.5-3.0)**					
Benzene [a]		15800	690	82	ug/kg	SW846 8260B
Toluene [a]		5310	690	73	ug/kg	SW846 8260B
Ethylbenzene [a]		16300	690	180	ug/kg	SW846 8260B
Xylene (total) [a]		10500	690	96	ug/kg	SW846 8260B
Naphthalene [a]		15500	3500	84	ug/kg	SW846 8260B
Isopropylbenzene [a]		4320	3500	51	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		6850	3500	140	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		3940	3500	110	ug/kg	SW846 8260B
Anthracene [a]		11000	200	70	ug/kg	SW846 8270D
Benzo(a)anthracene [a]		785	200	66	ug/kg	SW846 8270D
Chrysene [a]		1180	200	68	ug/kg	SW846 8270D
Fluorene		23600	1000	330	ug/kg	SW846 8270D
Phenanthrene		58500	1000	460	ug/kg	SW846 8270D
Pyrene [a]		9960	200	77	ug/kg	SW846 8270D
Lead		143	2.0	0.11	mg/kg	SW846 6010C
JB31800-3	**MH 523-3 (3.0-3.5)**					
Benzene [a]		784	110	13	ug/kg	SW846 8260B
Toluene [a]		156	110	12	ug/kg	SW846 8260B
Ethylbenzene [a]		320	110	30	ug/kg	SW846 8260B
Xylene (total) [a]		864	110	16	ug/kg	SW846 8260B
Naphthalene [a]		1500	560	14	ug/kg	SW846 8260B
Isopropylbenzene [a]		2170	560	8.4	ug/kg	SW846 8260B

Summary of Hits

Job Number: JB31800
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/18/13 thru 03/19/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
1,2,4-Trimethylbenzene [a]		927	560	24	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		581	560	18	ug/kg	SW846 8260B
Anthracene		94.1	39	14	ug/kg	SW846 8270D
Benzo(a)anthracene		68.8	39	13	ug/kg	SW846 8270D
Chrysene		103	39	13	ug/kg	SW846 8270D
Fluorene		404	39	13	ug/kg	SW846 8270D
Phenanthrene		364	39	18	ug/kg	SW846 8270D
Pyrene		152	39	15	ug/kg	SW846 8270D
Lead		39.2	2.4	0.13	mg/kg	SW846 6010C
JB31800-4	**MH 523-4 (2.0-2.5)**					
Toluene [b]		40.2 J	110	12	ug/kg	SW846 8260B
Ethylbenzene [b]		50.4 J	110	29	ug/kg	SW846 8260B
Xylene (total) [b]		149	110	15	ug/kg	SW846 8260B
Naphthalene [b]		380 J	550	13	ug/kg	SW846 8260B
Isopropylbenzene [b]		145 J	550	8.2	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [b]		81.9 J	550	23	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [b]		24.3 J	550	18	ug/kg	SW846 8260B
Anthracene		100	41	14	ug/kg	SW846 8270D
Benzo(a)anthracene		106	41	13	ug/kg	SW846 8270D
Benzo(a)pyrene		66.7	41	12	ug/kg	SW846 8270D
Benzo(b)fluoranthene		48.1	41	14	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		141	41	15	ug/kg	SW846 8270D
Chrysene		146	41	14	ug/kg	SW846 8270D
Fluorene		172	41	13	ug/kg	SW846 8270D
Phenanthrene		848	41	19	ug/kg	SW846 8270D
Pyrene		501	41	16	ug/kg	SW846 8270D
Lead		45.6	2.5	0.14	mg/kg	SW846 6010C
JB31800-5	**MH 523-5 (2.7-3.2)**					
Benzene [a]		504	120	14	ug/kg	SW846 8260B
Toluene [a]		209	120	13	ug/kg	SW846 8260B
Ethylbenzene [a]		254	120	31	ug/kg	SW846 8260B
Xylene (total) [a]		1400	120	17	ug/kg	SW846 8260B
Naphthalene [a]		476 J	600	15	ug/kg	SW846 8260B
Isopropylbenzene [a]		275 J	600	8.9	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [a]		554 J	600	25	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [a]		75.2 J	600	19	ug/kg	SW846 8260B
Anthracene		390	40	14	ug/kg	SW846 8270D
Benzo(a)anthracene		80.9	40	13	ug/kg	SW846 8270D
Benzo(a)pyrene		50.8	40	12	ug/kg	SW846 8270D
Benzo(b)fluoranthene		56.6	40	13	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		93.2	40	15	ug/kg	SW846 8270D

Summary of Hits

Job Number: JB31800
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/18/13 thru 03/19/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Chrysene		137	40	13	ug/kg	SW846 8270D
Fluorene		867	40	13	ug/kg	SW846 8270D
Phenanthrene		2080	40	18	ug/kg	SW846 8270D
Pyrene		446	40	15	ug/kg	SW846 8270D
Lead		37.4	2.4	0.14	mg/kg	SW846 6010C
JB31800-6	**MH 523-6 (3.0-3.5)**					
Benzene		4.4	0.94	0.11	ug/kg	SW846 8260B
Toluene		0.80 J	0.94	0.099	ug/kg	SW846 8260B
Ethylbenzene		1.1	0.94	0.25	ug/kg	SW846 8260B
Xylene (total)		1.9	0.94	0.13	ug/kg	SW846 8260B
Naphthalene		3210	510	12	ug/kg	SW846 8260B
Isopropylbenzene		19.2	4.7	0.070	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		1.8 J	4.7	0.20	ug/kg	SW846 8260B
Anthracene		1010	35	12	ug/kg	SW846 8270D
Benzo(a)anthracene		120	35	11	ug/kg	SW846 8270D
Benzo(a)pyrene		68.4	35	11	ug/kg	SW846 8270D
Benzo(b)fluoranthene		50.6	35	12	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		81.4	35	13	ug/kg	SW846 8270D
Chrysene		143	35	12	ug/kg	SW846 8270D
Fluorene		2240	35	11	ug/kg	SW846 8270D
Phenanthrene		6220	170	79	ug/kg	SW846 8270D
Pyrene		969	35	13	ug/kg	SW846 8270D
Lead		20.9	2.2	0.13	mg/kg	SW846 6010C
JB31800-7	**MH 523-7 (1.9-2.4)**					
Benzene		2.1	0.99	0.12	ug/kg	SW846 8260B
Toluene		1.4	0.99	0.10	ug/kg	SW846 8260B
Ethylbenzene		4.8	0.99	0.26	ug/kg	SW846 8260B
Xylene (total)		5.8	0.99	0.14	ug/kg	SW846 8260B
Naphthalene		9.1	4.9	0.12	ug/kg	SW846 8260B
Isopropylbenzene		10.9	4.9	0.073	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		21.9	4.9	0.21	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.88 J	4.9	0.16	ug/kg	SW846 8260B
Anthracene		605	40	14	ug/kg	SW846 8270D
Benzo(a)anthracene		65.7	40	13	ug/kg	SW846 8270D
Chrysene		96.9	40	13	ug/kg	SW846 8270D
Fluorene		1160	40	13	ug/kg	SW846 8270D
Phenanthrene		3190	40	18	ug/kg	SW846 8270D
Pyrene		653	40	15	ug/kg	SW846 8270D
Lead		34.5	2.4	0.13	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB31800
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/18/13 thru 03/19/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB31800-8	**MH 523-8 (3.0-3.5)**					
Ethylbenzene		0.28 J	1.1	0.28	ug/kg	SW846 8260B
Xylene (total)		2.6	1.1	0.15	ug/kg	SW846 8260B
Isopropylbenzene		6.3	5.4	0.080	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		1.0 J	5.4	0.23	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		0.44 J	5.4	0.17	ug/kg	SW846 8260B
Anthracene		778	39	14	ug/kg	SW846 8270D
Benzo(a)anthracene		334	39	13	ug/kg	SW846 8270D
Chrysene		447	39	13	ug/kg	SW846 8270D
Fluorene		940	39	13	ug/kg	SW846 8270D
Phenanthrene		1860	39	18	ug/kg	SW846 8270D
Pyrene		3060	39	15	ug/kg	SW846 8270D
Lead		14.6	2.4	0.14	mg/kg	SW846 6010C
JB31800-9	**MH 523-9 (5.0-5.5)**					
Naphthalene		0.49 J	4.6	0.11	ug/kg	SW846 8260B
Benzo(a)anthracene		21.4 J	39	13	ug/kg	SW846 8270D
Chrysene		28.3 J	39	13	ug/kg	SW846 8270D
Phenanthrene		36.2 J	39	18	ug/kg	SW846 8270D
Pyrene		34.6 J	39	15	ug/kg	SW846 8270D
Lead		15.0	2.3	0.13	mg/kg	SW846 6010C
JB31800-10	**MH 523-10 (0.25-0.50)**					
Naphthalene		0.44 J	5.2	0.13	ug/kg	SW846 8260B
Anthracene		48.7	39	14	ug/kg	SW846 8270D
Benzo(a)anthracene		57.2	39	13	ug/kg	SW846 8270D
Chrysene		93.7	39	13	ug/kg	SW846 8270D
Phenanthrene		275	39	18	ug/kg	SW846 8270D
Pyrene		226	39	15	ug/kg	SW846 8270D
Lead		176	2.5	0.14	mg/kg	SW846 6010C
JB31800-11	**MH 455-1 (4.5-5.0)**					
Benzene		35.4 J	100	12	ug/kg	SW846 8260B
Ethylbenzene		7390	100	27	ug/kg	SW846 8260B
Xylene (total)		6080	100	14	ug/kg	SW846 8260B
Naphthalene		5740	520	13	ug/kg	SW846 8260B
Isopropylbenzene		4830	520	7.7	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		30500	5200	220	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		13100	520	16	ug/kg	SW846 8260B
Lead		12.9	2.3	0.13	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB31800
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/18/13 thru 03/19/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB31800-12	**MH 455-2 (2.5-3.0)**					
Isopropylbenzene		104 J	570	8.4	ug/kg	SW846 8260B
Lead		13.5	2.0	0.11	mg/kg	SW846 6010C
JB31800-13	**MH 455-3 (3.0-3.5)**					
Isopropylbenzene		350 J	660	9.8	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		46.9 J	660	28	ug/kg	SW846 8260B
Benzo(a)anthracene		22.0 J	43	14	ug/kg	SW846 8270D
Chrysene		37.4 J	43	15	ug/kg	SW846 8270D
Fluorene		53.7	43	14	ug/kg	SW846 8270D
Phenanthrene		109	43	20	ug/kg	SW846 8270D
Pyrene		62.3	43	17	ug/kg	SW846 8270D
Lead		14.2	4.0	0.23	mg/kg	SW846 6010C
JB31800-14	**MH 455-4 (3.0-3.5)**					
Ethylbenzene		1.1	1.1	0.28	ug/kg	SW846 8260B
Xylene (total)		18.1	1.1	0.15	ug/kg	SW846 8260B
Naphthalene		23.2	5.4	0.13	ug/kg	SW846 8260B
Isopropylbenzene		82.5	5.4	0.080	ug/kg	SW846 8260B
Lead		9.7	2.4	0.14	mg/kg	SW846 6010C
JB31800-15	**MH 455-5 (2.5-3.0)**					
Naphthalene		0.40 J	5.6	0.14	ug/kg	SW846 8260B
Lead		13.1	2.0	0.11	mg/kg	SW846 6010C
JB31800-16	**MH 455-6 (3.0-3.5)**					
Naphthalene		0.63 J	5.2	0.13	ug/kg	SW846 8260B
1,2-Dichloroethane		0.81 J	1.0	0.14	ug/kg	SW846 8260B
Lead		9.5	2.1	0.12	mg/kg	SW846 6010C
JB31800-17	**MH 455-7 (3.0-3.5)**					
Naphthalene		0.52 J	4.4	0.11	ug/kg	SW846 8260B
Isopropylbenzene		1.0 J	4.4	0.066	ug/kg	SW846 8260B
Methyl Tert Butyl Ether		2.4	0.88	0.21	ug/kg	SW846 8260B
Lead		10.2	2.4	0.13	mg/kg	SW846 6010C
JB31800-18	**MH 455-8 (5.0-5.5)**					
Benzene		408	110	13	ug/kg	SW846 8260B

Summary of Hits

Job Number: JB31800
Account: Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Collected: 03/18/13 thru 03/19/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Toluene		1090	110	11	ug/kg	SW846 8260B
Ethylbenzene		3030	110	28	ug/kg	SW846 8260B
Xylene (total)		24700	110	15	ug/kg	SW846 8260B
Naphthalene		1640	540	13	ug/kg	SW846 8260B
Isopropylbenzene		164 J	540	8.0	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		14700	540	23	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene		6350	540	17	ug/kg	SW846 8260B
Lead		11.3	2.4	0.13	mg/kg	SW846 6010C
JB31800-19	**MH 455-9 (5.0-5.5)**					
Benzene [c]		634	98	12	ug/kg	SW846 8260B
Toluene [c]		1000	98	10	ug/kg	SW846 8260B
Ethylbenzene [c]		2800	98	26	ug/kg	SW846 8260B
Xylene (total) [c]		12500	98	14	ug/kg	SW846 8260B
Naphthalene [c]		2280	490	12	ug/kg	SW846 8260B
Isopropylbenzene [c]		220 J	490	7.3	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene [c]		5760	490	20	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene [c]		1960	490	16	ug/kg	SW846 8260B
Lead		13.6	2.5	0.14	mg/kg	SW846 6010C
JB31800-20	**MH 455-10 (0.25-0.50)**					
Naphthalene		1.1 J	6.7	0.16	ug/kg	SW846 8260B
Benzo(a)anthracene		272	40	13	ug/kg	SW846 8270D
Benzo(a)pyrene		258	40	12	ug/kg	SW846 8270D
Benzo(b)fluoranthene		453	40	13	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		156	40	15	ug/kg	SW846 8270D
Chrysene		578	40	14	ug/kg	SW846 8270D
Phenanthrene		533	40	18	ug/kg	SW846 8270D
Pyrene		851	40	15	ug/kg	SW846 8270D
Lead		54.1	2.5	0.14	mg/kg	SW846 6010C

(a) Dilution required due to matrix interference.
(b) Diluted due to high concentration of non-target compound.
(c) Diluted due to high concentration of target compound.

Sample Results

Report of Analysis

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Report of Analysis

Client Sample ID:	MH 523-1 (4.0-4.5)		
Lab Sample ID:	JB31800-1	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	79.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180445.D	1	03/29/13 12:28	TYG	n/a	n/a	VC6473
Run #2 [a]	E201573.D	1	04/01/13 15:55	OTR	n/a	n/a	VE8862

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.0 g		
Run #2	6.0 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	0.36	1.0	0.28	ug/kg	J
1330-20-7	Xylene (total)	0.58	1.0	0.15	ug/kg	J
91-20-3	Naphthalene	2.8	5.2	0.13	ug/kg	J
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	7.6	5.2	0.078	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.97	5.2	0.22	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.33	5.2	0.17	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	81%	70-130%
17060-07-0	1,2-Dichloroethane-D4	92%	81%	70-122%
2037-26-5	Toluene-D8	108%	89%	81-127%
460-00-4	4-Bromofluorobenzene	186% [b]	91%	66-132%

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

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

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Report of Analysis

Client Sample ID:	MH 523-1 (4.0-4.5)		
Lab Sample ID:	JB31800-1	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	79.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18308.D	1	04/02/13 20:09	KH	03/29/13	OP64810	E3P825
Run #2							

	Initial Weight	Final Volume
Run #1	33.5 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	51.7	38	13	ug/kg	
56-55-3	Benzo(a)anthracene	110	38	12	ug/kg	
50-32-8	Benzo(a)pyrene	102	38	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	113	38	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	140	38	14	ug/kg	
218-01-9	Chrysene	253	38	13	ug/kg	
86-73-7	Fluorene	74.7	38	12	ug/kg	
85-01-8	Phenanthrene	206	38	17	ug/kg	
129-00-0	Pyrene	254	38	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	32%		21-122%
321-60-8	2-Fluorobiphenyl	42%		30-117%
1718-51-0	Terphenyl-d14	45%		31-129%

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:	MH 523-1 (4.0-4.5)		
Lab Sample ID:	JB31800-1	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	79.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	42.6	2.0	0.11	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-2 (2.5-3.0)		
Lab Sample ID:	JB31800-2	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	77.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	D207109.D	1	03/30/13 16:32	ET	n/a	n/a	VD8451
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.2 g	10.0 ml	20.0 ul
Run #2			

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	15800	690	82	ug/kg	
108-88-3	Toluene	5310	690	73	ug/kg	
100-41-4	Ethylbenzene	16300	690	180	ug/kg	
1330-20-7	Xylene (total)	10500	690	96	ug/kg	
91-20-3	Naphthalene	15500	3500	84	ug/kg	
106-93-4	1,2-Dibromoethane	ND	690	88	ug/kg	
107-06-2	1,2-Dichloroethane	ND	690	93	ug/kg	
98-82-8	Isopropylbenzene	4320	3500	51	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	690	160	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	6850	3500	140	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	3940	3500	110	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	91%		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:	MH 523-2 (2.5-3.0)		
Lab Sample ID:	JB31800-2	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	77.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3P18362.D	5	04/04/13 03:53	AD	03/29/13	OP64810	E3P827
Run #2	3P18380.D	25	04/04/13 13:17	KH	03/29/13	OP64810	E3P828

	Initial Weight	Final Volume
Run #1	32.0 g	1.0 ml
Run #2	32.0 g	1.0 ml

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	11000	200	70	ug/kg	
56-55-3	Benzo(a)anthracene	785	200	66	ug/kg	
50-32-8	Benzo(a)pyrene	ND	200	61	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	200	75	ug/kg	
218-01-9	Chrysene	1180	200	68	ug/kg	
86-73-7	Fluorene	23600 [b]	1000	330	ug/kg	
85-01-8	Phenanthrene	58500 [b]	1000	460	ug/kg	
129-00-0	Pyrene	9960	200	77	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	31%	114%	21-122%
321-60-8	2-Fluorobiphenyl	74%	78%	30-117%
1718-51-0	Terphenyl-d14	75%	65%	31-129%

(a) Dilution required due to matrix interference.
(b) Result is from Run# 2

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

Report of Analysis

Client Sample ID:	MH 523-2 (2.5-3.0)		
Lab Sample ID:	JB31800-2	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	77.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	143	2.0	0.11	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-3 (3.0-3.5)		
Lab Sample ID:	JB31800-3	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
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 [a]	D207110.D	1	03/30/13 17:01	ET	n/a	n/a	VD8451
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	784	110	13	ug/kg	
108-88-3	Toluene	156	110	12	ug/kg	
100-41-4	Ethylbenzene	320	110	30	ug/kg	
1330-20-7	Xylene (total)	864	110	16	ug/kg	
91-20-3	Naphthalene	1500	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	2170	560	8.4	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	27	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	927	560	24	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	581	560	18	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	110%		81-127%
460-00-4	4-Bromofluorobenzene	126%		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:	MH 523-3 (3.0-3.5)		
Lab Sample ID:	JB31800-3	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18312.D	1	04/02/13 21:43	KH	03/29/13	OP64810	E3P825
Run #2							

	Initial Weight	Final Volume
Run #1	31.9 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	94.1	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	68.8	39	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	14	ug/kg	
218-01-9	Chrysene	103	39	13	ug/kg	
86-73-7	Fluorene	404	39	13	ug/kg	
85-01-8	Phenanthrene	364	39	18	ug/kg	
129-00-0	Pyrene	152	39	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		21-122%
321-60-8	2-Fluorobiphenyl	59%		30-117%
1718-51-0	Terphenyl-d14	64%		31-129%

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

Report of Analysis

Client Sample ID:	MH 523-3 (3.0-3.5)		
Lab Sample ID:	JB31800-3	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		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	39.2	2.4	0.13	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-4 (2.0-2.5)		
Lab Sample ID:	JB31800-4	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
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 [a]	D207111.D	1	03/30/13 17:30	ET	n/a	n/a	VD8451
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	40.2	110	12	ug/kg	J
100-41-4	Ethylbenzene	50.4	110	29	ug/kg	J
1330-20-7	Xylene (total)	149	110	15	ug/kg	
91-20-3	Naphthalene	380	550	13	ug/kg	J
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	145	550	8.2	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	110	26	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	81.9	550	23	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	24.3	550	18	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		70-130%
17060-07-0	1,2-Dichloroethane-D4	81%		70-122%
2037-26-5	Toluene-D8	88%		81-127%
460-00-4	4-Bromofluorobenzene	92%		66-132%

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

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

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

Report of Analysis

Client Sample ID:	MH 523-4 (2.0-2.5)		
Lab Sample ID:	JB31800-4	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	80.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18303.D	1	04/02/13 18:11	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	100	41	14	ug/kg	
56-55-3	Benzo(a)anthracene	106	41	13	ug/kg	
50-32-8	Benzo(a)pyrene	66.7	41	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	48.1	41	14	ug/kg	
191-24-2	Benzo(g,h,i)perylene	141	41	15	ug/kg	
218-01-9	Chrysene	146	41	14	ug/kg	
86-73-7	Fluorene	172	41	13	ug/kg	
85-01-8	Phenanthrene	848	41	19	ug/kg	
129-00-0	Pyrene	501	41	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	38%		21-122%
321-60-8	2-Fluorobiphenyl	48%		30-117%
1718-51-0	Terphenyl-d14	52%		31-129%

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

Report of Analysis

Client Sample ID:	MH 523-4 (2.0-2.5)		
Lab Sample ID:	JB31800-4	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		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	45.6	2.5	0.14	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-5 (2.7-3.2)		
Lab Sample ID:	JB31800-5	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	81.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	D207112.D	1	03/30/13 17:59	ET	n/a	n/a	VD8451
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.7 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	504	120	14	ug/kg	
108-88-3	Toluene	209	120	13	ug/kg	
100-41-4	Ethylbenzene	254	120	31	ug/kg	
1330-20-7	Xylene (total)	1400	120	17	ug/kg	
91-20-3	Naphthalene	476	600	15	ug/kg	J
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	275	600	8.9	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	120	28	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	554	600	25	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	75.2	600	19	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%
17060-07-0	1,2-Dichloroethane-D4	83%		70-122%
2037-26-5	Toluene-D8	97%		81-127%
460-00-4	4-Bromofluorobenzene	111%		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:	MH 523-5 (2.7-3.2)		
Lab Sample ID:	JB31800-5	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18304.D	1	04/02/13 18:35	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	390	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	80.9	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	50.8	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	56.6	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	93.2	40	15	ug/kg	
218-01-9	Chrysene	137	40	13	ug/kg	
86-73-7	Fluorene	867	40	13	ug/kg	
85-01-8	Phenanthrene	2080	40	18	ug/kg	
129-00-0	Pyrene	446	40	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	51%		21-122%
321-60-8	2-Fluorobiphenyl	66%		30-117%
1718-51-0	Terphenyl-d14	66%		31-129%

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

Report of Analysis

Client Sample ID:	MH 523-5 (2.7-3.2)		
Lab Sample ID:	JB31800-5	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	81.3
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	37.4	2.4	0.14	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-6 (3.0-3.5)		
Lab Sample ID:	JB31800-6	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	85.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180448.D	1	03/29/13 13:48	TYG	n/a	n/a	VC6473
Run #2	E201566.D	1	04/01/13 12:22	OTR	n/a	n/a	VE8862

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.2 g		
Run #2	6.3 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	4.4	0.94	0.11	ug/kg	
108-88-3	Toluene	0.80	0.94	0.099	ug/kg	J
100-41-4	Ethylbenzene	1.1	0.94	0.25	ug/kg	
1330-20-7	Xylene (total)	1.9	0.94	0.13	ug/kg	
91-20-3	Naphthalene	3210 [a]	510	12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.94	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.94	0.13	ug/kg	
98-82-8	Isopropylbenzene	19.2	4.7	0.070	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.94	0.22	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	1.8	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	101%	82%	70-130%
17060-07-0	1,2-Dichloroethane-D4	92%	81%	70-122%
2037-26-5	Toluene-D8	110%	89%	81-127%
460-00-4	4-Bromofluorobenzene	105%	85%	66-132%

(a) Result is from Run# 2

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

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Report of Analysis

Client Sample ID:	MH 523-6 (3.0-3.5)		
Lab Sample ID:	JB31800-6	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	85.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18305.D	1	04/02/13 18:58	KH	03/29/13	OP64810	E3P825
Run #2	3P18363.D	5	04/04/13 04:16	AD	03/29/13	OP64810	E3P827

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	1010	35	12	ug/kg	
56-55-3	Benzo(a)anthracene	120	35	11	ug/kg	
50-32-8	Benzo(a)pyrene	68.4	35	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	50.6	35	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	81.4	35	13	ug/kg	
218-01-9	Chrysene	143	35	12	ug/kg	
86-73-7	Fluorene	2240	35	11	ug/kg	
85-01-8	Phenanthrene	6220 [a]	170	79	ug/kg	
129-00-0	Pyrene	969	35	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	50%	31%	21-122%
321-60-8	2-Fluorobiphenyl	65%	66%	30-117%
1718-51-0	Terphenyl-d14	69%	76%	31-129%

(a) Result is from Run# 2

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

Report of Analysis

Client Sample ID:	MH 523-6 (3.0-3.5)		
Lab Sample ID:	JB31800-6	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	85.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	20.9	2.2	0.13	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-7 (1.9-2.4)		
Lab Sample ID:	JB31800-7	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	81.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180447.D	1	03/29/13 13:21	TYG	n/a	n/a	VC6473
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	2.1	0.99	0.12	ug/kg	
108-88-3	Toluene	1.4	0.99	0.10	ug/kg	
100-41-4	Ethylbenzene	4.8	0.99	0.26	ug/kg	
1330-20-7	Xylene (total)	5.8	0.99	0.14	ug/kg	
91-20-3	Naphthalene	9.1	4.9	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	10.9	4.9	0.073	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.99	0.23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	21.9	4.9	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	0.88	4.9	0.16	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
17060-07-0	1,2-Dichloroethane-D4	99%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	126%		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:	MH 523-7 (1.9-2.4)		
Lab Sample ID:	JB31800-7	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18306.D	1	04/02/13 19:22	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	605	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	65.7	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	15	ug/kg	
218-01-9	Chrysene	96.9	40	13	ug/kg	
86-73-7	Fluorene	1160	40	13	ug/kg	
85-01-8	Phenanthrene	3190	40	18	ug/kg	
129-00-0	Pyrene	653	40	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	34%		21-122%
321-60-8	2-Fluorobiphenyl	56%		30-117%
1718-51-0	Terphenyl-d14	67%		31-129%

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

Report of Analysis

Client Sample ID:	MH 523-7 (1.9-2.4)		
Lab Sample ID:	JB31800-7	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	81.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	34.5	2.4	0.13	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-8 (3.0-3.5)		
Lab Sample ID:	JB31800-8	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	81.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180446.D	1	03/29/13 12:55	TYG	n/a	n/a	VC6473
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	0.28	1.1	0.28	ug/kg	J
1330-20-7	Xylene (total)	2.6	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	6.3	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	1.0	5.4	0.23	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.44	5.4	0.17	ug/kg	J

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	111%		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:	MH 523-8 (3.0-3.5)		
Lab Sample ID:	JB31800-8	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.1
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18364.D	1	04/04/13 04:40	AD	03/29/13	OP64810	E3P827
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	778	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	334	39	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	15	ug/kg	
218-01-9	Chrysene	447	39	13	ug/kg	
86-73-7	Fluorene	940	39	13	ug/kg	
85-01-8	Phenanthrene	1860	39	18	ug/kg	
129-00-0	Pyrene	3060	39	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	41%		21-122%
321-60-8	2-Fluorobiphenyl	58%		30-117%
1718-51-0	Terphenyl-d14	66%		31-129%

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:	MH 523-8 (3.0-3.5)		
Lab Sample ID:	JB31800-8	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	81.1
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	14.6	2.4	0.14	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-9 (5.0-5.5)		
Lab Sample ID:	JB31800-9	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	83.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180455.D	1	03/29/13 16:59	TYG	n/a	n/a	VC6473
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	0.92	0.11	ug/kg	
108-88-3	Toluene	ND	0.92	0.097	ug/kg	
100-41-4	Ethylbenzene	ND	0.92	0.24	ug/kg	
1330-20-7	Xylene (total)	ND	0.92	0.13	ug/kg	
91-20-3	Naphthalene	0.49	4.6	0.11	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	0.92	0.12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.92	0.12	ug/kg	
98-82-8	Isopropylbenzene	ND	4.6	0.069	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.92	0.22	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.6	0.19	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.6	0.15	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	90%		70-122%
2037-26-5	Toluene-D8	112%		81-127%
460-00-4	4-Bromofluorobenzene	98%		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:	MH 523-9 (5.0-5.5)		
Lab Sample ID:	JB31800-9	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	83.3
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18307.D	1	04/02/13 19:45	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	21.4	39	13	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	15	ug/kg	
218-01-9	Chrysene	28.3	39	13	ug/kg	J
86-73-7	Fluorene	ND	39	13	ug/kg	
85-01-8	Phenanthrene	36.2	39	18	ug/kg	J
129-00-0	Pyrene	34.6	39	15	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	49%		21-122%
321-60-8	2-Fluorobiphenyl	55%		30-117%
1718-51-0	Terphenyl-d14	75%		31-129%

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

Report of Analysis

Client Sample ID:	MH 523-9 (5.0-5.5)		
Lab Sample ID:	JB31800-9	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	83.3
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	15.0	2.3	0.13	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 523-10 (0.25-0.50)		
Lab Sample ID:	JB31800-10	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	80.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180456.D	1	03/29/13 17:26	TYG	n/a	n/a	VC6473
Run #2							

	Initial Weight
Run #1	6.0 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	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	0.44	5.2	0.13	ug/kg	J
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	5.2	0.077	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.2	0.22	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.2	0.17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
17060-07-0	1,2-Dichloroethane-D4	90%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	101%		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:	MH 523-10 (0.25-0.50)		
Lab Sample ID:	JB31800-10	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	80.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18365.D	1	04/04/13 05:04	AD	03/29/13	OP64810	E3P827
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	48.7	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	57.2	39	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	15	ug/kg	
218-01-9	Chrysene	93.7	39	13	ug/kg	
86-73-7	Fluorene	ND	39	13	ug/kg	
85-01-8	Phenanthrene	275	39	18	ug/kg	
129-00-0	Pyrene	226	39	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		21-122%
321-60-8	2-Fluorobiphenyl	74%		30-117%
1718-51-0	Terphenyl-d14	75%		31-129%

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:	MH 523-10 (0.25-0.50)		
Lab Sample ID:	JB31800-10	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	80.5
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	176	2.5	0.14	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-1 (4.5-5.0)		
Lab Sample ID:	JB31800-11	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
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	D207091.D	1	03/30/13 05:45	ET	n/a	n/a	VD8450
Run #2	D207161.D	1	04/01/13 17:12	ET	n/a	n/a	VD8453

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

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	35.4	100	12	ug/kg	J
108-88-3	Toluene	ND	100	11	ug/kg	
100-41-4	Ethylbenzene	7390	100	27	ug/kg	
1330-20-7	Xylene (total)	6080	100	14	ug/kg	
91-20-3	Naphthalene	5740	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	4830	520	7.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	24	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	30500 [a]	5200	220	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	13100	520	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%	82%	70-130%
17060-07-0	1,2-Dichloroethane-D4	83%	86%	70-122%
2037-26-5	Toluene-D8	88%	88%	81-127%
460-00-4	4-Bromofluorobenzene	93%	98%	66-132%

(a) Result is from Run# 2

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

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Report of Analysis

Client Sample ID:	MH 455-1 (4.5-5.0)		
Lab Sample ID:	JB31800-11	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18293.D	1	04/02/13 13:52	KH	03/29/13	OP64810	E3P825
Run #2							

	Initial Weight	Final Volume
Run #1	32.4 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	37	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	37	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	14	ug/kg	
218-01-9	Chrysene	ND	37	13	ug/kg	
86-73-7	Fluorene	ND	37	12	ug/kg	
85-01-8	Phenanthrene	ND	37	17	ug/kg	
129-00-0	Pyrene	ND	37	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		21-122%
321-60-8	2-Fluorobiphenyl	69%		30-117%
1718-51-0	Terphenyl-d14	90%		31-129%

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:	MH 455-1 (4.5-5.0)		
Lab Sample ID:	JB31800-11	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		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	12.9	2.3	0.13	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-2 (2.5-3.0)		
Lab Sample ID:	JB31800-12	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	77.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	D207083.D	1	03/30/13 01:51	ET	n/a	n/a	VD8450
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	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	14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	15	ug/kg	
98-82-8	Isopropylbenzene	104	570	8.4	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	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	83%		70-122%
2037-26-5	Toluene-D8	88%		81-127%
460-00-4	4-Bromofluorobenzene	96%		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:	MH 455-2 (2.5-3.0)		
Lab Sample ID:	JB31800-12	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	77.6
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18294.D	1	04/02/13 14:16	KH	03/29/13	OP64810	E3P825
Run #2							

	Initial Weight	Final Volume
Run #1	33.2 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	39	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	39	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	39	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	14	ug/kg	
218-01-9	Chrysene	ND	39	13	ug/kg	
86-73-7	Fluorene	ND	39	13	ug/kg	
85-01-8	Phenanthrene	ND	39	18	ug/kg	
129-00-0	Pyrene	ND	39	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	56%		21-122%
321-60-8	2-Fluorobiphenyl	60%		30-117%
1718-51-0	Terphenyl-d14	72%		31-129%

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:	MH 455-2 (2.5-3.0)		
Lab Sample ID:	JB31800-12	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	77.6
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	13.5	2.0	0.11	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-3 (3.0-3.5)		
Lab Sample ID:	JB31800-13	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	73.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	D207151.D	1	04/01/13 11:55	ET	n/a	n/a	VD8453
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.0 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	16	ug/kg	
108-88-3	Toluene	ND	130	14	ug/kg	
100-41-4	Ethylbenzene	ND	130	35	ug/kg	
1330-20-7	Xylene (total)	ND	130	18	ug/kg	
91-20-3	Naphthalene	ND	660	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	350	660	9.8	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	130	31	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	46.9	660	28	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	660	21	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	88%		81-127%
460-00-4	4-Bromofluorobenzene	96%		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:	MH 455-3 (3.0-3.5)		
Lab Sample ID:	JB31800-13	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	73.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18295.D	1	04/02/13 15:03	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	43	15	ug/kg	
56-55-3	Benzo(a)anthracene	22.0	43	14	ug/kg	J
50-32-8	Benzo(a)pyrene	ND	43	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	43	14	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	43	16	ug/kg	
218-01-9	Chrysene	37.4	43	15	ug/kg	J
86-73-7	Fluorene	53.7	43	14	ug/kg	
85-01-8	Phenanthrene	109	43	20	ug/kg	
129-00-0	Pyrene	62.3	43	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	48%		21-122%
321-60-8	2-Fluorobiphenyl	58%		30-117%
1718-51-0	Terphenyl-d14	67%		31-129%

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

Report of Analysis

Client Sample ID:	MH 455-3 (3.0-3.5)		
Lab Sample ID:	JB31800-13	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	73.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	14.2	4.0	0.23	mg/kg	2	03/29/13	04/02/13	GT	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30848
(2) Prep QC Batch: MP70844

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:	MH 455-4 (3.0-3.5)		
Lab Sample ID:	JB31800-14	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
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	C180449.D	1	03/29/13 14:14	TYG	n/a	n/a	VC6473
Run #2							

	Initial Weight
Run #1	5.8 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	1.1	1.1	0.28	ug/kg	
1330-20-7	Xylene (total)	18.1	1.1	0.15	ug/kg	
91-20-3	Naphthalene	23.2	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	82.5	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	100%		70-130%
17060-07-0	1,2-Dichloroethane-D4	93%		70-122%
2037-26-5	Toluene-D8	112%		81-127%
460-00-4	4-Bromofluorobenzene	101%		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:	MH 455-4 (3.0-3.5)		
Lab Sample ID:	JB31800-14	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	80.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18296.D	1	04/02/13 15:27	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	15	ug/kg	
218-01-9	Chrysene	ND	40	13	ug/kg	
86-73-7	Fluorene	ND	40	13	ug/kg	
85-01-8	Phenanthrene	ND	40	18	ug/kg	
129-00-0	Pyrene	ND	40	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	51%		21-122%
321-60-8	2-Fluorobiphenyl	60%		30-117%
1718-51-0	Terphenyl-d14	76%		31-129%

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

Report of Analysis

Client Sample ID:	MH 455-4 (3.0-3.5)		
Lab Sample ID:	JB31800-14	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		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	9.7	2.4	0.14	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-5 (2.5-3.0)		
Lab Sample ID:	JB31800-15	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	77.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180457.D	1	03/29/13 17:52	TYG	n/a	n/a	VC6473
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	0.12	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	0.40	5.6	0.14	ug/kg	J
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	0.26	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	100%		70-130%
17060-07-0	1,2-Dichloroethane-D4	90%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	97%		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:	MH 455-5 (2.5-3.0)		
Lab Sample ID:	JB31800-15	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	77.8
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18297.D	1	04/02/13 15:50	KH	03/29/13	OP64810	E3P825
Run #2							

	Initial Weight	Final Volume
Run #1	32.1 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	15	ug/kg	
218-01-9	Chrysene	ND	40	14	ug/kg	
86-73-7	Fluorene	ND	40	13	ug/kg	
85-01-8	Phenanthrene	ND	40	18	ug/kg	
129-00-0	Pyrene	ND	40	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	30%		21-122%
321-60-8	2-Fluorobiphenyl	34%		30-117%
1718-51-0	Terphenyl-d14	52%		31-129%

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

Report of Analysis

Client Sample ID:	MH 455-5 (2.5-3.0)		
Lab Sample ID:	JB31800-15	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	77.8
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	13.1	2.0	0.11	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-6 (3.0-3.5)		
Lab Sample ID:	JB31800-16	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	79.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180454.D	1	03/29/13 16:32	TYG	n/a	n/a	VC6473
Run #2							

	Initial Weight
Run #1	6.0 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	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	0.15	ug/kg	
91-20-3	Naphthalene	0.63	5.2	0.13	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
107-06-2	1,2-Dichloroethane	0.81	1.0	0.14	ug/kg	J
98-82-8	Isopropylbenzene	ND	5.2	0.078	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.2	0.22	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.2	0.17	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	90%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	98%		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:	MH 455-6 (3.0-3.5)		
Lab Sample ID:	JB31800-16	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	79.7
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18298.D	1	04/02/13 16:14	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	15	ug/kg	
218-01-9	Chrysene	ND	40	14	ug/kg	
86-73-7	Fluorene	ND	40	13	ug/kg	
85-01-8	Phenanthrene	ND	40	18	ug/kg	
129-00-0	Pyrene	ND	40	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	47%		21-122%
321-60-8	2-Fluorobiphenyl	57%		30-117%
1718-51-0	Terphenyl-d14	72%		31-129%

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:	MH 455-6 (3.0-3.5)		
Lab Sample ID:	JB31800-16	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	79.7
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	9.5	2.1	0.12	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-7 (3.0-3.5)		
Lab Sample ID:	JB31800-17	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	80.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C180458.D	1	03/29/13 18:19	TYG	n/a	n/a	VC6473
Run #2							

	Initial Weight
Run #1	7.0 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.88	0.11	ug/kg	
108-88-3	Toluene	ND	0.88	0.093	ug/kg	
100-41-4	Ethylbenzene	ND	0.88	0.23	ug/kg	
1330-20-7	Xylene (total)	ND	0.88	0.12	ug/kg	
91-20-3	Naphthalene	0.52	4.4	0.11	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	0.88	0.11	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.88	0.12	ug/kg	
98-82-8	Isopropylbenzene	1.0	4.4	0.066	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	2.4	0.88	0.21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	4.4	0.18	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.4	0.14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		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	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:	MH 455-7 (3.0-3.5)		
Lab Sample ID:	JB31800-17	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	80.9
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18299.D	1	04/02/13 16:37	KH	03/29/13	OP64810	E3P825
Run #2							

	Initial Weight	Final Volume
Run #1	32.9 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	38	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	14	ug/kg	
218-01-9	Chrysene	ND	38	13	ug/kg	
86-73-7	Fluorene	ND	38	12	ug/kg	
85-01-8	Phenanthrene	ND	38	17	ug/kg	
129-00-0	Pyrene	ND	38	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		21-122%
321-60-8	2-Fluorobiphenyl	62%		30-117%
1718-51-0	Terphenyl-d14	75%		31-129%

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:	MH 455-7 (3.0-3.5)		
Lab Sample ID:	JB31800-17	**Date Sampled:**	03/19/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	80.9
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	10.2	2.4	0.13	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-8 (5.0-5.5)		
Lab Sample ID:	JB31800-18	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	D207093.D	1	03/30/13 06:44	ET	n/a	n/a	VD8450
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	408	110	13	ug/kg	
108-88-3	Toluene	1090	110	11	ug/kg	
100-41-4	Ethylbenzene	3030	110	28	ug/kg	
1330-20-7	Xylene (total)	24700	110	15	ug/kg	
91-20-3	Naphthalene	1640	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	164	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	14700	540	23	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	6350	540	17	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	82%		70-122%
2037-26-5	Toluene-D8	89%		81-127%
460-00-4	4-Bromofluorobenzene	93%		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:	MH 455-8 (5.0-5.5)		
Lab Sample ID:	JB31800-18	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18300.D	1	04/02/13 17:01	KH	03/29/13	OP64810	E3P825
Run #2							

	Initial Weight	Final Volume
Run #1	33.3 g	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	37	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	12	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	11	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	37	12	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	14	ug/kg	
218-01-9	Chrysene	ND	37	12	ug/kg	
86-73-7	Fluorene	ND	37	12	ug/kg	
85-01-8	Phenanthrene	ND	37	17	ug/kg	
129-00-0	Pyrene	ND	37	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	48%		21-122%
321-60-8	2-Fluorobiphenyl	51%		30-117%
1718-51-0	Terphenyl-d14	62%		31-129%

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:	MH 455-8 (5.0-5.5)		
Lab Sample ID:	JB31800-18	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	82.0
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	11.3	2.4	0.13	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-9 (5.0-5.5)		
Lab Sample ID:	JB31800-19	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8260B	**Percent Solids:**	81.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	D207094.D	1	03/30/13 07:13	ET	n/a	n/a	VD8450
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.1 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	634	98	12	ug/kg	
108-88-3	Toluene	1000	98	10	ug/kg	
100-41-4	Ethylbenzene	2800	98	26	ug/kg	
1330-20-7	Xylene (total)	12500	98	14	ug/kg	
91-20-3	Naphthalene	2280	490	12	ug/kg	
106-93-4	1,2-Dibromoethane	ND	98	12	ug/kg	
107-06-2	1,2-Dichloroethane	ND	98	13	ug/kg	
98-82-8	Isopropylbenzene	220	490	7.3	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	98	23	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	5760	490	20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	1960	490	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	82%		70-122%
2037-26-5	Toluene-D8	88%		81-127%
460-00-4	4-Bromofluorobenzene	96%		66-132%

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

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

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Report of Analysis

Client Sample ID:	MH 455-9 (5.0-5.5)		
Lab Sample ID:	JB31800-19	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.4
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18301.D	1	04/02/13 17:24	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	41	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	41	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	41	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	41	14	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	41	15	ug/kg	
218-01-9	Chrysene	ND	41	14	ug/kg	
86-73-7	Fluorene	ND	41	13	ug/kg	
85-01-8	Phenanthrene	ND	41	19	ug/kg	
129-00-0	Pyrene	ND	41	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		21-122%
321-60-8	2-Fluorobiphenyl	72%		30-117%
1718-51-0	Terphenyl-d14	82%		31-129%

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:	MH 455-9 (5.0-5.5)		
Lab Sample ID:	JB31800-19	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		Percent Solids:	81.4
Project:	Sunoco - Marcus Hook Facility, PA		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	13.6	2.5	0.14	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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:	MH 455-10 (0.25-0.50)		
Lab Sample ID:	JB31800-20	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
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	C180453.D	1	03/29/13 16:06	TYG	n/a	n/a	VC6473
Run #2							

	Initial Weight
Run #1	4.6 g
Run #2	

PA Leaded Gasoline and Aviation Gas list

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.3	0.16	ug/kg	
108-88-3	Toluene	ND	1.3	0.14	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	0.35	ug/kg	
1330-20-7	Xylene (total)	ND	1.3	0.19	ug/kg	
91-20-3	Naphthalene	1.1	6.7	0.16	ug/kg	J
106-93-4	1,2-Dibromoethane	ND	1.3	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.3	0.18	ug/kg	
98-82-8	Isopropylbenzene	ND	6.7	0.099	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.3	0.31	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	6.7	0.28	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.7	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
17060-07-0	1,2-Dichloroethane-D4	90%		70-122%
2037-26-5	Toluene-D8	111%		81-127%
460-00-4	4-Bromofluorobenzene	97%		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:	MH 455-10 (0.25-0.50)		
Lab Sample ID:	JB31800-20	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
Method:	SW846 8270D SW846 3550C	**Percent Solids:**	81.5
Project:	Sunoco - Marcus Hook Facility, PA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3P18302.D	1	04/02/13 17:48	KH	03/29/13	OP64810	E3P825
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	40	14	ug/kg	
56-55-3	Benzo(a)anthracene	272	40	13	ug/kg	
50-32-8	Benzo(a)pyrene	258	40	12	ug/kg	
205-99-2	Benzo(b)fluoranthene	453	40	13	ug/kg	
191-24-2	Benzo(g,h,i)perylene	156	40	15	ug/kg	
218-01-9	Chrysene	578	40	14	ug/kg	
86-73-7	Fluorene	ND	40	13	ug/kg	
85-01-8	Phenanthrene	533	40	18	ug/kg	
129-00-0	Pyrene	851	40	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		21-122%
321-60-8	2-Fluorobiphenyl	64%		30-117%
1718-51-0	Terphenyl-d14	71%		31-129%

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

Report of Analysis

Client Sample ID:	MH 455-10 (0.25-0.50)		
Lab Sample ID:	JB31800-20	**Date Sampled:**	03/18/13
Matrix:	SO - Soil	**Date Received:**	03/19/13
		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	54.1	2.5	0.14	mg/kg	1	03/29/13	04/01/13	ND	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA30840
(2) Prep QC Batch: MP70844

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

SCL

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 #: JB31800

Client / Reporting Information

Company Name: STANTEC
Street Address: 1060 ANDREW DR. SUITE 140
City / State / Zip: WEST CHESTER PA 19380
Project Contact / E-mail: J. MENGES
Phone #: 610.840.2500 Fax #: 610.840.2501
Sampler(s) Name(s) / Phone #: P. MILLER, J. CORBETT

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)

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, AND 6 FUEL OILS	LAB USE ONLY
-1	MH 523-1 (4.0-4.5)		3.18.13	0845	PM/JC	SOIL	4					1	2	1		✓	✓	
-2	MH 523-2 (2.5-3.0)		3.18.13	0900	PM/JC	SOIL	4					1	2	1		✓	✓	D51
-3	MH 523-3 (3.0-3.5)		3.18.13	0945	PM/JC	SOIL	4					1	2	1		✓	✓	14R5
-4	MH 523-4 (2.0-2.5)		3.18.13	1000	PM/JC	SOIL	4					1	2	1		✓	✓	4025
-5	MH 523-5 (2.7-3.2)		3.18.13	1020	PM/JC	SOIL	4					1	2	1		✓	✓	
-6	MH 523-6 (3.0-3.5)		3.18.13	1050	PM/JC	SOIL	4					1	2	1		✓	✓	
-7	MH 523-7 (1.9-2.4)		3.18.13	1105	PM/JC	SOIL	4					1	2	1		✓	✓	
-8	MH 523-8 (3.0-3.5)		3.18.13	1130	PM/JC	SOIL	4					1	2	1		✓	✓	
-9	MH 523-9 (5.0-5.5)		3.18.13	0820	PM/JC	SOIL	4					1	2	1		✓	✓	
-10	MH 523-10 (0.25-0.50)		3.18.13	1025	PM/JC	SOIL	4					1	2	1		✓	✓	
-11	MH 455-1 (4.5-5.0)		3.18.13	1325	PM/JC	SOIL	4					1	2	1		✓	✓	
-12	MH 455-2 (2.5-3.0)		3.19.13	0923	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: ____ Time: ____ Initials: ____

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	3.19.13 1419	1	2	3/19/13 1700	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. 2.5°C, 2.7°C

2B MB

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 #: JB31800

Client / Reporting Information

Company Name: STANTEC
Street Address: 1060 ANDREW DR. SUITE 140
City: WEST CHESTER State: PA Zip: 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 #: 21340227.0
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 AND UNLEADED GASOLINE
No. 2, 4, 5, AND 6 FUEL OILS

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 AND UNLEADED GASOLINE	No. 2, 4, 5, AND 6 FUEL OILS	LAB USE ONLY
-13	MH 455-3 (3.0-3.5)		3.19.13	0855	PM/JC	SOIL	4					1	2	1		✓	✓	
-14	MH 455-4 (3.0-3.5)		3.19.13	0840	PM/JC	SOIL	4					1	2	1		✓	✓	
-15	MH 455-5 (2.5-3.0)		3.19.13	0825	PM/JC	SOIL	4					1	2	1		✓	✓	
-16	MH 455-6 (3.0-3.5)		3.19.13	0815	PM/JC	SOIL	4					1	2	1		✓	✓	
-17	MH 455-7 (3.0-3.5)		3.19.13	0800	PM/JC	SOIL	4					1	2	1		✓	✓	
-18	MH 455-8 (5.0-5.5)		3.18.13	1510	PM/JC	SOIL	4					1	2	1		✓	✓	
-19	MH 455-9 (5.0-5.5)		3.18.13	1420	PM/JC	SOIL	4					1	2	1		✓	✓	
-20	MH 455-10 (0.25-0.50)		3.18.13	1440	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

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

Relinquished by Sampler: 1	Date Time: 3.19.13 1449	Received By: 1	Relinquished By: 2	Date Time: 3/19/13 1TM	Received By: 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: 2.5, 2.7

SAMPLE #	MEOH VIAL	D.I. VIAL	D.I. VIAL
1	2899	2996	2997
2	2869	2978	2988
3	2905	2987	2986
4	2910	2961	2960
5	2886	2984	2994
6	2887	2983	2993
7	2881	2969	2968
8	2892	2985	2995
9	2884	3028	3029
10	2948	2973	2972
11	2893	2971	2970
12	2907	3023	3022
13	2895	3027	3026
14	2879	3032	3033
15	2873	3068	3089
16	2929	3004	3005
17	2911	2963	2962
18	2914	2975	2974
19	2917	2957	2956
20	2904	2958	2957
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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB31800 **Client:** **Project:**

Date / Time Received: 3/19/2013 **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.5/2.5); #2: (3.7/3.7); 0

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

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

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

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

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

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

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31800

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31800-1 Collected: 18-MAR-13 08:45 By: PM Received: 19-MAR-13 By: SC MH 523-1 (4.0-4.5)						
JB31800-1	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-1	SW846 8260B	29-MAR-13 12:28	TYG			V8260PALGTMB
JB31800-1	SW846 8260B	01-APR-13 15:55	OTR			V8260PALGTMB
JB31800-1	SW846 6010C	01-APR-13 20:22	ND	29-MAR-13	WWZ	PB
JB31800-1	SW846 8270D	02-APR-13 20:09	KH	29-MAR-13	MP	B8270PALO
JB31800-2 Collected: 18-MAR-13 09:00 By: PM Received: 19-MAR-13 By: SC MH 523-2 (2.5-3.0)						
JB31800-2	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-2	SW846 8260B	30-MAR-13 16:32	ET			V8260PALGTMB
JB31800-2	SW846 6010C	01-APR-13 20:29	ND	29-MAR-13	WWZ	PB
JB31800-2	SW846 8270D	04-APR-13 03:53	AD	29-MAR-13	MP	B8270PALO
JB31800-2	SW846 8270D	04-APR-13 13:17	KH	29-MAR-13	MP	B8270PALO
JB31800-3 Collected: 18-MAR-13 09:45 By: PM Received: 19-MAR-13 By: SC MH 523-3 (3.0-3.5)						
JB31800-3	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-3	SW846 8260B	30-MAR-13 17:01	ET			V8260PALGTMB
JB31800-3	SW846 6010C	01-APR-13 20:35	ND	29-MAR-13	WWZ	PB
JB31800-3	SW846 8270D	02-APR-13 21:43	KH	29-MAR-13	MP	B8270PALO
JB31800-4 Collected: 18-MAR-13 10:00 By: PM Received: 19-MAR-13 By: SC MH 523-4 (2.0-2.5)						
JB31800-4	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-4	SW846 8260B	30-MAR-13 17:30	ET			V8260PALGTMB
JB31800-4	SW846 6010C	01-APR-13 20:41	ND	29-MAR-13	WWZ	PB
JB31800-4	SW846 8270D	02-APR-13 18:11	KH	29-MAR-13	MP	B8270PALO
JB31800-5 Collected: 18-MAR-13 10:20 By: PM Received: 19-MAR-13 By: SC MH 523-5 (2.7-3.2)						
JB31800-5	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-5	SW846 8260B	30-MAR-13 17:59	ET			V8260PALGTMB
JB31800-5	SW846 6010C	01-APR-13 20:10	ND	29-MAR-13	WWZ	PB

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31800

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31800-5	SW846 8270D	02-APR-13 18:35	KH	29-MAR-13	MP	B8270PALO
JB31800-6	Collected: 18-MAR-13 10:50 By: PM		Received: 19-MAR-13 By: SC			
MH 523-6 (3.0-3.5)						
JB31800-6	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-6	SW846 8260B	29-MAR-13 13:48	TYG			V8260PALGTMB
JB31800-6	SW846 8260B	01-APR-13 12:22	OTR			V8260PALGTMB
JB31800-6	SW846 6010C	01-APR-13 20:48	ND	29-MAR-13	WWZ	PB
JB31800-6	SW846 8270D	02-APR-13 18:58	KH	29-MAR-13	MP	B8270PALO
JB31800-6	SW846 8270D	04-APR-13 04:16	AD	29-MAR-13	MP	B8270PALO
JB31800-7	Collected: 18-MAR-13 11:05 By: PM		Received: 19-MAR-13 By: SC			
MH 523-7 (1.9-2.4)						
JB31800-7	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-7	SW846 8260B	29-MAR-13 13:21	TYG			V8260PALGTMB
JB31800-7	SW846 6010C	01-APR-13 20:54	ND	29-MAR-13	WWZ	PB
JB31800-7	SW846 8270D	02-APR-13 19:22	KH	29-MAR-13	MP	B8270PALO
JB31800-8	Collected: 18-MAR-13 11:30 By: PM		Received: 19-MAR-13 By: SC			
MH 523-8 (3.0-3.5)						
JB31800-8	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-8	SW846 8260B	29-MAR-13 12:55	TYG			V8260PALGTMB
JB31800-8	SW846 6010C	01-APR-13 21:01	ND	29-MAR-13	WWZ	PB
JB31800-8	SW846 8270D	04-APR-13 04:40	AD	29-MAR-13	MP	B8270PALO
JB31800-9	Collected: 18-MAR-13 08:20 By: PM		Received: 19-MAR-13 By: SC			
MH 523-9 (5.0-5.5)						
JB31800-9	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-9	SW846 8260B	29-MAR-13 16:59	TYG			V8260PALGTMB
JB31800-9	SW846 6010C	01-APR-13 21:07	ND	29-MAR-13	WWZ	PB
JB31800-9	SW846 8270D	02-APR-13 19:45	KH	29-MAR-13	MP	B8270PALO
JB31800-10	Collected: 18-MAR-13 10:25 By: PM		Received: 19-MAR-13 By: SC			
MH 523-10 (0.25-0.50)						
JB31800-10	SM2540 G-97	27-MAR-13 16:50	PD			%SOL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31800

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31800-10	SW846 8260B	29-MAR-13 17:26	TYG			V8260PALGTMB
JB31800-10	SW846 6010C	01-APR-13 21:26	ND	29-MAR-13	WWZ	PB
JB31800-10	SW846 8270D	04-APR-13 05:04	AD	29-MAR-13	MP	B8270PALO
JB31800-11	Collected: 18-MAR-13 13:25 By: PM		Received: 19-MAR-13 By: SC			
MH 455-1 (4.5-5.0)						
JB31800-11	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-11	SW846 8260B	30-MAR-13 05:45	ET			V8260PALGTMB
JB31800-11	SW846 8260B	01-APR-13 17:12	ET			V8260PALGTMB
JB31800-11	SW846 6010C	01-APR-13 21:32	ND	29-MAR-13	WWZ	PB
JB31800-11	SW846 8270D	02-APR-13 13:52	KH	29-MAR-13	MP	B8270PALO
JB31800-12	Collected: 19-MAR-13 09:23 By: PM		Received: 19-MAR-13 By: SC			
MH 455-2 (2.5-3.0)						
JB31800-12	SM2540 G-97	27-MAR-13 16:50	PD			%SOL
JB31800-12	SW846 8260B	30-MAR-13 01:51	ET			V8260PALGTMB
JB31800-12	SW846 6010C	01-APR-13 21:39	ND	29-MAR-13	WWZ	PB
JB31800-12	SW846 8270D	02-APR-13 14:16	KH	29-MAR-13	MP	B8270PALO
JB31800-13	Collected: 19-MAR-13 08:55 By: PM		Received: 19-MAR-13 By: SC			
MH 455-3 (3.0-3.5)						
JB31800-13	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-13	SW846 8260B	01-APR-13 11:55	ET			V8260PALGTMB
JB31800-13	SW846 6010C	02-APR-13 10:17	GT	29-MAR-13	WWZ	PB
JB31800-13	SW846 8270D	02-APR-13 15:03	KH	29-MAR-13	MP	B8270PALO
JB31800-14	Collected: 19-MAR-13 08:40 By: PM		Received: 19-MAR-13 By: SC			
MH 455-4 (3.0-3.5)						
JB31800-14	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-14	SW846 8260B	29-MAR-13 14:14	TYG			V8260PALGTMB
JB31800-14	SW846 6010C	01-APR-13 21:52	ND	29-MAR-13	WWZ	PB
JB31800-14	SW846 8270D	02-APR-13 15:27	KH	29-MAR-13	MP	B8270PALO
JB31800-15	Collected: 19-MAR-13 08:25 By: PM		Received: 19-MAR-13 By: SC			
MH 455-5 (2.5-3.0)						

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31800

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31800-15	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-15	SW846 8260B	29-MAR-13 17:52	TYG			V8260PALGTMB
JB31800-15	SW846 6010C	01-APR-13 21:58	ND	29-MAR-13	WWZ	PB
JB31800-15	SW846 8270D	02-APR-13 15:50	KH	29-MAR-13	MP	B8270PALO
JB31800-16	Collected: 19-MAR-13 08:15 By: PM		Received: 19-MAR-13 By: SC			
MH 455-6 (3.0-3.5)						
JB31800-16	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-16	SW846 8260B	29-MAR-13 16:32	TYG			V8260PALGTMB
JB31800-16	SW846 6010C	01-APR-13 22:04	ND	29-MAR-13	WWZ	PB
JB31800-16	SW846 8270D	02-APR-13 16:14	KH	29-MAR-13	MP	B8270PALO
JB31800-17	Collected: 19-MAR-13 08:00 By: PM		Received: 19-MAR-13 By: SC			
MH 455-7 (3.0-3.5)						
JB31800-17	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-17	SW846 8260B	29-MAR-13 18:19	TYG			V8260PALGTMB
JB31800-17	SW846 6010C	01-APR-13 22:11	ND	29-MAR-13	WWZ	PB
JB31800-17	SW846 8270D	02-APR-13 16:37	KH	29-MAR-13	MP	B8270PALO
JB31800-18	Collected: 18-MAR-13 15:10 By: PM		Received: 19-MAR-13 By: SC			
MH 455-8 (5.0-5.5)						
JB31800-18	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-18	SW846 8260B	30-MAR-13 06:44	ET			V8260PALGTMB
JB31800-18	SW846 6010C	01-APR-13 22:17	ND	29-MAR-13	WWZ	PB
JB31800-18	SW846 8270D	02-APR-13 17:01	KH	29-MAR-13	MP	B8270PALO
JB31800-19	Collected: 18-MAR-13 14:20 By: PM		Received: 19-MAR-13 By: SC			
MH 455-9 (5.0-5.5)						
JB31800-19	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-19	SW846 8260B	30-MAR-13 07:13	ET			V8260PALGTMB
JB31800-19	SW846 6010C	01-APR-13 22:23	ND	29-MAR-13	WWZ	PB
JB31800-19	SW846 8270D	02-APR-13 17:24	KH	29-MAR-13	MP	B8270PALO
JB31800-20	Collected: 18-MAR-13 14:40 By: PM		Received: 19-MAR-13 By: SC			
MH 455-10 (0.25-0.50)						

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB31800

Sunoco - Marcus Hook Facility, PA
Project No: 213402270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB31800-20	SM2540 G-97	28-MAR-13 12:33	KP			%SOL
JB31800-20	SW846 8260B	29-MAR-13 16:06	TYG			V8260PALGTMB
JB31800-20	SW846 6010C	01-APR-13 22:43	ND	29-MAR-13	WWZ	PB
JB31800-20	SW846 8270D	02-APR-13 17:48	KH	29-MAR-13	MP	B8270PALO

SGS Accutest Internal Chain of Custody

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-1.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-1.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-1.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-1.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-1.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-1.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-1.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-1.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-1.1
JB31800-1.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-1.1
JB31800-1.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-1.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-1.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-1.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-1.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-1.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-1.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-1.1
JB31800-1.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-1.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-1.1
JB31800-1.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-1.2	Secured Storage	Emily Tran	04/01/13 10:43	Retrieve from Storage
JB31800-1.2	Emily Tran	Secured Storage	04/01/13 16:57	Return to Storage
JB31800-1.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-1.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 15:41	Retrieve from Storage
JB31800-1.4	Tamika Yvonne Ginn	GCMSC	03/29/13 15:41	Load on Instrument
JB31800-1.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-1.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-1.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-2.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-2.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-2.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-2.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-2.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-2.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-2.1	Secured Storage	Michael Bunza	03/29/13 19:39	Retrieve from Storage
JB31800-2.1	Michael Bunza	Secured Storage	03/29/13 19:46	Return to Storage
JB31800-2.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-2.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-2.1
JB31800-2.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-2.1

SGS Accutest Internal Chain of Custody

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-2.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-2.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-2.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-2.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-2.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-2.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-2.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-2.1
JB31800-2.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-2.1
JB31800-2.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-2.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-2.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-2.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-2.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-3.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-3.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-3.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-3.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-3.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-3.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-3.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-3.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-3.1
JB31800-3.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-3.1
JB31800-3.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-3.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-3.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-3.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-3.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-3.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-3.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-3.1
JB31800-3.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-3.1
JB31800-3.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-3.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-3.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-3.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-3.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-4.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-4.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer

SGS Accutest Internal Chain of Custody

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-4.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-4.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-4.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-4.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-4.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-4.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-4.1
JB31800-4.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-4.1
JB31800-4.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-4.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-4.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-4.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-4.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-4.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-4.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-4.1
JB31800-4.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-4.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-4.1
JB31800-4.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-4.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-4.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-4.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-5.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-5.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-5.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-5.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-5.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-5.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-5.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-5.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-5.1
JB31800-5.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-5.1
JB31800-5.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-5.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-5.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-5.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-5.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-5.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-5.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-5.1
JB31800-5.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-5.1
JB31800-5.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-5.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-5.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-5.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-5.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-6.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-6.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-6.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-6.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-6.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-6.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-6.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-6.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-6.1
JB31800-6.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-6.1
JB31800-6.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-6.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-6.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-6.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-6.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-6.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-6.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-6.1
JB31800-6.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-6.1
JB31800-6.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-6.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-6.2	Secured Storage	Emily Tran	04/01/13 10:43	Retrieve from Storage
JB31800-6.2	Emily Tran	Secured Storage	04/01/13 16:57	Return to Storage
JB31800-6.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-6.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 15:41	Retrieve from Storage
JB31800-6.4	Tamika Yvonne Ginn	GCMSC	03/29/13 15:41	Load on Instrument
JB31800-6.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-6.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-6.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-7.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-7.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-7.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-7.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-7.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-7.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-7.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-7.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-7.1
JB31800-7.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-7.1
JB31800-7.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-7.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-7.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-7.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-7.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-7.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-7.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-7.1
JB31800-7.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-7.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-7.1
JB31800-7.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-7.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 15:41	Retrieve from Storage
JB31800-7.4	Tamika Yvonne Ginn	GCMSC	03/29/13 15:41	Load on Instrument
JB31800-7.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-7.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-7.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-8.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-8.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-8.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-8.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-8.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-8.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-8.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-8.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-8.1
JB31800-8.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-8.1
JB31800-8.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-8.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-8.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-8.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-8.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-8.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-8.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-8.1
JB31800-8.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-8.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-8.1
JB31800-8.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed

SGS Accutest Internal Chain of Custody

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Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-8.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 15:41	Retrieve from Storage
JB31800-8.4	Tamika Yvonne Ginn	GCMSC	03/29/13 15:41	Load on Instrument
JB31800-8.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-8.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-8.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-9.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-9.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-9.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-9.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-9.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-9.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-9.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-9.1.1	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-9.1
JB31800-9.1.1	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-9.1.1	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-9.1
JB31800-9.1.1	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-9.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 16:36	Retrieve from Storage
JB31800-9.4	Tamika Yvonne Ginn	GCMSC	03/29/13 16:36	Load on Instrument
JB31800-9.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-9.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-9.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-10.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-10.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-10.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-10.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-10.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-10.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-10.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-10.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-10.1
JB31800-10.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-10.1
JB31800-10.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-10.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-10.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-10.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-10.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-10.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-10.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-10.1
JB31800-10.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-10.1

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Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-10.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-10.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-10.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 16:36	Retrieve from Storage
JB31800-10.4	Tamika Yvonne Ginn	GCMSC	03/29/13 16:36	Load on Instrument
JB31800-10.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-10.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-10.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-11.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-11.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-11.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-11.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-11.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-11.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-11.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-11.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-11.1
JB31800-11.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-11.1
JB31800-11.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-11.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-11.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-11.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-11.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-11.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-11.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-11.1
JB31800-11.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-11.1
JB31800-11.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-11.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-11.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-11.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-11.2	Secured Storage	Emily Tran	04/01/13 09:59	Retrieve from Storage
JB31800-11.2	Emily Tran	Secured Storage	04/01/13 16:57	Return to Storage
JB31800-11.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-12.1	Secured Storage	Mehmet Temizsu	03/27/13 16:10	Retrieve from Storage
JB31800-12.1	Mehmet Temizsu	Pratik Doshi	03/27/13 16:11	Custody Transfer
JB31800-12.1	Pratik Doshi	Secured Storage	03/27/13 16:49	Return to Storage
JB31800-12.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-12.1	Tin Marlar	Michael Bunza	03/29/13 16:00	Custody Transfer
JB31800-12.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-12.1	Darnell Brown		07/08/13 15:27	Disposed

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Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-12.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-12.1
JB31800-12.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-12.1
JB31800-12.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-12.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-12.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-12.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-12.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-12.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-12.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-12.1
JB31800-12.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-12.1
JB31800-12.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-12.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-12.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-12.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-12.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-13.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-13.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage
JB31800-13.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-13.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-13.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-13.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-13.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-13.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-13.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-13.1
JB31800-13.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-13.1
JB31800-13.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-13.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-13.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-13.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-13.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-13.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-13.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-13.1
JB31800-13.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-13.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-13.1
JB31800-13.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-13.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-13.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage

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Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-13.2	Secured Storage	Emily Tran	04/01/13 09:59	Retrieve from Storage
JB31800-13.2	Emily Tran	Secured Storage	04/01/13 16:57	Return to Storage
JB31800-13.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-14.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-14.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage
JB31800-14.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-14.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-14.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-14.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-14.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-14.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-14.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-14.1
JB31800-14.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-14.1
JB31800-14.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-14.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-14.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-14.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-14.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-14.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-14.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-14.1
JB31800-14.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-14.1
JB31800-14.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-14.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-14.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 15:41	Retrieve from Storage
JB31800-14.4	Tamika Yvonne Ginn	GCMSC	03/29/13 15:41	Load on Instrument
JB31800-14.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-14.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-14.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-15.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-15.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage
JB31800-15.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-15.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-15.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-15.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-15.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-15.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-15.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-15.1
JB31800-15.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-15.1

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Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-15.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-15.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-15.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-15.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-15.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-15.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-15.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-15.1
JB31800-15.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-15.1
JB31800-15.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-15.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-15.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 16:36	Retrieve from Storage
JB31800-15.4	Tamika Yvonne Ginn	GCMSC	03/29/13 16:36	Load on Instrument
JB31800-15.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-15.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-15.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-16.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-16.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage
JB31800-16.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-16.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-16.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-16.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-16.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-16.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-16.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-16.1
JB31800-16.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-16.1
JB31800-16.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-16.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-16.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-16.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-16.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-16.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-16.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-16.1
JB31800-16.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-16.1
JB31800-16.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-16.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-16.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 15:41	Retrieve from Storage
JB31800-16.4	Tamika Yvonne Ginn	GCMSC	03/29/13 15:41	Load on Instrument
JB31800-16.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument

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Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-16.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-16.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-17.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-17.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage
JB31800-17.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-17.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-17.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-17.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-17.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-17.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-17.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-17.1
JB31800-17.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-17.1
JB31800-17.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-17.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-17.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-17.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-17.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-17.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-17.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-17.1
JB31800-17.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-17.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-17.1
JB31800-17.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-17.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 16:36	Retrieve from Storage
JB31800-17.4	Tamika Yvonne Ginn	GCMSC	03/29/13 16:36	Load on Instrument
JB31800-17.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-17.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-17.4	Darnell Brown		07/08/13 15:27	Disposed
JB31800-18.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-18.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage
JB31800-18.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-18.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-18.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-18.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-18.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-18.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-18.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-18.1
JB31800-18.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-18.1
JB31800-18.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-18.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-18.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-18.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-18.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-18.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-18.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-18.1
JB31800-18.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-18.1
JB31800-18.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-18.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-18.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-18.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-18.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-19.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-19.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage
JB31800-19.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-19.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-19.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-19.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-19.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-19.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-19.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-19.1
JB31800-19.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-19.1
JB31800-19.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-19.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-19.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-19.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-19.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-19.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-19.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-19.1
JB31800-19.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-19.1
JB31800-19.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-19.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-19.2	Secured Storage	Emily Tran	03/29/13 09:46	Retrieve from Storage
JB31800-19.2	Emily Tran	Secured Storage	03/29/13 15:55	Return to Storage
JB31800-19.2	Darnell Brown		07/08/13 15:27	Disposed
JB31800-20.1	Secured Storage	Dave Hunkele	03/28/13 10:17	Retrieve from Storage
JB31800-20.1	Dave Hunkele	Secured Staging Area	03/28/13 10:17	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Received: 03/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB31800-20.1	Secured Staging Area	Krimesh Patel	03/28/13 10:40	Retrieve from Storage
JB31800-20.1	Krimesh Patel	Secured Storage	03/28/13 13:14	Return to Storage
JB31800-20.1	Secured Storage	Tin Marlar	03/29/13 07:28	Retrieve from Storage
JB31800-20.1	Tin Marlar	Michael Bunza	03/29/13 16:50	Custody Transfer
JB31800-20.1	Michael Bunza	Secured Storage	03/29/13 17:51	Return to Storage
JB31800-20.1	Darnell Brown		07/08/13 15:27	Disposed
JB31800-20.1.1	Tin Marlar	Organics Prep	03/29/13 07:30	Extract from JB31800-20.1
JB31800-20.1.1	Organics Prep	Max Ponce	03/29/13 22:55	Extract from JB31800-20.1
JB31800-20.1.1	Max Ponce	Extract Storage	03/29/13 22:55	Return to Storage
JB31800-20.1.1	Extract Storage	Katelynn Henrich	04/02/13 11:24	Retrieve from Storage
JB31800-20.1.1	Katelynn Henrich	GCMS3P	04/02/13 11:24	Load on Instrument
JB31800-20.1.1	GCMS3P	Katelynn Henrich	04/03/13 09:32	Unload from Instrument
JB31800-20.1.1	Katelynn Henrich	Extract Freezer	04/03/13 09:32	Return to Storage
JB31800-20.1.1	Extract Freezer		05/09/13 09:00	Disposed
JB31800-20.1.2	Michael Bunza	Metals Digestion	03/29/13 17:34	Digestate from JB31800-20.1
JB31800-20.1.2	Michael Bunza	Metals Digestate Storage	03/29/13 17:35	Return to Storage
JB31800-20.1.2	Metals Digestion	Michael Bunza	03/29/13 17:35	Digestate from JB31800-20.1
JB31800-20.1.2	Metals Digestate Storage		06/05/13 09:00	Disposed
JB31800-20.4	Secured Storage	Tamika Yvonne Ginn	03/29/13 15:41	Retrieve from Storage
JB31800-20.4	Tamika Yvonne Ginn	GCMSC	03/29/13 15:41	Load on Instrument
JB31800-20.4	GCMSC	Tamika Yvonne Ginn	04/01/13 11:09	Unload from Instrument
JB31800-20.4	Tamika Yvonne Ginn	Secured Storage	04/01/13 11:09	Return to Storage
JB31800-20.4	Darnell Brown		07/08/13 15:27	Disposed

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: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC6473-MB	C180441.D	1	03/29/13	TYG	n/a	n/a	VC6473

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

JB31800-1, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-20

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	98%	70-130%
17060-07-0	1,2-Dichloroethane-D4	89%	70-122%
2037-26-5	Toluene-D8	111%	81-127%
460-00-4	4-Bromofluorobenzene	97%	66-132%

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

Method Blank Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD8450-MB	D207077.D	1	03/29/13	ET	n/a	n/a	VD8450

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

JB31800-11, JB31800-12, JB31800-18, JB31800-19

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	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	84%	70-122%
2037-26-5	Toluene-D8	88%	81-127%
460-00-4	4-Bromofluorobenzene	96%	66-132%

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

Method Blank Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD8451-MB	D207099.D	1	03/30/13	ET	n/a	n/a	VD8451

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

JB31800-2, JB31800-3, JB31800-4, JB31800-5

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	82%	70-130%
17060-07-0	1,2-Dichloroethane-D4	84%	70-122%
2037-26-5	Toluene-D8	88%	81-127%
460-00-4	4-Bromofluorobenzene	97%	66-132%

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

Method Blank Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD8453-MB	D207148.D	1	04/01/13	ET	n/a	n/a	VD8453

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

JB31800-11, JB31800-13

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	84%	70-122%
2037-26-5	Toluene-D8	87%	81-127%
460-00-4	4-Bromofluorobenzene	96%	66-132%

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

Method Blank Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8862-MB	E201564.D	1	04/01/13	OTR	n/a	n/a	VE8862

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

JB31800-6

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	250	6.1	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
17060-07-0	1,2-Dichloroethane-D4	80%	70-122%
2037-26-5	Toluene-D8	90%	81-127%
460-00-4	4-Bromofluorobenzene	88%	66-132%

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

Blank Spike Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC6473-BS	C180442.D	1	03/29/13	TYG	n/a	n/a	VC6473

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

JB31800-1, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-20

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	53.5	107	77-122
107-06-2	1,2-Dichloroethane	50	52.0	104	68-134
100-41-4	Ethylbenzene	50	53.9	108	74-119
98-82-8	Isopropylbenzene	50	54.3	109	71-119
1634-04-4	Methyl Tert Butyl Ether	100	104	104	72-124
91-20-3	Naphthalene	50	53.5	107	60-127
108-88-3	Toluene	50	54.5	109	77-121
95-63-6	1,2,4-Trimethylbenzene	50	53.2	106	72-118
108-67-8	1,3,5-Trimethylbenzene	50	53.4	107	69-118
1330-20-7	Xylene (total)	150	171	114	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	70-130%
17060-07-0	1,2-Dichloroethane-D4	88%	70-122%
2037-26-5	Toluene-D8	111%	81-127%
460-00-4	4-Bromofluorobenzene	97%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD8450-BS	D207078.D	1	03/29/13	ET	n/a	n/a	VD8450

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

JB31800-11, JB31800-12, JB31800-18, JB31800-19

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2500	100	76-117
106-93-4	1,2-Dibromoethane	2500	2450	98	77-122
107-06-2	1,2-Dichloroethane	2500	2180	87	68-134
100-41-4	Ethylbenzene	2500	2430	97	74-119
98-82-8	Isopropylbenzene	2500	2560	102	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4880	98	72-124
91-20-3	Naphthalene	2500	2500	100	60-127
108-88-3	Toluene	2500	2410	96	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2580	103	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2540	102	69-118
1330-20-7	Xylene (total)	7500	7240	97	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	85%	70-130%
17060-07-0	1,2-Dichloroethane-D4	82%	70-122%
2037-26-5	Toluene-D8	88%	81-127%
460-00-4	4-Bromofluorobenzene	95%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD8451-BS	D207101.D	1	03/30/13	ET	n/a	n/a	VD8451

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

JB31800-2, JB31800-3, JB31800-4, JB31800-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2520	101	76-117
106-93-4	1,2-Dibromoethane	2500	2460	98	77-122
107-06-2	1,2-Dichloroethane	2500	2170	87	68-134
100-41-4	Ethylbenzene	2500	2440	98	74-119
98-82-8	Isopropylbenzene	2500	2540	102	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4930	99	72-124
91-20-3	Naphthalene	2500	2520	101	60-127
108-88-3	Toluene	2500	2410	96	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2560	102	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2500	100	69-118
1330-20-7	Xylene (total)	7500	7210	96	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	85%	70-130%
17060-07-0	1,2-Dichloroethane-D4	83%	70-122%
2037-26-5	Toluene-D8	88%	81-127%
460-00-4	4-Bromofluorobenzene	96%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VD8453-BS	D207149.D	1	04/01/13	ET	n/a	n/a	VD8453

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

JB31800-11, JB31800-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2540	102	76-117
106-93-4	1,2-Dibromoethane	2500	2500	100	77-122
107-06-2	1,2-Dichloroethane	2500	2200	88	68-134
100-41-4	Ethylbenzene	2500	2470	99	74-119
98-82-8	Isopropylbenzene	2500	2660	106	71-119
1634-04-4	Methyl Tert Butyl Ether	5000	4890	98	72-124
91-20-3	Naphthalene	2500	2770	111	60-127
108-88-3	Toluene	2500	2450	98	77-121
95-63-6	1,2,4-Trimethylbenzene	2500	2660	106	72-118
108-67-8	1,3,5-Trimethylbenzene	2500	2620	105	69-118
1330-20-7	Xylene (total)	7500	7370	98	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	83%	70-122%
2037-26-5	Toluene-D8	88%	81-127%
460-00-4	4-Bromofluorobenzene	97%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE8862-BS	E201565.D	1	04/01/13	OTR	n/a	n/a	VE8862

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

JB31800-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
91-20-3	Naphthalene	2500	2600	104	60-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	86%	70-122%
2037-26-5	Toluene-D8	90%	81-127%
460-00-4	4-Bromofluorobenzene	89%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31820-5MS	C180450.D	1	03/29/13	TYG	n/a	n/a	VC6473
JB31820-5MSD	C180451.D	1	03/29/13	TYG	n/a	n/a	VC6473
JB31820-5	C180444.D	1	03/29/13	TYG	n/a	n/a	VC6473

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

JB31800-1, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-20

CAS No.	Compound	JB31820-5 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		62.5	63.7	102	62.5	59.0	94	8	44-130/21
106-93-4	1,2-Dibromoethane	ND		62.5	59.8	96	62.5	59.3	95	1	41-139/21
107-06-2	1,2-Dichloroethane	ND		62.5	58.7	94	62.5	57.4	92	2	43-139/19
100-41-4	Ethylbenzene	ND		62.5	65.8	105	62.5	59.9	96	9	29-137/25
98-82-8	Isopropylbenzene	ND		62.5	68.1	109	62.5	60.9	97	11	27-138/26
1634-04-4	Methyl Tert Butyl Ether	6.0		62.5	64.8	94	62.5	70.7	103	9	51-128/20
91-20-3	Naphthalene	ND		62.5	63.6	102	62.5	63.1	101	1	10-152/31
108-88-3	Toluene	ND		62.5	67.3	108	62.5	62.8	100	7	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		62.5	62.7	100	62.5	56.9	91	10	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		62.5	65.0	104	62.5	58.3	93	11	20-140/27
1330-20-7	Xylene (total)	ND		188	207	110	188	189	101	9	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31820-5	Limits
1868-53-7	Dibromofluoromethane	99%	102%	98%	70-130%
17060-07-0	1,2-Dichloroethane-D4	88%	92%	90%	70-122%
2037-26-5	Toluene-D8	112%	113%	111%	81-127%
460-00-4	4-Bromofluorobenzene	97%	96%	97%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31800-12MS	D207079.D	1	03/29/13	ET	n/a	n/a	VD8450
JB31800-12MSD	D207080.D	1	03/30/13	ET	n/a	n/a	VD8450
JB31800-12	D207083.D	1	03/30/13	ET	n/a	n/a	VD8450

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

JB31800-11, JB31800-12, JB31800-18, JB31800-19

CAS No.	Compound	JB31800-12 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		5680	5220	92	5680	5240	92	0	44-130/21
106-93-4	1,2-Dibromoethane	ND		5680	5210	92	5680	5210	92	0	41-139/21
107-06-2	1,2-Dichloroethane	ND		5680	4580	81	5680	4530	80	1	43-139/19
100-41-4	Ethylbenzene	ND		5680	5120	90	5680	5210	92	2	29-137/25
98-82-8	Isopropylbenzene	104	J	5680	5520	95	5680	5540	96	0	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		5680	5300	93	5680	5210	92	2	51-128/20
91-20-3	Naphthalene	ND		5680	5750	101	5680	5530	97	4	10-152/31
108-88-3	Toluene	ND		5680	5170	91	5680	5260	93	2	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		5680	5480	97	5680	5460	96	0	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		5680	5430	96	5680	5430	96	0	20-140/27
1330-20-7	Xylene (total)	ND		17000	15400	90	17000	15600	92	1	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31800-12	Limits
1868-53-7	Dibromofluoromethane	84%	84%	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	82%	82%	83%	70-122%
2037-26-5	Toluene-D8	88%	88%	88%	81-127%
460-00-4	4-Bromofluorobenzene	95%	95%	96%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32158-2MS	D207102.D	1	03/30/13	ET	n/a	n/a	VD8451
JB32158-2MSD	D207103.D	1	03/30/13	ET	n/a	n/a	VD8451
JB32158-2	D207105.D	1	03/30/13	ET	n/a	n/a	VD8451

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

JB31800-2, JB31800-3, JB31800-4, JB31800-5

CAS No.	Compound	JB32158-2 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		3370	3020	90	3370	3110	92	3	44-130/21
106-93-4	1,2-Dibromoethane	ND		3370	3050	91	3370	3100	92	2	41-139/21
107-06-2	1,2-Dichloroethane	ND		3370	2640	78	3370	2690	80	2	43-139/19
100-41-4	Ethylbenzene	ND		3370	2990	89	3370	3110	92	4	29-137/25
98-82-8	Isopropylbenzene	ND		3370	3220	96	3370	3280	97	2	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		3370	3080	91	3370	3190	95	4	51-128/20
91-20-3	Naphthalene	ND		3370	3560	106	3370	3460	103	3	10-152/31
108-88-3	Toluene	ND		3370	2980	89	3370	3110	92	4	40-135/22
95-63-6	1,2,4-Trimethylbenzene	ND		3370	3200	95	3370	3300	98	3	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		3370	3180	94	3370	3270	97	3	20-140/27
1330-20-7	Xylene (total)	ND		10100	8950	89	10100	9320	92	4	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB32158-2	Limits
1868-53-7	Dibromofluoromethane	87%	84%	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	85%	82%	84%	70-122%
2037-26-5	Toluene-D8	87%	88%	88%	81-127%
460-00-4	4-Bromofluorobenzene	96%	95%	96%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB32619-1MS	E201574.D	1	04/01/13	OTR	n/a	n/a	VE8862
JB32619-1MSD	E201575.D	1	04/01/13	OTR	n/a	n/a	VE8862
JB32619-1 [a]	E201569.D	1	04/01/13	OTR	n/a	n/a	VE8862

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

JB31800-6

CAS No.	Compound	JB32619-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
91-20-3	Naphthalene	ND		2700	2730	101	2700	2660	99	3	10-152/31

CAS No.	Surrogate Recoveries	MS	MSD	JB32619-1	Limits
1868-53-7	Dibromofluoromethane	84%	85%	80%	70-130%
17060-07-0	1,2-Dichloroethane-D4	78%	82%	78%	70-122%
2037-26-5	Toluene-D8	90%	90%	89%	81-127%
460-00-4	4-Bromofluorobenzene	90%	89%	91%	66-132%

(a) Dilution required due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB31800-13MS	D207162.D	1	04/01/13	ET	n/a	n/a	VD8453
JB31800-13MSD	D207163.D	1	04/01/13	ET	n/a	n/a	VD8453
JB31800-13	D207151.D	1	04/01/13	ET	n/a	n/a	VD8453

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

JB31800-11, JB31800-13

CAS No.	Compound	JB31800-13 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	ND		6580	6220	94	6580	6280	95	1	44-130/21
106-93-4	1,2-Dibromoethane	ND		6580	6310	96	6580	6310	96	0	41-139/21
107-06-2	1,2-Dichloroethane	ND		6580	5460	83	6580	5510	84	1	43-139/19
100-41-4	Ethylbenzene	ND		6580	6160	94	6580	6290	96	2	29-137/25
98-82-8	Isopropylbenzene	350	J	6580	6750	97	6580	6870	99	2	27-138/26
1634-04-4	Methyl Tert Butyl Ether	ND		6580	6180	94	6580	6290	96	2	51-128/20
91-20-3	Naphthalene	ND		6580	6400	97	6580	6700	102	5	10-152/31
108-88-3	Toluene	ND		6580	6210	94	6580	6310	96	2	40-135/22
95-63-6	1,2,4-Trimethylbenzene	46.9	J	6580	6510	98	6580	6640	100	2	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		6580	6440	98	6580	6590	100	2	20-140/27
1330-20-7	Xylene (total)	ND		19700	18400	93	19700	18800	95	2	28-139/25

CAS No.	Surrogate Recoveries	MS	MSD	JB31800-13	Limits
1868-53-7	Dibromofluoromethane	83%	83%	83%	70-130%
17060-07-0	1,2-Dichloroethane-D4	83%	82%	84%	70-122%
2037-26-5	Toluene-D8	88%	88%	88%	81-127%
460-00-4	4-Bromofluorobenzene	96%	96%	96%	66-132%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VC6469-BFB
Lab File ID: C180342.D
Instrument ID: GCMSC
Injection Date: 03/26/13
Injection Time: 14:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	15340	16.3		Pass
75	30.0 - 60.0% of mass 95	42130	44.7		Pass
95	Base peak, 100% relative abundance	94336	100.0		Pass
96	5.0 - 9.0% of mass 95	6424	6.81		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	74490	79.0		Pass
175	5.0 - 9.0% of mass 174	5788	6.14	(7.77) [a]	Pass
176	95.0 - 101.0% of mass 174	71944	76.3	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	4896	5.19	(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
VC6469-IC6469	C180343.D	03/26/13	16:50	02:45	Initial cal 0.5
VC6469-IC6469	C180344.D	03/26/13	17:17	03:12	Initial cal 1
VC6469-IC6469	C180345.D	03/26/13	17:44	03:39	Initial cal 2
VC6469-IC6469	C180346.D	03/26/13	18:11	04:06	Initial cal 5
VC6469-IC6469	C180347.D	03/26/13	18:37	04:32	Initial cal 10
VC6469-IC6469	C180348.D	03/26/13	19:04	04:59	Initial cal 20
VC6469-ICC6469	C180349.D	03/26/13	19:31	05:26	Initial cal 50
VC6469-IC6469	C180350.D	03/26/13	19:57	05:52	Initial cal 100
VC6469-IC6469	C180351.D	03/26/13	20:24	06:19	Initial cal 200

Instrument Performance Check (BFB)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VC6473-BFB
Lab File ID: C180438.D
Instrument ID: GCMSC
Injection Date: 03/29/13
Injection Time: 08:16

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	11070	15.0		Pass
75	30.0 - 60.0% of mass 95	31381	42.5		Pass
95	Base peak, 100% relative abundance	73760	100.0		Pass
96	5.0 - 9.0% of mass 95	4915	6.66		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	63230	85.7		Pass
175	5.0 - 9.0% of mass 174	4836	6.56	(7.65) [a]	Pass
176	95.0 - 101.0% of mass 174	61107	82.8	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	4057	5.50	(6.64) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC6473-CC6469	C180439.D	03/29/13	08:49	00:33	Continuing cal 20
VC6473-MB	C180441.D	03/29/13	10:29	02:13	Method Blank
VC6473-BS	C180442.D	03/29/13	11:08	02:52	Blank Spike
JB31820-5	C180444.D	03/29/13	12:01	03:45	(used for QC only; not part of job JB31800)
JB31800-1	C180445.D	03/29/13	12:28	04:12	MH 523-1 (4.0-4.5)
JB31800-8	C180446.D	03/29/13	12:55	04:39	MH 523-8 (3.0-3.5)
JB31800-7	C180447.D	03/29/13	13:21	05:05	MH 523-7 (1.9-2.4)
JB31800-6	C180448.D	03/29/13	13:48	05:32	MH 523-6 (3.0-3.5)
JB31800-14	C180449.D	03/29/13	14:14	05:58	MH 455-4 (3.0-3.5)
JB31820-5MS	C180450.D	03/29/13	14:41	06:25	Matrix Spike
JB31820-5MSD	C180451.D	03/29/13	15:08	06:52	Matrix Spike Duplicate
JB31800-20	C180453.D	03/29/13	16:06	07:50	MH 455-10 (0.25-0.50)
JB31800-16	C180454.D	03/29/13	16:32	08:16	MH 455-6 (3.0-3.5)
JB31800-9	C180455.D	03/29/13	16:59	08:43	MH 523-9 (5.0-5.5)
JB31800-10	C180456.D	03/29/13	17:26	09:10	MH 523-10 (0.25-0.50)
JB31800-15	C180457.D	03/29/13	17:52	09:36	MH 455-5 (2.5-3.0)
JB31800-17	C180458.D	03/29/13	18:19	10:03	MH 455-7 (3.0-3.5)
ZZZZZZ	C180460.D	03/29/13	19:12	10:56	(unrelated sample)
ZZZZZZ	C180461.D	03/29/13	19:39	11:23	(unrelated sample)
ZZZZZZ	C180462.D	03/29/13	20:06	11:50	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VD8442-BFB
Lab File ID: D206909.D
Instrument ID: GCMSD
Injection Date: 03/25/13
Injection Time: 22:18

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	19629	21.8		Pass
75	30.0 - 60.0% of mass 95	47448	52.6		Pass
95	Base peak, 100% relative abundance	90186	100.0		Pass
96	5.0 - 9.0% of mass 95	6046	6.70		Pass
173	Less than 2.0% of mass 174	679	0.75	(0.82) [a]	Pass
174	50.0 - 120.0% of mass 95	82594	91.6		Pass
175	5.0 - 9.0% of mass 174	6008	6.66	(7.27) [a]	Pass
176	95.0 - 101.0% of mass 174	81125	90.0	(98.2) [a]	Pass
177	5.0 - 9.0% of mass 176	5543	6.15	(6.83) [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
VD8442-IC8442	D206910.D	03/25/13	22:48	00:30	Initial cal 0.5
VD8442-IC8442	D206911.D	03/25/13	23:17	00:59	Initial cal 1
VD8442-IC8442	D206912.D	03/25/13	23:47	01:29	Initial cal 2
VD8442-IC8442	D206913.D	03/26/13	00:16	01:58	Initial cal 5
VD8442-IC8442	D206914.D	03/26/13	00:46	02:28	Initial cal 10
VD8442-IC8442	D206915.D	03/26/13	01:16	02:58	Initial cal 20
VD8442-ICC8442	D206916.D	03/26/13	01:45	03:27	Initial cal 50
VD8442-IC8442	D206917.D	03/26/13	02:15	03:57	Initial cal 100
VD8442-IC8442	D206918.D	03/26/13	02:44	04:26	Initial cal 200
VD8442-ICV8442	D206921.D	03/26/13	04:13	05:55	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VD8450-BFB
Lab File ID: D207074.D
Instrument ID: GCMSD
Injection Date: 03/29/13
Injection Time: 21:28

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18074	17.6		Pass
75	30.0 - 60.0% of mass 95	47946	46.6		Pass
95	Base peak, 100% relative abundance	102866	100.0		Pass
96	5.0 - 9.0% of mass 95	7094	6.90		Pass
173	Less than 2.0% of mass 174	427	0.42	(0.51) [a]	Pass
174	50.0 - 120.0% of mass 95	83992	81.7		Pass
175	5.0 - 9.0% of mass 174	6173	6.00	(7.35) [a]	Pass
176	95.0 - 101.0% of mass 174	81496	79.2	(97.0) [a]	Pass
177	5.0 - 9.0% of mass 176	5460	5.31	(6.70) [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
VD8450-CC8442	D207075.D	03/29/13	21:57	00:29	Continuing cal 50
VD8450-MB	D207077.D	03/29/13	22:56	01:28	Method Blank
VD8450-BS	D207078.D	03/29/13	23:25	01:57	Blank Spike
JB31800-12MS	D207079.D	03/29/13	23:54	02:26	Matrix Spike
JB31800-12MSD	D207080.D	03/30/13	00:23	02:55	Matrix Spike Duplicate
ZZZZZZ	D207082.D	03/30/13	01:22	03:54	(unrelated sample)
JB31800-12	D207083.D	03/30/13	01:51	04:23	MH 455-2 (2.5-3.0)
ZZZZZZ	D207084.D	03/30/13	02:20	04:52	(unrelated sample)
ZZZZZZ	D207085.D	03/30/13	02:49	05:21	(unrelated sample)
ZZZZZZ	D207086.D	03/30/13	03:19	05:51	(unrelated sample)
ZZZZZZ	D207087.D	03/30/13	03:48	06:20	(unrelated sample)
ZZZZZZ	D207089.D	03/30/13	04:47	07:19	(unrelated sample)
JB31800-11	D207091.D	03/30/13	05:45	08:17	MH 455-1 (4.5-5.0)
JB31800-18	D207093.D	03/30/13	06:44	09:16	MH 455-8 (5.0-5.5)
JB31800-19	D207094.D	03/30/13	07:13	09:45	MH 455-9 (5.0-5.5)

Instrument Performance Check (BFB)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VD8451-BFB
Lab File ID: D207096.D
Instrument ID: GCMSD
Injection Date: 03/30/13
Injection Time: 08:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18461	18.0		Pass
75	30.0 - 60.0% of mass 95	49282	48.0		Pass
95	Base peak, 100% relative abundance	102608	100.0		Pass
96	5.0 - 9.0% of mass 95	7235	7.05		Pass
173	Less than 2.0% of mass 174	423	0.41	(0.52) [a]	Pass
174	50.0 - 120.0% of mass 95	80808	78.8		Pass
175	5.0 - 9.0% of mass 174	5813	5.67	(7.19) [a]	Pass
176	95.0 - 101.0% of mass 174	78906	76.9	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	5252	5.12	(6.66) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VD8451-CC8442	D207097A.D	03/30/13	10:11	01:59	Continuing cal 20
VD8451-MB	D207099.D	03/30/13	11:22	03:10	Method Blank
ZZZZZZ	D207100.D	03/30/13	11:57	03:45	(unrelated sample)
VD8451-BS	D207101.D	03/30/13	12:27	04:15	Blank Spike
JB32158-2MS	D207102.D	03/30/13	13:06	04:54	Matrix Spike
JB32158-2MSD	D207103.D	03/30/13	13:36	05:24	Matrix Spike Duplicate
JB32158-2	D207105.D	03/30/13	14:34	06:22	(used for QC only; not part of job JB31800)
ZZZZZZ	D207107.D	03/30/13	15:33	07:21	(unrelated sample)
ZZZZZZ	D207108.D	03/30/13	16:03	07:51	(unrelated sample)
JB31800-2	D207109.D	03/30/13	16:32	08:20	MH 523-2 (2.5-3.0)
JB31800-3	D207110.D	03/30/13	17:01	08:49	MH 523-3 (3.0-3.5)
JB31800-4	D207111.D	03/30/13	17:30	09:18	MH 523-4 (2.0-2.5)
JB31800-5	D207112.D	03/30/13	17:59	09:47	MH 523-5 (2.7-3.2)
ZZZZZZ	D207117.D	03/30/13	20:25	12:13	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VD8453-BFB
Lab File ID: D207145.D
Instrument ID: GCMSD
Injection Date: 04/01/13
Injection Time: 08:38

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	18157	17.6		Pass
75	30.0 - 60.0% of mass 95	47801	46.3		Pass
95	Base peak, 100% relative abundance	103134	100.0		Pass
96	5.0 - 9.0% of mass 95	6975	6.76		Pass
173	Less than 2.0% of mass 174	212	0.21	(0.26) [a]	Pass
174	50.0 - 120.0% of mass 95	82736	80.2		Pass
175	5.0 - 9.0% of mass 174	6005	5.82	(7.26) [a]	Pass
176	95.0 - 101.0% of mass 174	80301	77.9	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	5371	5.21	(6.69) [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
VD8453-CC8442	D207146.D	04/01/13	09:08	00:30	Continuing cal 20
VD8453-MB	D207148.D	04/01/13	10:13	01:35	Method Blank
VD8453-BS	D207149.D	04/01/13	10:49	02:11	Blank Spike
ZZZZZZ	D207150.D	04/01/13	11:25	02:47	(unrelated sample)
JB31800-13	D207151.D	04/01/13	11:55	03:17	MH 455-3 (3.0-3.5)
ZZZZZZ	D207152.D	04/01/13	12:24	03:46	(unrelated sample)
ZZZZZZ	D207153.D	04/01/13	12:53	04:15	(unrelated sample)
ZZZZZZ	D207155.D	04/01/13	13:52	05:14	(unrelated sample)
ZZZZZZ	D207156.D	04/01/13	14:22	05:44	(unrelated sample)
ZZZZZZ	D207158.D	04/01/13	15:43	07:05	(unrelated sample)
ZZZZZZ	D207159.D	04/01/13	16:13	07:35	(unrelated sample)
ZZZZZZ	D207160.D	04/01/13	16:42	08:04	(unrelated sample)
JB31800-11	D207161.D	04/01/13	17:12	08:34	MH 455-1 (4.5-5.0)
JB31800-13MS	D207162.D	04/01/13	17:41	09:03	Matrix Spike
JB31800-13MSD	D207163.D	04/01/13	18:10	09:32	Matrix Spike Duplicate
ZZZZZZ	D207164.D	04/01/13	18:40	10:02	(unrelated sample)
ZZZZZZ	D207165.D	04/01/13	19:09	10:31	(unrelated sample)
ZZZZZZ	D207166.D	04/01/13	19:39	11:01	(unrelated sample)
ZZZZZZ	D207167.D	04/01/13	20:08	11:30	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB31800
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: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VE8862-BFB
Lab File ID: E201561.D
Instrument ID: GCMSE
Injection Date: 04/01/13
Injection Time: 09:31

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	7173	15.9		Pass
75	30.0 - 60.0% of mass 95	19752	43.9		Pass
95	Base peak, 100% relative abundance	45032	100.0		Pass
96	5.0 - 9.0% of mass 95	3036	6.74		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	47192	104.8		Pass
175	5.0 - 9.0% of mass 174	3736	8.30	(7.92) [a]	Pass
176	95.0 - 101.0% of mass 174	47346	105.1	(100.3) [a]	Pass
177	5.0 - 9.0% of mass 176	2978	6.61	(6.29) [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
VE8862-CC8801	E201562.D	04/01/13	10:03	00:32	Continuing cal 20
VE8862-MB	E201564.D	04/01/13	11:10	01:39	Method Blank
VE8862-BS	E201565.D	04/01/13	11:46	02:15	Blank Spike
JB31800-6	E201566.D	04/01/13	12:22	02:51	MH 523-6 (3.0-3.5)
JB32619-1	E201569.D	04/01/13	13:53	04:22	(used for QC only; not part of job JB31800)
ZZZZZZ	E201571.D	04/01/13	14:54	05:23	(unrelated sample)
ZZZZZZ	E201572.D	04/01/13	15:25	05:54	(unrelated sample)
JB31800-1	E201573.D	04/01/13	15:55	06:24	MH 523-1 (4.0-4.5)
JB32619-1MS	E201574.D	04/01/13	16:25	06:54	Matrix Spike
JB32619-1MSD	E201575.D	04/01/13	16:55	07:24	Matrix Spike Duplicate
ZZZZZZ	E201576.D	04/01/13	17:25	07:54	(unrelated sample)
ZZZZZZ	E201577.D	04/01/13	17:55	08:24	(unrelated sample)
ZZZZZZ	E201577R.D	04/01/13	17:55	08:24	(unrelated sample)
ZZZZZZ	E201578.D	04/01/13	18:25	08:54	(unrelated sample)
ZZZZZZ	E201579.D	04/01/13	18:56	09:25	(unrelated sample)
ZZZZZZ	E201580.D	04/01/13	19:26	09:55	(unrelated sample)
ZZZZZZ	E201583.D	04/01/13	20:57	11:26	(unrelated sample)

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VC6473-CC6469	**Injection Date:**	03/29/13
Lab File ID:	C180439.D	**Injection Time:**	08:49
Instrument ID:	GCMSC	**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	57767	5.48	217740	8.07	315693	9.06	258635	12.14	136166	14.16
Upper Limit [a]	115534	5.98	435480	8.57	631386	9.56	517270	12.64	272332	14.66
Lower Limit [b]	28884	4.98	108870	7.57	157847	8.56	129318	11.64	68083	13.66

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VC6473-MB	51036	5.49	209927	8.07	304986	9.06	245723	12.13	126388	14.16
VC6473-BS	62115	5.49	216629	8.07	317184	9.06	255015	12.13	134729	14.16
JB31820-5	62697	5.49	216709	8.07	314975	9.06	254762	12.13	134054	14.16
JB31800-1	38287	5.49	224292	8.07	327829	9.06	251175	12.13	106986	14.16
JB31800-8	45810	5.49	224189	8.07	328399	9.06	258353	12.13	117938	14.16
JB31800-7	56056	5.49	222227	8.07	331090	9.06	264431	12.14	121131	14.16
JB31800-6	77976	5.49	225576	8.07	331354	9.06	269118	12.13	138039	14.16
JB31800-14	68334	5.48	221874	8.07	324383	9.06	264984	12.14	140621	14.16
JB31820-5MS	59973	5.49	216461	8.07	317766	9.06	257411	12.14	135260	14.15
JB31820-5MSD	69993	5.49	218673	8.07	321573	9.06	263819	12.14	140602	14.16
JB31800-20	71837	5.49	228425	8.08	334131	9.06	269967	12.14	141180	14.16
JB31800-16	63395	5.49	228633	8.07	336402	9.06	273161	12.14	143447	14.16
JB31800-9	64861	5.48	227105	8.07	334409	9.06	271169	12.13	141764	14.16
JB31800-10	58657	5.49	222134	8.07	328951	9.06	262910	12.13	128976	14.16
JB31800-15	61499	5.48	223553	8.07	329062	9.06	266349	12.13	139327	14.16
JB31800-17	61567	5.49	226137	8.07	334479	9.06	269164	12.14	143347	14.16
ZZZZZZ	64058	5.48	222893	8.07	327578	9.06	263716	12.14	136453	14.16
ZZZZZZ	61688	5.48	219866	8.07	325114	9.06	262966	12.14	134606	14.16
ZZZZZZ	61180	5.48	221488	8.07	326559	9.06	263535	12.14	135678	14.16

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: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VD8450-CC8442	**Injection Date:**	03/29/13
Lab File ID:	D207075.D	**Injection Time:**	21:57
Instrument ID:	GCMSD	**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	160500	8.03	246927	10.23	388339	11.15	360239	14.49	213216	17.07
Upper Limit [a]	321000	8.53	493854	10.73	776678	11.65	720478	14.99	426432	17.57
Lower Limit [b]	80250	7.53	123464	9.73	194170	10.65	180120	13.99	106608	16.57

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VD8450-MB	160884	8.02	246999	10.23	387908	11.15	369225	14.49	216736	17.08
VD8450-BS	161786	8.00	250757	10.24	392754	11.15	365957	14.49	215609	17.07
JB31800-12MS	168424	8.03	249765	10.23	389013	11.15	363662	14.49	214544	17.08
JB31800-12MSD	163019	8.02	251914	10.23	394205	11.15	367422	14.49	217840	17.08
ZZZZZZ	166993	8.08	247317	10.23	385967	11.15	361266	14.49	215634	17.07
JB31800-12	158475	8.02	251259	10.23	390396	11.15	369478	14.49	216148	17.08
ZZZZZZ	160980	8.02	254490	10.23	397580	11.15	372221	14.49	216732	17.08
ZZZZZZ	165451	8.03	249101	10.23	384696	11.15	357004	14.49	211768	17.08
ZZZZZZ	136353	8.02	246530	10.23	379783	11.15	358209	14.49	216905	17.07
ZZZZZZ	142174	8.00	243410	10.23	377223	11.15	357059	14.49	223422	17.08
ZZZZZZ	149231	8.01	243734	10.23	383337	11.15	358827	14.49	219289	17.07
JB31800-11	138718	8.01	242408	10.23	380030	11.15	359610	14.49	216013	17.08
JB31800-18	136483	8.01	244305	10.23	380158	11.15	355433	14.49	211774	17.07
JB31800-19 [c]	148096	8.01	245953	10.23	382673	11.15	359737	14.49	213455	17.07

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

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

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VD8451-CC8442	**Injection Date:**	03/30/13
Lab File ID:	D207097A.D	**Injection Time:**	10:11
Instrument ID:	GCMSD	**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	170562	8.00	255816	10.23	403891	11.14	372920	14.49	216234	17.07
Upper Limit [a]	341124	8.50	511632	10.73	807782	11.64	745840	14.99	432468	17.57
Lower Limit [b]	85281	7.50	127908	9.73	201946	10.64	186460	13.99	108117	16.57

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VD8451-MB	163826	8.01	251519	10.23	394590	11.15	375669	14.49	218848	17.07
ZZZZZZ	173571	8.01	248236	10.23	390669	11.14	364410	14.49	209023	17.07
VD8451-BS	167315	8.00	250566	10.23	394177	11.15	365683	14.49	215566	17.07
JB32158-2MS	180816	8.02	250914	10.23	396486	11.14	361525	14.49	209597	17.07
JB32158-2MSD	169103	8.02	248254	10.23	390903	11.15	359634	14.49	211744	17.08
JB32158-2	170527	8.03	251203	10.23	387764	11.15	368403	14.49	216567	17.07
ZZZZZZ	162953	8.01	247439	10.23	385036	11.15	361745	14.49	222049	17.07
ZZZZZZ	166501	8.01	245454	10.23	378924	11.15	364102	14.49	219035	17.07
JB31800-2 [c]	156190	8.00	240650	10.23	380022	11.15	361220	14.49	222457	17.07
JB31800-3 [c]	166060	8.03	235825	10.23	370501	11.15	356673	14.49	225863	17.07
JB31800-4 [d]	159575	8.03	245781	10.23	381855	11.15	357815	14.49	222814	17.08
JB31800-5 [c]	160809	8.02	243157	10.23	380836	11.15	357970	14.49	219392	17.08
ZZZZZZ	160610	8.03	249612	10.23	387644	11.15	362657	14.49	217678	17.07

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

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VD8453-CC8442	**Injection Date:**	04/01/13
Lab File ID:	D207146.D	**Injection Time:**	09:08
Instrument ID:	GCMSD	**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	175674	8.00	252701	10.23	395686	11.15	366435	14.49	211526	17.07
Upper Limit [a]	351348	8.50	505402	10.73	791372	11.65	732870	14.99	423052	17.57
Lower Limit [b]	87837	7.50	126351	9.73	197843	10.65	183218	13.99	105763	16.57

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VD8453-MB	136847	8.01	250339	10.23	391980	11.15	370627	14.49	216243	17.08
VD8453-BS	173056	8.00	250291	10.23	394015	11.15	360826	14.49	207593	17.08
ZZZZZZ	172952	8.00	252644	10.23	395785	11.14	370532	14.49	210773	17.08
JB31800-13	173681	8.02	247666	10.23	390650	11.15	370415	14.49	214709	17.08
ZZZZZZ	179447	8.01	287357	10.25	460043	11.16	381103	14.50	197718	17.07
ZZZZZZ	158264	8.01	251366	10.23	398546	11.15	364394	14.49	209543	17.08
ZZZZZZ	168798	8.01	248940	10.23	385585	11.15	363702	14.49	217640	17.07
ZZZZZZ	179622	8.00	255164	10.23	396587	11.15	374840	14.49	221028	17.08
ZZZZZZ	188033	8.01	261681	10.24	406040	11.15	385475	14.49	221009	17.07
ZZZZZZ	191893	8.01	264119	10.24	408929	11.15	390827	14.49	221808	17.08
ZZZZZZ	189234	8.00	264918	10.24	413494	11.15	391687	14.49	223465	17.07
JB31800-11	187393	8.00	259601	10.24	406312	11.15	385658	14.49	218726	17.07
JB31800-13MS	165862	8.01	251424	10.23	394910	11.15	366011	14.49	214057	17.08
JB31800-13MSD	170139	8.02	246738	10.23	390654	11.15	359463	14.49	211960	17.08
ZZZZZZ	155752	8.01	249728	10.23	391493	11.15	358586	14.49	215293	17.07
ZZZZZZ	163027	8.01	242444	10.23	378410	11.15	350894	14.49	227330	17.07
ZZZZZZ	158101	8.01	248844	10.23	382330	11.15	358493	14.49	209678	17.07
ZZZZZZ	157882	8.01	242586	10.23	381336	11.15	360275	14.49	209107	17.07

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: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	VE8862-CC8801	**Injection Date:**	04/01/13
Lab File ID:	E201562.D	**Injection Time:**	10:03
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	77150	7.68	156054	9.91	202515	10.83	190067	14.15	107357	16.72
Upper Limit [a]	154300	8.18	312108	10.41	405030	11.33	380134	14.65	214714	17.22
Lower Limit [b]	38575	7.18	78027	9.41	101258	10.33	95034	13.65	53679	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
VE8862-MB	54505	7.68	158965	9.90	202561	10.82	191081	14.15	111676	16.72
VE8862-BS	68841	7.68	144933	9.91	189010	10.83	179438	14.15	100843	16.72
JB31800-6	66401	7.68	154324	9.91	194292	10.83	176426	14.15	106140	16.72
JB32619-1	61916	7.68	167096	9.90	212814	10.82	191366	14.15	111293	16.72
ZZZZZZ	64543	7.68	165627	9.90	214479	10.82	198149	14.15	117884	16.72
ZZZZZZ	63085	7.68	170018	9.90	216489	10.82	199634	14.15	118152	16.72
JB31800-1 [c]	64262	7.68	165241	9.90	213286	10.82	191838	14.15	107517	16.72
JB32619-1MS	63080	7.67	153273	9.91	202946	10.83	189370	14.15	106388	16.72
JB32619-1MSD	59976	7.68	153865	9.90	204303	10.82	192631	14.15	110313	16.72
ZZZZZZ	91966	7.69	172791	9.91	217335	10.82	199333	14.15	114282	16.72
ZZZZZZ	65153	7.67	169953	9.90	215357	10.83	200713	14.15	113321	16.72
ZZZZZZ	65153	7.67	169953	9.90	215357	10.83	200713	14.15	113321	16.72
ZZZZZZ	62034	7.68	166992	9.91	212819	10.82	200057	14.15	116206	16.72
ZZZZZZ	62564	7.68	169115	9.91	223556	10.83	207807	14.15	121276	16.72
ZZZZZZ	78188	7.69	174183	9.91	231724	10.84	195999	14.16	112186	16.72
ZZZZZZ	77941	7.69	164053	9.90	211961	10.82	183504	14.15	115340	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 surrogate recoveries.

Surrogate Recovery Summary

Job Number: JB31800
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
JB31800-1	E201573.D	81	81	89	91
JB31800-1	C180445.D	99	92	108	186* [a]
JB31800-2	D207109.D	84	84	91	99
JB31800-3	D207110.D	84	84	110	126
JB31800-4	D207111.D	80	81	88	92
JB31800-5	D207112.D	82	83	97	111
JB31800-6	C180448.D	101	92	110	105
JB31800-6	E201566.D	82	81	89	85
JB31800-7	C180447.D	102	99	111	126
JB31800-8	C180446.D	99	93	111	117
JB31800-9	C180455.D	99	90	112	98
JB31800-10	C180456.D	100	90	111	101
JB31800-11	D207161.D	82	86	88	98
JB31800-11	D207091.D	83	83	88	93
JB31800-12	D207083.D	83	83	88	96
JB31800-13	D207151.D	83	84	88	96
JB31800-14	C180449.D	100	93	112	101
JB31800-15	C180457.D	100	90	111	97
JB31800-16	C180454.D	99	90	111	98
JB31800-17	C180458.D	100	97	109	117
JB31800-18	D207093.D	82	82	89	93
JB31800-19	D207094.D	83	82	88	96
JB31800-20	C180453.D	100	90	111	97
JB31800-12MS	D207079.D	84	82	88	95
JB31800-12MSD	D207080.D	84	82	88	95
JB31800-13MS	D207162.D	83	83	88	96
JB31800-13MSD	D207163.D	83	82	88	96
JB31820-5MS	C180450.D	99	88	112	97
JB31820-5MSD	C180451.D	102	92	113	96
JB32158-2MS	D207102.D	87	85	87	96
JB32158-2MSD	D207103.D	84	82	88	95
JB32619-1MS	E201574.D	84	78	90	90
JB32619-1MSD	E201575.D	85	82	90	89
VC6473-BS	C180442.D	99	88	111	97
VC6473-MB	C180441.D	98	89	111	97
VD8450-BS	D207078.D	85	82	88	95
VD8450-MB	D207077.D	83	84	88	96
VD8451-BS	D207101.D	85	83	88	96
VD8451-MB	D207099.D	82	84	88	97
VD8453-BS	D207149.D	84	83	88	97

Surrogate Recovery Summary

Job Number: JB31800
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
VD8453-MB	D207148.D	83	84	87	96
VE8862-BS	E201565.D	84	86	90	89
VE8862-MB	E201564.D	82	80	90	88

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. Confirmed by reanalysis.

Initial Calibration Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: VC6469-ICC6469
Lab FileID: C180349.D

Response Factor Report MSC

```
Method       : C:\HPCHEM\1\methods\MCS6469.M (RTE Integrator)
Title        : SW846  8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

Calibration Files
5   =C180346.D   2   =C180345.D   20  =C180348.D   50  =C180349.D
100 =C180350.D   1   =C180344.D   200 =C180351.D   0.5 =C180343.D
10  =C180347.D       =

 Compound
           5     2     20    50    100   1     200   0.5   10      Avg    %RSD
-------------------------------------------------------------------------------

1)     Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
          0.124       0.129 0.133 0.119       0.116       0.126   0.124    5.23
3)  tertiary butyl alcohol
          1.313       1.369 1.413 1.308       1.224       1.356   1.331    4.90
4)  ethanol
                                                                  0.000#  -1.00

5) I   pentafluorobenzene    ----------------ISTD---------------------
6)  chlorotrifluoroethene
                      0.026 0.026 0.027       0.028       0.022   0.026    8.39
7)  chlorodifluoromethane
          0.263       0.253 0.255 0.255       0.264       0.266   0.259    2.17
8)  dichlorodifluoromethane
          0.465       0.432 0.414 0.423       0.432       0.447   0.436    4.15
9)  chloromethane
          0.548 0.478 0.483 0.496 0.490 0.530 0.476       0.515   0.502    5.24
10)  vinyl chloride
          0.634 0.555 0.565 0.560 0.569 0.604 0.567       0.594   0.581    4.65
11)  acetaldehyde
                                                                  0.000#  -1.00
12)  bromomethane
          0.361 0.296 0.316 0.318 0.287 0.284 0.241       0.334   0.305   11.96
13)  chloroethane
          0.328 0.266 0.289 0.296 0.284 0.243 0.218       0.310   0.279   12.80
14)  VINYL BROMIDE
                                                                  0.000#  -1.00
15)  trichlorofluoromethane
          0.569 0.456 0.511 0.487 0.497       0.497       0.537   0.508    7.20
16)  pentane
                                                                  0.000#  -1.00
17)  ethyl ether
          0.320 0.310 0.258 0.277 0.284       0.279       0.300   0.290    7.36
18)  2-chloropropane
          0.723 0.621 0.619 0.608 0.621 0.597 0.622       0.686   0.637    6.85
19)  acrolein
          0.070 0.066 0.067 0.071 0.073 0.050 0.068       0.067   0.066   10.71
20)  1,1-dichloroethene
          0.357 0.301 0.315 0.317 0.327 0.274 0.325       0.349   0.321    8.10
21)  isopropyl alcohol
                                                                  0.000#  -1.00
22)  acetone
          0.096       0.095 0.089 0.095       0.091       0.089   0.093    3.32
23)  allyl chloride
```

Initial Calibration Summary

Job Number: JB31800 **Sample:** VC6469-ICC6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180349.D
Project: Sunoco - Marcus Hook Facility, PA

```
            0.687 0.635 0.593 0.610 0.618 0.578 0.572       0.650   0.618    6.27
24)  acetonitrile
            0.021       0.017 0.017 0.017       0.017       0.017   0.018   10.31
25)  iodomethane
            0.710 0.607 0.612 0.628 0.647 0.553 0.629       0.687   0.634    7.68
26)  iso-butyl alcohol
            0.004       0.005 0.005 0.005       0.005       0.005   0.005#   9.32
27)  carbon disulfide
            1.210 1.024 1.075 1.102 1.160 1.042 1.148       1.184   1.118    6.06
28)  methylene chloride
            0.514       0.439 0.443 0.455       0.442       0.492   0.464    6.76
29)  1-chloropropane
            0.030       0.031 0.032 0.032       0.032       0.034   0.032    4.34
30)  methyl acetate
            0.075       0.083 0.089 0.089       0.088       0.085   0.085    6.18
31)  methyl tert butyl ether
            1.312 1.181 1.117 1.197 1.246 1.037 1.195       1.256   1.193    7.18
32)  trans-1,2-dichloroethene
            0.450 0.379 0.394 0.401 0.413 0.373 0.405       0.439   0.407    6.63
33)  di-isopropyl ether
            1.598 1.517 1.519 1.603 1.529 1.343 1.527       1.627   1.533    5.76
34)  ethyl tert-butyl ether
            1.432 1.365 1.375 1.463 1.419 1.144 1.413       1.479   1.386    7.61
35)  2-butanone
            0.028       0.036 0.040 0.044       0.043       0.038   0.038   15.54
             ----- Linear regression -----  Coefficient =  0.9992
               Response Ratio = -0.00158 + 0.04331 *A

36)  1,1-dichloroethane
            0.866 0.754 0.731 0.751 0.768 0.703 0.751       0.832   0.769    6.93
37)  chloroprene
            0.600 0.564 0.588 0.597 0.589 0.469 0.588       0.633   0.578    8.33
38)  acrylonitrile
            0.132 0.108 0.108 0.115 0.122 0.079 0.116       0.122   0.113   13.94
39)  vinyl acetate
                        0.032 0.036 0.037       0.037       0.028   0.034   11.48
40)  ethyl acetate
            0.034       0.043 0.051 0.048       0.046       0.044   0.044   12.90
41)  2,2-dichloropropane
            0.563 0.514 0.492 0.502 0.522 0.438 0.518       0.546   0.512    7.32
42)  cis-1,2-dichloroethene
            0.518 0.452 0.445 0.465 0.474 0.403 0.465       0.498   0.465    7.44
43)  methyl acrylate
            0.263       0.252 0.286 0.308       0.294       0.282   0.281    7.28
44)  propionitrile
            0.048 0.038 0.041 0.045 0.047       0.045       0.047   0.044    8.14
45)  bromochloromethane
            0.225 0.196 0.201 0.211 0.219       0.210       0.231   0.213    5.78
46)  tetrahydrofuran
            0.116       0.098 0.103 0.109       0.102       0.110   0.106    6.22
47)  chloroform
            0.765 0.719 0.656 0.674 0.691 0.664 0.673       0.740   0.698    5.62
48)  t-butyl formate
            0.212       0.233 0.264 0.275       0.283       0.239   0.251   10.95
49)  dibromofluoromethane (s)
            0.402 0.405 0.376 0.381 0.374       0.389       0.404   0.390    3.48
50)  1,2-dichloroethane-d4 (s)
            0.384 0.374 0.371 0.375 0.373 0.403 0.383       0.395   0.382    2.98
51)  freon 113
            0.262 0.215 0.257 0.251 0.252       0.247       0.282   0.252    7.98
```

Initial Calibration Summary

Job Number: JB31800 **Sample:** VC6469-ICC6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180349.D
Project: Sunoco - Marcus Hook Facility, PA

```
52)  methacrylonitrile
           0.239       0.212 0.232 0.251       0.237       0.236   0.234    5.45
53)  cyclohexane
           0.654 0.559 0.559 0.544 0.562 0.532 0.555       0.616   0.573    7.16
54)  1,1,1-trichloroethane
           0.554 0.478 0.487 0.494 0.514 0.451 0.507       0.533   0.502    6.46
55)  tert-amyl alcohol
           0.025       0.025 0.028 0.031       0.031       0.024   0.027   11.79
56)  tert-amyl methyl ether
           1.330 1.240 1.279 1.369 1.340 1.054 1.317       1.375   1.288    8.12

57) I   1,4-difluorobenzene   ----------------ISTD---------------------
58)  epichlorohydrin
           0.020       0.021 0.022 0.022       0.022       0.021   0.021    3.97
59)  n-butyl alcohol
           0.005       0.006 0.007 0.007       0.007       0.006   0.006#  10.49
60)  carbon tetrachloride
           0.329 0.282 0.276 0.275 0.287 0.305 0.286       0.304   0.293    6.26
61)  1,1-dichloropropene
           0.418 0.368 0.353 0.352 0.354 0.358 0.354       0.387   0.368    6.35
62)  hexane
           0.480 0.450 0.433 0.419 0.411 0.421 0.407       0.478   0.437    6.62
63)  benzene
           1.349 1.250 1.150 1.161 1.190 1.170 1.151 1.308 1.285   1.224    6.19
64)  heptane
           0.259       0.242 0.239 0.230       0.235       0.261   0.244    5.35
65)  isopropyl acetate
           0.133 0.108 0.131 0.140 0.140       0.136       0.136   0.132    8.31
66)  1,2-dichloroethane
           0.348 0.305 0.298 0.311 0.317 0.250 0.305       0.334   0.309    9.31
67)  ethyl acrylate
                                                                   0.000#  -1.00
68)  trichloroethene
           0.294 0.259 0.254 0.259 0.265 0.266 0.258 0.244 0.283   0.265    5.71
69)  2-chloroethyl vinyl ether
           0.043 0.038 0.045 0.050 0.054       0.057       0.045   0.047   14.25
70)  methylcyclohexane
           0.493 0.452 0.477 0.458 0.451 0.378 0.445       0.514   0.458    8.80
71)  tert-amyl ethyl ether
           0.018       0.021 0.023 0.023       0.023       0.019   0.021   10.59
72)  methyl methacrylate
           0.170       0.157 0.169 0.182       0.173       0.168   0.170    4.79
73)  1,2-dichloropropane
           0.341 0.303 0.290 0.302 0.310 0.288 0.299       0.331   0.308    6.06
74)  dibromomethane
           0.165 0.148 0.140 0.149 0.152 0.125 0.145       0.156   0.147    7.89
75)  bromodichloromethane
           0.370 0.317 0.325 0.345 0.359 0.301 0.349       0.363   0.341    7.18
76)  cis-1,3-dichloropropene
           0.503 0.435 0.452 0.470 0.486 0.375 0.468       0.500   0.461    9.01
77)  toluene-d8 (s)
           1.051 0.975 1.005 1.006 0.980 1.010 0.991       1.070   1.011    3.31
78)  4-methyl-2-pentanone
           0.089       0.079 0.084 0.091       0.086       0.088   0.086    4.92
79)  toluene
           0.800 0.745 0.691 0.692 0.710 0.710 0.681 0.619 0.772   0.713    7.51
80)  3-methyl-1-butanol
           0.008       0.009 0.010 0.010       0.010       0.008   0.009#   9.88
81)  trans-1,3-dichloropropene
           0.407 0.352 0.363 0.386 0.402 0.298 0.385       0.398   0.374    9.63
```

Initial Calibration Summary

Job Number: JB31800 **Sample:** VC6469-ICC6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180349.D
Project: Sunoco - Marcus Hook Facility, PA

```
 82)  ethyl methacrylate
            0.338 0.262 0.307 0.336 0.359       0.338       0.338   0.325    9.78
 83)  1,1,2-trichloroethane
            0.212 0.184 0.184 0.192 0.197 0.163 0.187       0.203   0.190    7.77
 84)  2-hexanone
            0.078       0.074 0.081 0.088       0.083       0.080   0.081    6.13

 85) I   chlorobenzene-d5      ----------------ISTD---------------------
 86)  cyclohexanone
            0.017       0.020 0.015 0.017       0.018       0.017   0.017    9.15
 87)  tetrachloroethene
            0.389 0.360 0.340 0.337 0.346 0.337 0.338       0.368   0.352    5.36
 88)  1,3-dichloropropane
            0.551 0.488 0.474 0.490 0.505 0.439 0.480       0.528   0.494    6.94
 89)  butyl acetate
            0.186       0.197 0.210 0.207       0.199       0.201   0.200    4.28
 90)  3,3-dimethyl-1-butanol
            0.020       0.023 0.026 0.027       0.027       0.022   0.024   12.29
 91)  dibromochloromethane
            0.317 0.264 0.290 0.310 0.333 0.264 0.323       0.323   0.303    8.97
 92)  1,2-dibromoethane
            0.295 0.259 0.256 0.269 0.284 0.215 0.270       0.287   0.267    9.28
 93)  n-butyl ether
                                                                    0.000#  -1.00
 94)  chlorobenzene
            1.143 1.026 0.950 0.976 0.994 1.036 0.951       1.088   1.021    6.65
 95)  1,1,1,2-tetrachloroethane
            0.350 0.308 0.309 0.321 0.335 0.280 0.327       0.344   0.322    7.03
 96)  ethylbenzene
            1.882 1.665 1.575 1.587 1.617 1.676 1.553       1.749   1.663    6.57
 97)  m,p-xylene
            0.751 0.709 0.629 0.634 0.640 0.721 0.598 1.310 0.713   0.745   29.27
             ----- Linear regression -----  Coefficient =  0.9990
               Response Ratio = 0.03452 + 0.60172 *A

 98)  o-xylene
            0.738 0.640 0.617 0.636 0.651 0.643 0.624       0.699   0.656    6.32
 99)  styrene
            1.227 1.032 1.060 1.110 1.132 0.920 1.082       1.184   1.093    8.67
100)  bromoform
            0.178 0.159 0.173 0.188 0.206       0.201       0.188   0.185    8.81

101) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
102)  isopropylbenzene
            3.434 3.108 2.930 2.931 2.915 2.973 2.857       3.242   3.049    6.53
103)  4-bromofluorobenzene (s)
            1.020 1.016 0.918 0.918 0.880       0.907       1.013   0.953    6.33
104)  bromobenzene
            0.886 0.794 0.764 0.790 0.800 0.713 0.775       0.863   0.798    6.85
105)  1,1,2,2-tetrachloroethane
            0.745 0.667 0.655 0.668 0.681 0.589 0.648       0.714   0.671    6.88
106)  trans-1,4-dichloro-2-butene
            0.178 0.138 0.157 0.168 0.176       0.165       0.169   0.164    8.18
107)  1,2,3-trichloropropane
            0.194 0.163 0.168 0.172 0.178       0.168       0.183   0.175    5.97
108)  n-propylbenzene
            4.066 3.642 3.469 3.462 3.462 3.417 3.337       3.853   3.588    6.99
109)  4-ethyltoluene
            3.231 2.879 2.869 2.937 2.898 2.962 2.794       2.863   2.929    4.51
110)  2-chlorotoluene
```

Initial Calibration Summary

Job Number: JB31800 **Sample:** VC6469-ICC6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180349.D
Project: Sunoco - Marcus Hook Facility, PA

```
            0.861 0.811 0.731 0.730 0.739 0.685 0.712       0.814   0.760    7.97
111)  4-chlorotoluene
            2.617 2.351 2.216 2.255 2.251 2.228 2.154       2.518   2.324    6.98
112)  1,3,5-trimethylbenzene
            2.987 2.678 2.523 2.528 2.537 2.652 2.460       2.853   2.652    6.92
113)  tert-butylbenzene
            2.457 2.214 2.112 2.098 2.112 2.063 2.083       2.322   2.183    6.42
114)  pentachloroethane
            0.486 0.436 0.446 0.469 0.494 0.381 0.489       0.486   0.461    8.36
115)  1,2,4-trimethylbenzene
            3.021 2.819 2.538 2.581 2.586 3.030 2.487       2.854   2.740    8.00
116)  sec-butylbenzene
            3.740 3.355 3.197 3.184 3.166 3.217 3.119       3.570   3.319    6.72
117)  1,3-dichlorobenzene
            1.730 1.608 1.459 1.500 1.510 1.487 1.435       1.676   1.551    6.95
118)  p-isopropyltoluene
            3.109 2.669 2.640 2.668 2.668 2.601 2.589       2.959   2.738    6.93
119)  1,4-dichlorobenzene
            1.784 1.630 1.487 1.535 1.552 1.590 1.462       1.710   1.594    6.90
120)  benzyl chloride
            1.028 0.948 1.153 1.280 1.273       1.263       1.163   1.158   11.14
121)  p-diethylbenzene
            1.832 1.509 1.647 1.706 1.687 1.448 1.621       1.628   1.635    7.23
122)  1,2-dichlorobenzene
            1.640 1.452 1.376 1.413 1.444 1.397 1.375       1.578   1.459    6.70
123)  n-butylbenzene
            1.686 1.449 1.423 1.445 1.428 1.344 1.377       1.617   1.471    8.03
124)  1,2,4,5-tetramethylbenzene
            2.689 2.272 2.520 2.662 2.657 2.138 2.548       2.506   2.499    7.89
125)  1,2-dibromo-3-chloropropane
            0.101 0.081 0.097 0.098 0.109       0.105       0.099   0.099    8.87
126)  1,3,5-trichlorobenzene
            1.292 1.142 1.092 1.140 1.155 1.155 1.070       1.258   1.163    6.53
127)  1,2,4-trichlorobenzene
            1.120 0.941 0.951 1.007 1.047 0.947 0.953       1.095   1.008    7.14
128)  hexachlorobutadiene
            0.633 0.524 0.524 0.536 0.517 0.574 0.530       0.593   0.554    7.52
129)  naphthalene
            2.179 1.898 1.914 2.037 2.142 1.747 1.994       2.133   2.006    7.36
130)  1,2,3-trichlorobenzene
            1.014 0.877 0.848 0.898 0.919 0.784 0.857       0.983   0.897    8.27
131)  hexachloroethane
            0.458 0.432 0.436 0.456 0.477 0.412 0.489       0.474   0.454    5.77
 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MCS6469.M         Thu Mar 28 16:01:15 2013   NJVOA08
```

Initial Calibration Verification

Job Number: JB31800 **Sample:** VC6469-ICV6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180356.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\data\c_core\C180356.D Vial: 2
Acq On : 27 Mar 2013 1:39 pm Operator: tamikag
Sample : ICV6469-50 Inst : MSC
Misc : MS45231,VC6469,5.0,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\methods\MCS6469.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Mar 28 15:31:52 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	107	0.00	5.50
2	M	1,4-dioxane	0.124	0.121	2.4	97	0.00	9.82
3	M	tertiary butyl alcohol	1.331	1.350	-1.4	102	0.00	5.62
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	99	0.00	8.07
6	M	chlorotrifluoroethene	0.026	0.022	15.4	84	-0.02	4.59
7	M	chlorodifluoromethane	0.259	0.267	-3.1	104	0.00	2.56
8	M	dichlorodifluoromethane	0.436	0.475	-8.9	113	0.00	2.54
9	M	chloromethane	0.502	0.510	-1.6	102	0.00	2.72
10	M	vinyl chloride	0.581	0.609	-4.8	108	0.00	2.88
11	M	acetaldehyde		----------NA----------				
12	M	bromomethane	0.305	0.307	-0.7	96	0.00	3.35
13	M	chloroethane	0.279	0.303	-8.6	101	0.00	3.50
14		VINYL BROMIDE		----------NA----------				
15	M	trichlorofluoromethane	0.508	0.554	-9.1	112	0.00	3.79
16		pentane		----------NA----------				
17	M	ethyl ether	0.290	0.282	2.8	101	0.01	4.23
18	m	2-chloropropane	0.637	0.698	-9.6	114	0.00	4.42
19	M	acrolein	0.066	0.073	-10.6	101	0.00	4.55
20	M	1,1-dichloroethene	0.321	0.365	-13.7	114	0.00	4.63
21	M	isopropyl alcohol		----------NA----------				
22	M	acetone	0.093	0.095	-2.2	106	-0.01	4.78
23	M	allyl chloride	0.618	0.653	-5.7	106	0.00	5.22
24	M	acetonitrile	0.018	0.017	5.6	96	0.00	5.35
25	M	iodomethane	0.634	0.664	-4.7	105	0.00	4.90
26	M	iso-butyl alcohol	0.005	0.011	-120.0#	199	0.00	5.78
27	M	carbon disulfide	1.118	1.266	-13.2	114	0.00	4.96
28	M	methylene chloride	0.464	0.466	-0.4	104	0.00	5.48
29	m	1-chloropropane	0.032	0.035	-9.4	108	0.00	5.45
30	M	methyl acetate	0.085	0.061	28.2#	67	0.00	5.24
31	M	methyl tert butyl ether	1.193	1.214	-1.8	101	0.00	5.78
32	M	trans-1,2-dichloroethene	0.407	0.441	-8.4	109	0.00	5.82
33	M	di-isopropyl ether	1.533	1.523	0.7	94	0.00	6.46
34	M	ethyl tert-butyl ether	1.386	1.403	-1.2	95	0.00	6.99
		----------	True	Calc.	% Drift	----------		
35	M	2-butanone	50.000	51.463	-2.9	106	0.00	7.37
		----------	AvgRF	CCRF	% Dev	----------		
36	M	1,1-dichloroethane	0.769	0.804	-4.6	106	0.00	6.50
37	M	chloroprene	0.578	0.554	4.2	92	0.00	6.57

Initial Calibration Verification

Job Number: JB31800 **Sample:** VC6469-ICV6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180356.D
Project: Sunoco - Marcus Hook Facility, PA

38	M	acrylonitrile	0.113	0.121	-7.1	104	0.00	5.93
39	M	vinyl acetate	0.034	0.082	-141.2#	225#	0.00	6.54
40	M	ethyl acetate	0.044	0.048	-9.1	95	0.00	7.39
41	M	2,2-dichloropropane	0.512	0.561	-9.6	111	0.00	7.30
42	M	cis-1,2-dichloroethene	0.465	0.486	-4.5	103	0.00	7.35
43	m	methyl acrylate	0.281	0.307	-9.3	106	0.00	7.46
44	M	propionitrile	0.044	0.048	-9.1	106	0.00	7.56
45	M	bromochloromethane	0.213	0.216	-1.4	101	0.00	7.69
46	M	tetrahydrofuran	0.106	0.111	-4.7	106	0.00	7.68
47	M	chloroform	0.698	0.717	-2.7	105	0.00	7.79
48	m	t-butyl formate	0.251	0.279	-11.2	105	0.00	7.80
49	S	dibromofluoromethane (s)	0.390	0.374	4.1	97	0.00	8.02
50	S	1,2-dichloroethane-d4 (s)	0.382	0.358	6.3	94	0.00	8.51
51	M	freon 113	0.252	0.223	11.5	88	0.00	4.61
52	M	methacrylonitrile	0.234	0.246	-5.1	105	0.00	7.72
53		cyclohexane	0.573	0.650	-13.4	118	0.00	7.96
54	M	1,1,1-trichloroethane	0.502	0.561	-11.8	112	0.00	7.98
55		tert-amyl alcohol	0.027	0.127	-370.4#	455#	0.00	8.52
56	M	tert-amyl methyl ether	1.288	1.280	0.6	93	0.00	8.59
57	I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.00	9.06
58	M	epichlorohydrin	0.021	0.023	-9.5	103	0.00	10.45
59	M	n-butyl alcohol	0.006	0.007#	-16.7	103	0.00	9.33
60	M	carbon tetrachloride	0.293	0.322	-9.9	117	0.00	8.16
61	M	1,1-dichloropropene	0.368	0.398	-8.2	113	0.00	8.20
62	M	hexane	0.437	0.348	20.4#	83	0.00	6.09
63	M	benzene	1.224	1.238	-1.1	106	0.00	8.47
64	M	heptane	0.244	0.228	6.6	95	0.00	8.72
65	M	isopropyl acetate	0.132	0.141	-6.8	101	0.00	8.58
66	M	1,2-dichloroethane	0.309	0.316	-2.3	101	0.00	8.61
67		ethyl acrylate		----------NA----------				
68	M	trichloroethene	0.265	0.283	-6.8	109	0.00	9.36
69	M	2-chloroethyl vinyl ether	0.047	0.053	-12.8	105	0.00	10.35
70	M	methylcyclohexane	0.458	0.427	6.8	93	0.00	9.51
71		tert-amyl ethyl ether	0.021	0.026	-23.8#	115	0.00	9.79
72	M	methyl methacrylate	0.170	0.182	-7.1	107	0.00	9.79
73	M	1,2-dichloropropane	0.308	0.316	-2.6	104	0.00	9.69
74	M	dibromomethane	0.147	0.152	-3.4	102	0.00	9.85
75	M	bromodichloromethane	0.341	0.364	-6.7	105	0.00	10.02
76	M	cis-1,3-dichloropropene	0.461	0.492	-6.7	104	0.00	10.51
77	S	toluene-d8 (s)	1.011	1.006	0.5	100	0.00	10.72
78	M	4-methyl-2-pentanone	0.086	0.092	-7.0	109	0.00	10.65
79	M	toluene	0.713	0.753	-5.6	108	0.00	10.79
80	M	3-methyl-1-butanol	0.009	0.011	-22.2#	110	0.00	10.73
81	M	trans-1,3-dichloropropene	0.374	0.409	-9.4	106	0.00	11.10
82	M	ethyl methacrylate	0.325	0.360	-10.8	107	0.00	11.11
83	M	1,1,2-trichloroethane	0.190	0.202	-6.3	105	0.00	11.27
84	M	2-hexanone	0.081	0.089	-9.9	109	0.00	11.47
85	I	chlorobenzene-d5	1.000	1.000	0.0	100	0.00	12.13
86	M	cyclohexanone	0.017	0.014	17.6	93	0.00	13.15
87	M	tetrachloroethene	0.352	0.385	-9.4	114	0.00	11.31
88	M	1,3-dichloropropane	0.494	0.507	-2.6	104	0.00	11.44
89	M	butyl acetate	0.200	0.212	-6.0	101	0.00	11.56
90	m	3,3-dimethyl-1-butanol	0.024	0.028	-16.7	106	0.00	11.65
91	M	dibromochloromethane	0.303	0.331	-9.2	107	0.00	11.62
92	M	1,2-dibromoethane	0.267	0.281	-5.2	104	0.00	11.74
93	M	n-butyl ether		----------NA----------				
94	M	chlorobenzene	1.021	1.036	-1.5	106	0.00	12.16
95	M	1,1,1,2-tetrachloroethane	0.322	0.339	-5.3	106	0.00	12.24

Initial Calibration Verification

Job Number: JB31800 **Sample:** VC6469-ICV6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180356.D
Project: Sunoco - Marcus Hook Facility, PA

96	M	ethylbenzene	1.663	1.731	-4.1	109	0.00	12.22
		----------	True	Calc.	% Drift	----------		
97	M	m,p-xylene	100.000	112.246	-12.2	109	0.00	12.33
		----------	AvgRF	CCRF	% Dev	----------		
98	M	o-xylene	0.656	0.678	-3.4	107	0.00	12.69
99	M	styrene	1.093	1.170	-7.0	105	0.00	12.71
100	M	bromoform	0.185	0.204	-10.3	108	0.00	12.92
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	14.16
102	M	isopropylbenzene	3.049	3.268	-7.2	111	0.00	12.99
103	S	4-bromofluorobenzene (s)	0.953	0.897	5.9	97	0.00	13.18
104	M	bromobenzene	0.798	0.828	-3.8	104	0.00	13.31
105	M	1,1,2,2-tetrachloroethane	0.671	0.710	-5.8	106	0.00	13.33
106	M	trans-1,4-dichloro-2-bute	0.164	0.181	-10.4	107	0.00	13.38
107	M	1,2,3-trichloropropane	0.175	0.184	-5.1	106	0.00	13.38
108	M	n-propylbenzene	3.588	3.896	-8.6	112	0.00	13.35
109	M	4-ethyltoluene	2.929	8.360	-185.4#	283#	0.00	13.44
110	M	2-chlorotoluene	0.760	0.788	-3.7	108	0.00	13.46
111	M	4-chlorotoluene	2.324	2.465	-6.1	109	0.00	13.55
112	M	1,3,5-trimethylbenzene	2.652	2.807	-5.8	111	0.00	13.50
113	M	tert-butylbenzene	2.183	2.351	-7.7	112	0.00	13.76
114	M	pentachloroethane	0.461	0.513	-11.3	109	0.00	13.84
115	M	1,2,4-trimethylbenzene	2.740	2.831	-3.3	109	0.00	13.82
116	M	sec-butylbenzene	3.319	3.629	-9.3	113	0.00	13.95
117	M	1,3-dichlorobenzene	1.551	1.613	-4.0	107	0.00	14.10
118	M	p-isopropyltoluene	2.738	3.027	-10.6	113	0.00	14.06
119	M	1,4-dichlorobenzene	1.594	1.651	-3.6	107	0.00	14.18
120		benzyl chloride	1.158	1.370	-18.3	107	0.00	14.29
121		p-diethylbenzene	1.635	4.898	-199.6#	286#	0.00	14.38
122	M	1,2-dichlorobenzene	1.459	1.493	-2.3	105	0.00	14.49
123	M	n-butylbenzene	1.471	1.743	-18.5	120	0.00	14.40
124		1,2,4,5-tetramethylbenzen	2.499	7.214	-188.7#	270#	0.00	15.02
125	M	1,2-dibromo-3-chloropropa	0.099	0.109	-10.1	110	0.00	15.14
126	m	1,3,5-trichlorobenzene	1.163	1.279	-10.0	112	0.00	15.26
127	M	1,2,4-trichlorobenzene	1.008	1.128	-11.9	112	0.00	15.77
128	M	hexachlorobutadiene	0.554	0.610	-10.1	113	0.00	15.85
129	M	naphthalene	2.006	2.192	-9.3	107	0.00	15.97
130	M	1,2,3-trichlorobenzene	0.897	0.971	-8.2	108	0.00	16.16
131	M	hexachloroethane	0.454	0.509	-12.1	111	0.00	14.66

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C180349.D MCS6469.M Thu Mar 28 16:02:08 2013 NJVOA08

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VC6473-CC6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180439.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\data\c_core\C180439.D Vial: 2
Acq On : 29 Mar 2013 8:49 am Operator: tamikag
Sample : CC6469-20 Inst : MSC
Misc : MS45042,VC6473,5.0,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\methods\MCS6469.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Mar 28 15:31:52 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	96	-0.02	5.48
2	M	1,4-dioxane	0.124	0.127	-2.4	94	0.00	9.82
3	M	tertiary butyl alcohol	1.331	1.338	-0.5	94	0.00	5.61
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	94	0.00	8.07
6	M	chlorotrifluoroethene	0.026	0.028	-7.7	101	0.00	4.60
7	M	chlorodifluoromethane	0.259	0.298	-15.1	111	0.00	2.56
8	M	dichlorodifluoromethane	0.436	0.391	10.3	85	0.01	2.56
9	M	chloromethane	0.502	0.427	14.9	83	0.00	2.72
10	M	vinyl chloride	0.581	0.529	9.0	88	0.00	2.88
11	M	acetaldehyde		----------NA----------				
12	M	bromomethane	0.305	0.303	0.7	90	0.00	3.35
13	M	chloroethane	0.279	0.288	-3.2	94	0.00	3.50
14		VINYL BROMIDE		----------NA----------				
15	M	trichlorofluoromethane	0.508	0.505	0.6	93	0.00	3.79
16		pentane		----------NA----------				
17	M	ethyl ether	0.290	0.295	-1.7	108	0.00	4.23
18	m	2-chloropropane	0.637	0.691	-8.5	105	0.00	4.43
19	M	acrolein	0.066	0.062	6.1	87	0.00	4.55
20	M	1,1-dichloroethene	0.321	0.379	-18.1	113	0.00	4.63
21	M	isopropyl alcohol		----------NA----------				
22	M	acetone	0.093	0.085	8.6	85	-0.02	4.78
23	M	allyl chloride	0.618	0.640	-3.6	102	0.00	5.22
24	M	acetonitrile	0.018	0.016	11.1	91	0.00	5.34
25	M	iodomethane	0.634	0.713	-12.5	110	0.00	4.90
26	M	iso-butyl alcohol	0.005	0.005#	0.0	104	0.00	5.78
27	M	carbon disulfide	1.118	1.316	-17.7	115	0.00	4.97
28	M	methylene chloride	0.464	0.518	-11.6	111	0.00	5.48
29	m	1-chloropropane	0.032	0.037	-15.6	112	0.00	5.45
30	M	methyl acetate	0.085	0.089	-4.7	101	0.00	5.25
31	M	methyl tert butyl ether	1.193	1.230	-3.1	104	0.00	5.78
32	M	trans-1,2-dichloroethene	0.407	0.457	-12.3	109	0.00	5.82
33	M	di-isopropyl ether	1.533	1.609	-5.0	100	0.00	6.46
34	M	ethyl tert-butyl ether	1.386	1.487	-7.3	102	0.00	7.00
		----------	True	Calc.	% Drift		----------	
35	M	2-butanone	20.000	19.543	2.3	99	0.01	7.37
		----------	AvgRF	CCRF	% Dev		----------	
36	M	1,1-dichloroethane	0.769	0.821	-6.8	106	0.00	6.50
37	M	chloroprene	0.578	0.661	-14.4	106	0.00	6.57

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VC6473-CC6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180439.D
Project: Sunoco - Marcus Hook Facility, PA

38	M	acrylonitrile	0.113	0.115	-1.8	100	0.00	5.93
39	M	vinyl acetate	0.034	0.033	2.9	99	0.00	6.53
40	M	ethyl acetate	0.044	0.045	-2.3	100	0.00	7.39
41	M	2,2-dichloropropane	0.512	0.485	5.3	93	0.00	7.30
42	M	cis-1,2-dichloroethene	0.465	0.503	-8.2	107	0.00	7.35
43	m	methyl acrylate	0.281	0.284	-1.1	106	0.00	7.47
44	M	propionitrile	0.044	0.045	-2.3	102	0.00	7.55
45	M	bromochloromethane	0.213	0.223	-4.7	104	0.00	7.69
46	M	tetrahydrofuran	0.106	0.105	0.9	101	0.00	7.68
47	M	chloroform	0.698	0.732	-4.9	105	0.00	7.79
48	m	t-butyl formate	0.251	0.255	-1.6	103	0.00	7.80
49	S	dibromofluoromethane (s)	0.390	0.386	1.0	97	0.00	8.01
50	S	1,2-dichloroethane-d4 (s)	0.382	0.341	10.7	87	0.00	8.50
51	M	freon 113	0.252	0.292	-15.9	107	0.00	4.60
52	M	methacrylonitrile	0.234	0.227	3.0	101	0.00	7.72
53		cyclohexane	0.573	0.642	-12.0	108	0.00	7.96
54	M	1,1,1-trichloroethane	0.502	0.562	-12.0	109	0.00	7.98
55		tert-amyl alcohol		----------NA----------				
56	M	tert-amyl methyl ether	1.288	1.298	-0.8	96	0.00	8.58
57	I	1,4-difluorobenzene	1.000	1.000	0.0	94	0.00	9.06
58	M	epichlorohydrin	0.021	0.021	0.0	94	0.00	10.45
59	M	n-butyl alcohol	0.006	0.006#	0.0	92	0.00	9.33
60	M	carbon tetrachloride	0.293	0.325	-10.9	111	0.00	8.16
61	M	1,1-dichloropropene	0.368	0.399	-8.4	107	0.00	8.20
62	M	hexane	0.437	0.428	2.1	93	0.00	6.09
63	M	benzene	1.224	1.302	-6.4	107	0.00	8.47
64	M	heptane	0.244	0.218	10.7	85	0.00	8.72
65	M	isopropyl acetate	0.132	0.139	-5.3	100	0.00	8.58
66	M	1,2-dichloroethane	0.309	0.319	-3.2	101	0.00	8.61
67		ethyl acrylate		----------NA----------				
68	M	trichloroethene	0.265	0.297	-12.1	110	0.00	9.36
69	M	2-chloroethyl vinyl ether	0.047	0.090	-91.5#	189	0.00	10.35
70	M	methylcyclohexane	0.458	0.527	-15.1	104	0.00	9.51
71		tert-amyl ethyl ether	0.021	0.021	0.0	96	0.00	9.79
72	M	methyl methacrylate	0.170	0.174	-2.4	105	0.00	9.79
73	M	1,2-dichloropropane	0.308	0.319	-3.6	104	0.00	9.69
74	M	dibromomethane	0.147	0.153	-4.1	103	0.00	9.85
75	M	bromodichloromethane	0.341	0.365	-7.0	106	0.00	10.02
76	M	cis-1,3-dichloropropene	0.461	0.490	-6.3	102	0.00	10.51
77	S	toluene-d8 (s)	1.011	1.139	-12.7	107	0.00	10.72
78	M	4-methyl-2-pentanone	0.086	0.087	-1.2	103	0.00	10.65
79	M	toluene	0.713	0.796	-11.6	109	0.00	10.79
80	M	3-methyl-1-butanol	0.009	0.009#	0.0	93	0.00	10.73
81	M	trans-1,3-dichloropropene	0.374	0.389	-4.0	101	0.00	11.10
82	M	ethyl methacrylate	0.325	0.349	-7.4	107	0.00	11.11
83	M	1,1,2-trichloroethane	0.190	0.202	-6.3	104	0.00	11.27
84	M	2-hexanone	0.081	0.082	-1.2	105	0.00	11.47
85	I	chlorobenzene-d5	1.000	1.000	0.0	98	0.00	12.14
86	M	cyclohexanone	0.017	0.004#	76.5#	19#	0.00	13.15
87	M	tetrachloroethene	0.352	0.380	-8.0	109	0.00	11.31
88	M	1,3-dichloropropane	0.494	0.497	-0.6	102	0.00	11.44
89	M	butyl acetate	0.200	0.200	0.0	99	0.00	11.56
90	m	3,3-dimethyl-1-butanol	0.024	0.022	8.3	97	0.00	11.65
91	M	dibromochloromethane	0.303	0.320	-5.6	108	0.00	11.62
92	M	1,2-dibromoethane	0.267	0.278	-4.1	106	0.00	11.74
93	M	n-butyl ether		----------NA----------				
94	M	chlorobenzene	1.021	1.051	-2.9	108	0.00	12.16
95	M	1,1,1,2-tetrachloroethane	0.322	0.341	-5.9	108	0.00	12.24

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VC6473-CC6469
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** C180439.D
Project: Sunoco - Marcus Hook Facility, PA

96	M	ethylbenzene	1.663	1.754	-5.5	109	0.00	12.22
		----------	True	Calc.	% Drift	----------		
97	M	m,p-xylene	40.000	43.792	-9.5	109	0.00	12.33
		----------	AvgRF	CCRF	% Dev	----------		
98	M	o-xylene	0.656	0.693	-5.6	110	0.00	12.69
99	M	styrene	1.093	1.188	-8.7	109	0.00	12.71
100	M	bromoform	0.185	0.192	-3.8	108	0.00	12.92
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	14.16
102	M	isopropylbenzene	3.049	3.257	-6.8	110	0.00	12.99
103	S	4-bromofluorobenzene (s)	0.953	0.923	3.1	99	0.00	13.18
104	M	bromobenzene	0.798	0.841	-5.4	109	0.00	13.31
105	M	1,1,2,2-tetrachloroethane	0.671	0.684	-1.9	103	0.00	13.33
106	M	trans-1,4-dichloro-2-bute	0.164	0.157	4.3	99	0.00	13.38
107	M	1,2,3-trichloropropane	0.175	0.181	-3.4	106	0.00	13.38
108	M	n-propylbenzene	3.588	3.805	-6.0	108	0.00	13.35
109	M	4-ethyltoluene		----------NA----------				
110	M	2-chlorotoluene	0.760	0.803	-5.7	109	0.00	13.46
111	M	4-chlorotoluene	2.324	2.425	-4.3	108	0.00	13.55
112	M	1,3,5-trimethylbenzene	2.652	2.757	-4.0	108	0.00	13.50
113	M	tert-butylbenzene	2.183	2.357	-8.0	110	0.00	13.76
114	M	pentachloroethane	0.461	0.496	-7.6	110	0.00	13.84
115	M	1,2,4-trimethylbenzene	2.740	2.847	-3.9	111	0.00	13.82
116	M	sec-butylbenzene	3.319	3.513	-5.8	109	0.00	13.95
117	M	1,3-dichlorobenzene	1.551	1.626	-4.8	110	0.00	14.10
118	M	p-isopropyltoluene	2.738	2.922	-6.7	109	0.00	14.07
119	M	1,4-dichlorobenzene	1.594	1.654	-3.8	110	0.00	14.18
120		benzyl chloride	1.158	0.966	16.6	83	0.00	14.29
121		p-diethylbenzene		----------NA----------				
122	M	1,2-dichlorobenzene	1.459	1.510	-3.5	108	0.00	14.49
123	M	n-butylbenzene	1.471	1.478	-0.5	103	0.00	14.40
124		1,2,4,5-tetramethylbenzen		----------NA----------				
125	M	1,2-dibromo-3-chloropropa	0.099	0.098	1.0	100	0.00	15.14
126	m	1,3,5-trichlorobenzene	1.163	1.232	-5.9	111	0.00	15.26
127	M	1,2,4-trichlorobenzene	1.008	1.075	-6.6	112	0.00	15.77
128	M	hexachlorobutadiene	0.554	0.563	-1.6	106	0.00	15.84
129	M	naphthalene	2.006	2.142	-6.8	111	0.00	15.97
130	M	1,2,3-trichlorobenzene	0.897	0.961	-7.1	112	0.00	16.17
131	M	hexachloroethane	0.454	0.500	-10.1	113	0.00	14.66

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C180348.D MCS6469.M Tue Apr 02 15:00:07 2013 NJVOA08

6.7.3

6

Initial Calibration Summary

Job Number: JB31800 **Sample:** VD8442-ICC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D206916.D
Project: Sunoco - Marcus Hook Facility, PA

Response Factor Report MSD

```
Method       : C:\MSDCHEM\1\METHODS\MD8442.M (RTE Integrator)
Title        : SW-846 Method 8260B
Last Update  : Tue Mar 26 08:25:40 2013
Response via : Initial Calibration

Calibration Files
5   =d206913.D   2   =d206912.D   0.5 =d206910.D   50  =d206916.D
100 =d206917.D   1   =d206911.D   200 =d206918.D   20  =d206915.D
10  =d206914.D       =
```

Compound	5	2	0.5	50	100	1	200	20	10	Avg	%RSD
1) I Tert Butyl Alcohol-d9 ----------ISTD----------											
2) 1,4-dioxane	0.082		0.109	0.105		0.088	0.094	0.099		0.096	10.71
3) tertiary butyl alcohol	1.348	1.260	1.280	1.261	1.197	1.095	1.335	1.538		1.289	9.96
4) I pentafluorobenzene ----------ISTD----------											
5) 1,2-dichloro-1,2,2-trifluoroet										0.000#	-1.00
6) chlorodifluoromethane	0.687	0.634	0.636	0.666	0.600	0.567	0.591	0.665	0.676	0.636	6.57
7) dichlorodifluoromethane	0.980	1.013	0.785	0.946	0.891	0.863	0.904	0.964	0.948	0.921	7.49
8) chloromethane	0.797	0.745	0.835	0.776	0.777	0.804	0.753	0.740	0.800	0.781	4.00
9) vinyl chloride	1.051	0.963	0.943	0.986	0.989	0.922	0.967	0.936	1.023	0.976	4.28
10) bromomethane	0.591	0.644	0.471	0.592	0.596	0.562	0.486	0.544	0.570	0.562	9.80
11) chloroethane	0.530	0.547		0.509	0.537	0.485	0.536	0.471	0.501	0.514	5.36
12) vinyl bromide										0.000#	-1.00
13) trichlorofluoromethane	1.156	1.161	0.965	1.100	1.101	1.049	1.163	1.057	1.130	1.098	5.98
14) pentane	0.885	1.025		0.927		1.027	0.641	0.967	1.005	0.925	14.71
15) ethyl ether	0.376	0.364	0.480	0.345	0.342	0.407	0.342	0.347	0.376	0.375	11.90
16) acrolein	0.125	0.132		0.126		0.120	0.145	0.121	0.131	0.129	6.71
17) chlorotrifluoroethene										0.000#	-1.00
18) 2-chloropropane	1.143	1.033	1.150	1.041	1.030	1.375	1.009	1.058	1.183	1.113	10.45
19) 1,1-dichloroethene	0.553	0.517	0.488	0.511	0.510	0.524	0.498	0.532	0.569	0.522	4.95
20) acetone	0.043			0.052	0.056		0.051	0.054	0.048	0.051	9.44
21) allyl chloride	1.328	1.065	1.183	1.201	1.156	1.150	1.169	1.289	1.312	1.206	7.19
22) acetonitrile	0.022	0.020		0.024	0.027		0.022	0.023	0.024	0.023	8.77
23) acetaldehyde											

Initial Calibration Summary

Job Number: JB31800 **Sample:** VD8442-ICC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D206916.D
Project: Sunoco - Marcus Hook Facility, PA

										0.000#	-1.00
24)	iodomethane										
	1.037	0.913	0.871	0.965	0.974	0.883	0.936	0.981	1.049	0.956	6.52
25)	iso-butyl alcohol										
										0.000#	-1.00
26)	carbon disulfide										
	1.944	1.782	1.838	1.804	1.811	1.794	1.745	1.857	2.015	1.843	4.62
27)	methylene chloride										
	0.653	0.576	0.600	0.583	0.589	0.643	0.571	0.601	0.654	0.608	5.47
28)	1-chloropropane										
	1.265	1.388		1.065	1.061		1.032	1.109	1.242	1.166	11.48
29)	methyl acetate										
	0.529	0.534	0.507	0.500	0.499	0.531	0.476	0.498	0.531	0.512	3.97
30)	methyl tert butyl ether										
	1.878	1.727	1.864	1.801	1.819	1.941	1.751	1.838	1.984	1.845	4.51
31)	trans-1,2-dichloroethene										
	0.626	0.569	0.698	0.549	0.553	0.641	0.541	0.571	0.601	0.594	8.75
32)	di-isopropyl ether										
	2.005	1.840	1.935	1.945	1.927	1.852	1.843	1.959	2.110	1.935	4.49
33)	ethyl tert-butyl ether										
	1.971	1.821	1.829	1.955	1.980	1.832	1.874	1.954	2.114	1.926	4.99
34)	2-butanone										
	0.060			0.072	0.074		0.071	0.072	0.074	0.071	7.67
35)	1,1-dichloroethane										
	1.044	0.966	0.990	0.995	0.994	0.955	0.962	1.002	1.099	1.001	4.55
36)	chloroprene										
	0.888	0.795	0.732	0.887	0.871	0.773	0.862	0.878	0.939	0.847	7.82
37)	acrylonitrile										
	0.228	0.207	0.181	0.223	0.225	0.216	0.213	0.223	0.237	0.217	7.39
38)	vinyl acetate										
	0.105	0.078		0.113	0.115		0.109	0.108	0.118	0.107	12.46
39)	ethyl acetate										
	0.096	0.094	0.075	0.081	0.082	0.097	0.080	0.086	0.089	0.087	9.10
40)	2,2-dichloropropane										
	0.780	0.738	0.840	0.706	0.698	0.759	0.702	0.734	0.815	0.752	6.74
41)	cis-1,2-dichloroethene										
	0.613	0.564	0.854	0.594	0.608	0.598	0.608	0.613	0.681	0.637	13.67
42)	propionitrile										
	0.081	0.082	0.062	0.084	0.087	0.061	0.087	0.085	0.091	0.080	13.49
43)	bromochloromethane										
	0.309	0.281	0.235	0.297	0.300	0.280	0.304	0.306	0.329	0.293	8.99
44)	tetrahydrofuran										
	0.080	0.077		0.079	0.083	0.053	0.082	0.079	0.086	0.077	13.42
45)	chloroform										
	1.033	0.968	1.013	0.973	0.961	0.959	0.984	0.985	1.081	0.995	4.04
46)	dibromofluoromethane (s)										
	0.545	0.569	0.663	0.526	0.525	0.597	0.551	0.519	0.581	0.564	8.10
47)	1,2-dichloroethane-d4 (s)										
	0.707	0.658	0.707	0.672	0.666	0.698	0.687	0.666	0.736	0.688	3.71
48)	freon 113										
	0.422	0.362	0.336	0.409	0.399	0.347	0.400	0.429	0.423	0.392	8.89
49)	methacrylonitrile										
	0.369	0.368	0.322	0.364	0.371	0.370	0.364	0.361	0.414	0.367	6.26
50)	t-butyl formate										
	0.596	0.519	0.520	0.582	0.580	0.532	0.581	0.583	0.626	0.569	6.46
51)	1,1,1-trichloroethane										
	0.927	0.843	0.919	0.888	0.885	0.864	0.920	0.906	0.978	0.903	4.37
52)	tert-amyl methyl ether										
	1.832	1.799	2.063	1.821	1.808	1.850	1.884	1.856	1.960	1.875	4.57

Initial Calibration Summary

Job Number: JB31800 **Sample:** VD8442-ICC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D206916.D
Project: Sunoco - Marcus Hook Facility, PA

```
53) I   1,4-difluorobenzene   ----------------ISTD--------------------
54)  cyclohexane
           0.611 0.523 0.562 0.569 0.561 0.579 0.599 0.599 0.623   0.581    5.30
55)  tert amyl alcohol
           0.016 0.016       0.017 0.017 0.012 0.016 0.017 0.018   0.016   10.90
56)  2,2,4-trimethylpentane
           1.396 1.260 1.369 1.370 1.318 1.375 1.426 1.466 1.447   1.381    4.64
57)  epichlorohydrin
           0.040 0.037       0.043 0.045 0.037 0.042 0.045 0.043   0.042    6.96
58)  n-butyl alcohol
           0.011 0.009       0.012 0.012 0.012 0.012 0.012 0.013   0.012   10.09
59)  carbon tetrachloride
           0.551 0.487 0.543 0.534 0.533 0.531 0.557 0.542 0.582   0.540    4.69
60)  1,1-dichloropropene
           0.527 0.489 0.545 0.492 0.499 0.525 0.517 0.511 0.553   0.517    4.37
61)  hexane
           0.410 0.404 0.444 0.398 0.387 0.392 0.396 0.408 0.431   0.408    4.59
62)  benzene
           1.569 1.421 1.533 1.444 1.451 1.514 1.476 1.468 1.600   1.497    4.04
63)  heptane
           0.251 0.242 0.270 0.246 0.240 0.226 0.250 0.259 0.265   0.250    5.37
64)  isopropyl acetate
           0.823 0.741 0.725 0.808 0.809 0.816 0.816 0.812 0.881   0.803    5.73
65)  1,2-dichloroethane
           0.569 0.507 0.480 0.543 0.545 0.523 0.558 0.541 0.593   0.540    6.21
66)  Ethyl Acrylate
           0.488 0.436 0.362 0.512 0.526 0.388 0.531 0.500 0.537   0.476   13.61
67)  trichloroethene
           0.399 0.364 0.361 0.379 0.377 0.346 0.382 0.377 0.406   0.377    4.92
68)  2-nitropropane
           1.035 0.957 0.828 1.035 1.058 0.913 1.054 1.012 1.118   1.001    8.79
69)  2-chloroethyl vinyl ether
           0.254 0.226 0.185 0.255 0.258 0.229 0.257 0.250 0.272   0.243   10.71
70)  methyl methacrylate
           0.093 0.080       0.106 0.112       0.112 0.103 0.107   0.102   11.43
71)  tert-amyl ethyl ether
           0.559 0.491 0.474 0.535 0.538 0.455 0.556 0.531 0.590   0.525    8.32
72)  1,2-dichloropropane
           0.395 0.345 0.322 0.387 0.397 0.374 0.395 0.382 0.417   0.379    7.64
73)  methylcyclohexane
           0.657 0.583 0.621 0.637 0.629 0.592 0.667 0.655 0.669   0.635    4.97
74)  dibromomethane
           0.242 0.223 0.183 0.248 0.252 0.211 0.246 0.245 0.273   0.236   11.16
75)  bromodichloromethane
           0.526 0.469 0.460 0.523 0.528 0.455 0.522 0.516 0.563   0.507    7.28
76)  cis-1,3-dichloropropene
           0.629 0.565 0.516 0.616 0.637 0.558 0.608 0.610 0.672   0.601    7.82
77)  toluene-d8 (s)
           1.434 1.417 1.494 1.373 1.355 1.550 1.350 1.342 1.490   1.423    5.26
78)  4-methyl-2-pentanone
           0.164 0.146       0.167 0.173 0.146 0.165 0.170 0.185   0.164    8.08
79)  toluene
           0.985 0.907 0.849 0.928 0.963 0.903 0.932 0.936 1.028   0.937    5.47
80)  3-methyl-1-butanol
           0.011 0.008       0.011 0.012       0.012 0.012 0.011   0.011   11.67
81)  trans-1,3-dichloropropene
           0.589 0.546 0.477 0.592 0.604 0.563 0.591 0.577 0.636   0.575    7.76
82)  ethyl methacrylate
           0.509 0.457 0.376 0.547 0.568 0.412 0.554 0.528 0.577   0.503   14.32
83)  1,1,2-trichloroethane
```

```
            0.302 0.274 0.243 0.289 0.292 0.252 0.286 0.285 0.316   0.282    8.09
 84)  2-hexanone
            0.144 0.136       0.149 0.153 0.108 0.152 0.148 0.158   0.143   11.12

 85) I   chlorobenzene-d5      ----------------ISTD--------------------
 86)  tetrachloroethene
            0.490 0.460 0.487 0.477 0.468 0.428 0.479 0.471 0.505   0.474    4.55
 87)  1,3-dichloropropane
            0.631 0.600 0.581 0.636 0.633 0.564 0.628 0.628 0.675   0.620    5.36
 88)  butyl acetate
            0.290 0.249 0.232 0.300 0.295 0.251 0.287 0.297 0.315   0.280   10.13
 89)  3,3-dimethyl-1-butanol
            0.035 0.032 0.027 0.039 0.042 0.033 0.044 0.039 0.040   0.037   14.48
 90)  dibromochloromethane
            0.415 0.394 0.380 0.450 0.461 0.364 0.452 0.437 0.458   0.424    8.64
 91)  1,2-dibromoethane
            0.379 0.340 0.326 0.395 0.398 0.344 0.394 0.389 0.414   0.375    8.19
 92)  chlorobenzene
            1.168 1.079 1.075 1.098 1.106 1.086 1.100 1.091 1.205   1.112    3.99
 93)  1,1,1,2-tetrachloroethane
            0.427 0.394 0.386 0.431 0.436 0.390 0.450 0.418 0.456   0.421    6.15
 94)  ethylbenzene
            2.023 1.837 1.919 1.938 1.935 1.902 1.958 1.920 2.096   1.948    3.81
 95)  m,p-xylene
            0.779 0.706 0.677 0.752 0.756 0.706 0.786 0.750 0.816   0.748    5.93
 96)  o-xylene
            0.777 0.698 0.639 0.754 0.770 0.654 0.818 0.757 0.814   0.742    8.75
 97)  styrene
            1.210 1.072 1.018 1.255 1.326 1.016 1.399 1.233 1.305   1.204   11.52
 98)  bromoform
            0.320 0.294 0.269 0.349 0.379 0.260 0.378 0.328 0.349   0.325   13.39

 99) I   1,4-dichlorobenzene-d ----------------ISTD--------------------
100)  isopropylbenzene
            3.297 2.954 3.086 3.203 3.341 3.182 3.204 3.193 3.454   3.213    4.49
101)  4-bromofluorobenzene (s)
            0.936 0.883 1.168 0.930 0.967 1.052 0.983 0.901 0.976   0.977    8.92
102)  bromobenzene
            0.880 0.814 0.812 0.872 0.897 0.837 0.868 0.853 0.922   0.862    4.27
103)  cyclohexanone
            0.023 0.019       0.023 0.025 0.021 0.024 0.023 0.025   0.023    8.05
104)  1,1,2,2-tetrachloroethane
            0.922 0.862 0.847 0.886 0.921 0.850 0.862 0.889 0.979   0.891    4.85
105)  trans-1,4-dichloro-2-butene
            0.266 0.245 0.224 0.271 0.288 0.235 0.273 0.270 0.288   0.262    8.73
106)  1,2,3-trichloropropane
            0.272 0.263       0.260 0.270 0.278 0.253 0.264 0.291   0.269    4.37
107)  n-propylbenzene
            3.833 3.407 3.852 3.671 3.735 3.761 3.611 3.719 4.017   3.734    4.55
108)  p-ethyltoluene
            3.291 2.948 2.968 3.167 3.225 2.980 3.181 3.200 3.463   3.158    5.37
109)  2-chlorotoluene
            0.775 0.706 0.754 0.780 0.794 0.724 0.809 0.771 0.825   0.771    4.97
110)  4-chlorotoluene
            2.453 2.243 2.369 2.337 2.380 2.370 2.326 2.325 2.569   2.375    3.86
111)  1,3,5-trimethylbenzene
            2.895 2.517 2.828 2.822 2.849 2.667 2.895 2.773 2.974   2.802    4.90
112)  tert-butylbenzene
            2.494 2.288 2.631 2.422 2.480 2.443 2.436 2.377 2.637   2.468    4.54
113)  pentachloroethane
```

Initial Calibration Summary

Job Number: JB31800 **Sample:** VD8442-ICC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D206916.D
Project: Sunoco - Marcus Hook Facility, PA

```
            0.559 0.515 0.499 0.581 0.611 0.514 0.596 0.572 0.603   0.561    7.49
114)  1,2,4-trimethylbenzene
            2.867 2.609 2.756 2.850 2.915 2.699 2.888 2.833 3.049   2.829    4.53
115)  sec-butylbenzene
            3.733 3.400 3.655 3.582 3.589 3.563 3.495 3.614 3.932   3.618    4.15
116)  1,3-dichlorobenzene
            1.716 1.651 1.640 1.653 1.668 1.644 1.654 1.656 1.816   1.678    3.37
117)  p-isopropyltoluene
            3.089 2.862 2.827 2.969 2.939 2.780 2.910 2.966 3.219   2.951    4.57
118)  1,4-dichlorobenzene
            1.797 1.728 1.717 1.727 1.722 1.694 1.705 1.722 1.871   1.743    3.23
119)  Benzyl Chloride
            1.589 1.537 1.653 1.554 1.546 1.609 1.458 1.556 1.623   1.569    3.64
120)  p-diethylbenzene
            1.996 1.852 1.775 1.900 1.880 1.830 1.905 1.880 2.031   1.894    4.16
121)  1,2-dichlorobenzene
            1.752 1.569 1.608 1.652 1.674 1.591 1.601 1.650 1.825   1.658    5.01
122)  n-butylbenzene
            1.654 1.522 1.451 1.585 1.576 1.480 1.596 1.586 1.707   1.573    5.10
123)  1,2,4,5-tetramethylbenzene
            2.859 2.594 2.547 2.836 2.839 2.630 2.666 2.827 3.038   2.759    5.77
124)  1,2-dibromo-3-chloropropane
            0.169 0.205       0.162 0.165       0.154 0.168 0.188   0.173   10.12
125)  1,3,5-trichlorobenzene
            1.310 1.229 1.087 1.282 1.270 1.306 1.206 1.303 1.416   1.268    7.09
126)  1,2,4-trichlorobenzene
            1.080 0.970 0.944 1.057 1.060 1.044 1.018 1.078 1.168   1.047    6.26
127)  hexachlorobutadiene
            0.609 0.535 0.577 0.576 0.564 0.617 0.539 0.606 0.655   0.587    6.63
128)  naphthalene
            2.140 2.034 1.950 2.146 2.184 2.084 2.012 2.169 2.469   2.132    6.98
129)  1,2,3-trichlorobenzene
            0.869 0.783 0.794 0.847 0.871 0.845 0.809 0.868 0.992   0.853    7.23
130)  hexachloroethane
            0.616 0.538 0.644 0.574 0.584 0.553 0.583 0.564 0.619   0.586    5.81
 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MD8442.M          Tue Mar 26 08:26:56 2013
```

Initial Calibration Verification

Job Number: JB31800 **Sample:** VD8442-ICV8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D206921.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\d206921.D Vial: 23
Acq On : 26 Mar 2013 4:13 am Operator: EmilyT
Sample : ICV8442-50 Inst : MSD
Misc : ms44872,vd8442,5,,100,5,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\MD8442.M (RTE Integrator)
Title : SW-846 Method 8260B
Last Update : Tue Mar 26 08:25:40 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	95	0.00	8.01
2	M	1,4-dioxane	0.096	0.086	10.4	75	0.00	11.86
3	M	tertiary butyl alcohol	1.289	1.352	-4.9	101	0.00	8.11
4	I	pentafluorobenzene	1.000	1.000	0.0	100	0.00	10.24
5	M	1,2-dichloro-1,2,2-triflu		----------NA----------				
6	M	chlorodifluoromethane	0.636	0.629	1.1	95	0.00	4.57
7	M	dichlorodifluoromethane	0.921	0.902	2.1	96	0.00	4.55
8	M	chloromethane	0.781	0.753	3.6	97	0.00	4.90
9	M	vinyl chloride	0.976	0.974	0.2	99	0.00	5.19
10	M	bromomethane	0.562	0.570	-1.4	97	0.00	5.85
11	M	chloroethane	0.514	0.496	3.5	98	0.00	6.03
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	1.098	1.082	1.5	99	0.00	6.55
14		pentane	0.925	0.992	-7.2	107	0.00	6.63
15	M	ethyl ether	0.375	0.355	5.3	103	0.00	6.95
16	M	acrolein	0.129	0.125	3.1	99	0.00	7.17
17	M	chlorotrifluoroethene		----------NA----------				
18	M	2-chloropropane	1.113	1.088	2.2	105	0.00	7.14
19	M	1,1-dichloroethene	0.522	0.536	-2.7	105	0.00	7.37
20	M	acetone	0.051	0.053	-3.9	102	0.00	7.39
21	M	allyl chloride	1.206	1.275	-5.7	106	0.00	7.88
22	M	acetonitrile	0.023	0.019	17.4	79	0.00	7.80
23	M	acetaldehyde		----------NA----------				
24	M	iodomethane	0.956	0.996	-4.2	104	0.00	7.64
25	M	iso-butyl alcohol		----------NA----------				
26	M	carbon disulfide	1.843	1.883	-2.2	105	0.00	7.77
27	M	methylene chloride	0.608	0.610	-0.3	105	0.00	8.05
28	M	1-chloropropane	1.166	1.119	4.0	105	0.00	8.11
29	M	methyl acetate	0.512	0.483	5.7	97	0.00	7.85
30	M	methyl tert butyl ether	1.845	1.848	-0.2	103	0.00	8.42
31	M	trans-1,2-dichloroethene	0.594	0.578	2.7	106	0.00	8.44
32	M	di-isopropyl ether	1.935	1.996	-3.2	103	0.00	9.01
33	M	ethyl tert-butyl ether	1.926	1.957	-1.6	100	0.00	9.47
34	M	2-butanone	0.071	0.072	-1.4	100	0.00	9.68
35	M	1,1-dichloroethane	1.001	1.042	-4.1	105	0.00	9.00
36	M	chloroprene		----------NA----------				
37	M	acrylonitrile	0.217	0.229	-5.5	103	0.00	8.36
38	M	vinyl acetate	0.107	0.124	-15.9	110	0.00	8.98
39	M	ethyl acetate	0.087	0.079	9.2	97	0.00	9.71
40	M	2,2-dichloropropane	0.752	0.673	10.5	96	0.00	9.75
41	M	cis-1,2-dichloroethene	0.637	0.624	2.0	105	0.00	9.72

Initial Calibration Verification

Job Number: JB31800 **Sample:** VD8442-ICV8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D206921.D
Project: Sunoco - Marcus Hook Facility, PA

42	M	propionitrile	0.080	0.084	-5.0	100	0.00	9.75
43	M	bromochloromethane	0.293	0.311	-6.1	105	0.00	10.02
44	M	tetrahydrofuran	0.077	0.082	-6.5	104	0.00	10.08
45	M	chloroform	0.995	1.009	-1.4	104	0.00	10.08
46	S	dibromofluoromethane (s)	0.564	0.544	3.5	104	0.00	10.27
47	S	1,2-dichloroethane-d4 (s)	0.688	0.682	0.9	102	0.00	10.69
48	M	freon 113	0.392	0.359	8.4	88	0.00	7.36
49	M	methacrylonitrile	0.367	0.362	1.4	100	0.00	9.95
50	m	t-butyl formate	0.569	0.603	-6.0	104	0.00	10.14
51	M	1,1,1-trichloroethane	0.903	0.918	-1.7	104	0.00	10.36
52	M	tert-amyl methyl ether	1.875	1.913	-2.0	105	0.00	10.85
53	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.00	11.15
54	M	cyclohexane	0.581	0.596	-2.6	104	0.00	10.46
55		tert amyl alcohol	0.016	0.017	-3.1	99	0.00	10.63
56	M	2,2,4-trimethylpentane	1.381	1.299	5.9	94	0.00	10.85
57	M	epichlorohydrin	0.042	0.045	-7.1	105	0.00	12.41
58	M	n-butyl alcohol	0.012	0.012	0.0	98	0.00	11.24
59	M	carbon tetrachloride	0.540	0.560	-3.7	104	0.00	10.57
60	M	1,1-dichloropropene	0.517	0.519	-0.4	105	0.00	10.54
61	M	hexane	0.408	0.377	7.6	94	0.00	8.78
62	M	benzene	1.497	1.505	-0.5	103	0.00	10.80
63	M	heptane	0.250	0.235	6.0	95	0.00	11.00
64	M	isopropyl acetate	0.803	0.843	-5.0	103	0.00	10.71
65	M	1,2-dichloroethane	0.540	0.559	-3.5	102	0.00	10.78
66		Ethyl Acrylate	0.476	0.505	-6.1	98	0.00	11.49
67	M	trichloroethene	0.377	0.387	-2.7	101	0.00	11.50
68	M	2-nitropropane	1.001	1.073	-7.2	103	0.00	12.29
69	M	2-chloroethyl vinyl ether	0.243	0.264	-8.6	103	0.00	12.30
70	M	methyl methacrylate	0.102	0.108	-5.9	101	0.00	11.77
71	M	tert-amyl ethyl ether	0.525	0.608	-8.3	113	0.00	11.70
72	M	1,2-dichloropropane	0.379	0.393	-3.7	101	0.00	11.76
73	M	methylcyclohexane	0.635	0.607	4.4	95	0.00	11.77
74	M	dibromomethane	0.236	0.249	-5.5	99	0.00	11.91
75	M	bromodichloromethane	0.507	0.534	-5.3	101	0.00	12.04
76	M	cis-1,3-dichloropropene	0.601	0.607	-1.0	98	0.00	12.53
77	S	toluene-d8 (s)	1.423	1.352	5.0	98	0.00	12.86
78	M	4-methyl-2-pentanone	0.164	0.168	-2.4	100	0.00	12.64
79	M	toluene	0.937	0.928	1.0	99	0.00	12.94
80	M	3-methyl-1-butanol	0.011	0.012	-9.1	106	0.00	12.63
81	M	trans-1,3-dichloropropene	0.575	0.582	-1.2	97	0.00	13.11
82	M	ethyl methacrylate	0.503	0.544	-8.2	99	0.00	13.13
83	M	1,1,2-trichloroethane	0.282	0.292	-3.5	100	0.00	13.34
84	M	2-hexanone	0.143	0.148	-3.5	99	0.00	13.55
85	I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	14.49
86	M	tetrachloroethene	0.474	0.487	-2.7	100	0.00	13.57
87	M	1,3-dichloropropane	0.620	0.644	-3.9	99	0.00	13.55
88	M	butyl acetate	0.280	0.313	-11.8	102	0.00	13.64
89	m	3,3-dimethyl-1-butanol	0.037	0.040	-8.1	101	0.00	13.72
90	M	dibromochloromethane	0.424	0.464	-9.4	100	0.00	13.83
91	M	1,2-dibromoethane	0.375	0.399	-6.4	99	0.00	14.00
92	M	chlorobenzene	1.112	1.122	-0.9	100	0.00	14.52
93	M	1,1,1,2-tetrachloroethane	0.421	0.443	-5.2	100	0.00	14.59
94	M	ethylbenzene	1.948	1.970	-1.1	99	0.00	14.60
95	M	m,p-xylene	0.748	0.765	-2.3	99	0.00	14.72
96	M	o-xylene	0.742	0.780	-5.1	101	0.00	15.18
97	M	styrene	1.204	1.314	-9.1	102	0.00	15.18
98	M	bromoform	0.325	0.359	-10.5	100	0.00	15.45

Initial Calibration Verification

Job Number: JB31800 **Sample:** VD8442-ICV8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D206921.D
Project: Sunoco - Marcus Hook Facility, PA

99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	17.08
100	M	isopropylbenzene	3.213	3.152	1.9	100	0.00	15.56
101	S	4-bromofluorobenzene (s)	0.977	0.910	6.9	99	0.00	15.77
102	M	bromobenzene	0.862	0.853	1.0	99	0.00	15.99
103	M	cyclohexanone	0.023	0.021	8.7	93	0.00	15.73
104	M	1,1,2,2-tetrachloroethane	0.891	0.863	3.1	99	0.00	15.86
105	M	trans-1,4-dichloro-2-bute	0.262	0.262	0.0	98	0.00	15.91
106	M	1,2,3-trichloropropane	0.269	0.257	4.5	100	0.00	15.95
107	M	n-propylbenzene	3.734	3.619	3.1	100	0.00	16.02
108	M	p-ethyltoluene	3.158	3.086	2.3	99	0.00	16.14
109	M	2-chlorotoluene	0.771	0.752	2.5	98	0.00	16.18
110	M	4-chlorotoluene	2.375	2.387	-0.5	103	0.00	16.29
111	M	1,3,5-trimethylbenzene	2.802	2.706	3.4	97	0.00	16.19
112	M	tert-butylbenzene	2.468	2.478	-0.4	104	0.00	16.59
113	M	pentachloroethane	0.561	0.596	-6.2	104	0.00	16.66
114	M	1,2,4-trimethylbenzene	2.829	2.919	-3.2	104	0.00	16.63
115	M	sec-butylbenzene	3.618	3.685	-1.9	104	0.00	16.82
116	M	1,3-dichlorobenzene	1.678	1.702	-1.4	104	0.00	17.02
117	M	p-isopropyltoluene	2.951	3.051	-3.4	104	0.00	16.96
118	M	1,4-dichlorobenzene	1.743	1.775	-1.8	104	0.00	17.11
119		Benzyl Chloride	1.569	1.526	2.7	99	0.00	17.23
120	M	p-diethylbenzene	1.894	1.942	-2.5	103	0.00	17.38
121	M	1,2-dichlorobenzene	1.658	1.692	-2.1	104	0.00	17.54
122	M	n-butylbenzene	1.573	1.644	-4.5	105	0.00	17.42
123	M	1,2,4,5-tetramethylbenzen	2.759	2.937	-6.5	105	0.00	18.25
124	M	1,2-dibromo-3-chloropropa	0.173	0.172	0.6	107	0.00	18.38
125	M	1,3,5-trichlorobenzene	1.268	1.360	-7.3	107	0.00	18.62
126	M	1,2,4-trichlorobenzene	1.047	1.117	-6.7	107	0.00	19.35
127	M	hexachlorobutadiene	0.587	0.619	-5.5	109	0.00	19.50
128	M	naphthalene	2.132	2.216	-3.9	104	0.00	19.67
129	M	1,2,3-trichlorobenzene	0.853	0.882	-3.4	105	0.00	19.95
130	M	hexachloroethane	0.586	0.592	-1.0	104	0.00	17.85

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d206916.D MD8442.M Tue Mar 26 08:27:13 2013

6.7.5

6

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8450-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207075.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\d207075.D Vial: 26
Acq On : 29 Mar 2013 9:57 pm Operator: EmilyT
Sample : cc8442-50 Inst : MSD
Misc : ms45217,vd8450,5,,100,5,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\MD8442.M (RTE Integrator)
Title : SW-846 Method 8260B
Last Update : Tue Mar 26 10:05:48 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	144	0.03	8.03
2	M	1,4-dioxane	0.096	0.082	14.6	108	0.02	11.89
3	M	tertiary butyl alcohol	1.289	1.232	4.4	138	0.03	8.15
4	I	pentafluorobenzene	1.000	1.000	0.0	120	0.00	10.23
5	M	1,2-dichloro-1,2,2-triflu		----------NA----------				
6	M	chlorodifluoromethane	0.636	0.712	-11.9	129	0.00	4.56
7	M	dichlorodifluoromethane	0.921	0.929	-0.9	118	0.00	4.54
8	M	chloromethane	0.781	0.830	-6.3	129	0.00	4.89
9	M	vinyl chloride	0.976	1.039	-6.5	127	-0.01	5.18
10	M	bromomethane	0.562	0.439	21.9#	89	0.00	5.85
11	M	chloroethane	0.514	0.456	11.3	108	0.00	6.03
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	1.098	0.967	11.9	106	0.00	6.55
14		pentane		----------NA----------				
15	M	ethyl ether	0.375	0.374	0.3	130	0.00	6.94
16	M	acrolein	0.129	0.149	-15.5	142	0.00	7.17
17	M	chlorotrifluoroethene		----------NA----------				
18	M	2-chloropropane	1.113	1.102	1.0	127	0.00	7.14
19	M	1,1-dichloroethene	0.522	0.549	-5.2	129	0.00	7.37
20	M	acetone	0.051	0.075	-47.1#	172	0.02	7.40
21	M	allyl chloride	1.206	1.347	-11.7	135	0.00	7.88
22	M	acetonitrile	0.023	0.030	-30.4#	153	0.05	7.84
23	M	acetaldehyde		----------NA----------				
24	M	iodomethane	0.956	0.958	-0.2	119	0.00	7.63
25	M	iso-butyl alcohol		----------NA----------				
26	M	carbon disulfide	1.843	2.056	-11.6	137	0.00	7.77
27	M	methylene chloride	0.608	0.634	-4.3	131	0.00	8.05
28	M	1-chloropropane	1.166	1.100	5.7	124	0.00	8.11
29	M	methyl acetate	0.512	0.830	-62.1#	199	0.00	7.85
30	M	methyl tert butyl ether	1.845	1.865	-1.1	124	0.00	8.42
31	M	trans-1,2-dichloroethene	0.594	0.582	2.0	127	0.00	8.44
32	M	di-isopropyl ether	1.935	2.129	-10.0	132	0.00	9.01
33	M	ethyl tert-butyl ether	1.926	2.000	-3.8	123	0.00	9.47
34	M	2-butanone	0.071	0.079	-11.3	132	0.00	9.68
35	M	1,1-dichloroethane	1.001	1.068	-6.7	129	0.00	8.99
36	M	chloroprene	0.847	0.910	-7.4	123	0.00	9.11
37	M	acrylonitrile	0.217	0.271	-24.9#	146	0.00	8.35
38	M	vinyl acetate	0.107	0.055	48.6#	59	0.00	8.98
39	M	ethyl acetate	0.087	0.087	0.0	128	0.00	9.71
40	M	2,2-dichloropropane	0.752	0.678	9.8	115	0.00	9.75
41	M	cis-1,2-dichloroethene	0.637	0.621	2.5	126	0.00	9.71

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8450-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207075.D
Project: Sunoco - Marcus Hook Facility, PA

42	M	propionitrile	0.080	0.104	-30.0#	149	0.00	9.76
43	M	bromochloromethane	0.293	0.289	1.4	117	0.00	10.01
44	M	tetrahydrofuran	0.077	0.091	-18.2	139	0.00	10.07
45	M	chloroform	0.995	0.960	3.5	119	0.00	10.07
46	S	dibromofluoromethane (s)	0.564	0.480	14.9	110	0.00	10.26
47	S	1,2-dichloroethane-d4 (s)	0.688	0.572	16.9	102	0.00	10.69
48	M	freon 113	0.392	0.420	-7.1	123	0.00	7.36
49	M	methacrylonitrile	0.367	0.402	-9.5	132	0.00	9.95
50	m	t-butyl formate	0.569	0.585	-2.8	121	0.00	10.14
51	M	1,1,1-trichloroethane	0.903	0.859	4.9	116	0.00	10.36
52	M	tert-amyl methyl ether	1.875	1.871	0.2	123	0.00	10.84
53	I	1,4-difluorobenzene	1.000	1.000	0.0	129	0.00	11.15
54	M	cyclohexane	0.581	0.601	-3.4	136	0.00	10.46
55		tert amyl alcohol		----------NA----------				
56	M	2,2,4-trimethylpentane	1.381	1.438	-4.1	135	0.00	10.84
57	M	epichlorohydrin	0.042	0.046	-9.5	137	0.00	12.41
58	M	n-butyl alcohol	0.012	0.013	-8.3	144	0.00	11.25
59	M	carbon tetrachloride	0.540	0.464	14.1	112	0.00	10.57
60	M	1,1-dichloropropene	0.517	0.486	6.0	127	0.00	10.53
61	M	hexane	0.408	0.496	-21.6#	161	0.00	8.78
62	M	benzene	1.497	1.455	2.8	130	0.00	10.79
63	M	heptane	0.250	0.268	-7.2	141	0.00	10.99
64	M	isopropyl acetate	0.803	0.743	7.5	118	0.00	10.70
65	M	1,2-dichloroethane	0.540	0.459	15.0	109	0.00	10.78
66		Ethyl Acrylate		----------NA----------				
67	M	trichloroethene	0.377	0.347	8.0	118	0.00	11.50
68	M	2-nitropropane	1.001	0.952	4.9	119	0.00	12.29
69	M	2-chloroethyl vinyl ether	0.243	0.245	-0.8	124	0.00	12.29
70	M	methyl methacrylate	0.102	0.105	-2.9	128	0.00	11.76
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	1,2-dichloropropane	0.379	0.386	-1.8	128	0.00	11.76
73	M	methylcyclohexane	0.635	0.654	-3.0	132	0.00	11.76
74	M	dibromomethane	0.236	0.218	7.6	113	0.00	11.90
75	M	bromodichloromethane	0.507	0.462	8.9	114	0.00	12.04
76	M	cis-1,3-dichloropropene	0.601	0.593	1.3	124	0.00	12.53
77	S	toluene-d8 (s)	1.423	1.244	12.6	117	0.00	12.86
78	M	4-methyl-2-pentanone	0.164	0.174	-6.1	134	0.00	12.64
79	M	toluene	0.937	0.890	5.0	124	0.00	12.93
80	M	3-methyl-1-butanol	0.011	0.012	-9.1	141	0.00	12.63
81	M	trans-1,3-dichloropropene	0.575	0.548	4.7	119	0.00	13.11
82	M	ethyl methacrylate	0.503	0.539	-7.2	127	0.00	13.13
83	M	1,1,2-trichloroethane	0.282	0.277	1.8	124	0.00	13.34
84	M	2-hexanone	0.143	0.156	-9.1	135	0.00	13.55
85	I	chlorobenzene-d5	1.000	1.000	0.0	126	0.00	14.49
86	M	tetrachloroethene	0.474	0.408	13.9	108	0.00	13.57
87	M	1,3-dichloropropane	0.620	0.624	-0.6	124	0.00	13.54
88	M	butyl acetate	0.280	0.304	-8.6	128	0.00	13.63
89	m	3,3-dimethyl-1-butanol	0.037	0.045	-21.6#	144	0.00	13.72
90	M	dibromochloromethane	0.424	0.389	8.3	109	0.00	13.82
91	M	1,2-dibromoethane	0.375	0.368	1.9	117	0.00	14.00
92	M	chlorobenzene	1.112	1.053	5.3	121	0.00	14.52
93	M	1,1,1,2-tetrachloroethane	0.421	0.383	9.0	112	0.00	14.58
94	M	ethylbenzene	1.948	1.852	4.9	120	0.00	14.60
95	M	m,p-xylene	0.748	0.703	6.0	118	0.00	14.71
96	M	o-xylene	0.742	0.707	4.7	118	0.00	15.18
97	M	styrene	1.204	1.208	-0.3	121	0.00	15.18
98	M	bromoform	0.325	0.298	8.3	108	0.00	15.45

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8450-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207075.D
Project: Sunoco - Marcus Hook Facility, PA

99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	118	0.00	17.07
100	M	isopropylbenzene	3.213	3.239	-0.8	119	0.00	15.56
101	S	4-bromofluorobenzene (s)	0.977	0.932	4.6	118	0.00	15.77
102	M	bromobenzene	0.862	0.820	4.9	111	0.00	15.99
103	M	cyclohexanone	0.023	0.024	-4.3	122	0.00	15.73
104	M	1,1,2,2-tetrachloroethane	0.891	0.932	-4.6	124	0.00	15.86
105	M	trans-1,4-dichloro-2-bute	0.262	0.257	1.9	112	0.00	15.91
106	M	1,2,3-trichloropropane	0.269	0.256	4.8	116	0.00	15.95
107	M	n-propylbenzene	3.734	3.767	-0.9	121	0.00	16.02
108	M	p-ethyltoluene		----------NA----------				
109	M	2-chlorotoluene	0.771	0.755	2.1	114	0.00	16.18
110	M	4-chlorotoluene	2.375	2.406	-1.3	121	0.00	16.29
111	M	1,3,5-trimethylbenzene	2.802	2.805	-0.1	117	0.00	16.19
112	M	tert-butylbenzene	2.468	2.416	2.1	118	0.00	16.58
113	M	pentachloroethane	0.561	0.531	5.3	108	0.00	16.65
114	M	1,2,4-trimethylbenzene	2.829	2.845	-0.6	118	0.00	16.63
115	M	sec-butylbenzene	3.618	3.624	-0.2	119	0.00	16.82
116	M	1,3-dichlorobenzene	1.678	1.584	5.6	113	0.00	17.01
117	M	p-isopropyltoluene	2.951	2.956	-0.2	117	0.00	16.95
118	M	1,4-dichlorobenzene	1.743	1.653	5.2	113	0.00	17.10
119		Benzyl Chloride	1.569	1.403	10.6	106	0.00	17.22
120	M	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.658	1.589	4.2	113	0.00	17.54
122	M	n-butylbenzene	1.573	1.592	-1.2	118	0.00	17.41
123	M	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.173	0.172	0.6	125	0.00	18.38
125	M	1,3,5-trichlorobenzene	1.268	1.263	0.4	116	0.00	18.62
126	M	1,2,4-trichlorobenzene	1.047	1.043	0.4	116	0.00	19.35
127	M	hexachlorobutadiene	0.587	0.557	5.1	114	0.00	19.50
128	M	naphthalene	2.132	2.218	-4.0	122	0.00	19.67
129	M	1,2,3-trichlorobenzene	0.853	0.822	3.6	114	0.00	19.95
130	M	hexachloroethane	0.586	0.559	4.6	115	0.00	17.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d206916.D MD8442.M Mon Apr 01 11:59:15 2013

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8451-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207097A.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\d207097A.D                    Vial: 3
Acq On    : 30 Mar 2013  10:11 am                       Operator: EmilyT
Sample    : cc8442-20                                   Inst    : MSD
Misc      : ms45217,vd8451,5,,100,5,1                   Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\MSDCHEM\1\METHODS\MD8442.M (RTE Integrator)
Title        : SW-846 Method 8260B
Last Update  : Tue Mar 26 10:05:48 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	142	0.00	8.00
2	M	1,4-dioxane	0.096	0.096	0.0	146	0.00	11.87
3	M	tertiary butyl alcohol	1.289	1.262	2.1	134	0.00	8.11
4	I	pentafluorobenzene	1.000	1.000	0.0	122	0.00	10.23
5	M	1,2-dichloro-1,2,2-triflu		----------NA----------				
6	M	chlorodifluoromethane	0.636	0.754	-18.6	138	0.00	4.56
7	M	dichlorodifluoromethane	0.921	0.818	11.2	104	0.00	4.54
8	M	chloromethane	0.781	0.796	-1.9	131	-0.01	4.89
9	M	vinyl chloride	0.976	0.968	0.8	126	-0.02	5.17
10	M	bromomethane	0.562	0.457	18.7	102	0.00	5.84
11	M	chloroethane	0.514	0.453	11.9	118	0.00	6.03
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	1.098	0.933	15.0	108	0.00	6.55
14		pentane		----------NA----------				
15	M	ethyl ether	0.375	0.399	-6.4	140	0.00	6.94
16	M	acrolein	0.129	0.160	-24.0#	162	0.00	7.16
17	M	chlorotrifluoroethene		----------NA----------				
18	M	2-chloropropane	1.113	1.169	-5.0	135	0.00	7.13
19	M	1,1-dichloroethene	0.522	0.559	-7.1	128	0.00	7.36
20	M	acetone	0.051	0.069	-35.3#	155	0.00	7.38
21	M	allyl chloride	1.206	1.399	-16.0	132	0.00	7.87
22	M	acetonitrile	0.023	0.041	-78.3#	221#	0.01	7.81
23	M	acetaldehyde		----------NA----------				
24	M	iodomethane	0.956	0.964	-0.8	120	0.00	7.63
25	M	iso-butyl alcohol		----------NA----------				
26	M	carbon disulfide	1.843	2.089	-13.3	137	0.00	7.77
27	M	methylene chloride	0.608	0.648	-6.6	132	-0.01	8.04
28	M	1-chloropropane	1.166	1.156	0.9	127	0.00	8.11
29	M	methyl acetate	0.512	0.840	-64.1#	206#	0.00	7.85
30	M	methyl tert butyl ether	1.845	1.918	-4.0	127	0.00	8.41
31	M	trans-1,2-dichloroethene	0.594	0.602	-1.3	129	0.00	8.44
32	M	di-isopropyl ether	1.935	2.240	-15.8	140	0.00	9.01
33	M	ethyl tert-butyl ether	1.926	2.090	-8.5	131	0.00	9.46
34	M	2-butanone	0.071	0.080	-12.7	136	0.00	9.67
35	M	1,1-dichloroethane	1.001	1.104	-10.3	134	0.00	8.99
36	M	chloroprene	0.847	0.946	-11.7	132	0.00	9.11
37	M	acrylonitrile	0.217	0.274	-26.3#	150	0.00	8.34
38	M	vinyl acetate	0.107	0.055	48.6#	62	0.00	8.97
39	M	ethyl acetate	0.087	0.097	-11.5	138	0.00	9.70
40	M	2,2-dichloropropane	0.752	0.896	-19.1	149	0.00	9.74
41	M	cis-1,2-dichloroethene	0.637	0.648	-1.7	129	0.00	9.71

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8451-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207097A.D
Project: Sunoco - Marcus Hook Facility, PA

42	M	propionitrile	0.080	0.105	-31.2#	151	0.00	9.74
43	M	bromochloromethane	0.293	0.296	-1.0	118	-0.01	10.01
44	M	tetrahydrofuran	0.077	0.090	-16.9	138	0.00	10.07
45	M	chloroform	0.995	0.998	-0.3	124	0.00	10.06
46	S	dibromofluoromethane (s)	0.564	0.481	14.7	113	0.00	10.26
47	S	1,2-dichloroethane-d4 (s)	0.688	0.580	15.7	106	0.00	10.68
48	M	freon 113	0.392	0.439	-12.0	125	0.00	7.35
49	M	methacrylonitrile	0.367	0.413	-12.5	140	0.00	9.94
50	m	t-butyl formate	0.569	0.600	-5.4	126	0.00	10.14
51	M	1,1,1-trichloroethane	0.903	0.860	4.8	116	0.00	10.36
52	M	tert-amyl methyl ether	1.875	1.953	-4.2	128	0.00	10.84
53	I	1,4-difluorobenzene	1.000	1.000	0.0	132	0.00	11.14
54	M	cyclohexane	0.581	0.604	-4.0	133	0.00	10.46
55		tert amyl alcohol		----------NA----------				
56	M	2,2,4-trimethylpentane	1.381	1.636	-18.5	147	0.00	10.84
57	M	epichlorohydrin	0.042	0.047	-11.9	140	0.00	12.40
58	M	n-butyl alcohol	0.012	0.013	-8.3	140	0.00	11.23
59	M	carbon tetrachloride	0.540	0.458	15.2	111	0.00	10.57
60	M	1,1-dichloropropene	0.517	0.500	3.3	129	0.00	10.53
61	M	hexane	0.408	0.571	-40.0#	184	0.00	8.77
62	M	benzene	1.497	1.512	-1.0	136	0.00	10.79
63	M	heptane	0.250	0.321	-28.4#	163	0.00	10.99
64	M	isopropyl acetate	0.803	0.788	1.9	128	0.00	10.70
65	M	1,2-dichloroethane	0.540	0.479	11.3	117	0.00	10.77
66		Ethyl Acrylate		----------NA----------				
67	M	trichloroethene	0.377	0.361	4.2	126	0.00	11.50
68	M	2-nitropropane	1.001	0.988	1.3	128	0.00	12.29
69	M	2-chloroethyl vinyl ether	0.243	0.257	-5.8	135	0.00	12.29
70	M	methyl methacrylate	0.102	0.103	-1.0	132	0.00	11.76
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	1,2-dichloropropane	0.379	0.404	-6.6	139	0.00	11.76
73	M	methylcyclohexane	0.635	0.679	-6.9	136	0.00	11.76
74	M	dibromomethane	0.236	0.224	5.1	120	0.00	11.90
75	M	bromodichloromethane	0.507	0.469	7.5	120	0.00	12.03
76	M	cis-1,3-dichloropropene	0.601	0.630	-4.8	136	0.00	12.52
77	S	toluene-d8 (s)	1.423	1.236	13.1	121	0.00	12.85
78	M	4-methyl-2-pentanone	0.164	0.179	-9.1	138	0.00	12.63
79	M	toluene	0.937	0.923	1.5	130	0.00	12.93
80	M	3-methyl-1-butanol	0.011	0.012	-9.1	142	0.00	12.63
81	M	trans-1,3-dichloropropene	0.575	0.584	-1.6	133	0.00	13.11
82	M	ethyl methacrylate	0.503	0.544	-8.2	136	0.00	13.12
83	M	1,1,2-trichloroethane	0.282	0.282	0.0	130	0.00	13.34
84	M	2-hexanone	0.143	0.153	-7.0	136	0.00	13.54
85	I	chlorobenzene-d5	1.000	1.000	0.0	128	0.00	14.49
86	M	tetrachloroethene	0.474	0.423	10.8	115	0.00	13.57
87	M	1,3-dichloropropane	0.620	0.643	-3.7	131	0.00	13.54
88	M	butyl acetate	0.280	0.317	-13.2	136	0.00	13.63
89	m	3,3-dimethyl-1-butanol	0.037	0.045	-21.6#	146	0.00	13.72
90	M	dibromochloromethane	0.424	0.385	9.2	113	0.00	13.82
91	M	1,2-dibromoethane	0.375	0.372	0.8	122	0.00	14.00
92	M	chlorobenzene	1.112	1.091	1.9	128	0.00	14.52
93	M	1,1,1,2-tetrachloroethane	0.421	0.389	7.6	119	0.00	14.58
94	M	ethylbenzene	1.948	1.940	0.4	129	0.00	14.60
95	M	m,p-xylene	0.748	0.741	0.9	126	0.00	14.71
96	M	o-xylene	0.742	0.735	0.9	124	0.00	15.18
97	M	styrene	1.204	1.223	-1.6	127	0.00	15.18
98	M	bromoform	0.325	0.289	11.1	112	0.00	15.45

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8451-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207097A.D
Project: Sunoco - Marcus Hook Facility, PA

99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	117	0.00	17.07
100	M	isopropylbenzene	3.213	3.432	-6.8	126	0.00	15.56
101	S	4-bromofluorobenzene (s)	0.977	0.941	3.7	122	0.00	15.77
102	M	bromobenzene	0.862	0.862	0.0	118	0.00	15.99
103	M	cyclohexanone	0.023	0.101	-339.1#	512#	0.00	15.72
104	M	1,1,2,2-tetrachloroethane	0.891	0.973	-9.2	128	0.00	15.86
105	M	trans-1,4-dichloro-2-bute	0.262	0.286	-9.2	124	0.00	15.91
106	M	1,2,3-trichloropropane	0.269	0.271	-0.7	120	0.00	15.95
107	M	n-propylbenzene	3.734	4.035	-8.1	127	0.00	16.02
108	M	p-ethyltoluene		----------NA----------				
109	M	2-chlorotoluene	0.771	0.801	-3.9	122	0.00	16.18
110	M	4-chlorotoluene	2.375	2.575	-8.4	130	0.00	16.29
111	M	1,3,5-trimethylbenzene	2.802	2.968	-5.9	125	0.00	16.19
112	M	tert-butylbenzene	2.468	2.532	-2.6	125	0.00	16.58
113	M	pentachloroethane	0.561	0.548	2.3	112	0.00	16.65
114	M	1,2,4-trimethylbenzene	2.829	3.023	-6.9	125	0.00	16.62
115	M	sec-butylbenzene	3.618	3.859	-6.7	125	0.00	16.82
116	M	1,3-dichlorobenzene	1.678	1.669	0.5	118	0.00	17.01
117	M	p-isopropyltoluene	2.951	3.110	-5.4	123	0.00	16.95
118	M	1,4-dichlorobenzene	1.743	1.723	1.1	117	0.00	17.10
119		Benzyl Chloride	1.569	2.205	-40.5#	166	0.00	17.23
120	M	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.658	1.651	0.4	117	0.00	17.54
122	M	n-butylbenzene	1.573	1.682	-6.9	124	0.00	17.41
123	M	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.173	0.178	-2.9	124	0.00	18.38
125	M	1,3,5-trichlorobenzene	1.268	1.298	-2.4	117	0.00	18.62
126	M	1,2,4-trichlorobenzene	1.047	1.047	0.0	114	0.00	19.35
127	M	hexachlorobutadiene	0.587	0.608	-3.6	117	0.00	19.50
128	M	naphthalene	2.132	2.220	-4.1	120	0.00	19.67
129	M	1,2,3-trichlorobenzene	0.853	0.833	2.3	112	0.00	19.94
130	M	hexachloroethane	0.586	0.565	3.6	117	0.00	17.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d206915.D MD8442.M Mon Apr 01 12:23:08 2013

6.7.7

6

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8453-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207146.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\d207146.D                    Vial: 2
Acq On    :  1 Apr 2013   9:08 am                     Operator: EmilyT
Sample    : cc8442-20                                 Inst    : MSD
Misc      : ms45217,vd8453,5,,100,5,1                 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method       : C:\MSDCHEM\1\METHODS\MD8442.M (RTE Integrator)
Title        : SW-846 Method 8260B
Last Update  : Tue Mar 26 10:05:48 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	146	0.00	8.00
2	M	1,4-dioxane	0.096	0.103	-7.3	161	0.00	11.87
3	M	tertiary butyl alcohol	1.289	1.273	1.2	139	0.00	8.12
4	I	pentafluorobenzene	1.000	1.000	0.0	121	0.00	10.23
5	M	1,2-dichloro-1,2,2-triflu		----------NA----------				
6	M	chlorodifluoromethane	0.636	0.675	-6.1	122	0.00	4.56
7	M	dichlorodifluoromethane	0.921	0.749	18.7	94	0.00	4.55
8	M	chloromethane	0.781	0.697	10.8	114	-0.01	4.89
9	M	vinyl chloride	0.976	0.859	12.0	111	-0.02	5.17
10	M	bromomethane	0.562	0.411	26.9#	91	0.00	5.85
11	M	chloroethane	0.514	0.400	22.2#	102	0.00	6.03
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	1.098	0.863	21.4#	99	0.00	6.56
14		pentane		----------NA----------				
15	M	ethyl ether	0.375	0.371	1.1	129	0.00	6.94
16	M	acrolein	0.129	0.151	-17.1	150	0.00	7.17
17	M	chlorotrifluoroethene		----------NA----------				
18	M	2-chloropropane	1.113	1.055	5.2	120	0.00	7.14
19	M	1,1-dichloroethene	0.522	0.526	-0.8	119	0.00	7.37
20	M	acetone	0.051	0.067	-31.4#	149	0.00	7.38
21	M	allyl chloride	1.206	1.296	-7.5	121	0.00	7.88
22	M	acetonitrile	0.023	0.039	-69.6#	204#	0.01	7.81
23	M	acetaldehyde		----------NA----------				
24	M	iodomethane	0.956	0.903	5.5	111	0.00	7.64
25	M	iso-butyl alcohol		----------NA----------				
26	M	carbon disulfide	1.843	1.946	-5.6	126	0.00	7.77
27	M	methylene chloride	0.608	0.607	0.2	122	0.00	8.05
28	M	1-chloropropane	1.166	1.074	7.9	117	0.00	8.11
29	M	methyl acetate	0.512	0.800	-56.3#	193	0.00	7.86
30	M	methyl tert butyl ether	1.845	1.838	0.4	121	0.00	8.41
31	M	trans-1,2-dichloroethene	0.594	0.573	3.5	121	0.00	8.44
32	M	di-isopropyl ether	1.935	2.085	-7.8	128	0.00	9.01
33	M	ethyl tert-butyl ether	1.926	1.970	-2.3	122	0.00	9.47
34	M	2-butanone	0.071	0.080	-12.7	134	0.00	9.67
35	M	1,1-dichloroethane	1.001	1.040	-3.9	125	0.00	8.99
36	M	chloroprene	0.847	0.879	-3.8	121	0.00	9.11
37	M	acrylonitrile	0.217	0.269	-24.0#	145	0.00	8.35
38	M	vinyl acetate	0.107	0.057	46.7#	64	0.00	8.98
39	M	ethyl acetate	0.087	0.096	-10.3	134	0.00	9.70
40	M	2,2-dichloropropane	0.752	0.845	-12.4	139	0.00	9.74
41	M	cis-1,2-dichloroethene	0.637	0.613	3.8	120	0.00	9.71

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8453-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207146.D
Project: Sunoco - Marcus Hook Facility, PA

42	M	propionitrile	0.080	0.107	-33.8#	152	0.00	9.75
43	M	bromochloromethane	0.293	0.284	3.1	112	0.00	10.02
44	M	tetrahydrofuran	0.077	0.093	-20.8#	141	0.00	10.07
45	M	chloroform	0.995	0.934	6.1	114	0.00	10.07
46	S	dibromofluoromethane (s)	0.564	0.470	16.7	109	0.00	10.26
47	S	1,2-dichloroethane-d4 (s)	0.688	0.566	17.7	102	0.00	10.69
48	M	freon 113	0.392	0.414	-5.6	117	0.00	7.35
49	M	methacrylonitrile	0.367	0.406	-10.6	136	0.00	9.95
50	m	t-butyl formate	0.569	0.582	-2.3	120	0.00	10.14
51	M	1,1,1-trichloroethane	0.903	0.822	9.0	109	0.00	10.36
52	M	tert-amyl methyl ether	1.875	1.878	-0.2	122	0.00	10.84
53	I	1,4-difluorobenzene	1.000	1.000	0.0	129	0.00	11.15
54	M	cyclohexane	0.581	0.597	-2.8	128	0.00	10.46
55		tert amyl alcohol		----------NA----------				
56	M	2,2,4-trimethylpentane	1.381	1.557	-12.7	137	0.00	10.84
57	M	epichlorohydrin	0.042	0.049	-16.7	143	0.00	12.41
58	M	n-butyl alcohol	0.012	0.014	-16.7	152	0.00	11.23
59	M	carbon tetrachloride	0.540	0.449	16.9	107	0.00	10.57
60	M	1,1-dichloropropene	0.517	0.494	4.4	125	0.00	10.53
61	M	hexane	0.408	0.546	-33.8#	172	0.00	8.77
62	M	benzene	1.497	1.455	2.8	128	0.00	10.80
63	M	heptane	0.250	0.306	-22.4#	153	0.00	10.99
64	M	isopropyl acetate	0.803	0.774	3.6	123	0.00	10.70
65	M	1,2-dichloroethane	0.540	0.461	14.6	110	0.00	10.77
66		Ethyl Acrylate		----------NA----------				
67	M	trichloroethene	0.377	0.350	7.2	120	0.00	11.50
68	M	2-nitropropane	1.001	0.984	1.7	125	0.00	12.29
69	M	2-chloroethyl vinyl ether	0.243	0.253	-4.1	130	0.00	12.29
70	M	methyl methacrylate	0.102	0.108	-5.9	136	0.00	11.76
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	1,2-dichloropropane	0.379	0.387	-2.1	131	0.00	11.76
73	M	methylcyclohexane	0.635	0.655	-3.1	129	0.00	11.76
74	M	dibromomethane	0.236	0.217	8.1	114	0.00	11.90
75	M	bromodichloromethane	0.507	0.465	8.3	116	0.00	12.04
76	M	cis-1,3-dichloropropene	0.601	0.621	-3.3	131	0.00	12.53
77	S	toluene-d8 (s)	1.423	1.250	12.2	120	0.00	12.86
78	M	4-methyl-2-pentanone	0.164	0.183	-11.6	139	0.00	12.64
79	M	toluene	0.937	0.897	4.3	124	0.00	12.93
80	M	3-methyl-1-butanol	0.011	0.014	-27.3#	153	0.00	12.63
81	M	trans-1,3-dichloropropene	0.575	0.572	0.5	128	0.00	13.11
82	M	ethyl methacrylate	0.503	0.551	-9.5	135	0.00	13.13
83	M	1,1,2-trichloroethane	0.282	0.280	0.7	127	0.00	13.34
84	M	2-hexanone	0.143	0.158	-10.5	137	0.00	13.55
85	I	chlorobenzene-d5	1.000	1.000	0.0	126	0.00	14.49
86	M	tetrachloroethene	0.474	0.415	12.4	111	0.00	13.57
87	M	1,3-dichloropropane	0.620	0.636	-2.6	127	0.00	13.54
88	M	butyl acetate	0.280	0.317	-13.2	134	0.00	13.63
89	m	3,3-dimethyl-1-butanol	0.037	0.048	-29.7#	154	0.00	13.72
90	M	dibromochloromethane	0.424	0.386	9.0	111	0.00	13.82
91	M	1,2-dibromoethane	0.375	0.373	0.5	120	0.00	14.00
92	M	chlorobenzene	1.112	1.066	4.1	123	0.00	14.52
93	M	1,1,1,2-tetrachloroethane	0.421	0.384	8.8	115	0.00	14.59
94	M	ethylbenzene	1.948	1.880	3.5	123	0.00	14.60
95	M	m,p-xylene	0.748	0.722	3.5	121	0.00	14.72
96	M	o-xylene	0.742	0.721	2.8	120	0.00	15.18
97	M	styrene	1.204	1.195	0.7	122	0.00	15.18
98	M	bromoform	0.325	0.295	9.2	113	0.00	15.45

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VD8453-CC8442
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** D207146.D
Project: Sunoco - Marcus Hook Facility, PA

99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	115	0.00	17.07
100	M	isopropylbenzene	3.213	3.338	-3.9	120	0.00	15.56
101	S	4-bromofluorobenzene (s)	0.977	0.943	3.5	120	0.00	15.77
102	M	bromobenzene	0.862	0.847	1.7	114	0.00	15.99
103	M	cyclohexanone	0.023	0.078	-239.1#	386#	0.00	15.73
104	M	1,1,2,2-tetrachloroethane	0.891	0.977	-9.7	126	0.00	15.86
105	M	trans-1,4-dichloro-2-bute	0.262	0.287	-9.5	122	0.00	15.91
106	M	1,2,3-trichloropropane	0.269	0.266	1.1	115	0.00	15.95
107	M	n-propylbenzene	3.734	3.927	-5.2	121	0.00	16.02
108	M	p-ethyltoluene		----------NA----------				
109	M	2-chlorotoluene	0.771	0.781	-1.3	116	0.00	16.18
110	M	4-chlorotoluene	2.375	2.504	-5.4	123	0.00	16.29
111	M	1,3,5-trimethylbenzene	2.802	2.898	-3.4	120	0.00	16.19
112	M	tert-butylbenzene	2.468	2.472	-0.2	119	0.00	16.58
113	M	pentachloroethane	0.561	0.539	3.9	108	0.00	16.65
114	M	1,2,4-trimethylbenzene	2.829	2.945	-4.1	119	0.00	16.63
115	M	sec-butylbenzene	3.618	3.752	-3.7	119	0.00	16.82
116	M	1,3-dichlorobenzene	1.678	1.625	3.2	112	0.00	17.01
117	M	p-isopropyltoluene	2.951	3.049	-3.3	118	0.00	16.95
118	M	1,4-dichlorobenzene	1.743	1.689	3.1	112	0.00	17.11
119		Benzyl Chloride	1.569	2.178	-38.8#	160	0.00	17.23
120	M	p-diethylbenzene		----------NA----------				
121	M	1,2-dichlorobenzene	1.658	1.611	2.8	112	0.00	17.54
122	M	n-butylbenzene	1.573	1.632	-3.8	118	0.00	17.41
123	M	1,2,4,5-tetramethylbenzen		----------NA----------				
124	M	1,2-dibromo-3-chloropropa	0.173	0.177	-2.3	121	0.00	18.38
125	M	1,3,5-trichlorobenzene	1.268	1.283	-1.2	113	0.00	18.62
126	M	1,2,4-trichlorobenzene	1.047	1.032	1.4	110	0.00	19.35
127	M	hexachlorobutadiene	0.587	0.595	-1.4	112	0.00	19.50
128	M	naphthalene	2.132	2.283	-7.1	121	0.00	19.67
129	M	1,2,3-trichlorobenzene	0.853	0.817	4.2	108	0.00	19.94
130	M	hexachloroethane	0.586	0.562	4.1	114	0.00	17.85

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d206915.D MD8442.M Tue Apr 02 08:11:58 2013

6.7.8

6

Initial Calibration Summary

Job Number: JB31800 **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: JB31800 **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: JB31800 **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: JB31800 **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
```

Initial Calibration Verification

Job Number: JB31800 **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: JB31800 **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: JB31800 **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: JB31800 **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

6.7.10

6

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VE8862-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201562.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E201562.D                    Vial: 2
Acq On    :  1 Apr 2013  10:03 am                     Operator: OksanaT
Sample    : cc8801-20                                 Inst    : MSE
Misc      : MS45432,VE8862,5,,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	109	0.01	7.68
		----------	True	Calc.	% Drift	----------		
2	M	1,4-dioxane	500.000	529.611	-5.9	117	0.00	11.54
		----------	AvgRF	CCRF	% Dev	----------		
3	M	tertiary butyl alcohol	1.175	1.195	-1.7	104	0.00	7.80
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	121	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	0.462	16.0	95	0.00	4.32
12	M	dichlorodifluoromethane	0.733	0.681	7.1	109	0.00	4.31
13		freon 114		----------NA----------				
14		freon 142b		----------NA----------				
15	M	chloromethane	0.818	0.673	17.7	96	0.00	4.66
16	M	vinyl chloride	0.819	0.768	6.2	108	0.00	4.95
17		1,3-Butadiene		----------NA----------				
18	M	acetaldehyde		----------NA----------				
19	M	bromomethane	0.496	0.429	13.5	104	0.00	5.59
20	M	chloroethane	0.374	0.316	15.5	95	0.00	5.77
21	M	vinyl bromide		----------NA----------				
22	M	trichlorofluoromethane	0.813	0.763	6.2	107	0.00	6.27
23	M	pentane		----------NA----------				
24	M	ethyl ether	0.316	0.275	13.0	96	0.00	6.65
25		freon 141b		----------NA----------				
26		freon 123a		----------NA----------				
27		freon 123		----------NA----------				
28	m	2-chloropropane	0.945	0.780	17.5	90	0.00	6.84
29	M	acrolein	0.123	0.110	10.6	102	0.00	6.86
30	M	1,1-dichloroethene	0.476	0.440	7.6	99	0.00	7.09
31	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
32	M	acetone	20.000	17.150	14.3	98	0.00	7.06
		----------	AvgRF	CCRF	% Dev	----------		
33	M	allyl chloride	0.913	0.815	10.7	103	0.00	7.58

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VE8862-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201562.D
Project: Sunoco - Marcus Hook Facility, PA

			True	Calc.	% Drift			
34	M	acetonitrile	200.000	184.645	7.7	107	0.04	7.50

			AvgRF	CCRF	% Dev			
35	M	iodomethane	0.964	0.901	6.5	103	0.00	7.35

			True	Calc.	% Drift			
36	M	iso-butyl alcohol	200.000	156.038	22.0#	87	0.00	10.23

			AvgRF	CCRF	% Dev			
37	M	carbon disulfide	1.603	1.371	14.5	91	0.00	7.50
38	M	methylene chloride	0.615	0.478	22.3#	96	0.00	7.75
39	m	1-chloropropane	0.921	0.758	17.7	92	0.00	7.81
40	M	methyl acetate	0.421	0.541	-28.5#	137	0.00	7.54
41	M	methyl tert butyl ether	1.525	1.379	9.6	99	0.00	8.10
42	M	trans-1,2-dichloroethene	0.480	0.442	7.9	97	0.00	8.15
43	M	di-isopropyl ether	1.764	1.498	15.1	98	0.00	8.69
44	M	ethyl tert-butyl ether	1.758	1.430	18.7	95	0.00	9.15

			True	Calc.	% Drift			
45	M	2-butanone	20.000	16.881	15.6	106	0.00	9.34

			AvgRF	CCRF	% Dev			
46	M	1,1-dichloroethane	0.885	0.825	6.8	99	0.00	8.68
47	M	chloroprene	0.669	0.615	8.1	100	0.00	8.81
48	M	acrylonitrile	0.205	0.190	7.3	101	0.00	8.02

			True	Calc.	% Drift			
49	M	vinyl acetate	20.000	7.578	62.1#	41	0.02	8.67

			AvgRF	CCRF	% Dev			
50	M	ethyl acetate	0.075	0.064	14.7	98	0.00	9.38
51	M	2,2-dichloropropane	0.712	0.646	9.3	102	0.00	9.43
52	M	cis-1,2-dichloroethene	0.553	0.489	11.6	98	0.00	9.41
53	m	methyl acrylate	0.493	0.435	11.8	102	0.00	9.46
54	M	propionitrile	0.078	0.075	3.8	103	0.00	9.40
55	M	bromochloromethane	0.285	0.273	4.2	109	0.00	9.71
56	M	tetrahydrofuran	0.198	0.181	8.6	104	0.00	9.76
57	M	chloroform	0.843	0.779	7.6	99	0.00	9.76
58	m	t-butyl formate	0.474	0.430	9.3	103	0.00	9.80
59	M	Iso-octane	1.412	1.278	9.5	102	0.00	10.52
60	S	dibromofluoromethane (s)	0.469	0.389	17.1	97	0.00	9.95
61	S	1,2-dichloroethane-d4 (s)	0.516	0.424	17.8	93	0.00	10.36
62	M	freon 113	0.365	0.358	1.9	106	0.00	7.06
63	M	methacrylonitrile	0.331	0.302	8.8	104	0.00	9.61
64	M	1,1,1-trichloroethane	0.749	0.660	11.9	96	0.00	10.05
65	M	tert-amyl methyl ether	1.672	1.330	20.5#	94	0.00	10.52
66	I	1,4-difluorobenzene	1.000	1.000	0.0	113	0.00	10.83
67	M	Di-isobutylene		----------NA----------				
68	M	tert amyl alcohol		----------NA----------				
69	M	epichlorohydrin	0.039	0.041	-5.1	110	0.00	12.06
70	M	n-butyl alcohol	0.011	0.011	0.0	98	0.00	10.90
71	M	tert-amyl ethyl ether		----------NA----------				
72	M	carbon tetrachloride	0.462	0.480	-3.9	102	0.00	10.27
73	M	1,1-dichloropropene	0.473	0.441	6.8	94	0.00	10.22
74	M	hexane	0.368	0.412	-12.0	116	0.00	8.48
75	M	benzene	1.401	1.316	6.1	95	0.00	10.48
76	M	heptane	0.202	0.219	-8.4	114	0.00	10.68

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VE8862-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201562.D
Project: Sunoco - Marcus Hook Facility, PA

77	M	isopropyl acetate	0.725	0.659	9.1	99	0.00	10.36
78	M	1,2-dichloroethane	0.453	0.430	5.1	97	0.00	10.46
79		ethyl acrylate		----------NA----------				
80	M	trichloroethene	0.355	0.353	0.6	99	0.00	11.19
81	M	2-nitropropane		----------NA----------				
82	M	2-chloroethyl vinyl ether	0.240	0.229	4.6	100	0.00	11.95
83	M	methylcyclohexane	0.542	0.523	3.5	98	0.00	11.45
84	M	methyl methacrylate	0.350	0.360	-2.9	104	0.00	11.43
85	M	1,2-dichloropropane	0.374	0.362	3.2	97	0.00	11.43
86	M	dibromomethane	0.218	0.219	-0.5	102	0.00	11.59
87	M	bromodichloromethane	0.476	0.461	3.2	100	0.00	11.71
88	M	cis-1,3-dichloropropene	0.602	0.602	0.0	102	0.00	12.20
89	S	toluene-d8 (s)	1.266	1.146	9.5	93	0.00	12.52
90	M	4-methyl-2-pentanone	0.160	0.153	4.4	102	0.00	12.27
91	M	toluene	0.850	0.825	2.9	96	0.00	12.60
92	M	3-methyl-1-butanol	0.019	0.019	0.0	105	0.00	12.28
93	M	trans-1,3-dichloropropene	0.526	0.526	0.0	101	0.00	12.78
94	M	ethyl methacrylate	0.464	0.469	-1.1	103	0.00	12.78
95	M	1,1,2-trichloroethane	0.276	0.276	0.0	103	0.00	13.00
96	M	2-hexanone	0.142	0.141	0.7	109	0.00	13.18
97	I	chlorobenzene-d5	1.000	1.000	0.0	116	0.00	14.15
98	M	cyclohexanone	0.014	0.023	-64.3#	171	0.00	15.34
99	M	tetrachloroethene	0.462	0.476	-3.0	109	0.00	13.25
100	M	1,3-dichloropropane	0.600	0.591	1.5	103	0.00	13.20
101	M	butyl acetate	0.259	0.257	0.8	107	0.00	13.27
102	m	3,3-dimethyl-1-butanol	0.044	0.044	0.0	106	0.00	13.36
103	M	dibromochloromethane	0.436	0.447	-2.5	109	0.00	13.50
104	M	1,2-dibromoethane	0.386	0.397	-2.8	110	0.00	13.67
105	M	n-butyl ether		----------NA----------				
106	M	chlorobenzene	1.085	1.029	5.2	99	0.00	14.19
107	M	1,1,1,2-tetrachloroethane	0.400	0.404	-1.0	103	0.00	14.24
108	M	ethylbenzene	1.736	1.621	6.6	96	0.00	14.25
109	M	m,p-xylene	0.682	0.660	3.2	99	0.00	14.37
110	M	o-xylene	0.699	0.690	1.3	100	0.00	14.83
111	M	butyl acrylate		----------NA----------				
112	M	styrene	1.160	1.119	3.5	99	0.00	14.83
113	M	bromoform	0.332	0.369	-11.1	117	0.00	15.11
114	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	117	0.00	16.72
115	M	isopropylbenzene	3.216	3.128	2.7	100	0.00	15.20
116	S	4-bromofluorobenzene (s)	0.917	0.819	10.7	94	0.00	15.42
117	M	bromobenzene	0.892	0.933	-4.6	107	0.00	15.65
118	M	1,1,2,2-tetrachloroethane	0.904	0.890	1.5	106	0.00	15.50
119	M	trans-1,4-dichloro-2-bute	0.227	0.217	4.4	108	0.00	15.54
120	M	1,2,3-trichloropropane	0.239	0.238	0.4	106	0.00	15.59
121	M	n-propylbenzene	3.582	3.396	5.2	99	0.00	15.66
122	M	p-ethyltoluene		----------NA----------				
123	M	2-chlorotoluene	0.793	0.778	1.9	104	0.00	15.83
124	M	4-chlorotoluene	2.330	2.184	6.3	100	0.00	15.93
125	M	1,3,5-trimethylbenzene	2.741	2.530	7.7	100	0.00	15.82
126	M	tert-butylbenzene	2.350	2.286	2.7	101	0.00	16.21
127	M	pentachloroethane	0.584	0.619	-6.0	110	0.00	16.30
128	M	1,2,4-trimethylbenzene	2.710	2.546	6.1	99	0.00	16.26
129	M	sec-butylbenzene	3.341	3.192	4.5	100	0.00	16.45
130	M	1,3-dichlorobenzene	1.643	1.588	3.3	103	0.00	16.66
131	M	p-isopropyltoluene	2.774	2.733	1.5	101	0.00	16.58
132	M	1,4-dichlorobenzene	1.666	1.592	4.4	103	0.00	16.75
133		benzyl chloride	1.649	1.707	-3.5	123	0.00	16.86
134	M	p-diethylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB31800 **Sample:** VE8862-CC8801
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E201562.D
Project: Sunoco - Marcus Hook Facility, PA

135	M	1,2-dichlorobenzene	1.587	1.622	-2.2	107	0.00	17.18
136	M	n-butylbenzene	1.332	1.302	2.3	100	0.00	17.04
137	M	1,2,4,5-tetramethylbenzen		----------NA----------				
138	M	1,2-dibromo-3-chloropropa	0.148	0.151	-2.0	109	0.00	18.00
139	m	1,3,5-trichlorobenzene	1.155	1.322	-14.5	112	0.00	18.25
140	M	1,2,4-trichlorobenzene	0.933	1.016	-8.9	115	0.00	18.96
141	M	hexachlorobutadiene	0.528	0.617	-16.9	117	0.00	19.10
142	M	naphthalene	1.870	2.011	-7.5	114	0.00	19.27
143		MMT		----------NA----------				
144	M	1,2,3-trichlorobenzene	0.741	0.814	-9.9	114	0.00	19.54
145	M	hexachloroethane	0.535	0.554	-3.6	105	0.00	17.50
146	M	Cyclohexane	1.052	0.960	8.7	94	0.00	10.16
147		ethyleinimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E200200.D ME8801.M Tue Apr 02 09:53:55 2013 RPT1

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180445.D
Acq On : 29 Mar 2013 12:28 pm
Operator : tamikag
Sample : JB31800-1
Misc : MS45252,VC6473,6.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 04 09:43:27 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

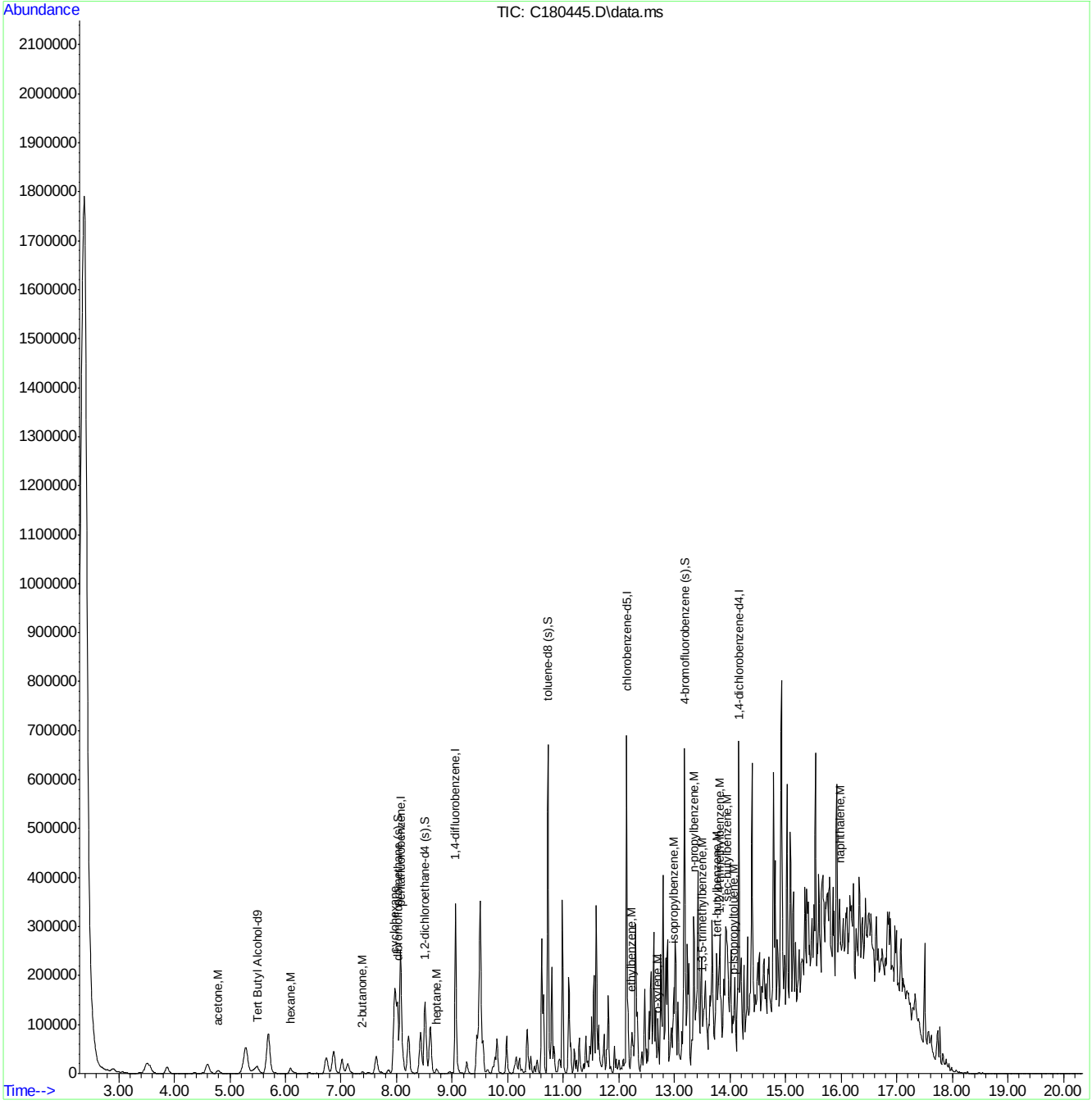
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.492	65	38287	500.00	ug/L	0.00
5) pentafluorobenzene	8.070	168	224292	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.059	114	327829	50.00	ug/L	0.00
85) chlorobenzene-d5	12.134	117	251175	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.158	152	106986	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.018	113	86276	49.29	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.58%			
50) 1,2-dichloroethane-d4 (s)	8.504	65	78977	46.06	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 92.12%			
77) toluene-d8 (s)	10.722	98	359493	54.23	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 108.46%			
103) 4-bromofluorobenzene (s)	13.180	95	189447	92.89	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 185.78%#			
Target Compounds						Qvalue
22) acetone	4.781	43	18457	44.47	ug/L	97
35) 2-butanone	7.385	72	1012	7.04	ug/L #	1
53) cyclohexane	7.960	84	70054	27.27	ug/L #	17
62) hexane	6.093	57	11022	3.84	ug/L	96
64) heptane	8.719	57	2592	1.62	ug/L	92
96) ethylbenzene	12.228	91	2826	0.34	ug/L	90
98) o-xylene	12.689	106	1834	0.56	ug/L	94
102) isopropylbenzene	12.992	105	47316	7.25	ug/L	99
108) n-propylbenzene	13.348	91	36478	4.75	ug/L	96
112) 1,3,5-trimethylbenzene	13.499	105	1775	0.31	ug/L	85
113) tert-butylbenzene	13.766	119	19988	4.28	ug/L	99
115) 1,2,4-trimethylbenzene	13.818	105	5424	0.93	ug/L	93
116) sec-butylbenzene	13.949	105	38412	5.41	ug/L	98
118) p-isopropyltoluene	14.064	119	1982	0.34	ug/L	91
129) naphthalene	15.973	128	11627	2.71	ug/L	94

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

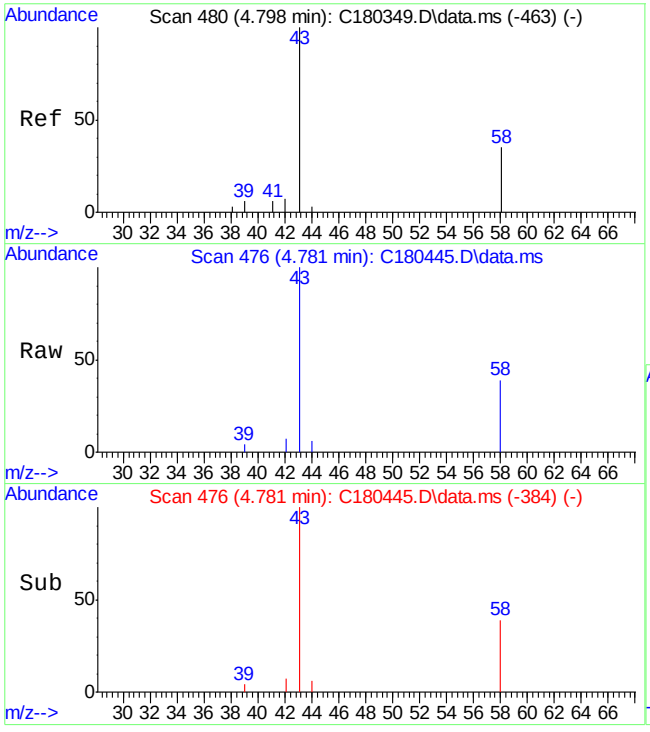
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180445.D
Acq On : 29 Mar 2013 12:28 pm
Operator : tamikag
Sample : JB31800-1
Misc : MS45252,VC6473,6.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 04 09:43:27 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



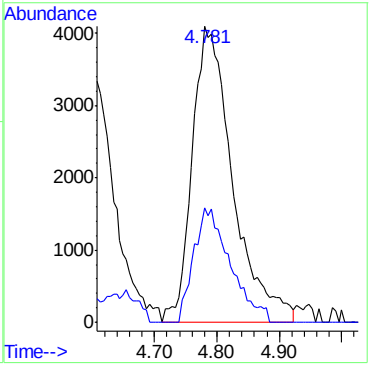
MCS6469.M Thu Apr 04 09:43:49 2013 NJVOA08 Page: 2

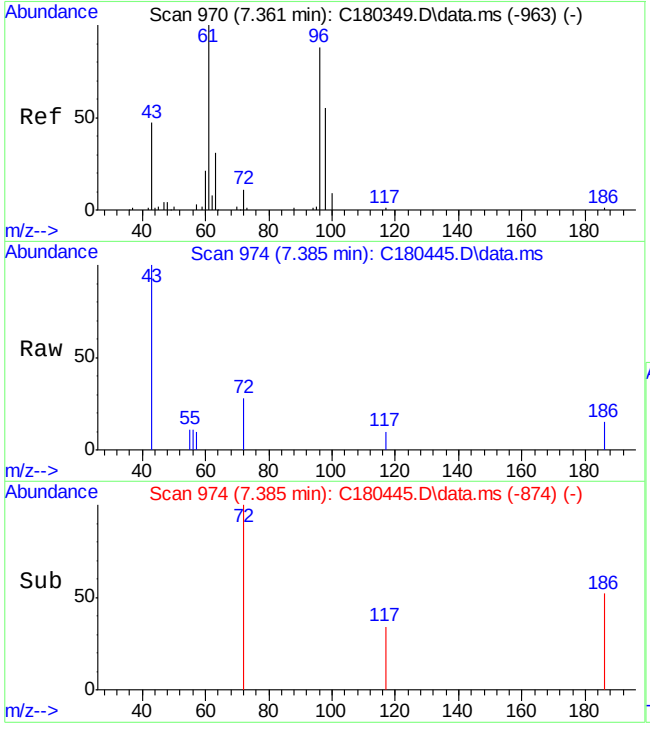


#22
acetone
Concen: 44.47 ug/L
RT: 4.781 min Scan# 476
Delta R.T. -0.017 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion: 43 Resp: 18457

Ion	Ratio	Lower	Upper
43	100		
58	34.8	3.0	63.0

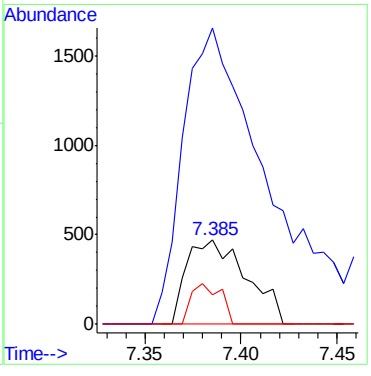


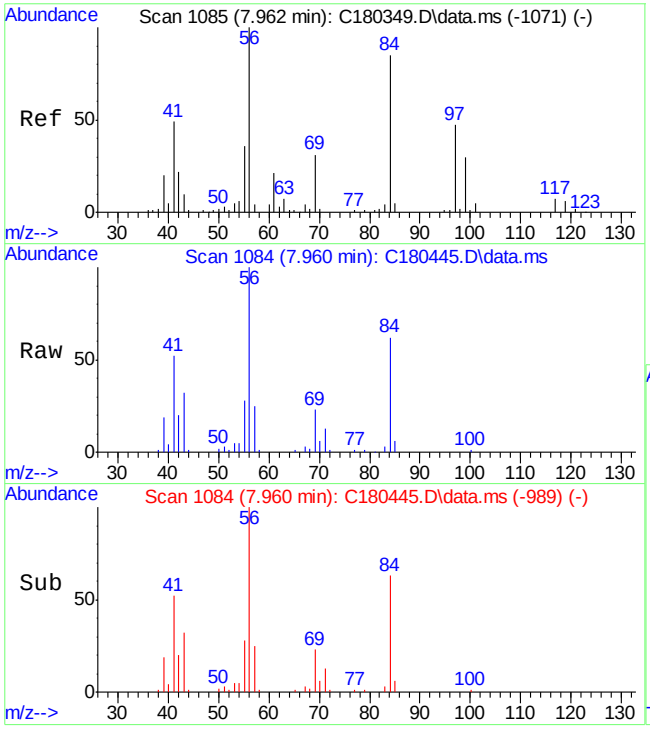


#35
2-butanone
Concen: 7.04 ug/L
RT: 7.385 min Scan# 974
Delta R.T. 0.025 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion: 72 Resp: 1012

Ion	Ratio	Lower	Upper
72	100		
43	490.7	841.8	1563.4#
57	0.0	19.0	35.4#

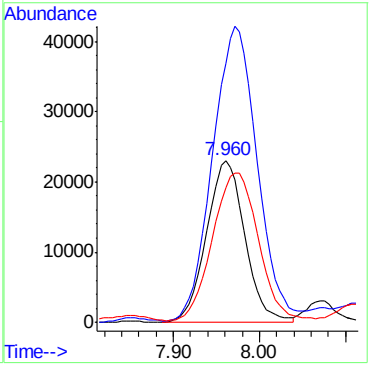


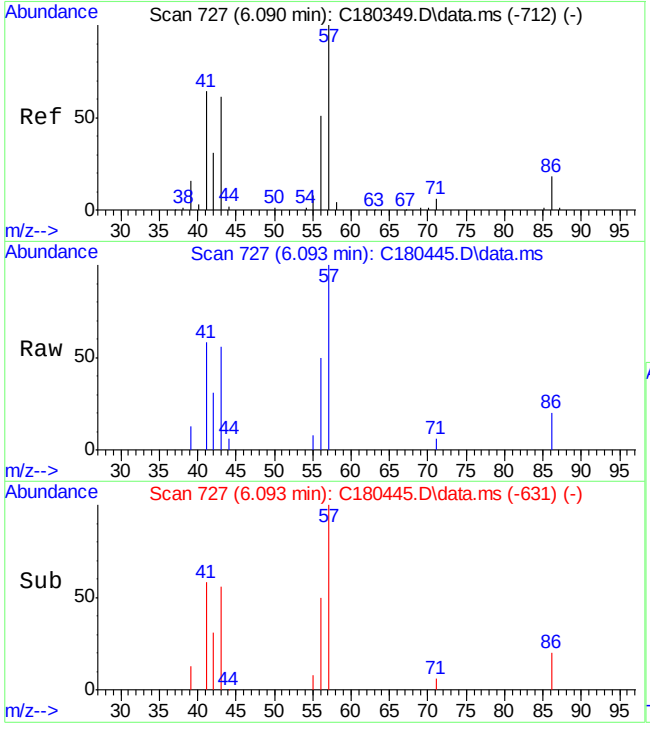


#53
cyclohexane
Concen: 27.27 ug/L
RT: 7.960 min Scan# 1084
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion: 84 Resp: 70054

Ion	Ratio	Lower	Upper
84	100		
56	214.2	81.4	151.2#
41	112.9	41.5	77.1#

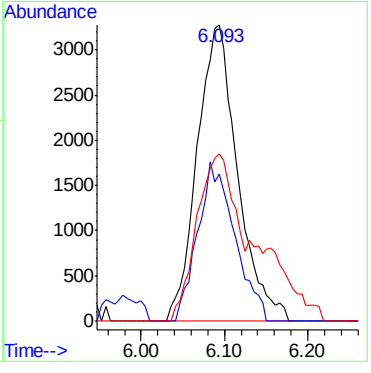


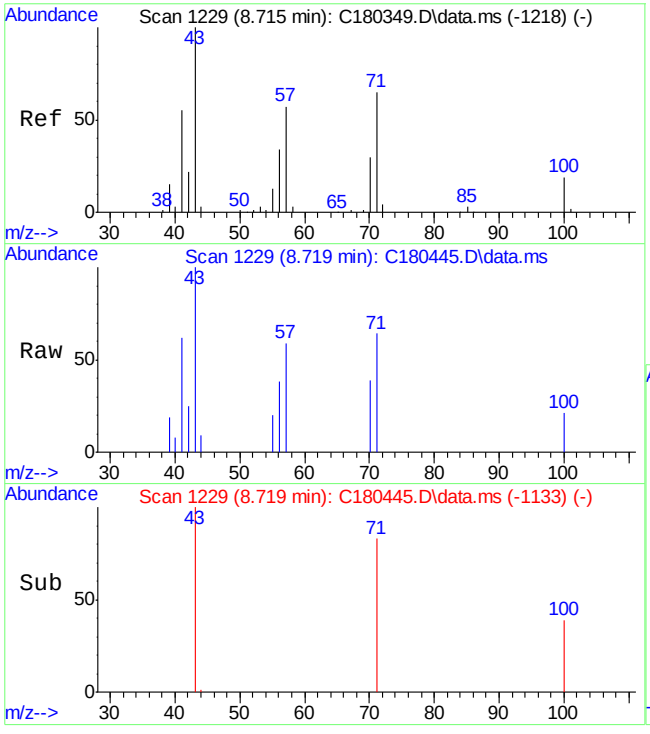


#62
hexane
Concen: 3.84 ug/L
RT: 6.093 min Scan# 727
Delta R.T. 0.004 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion: 57 Resp: 11022

Ion	Ratio	Lower	Upper
57	100		
56	49.7	20.8	80.8
43	56.3	31.0	91.0

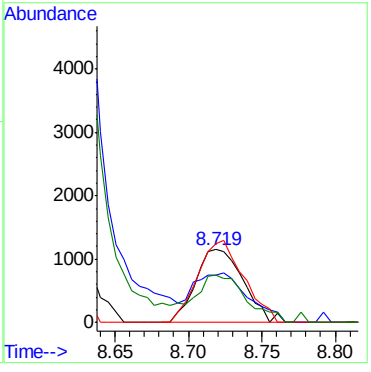


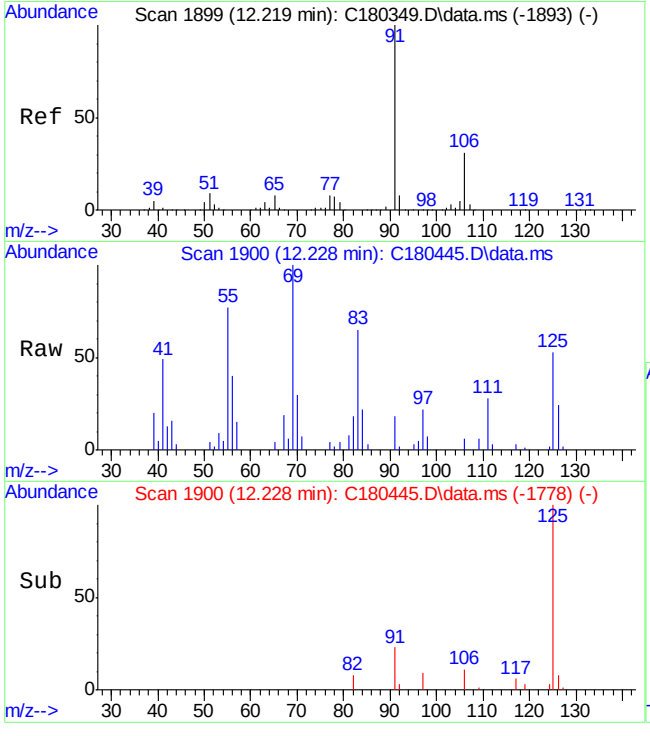


#64
heptane
Concen: 1.62 ug/L
RT: 8.719 min Scan# 1229
Delta R.T. 0.004 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion: 57 Resp: 2592

Ion	Ratio	Lower	Upper
57	100		
56	64.9	30.2	90.2
71	108.8	83.6	143.6
70	65.3	22.0	82.0

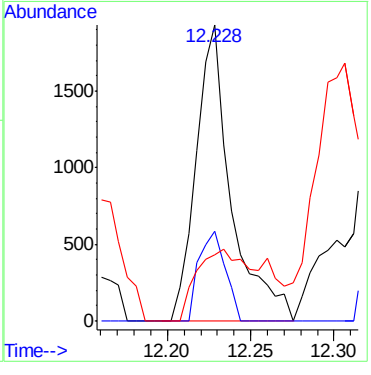


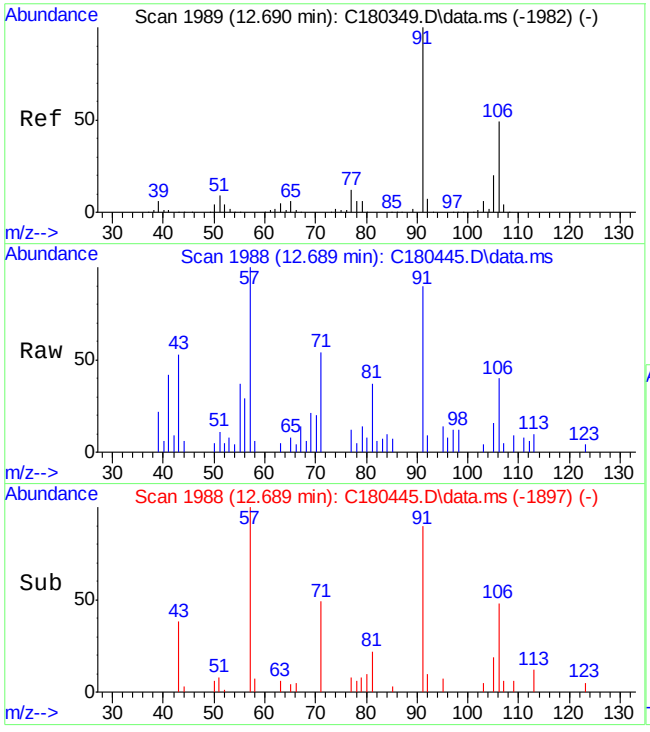


#96
ethylbenzene
Concen: 0.34 ug/L
RT: 12.228 min Scan# 1900
Delta R.T. 0.009 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion: 91 Resp: 2826

Ion	Ratio	Lower	Upper
91	100		
106	30.2	1.4	61.4
77	22.2	0.0	38.4

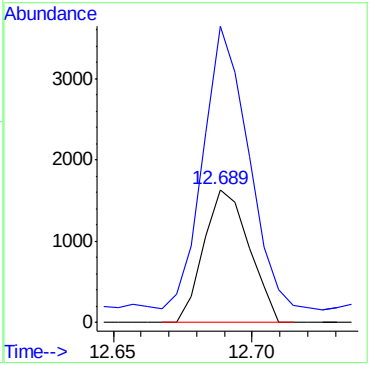


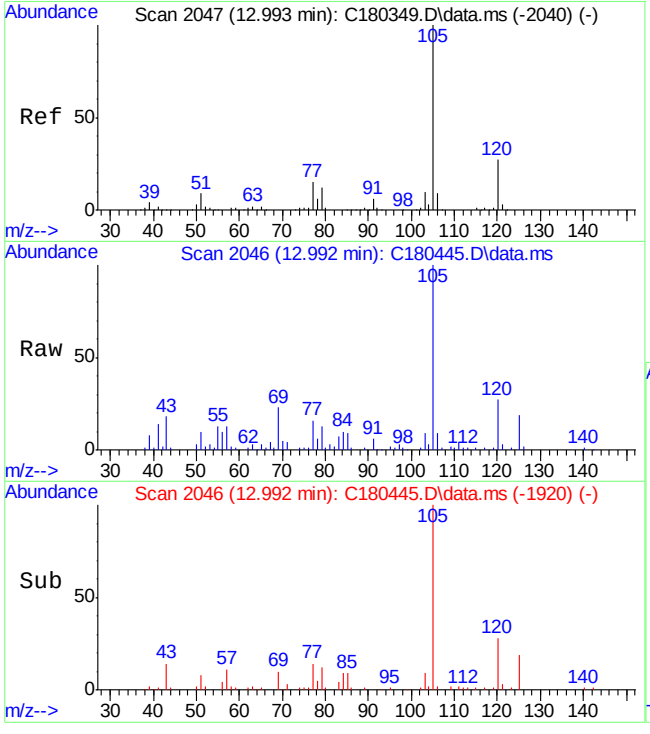


#98
o-xylene
Concen: 0.56 ug/L
RT: 12.689 min Scan# 1988
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:106 Resp: 1834

Ion	Ratio	Lower	Upper
106	100		
91	213.2	174.1	234.1

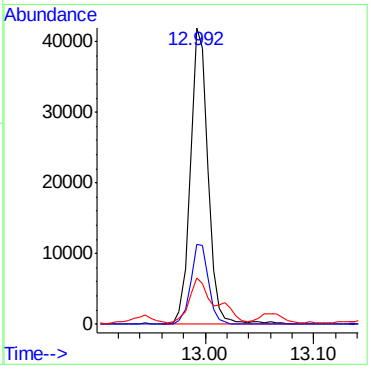


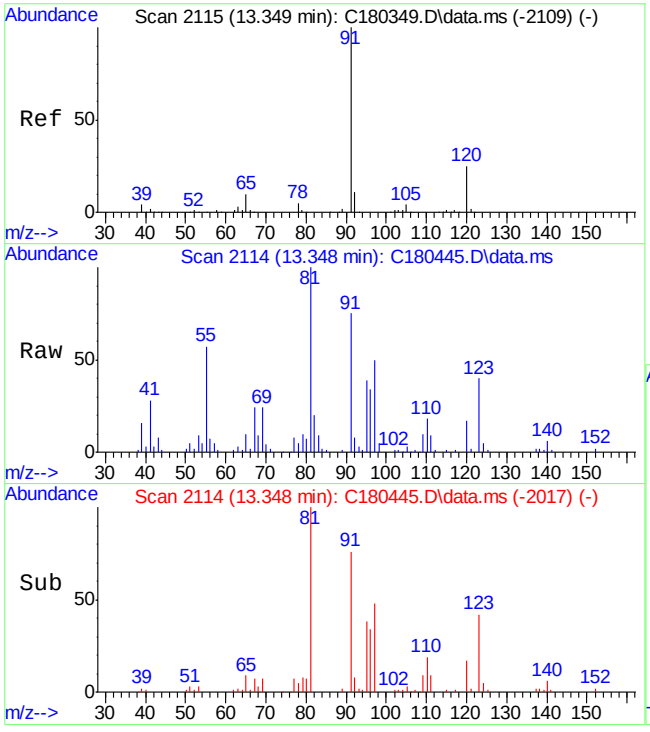


#102
isopropylbenzene
Concen: 7.25 ug/L
RT: 12.992 min Scan# 2046
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:105 Resp: 47316

Ion	Ratio	Lower	Upper
105	100		
120	27.0	0.0	57.4
77	15.0	0.0	44.6

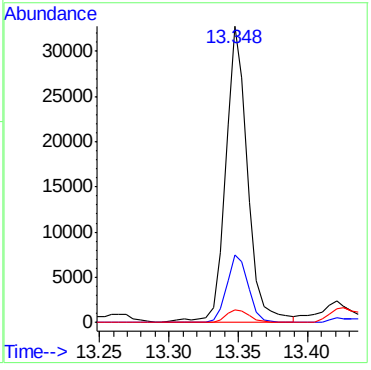


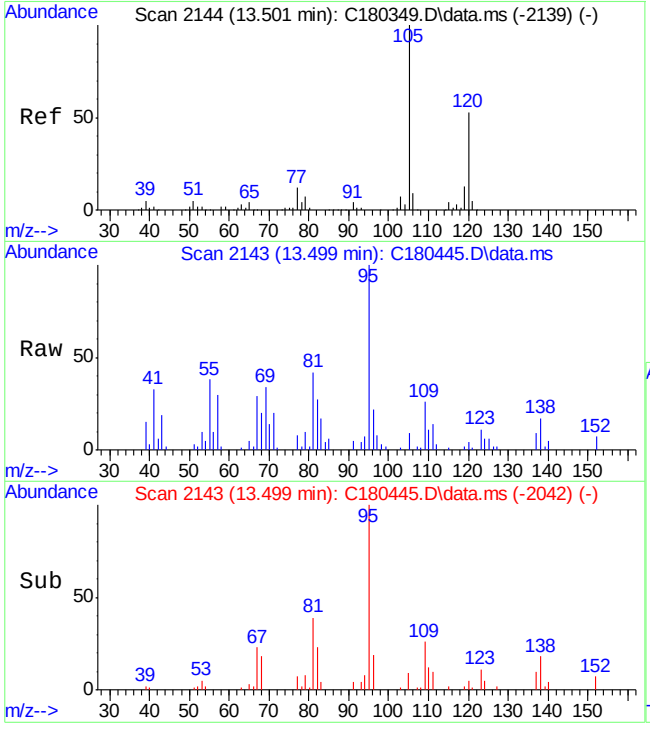


#108
n-propylbenzene
Concen: 4.75 ug/L
RT: 13.348 min Scan# 2114
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion: 91 Resp: 36478

Ion	Ratio	Lower	Upper
91	100		
120	22.7	0.0	54.6
105	4.0	0.0	33.7

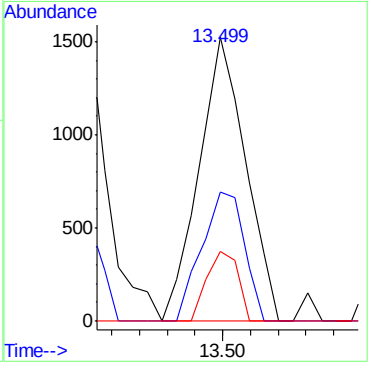


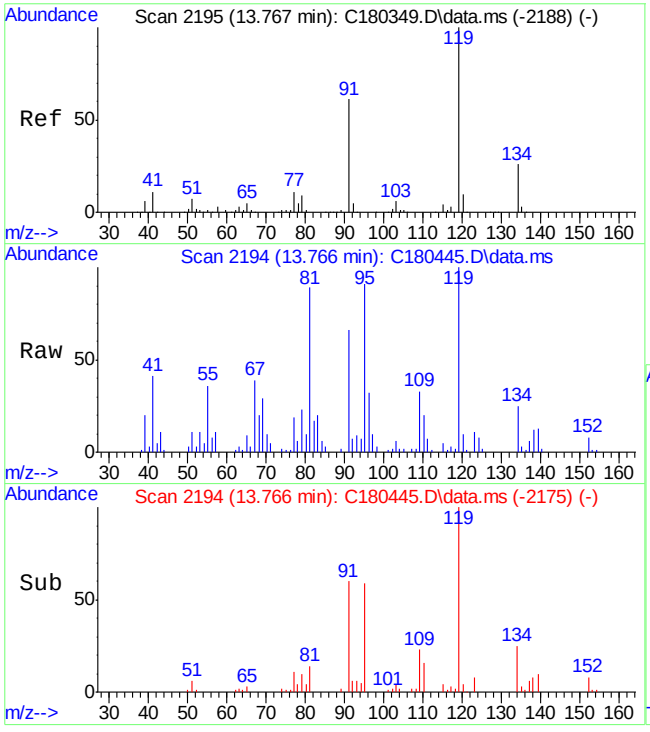


#112
1,3,5-trimethylbenzene
Concen: 0.31 ug/L
RT: 13.499 min Scan# 2143
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:105 Resp: 1775

Ion	Ratio	Lower	Upper
105	100		
120	45.3	23.3	83.3
119	24.5	0.0	43.1

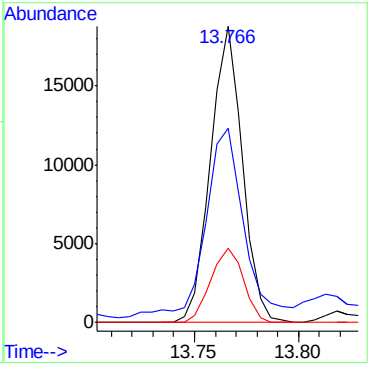


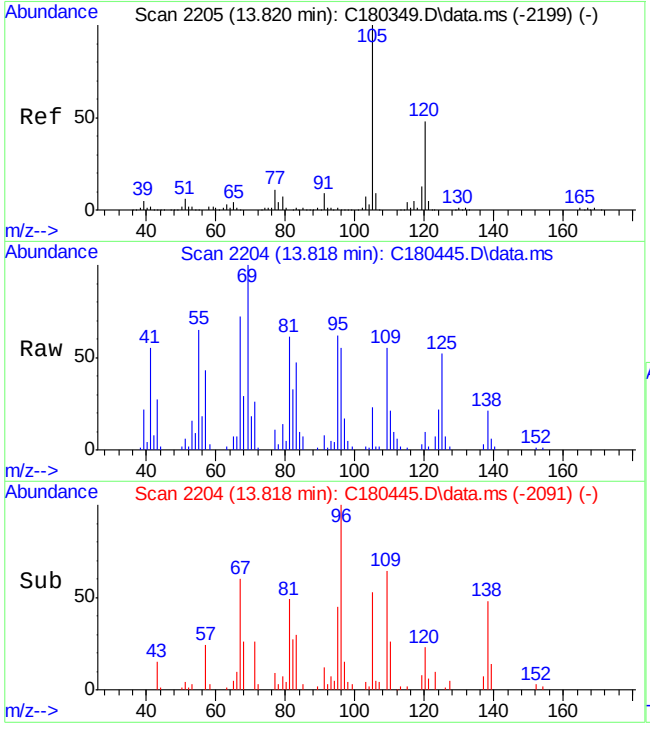


#113
tert-butylbenzene
Concen: 4.28 ug/L
RT: 13.766 min Scan# 2194
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:119 Resp: 19988

Ion	Ratio	Lower	Upper
119	100		
91	61.6	31.2	91.2
134	25.1	0.0	55.7

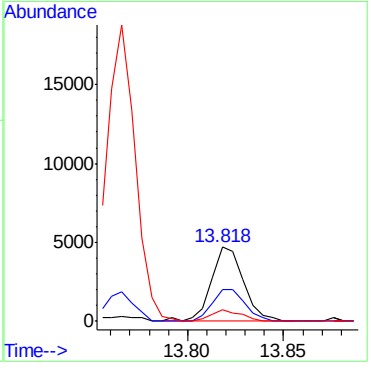


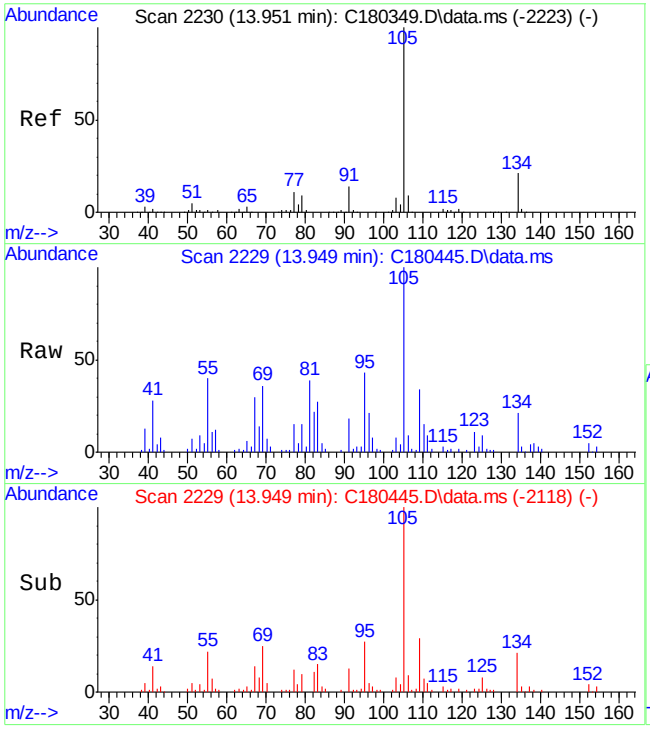


#115
1,2,4-trimethylbenzene
Concen: 0.93 ug/L
RT: 13.818 min Scan# 2204
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:105 Resp: 5424

Ion	Ratio	Lower	Upper
105	100		
120	42.7	18.4	78.4
119	15.1	0.0	43.6

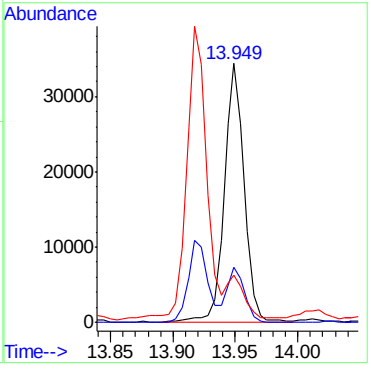


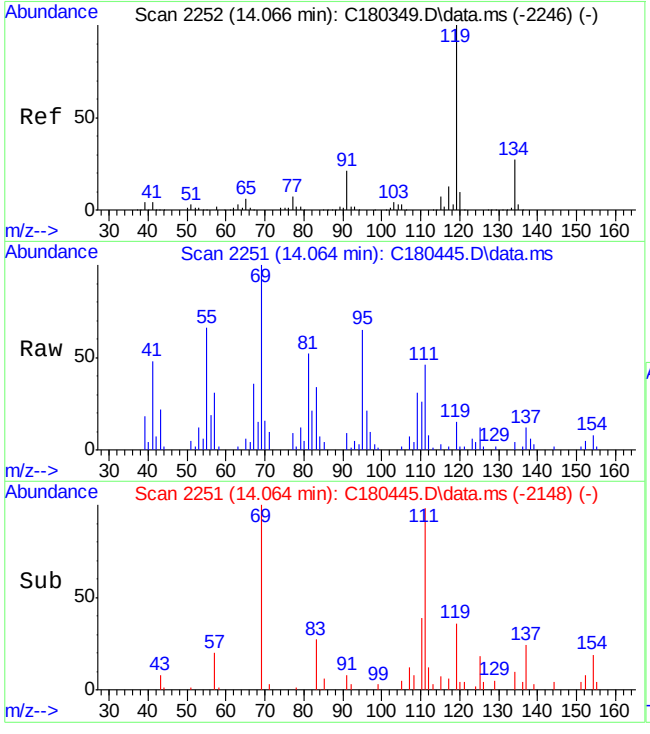


#116
sec-butylbenzene
Concen: 5.41 ug/L
RT: 13.949 min Scan# 2229
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:105 Resp: 38412

Ion	Ratio	Lower	Upper
105	100		
134	21.2	0.0	50.7
91	15.9	0.0	44.5

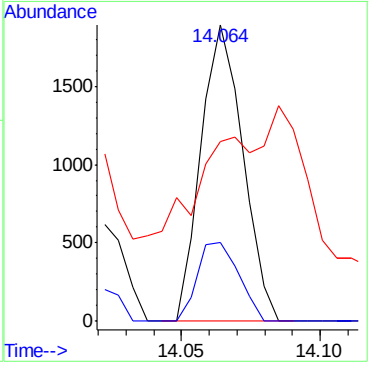


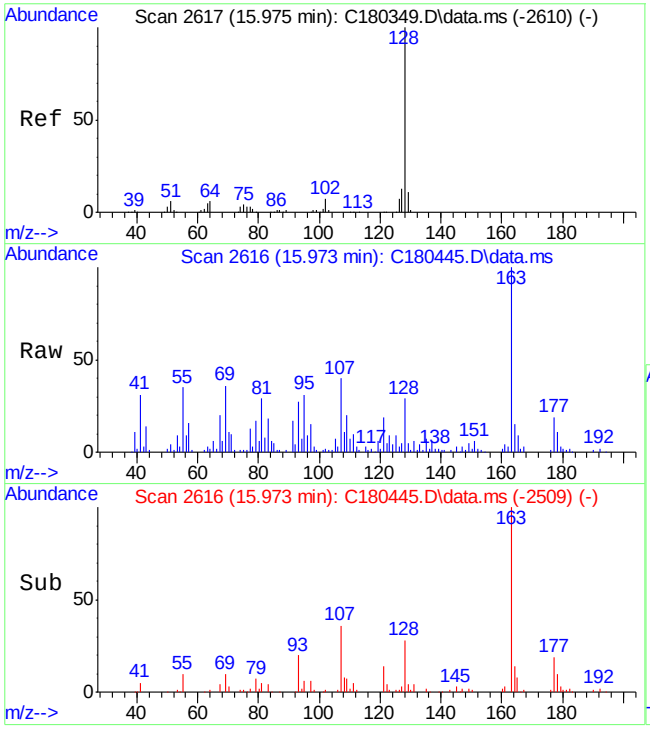


#118
p-isopropyltoluene
Concen: 0.34 ug/L
RT: 14.064 min Scan# 2251
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:119 Resp: 1982

Ion	Ratio	Lower	Upper
119	100		
134	26.5	0.0	57.4
91	30.1	0.0	51.0

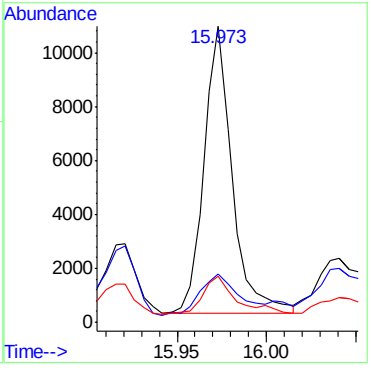




#129
naphthalene
Concen: 2.71 ug/L
RT: 15.973 min Scan# 2616
Delta R.T. -0.002 min
Lab File: C180445.D
Acq: 29 Mar 2013 12:28 pm

Tgt Ion:128 Resp: 11627

Ion	Ratio	Lower	Upper
128	100		
129	14.3	0.0	40.6
127	13.3	0.0	42.6



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/04/13 04:29

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201573.D
Acq On : 1 Apr 2013 3:55 pm
Operator : OksanaT
Sample : jb31800-1cfs
Misc : MS45525,VE8862,6.0,,100,10,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 01 18:42:45 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	64262	500.00	ug/L	0.01
5) pentafluorobenzene	9.904	168	165241	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	213286	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	191838	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.719	152	107517	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.946	113	62434	40.27	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 80.54%#			
61) 1,2-dichloroethane-d4 (s)	10.365	65	68709	40.31	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 80.62%			
89) toluene-d8 (s)	12.525	98	239415	44.33	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 88.66%			
116) 4-bromofluorobenzene (s)	15.422	95	89698	45.51	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 91.02%			

Target Compounds						Qvalue
11) chlorodifluoromethane	4.318	51	1572	0.86	ug/L	63
75) benzene	10.485	78	2370	0.40	ug/L	96
91) toluene	12.608	92	2720	0.75	ug/L	90
108) ethylbenzene	14.256	91	3047	0.46	ug/L	95
109) m,p-xylene	14.366	106	3174m	1.21	ug/L	
110) o-xylene	14.831	106	896	0.33	ug/L	83
115) isopropylbenzene	15.208	105	5492	0.79	ug/L	91
128) 1,2,4-trimethylbenzene	16.269	105	2745	0.47	ug/L	94
142) naphthalene	19.271	128	8934	2.22	ug/L	90

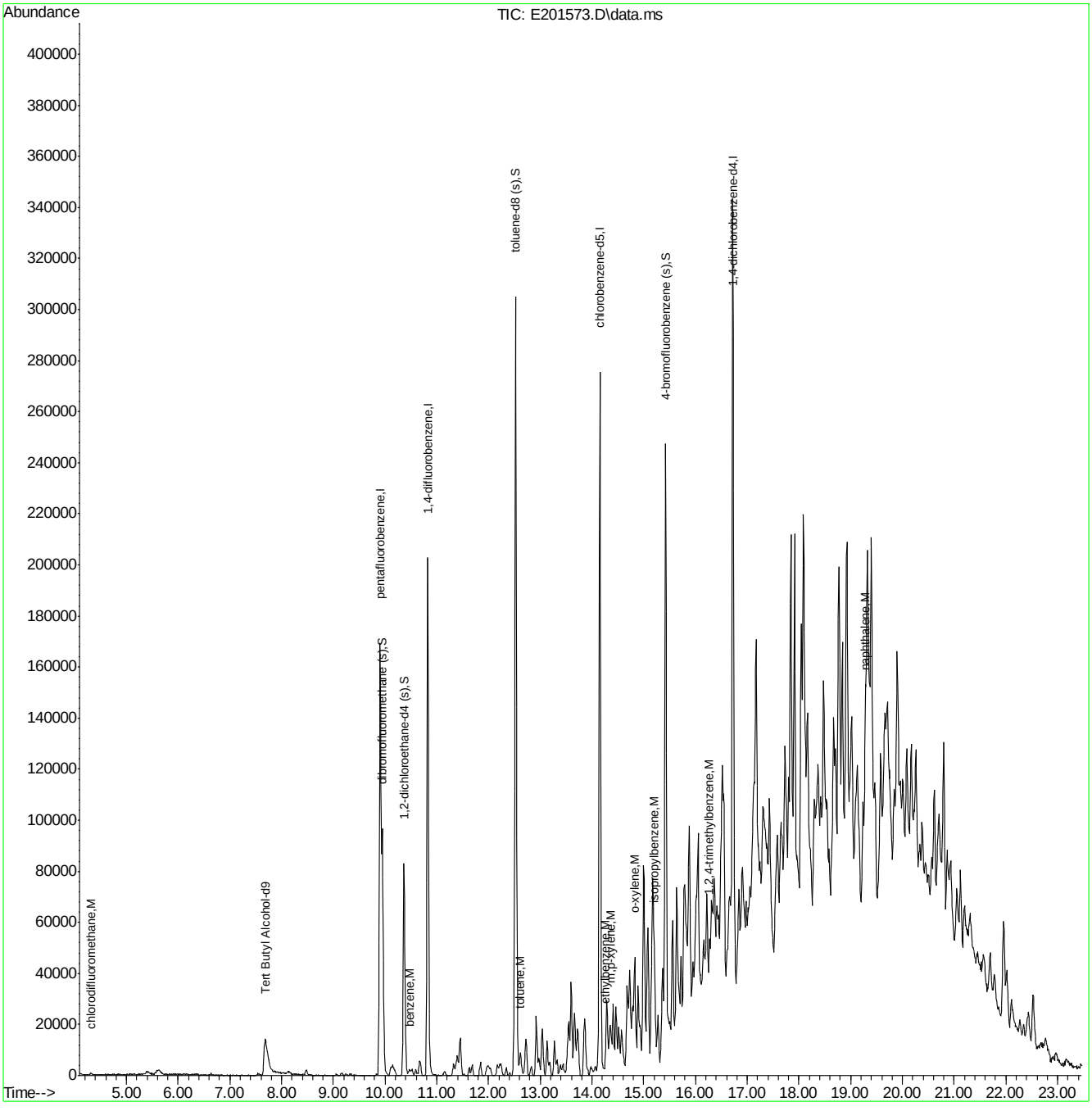
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.2
7

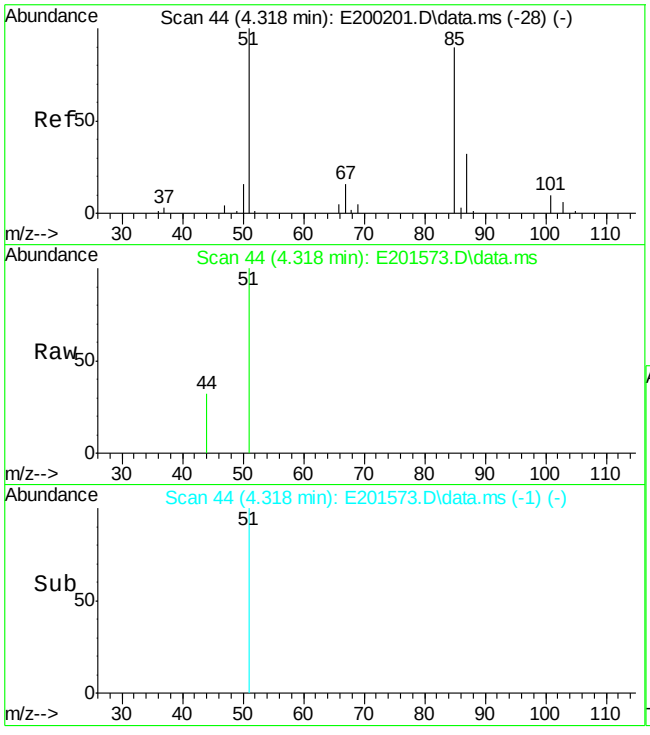
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201573.D
Acq On : 1 Apr 2013 3:55 pm
Operator : OksanaT
Sample : jb31800-1cfs
Misc : MS45525,VE8862,6.0,,100,10,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 01 18:42:45 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



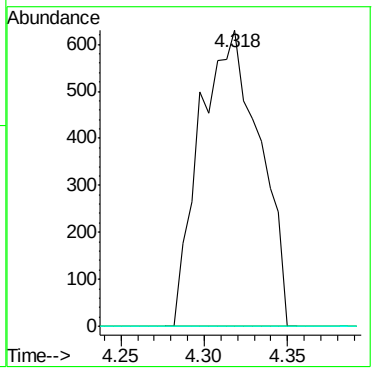
ME8801.M Mon Apr 01 18:43:12 2013 RPT1 Page: 2

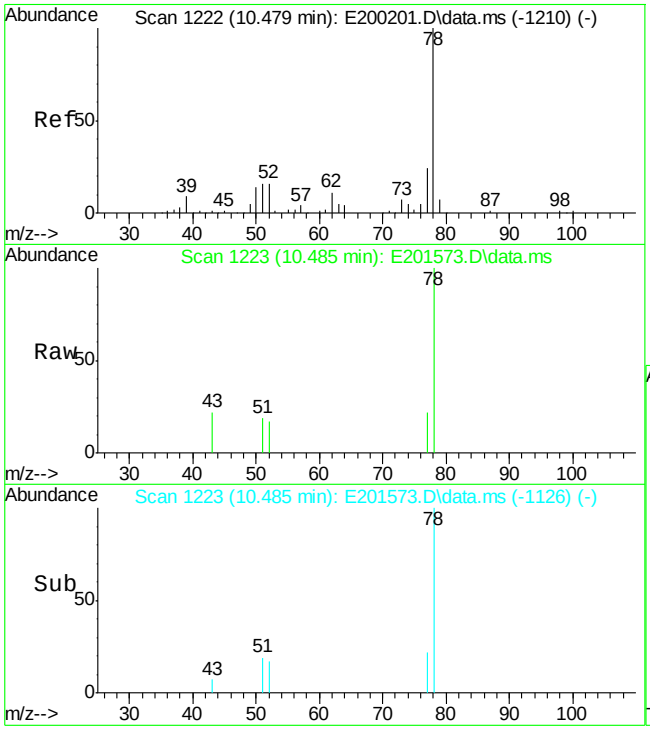


#11
chlorodifluoromethane
Concen: 0.86 ug/L
RT: 4.318 min Scan# 44
Delta R.T. 0.001 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

Tgt Ion: 51 Resp: 1572

Ion	Ratio	Lower	Upper
51	100		
67	0.0	0.0	45.8
50	0.0	0.0	45.8

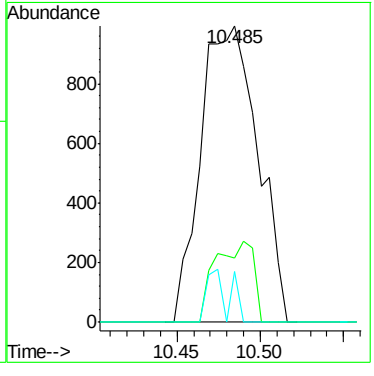


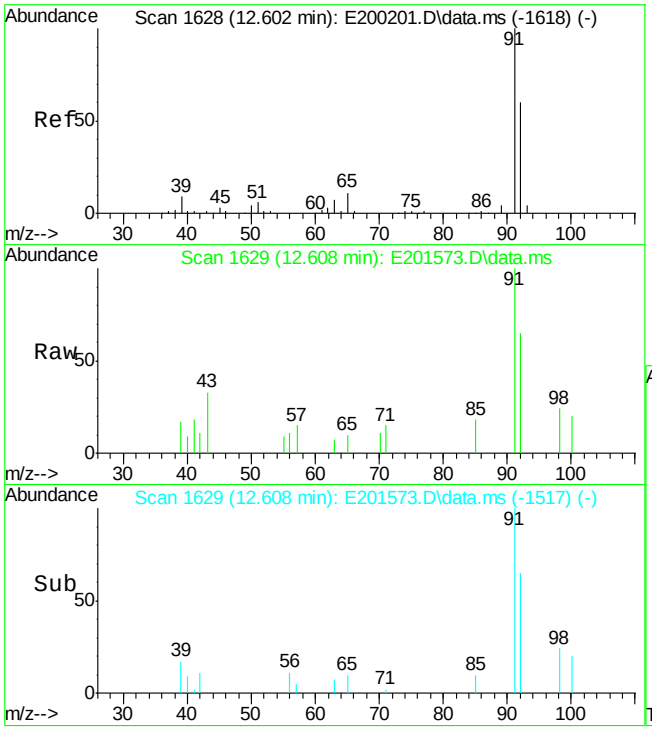


#75
benzene
Concen: 0.40 ug/L
RT: 10.485 min Scan# 1223
Delta R.T. 0.006 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

Tgt Ion: 78 Resp: 2370

Ion	Ratio	Lower	Upper
78	100		
77	21.7	0.0	53.8
52	17.2	0.0	45.9

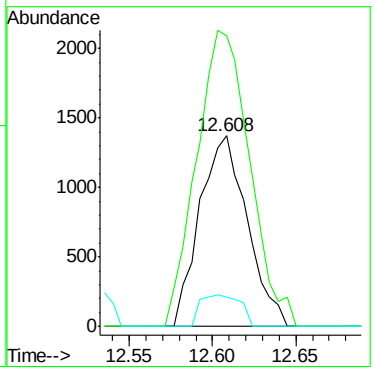


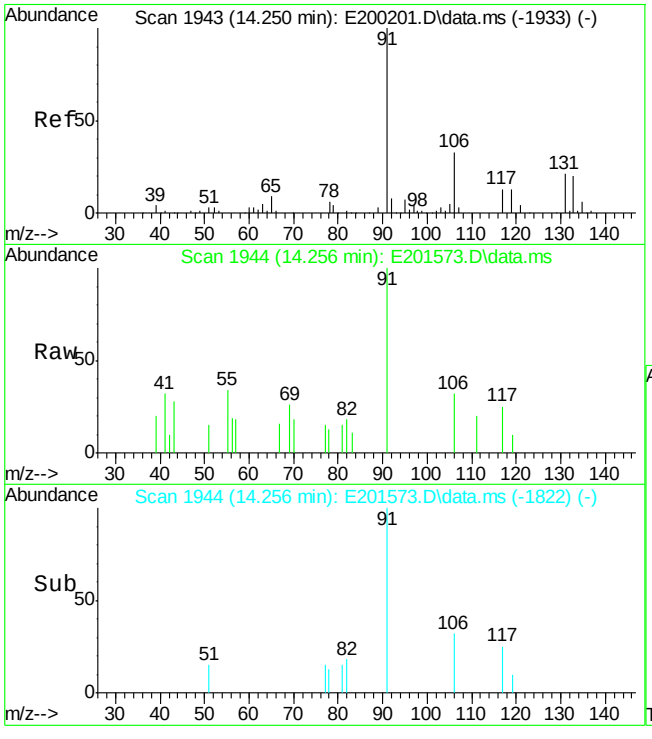


#91
toluene
Concen: 0.75 ug/L
RT: 12.608 min Scan# 1629
Delta R.T. 0.006 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

Tgt Ion: 92 Resp: 2720

Ion	Ratio	Lower	Upper
92	100		
91	153.0	136.3	196.3
65	15.4	0.0	48.8

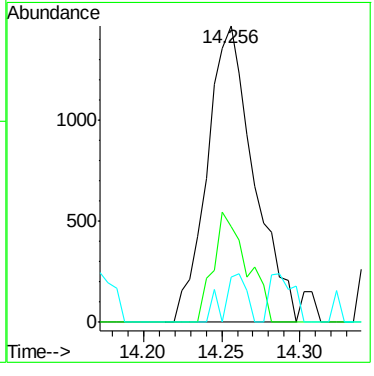




#108
ethylbenzene
Concen: 0.46 ug/L
RT: 14.256 min Scan# 1944
Delta R.T. 0.006 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

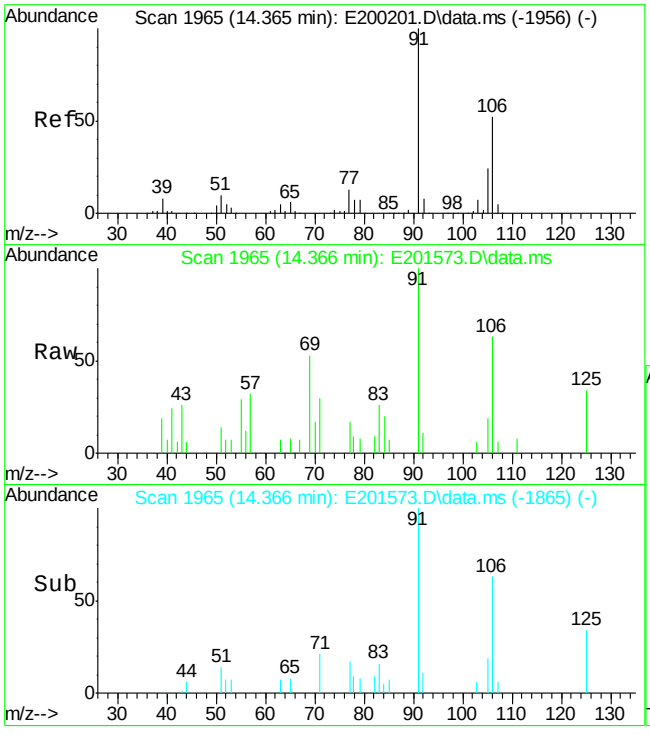
Tgt Ion: 91 Resp: 3047

Ion	Ratio	Lower	Upper
91	100		
106	32.1	2.9	62.9
77	15.2	0.0	38.7



7.1.2

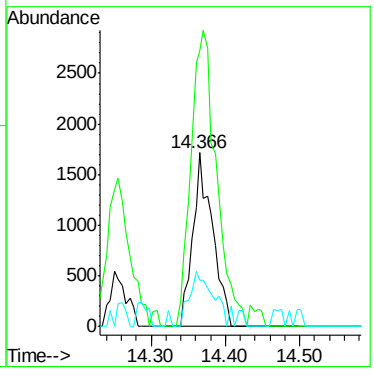
7

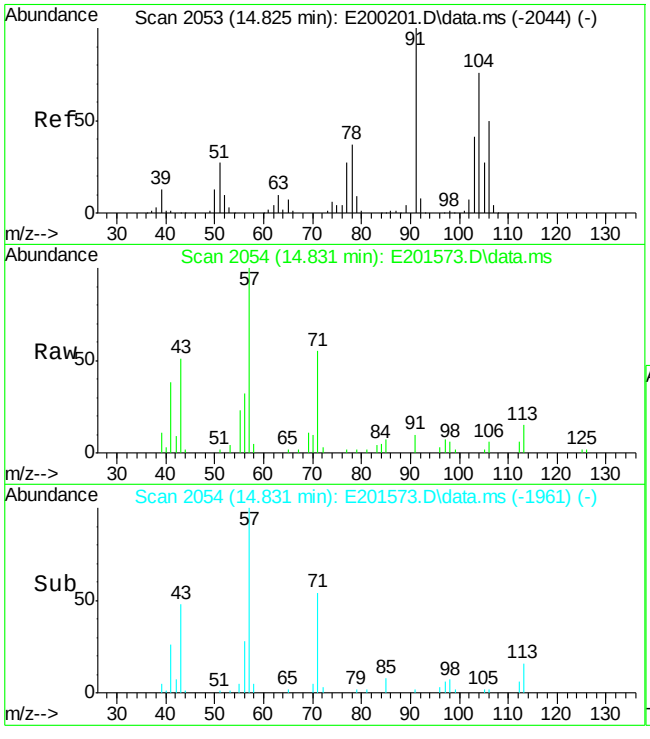


#109
m,p-xylene
Concen: 1.21 ug/L m
RT: 14.366 min Scan# 1965
Delta R.T. 0.001 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

Tgt Ion:106 Resp: 3174

Ion	Ratio	Lower	Upper
106	100		
91	158.8	161.1	221.1#
77	26.4	0.0	54.5

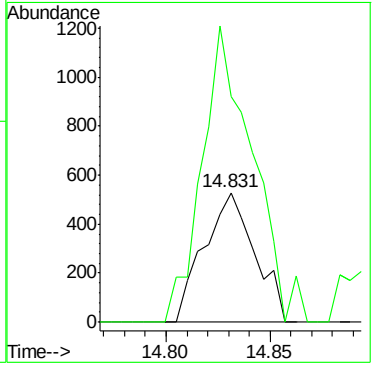




#110
o-xylene
Concen: 0.33 ug/L
RT: 14.831 min Scan# 2054
Delta R.T. 0.006 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

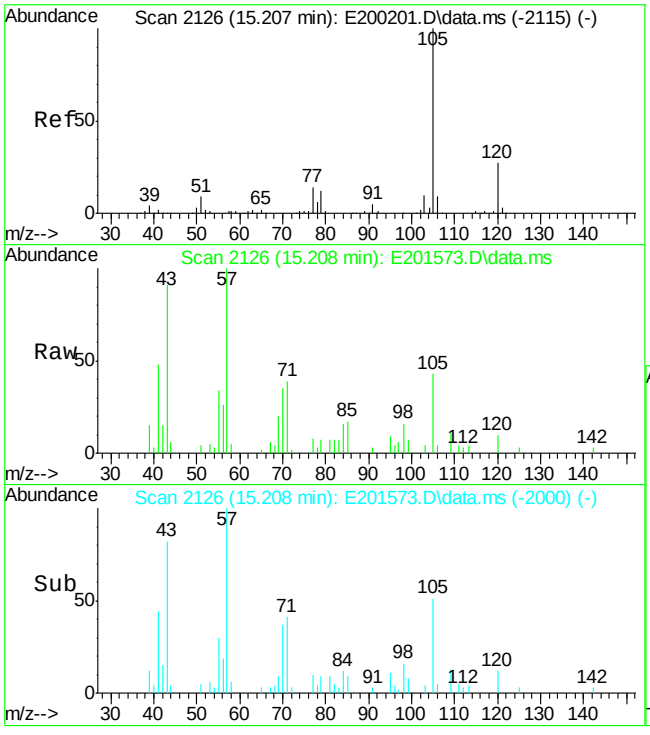
Tgt Ion:106 Resp: 896

Ion	Ratio	Lower	Upper
106	100		
91	174.8	170.7	230.7



7.1.2

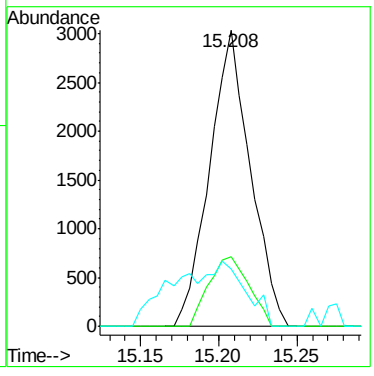
7

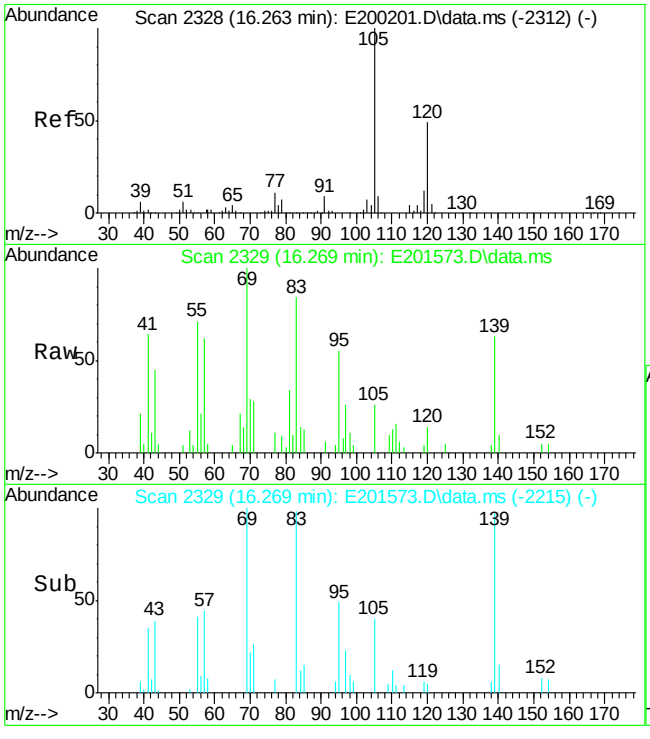


#115
isopropylbenzene
Concen: 0.79 ug/L
RT: 15.208 min Scan# 2126
Delta R.T. 0.001 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

Tgt Ion:105 Resp: 5492

Ion	Ratio	Lower	Upper
105	100		
120	23.5	0.0	57.0
77	19.4	0.0	44.4

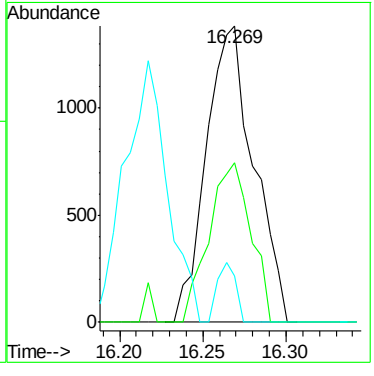




#128
1,2,4-trimethylbenzene
Concen: 0.47 ug/L
RT: 16.269 min Scan# 2329
Delta R.T. 0.006 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

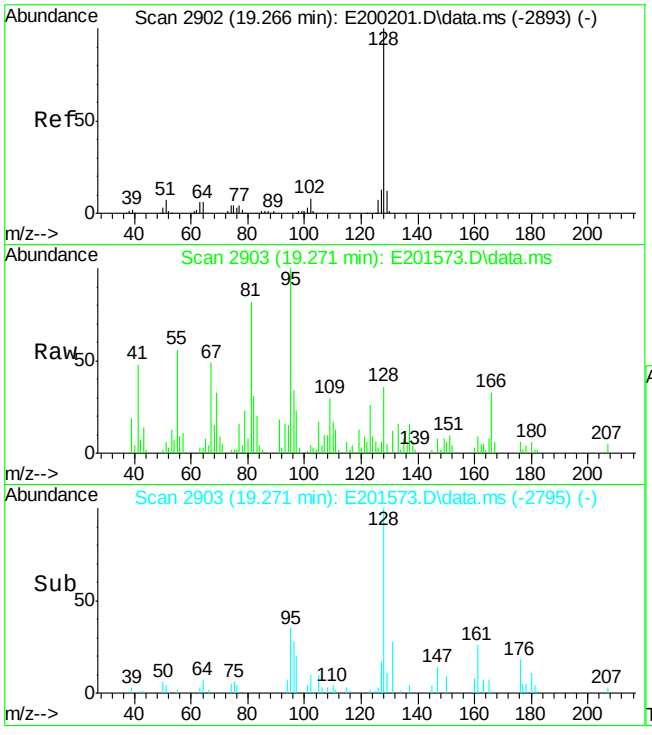
Tgt Ion:105 Resp: 2745

Ion	Ratio	Lower	Upper
105	100		
120	53.6	19.4	79.4
119	15.4	0.0	43.7



7.1.2

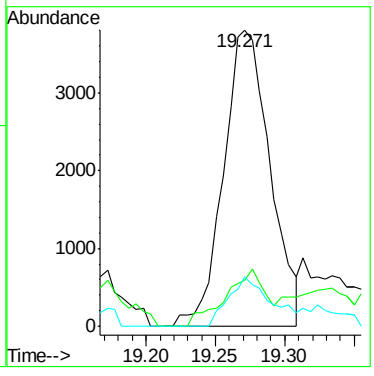
7



#142
naphthalene
Concen: 2.22 ug/L
RT: 19.271 min Scan# 2903
Delta R.T. 0.006 min
Lab File: E201573.D
Acq: 1 Apr 2013 3:55 pm

Tgt Ion:128 Resp: 8934

Ion	Ratio	Lower	Upper
128	100		
129	15.5	0.0	41.5
127	16.8	0.0	43.2



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207109.D
Acq On : 30 Mar 2013 4:32 pm
Operator : EmilyT
Sample : jb31800-2
Misc : ms45252,vd8451,5.2,,20,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 01 12:38:02 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.999	65	156190	500.00 ug/L	0.00
4) pentafluorobenzene	10.231	168	240650	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.146	114	380022	50.00 ug/L	0.00
85) chlorobenzene-d5	14.487	117	361220	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.075	152	222457	50.00 ug/L	0.00

System Monitoring Compounds					
46) dibromofluoromethane (s)	10.263	113	114324	42.11 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 84.22%		
47) 1,2-dichloroethane-d4 (s)	10.686	65	138842	41.90 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 83.80%		
77) toluene-d8 (s)	12.856	98	493622	45.65 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 91.30%		
101) 4-bromofluorobenzene (s)	15.768	95	216207	49.72 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 99.44%		

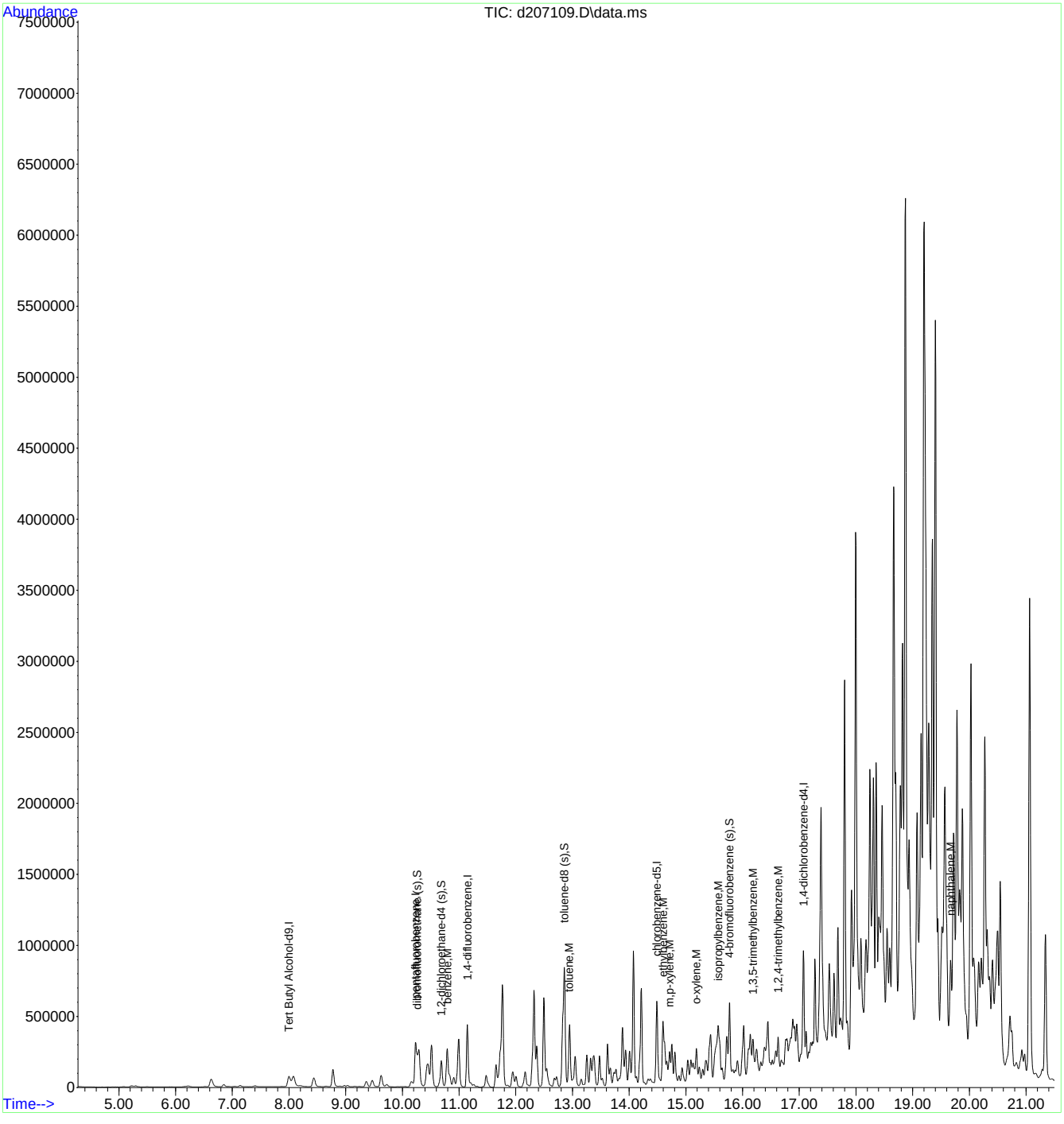
Target Compounds					Qvalue
62) benzene	10.791	78	260744	22.91 ug/L	99
79) toluene	12.934	92	54694	7.68 ug/L	98
94) ethylbenzene	14.597	91	332158	23.61 ug/L	99
95) m,p-xylene	14.712	106	69144	12.80 ug/L	93
96) o-xylene	15.177	106	12445	2.32 ug/L	93
100) isopropylbenzene	15.564	105	89235	6.24 ug/L	98
111) 1,3,5-trimethylbenzene	16.186	105	71020	5.70 ug/L	98
114) 1,2,4-trimethylbenzene	16.631	105	124733	9.91 ug/L	97
128) naphthalene	19.668	128	212593	22.41 ug/L	89

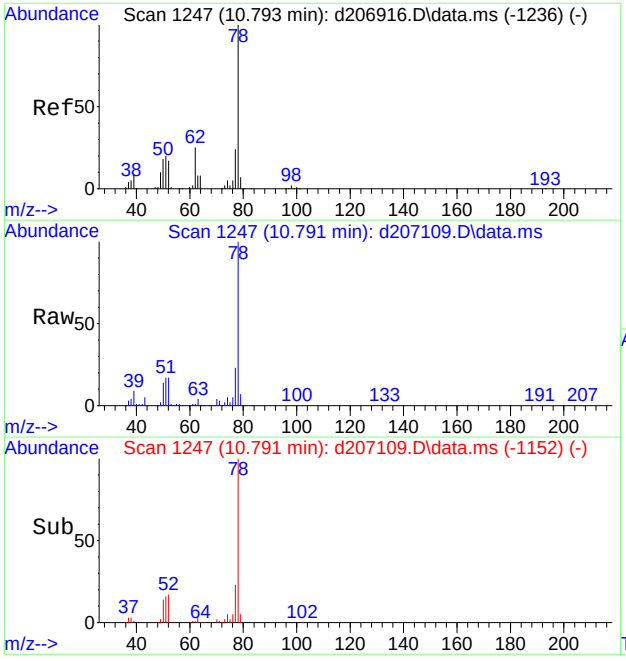
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207109.D
Acq On : 30 Mar 2013 4:32 pm
Operator : EmilyT
Sample : jb31800-2
Misc : ms45252,vd8451,5.2,,20,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 01 12:38:02 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

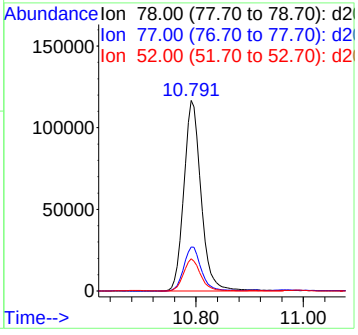


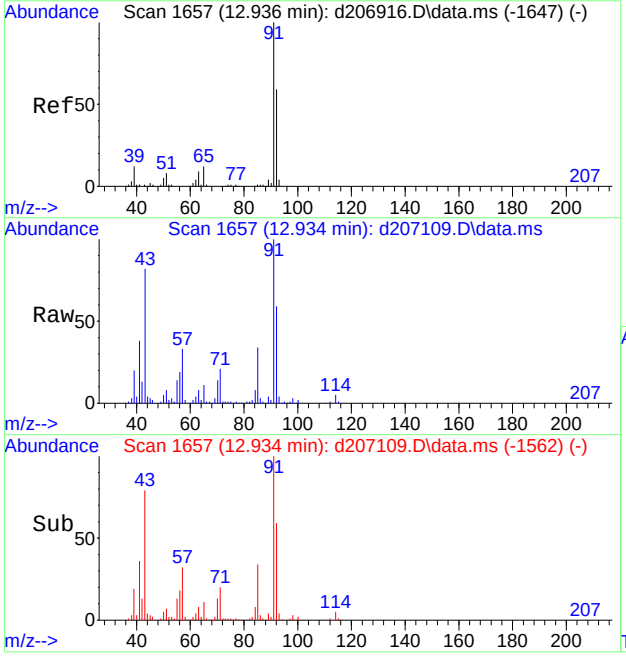


#62
benzene
Concen: 22.91 ug/L
RT: 10.791 min Scan# 1247
Delta R.T. -0.002 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion: 78 Resp: 260744

Ion	Ratio	Lower	Upper
78	100		
77	23.2	0.0	53.9
52	16.9	0.0	47.2

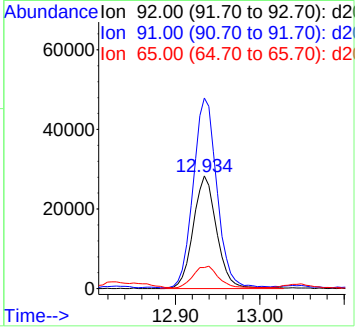


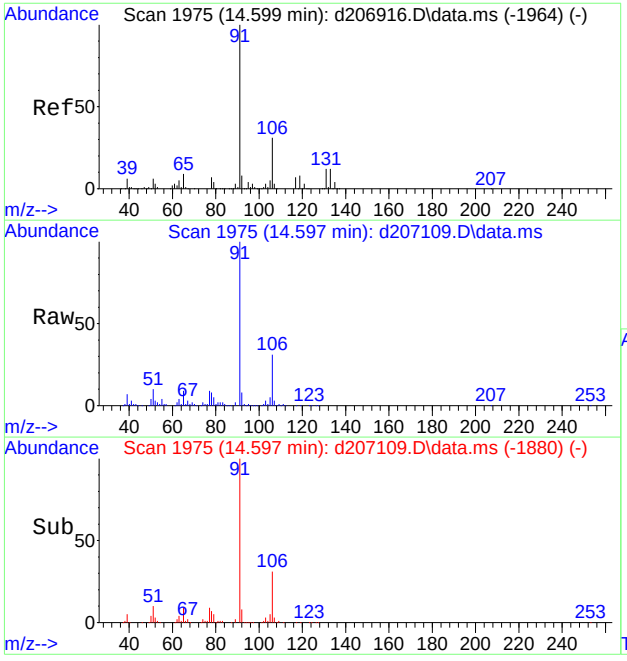


#79
toluene
Concen: 7.68 ug/L
RT: 12.934 min Scan# 1657
Delta R.T. -0.002 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion: 92 Resp: 54694

Ion	Ratio	Lower	Upper
92	100		
91	168.0	140.0	200.0
65	16.7	0.0	50.5

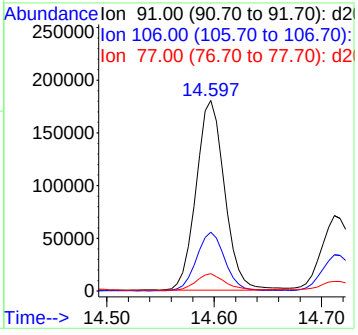


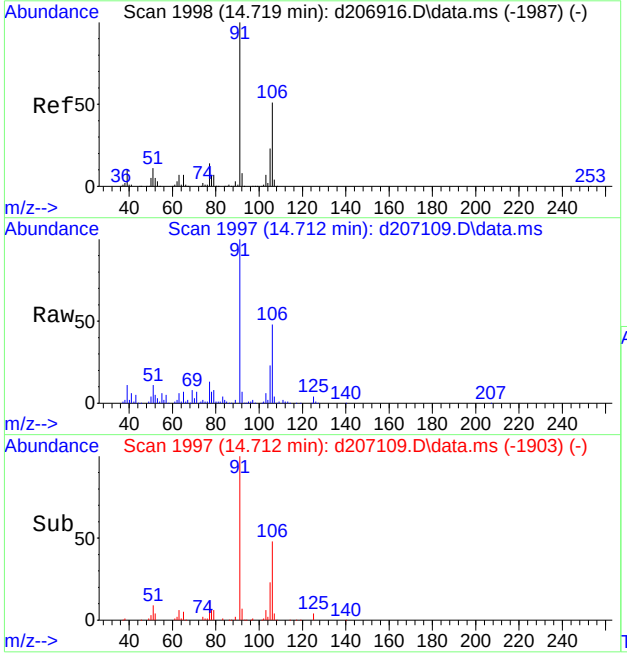


#94
ethylbenzene
Concen: 23.61 ug/L
RT: 14.597 min Scan# 1975
Delta R.T. -0.002 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion: 91 Resp: 332158

Ion	Ratio	Lower	Upper
91	100		
106	31.0	1.4	61.4
77	8.8	0.0	39.0

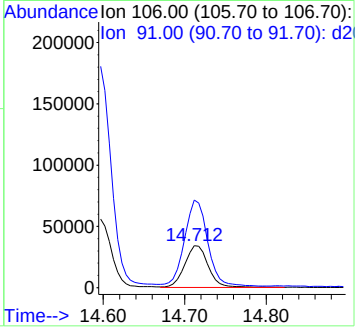




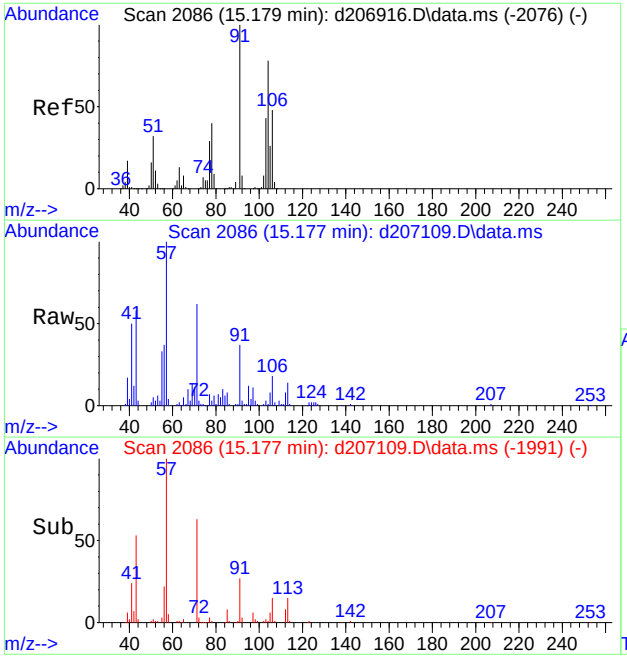
#95
m,p-xylene
Concen: 12.80 ug/L
RT: 14.712 min Scan# 1997
Delta R.T. -0.007 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion:106 Resp: 69144

Ion	Ratio	Lower	Upper
106	100		
91	206.8	137.9	256.1



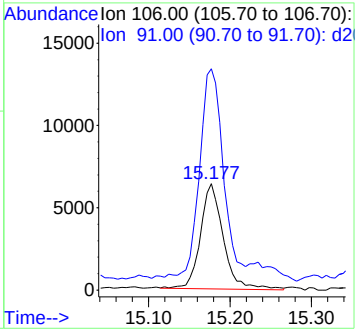
SGS ACCUTEST JB31800

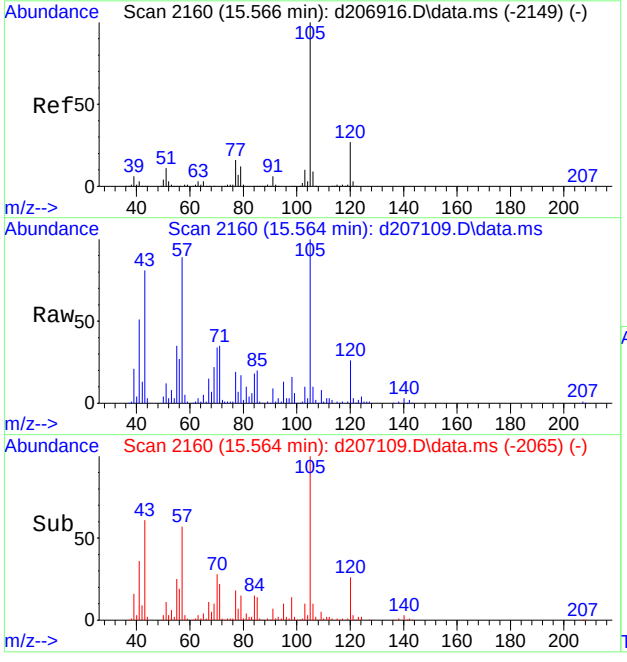


#96
o-xylene
Concen: 2.32 ug/L
RT: 15.177 min Scan# 2086
Delta R.T. -0.002 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion:106 Resp: 12445

Ion	Ratio	Lower	Upper
106	100		
91	198.8	146.7	272.5

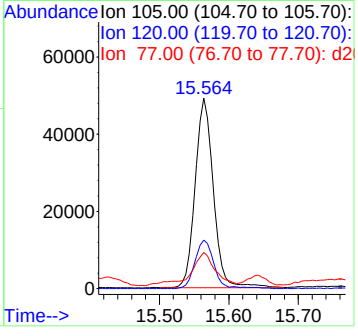


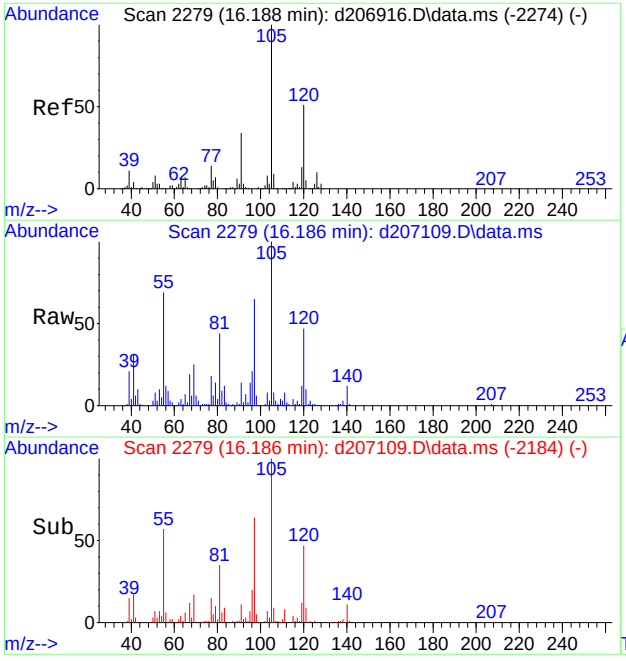


#100
isopropylbenzene
Concen: 6.24 ug/L
RT: 15.564 min Scan# 2160
Delta R.T. -0.002 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion:105 Resp: 89235

Ion	Ratio	Lower	Upper
105	100		
120	25.7	0.0	56.8
77	17.2	0.0	46.2

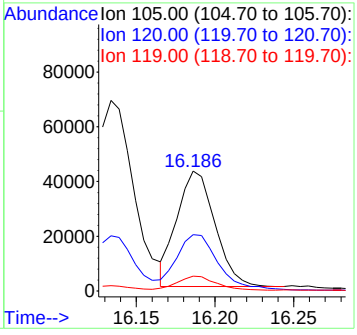


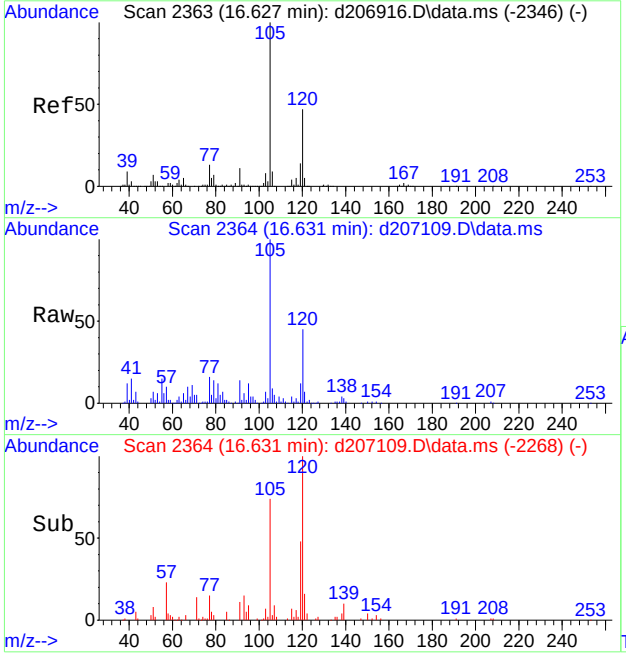


#111
1,3,5-trimethylbenzene
Concen: 5.70 ug/L
RT: 16.186 min Scan# 2279
Delta R.T. -0.002 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion:105 Resp: 71020

Ion	Ratio	Lower	Upper
105	100		
120	47.3	19.0	79.0
119	11.9	0.0	42.2

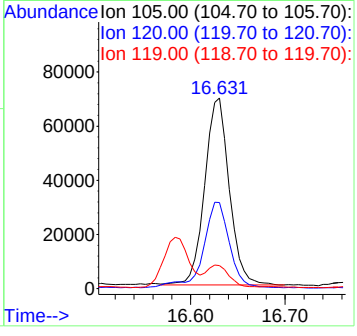


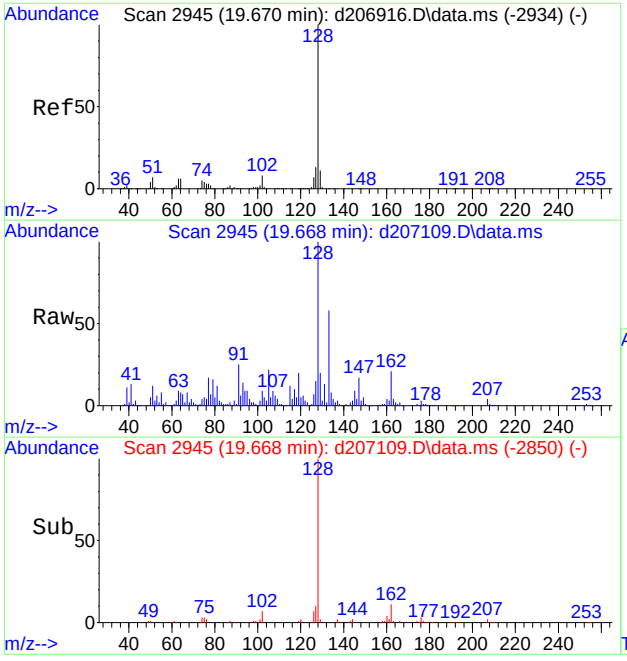


#114
1,2,4-trimethylbenzene
Concen: 9.91 ug/L
RT: 16.631 min Scan# 2364
Delta R.T. 0.003 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion:105 Resp: 124733

Ion	Ratio	Lower	Upper
105	100		
120	45.6	16.6	76.6
119	11.4	0.0	44.0

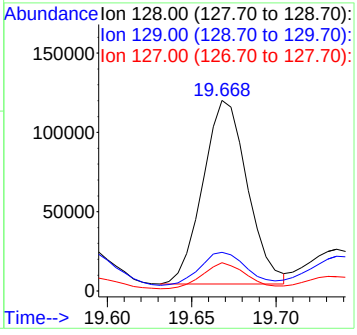




#128
naphthalene
Concen: 22.41 ug/L
RT: 19.668 min Scan# 2945
Delta R.T. -0.002 min
Lab File: d207109.D
Acq: 30 Mar 2013 4:32 pm

Tgt Ion:128 Resp: 212593

Ion	Ratio	Lower	Upper
128	100		
129	18.0	0.0	40.7
127	14.3	0.0	42.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207110.D
Acq On : 30 Mar 2013 5:01 pm
Operator : EmilyT
Sample : jb31800-3
Misc : ms45252,vd8451,6.1,,100,10,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 01 12:39:21 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.025	65	166060	500.00 ug/L	0.03
4) pentafluorobenzene	10.231	168	235825	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.146	114	370501	50.00 ug/L	0.00
85) chlorobenzene-d5	14.487	117	356673	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.075	152	225863	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.263	113	111430	41.88 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 83.76%		
47) 1,2-dichloroethane-d4 (s)	10.686	65	136059	41.90 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 83.80%		
77) toluene-d8 (s)	12.856	98	579580	54.97 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 109.94%		
101) 4-bromofluorobenzene (s)	15.768	95	278223	63.02 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 126.04%		

Target Compounds

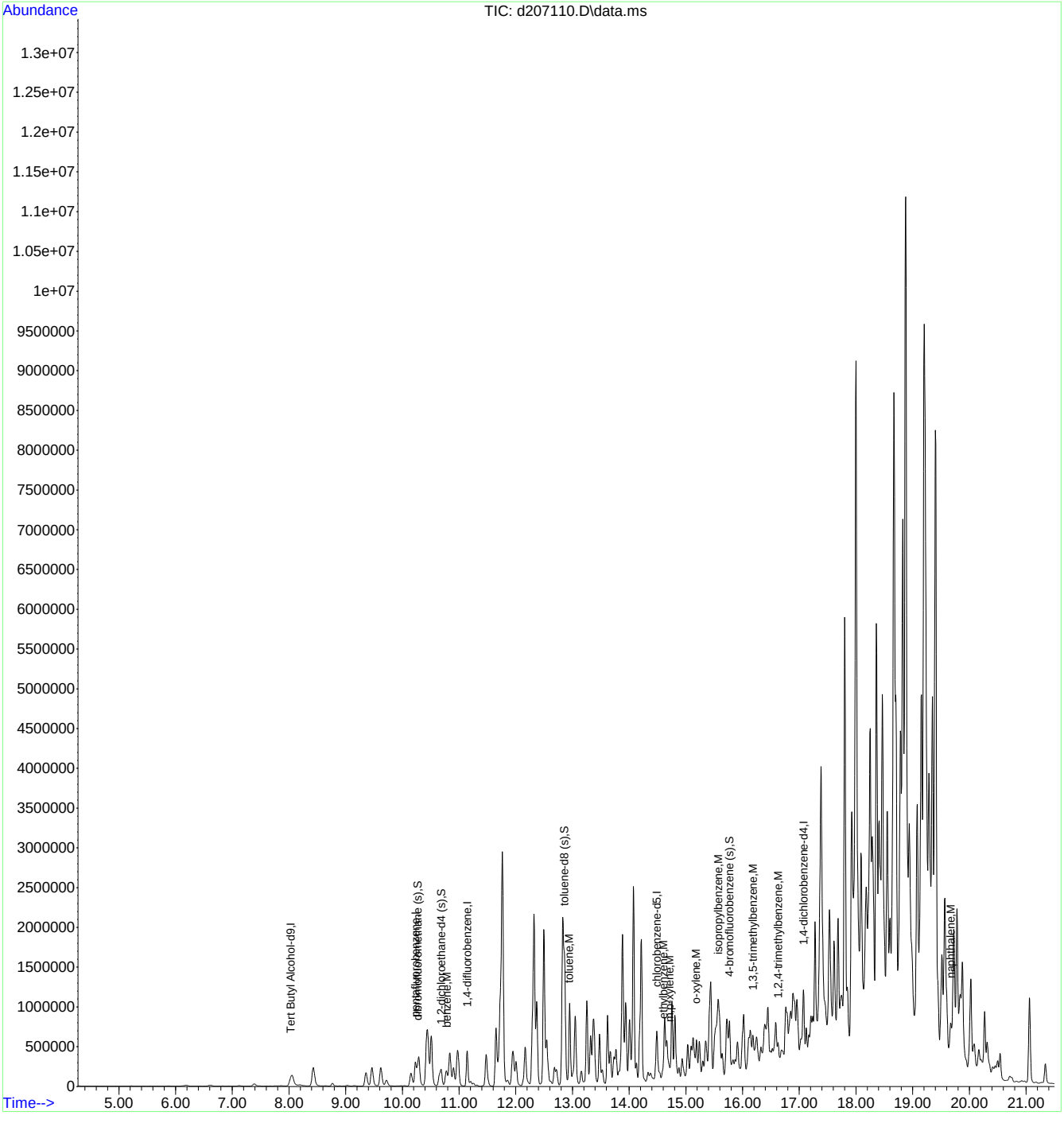
					Qvalue
62) benzene	10.791	78	77044	6.94 ug/L	99
79) toluene	12.934	92	9590	1.38 ug/L	95
94) ethylbenzene	14.597	91	39370	2.83 ug/L	96
95) m,p-xylene	14.717	106	34191	6.41 ug/L	95
96) o-xylene	15.172	106	6564	1.24 ug/L	84
100) isopropylbenzene	15.564	105	279497	19.26 ug/L	98
111) 1,3,5-trimethylbenzene	16.186	105	65137	5.15 ug/L	98
114) 1,2,4-trimethylbenzene	16.630	105	104953	8.21 ug/L	99
128) naphthalene	19.673	128	127620	13.25 ug/L	71

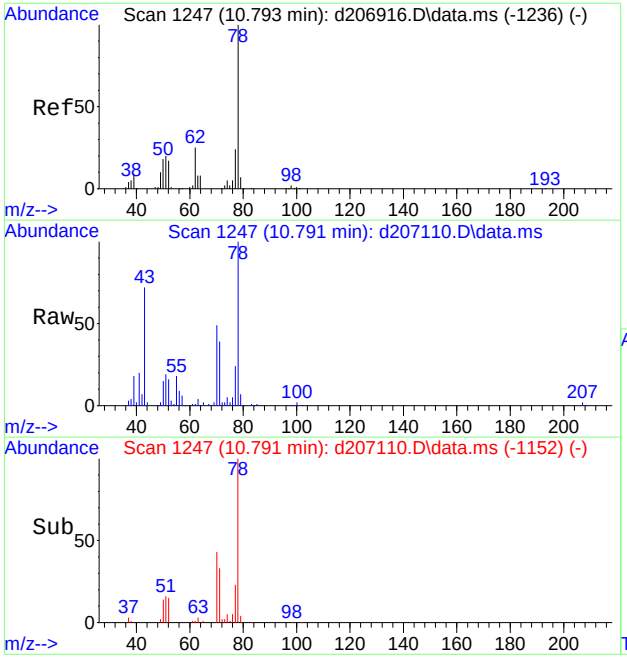
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207110.D
Acq On : 30 Mar 2013 5:01 pm
Operator : EmilyT
Sample : jb31800-3
Misc : ms45252,vd8451,6.1,,100,10,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 01 12:39:21 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

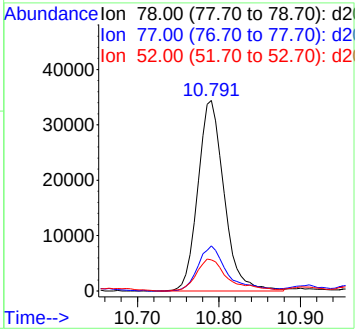


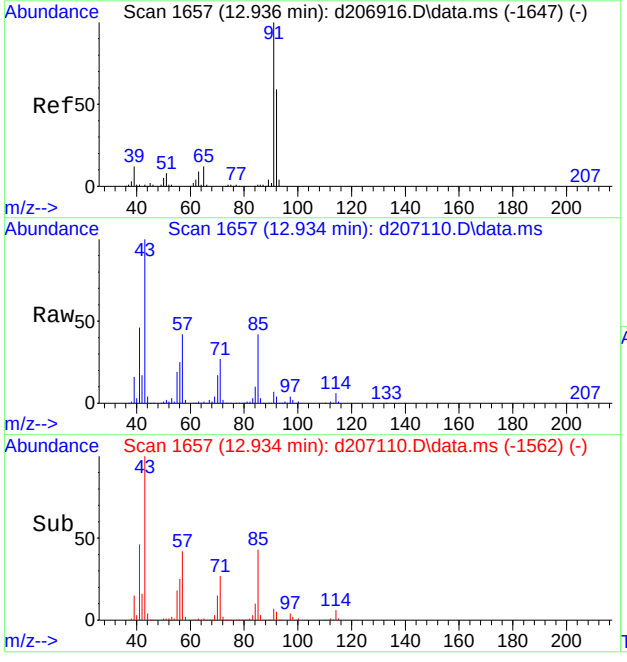


#62
benzene
Concen: 6.94 ug/L
RT: 10.791 min Scan# 1247
Delta R.T. -0.002 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion: 78 Resp: 77044

Ion	Ratio	Lower	Upper
78	100		
77	23.7	0.0	53.9
52	16.4	0.0	47.2

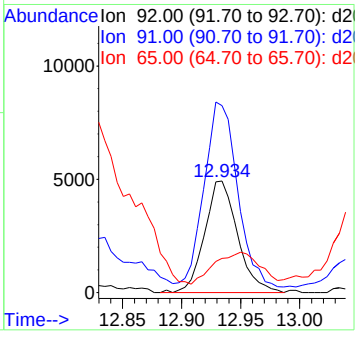




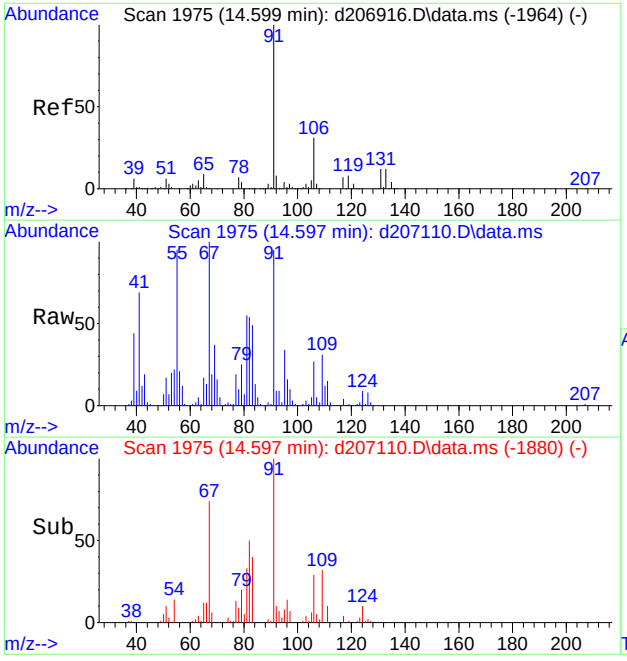
#79
toluene
Concen: 1.38 ug/L
RT: 12.934 min Scan# 1657
Delta R.T. -0.002 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion: 92 Resp: 9590

Ion	Ratio	Lower	Upper
92	100		
91	162.5	140.0	200.0
65	19.2	0.0	50.5



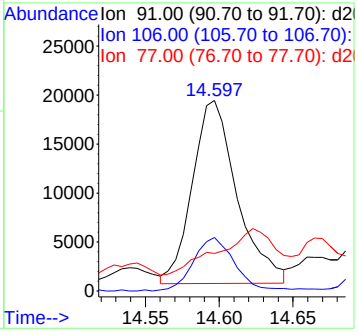
SGS ACCUTEST JB31800

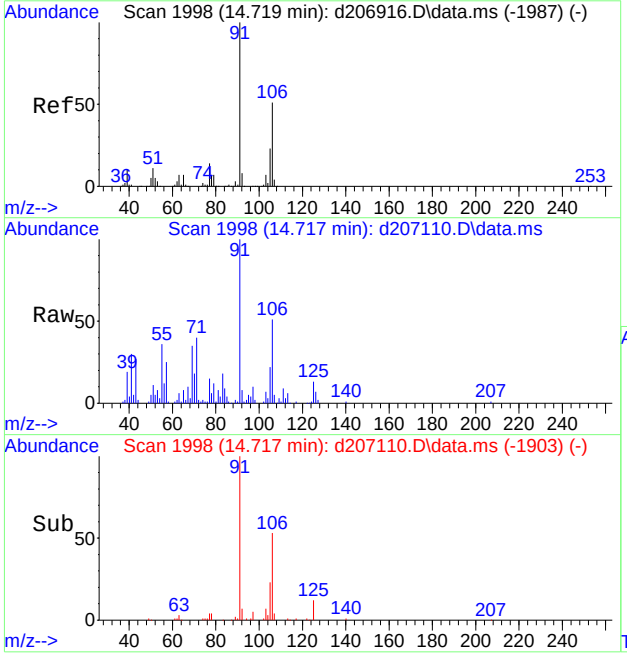


#94
ethylbenzene
Concen: 2.83 ug/L
RT: 14.597 min Scan# 1975
Delta R.T. -0.002 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion: 91 Resp: 39370

Ion	Ratio	Lower	Upper
91	100		
106	29.8	1.4	61.4
77	12.3	0.0	39.0

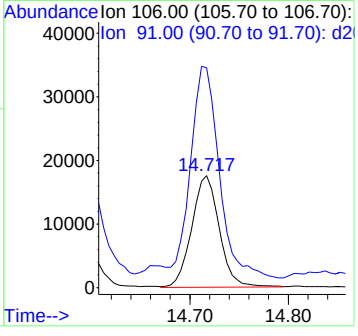




#95
m,p-xylene
Concen: 6.41 ug/L
RT: 14.717 min Scan# 1998
Delta R.T. -0.002 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion:106 Resp: 34191

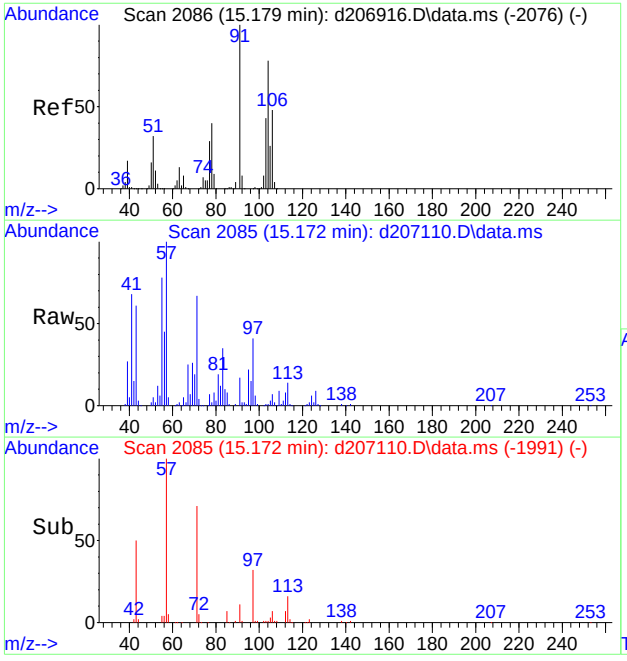
Ion	Ratio	Lower	Upper
106	100		
91	189.0	137.9	256.1



7.1.4

7

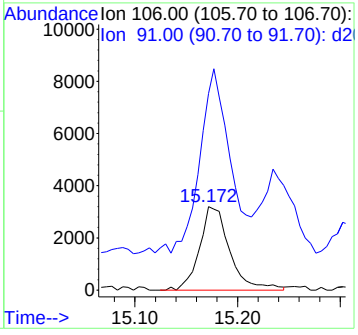
SGS ACCUTEST JB31800

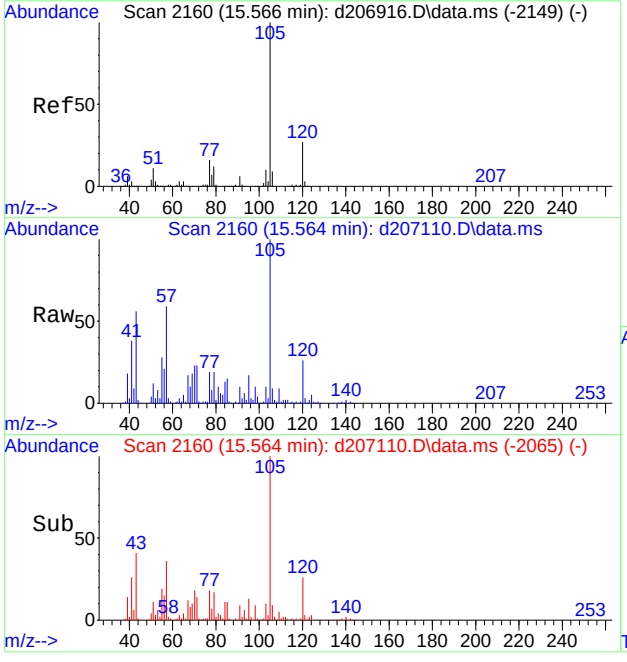


#96
o-xylene
Concen: 1.24 ug/L
RT: 15.172 min Scan# 2085
Delta R.T. -0.007 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion:106 Resp: 6564

Ion	Ratio	Lower	Upper
106	100		
91	185.0	146.7	272.5

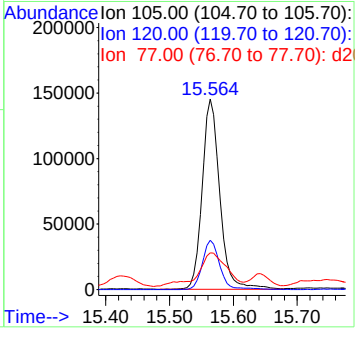


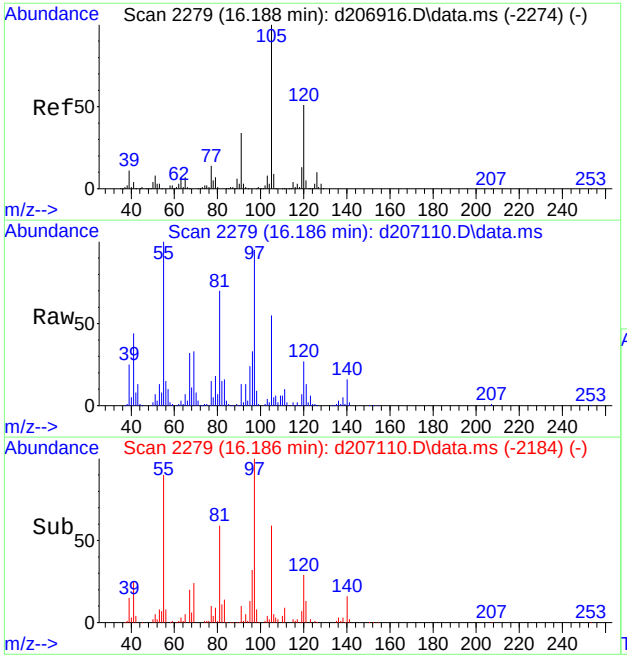


#100
isopropylbenzene
Concen: 19.26 ug/L
RT: 15.564 min Scan# 2160
Delta R.T. -0.002 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion:105 Resp: 279497

Ion	Ratio	Lower	Upper
105	100		
120	25.9	0.0	56.8
77	17.4	0.0	46.2

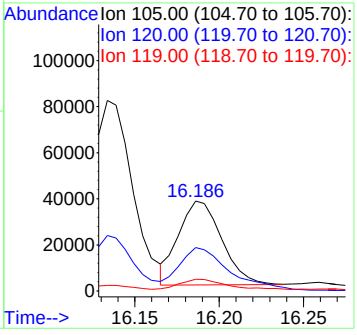


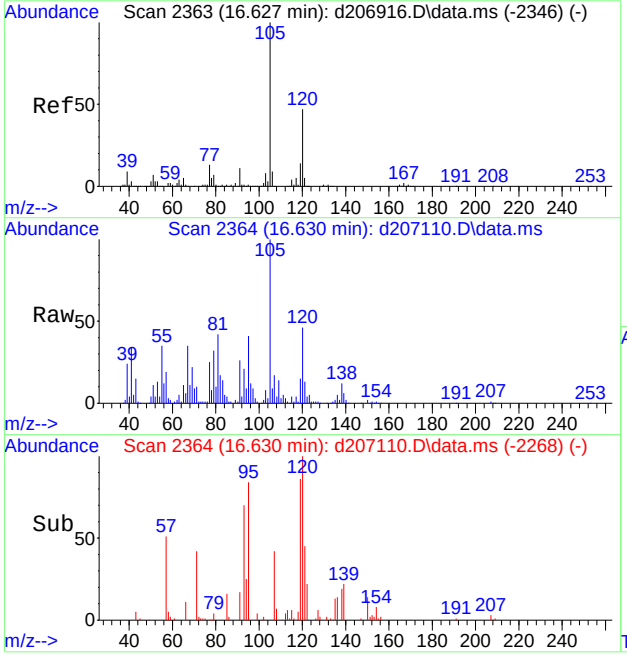


#111
1,3,5-trimethylbenzene
Concen: 5.15 ug/L
RT: 16.186 min Scan# 2279
Delta R.T. -0.002 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion:105 Resp: 65137

Ion	Ratio	Lower	Upper
105	100		
120	47.9	19.0	79.0
119	11.7	0.0	42.2

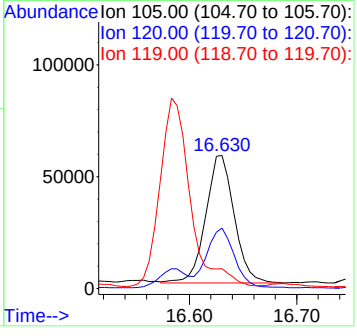




#114
1,2,4-trimethylbenzene
Concen: 8.21 ug/L
RT: 16.630 min Scan# 2364
Delta R.T. 0.003 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

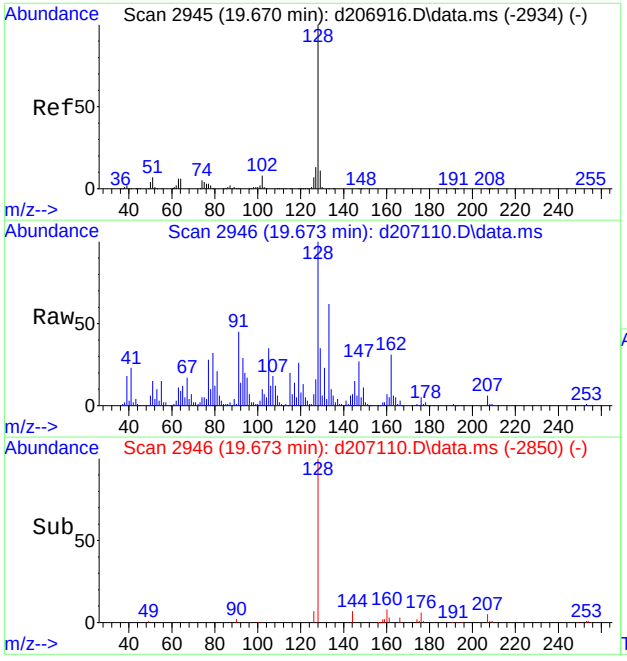
Tgt Ion:105 Resp: 104953

Ion	Ratio	Lower	Upper
105	100		
120	46.5	16.6	76.6
119	11.6	0.0	44.0



7.1.4

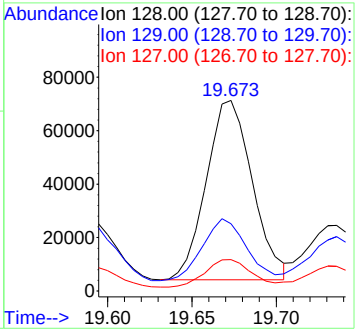
7



#128
naphthalene
Concen: 13.25 ug/L
RT: 19.673 min Scan# 2946
Delta R.T. 0.003 min
Lab File: d207110.D
Acq: 30 Mar 2013 5:01 pm

Tgt Ion:128 Resp: 127620

Ion	Ratio	Lower	Upper
128	100		
129	31.8	0.0	40.7
127	15.3	0.0	42.9



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207111.D
Acq On : 30 Mar 2013 5:30 pm
Operator : EmilyT
Sample : jb31800-4
Misc : ms45252,vd8451,6.4,,100,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 01 12:40:34 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.026	65	159575	500.00 ug/L	0.03
4) pentafluorobenzene	10.232	168	245781	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.147	114	381855	50.00 ug/L	0.00
85) chlorobenzene-d5	14.488	117	357815	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.076	152	222814	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.264	113	111546	40.23 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 80.46%		
47) 1,2-dichloroethane-d4 (s)	10.687	65	136851	40.44 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 80.88%		
77) toluene-d8 (s)	12.857	98	478662	44.05 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 88.10%		
101) 4-bromofluorobenzene (s)	15.769	95	199484	45.80 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 91.60%		

Target Compounds					Qvalue
79) toluene	12.930	92	2609	0.36 ug/L	83
94) ethylbenzene	14.592	91	6379	0.46 ug/L	94
95) m,p-xylene	14.713	106	5836	1.09 ug/L	90
96) o-xylene	15.178	106	1370	0.26 ug/L	84
100) isopropylbenzene	15.565	105	18782	1.31 ug/L	99
111) 1,3,5-trimethylbenzene	16.192	105	2757	0.22 ug/L	86
114) 1,2,4-trimethylbenzene	16.631	105	9373	0.74 ug/L	99
128) naphthalene	19.669	128	32790	3.45 ug/L	96

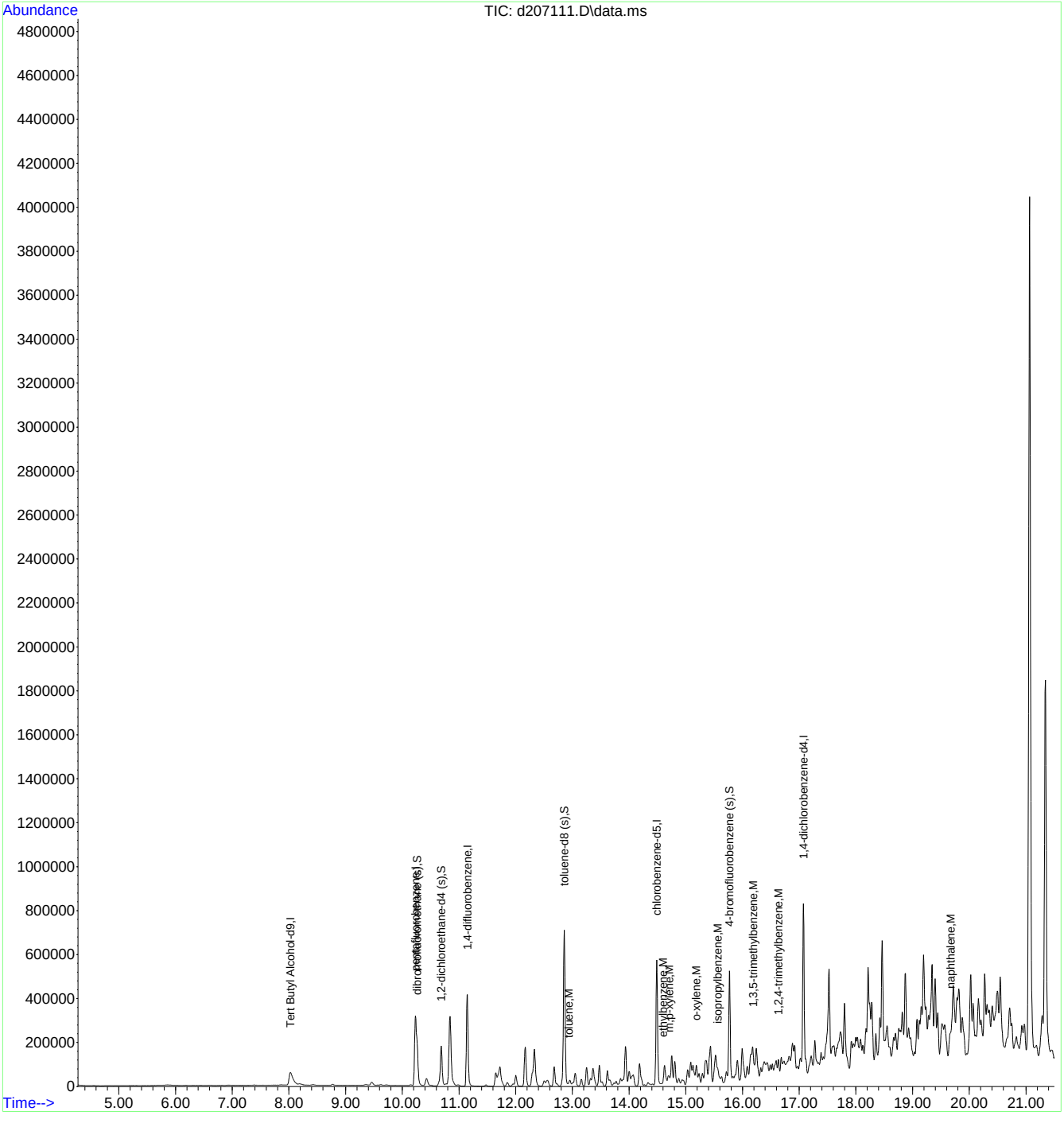
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

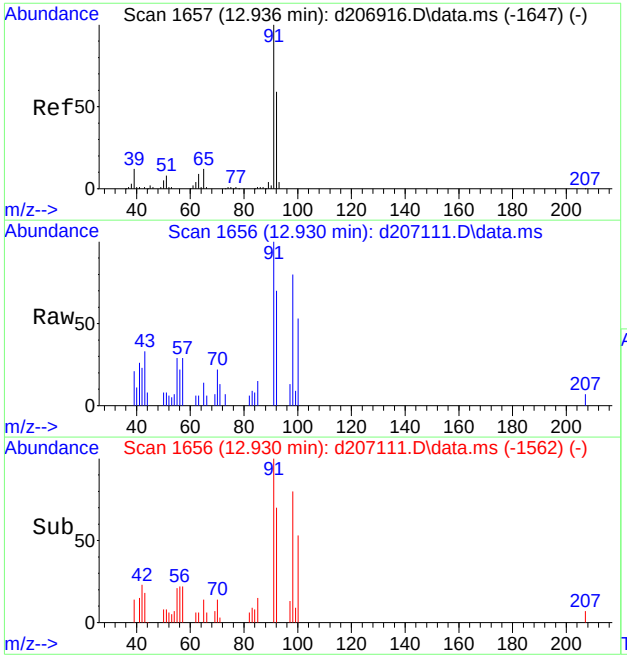
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207111.D
Acq On : 30 Mar 2013 5:30 pm
Operator : EmilyT
Sample : jb31800-4
Misc : ms45252,vd8451,6.4,,100,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 01 12:40:34 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



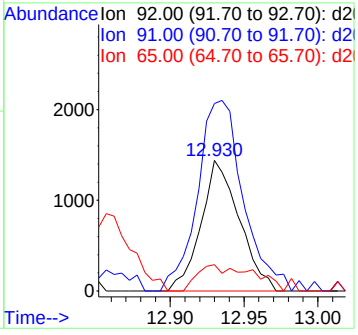
MD8442.M Mon Apr 01 12:40:39 2013 Page: 2

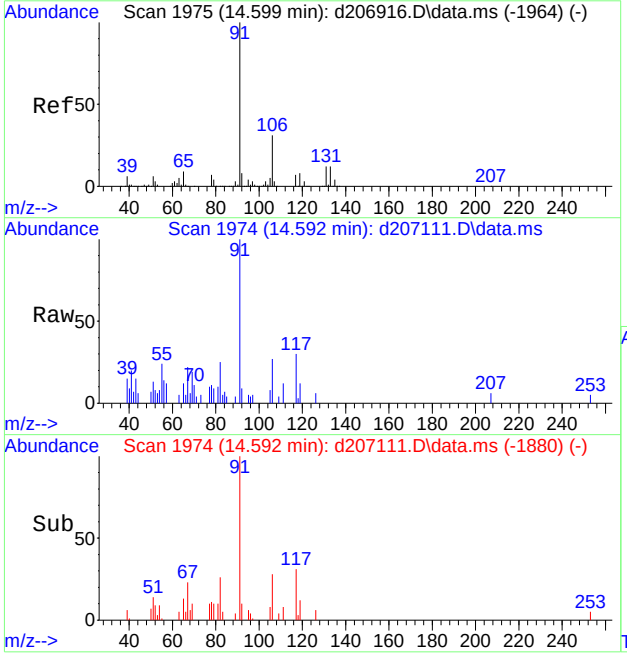


#79
toluene
Concen: 0.36 ug/L
RT: 12.930 min Scan# 1656
Delta R.T. -0.007 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion: 92 Resp: 2609

Ion	Ratio	Lower	Upper
92	100		
91	143.6	140.0	200.0
65	20.3	0.0	50.5

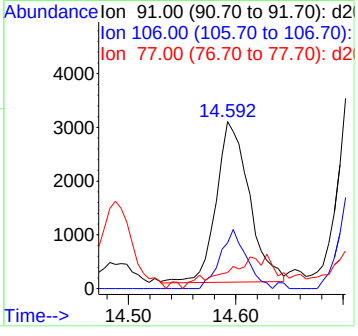


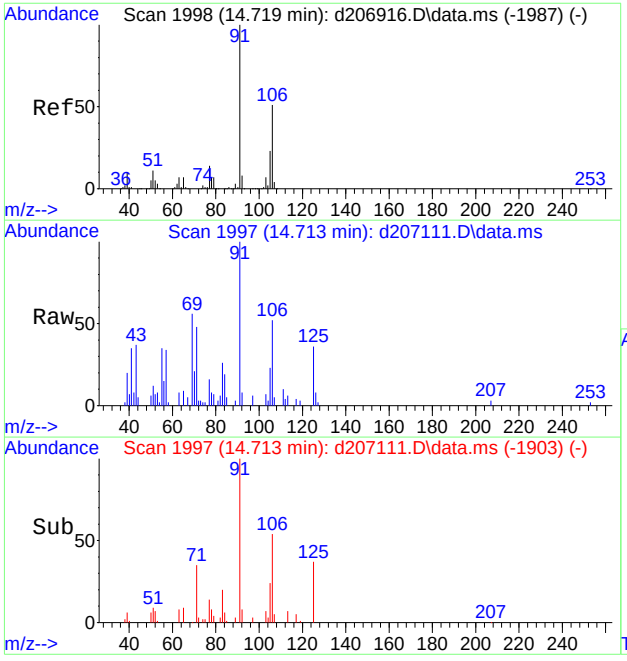


#94
ethylbenzene
Concen: 0.46 ug/L
RT: 14.592 min Scan# 1974
Delta R.T. -0.007 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion: 91 Resp: 6379

Ion	Ratio	Lower	Upper
91	100		
106	28.5	1.4	61.4
77	5.7	0.0	39.0

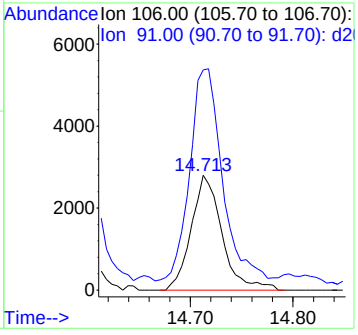


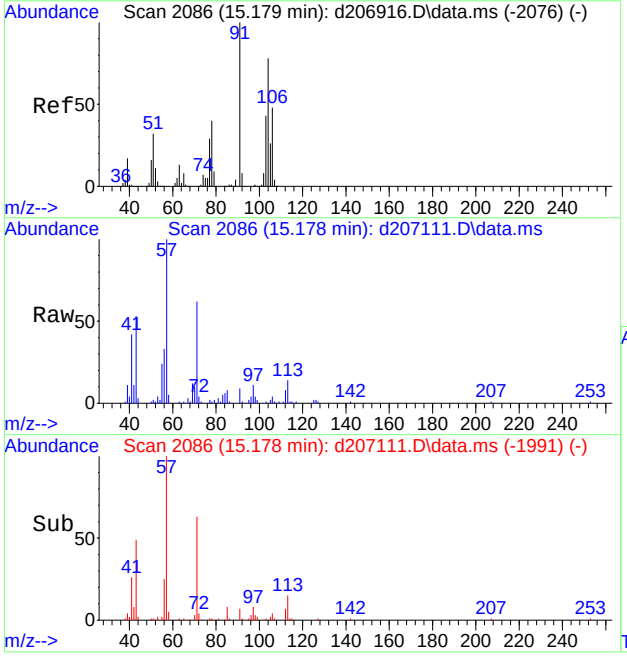


#95
m,p-xylene
Concen: 1.09 ug/L
RT: 14.713 min Scan# 1997
Delta R.T. -0.007 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion:106 Resp: 5836

Ion	Ratio	Lower	Upper
106	100		
91	182.7	137.9	256.1

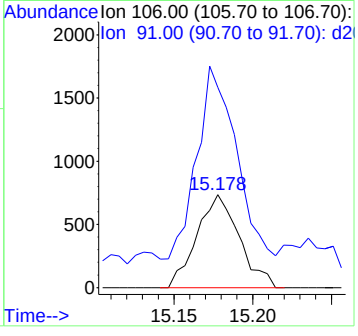


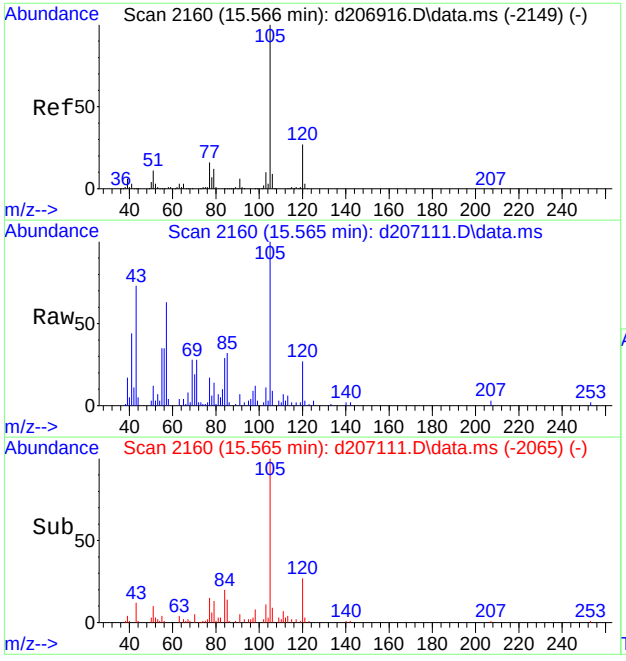


#96
o-xylene
Concen: 0.26 ug/L
RT: 15.178 min Scan# 2086
Delta R.T. -0.001 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion:106 Resp: 1370

Ion	Ratio	Lower	Upper
106	100		
91	184.8	146.7	272.5

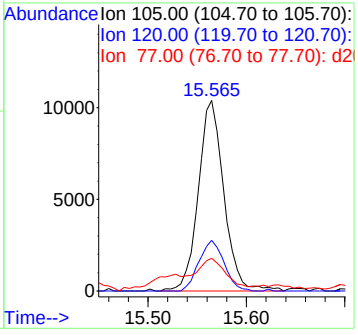


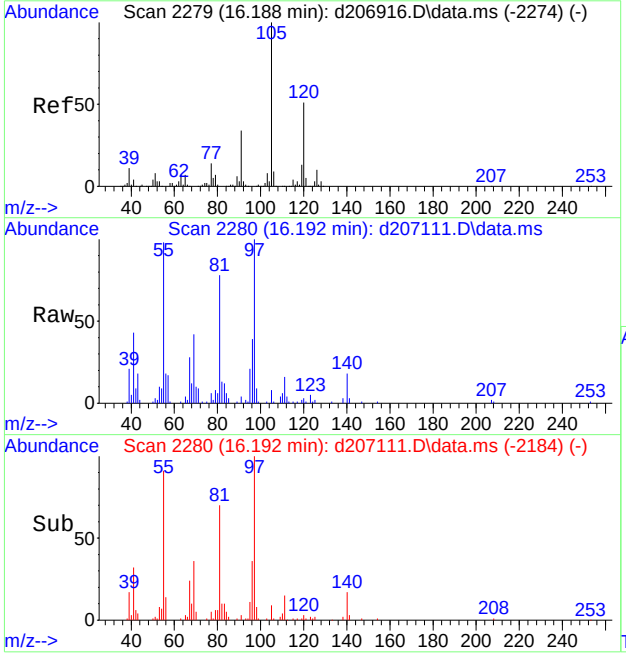


#100
isopropylbenzene
Concen: 1.31 ug/L
RT: 15.565 min Scan# 2160
Delta R.T. -0.001 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion:105 Resp: 18782

Ion	Ratio	Lower	Upper
105	100		
120	26.7	0.0	56.8
77	14.8	0.0	46.2

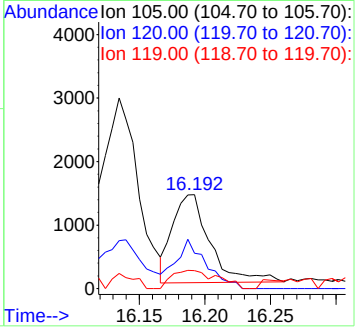


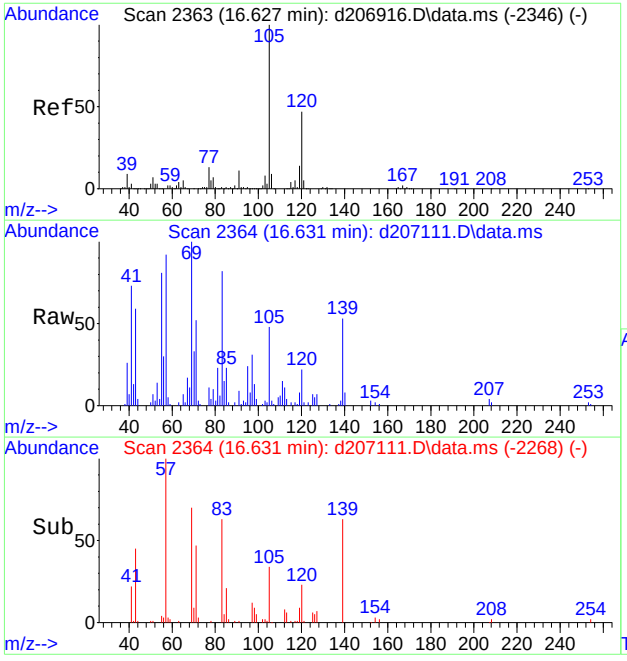


#111
1,3,5-trimethylbenzene
Concen: 0.22 ug/L
RT: 16.192 min Scan# 2280
Delta R.T. 0.004 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion:105 Resp: 2757

Ion	Ratio	Lower	Upper
105	100		
120	40.6	19.0	79.0
119	20.5	0.0	42.2

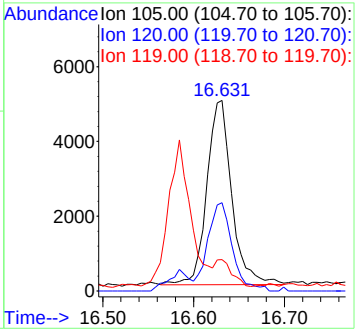


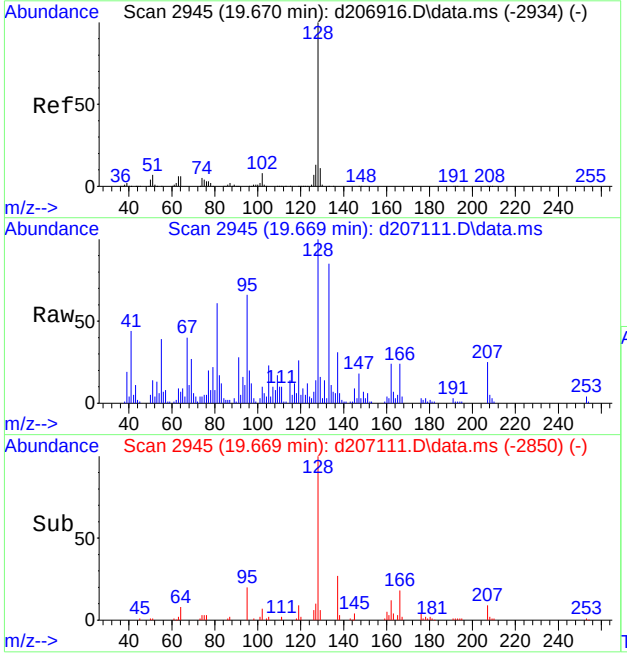


#114
1,2,4-trimethylbenzene
Concen: 0.74 ug/L
RT: 16.631 min Scan# 2364
Delta R.T. 0.004 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion:105 Resp: 9373

Ion	Ratio	Lower	Upper
105	100		
120	45.8	16.6	76.6
119	13.6	0.0	44.0

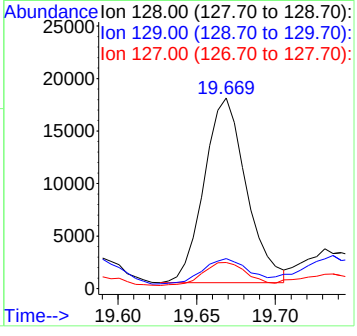




#128
naphthalene
Concen: 3.45 ug/L
RT: 19.669 min Scan# 2945
Delta R.T. -0.001 min
Lab File: d207111.D
Acq: 30 Mar 2013 5:30 pm

Tgt Ion:128 Resp: 32790

Ion	Ratio	Lower	Upper
128	100		
129	13.7	0.0	40.7
127	12.4	0.0	42.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207112.D
Acq On : 30 Mar 2013 5:59 pm
Operator : EmilyT
Sample : jb31800-5
Misc : ms45252,vd8451,5.7,,100,10,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 01 12:41:40 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.021	65	160809	500.00 ug/L	0.02
4) pentafluorobenzene	10.232	168	243157	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.147	114	380836	50.00 ug/L	0.00
85) chlorobenzene-d5	14.488	117	357970	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.076	152	219392	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.258	113	112246	40.92 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 81.84%		
47) 1,2-dichloroethane-d4 (s)	10.687	65	138567	41.39 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 82.78%		
77) toluene-d8 (s)	12.857	98	525397	48.48 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 96.96%		
101) 4-bromofluorobenzene (s)	15.769	95	238329	55.57 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 111.14%		

Target Compounds

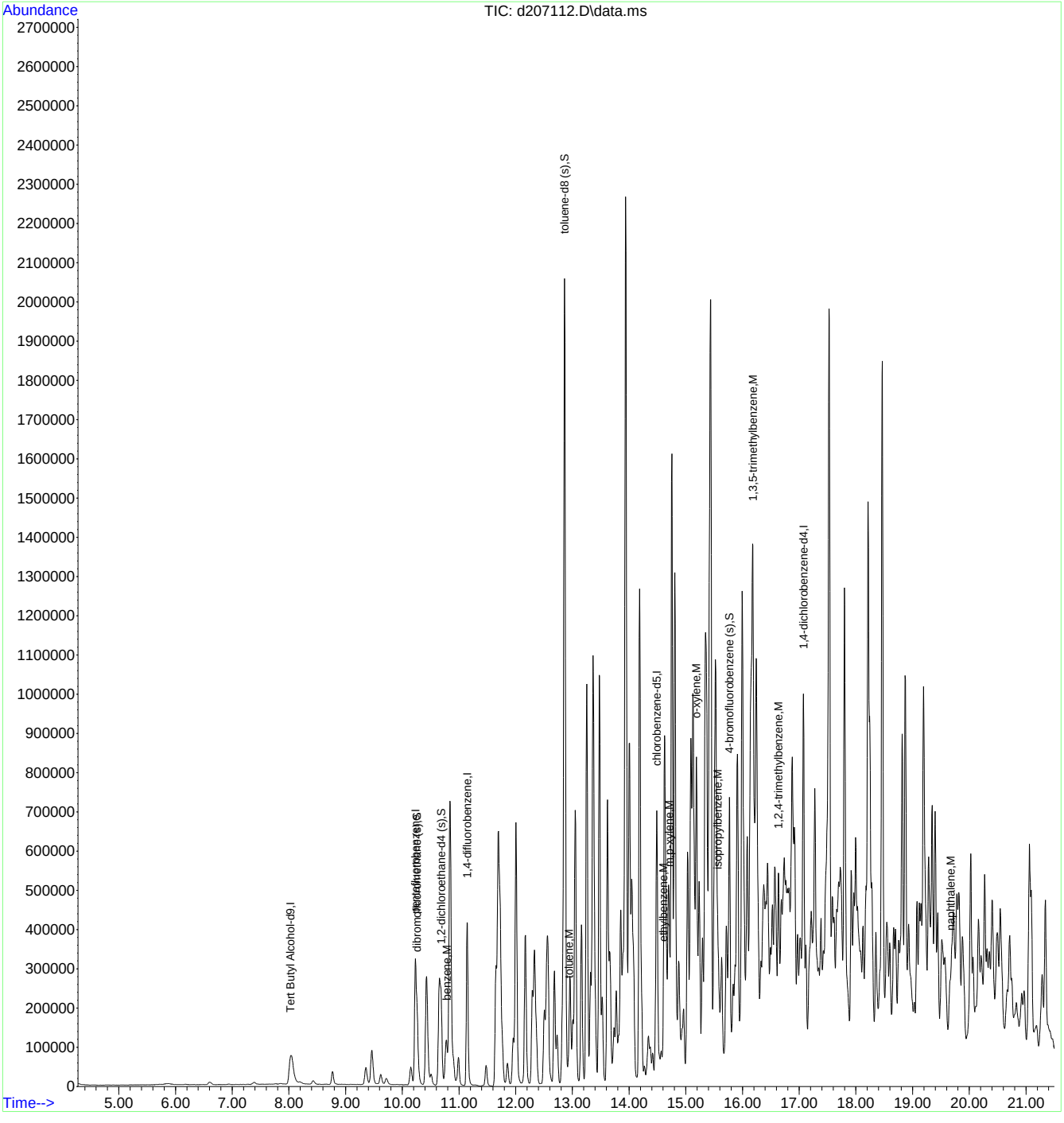
					Qvalue
62) benzene	10.791	78	48110	4.22 ug/L	98
79) toluene	12.935	92	12471	1.75 ug/L	97
94) ethylbenzene	14.597	91	29703	2.13 ug/L	98
95) m,p-xylene	14.713	106	58826	10.99 ug/L	95
96) o-xylene	15.178	106	3844	0.72 ug/L	77
100) isopropylbenzene	15.565	105	32497	2.31 ug/L	96
111) 1,3,5-trimethylbenzene	16.187	105	7741	0.63 ug/L	98
114) 1,2,4-trimethylbenzene	16.626	105	57608	4.64 ug/L	100
128) naphthalene	19.669	128	37257	3.98 ug/L	95

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

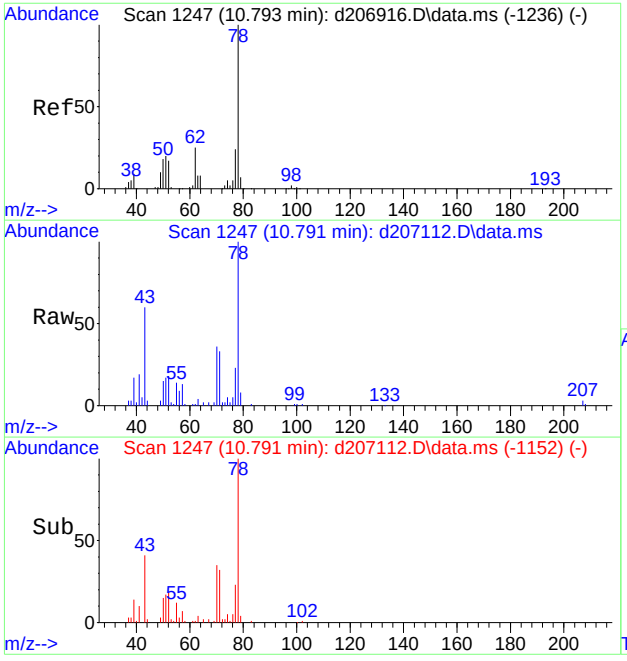
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207112.D
Acq On : 30 Mar 2013 5:59 pm
Operator : EmilyT
Sample : jb31800-5
Misc : ms45252,vd8451,5.7,,100,10,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 01 12:41:40 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



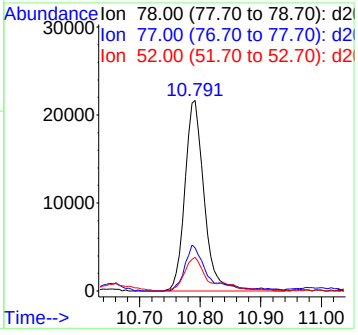
MD8442.M Mon Apr 01 12:41:50 2013 Page: 2

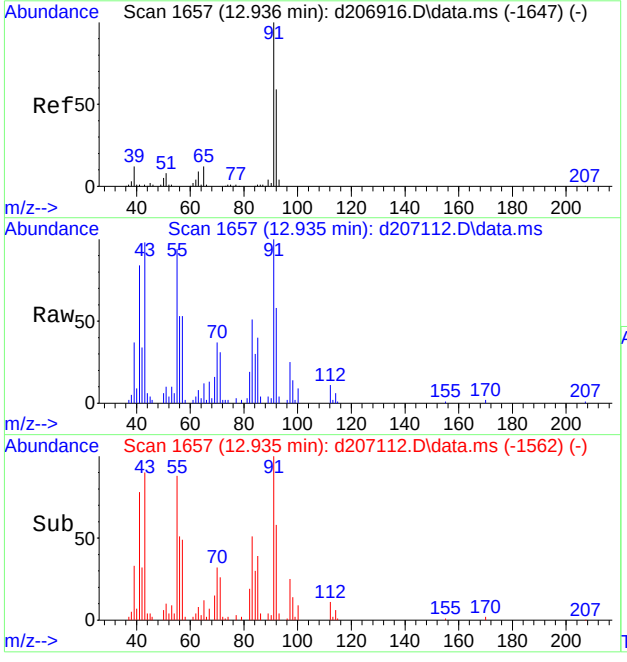


#62
benzene
Concen: 4.22 ug/L
RT: 10.791 min Scan# 1247
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion: 78 Resp: 48110

Ion	Ratio	Lower	Upper
78	100		
77	22.7	0.0	53.9
52	17.7	0.0	47.2

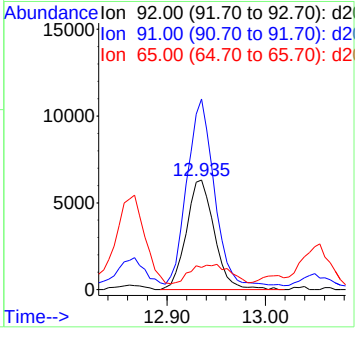


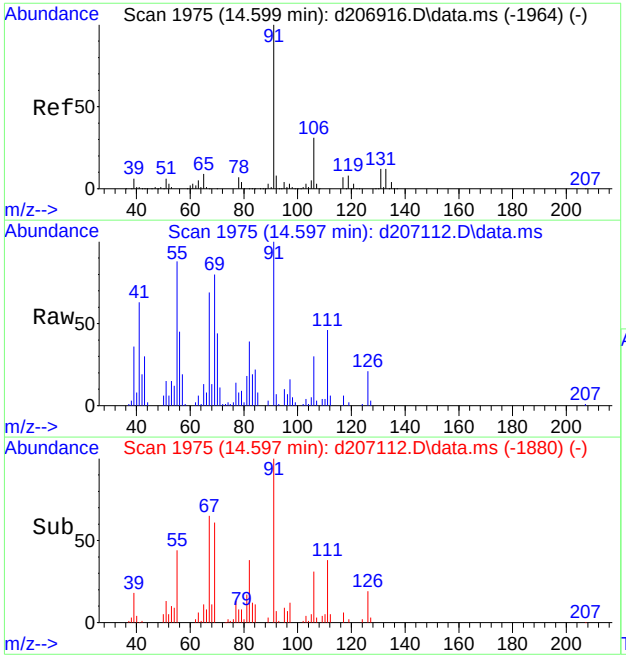


#79
toluene
Concen: 1.75 ug/L
RT: 12.935 min Scan# 1657
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion: 92 Resp: 12471

Ion	Ratio	Lower	Upper
92	100		
91	170.3	140.0	200.0
65	9.5	0.0	50.5

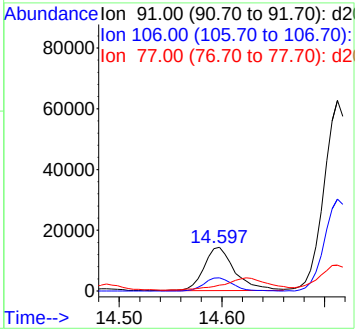


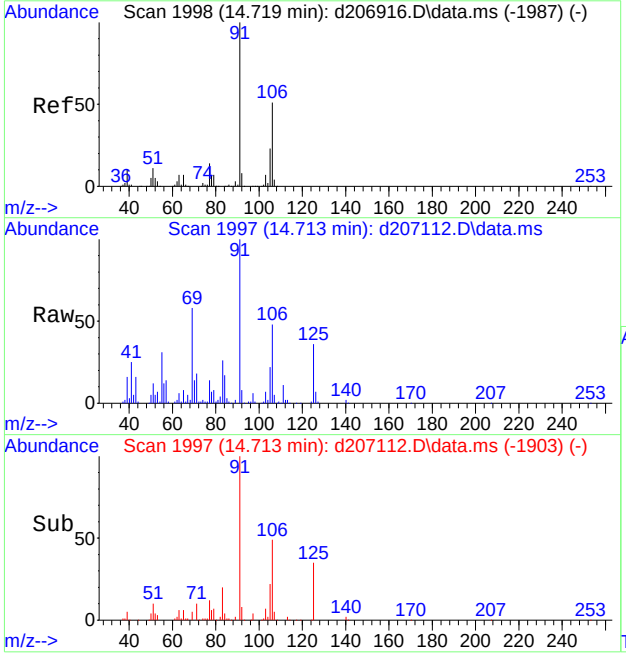


#94
ethylbenzene
Concen: 2.13 ug/L
RT: 14.597 min Scan# 1975
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion: 91 Resp: 29703

Ion	Ratio	Lower	Upper
91	100		
106	30.9	1.4	61.4
77	11.7	0.0	39.0

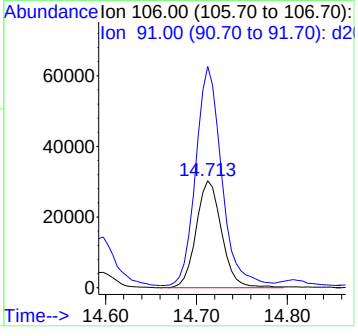


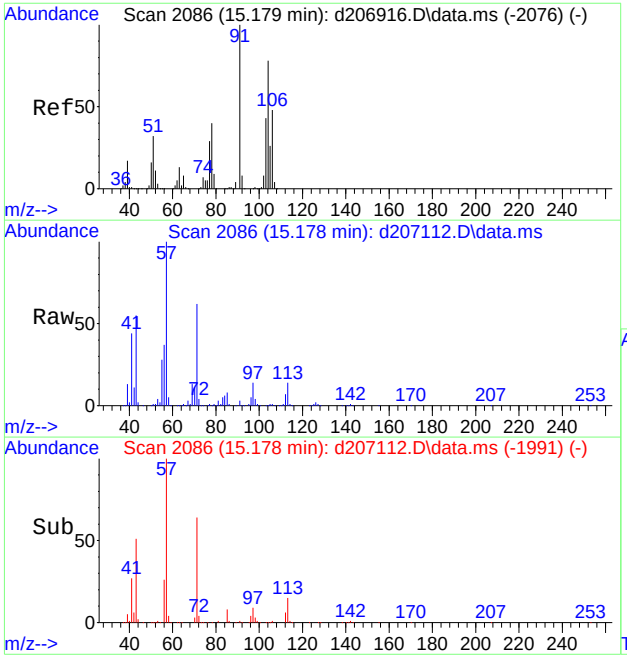


#95
m,p-xylene
Concen: 10.99 ug/L
RT: 14.713 min Scan# 1997
Delta R.T. -0.007 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion:106 Resp: 58826

Ion	Ratio	Lower	Upper
106	100		
91	205.0	137.9	256.1

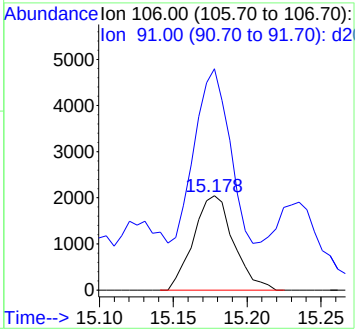


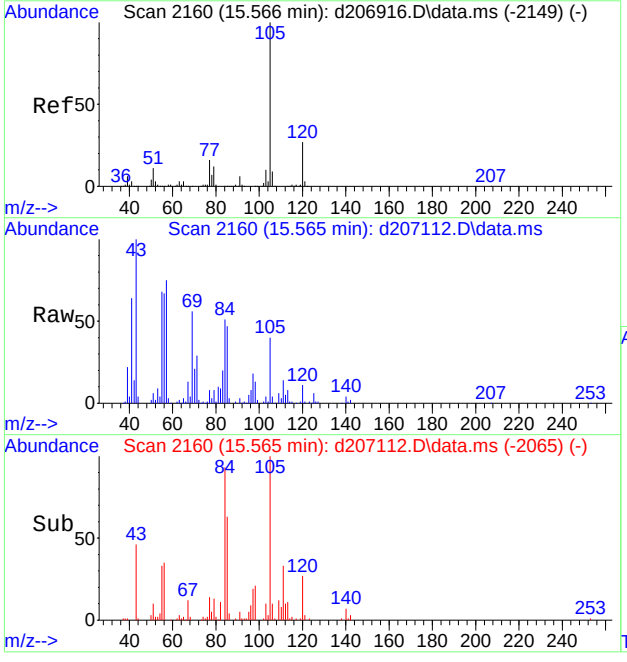


#96
o-xylene
Concen: 0.72 ug/L
RT: 15.178 min Scan# 2086
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion:106 Resp: 3844

Ion	Ratio	Lower	Upper
106	100		
91	173.1	146.7	272.5

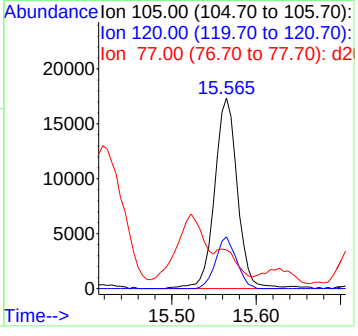


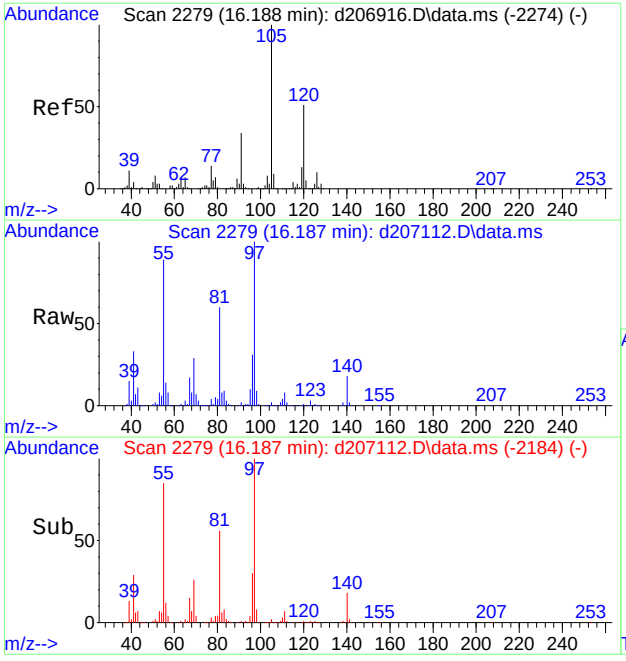


#100
isopropylbenzene
Concen: 2.31 ug/L
RT: 15.565 min Scan# 2160
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion:105 Resp: 32497

Ion	Ratio	Lower	Upper
105	100		
120	27.3	0.0	56.8
77	11.9	0.0	46.2

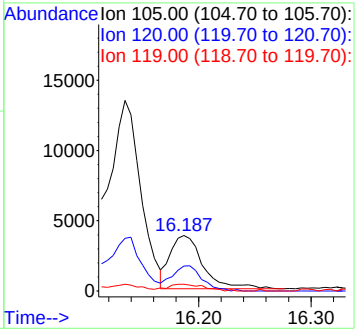


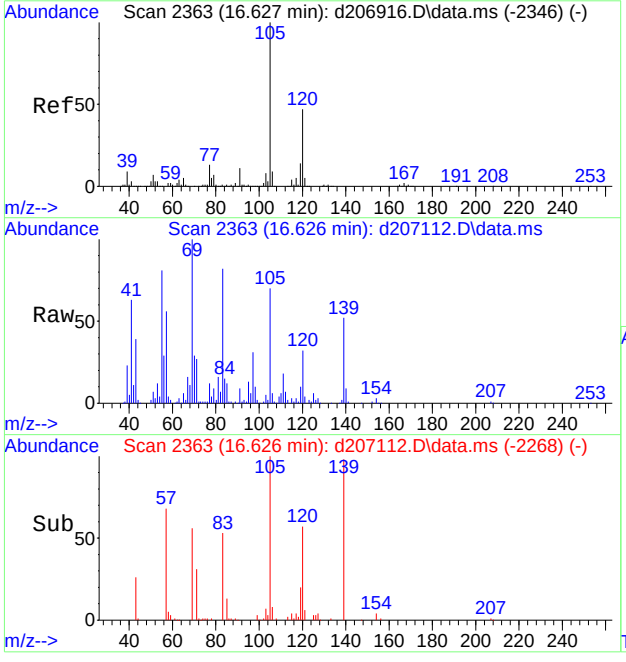


#111
1,3,5-trimethylbenzene
Concen: 0.63 ug/L
RT: 16.187 min Scan# 2279
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion:105 Resp: 7741

Ion	Ratio	Lower	Upper
105	100		
120	47.1	19.0	79.0
119	12.7	0.0	42.2

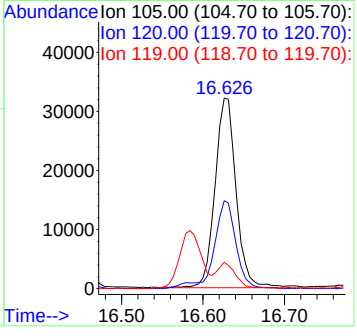


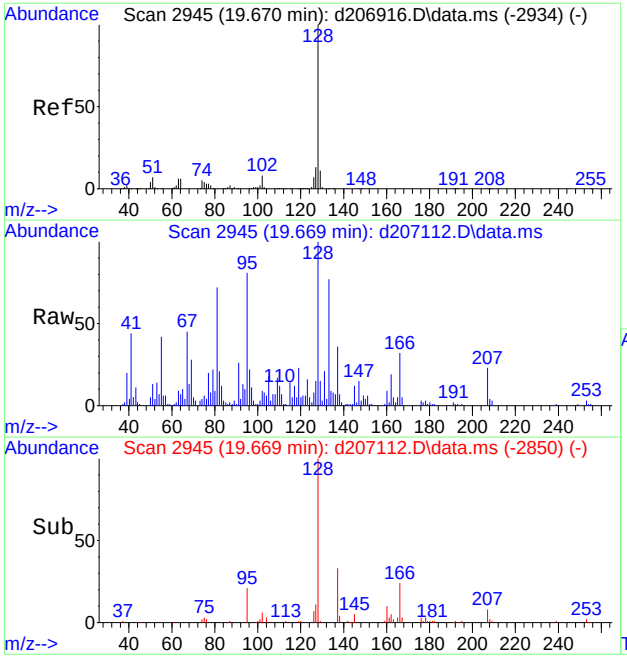


#114
1,2,4-trimethylbenzene
Concen: 4.64 ug/L
RT: 16.626 min Scan# 2363
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion:105 Resp: 57608

Ion	Ratio	Lower	Upper
105	100		
120	46.4	16.6	76.6
119	13.6	0.0	44.0

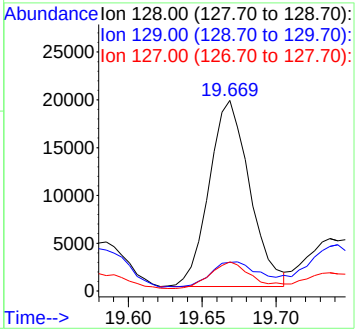




#128
naphthalene
Concen: 3.98 ug/L
RT: 19.669 min Scan# 2945
Delta R.T. -0.001 min
Lab File: d207112.D
Acq: 30 Mar 2013 5:59 pm

Tgt Ion:128 Resp: 37257

Ion	Ratio	Lower	Upper
128	100		
129	13.4	0.0	40.7
127	14.2	0.0	42.9



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/04/13 14:47

Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180448.D
Acq On : 29 Mar 2013 1:48 pm
Operator : tamikag
Sample : JB31800-6
Misc : MS45252,VC6473,6.2,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 02 15:14:07 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

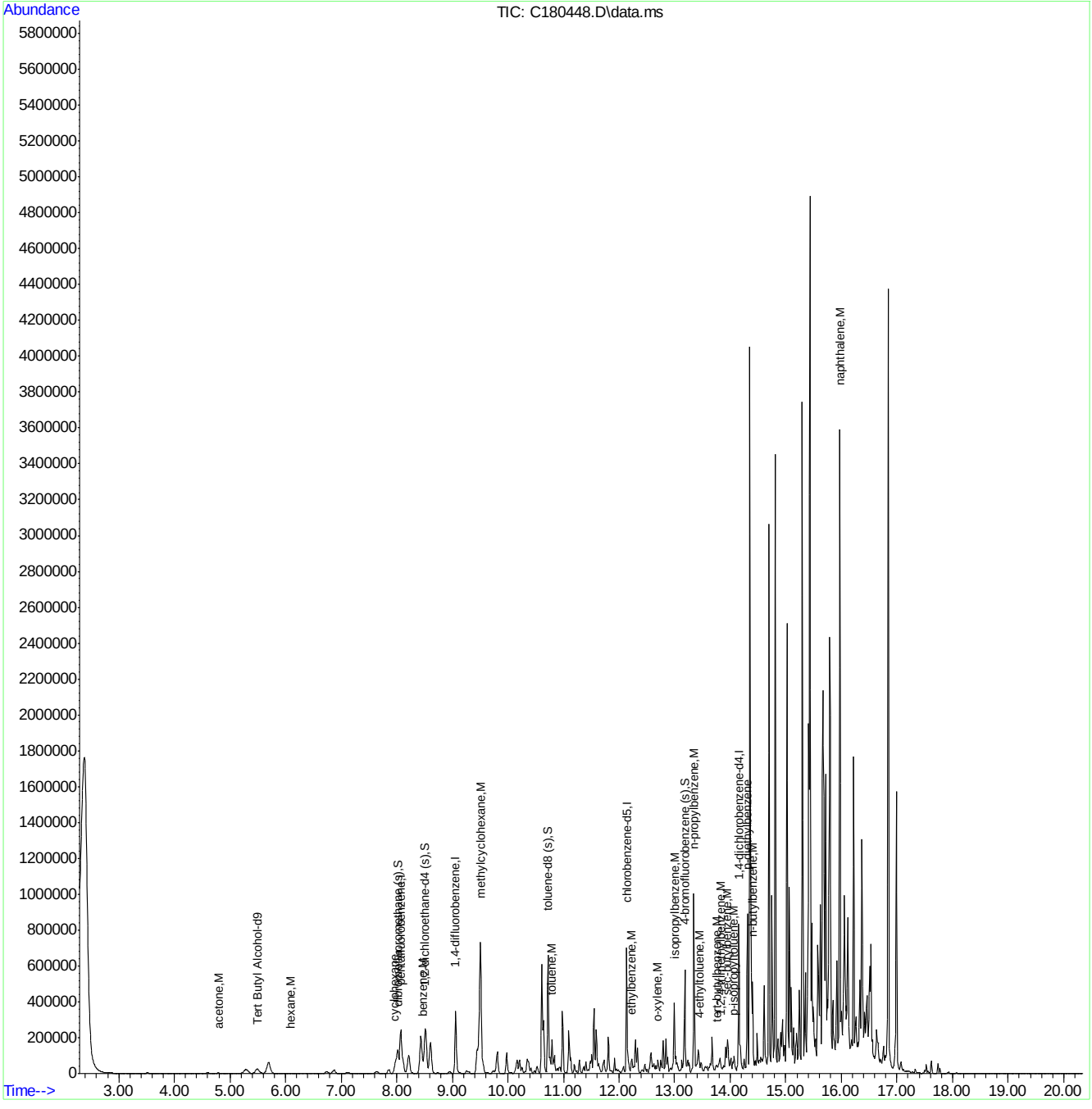
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.490	65	77976	500.00	ug/L	0.00
5) pentafluorobenzene	8.074	168	225576	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.057	114	331354	50.00	ug/L	0.00
85) chlorobenzene-d5	12.133	117	269118	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.157	152	138039	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.022	113	89095	50.61	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.22%			
50) 1,2-dichloroethane-d4 (s)	8.508	65	79460	46.08	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 92.16%			
77) toluene-d8 (s)	10.726	98	368290	54.97	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 109.94%			
103) 4-bromofluorobenzene (s)	13.184	95	138602	52.67	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 105.34%			
Target Compounds						Qvalue
22) acetone	4.795	43	9736	23.33	ug/L	95
53) cyclohexane	7.964	84	4473	1.73	ug/L #	1
62) hexane	6.097	57	1704	0.59	ug/L	92
63) benzene	8.472	78	38220	4.71	ug/L	98
70) methylcyclohexane	9.507	83	356086m	117.24	ug/L	
79) toluene	10.794	92	4018	0.85	ug/L	96
96) ethylbenzene	12.222	91	10605	1.18	ug/L	94
98) o-xylene	12.687	106	7299	2.07	ug/L	95
102) isopropylbenzene	12.996	105	171138	20.33	ug/L	99
108) n-propylbenzene	13.346	91	521492	52.64	ug/L	99
109) 4-ethyltoluene	13.445	105	14382	1.78	ug/L	96
113) tert-butylbenzene	13.764	119	3722	0.62	ug/L	99
115) 1,2,4-trimethylbenzene	13.822	105	14231	1.88	ug/L	100
116) sec-butylbenzene	13.947	105	64342	7.02	ug/L	99
118) p-isopropyltoluene	14.063	119	13697	1.81	ug/L	97
121) p-diethylbenzene	14.308	119	202340	44.83	ug/L	92
123) n-butylbenzene	14.403	92	82552	20.33	ug/L	98
129) naphthalene	15.972	128	1843955	333.03	ug/L	99

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

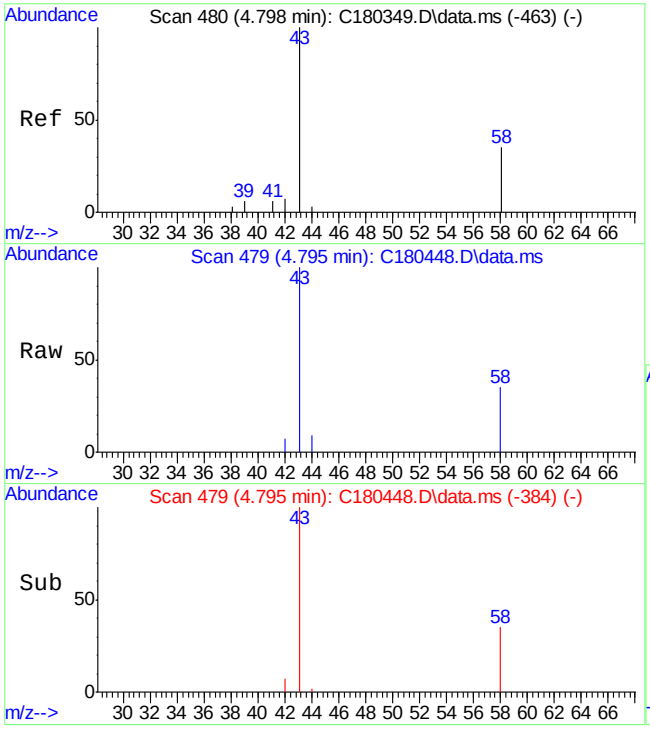
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180448.D
Acq On : 29 Mar 2013 1:48 pm
Operator : tamikag
Sample : JB31800-6
Misc : MS45252,VC6473,6.2,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 02 15:14:07 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



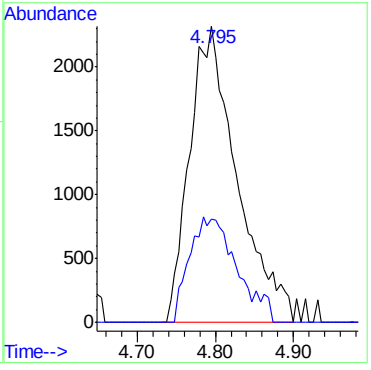
MCS6469.M Tue Apr 02 15:14:11 2013 NJVOA08 Page: 2

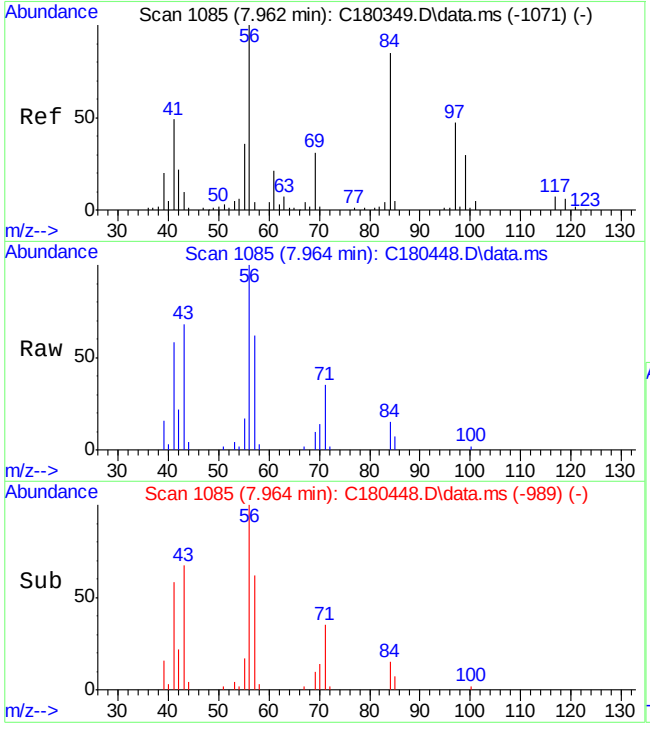


#22
acetone
Concen: 23.33 ug/L
RT: 4.795 min Scan# 479
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 43 Resp: 9736

Ion	Ratio	Lower	Upper
43	100		
58	35.6	3.0	63.0

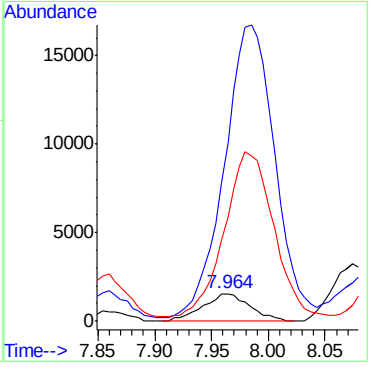


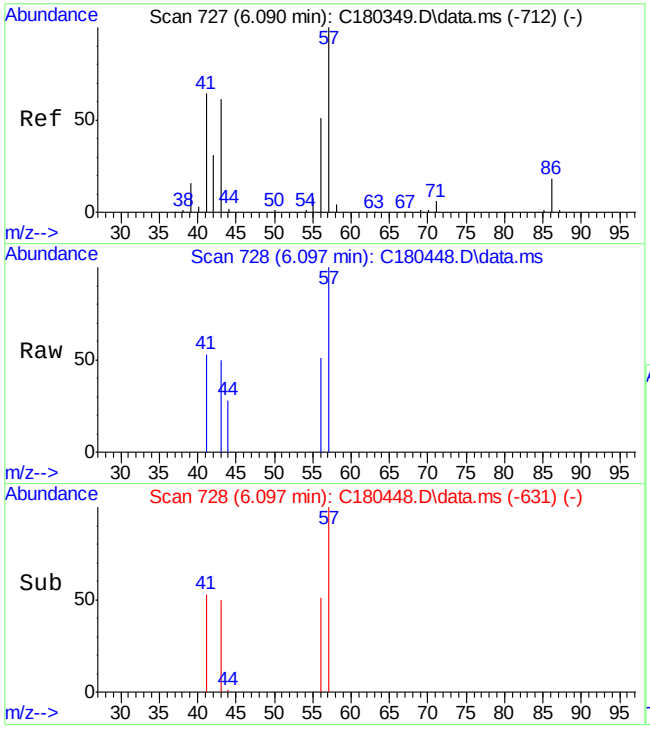


#53
cyclohexane
Concen: 1.73 ug/L
RT: 7.964 min Scan# 1085
Delta R.T. 0.002 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 84 Resp: 4473

Ion	Ratio	Lower	Upper
84	100		
56	1140.2	81.4	151.2#
41	673.0	41.5	77.1#

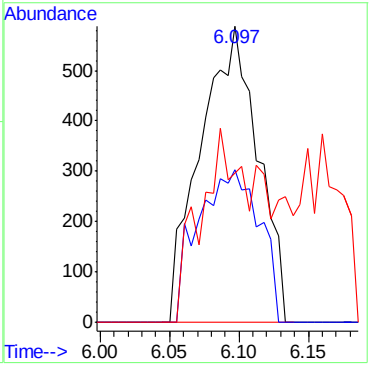


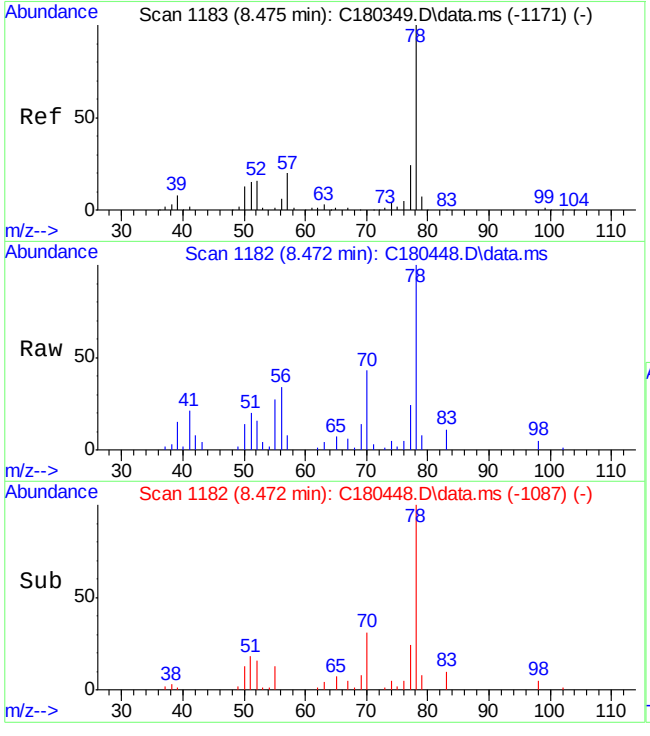


#62
hexane
Concen: 0.59 ug/L
RT: 6.097 min Scan# 728
Delta R.T. 0.007 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 57 Resp: 1704

Ion	Ratio	Lower	Upper
57	100		
56	51.4	20.8	80.8
43	50.3	31.0	91.0

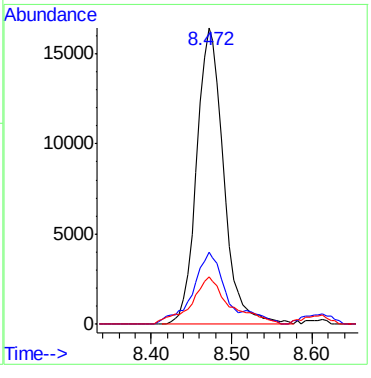


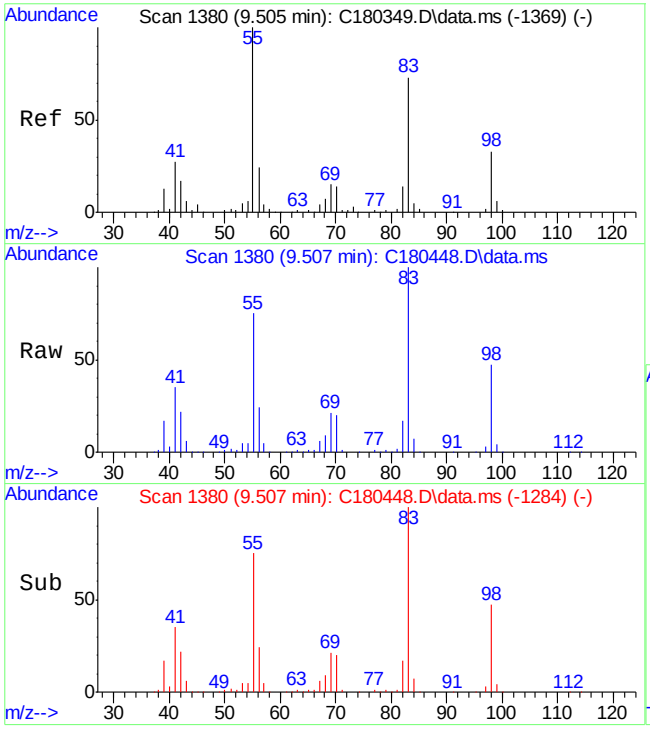


#63
benzene
Concen: 4.71 ug/L
RT: 8.472 min Scan# 1182
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 78 Resp: 38220

Ion	Ratio	Lower	Upper
78	100		
77	22.9	0.0	53.8
52	15.0	0.0	45.6

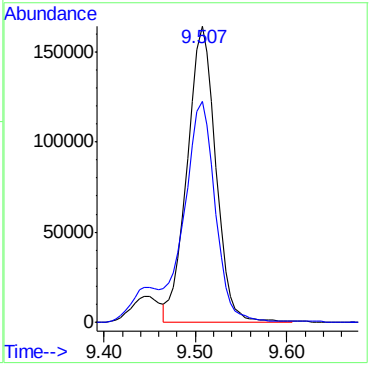


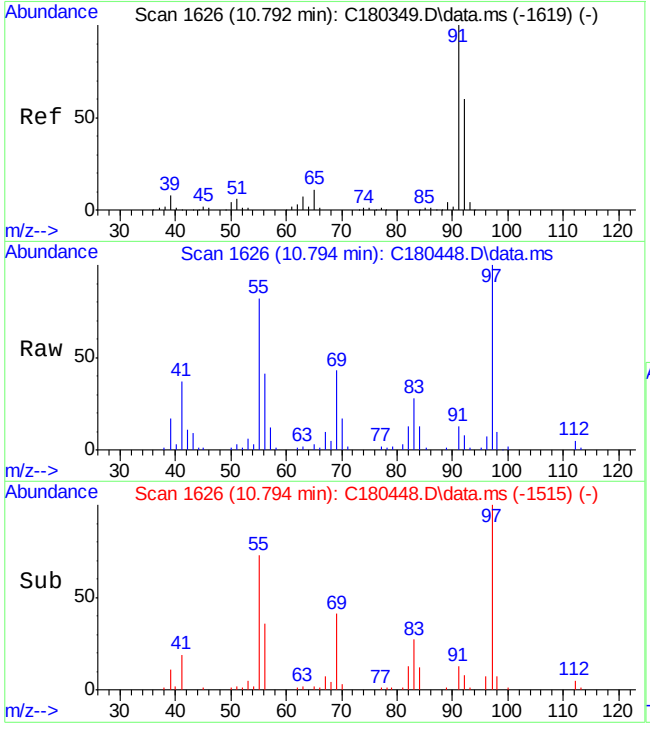


#70
methylcyclohexane
Concen: 117.24 ug/L m
RT: 9.507 min Scan# 1380
Delta R.T. 0.002 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 83 Resp: 356086

Ion	Ratio	Lower	Upper
83	100		
55	11.5	97.3	180.7#

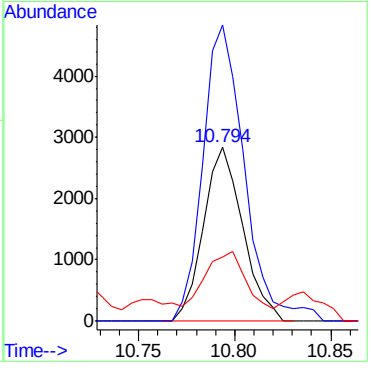


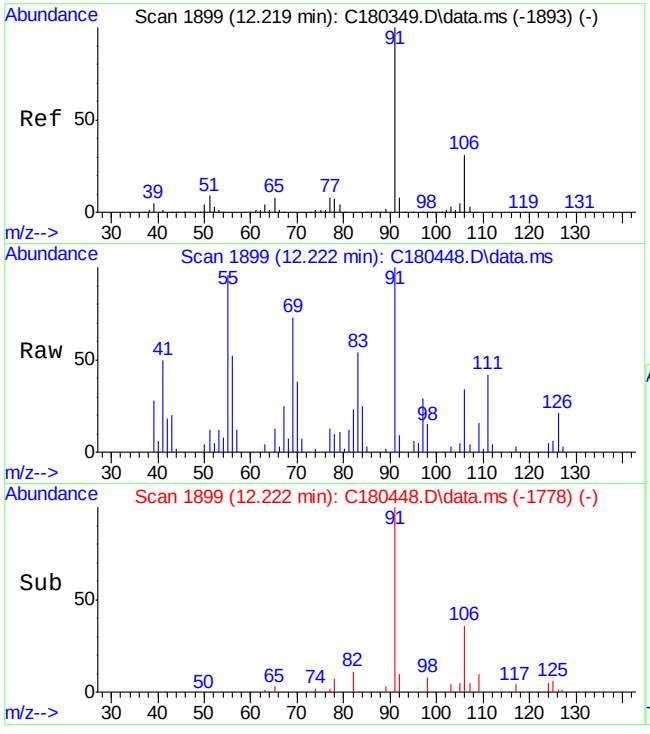


#79
toluene
Concen: 0.85 ug/L
RT: 10.794 min Scan# 1626
Delta R.T. 0.002 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 92 Resp: 4018

Ion	Ratio	Lower	Upper
92	100		
91	169.8	137.1	197.1
65	27.2	0.0	48.5

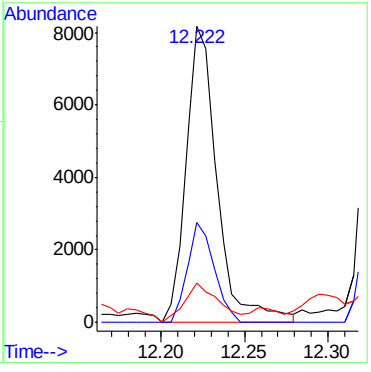


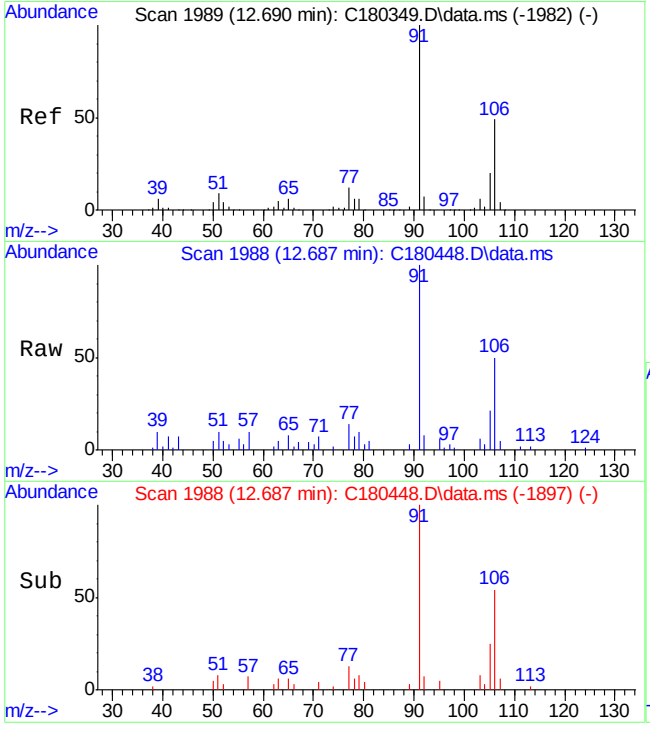


#96
ethylbenzene
Concen: 1.18 ug/L
RT: 12.222 min Scan# 1899
Delta R.T. 0.002 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 91 Resp: 10605

Ion	Ratio	Lower	Upper
91	100		
106	33.9	1.4	61.4
77	13.2	0.0	38.4

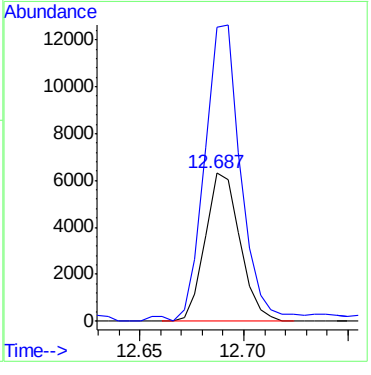


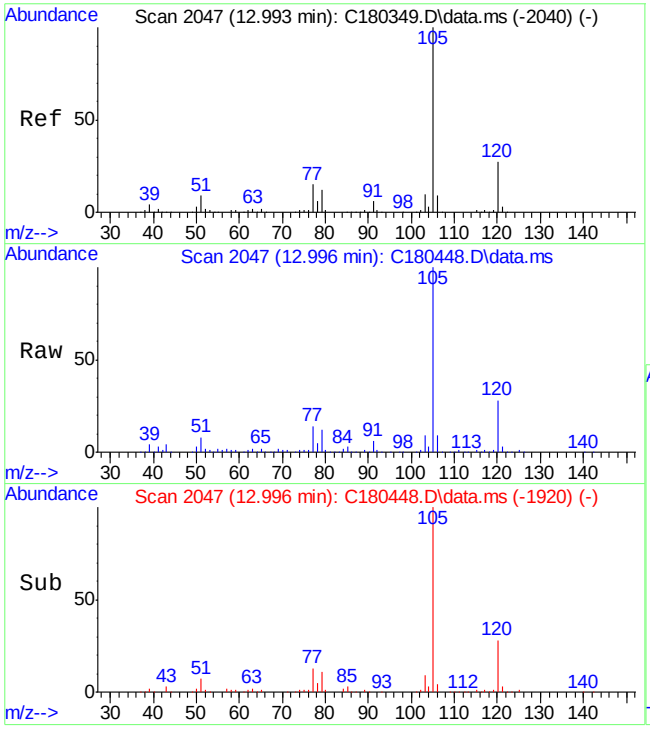


#98
o-xylene
Concen: 2.07 ug/L
RT: 12.687 min Scan# 1988
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:106 Resp: 7299

Ion	Ratio	Lower	Upper
106	100		
91	195.8	174.1	234.1

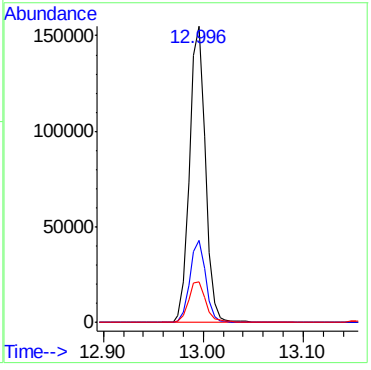


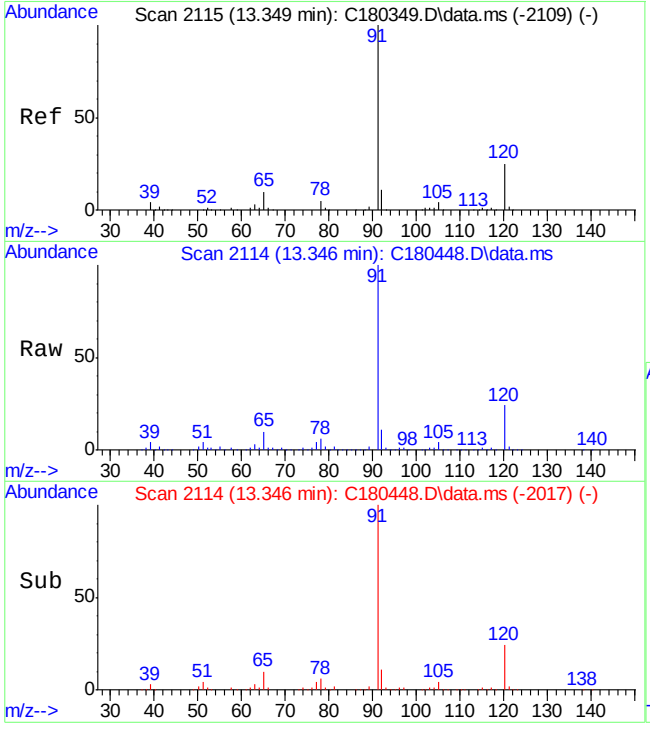


#102
isopropylbenzene
Concen: 20.33 ug/L
RT: 12.996 min Scan# 2047
Delta R.T. 0.002 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:105 Resp: 171138

Ion	Ratio	Lower	Upper
105	100		
120	27.7	0.0	57.4
77	13.5	0.0	44.6

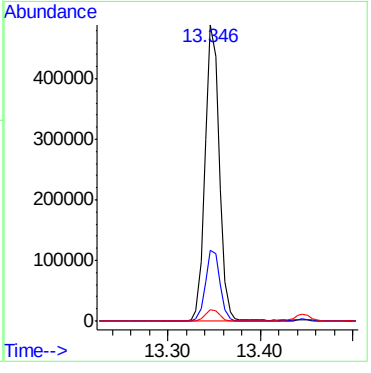


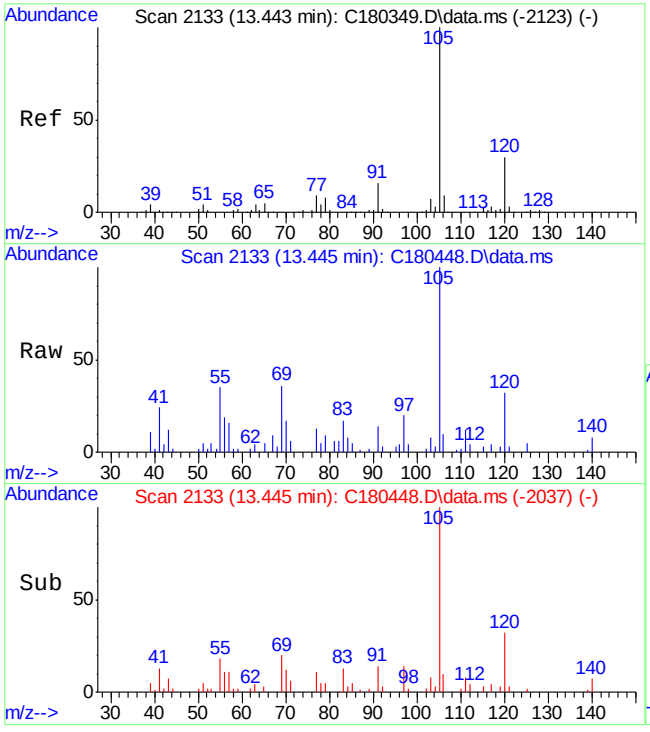


#108
n-propylbenzene
Concen: 52.64 ug/L
RT: 13.346 min Scan# 2114
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 91 Resp: 521492

Ion	Ratio	Lower	Upper
91	100		
120	23.9	0.0	54.6
105	3.8	0.0	33.7

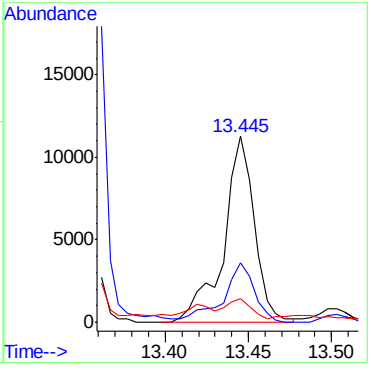


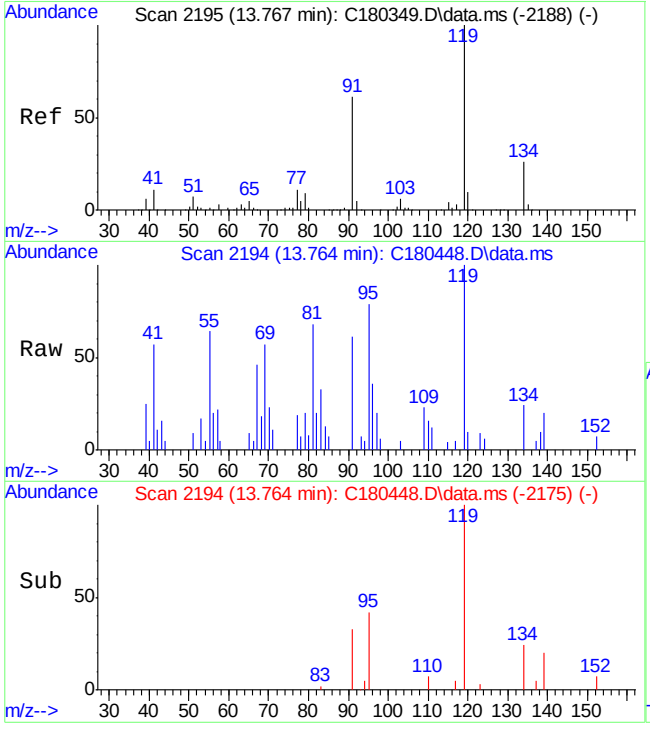


#109
4-ethyltoluene
Concen: 1.78 ug/L
RT: 13.445 min Scan# 2133
Delta R.T. 0.002 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:105 Resp: 14382

Ion	Ratio	Lower	Upper
105	100		
120	32.2	0.0	59.8
77	9.2	0.0	40.6

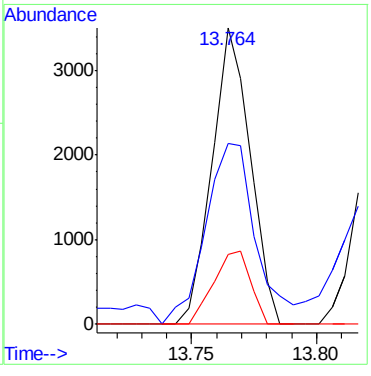


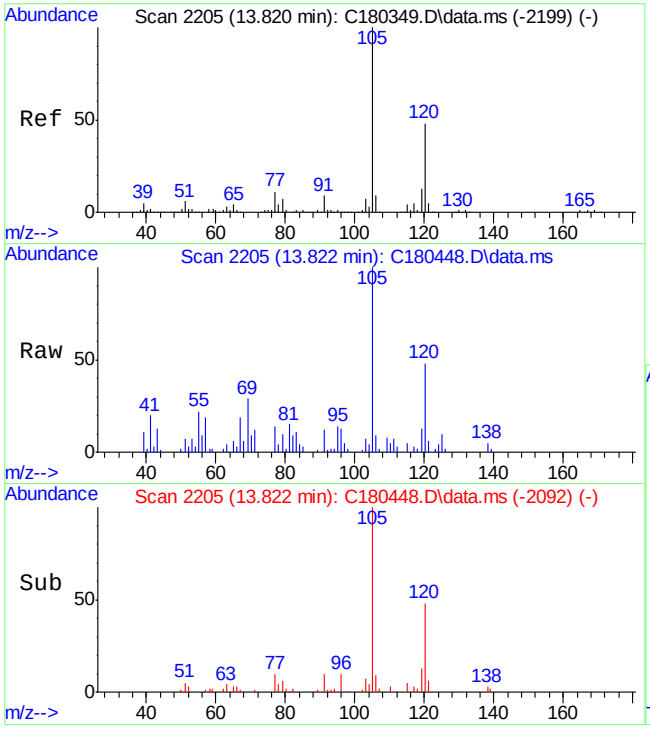


#113
tert-butylbenzene
Concen: 0.62 ug/L
RT: 13.764 min Scan# 2194
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:119 Resp: 3722

Ion	Ratio	Lower	Upper
119	100		
91	61.1	31.2	91.2
134	23.5	0.0	55.7

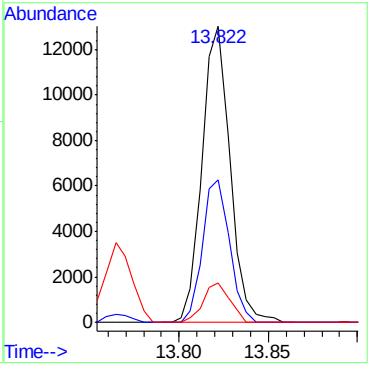


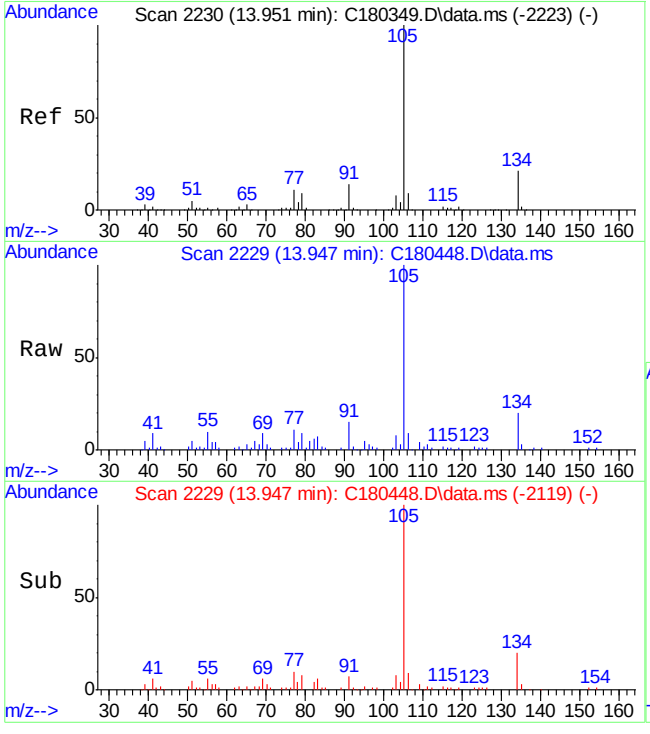


#115
1,2,4-trimethylbenzene
Concen: 1.88 ug/L
RT: 13.822 min Scan# 2205
Delta R.T. 0.002 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:105 Resp: 14231

Ion	Ratio	Lower	Upper
105	100		
120	48.2	18.4	78.4
119	13.3	0.0	43.6

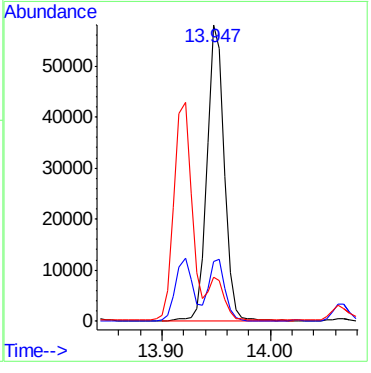


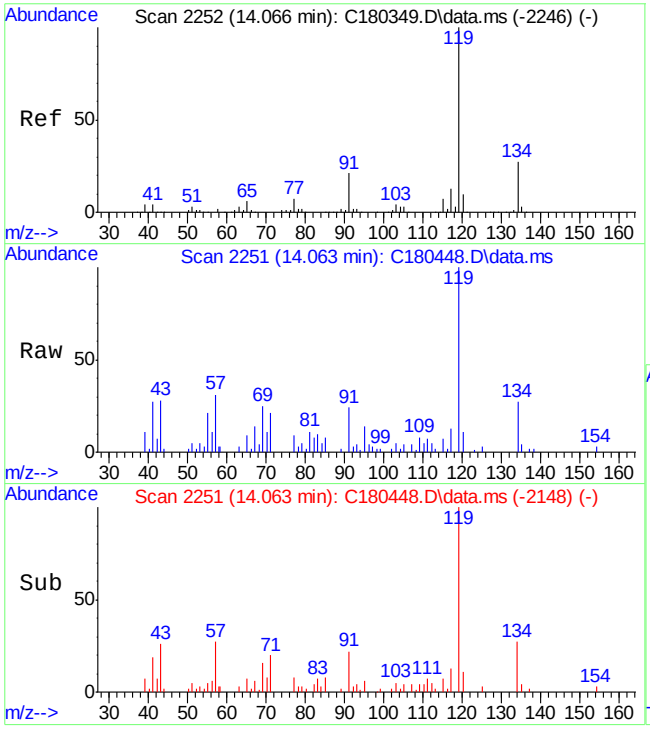


#116
sec-butylbenzene
Concen: 7.02 ug/L
RT: 13.947 min Scan# 2229
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:105 Resp: 64342

Ion	Ratio	Lower	Upper
105	100		
134	19.7	0.0	50.7
91	14.4	0.0	44.5

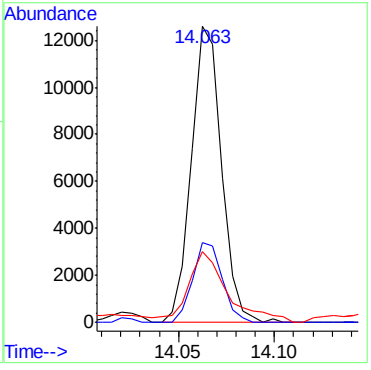


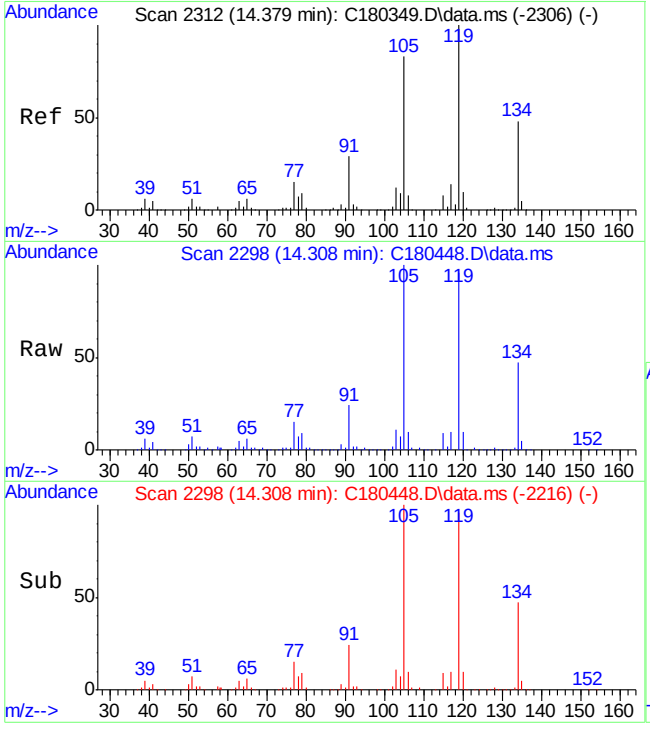


#118
p-isopropyltoluene
Concen: 1.81 ug/L
RT: 14.063 min Scan# 2251
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:119 Resp: 13697

Ion	Ratio	Lower	Upper
119	100		
134	27.0	0.0	57.4
91	24.0	0.0	51.0

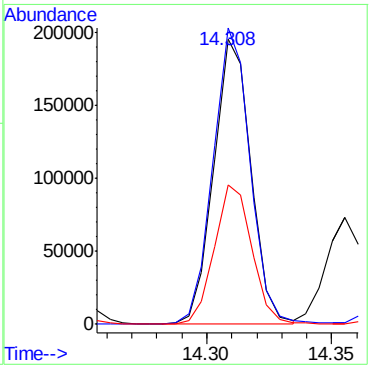


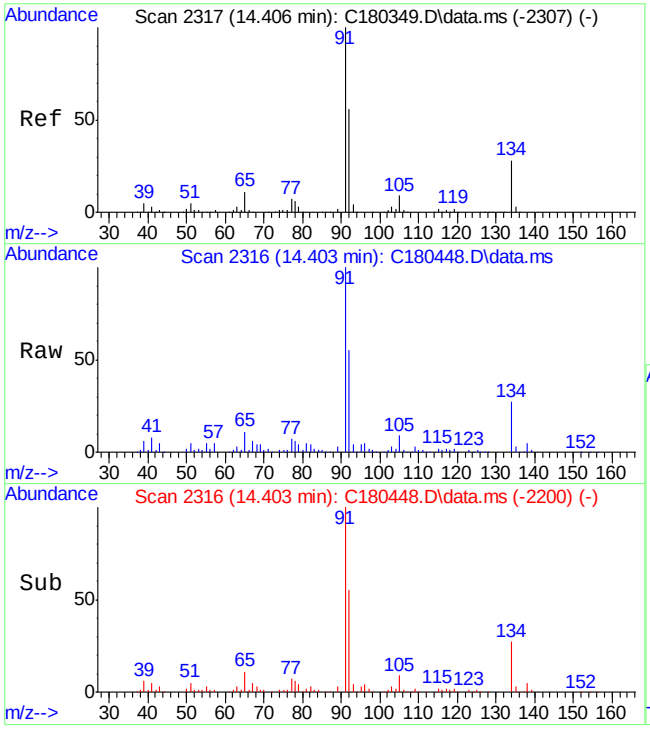


#121
p-diethylbenzene
Concen: 44.83 ug/L
RT: 14.308 min Scan# 2298
Delta R.T. -0.071 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:119 Resp: 202340

Ion	Ratio	Lower	Upper
119	100		
105	104.0	65.7	121.9
134	49.7	35.7	66.3

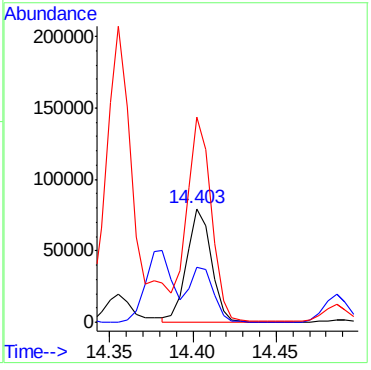


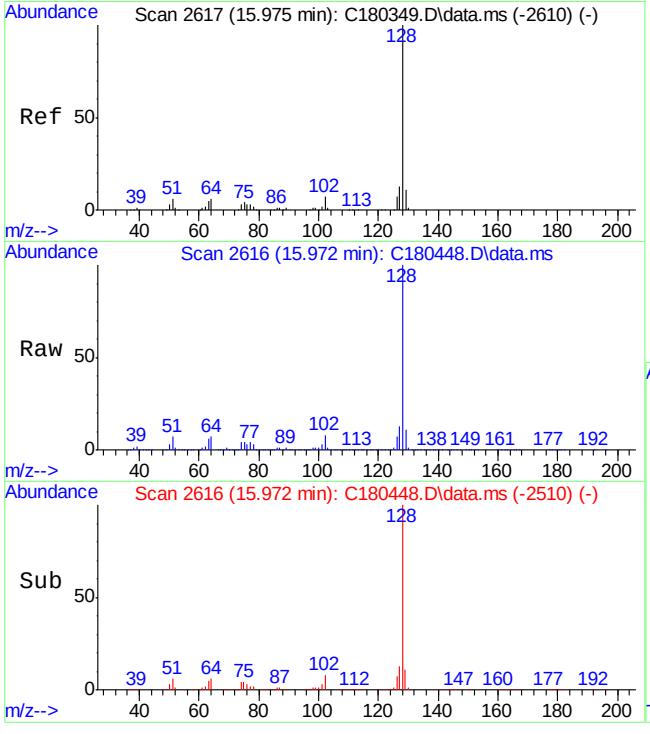


#123
n-butylbenzene
Concen: 20.33 ug/L
RT: 14.403 min Scan# 2316
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion: 92 Resp: 82552

Ion	Ratio	Lower	Upper
92	100		
134	48.6	20.0	80.0
91	180.7	148.7	208.7

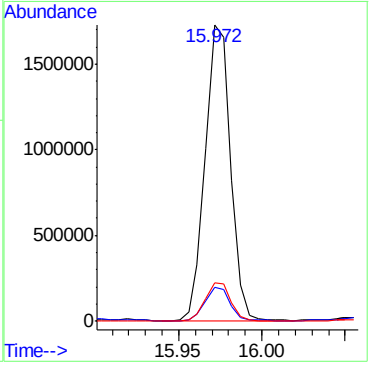




#129
naphthalene
Concen: 333.03 ug/L
RT: 15.972 min Scan# 2616
Delta R.T. -0.003 min
Lab File: C180448.D
Acq: 29 Mar 2013 1:48 pm

Tgt Ion:128 Resp: 1843955

Ion	Ratio	Lower	Upper
128	100		
129	11.2	0.0	40.6
127	13.0	0.0	42.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201566.D
Acq On : 1 Apr 2013 12:22 pm
Operator : OksanaT
Sample : jb31800-6
Misc : MS45525,VE8862,6.3,,100,10,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 01 18:31:34 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	7.682	65	66401	500.00	ug/L	0.01
5) pentafluorobenzene	9.910	168	154324	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	194292	50.00	ug/L	0.00
97) chlorobenzene-d5	14.152	117	176426	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.725	152	106140	50.00	ug/L	0.00

System Monitoring Compounds						
60) dibromofluoromethane (s)	9.946	113	59313	40.96	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 81.92%			
61) 1,2-dichloroethane-d4 (s)	10.365	65	64088	40.25	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 80.50%			
89) toluene-d8 (s)	12.525	98	217828	44.28	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 88.56%			
116) 4-bromofluorobenzene (s)	15.422	95	82794	42.55	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 85.10%			

Target Compounds						Qvalue
108) ethylbenzene	14.251	91	2359	0.39	ug/L	88
109) m,p-xylene	14.376	106	956	0.40	ug/L #	76
115) isopropylbenzene	15.208	105	15898	2.33	ug/L	97
128) 1,2,4-trimethylbenzene	16.259	105	2572	0.45	ug/L	80
142) naphthalene	19.267	128	126100	31.76	ug/L	99

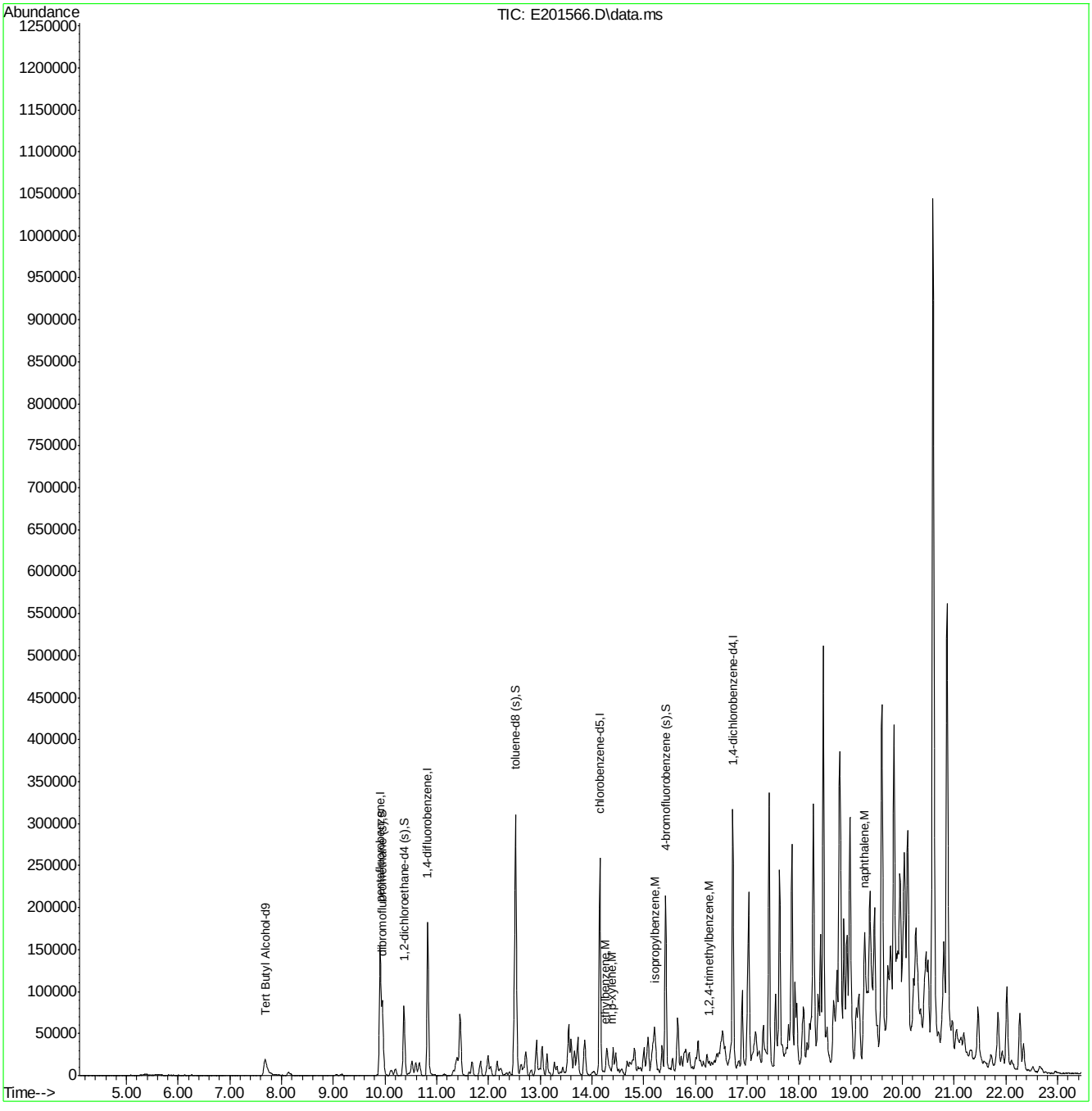
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

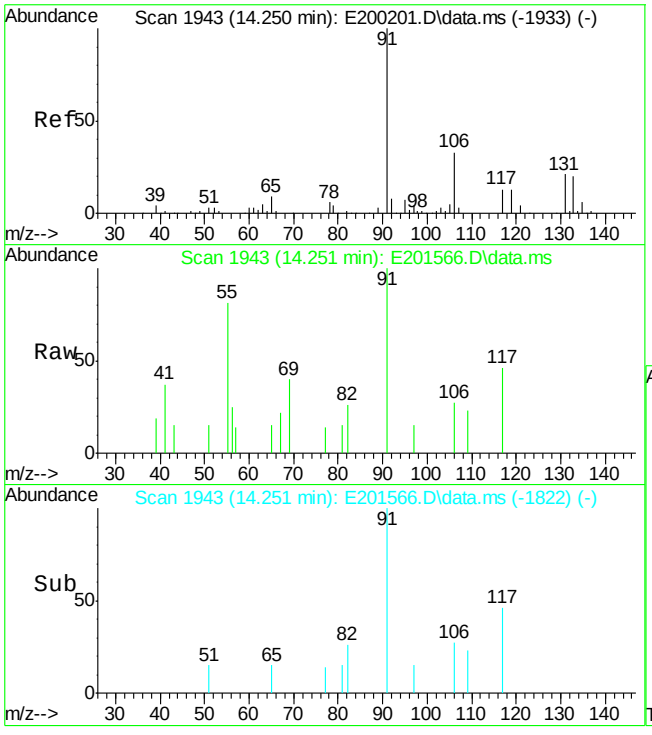
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201566.D
Acq On : 1 Apr 2013 12:22 pm
Operator : OksanaT
Sample : jb31800-6
Misc : MS45525,VE8862,6.3,,100,10,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 01 18:31:34 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



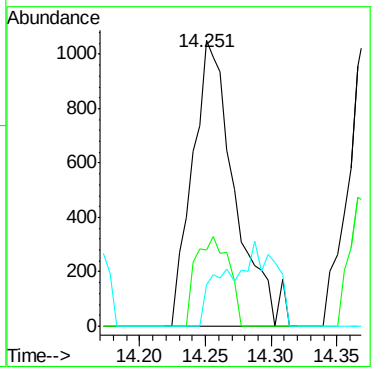
ME8801.M Mon Apr 01 18:31:51 2013 RPT1 Page: 2

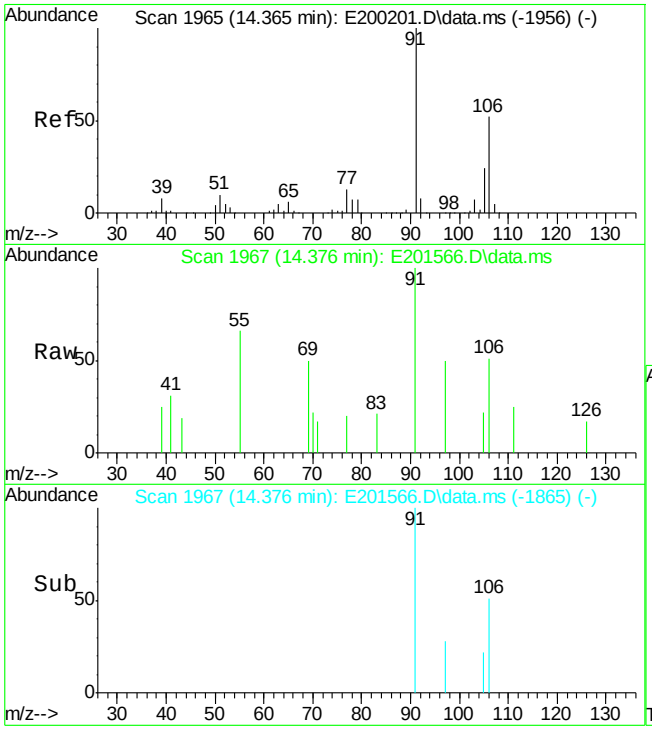


#108
ethylbenzene
Concen: 0.39 ug/L
RT: 14.251 min Scan# 1943
Delta R.T. 0.001 min
Lab File: E201566.D
Acq: 1 Apr 2013 12:22 pm

Tgt Ion: 91 Resp: 2359

Ion	Ratio	Lower	Upper
91	100		
106	26.8	2.9	62.9
77	14.4	0.0	38.7

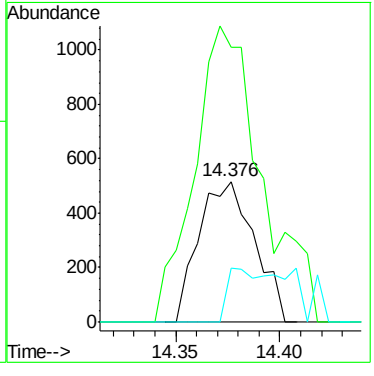


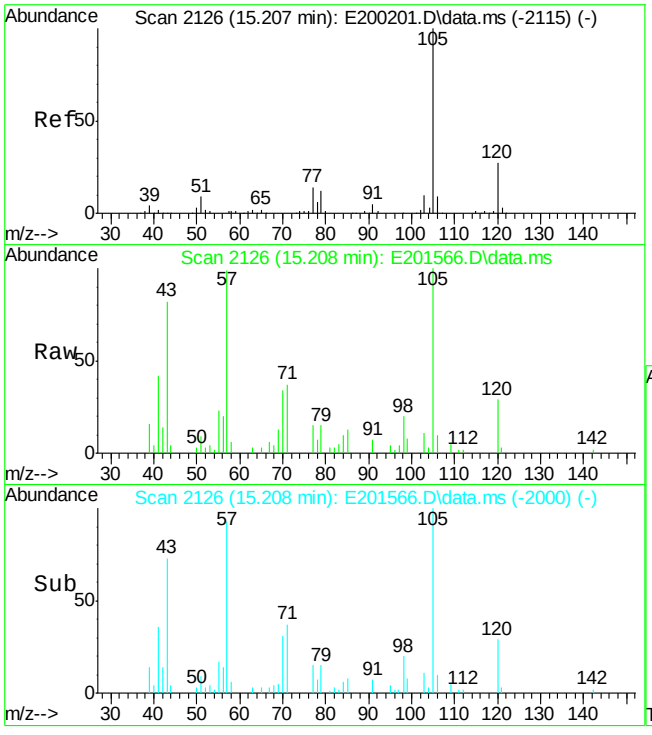


#109
m,p-xylene
Concen: 0.40 ug/L
RT: 14.376 min Scan# 1967
Delta R.T. 0.011 min
Lab File: E201566.D
Acq: 1 Apr 2013 12:22 pm

Tgt Ion:106 Resp: 956

Ion	Ratio	Lower	Upper
106	100		
91	156.4	161.1	221.1#
77	38.2	0.0	54.5

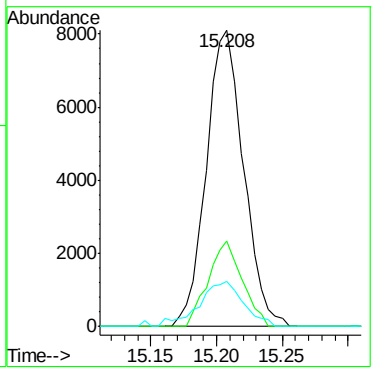


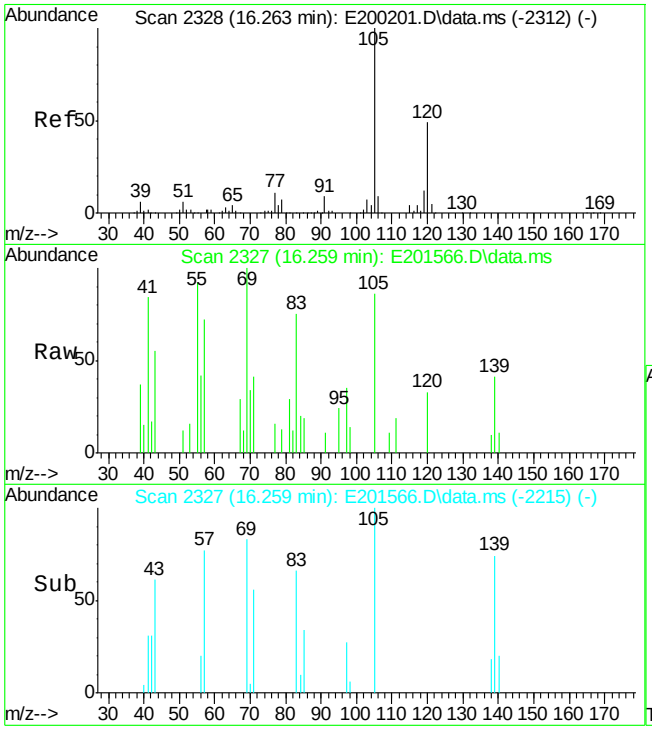


#115
isopropylbenzene
Concen: 2.33 ug/L
RT: 15.208 min Scan# 2126
Delta R.T. 0.001 min
Lab File: E201566.D
Acq: 1 Apr 2013 12:22 pm

Tgt Ion:105 Resp: 15898

Ion	Ratio	Lower	Upper
105	100		
120	28.9	0.0	57.0
77	15.2	0.0	44.4

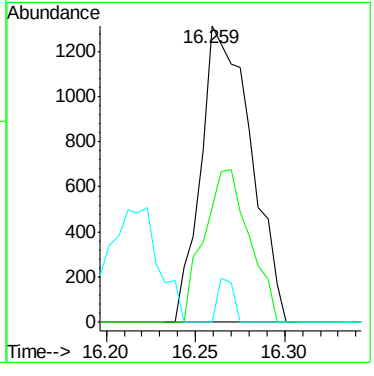


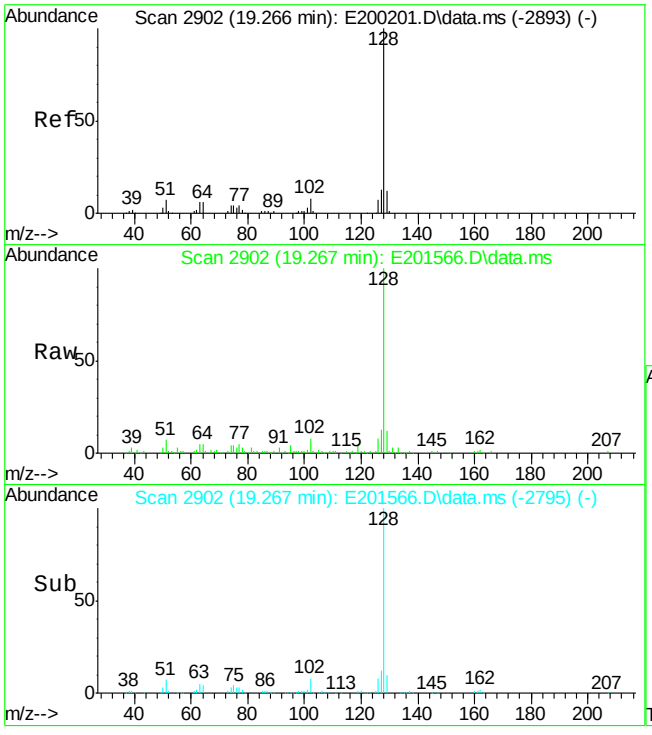


#128
1,2,4-trimethylbenzene
Concen: 0.45 ug/L
RT: 16.259 min Scan# 2327
Delta R.T. -0.004 min
Lab File: E201566.D
Acq: 1 Apr 2013 12:22 pm

Tgt Ion:105 Resp: 2572

Ion	Ratio	Lower	Upper
105	100		
120	38.7	19.4	79.4
119	0.0	0.0	43.7

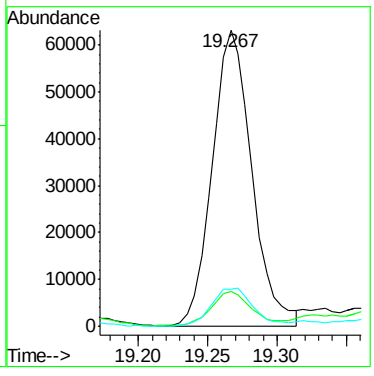




#142
naphthalene
Concen: 31.76 ug/L
RT: 19.267 min Scan# 2902
Delta R.T. 0.002 min
Lab File: E201566.D
Acq: 1 Apr 2013 12:22 pm

Tgt Ion:128 Resp: 126100

Ion	Ratio	Lower	Upper
128	100		
129	11.6	0.0	41.5
127	12.5	0.0	43.2



7.1.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180447.D
Acq On : 29 Mar 2013 1:21 pm
Operator : tamikag
Sample : JB31800-7
Misc : MS45252,VC6473,6.2,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 02 15:11:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

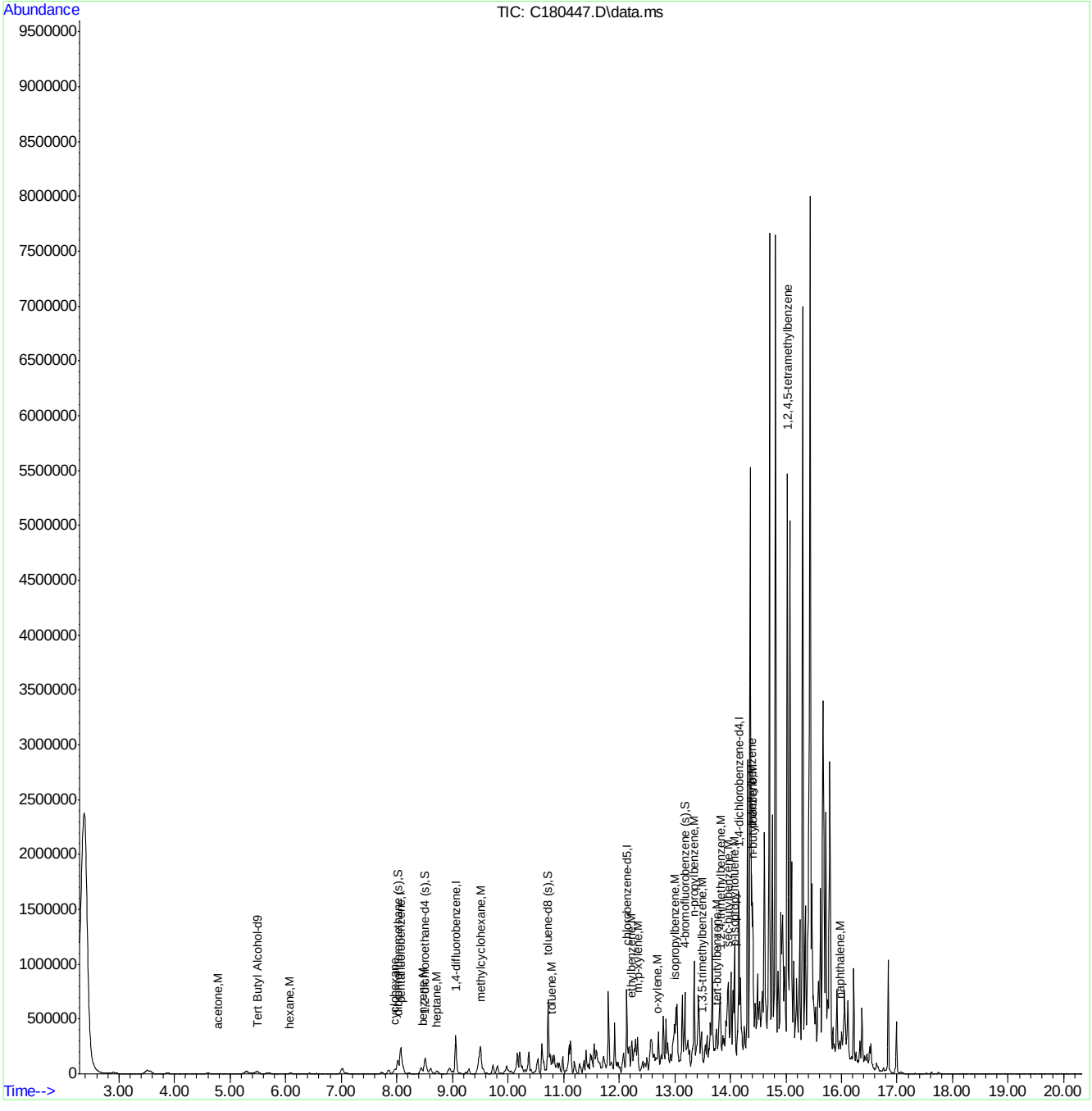
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.489	65	56056	500.00	ug/L	0.00
5) pentafluorobenzene	8.072	168	222227	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.061	114	331090	50.00	ug/L	0.00
85) chlorobenzene-d5	12.136	117	264431	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.155	152	121131	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.015	113	88784	51.19	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.38%			
50) 1,2-dichloroethane-d4 (s)	8.507	65	83871	49.37	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.74%			
77) toluene-d8 (s)	10.724	98	372243	55.60	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 111.20%			
103) 4-bromofluorobenzene (s)	13.182	95	146052	63.25	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 126.50%			
Target Compounds						Qvalue
22) acetone	4.788	43	8138	19.79	ug/L	97
53) cyclohexane	7.957	84	17730	6.97	ug/L #	3
62) hexane	6.080	57	8198	2.83	ug/L	98
63) benzene	8.470	78	17475	2.16	ug/L	96
64) heptane	8.716	57	6759	4.18	ug/L	98
70) methylcyclohexane	9.505	83	133930	44.13	ug/L	66
79) toluene	10.792	92	6638	1.41	ug/L	99
96) ethylbenzene	12.220	91	43103	4.90	ug/L	97
97) m,p-xylene	12.330	106	15082	1.87	ug/L	96
98) o-xylene	12.691	106	13805	3.98	ug/L	98
102) isopropylbenzene	12.994	105	81563	11.04	ug/L	99
108) n-propylbenzene	13.350	91	403365	46.40	ug/L	100
112) 1,3,5-trimethylbenzene	13.501	105	5751	0.90	ug/L	99
113) tert-butylbenzene	13.768	119	5915	1.12	ug/L	97
115) 1,2,4-trimethylbenzene	13.820	105	147427	22.21	ug/L	100
116) sec-butylbenzene	13.951	105	100633	12.52	ug/L	99
118) p-isopropyltoluene	14.066	119	58023	8.75	ug/L	98
121) p-diethylbenzene	14.380	119	375220	94.75	ug/L	91
123) n-butylbenzene	14.406	92	189570	53.19	ug/L	98
124) 1,2,4,5-tetramethylben...	15.029	119	1912007	315.82	ug/L	99
129) naphthalene	15.975	128	44908	9.24	ug/L	99

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

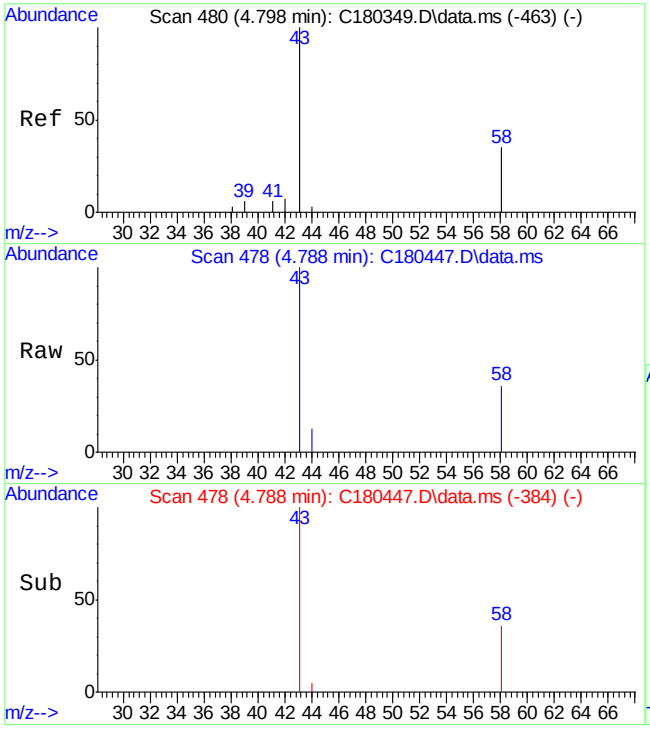
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180447.D
Acq On : 29 Mar 2013 1:21 pm
Operator : tamikag
Sample : JB31800-7
Misc : MS45252,VC6473,6.2,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 02 15:11:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



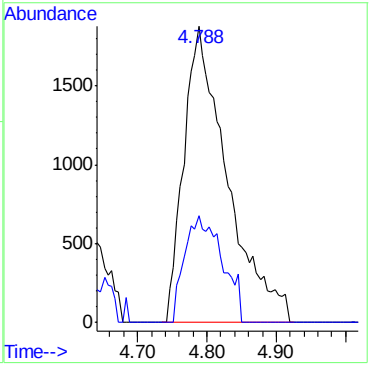
SGS ACCUTEST JB31800

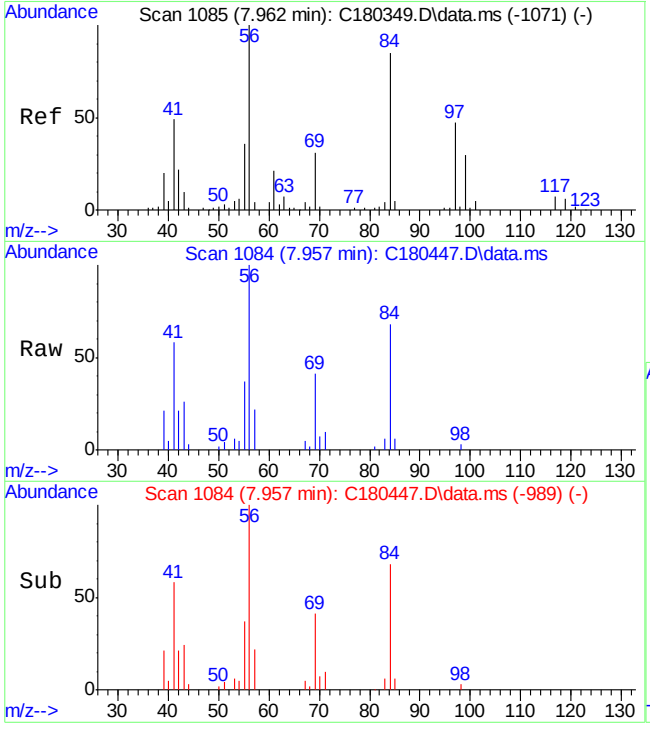


#22
acetone
Concen: 19.79 ug/L
RT: 4.788 min Scan# 478
Delta R.T. -0.010 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 43 Resp: 8138

Ion	Ratio	Lower	Upper
43	100		
58	31.2	3.0	63.0

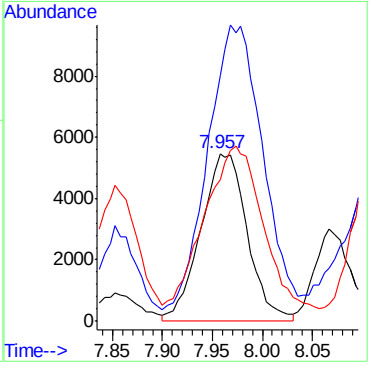


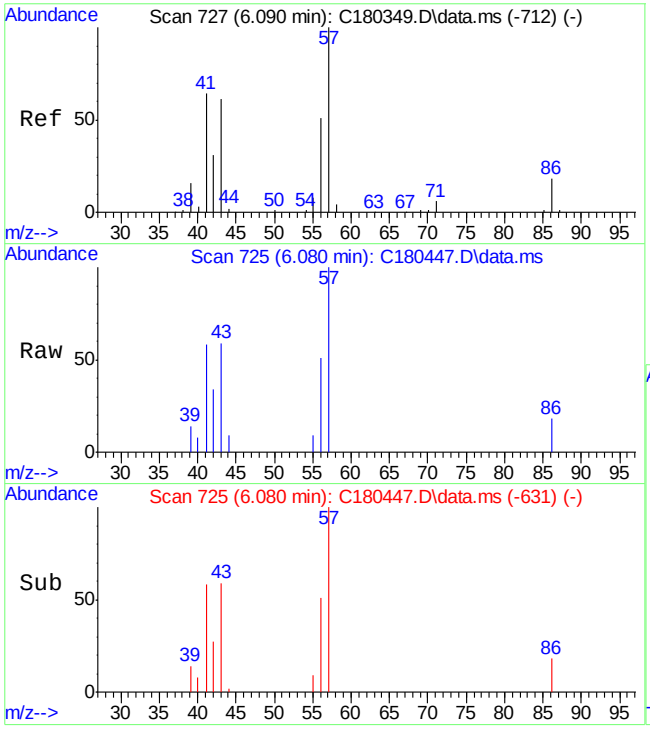


#53
cyclohexane
Concen: 6.97 ug/L
RT: 7.957 min Scan# 1084
Delta R.T. -0.005 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 84 Resp: 17730

Ion	Ratio	Lower	Upper
84	100		
56	216.4	81.4	151.2#
41	140.6	41.5	77.1#

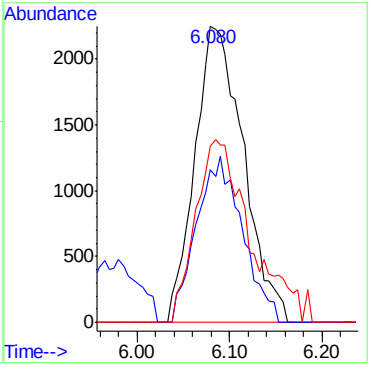


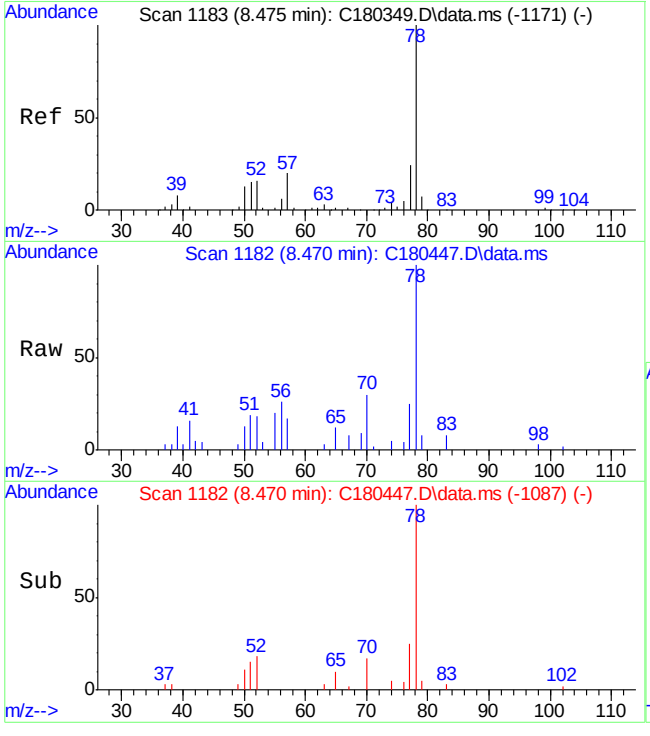


#62
hexane
Concen: 2.83 ug/L
RT: 6.080 min Scan# 725
Delta R.T. -0.010 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 57 Resp: 8198

Ion	Ratio	Lower	Upper
57	100		
56	51.4	20.8	80.8
43	59.3	31.0	91.0

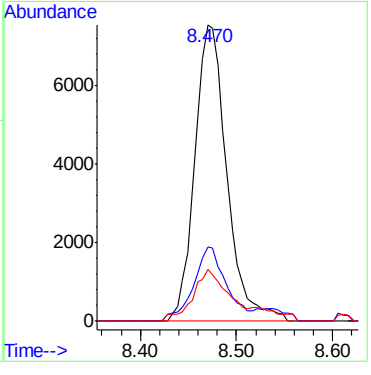


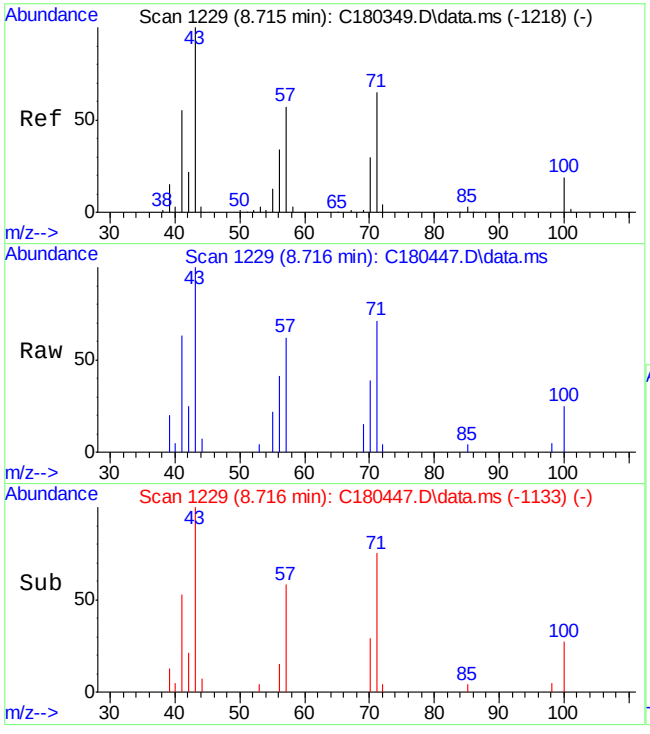


#63
benzene
Concen: 2.16 ug/L
RT: 8.470 min Scan# 1182
Delta R.T. -0.005 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 78 Resp: 17475

Ion	Ratio	Lower	Upper
78	100		
77	25.2	0.0	53.8
52	17.6	0.0	45.6

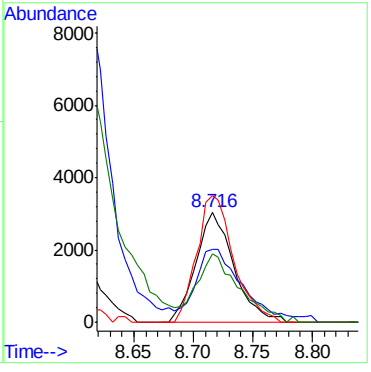


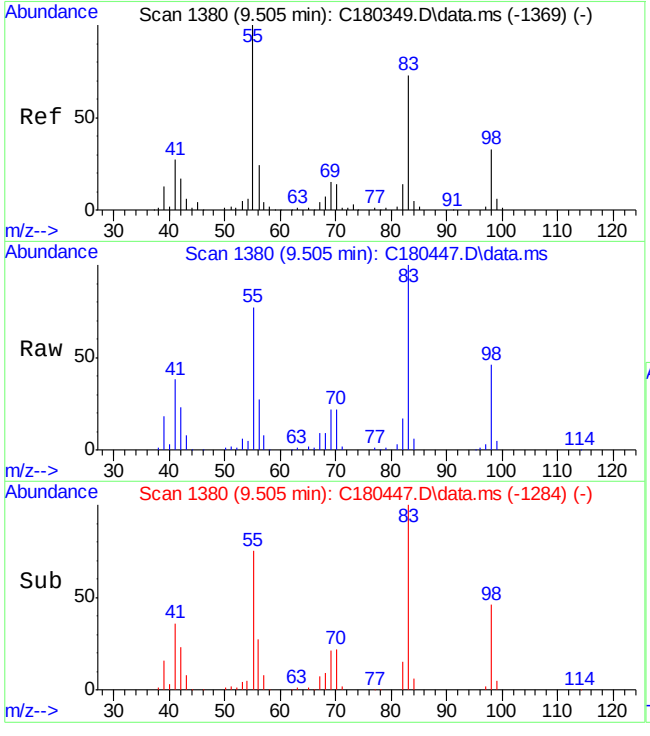


#64
heptane
Concen: 4.18 ug/L
RT: 8.716 min Scan# 1229
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 57 Resp: 6759

Ion	Ratio	Lower	Upper
57	100		
56	60.9	30.2	90.2
71	114.3	83.6	143.6
70	56.8	22.0	82.0

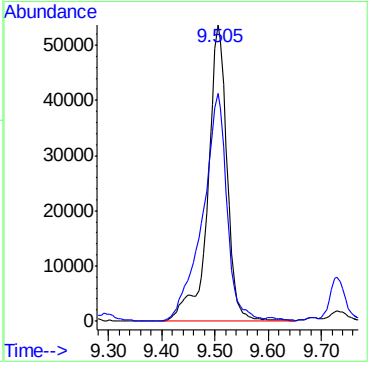


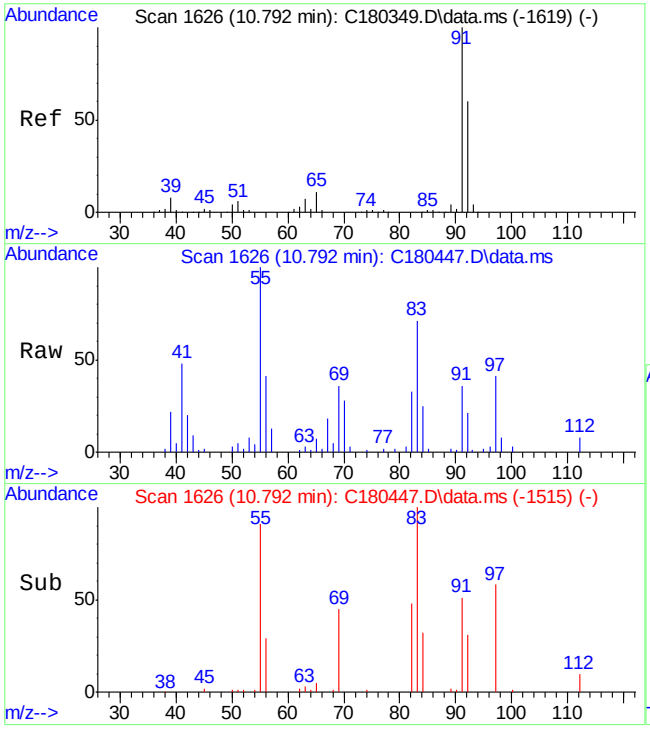


#70
methylcyclohexane
Concen: 44.13 ug/L
RT: 9.505 min Scan# 1380
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 83 Resp: 133930

Ion	Ratio	Lower	Upper
83	100		
55	98.1	97.3	180.7

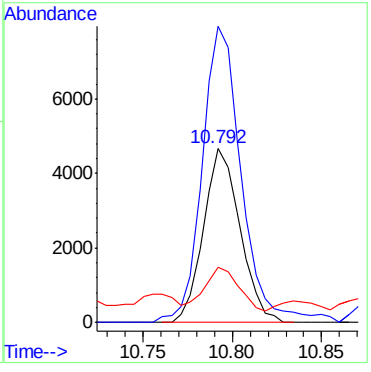


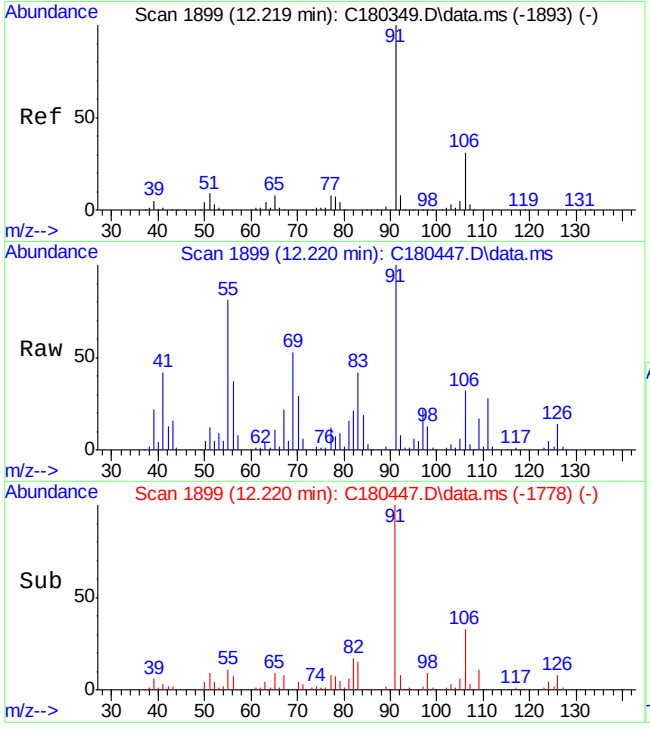


#79
toluene
Concen: 1.41 ug/L
RT: 10.792 min Scan# 1626
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 92 Resp: 6638

Ion	Ratio	Lower	Upper
92	100		
91	166.7	137.1	197.1
65	19.5	0.0	48.5

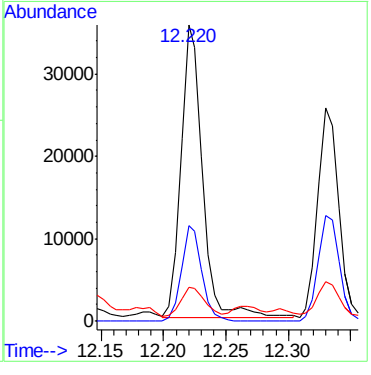


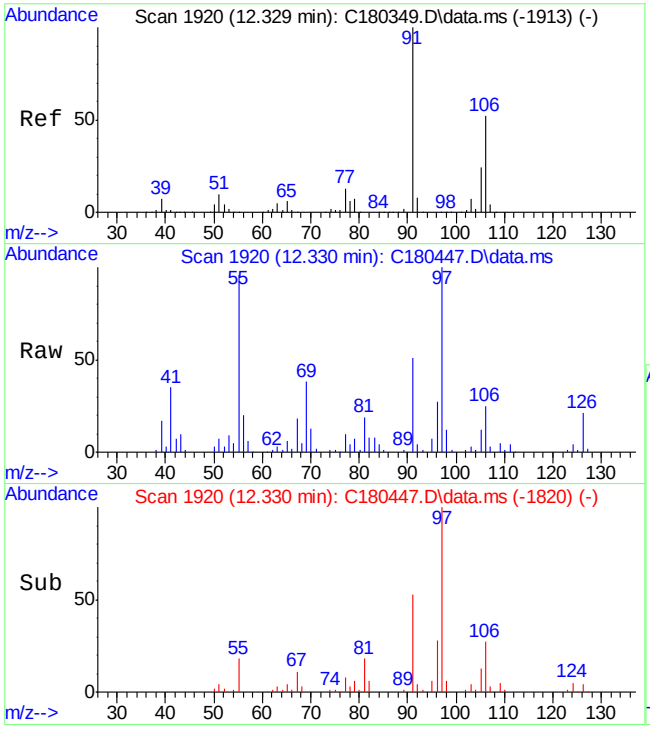


#96
ethylbenzene
Concen: 4.90 ug/L
RT: 12.220 min Scan# 1899
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 91 Resp: 43103

Ion	Ratio	Lower	Upper
91	100		
106	32.7	1.4	61.4
77	10.0	0.0	38.4

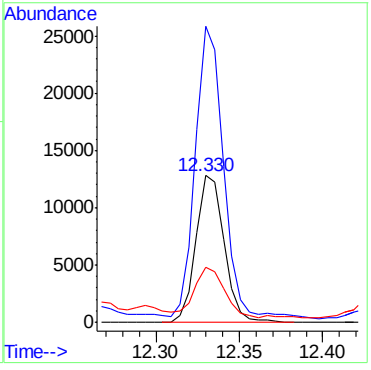


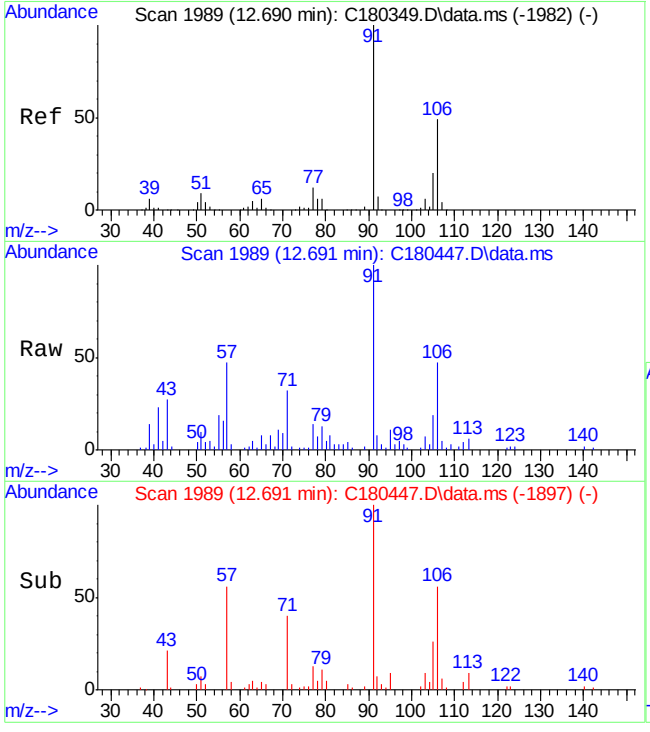


#97
m,p-xylene
Concen: 1.87 ug/L
RT: 12.330 min Scan# 1920
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:106 Resp: 15082

Ion	Ratio	Lower	Upper
106	100		
91	197.7	164.0	224.0
77	34.2	0.0	55.3

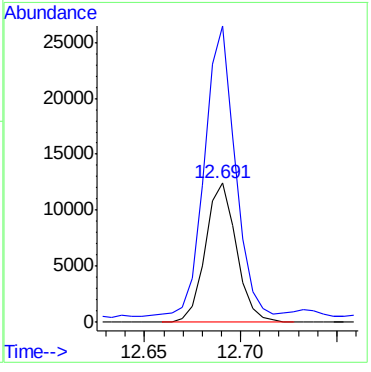


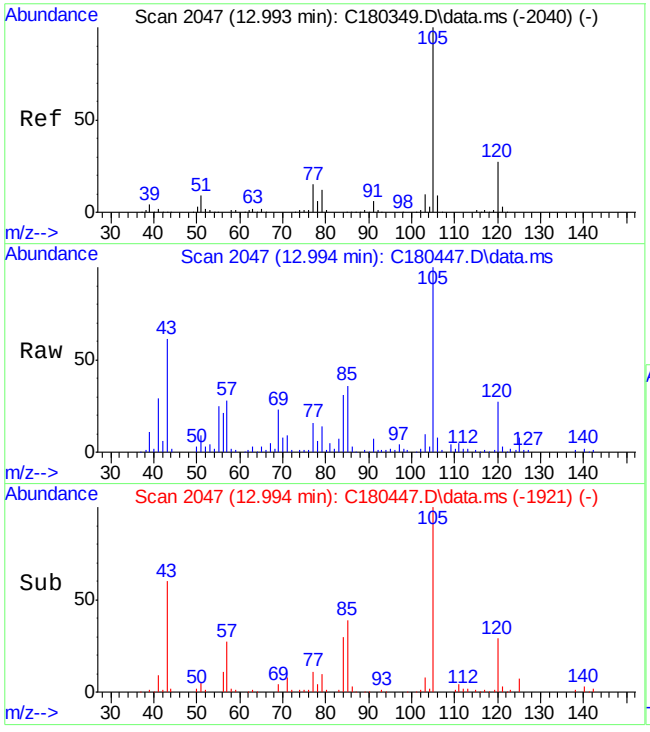


#98
o-xylene
Concen: 3.98 ug/L
RT: 12.691 min Scan# 1989
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:106 Resp: 13805

Ion	Ratio	Lower	Upper
106	100		
91	207.8	174.1	234.1

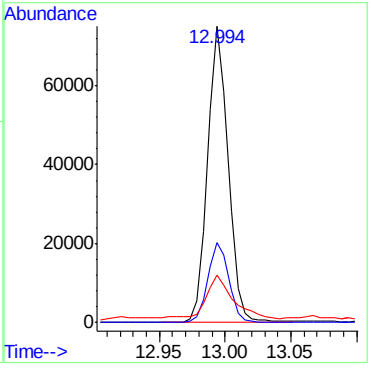


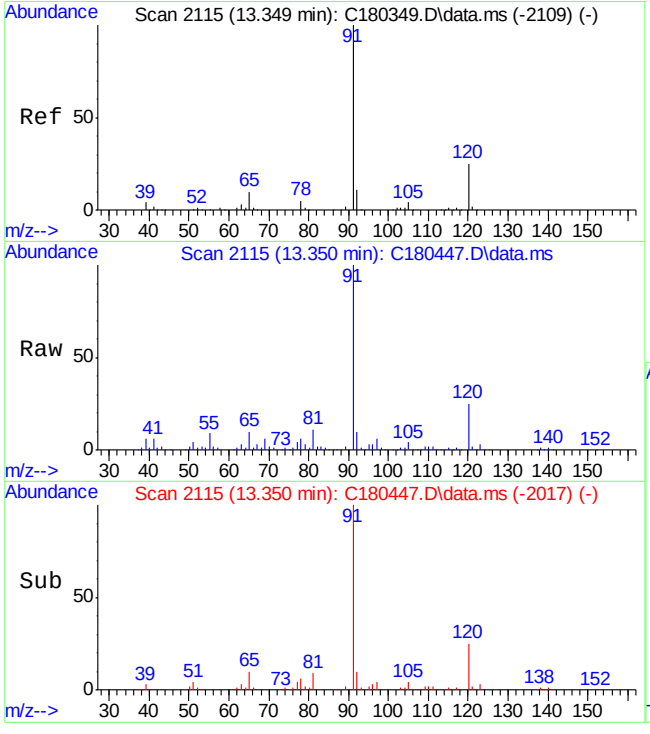


#102
isopropylbenzene
Concen: 11.04 ug/L
RT: 12.994 min Scan# 2047
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:105 Resp: 81563

Ion	Ratio	Lower	Upper
105	100		
120	27.0	0.0	57.4
77	14.4	0.0	44.6

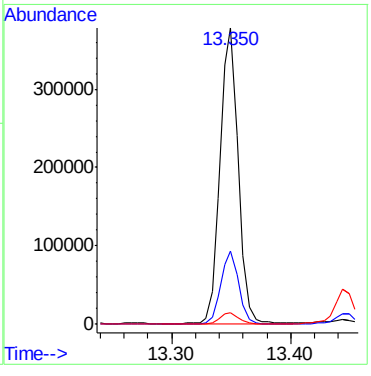




#108
n-propylbenzene
Concen: 46.40 ug/L
RT: 13.350 min Scan# 2115
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

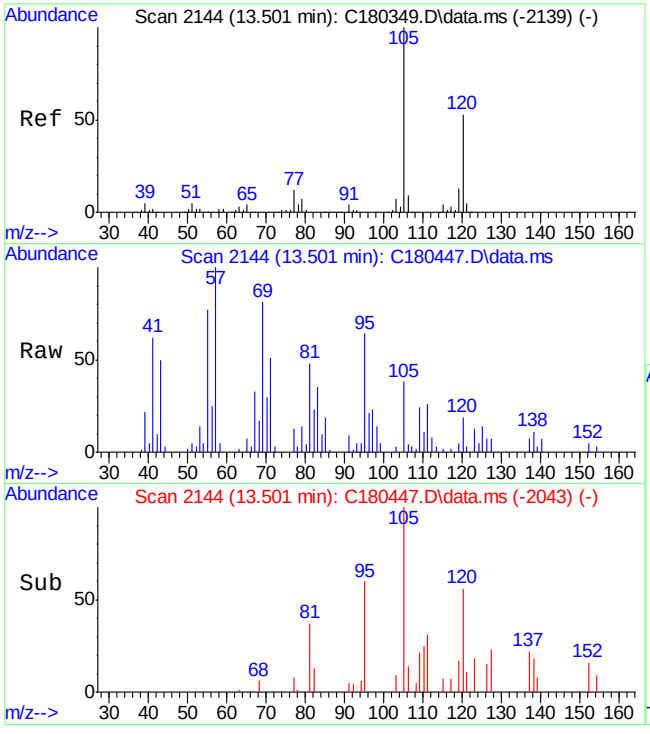
Tgt Ion: 91 Resp: 403365

Ion	Ratio	Lower	Upper
91	100		
120	24.6	0.0	54.6
105	3.9	0.0	33.7



7.1.9

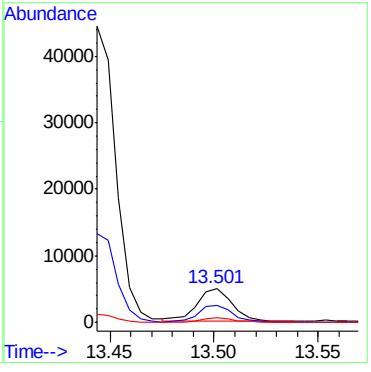
7

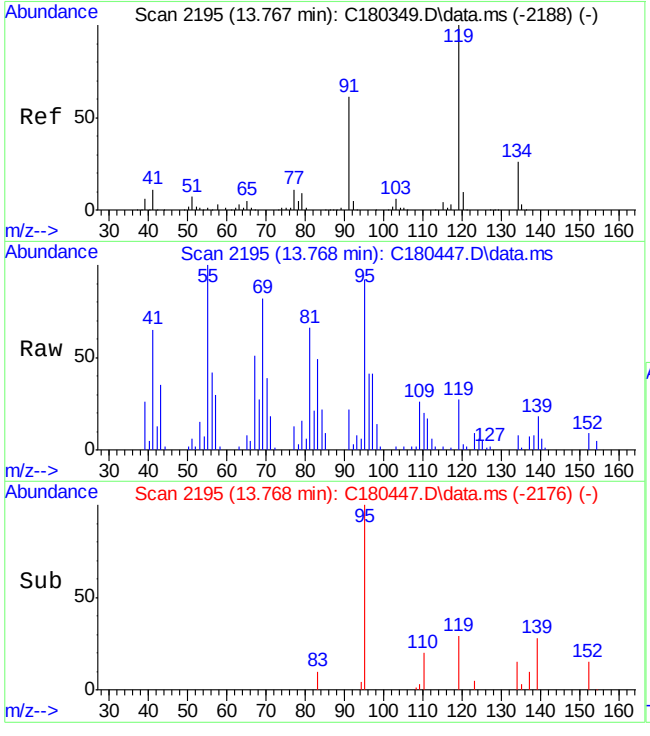


#112
1,3,5-trimethylbenzene
Concen: 0.90 ug/L
RT: 13.501 min Scan# 2144
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:105 Resp: 5751

Ion	Ratio	Lower	Upper
105	100		
120	52.9	23.3	83.3
119	14.8	0.0	43.1

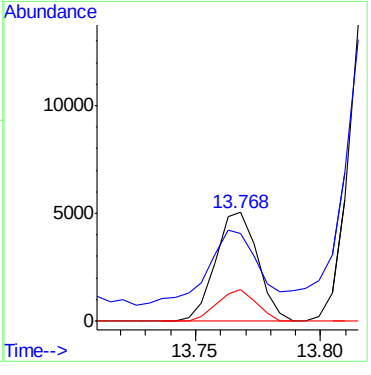


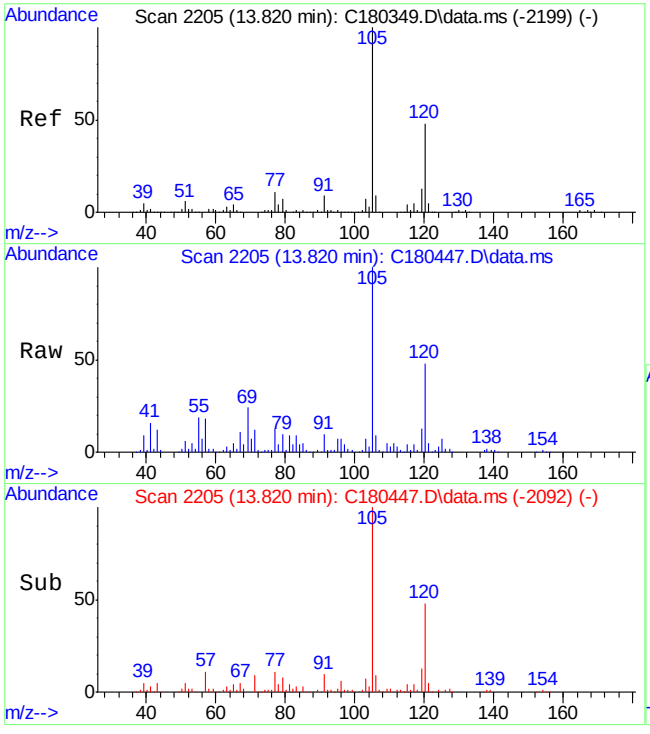


#113
tert-butylbenzene
Concen: 1.12 ug/L
RT: 13.768 min Scan# 2195
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:119 Resp: 5915

Ion	Ratio	Lower	Upper
119	100		
91	60.5	31.2	91.2
134	29.1	0.0	55.7

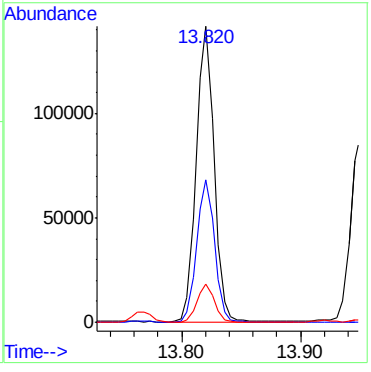


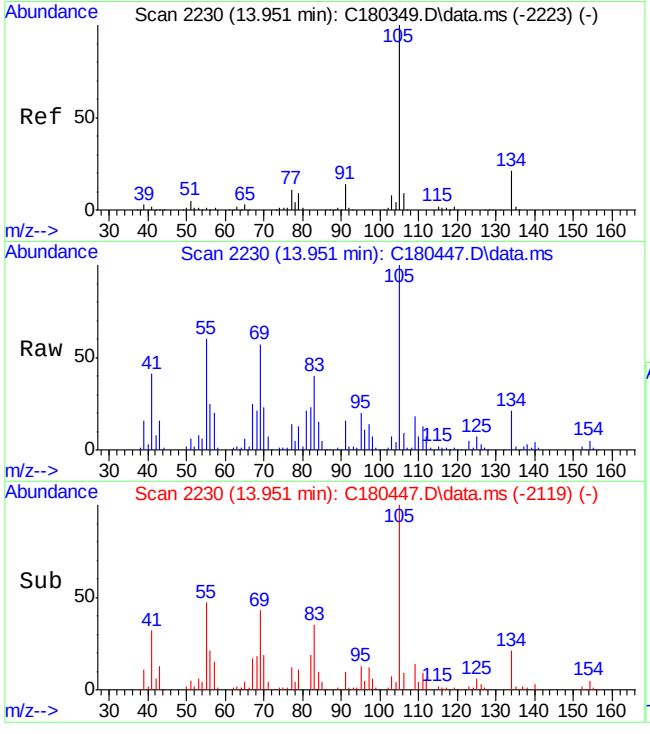


#115
1,2,4-trimethylbenzene
Concen: 22.21 ug/L
RT: 13.820 min Scan# 2205
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:105 Resp: 147427

Ion	Ratio	Lower	Upper
105	100		
120	48.4	18.4	78.4
119	13.0	0.0	43.6

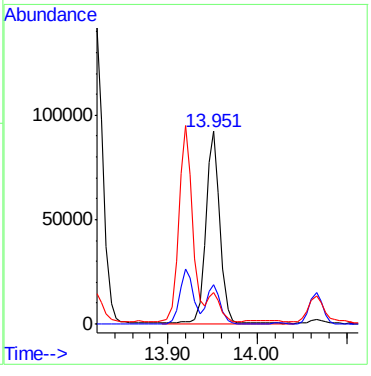


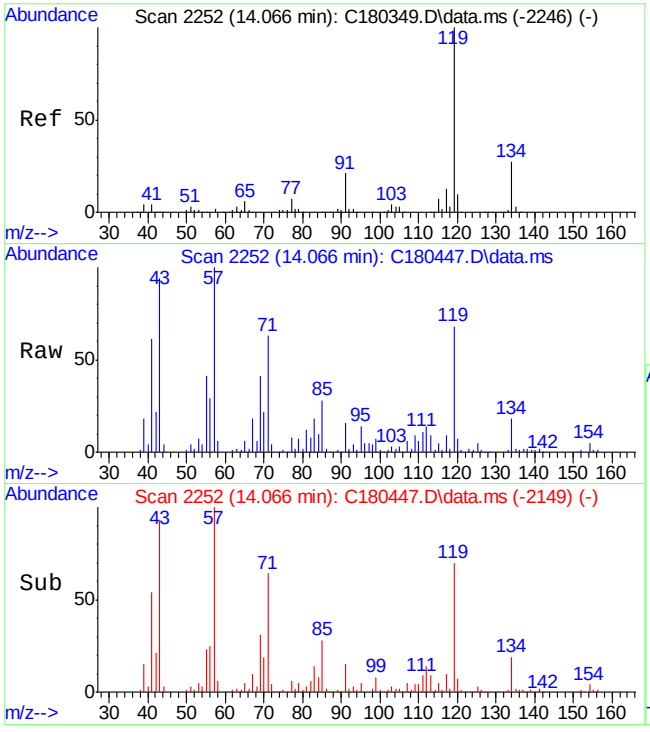


#116
sec-butylbenzene
Concen: 12.52 ug/L
RT: 13.951 min Scan# 2230
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:105 Resp: 100633

Ion	Ratio	Lower	Upper
105	100		
134	20.7	0.0	50.7
91	15.1	0.0	44.5

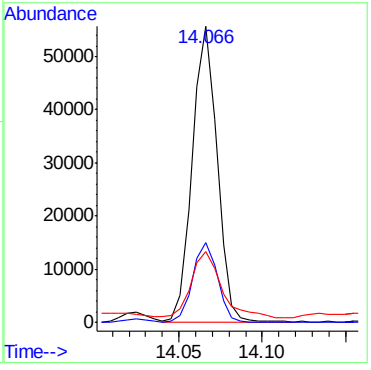


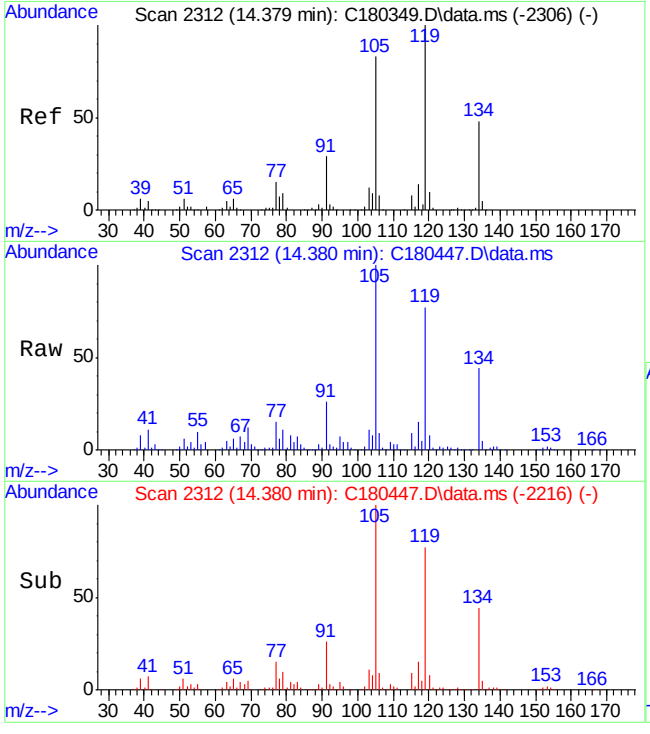


#118
p-isopropyltoluene
Concen: 8.75 ug/L
RT: 14.066 min Scan# 2252
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:119 Resp: 58023

Ion	Ratio	Lower	Upper
119	100		
134	26.8	0.0	57.4
91	22.2	0.0	51.0

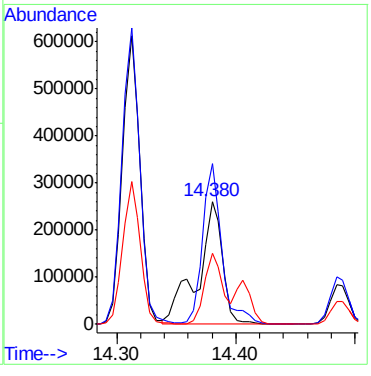


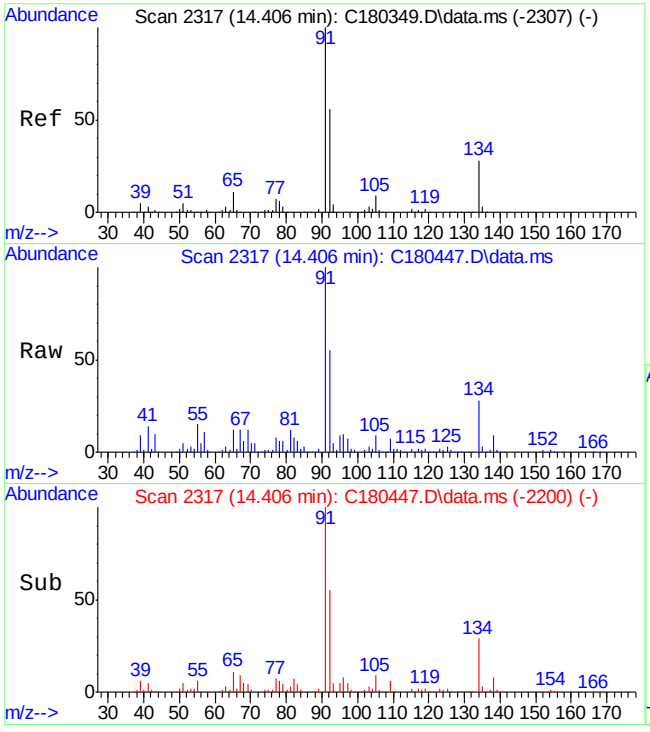


#121
p-diethylbenzene
Concen: 94.75 ug/L
RT: 14.380 min Scan# 2312
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:119 Resp: 375220

Ion	Ratio	Lower	Upper
119	100		
105	101.5	65.7	121.9
134	43.6	35.7	66.3

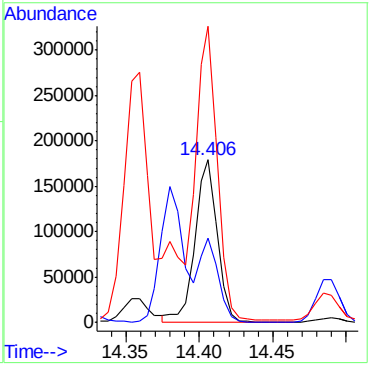


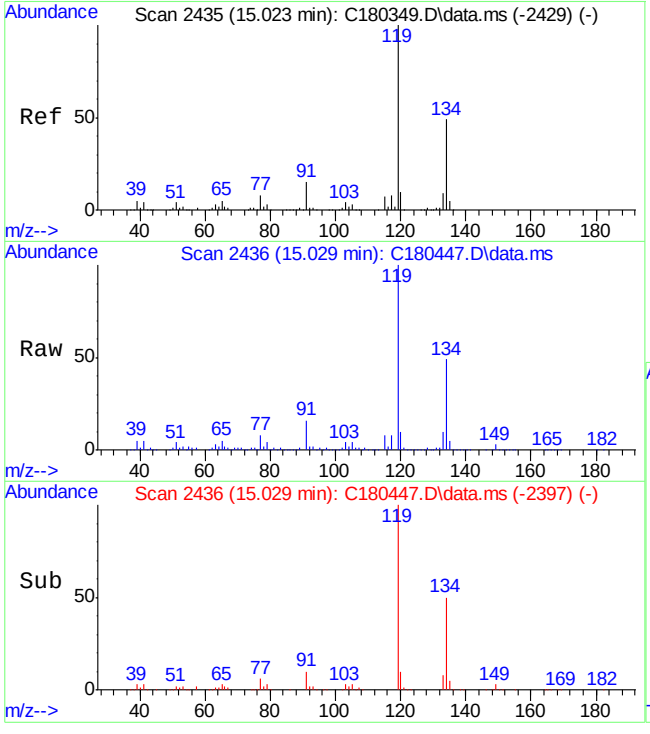


#123
n-butylbenzene
Concen: 53.19 ug/L
RT: 14.406 min Scan# 2317
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion: 92 Resp: 189570

Ion	Ratio	Lower	Upper
92	100		
134	51.9	20.0	80.0
91	181.6	148.7	208.7

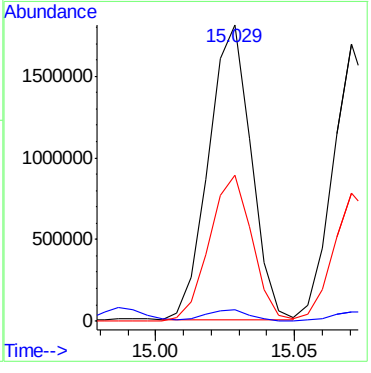


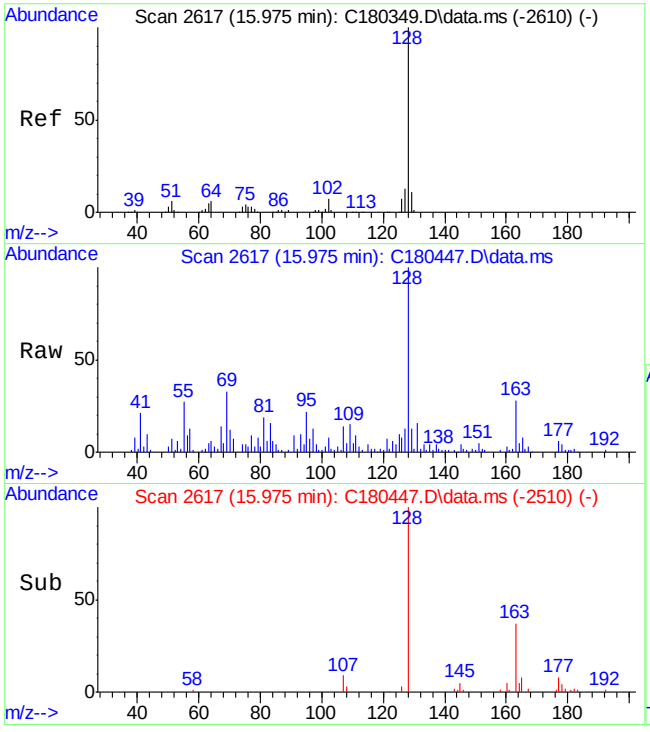


#124
1,2,4,5-tetramethylbenzene
Concen: 315.82 ug/L
RT: 15.029 min Scan# 2436
Delta R.T. 0.006 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:119 Resp: 1912007

Ion	Ratio	Lower	Upper
119	100		
105	3.5	2.3	4.3
134	49.6	34.4	63.8

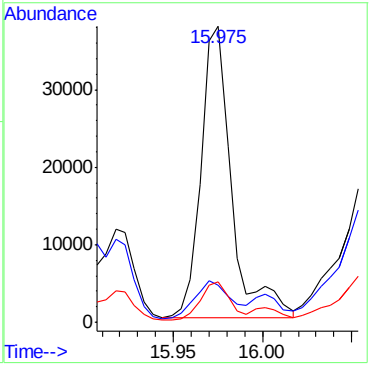




#129
naphthalene
Concen: 9.24 ug/L
RT: 15.975 min Scan# 2617
Delta R.T. 0.001 min
Lab File: C180447.D
Acq: 29 Mar 2013 1:21 pm

Tgt Ion:128 Resp: 44908

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	40.6
127	12.8	0.0	42.6



7.1.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180446.D
Acq On : 29 Mar 2013 12:55 pm
Operator : tamikag
Sample : JB31800-8
Misc : MS45252,VC6473,5.7,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 02 15:09:08 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.492	65	45810	500.00	ug/L	0.00
5) pentafluorobenzene	8.070	168	224189	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.059	114	328399	50.00	ug/L	0.00
85) chlorobenzene-d5	12.134	117	258353	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.158	152	117938	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.018	113	86760	49.59	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.18%			
50) 1,2-dichloroethane-d4 (s)	8.504	65	79519	46.40	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 92.80%			
77) toluene-d8 (s)	10.722	98	368114	55.44	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 110.88%			
103) 4-bromofluorobenzene (s)	13.180	95	131293	58.40	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 116.80%			
Target Compounds						Qvalue
22) acetone	4.791	43	10806	26.05	ug/L	97
53) cyclohexane	7.965	84	45645	17.78	ug/L #	28
70) methylcyclohexane	9.508	83	75325	25.02	ug/L #	65
96) ethylbenzene	12.228	91	2233	0.26	ug/L	86
98) o-xylene	12.688	106	8181	2.41	ug/L	98
102) isopropylbenzene	12.997	105	42127	5.86	ug/L	98
108) n-propylbenzene	13.347	91	145510	17.19	ug/L	98
112) 1,3,5-trimethylbenzene	13.499	105	2554	0.41	ug/L	98
113) tert-butylbenzene	13.766	119	4900	0.95	ug/L	97
115) 1,2,4-trimethylbenzene	13.818	105	6172	0.96	ug/L	96
116) sec-butylbenzene	13.949	105	21387	2.73	ug/L	97
123) n-butylbenzene	14.404	92	30378	8.75	ug/L	97

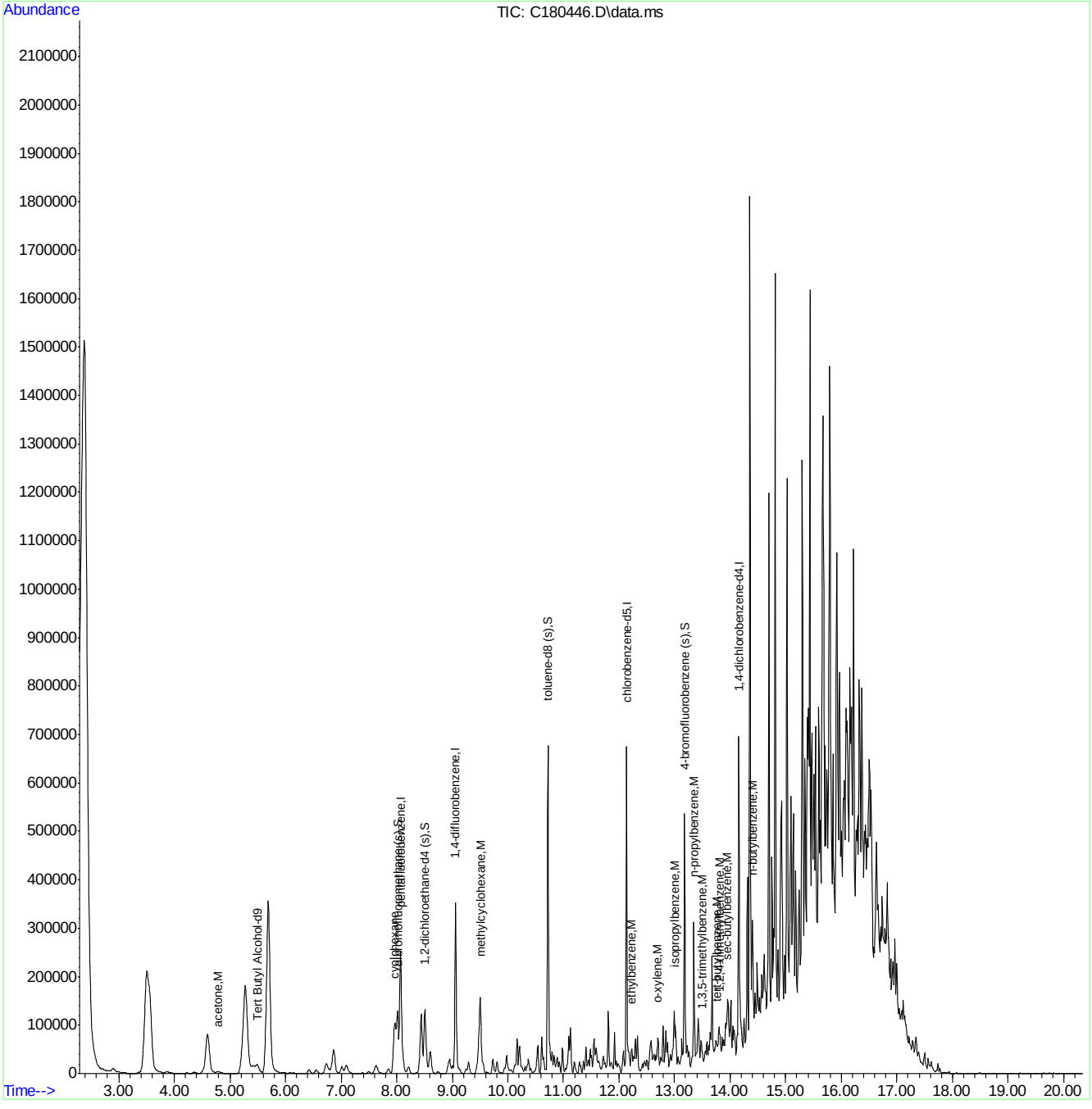
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

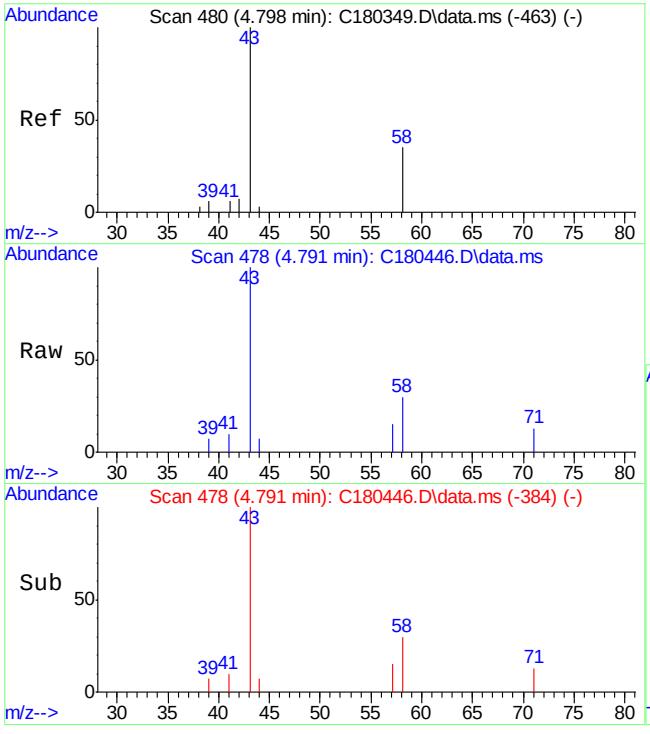
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180446.D
Acq On : 29 Mar 2013 12:55 pm
Operator : tamikag
Sample : JB31800-8
Misc : MS45252,VC6473,5.7,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 02 15:09:08 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



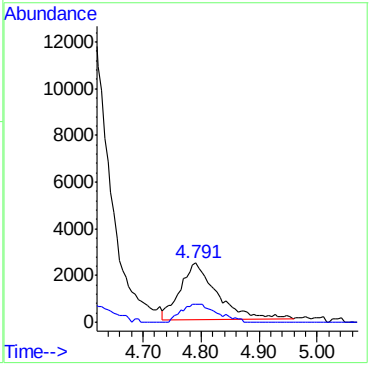
MCS6469.M Tue Apr 02 15:09:12 2013 NJVOA08 Page: 2

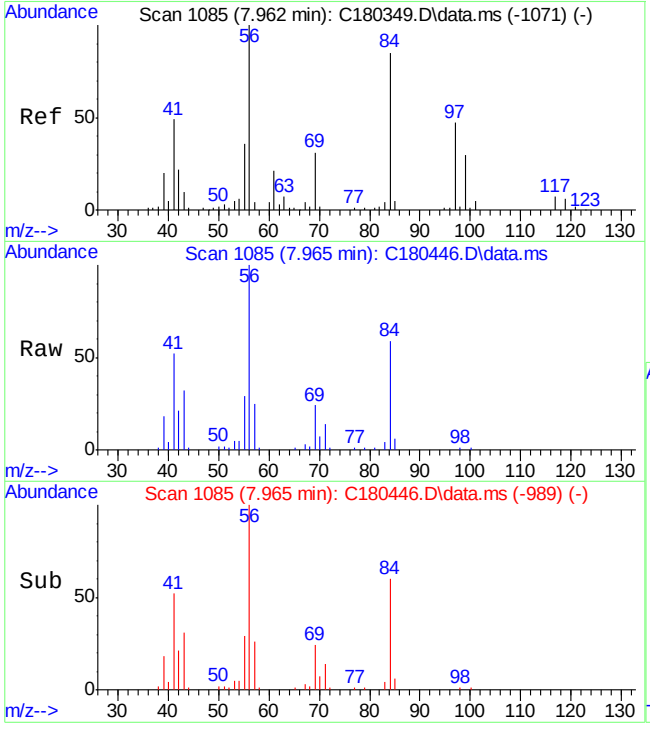


#22
acetone
Concen: 26.05 ug/L
RT: 4.791 min Scan# 478
Delta R.T. -0.007 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion: 43 Resp: 10806

Ion	Ratio	Lower	Upper
43	100		
58	31.2	3.0	63.0

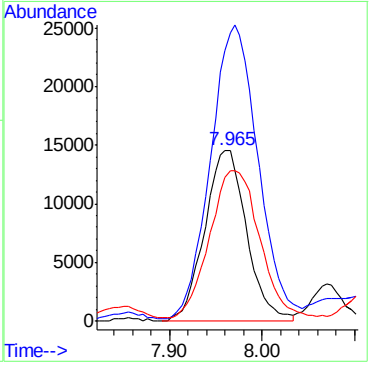


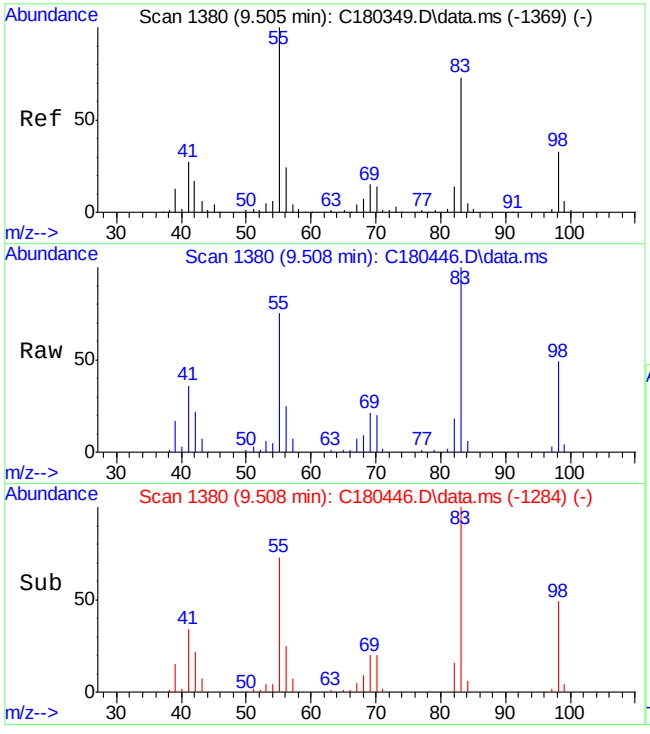


#53
cyclohexane
Concen: 17.78 ug/L
RT: 7.965 min Scan# 1085
Delta R.T. 0.003 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion: 84 Resp: 45645

Ion	Ratio	Lower	Upper
84	100		
56	198.2	81.4	151.2#
41	109.0	41.5	77.1#

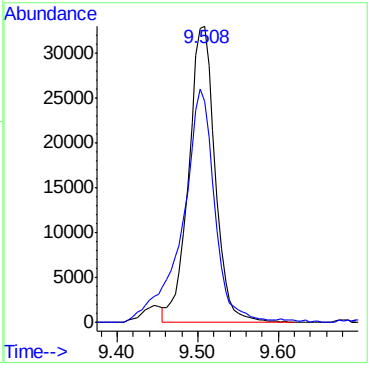


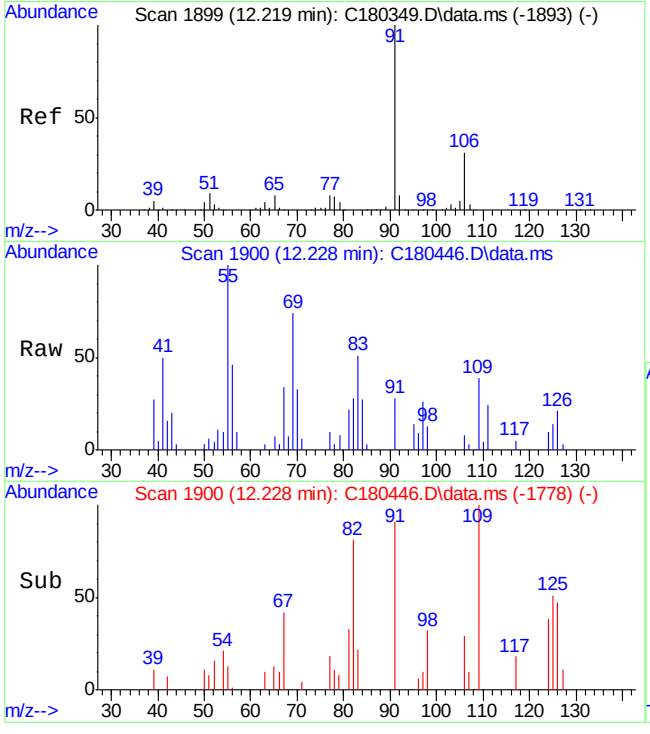


#70
methylcyclohexane
Concen: 25.02 ug/L
RT: 9.508 min Scan# 1380
Delta R.T. 0.003 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion: 83 Resp: 75325

Ion	Ratio	Lower	Upper
83	100		
55	96.5	97.3	180.7#

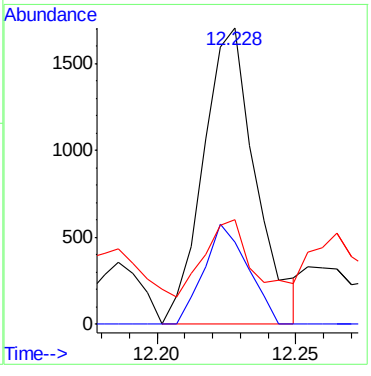


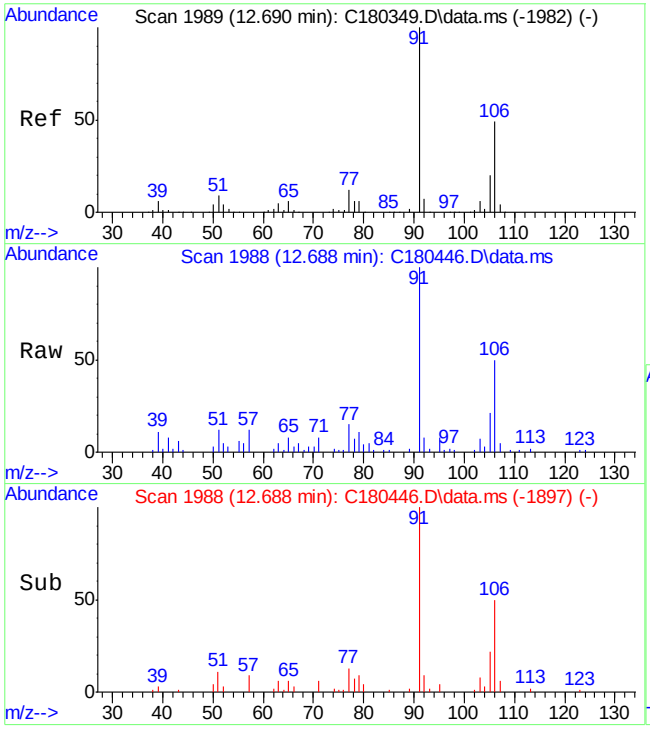


#96
ethylbenzene
Concen: 0.26 ug/L
RT: 12.228 min Scan# 1900
Delta R.T. 0.009 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion: 91 Resp: 2233

Ion	Ratio	Lower	Upper
91	100		
106	27.8	1.4	61.4
77	23.5	0.0	38.4

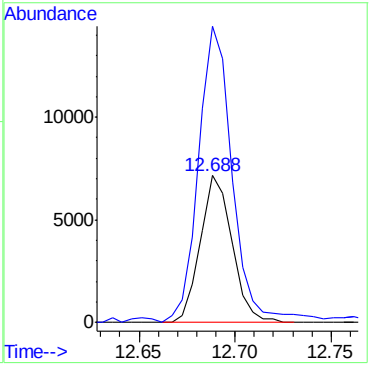


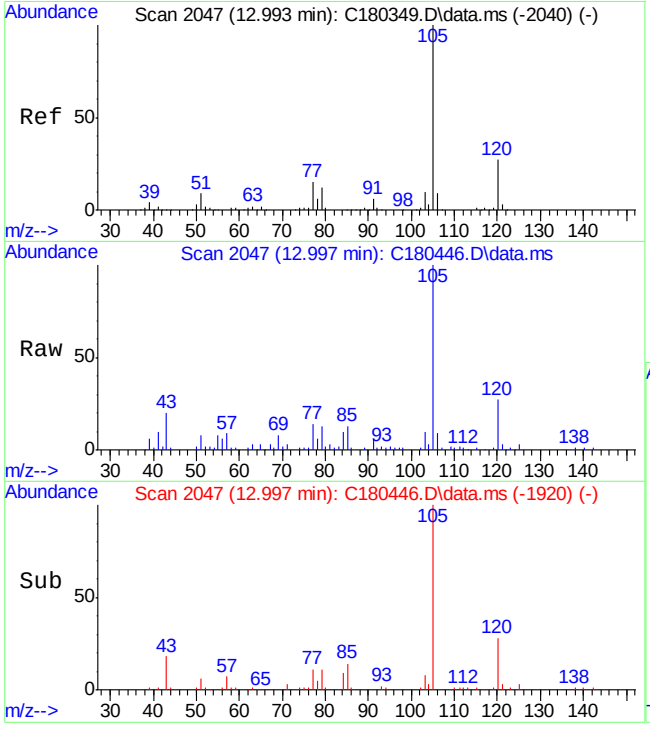


#98
o-xylene
Concen: 2.41 ug/L
RT: 12.688 min Scan# 1988
Delta R.T. -0.002 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion:106 Resp: 8181

Ion	Ratio	Lower	Upper
106	100		
91	201.6	174.1	234.1

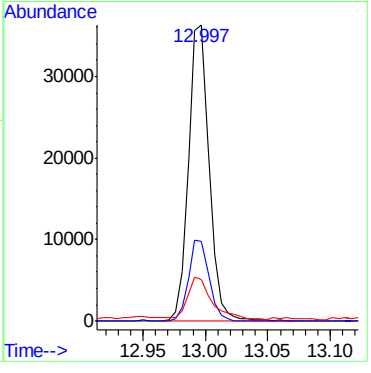


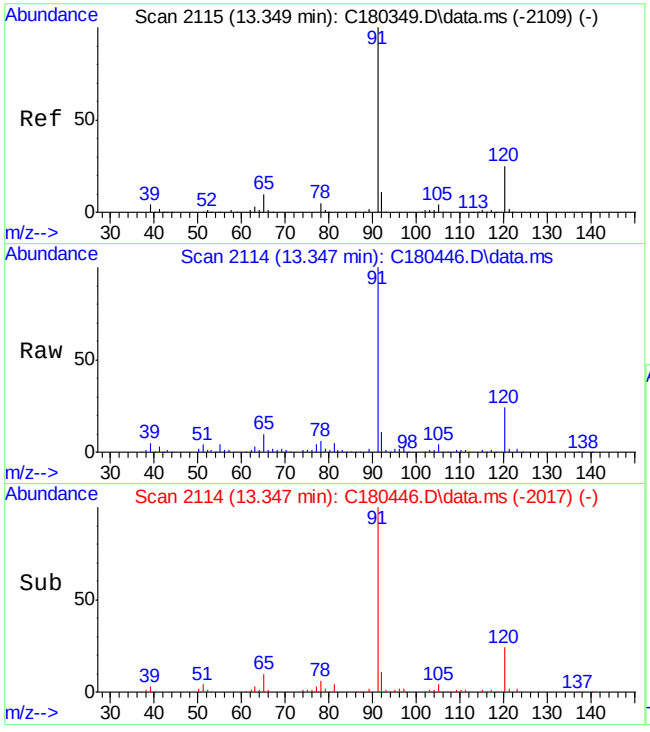


#102
isopropylbenzene
Concen: 5.86 ug/L
RT: 12.997 min Scan# 2047
Delta R.T. 0.003 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion:105 Resp: 42127

Ion	Ratio	Lower	Upper
105	100		
120	26.8	0.0	57.4
77	13.3	0.0	44.6

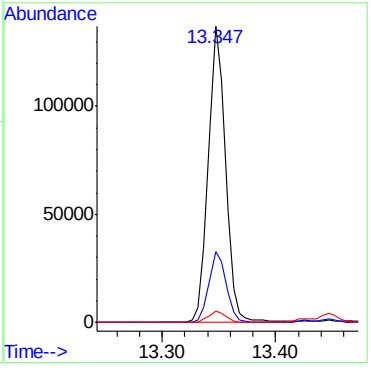


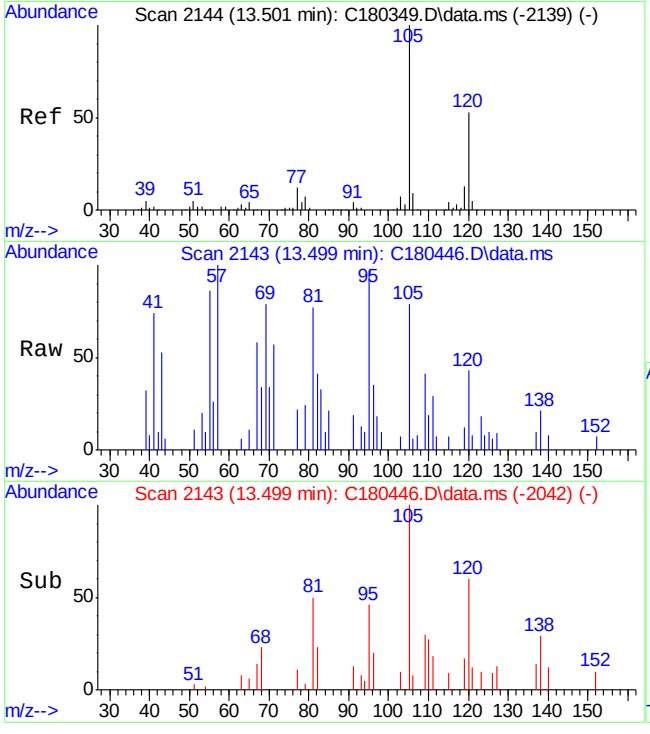


#108
n-propylbenzene
Concen: 17.19 ug/L
RT: 13.347 min Scan# 2114
Delta R.T. -0.002 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion: 91 Resp: 145510

Ion	Ratio	Lower	Upper
91	100		
120	23.7	0.0	54.6
105	3.9	0.0	33.7

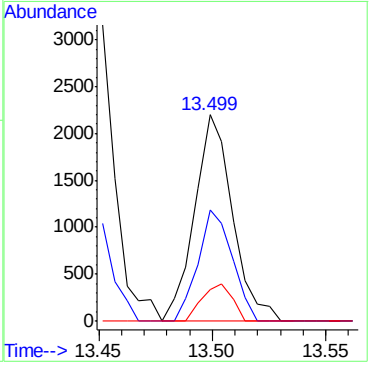


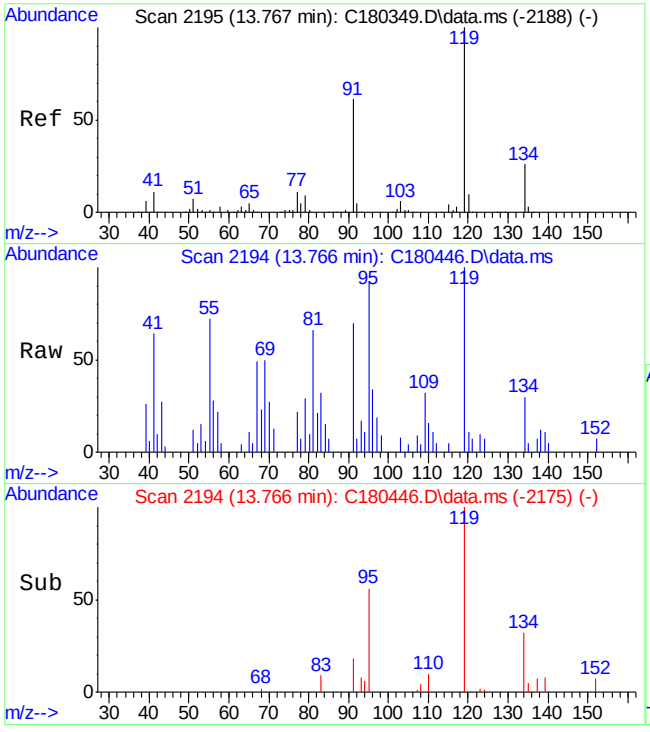


#112
1,3,5-trimethylbenzene
Concen: 0.41 ug/L
RT: 13.499 min Scan# 2143
Delta R.T. -0.002 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion:105 Resp: 2554

Ion	Ratio	Lower	Upper
105	100		
120	54.1	23.3	83.3
119	15.5	0.0	43.1

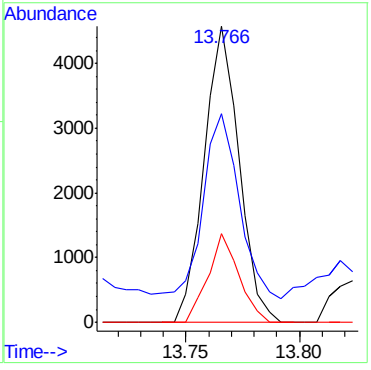


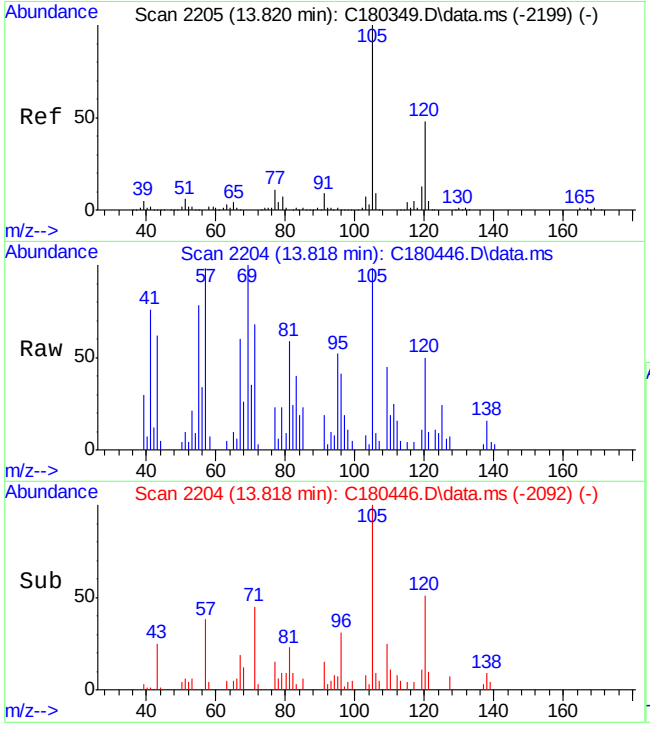


#113
tert-butylbenzene
Concen: 0.95 ug/L
RT: 13.766 min Scan# 2194
Delta R.T. -0.002 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion:119 Resp: 4900

Ion	Ratio	Lower	Upper
119	100		
91	60.6	31.2	91.2
134	29.9	0.0	55.7

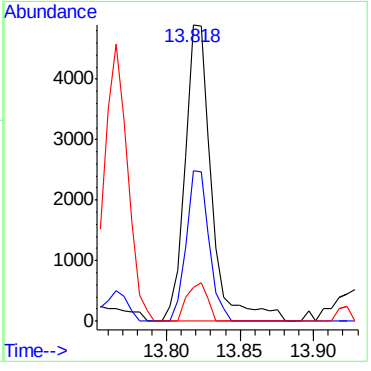




#115
1,2,4-trimethylbenzene
Concen: 0.96 ug/L
RT: 13.818 min Scan# 2204
Delta R.T. -0.002 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

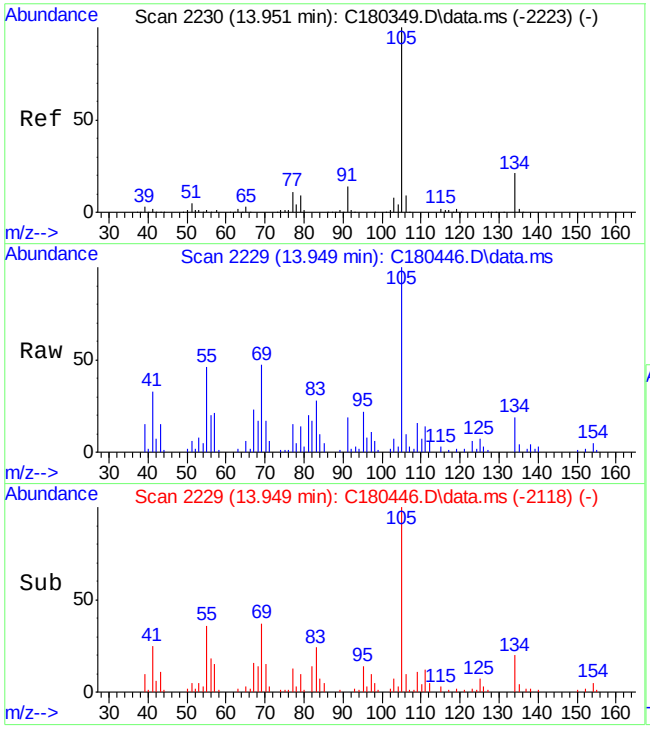
Tgt Ion:105 Resp: 6172

Ion	Ratio	Lower	Upper
105	100		
120	50.9	18.4	78.4
119	11.2	0.0	43.6



7.1.10

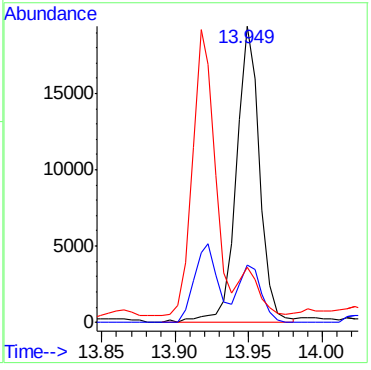
7

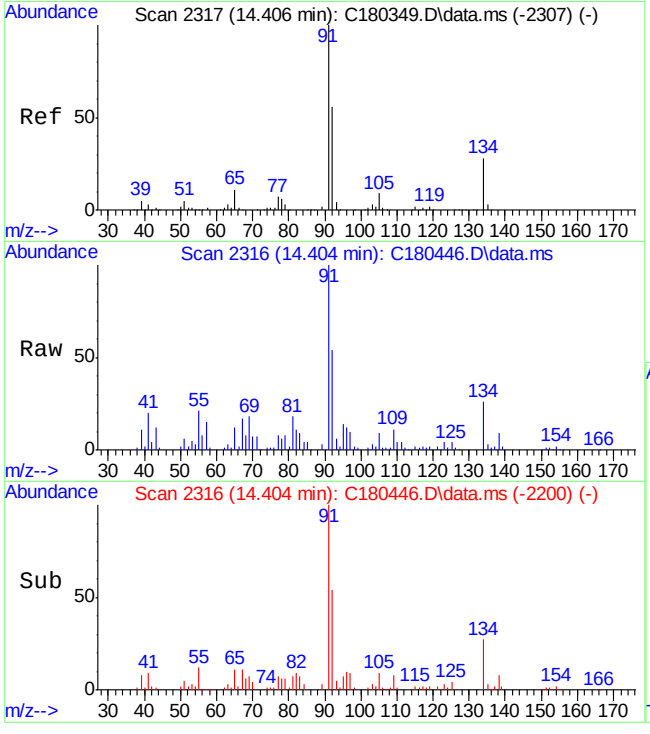


#116
sec-butylbenzene
Concen: 2.73 ug/L
RT: 13.949 min Scan# 2229
Delta R.T. -0.002 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion:105 Resp: 21387

Ion	Ratio	Lower	Upper
105	100		
134	19.4	0.0	50.7
91	16.2	0.0	44.5

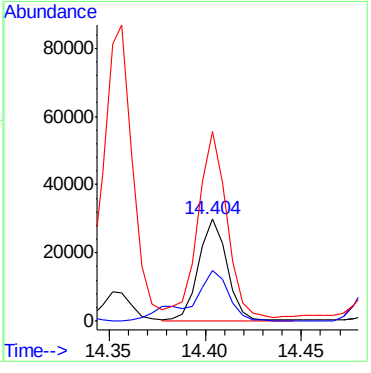




#123
n-butylbenzene
Concen: 8.75 ug/L
RT: 14.404 min Scan# 2316
Delta R.T. -0.002 min
Lab File: C180446.D
Acq: 29 Mar 2013 12:55 pm

Tgt Ion: 92 Resp: 30378

Ion	Ratio	Lower	Upper
92	100		
134	49.8	20.0	80.0
91	183.3	148.7	208.7



Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180455.D
Acq On : 29 Mar 2013 4:59 pm
Operator : tamikag
Sample : JB31800-9
Misc : MS45252,VC6473,6.5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 02 15:23:14 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

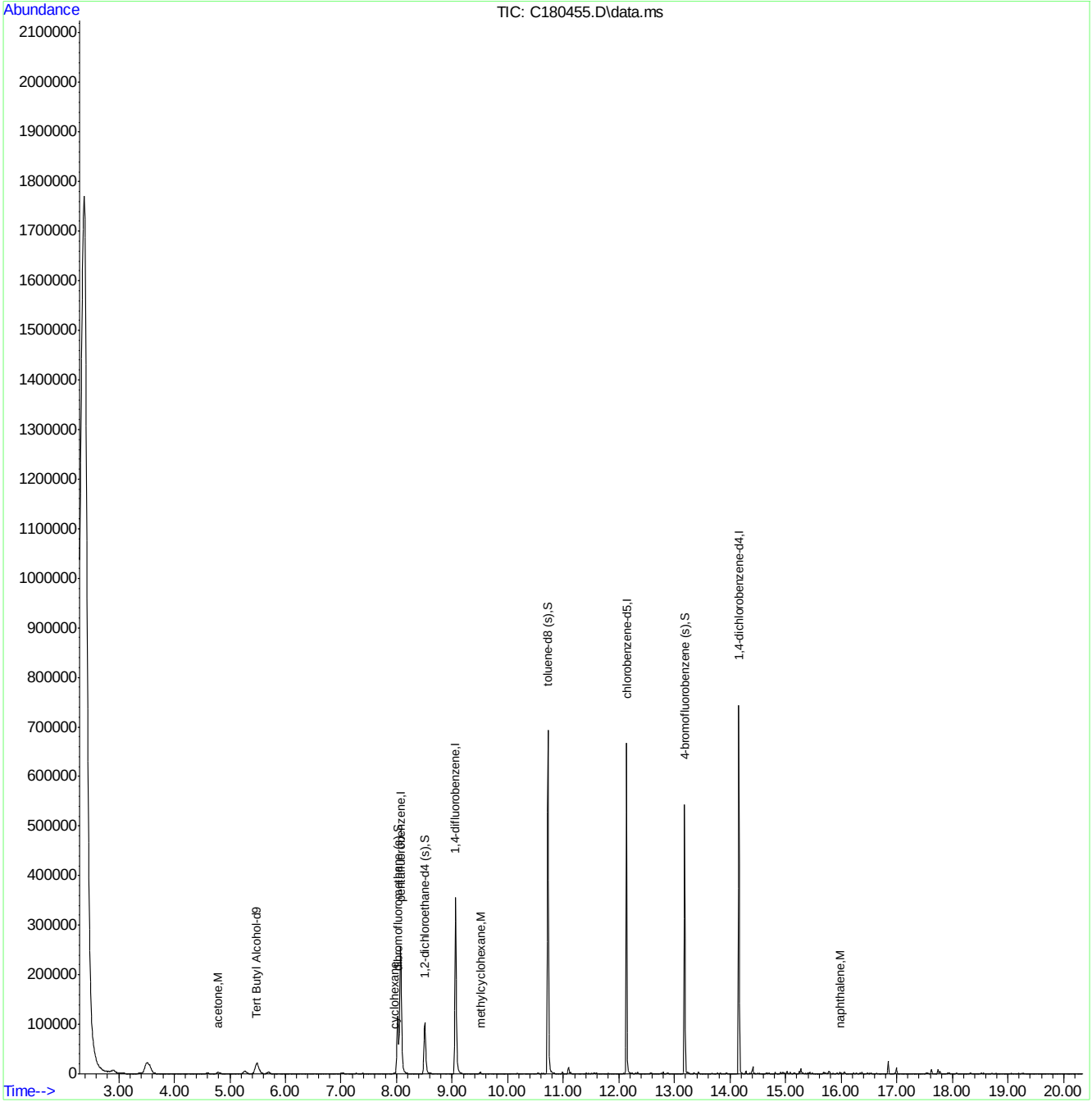
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.482	65	64861	500.00	ug/L	-0.02
5) pentafluorobenzene	8.070	168	227105	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.059	114	334409	50.00	ug/L	0.00
85) chlorobenzene-d5	12.134	117	271169	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.158	152	141764	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.018	113	87997	49.65	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.30%			
50) 1,2-dichloroethane-d4 (s)	8.505	65	78510	45.22	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 90.44%			
77) toluene-d8 (s)	10.722	98	377825	55.88	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 111.76%			
103) 4-bromofluorobenzene (s)	13.180	95	132021	48.85	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 97.70%			
Target Compounds						Qvalue
22) acetone	4.786	43	9231	21.97	ug/L	97
53) cyclohexane	7.966	84	1160	0.45	ug/L #	71
70) methylcyclohexane	9.509	83	1723	0.56	ug/L	70
129) naphthalene	15.978	128	2995	0.53	ug/L	97

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

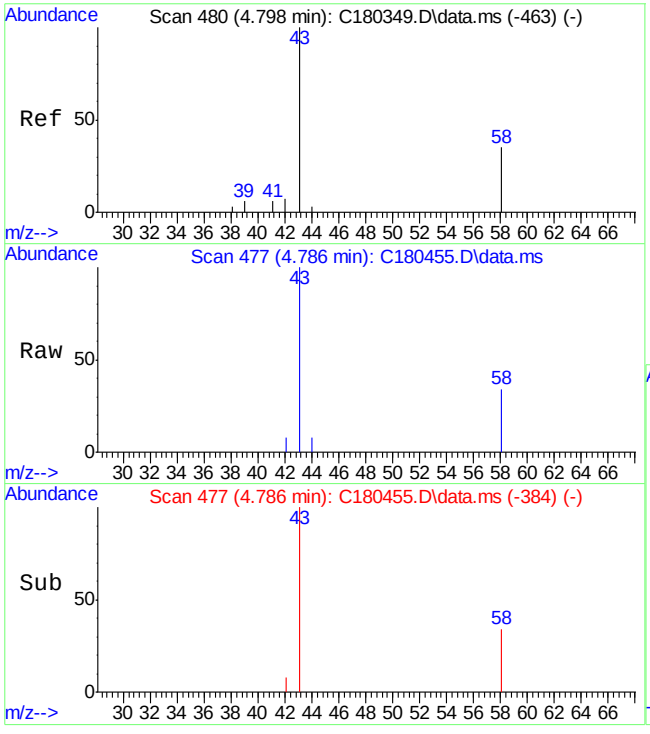
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180455.D
Acq On : 29 Mar 2013 4:59 pm
Operator : tamikag
Sample : JB31800-9
Misc : MS45252,VC6473,6.5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 02 15:23:14 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



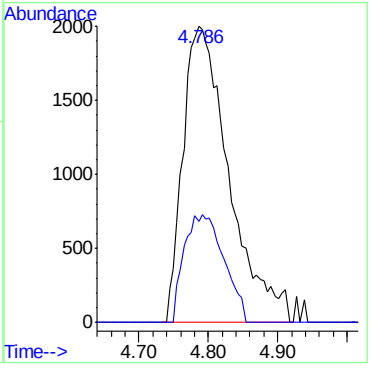
SGS ACCUTEST JB31800

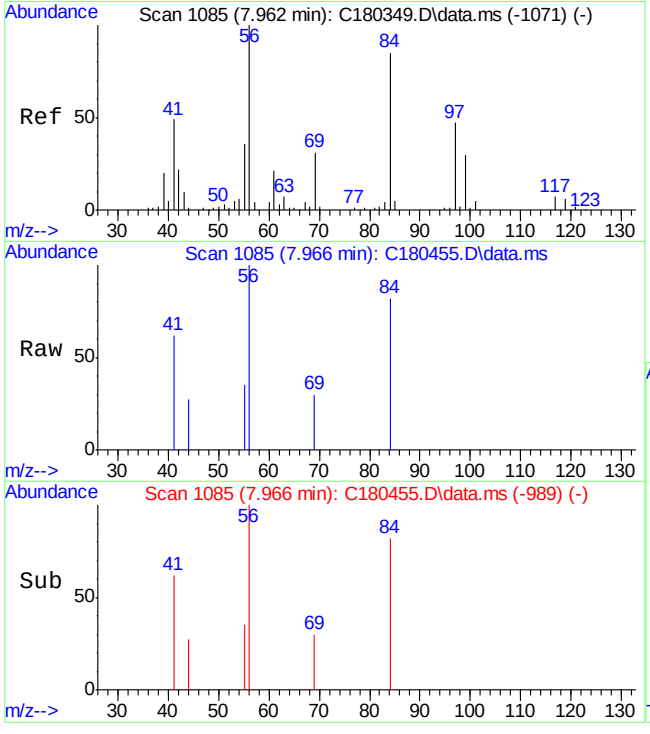


#22
acetone
Concen: 21.97 ug/L
RT: 4.786 min Scan# 477
Delta R.T. -0.012 min
Lab File: C180455.D
Acq: 29 Mar 2013 4:59 pm

Tgt Ion: 43 Resp: 9231

Ion	Ratio	Lower	Upper
43	100		
58	31.3	3.0	63.0

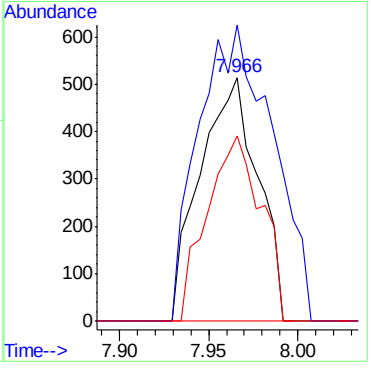


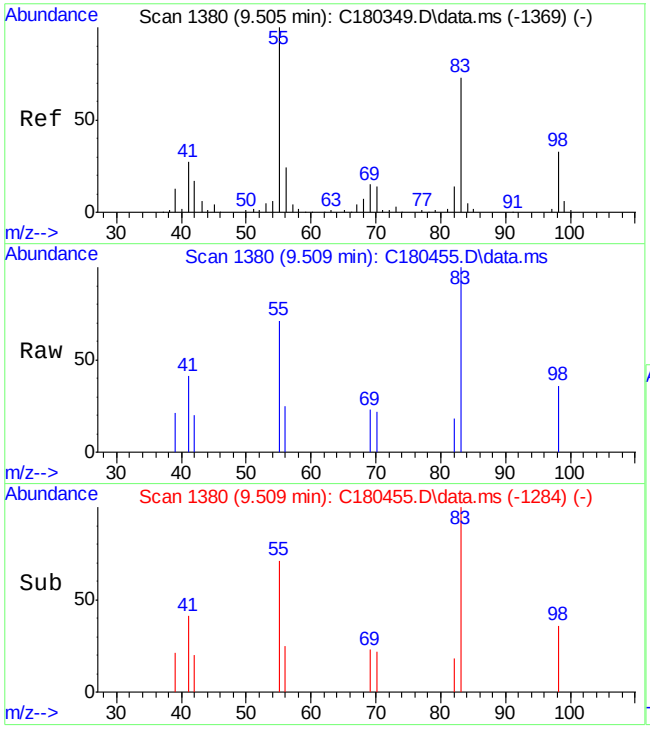


#53
cyclohexane
Concen: 0.45 ug/L
RT: 7.966 min Scan# 1085
Delta R.T. 0.004 min
Lab File: C180455.D
Acq: 29 Mar 2013 4:59 pm

Tgt Ion: 84 Resp: 1160

Ion	Ratio	Lower	Upper
84	100		
56	156.0	81.4	151.2#
41	71.1	41.5	77.1

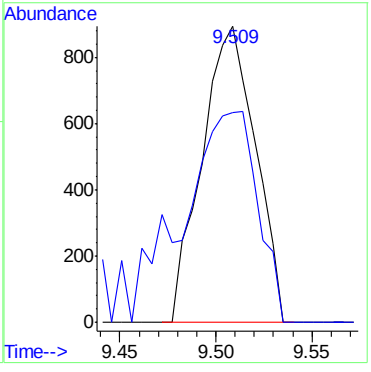


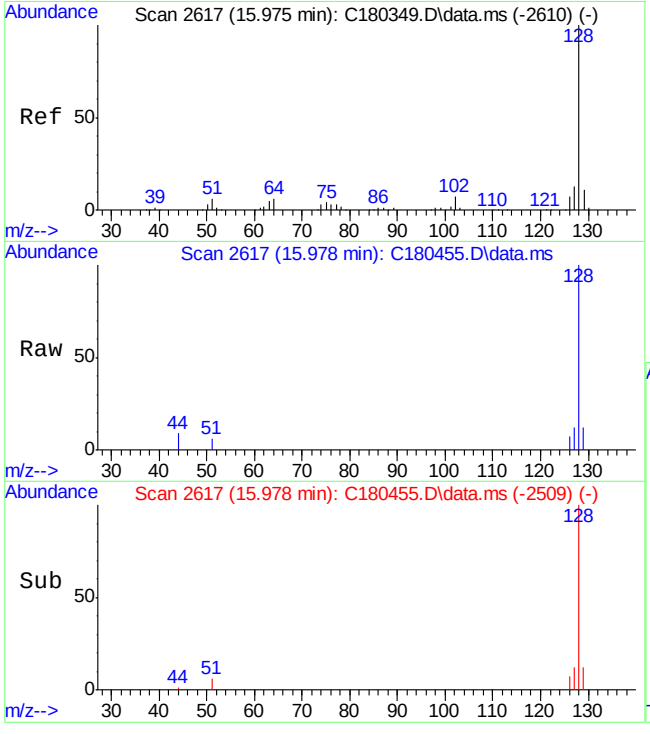


#70
methylcyclohexane
Concen: 0.56 ug/L
RT: 9.509 min Scan# 1380
Delta R.T. 0.004 min
Lab File: C180455.D
Acq: 29 Mar 2013 4:59 pm

Tgt Ion: 83 Resp: 1723

Ion	Ratio	Lower	Upper
83	100		
55	102.3	97.3	180.7

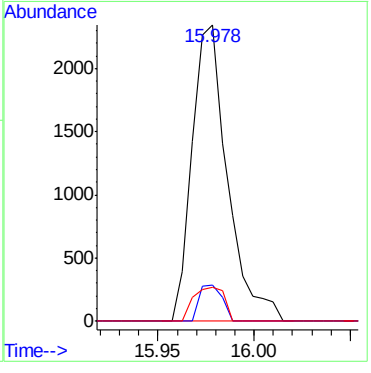




#129
naphthalene
Concen: 0.53 ug/L
RT: 15.978 min Scan# 2617
Delta R.T. 0.004 min
Lab File: C180455.D
Acq: 29 Mar 2013 4:59 pm

Tgt Ion:128 Resp: 2995

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	40.6
127	11.6	0.0	42.6



Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180456.D
Acq On : 29 Mar 2013 5:26 pm
Operator : tamikag
Sample : JB31800-10
Misc : MS45252,VC6473,6.0,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 02 15:24:27 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.487	65	58657	500.00	ug/L	-0.01
5) pentafluorobenzene	8.071	168	222134	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.059	114	328951	50.00	ug/L	0.00
85) chlorobenzene-d5	12.135	117	262910	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.159	152	128976	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.019	113	86501	49.90	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.80%			
50) 1,2-dichloroethane-d4 (s)	8.505	65	76218	44.88	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 89.76%			
77) toluene-d8 (s)	10.723	98	367859	55.30	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 110.60%			
103) 4-bromofluorobenzene (s)	13.181	95	124506	50.64	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 101.28%			
Target Compounds						Qvalue
62) hexane	6.094	57	1408	0.49	ug/L	84
129) naphthalene	15.974	128	2210	0.43	ug/L	93

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

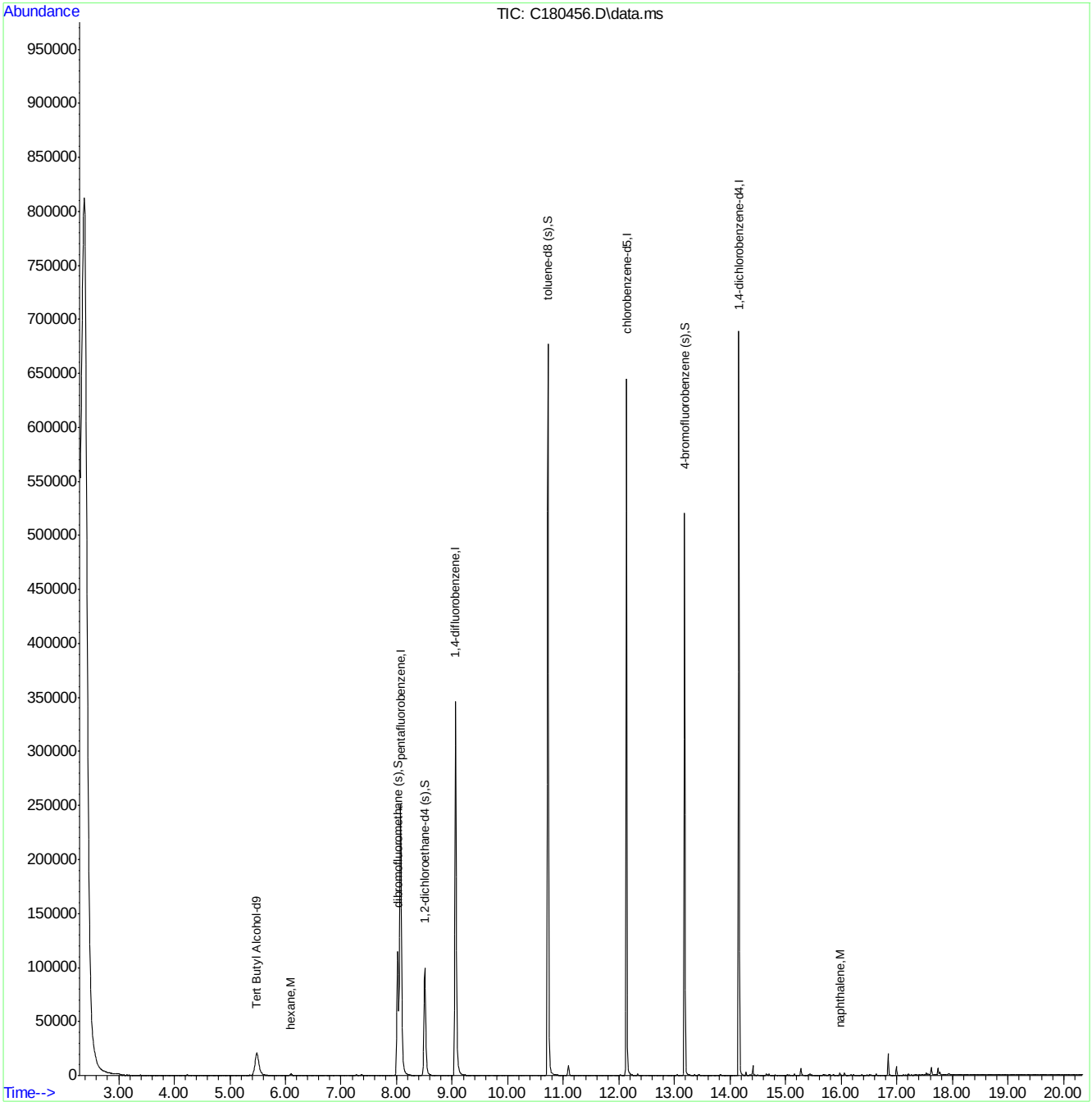
7.1.12

7

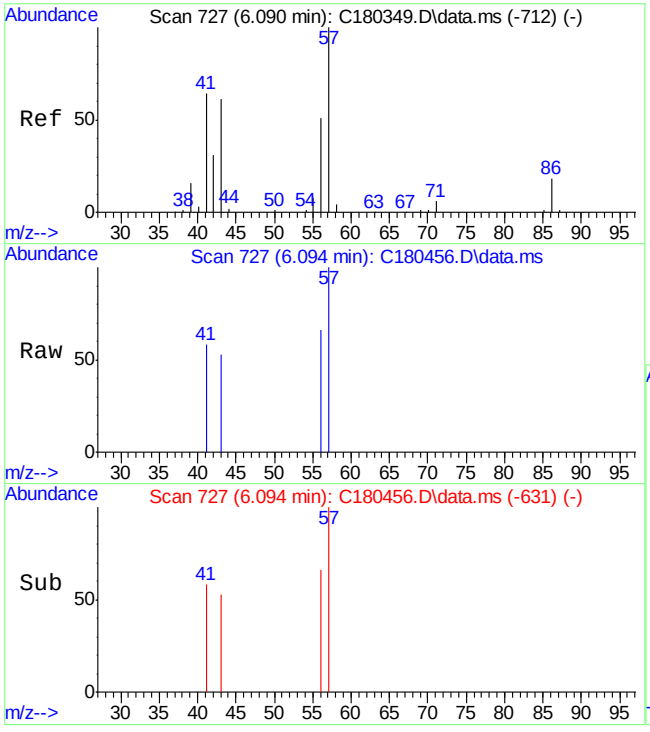
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180456.D
Acq On : 29 Mar 2013 5:26 pm
Operator : tamikag
Sample : JB31800-10
Misc : MS45252,VC6473,6.0,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 02 15:24:27 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



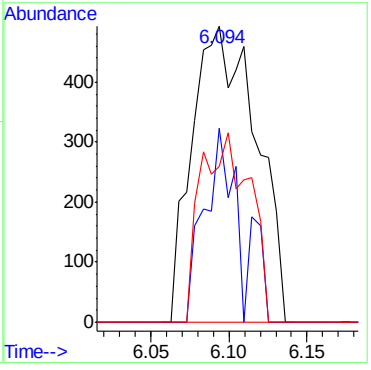
MCS6469.M Tue Apr 02 15:24:32 2013 NJVOA08 Page: 2

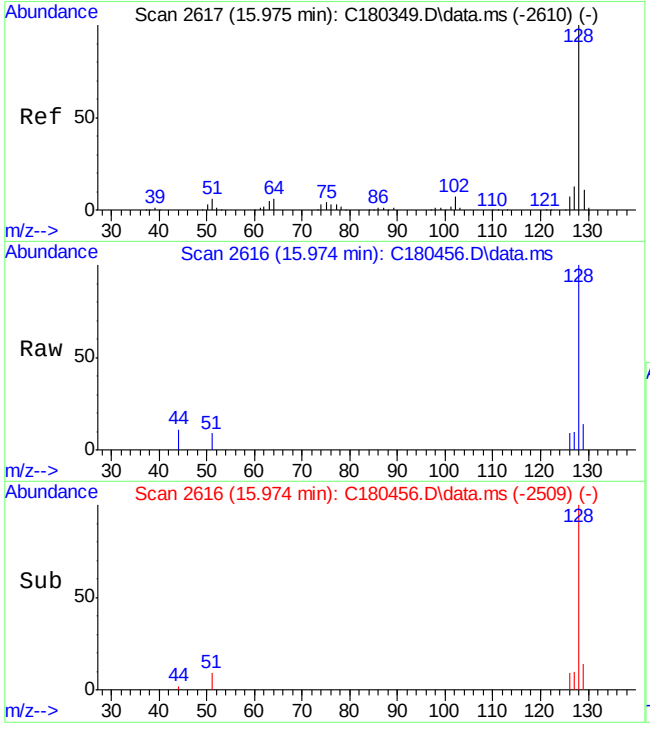


#62
hexane
Concen: 0.49 ug/L
RT: 6.094 min Scan# 727
Delta R.T. 0.004 min
Lab File: C180456.D
Acq: 29 Mar 2013 5:26 pm

Tgt Ion: 57 Resp: 1408

Ion	Ratio	Lower	Upper
57	100		
56	65.7	20.8	80.8
43	52.5	31.0	91.0

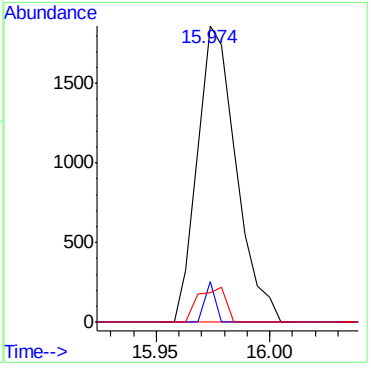




#129
naphthalene
Concen: 0.43 ug/L
RT: 15.974 min Scan# 2616
Delta R.T. -0.001 min
Lab File: C180456.D
Acq: 29 Mar 2013 5:26 pm

Tgt Ion:128 Resp: 2210

Ion	Ratio	Lower	Upper
128	100		
129	13.7	0.0	40.6
127	10.0	0.0	42.6



7.1.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207091.D
Acq On : 30 Mar 2013 5:45 am
Operator : EmilyT
Sample : jb31800-11
Misc : ms45252,vd8450,6.5,,100,10,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Apr 01 12:17:10 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.010	65	138718	500.00 ug/L	0.01
4) pentafluorobenzene	10.232	168	242408	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.147	114	380030	50.00 ug/L	0.00
85) chlorobenzene-d5	14.488	117	359610	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.076	152	216013	50.00 ug/L	0.00

System Monitoring Compounds					
46) dibromofluoromethane (s)	10.264	113	113165	41.38 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 82.76%		
47) 1,2-dichloroethane-d4 (s)	10.687	65	137976	41.34 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 82.68%		
77) toluene-d8 (s)	12.857	98	474744	43.90 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 87.80%		
101) 4-bromofluorobenzene (s)	15.769	95	197190	46.70 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 93.40%		

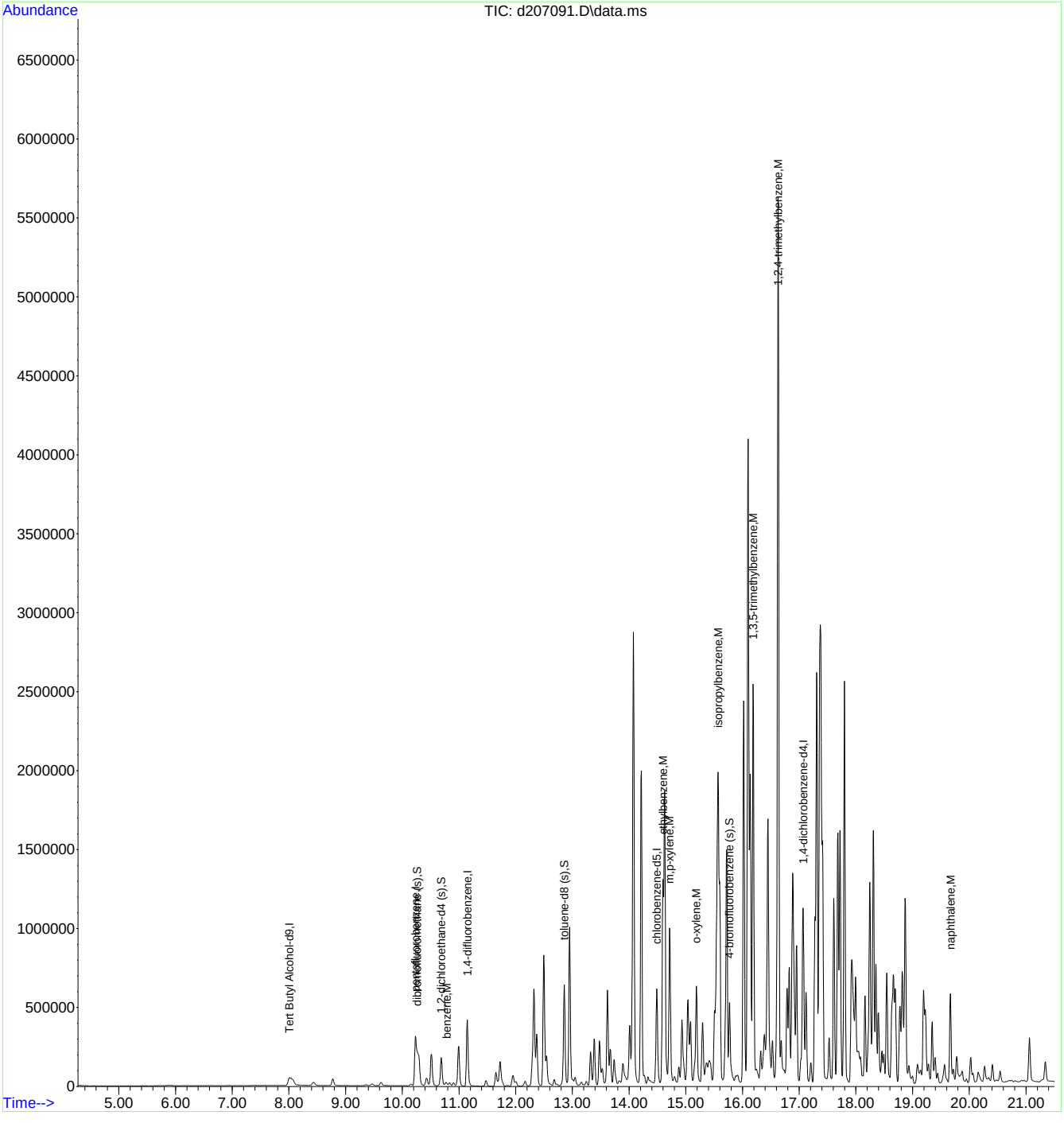
Target Compounds					Qvalue
62) benzene	10.786	78	3902	0.34 ug/L	98
94) ethylbenzene	14.598	91	1004694	71.72 ug/L	100
95) m,p-xylene	14.713	106	311610	57.94 ug/L	94
96) o-xylene	15.178	106	5290	0.99 ug/L	96
100) isopropylbenzene	15.565	105	649745	46.81 ug/L	99
111) 1,3,5-trimethylbenzene	16.187	105	1536276	126.90 ug/L	99
114) 1,2,4-trimethylbenzene	16.626	105	3415711	279.44 ug/L	98
128) naphthalene	19.669	128	512785	55.67 ug/L	100

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

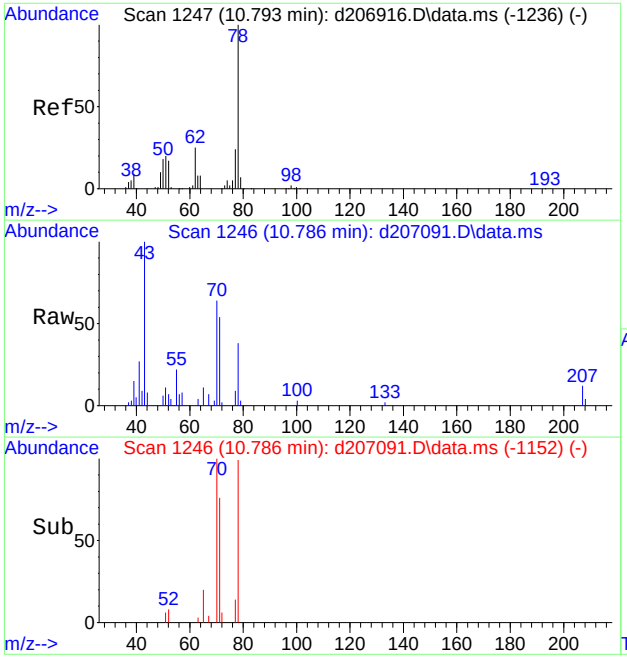
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207091.D
Acq On : 30 Mar 2013 5:45 am
Operator : EmilyT
Sample : jb31800-11
Misc : ms45252,vd8450,6.5,,100,10,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Apr 01 12:17:10 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



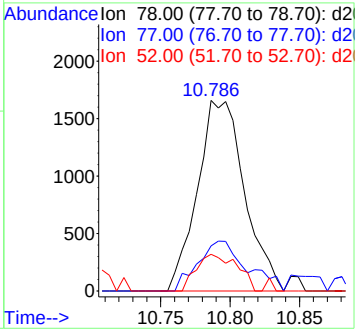
MD8442.M Mon Apr 01 12:17:18 2013 Page: 2

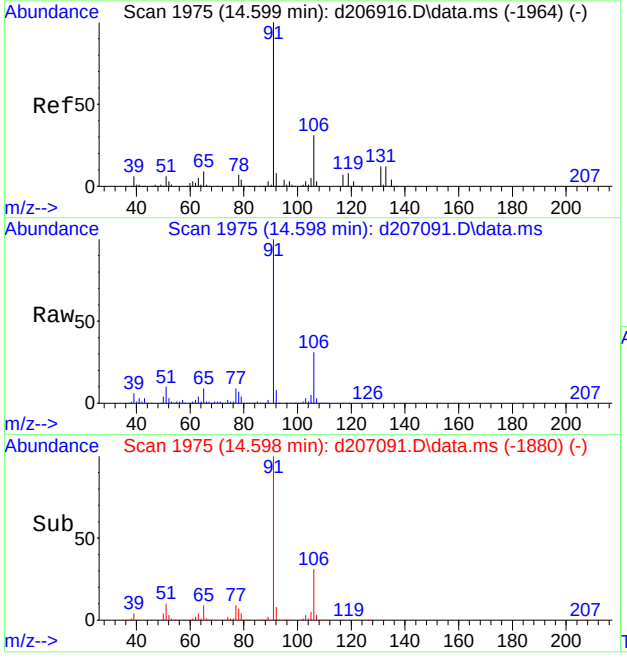


#62
benzene
Concen: 0.34 ug/L
RT: 10.786 min Scan# 1246
Delta R.T. -0.007 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion: 78 Resp: 3902

Ion	Ratio	Lower	Upper
78	100		
77	23.7	0.0	53.9
52	19.3	0.0	47.2

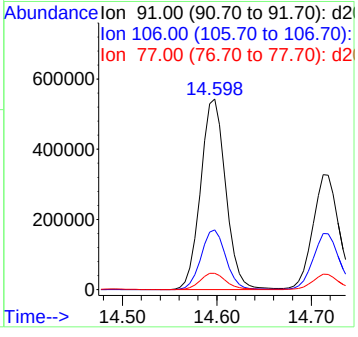




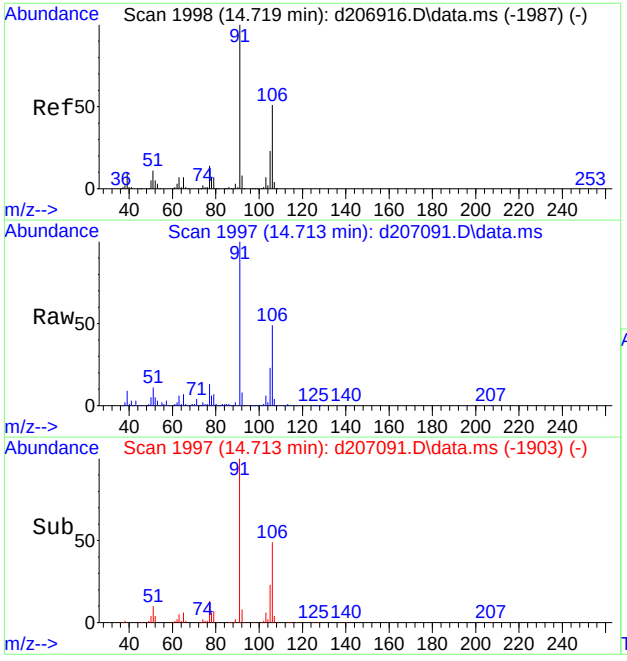
#94
ethylbenzene
Concen: 71.72 ug/L
RT: 14.598 min Scan# 1975
Delta R.T. -0.001 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion: 91 Resp: 1004694

Ion	Ratio	Lower	Upper
91	100		
106	31.4	1.4	61.4
77	8.6	0.0	39.0



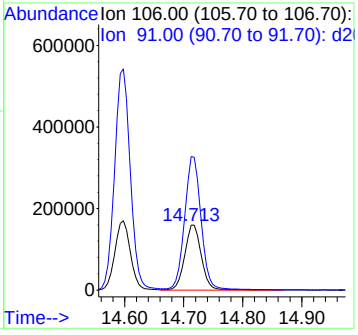
SGS ACCUTEST JB31800

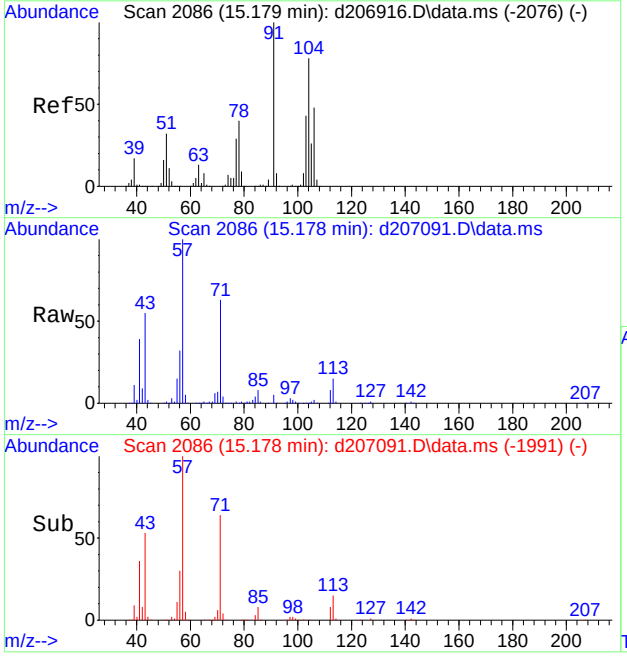


#95
m,p-xylene
Concen: 57.94 ug/L
RT: 14.713 min Scan# 1997
Delta R.T. -0.007 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion:106 Resp: 311610

Ion	Ratio	Lower	Upper
106	100		
91	205.4	137.9	256.1

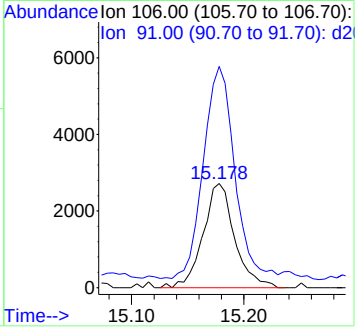




#96
o-xylene
Concen: 0.99 ug/L
RT: 15.178 min Scan# 2086
Delta R.T. -0.001 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion:106 Resp: 5290

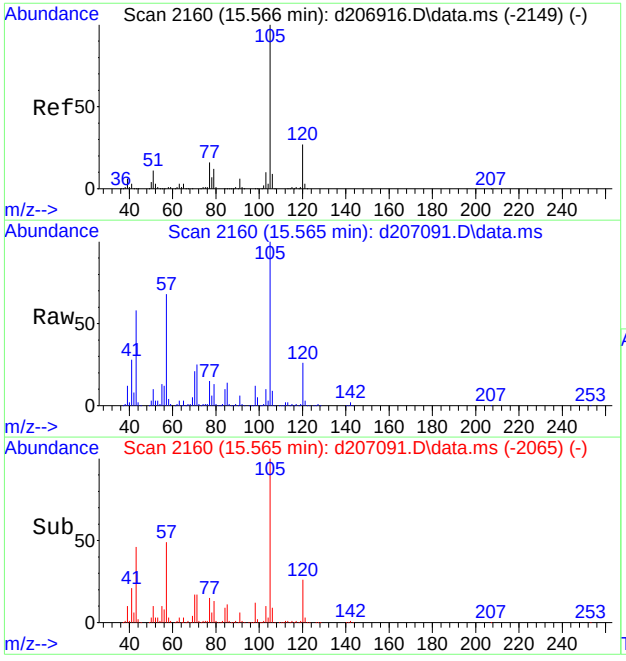
Ion	Ratio	Lower	Upper
106	100		
91	203.5	146.7	272.5



7.1.13

7

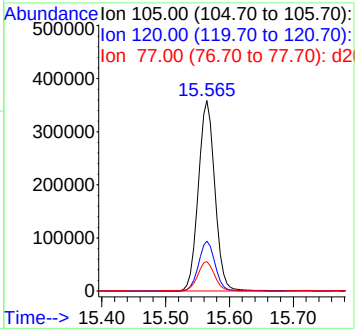
SGS ACCUTEST JB31800

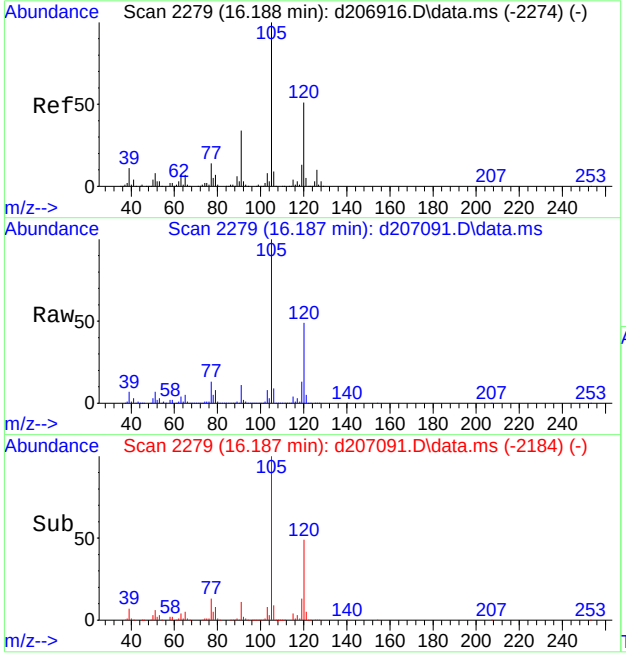


#100
isopropylbenzene
Concen: 46.81 ug/L
RT: 15.565 min Scan# 2160
Delta R.T. -0.001 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion:105 Resp: 649745

Ion	Ratio	Lower	Upper
105	100		
120	26.2	0.0	56.8
77	15.4	0.0	46.2

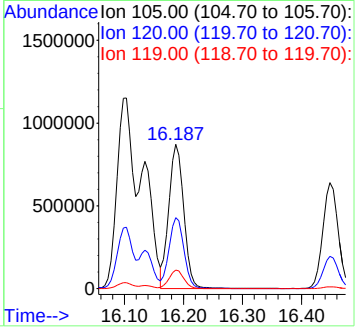


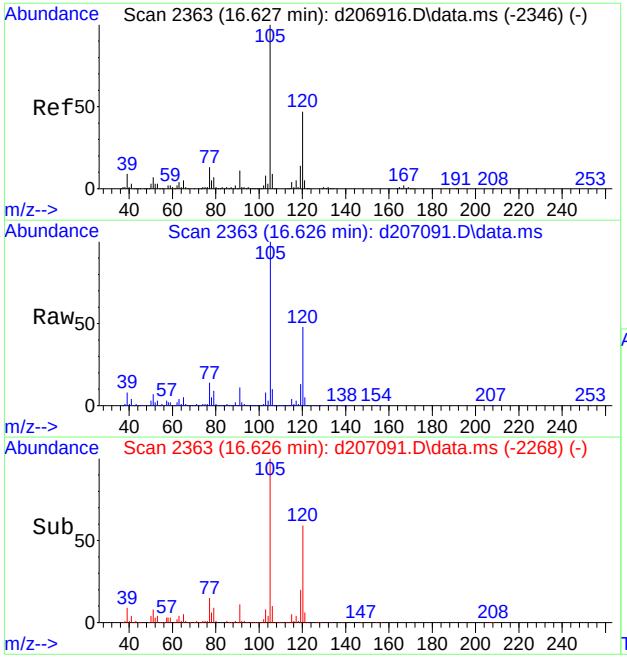


#111
1,3,5-trimethylbenzene
Concen: 126.90 ug/L
RT: 16.187 min Scan# 2279
Delta R.T. -0.001 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion:105 Resp: 1536276

Ion	Ratio	Lower	Upper
105	100		
120	49.2	19.0	79.0
119	12.9	0.0	42.2

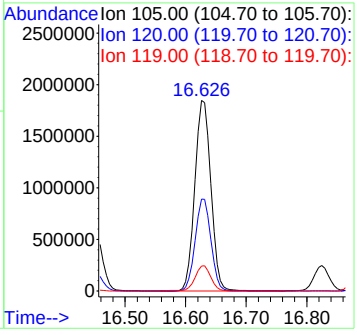


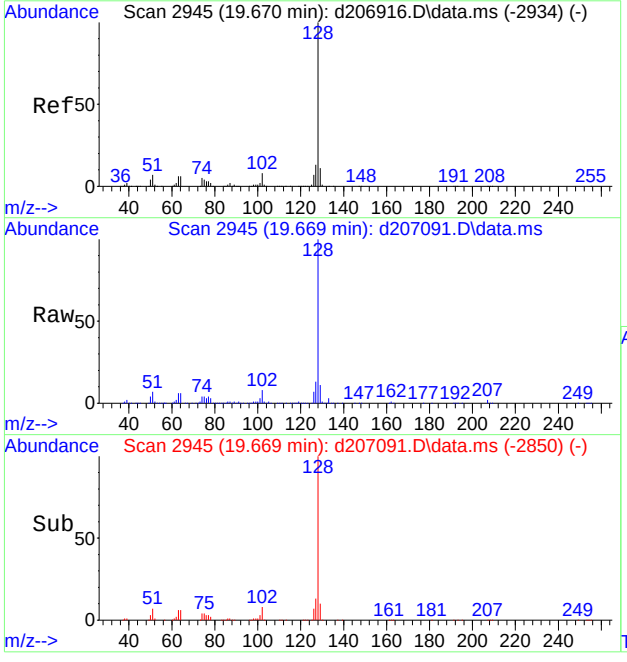


#114
1,2,4-trimethylbenzene
Concen: 279.44 ug/L
RT: 16.626 min Scan# 2363
Delta R.T. -0.001 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion:105 Resp: 3415711

Ion	Ratio	Lower	Upper
105	100		
120	48.2	16.6	76.6
119	13.1	0.0	44.0

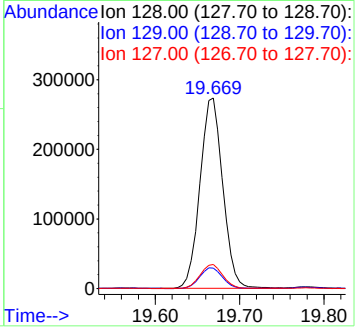




#128
naphthalene
Concen: 55.67 ug/L
RT: 19.669 min Scan# 2945
Delta R.T. -0.001 min
Lab File: d207091.D
Acq: 30 Mar 2013 5:45 am

Tgt Ion:128 Resp: 512785

Ion	Ratio	Lower	Upper
128	100		
129	10.7	0.0	40.7
127	12.6	0.0	42.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207161.D
Acq On : 1 Apr 2013 5:12 pm
Operator : EmilyT
Sample : jb31800-11
Misc : ms45252,vd8453,6.5,,10,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 01 18:19:57 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.004	65	187393	500.00 ug/L	0.00
4) pentafluorobenzene	10.236	168	259601	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.146	114	406312	50.00 ug/L	0.00
85) chlorobenzene-d5	14.492	117	385658	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.075	152	218726	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.263	113	119995	40.97 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 81.94%		
47) 1,2-dichloroethane-d4 (s)	10.686	65	153223	42.87 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 85.74%		
77) toluene-d8 (s)	12.856	98	509306	44.05 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 88.10%		
101) 4-bromofluorobenzene (s)	15.773	95	210550	49.25 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 98.50%		

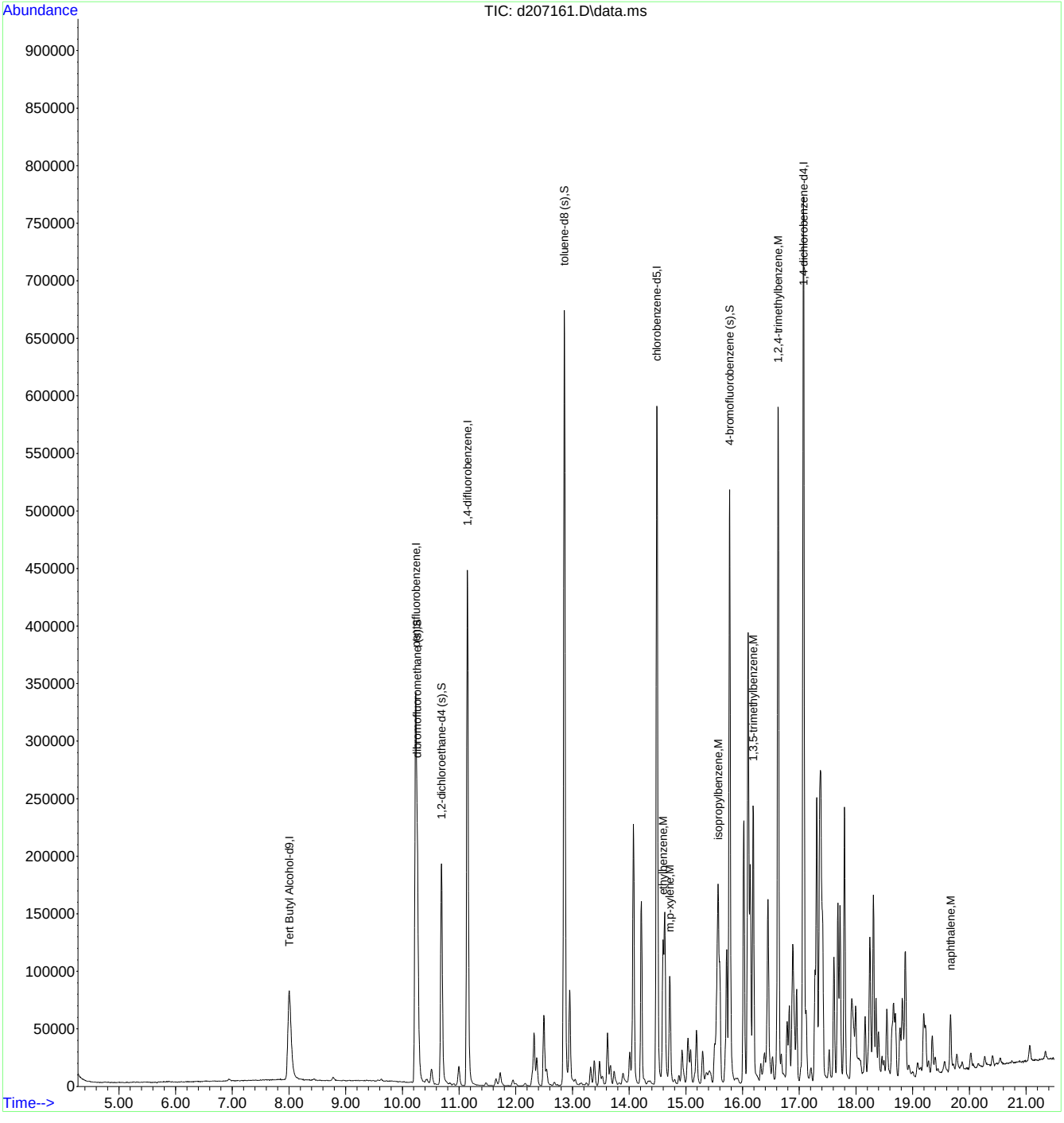
Target Compounds					Qvalue
94) ethylbenzene	14.597	91	98972	6.59 ug/L	98
95) m,p-xylene	14.717	106	30711	5.32 ug/L	98
100) isopropylbenzene	15.564	105	62685	4.46 ug/L	98
111) 1,3,5-trimethylbenzene	16.186	105	151350	12.35 ug/L	99
114) 1,2,4-trimethylbenzene	16.630	105	366237	29.59 ug/L	98
128) naphthalene	19.668	128	46064	4.94 ug/L	100

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

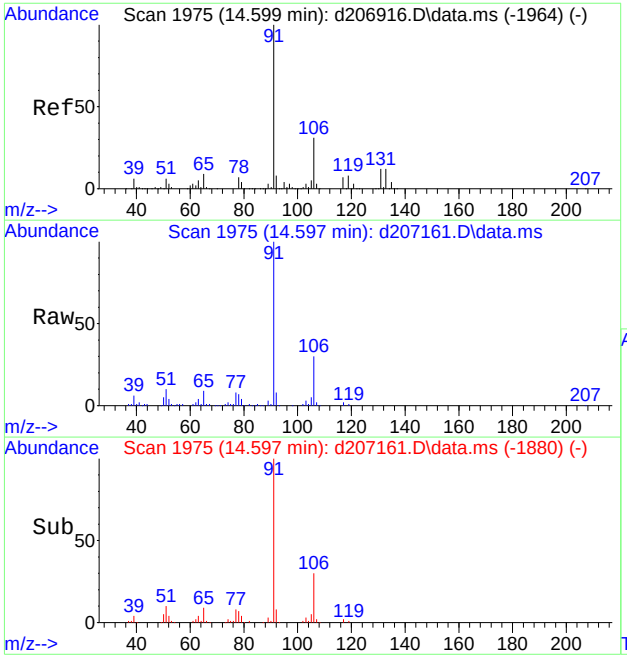
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207161.D
Acq On : 1 Apr 2013 5:12 pm
Operator : EmilyT
Sample : jb31800-11
Misc : ms45252,vd8453,6.5,,10,10,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 01 18:19:57 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



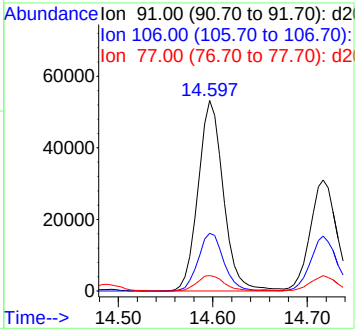
MD8442.M Mon Apr 01 18:20:15 2013 Page: 2

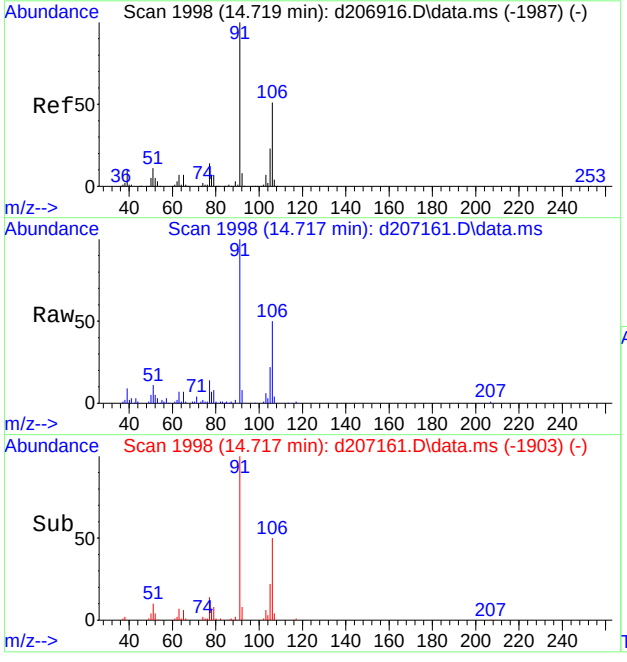


#94
ethylbenzene
Concen: 6.59 ug/L
RT: 14.597 min Scan# 1975
Delta R.T. -0.002 min
Lab File: d207161.D
Acq: 1 Apr 2013 5:12 pm

Tgt Ion: 91 Resp: 98972

Ion	Ratio	Lower	Upper
91	100		
106	30.3	1.4	61.4
77	8.2	0.0	39.0

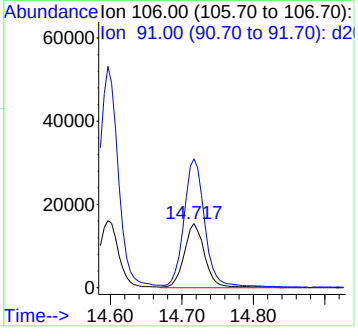


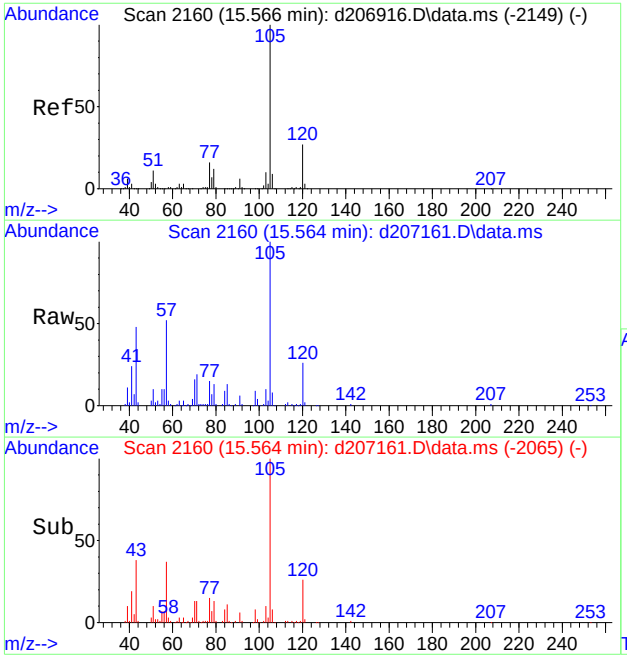


#95
m,p-xylene
Concen: 5.32 ug/L
RT: 14.717 min Scan# 1998
Delta R.T. -0.002 min
Lab File: d207161.D
Acq: 1 Apr 2013 5:12 pm

Tgt Ion:106 Resp: 30711

Ion	Ratio	Lower	Upper
106	100		
91	200.2	137.9	256.1

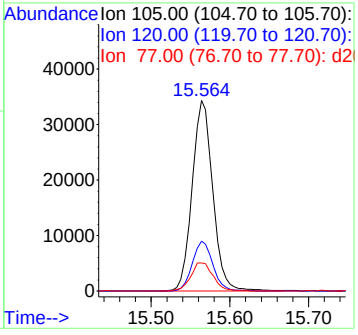


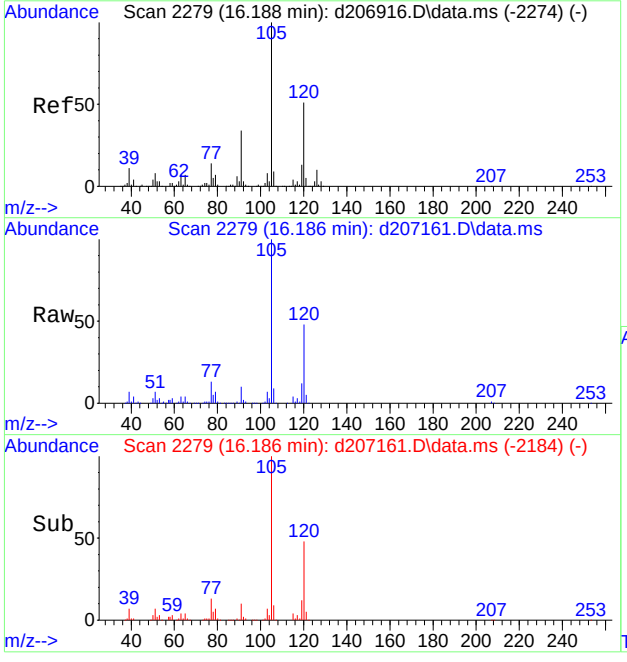


#100
isopropylbenzene
Concen: 4.46 ug/L
RT: 15.564 min Scan# 2160
Delta R.T. -0.002 min
Lab File: d207161.D
Acq: 1 Apr 2013 5:12 pm

Tgt Ion:105 Resp: 62685

Ion	Ratio	Lower	Upper
105	100		
120	26.3	0.0	56.8
77	14.8	0.0	46.2

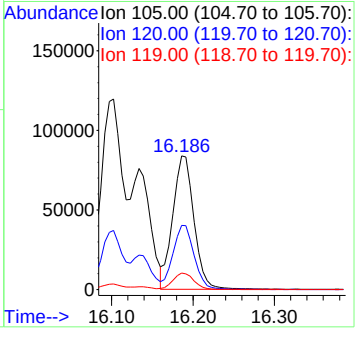


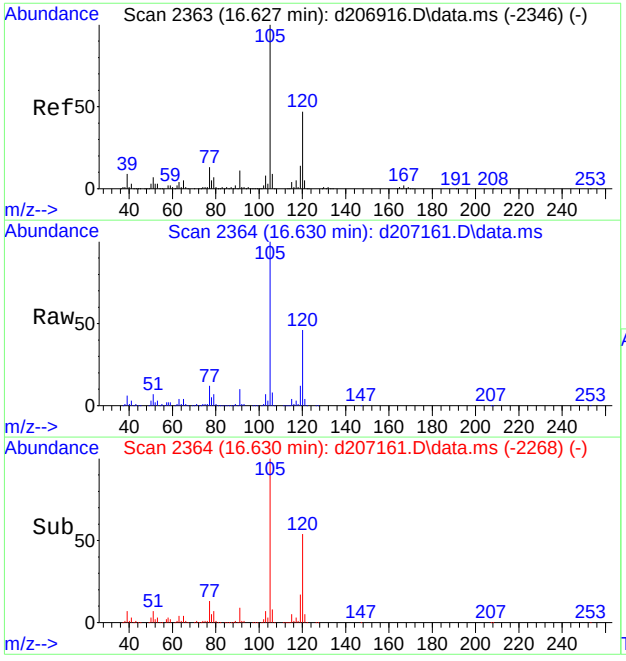


#111
1,3,5-trimethylbenzene
Concen: 12.35 ug/L
RT: 16.186 min Scan# 2279
Delta R.T. -0.002 min
Lab File: d207161.D
Acq: 1 Apr 2013 5:12 pm

Tgt Ion:105 Resp: 151350

Ion	Ratio	Lower	Upper
105	100		
120	48.2	19.0	79.0
119	12.4	0.0	42.2

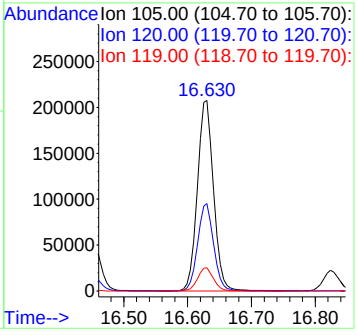


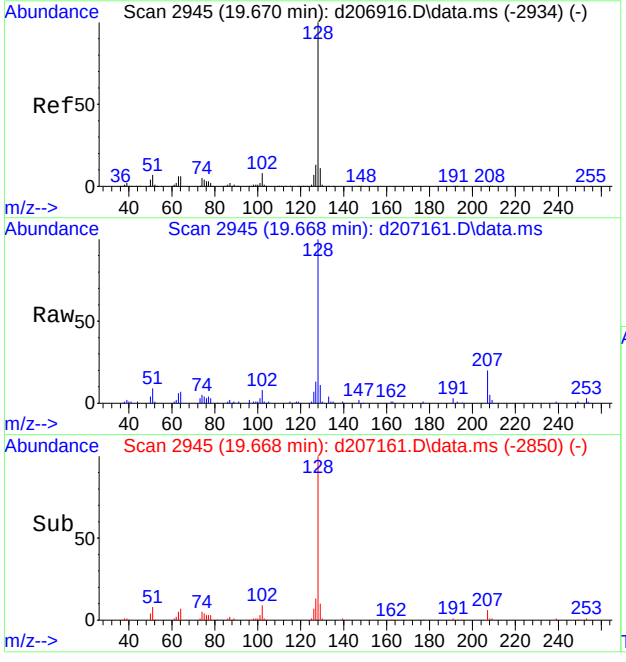


#114
1,2,4-trimethylbenzene
Concen: 29.59 ug/L
RT: 16.630 min Scan# 2364
Delta R.T. 0.003 min
Lab File: d207161.D
Acq: 1 Apr 2013 5:12 pm

Tgt Ion:105 Resp: 366237

Ion	Ratio	Lower	Upper
105	100		
120	45.9	16.6	76.6
119	12.3	0.0	44.0

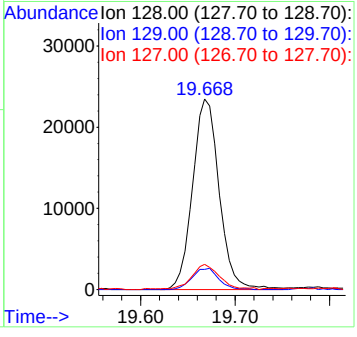




#128
naphthalene
Concen: 4.94 ug/L
RT: 19.668 min Scan# 2945
Delta R.T. -0.002 min
Lab File: d207161.D
Acq: 1 Apr 2013 5:12 pm

Tgt Ion:128 Resp: 46064

Ion	Ratio	Lower	Upper
128	100		
129	10.6	0.0	40.7
127	12.8	0.0	42.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207083.D
Acq On : 30 Mar 2013 1:51 am
Operator : EmilyT
Sample : jb31800-12
Misc : ms45252,vd8450,6.5,,100,10,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Apr 01 12:05:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.020	65	158475	500.00 ug/L	0.02
4) pentafluorobenzene	10.232	168	251259	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.146	114	390396	50.00 ug/L	0.00
85) chlorobenzene-d5	14.487	117	369478	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.075	152	216148	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.263	113	117318	41.39 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 82.78%		
47) 1,2-dichloroethane-d4 (s)	10.686	65	142843	41.29 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 82.58%		
77) toluene-d8 (s)	12.856	98	488704	43.99 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 87.98%		
101) 4-bromofluorobenzene (s)	15.768	95	202177	47.85 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 95.70%		

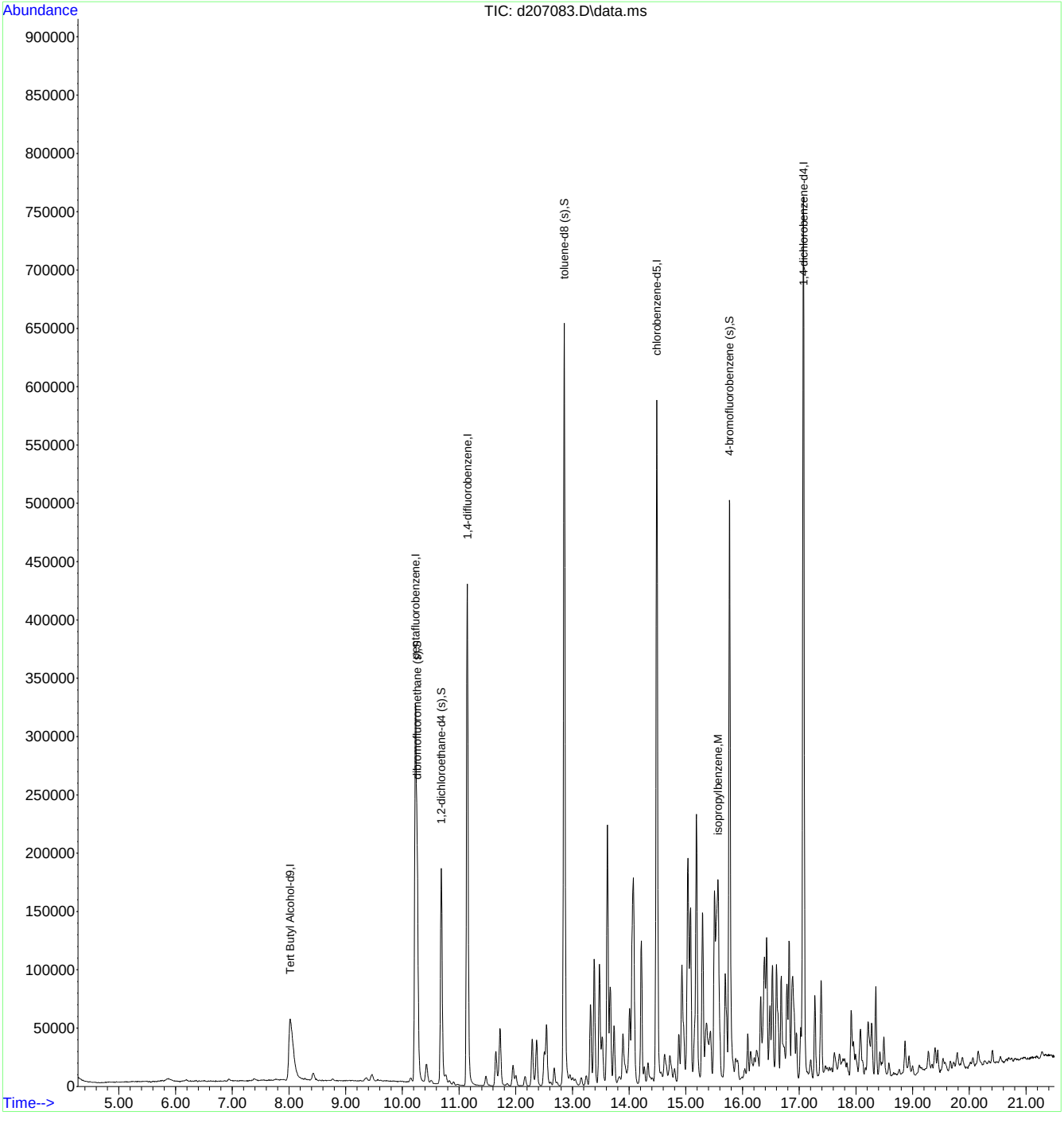
Target Compounds					Qvalue
100) isopropylbenzene	15.564	105	12757	0.92 ug/L	95

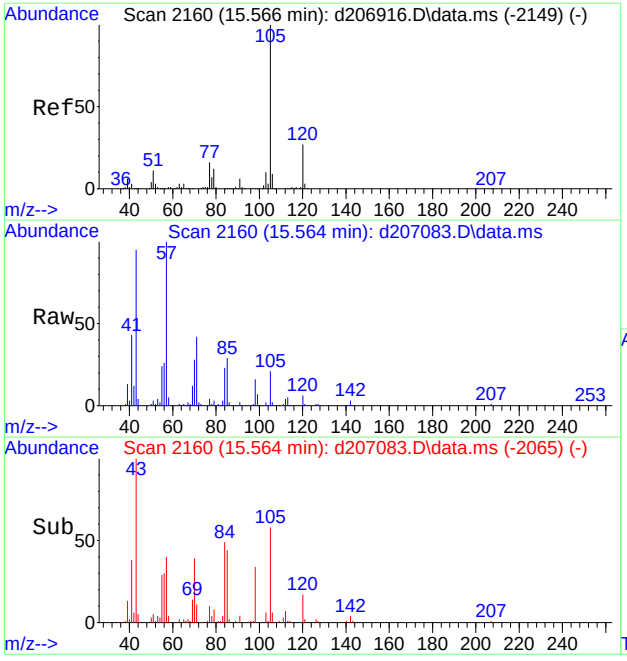
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207083.D
Acq On : 30 Mar 2013 1:51 am
Operator : EmilyT
Sample : jb31800-12
Misc : ms45252,vd8450,6.5,,100,10,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Apr 01 12:05:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

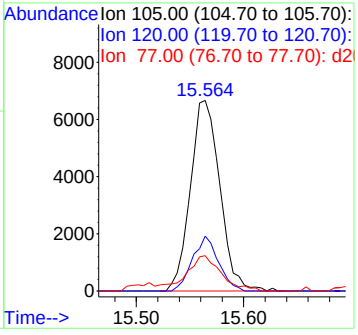




#100
isopropylbenzene
Concen: 0.92 ug/L
RT: 15.564 min Scan# 2160
Delta R.T. -0.002 min
Lab File: d207083.D
Acq: 30 Mar 2013 1:51 am

Tgt Ion:105 Resp: 12757

Ion	Ratio	Lower	Upper
105	100		
120	28.9	0.0	56.8
77	18.5	0.0	46.2



7.1.15

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207151.D
Acq On : 1 Apr 2013 11:55 am
Operator : EmilyT
Sample : jb31800-13
Misc : ms45252,vd8453,6,,100,10,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 01 18:00:57 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

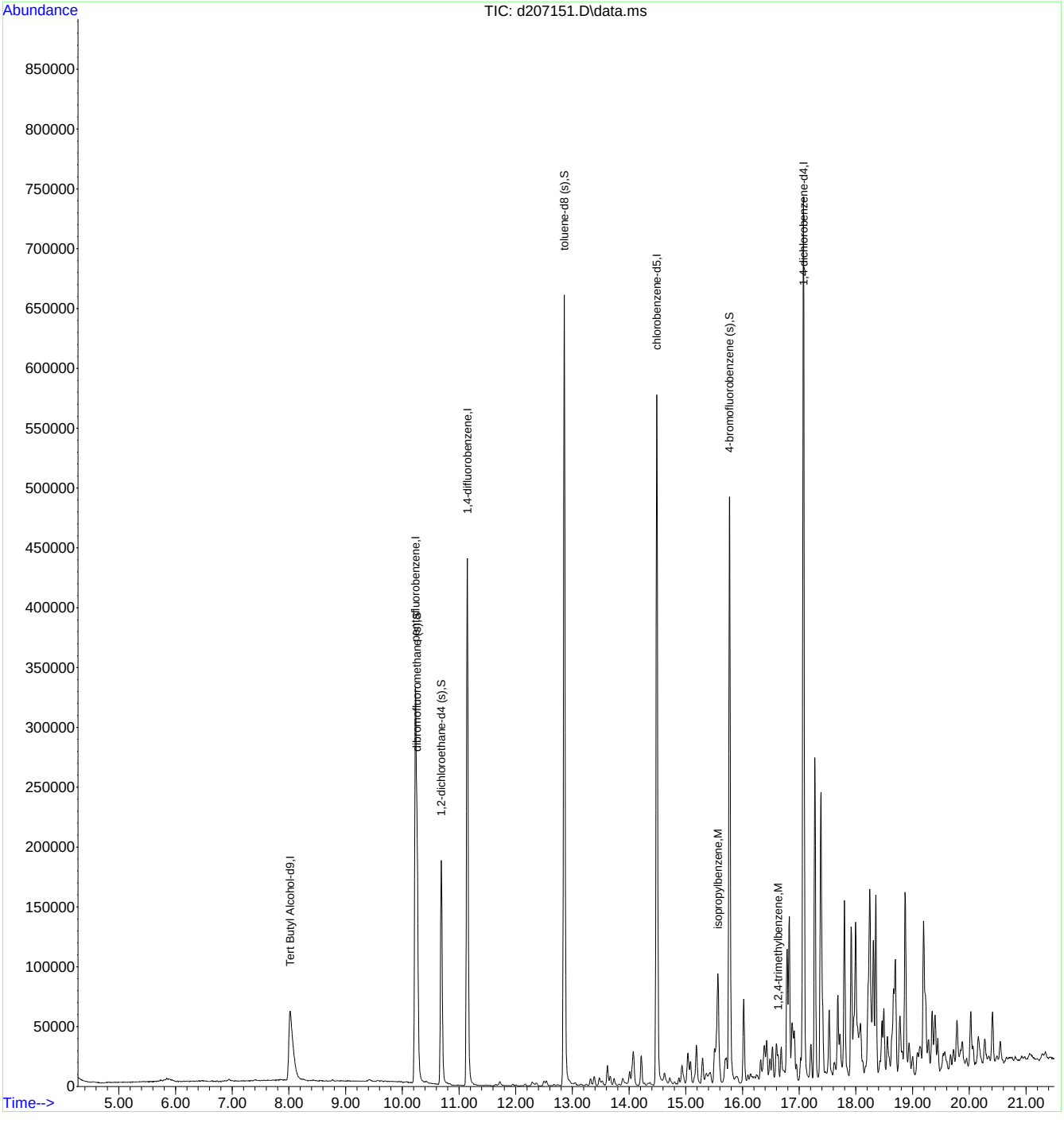
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.021	65	173681	500.00 ug/L	0.02
4) pentafluorobenzene	10.232	168	247666	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.147	114	390650	50.00 ug/L	0.00
85) chlorobenzene-d5	14.488	117	370415	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.076	152	214709	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.258	113	116047	41.53 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 83.06%		
47) 1,2-dichloroethane-d4 (s)	10.687	65	144059	42.25 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 84.50%		
77) toluene-d8 (s)	12.857	98	487220	43.83 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 87.66%		
101) 4-bromofluorobenzene (s)	15.774	95	201347	47.97 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 95.94%		
Target Compounds					Qvalue
100) isopropylbenzene	15.565	105	36704	2.66 ug/L	99
114) 1,2,4-trimethylbenzene	16.631	105	4330	0.36 ug/L	97

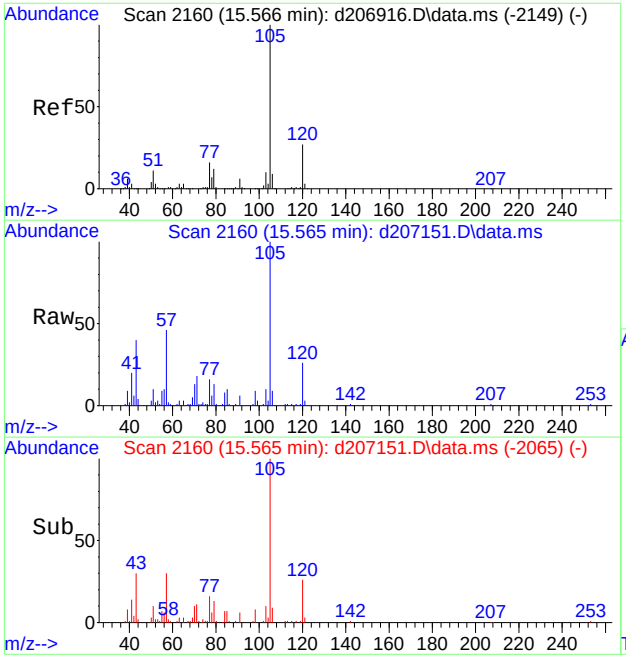
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207151.D
Acq On : 1 Apr 2013 11:55 am
Operator : EmilyT
Sample : jb31800-13
Misc : ms45252,vd8453,6,,100,10,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 01 18:00:57 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

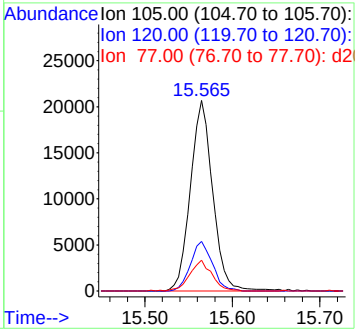


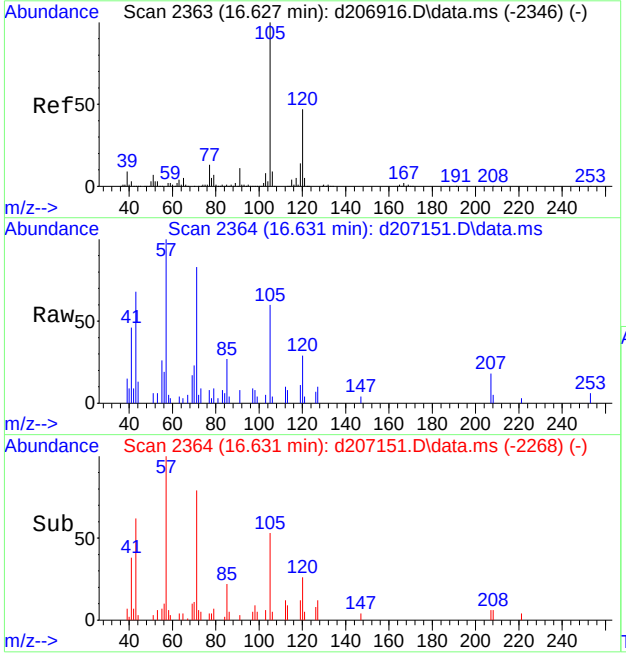


#100
isopropylbenzene
Concen: 2.66 ug/L
RT: 15.565 min Scan# 2160
Delta R.T. -0.001 min
Lab File: d207151.D
Acq: 1 Apr 2013 11:55 am

Tgt Ion:105 Resp: 36704

Ion	Ratio	Lower	Upper
105	100		
120	26.1	0.0	56.8
77	15.7	0.0	46.2

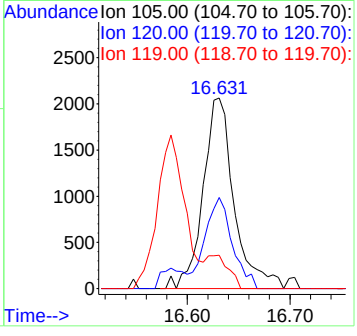




#114
1,2,4-trimethylbenzene
Concen: 0.36 ug/L
RT: 16.631 min Scan# 2364
Delta R.T. 0.004 min
Lab File: d207151.D
Acq: 1 Apr 2013 11:55 am

Tgt Ion:105 Resp: 4330

Ion	Ratio	Lower	Upper
105	100		
120	47.9	16.6	76.6
119	17.5	0.0	44.0



Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180449.D
Acq On : 29 Mar 2013 2:14 pm
Operator : tamikag
Sample : JB31800-14
Misc : MS45252,VC6473,5.8,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 09:44:12 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.484	65	68334	500.00	ug/L	-0.01
5) pentafluorobenzene	8.073	168	221874	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.061	114	324383	50.00	ug/L	0.00
85) chlorobenzene-d5	12.137	117	264984	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.156	152	140621	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.021	113	87008	50.25	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.50%			
50) 1,2-dichloroethane-d4 (s)	8.507	65	79275	46.74	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 93.48%			
77) toluene-d8 (s)	10.725	98	368241	56.14	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 112.28%			
103) 4-bromofluorobenzene (s)	13.183	95	134840	50.30	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 100.60%			
Target Compounds						Qvalue
22) acetone	4.788	43	7707	18.77	ug/L	97
96) ethylbenzene	12.226	91	8673	0.98	ug/L	96
98) o-xylene	12.995	106	58293	16.77	ug/L #	8
102) isopropylbenzene	12.995	105	656806	76.60	ug/L	100
108) n-propylbenzene	13.350	91	1841525	182.47	ug/L	99
113) tert-butylbenzene	13.763	119	33225	5.41	ug/L	99
116) sec-butylbenzene	13.952	105	995794	106.70	ug/L	99
121) p-diethylbenzene	14.381	119	310566	67.55	ug/L	95
123) n-butylbenzene	14.401	92	307926	74.42	ug/L	99
124) 1,2,4,5-tetramethylben...	15.024	119	1265834	180.11	ug/L #	98
129) naphthalene	15.970	128	121421	21.53	ug/L	99

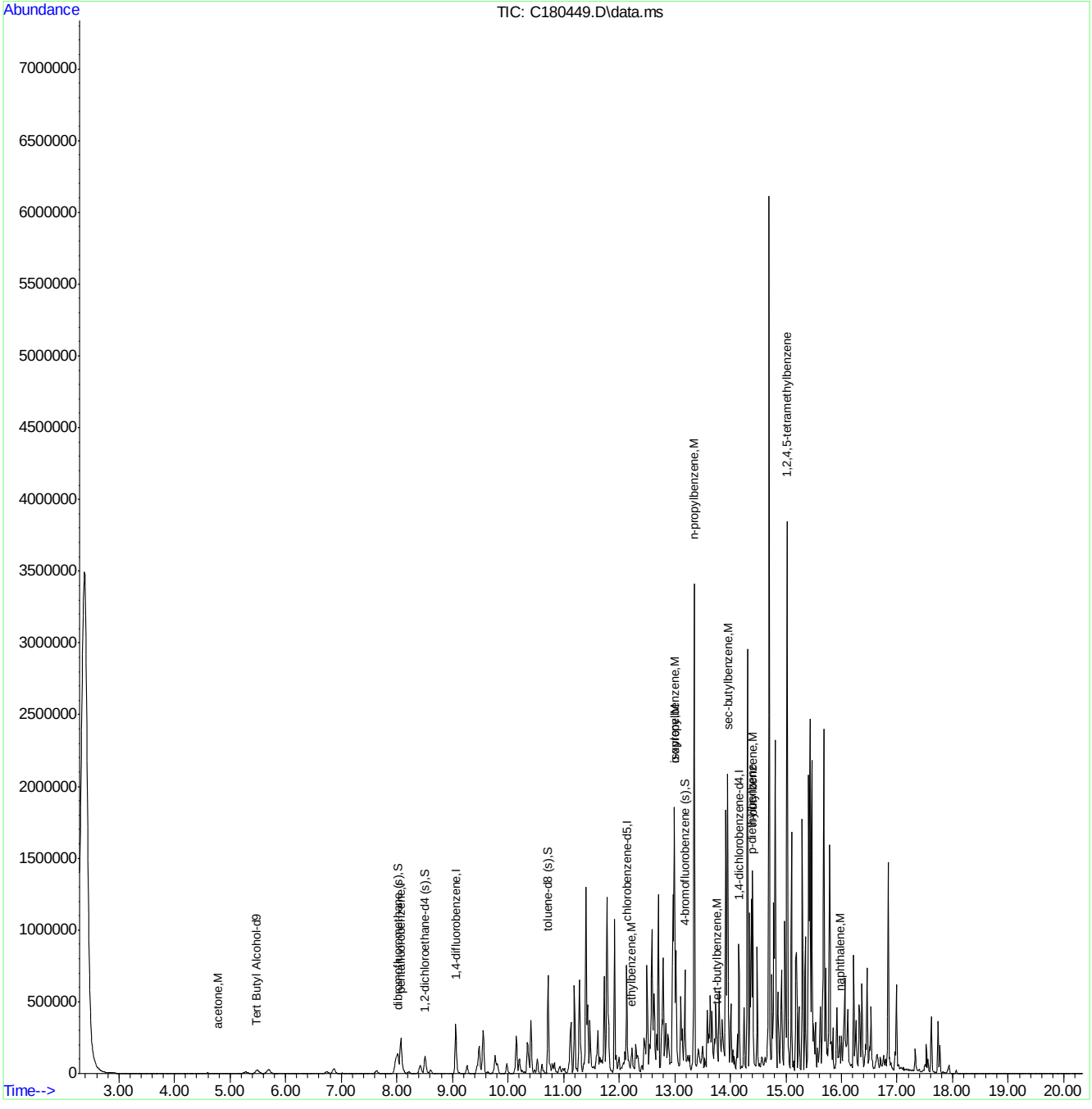
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

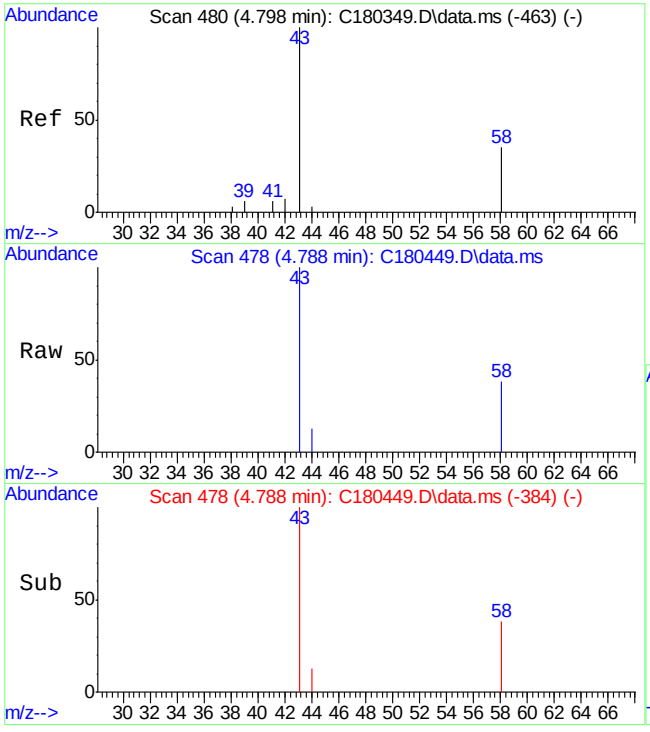
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180449.D
Acq On : 29 Mar 2013 2:14 pm
Operator : tamikag
Sample : JB31800-14
Misc : MS45252,VC6473,5.8,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 09:44:12 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



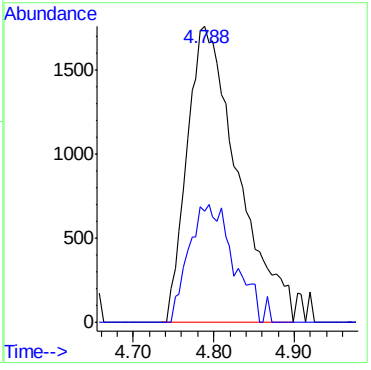
SGS ACCUTEST JB31800

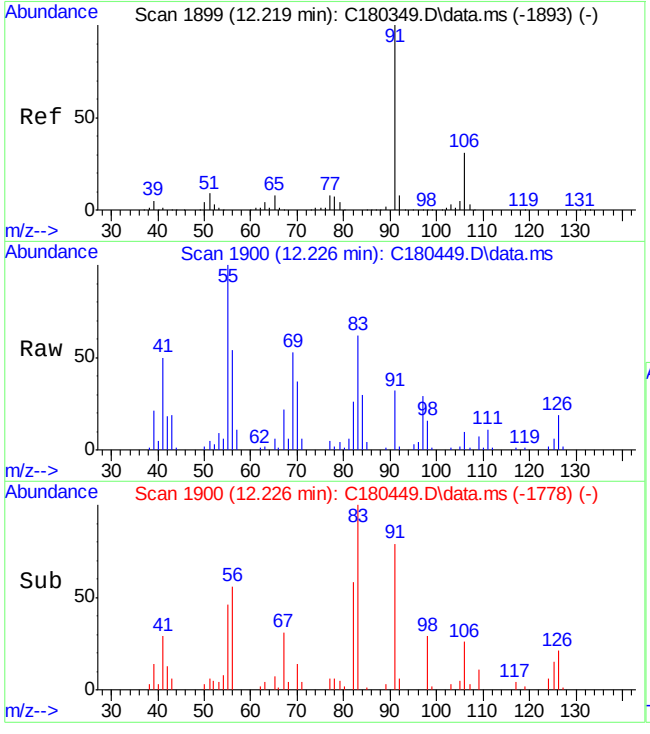


#22
acetone
Concen: 18.77 ug/L
RT: 4.788 min Scan# 478
Delta R.T. -0.009 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion: 43 Resp: 7707

Ion	Ratio	Lower	Upper
43	100		
58	34.8	3.0	63.0

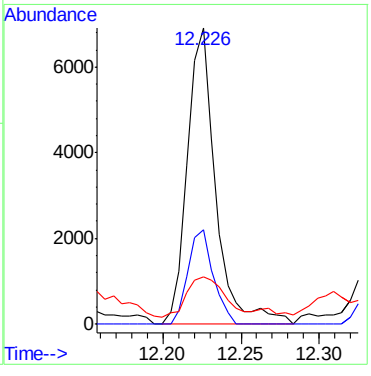




#96
ethylbenzene
Concen: 0.98 ug/L
RT: 12.226 min Scan# 1900
Delta R.T. 0.006 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

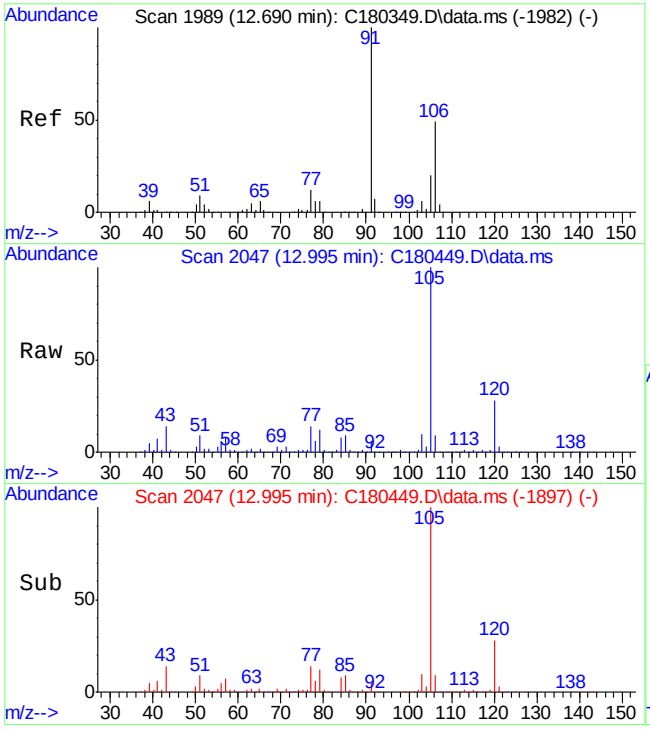
Tgt Ion: 91 Resp: 8673

Ion	Ratio	Lower	Upper
91	100		
106	31.7	1.4	61.4
77	13.8	0.0	38.4



7.1.17

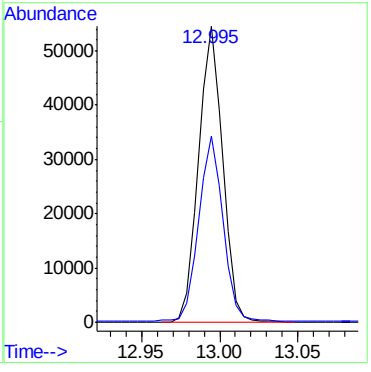
7

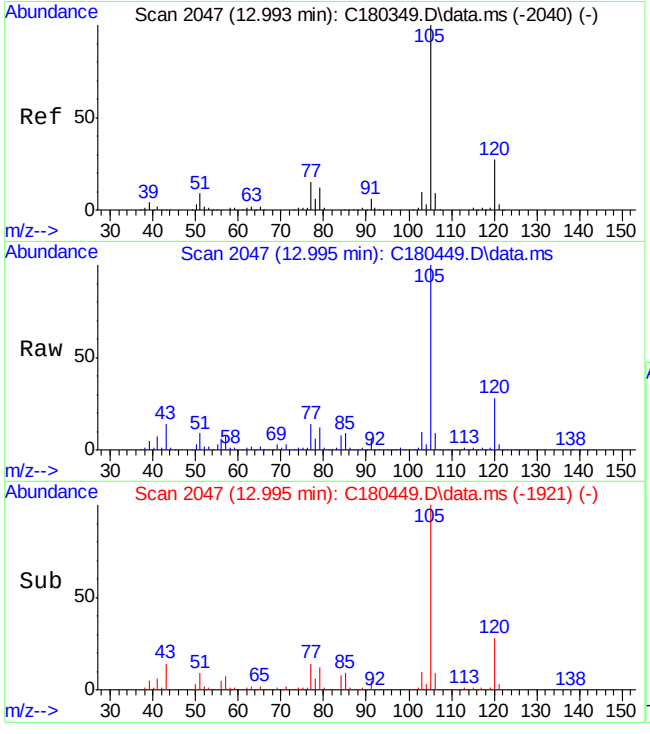


#98
o-xylene
Concen: 16.77 ug/L
RT: 12.995 min Scan# 2047
Delta R.T. 0.304 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion:106 Resp: 58293

Ion	Ratio	Lower	Upper
106	100		
91	62.4	174.1	234.1#

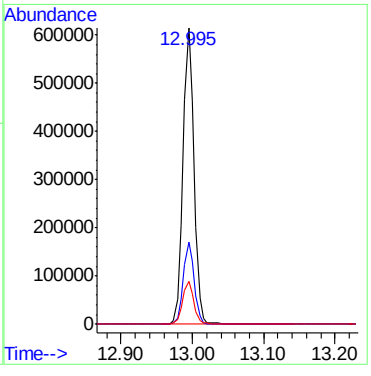


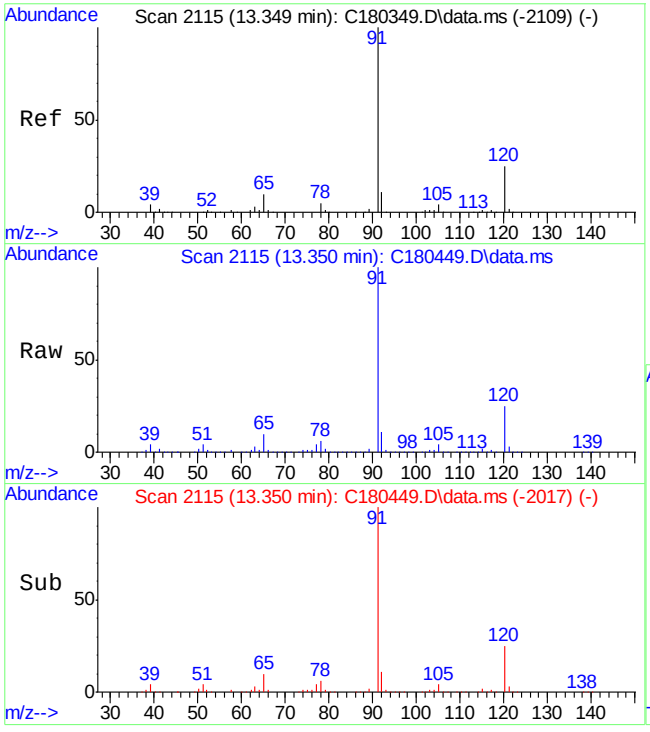


#102
isopropylbenzene
Concen: 76.60 ug/L
RT: 12.995 min Scan# 2047
Delta R.T. 0.001 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion:105 Resp: 656806

Ion	Ratio	Lower	Upper
105	100		
120	27.5	0.0	57.4
77	14.3	0.0	44.6

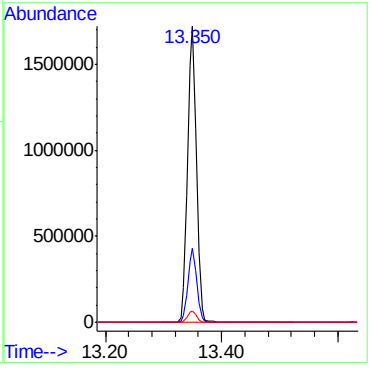


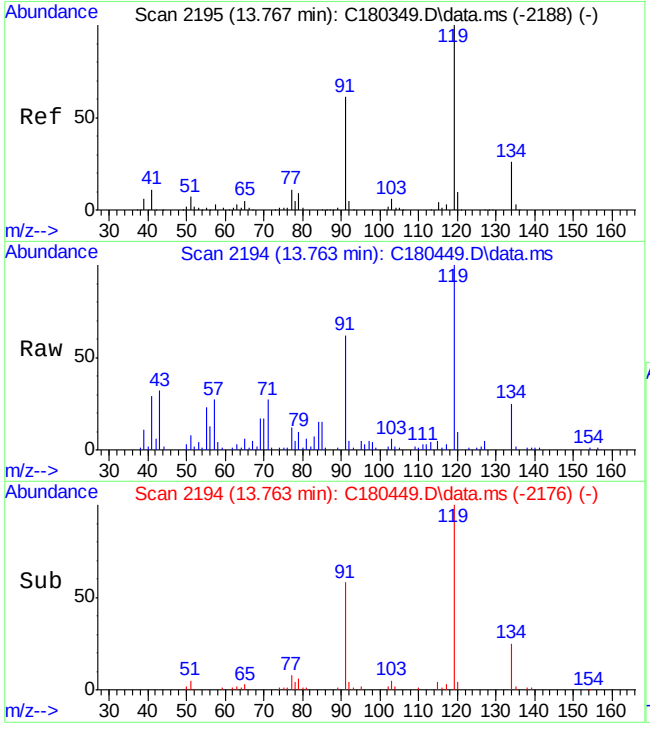


#108
n-propylbenzene
Concen: 182.47 ug/L
RT: 13.350 min Scan# 2115
Delta R.T. 0.001 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion: 91 Resp: 1841525

Ion	Ratio	Lower	Upper
91	100		
120	25.1	0.0	54.6
105	3.9	0.0	33.7

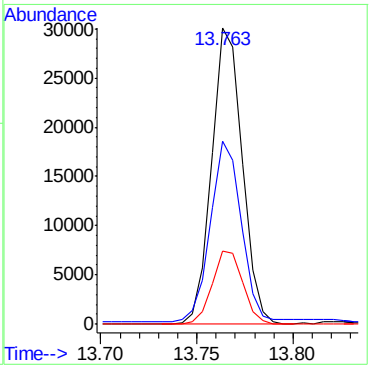


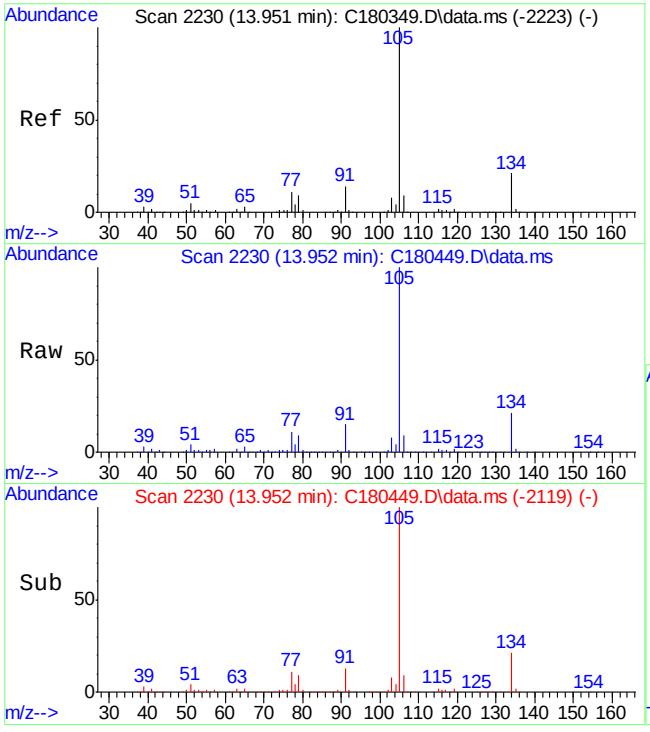


#113
tert-butylbenzene
Concen: 5.41 ug/L
RT: 13.763 min Scan# 2194
Delta R.T. -0.004 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion:119 Resp: 33225

Ion	Ratio	Lower	Upper
119	100		
91	60.8	31.2	91.2
134	24.5	0.0	55.7

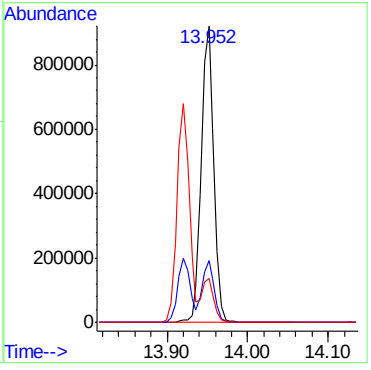


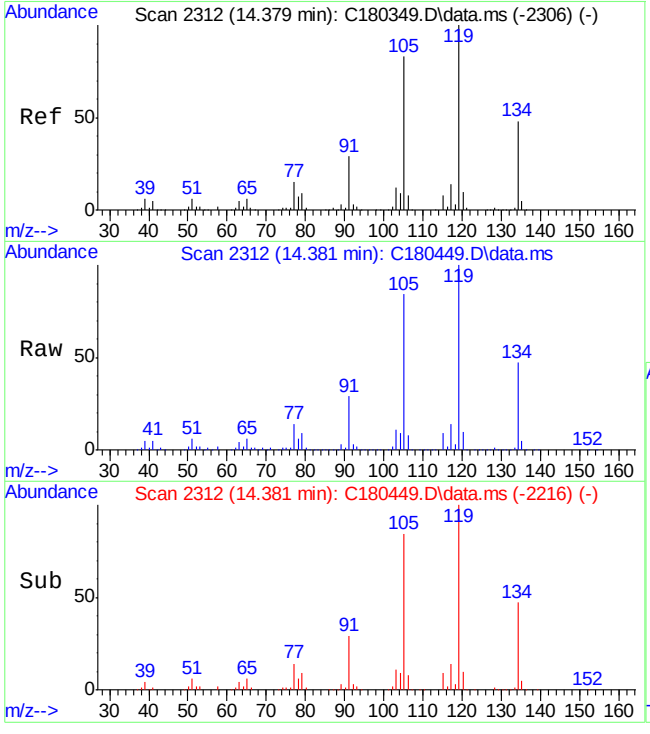


#116
sec-butylbenzene
Concen: 106.70 ug/L
RT: 13.952 min Scan# 2230
Delta R.T. 0.001 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion:105 Resp: 995794

Ion	Ratio	Lower	Upper
105	100		
134	21.1	0.0	50.7
91	14.9	0.0	44.5

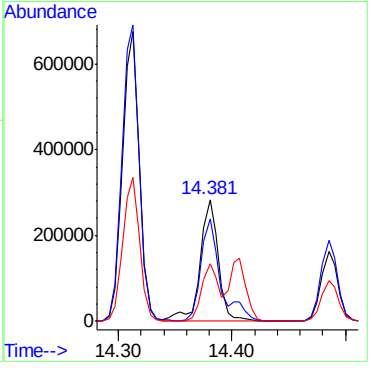


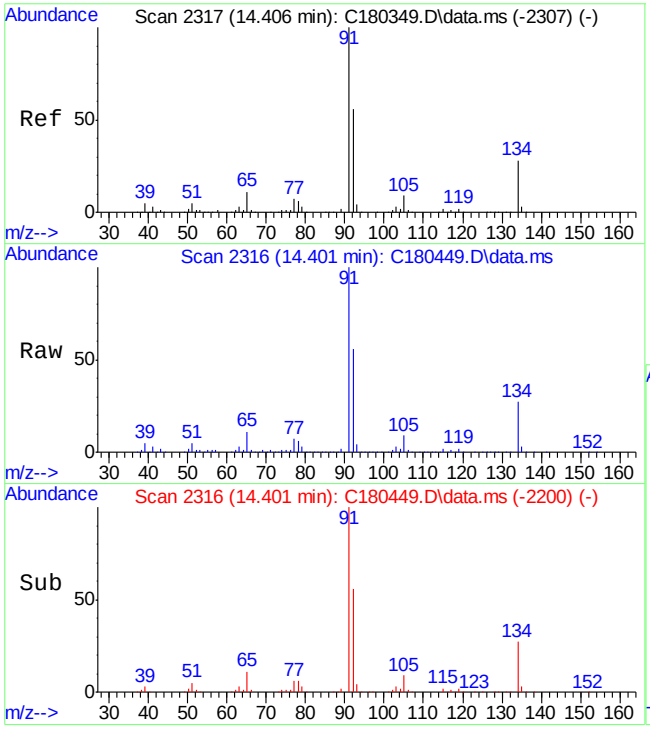


#121
p-diethylbenzene
Concen: 67.55 ug/L
RT: 14.381 min Scan# 2312
Delta R.T. 0.001 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion:119 Resp: 310566

Ion	Ratio	Lower	Upper
119	100		
105	91.5	65.7	121.9
134	43.7	35.7	66.3

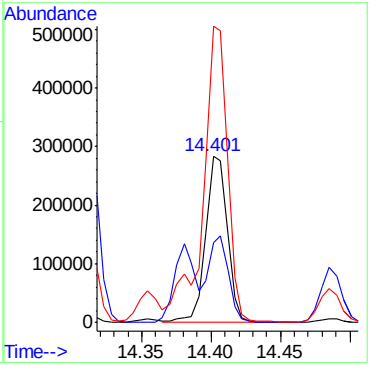


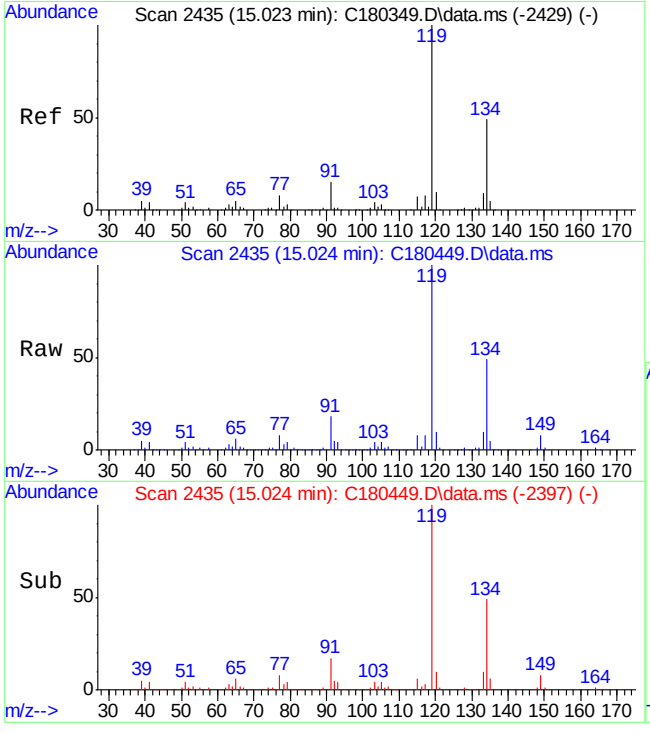


#123
n-butylbenzene
Concen: 74.42 ug/L
RT: 14.401 min Scan# 2316
Delta R.T. -0.004 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion: 92 Resp: 307926

Ion	Ratio	Lower	Upper
92	100		
134	47.8	20.0	80.0
91	177.9	148.7	208.7

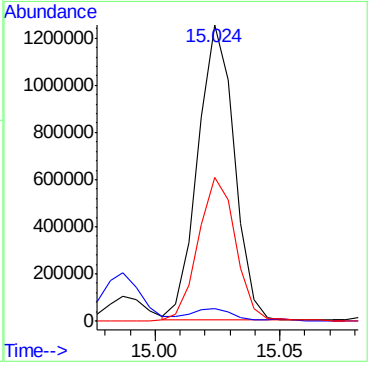


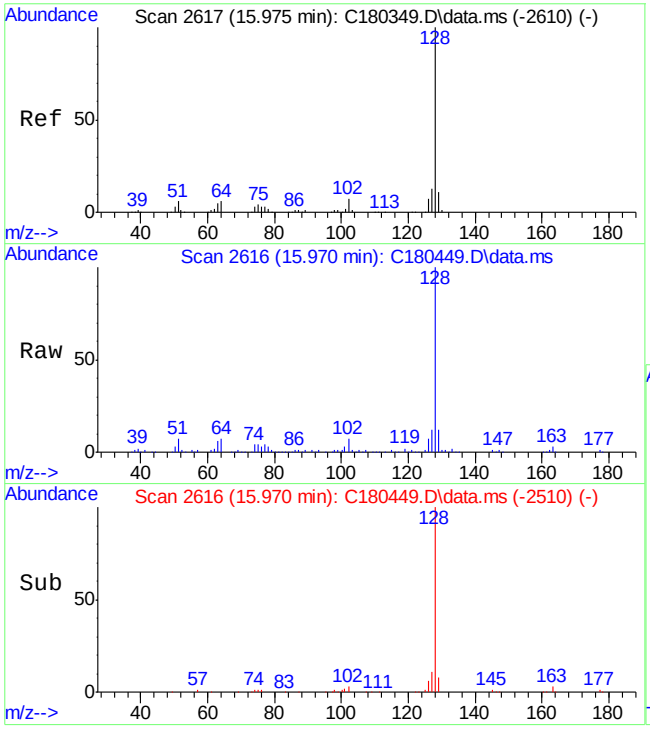


#124
1,2,4,5-tetramethylbenzene
Concen: 180.11 ug/L
RT: 15.024 min Scan# 2435
Delta R.T. 0.001 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion:119 Resp: 1265834

Ion	Ratio	Lower	Upper
119	100		
105	5.0	2.3	4.3#
134	50.4	34.4	63.8

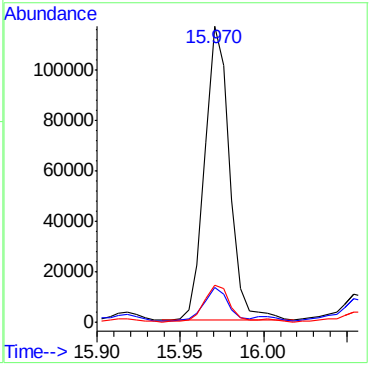




#129
naphthalene
Concen: 21.53 ug/L
RT: 15.970 min Scan# 2616
Delta R.T. -0.004 min
Lab File: C180449.D
Acq: 29 Mar 2013 2:14 pm

Tgt Ion:128 Resp: 121421

Ion	Ratio	Lower	Upper
128	100		
129	11.4	0.0	40.6
127	12.4	0.0	42.6



Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180457.D
Acq On : 29 Mar 2013 5:52 pm
Operator : tamikag
Sample : JB31800-15
Misc : MS45252,VC6473,5.7,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 02 15:25:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.485	65	61499	500.00	ug/L	-0.01
5) pentafluorobenzene	8.073	168	223553	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.062	114	329062	50.00	ug/L	0.00
85) chlorobenzene-d5	12.132	117	266349	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.156	152	139327	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.021	113	87382	50.09	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.18%			
50) 1,2-dichloroethane-d4 (s)	8.508	65	76865	44.98	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 89.96%			
77) toluene-d8 (s)	10.725	98	370767	55.72	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 111.44%			
103) 4-bromofluorobenzene (s)	13.183	95	128700	48.45	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 96.90%			
Target Compounds						Qvalue
129) naphthalene	15.976	128	1992	0.36	ug/L	85

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

7.1.18

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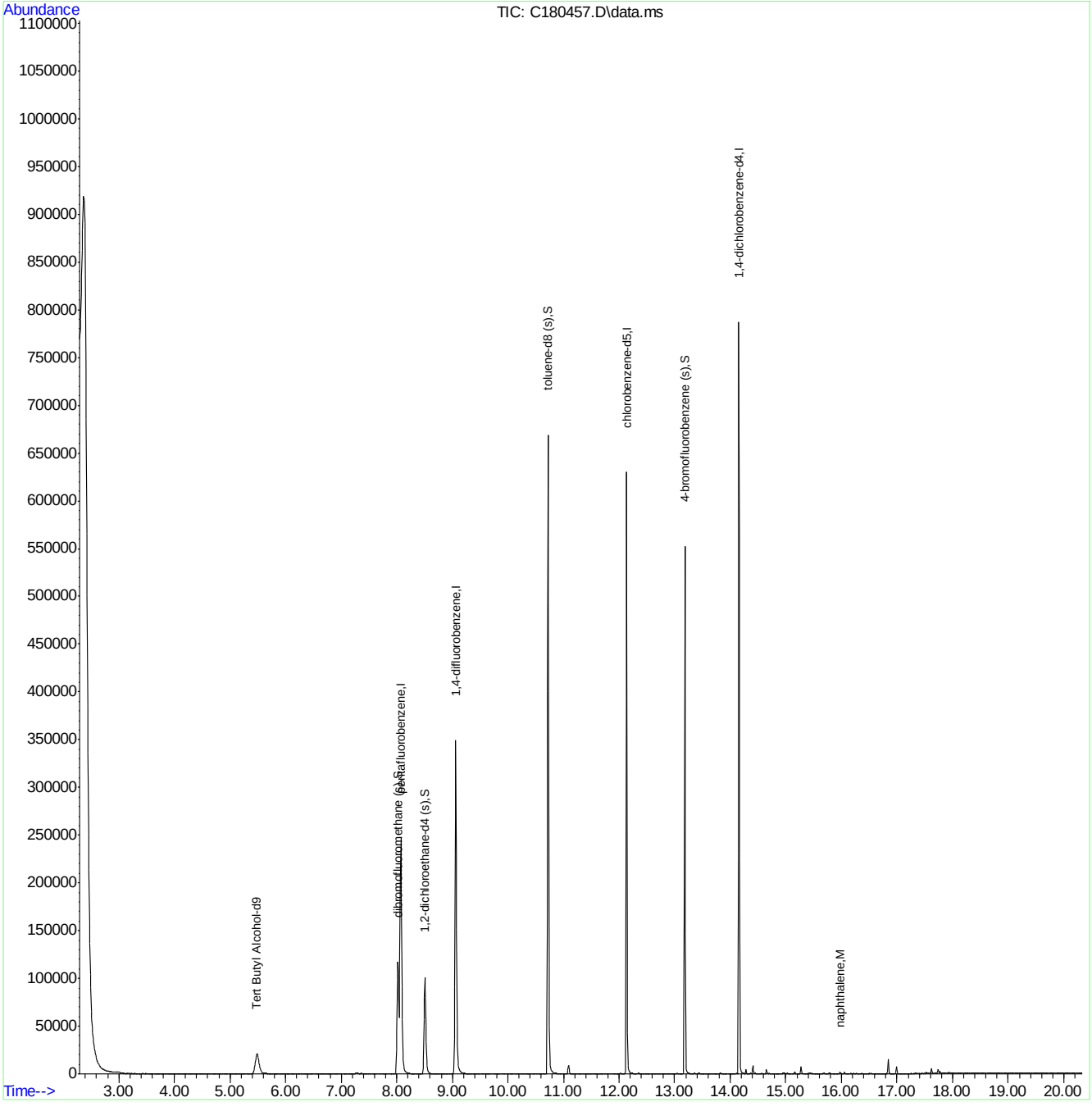
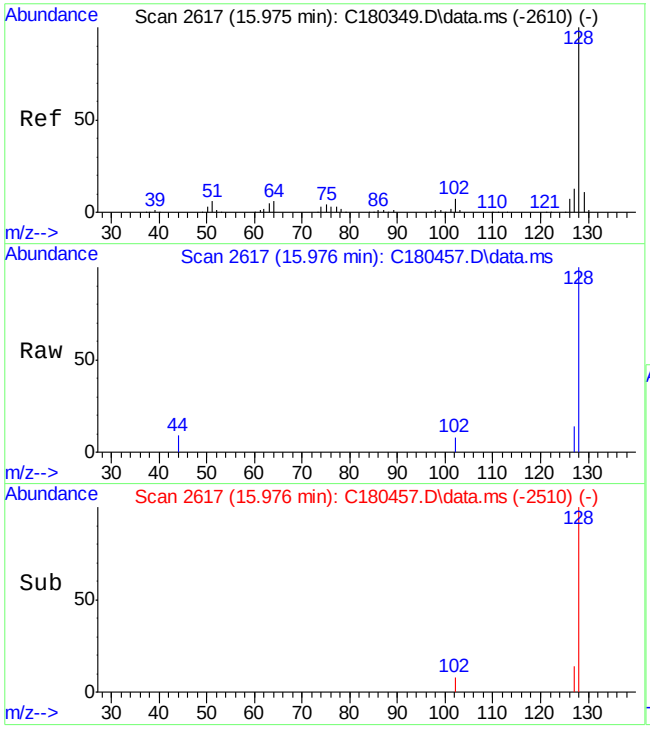
SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180457.D
Acq On : 29 Mar 2013 5:52 pm
Operator : tamikag
Sample : JB31800-15
Misc : MS45252,VC6473,5.7,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 02 15:25:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

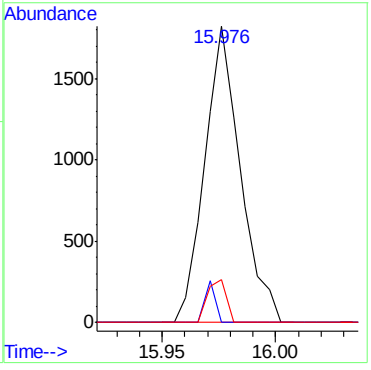




#129
naphthalene
Concen: 0.36 ug/L
RT: 15.976 min Scan# 2617
Delta R.T. 0.002 min
Lab File: C180457.D
Acq: 29 Mar 2013 5:52 pm

Tgt Ion:128 Resp: 1992

Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	40.6
127	14.3	0.0	42.6



7.1.18

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Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180454.D
Acq On : 29 Mar 2013 4:32 pm
Operator : tamikag
Sample : JB31800-16
Misc : MS45252,VC6473,6.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 02 15:21:29 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.494	65	63395	500.00	ug/L	0.00
5) pentafluorobenzene	8.073	168	228633	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.061	114	336402	50.00	ug/L	0.00
85) chlorobenzene-d5	12.137	117	273161	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.156	152	143447	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.021	113	88369	49.53	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.06%			
50) 1,2-dichloroethane-d4 (s)	8.507	65	78312	44.80	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 89.60%			
77) toluene-d8 (s)	10.725	98	378525	55.65	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 111.30%			
103) 4-bromofluorobenzene (s)	13.183	95	133927	48.97	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 97.94%			
Target Compounds						Qvalue
42) cis-1,2-dichloroethene	7.356	96	3921	1.84	ug/L	96
66) 1,2-dichloroethane	8.622	62	1617	0.78	ug/L	91
129) naphthalene	15.976	128	3455	0.60	ug/L	99

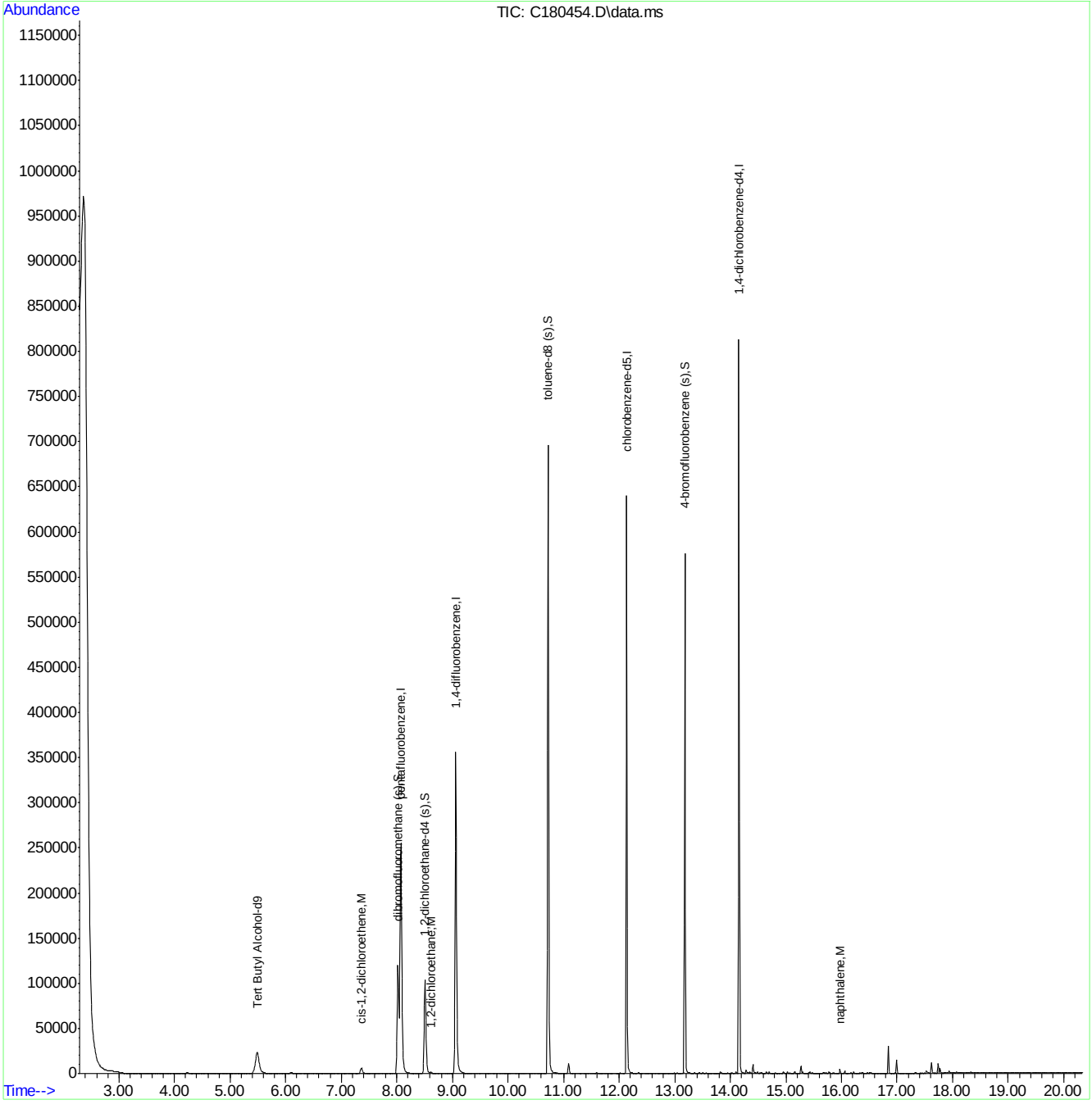
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

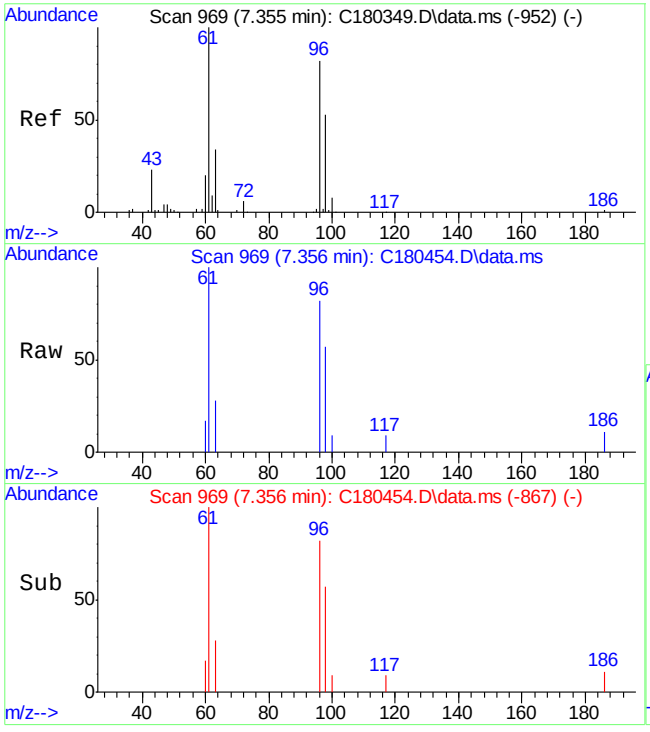
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180454.D
Acq On : 29 Mar 2013 4:32 pm
Operator : tamikag
Sample : JB31800-16
Misc : MS45252,VC6473,6.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 02 15:21:29 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



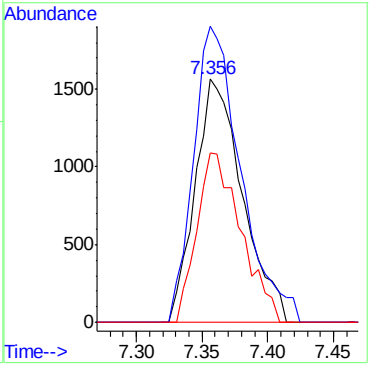
MCS6469.M Tue Apr 02 15:21:34 2013 NJVOA08 Page: 2

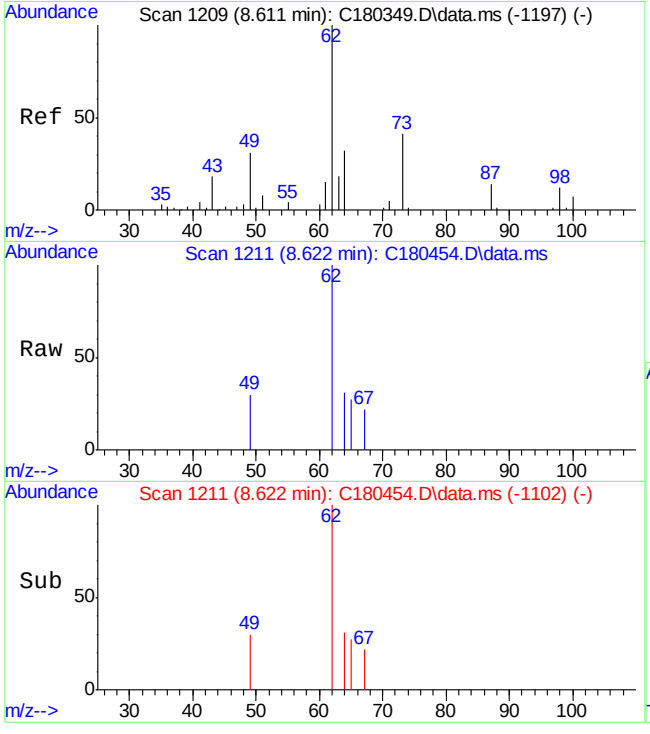


#42
cis-1,2-dichloroethene
Concen: 1.84 ug/L
RT: 7.356 min Scan# 969
Delta R.T. 0.001 min
Lab File: C180454.D
Acq: 29 Mar 2013 4:32 pm

Tgt Ion: 96 Resp: 3921

Ion	Ratio	Lower	Upper
96	100		
61	121.8	93.9	153.9
98	69.8	34.0	94.0

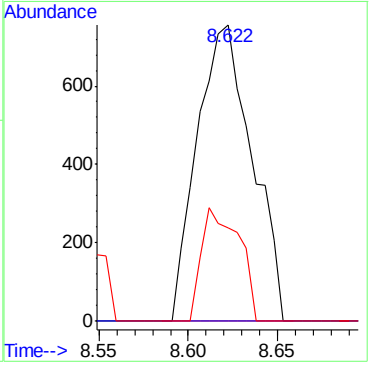


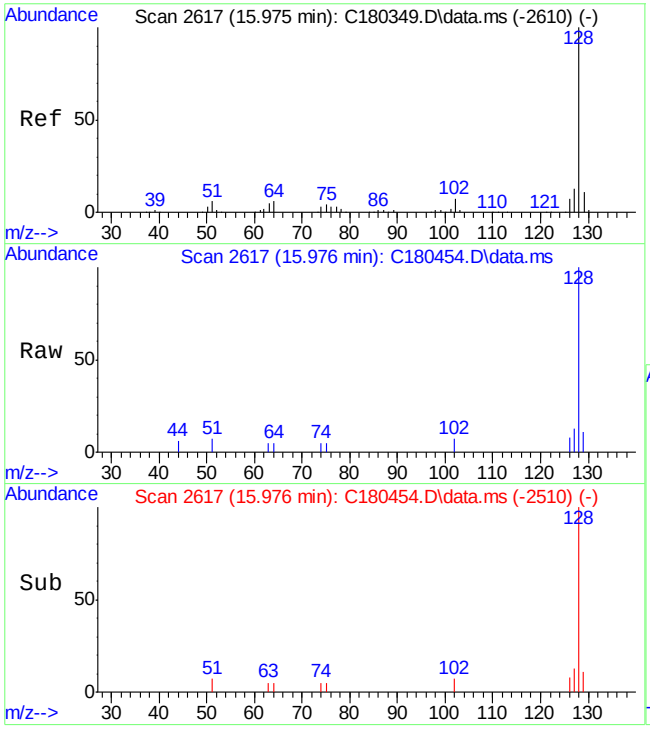


#66
1,2-dichloroethane
Concen: 0.78 ug/L
RT: 8.622 min Scan# 1211
Delta R.T. 0.011 min
Lab File: C180454.D
Acq: 29 Mar 2013 4:32 pm

Tgt Ion: 62 Resp: 1617

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	41.7
64	31.5	1.9	61.9

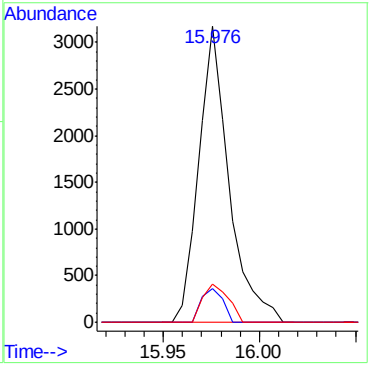




#129
naphthalene
Concen: 0.60 ug/L
RT: 15.976 min Scan# 2617
Delta R.T. 0.001 min
Lab File: C180454.D
Acq: 29 Mar 2013 4:32 pm

Tgt Ion:128 Resp: 3455

Ion	Ratio	Lower	Upper
128	100		
129	11.2	0.0	40.6
127	12.7	0.0	42.6



7.1.19

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Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180458.D
Acq On : 29 Mar 2013 6:19 pm
Operator : tamikag
Sample : JB31800-17
Misc : MS45252,VC6473,7.0,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 02 15:28:53 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

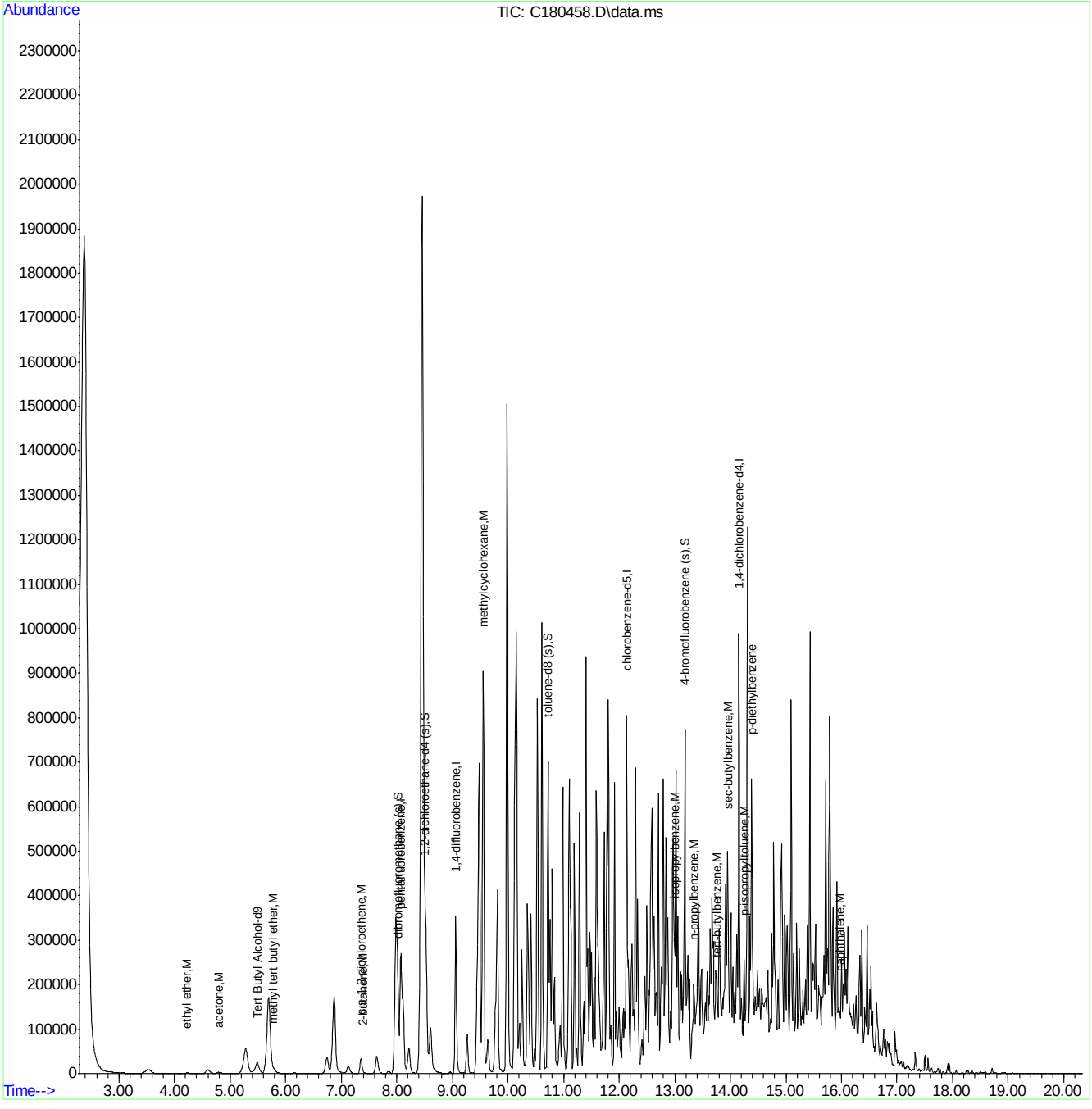
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.495	65	61567	500.00	ug/L	0.00
5) pentafluorobenzene	8.073	168	226137	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.062	114	334479	50.00	ug/L	0.00
85) chlorobenzene-d5	12.137	117	269164	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.156	152	143347	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.021	113	88456	50.12	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.24%			
50) 1,2-dichloroethane-d4 (s)	8.507	65	83606	48.36	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.72%			
77) toluene-d8 (s)	10.725	98	369813	54.68	ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 109.36%			
103) 4-bromofluorobenzene (s)	13.183	95	159247	58.27	ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 116.54%			
Target Compounds						Qvalue
17) ethyl ether	4.224	74	1447	1.10	ug/L	79
22) acetone	4.794	43	9234	22.07	ug/L	100
31) methyl tert butyl ether	5.782	73	14428	2.67	ug/L #	56
35) 2-butanone	7.388	72	732	5.56	ug/L #	1
42) cis-1,2-dichloroethene	7.356	96	21127	10.04	ug/L	97
70) methylcyclohexane	9.553	83	2779	0.91	ug/L #	1
102) isopropylbenzene	12.995	105	10115	1.16	ug/L	97
108) n-propylbenzene	13.350	91	5450	0.53	ug/L	85
113) tert-butylbenzene	13.763	119	14304	2.29	ug/L	98
116) sec-butylbenzene	13.952	105	167879	17.65	ug/L	99
118) p-isopropyltoluene	14.250	119	58829	7.49	ug/L	98
121) p-diethylbenzene	14.381	119	104098	22.21	ug/L	87
129) naphthalene	15.976	128	3394	0.59	ug/L	87

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

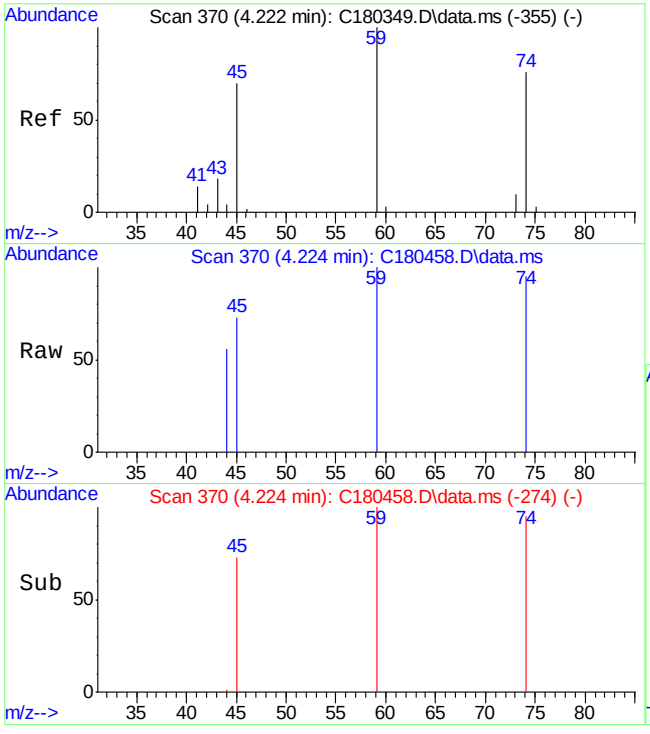
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180458.D
Acq On : 29 Mar 2013 6:19 pm
Operator : tamikag
Sample : JB31800-17
Misc : MS45252,VC6473,7.0,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 02 15:28:53 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



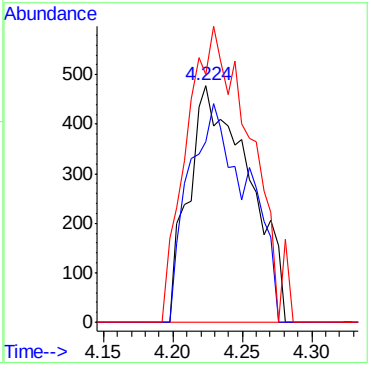
MCS6469.M Tue Apr 02 15:28:58 2013 NJVOA08 Page: 2

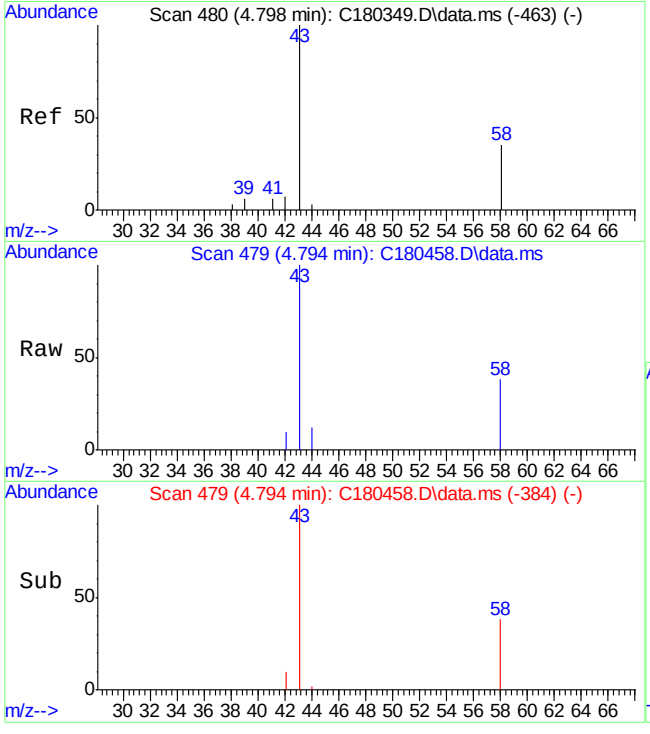


#17
ethyl ether
Concen: 1.10 ug/L
RT: 4.224 min Scan# 370
Delta R.T. 0.001 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion: 74 Resp: 1447

Ion	Ratio	Lower	Upper
74	100		
45	76.2	62.7	122.7
59	104.8	102.1	162.1

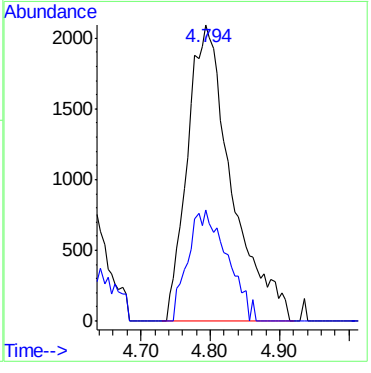


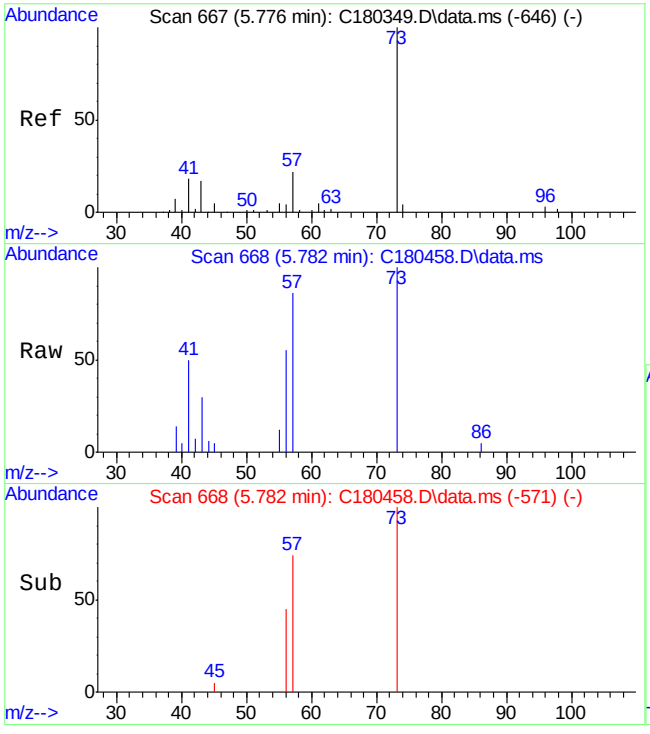


#22
acetone
Concen: 22.07 ug/L
RT: 4.794 min Scan# 479
Delta R.T. -0.004 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion: 43 Resp: 9234

Ion	Ratio	Lower	Upper
43	100		
58	33.3	3.0	63.0

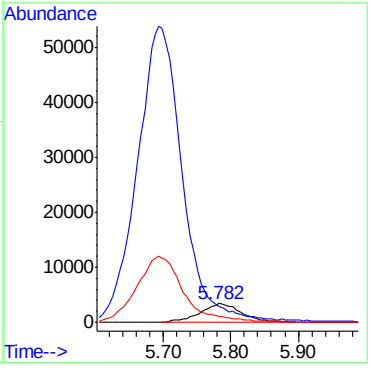


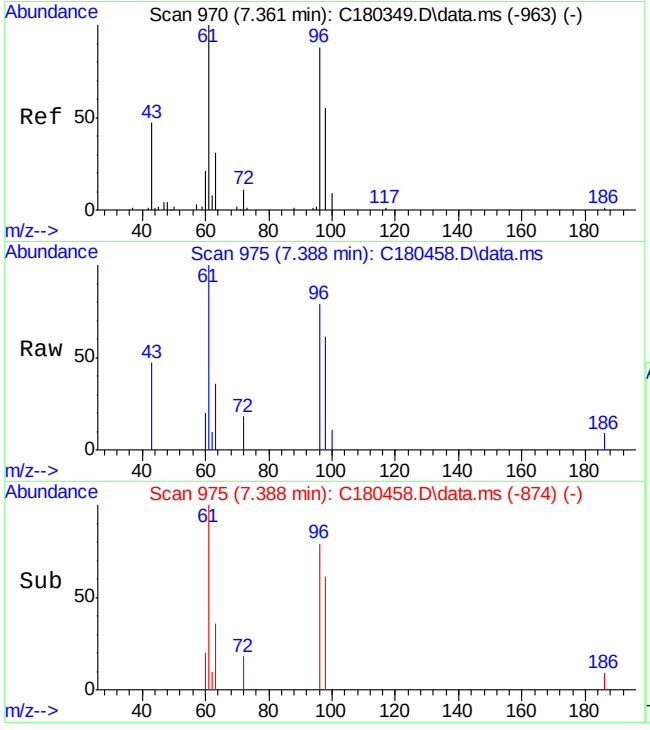


#31
methyl tert butyl ether
Concen: 2.67 ug/L
RT: 5.782 min Scan# 668
Delta R.T. 0.006 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion: 73 Resp: 14428

Ion	Ratio	Lower	Upper
73	100		
57	0.0	0.0	52.2
43	0.0	0.0	48.1

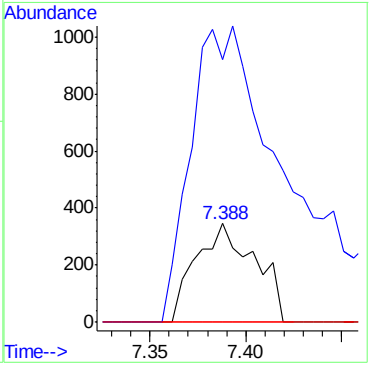


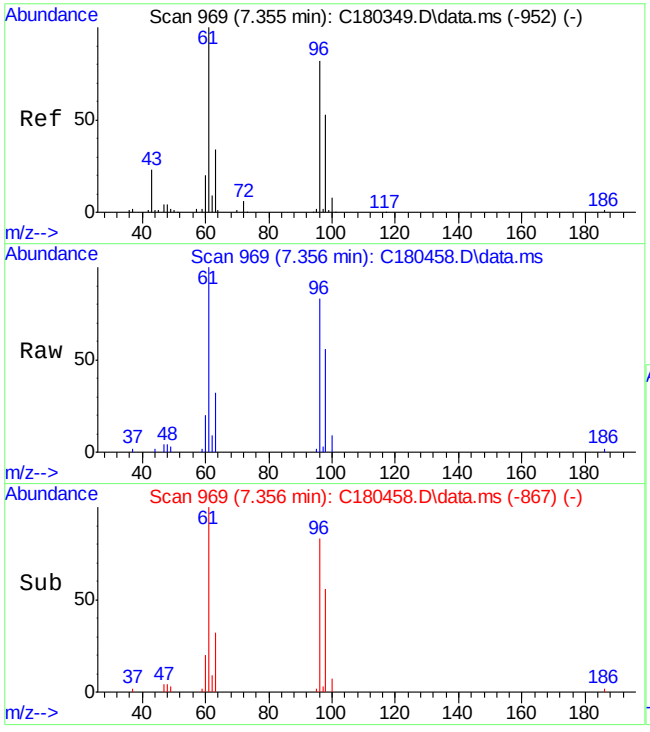


#35
2-butanone
Concen: 5.56 ug/L
RT: 7.388 min Scan# 975
Delta R.T. 0.028 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion: 72 Resp: 732

Ion	Ratio	Lower	Upper
72	100		
43	553.7	841.8	1563.4#
57	0.0	19.0	35.4#

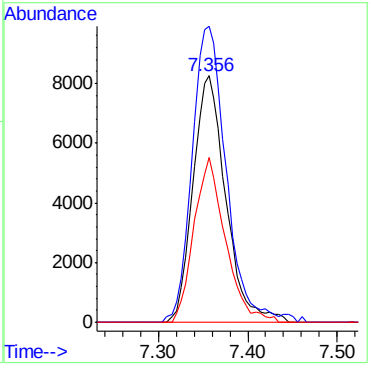


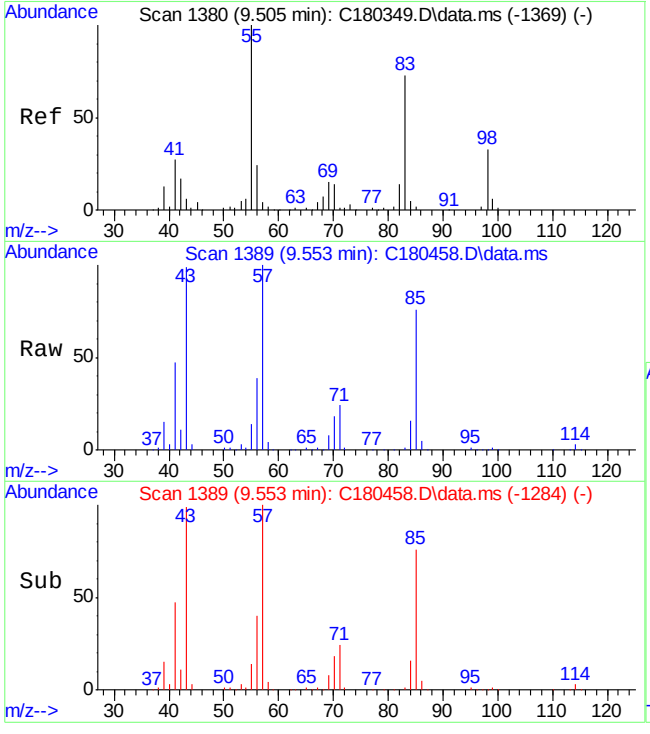


#42
cis-1,2-dichloroethene
Concen: 10.04 ug/L
RT: 7.356 min Scan# 969
Delta R.T. 0.001 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion: 96 Resp: 21127

Ion	Ratio	Lower	Upper
96	100		
61	120.1	93.9	153.9
98	66.7	34.0	94.0

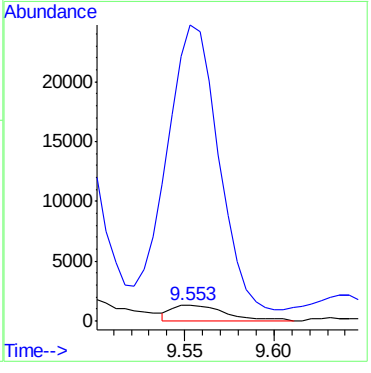


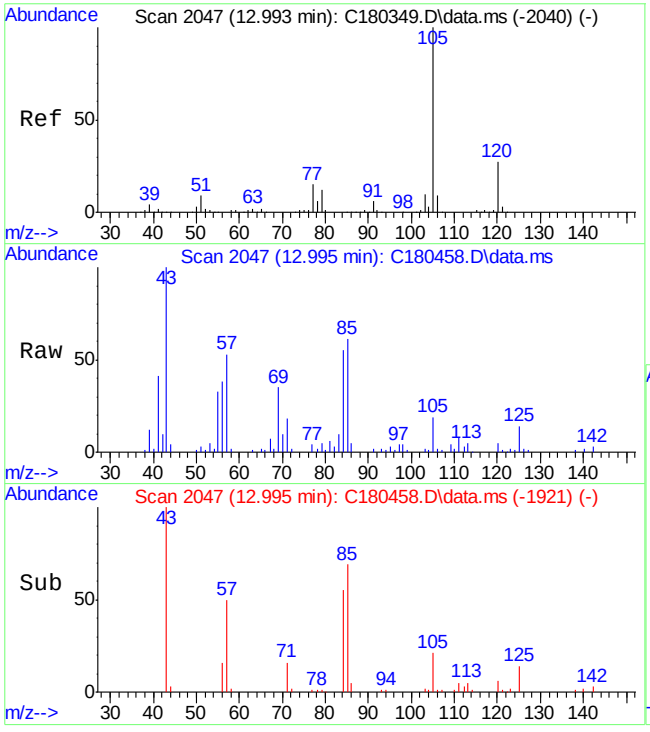


#70
methylcyclohexane
Concen: 0.91 ug/L
RT: 9.553 min Scan# 1389
Delta R.T. 0.048 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion: 83 Resp: 2779

Ion	Ratio	Lower	Upper
83	100		
55	1830.9	97.3	180.7#

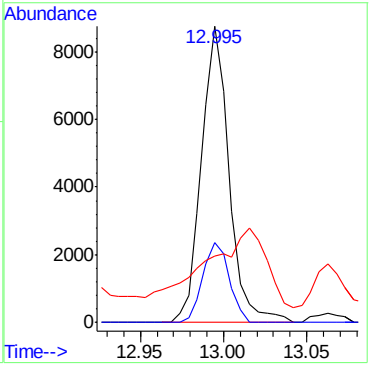


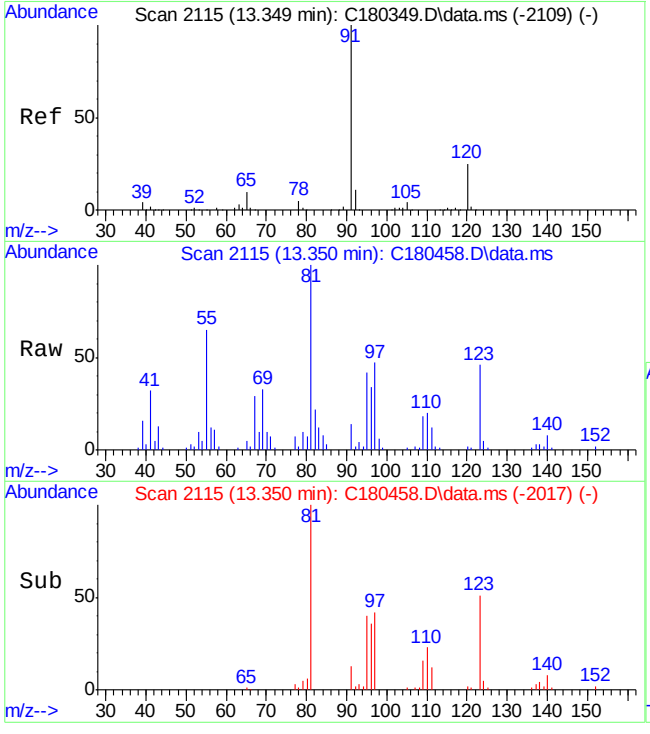


#102
isopropylbenzene
Concen: 1.16 ug/L
RT: 12.995 min Scan# 2047
Delta R.T. 0.001 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion:105 Resp: 10115

Ion	Ratio	Lower	Upper
105	100		
120	27.1	0.0	57.4
77	17.7	0.0	44.6

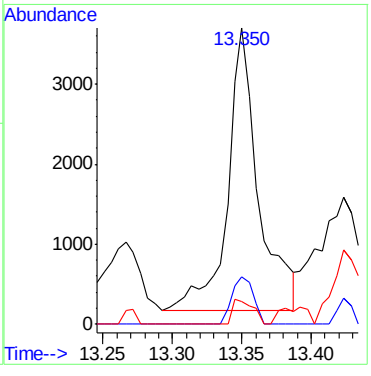


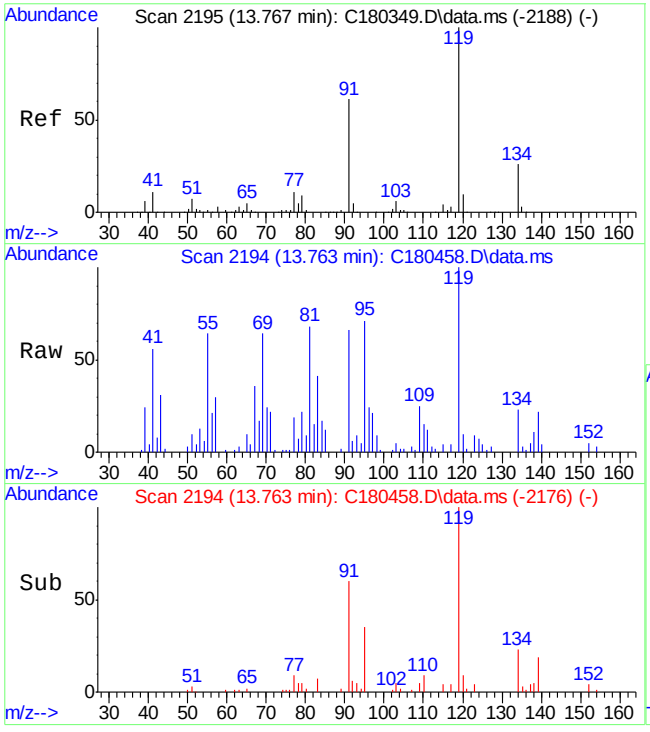


#108
n-propylbenzene
Concen: 0.53 ug/L
RT: 13.350 min Scan# 2115
Delta R.T. 0.001 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion: 91 Resp: 5450

Ion	Ratio	Lower	Upper
91	100		
120	16.9	0.0	54.6
105	8.0	0.0	33.7

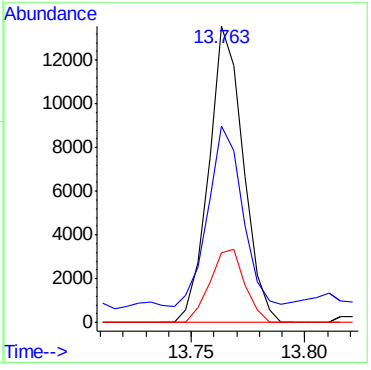


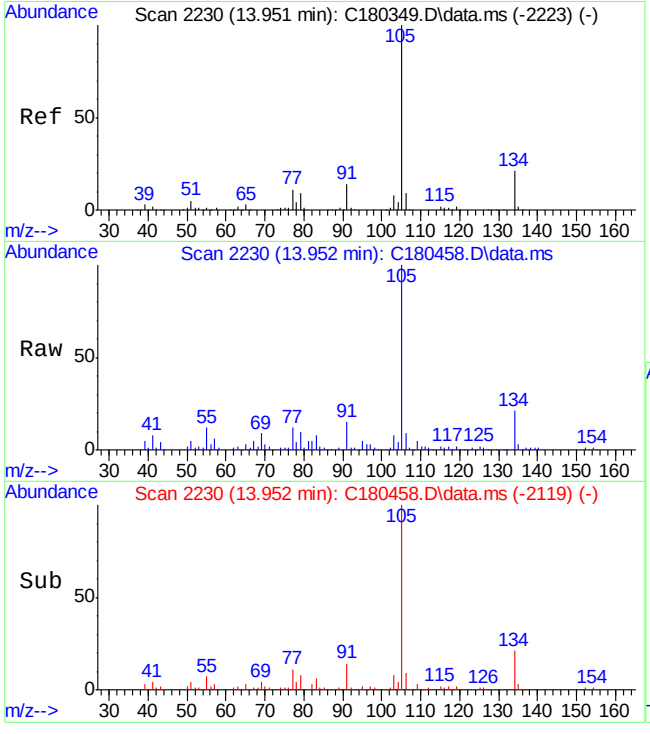


#113
tert-butylbenzene
Concen: 2.29 ug/L
RT: 13.763 min Scan# 2194
Delta R.T. -0.004 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion:119 Resp: 14304

Ion	Ratio	Lower	Upper
119	100		
91	60.9	31.2	91.2
134	23.5	0.0	55.7

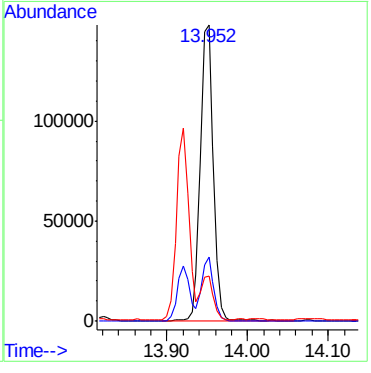


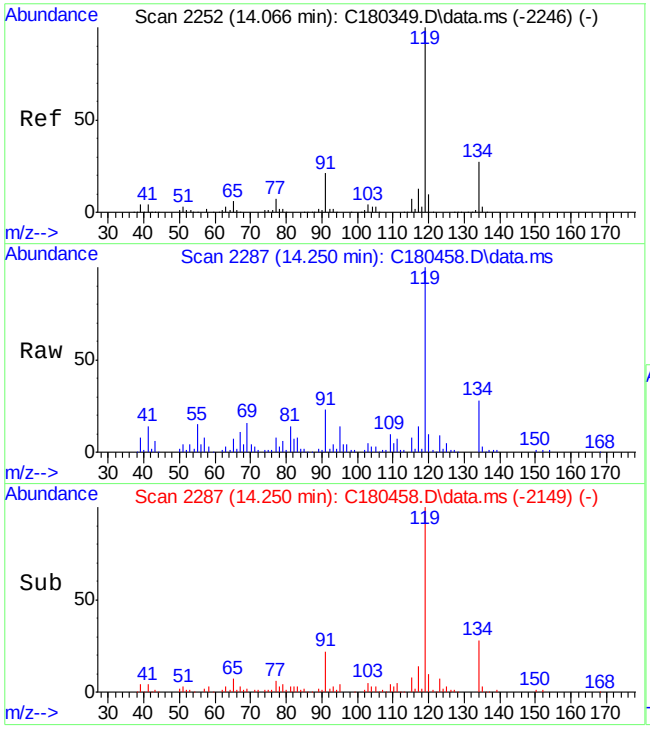


#116
sec-butylbenzene
Concen: 17.65 ug/L
RT: 13.952 min Scan# 2230
Delta R.T. 0.001 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion:105 Resp: 167879

Ion	Ratio	Lower	Upper
105	100		
134	21.4	0.0	50.7
91	14.6	0.0	44.5

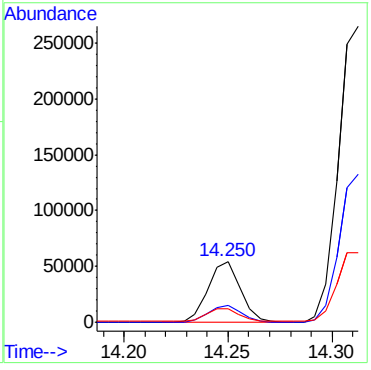


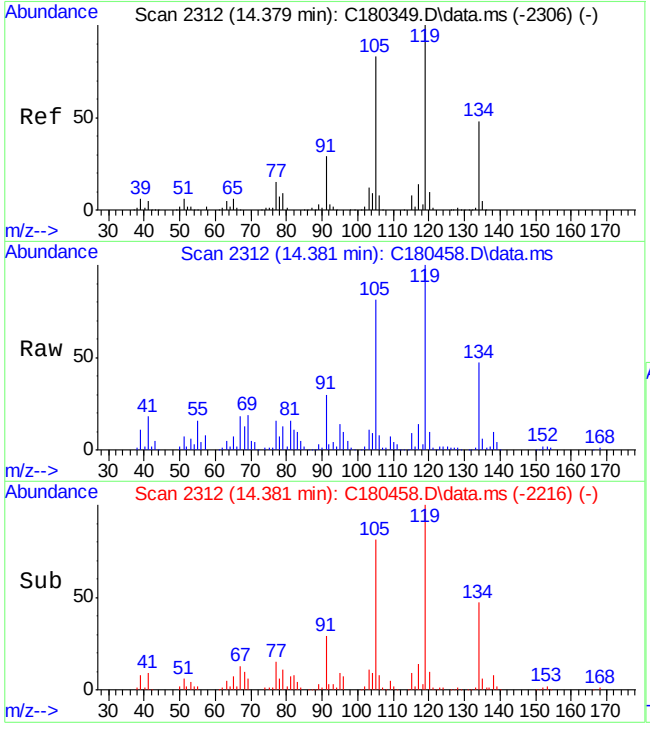


#118
p-isopropyltoluene
Concen: 7.49 ug/L
RT: 14.250 min Scan# 2287
Delta R.T. 0.184 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion:119 Resp: 58829

Ion	Ratio	Lower	Upper
119	100		
134	28.3	0.0	57.4
91	21.9	0.0	51.0

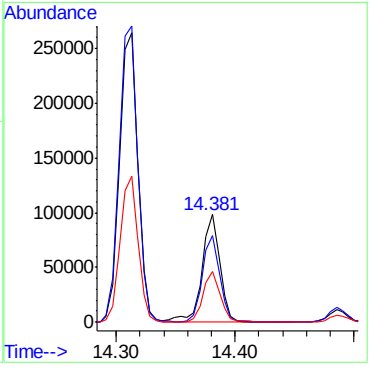


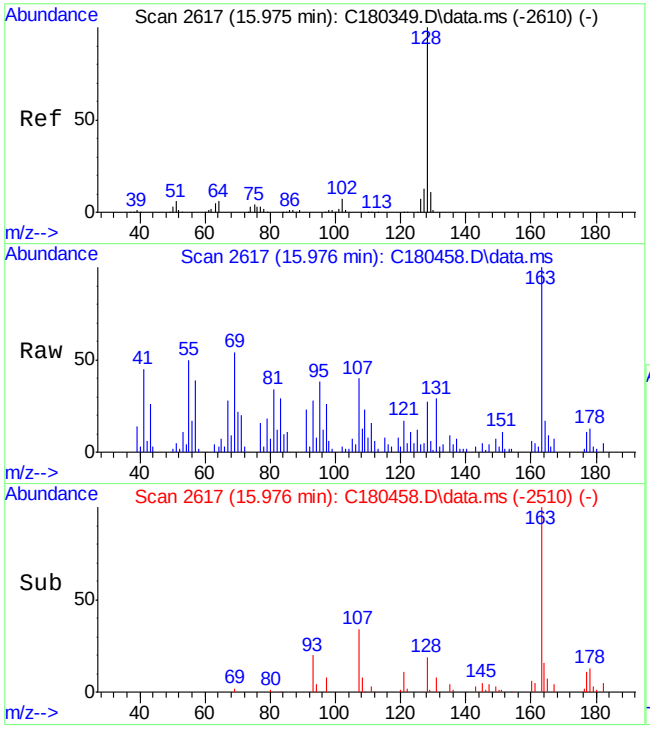


#121
p-diethylbenzene
Concen: 22.21 ug/L
RT: 14.381 min Scan# 2312
Delta R.T. 0.001 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion:119 Resp: 104098

Ion	Ratio	Lower	Upper
119	100		
105	78.3	65.7	121.9
134	45.2	35.7	66.3

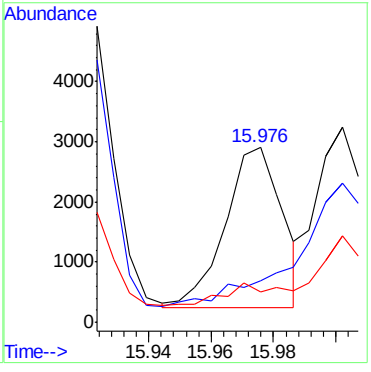




#129
naphthalene
Concen: 0.59 ug/L
RT: 15.976 min Scan# 2617
Delta R.T. 0.001 min
Lab File: C180458.D
Acq: 29 Mar 2013 6:19 pm

Tgt Ion:128 Resp: 3394

Ion	Ratio	Lower	Upper
128	100		
129	16.6	0.0	40.6
127	8.4	0.0	42.6



7.1.20

7

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207093.D
Acq On : 30 Mar 2013 6:44 am
Operator : EmilyT
Sample : jb31800-18
Misc : ms45252,vd8450,6.3,,100,10,1
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Apr 01 12:18:15 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.009	65	136483	500.00 ug/L	0.01
4) pentafluorobenzene	10.231	168	244305	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.146	114	380158	50.00 ug/L	0.00
85) chlorobenzene-d5	14.487	117	355433	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.075	152	211774	50.00 ug/L	0.00

System Monitoring Compounds					
46) dibromofluoromethane (s)	10.263	113	113622	41.22 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 82.44%		
47) 1,2-dichloroethane-d4 (s)	10.686	65	138079	41.05 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 82.10%		
77) toluene-d8 (s)	12.856	98	480799	44.44 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 88.88%		
101) 4-bromofluorobenzene (s)	15.768	95	193085	46.64 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 93.28%		

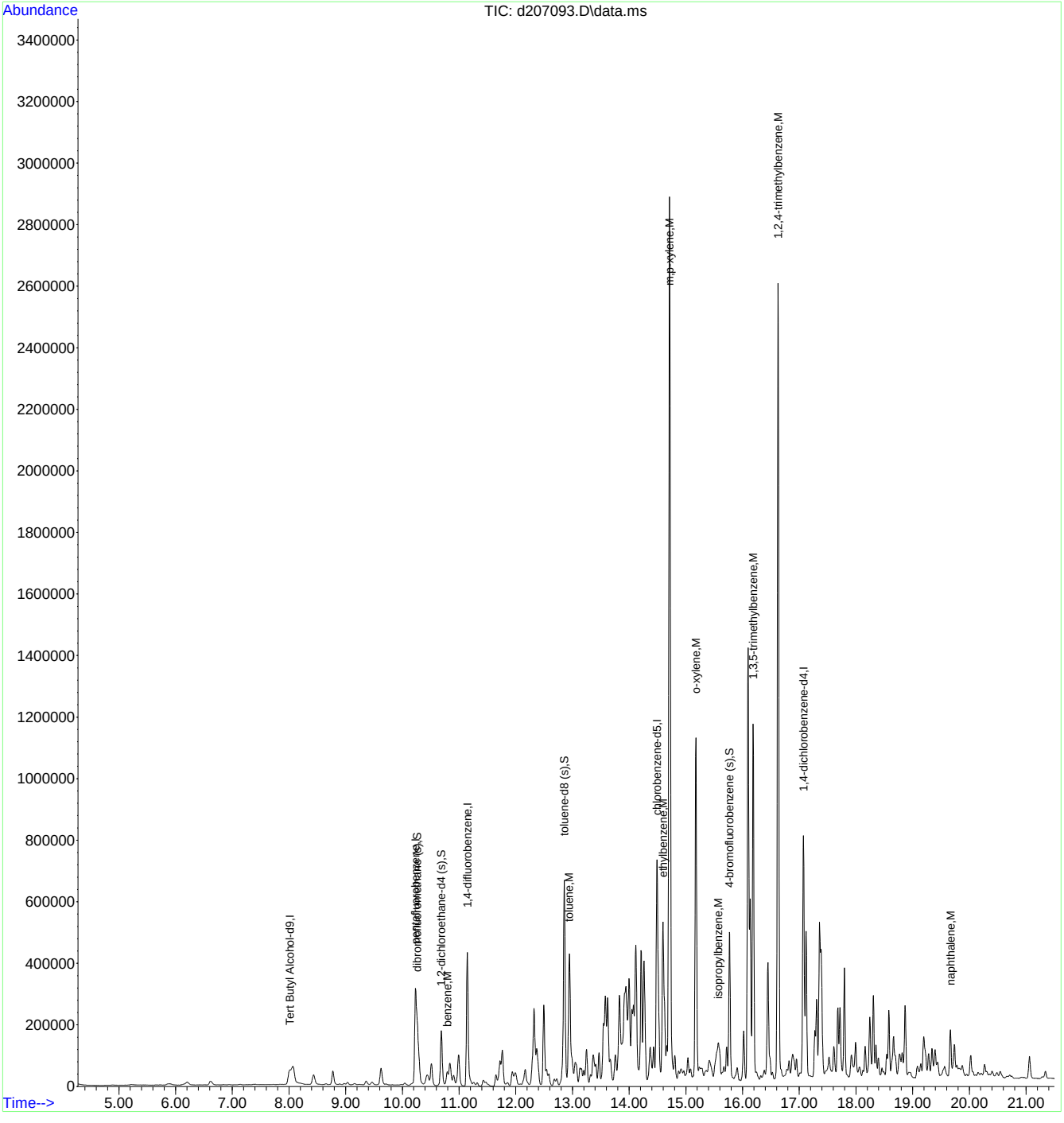
Target Compounds					Qvalue
62) benzene	10.791	78	43079	3.78 ug/L	99
79) toluene	12.934	92	71939	10.10 ug/L	98
94) ethylbenzene	14.597	91	388697	28.07 ug/L	99
95) m,p-xylene	14.712	106	889266	167.30 ug/L	98
96) o-xylene	15.177	106	328332	62.22 ug/L	96
100) isopropylbenzene	15.564	105	20649	1.52 ug/L	95
111) 1,3,5-trimethylbenzene	16.186	105	699832	58.96 ug/L	99
114) 1,2,4-trimethylbenzene	16.625	105	1634573	136.40 ug/L	98
128) naphthalene	19.668	128	137346	15.21 ug/L	99

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

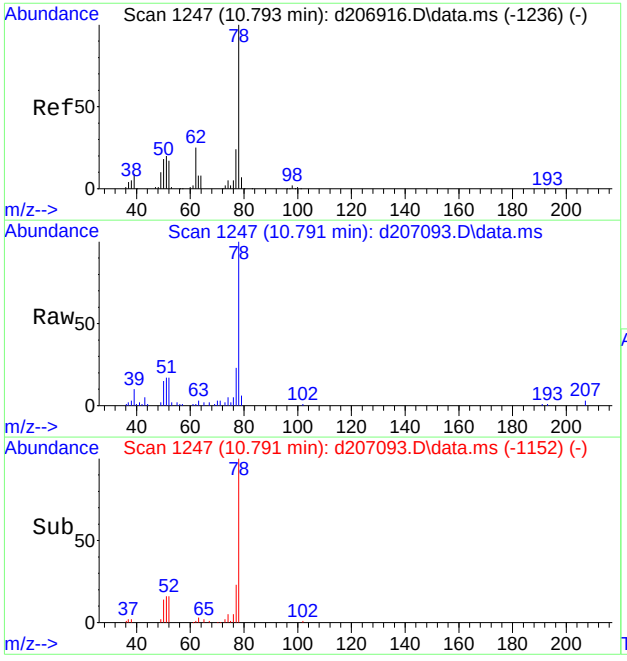
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207093.D
Acq On : 30 Mar 2013 6:44 am
Operator : EmilyT
Sample : jb31800-18
Misc : ms45252,vd8450,6.3,,100,10,1
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Apr 01 12:18:15 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



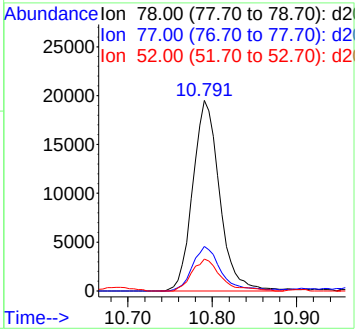
MD8442.M Mon Apr 01 12:18:27 2013 Page: 2

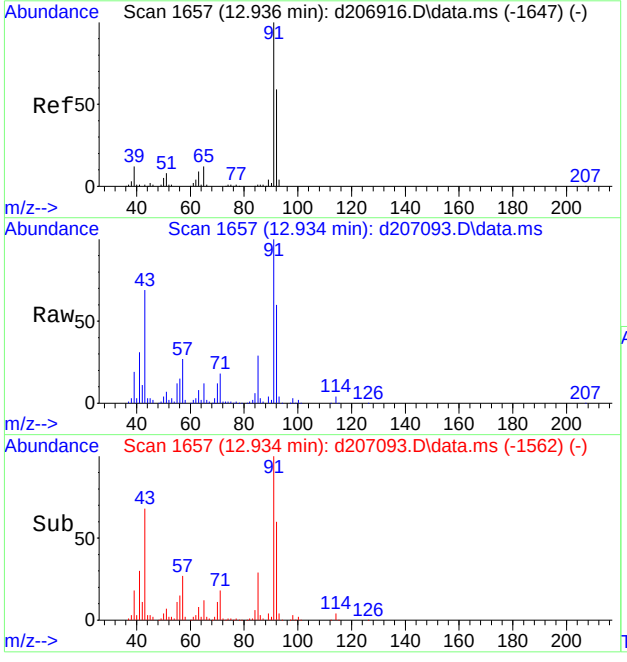


#62
benzene
Concen: 3.78 ug/L
RT: 10.791 min Scan# 1247
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion: 78 Resp: 43079

Ion	Ratio	Lower	Upper
78	100		
77	23.4	0.0	53.9
52	16.8	0.0	47.2

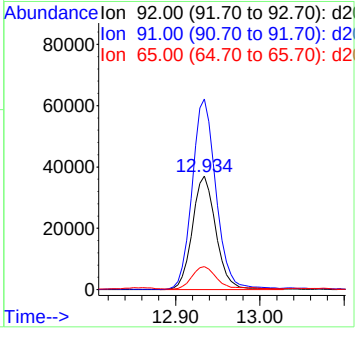




#79
toluene
Concen: 10.10 ug/L
RT: 12.934 min Scan# 1657
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion: 92 Resp: 71939

Ion	Ratio	Lower	Upper
92	100		
91	167.7	140.0	200.0
65	19.3	0.0	50.5



7.1.21

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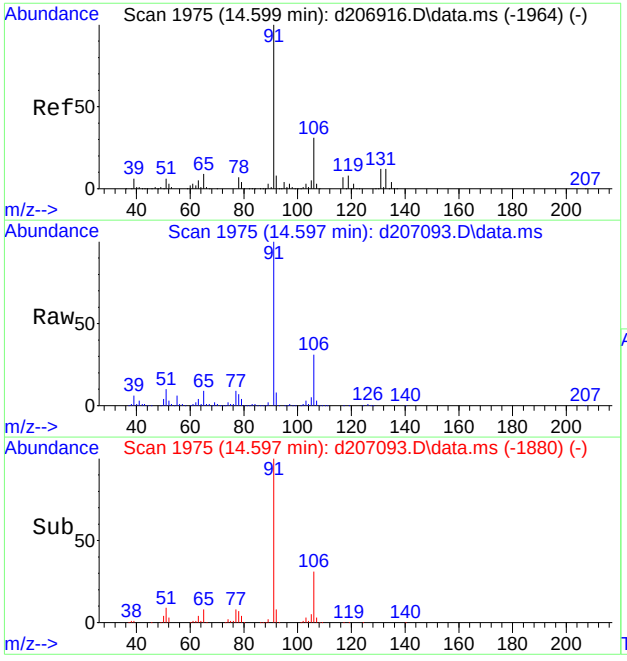
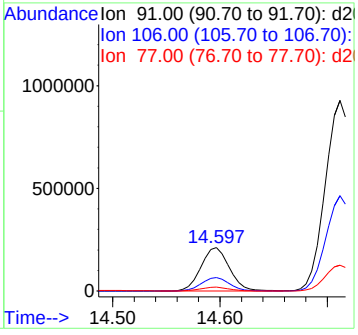
SGS ACCUTEST JB31800

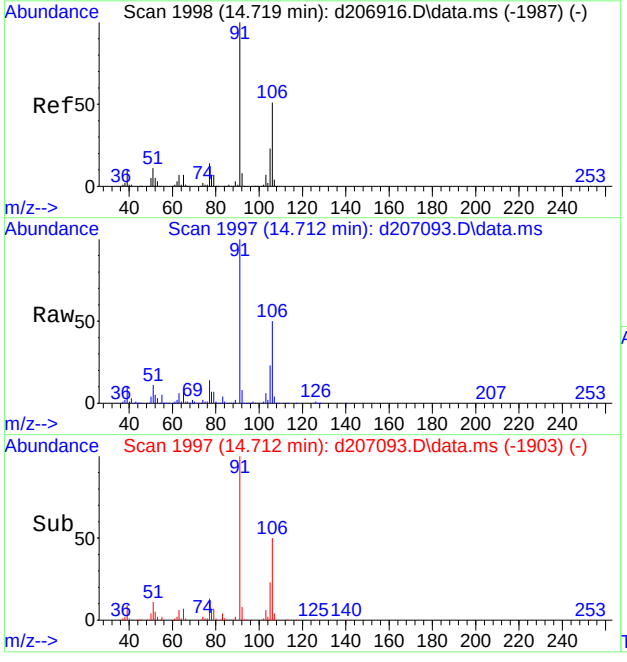


#94
ethylbenzene
Concen: 28.07 ug/L
RT: 14.597 min Scan# 1975
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion: 91 Resp: 388697

Ion	Ratio	Lower	Upper
91	100		
106	31.0	1.4	61.4
77	8.6	0.0	39.0

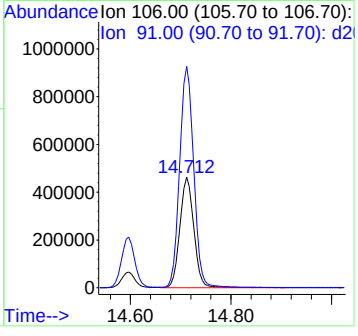


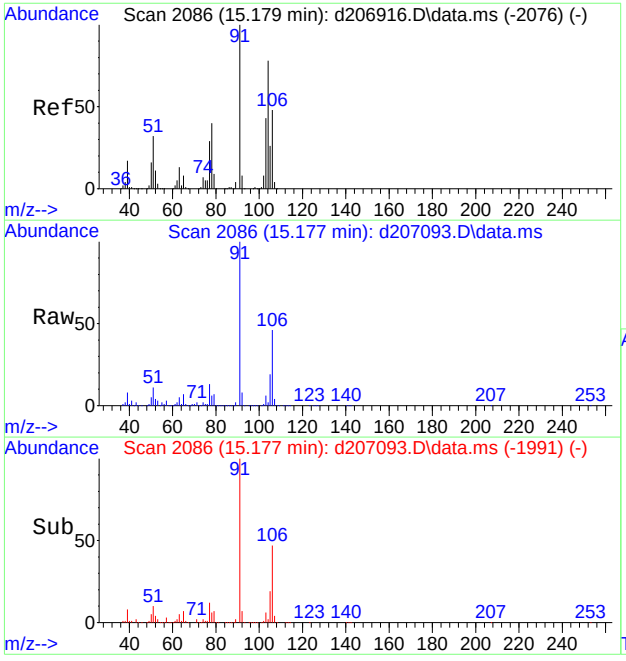


#95
m,p-xylene
Concen: 167.30 ug/L
RT: 14.712 min Scan# 1997
Delta R.T. -0.008 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion:106 Resp: 889266

Ion	Ratio	Lower	Upper
106	100		
91	200.0	137.9	256.1

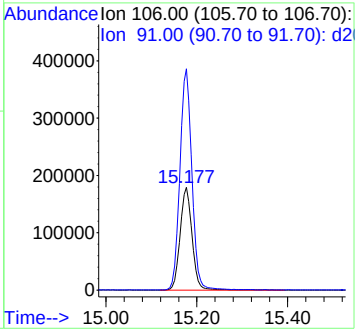


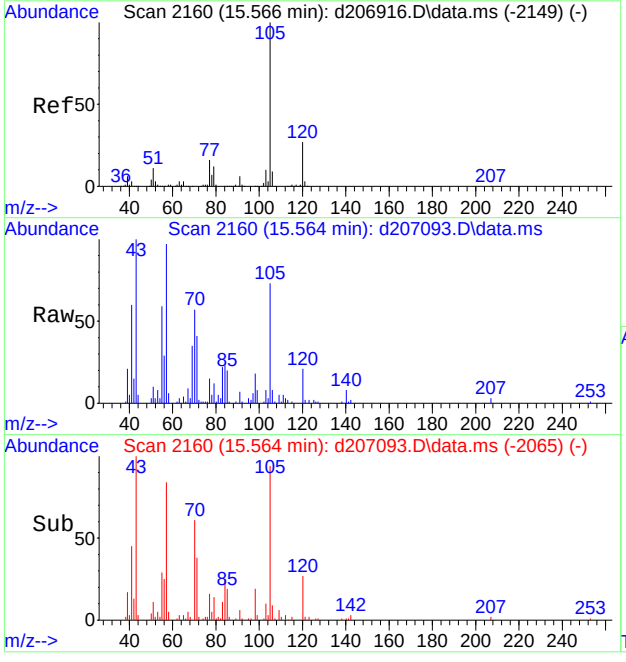


#96
o-xylene
Concen: 62.22 ug/L
RT: 15.177 min Scan# 2086
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion:106 Resp: 328332

Ion	Ratio	Lower	Upper
106	100		
91	215.2	146.7	272.5

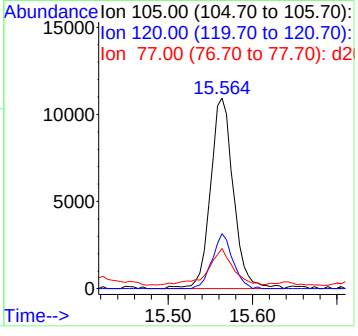


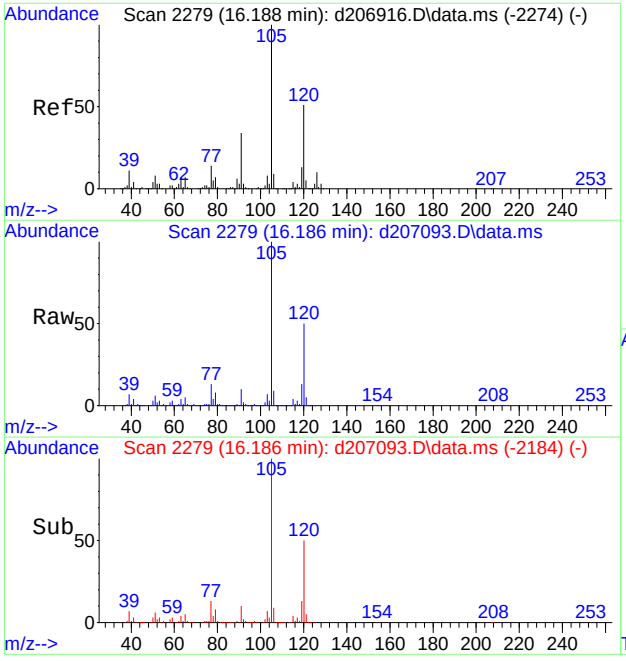


#100
isopropylbenzene
Concen: 1.52 ug/L
RT: 15.564 min Scan# 2160
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion:105 Resp: 20649

Ion	Ratio	Lower	Upper
105	100		
120	28.9	0.0	56.8
77	18.9	0.0	46.2

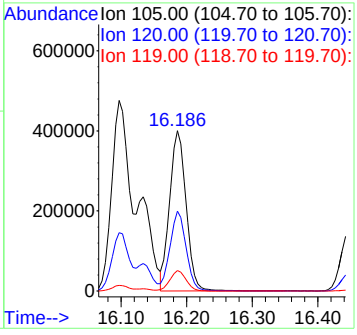


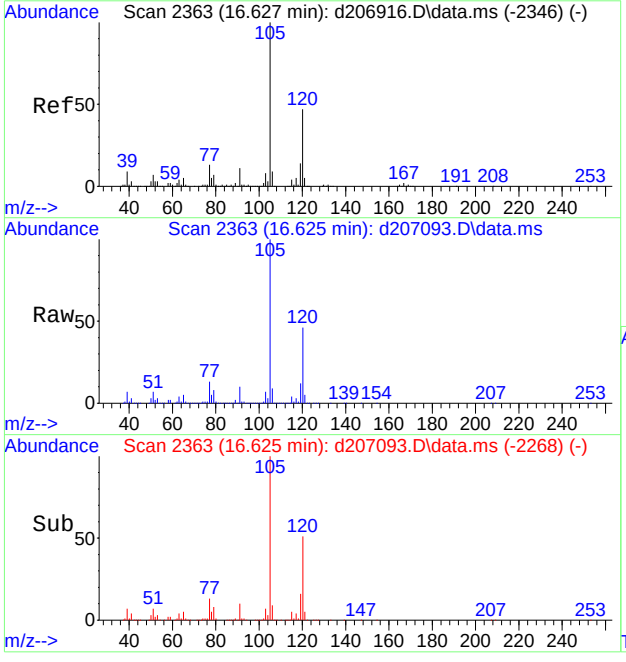


#111
1,3,5-trimethylbenzene
Concen: 58.96 ug/L
RT: 16.186 min Scan# 2279
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion:105 Resp: 699832

Ion	Ratio	Lower	Upper
105	100		
120	49.8	19.0	79.0
119	12.8	0.0	42.2

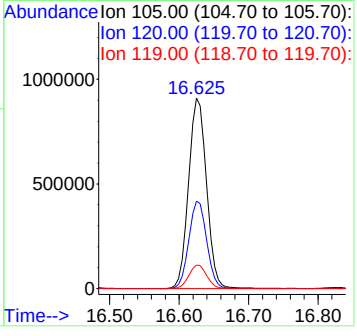


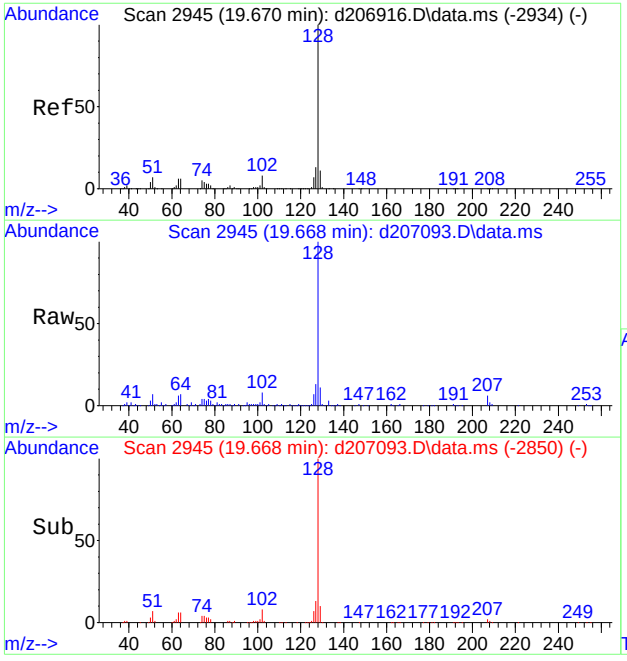


#114
1,2,4-trimethylbenzene
Concen: 136.40 ug/L
RT: 16.625 min Scan# 2363
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion:105 Resp: 1634573

Ion	Ratio	Lower	Upper
105	100		
120	45.9	16.6	76.6
119	12.3	0.0	44.0

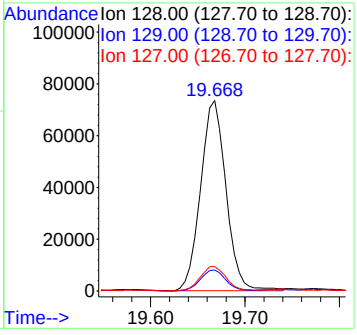




#128
naphthalene
Concen: 15.21 ug/L
RT: 19.668 min Scan# 2945
Delta R.T. -0.002 min
Lab File: d207093.D
Acq: 30 Mar 2013 6:44 am

Tgt Ion:128 Resp: 137346

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	40.7
127	12.6	0.0	42.9



7.1.21

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207094.D
Acq On : 30 Mar 2013 7:13 am
Operator : EmilyT
Sample : jb31800-19
Misc : ms45252,vd8450,7.1,,100,10,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Apr 01 12:19:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.014	65	148096	500.00 ug/L	0.02
4) pentafluorobenzene	10.231	168	245953	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.146	114	382673	50.00 ug/L	0.00
85) chlorobenzene-d5	14.486	117	359737	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.074	152	213455	50.00 ug/L	0.00

System Monitoring Compounds					
46) dibromofluoromethane (s)	10.262	113	114786	41.37 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 82.74%		
47) 1,2-dichloroethane-d4 (s)	10.686	65	139239	41.12 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 82.24%		
77) toluene-d8 (s)	12.855	98	480399	44.11 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 88.22%		
101) 4-bromofluorobenzene (s)	15.772	95	199520	47.82 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 95.64%		

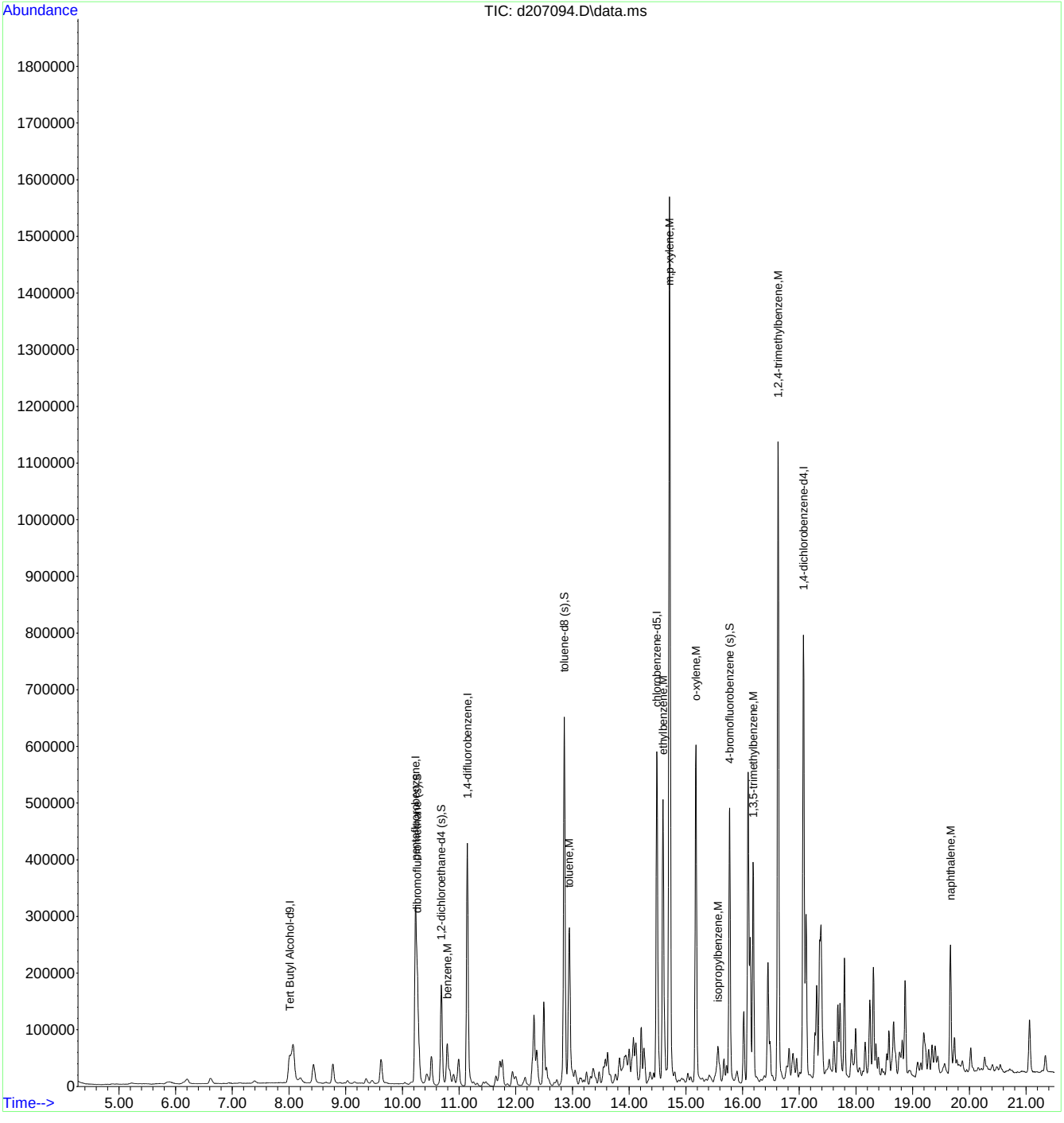
Target Compounds					Qvalue
62) benzene	10.790	78	74205	6.48 ug/L	98
79) toluene	12.934	92	73201	10.21 ug/L	100
94) ethylbenzene	14.596	91	400629	28.59 ug/L	98
95) m,p-xylene	14.711	106	507405	94.32 ug/L	94
96) o-xylene	15.176	106	180356	33.77 ug/L	94
100) isopropylbenzene	15.563	105	30869	2.25 ug/L	99
111) 1,3,5-trimethylbenzene	16.185	105	238835	19.96 ug/L	98
114) 1,2,4-trimethylbenzene	16.625	105	709968	58.78 ug/L	98
128) naphthalene	19.667	128	212082	23.30 ug/L	100

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

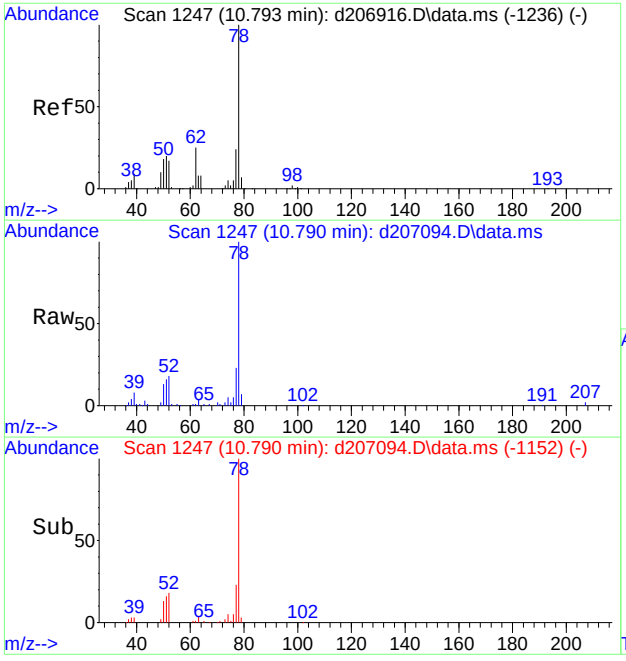
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207094.D
Acq On : 30 Mar 2013 7:13 am
Operator : EmilyT
Sample : jb31800-19
Misc : ms45252,vd8450,7.1,,100,10,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Apr 01 12:19:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



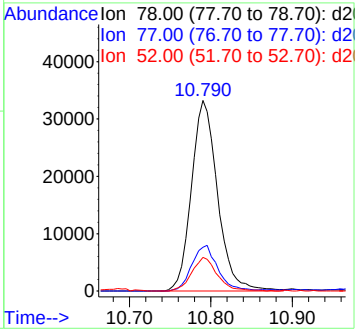
MD8442.M Mon Apr 01 12:19:50 2013 Page: 2

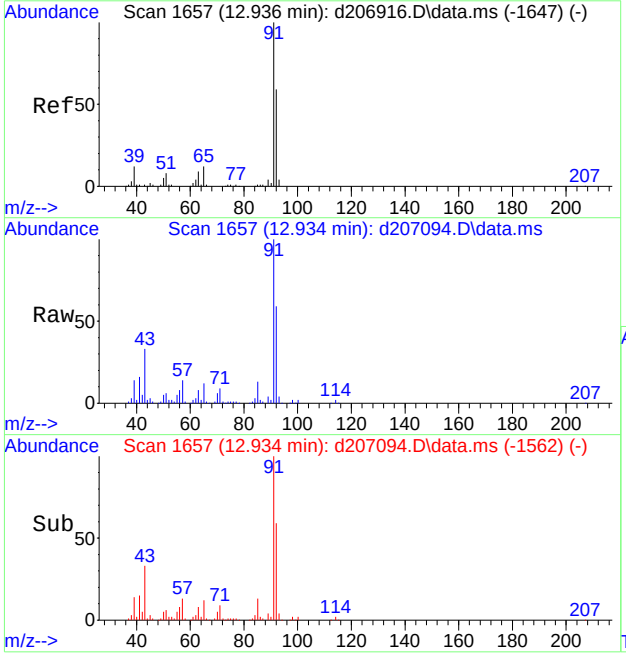


#62
benzene
Concen: 6.48 ug/L
RT: 10.790 min Scan# 1247
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion: 78 Resp: 74205

Ion	Ratio	Lower	Upper
78	100		
77	23.0	0.0	53.9
52	17.7	0.0	47.2

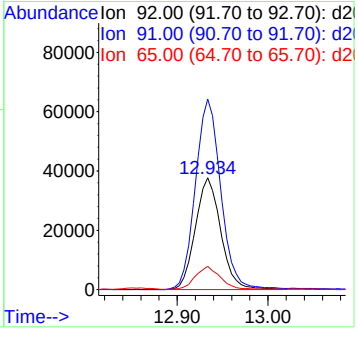


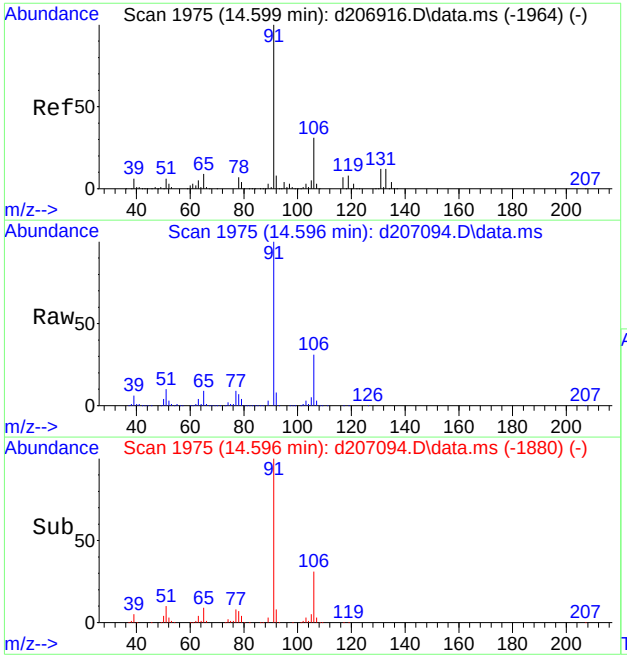


#79
toluene
Concen: 10.21 ug/L
RT: 12.934 min Scan# 1657
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion: 92 Resp: 73201

Ion	Ratio	Lower	Upper
92	100		
91	170.2	140.0	200.0
65	20.4	0.0	50.5

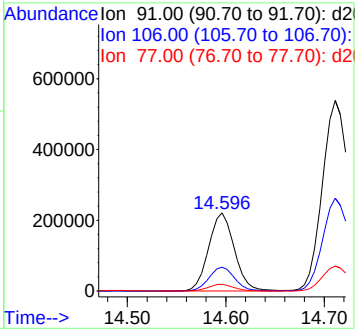


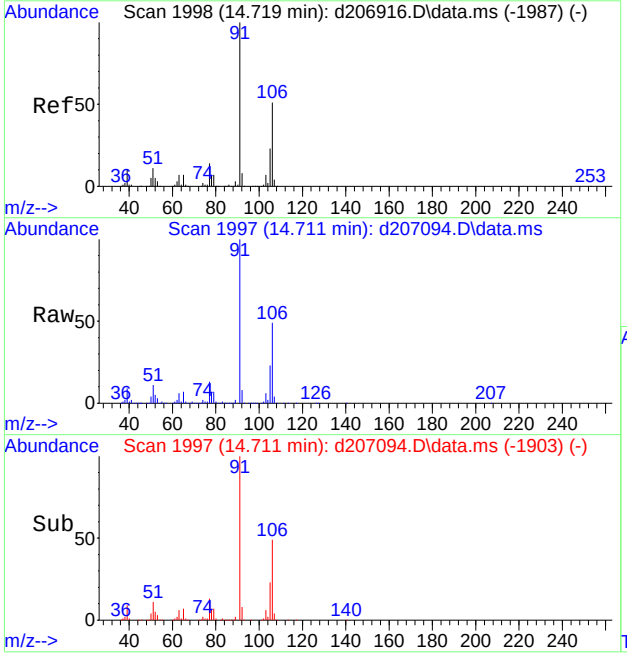


#94
ethylbenzene
Concen: 28.59 ug/L
RT: 14.596 min Scan# 1975
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion: 91 Resp: 400629

Ion	Ratio	Lower	Upper
91	100		
106	30.5	1.4	61.4
77	8.4	0.0	39.0

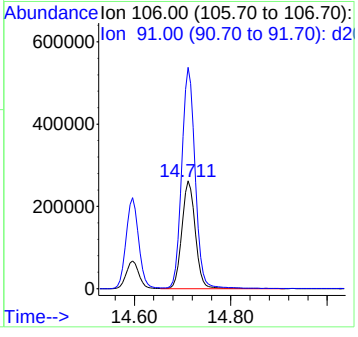




#95
m,p-xylene
Concen: 94.32 ug/L
RT: 14.711 min Scan# 1997
Delta R.T. -0.008 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion:106 Resp: 507405

Ion	Ratio	Lower	Upper
106	100		
91	205.4	137.9	256.1



7.1.22

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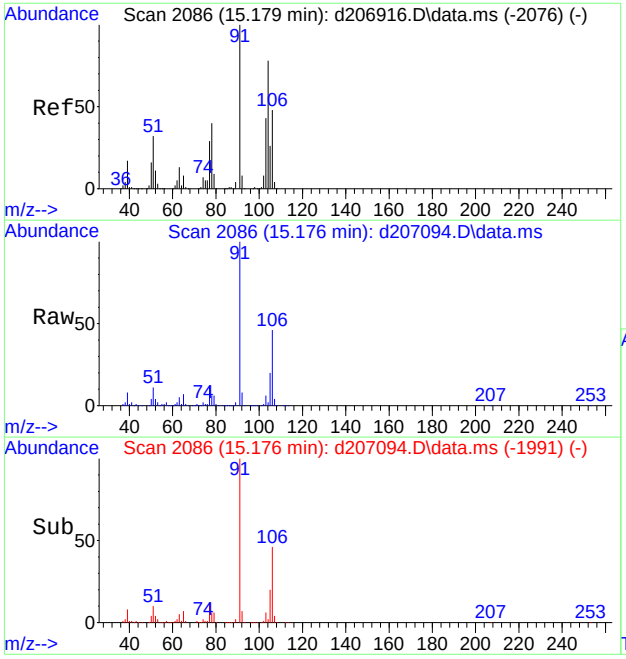
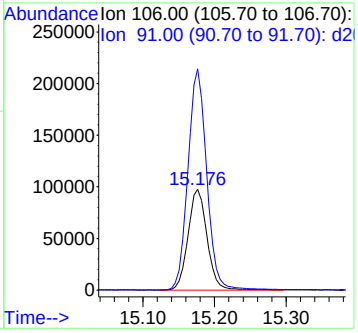
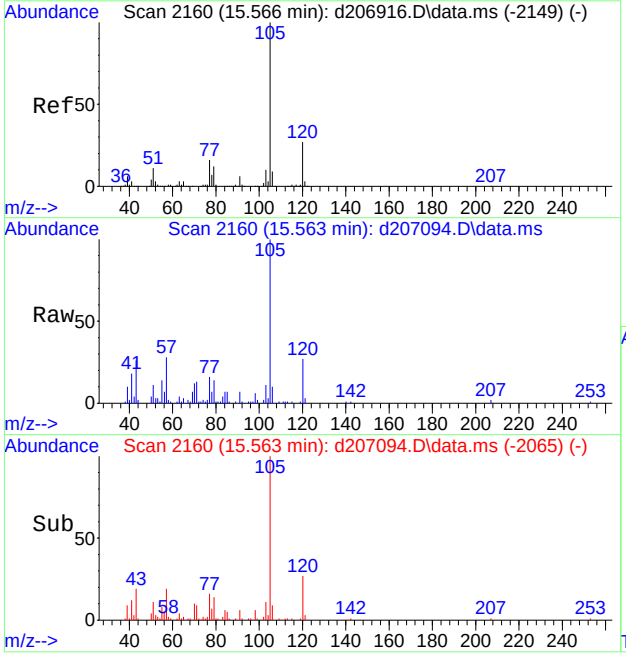


#96
o-xylene
Concen: 33.77 ug/L
RT: 15.176 min Scan# 2086
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion:106 Resp: 180356

Ion	Ratio	Lower	Upper
106	100		
91	219.1	146.7	272.5

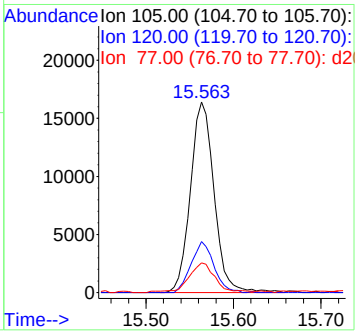




#100
isopropylbenzene
Concen: 2.25 ug/L
RT: 15.563 min Scan# 2160
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion:105 Resp: 30869

Ion	Ratio	Lower	Upper
105	100		
120	26.8	0.0	56.8
77	14.9	0.0	46.2



7.1.22

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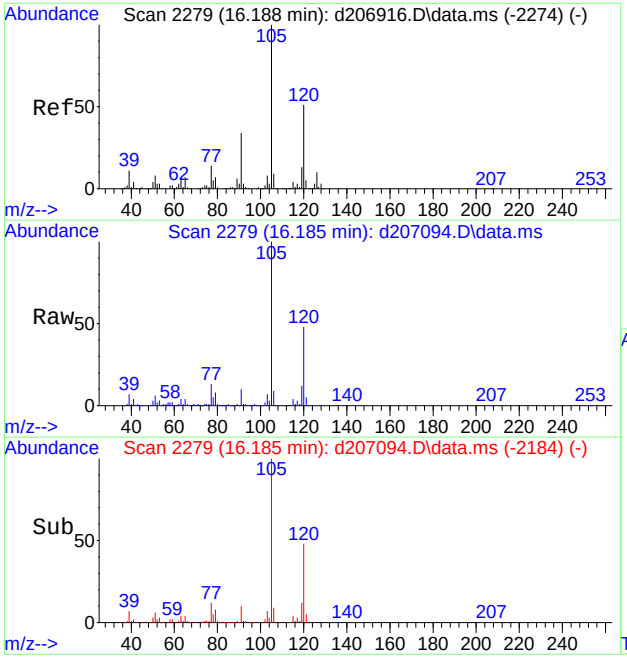
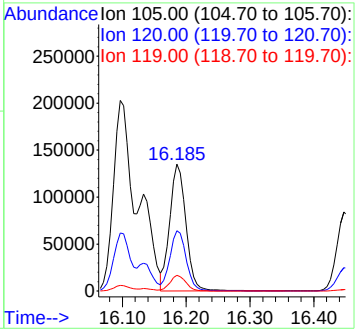
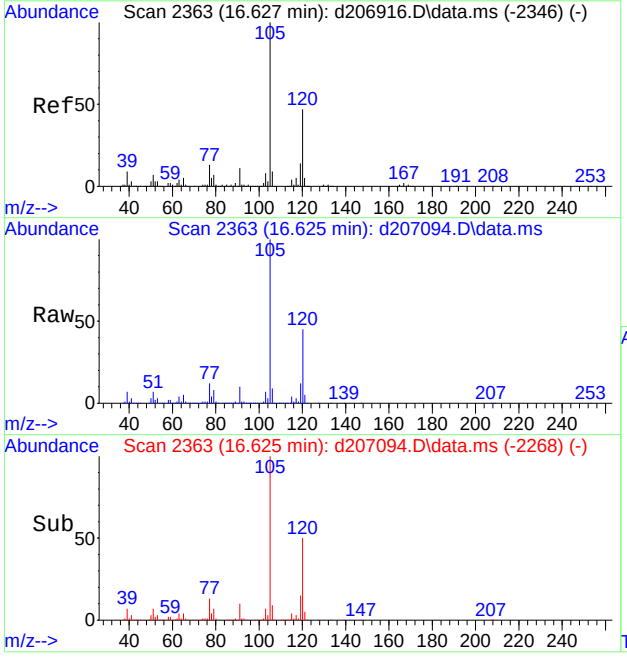


#111
1,3,5-trimethylbenzene
Concen: 19.96 ug/L
RT: 16.185 min Scan# 2279
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion:105 Resp: 238835

Ion	Ratio	Lower	Upper
105	100		
120	47.6	19.0	79.0
119	12.3	0.0	42.2

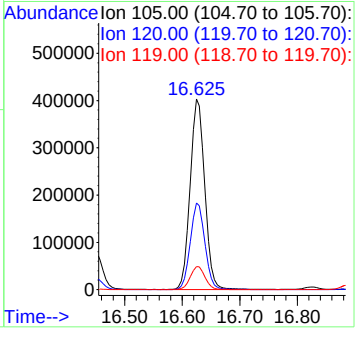




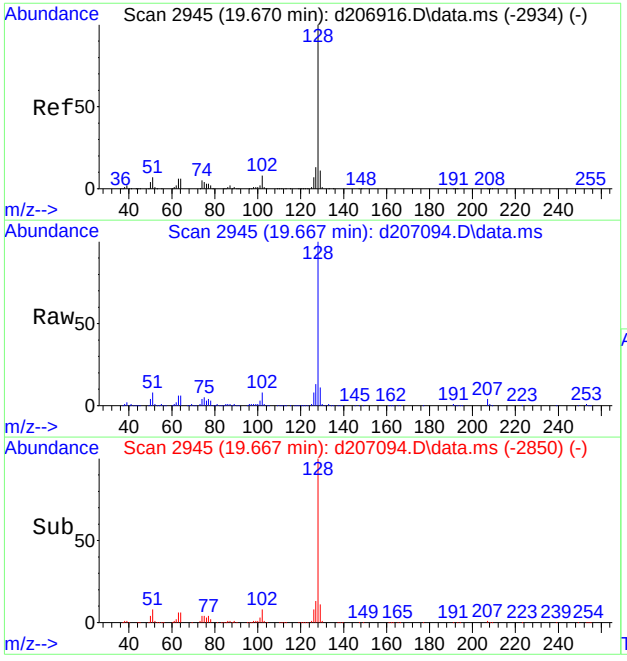
#114
1,2,4-trimethylbenzene
Concen: 58.78 ug/L
RT: 16.625 min Scan# 2363
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion:105 Resp: 709968

Ion	Ratio	Lower	Upper
105	100		
120	45.4	16.6	76.6
119	12.1	0.0	44.0



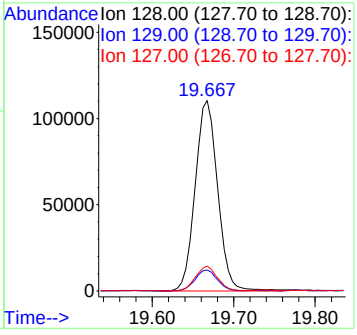
SGS ACCUTEST JB31800



#128
naphthalene
Concen: 23.30 ug/L
RT: 19.667 min Scan# 2945
Delta R.T. -0.003 min
Lab File: d207094.D
Acq: 30 Mar 2013 7:13 am

Tgt Ion:128 Resp: 212082

Ion	Ratio	Lower	Upper
128	100		
129	11.0	0.0	40.7
127	12.9	0.0	42.9



Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180453.D
Acq On : 29 Mar 2013 4:06 pm
Operator : tamikag
Sample : JB31800-20
Misc : MS45252,VC6473,4.6,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 02 15:20:03 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.489	65	71837	500.00	ug/L	0.00
5) pentafluorobenzene	8.078	168	228425	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.062	114	334131	50.00	ug/L	0.00
85) chlorobenzene-d5	12.137	117	269967	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.156	152	141180	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.021	113	89526	50.22	ug/L	0.00
Spiked Amount 50.000 Range 70 - 130 Recovery = 100.44%						
50) 1,2-dichloroethane-d4 (s)	8.507	65	78233	44.80	ug/L	0.00
Spiked Amount 50.000 Range 70 - 122 Recovery = 89.60%						
77) toluene-d8 (s)	10.725	98	375507	55.58	ug/L	0.00
Spiked Amount 50.000 Range 81 - 127 Recovery = 111.16%						
103) 4-bromofluorobenzene (s)	13.183	95	130721	48.57	ug/L	0.00
Spiked Amount 50.000 Range 66 - 132 Recovery = 97.14%						
Target Compounds						Qvalue
129) naphthalene	15.976	128	4871	0.86	ug/L	98

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

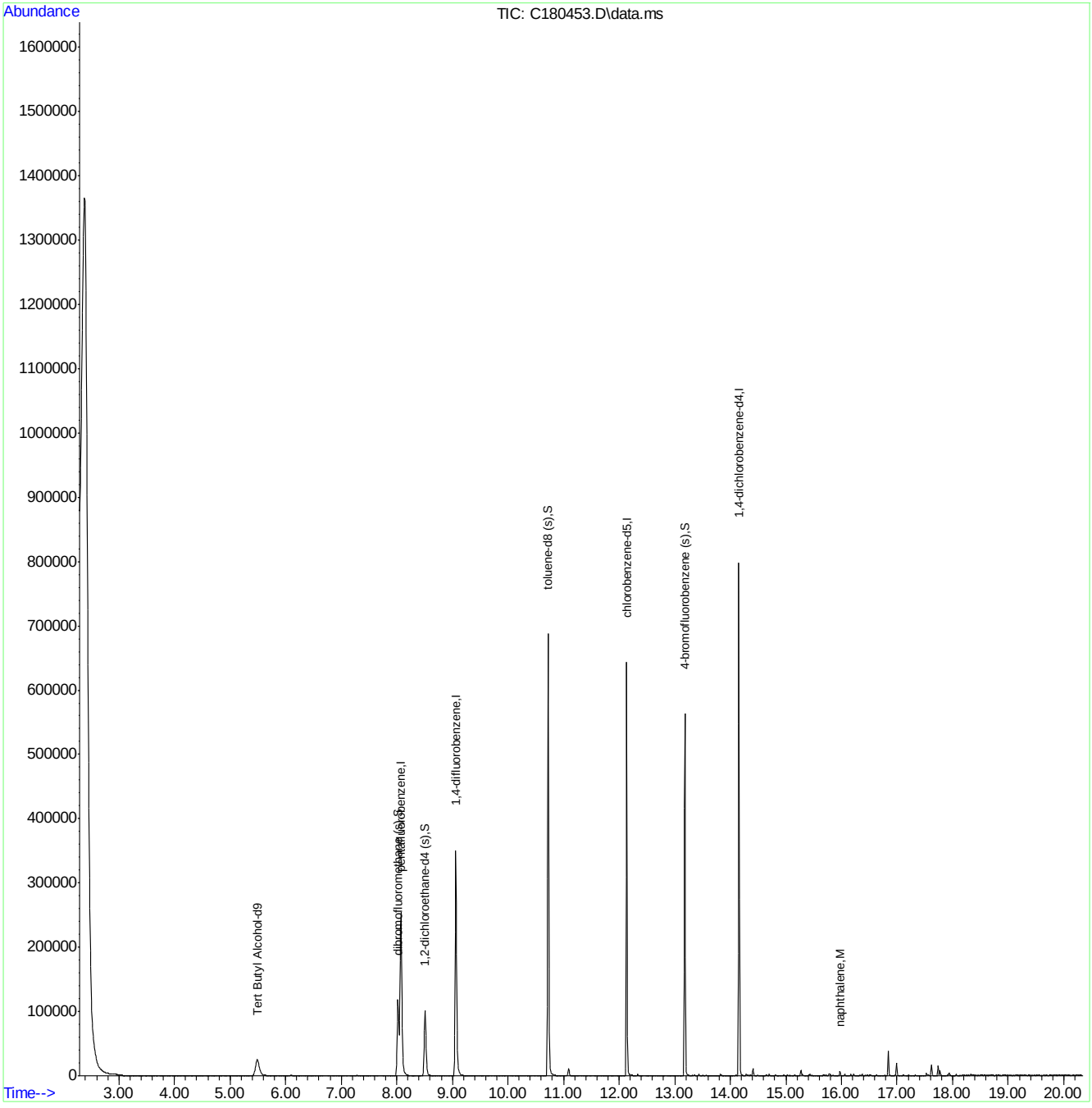
7.1.23

7

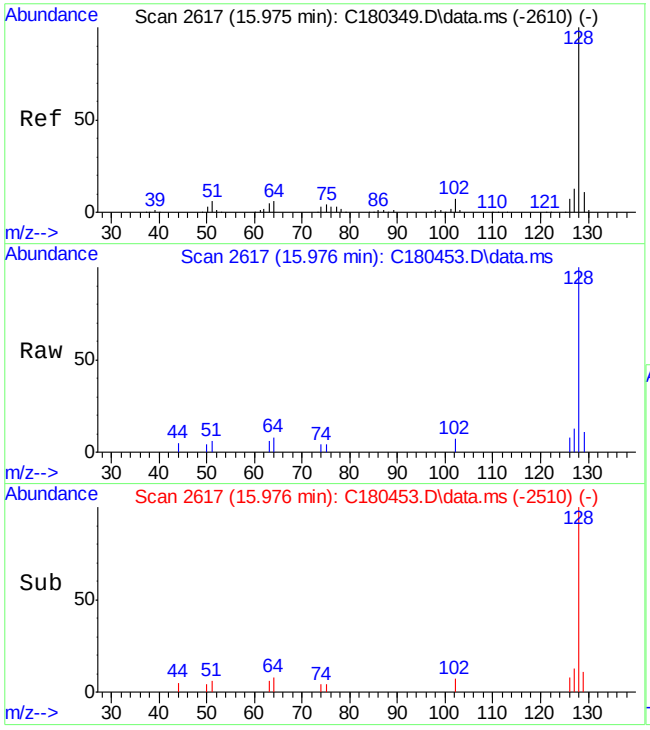
Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180453.D
Acq On : 29 Mar 2013 4:06 pm
Operator : tamikag
Sample : JB31800-20
Misc : MS45252,VC6473,4.6,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 02 15:20:03 2013
Quant Method : C:\MSDCHEM\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Mar 28 15:31:52 2013
Response via : Initial Calibration



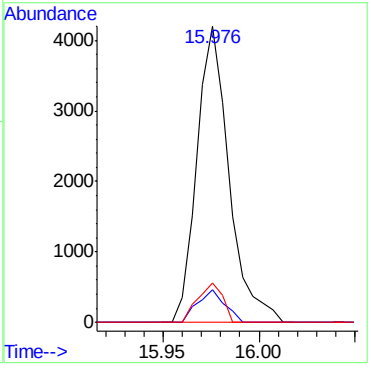
MCS6469.M Tue Apr 02 15:20:09 2013 NJVOA08 Page: 2



#129
naphthalene
Concen: 0.86 ug/L
RT: 15.976 min Scan# 2617
Delta R.T. 0.001 min
Lab File: C180453.D
Acq: 29 Mar 2013 4:06 pm

Tgt Ion:128 Resp: 4871

Ion	Ratio	Lower	Upper
128	100		
129	11.1	0.0	40.6
127	13.3	0.0	42.6



7.1.23

7

Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180441.D
Acq On : 29 Mar 2013 10:29 am
Operator : tamikag
Sample : MB
Misc : MS45042,VC6472,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 02 15:01:21 2013
Quant Method : C:\msdchem\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 29 09:54:21 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	5.490	65	51036	500.00	ug/L	0.00
5) pentafluorobenzene	8.074	168	209927	50.00	ug/L	0.00
57) 1,4-difluorobenzene	9.062	114	304986	50.00	ug/L	0.00
85) chlorobenzene-d5	12.132	117	245723	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	14.156	152	126388	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.016	113	80124	48.91	ug/L	0.00
Spiked Amount 50.000 Range 70 - 130 Recovery = 97.82%						
50) 1,2-dichloroethane-d4 (s)	8.503	65	71723	44.69	ug/L	0.00
Spiked Amount 50.000 Range 70 - 122 Recovery = 89.38%						
77) toluene-d8 (s)	10.725	98	341642	55.40	ug/L	0.00
Spiked Amount 50.000 Range 81 - 127 Recovery = 110.80%						
103) 4-bromofluorobenzene (s)	13.184	95	117141	48.62	ug/L	0.00
Spiked Amount 50.000 Range 66 - 132 Recovery = 97.24%						

Target Compounds Qvalue

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

7.2.1

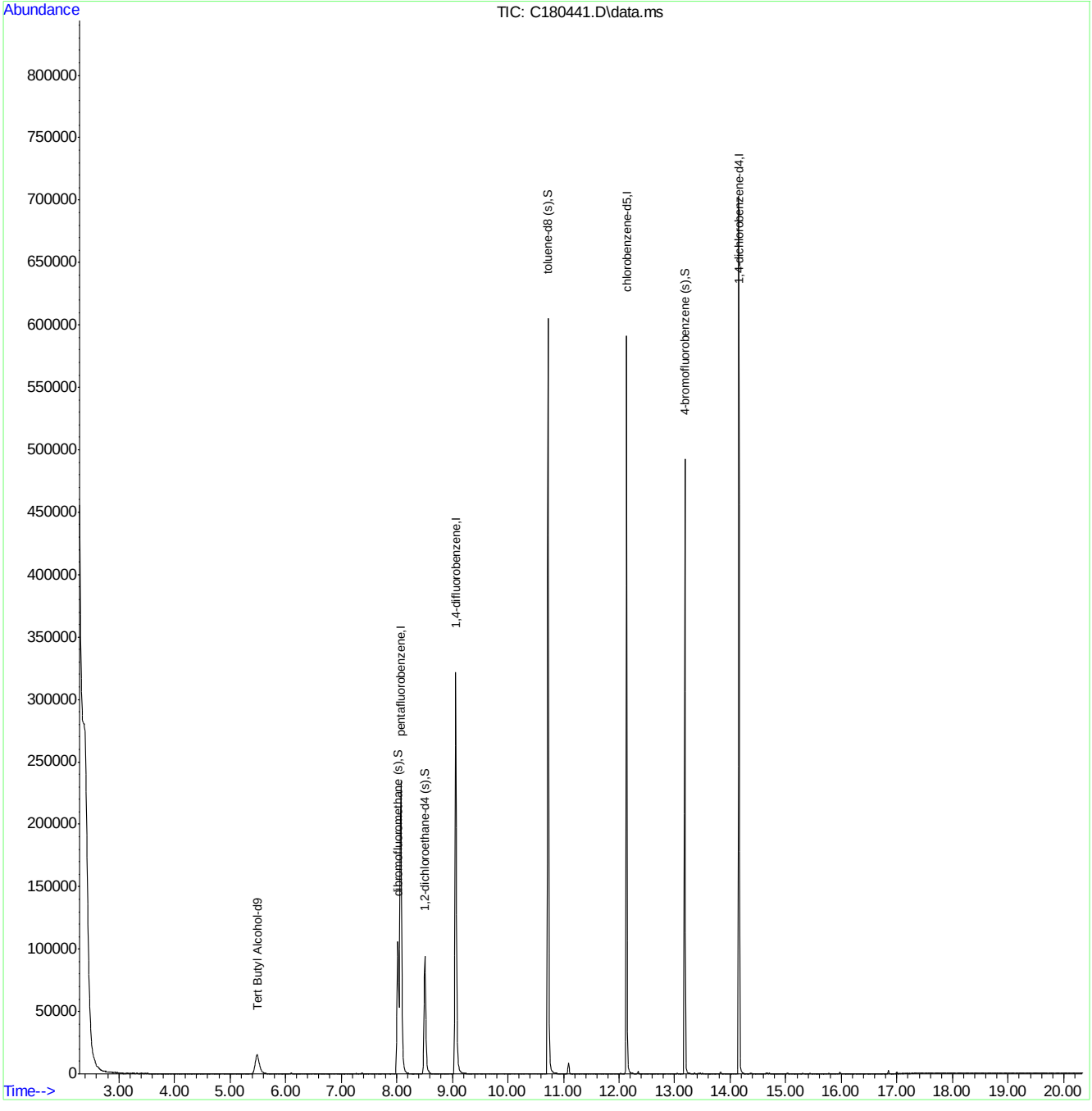
7

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\HPCHEM\1\data\c_core\
Data File : C180441.D
Acq On : 29 Mar 2013 10:29 am
Operator : tamikag
Sample : MB
Misc : MS45042,VC6472,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 02 15:01:21 2013
Quant Method : C:\msdchem\1\METHODS\MCS6469.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 29 09:54:21 2013
Response via : Initial Calibration



MCS6469.M Tue Apr 02 15:01:27 2013 NJVOA08 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207077.D
Acq On : 29 Mar 2013 10:56 pm
Operator : EmilyT
Sample : mb
Misc : ms45159,vd8450,5,,100,5,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 01 11:59:45 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.021	65	160884	500.00 ug/L	0.02
4) pentafluorobenzene	10.232	168	246999	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.147	114	387908	50.00 ug/L	0.00
85) chlorobenzene-d5	14.488	117	369225	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.075	152	216736	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.263	113	115994	41.62 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 83.24%		
47) 1,2-dichloroethane-d4 (s)	10.687	65	142171	41.80 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 83.60%		
77) toluene-d8 (s)	12.856	98	485746	44.00 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 88.00%		
101) 4-bromofluorobenzene (s)	15.768	95	203559	48.05 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 96.10%		

Target Compounds Qvalue

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

7.2.2

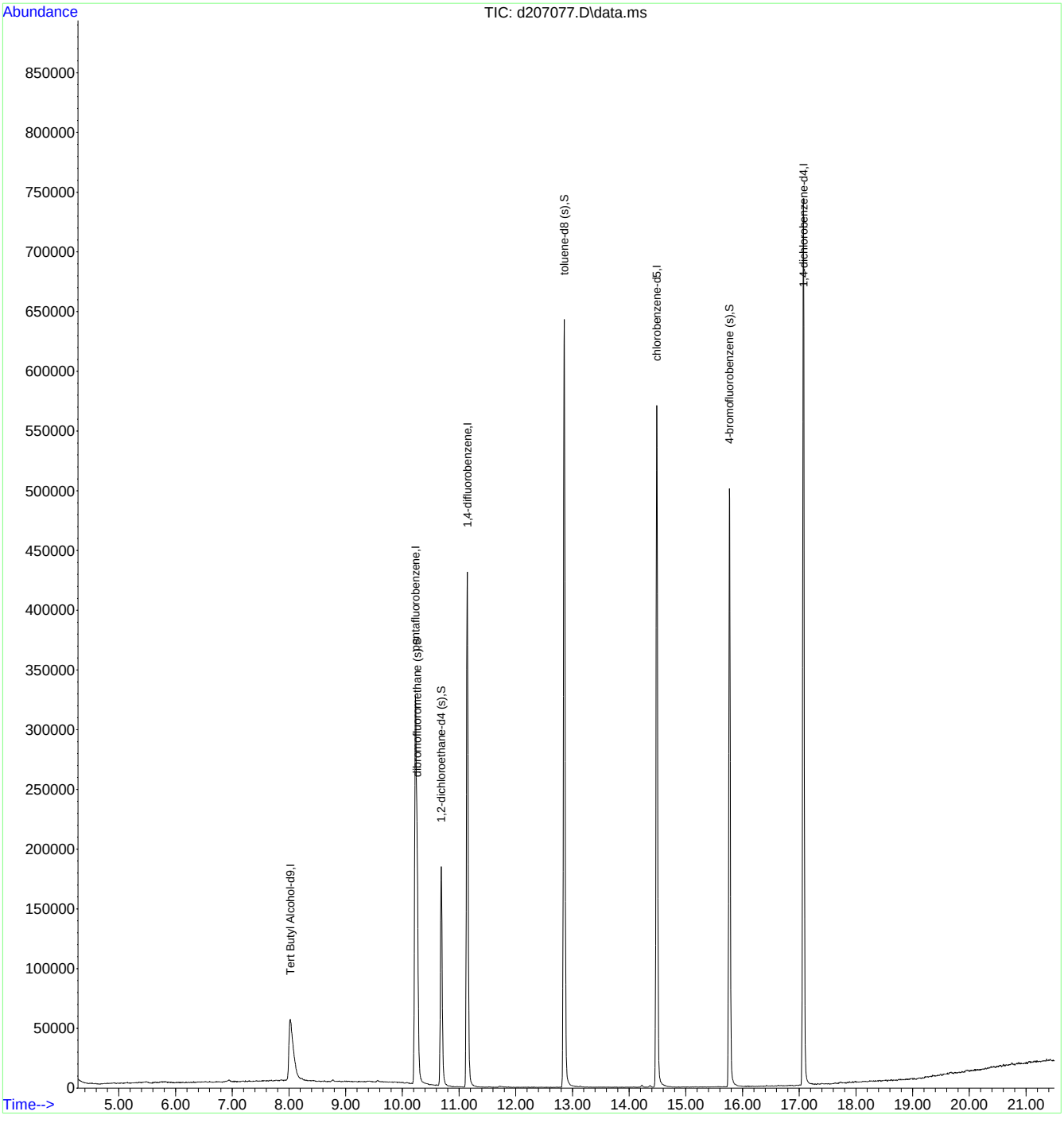
7

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207077.D
Acq On : 29 Mar 2013 10:56 pm
Operator : EmilyT
Sample : mb
Misc : ms45159,vd8450,5,,100,5,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 01 11:59:45 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207099.D
Acq On : 30 Mar 2013 11:22 am
Operator : EmilyT
Sample : mb
Misc : ms45378,vd8451,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 01 12:23:48 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.014	65	163826	500.00 ug/L	0.02
4) pentafluorobenzene	10.231	168	251519	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.145	114	394590	50.00 ug/L	0.00
85) chlorobenzene-d5	14.486	117	375669	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.074	152	218848	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.262	113	117033	41.24 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 82.48%		
47) 1,2-dichloroethane-d4 (s)	10.685	65	145611	42.05 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 84.10%		
77) toluene-d8 (s)	12.855	98	495146	44.10 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 88.20%		
101) 4-bromofluorobenzene (s)	15.772	95	208117	48.65 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 97.30%		

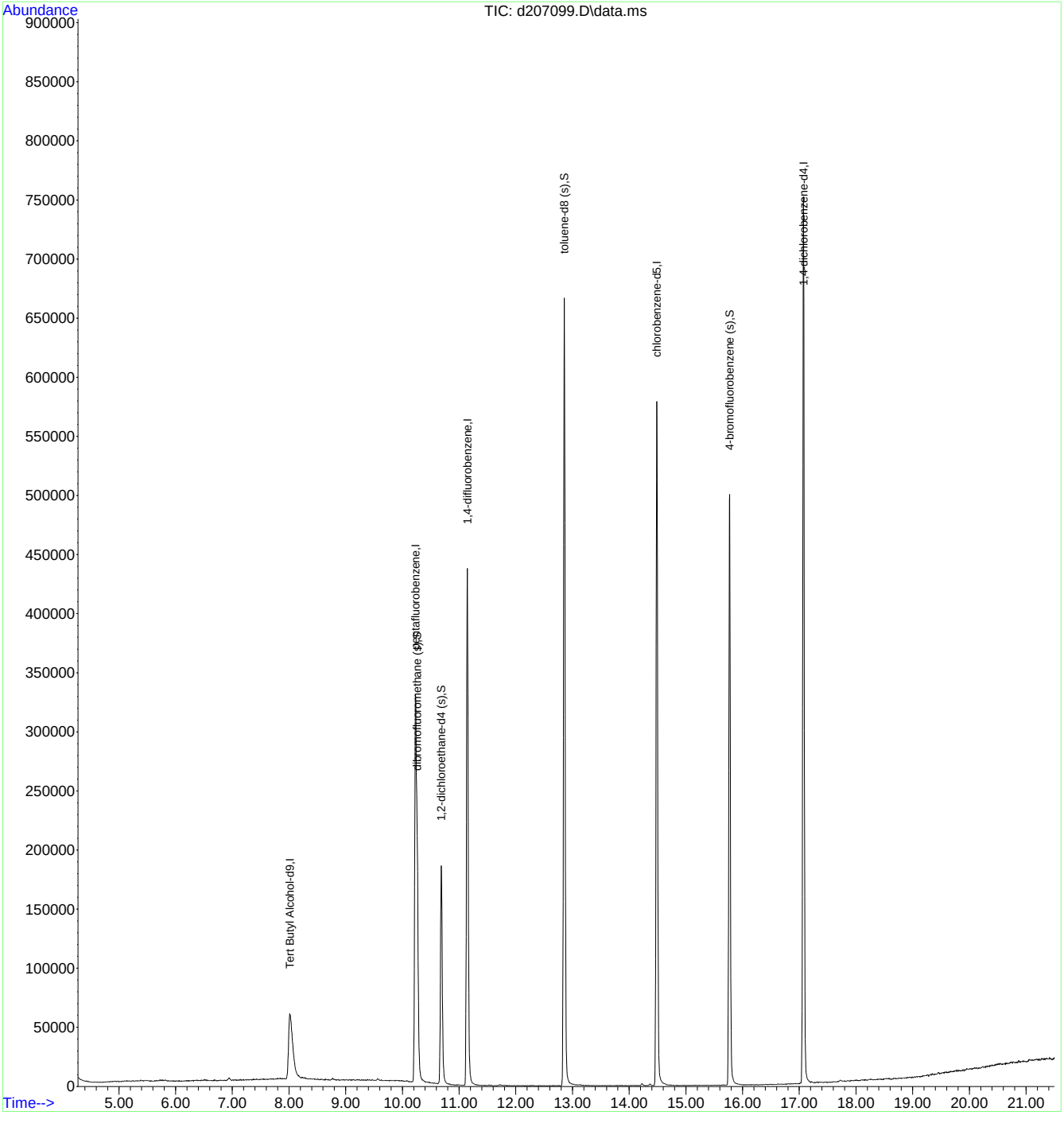
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207099.D
Acq On : 30 Mar 2013 11:22 am
Operator : EmilyT
Sample : mb
Misc : ms45378,vd8451,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 01 12:23:48 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207148.D
Acq On : 1 Apr 2013 10:13 am
Operator : EmilyT
Sample : mb
Misc : ms45217,vd8453,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 02 08:14:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.010	65	136847	500.00 ug/L	0.01
4) pentafluorobenzene	10.232	168	250339	50.00 ug/L	0.00
53) 1,4-difluorobenzene	11.147	114	391980	50.00 ug/L	0.00
85) chlorobenzene-d5	14.487	117	370627	50.00 ug/L	0.00
99) 1,4-dichlorobenzene-d4	17.075	152	216243	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.263	113	116855	41.37 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 82.74%		
47) 1,2-dichloroethane-d4 (s)	10.687	65	144095	41.81 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 83.62%		
77) toluene-d8 (s)	12.856	98	486457	43.61 ug/L	0.00
Spiked Amount 50.000	Range 81 - 127		Recovery = 87.22%		
101) 4-bromofluorobenzene (s)	15.768	95	202554	47.92 ug/L	0.00
Spiked Amount 50.000	Range 66 - 132		Recovery = 95.84%		

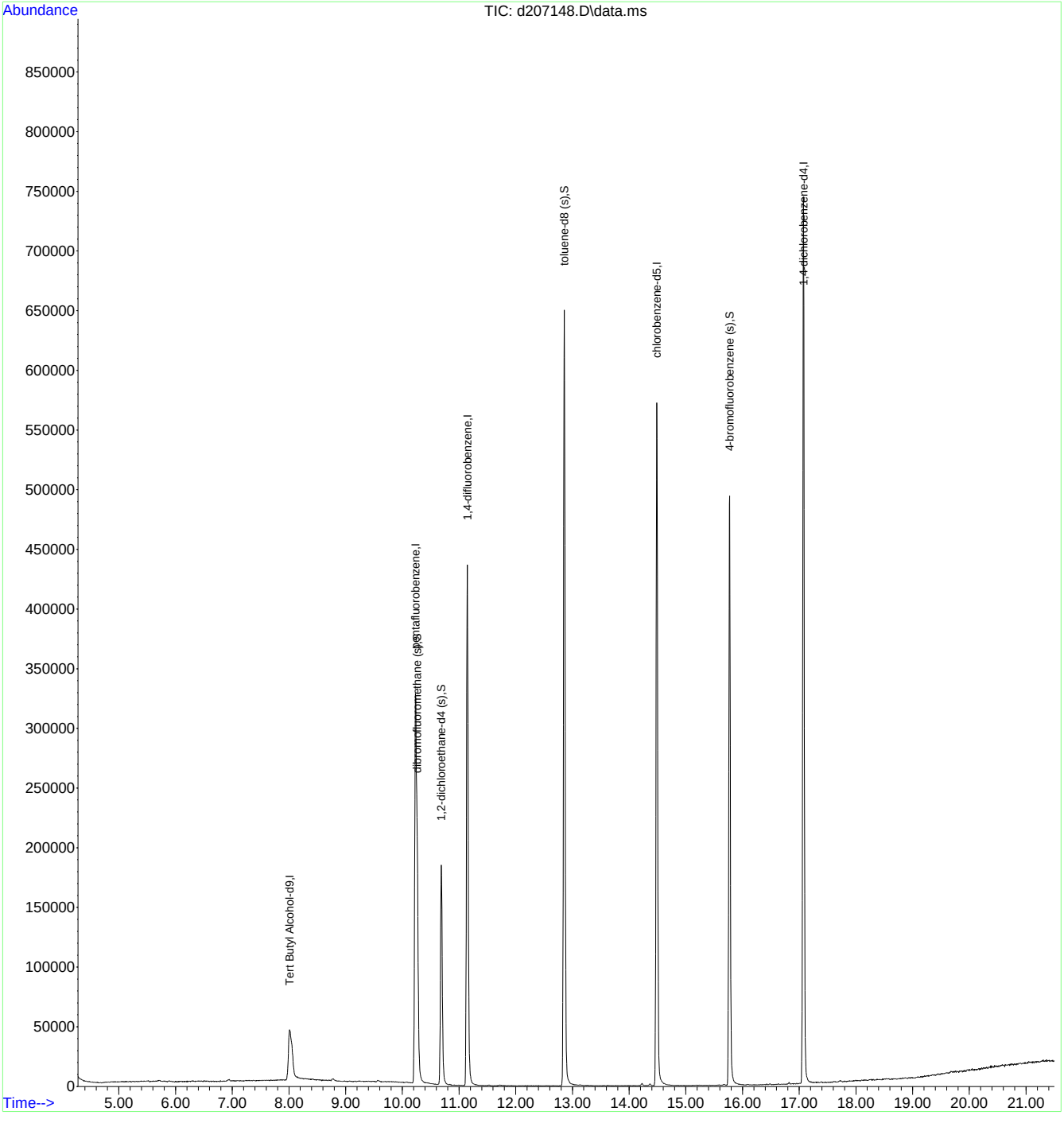
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : d207148.D
Acq On : 1 Apr 2013 10:13 am
Operator : EmilyT
Sample : mb
Misc : ms45217,vd8453,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 02 08:14:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\MD8442.M
Quant Title : SW-846 Method 8260B
QLast Update : Tue Mar 26 10:05:48 2013
Response via : Initial Calibration



SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201564.D
Acq On : 1 Apr 2013 11:10 am
Operator : OksanaT
Sample : mb
Misc : MS45432,VE8862,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 02 09:54:49 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	7.676	65	54505	500.00	ug/L	0.00
5) pentafluorobenzene	9.904	168	158965	50.00	ug/L	0.00
66) 1,4-difluorobenzene	10.825	114	202561	50.00	ug/L	0.00
97) chlorobenzene-d5	14.151	117	191081	50.00	ug/L	0.00
114) 1,4-dichlorobenzene-d4	16.724	152	111676	50.00	ug/L	0.00

System Monitoring Compounds

60) dibromofluoromethane (s)	9.951	113	61377	41.15	ug/L	0.00
Spiked Amount 50.000	Range 81 - 121		Recovery = 82.30%			
61) 1,2-dichloroethane-d4 (s)	10.364	65	65770	40.10	ug/L	0.00
Spiked Amount 50.000	Range 74 - 127		Recovery = 80.20%			
89) toluene-d8 (s)	12.524	98	230282	44.90	ug/L	0.00
Spiked Amount 50.000	Range 80 - 122		Recovery = 89.80%			
116) 4-bromofluorobenzene (s)	15.422	95	90503	44.21	ug/L	0.00
Spiked Amount 50.000	Range 78 - 116		Recovery = 88.42%			

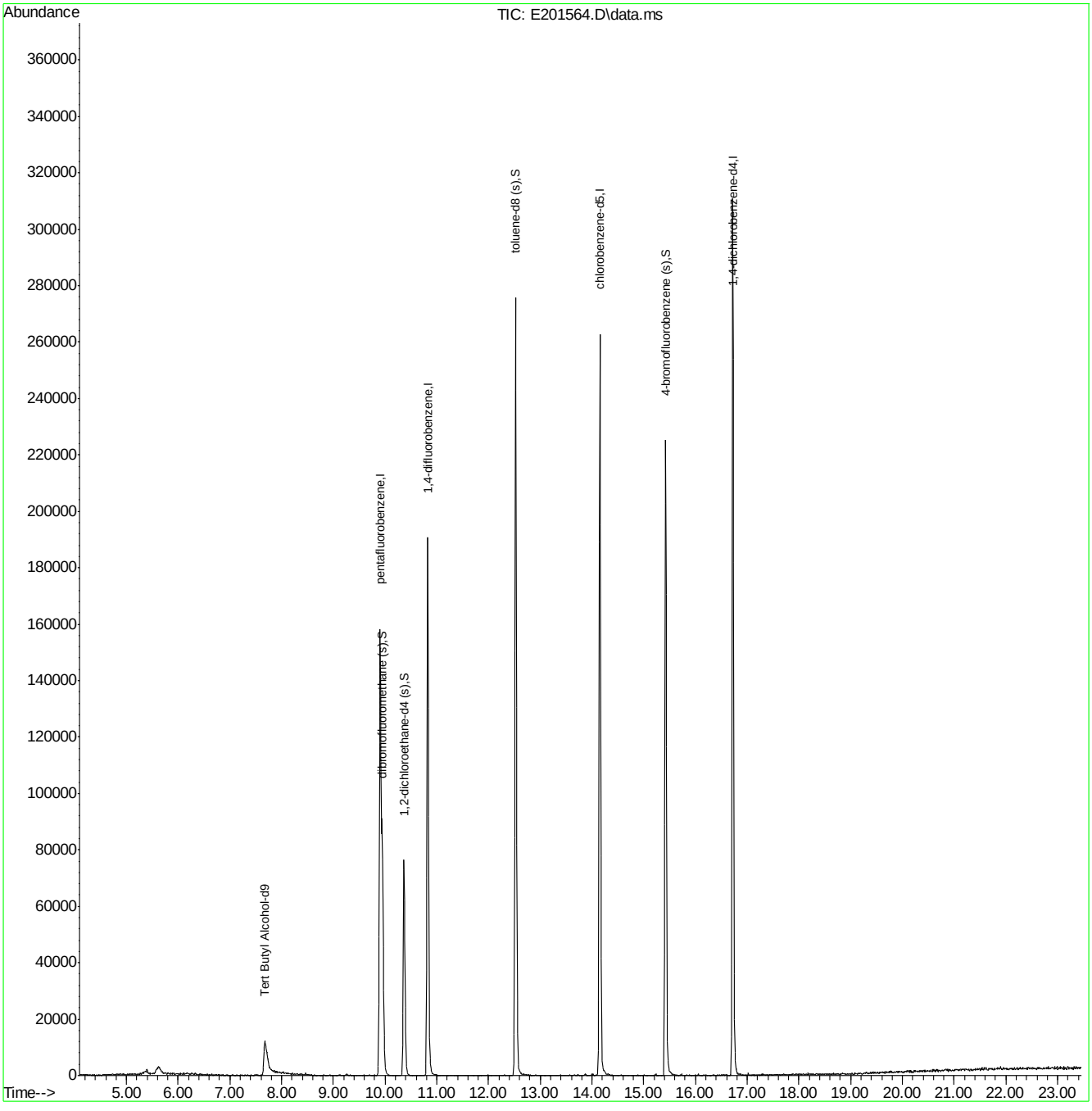
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E201564.D
Acq On : 1 Apr 2013 11:10 am
Operator : OksanaT
Sample : mb
Misc : MS45432,VE8862,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 02 09:54:49 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 Tue Apr 02 09:54:56 2013 RPT1 Page: 2

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64810-MB1	3P18286.D	1	04/02/13	KH	03/29/13	OP64810	E3P825

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

CAS No.	Compound	Result	RL	MDL	Units	Q
120-12-7	Anthracene	ND	29	10	ug/kg	
56-55-3	Benzo(a)anthracene	ND	29	9.3	ug/kg	
50-32-8	Benzo(a)pyrene	ND	29	8.7	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	29	9.5	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	29	11	ug/kg	
218-01-9	Chrysene	ND	29	9.7	ug/kg	
86-73-7	Fluorene	ND	29	9.4	ug/kg	
85-01-8	Phenanthrene	ND	29	13	ug/kg	
129-00-0	Pyrene	ND	29	11	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	96%	21-122%
321-60-8	2-Fluorobiphenyl	89%	30-117%
1718-51-0	Terphenyl-d14	84%	31-129%

Blank Spike Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64810-BS1	3P18287.D	1	04/02/13	KH	03/29/13	OP64810	E3P825

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
120-12-7	Anthracene	1430	1270	89	59-121
56-55-3	Benzo(a)anthracene	1430	1130	79	54-119
50-32-8	Benzo(a)pyrene	1430	1250	88	59-122
205-99-2	Benzo(b)fluoranthene	1430	1200	84	45-133
191-24-2	Benzo(g,h,i)perylene	1430	1310	92	57-122
218-01-9	Chrysene	1430	1160	81	55-120
86-73-7	Fluorene	1430	1270	89	57-117
85-01-8	Phenanthrene	1430	1230	86	58-118
129-00-0	Pyrene	1430	1150	81	54-122

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	101%	21-122%
321-60-8	2-Fluorobiphenyl	94%	30-117%
1718-51-0	Terphenyl-d14	91%	31-129%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64810-MS	3P18309.D	1	04/02/13	KH	03/29/13	OP64810	E3P825
OP64810-MSD	3P18310.D	1	04/02/13	KH	03/29/13	OP64810	E3P825
JB31800-1	3P18308.D	1	04/02/13	KH	03/29/13	OP64810	E3P825

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

CAS No.	Compound	JB31800-1 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	51.7		2000	1340	64	2030	1780	85	28	33-130/30
56-55-3	Benzo(a)anthracene	110		2000	1250	57	2030	1780	82	35* [a]	29-127/33
50-32-8	Benzo(a)pyrene	102		2000	1310	60	2030	1800	84	32	28-134/34
205-99-2	Benzo(b)fluoranthene	113		2000	1260	57	2030	1930	89	42* [a]	19-143/38
191-24-2	Benzo(g,h,i)perylene	140		2000	1380	62	2030	1800	82	26	27-135/34
218-01-9	Chrysene	253		2000	1390	57	2030	1790	76	25	29-129/32
86-73-7	Fluorene	74.7		2000	1280	60	2030	1960	93	42* [a]	32-125/32
85-01-8	Phenanthrene	206		2000	1420	61	2030	1990	88	33	28-132/34
129-00-0	Pyrene	254		2000	1420	58	2030	1920	82	30	27-132/33

CAS No.	Surrogate Recoveries	MS	MSD	JB31800-1	Limits
4165-60-0	Nitrobenzene-d5	62%	75%	32%	21-122%
321-60-8	2-Fluorobiphenyl	64%	77%	42%	30-117%
1718-51-0	Terphenyl-d14	64%	79%	45%	31-129%

(a) Outside of in house control limits.

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P782-DFTPP
Lab File ID: 3P17131.D
Instrument ID: GCMS3P
Injection Date: 02/26/13
Injection Time: 09:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	44244	45.7		Pass
68	Less than 2.0% of mass 69	547	0.57	(1.07) [a]	Pass
69	Mass 69 relative abundance	51091	52.8		Pass
70	Less than 2.0% of mass 69	226	0.23	(0.44) [a]	Pass
127	40.0 - 60.0% of mass 198	53456	55.3		Pass
197	Less than 1.04% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	96747	100.0		Pass
199	5.0 - 9.0% of mass 198	6418	6.63		Pass
275	10.0 - 30.0% of mass 198	23148	23.9		Pass
365	1.0 - 100.0% of mass 198	3410	3.52		Pass
441	Present, but less than mass 443	14935	15.4	(96.1) [b]	Pass
442	40.0 - 100.0% of mass 198	80411	83.1		Pass
443	17.0 - 23.0% of mass 442	15545	16.1	(19.3) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P782-IC782	3P17132.D	02/26/13	09:26	00:09	Initial cal 100
E3P782-IC782	3P17133.D	02/26/13	09:50	00:33	Initial cal 1
E3P782-IC782	3P17134.D	02/26/13	10:14	00:57	Initial cal 80
E3P782-IC782	3P17135.D	02/26/13	10:38	01:21	Initial cal 2
E3P782-ICC782	3P17136.D	02/26/13	11:01	01:44	Initial cal 50
E3P782-IC782	3P17137.D	02/26/13	11:25	02:08	Initial cal 5
E3P782-IC782	3P17138.D	02/26/13	11:49	02:32	Initial cal 25
E3P782-IC782	3P17139.D	02/26/13	12:13	02:56	Initial cal 10

Instrument Performance Check (DFTPP)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P783-DFTPP
Lab File ID: 3P17140.D
Instrument ID: GCMS3P
Injection Date: 02/26/13
Injection Time: 12:38

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	38368	42.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	44592	48.8		Pass
70	Less than 2.0% of mass 69	233	0.26	(0.52) [a]	Pass
127	40.0 - 60.0% of mass 198	48656	53.3		Pass
197	Less than 1.04% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	91291	100.0		Pass
199	5.0 - 9.0% of mass 198	6418	7.03		Pass
275	10.0 - 30.0% of mass 198	22715	24.9		Pass
365	1.0 - 100.0% of mass 198	3379	3.70		Pass
441	Present, but less than mass 443	15903	17.4	(94.6) [b]	Pass
442	40.0 - 100.0% of mass 198	86712	95.0		Pass
443	17.0 - 23.0% of mass 442	16807	18.4	(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
E3P783-IC783	3P17141.D	02/26/13	12:47	00:09	Initial cal 100
E3P783-IC783	3P17142.D	02/26/13	13:11	00:33	Initial cal 80
E3P783-ICC783	3P17143.D	02/26/13	13:34	00:56	Initial cal 50
E3P783-IC783	3P17144.D	02/26/13	13:58	01:20	Initial cal 25
E3P783-IC783	3P17145.D	02/26/13	14:22	01:44	Initial cal 10
E3P783-IC783	3P17146.D	02/26/13	14:46	02:08	Initial cal 5
E3P783-IC783	3P17147.D	02/26/13	15:10	02:32	Initial cal 2
E3P783-IC783	3P17148.D	02/26/13	15:33	02:55	Initial cal 1
E3P783-ICV782	3P17149.D	02/26/13	15:57	03:19	Initial cal verification 50
E3P783-ICV783	3P17150A.D	02/26/13	16:21	03:43	Initial cal verification 50
E3P783-ICV782	3P17150.D	02/26/13	16:21	03:43	Initial cal verification 50
E3P783-ICV783	3P17151A.D	02/26/13	16:44	04:06	Initial cal verification 50
E3P783-ICV782	3P17151.D	02/26/13	16:44	04:06	Initial cal verification 50
E3P783-ICV782	3P17152.D	02/26/13	17:08	04:30	Initial cal verification 50
E3P783-ICV783	3P17153.D	02/26/13	17:32	04:54	Initial cal verification 50
E3P783-ICV782	3P17154.D	02/26/13	17:56	05:18	Initial cal verification 50
E3P783-ICV783	3P17155.D	02/26/13	18:20	05:42	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P825-DFTPP
Lab File ID: 3P18282.D
Instrument ID: GCMS3P
Injection Date: 04/02/13
Injection Time: 09:44

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	319005	38.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	514045	61.8		Pass
70	Less than 2.0% of mass 69	2050	0.25	(0.40) [a]	Pass
127	40.0 - 60.0% of mass 198	452196	54.4		Pass
197	Less than 1.04% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	831969	100.0		Pass
199	5.0 - 9.0% of mass 198	58486	7.03		Pass
275	10.0 - 30.0% of mass 198	213920	25.7		Pass
365	1.0 - 100.0% of mass 198	28781	3.46		Pass
441	Present, but less than mass 443	121808	14.6	(97.0) [b]	Pass
442	40.0 - 100.0% of mass 198	670302	80.6		Pass
443	17.0 - 23.0% of mass 442	125515	15.1	(18.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P825-CC782	3P18283.D	04/02/13	09:57	00:13	Continuing cal 25
E3P825-CC783	3P18284.D	04/02/13	10:20	00:36	Continuing cal 25
OP64881-MB1	3P18285.D	04/02/13	10:44	01:00	Method Blank
OP64810-MB1	3P18286.D	04/02/13	11:07	01:23	Method Blank
OP64810-BS1	3P18287.D	04/02/13	11:31	01:47	Blank Spike
ZZZZZZ	3P18288.D	04/02/13	11:55	02:11	(unrelated sample)
ZZZZZZ	3P18288.D	04/02/13	11:55	02:11	(unrelated sample)
ZZZZZZ	3P18290.D	04/02/13	12:42	02:58	(unrelated sample)
ZZZZZZ	3P18291.D	04/02/13	13:05	03:21	(unrelated sample)
ZZZZZZ	3P18292.D	04/02/13	13:29	03:45	(unrelated sample)
JB31800-11	3P18293.D	04/02/13	13:52	04:08	MH 455-1 (4.5-5.0)
JB31800-12	3P18294.D	04/02/13	14:16	04:32	MH 455-2 (2.5-3.0)
ZZZZZZ	3P18315.D	04/02/13	14:40	04:56	(unrelated sample)
JB31800-13	3P18295.D	04/02/13	15:03	05:19	MH 455-3 (3.0-3.5)
JB31800-14	3P18296.D	04/02/13	15:27	05:43	MH 455-4 (3.0-3.5)
JB31800-15	3P18297.D	04/02/13	15:50	06:06	MH 455-5 (2.5-3.0)
JB31800-16	3P18298.D	04/02/13	16:14	06:30	MH 455-6 (3.0-3.5)
JB31800-17	3P18299.D	04/02/13	16:37	06:53	MH 455-7 (3.0-3.5)
JB31800-18	3P18300.D	04/02/13	17:01	07:17	MH 455-8 (5.0-5.5)

Instrument Performance Check (DFTPP)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P825-DFTPP
Lab File ID: 3P18282.D
Instrument ID: GCMS3P
Injection Date: 04/02/13
Injection Time: 09:44

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JB31800-19	3P18301.D	04/02/13	17:24	07:40	MH 455-9 (5.0-5.5)
JB31800-20	3P18302.D	04/02/13	17:48	08:04	MH 455-10 (0.25-0.50)
JB31800-4	3P18303.D	04/02/13	18:11	08:27	MH 523-4 (2.0-2.5)
JB31800-5	3P18304.D	04/02/13	18:35	08:51	MH 523-5 (2.7-3.2)
JB31800-6	3P18305.D	04/02/13	18:58	09:14	MH 523-6 (3.0-3.5)
JB31800-7	3P18306.D	04/02/13	19:22	09:38	MH 523-7 (1.9-2.4)
JB31800-9	3P18307.D	04/02/13	19:45	10:01	MH 523-9 (5.0-5.5)
JB31800-1	3P18308.D	04/02/13	20:09	10:25	MH 523-1 (4.0-4.5)
OP64810-MS	3P18309.D	04/02/13	20:32	10:48	Matrix Spike
OP64810-MSD	3P18310.D	04/02/13	20:56	11:12	Matrix Spike Duplicate
JB31800-3	3P18312.D	04/02/13	21:43	11:59	MH 523-3 (3.0-3.5)

Instrument Performance Check (DFTPP)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P827-DFTPP
Lab File ID: 3P18347.D
Instrument ID: GCMS3P
Injection Date: 04/03/13
Injection Time: 22:13

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	390520	37.8		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	649739	62.9		Pass
70	Less than 2.0% of mass 69	1854	0.18	(0.29) [a]	Pass
127	40.0 - 60.0% of mass 198	586362	56.8		Pass
197	Less than 1.04% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	1032645	100.0		Pass
199	5.0 - 9.0% of mass 198	67821	6.57		Pass
275	10.0 - 30.0% of mass 198	241515	23.4		Pass
365	1.0 - 100.0% of mass 198	30544	2.96		Pass
441	Present, but less than mass 443	137144	13.3	(96.5) [b]	Pass
442	40.0 - 100.0% of mass 198	732373	70.9		Pass
443	17.0 - 23.0% of mass 442	142051	13.8	(19.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P827-CC782	3P18348.D	04/03/13	22:22	00:09	Continuing cal 25
E3P827-CC783	3P18349.D	04/03/13	22:46	00:33	Continuing cal 25
OP64492-MB1	3P18350.D	04/03/13	23:09	00:56	Method Blank
ZZZZZZ	3P18351.D	04/03/13	23:33	01:20	(unrelated sample)
ZZZZZZ	3P18352.D	04/03/13	23:56	01:43	(unrelated sample)
ZZZZZZ	3P18353.D	04/04/13	00:20	02:07	(unrelated sample)
ZZZZZZ	3P18354.D	04/04/13	00:43	02:30	(unrelated sample)
ZZZZZZ	3P18355.D	04/04/13	01:07	02:54	(unrelated sample)
ZZZZZZ	3P18356.D	04/04/13	01:30	03:17	(unrelated sample)
ZZZZZZ	3P18357.D	04/04/13	01:54	03:41	(unrelated sample)
ZZZZZZ	3P18358.D	04/04/13	02:18	04:05	(unrelated sample)
ZZZZZZ	3P18359.D	04/04/13	02:42	04:29	(unrelated sample)
ZZZZZZ	3P18360.D	04/04/13	03:05	04:52	(unrelated sample)
ZZZZZZ	3P18361.D	04/04/13	03:29	05:16	(unrelated sample)
JB31800-2	3P18362.D	04/04/13	03:53	05:40	MH 523-2 (2.5-3.0)
JB31800-6	3P18363.D	04/04/13	04:16	06:03	MH 523-6 (3.0-3.5)
JB31800-8	3P18364.D	04/04/13	04:40	06:27	MH 523-8 (3.0-3.5)
JB31800-10	3P18365.D	04/04/13	05:04	06:51	MH 523-10 (0.25-0.50)
ZZZZZZ	3P18366.D	04/04/13	05:28	07:15	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P828-DFTPP
Lab File ID: 3P18369.D
Instrument ID: GCMS3P
Injection Date: 04/04/13
Injection Time: 09:13

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	322766	36.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	518269	59.3		Pass
70	Less than 2.0% of mass 69	4195	0.48	(0.81) [a]	Pass
127	40.0 - 60.0% of mass 198	471357	53.9		Pass
197	Less than 1.04% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	874581	100.0		Pass
199	5.0 - 9.0% of mass 198	58261	6.66		Pass
275	10.0 - 30.0% of mass 198	214061	24.5		Pass
365	1.0 - 100.0% of mass 198	29525	3.38		Pass
441	Present, but less than mass 443	121776	13.9	(99.6) [b]	Pass
442	40.0 - 100.0% of mass 198	674773	77.2		Pass
443	17.0 - 23.0% of mass 442	122323	14.0	(18.1) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3P828-CC782	3P18370.D	04/04/13	09:23	00:10	Continuing cal 50
E3P828-CC783	3P18371.D	04/04/13	09:46	00:33	Continuing cal 50
OP64384-MB1	3P18372.D	04/04/13	10:09	00:56	Method Blank
OP64384-BS1	3P18373.D	04/04/13	10:33	01:20	Blank Spike
OP64698-MB1	3P18374.D	04/04/13	10:57	01:44	Method Blank
OP64913-MB1	3P18375.D	04/04/13	11:20	02:07	Method Blank
ZZZZZZ	3P18376.D	04/04/13	11:44	02:31	(unrelated sample)
ZZZZZZ	3P18377.D	04/04/13	12:07	02:54	(unrelated sample)
OP64899-MS	3P18378.D	04/04/13	12:31	03:18	Matrix Spike
OP64899-MSD	3P18379.D	04/04/13	12:54	03:41	Matrix Spike Duplicate
JB31800-2	3P18380.D	04/04/13	13:17	04:04	MH 523-2 (2.5-3.0)
ZZZZZZ	3P18381.D	04/04/13	13:41	04:28	(unrelated sample)
ZZZZZZ	3P18382.D	04/04/13	14:04	04:51	(unrelated sample)
ZZZZZZ	3P18383.D	04/04/13	14:27	05:14	(unrelated sample)
JB30045-25Q	3P18384.D	04/04/13	14:51	05:38	(used for QC only; not part of job JB31800)
OP64384-MS	3P18385.D	04/04/13	15:14	06:01	Matrix Spike
OP64384-MSD	3P18386.D	04/04/13	15:37	06:24	Matrix Spike Duplicate
ZZZZZZ	3P18387.D	04/04/13	16:01	06:48	(unrelated sample)
ZZZZZZ	3P18388.D	04/04/13	16:24	07:11	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P828-DFTPP
Lab File ID: 3P18369.D
Instrument ID: GCMS3P
Injection Date: 04/04/13
Injection Time: 09:13

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3P18389.D	04/04/13	16:48	07:35	(unrelated sample)
ZZZZZZ	3P18390.D	04/04/13	17:11	07:58	(unrelated sample)
ZZZZZZ	3P18391.D	04/04/13	17:34	08:21	(unrelated sample)
ZZZZZZ	3P18392.D	04/04/13	17:58	08:45	(unrelated sample)
ZZZZZZ	3P18393.D	04/04/13	18:21	09:08	(unrelated sample)
ZZZZZZ	3P18394.D	04/04/13	18:44	09:31	(unrelated sample)
ZZZZZZ	3P18395.D	04/04/13	19:07	09:54	(unrelated sample)
ZZZZZZ	3P18396.D	04/04/13	19:31	10:18	(unrelated sample)
ZZZZZZ	3P18397.D	04/04/13	19:54	10:41	(unrelated sample)
ZZZZZZ	3P18398.D	04/04/13	20:18	11:05	(unrelated sample)

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	E3P825-CC782	**Injection Date:**	04/02/13
Lab File ID:	3P18283.D	**Injection Time:**	09:57
Instrument ID:	GCMS3P	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	152636	3.80	543930	5.51	274361	8.21	447903	10.57	500047	14.35	477694	16.02
Upper Limit [a]	305272	4.30	1087860	6.01	548722	8.71	895806	11.07	1000094	14.85	955388	16.52
Lower Limit [b]	76318	3.30	271965	5.01	137181	7.71	223952	10.07	250024	13.85	238847	15.52

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
OP64881-MB1	91048	3.80	323930	5.51	167326	8.20	261034	10.57	283045	14.34	286791	16.02
OP64810-MB1	142589	3.80	496390	5.51	258260	8.20	409023	10.56	432020	14.34	408041	16.02
OP64810-BS1	123131	3.80	437255	5.51	221111	8.20	346559	10.56	372325	14.34	349729	16.02
ZZZZZZ	126744	3.84	462747	5.53	241298	8.26	350022	10.66	434068	14.37	415525	16.02
ZZZZZZ	126744	3.84	462747	5.53	241298	8.26	350022	10.66	434068	14.37	415525	16.02
ZZZZZZ	135917	3.80	484457	5.51	243623	8.20	393453	10.56	420473	14.34	391809	16.02
ZZZZZZ	151959	3.80	543224	5.51	281474	8.20	451866	10.56	493191	14.34	470702	16.02
ZZZZZZ	130402	3.80	483160	5.51	249400	8.20	389046	10.56	419542	14.34	395340	16.02
JB31800-11	107381	3.80	383661	5.51	196753	8.20	316158	10.56	338584	14.34	322883	16.02
JB31800-12	143229	3.80	488867	5.51	249077	8.20	395479	10.56	411871	14.34	380024	16.02
ZZZZZZ	174024	3.80	624461	5.51	312545	8.20	494577	10.57	549840	14.34	527847	16.02
JB31800-13	124736	3.80	443393	5.51	222155	8.21	337619	10.57	364476	14.34	341101	16.02
JB31800-14	94542	3.80	339826	5.51	176574	8.20	281343	10.56	297054	14.34	259192	16.02
JB31800-15	135178	3.80	476565	5.51	246417	8.20	401130	10.56	431391	14.34	408502	16.02
JB31800-16	129438	3.80	463813	5.51	232978	8.20	364051	10.56	387173	14.34	373621	16.01
JB31800-17	131803	3.80	472252	5.51	231742	8.20	382343	10.56	400789	14.34	392779	16.02
JB31800-18	132883	3.80	484313	5.51	241536	8.20	382919	10.56	408439	14.34	391242	16.02
JB31800-19	131294	3.80	469302	5.51	238304	8.20	376326	10.56	419823	14.34	401809	16.01
JB31800-20	125386	3.80	444028	5.51	235717	8.20	367342	10.56	390823	14.34	398546	16.02
JB31800-4	120764	3.80	425002	5.51	215644	8.21	332508	10.57	366110	14.34	453483	16.02
JB31800-5	112532	3.80	401750	5.51	198784	8.22	320989	10.58	355192	14.35	357612	16.03
JB31800-6	125395	3.80	445880	5.51	219841	8.22	346643	10.59	383748	14.35	364963	16.02
JB31800-7	133263	3.80	488022	5.51	225815	8.21	364725	10.58	406805	14.35	396251	16.02
JB31800-9	123612	3.80	439148	5.51	221801	8.20	341388	10.56	378200	14.34	364804	16.02
JB31800-1	125778	3.80	457800	5.51	212710	8.21	342711	10.57	378237	14.36	396327	16.05
OP64810-MS	94676	3.80	334501	5.51	172115	8.21	271431	10.57	284296	14.35	280874	16.04
OP64810-MSD	133588	3.80	471995	5.52	231294	8.24	381921	10.60	431687	14.39	427487	16.09
JB31800-3	101113	3.82	378228	5.60	190865	8.30	293687	10.65	304432	14.41	287944	16.07

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	E3P825-CC782	**Injection Date:**	04/02/13
Lab File ID:	3P18283.D	**Injection Time:**	09:57
Instrument ID:	GCMS3P	**Method:**	SW846 8270D

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

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

8.5.1

8

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	E3P827-CC782	**Injection Date:**	04/03/13
Lab File ID:	3P18348.D	**Injection Time:**	22:22
Instrument ID:	GCMS3P	**Method:**	SW846 8270D

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	151569	3.79	536104	5.49	261865	8.20	417596	10.56	451274	14.35	408424	16.03
Upper Limit [a]	303138	4.29	1072208	5.99	523730	8.70	835192	11.06	902548	14.85	816848	16.53
Lower Limit [b]	75785	3.29	268052	4.99	130933	7.70	208798	10.06	225637	13.85	204212	15.53

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
OP64492-MB1	201879	3.78	740681	5.49	359708	8.19	552048	10.55	577917	14.34	497422	16.02
ZZZZZZ	193780	3.78	702644	5.49	347235	8.19	545209	10.55	595962	14.35	547404	16.02
ZZZZZZ	156334	3.79	566339	5.49	282505	8.19	455877	10.55	486747	14.34	451563	16.02
ZZZZZZ	164314	3.79	619232	5.49	309331	8.19	487048	10.55	533914	14.34	490202	16.02
ZZZZZZ	167240	3.79	596455	5.49	291673	8.19	456765	10.55	483333	14.35	471739	16.03
ZZZZZZ	137048	3.79	500225	5.49	243807	8.19	384094	10.55	409442	14.34	399629	16.03
ZZZZZZ	118509	3.79	441258	5.49	216305	8.19	345407	10.55	361413	14.35	358314	16.03
ZZZZZZ	118988	3.79	435159	5.49	219050	8.19	350993	10.55	383775	14.34	355762	16.02
ZZZZZZ	134322	3.78	461440	5.49	230231	8.19	360409	10.55	379326	14.34	368535	16.02
ZZZZZZ	142888	3.78	501944	5.49	247524	8.19	389753	10.55	400317	14.34	397626	16.02
ZZZZZZ	108735	3.79	383610	5.49	185337	8.19	310804	10.56	343364	14.43	366721	16.14
ZZZZZZ	145953	3.79	532827	5.50	274339	8.20	440323	10.56	435365	14.36	424182	16.05
JB31800-2 [c]	117805	3.80	415331	5.55	246595	8.28	354169	10.64	391294	14.39	369296	16.06
JB31800-6	130460	3.79	482065	5.50	236827	8.21	373898	10.58	404426	14.36	365708	16.04
JB31800-8	136676	3.79	482935	5.50	236174	8.21	363363	10.59	403353	14.39	408295	16.07
JB31800-10	134483	3.79	501747	5.50	242790	8.20	383734	10.57	407352	14.38	402604	16.09
ZZZZZZ	124413	3.79	490387	5.50	249023	8.20	392727	10.57	403723	14.36	382280	16.05

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

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

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	E3P828-CC782	**Injection Date:**	04/04/13
Lab File ID:	3P18370.D	**Injection Time:**	09:23
Instrument ID:	GCMS3P	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	150139	3.78	515769	5.49	262490	8.19	425861	10.55	488215	14.34	450140	16.01
Upper Limit [a]	300278	4.28	1031538	5.99	524980	8.69	851722	11.05	976430	14.84	900280	16.51
Lower Limit [b]	75070	3.28	257885	4.99	131245	7.69	212931	10.05	244108	13.84	225070	15.51

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
OP64384-MB1	119927	3.79	419058	5.49	211620	8.19	332390	10.55	340313	14.34	332216	16.00
OP64384-BS1	116998	3.78	425256	5.49	206193	8.18	324687	10.55	347352	14.34	343280	16.00
OP64698-MB1	124251	3.79	437662	5.49	224924	8.18	357041	10.54	397986	14.33	391981	16.00
OP64913-MB1	111162	3.79	400994	5.49	206068	8.18	325268	10.55	367952	14.33	358966	16.00
ZZZZZZ	109756	3.78	373867	5.49	186334	8.18	290945	10.54	302895	14.33	293407	16.00
ZZZZZZ	110880	3.79	393755	5.49	203793	8.18	332117	10.55	371356	14.34	358192	16.02
OP64899-MS	145638	3.78	518028	5.49	259716	8.19	407435	10.55	454113	14.34	434486	16.01
OP64899-MSD	135539	3.78	482849	5.49	238601	8.19	385539	10.55	421936	14.34	407950	16.01
JB31800-2	103405	3.79	372867	5.51	197809	8.20	317895	10.57	359741	14.34	346645	16.01
ZZZZZZ	104712	3.79	401661	5.49	201761	8.19	322174	10.55	362543	14.33	346431	16.00
ZZZZZZ	100047	3.79	380093	5.49	194114	8.19	321024	10.55	365011	14.33	342362	16.00
ZZZZZZ	103580	3.79	376227	5.49	193368	8.18	313757	10.54	342625	14.34	331374	16.02
JB30045-25Q	114160	3.78	392983	5.49	195266	8.18	313895	10.55	329739	14.34	326489	16.00
OP64384-MS	122069	3.78	425803	5.49	212691	8.19	332331	10.55	348385	14.34	340865	16.00
OP64384-MSD	123870	3.78	428599	5.49	212450	8.19	335750	10.55	348363	14.34	351808	16.00
ZZZZZZ	105097	3.79	377230	5.49	192790	8.18	315571	10.54	352801	14.33	344639	16.00
ZZZZZZ	105394	3.79	382701	5.49	201113	8.18	327395	10.55	361330	14.33	363502	16.00
ZZZZZZ	101821	3.79	356684	5.49	187310	8.18	306032	10.55	344287	14.33	341755	16.00
ZZZZZZ	108689	3.79	374366	5.49	200521	8.19	325079	10.54	359703	14.33	355830	16.00
ZZZZZZ	94344	3.79	340510	5.49	177588	8.18	290573	10.54	328809	14.33	322643	16.00
ZZZZZZ	113757	3.79	402091	5.49	213170	8.18	358597	10.54	390698	14.33	376249	16.00
ZZZZZZ	114224	3.79	415734	5.49	213051	8.18	350778	10.54	384810	14.33	382435	16.00
ZZZZZZ	113328	3.79	406876	5.49	206089	8.19	352239	10.54	378909	14.33	377975	16.00
ZZZZZZ	111958	3.79	384057	5.49	205081	8.18	335668	10.54	379104	14.33	375016	16.00
ZZZZZZ	109606	3.79	406946	5.49	208780	8.19	336347	10.54	381921	14.33	371129	16.00
ZZZZZZ	106414	3.79	395227	5.49	206166	8.19	333490	10.54	380330	14.33	374292	16.00
ZZZZZZ	112814	3.79	411694	5.49	210103	8.18	350065	10.54	372305	14.33	373949	16.00

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

Internal Standard Area Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Check Std:	E3P828-CC782	**Injection Date:**	04/04/13
Lab File ID:	3P18370.D	**Injection Time:**	09:23
Instrument ID:	GCMS3P	**Method:**	SW846 8270D

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

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

8.5.3

8

Surrogate Recovery Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JB31800-1	3P18308.D	32	42	45
JB31800-2	3P18380.D	114	78	65
JB31800-2	3P18362.D	31	74	75
JB31800-3	3P18312.D	63	59	64
JB31800-4	3P18303.D	38	48	52
JB31800-5	3P18304.D	51	66	66
JB31800-6	3P18363.D	31	66	76
JB31800-6	3P18305.D	50	65	69
JB31800-7	3P18306.D	34	56	67
JB31800-8	3P18364.D	41	58	66
JB31800-9	3P18307.D	49	55	75
JB31800-10	3P18365.D	68	74	75
JB31800-11	3P18293.D	64	69	90
JB31800-12	3P18294.D	56	60	72
JB31800-13	3P18295.D	48	58	67
JB31800-14	3P18296.D	51	60	76
JB31800-15	3P18297.D	30	34	52
JB31800-16	3P18298.D	47	57	72
JB31800-17	3P18299.D	57	62	75
JB31800-18	3P18300.D	48	51	62
JB31800-19	3P18301.D	71	72	82
JB31800-20	3P18302.D	58	64	71
OP64810-BS1	3P18287.D	101	94	91
OP64810-MB1	3P18286.D	96	89	84
OP64810-MS	3P18309.D	62	64	64
OP64810-MSD	3P18310.D	75	77	79

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	21-122%
S2 = 2-Fluorobiphenyl	30-117%
S3 = Terphenyl-d14	31-129%

Initial Calibration Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P782-ICC782
Lab FileID: 3P17136.D

Response Factor Report GC3P

Method : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Tue Feb 26 09:55:13 2013
Response via : Initial Calibration

Calibration Files
2 =3p17135.D 5 =3p17137.D 25 =3p17138.D 80 =3p17134.D
100 =3p17132.D 50 =3p17136.D 1 =3p17133.D 10 =3p17139.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	----------ISTD----------									
2) 1,4-Dioxane	0.409	0.513	0.464	0.498	0.513	0.478	0.743	0.486	0.513	19.24
3) Pyridine	1.389	1.391	1.337	1.403	1.449	1.371	1.623	1.334	1.412	6.58
4) N-Nitrosodim	0.675	0.690	0.659	0.707	0.734	0.684	0.777	0.687	0.702	5.38
5) 2-Fluorophen	1.260	1.340	1.330	1.364	1.386	1.338	1.399	1.317	1.342	3.25
6) Indene	2.154	2.203	2.118	2.082	2.045	2.107	2.212	2.187	2.138	2.82
7) Cumene	2.875	2.998	2.880	2.999	3.001	2.898	3.029	2.924	2.950	2.12
8) Phenol-d5	1.477	1.623	1.582	1.659	1.661	1.586	1.636	1.612	1.604	3.70
9) Phenol	1.693	1.815	1.762	1.767	1.806	1.770	1.893	1.784	1.786	3.19
10) Aniline	1.953	2.011	1.991	1.761	1.734	2.011	2.185	1.894	1.942	7.52
11) bis(2-Chloro	1.091	1.162	1.098	1.139	1.146	1.106	1.196	1.110	1.131	3.20
12) 2-Chlorophen	1.417	1.486	1.444	1.455	1.471	1.434	1.447	1.464	1.452	1.50
13) Decane	1.441	1.443	1.406	1.404	1.408	1.368	1.539	1.428	1.429	3.52
14) 1,3-Dichloro	1.530	1.664	1.567	1.585	1.570	1.565	1.714	1.633	1.604	3.83
15) 1,4-Dichloro	1.589	1.659	1.585	1.589	1.598	1.578	1.713	1.645	1.619	2.98
16) Benzyl alcoh	0.830	0.875	0.824	0.846	0.840	0.851	0.871	0.854	0.849	2.11
17) 1,2-Dichloro	1.463	1.563	1.478	1.470	1.457	1.484	1.562	1.545	1.503	3.06
18) Acetophenone	1.712	1.801	1.715	1.706	1.702	1.704	1.861	1.757	1.745	3.33
19) 2-Methylphen	1.147	1.249	1.191	1.154	1.142	1.181	1.247	1.207	1.190	3.56
20) 2,2'-oxybis(	1.996	2.064	1.911	1.921	1.926	1.885	2.154	1.937	1.974	4.65
21) 3&4-Methylph	1.219	1.292	1.278	1.259	1.250	1.243	1.310	1.300	1.269	2.47
22) n-Nitroso-di	0.845	0.881	0.858	0.854	0.856	0.843	0.941	0.863	0.868	3.69
23) Hexachloroet	0.516	0.563	0.524	0.528	0.535	0.527	0.552	0.543	0.536	2.95
24) I Naphthalene-d8	----------ISTD----------									
25) Nitrobenzene	0.337	0.346	0.327	0.343	0.343	0.330	0.357	0.345	0.341	2.81
26) Nitrobenzene	0.360	0.358	0.338	0.346	0.349	0.341	0.380	0.351	0.353	3.73
27) Quinoline	0.659	0.683	0.657	0.692	0.688	0.676	0.720	0.677	0.682	2.93
28) Isophorone	0.561	0.567	0.547	0.576	0.577	0.561	0.577	0.578	0.568	1.97
29) 2-Nitropheno	0.186	0.201	0.198	0.210	0.208	0.202	0.191	0.199	0.199	4.02
30) 2,4-Dimethyl	0.265	0.315	0.313	0.318	0.318	0.322	0.293	0.292	0.304	6.45
31) Benzoic acid	0.204	0.240	0.263	0.299	0.312	0.285	0.227	0.258	0.261	14.05
32) bis(2-Chloro	0.359	0.371	0.355	0.368	0.364	0.358	0.369	0.370	0.364	1.68
33) 2,4-Dichloro	0.278	0.291	0.279	0.298	0.294	0.291	0.288	0.291	0.289	2.40
34) 2,6-Dichloro	0.272	0.291	0.280	0.284	0.287	0.283	0.295	0.286	0.285	2.40
35) 1,3,5-Trichl	0.319	0.333	0.325	0.333	0.328	0.323	0.347	0.341	0.331	2.83
36) 1,2,4-Trichl	0.315	0.326	0.316	0.321	0.318	0.317	0.327	0.330	0.321	1.78
37) 1,2,3-Trichl	0.305	0.312	0.306	0.312	0.308	0.305	0.317	0.314	0.310	1.52
38) Naphthalene	1.045	1.083	1.022	1.019	1.016	1.022	1.084	1.061	1.044	2.75
39) 4-Chloroanil	0.451	0.469	0.456	0.450	0.444	0.463	0.455	0.458	0.456	1.69
40) 2,3-Dichloro	0.323	0.345	0.321	0.338	0.339	0.327	0.332	0.338	0.333	2.61
41) Caprolactam	0.139	0.144	0.147	0.157	0.160	0.148	0.158	0.146	0.150	5.04
42) Hexachlorobu	0.170	0.177	0.172	0.173	0.171	0.171	0.175	0.178	0.173	1.75
43) 4-Chloro-3-m	0.246	0.268	0.259	0.279	0.282	0.271	0.257	0.271	0.267	4.47
44) 2-Methylnaph	0.577	0.618	0.599	0.613	0.607	0.597	0.613	0.619	0.605	2.30
45) 1-Methylnaph	0.572	0.593	0.570	0.578	0.573	0.574	0.600	0.589	0.581	1.92

Initial Calibration Summary

Job Number: JB31800 **Sample:** E3P782-ICC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P17136.D
Project: Sunoco - Marcus Hook Facility, PA

46)	Dimethylnaph	0.494	0.537	0.510	0.529	0.528	0.527	0.535	0.541	0.525	3.01
47)	I Acenaphthene-d10	----------ISTD----------									
48)	Hexachlorocy	0.316	0.358	0.382	0.409	0.405	0.389	0.304	0.384	0.368	10.67
49)	2,4,6-Trichl	0.355	0.366	0.370	0.396	0.387	0.380	0.362	0.394	0.376	4.07
50)	2,4,5-Trichl	0.394	0.422	0.411	0.439	0.440	0.415	0.396	0.436	0.419	4.40
51)	2-Fluorobiph	1.224	1.303	1.216	1.260	1.249	1.240	1.311	1.333	1.267	3.43
52)	2-Chloronaph	1.176	1.231	1.180	1.190	1.157	1.163	1.220	1.259	1.197	3.00
53)	Biphenyl	1.408	1.498	1.407	1.468	1.395	1.403	1.488	1.542	1.451	3.81
54)	2-Nitroanili	0.340	0.339	0.340	0.363	0.366	0.346	0.362	0.357	0.352	3.30
55)	Dimethylphth	1.258	1.321	1.249	1.302	1.311	1.258	1.354	1.362	1.302	3.37
56)	Acenaphthyle	1.907	1.956	1.862	1.909	1.903	1.897	1.927	2.039	1.925	2.76
57)	2,6-Dinitrot	0.264	0.284	0.275	0.301	0.293	0.284	0.259	0.296	0.282	5.34
58)	3-Nitroanili	0.337	0.363	0.359	0.381	0.384	0.373	0.339	0.377	0.364	4.97
59)	Acenaphthene	1.190	1.244	1.165	1.221	1.210	1.183	1.247	1.259	1.215	2.77
60)	2,4-Dinitrop		0.120	0.153	0.189	0.197	0.172		0.140	0.162	18.31
61)	4-Nitropheno	0.146	0.165	0.175	0.192	0.191	0.180	0.161	0.181	0.174	9.06
62)	Dibenzofuran	1.620	1.679	1.594	1.611	1.599	1.580	1.732	1.689	1.638	3.34
63)	2,4-Dinitrot	0.369	0.386	0.383	0.399	0.403	0.380	0.387	0.399	0.388	2.98
64)	2,3,4,6-Tetr	0.282	0.315	0.316	0.344	0.344	0.330	0.288	0.331	0.319	7.35
65)	Diethylphtha	1.296	1.368	1.301	1.374	1.387	1.327	1.440	1.408	1.363	3.75
66)	Fluorene	1.178	1.290	1.218	1.258	1.256	1.207	1.269	1.304	1.248	3.45
67)	4-Chlorophen	0.556	0.590	0.565	0.577	0.581	0.571	0.590	0.595	0.578	2.34
68)	4-Nitroanili	0.327	0.345	0.356	0.370	0.368	0.356	0.352	0.371	0.356	4.16
69)	I Phenanthrene-d10	----------ISTD----------									
70)	4,6-Dinitro-	0.086	0.114	0.132	0.154	0.154	0.147		0.127	0.131	18.94
71)	n-Nitrosodip	0.518	0.559	0.548	0.564	0.561	0.552	0.560	0.574	0.554	3.03
72)	1,2-Diphenyl	0.752	0.808	0.766	0.791	0.801	0.790	0.827	0.819	0.794	3.21
73)	2,4,6-Tribro	0.120	0.133	0.134	0.145	0.148	0.142	0.121	0.139	0.135	7.54
74)	4-Bromopheny	0.198	0.216	0.206	0.219	0.218	0.213	0.214	0.220	0.213	3.46
75)	Hexachlorobe	0.255	0.267	0.253	0.264	0.264	0.258	0.274	0.265	0.263	2.65
76)	Pentachlorop	0.135	0.162	0.166	0.186	0.193	0.181	0.145	0.171	0.167	11.90
77)	Phenanthrene	1.134	1.147	1.086	1.103	1.071	1.100	1.210	1.133	1.123	3.88
78)	Anthracene	1.089	1.137	1.091	1.117	1.083	1.122	1.209	1.154	1.125	3.71
79)	Carbazole	1.076	1.103	1.044	1.062	1.047	1.057	1.249	1.102	1.093	6.16
80)	Di-n-butylph	1.372	1.458	1.428	1.506	1.497	1.457	1.537	1.468	1.465	3.47
81)	Fluoranthene	1.195	1.215	1.156	1.216	1.194	1.186	1.416	1.211	1.224	6.54
82)	Octadecane	0.484	0.514	0.496	0.518	0.513	0.514	0.496	0.510	0.506	2.40
83)	I Chrysene-d12	----------ISTD----------									
84)	Pyrene	1.305	1.359	1.202	1.246	1.245	1.221	1.538	1.263	1.298	8.40
85)	Terphenyl-d1	0.836	0.838	0.781	0.822	0.823	0.783	0.978	0.817	0.835	7.39
86)	Butylbenzylp	0.623	0.654	0.638	0.688	0.677	0.659	0.698	0.635	0.659	4.09
87)	Benzo[a]anth	1.175	1.181	1.089	1.122	1.123	1.102	1.435	1.115	1.168	9.68
88)	3,3'-Dichlor	0.401	0.440	0.434	0.458	0.452	0.444	0.439	0.435	0.438	3.87
89)	Chrysene	1.053	1.111	0.997	1.027	1.011	1.020	1.300	1.053	1.071	9.22
90)	bis(2-Ethylh	0.855	0.922	0.884	0.960	0.921	0.912	0.949	0.905	0.914	3.70
91)	I Perylene-d12	----------ISTD----------									
92)	Di-n-octylph	1.414	1.631	1.618	1.816	1.774	1.726	1.594	1.631	1.650	7.57
93)	Benzo[b]fluo	1.263	1.345	1.257	1.379	1.491	1.253	1.339	1.274	1.325	6.21
94)	Benzo[k]fluo	1.077	1.121	1.100	1.141	0.975	1.156	1.234	1.159	1.120	6.72
95)	Benzo[a]pyre	1.073	1.127	1.096	1.159	1.173	1.131	1.128	1.122	1.126	2.82
96)	Indeno[1,2,3	1.202	1.286	1.303	1.414	1.413	1.337	1.326	1.315	1.325	5.19
97)	Dibenz(a,h)a	0.844	0.926	0.938	1.027	1.038	0.969	0.955	0.949	0.956	6.34
98)	Dibenz[a,h]a	0.988	1.069	1.068	1.161	1.157	1.110	1.100	1.093	1.093	5.04
99)	7,12-Dimethy	0.489	0.511	0.543	0.578	0.570	0.567	0.532	0.529	0.540	5.75
100)	Benzo[g,h,i]	1.014	1.084	1.098	1.189	1.174	1.105	1.097	1.099	1.107	4.90

8.7.1

8

Initial Calibration Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P782-ICC782
Lab FileID: 3P17136.D

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

          M3P782.M          Tue Feb 26 12:34:54 2013   RPT1
```

Initial Calibration Summary

Job Number: JB31800 **Sample:** E3P783-ICC783
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P17143.D
Project: Sunoco - Marcus Hook Facility, PA

```
                         Response Factor Report  GC3P

  Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
  Title        : Semi Volatile Extractables by GC/MS
  Last Update  : Tue Feb 26 16:13:24 2013
  Response via : Initial Calibration

  Calibration Files
  2   =3p17147.D   5   =3p17146.D   25  =3p17144.D   80  =3p17142.D
  100 =3p17141.D   50  =3p17143.D   1   =3p17148.D   10  =3p17145.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  -------------------------------------------------------------------------------
101) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
102) Benzaldehyde 1.178 1.154 1.079 1.136 1.083 1.114       1.152 1.128   3.33

103) I   Acenaphthene-d10a     ----------------ISTD---------------------
104) Atrazine     0.134 0.140 0.143 0.147 0.145 0.151       0.145 0.143   3.70
105) 1,2,4,5-Tetr 0.603 0.581 0.577 0.608 0.607 0.608       0.602 0.598   2.24
106) 2-bromonapht 0.636 0.618 0.630 0.635 0.629 0.640       0.630 0.631   1.13

107)     Chrysene-d12a         ----------------ISTD---------------------
108) Benzidine    0.735 0.763 0.614 0.719 0.610 0.671       0.774 0.698   9.68

109) I   Phenanthrene-d10a     ----------------ISTD---------------------
110) o-terphenyl  0.622 0.562 0.546 0.558 0.546 0.577       0.553 0.566   4.69
111) 1-chloroocta 0.369 0.340 0.347 0.357 0.347 0.365       0.345 0.353   3.07

112) I   Naphthalene-d8a       ----------------ISTD---------------------
113) Hydroquinone 0.223 0.256 0.320 0.333 0.320 0.339 0.434 0.291 0.315  19.99
 -------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3P782.M          Tue Feb 26 16:13:56 2013   RPT1
```

Initial Calibration Verification

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Sample: E3P783-ICV782
Lab FileID: 3P17149.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17149.D              Vial: 10
Acq On    : 26 Feb 2013   3:57 pm                     Operator: katelynh
Sample    : icv782-50                                 Inst    : GC3P
Misc      : op63753,e3p783,                           Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	128	0.00	4.00
9	t	Phenol	1.786	1.653	7.4	119	-0.02	3.59
12	t	2-Chlorophenol	1.452	1.508	-3.9	134	-0.01	3.75
19	t	2-Methylphenol	1.190	1.186	0.3	128	-0.01	4.33
21	t	3&4-Methylphenol	1.269	1.228	3.2	126	-0.02	4.54
24	I	Naphthalene-d8	1.000	1.000	0.0	125	0.00	5.72
29	t	2-Nitrophenol	0.199	0.210	-5.5	130	-0.02	5.18
30	t	2,4-Dimethylphenol	0.304	0.346	-13.8	134	-0.01	5.29
31	t	Benzoic acid	0.261	0.273	-4.6	120	-0.05	5.52
33	t	2,4-Dichlorophenol	0.289	0.321	-11.1	138	-0.01	5.53
34	t	2,6-Dichlorophenol	0.285	0.301	-5.6	133	-0.02	5.86
43	t	4-Chloro-3-methylphenol	0.267	0.285	-6.7	131	-0.04	6.64
47	I	Acenaphthene-d10	1.000	1.000	0.0	127	-0.01	8.42
49	t	2,4,6-Trichlorophenol	0.376	0.400	-6.4	134	-0.01	7.27
50	t	2,4,5-Trichlorophenol	0.419	0.440	-5.0	135	-0.03	7.31
60	t	2,4-Dinitrophenol	0.162	0.162	0.0	118	-0.03	8.56
61	t	4-Nitrophenol	0.174	0.169	2.9	120	-0.03	8.73
64		2,3,4,6-Tetrachlorophenol	0.319	0.335	-5.0	129	-0.02	8.97
69	I	Phenanthrene-d10	1.000	1.000	0.0	127	0.00	10.77
70	t	4,6-Dinitro-2-methylpheno	0.131	0.142	-8.4	123	-0.03	9.42
76	t	Pentachlorophenol	0.167	0.186	11.3	130	-0.02	10.50

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3p17143.D  M3P782.M         Tue Feb 26 16:44:25 2013   RPT1
```

8.7.3

8

Initial Calibration Verification

Job Number: JB31800 **Sample:** E3P783-ICV783
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P17150A.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17150a.D            Vial: 11
Acq On    : 26 Feb 2013   4:21 pm                   Operator: katelynh
Sample    : icv783-50                               Inst    : GC3P
Misc      : op63753,e3p783,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
103 I	Acenaphthene-d10a	1.000	1.000	0.0	111	0.00	8.43
105	1,2,4,5-Tetrachlorobenzen	0.598	0.605	-1.2	110	0.00	7.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17143.D M3P782.M Tue Feb 26 17:14:17 2013 RPT1

8.7.4

8

Initial Calibration Verification

Job Number: JB31800 **Sample:** E3P783-ICV782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P17150.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17150.D              Vial: 11
Acq On    : 26 Feb 2013   4:21 pm                     Operator: katelynh
Sample    : icv782-50                                 Inst    : GC3P
Misc      : op63753,e3p783,                           Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	4.00
3	t	Pyridine	1.412	1.263	10.6	105	0.00	1.76
4	t	N-Nitrosodimethylamine	0.702	0.622	11.4	104	0.00	1.73
11	t	bis(2-Chloroethyl)ether	1.131	1.184	-4.7	122	-0.01	3.69
14	t	1,3-Dichlorobenzene	1.604	1.691	-5.4	123	0.00	3.93
15	t	1,4-Dichlorobenzene	1.619	1.672	-3.3	121	0.00	4.02
16	t	Benzyl alcohol	0.849	0.857	-0.9	115	-0.02	4.18
17	t	1,2-Dichlorobenzene	1.503	1.617	-7.6	125	0.00	4.21
20	t	2,2'-oxybis(1-Chloropropa	1.974	1.909	3.3	116	-0.01	4.36
22	t	n-Nitroso-di-n-propylamin	0.868	0.872	-0.5	118	-0.02	4.53
23	t	Hexachloroethane	0.536	0.590	-10.1	128	0.00	4.64
24	I	Naphthalene-d8	1.000	1.000	0.0	117	0.00	5.72
26	t	Nitrobenzene	0.353	0.351	0.6	121	-0.02	4.74
28	t	Isophorone	0.568	0.591	-4.0	124	-0.03	5.07
32	t	bis(2-Chloroethoxy)methan	0.364	0.394	-8.2	129	-0.01	5.42
36	t	1,2,4-Trichlorobenzene	0.321	0.354	-10.3	131	-0.01	5.65
38	t	Naphthalene	1.044	1.080	-3.4	124	0.00	5.75
42	t	Hexachlorobutadiene	0.173	0.196	-13.3	135	0.00	5.98
44	t	2-Methylnaphthalene	0.605	0.607	-0.3	119	-0.01	6.81
47	I	Acenaphthene-d10	1.000	1.000	0.0	116	0.00	8.43
48	t	Hexachlorocyclopentadiene	0.368	0.380	3.2	112	0.00	7.08
52	t	2-Chloronaphthalene	1.197	1.269	-6.0	126	-0.01	7.55
54	t	2-Nitroaniline	0.352	0.340	3.4	114	-0.02	7.75
55	t	Dimethylphthalate	1.302	1.340	-2.9	123	-0.01	8.09
56	t	Acenaphthylene	1.925	1.789	7.1	109	-0.01	8.19
57	t	2,6-Dinitrotoluene	0.282	0.301	-6.7	123	-0.01	8.16
58	t	3-Nitroaniline	0.364	0.317	12.9	98	-0.02	8.40
59	t	Acenaphthene	1.215	1.261	-3.8	123	0.00	8.48
62	t	Dibenzofuran	1.638	1.625	0.8	119	-0.01	8.75
63	t	2,4-Dinitrotoluene	0.388	0.384	1.0	117	-0.02	8.78
65	t	Diethylphthalate	1.363	1.379	-1.2	120	-0.02	9.23
66	t	Fluorene	1.248	1.324	-6.1	127	0.00	9.30
67	t	4-Chlorophenyl-phenylethe	0.578	0.601	-4.0	122	0.00	9.34
68	t	4-Nitroaniline	0.356	0.352	1.1	114	-0.04	9.37
69	I	Phenanthrene-d10	1.000	1.000	0.0	114	0.00	10.77
71	t	n-Nitrosodiphenylamine	0.554	0.572	-3.2	118	-0.02	9.54
72	t	1,2-Diphenylhydrazine	0.794	0.831	-4.7	120	-0.01	9.59
74	t	4-Bromophenyl-phenylether	0.213	0.227	-6.6	122	0.00	10.11
75	t	Hexachlorobenzene	0.263	0.282	-7.2	125	-0.01	10.17

Initial Calibration Verification

Job Number: JB31800 **Sample:** E3P783-ICV782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P17150.D
Project: Sunoco - Marcus Hook Facility, PA

77	t	Phenanthrene	1.123	1.197	-6.6	124	-0.01	10.81
78	t	Anthracene	1.125	1.205	-7.1	123	-0.01	10.89
79	t	Carbazole	1.093	1.104	-1.0	119	-0.01	11.17
80	t	Di-n-butylphthalate	1.465	1.510	-3.1	118	0.00	11.83
81	t	Fluoranthene	1.224	1.243	-1.6	120	0.00	12.59
83	I	Chrysene-d12	1.000	1.000	0.0	114	0.00	14.50
84	t	Pyrene	1.298	1.280	1.4	119	-0.01	12.89
86	t	Butylbenzylphthalate	0.659	0.639	3.0	110	0.00	13.87
87	t	Benzo[a]anthracene	1.168	1.155	1.1	119	-0.01	14.49
88	t	3,3'-Dichlorobenzidine	0.438	0.318	27.4	82	-0.01	14.49
89	t	Chrysene	1.071	1.083	-1.1	121	-0.01	14.53
90	t	bis(2-Ethylhexyl)phthalat	0.914	0.917	-0.3	114	0.00	14.64
91	I	Perylene-d12	1.000	1.000	0.0	111	0.00	16.15
92	t	Di-n-octylphthalate	1.650	1.754	-6.3	112	0.00	15.41
93	t	Benzo[b]fluoranthene	1.325	1.285	3.0	113	-0.03	15.75
94	t	Benzo[k]fluoranthene	1.120	1.195	-6.7	114	-0.02	15.78
95	t	Benzo[a]pyrene	1.126	1.150	-2.1	112	-0.01	16.09
96	t	Indeno[1,2,3-cd]pyrene	1.325	1.462	-10.3	121	-0.02	17.23
98	t	Dibenz[a,h]anthracene	1.093	1.199	-9.7	119	-0.02	17.26
100	t	Benzo[g,h,i]perylene	1.107	1.241	-12.1	124	-0.02	17.53

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17143.D M3P782.M Tue Feb 26 17:22:10 2013 RPT1

8.7.5
8

Initial Calibration Verification

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Sample: E3P783-ICV783
Lab FileID: 3P17151A.D

Evaluate Continuing Calibration Report

```
  Data File : C:\msdchem\1\DATA\783\3p17151a.D            Vial: 12
  Acq On    : 26 Feb 2013   4:44 pm                   Operator: katelynh
  Sample    : icv783-50                               Inst    : GC3P
  Misc      : op63753,e3p783,                         Multiplr: 1.00
  MS Integration Params: lscint.p

  Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
  Title        : Semi Volatile Extractables by GC/MS
  Last Update  : Tue Feb 26 16:13:24 2013
  Response via : Multiple Level Calibration

  Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
101 I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	126	0.00	4.00
102	Benzaldehyde	1.128	1.141	-1.2	129	0.00	3.49
103 I	Acenaphthene-d10a	1.000	1.000	0.0	126	0.00	8.42
104	Atrazine	0.143	0.146	-2.1	122	-0.01	10.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17143.D M3P782.M Tue Feb 26 17:17:32 2013 RPT1

8.7.6 8

Initial Calibration Verification

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA
Sample: E3P783-ICV782
Lab FileID: 3P17151.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17151.D              Vial: 12
Acq On    : 26 Feb 2013   4:44 pm                     Operator: katelynh
Sample    : icv782-50                                 Inst    : GC3P
Misc      : op63753,e3p783,                           Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	131	0.00	4.00
2	t	1,4-Dioxane	0.513	0.433	15.6	119	0.00	1.58
6	t	Indene	2.138	2.284	-6.8	142	0.00	4.32
7	t	Cumene	2.950	2.968	-0.6	134	0.00	3.12
13	t	Decane	1.429	1.278	10.6	122	0.00	3.83
18	t	Acetophenone	1.745	1.754	-0.5	135	-0.02	4.51
24	I	Naphthalene-d8	1.000	1.000	0.0	131	0.00	5.72
27	t	Quinoline	0.682	0.691	-1.3	134	-0.04	6.24
40	t	2,3-Dichloroaniline	0.333	0.307	7.8	124	0.00	7.25
41	t	Caprolactam	0.150	0.143	4.7	127	-0.10	6.36
45	t	1-Methylnaphthalene	0.581	0.601	-3.4	137	0.00	6.95
46	t	Dimethylnaphthalene	0.525	0.556	-5.9	139	-0.01	7.79
47	I	Acenaphthene-d10	1.000	1.000	0.0	131	-0.01	8.42
53	t	Biphenyl	1.451	1.501	-3.4	140	0.00	7.55
69	I	Phenanthrene-d10	1.000	1.000	0.0	131	0.00	10.77
82	t	Octadecane	0.506	0.497	1.8	127	0.00	10.79
91	I	Perylene-d12	1.000	1.000	0.0	119	0.00	16.15
99	t	7,12-Dimethylbenz(a)anthr	0.540	0.518	4.1	108	-0.02	15.75

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3p17143.D  M3P782.M         Tue Feb 26 17:16:38 2013   RPT1
```

8.7.7

8

Initial Calibration Verification

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P783-ICV782
Lab FileID: 3P17152.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17152.D              Vial: 13
Acq On    : 26 Feb 2013   5:08 pm                    Operator: katelynh
Sample    : icv782-50                                Inst    : GC3P
Misc      : op63753,e3p783,                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	135	0.00	4.00
5	S	2-Fluorophenol	1.342	1.233	8.1	125	0.00	2.64
8	S	Phenol-d5	1.604	1.443	10.0	123	-0.02	3.57
24	I	Naphthalene-d8	1.000	1.000	0.0	136	0.00	5.72
25	S	Nitrobenzene-d5	0.341	0.329	3.5	136	-0.02	4.71
47	I	Acenaphthene-d10	1.000	1.000	0.0	136	-0.01	8.42
51	S	2-Fluorobiphenyl	1.267	1.234	2.6	136	0.00	7.41
69	I	Phenanthrene-d10	1.000	1.000	0.0	135	0.00	10.77
73	S	2,4,6-Tribromophenol	0.135	0.133	1.5	126	-0.02	9.67
83	I	Chrysene-d12	1.000	1.000	0.0	124	-0.01	14.50
85	S	Terphenyl-d14	0.835	0.831	0.5	131	0.00	13.18

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3p17143.D  M3P782.M         Wed Feb 27 07:54:54 2013   RPT1
```

8.7.8

8

Initial Calibration Verification

Job Number: JB31800 **Sample:** E3P783-ICV783
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P17153.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17153.D              Vial: 14
Acq On    : 26 Feb 2013   5:32 pm                    Operator: katelynh
Sample    : icv783-50                                Inst    : GC3P
Misc      : op63753,e3p783,                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
107	Chrysene-d12a	1.000	1.000	0.0	180	0.00	14.50
108	Benzidine	0.698	0.745	-6.7	200	0.00	12.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17143.D M3P782.M Wed Feb 27 07:55:47 2013 RPT1

8.7.9

8

Initial Calibration Verification

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P783-ICV782
Lab FileID: 3P17154.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17154.D              Vial: 15
Acq On    : 26 Feb 2013   5:56 pm                    Operator: katelynh
Sample    : icv782-50                                Inst    : GC3P
Misc      : op63753,e3p783,                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	165	0.00	4.00
10		Aniline	1.942	1.835	5.5	151	0.00	3.61
24	I	Naphthalene-d8	1.000	1.000	0.0	166	0.00	5.72
39	t	4-Chloroaniline	0.456	0.439	3.7	157	-0.02	5.86

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17143.D M3P782.M Wed Feb 27 07:56:36 2013 RPT1

8.7.10

8

Initial Calibration Verification

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P783-ICV783
Lab FileID: 3P17155.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\783\3p17155.D              Vial: 16
Acq On    : 26 Feb 2013   6:20 pm                    Operator: katelynh
Sample    : icv783-50                                Inst    : GC3P
Misc      : op63753,e3p783,                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 2013
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
112 I	Naphthalene-d8a	1.000	1.000	0.0	111	0.00	5.72
113 t	Hydroquinone	0.315	0.329	-4.4	108	-0.02	6.44

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17143.D M3P782.M Wed Feb 27 07:57:11 2013 RPT1

8.7.11
8

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P825-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18283.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\825\3p18283.D              Vial: 2
Acq On    :  2 Apr 2013   9:57 am                    Operator: katelynh
Sample    : cc782-25                                 Inst    : GC3P
Misc      : op64786,e3p825,                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 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	134	-0.07	3.80
2	t	1,4-Dioxane	0.513	0.537	-4.7	155	-0.04	1.46
3	t	Pyridine	1.412	1.403	0.6	141	-0.04	1.63
4	t	N-Nitrosodimethylamine	0.702	0.711	-1.3	145	-0.03	1.61
5	S	2-Fluorophenol	1.342	1.218	9.2	123	-0.03	2.53
6	t	Indene	2.138	2.035	4.8	129	-0.07	4.11
7	t	Cumene	2.950	3.070	-4.1	143	-0.06	2.93
8	S	Phenol-d5	1.604	1.460	9.0	124	-0.04	3.48
9	t	Phenol	1.786	1.473	17.5	112	-0.04	3.50
10		Aniline	1.942	1.504	22.6#	101	-0.06	3.44
11	t	bis(2-Chloroethyl)ether	1.131	1.035	8.5	126	-0.06	3.50
12	t	2-Chlorophenol	1.452	1.360	6.3	126	-0.05	3.60
13	t	Decane	1.429	0.777	45.6#	74	-0.07	3.62
14	t	1,3-Dichlorobenzene	1.604	1.570	2.1	134	-0.07	3.73
15	t	1,4-Dichlorobenzene	1.619	1.553	4.1	131	-0.07	3.82
16	t	Benzyl alcohol	0.849	0.738	13.1	120	-0.06	4.02
17	t	1,2-Dichlorobenzene	1.503	1.461	2.8	132	-0.07	4.01
18	t	Acetophenone	1.745	1.597	8.5	125	-0.07	4.33
19	t	2-Methylphenol	1.190	1.088	8.6	122	-0.05	4.22
20	t	2,2'-oxybis(1-Chloropropa	1.974	0.831	57.9#	58	-0.07	4.16
21	t	3&4-Methylphenol	1.269	1.116	12.1	117	-0.04	4.44
22	t	n-Nitroso-di-n-propylamin	0.868	0.858	1.2	134	-0.08	4.34
23	t	Hexachloroethane	0.536	0.550	-2.6	141	-0.08	4.42
24	I	Naphthalene-d8	1.000	1.000	0.0	127	-0.07	5.51
25	S	Nitrobenzene-d5	0.341	0.363	-6.5	142	-0.06	4.53
26	t	Nitrobenzene	0.353	0.370	-4.8	139	-0.07	4.55
27	t	Quinoline	0.682	0.626	8.2	121	-0.08	6.07
28	t	Isophorone	0.568	0.574	-1.1	134	-0.08	4.88
29	t	2-Nitrophenol	0.199	0.198	0.5	127	-0.07	5.00
30	t	2,4-Dimethylphenol	0.304	0.296	2.6	120	-0.06	5.15
31	t	Benzoic acid	0.261	0.265	-1.5	128	-0.07	5.44
32	t	bis(2-Chloroethoxy)methan	0.364	0.320	12.1	115	-0.07	5.22
33	t	2,4-Dichlorophenol	0.289	0.280	3.1	128	-0.04	5.41
34	t	2,6-Dichlorophenol	0.285	0.267	6.3	121	-0.07	5.69
35		1,3,5-Trichlorobenzene	0.331	0.330	0.3	129	-0.08	5.00
36	t	1,2,4-Trichlorobenzene	0.321	0.322	-0.3	130	-0.08	5.45
37		1,2,3-Trichlorobenzene	0.310	0.308	0.6	128	-0.08	5.77
38	t	Naphthalene	1.044	1.018	2.5	127	-0.08	5.54
39	t	4-Chloroaniline	0.456	0.395	13.4	110	-0.07	5.69
40	t	2,3-Dichloroaniline	0.333	0.331	0.6	131	-0.07	7.07
41	t	Caprolactam	0.150	0.086	42.7#	75	-0.09	6.23

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P825-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18283.D
Project: Sunoco - Marcus Hook Facility, PA

42	t	Hexachlorobutadiene	0.173	0.194	-12.1	144	-0.09	5.74
43	t	4-Chloro-3-methylphenol	0.267	0.278	-4.1	136	-0.04	6.56
44	t	2-Methylnaphthalene	0.605	0.648	-7.1	138	-0.08	6.59
45	t	1-Methylnaphthalene	0.581	0.606	-4.3	135	-0.09	6.74
46	t	Dimethylnaphthalene	0.525	0.501	4.6	125	-0.09	7.58
47	I	Acenaphthene-d10	1.000	1.000	0.0	125	-0.08	8.21
48	t	Hexachlorocyclopentadiene	0.368	0.206	44.0#	67	-0.09	6.84
49	t	2,4,6-Trichlorophenol	0.376	0.380	-1.1	129	-0.07	7.12
50	t	2,4,5-Trichlorophenol	0.419	0.411	1.9	125	-0.03	7.23
51	S	2-Fluorobiphenyl	1.267	1.305	-3.0	134	-0.08	7.19
52	t	2-Chloronaphthalene	1.197	1.183	1.2	126	-0.09	7.35
53	t	Biphenyl	1.451	1.417	2.3	126	-0.09	7.33
54	t	2-Nitroaniline	0.352	0.379	-7.7	140	-0.06	7.59
55	t	Dimethylphthalate	1.302	1.270	2.5	127	-0.09	7.88
56	t	Acenaphthylene	1.925	1.917	0.4	129	-0.09	7.98
57	t	2,6-Dinitrotoluene	0.282	0.286	-1.4	130	-0.07	7.98
58	t	3-Nitroaniline	0.364	0.323	11.3	113	-0.06	8.26
59	t	Acenaphthene	1.215	1.248	-2.7	134	-0.09	8.25
60	t	2,4-Dinitrophenol	0.162	0.085	47.5#	69	-0.02	8.48
61	t	4-Nitrophenol	0.174	0.149	14.4	106	0.06	8.82
62	t	Dibenzofuran	1.638	1.608	1.8	126	-0.09	8.54
63	t	2,4-Dinitrotoluene	0.388	0.386	0.5	126	-0.05	8.65
64		2,3,4,6-Tetrachlorophenol	0.319	0.272	14.7	108	-0.06	8.83
65	t	Diethylphthalate	1.363	1.344	1.4	129	-0.10	9.00
66	t	Fluorene	1.248	1.245	0.2	128	-0.09	9.08
67	t	4-Chlorophenyl-phenylethe	0.578	0.575	0.5	127	-0.09	9.12
68	t	4-Nitroaniline	0.356	0.269	24.4#	95	-0.05	9.25
69	I	Phenanthrene-d10	1.000	1.000	0.0	127	-0.07	10.57
70	t	4,6-Dinitro-2-methylpheno	0.131	0.118	9.9	113	-0.04	9.32
71	t	n-Nitrosodiphenylamine	0.554	0.542	2.2	126	-0.09	9.33
72	t	1,2-Diphenylhydrazine	0.794	0.832	-4.8	138	-0.09	9.37
73	S	2,4,6-Tribromophenol	0.135	0.140	-3.7	133	-0.07	9.50
74	t	4-Bromophenyl-phenylether	0.213	0.229	-7.5	141	-0.09	9.89
75	t	Hexachlorobenzene	0.263	0.284	-8.0	142	-0.08	9.98
76	t	Pentachlorophenol	0.167	0.102	38.9#	78	-0.07	10.36
77	t	Phenanthrene	1.123	1.074	4.4	125	-0.09	10.60
78	t	Anthracene	1.125	1.124	0.1	131	-0.09	10.68
79	t	Carbazole	1.093	0.986	9.8	120	-0.07	11.01
80	t	Di-n-butylphthalate	1.465	1.459	0.4	130	-0.09	11.61
81	t	Fluoranthene	1.224	1.217	0.6	134	-0.06	12.42
82	t	Octadecane	0.506	0.355	29.8#	91	-0.10	10.55
83	I	Chrysene-d12	1.000	1.000	0.0	141	-0.05	14.35
84	t	Pyrene	1.298	1.147	11.6	135	-0.07	12.72
85	S	Terphenyl-d14	0.835	0.782	6.3	142	-0.07	12.99
86	t	Butylbenzylphthalate	0.659	0.615	6.7	136	-0.08	13.68
87	t	Benzo[a]anthracene	1.168	1.061	9.2	138	-0.07	14.33
88	t	3,3'-Dichlorobenzidine	0.438	0.416	5.0	135	-0.06	14.34
89	t	Chrysene	1.071	0.979	8.6	139	-0.07	14.38
90	t	bis(2-Ethylhexyl)phthalat	0.914	0.860	5.9	138	-0.08	14.44
91	I	Perylene-d12	1.000	1.000	0.0	144	-0.04	16.02
92	t	Di-n-octylphthalate	1.650	1.651	-0.1	147	-0.09	15.21
93	t	Benzo[b]fluoranthene	1.325	1.158	12.6	133	-0.06	15.61
94	t	Benzo[k]fluoranthene	1.120	1.211	-8.1	159	-0.06	15.64
95	t	Benzo[a]pyrene	1.126	1.132	-0.5	149	-0.05	15.96
96	t	Indeno[1,2,3-cd]pyrene	1.325	1.327	-0.2	147	-0.06	17.10
97	t	Dibenz(a,h)acridine	0.956	0.953	0.3	147	-0.05	16.86

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P825-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18283.D
Project: Sunoco - Marcus Hook Facility, PA

98	t	Dibenz[a,h]anthracene	1.093	1.089	0.4	147	-0.07	17.11
99	t	7,12-Dimethylbenz(a)anthr	0.540	0.488	9.6	130	-0.07	15.59
100	t	Benzo[g,h,i]perylene	1.107	1.104	0.3	145	-0.06	17.39

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17860.D M3P782.M Tue Apr 02 11:55:30 2013 RPT1

8.7.12

8

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P825-CC783
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18284.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\825\3p18284.D              Vial: 3
Acq On    :  2 Apr 2013  10:20 am                     Operator: katelynh
Sample    : cc783-25                                  Inst    : GC3P
Misc      : op64786,e3p825,                           Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 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.
101 I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	92	-0.05	3.80
102	Benzaldehyde	1.128	1.003	11.1	86	-0.04	3.32
103 I	Acenaphthene-d10a	1.000	1.000	0.0	87	-0.07	8.21
104	Atrazine	0.143	0.148	-3.5	90	-0.07	10.25
105	1,2,4,5-Tetrachlorobenzen	0.598	0.629	-5.2	94	-0.06	6.87
106	Chrysene-d12a	1.000	1.000	0.0	97	-0.04	14.34
107	Benzidine	0.698	0.340	51.3#	53	-0.03	12.69

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3p17860.D  M3P782.M         Tue Apr 02 11:56:01 2013   RPT1
```

8.7.13

8

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P827-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18348.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\827\3p18348.D              Vial: 2
Acq On    :  3 Apr 2013  10:22 pm                     Operator: ashleyd
Sample    : cc782-25                                  Inst    : GC3P
Misc      : op64881,e3p827,                           Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 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	133	-0.09	3.79
2	t	1,4-Dioxane	0.513	0.536	-4.5	154	-0.06	1.43
3	t	Pyridine	1.412	1.394	1.3	139	-0.06	1.61
4	t	N-Nitrosodimethylamine	0.702	0.677	3.6	137	-0.06	1.58
5	S	2-Fluorophenol	1.342	1.232	8.2	123	-0.03	2.54
6	t	Indene	2.138	2.053	4.0	129	-0.09	4.10
7	t	Cumene	2.950	3.040	-3.1	140	-0.09	2.91
8	S	Phenol-d5	1.604	1.447	9.8	122	-0.02	3.50
9	t	Phenol	1.786	1.459	18.3	110	-0.02	3.52
10		Aniline	1.942	1.466	24.5#	98	-0.07	3.43
11	t	bis(2-Chloroethyl)ether	1.131	1.089	3.7	132	-0.08	3.49
12	t	2-Chlorophenol	1.452	1.374	5.4	127	-0.06	3.59
13	t	Decane	1.429	0.768	46.3#	73	-0.10	3.60
14	t	1,3-Dichlorobenzene	1.604	1.570	2.1	133	-0.09	3.72
15	t	1,4-Dichlorobenzene	1.619	1.596	1.4	134	-0.09	3.80
16	t	Benzyl alcohol	0.849	0.733	13.7	118	-0.07	4.01
17	t	1,2-Dichlorobenzene	1.503	1.455	3.2	131	-0.09	3.99
18	t	Acetophenone	1.745	1.664	4.6	129	-0.09	4.32
19	t	2-Methylphenol	1.190	1.086	8.7	121	-0.04	4.23
20	t	2,2'-oxybis(1-Chloropropa	1.974	0.807	59.1#	56	-0.09	4.15
21	t	3&4-Methylphenol	1.269	1.162	8.4	121	-0.02	4.46
22	t	n-Nitroso-di-n-propylamin	0.868	0.882	-1.6	137	-0.10	4.32
23	t	Hexachloroethane	0.536	0.569	-6.2	144	-0.10	4.40
24	I	Naphthalene-d8	1.000	1.000	0.0	125	-0.09	5.49
25	S	Nitrobenzene-d5	0.341	0.363	-6.5	139	-0.07	4.52
26	t	Nitrobenzene	0.353	0.361	-2.3	134	-0.09	4.54
27	t	Quinoline	0.682	0.613	10.1	117	-0.10	6.05
28	t	Isophorone	0.568	0.583	-2.6	134	-0.09	4.87
29	t	2-Nitrophenol	0.199	0.189	5.0	120	-0.08	4.99
30	t	2,4-Dimethylphenol	0.304	0.297	2.3	119	-0.05	5.16
31	t	Benzoic acid	0.261	0.123	52.9#	59	-0.06	5.45
32	t	bis(2-Chloroethoxy)methan	0.364	0.320	12.1	113	-0.09	5.21
33	t	2,4-Dichlorophenol	0.289	0.283	2.1	127	-0.03	5.42
34	t	2,6-Dichlorophenol	0.285	0.272	4.6	122	-0.07	5.69
35		1,3,5-Trichlorobenzene	0.331	0.327	1.2	126	-0.10	4.98
36	t	1,2,4-Trichlorobenzene	0.321	0.317	1.2	126	-0.09	5.44
37		1,2,3-Trichlorobenzene	0.310	0.301	2.9	123	-0.09	5.76
38	t	Naphthalene	1.044	1.023	2.0	126	-0.09	5.53
39	t	4-Chloroaniline	0.456	0.380	16.7	105	-0.07	5.68
40	t	2,3-Dichloroaniline	0.333	0.325	2.4	127	-0.08	7.06
41	t	Caprolactam	0.150	0.084	44.0#	72	-0.10	6.23

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P827-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18348.D
Project: Sunoco - Marcus Hook Facility, PA

42	t	Hexachlorobutadiene	0.173	0.190	-9.8	139	-0.11	5.72
43	t	4-Chloro-3-methylphenol	0.267	0.260	2.6	126	-0.02	6.59
44	t	2-Methylnaphthalene	0.605	0.603	0.3	126	-0.09	6.58
45	t	1-Methylnaphthalene	0.581	0.564	2.9	124	-0.10	6.72
46	t	Dimethylnaphthalene	0.525	0.492	6.3	121	-0.10	7.56
47	I	Acenaphthene-d10	1.000	1.000	0.0	120	-0.09	8.20
48	t	Hexachlorocyclopentadiene	0.368	0.228	38.0#	71	-0.11	6.83
49	t	2,4,6-Trichlorophenol	0.376	0.374	0.5	121	-0.06	7.12
50	t	2,4,5-Trichlorophenol	0.419	0.439	-4.8	128	0.00	7.26
51	S	2-Fluorobiphenyl	1.267	1.284	-1.3	126	-0.10	7.17
52	t	2-Chloronaphthalene	1.197	1.145	4.3	116	-0.10	7.33
53	t	Biphenyl	1.451	1.424	1.9	121	-0.10	7.32
54	t	2-Nitroaniline	0.352	0.377	-7.1	132	-0.06	7.59
55	t	Dimethylphthalate	1.302	1.290	0.9	123	-0.10	7.87
56	t	Acenaphthylene	1.925	1.917	0.4	123	-0.10	7.97
57	t	2,6-Dinitrotoluene	0.282	0.291	-3.2	127	-0.08	7.97
58	t	3-Nitroaniline	0.364	0.319	12.4	106	-0.05	8.27
59	t	Acenaphthene	1.215	1.189	2.1	122	-0.10	8.24
60	t	2,4-Dinitrophenol	0.162	0.094	42.0#	74	-0.02	8.48
61	t	4-Nitrophenol	0.174	0.071	59.2#	48#	0.12	8.88
62	t	Dibenzofuran	1.638	1.583	3.4	119	-0.10	8.53
63	t	2,4-Dinitrotoluene	0.388	0.378	2.6	118	-0.05	8.64
64		2,3,4,6-Tetrachlorophenol	0.319	0.273	14.4	103	-0.05	8.83
65	t	Diethylphthalate	1.363	1.348	1.1	124	-0.10	9.00
66	t	Fluorene	1.248	1.258	-0.8	123	-0.10	9.07
67	t	4-Chlorophenyl-phenylethe	0.578	0.586	-1.4	124	-0.10	9.11
68	t	4-Nitroaniline	0.356	0.282	20.8#	95	-0.04	9.27
69	I	Phenanthrene-d10	1.000	1.000	0.0	118	-0.08	10.56
70	t	4,6-Dinitro-2-methylpheno	0.131	0.111	15.3	99	-0.04	9.32
71	t	n-Nitrosodiphenylamine	0.554	0.557	-0.5	120	-0.10	9.33
72	t	1,2-Diphenylhydrazine	0.794	0.836	-5.3	129	-0.10	9.36
73	S	2,4,6-Tribromophenol	0.135	0.135	0.0	119	-0.07	9.50
74	t	4-Bromophenyl-phenylether	0.213	0.231	-8.5	133	-0.10	9.88
75	t	Hexachlorobenzene	0.263	0.275	-4.6	129	-0.09	9.97
76	t	Pentachlorophenol	0.167	0.112	32.9#	80	-0.05	10.37
77	t	Phenanthrene	1.123	1.082	3.7	118	-0.09	10.60
78	t	Anthracene	1.125	1.114	1.0	121	-0.09	10.68
79	t	Carbazole	1.093	1.036	5.2	117	-0.06	11.02
80	t	Di-n-butylphthalate	1.465	1.457	0.5	121	-0.09	11.61
81	t	Fluoranthene	1.224	1.206	1.5	123	-0.06	12.42
82	t	Octadecane	0.506	0.353	30.2#	84	-0.10	10.54
83	I	Chrysene-d12	1.000	1.000	0.0	128	-0.05	14.35
84	t	Pyrene	1.298	1.212	6.6	129	-0.07	12.72
85	S	Terphenyl-d14	0.835	0.808	3.2	132	-0.07	12.99
86	t	Butylbenzylphthalate	0.659	0.625	5.2	125	-0.08	13.68
87	t	Benzo[a]anthracene	1.168	1.071	8.3	125	-0.06	14.34
88	t	3,3'-Dichlorobenzidine	0.438	0.405	7.5	119	-0.06	14.35
89	t	Chrysene	1.071	0.998	6.8	128	-0.07	14.38
90	t	bis(2-Ethylhexyl)phthalat	0.914	0.917	-0.3	132	-0.08	14.44
91	I	Perylene-d12	1.000	1.000	0.0	123	-0.04	16.03
92	t	Di-n-octylphthalate	1.650	1.720	-4.2	131	-0.08	15.21
93	t	Benzo[b]fluoranthene	1.325	1.254	5.4	123	-0.06	15.62
94	t	Benzo[k]fluoranthene	1.120	1.118	0.2	125	-0.06	15.65
95	t	Benzo[a]pyrene	1.126	1.133	-0.6	128	-0.05	15.97
96	t	Indeno[1,2,3-cd]pyrene	1.325	1.300	1.9	123	-0.04	17.12
97	t	Dibenz(a,h)acridine	0.956	0.938	1.9	123	-0.04	16.87

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P827-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18348.D
Project: Sunoco - Marcus Hook Facility, PA

98	t	Dibenz[a,h]anthracene	1.093	1.075	1.6	124	-0.06	17.12
99	t	7,12-Dimethylbenz(a)anthr	0.540	0.497	8.0	113	-0.07	15.59
100	t	Benzo[g,h,i]perylene	1.107	1.124	-1.5	126	-0.04	17.41

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17860.D M3P782.M Thu Apr 04 12:11:26 2013 RPT1

8.7.14

8

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P827-CC783
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18349.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\827\3p18349.D              Vial: 3
Acq On    :  3 Apr 2013  10:46 pm                     Operator: ashleyd
Sample    : cc783-25                                  Inst    : GC3P
Misc      : op64881,e3p827,                           Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 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.
101	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	85	-0.07	3.78
102		Benzaldehyde	1.128	0.997	11.6	79	-0.06	3.30
103	I	Acenaphthene-d10a	1.000	1.000	0.0	79	-0.09	8.19
104		Atrazine	0.143	0.144	-0.7	80	-0.07	10.25
105		1,2,4,5-Tetrachlorobenzen	0.598	0.644	-7.7	88	-0.07	6.86
106		Chrysene-d12a	1.000	1.000	0.0	82	-0.04	14.34
107		Benzidine	0.698	0.393	43.7#	52	-0.04	12.68
108	I	Naphthalene-d8a	1.000	1.000	0.0	82	-0.07	5.49
109	t	Hydroquinone	0.315	0.181	42.5#	46	0.12	6.52

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17860.D M3P782.M Thu Apr 04 12:11:49 2013 RPT1

8.7.15

8

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P828-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18370.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\828\3p18370.D              Vial: 2
Acq On    :  4 Apr 2013   9:23 am                    Operator: katelynh
Sample    : cc782-50                                 Inst    : GC3P
Misc      : op64810,e3p828,                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 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	110	-0.09	3.78
2	t	1,4-Dioxane	0.513	0.548	-6.8	127	-0.05	1.44
3	t	Pyridine	1.412	1.418	-0.4	114	-0.05	1.61
4	t	N-Nitrosodimethylamine	0.702	0.724	-3.1	117	-0.05	1.60
5	S	2-Fluorophenol	1.342	1.260	6.1	104	-0.04	2.53
6	t	Indene	2.138	1.997	6.6	105	-0.09	4.10
7	t	Cumene	2.950	3.163	-7.2	120	-0.09	2.91
8	S	Phenol-d5	1.604	1.461	8.9	102	-0.04	3.48
9	t	Phenol	1.786	1.549	13.3	97	-0.04	3.50
10		Aniline	1.942	1.415	27.1#	78	-0.07	3.43
11	t	bis(2-Chloroethyl)ether	1.131	1.070	5.4	107	-0.08	3.49
12	t	2-Chlorophenol	1.452	1.399	3.7	108	-0.07	3.58
13	t	Decane	1.429	0.755	47.2#	61	-0.10	3.60
14	t	1,3-Dichlorobenzene	1.604	1.554	3.1	110	-0.09	3.72
15	t	1,4-Dichlorobenzene	1.619	1.578	2.5	110	-0.09	3.80
16	t	Benzyl alcohol	0.849	0.774	8.8	100	-0.07	4.01
17	t	1,2-Dichlorobenzene	1.503	1.478	1.7	110	-0.09	3.99
18	t	Acetophenone	1.745	1.626	6.8	105	-0.09	4.32
19	t	2-Methylphenol	1.190	1.075	9.7	100	-0.05	4.22
20	t	2,2'-oxybis(1-Chloropropa	1.974	0.821	58.4#	48#	-0.09	4.15
21	t	3&4-Methylphenol	1.269	1.125	11.3	100	-0.04	4.44
22	t	n-Nitroso-di-n-propylamin	0.868	0.850	2.1	111	-0.09	4.33
23	t	Hexachloroethane	0.536	0.558	-4.1	117	-0.10	4.40
24	I	Naphthalene-d8	1.000	1.000	0.0	102	-0.09	5.49
25	S	Nitrobenzene-d5	0.341	0.371	-8.8	115	-0.07	4.52
26	t	Nitrobenzene	0.353	0.384	-8.8	115	-0.09	4.54
27	t	Quinoline	0.682	0.656	3.8	99	-0.09	6.06
28	t	Isophorone	0.568	0.592	-4.2	108	-0.09	4.87
29	t	2-Nitrophenol	0.199	0.208	-4.5	105	-0.09	4.98
30	t	2,4-Dimethylphenol	0.304	0.320	-5.3	102	-0.06	5.14
31	t	Benzoic acid	0.261	0.218	16.5	78	-0.02	5.49
32	t	bis(2-Chloroethoxy)methan	0.364	0.333	8.5	95	-0.09	5.21
33	t	2,4-Dichlorophenol	0.289	0.291	-0.7	103	-0.05	5.40
34	t	2,6-Dichlorophenol	0.285	0.283	0.7	102	-0.09	5.68
35		1,3,5-Trichlorobenzene	0.331	0.340	-2.7	108	-0.10	4.98
36	t	1,2,4-Trichlorobenzene	0.321	0.327	-1.9	106	-0.10	5.43
37		1,2,3-Trichlorobenzene	0.310	0.309	0.3	104	-0.10	5.75
38	t	Naphthalene	1.044	1.024	1.9	103	-0.09	5.53
39	t	4-Chloroaniline	0.456	0.386	15.4	85	-0.08	5.68
40	t	2,3-Dichloroaniline	0.333	0.334	-0.3	105	-0.09	7.05
41	t	Caprolactam	0.150	0.092	38.7#	63	-0.07	6.25

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P828-CC782
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18370.D
Project: Sunoco - Marcus Hook Facility, PA

42	t	Hexachlorobutadiene	0.173	0.193	-11.6	116	-0.11	5.72
43	t	4-Chloro-3-methylphenol	0.267	0.292	-9.4	111	-0.04	6.56
44	t	2-Methylnaphthalene	0.605	0.664	-9.8	114	-0.09	6.58
45	t	1-Methylnaphthalene	0.581	0.590	-1.5	105	-0.10	6.72
46	t	Dimethylnaphthalene	0.525	0.517	1.5	101	-0.10	7.56
47	I	Acenaphthene-d10	1.000	1.000	0.0	101	-0.10	8.19
48	t	Hexachlorocyclopentadiene	0.368	0.275	25.3#	72	-0.11	6.82
49	t	2,4,6-Trichlorophenol	0.376	0.383	-1.9	102	-0.07	7.11
50	t	2,4,5-Trichlorophenol	0.419	0.406	3.1	99	-0.04	7.22
51	S	2-Fluorobiphenyl	1.267	1.285	-1.4	105	-0.10	7.17
52	t	2-Chloronaphthalene	1.197	1.191	0.5	104	-0.10	7.33
53	t	Biphenyl	1.451	1.443	0.6	104	-0.10	7.32
54	t	2-Nitroaniline	0.352	0.381	-8.2	112	-0.07	7.58
55	t	Dimethylphthalate	1.302	1.315	-1.0	106	-0.10	7.86
56	t	Acenaphthylene	1.925	1.926	-0.1	103	-0.10	7.97
57	t	2,6-Dinitrotoluene	0.282	0.299	-6.0	107	-0.09	7.97
58	t	3-Nitroaniline	0.364	0.333	8.5	91	-0.06	8.25
59	t	Acenaphthene	1.215	1.258	-3.5	108	-0.10	8.24
60	t	2,4-Dinitrophenol	0.162	0.137	15.4	81	-0.04	8.46
61	t	4-Nitrophenol	0.174	0.155	10.9	87	0.05	8.81
62	t	Dibenzofuran	1.638	1.614	1.5	104	-0.10	8.53
63	t	2,4-Dinitrotoluene	0.388	0.401	-3.4	107	-0.06	8.64
64		2,3,4,6-Tetrachlorophenol	0.319	0.253	20.7#	78	-0.07	8.82
65	t	Diethylphthalate	1.363	1.396	-2.4	107	-0.11	8.99
66	t	Fluorene	1.248	1.253	-0.4	105	-0.10	9.07
67	t	4-Chlorophenyl-phenylethe	0.578	0.582	-0.7	103	-0.10	9.11
68	t	4-Nitroaniline	0.356	0.264	25.8#	75	-0.06	9.24
69	I	Phenanthrene-d10	1.000	1.000	0.0	104	-0.09	10.55
70	t	4,6-Dinitro-2-methylpheno	0.131	0.128	2.3	90	-0.06	9.30
71	t	n-Nitrosodiphenylamine	0.554	0.545	1.6	102	-0.10	9.32
72	t	1,2-Diphenylhydrazine	0.794	0.947	-19.3	124	-0.10	9.36
73	S	2,4,6-Tribromophenol	0.135	0.145	-7.4	105	-0.09	9.49
74	t	4-Bromophenyl-phenylether	0.213	0.232	-8.9	113	-0.11	9.87
75	t	Hexachlorobenzene	0.263	0.288	-9.5	116	-0.10	9.96
76	t	Pentachlorophenol	0.167	0.097	41.9#	56	-0.07	10.35
77	t	Phenanthrene	1.123	1.110	1.2	104	-0.10	10.59
78	t	Anthracene	1.125	1.092	2.9	101	-0.10	10.67
79	t	Carbazole	1.093	1.036	5.2	101	-0.08	11.00
80	t	Di-n-butylphthalate	1.465	1.507	-2.9	107	-0.10	11.60
81	t	Fluoranthene	1.224	1.266	-3.4	110	-0.07	12.41
82	t	Octadecane	0.506	0.367	27.5#	74	-0.11	10.53
83	I	Chrysene-d12	1.000	1.000	0.0	116	-0.06	14.34
84	t	Pyrene	1.298	1.141	12.1	109	-0.08	12.71
85	S	Terphenyl-d14	0.835	0.774	7.3	115	-0.08	12.98
86	t	Butylbenzylphthalate	0.659	0.611	7.3	108	-0.09	13.67
87	t	Benzo[a]anthracene	1.168	1.067	8.6	113	-0.07	14.33
88	t	3,3'-Dichlorobenzidine	0.438	0.388	11.4	101	-0.07	14.33
89	t	Chrysene	1.071	0.992	7.4	113	-0.08	14.37
90	t	bis(2-Ethylhexyl)phthalat	0.914	0.886	3.1	113	-0.10	14.43
91	I	Perylene-d12	1.000	1.000	0.0	115	-0.05	16.01
92	t	Di-n-octylphthalate	1.650	1.747	-5.9	117	-0.10	15.20
93	t	Benzo[b]fluoranthene	1.325	1.265	4.5	116	-0.07	15.61
94	t	Benzo[k]fluoranthene	1.120	1.180	-5.4	118	-0.07	15.64
95	t	Benzo[a]pyrene	1.126	1.140	-1.2	116	-0.06	15.95
96	t	Indeno[1,2,3-cd]pyrene	1.325	1.340	-1.1	115	-0.06	17.10
97	t	Dibenz(a,h)acridine	0.956	0.973	-1.8	116	-0.06	16.85

Continuing Calibration Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: E3P828-CC782
Lab FileID: 3P18370.D

98	t	Dibenz[a,h]anthracene	1.093	1.088	0.5	113	-0.07	17.10
99	t	7,12-Dimethylbenz(a)anthr	0.540	0.544	-0.7	110	-0.09	15.58
100	t	Benzo[g,h,i]perylene	1.107	1.148	-3.7	120	-0.07	17.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17909.D M3P782.M Thu Apr 04 12:48:29 2013 RPT1

8.7.16

8

Continuing Calibration Summary

Job Number: JB31800 **Sample:** E3P828-CC783
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3P18371.D
Project: Sunoco - Marcus Hook Facility, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\828\3p18371.D              Vial: 3
Acq On    :  4 Apr 2013   9:46 am                     Operator: katelynh
Sample    : cc783-50                                  Inst    : GC3P
Misc      : op64810,e3p828,                           Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M3P782.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Tue Feb 26 16:13:24 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.
101	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	95	-0.07	3.78
102		Benzaldehyde	1.128	0.967	14.3	83	-0.06	3.30
103	I	Acenaphthene-d10a	1.000	1.000	0.0	90	-0.09	8.19
104		Atrazine	0.143	0.165	-15.4	99	-0.07	10.25
105		1,2,4,5-Tetrachlorobenzen	0.598	0.670	-12.0	99	-0.07	6.85
106		Chrysene-d12a	1.000	1.000	0.0	100	-0.05	14.33
107		Benzidine	0.698	0.202	71.1#	30	-0.05	12.67
108	I	Naphthalene-d8a	1.000	1.000	0.0	89	-0.08	5.49
109	t	Hydroquinone	0.315	0.217	31.1#	57	0.03	6.44

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3p17909.D M3P782.M Thu Apr 04 12:49:03 2013 RPT1

8.7.17

8

MS Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/03/13 13:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18308.D
Acq On : 2 Apr 2013 8:09 pm
Operator : katelynh
Sample : jb31800-1
Misc : op64810,e3p825,33.5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 03 12:04:37 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	125778	40.00	ppb	-0.07
24) Naphthalene-d8	5.511	136	457800	40.00	ppb	-0.07
47) Acenaphthene-d10	8.212	164	212710	40.00	ppb	-0.07
69) Phenanthrene-d10	10.570	188	342711	40.00	ppb	-0.07
83) Chrysene-d12	14.357	240	378237	40.00	ppb	-0.04
91) Perylene-d12	16.047	264	396327	40.00	ppb	-0.02
101) 1,4-Dichlorobenzene-d4a	3.804	152	125778	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.212	164	212710	40.00	ppb	-0.06
106) Chrysene-d12a	14.357	240	378237	40.00	ppb	-0.03
108) Naphthalene-d8a	5.511	136	457800	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.542	112	72235	17.12	ppb	-0.02
Spiked Amount 50.000			Recovery = 34.24%			
8) Phenol-d5	3.500	99	90289	17.90	ppb	-0.02
Spiked Amount 50.000			Recovery = 35.80%			
25) Nitrobenzene-d5	4.537	82	62619	16.04	ppb	-0.05
Spiked Amount 50.000			Recovery = 32.08%			
51) 2-Fluorobiphenyl	7.190	172	142993	21.23	ppb	-0.08
Spiked Amount 50.000			Recovery = 42.46%			
73) 2,4,6-Tribromophenol	9.506	330	28327	24.45	ppb	-0.07
Spiked Amount 50.000			Recovery = 48.90%			
85) Terphenyl-d14	12.999	244	178131	22.57	ppb	-0.06
Spiked Amount 50.000			Recovery = 45.14%			
Target Compounds						Qvalue
38) Naphthalene	5.543	128	34871	2.92	ppb	96
66) Fluorene	9.089	166	13184	1.99	ppb	77
77) Phenanthrene	10.608	178	52659	5.47	ppb	95
78) Anthracene	10.699	178	13265	1.38	ppb	98
81) Fluoranthene	12.426	202	24177	2.31	ppb	86
84) Pyrene	12.731	202	82820	6.75	ppb	91
87) Benzo[a]anthracene	14.352	228	32326	2.93	ppb	90
89) Chrysene	14.384	228	68177	6.73	ppb	94
93) Benzo[b]fluoranthene	15.636	252	39542m	3.01	ppb	
94) Benzo[k]fluoranthene	15.652	252	8506m	0.77	ppb	
95) Benzo[a]pyrene	15.989	252	30379	2.72	ppb	89
96) Indeno[1,2,3-cd]pyrene	17.139	276	19048	1.45	ppb	94
98) Dibenz[a,h]anthracene	17.133	278	18845	1.74	ppb	86
100) Benzo[g,h,i]perylene	17.427	276	40908	3.73	ppb	90

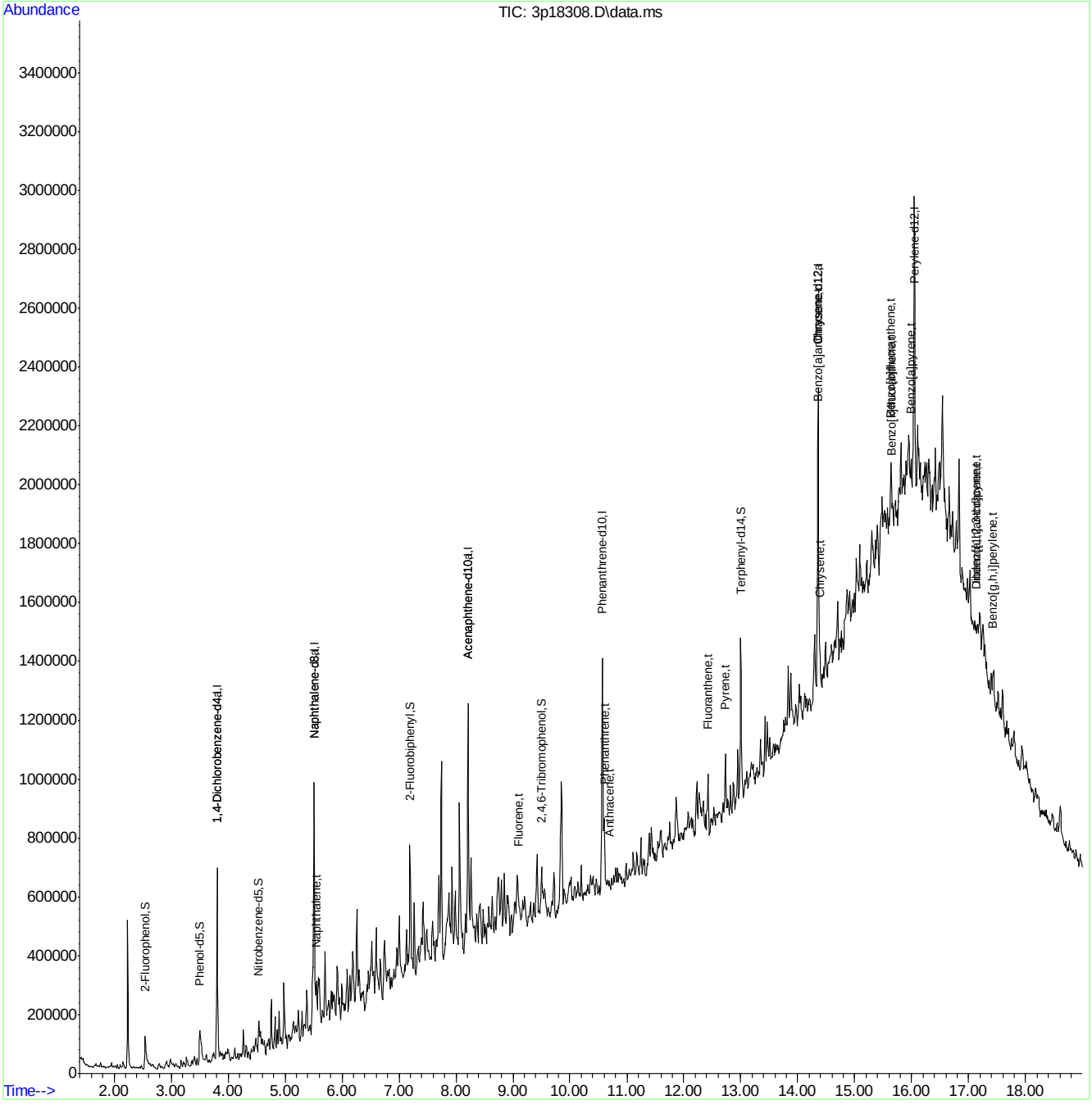
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.1.1
9

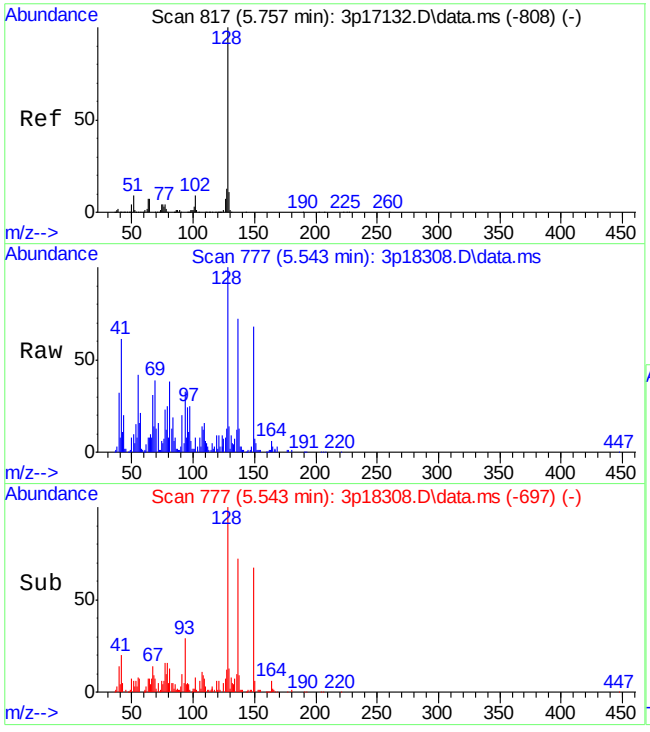
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18308.D
Acq On : 2 Apr 2013 8:09 pm
Operator : katelynh
Sample : jb31800-1
Misc : op64810,e3p825,33.5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 03 12:04:37 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



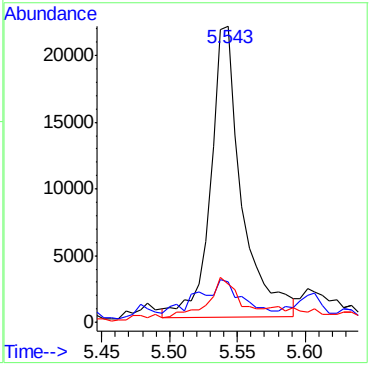
M3P782.M Wed Apr 03 12:04:45 2013 RPT1 Page: 2

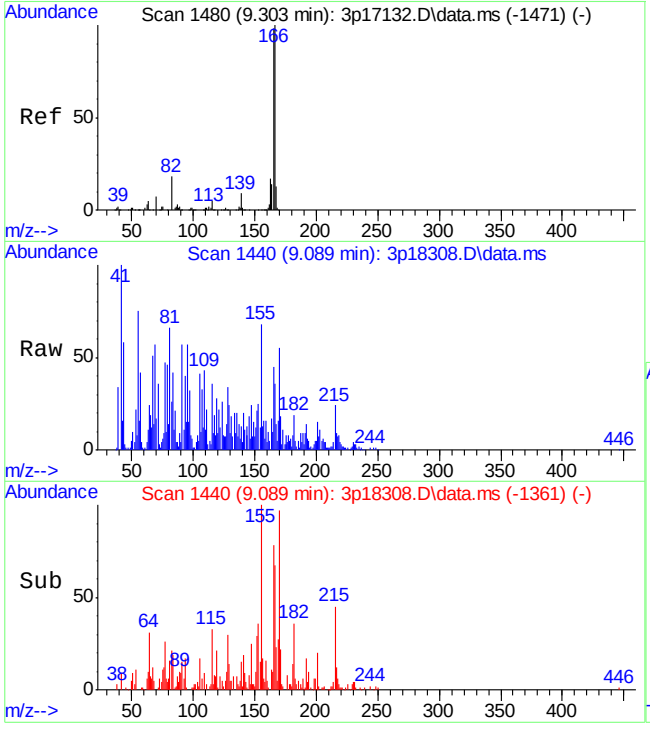


#38
Naphthalene
Concen: 2.92 ppb
RT: 5.543 min Scan# 777
Delta R.T. -0.075 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:128 Resp: 34871

Ion	Ratio	Lower	Upper
128	100		
129	10.1	0.0	40.8
127	10.3	0.0	43.0

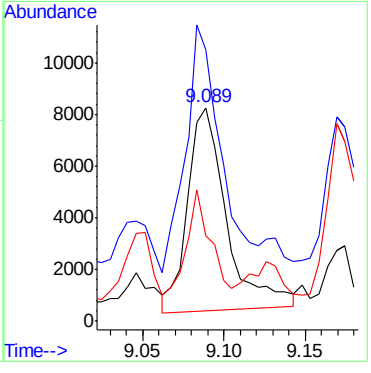


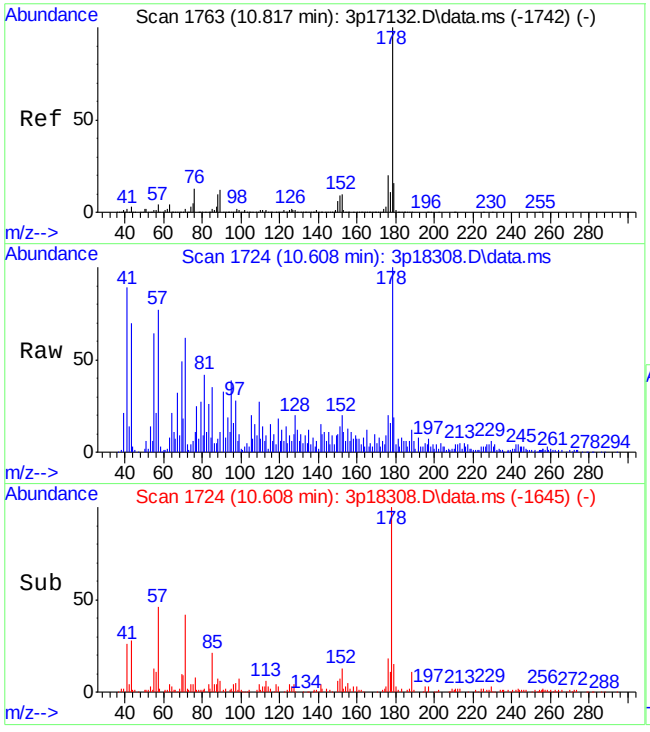


#66
Fluorene
Concen: 1.99 ppb
RT: 9.089 min Scan# 1440
Delta R.T. -0.080 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:166 Resp: 13184

Ion	Ratio	Lower	Upper
166	100		
165	116.3	66.8	126.8
167	31.6	0.0	43.0

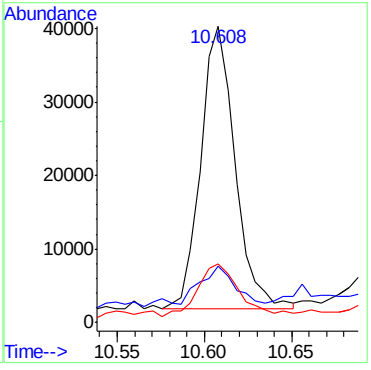


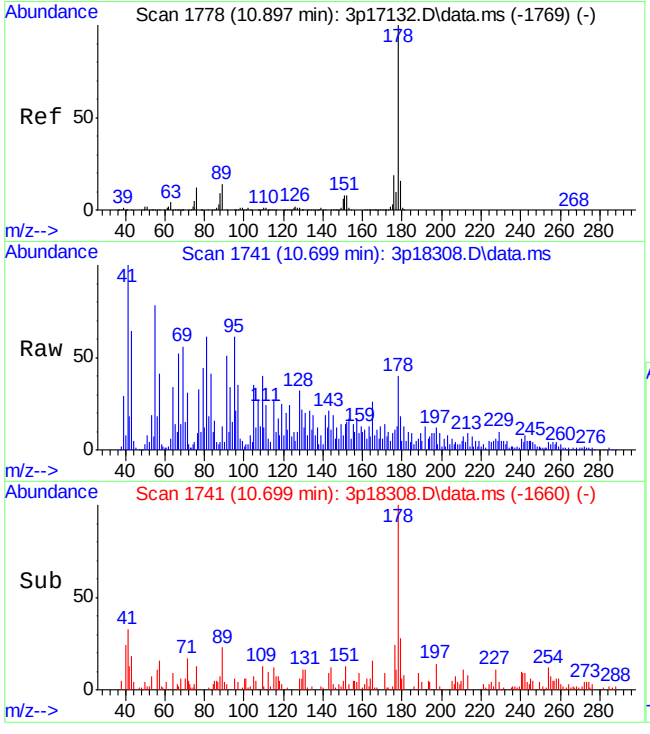


#77
Phenanthrene
Concen: 5.47 ppb
RT: 10.608 min Scan# 1724
Delta R.T. -0.080 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:178 Resp: 52659

Ion	Ratio	Lower	Upper
178	100		
179	11.1	0.0	45.2
176	18.1	0.0	48.9

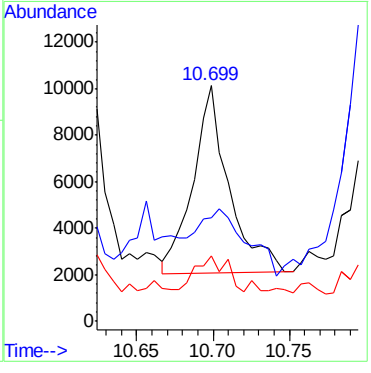




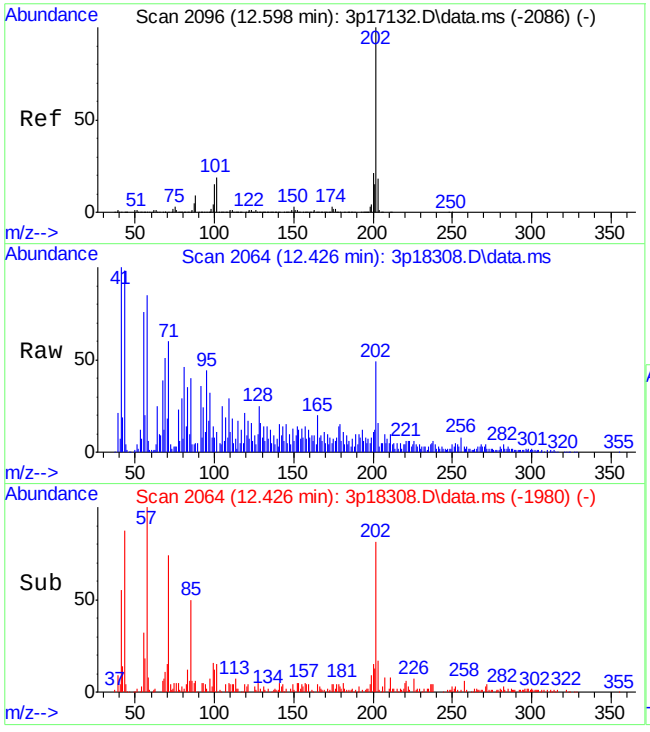
#78
Anthracene
Concen: 1.38 ppb
RT: 10.699 min Scan# 1741
Delta R.T. -0.069 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:178 Resp: 13265

Ion	Ratio	Lower	Upper
178	100		
179	16.4	0.0	44.9
176	19.1	0.0	48.9



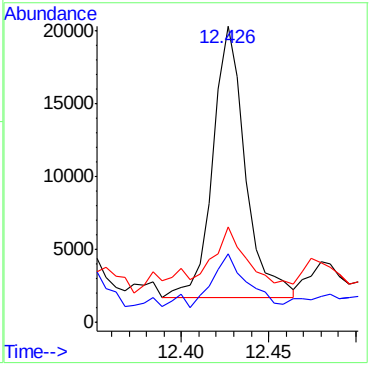
SGS ACCUTEST JB31800

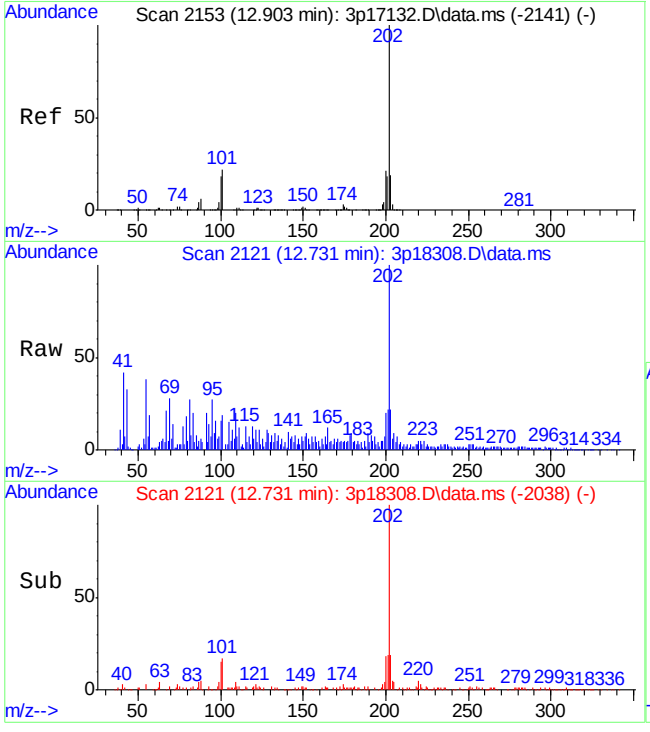


#81
Fluoranthene
Concen: 2.31 ppb
RT: 12.426 min Scan# 2064
Delta R.T. -0.053 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:202 Resp: 24177

Ion	Ratio	Lower	Upper
202	100		
101	23.1	0.0	53.3
203	32.3	0.0	48.9

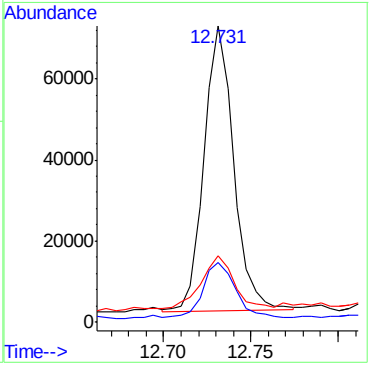


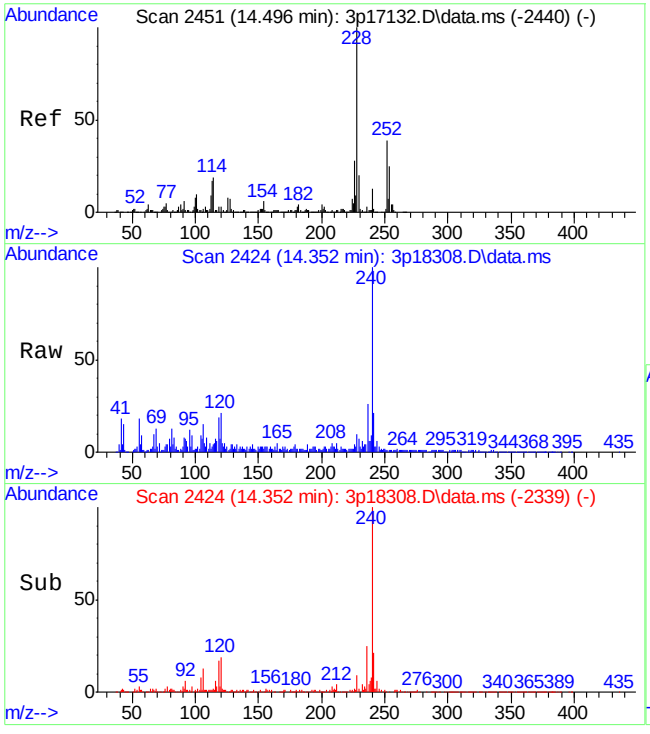


#84
Pyrene
Concen: 6.75 ppb
RT: 12.731 min Scan# 2121
Delta R.T. -0.059 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:202 Resp: 82820

Ion	Ratio	Lower	Upper
202	100		
200	19.2	0.0	46.6
203	17.9	0.0	53.5

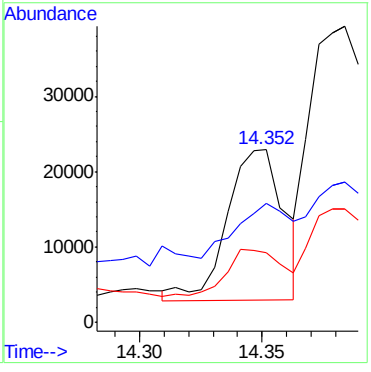


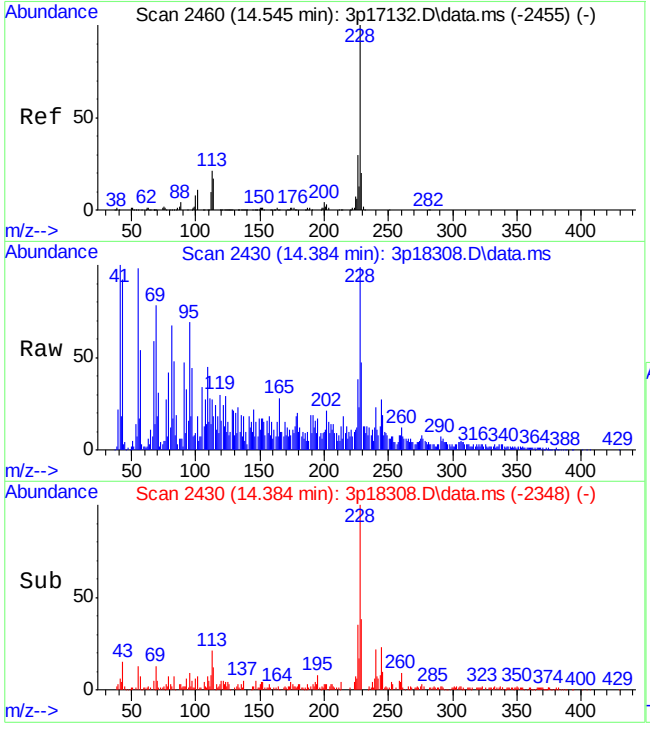


#87
Benzo[a]anthracene
Concen: 2.93 ppb
RT: 14.352 min Scan# 2424
Delta R.T. -0.048 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:228 Resp: 32326

Ion	Ratio	Lower	Upper
228	100		
229	29.1	0.0	49.9
226	29.9	0.0	58.4

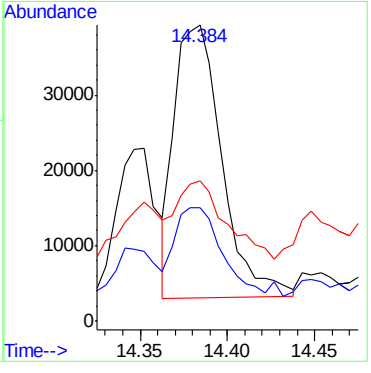




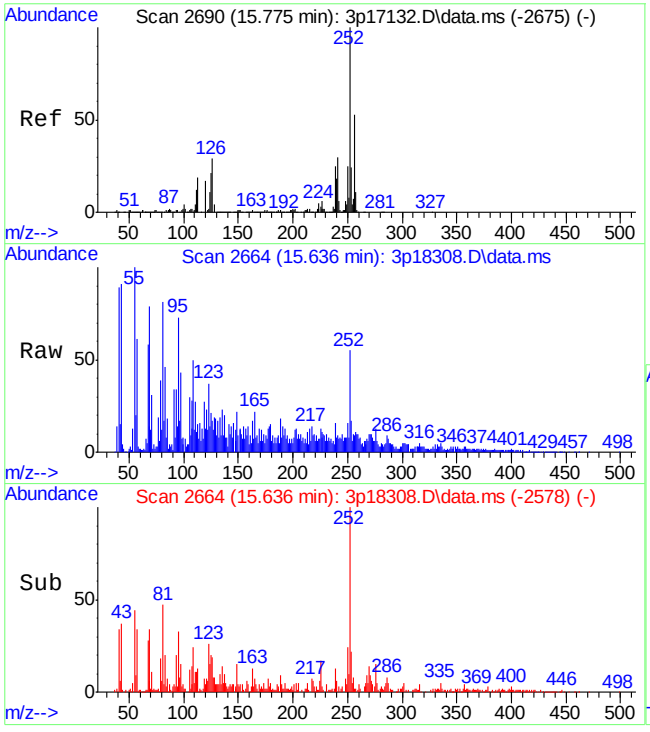
#89
Chrysene
Concen: 6.73 ppb
RT: 14.384 min Scan# 2430
Delta R.T. -0.064 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:228 Resp: 68177

Ion	Ratio	Lower	Upper
228	100		
226	32.4	0.0	59.7
229	22.8	0.0	49.1



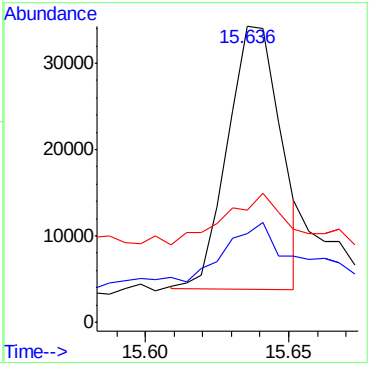
SGS ACCUTEST JB31800

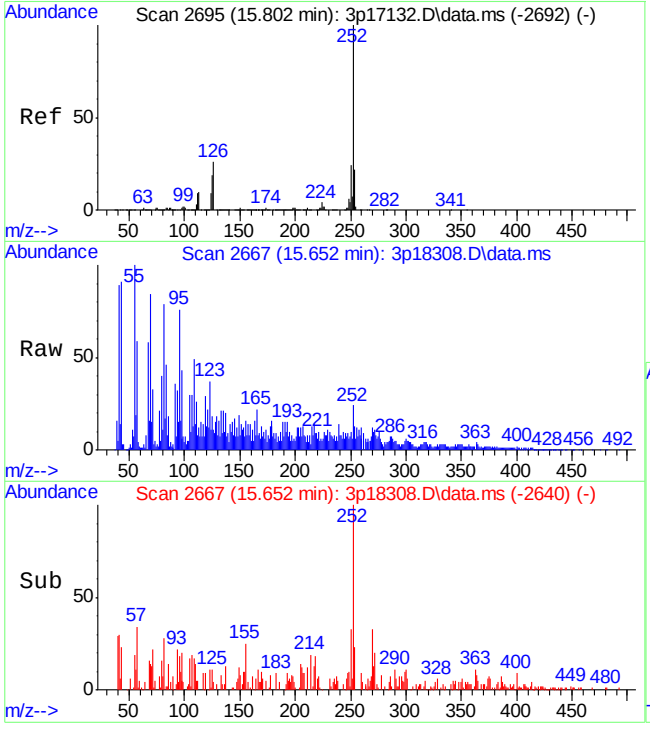


#93
Benzo[b]fluoranthene
Concen: 3.01 ppb m
RT: 15.636 min Scan# 2664
Delta R.T. -0.043 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:252 Resp: 39542

Ion	Ratio	Lower	Upper
252	100		
253	30.1	0.0	51.5
125	37.9	0.0	44.7

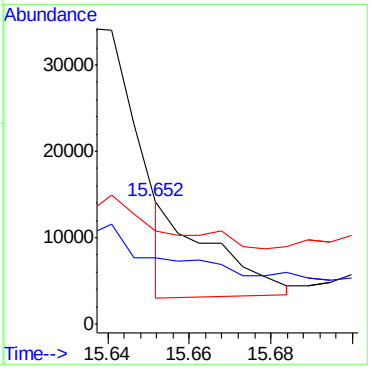


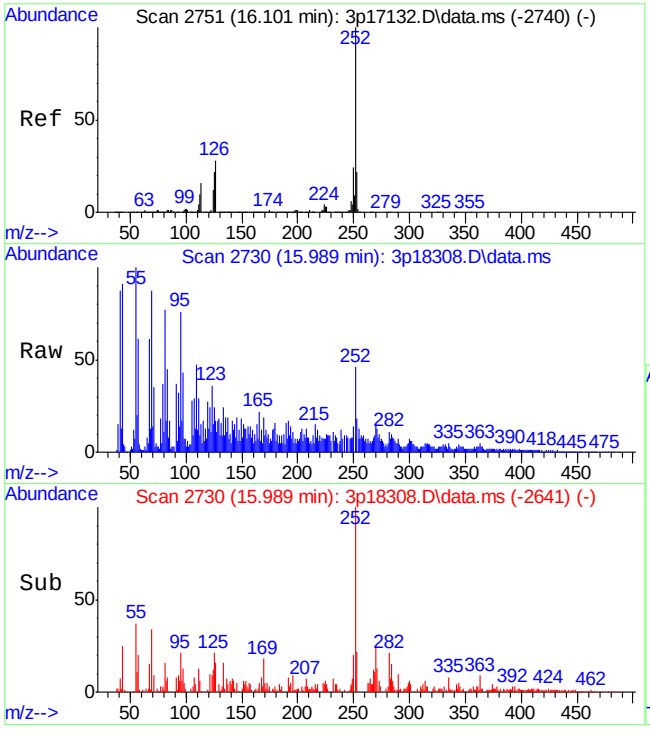


#94
Benzo[k]fluoranthene
Concen: 0.77 ppb m
RT: 15.652 min Scan# 2667
Delta R.T. -0.053 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:252 Resp: 8506

Ion	Ratio	Lower	Upper
252	100		
253	54.3	0.0	52.3#
125	75.9	0.0	45.4#

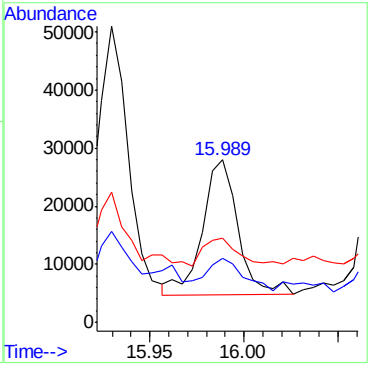


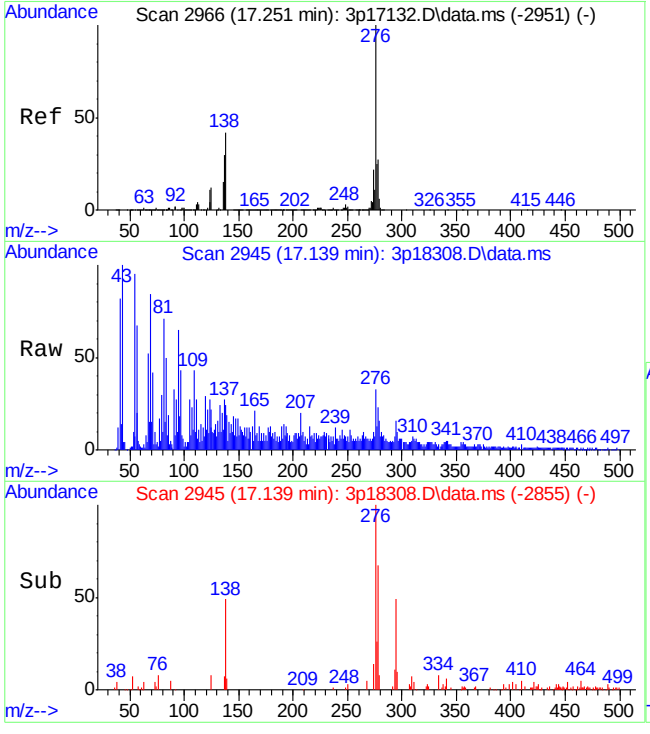


#95
Benzo[a]pyrene
Concen: 2.72 ppb
RT: 15.989 min Scan# 2730
Delta R.T. -0.027 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:252 Resp: 30379

Ion	Ratio	Lower	Upper
252	100		
253	14.9	0.0	52.2
125	14.2	0.0	46.5

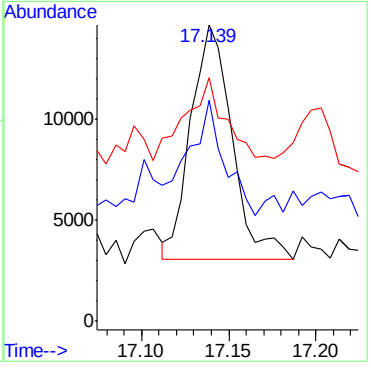


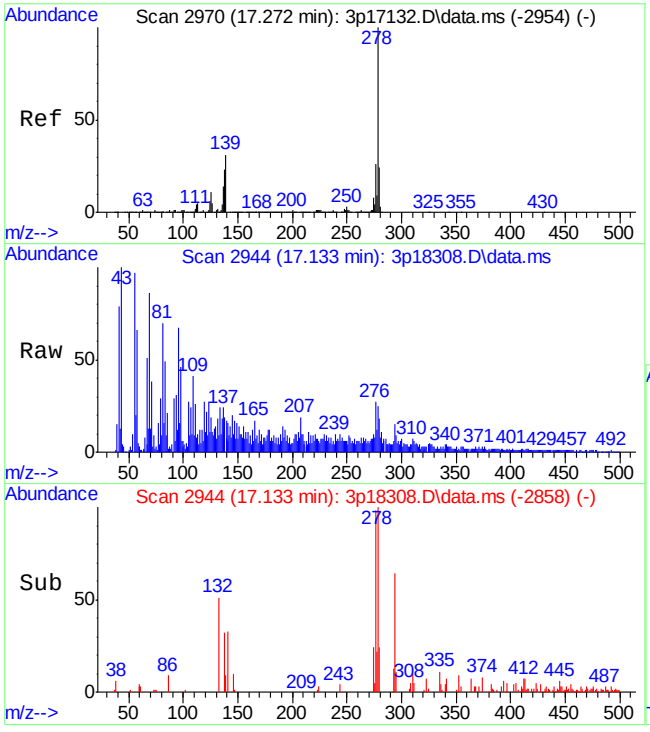


#96
Indeno[1,2,3-cd]pyrene
Concen: 1.45 ppb
RT: 17.139 min Scan# 2945
Delta R.T. -0.021 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:276 Resp: 19048

Ion	Ratio	Lower	Upper
276	100		
138	38.9	4.8	64.8
137	27.6	0.0	55.1

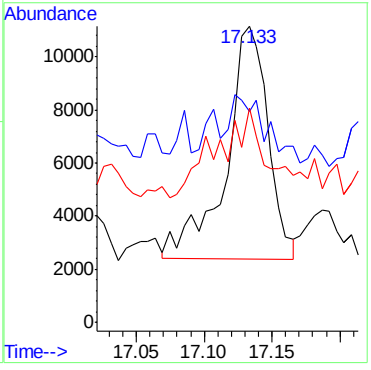


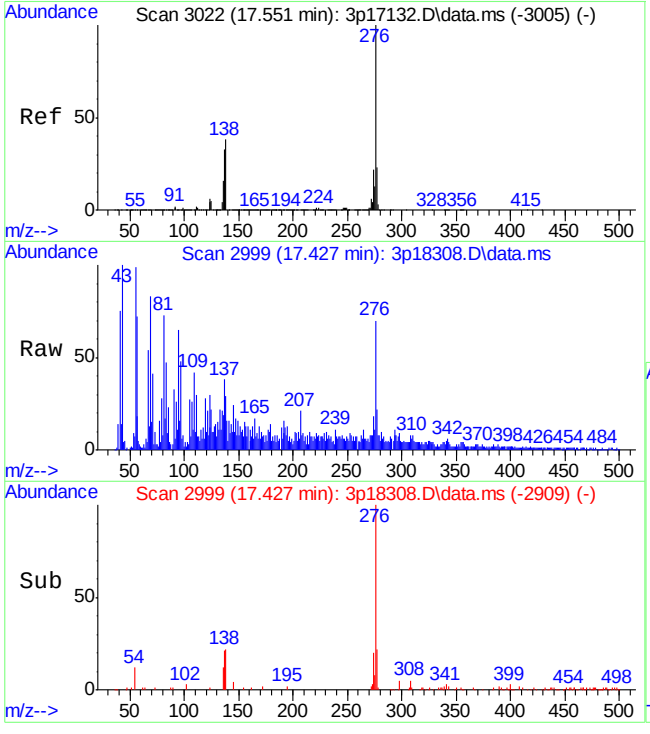


#98
Dibenz[a,h]anthracene
Concen: 1.74 ppb
RT: 17.133 min Scan# 2944
Delta R.T. -0.043 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:278 Resp: 18845

Ion	Ratio	Lower	Upper
278	100		
139	17.1	0.0	50.3
279	33.4	0.0	53.8

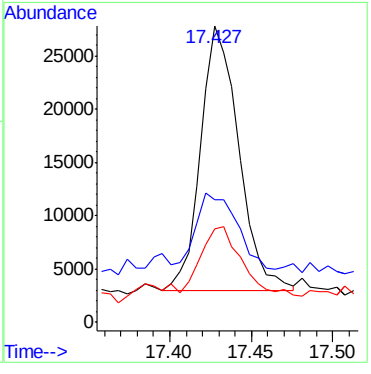




#100
Benzo[g,h,i]perylene
Concen: 3.73 ppb
RT: 17.427 min Scan# 2999
Delta R.T. -0.021 min
Lab File: 3p18308.D
Acq: 2 Apr 2013 8:09 pm

Tgt Ion:276 Resp: 40908

Ion	Ratio	Lower	Upper
276	100		
138	22.4	1.5	61.5
277	24.4	0.0	54.1



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/08/13 11:47

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18362.D
Acq On : 4 Apr 2013 3:53 am
Operator : ashleyd
Sample : jb31800-2
Misc : op64810,e3p827,32.0,,,1,5
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 12:20:52 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	117805	40.00	ppb	-0.07
24) Naphthalene-d8	5.548	136	415331	40.00	ppb	-0.10
47) Acenaphthene-d10	8.276	164	246595	40.00	ppb	-0.01
69) Phenanthrene-d10	10.640	188	354169	40.00	ppb	0.00
83) Chrysene-d12	14.389	240	391294	40.00	ppb	-0.01
91) Perylene-d12	16.058	264	369296	40.00	ppb	0.00
101) 1,4-Dichlorobenzene-d4a	3.804	152	117805	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.276	164	244420	40.00	ppb	0.00
106) Chrysene-d12a	14.389	240	391294	40.00	ppb	0.00
108) Naphthalene-d8a	5.548	136	415331	40.00	ppb	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	2.558	112	15600	3.95	ppb	0.00
Spiked Amount 50.000			Recovery	=	7.90%	
8) Phenol-d5	3.537	99	21069	4.46	ppb	0.02
Spiked Amount 50.000			Recovery	=	8.92%	
25) Nitrobenzene-d5	4.318	82	10978	3.10	ppb	-0.27
Spiked Amount 50.000			Recovery	=	6.20%	
51) 2-Fluorobiphenyl	7.238	172	57858	7.41	ppb	-0.03
Spiked Amount 50.000			Recovery	=	14.82%	
73) 2,4,6-Tribromophenol	0.000	330	0	0.00	ppb	
Spiked Amount 50.000			Recovery	=	0.00%	
85) Terphenyl-d14	13.047	244	61490	7.53	ppb	-0.01
Spiked Amount 50.000			Recovery	=	15.06%	
Target Compounds						Qvalue
59) Acenaphthene	8.329	153	693492	92.59	ppb	95
66) Fluorene	9.164	166	915630	119.05	ppb	87
77) Phenanthrene	10.699	178	3018422	303.54	ppb	99
78) Anthracene	10.768	178	543534	54.55	ppb	71
81) Fluoranthene	12.485	202	133662	12.34	ppb	92
84) Pyrene	12.790	202	627593	49.45	ppb	81
87) Benzo[a]anthracene	14.379	228	44544	3.90	ppb	80
89) Chrysene	14.416	228	61610m	5.88	ppb	

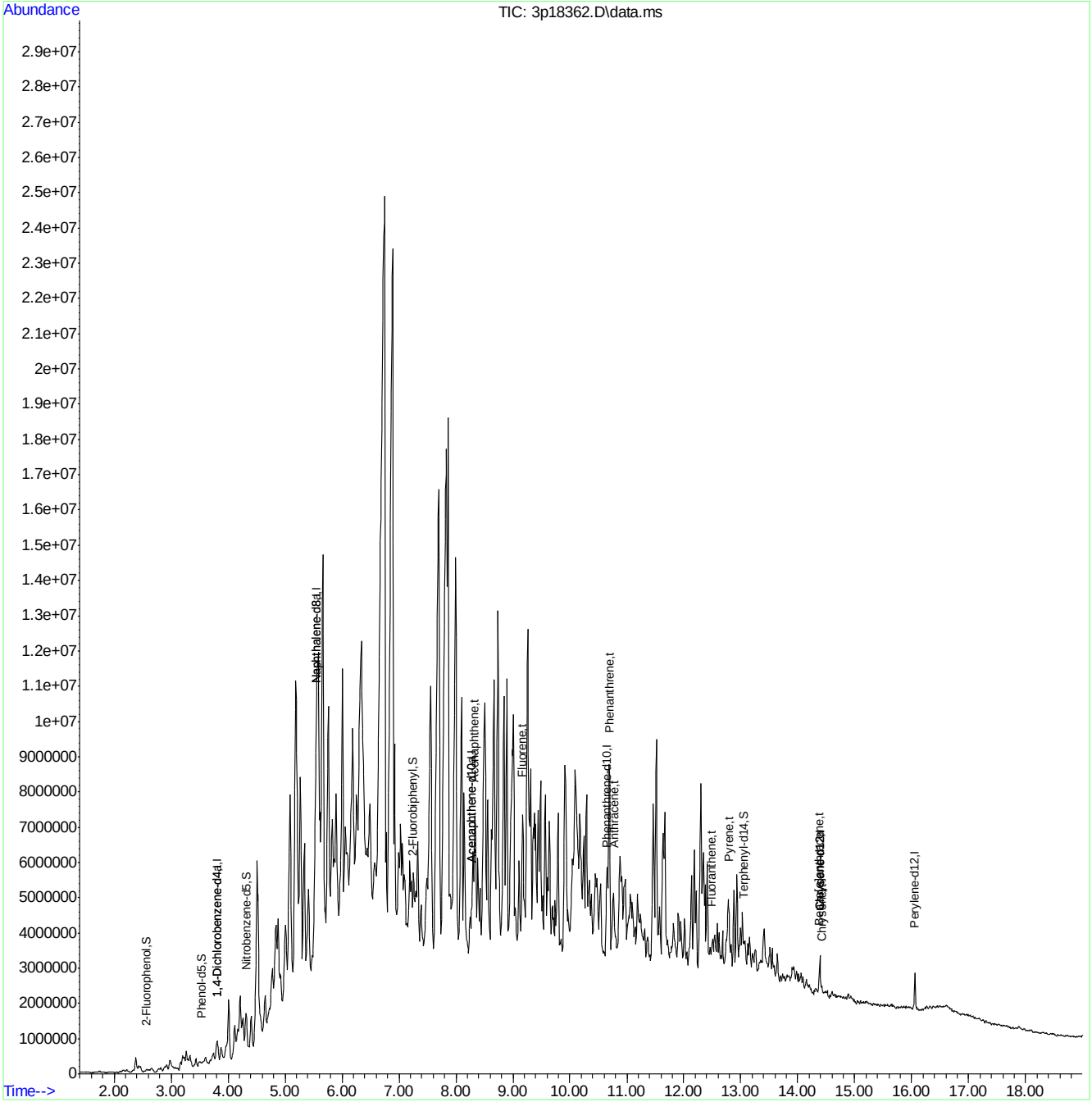
(#) = qualifier out of range (m) = manual integration (+) = signals summed

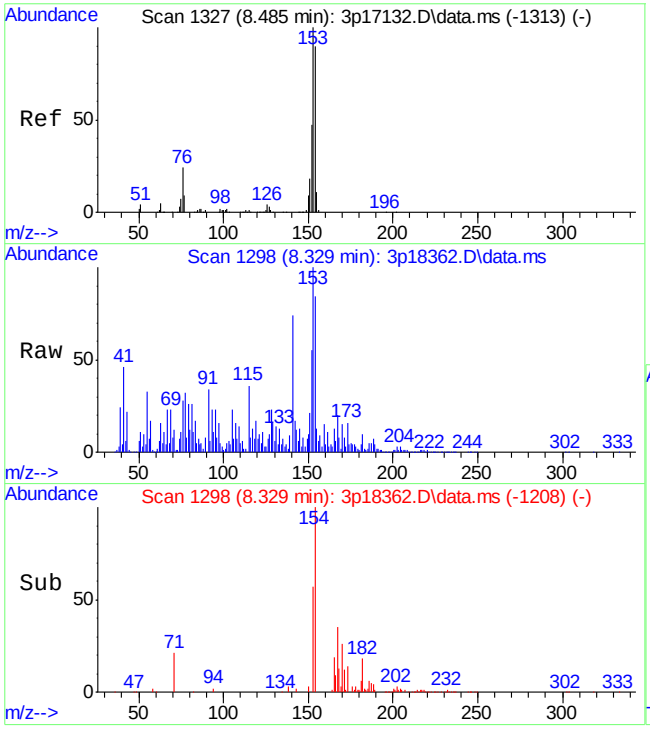
9.1.2
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18362.D
Acq On : 4 Apr 2013 3:53 am
Operator : ashleyd
Sample : jb31800-2
Misc : op64810,e3p827,32.0,,,1,5
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 12:20:52 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

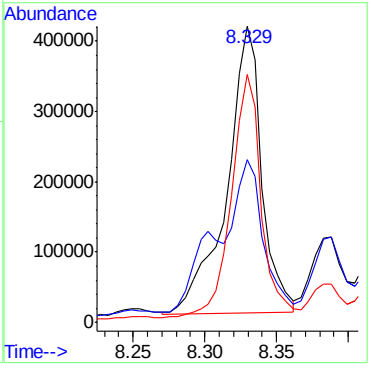


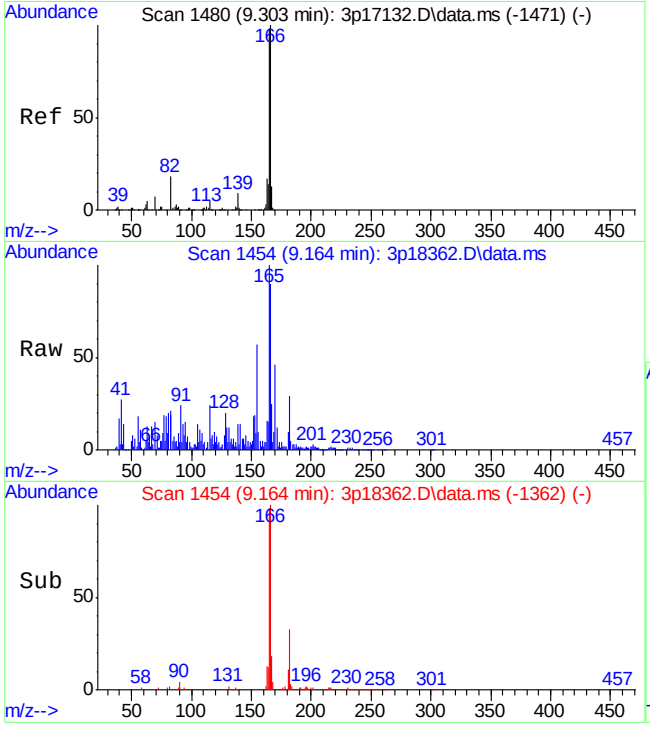


#59
Acenaphthene
Concen: 92.59 ppb
RT: 8.329 min Scan# 1298
Delta R.T. -0.016 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:153 Resp: 693492

Ion	Ratio	Lower	Upper
153	100		
152	53.1	16.8	76.8
154	85.3	57.6	117.6

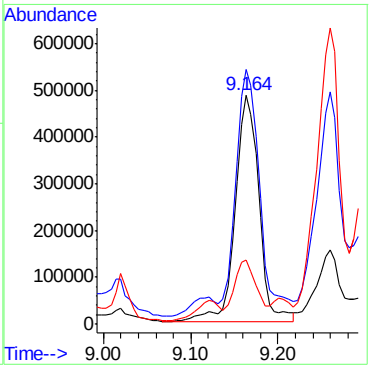


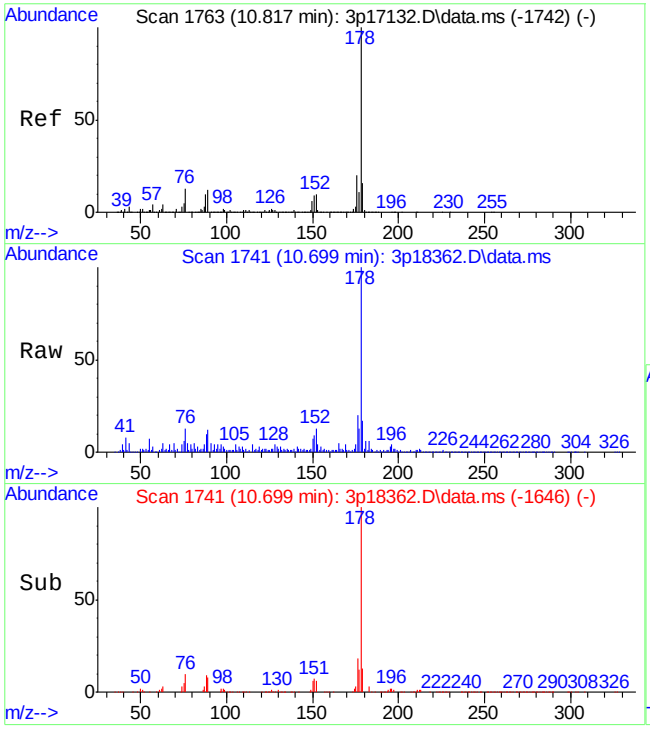


#66
Fluorene
Concen: 119.05 ppb
RT: 9.164 min Scan# 1454
Delta R.T. -0.005 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:166 Resp: 915630

Ion	Ratio	Lower	Upper
166	100		
165	107.7	66.8	126.8
167	23.9	0.0	43.0

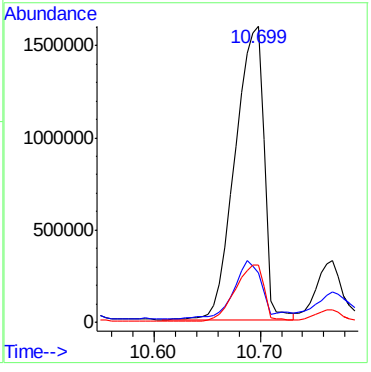


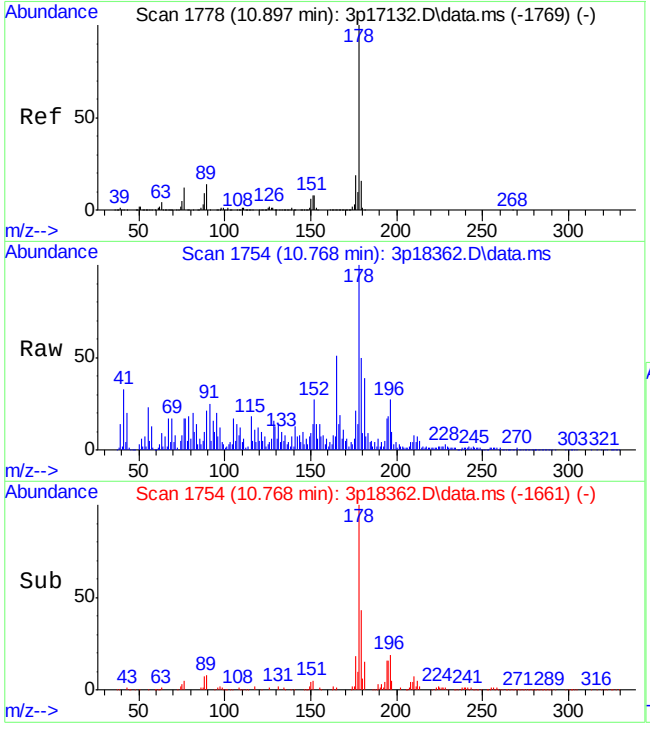


#77
Phenanthrene
Concen: 303.54 ppb
RT: 10.699 min Scan# 1741
Delta R.T. 0.011 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:178 Resp: 3018422

Ion	Ratio	Lower	Upper
178	100		
179	14.8	0.0	45.2
176	19.2	0.0	48.9

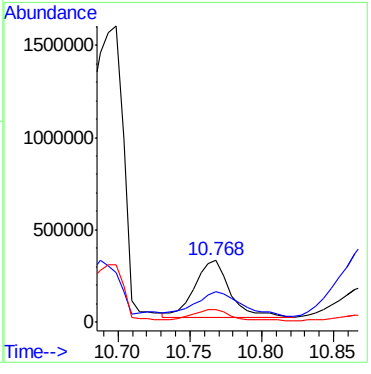


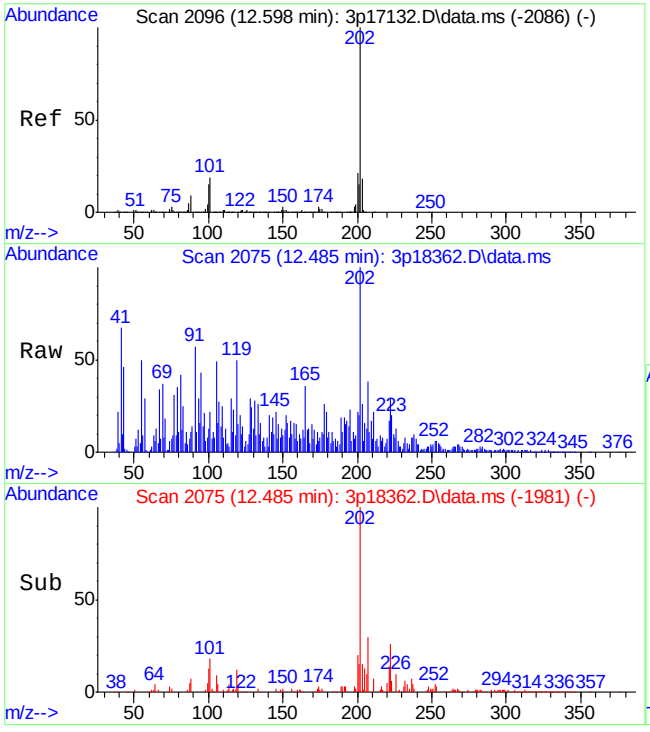


#78
Anthracene
Concen: 54.55 ppb
RT: 10.768 min Scan# 1754
Delta R.T. -0.000 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:178 Resp: 543534

Ion	Ratio	Lower	Upper
178	100		
179	42.1	0.0	44.9
176	19.3	0.0	48.9

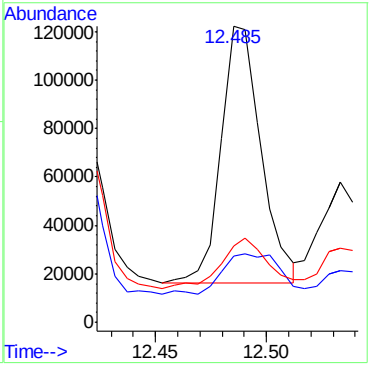


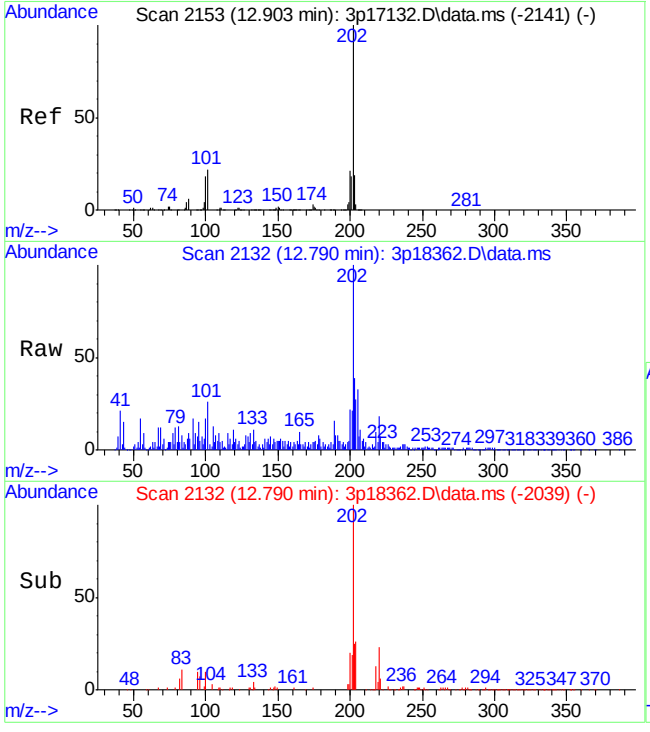


#81
Fluoranthene
Concen: 12.34 ppb
RT: 12.485 min Scan# 2075
Delta R.T. 0.005 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:202 Resp: 133662

Ion	Ratio	Lower	Upper
202	100		
101	22.4	0.0	53.3
203	25.7	0.0	48.9

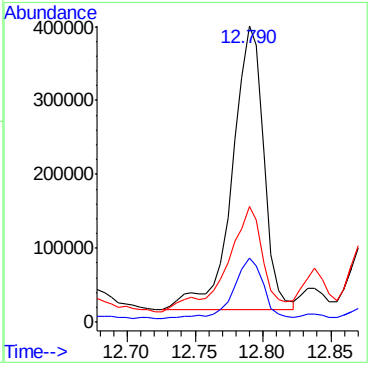


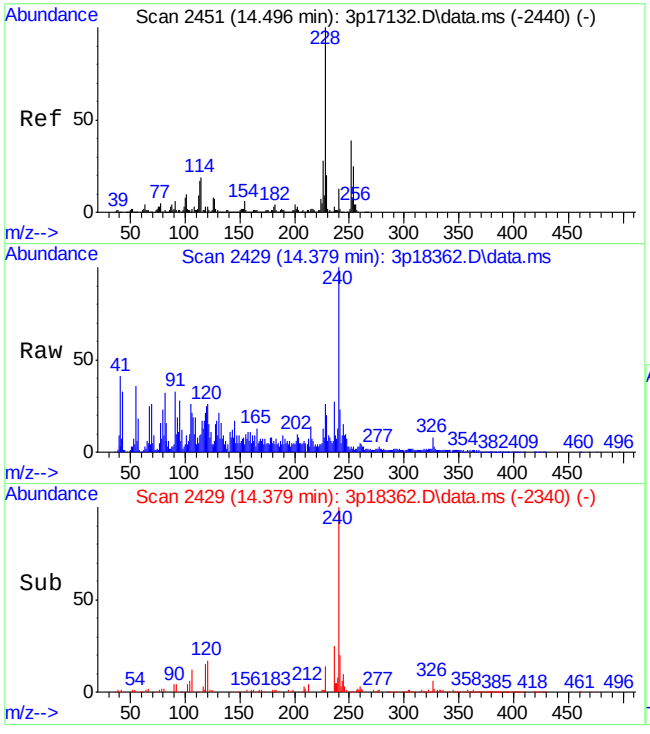


#84
Pyrene
Concen: 49.45 ppb
RT: 12.790 min Scan# 2132
Delta R.T. 0.000 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:202 Resp: 627593

Ion	Ratio	Lower	Upper
202	100		
200	21.5	0.0	46.6
203	35.7	0.0	53.5

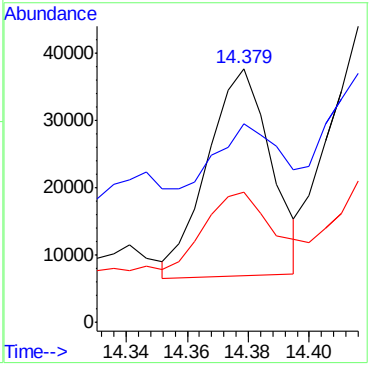


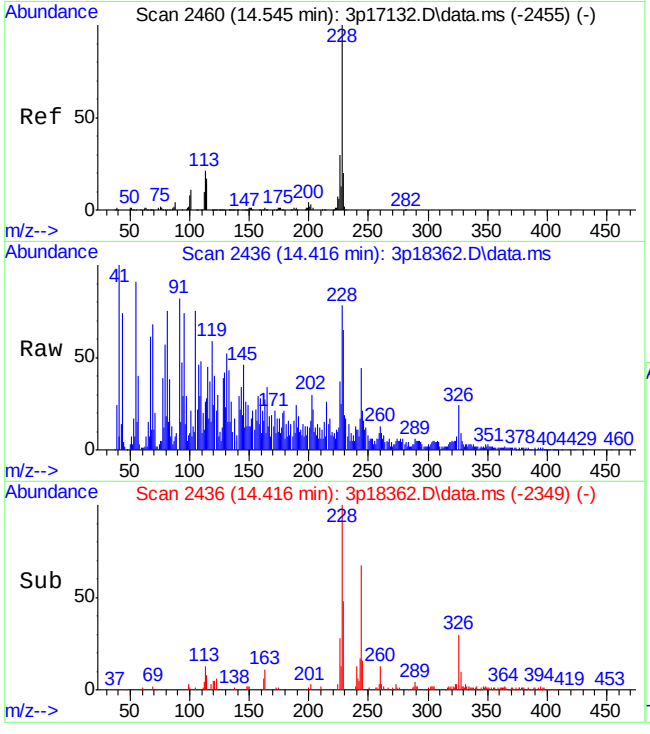


#87
Benzo[a]anthracene
Concen: 3.90 ppb
RT: 14.379 min Scan# 2429
Delta R.T. -0.021 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:228 Resp: 44544

Ion	Ratio	Lower	Upper
228	100		
229	32.6	0.0	49.9
226	35.9	0.0	58.4

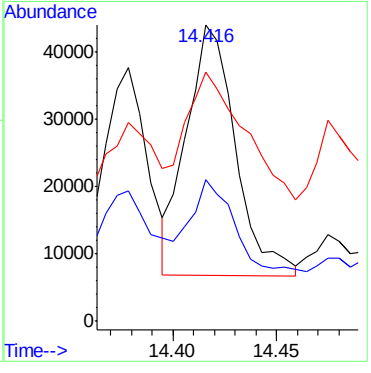




#89
Chrysene
Concen: 5.88 ppb m
RT: 14.416 min Scan# 2436
Delta R.T. -0.032 min
Lab File: 3p18362.D
Acq: 4 Apr 2013 3:53 am

Tgt Ion:228 Resp: 61610

Ion	Ratio	Lower	Upper
228	100		
226	47.6	0.0	59.7
229	84.2	0.0	49.1#



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/08/13 11:47

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\828\
Data File : 3p18380.D
Acq On : 4 Apr 2013 1:17 pm
Operator : katelynh
Sample : jb31800-2
Misc : op64810,e3p828,32.0,,,1,25
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 05 08:47:39 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.794	152	103405	40.00	ppb	-0.08
24) Naphthalene-d8	5.505	136	372867	40.00	ppb	-0.08
47) Acenaphthene-d10	8.201	164	197809	40.00	ppb	-0.09
69) Phenanthrene-d10	10.565	188	317895	40.00	ppb	-0.07
83) Chrysene-d12	14.336	240	359741	40.00	ppb	-0.06
91) Perylene-d12	16.010	264	346645	40.00	ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.794	152	103405	40.00	ppb	-0.06
103) Acenaphthene-d10a	8.201	164	197809	40.00	ppb	-0.07
106) Chrysene-d12a	14.336	240	359741	40.00	ppb	-0.05
108) Naphthalene-d8a	5.505	136	372867	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	0.000	112	0	0.00	ppb	
Spiked Amount 50.000			Recovery	=	0.00%	
8) Phenol-d5	0.000	99	0d	0.00	ppb	
Spiked Amount 50.000			Recovery	=	0.00%	
25) Nitrobenzene-d5	4.751	82	7237	2.28	ppb	0.16
Spiked Amount 50.000			Recovery	=	4.56%	
51) 2-Fluorobiphenyl	7.185	172	9836	1.57	ppb	-0.09
Spiked Amount 50.000			Recovery	=	3.14%	
73) 2,4,6-Tribromophenol	0.000	330	0d	0.00	ppb	
Spiked Amount 50.000			Recovery	=	0.00%	
85) Terphenyl-d14	12.988	244	9727	1.30	ppb	-0.07
Spiked Amount 50.000			Recovery	=	2.60%	
Target Compounds						Qvalue
59) Acenaphthene	8.255	153	115281	19.19	ppb	98
66) Fluorene	9.084	166	144454	23.41	ppb	95
77) Phenanthrene	10.603	178	518750	58.12	ppb	98
78) Anthracene	10.688	178	90613	10.13	ppb	77
81) Fluoranthene	12.416	202	22238	2.29	ppb	90
84) Pyrene	12.715	202	110750	9.49	ppb	84
87) Benzo[a]anthracene	14.325	228	8695	0.83	ppb	67
89) Chrysene	14.368	228	11467m	1.19	ppb	

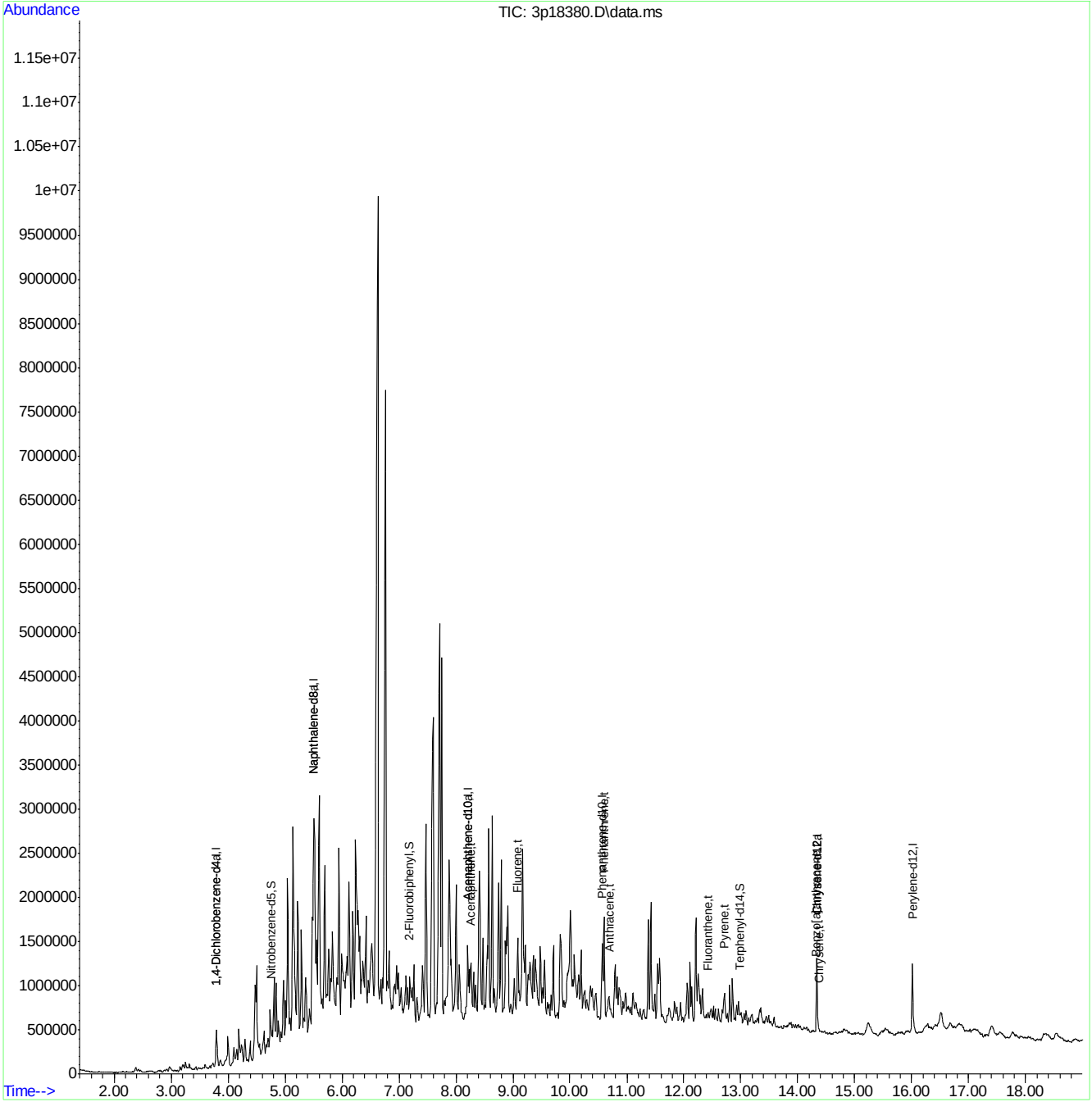
(#) = qualifier out of range (m) = manual integration (+) = signals summed

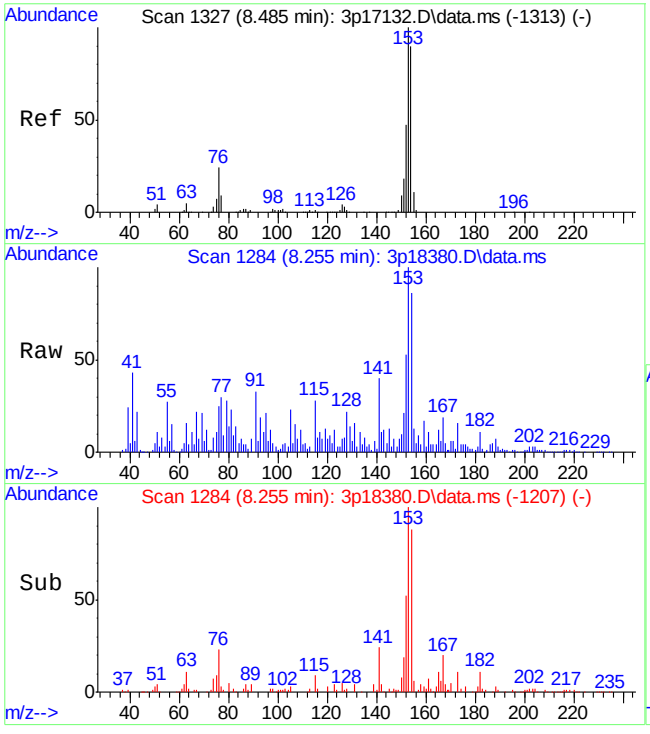
9.1.3
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\828\
Data File : 3p18380.D
Acq On : 4 Apr 2013 1:17 pm
Operator : katelynh
Sample : jb31800-2
Misc : op64810,e3p828,32.0,,,1,25
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 05 08:47:39 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

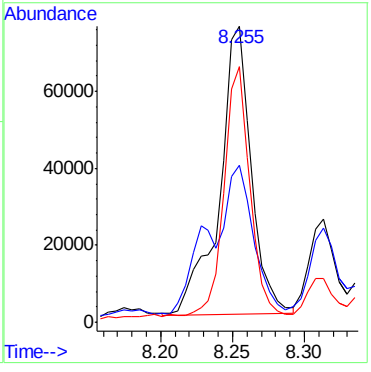


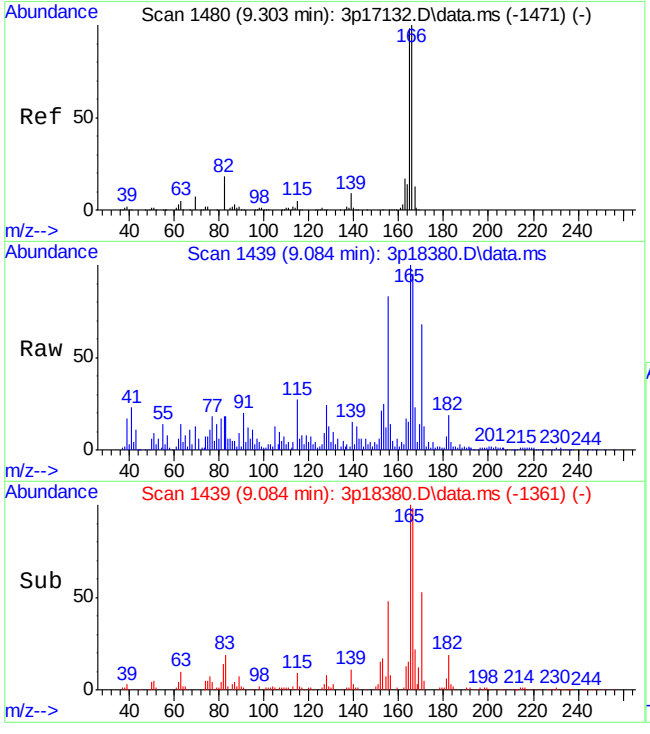


#59
Acenaphthene
Concen: 19.19 ppb
RT: 8.255 min Scan# 1284
Delta R.T. -0.091 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:153 Resp: 115281

Ion	Ratio	Lower	Upper
153	100		
152	50.6	16.8	76.8
154	87.3	57.6	117.6

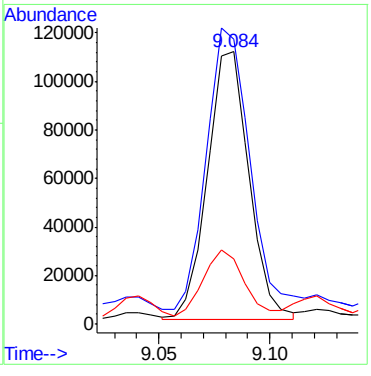


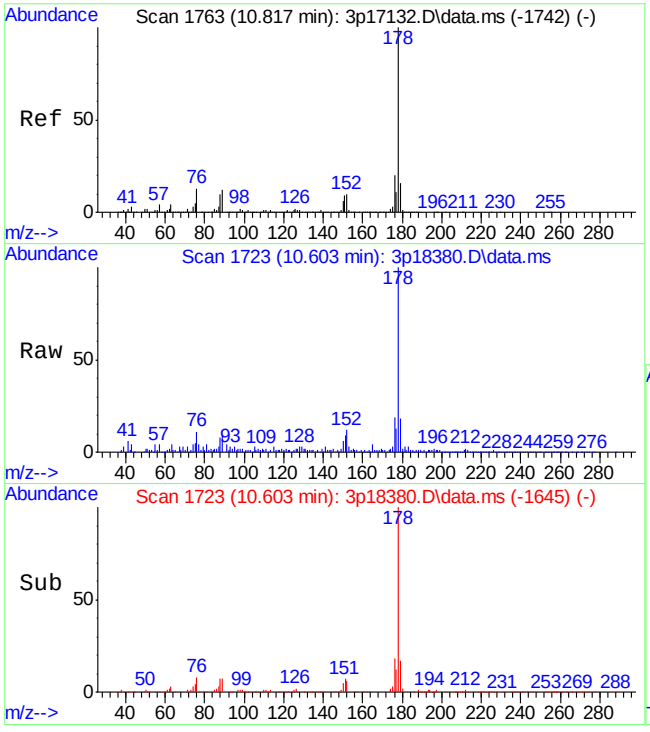


#66
Fluorene
Concen: 23.41 ppb
RT: 9.084 min Scan# 1439
Delta R.T. -0.085 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:166 Resp: 144454

Ion	Ratio	Lower	Upper
166	100		
165	100.4	66.8	126.8
167	18.7	0.0	43.0

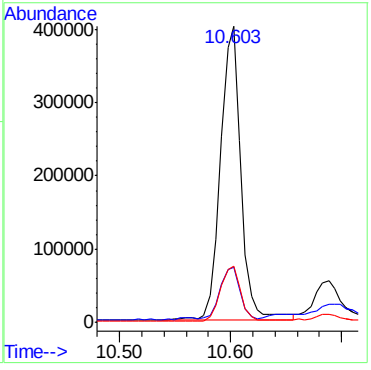


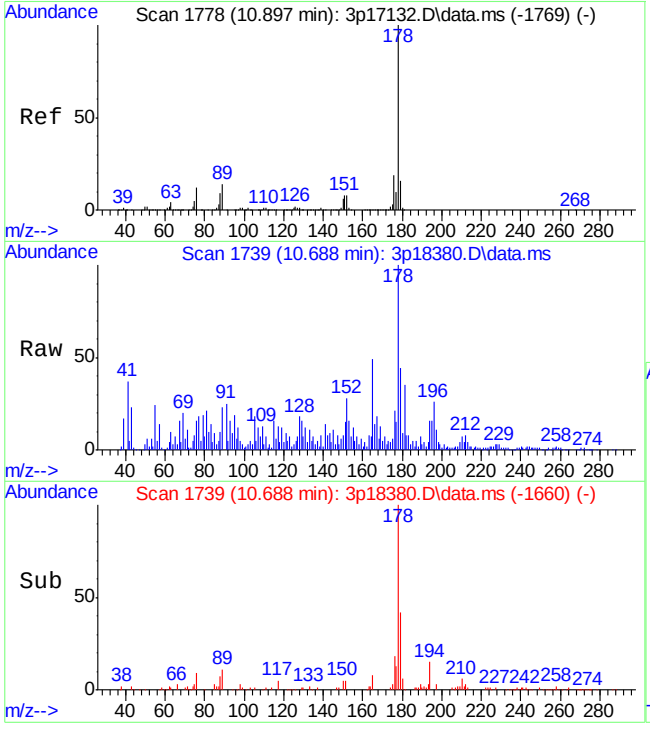


#77
Phenanthrene
Concen: 58.12 ppb
RT: 10.603 min Scan# 1723
Delta R.T. -0.085 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:178 Resp: 518750

Ion	Ratio	Lower	Upper
178	100		
179	17.1	0.0	45.2
176	18.5	0.0	48.9

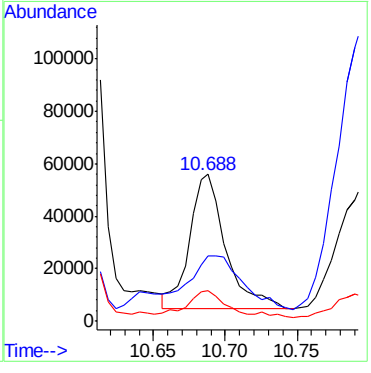


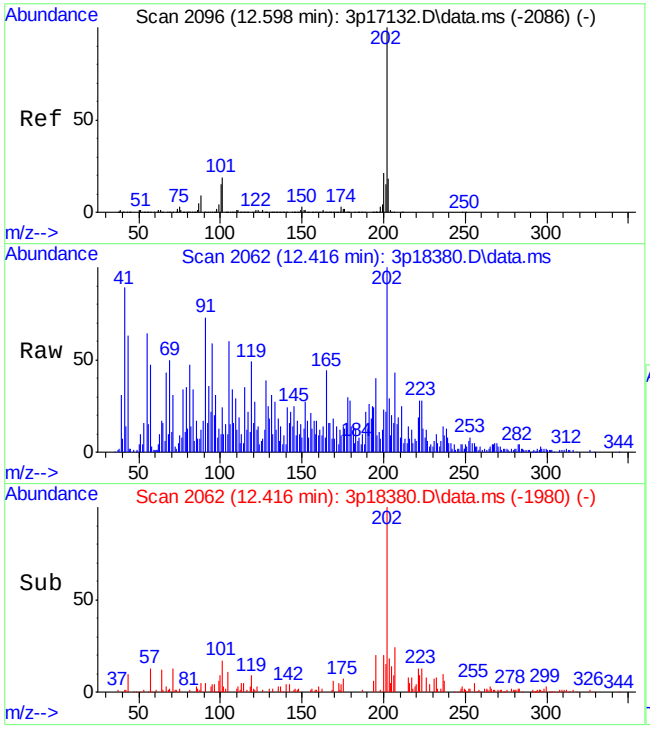


#78
Anthracene
Concen: 10.13 ppb
RT: 10.688 min Scan# 1739
Delta R.T. -0.080 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:178 Resp: 90613

Ion	Ratio	Lower	Upper
178	100		
179	36.1	0.0	44.9
176	19.5	0.0	48.9

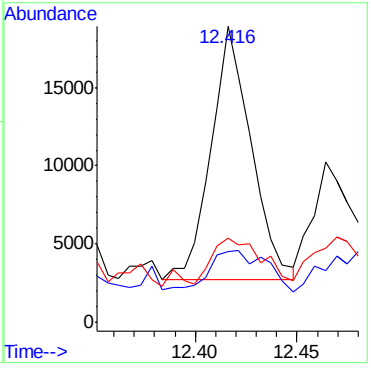


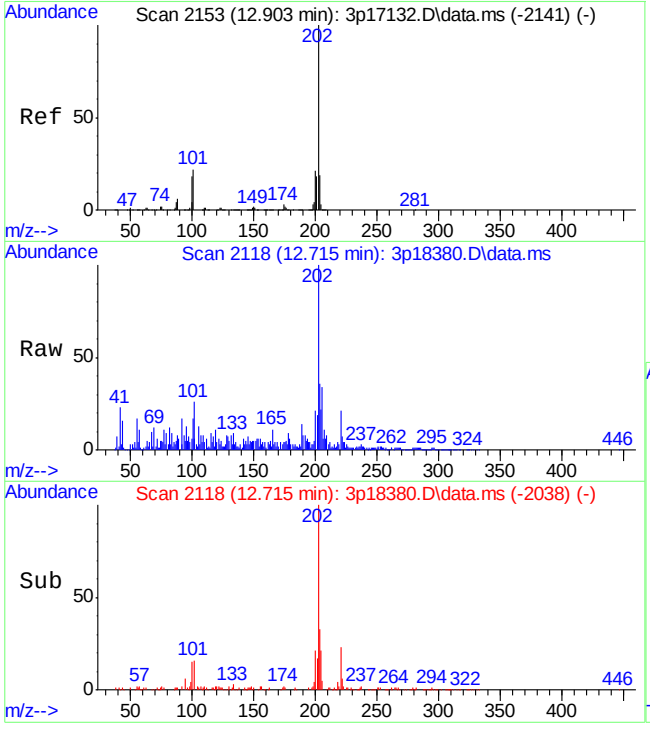


#81
Fluoranthene
Concen: 2.29 ppb
RT: 12.416 min Scan# 2062
Delta R.T. -0.064 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:202 Resp: 22238

Ion	Ratio	Lower	Upper
202	100		
101	23.8	0.0	53.3
203	28.6	0.0	48.9

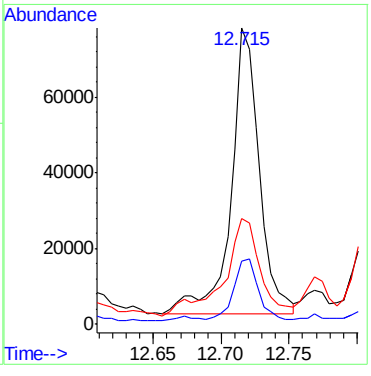


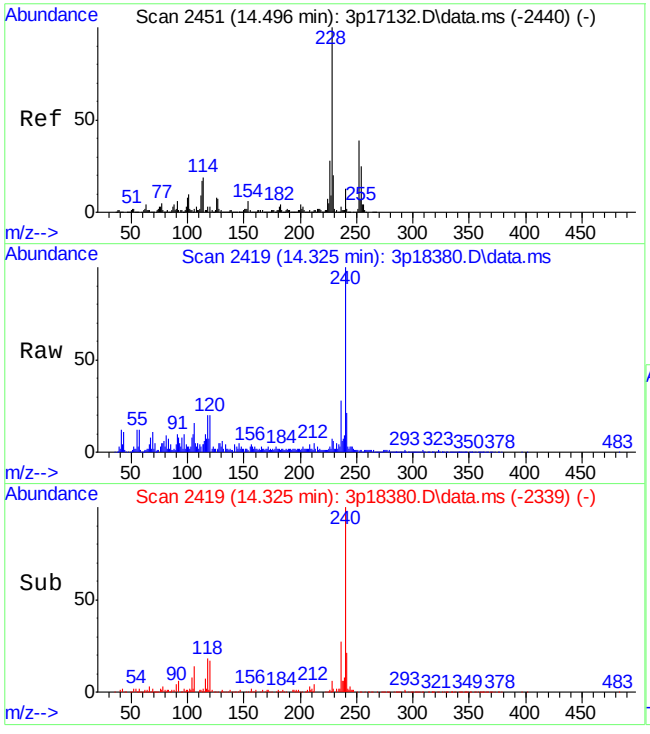


#84
Pyrene
Concen: 9.49 ppb
RT: 12.715 min Scan# 2118
Delta R.T. -0.075 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:202 Resp: 110750

Ion	Ratio	Lower	Upper
202	100		
200	21.0	0.0	46.6
203	33.2	0.0	53.5

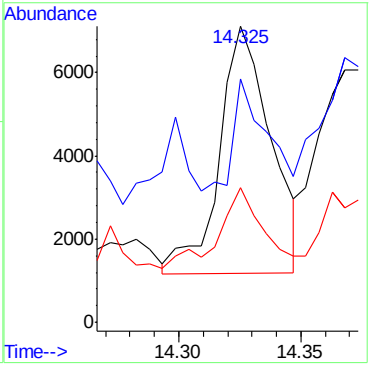


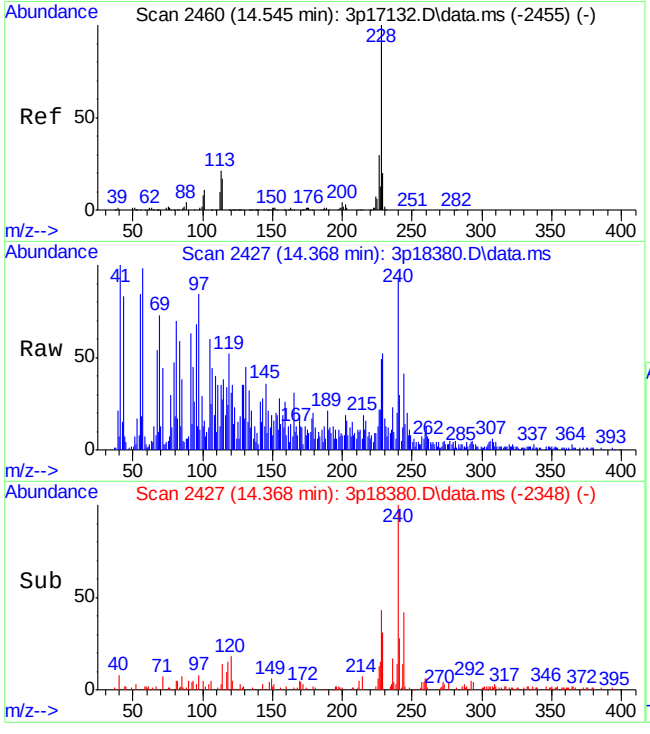


#87
Benzo[a]anthracene
Concen: 0.83 ppb
RT: 14.325 min Scan# 2419
Delta R.T. -0.075 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:228 Resp: 8695

Ion	Ratio	Lower	Upper
228	100		
229	46.7	0.0	49.9
226	36.2	0.0	58.4

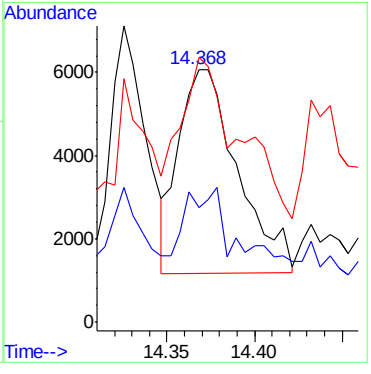




#89
Chrysene
Concen: 1.19 ppb m
RT: 14.368 min Scan# 2427
Delta R.T. -0.080 min
Lab File: 3p18380.D
Acq: 4 Apr 2013 1:17 pm

Tgt Ion:228 Resp: 11467

Ion	Ratio	Lower	Upper
228	100		
226	45.4	0.0	59.7
229	104.9	0.0	49.1#



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/03/13 13:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18312.D
Acq On : 2 Apr 2013 9:43 pm
Operator : katelynh
Sample : jb31800-3
Misc : op64810,e3p825,31.9
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Apr 03 14:12:26 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

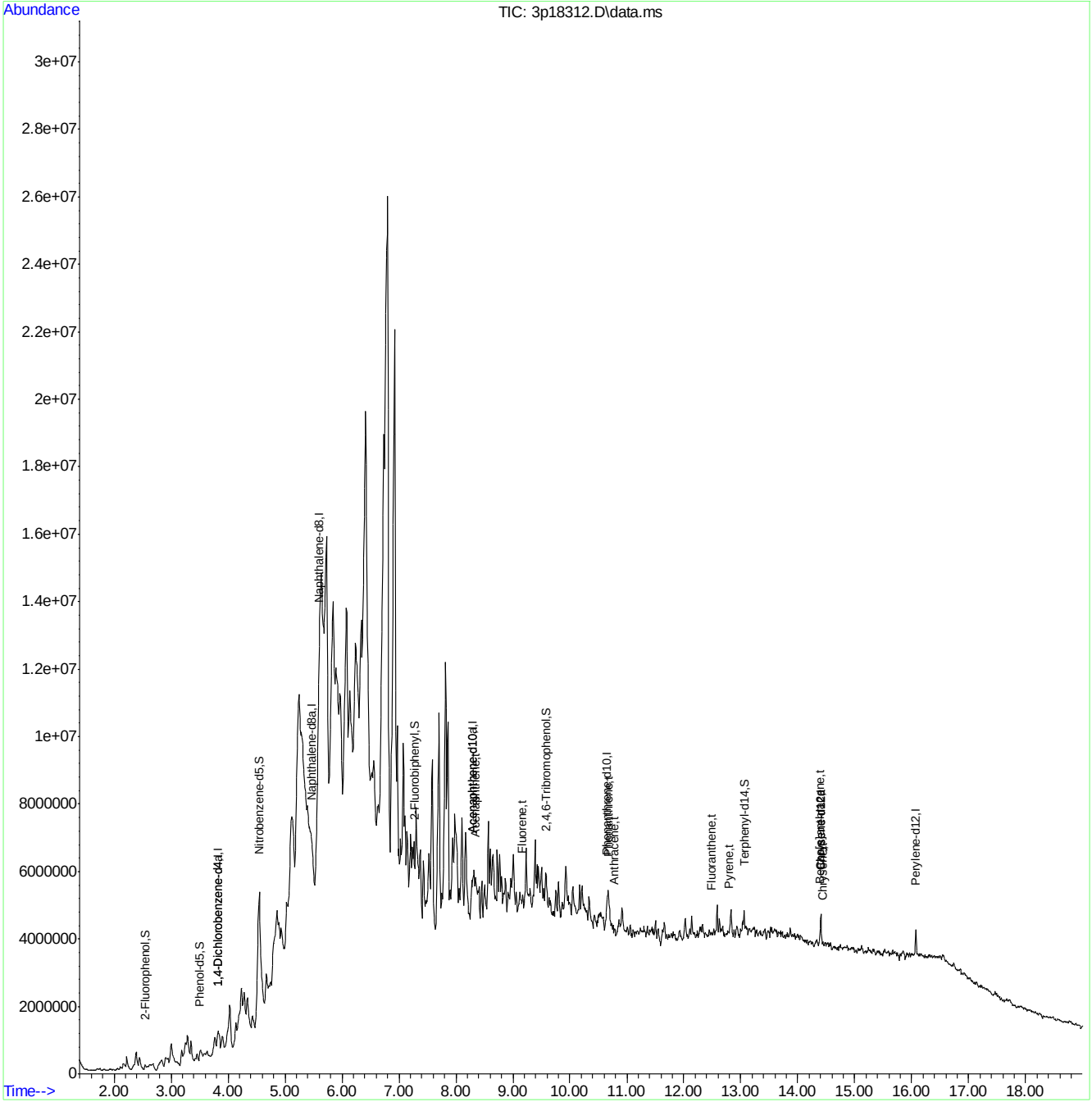
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.820	152	101113	40.00	ppb	-0.05
24) Naphthalene-d8	5.602	136	378228	40.00	ppb	0.02
47) Acenaphthene-d10	8.297	164	190865	40.00	ppb	0.01
69) Phenanthrene-d10	10.651	188	293687	40.00	ppb	0.01
83) Chrysene-d12	14.405	240	304432	40.00	ppb	0.00
91) Perylene-d12	16.074	264	287944	40.00	ppb	0.01
101) 1,4-Dichlorobenzene-d4a	3.820	152	101113	40.00	ppb	-0.04
103) Acenaphthene-d10a	8.297	164	190526	40.00	ppb	0.02
106) Chrysene-d12a	14.405	240	304432	40.00	ppb	0.02
108) Naphthalene-d8a	5.473	136	74251	40.00	ppb	-0.10
System Monitoring Compounds						
5) 2-Fluorophenol	2.542	112	67153	19.80	ppb	-0.02
Spiked Amount 50.000			Recovery	=	39.60%	
8) Phenol-d5	3.505	99	92874	22.90	ppb	-0.02
Spiked Amount 50.000			Recovery	=	45.80%	
25) Nitrobenzene-d5	4.553	82	102109m	31.65	ppb	-0.04
Spiked Amount 50.000			Recovery	=	63.30%	
51) 2-Fluorobiphenyl	7.281	172	179592	29.71	ppb	0.01
Spiked Amount 50.000			Recovery	=	59.42%	
73) 2,4,6-Tribromophenol	9.586	330	29475	29.69	ppb	0.01
Spiked Amount 50.000			Recovery	=	59.38%	
85) Terphenyl-d14	13.058	244	203147	31.97	ppb	0.00
Spiked Amount 50.000			Recovery	=	63.94%	
Target Compounds						Qvalue
59) Acenaphthene	8.345	153	42343	7.30	ppb	72
66) Fluorene	9.164	166	62142	10.44	ppb	81
77) Phenanthrene	10.683	178	77459	9.39	ppb	89
78) Anthracene	10.768	178	20098	2.43	ppb	75
81) Fluoranthene	12.491	202	28342	3.15	ppb #	46
84) Pyrene	12.795	202	38690	3.92	ppb	97
87) Benzo[a]anthracene	14.395	228	15795	1.78	ppb	79
89) Chrysene	14.432	228	21604	2.65	ppb	85

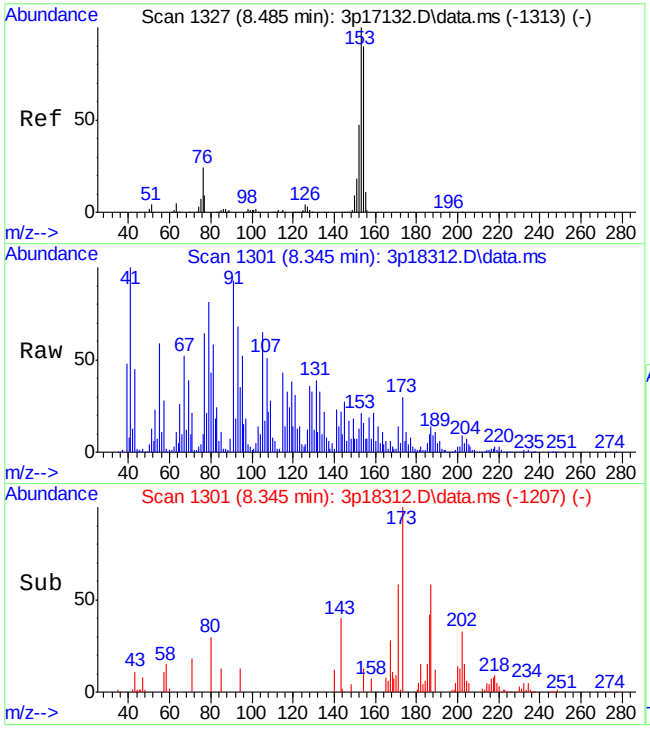
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18312.D
Acq On : 2 Apr 2013 9:43 pm
Operator : katelynh
Sample : jb31800-3
Misc : op64810,e3p825,31.9
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Apr 03 14:12:26 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

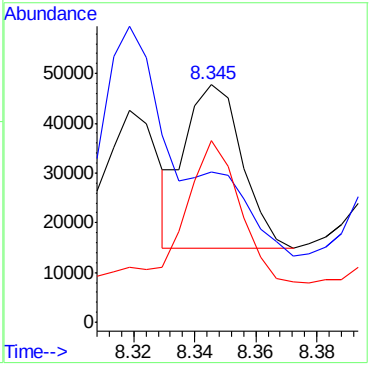


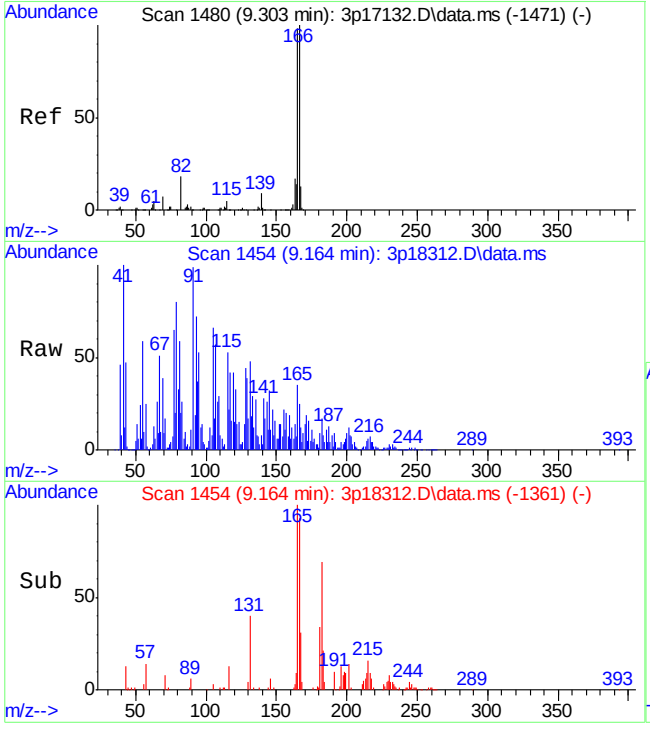


#59
Acenaphthene
Concen: 7.30 ppb
RT: 8.345 min Scan# 1301
Delta R.T. 0.000 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

Tgt Ion:153 Resp: 42343

Ion	Ratio	Lower	Upper
153	100		
152	19.2	16.8	76.8
154	107.3	57.6	117.6

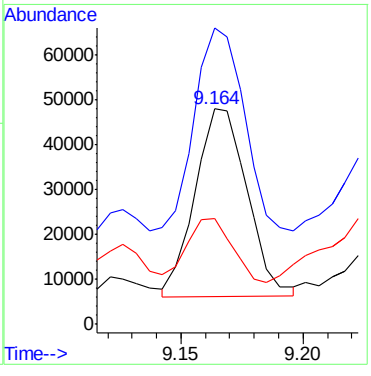




#66
Fluorene
Concen: 10.44 ppb
RT: 9.164 min Scan# 1454
Delta R.T. -0.005 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

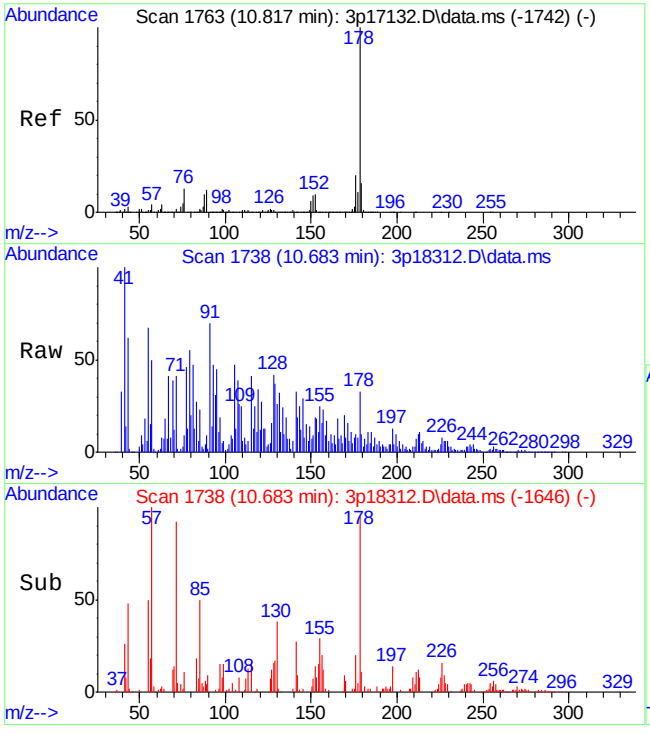
Tgt Ion:166 Resp: 62142

Ion	Ratio	Lower	Upper
166	100		
165	112.8	66.8	126.8
167	28.7	0.0	43.0



9.1.4

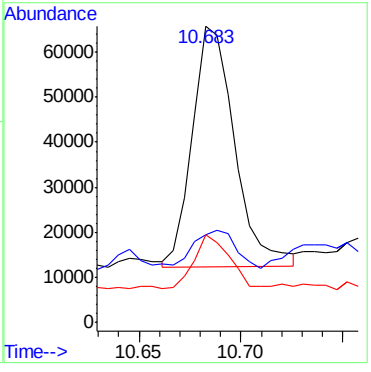
9

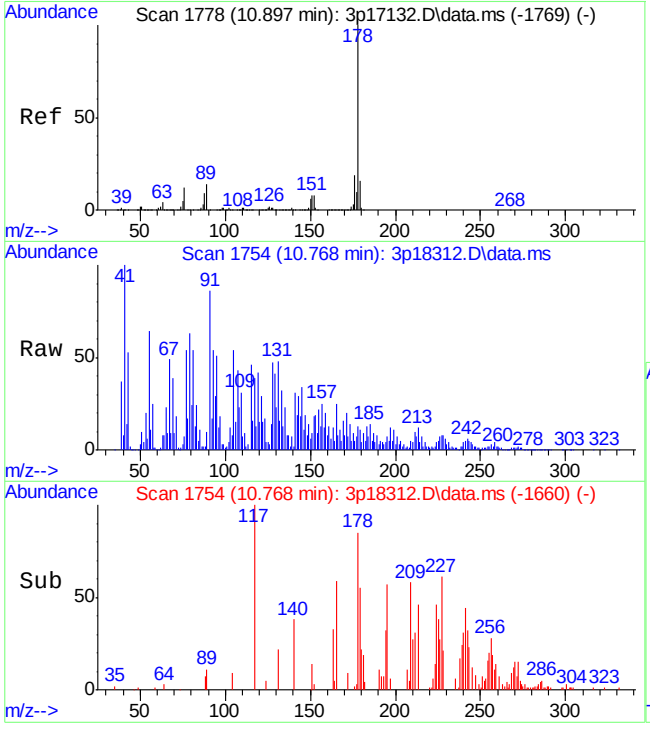


#77
Phenanthrene
Concen: 9.39 ppb
RT: 10.683 min Scan# 1738
Delta R.T. -0.005 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

Tgt Ion:178 Resp: 77459

Ion	Ratio	Lower	Upper
178	100		
179	9.6	0.0	45.2
176	22.7	0.0	48.9

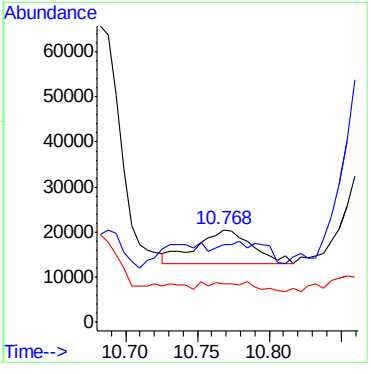


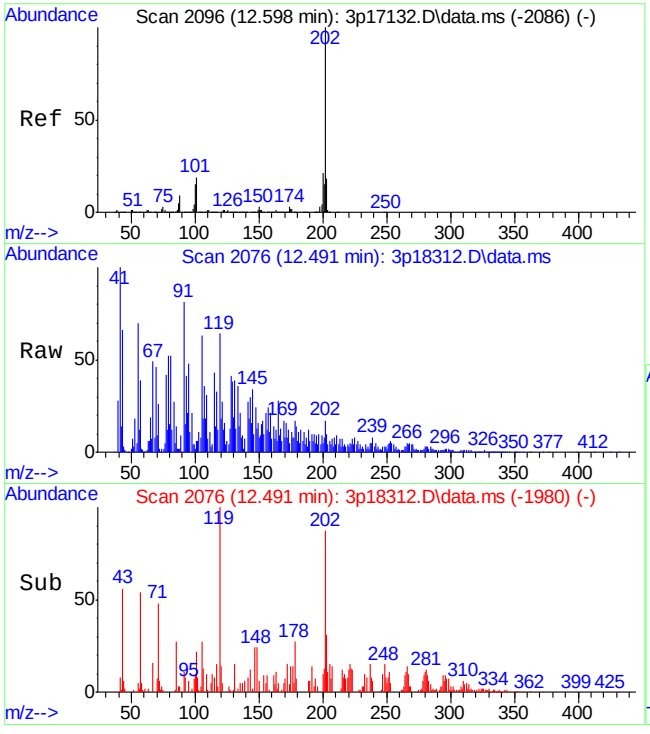


#78
Anthracene
Concen: 2.43 ppb
RT: 10.768 min Scan# 1754
Delta R.T. 0.000 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

Tgt Ion:178 Resp: 20098

Ion	Ratio	Lower	Upper
178	100		
179	29.5	0.0	44.9
176	11.4	0.0	48.9

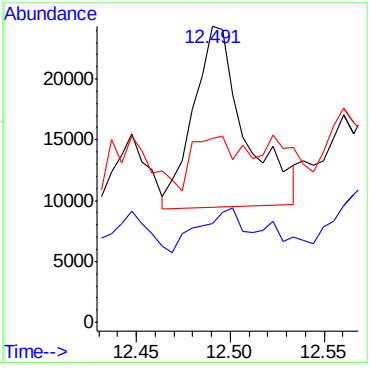


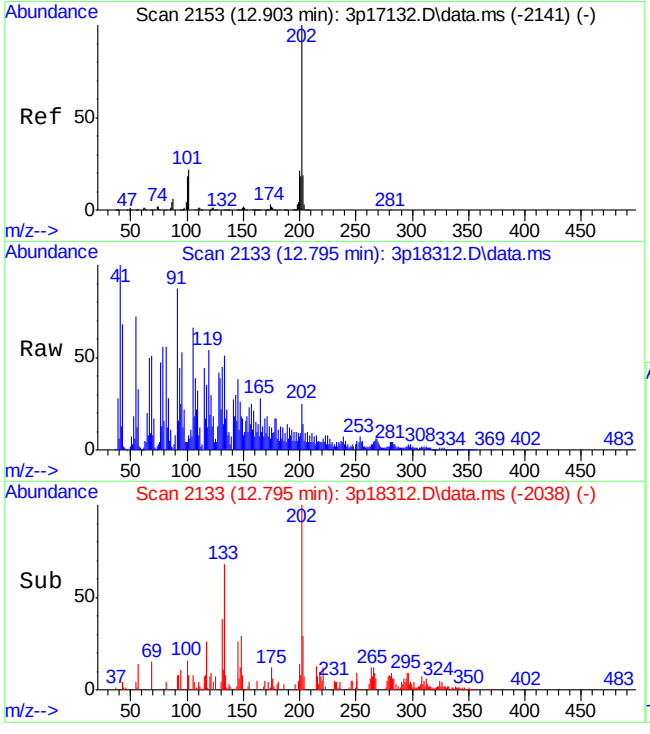


#81
Fluoranthene
Concen: 3.15 ppb
RT: 12.491 min Scan# 2076
Delta R.T. 0.011 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

Tgt Ion:202 Resp: 28342

Ion	Ratio	Lower	Upper
202	100		
101	33.3	0.0	53.3
203	62.2	0.0	48.9#

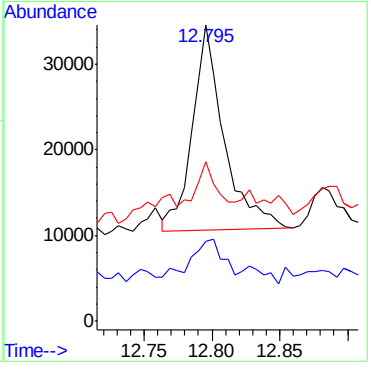


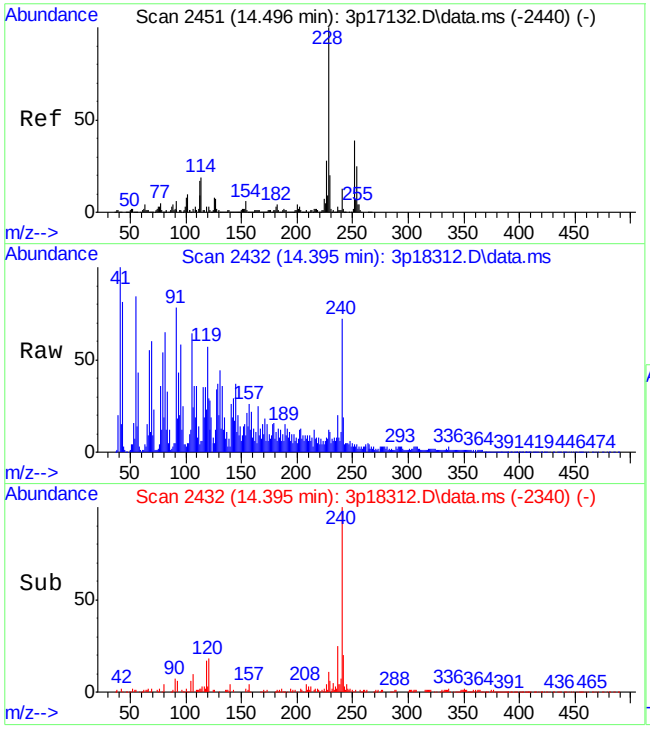


#84
Pyrene
Concen: 3.92 ppb
RT: 12.795 min Scan# 2133
Delta R.T. 0.005 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

Tgt Ion:202 Resp: 38690

Ion	Ratio	Lower	Upper
202	100		
200	17.7	0.0	46.6
203	21.9	0.0	53.5

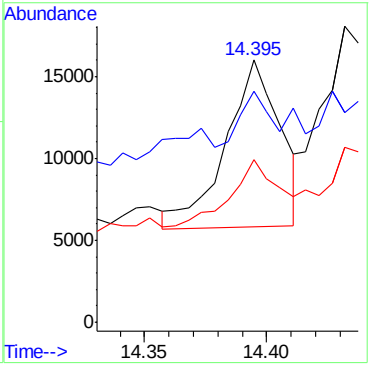


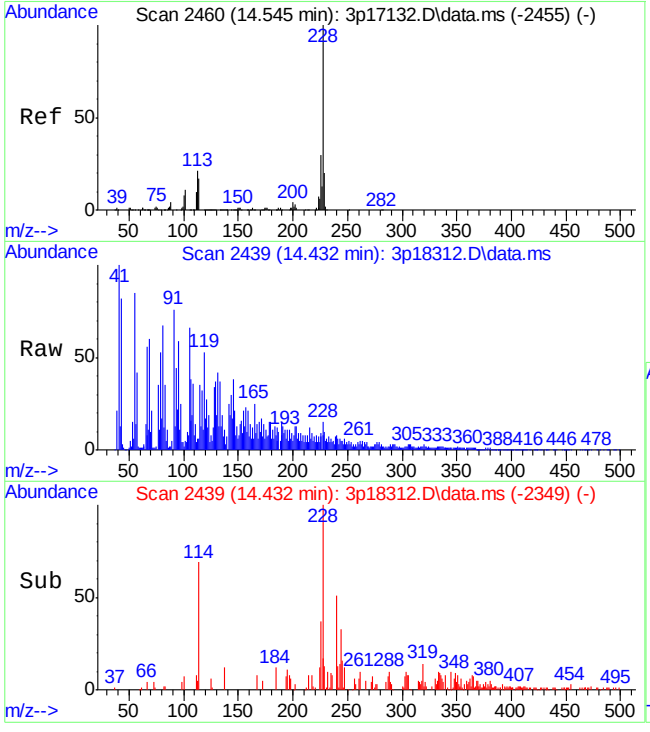


#87
Benzo[a]anthracene
Concen: 1.78 ppb
RT: 14.395 min Scan# 2432
Delta R.T. -0.005 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

Tgt Ion:228 Resp: 15795

Ion	Ratio	Lower	Upper
228	100		
229	26.4	0.0	49.9
226	42.3	0.0	58.4

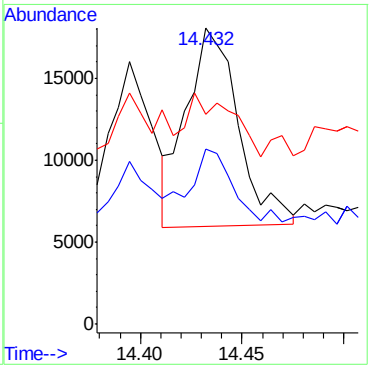




#89
Chrysene
Concen: 2.65 ppb
RT: 14.432 min Scan# 2439
Delta R.T. -0.016 min
Lab File: 3p18312.D
Acq: 2 Apr 2013 9:43 pm

Tgt Ion:228 Resp: 21604

Ion	Ratio	Lower	Upper
228	100		
226	37.2	0.0	59.7
229	12.0	0.0	49.1



9.1.4

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/03/13 13:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18303.D
Acq On : 2 Apr 2013 6:11 pm
Operator : katelynh
Sample : jb31800-4
Misc : op64810,e3p825,30.7
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 03 11:58:50 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	120764	40.00	ppb	-0.07
24) Naphthalene-d8	5.505	136	425002	40.00	ppb	-0.08
47) Acenaphthene-d10	8.206	164	215644	40.00	ppb	-0.08
69) Phenanthrene-d10	10.565	188	332508	40.00	ppb	-0.07
83) Chrysene-d12	14.341	240	366110	40.00	ppb	-0.06
91) Perylene-d12	16.021	264	453483	40.00	ppb	-0.04
101) 1,4-Dichlorobenzene-d4a	3.804	152	120764	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.206	164	215644	40.00	ppb	-0.07
106) Chrysene-d12a	14.341	240	366110	40.00	ppb	-0.04
108) Naphthalene-d8a	5.505	136	425002	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	78531	19.38	ppb	-0.03
Spiked Amount 50.000			Recovery	=	38.76%	
8) Phenol-d5	3.500	99	100845	20.82	ppb	-0.02
Spiked Amount 50.000			Recovery	=	41.64%	
25) Nitrobenzene-d5	4.537	82	69638	19.21	ppb	-0.05
Spiked Amount 50.000			Recovery	=	38.42%	
51) 2-Fluorobiphenyl	7.190	172	165376	24.21	ppb	-0.08
Spiked Amount 50.000			Recovery	=	48.42%	
73) 2,4,6-Tribromophenol	9.506	330	30570	27.19	ppb	-0.07
Spiked Amount 50.000			Recovery	=	54.38%	
85) Terphenyl-d14	12.988	244	197608	25.86	ppb	-0.07
Spiked Amount 50.000			Recovery	=	51.72%	
Target Compounds						Qvalue
38) Naphthalene	5.537	128	88559	7.98	ppb	98
59) Acenaphthene	8.260	153	18118	2.77	ppb	89
66) Fluorene	9.084	166	28388	4.22	ppb	75
77) Phenanthrene	10.603	178	194353	20.82	ppb	99
78) Anthracene	10.693	178	22968	2.46	ppb	92
81) Fluoranthene	12.421	202	26523	2.61	ppb	89
84) Pyrene	12.721	202	146159	12.31	ppb	90
87) Benzo[a]anthracene	14.331	228	27858	2.61	ppb	92
89) Chrysene	14.373	228	35227	3.59	ppb	95
93) Benzo[b]fluoranthene	15.620	252	17753m	1.18	ppb	
94) Benzo[k]fluoranthene	15.641	252	5635m	0.44	ppb	
95) Benzo[a]pyrene	15.962	252	20925	1.64	ppb	93
96) Indeno[1,2,3-cd]pyrene	17.117	276	14465	0.96	ppb	94
98) Dibenz[a,h]anthracene	17.117	278	7235	0.58	ppb	59
100) Benzo[g,h,i]perylene	17.401	276	43391	3.46	ppb	98

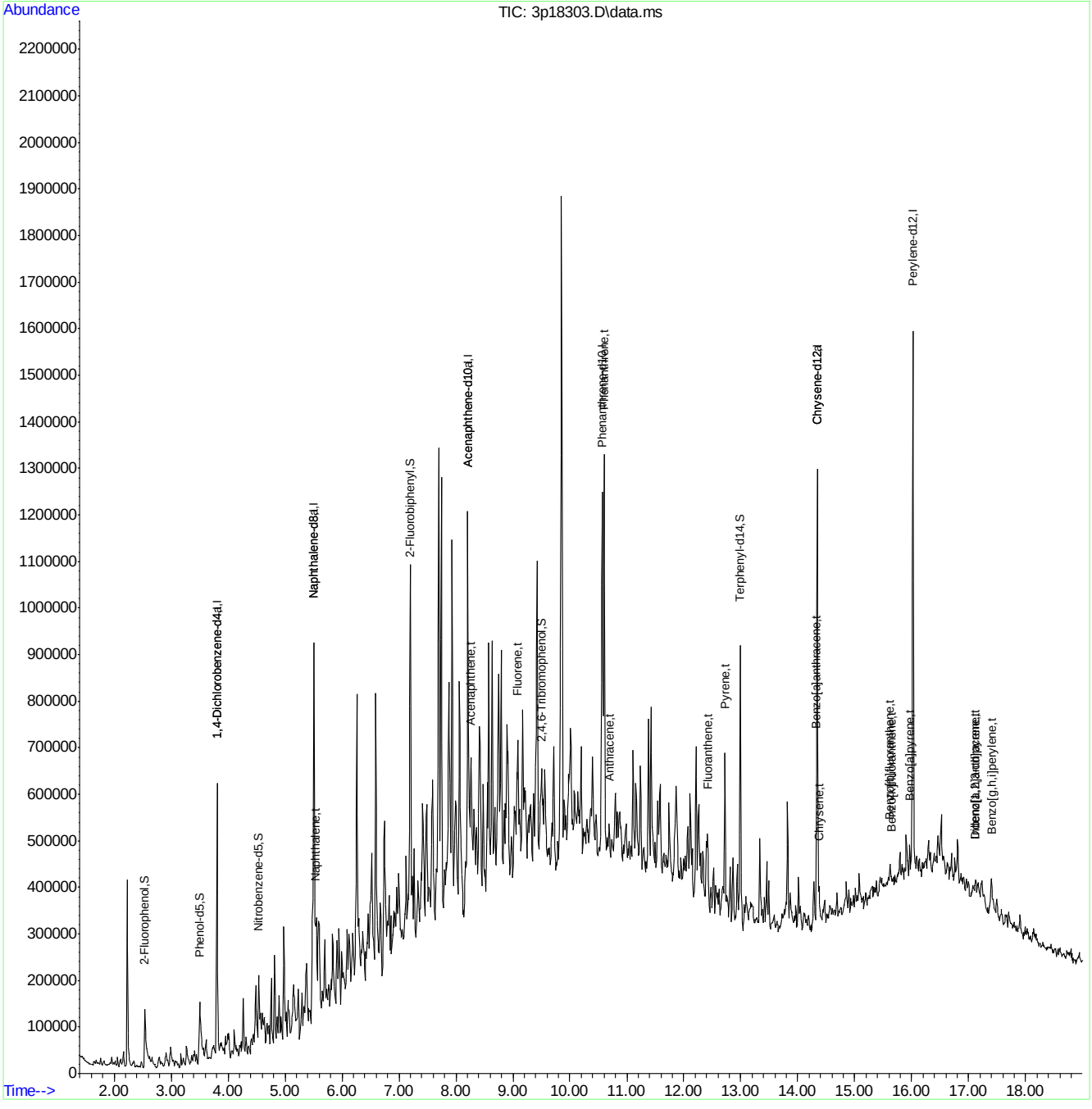
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.1.5
9

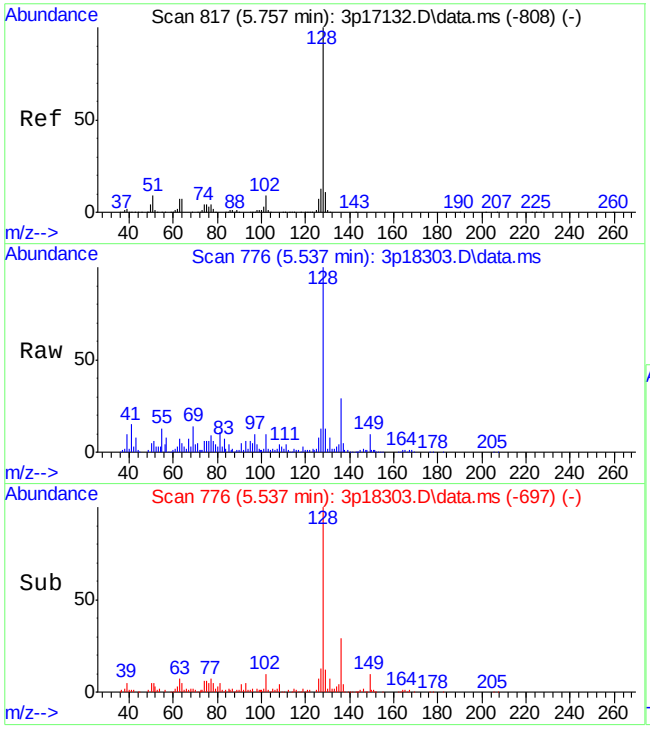
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18303.D
Acq On : 2 Apr 2013 6:11 pm
Operator : katelynh
Sample : jb31800-4
Misc : op64810,e3p825,30.7
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 03 11:58:50 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



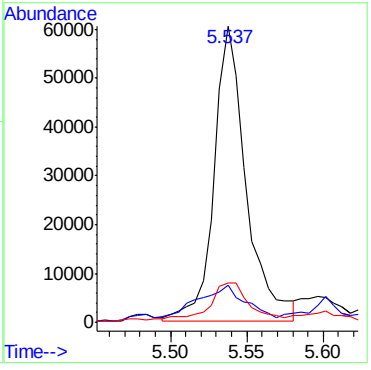
M3P782.M Wed Apr 03 11:58:59 2013 RPT1 Page: 2

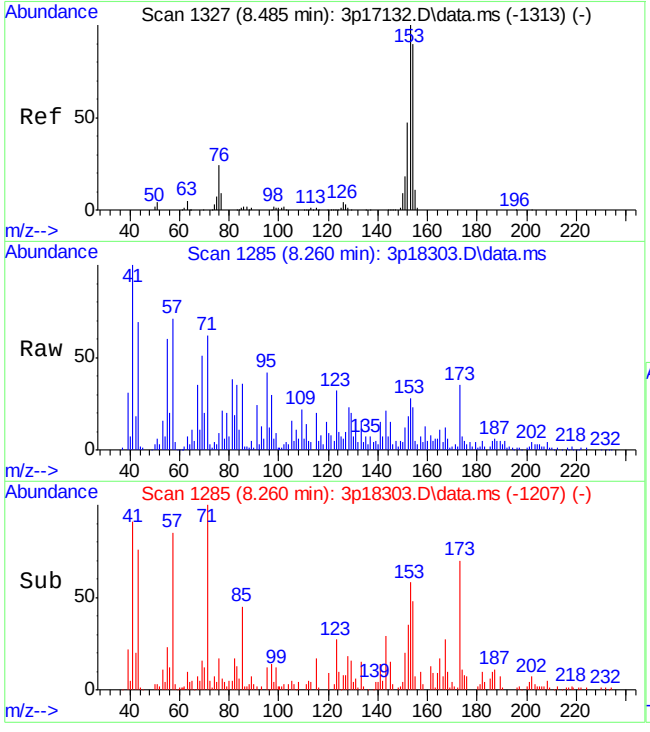


#38
Naphthalene
Concen: 7.98 ppb
RT: 5.537 min Scan# 776
Delta R.T. -0.080 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:128 Resp: 88559

Ion	Ratio	Lower	Upper
128	100		
129	10.3	0.0	40.8
127	12.3	0.0	43.0

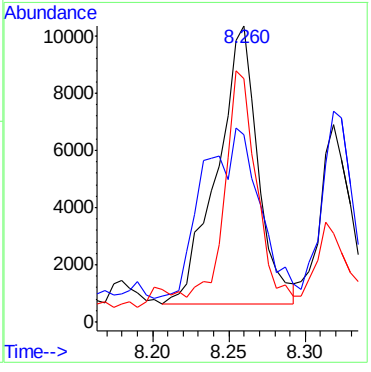


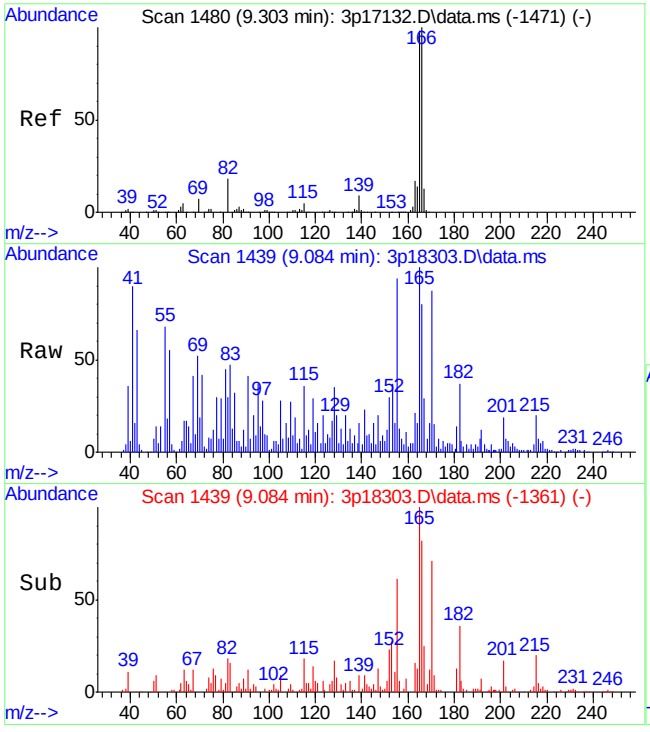


#59
Acenaphthene
Concen: 2.77 ppb
RT: 8.260 min Scan# 1285
Delta R.T. -0.085 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:153 Resp: 18118

Ion	Ratio	Lower	Upper
153	100		
152	58.0	16.8	76.8
154	79.9	57.6	117.6

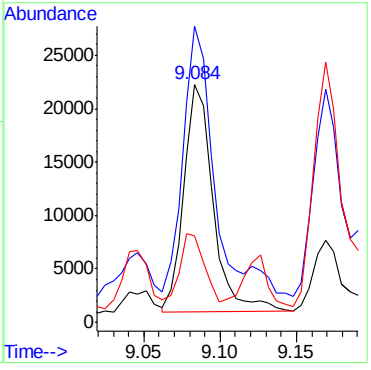


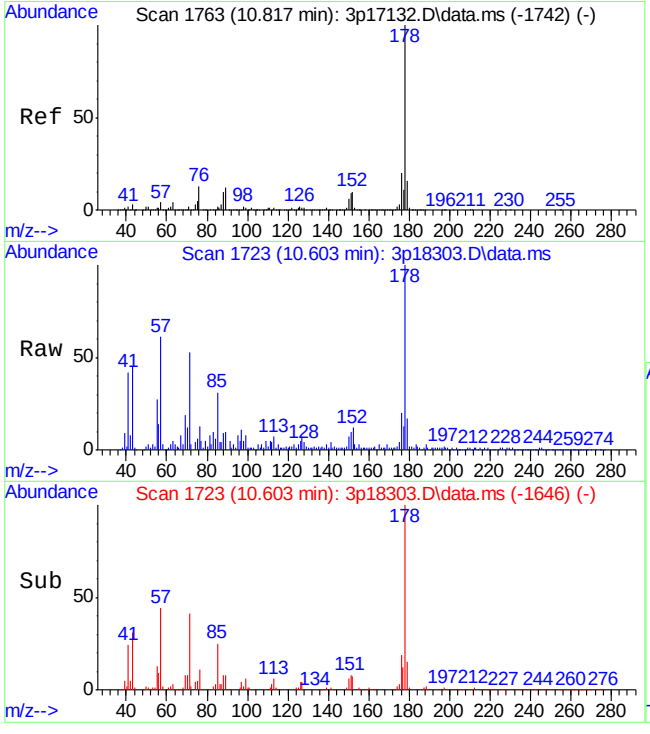


#66
Fluorene
Concen: 4.22 ppb
RT: 9.084 min Scan# 1439
Delta R.T. -0.085 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:166 Resp: 28388

Ion	Ratio	Lower	Upper
166	100		
165	119.4	66.8	126.8
167	30.2	0.0	43.0

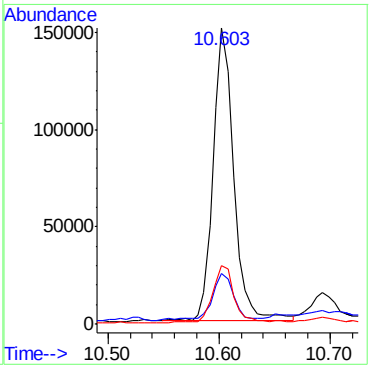


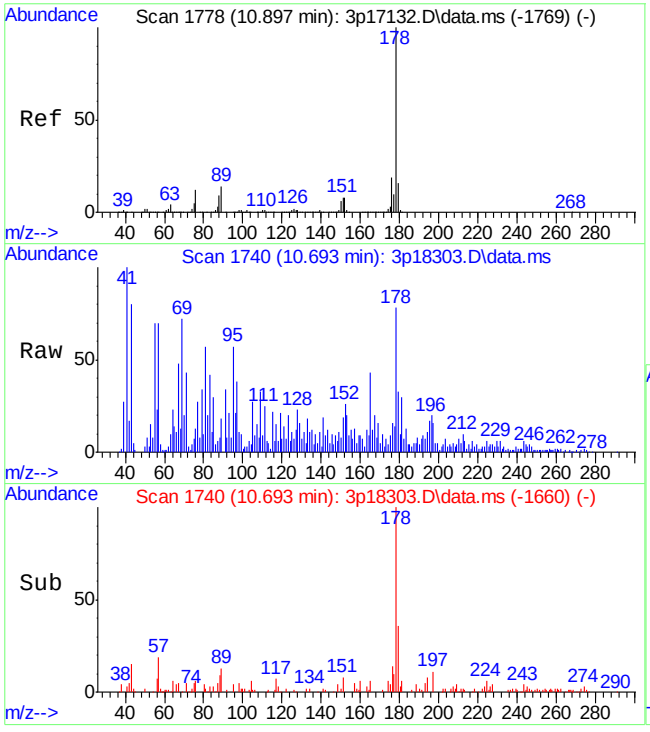


#77
Phenanthrene
Concen: 20.82 ppb
RT: 10.603 min Scan# 1723
Delta R.T. -0.085 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:178 Resp: 194353

Ion	Ratio	Lower	Upper
178	100		
179	15.0	0.0	45.2
176	19.6	0.0	48.9

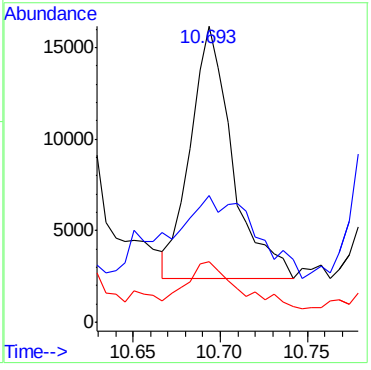


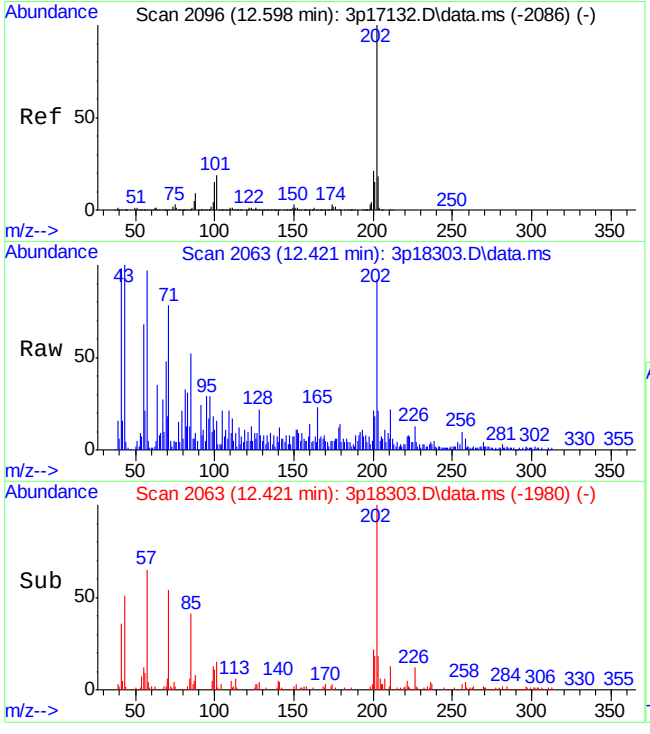


#78
Anthracene
Concen: 2.46 ppb
RT: 10.693 min Scan# 1740
Delta R.T. -0.075 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:178 Resp: 22968

Ion	Ratio	Lower	Upper
178	100		
179	21.1	0.0	44.9
176	17.8	0.0	48.9

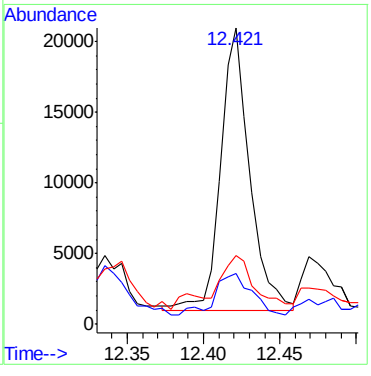


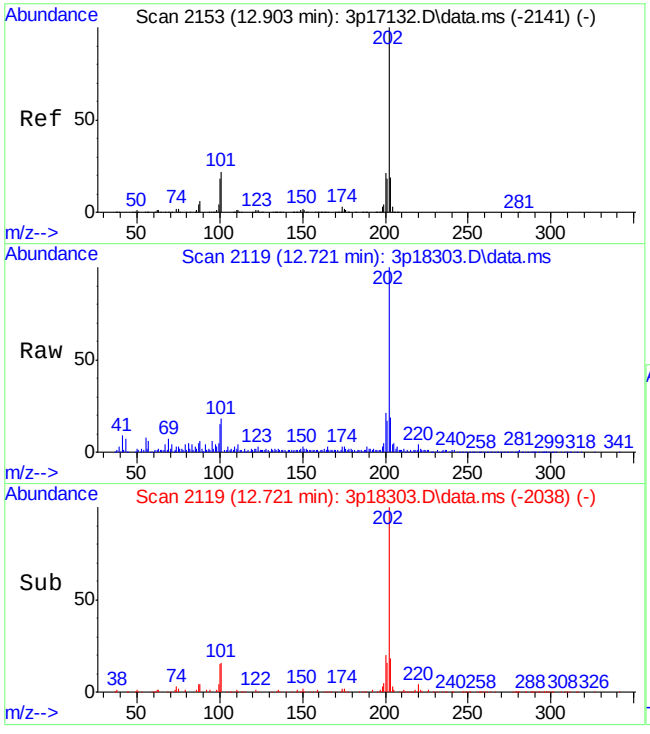


#81
Fluoranthene
Concen: 2.61 ppb
RT: 12.421 min Scan# 2063
Delta R.T. -0.059 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:202 Resp: 26523

Ion	Ratio	Lower	Upper
202	100		
101	17.2	0.0	53.3
203	23.0	0.0	48.9

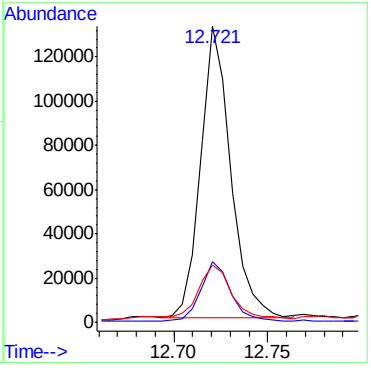


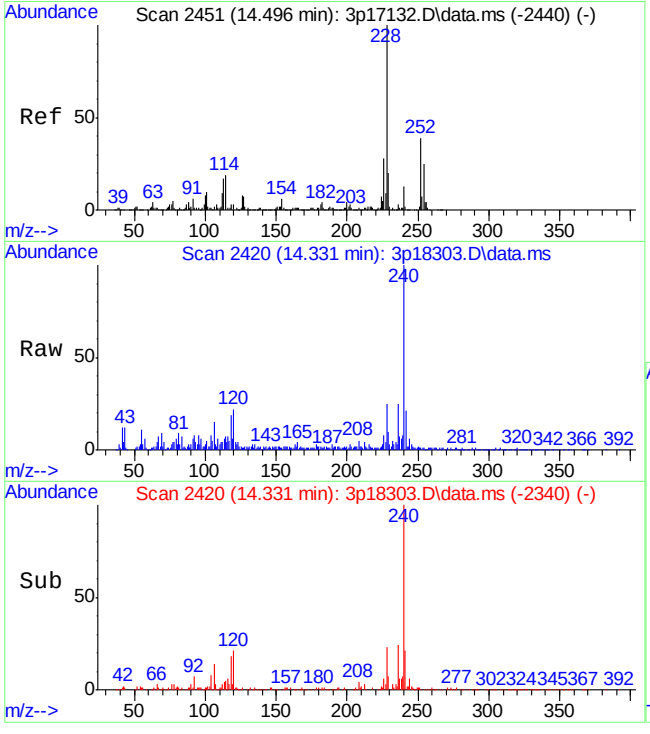


#84
Pyrene
Concen: 12.31 ppb
RT: 12.721 min Scan# 2119
Delta R.T. -0.069 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:202 Resp: 146159

Ion	Ratio	Lower	Upper
202	100		
200	20.5	0.0	46.6
203	18.1	0.0	53.5

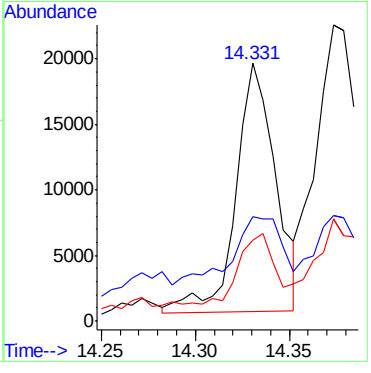


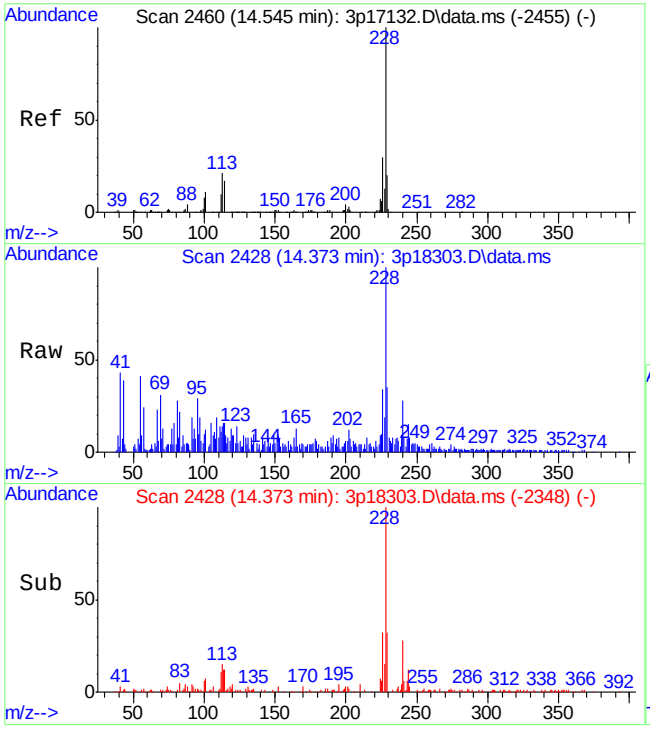


#87
Benzo[a]anthracene
Concen: 2.61 ppb
RT: 14.331 min Scan# 2420
Delta R.T. -0.069 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:228 Resp: 27858

Ion	Ratio	Lower	Upper
228	100		
229	25.9	0.0	49.9
226	25.9	0.0	58.4

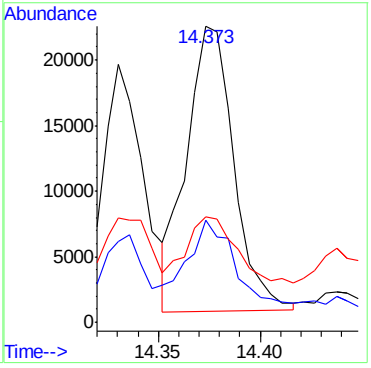


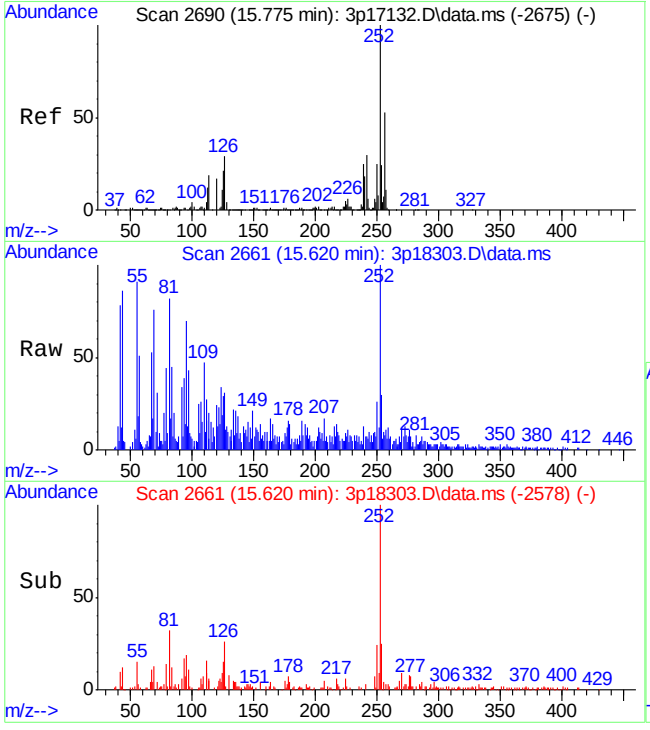


#89
Chrysene
Concen: 3.59 ppb
RT: 14.373 min Scan# 2428
Delta R.T. -0.075 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:228 Resp: 35227

Ion	Ratio	Lower	Upper
228	100		
226	29.9	0.0	59.7
229	24.8	0.0	49.1

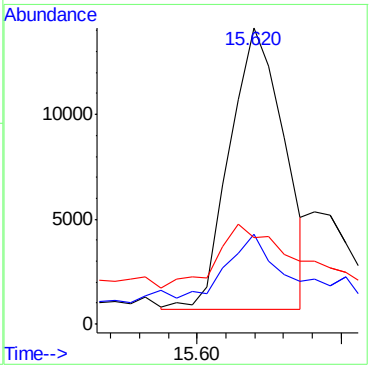


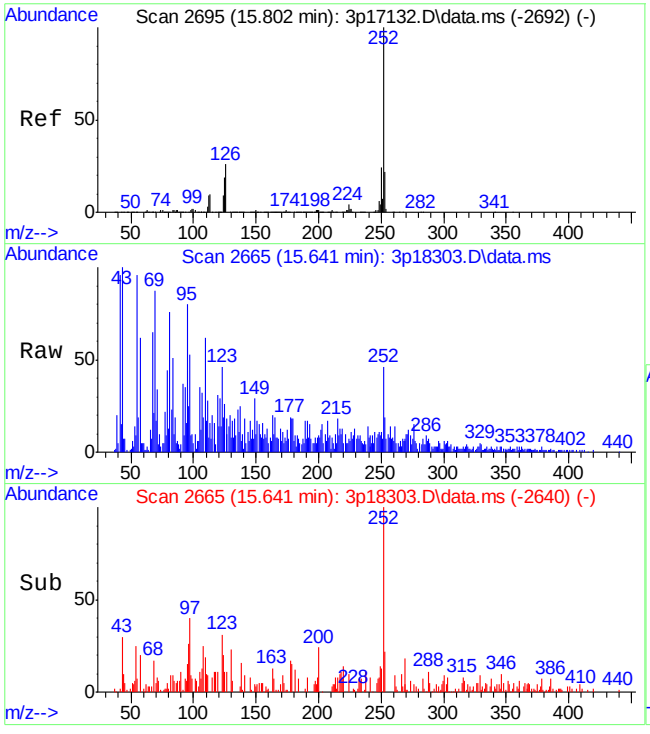


#93
Benzo[b]fluoranthene
Concen: 1.18 ppb m
RT: 15.620 min Scan# 2661
Delta R.T. -0.059 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:252 Resp: 17753

Ion	Ratio	Lower	Upper
252	100		
253	30.4	0.0	51.5
125	29.3	0.0	44.7

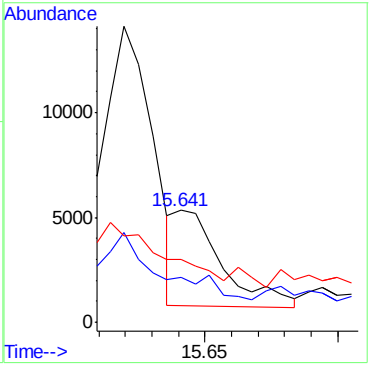


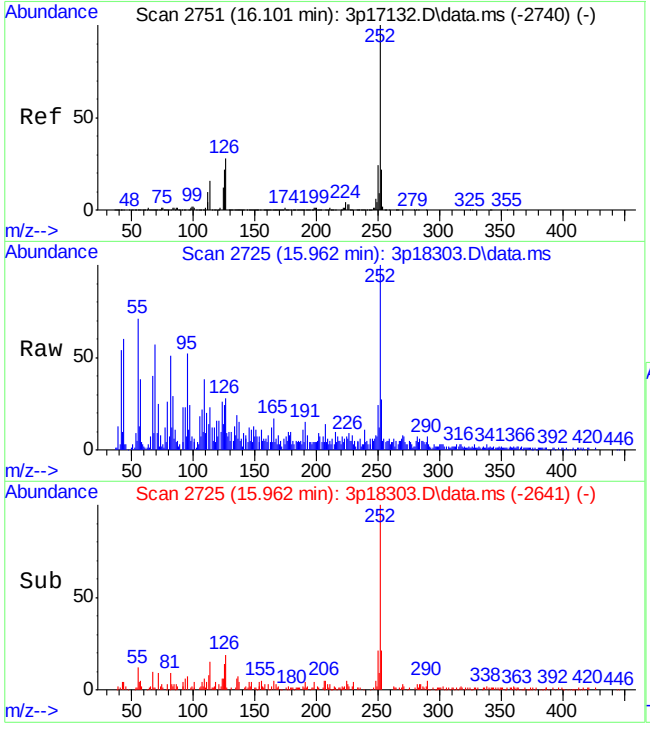


#94
Benzo[k]fluoranthene
Concen: 0.44 ppb m
RT: 15.641 min Scan# 2665
Delta R.T. -0.064 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:252 Resp: 5635

Ion	Ratio	Lower	Upper
252	100		
253	40.7	0.0	52.3
125	56.1	0.0	45.4#

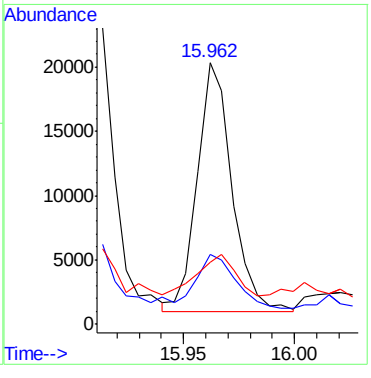


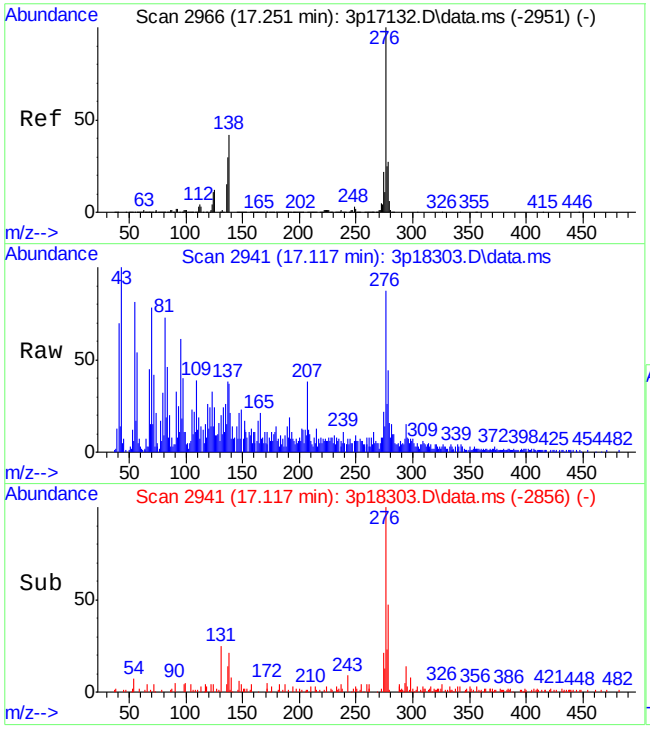


#95
Benzo[a]pyrene
Concen: 1.64 ppb
RT: 15.962 min Scan# 2725
Delta R.T. -0.053 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:252 Resp: 20925

Ion	Ratio	Lower	Upper
252	100		
253	19.9	0.0	52.2
125	12.7	0.0	46.5

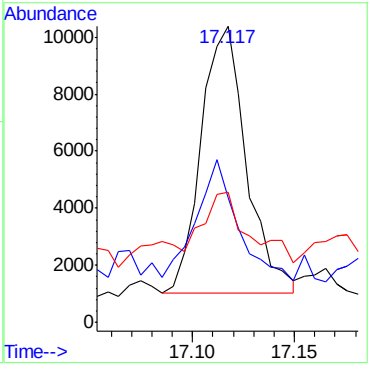


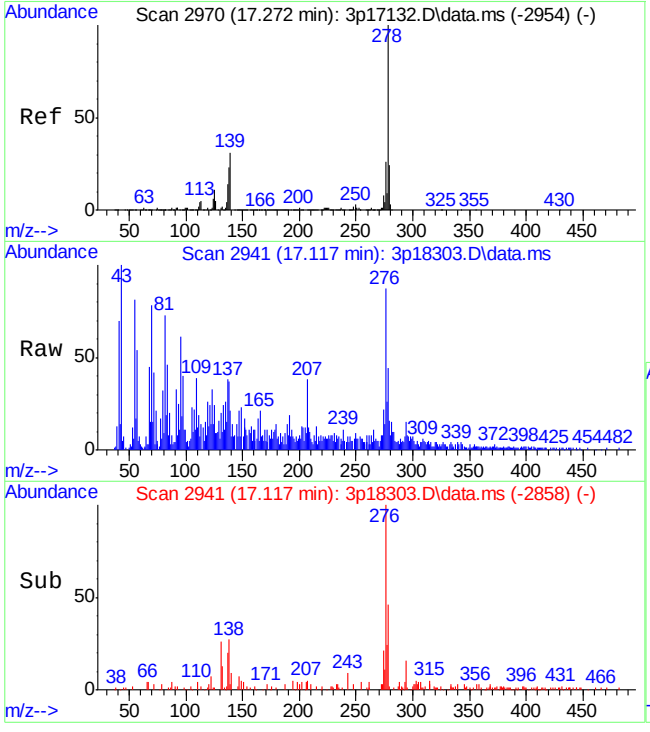


#96
Indeno[1,2,3-cd]pyrene
Concen: 0.96 ppb
RT: 17.117 min Scan# 2941
Delta R.T. -0.043 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:276 Resp: 14465

Ion	Ratio	Lower	Upper
276	100		
138	31.0	4.8	64.8
137	23.0	0.0	55.1

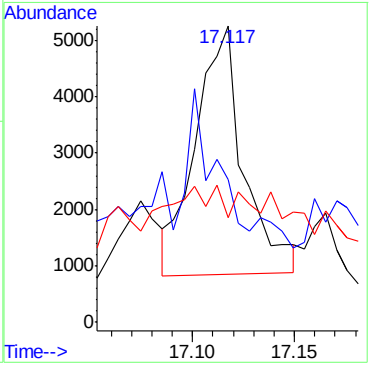


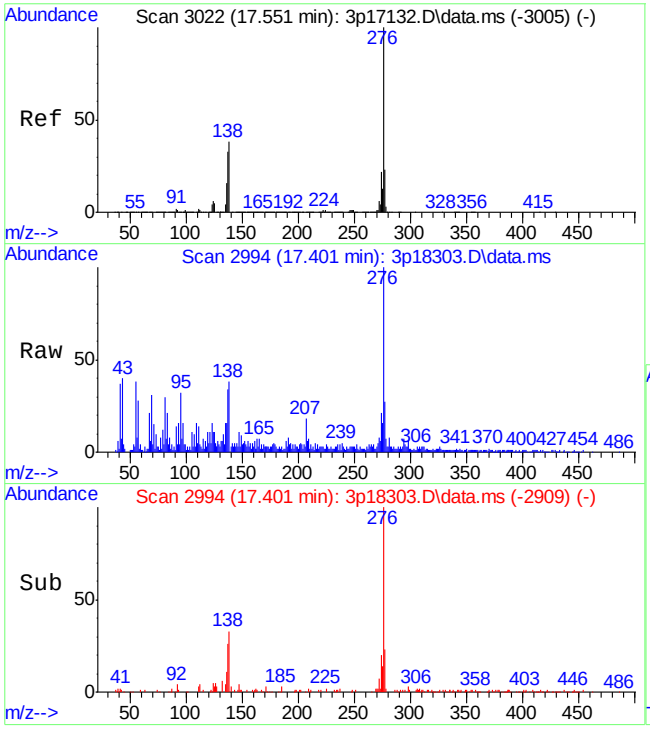


#98
Dibenz[a,h]anthracene
Concen: 0.58 ppb
RT: 17.117 min Scan# 2941
Delta R.T. -0.059 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:278 Resp: 7235

Ion	Ratio	Lower	Upper
278	100		
139	35.1	0.0	50.3
279	0.0	0.0	53.8

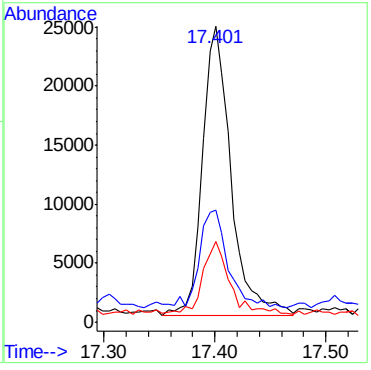




#100
Benzo[g,h,i]perylene
Concen: 3.46 ppb
RT: 17.401 min Scan# 2994
Delta R.T. -0.048 min
Lab File: 3p18303.D
Acq: 2 Apr 2013 6:11 pm

Tgt Ion:276 Resp: 43391

Ion	Ratio	Lower	Upper
276	100		
138	32.9	1.5	61.5
277	25.2	0.0	54.1



9.1.5

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/03/13 13:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18304.D
Acq On : 2 Apr 2013 6:35 pm
Operator : katelynh
Sample : jb31800-5
Misc : op64810,e3p825,31.0
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 03 11:59:59 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

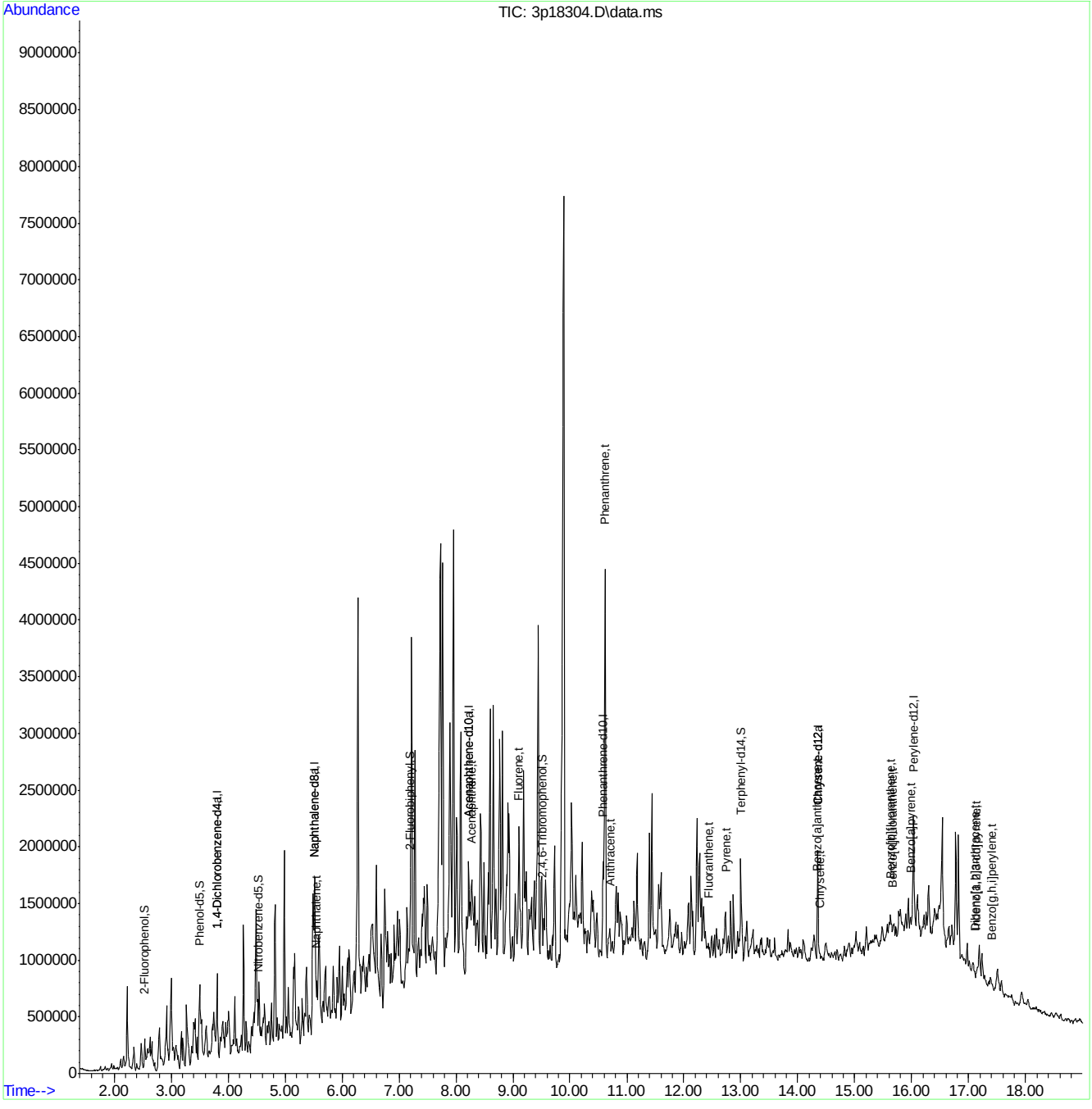
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.805	152	112532	40.00	ppb	-0.07
24) Naphthalene-d8	5.511	136	401750	40.00	ppb	-0.07
47) Acenaphthene-d10	8.223	164	198784	40.00	ppb	-0.06
69) Phenanthrene-d10	10.581	188	320989	40.00	ppb	-0.06
83) Chrysene-d12	14.352	240	355192	40.00	ppb	-0.05
91) Perylene-d12	16.032	264	357612	40.00	ppb	-0.03
101) 1,4-Dichlorobenzene-d4a	3.805	152	112532	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.223	164	198784	40.00	ppb	-0.05
106) Chrysene-d12a	14.352	240	355192	40.00	ppb	-0.03
108) Naphthalene-d8a	5.511	136	401750	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	103747	27.48	ppb	-0.03
Spiked Amount 50.000			Recovery	=	54.96%	
8) Phenol-d5	3.494	99	126951	28.13	ppb	-0.03
Spiked Amount 50.000			Recovery	=	56.26%	
25) Nitrobenzene-d5	4.532	82	86870	25.35	ppb	-0.06
Spiked Amount 50.000			Recovery	=	50.70%	
51) 2-Fluorobiphenyl	7.196	172	208648	33.14	ppb	-0.07
Spiked Amount 50.000			Recovery	=	66.28%	
73) 2,4,6-Tribromophenol	9.517	330	35839	33.02	ppb	-0.06
Spiked Amount 50.000			Recovery	=	66.04%	
85) Terphenyl-d14	12.999	244	242996	32.78	ppb	-0.06
Spiked Amount 50.000			Recovery	=	65.56%	
Target Compounds						Qvalue
38) Naphthalene	5.543	128	138636	13.22	ppb	100
59) Acenaphthene	8.271	153	83154	13.77	ppb	95
66) Fluorene	9.100	166	135487	21.85	ppb	92
77) Phenanthrene	10.619	178	472178	52.39	ppb	97
78) Anthracene	10.704	178	88739	9.83	ppb	73
81) Fluoranthene	12.432	202	30881	3.14	ppb	84
84) Pyrene	12.737	202	129649	11.25	ppb	92
87) Benzo[a]anthracene	14.341	228	21132	2.04	ppb	81
89) Chrysene	14.384	228	32926	3.46	ppb	85
93) Benzo[b]fluoranthene	15.636	252	16903m	1.43	ppb	
94) Benzo[k]fluoranthene	15.657	252	4833m	0.48	ppb	
95) Benzo[a]pyrene	15.978	252	12898	1.28	ppb	81
96) Indeno[1,2,3-cd]pyrene	17.128	276	10754	0.91	ppb	64
98) Dibenz[a,h]anthracene	17.117	278	8218	0.84	ppb	87
100) Benzo[g,h,i]perylene	17.411	276	23245	2.35	ppb	89

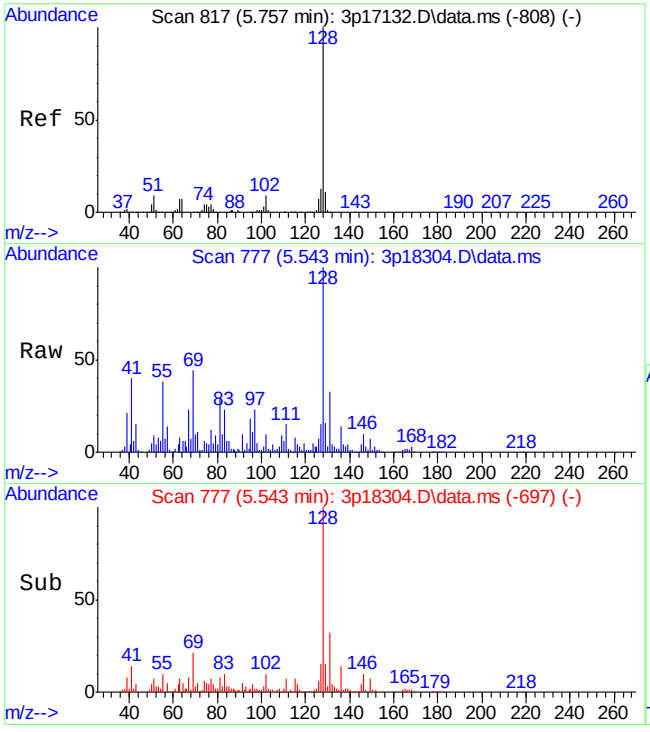
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18304.D
Acq On : 2 Apr 2013 6:35 pm
Operator : katelynh
Sample : jb31800-5
Misc : op64810,e3p825,31.0
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 03 11:59:59 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

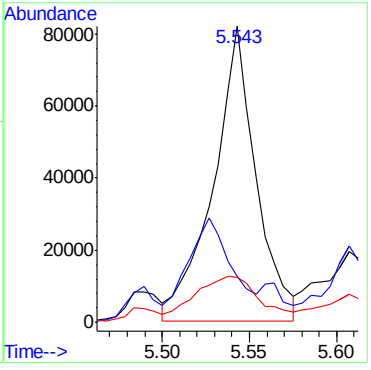


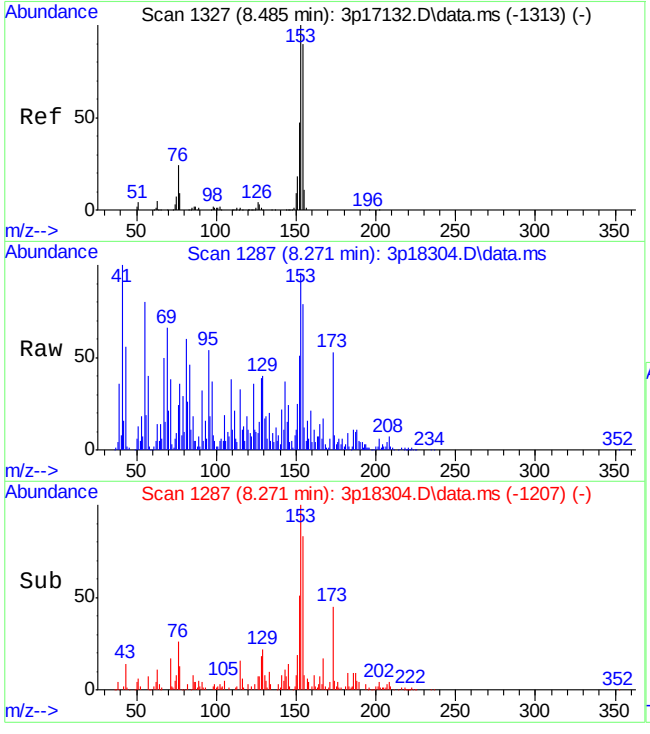


#38
Naphthalene
Concen: 13.22 ppb
RT: 5.543 min Scan# 777
Delta R.T. -0.075 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:128 Resp: 138636

Ion	Ratio	Lower	Upper
128	100		
129	10.9	0.0	40.8
127	13.0	0.0	43.0

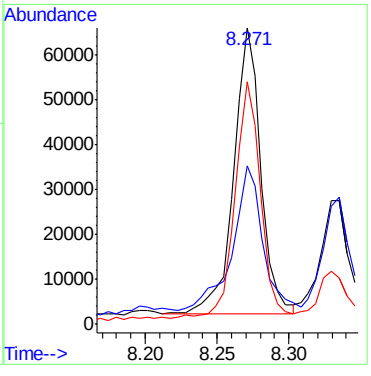


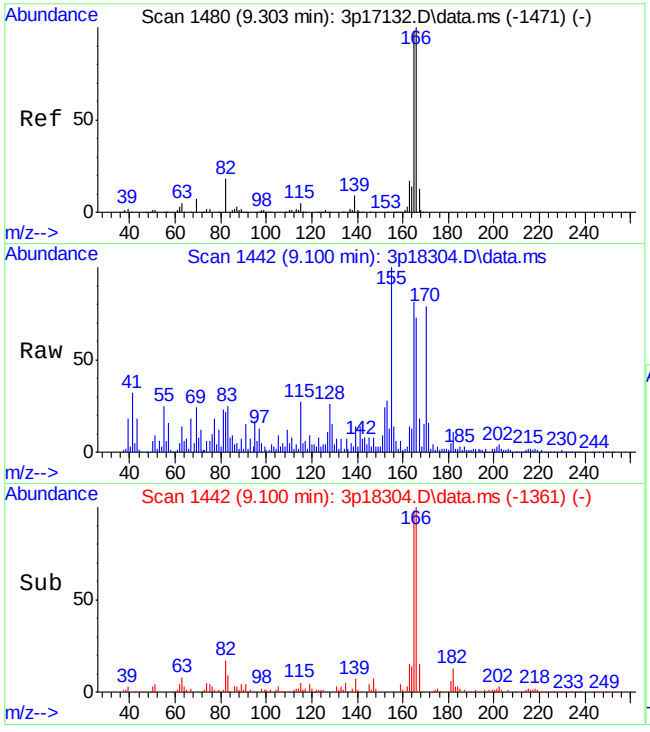


#59
Acenaphthene
Concen: 13.77 ppb
RT: 8.271 min Scan# 1287
Delta R.T. -0.075 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:153 Resp: 83154

Ion	Ratio	Lower	Upper
153	100		
152	49.7	16.8	76.8
154	83.2	57.6	117.6

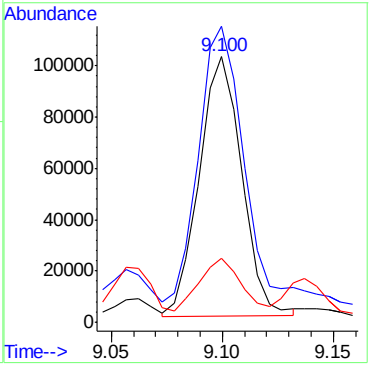


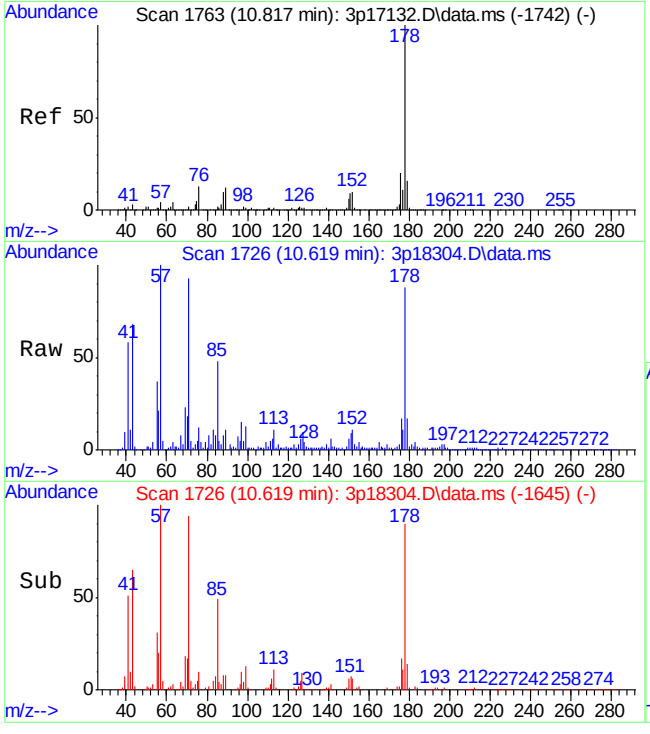


#66
Fluorene
Concen: 21.85 ppb
RT: 9.100 min Scan# 1442
Delta R.T. -0.069 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:166 Resp: 135487

Ion	Ratio	Lower	Upper
166	100		
165	105.6	66.8	126.8
167	14.7	0.0	43.0

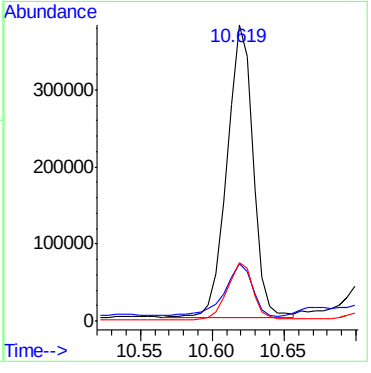


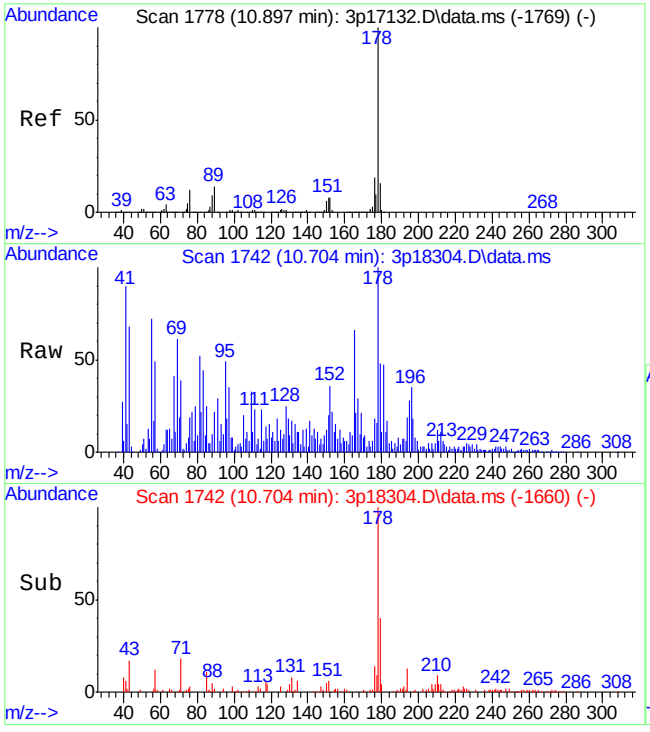


#77
Phenanthrene
Concen: 52.39 ppb
RT: 10.619 min Scan# 1726
Delta R.T. -0.069 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:178 Resp: 472178

Ion	Ratio	Lower	Upper
178	100		
179	17.4	0.0	45.2
176	19.4	0.0	48.9

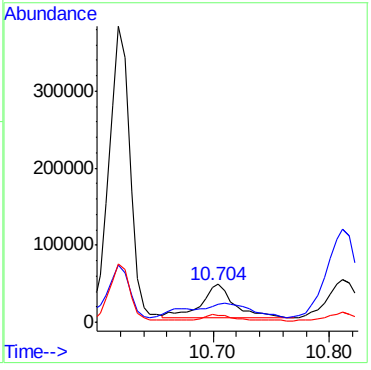


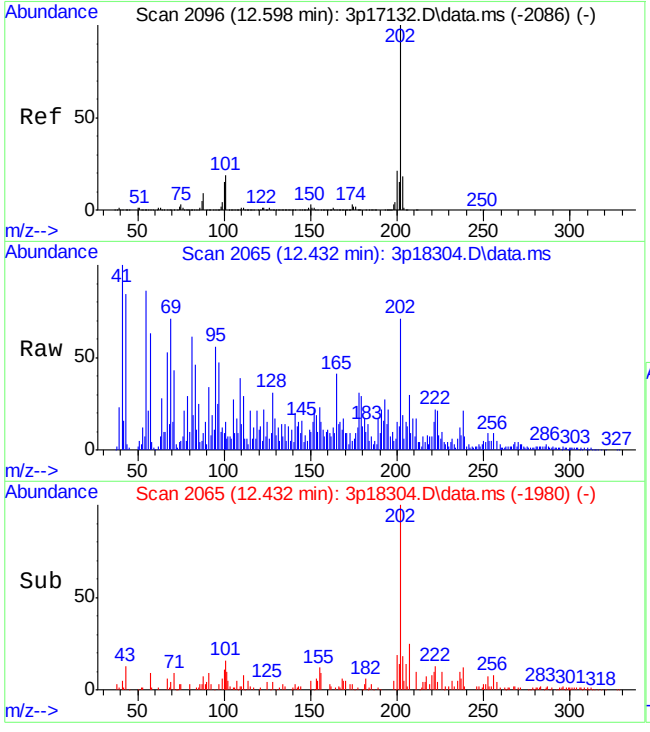


#78
Anthracene
Concen: 9.83 ppb
RT: 10.704 min Scan# 1742
Delta R.T. -0.064 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:178 Resp: 88739

Ion	Ratio	Lower	Upper
178	100		
179	36.9	0.0	44.9
176	15.6	0.0	48.9

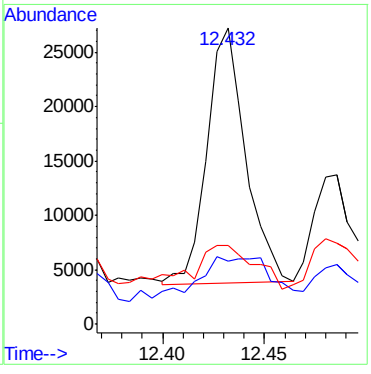


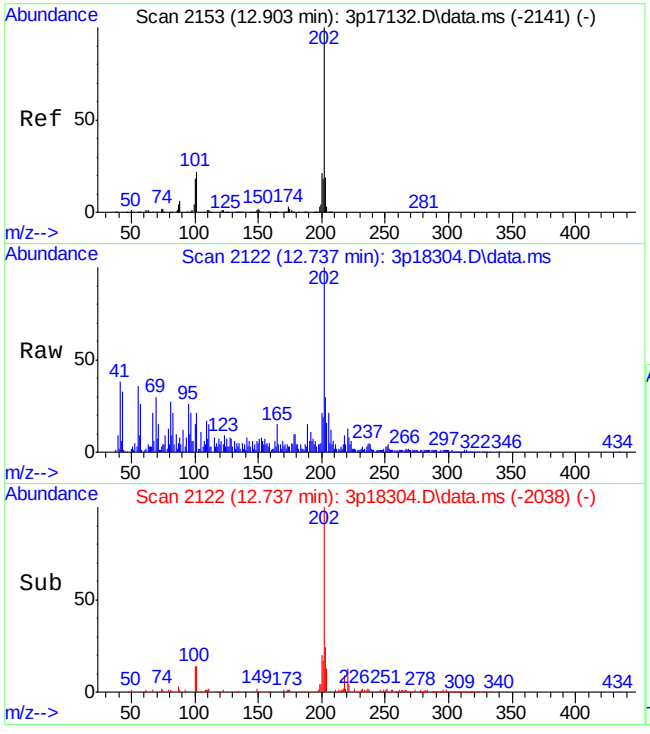


#81
Fluoranthene
Concen: 3.14 ppb
RT: 12.432 min Scan# 2065
Delta R.T. -0.048 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:202 Resp: 30881

Ion	Ratio	Lower	Upper
202	100		
101	30.2	0.0	53.3
203	26.6	0.0	48.9

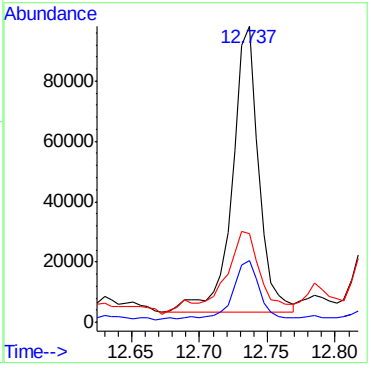


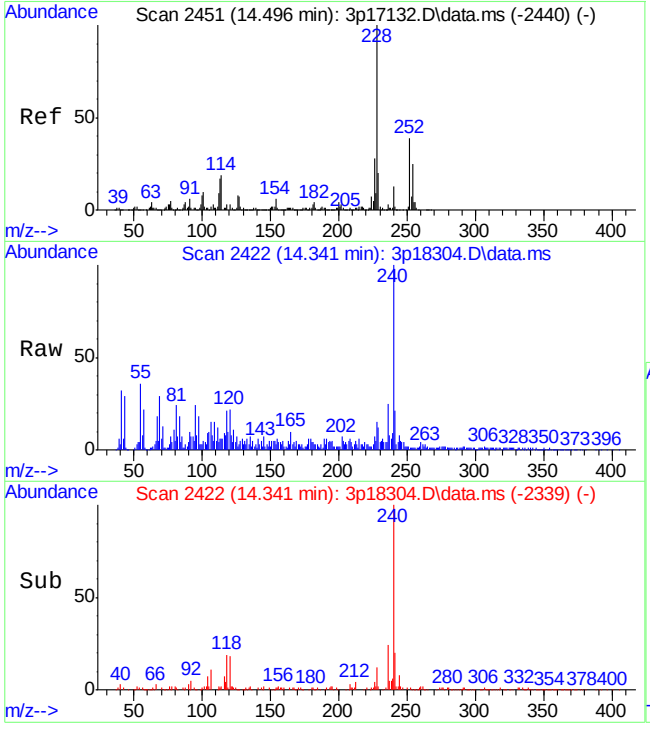


#84
Pyrene
Concen: 11.25 ppb
RT: 12.737 min Scan# 2122
Delta R.T. -0.053 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:202 Resp: 129649

Ion	Ratio	Lower	Upper
202	100		
200	20.6	0.0	46.6
203	26.8	0.0	53.5

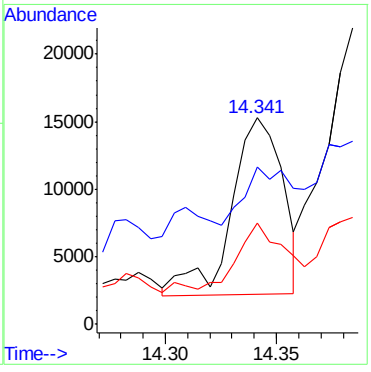


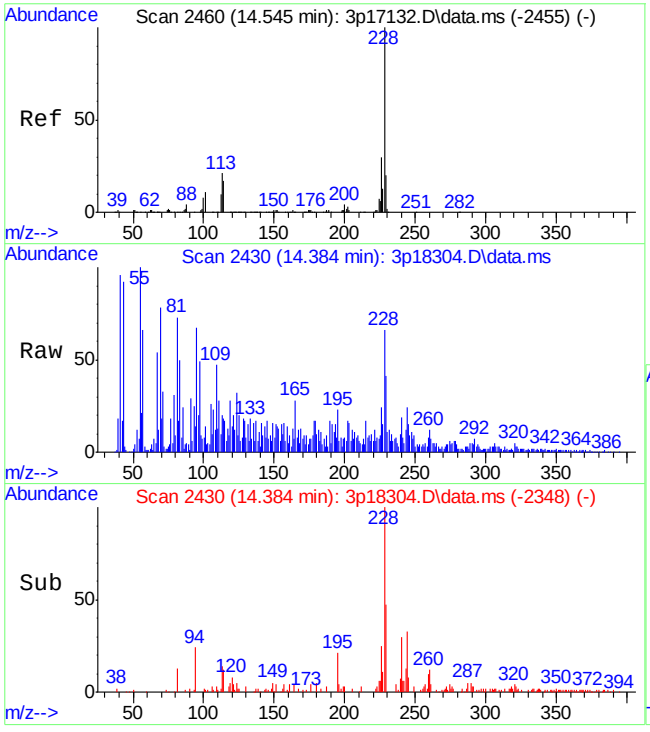


#87
Benzo[a]anthracene
Concen: 2.04 ppb
RT: 14.341 min Scan# 2422
Delta R.T. -0.059 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:228 Resp: 21132

Ion	Ratio	Lower	Upper
228	100		
229	31.3	0.0	49.9
226	36.6	0.0	58.4

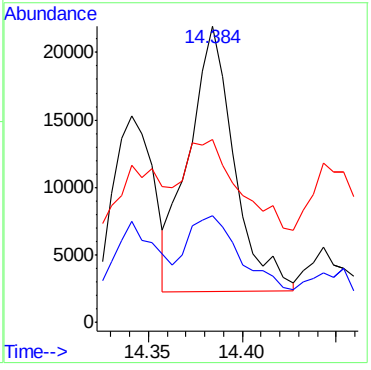


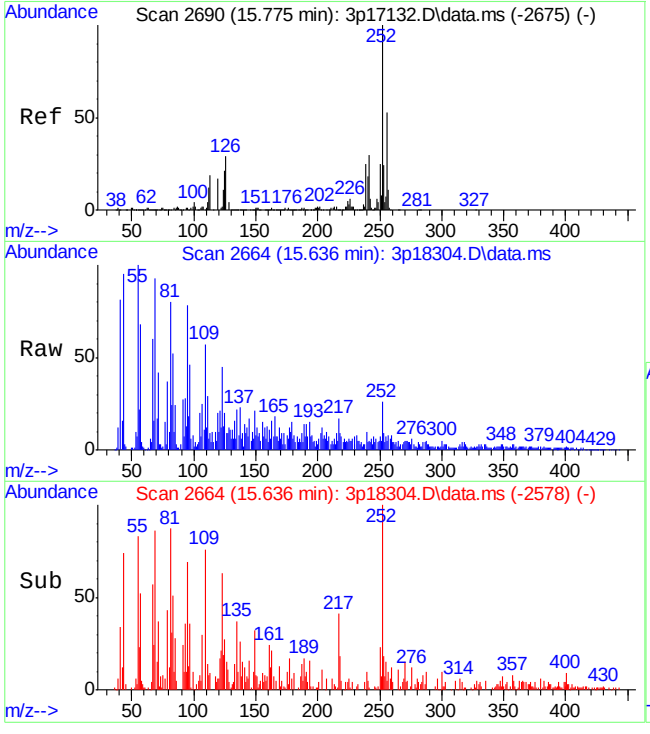


#89
Chrysene
Concen: 3.46 ppb
RT: 14.384 min Scan# 2430
Delta R.T. -0.064 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:228 Resp: 32926

Ion	Ratio	Lower	Upper
228	100		
226	24.2	0.0	59.7
229	29.7	0.0	49.1

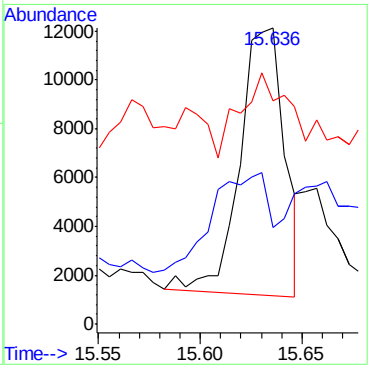


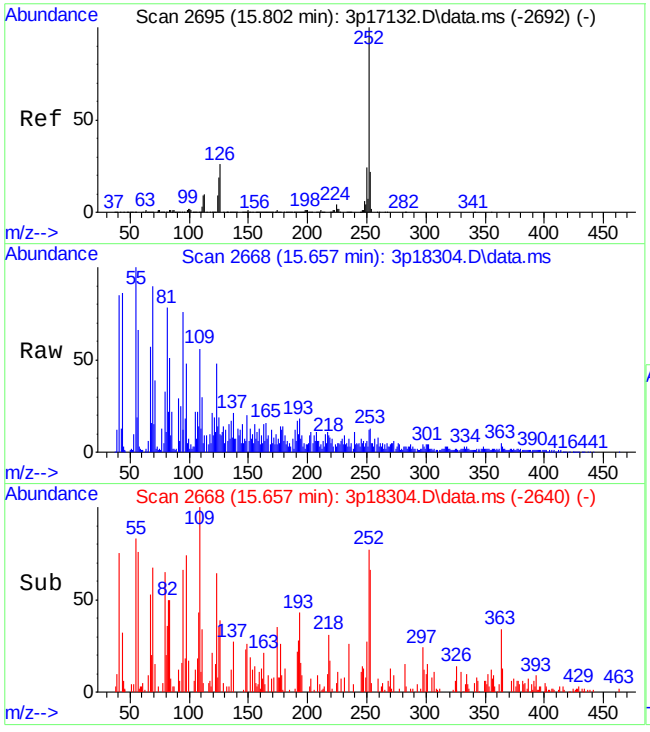


#93
Benzo[b]fluoranthene
Concen: 1.43 ppb m
RT: 15.636 min Scan# 2664
Delta R.T. -0.043 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:252 Resp: 16903

Ion	Ratio	Lower	Upper
252	100		
253	32.7	0.0	51.5
125	75.3	0.0	44.7#

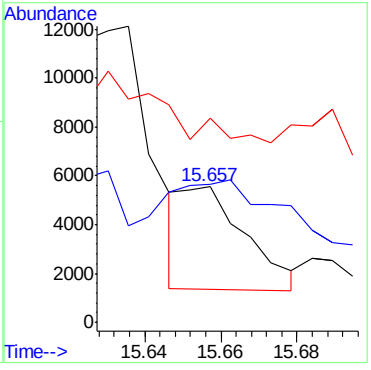


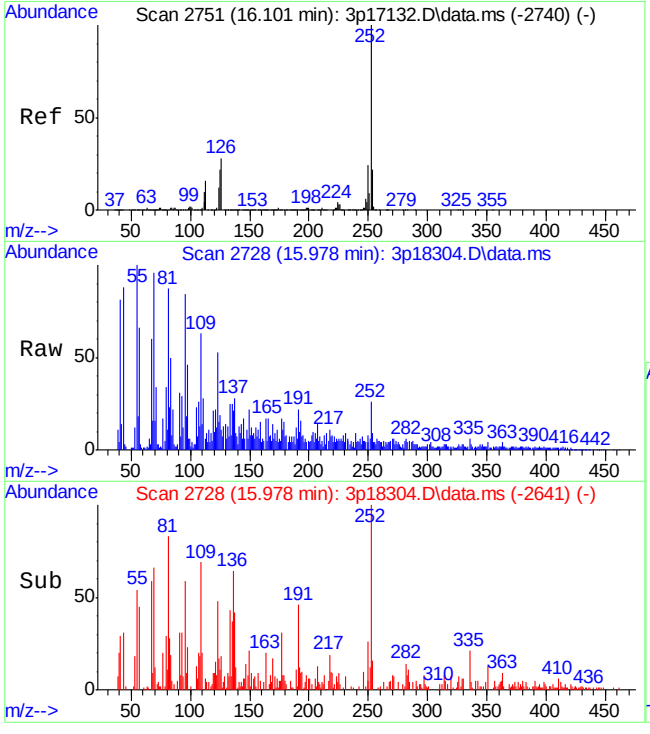


#94
Benzo[k]fluoranthene
Concen: 0.48 ppb m
RT: 15.657 min Scan# 2668
Delta R.T. -0.048 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:252 Resp: 4833

Ion	Ratio	Lower	Upper
252	100		
253	101.5	0.0	52.3#
125	150.0	0.0	45.4#

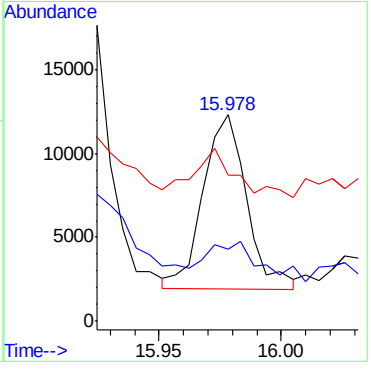


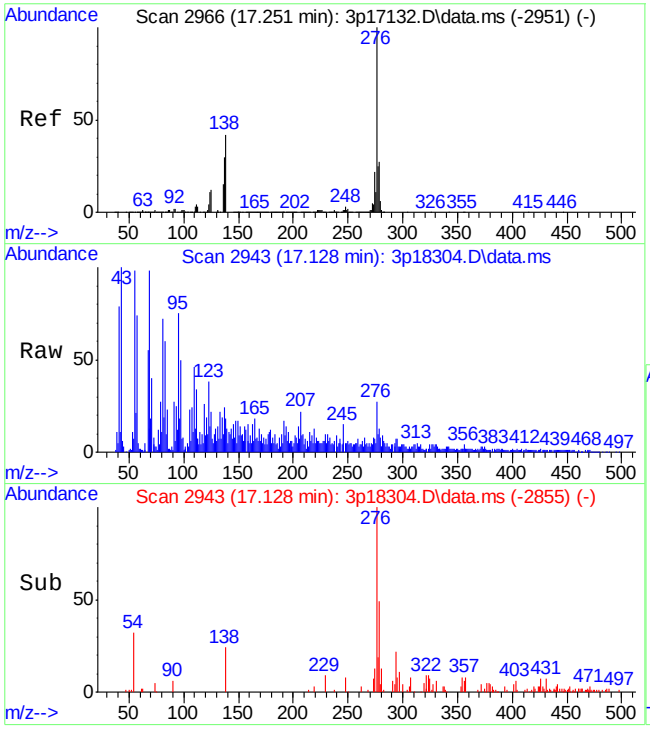


#95
Benzo[a]pyrene
Concen: 1.28 ppb
RT: 15.978 min Scan# 2728
Delta R.T. -0.037 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:252 Resp: 12898

Ion	Ratio	Lower	Upper
252	100		
253	10.6	0.0	52.2
125	11.1	0.0	46.5

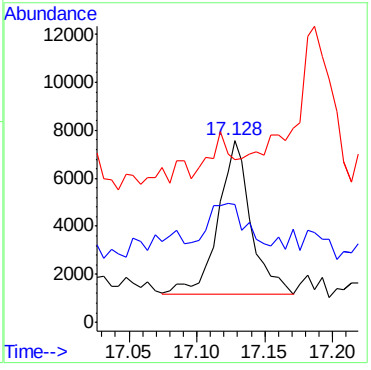


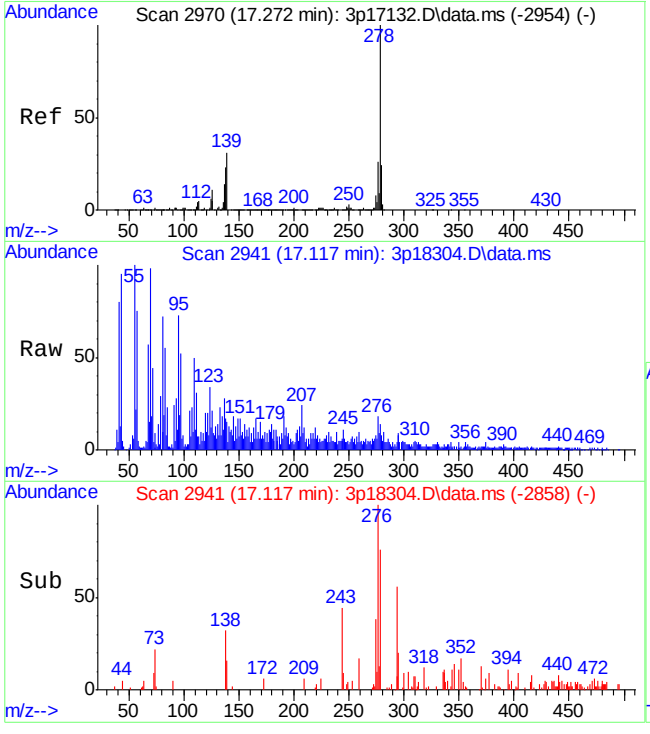


#96
Indeno[1,2,3-cd]pyrene
Concen: 0.91 ppb
RT: 17.128 min Scan# 2943
Delta R.T. -0.032 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:276 Resp: 10754

Ion	Ratio	Lower	Upper
276	100		
138	20.2	4.8	64.8
137	0.0	0.0	55.1

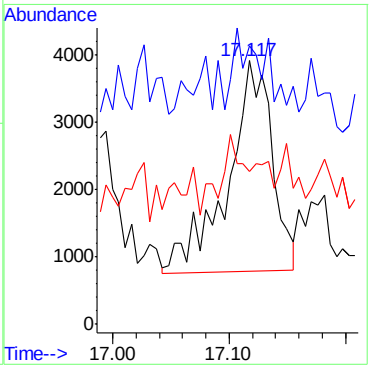


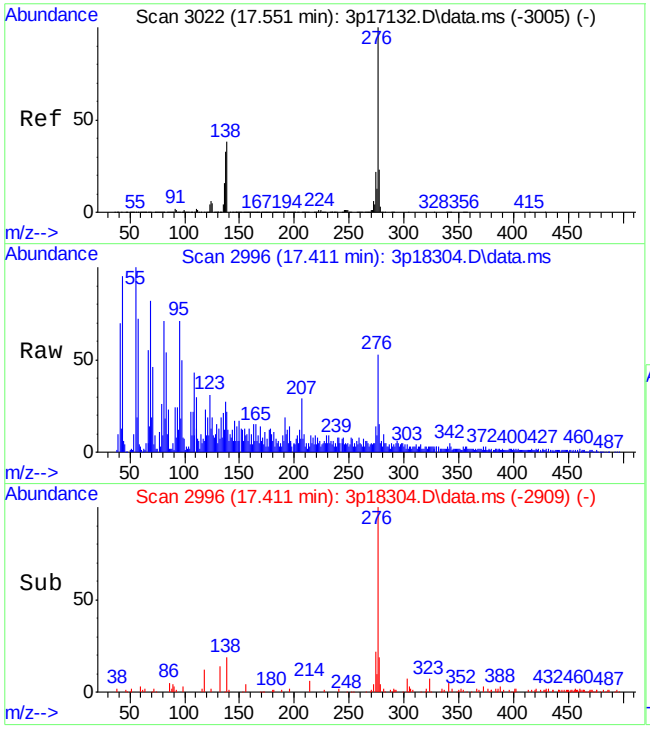


#98
Dibenz[a,h]anthracene
Concen: 0.84 ppb
RT: 17.117 min Scan# 2941
Delta R.T. -0.059 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:278 Resp: 8218

Ion	Ratio	Lower	Upper
278	100		
139	18.0	0.0	50.3
279	14.4	0.0	53.8

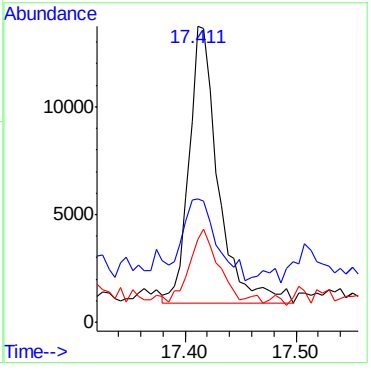




#100
Benzo[g,h,i]perylene
Concen: 2.35 ppb
RT: 17.411 min Scan# 2996
Delta R.T. -0.037 min
Lab File: 3p18304.D
Acq: 2 Apr 2013 6:35 pm

Tgt Ion:276 Resp: 23245

Ion	Ratio	Lower	Upper
276	100		
138	23.0	1.5	61.5
277	21.1	0.0	54.1



9.1.6

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/08/13 11:47

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18305.D
Acq On : 2 Apr 2013 6:58 pm
Operator : katelynh
Sample : jb31800-6
Misc : op64810,e3p825,33.7
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 03 12:01:24 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	125395	40.00	ppb	-0.07
24) Naphthalene-d8	5.511	136	445880	40.00	ppb	-0.07
47) Acenaphthene-d10	8.222	164	219841	40.00	ppb	-0.06
69) Phenanthrene-d10	10.586	188	346643	40.00	ppb	-0.05
83) Chrysene-d12	14.347	240	383748	40.00	ppb	-0.05
91) Perylene-d12	16.021	264	364963	40.00	ppb	-0.04
101) 1,4-Dichlorobenzene-d4a	3.804	152	125395	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.222	164	219841	40.00	ppb	-0.05
106) Chrysene-d12a	14.347	240	383748	40.00	ppb	-0.04
108) Naphthalene-d8a	5.511	136	445880	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	94827	22.54	ppb	-0.03
Spiked Amount 50.000			Recovery	=	45.08%	
8) Phenol-d5	3.494	99	116116	23.09	ppb	-0.03
Spiked Amount 50.000			Recovery	=	46.18%	
25) Nitrobenzene-d5	4.537	82	95643	25.15	ppb	-0.05
Spiked Amount 50.000			Recovery	=	50.30%	
51) 2-Fluorobiphenyl	7.201	172	224610	32.26	ppb	-0.07
Spiked Amount 50.000			Recovery	=	64.52%	
73) 2,4,6-Tribromophenol	9.527	330	39562	33.76	ppb	-0.05
Spiked Amount 50.000			Recovery	=	67.52%	
85) Terphenyl-d14	13.004	244	275762	34.43	ppb	-0.05
Spiked Amount 50.000			Recovery	=	68.86%	
Target Compounds						Qvalue
38) Naphthalene	5.543	128	509308	43.76	ppb	97
59) Acenaphthene	8.276	153	342350	51.27	ppb	94
66) Fluorene	9.110	166	443039	64.61	ppb	87
77) Phenanthrene	10.635	178	1646049	169.12	ppb	98
78) Anthracene	10.709	178	282983	29.02	ppb	77
81) Fluoranthene	12.432	202	70646	6.66	ppb	94
84) Pyrene	12.737	202	347923	27.95	ppb	83
87) Benzo[a]anthracene	14.336	228	38816	3.46	ppb	78
89) Chrysene	14.379	228	42318m	4.12	ppb	
93) Benzo[b]fluoranthene	15.619	252	17637m	1.46	ppb	
94) Benzo[k]fluoranthene	15.646	252	4152m	0.41	ppb	
95) Benzo[a]pyrene	15.962	252	20280	1.97	ppb	91
96) Indeno[1,2,3-cd]pyrene	17.112	276	13835	1.14	ppb	79
98) Dibenz[a,h]anthracene	17.106	278	13540	1.36	ppb	94
100) Benzo[g,h,i]perylene	17.401	276	23727	2.35	ppb	94

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

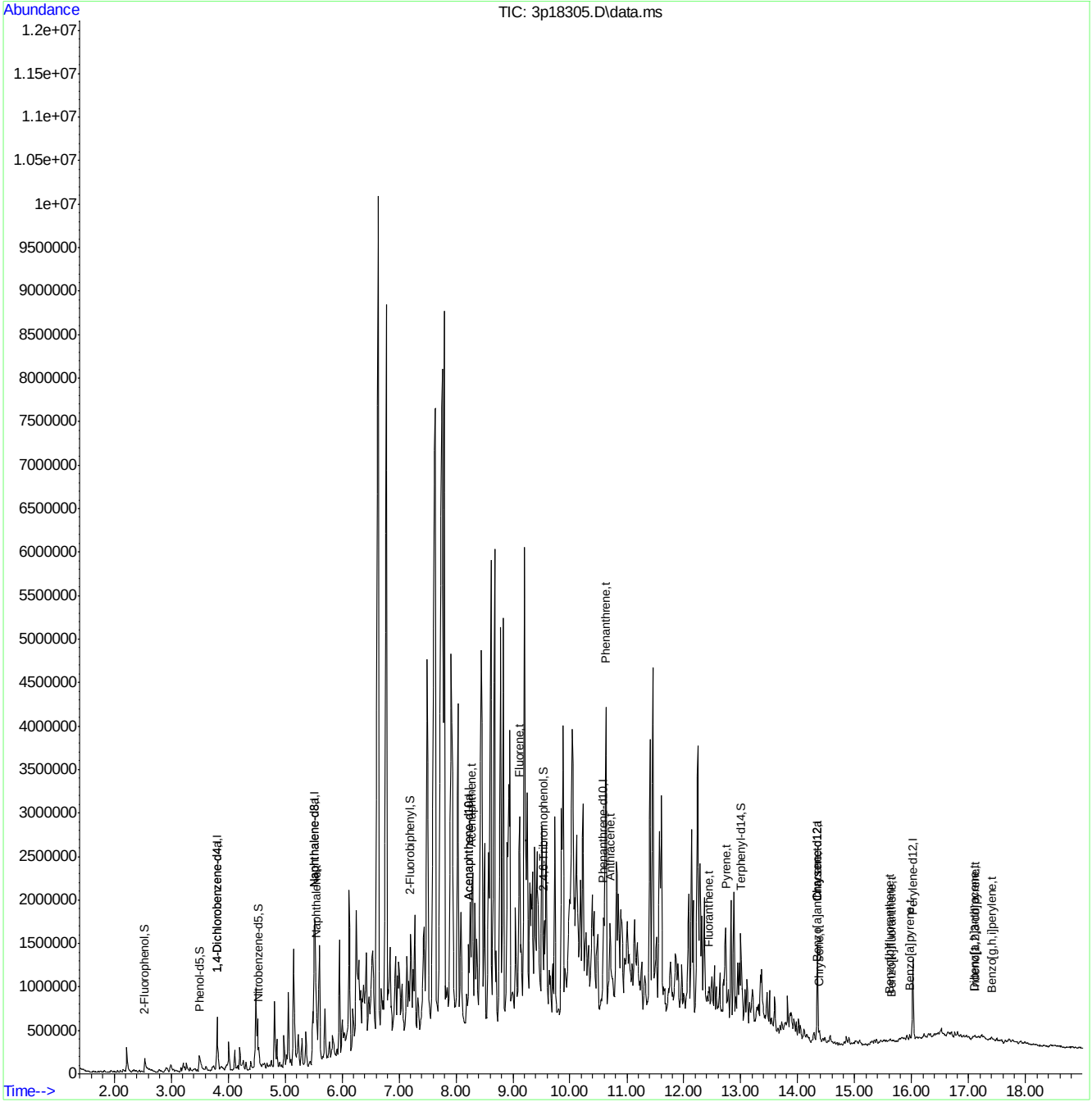
9.1.7

9

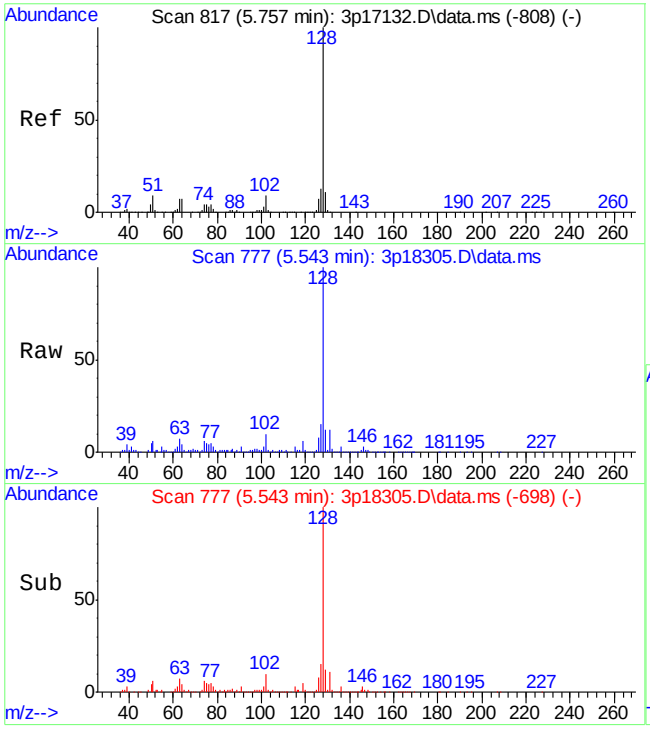
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18305.D
Acq On : 2 Apr 2013 6:58 pm
Operator : katelynh
Sample : jb31800-6
Misc : op64810,e3p825,33.7
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 03 12:01:24 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



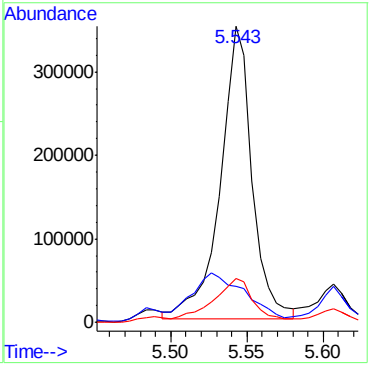
M3P782.M Wed Apr 03 12:01:32 2013 RPT1 Page: 2

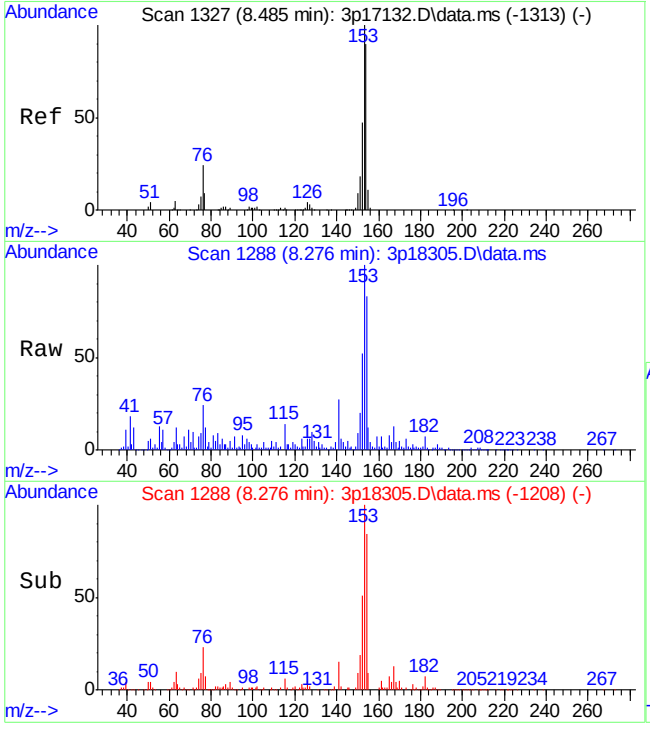


#38
Naphthalene
Concen: 43.76 ppb
RT: 5.543 min Scan# 777
Delta R.T. -0.075 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:128 Resp: 509308

Ion	Ratio	Lower	Upper
128	100		
129	10.0	0.0	40.8
127	14.3	0.0	43.0

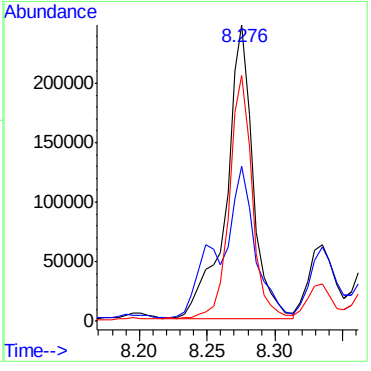


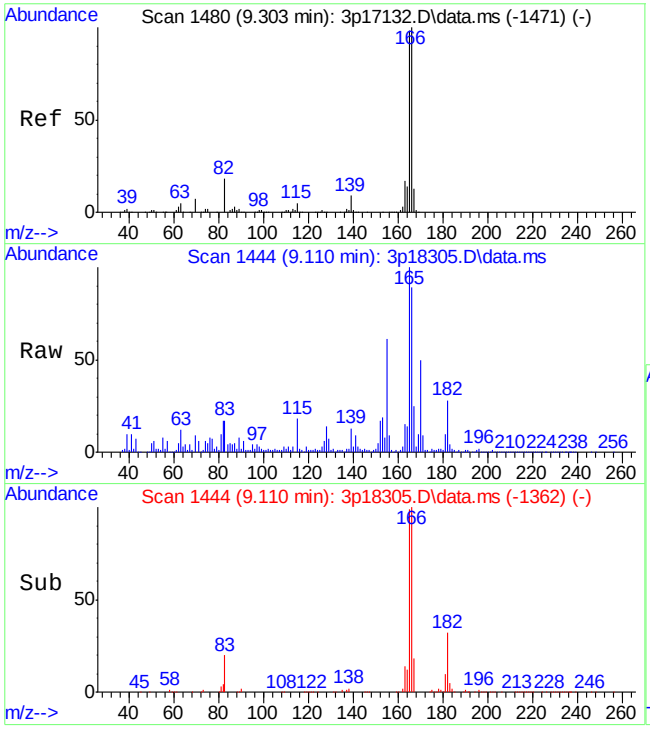


#59
Acenaphthene
Concen: 51.27 ppb
RT: 8.276 min Scan# 1288
Delta R.T. -0.070 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:153 Resp: 342350

Ion	Ratio	Lower	Upper
153	100		
152	51.4	16.8	76.8
154	83.1	57.6	117.6

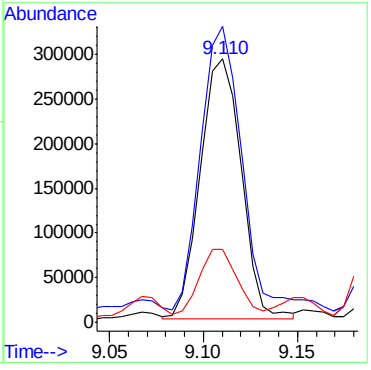


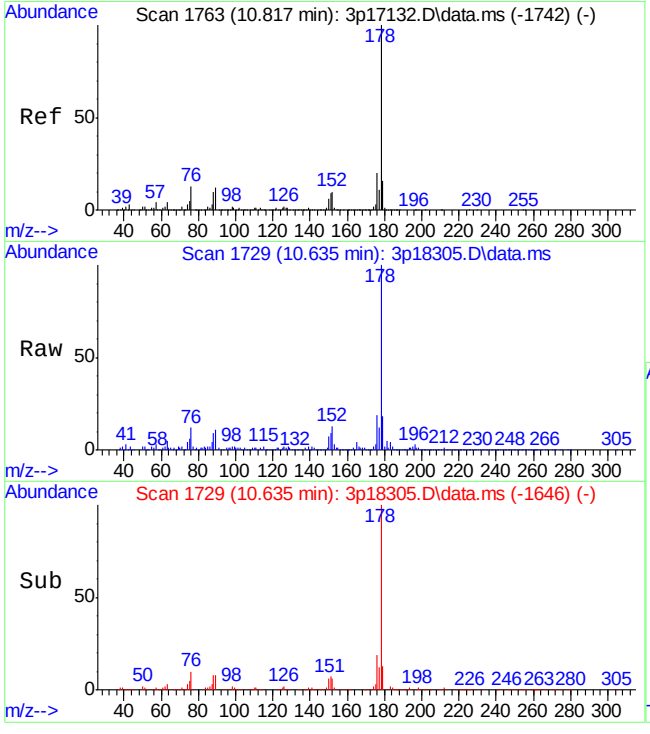


#66
Fluorene
Concen: 64.61 ppb
RT: 9.110 min Scan# 1444
Delta R.T. -0.059 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:166 Resp: 443039

Ion	Ratio	Lower	Upper
166	100		
165	108.6	66.8	126.8
167	20.5	0.0	43.0

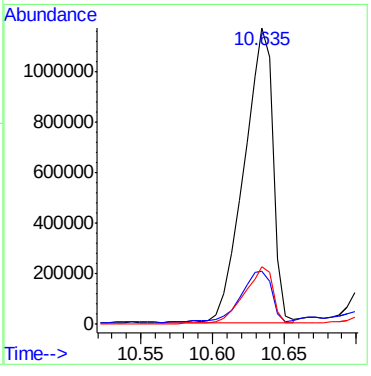


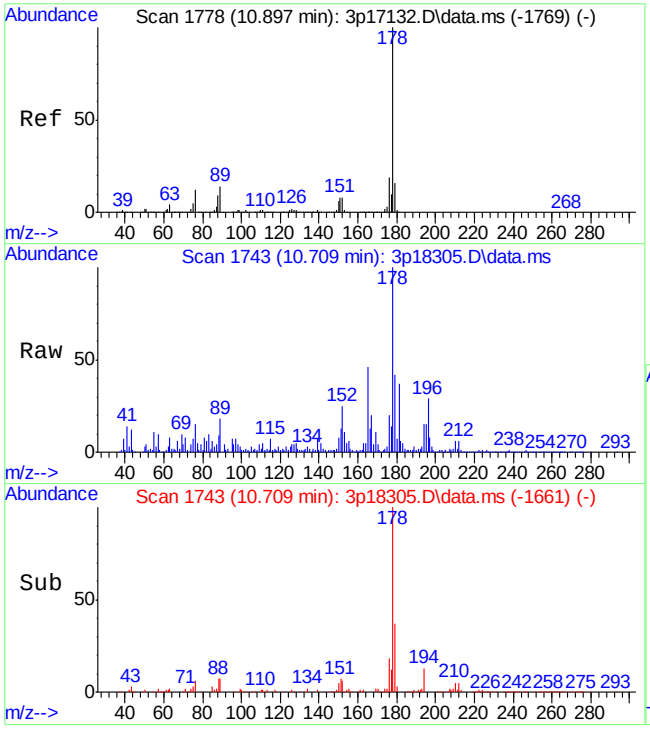


#77
Phenanthrene
Concen: 169.12 ppb
RT: 10.635 min Scan# 1729
Delta R.T. -0.053 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:178 Resp: 1646049

Ion	Ratio	Lower	Upper
178	100		
179	17.0	0.0	45.2
176	19.4	0.0	48.9

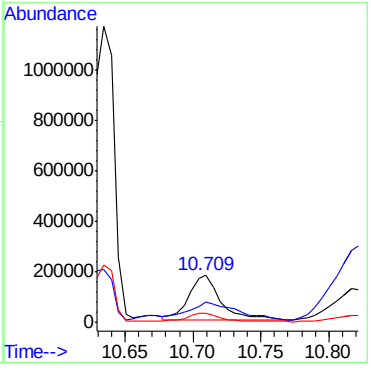


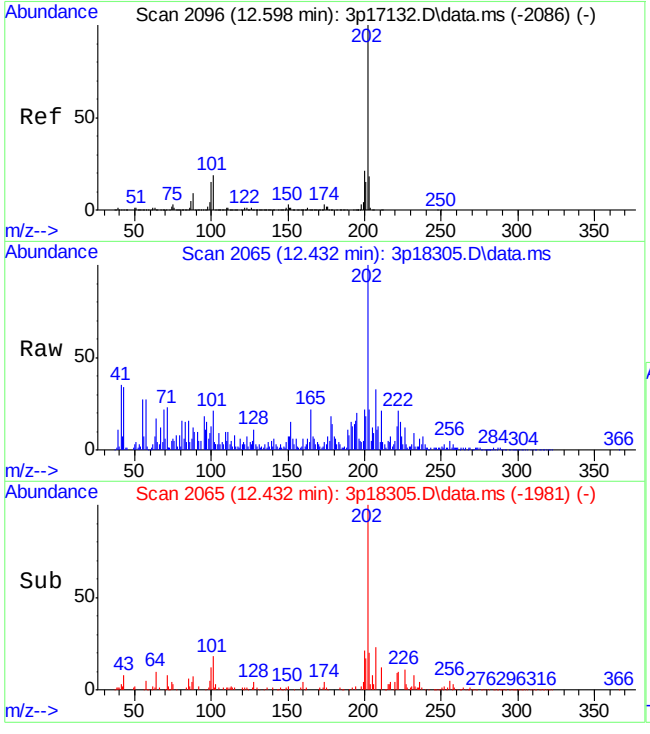


#78
Anthracene
Concen: 29.02 ppb
RT: 10.709 min Scan# 1743
Delta R.T. -0.059 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:178 Resp: 282983

Ion	Ratio	Lower	Upper
178	100		
179	36.1	0.0	44.9
176	19.4	0.0	48.9

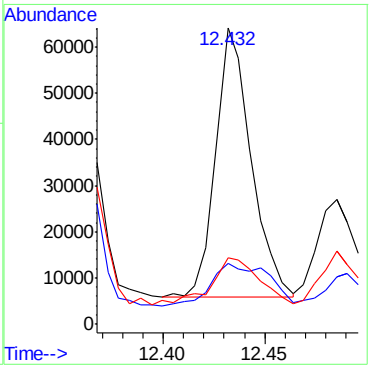




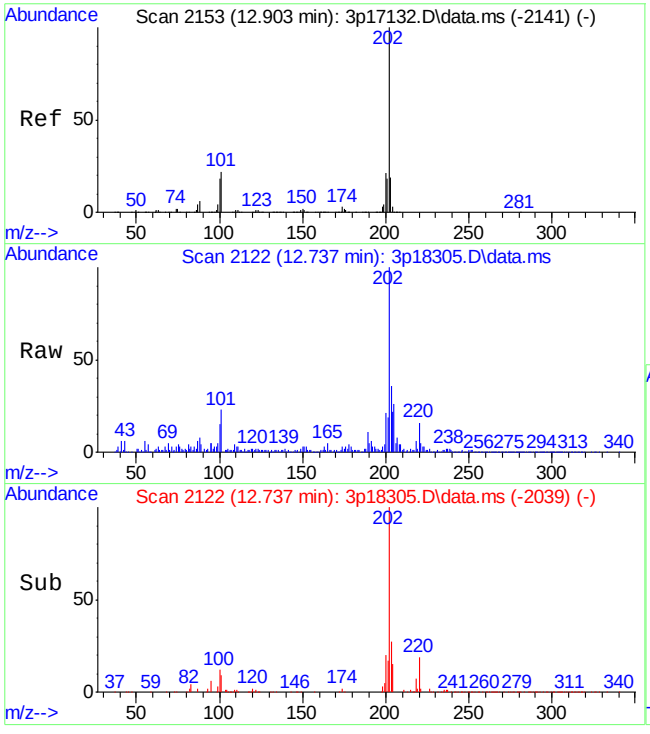
#81
Fluoranthene
Concen: 6.66 ppb
RT: 12.432 min Scan# 2065
Delta R.T. -0.048 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:202 Resp: 70646

Ion	Ratio	Lower	Upper
202	100		
101	20.7	0.0	53.3
203	22.2	0.0	48.9



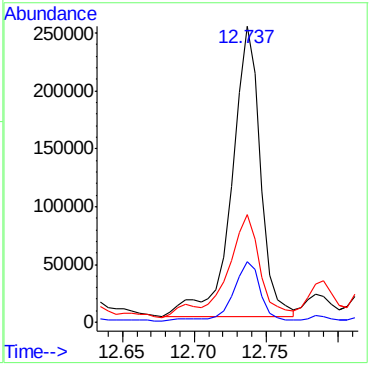
SGS ACCUTEST JB31800

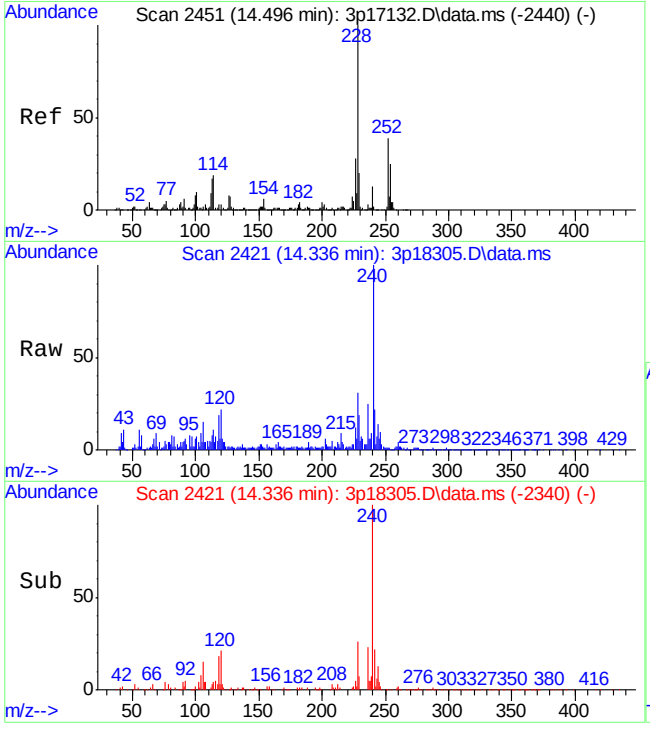


#84
Pyrene
Concen: 27.95 ppb
RT: 12.737 min Scan# 2122
Delta R.T. -0.053 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:202 Resp: 347923

Ion	Ratio	Lower	Upper
202	100		
200	20.7	0.0	46.6
203	34.6	0.0	53.5

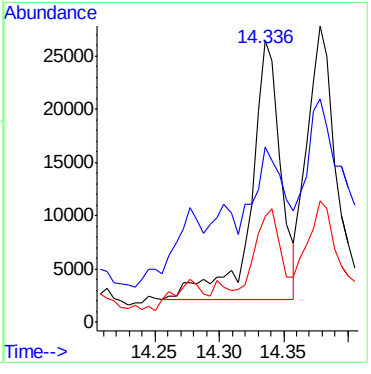


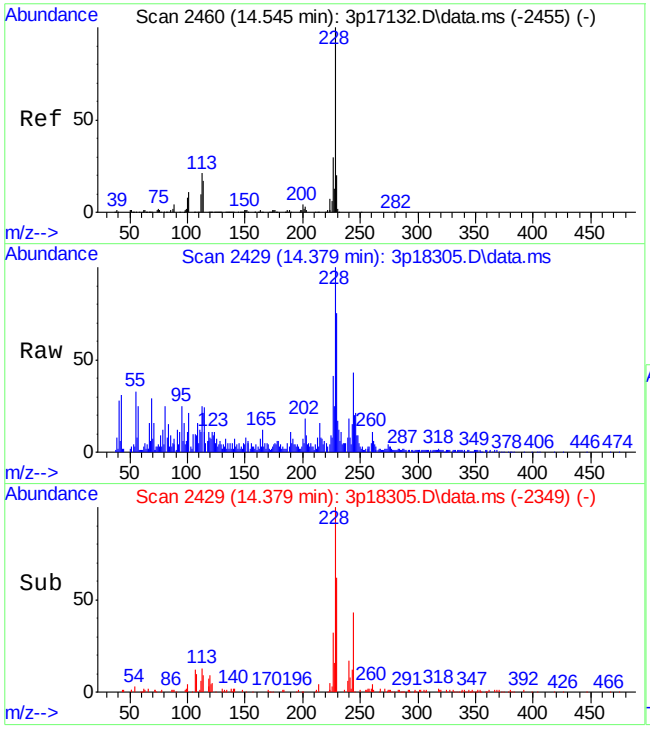


#87
Benzo[a]anthracene
Concen: 3.46 ppb
RT: 14.336 min Scan# 2421
Delta R.T. -0.064 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:228 Resp: 38816

Ion	Ratio	Lower	Upper
228	100		
229	41.3	0.0	49.9
226	31.0	0.0	58.4

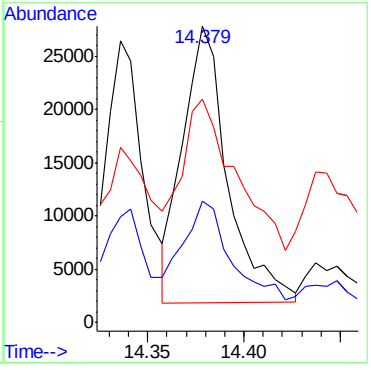


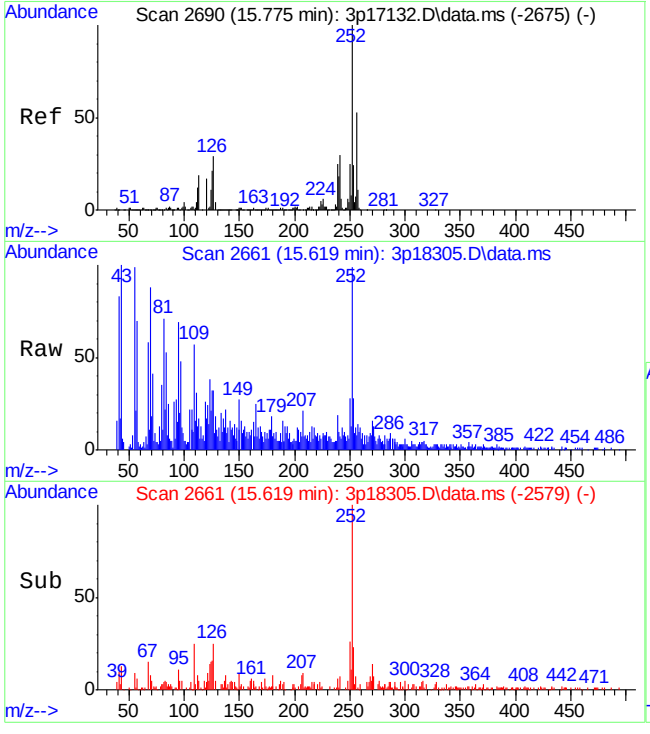


#89
Chrysene
Concen: 4.12 ppb m
RT: 14.379 min Scan# 2429
Delta R.T. -0.070 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:228 Resp: 42318

Ion	Ratio	Lower	Upper
228	100		
226	41.1	0.0	59.7
229	75.4	0.0	49.1#

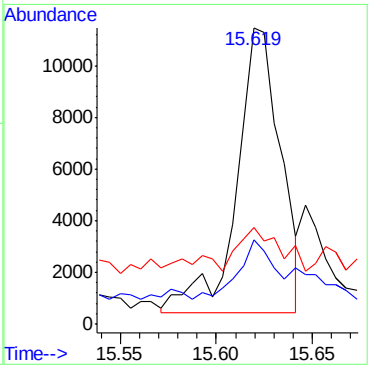


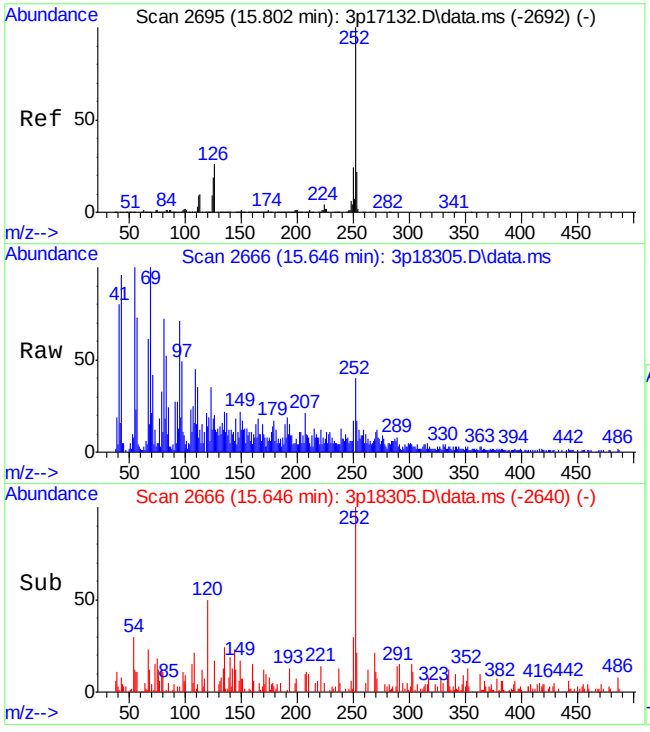


#93
Benzo[b]fluoranthene
Concen: 1.46 ppb m
RT: 15.619 min Scan# 2661
Delta R.T. -0.059 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:252 Resp: 17637

Ion	Ratio	Lower	Upper
252	100		
253	28.4	0.0	51.5
125	32.7	0.0	44.7

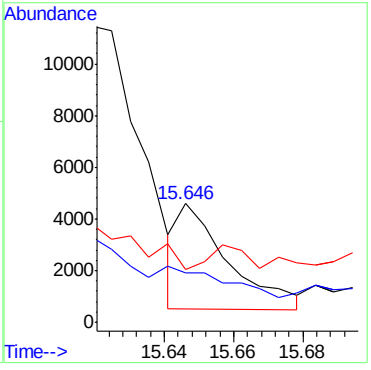


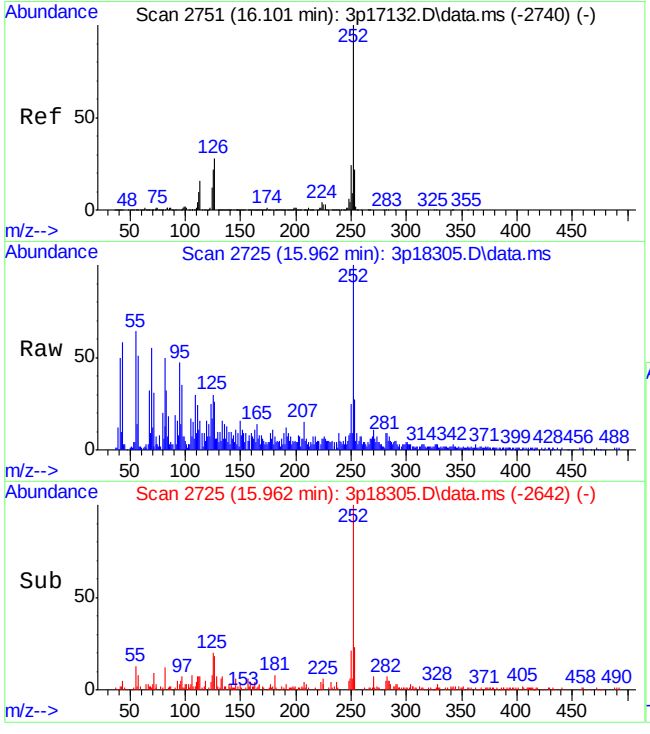


#94
Benzo[k]fluoranthene
Concen: 0.41 ppb m
RT: 15.646 min Scan# 2666
Delta R.T. -0.059 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:252 Resp: 4152

Ion	Ratio	Lower	Upper
252	100		
253	41.3	0.0	52.3
125	44.9	0.0	45.4

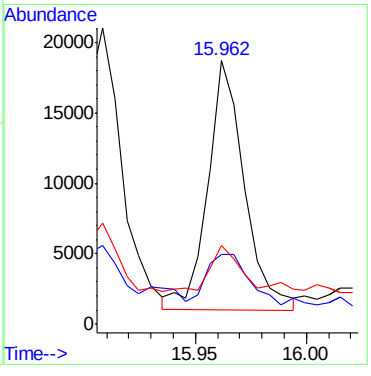


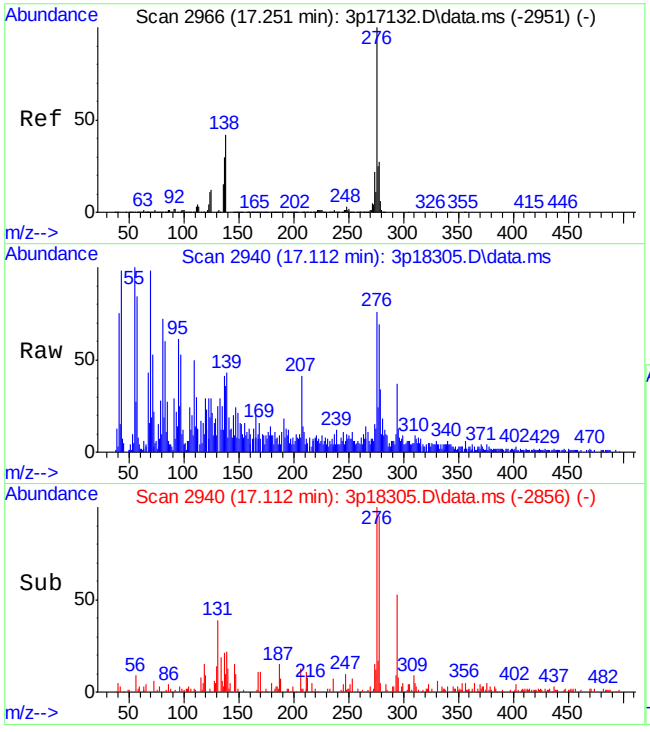


#95
Benzo[a]pyrene
Concen: 1.97 ppb
RT: 15.962 min Scan# 2725
Delta R.T. -0.053 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:252 Resp: 20280

Ion	Ratio	Lower	Upper
252	100		
253	16.5	0.0	52.2
125	18.9	0.0	46.5

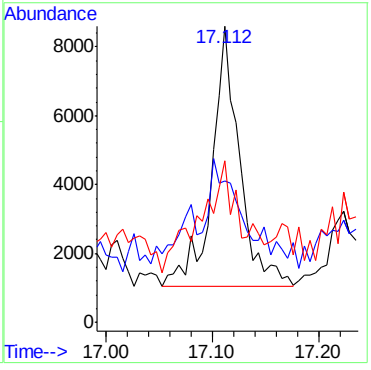


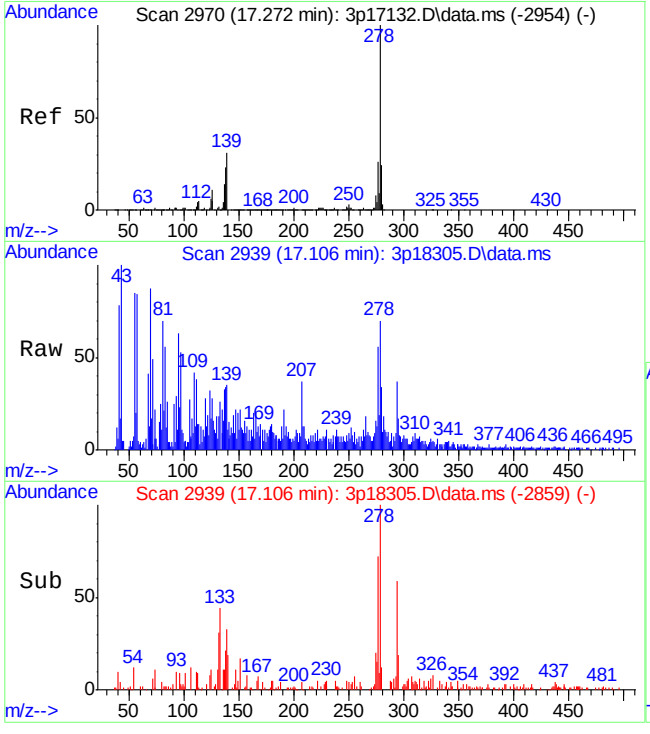


#96
Indeno[1,2,3-cd]pyrene
Concen: 1.14 ppb
RT: 17.112 min Scan# 2940
Delta R.T. -0.048 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:276 Resp: 13835

Ion	Ratio	Lower	Upper
276	100		
138	26.2	4.8	64.8
137	39.6	0.0	55.1

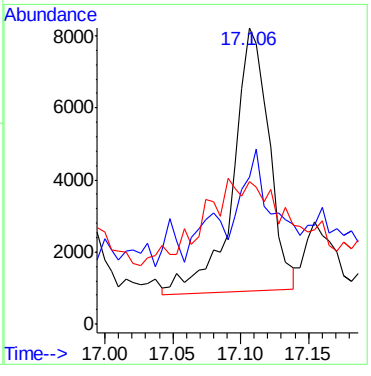




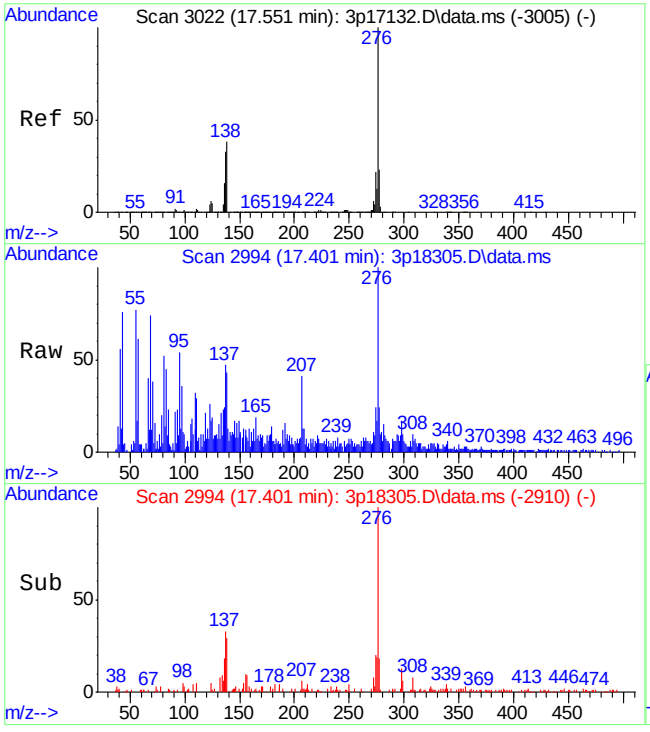
#98
Dibenz[a,h]anthracene
Concen: 1.36 ppb
RT: 17.106 min Scan# 2939
Delta R.T. -0.070 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:278 Resp: 13540

Ion	Ratio	Lower	Upper
278	100		
139	24.3	0.0	50.3
279	21.6	0.0	53.8



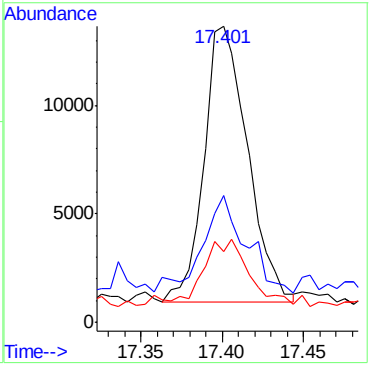
SGS ACCUTEST JB31800



#100
Benzo[g,h,i]perylene
Concen: 2.35 ppb
RT: 17.401 min Scan# 2994
Delta R.T. -0.048 min
Lab File: 3p18305.D
Acq: 2 Apr 2013 6:58 pm

Tgt Ion:276 Resp: 23727

Ion	Ratio	Lower	Upper
276	100		
138	33.1	1.5	61.5
277	18.6	0.0	54.1



9.1.7

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18363.D
Acq On : 4 Apr 2013 4:16 am
Operator : ashleyd
Sample : jb31800-6
Misc : op64810,e3p827,33.7,,,1,5
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 08 11:45:51 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.794	152	130460	40.00	ppb	-0.08
24) Naphthalene-d8	5.500	136	482065	40.00	ppb	-0.15
47) Acenaphthene-d10	8.206	164	236827	40.00	ppb	-0.08
69) Phenanthrene-d10	10.576	188	373898	40.00	ppb	-0.06
83) Chrysene-d12	14.357	240	404426	40.00	ppb	-0.04
91) Perylene-d12	16.037	264	365708	40.00	ppb	-0.03
101) 1,4-Dichlorobenzene-d4a	3.794	152	130378	40.00	ppb	-0.06
103) Acenaphthene-d10a	8.206	164	236827	40.00	ppb	-0.06
106) Chrysene-d12a	14.357	240	404426	40.00	ppb	-0.03
108) Naphthalene-d8a	5.500	136	482065	40.00	ppb	-0.07
System Monitoring Compounds						
5) 2-Fluorophenol	2.558	112	19687	4.50	ppb	0.00
Spiked Amount 50.000			Recovery	=	9.00%	
8) Phenol-d5	3.548	99	22907	4.38	ppb	0.03
Spiked Amount 50.000			Recovery	=	8.76%	
25) Nitrobenzene-d5	4.553	82	12873	3.13	ppb	-0.04
Spiked Amount 50.000			Recovery	=	6.26%	
51) 2-Fluorobiphenyl	7.185	172	49667	6.62	ppb	-0.09
Spiked Amount 50.000			Recovery	=	13.24%	
73) 2,4,6-Tribromophenol	0.000	330	0	0.00	ppb	
Spiked Amount 50.000			Recovery	=	0.00%	
85) Terphenyl-d14	12.999	244	64076	7.59	ppb	-0.06
Spiked Amount 50.000			Recovery	=	15.18%	
Target Compounds						Qvalue
38) Naphthalene	5.532	128	126783	10.08	ppb	97
59) Acenaphthene	8.254	153	79585	11.06	ppb	95
66) Fluorene	9.083	166	103901	14.07	ppb	87
77) Phenanthrene	10.608	178	376675	35.88	ppb	97
78) Anthracene	10.693	178	64758	6.16	ppb	83
81) Fluoranthene	12.426	202	16462	1.44	ppb	85
84) Pyrene	12.731	202	71012	5.41	ppb	88

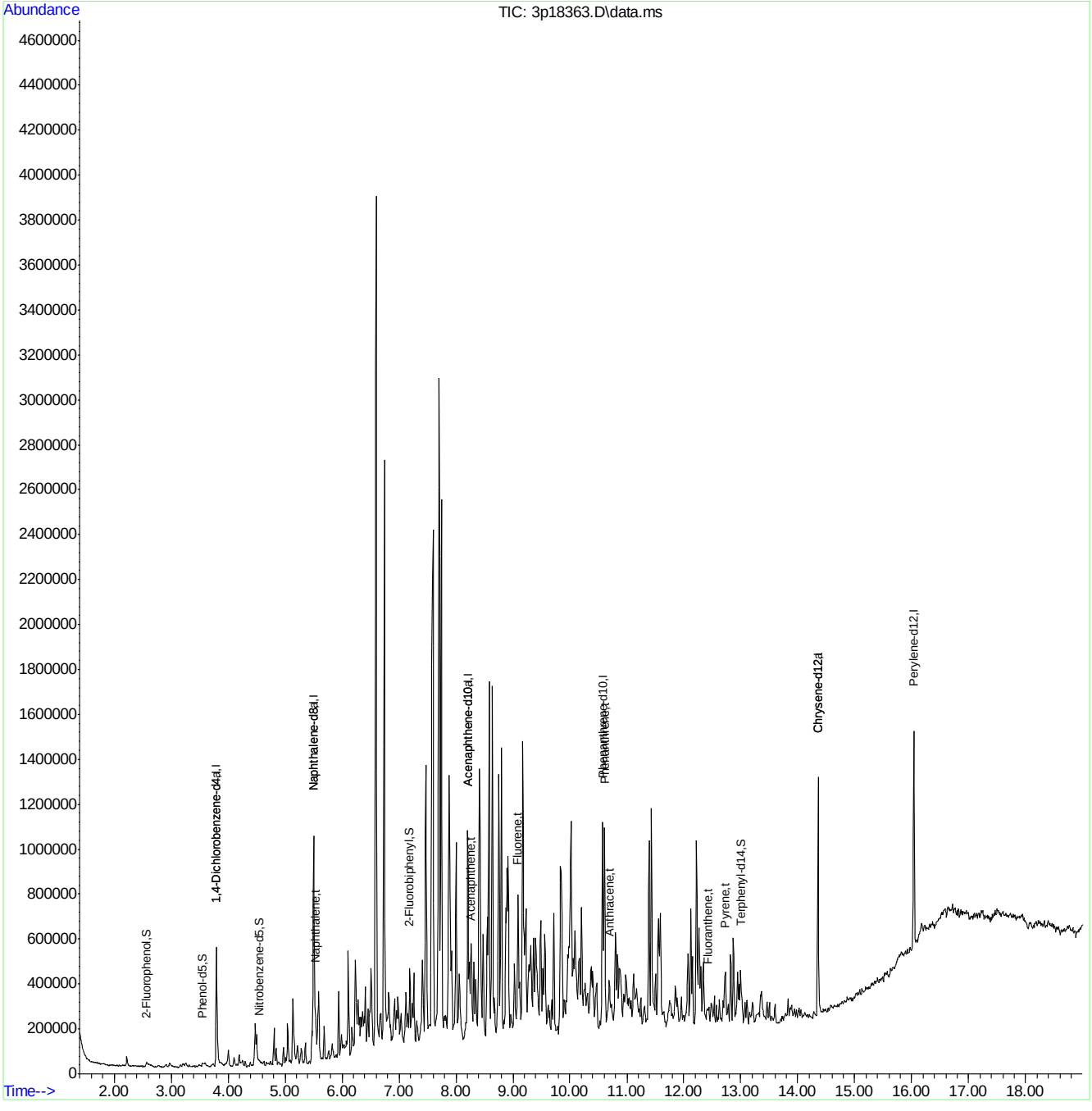
(#) = qualifier out of range (m) = manual integration (+) = signals summed

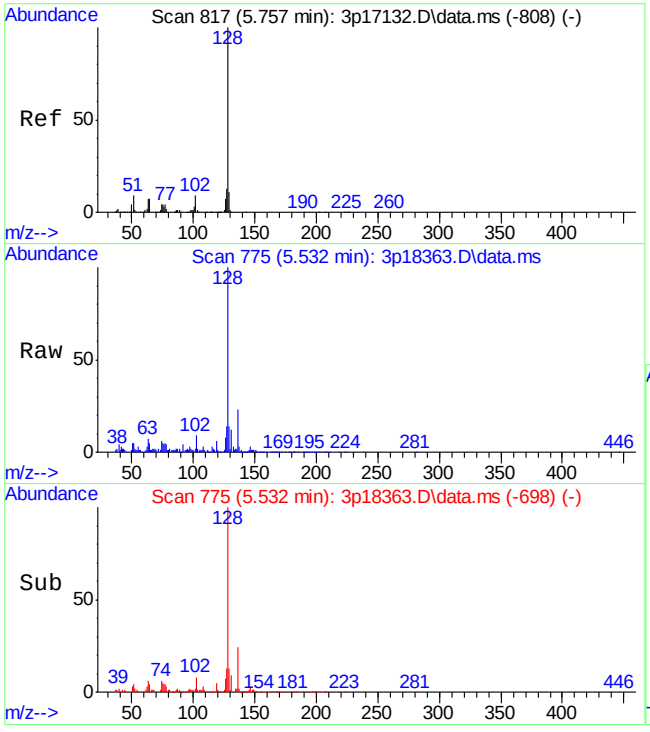
SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18363.D
Acq On : 4 Apr 2013 4:16 am
Operator : ashleyd
Sample : jb31800-6
Misc : op64810,e3p827,33.7,,,1,5
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 08 11:45:51 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

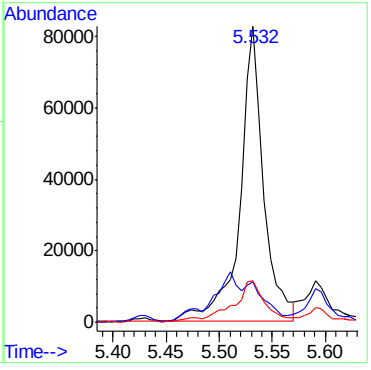


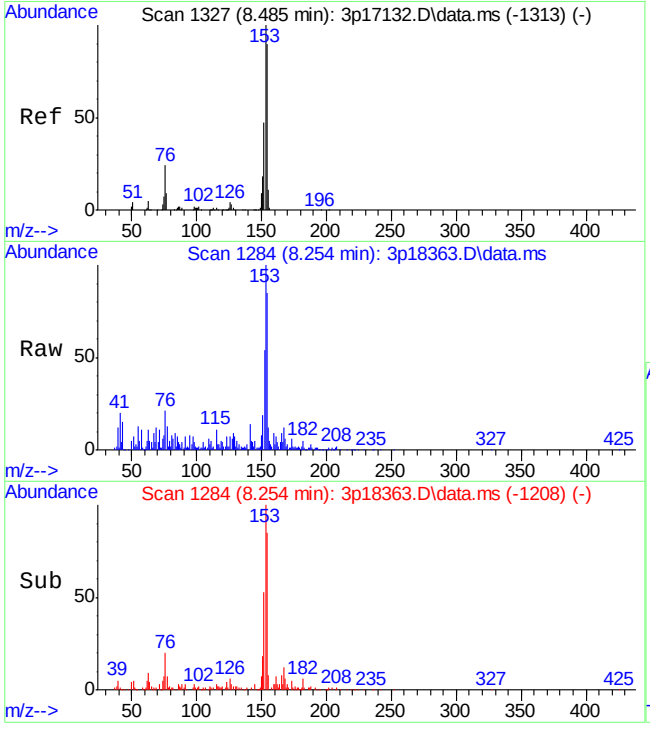


#38
Naphthalene
Concen: 10.08 ppb
RT: 5.532 min Scan# 775
Delta R.T. -0.086 min
Lab File: 3p18363.D
Acq: 4 Apr 2013 4:16 am

Tgt Ion:128 Resp: 126783

Ion	Ratio	Lower	Upper
128	100		
129	12.3	0.0	40.8
127	13.5	0.0	43.0

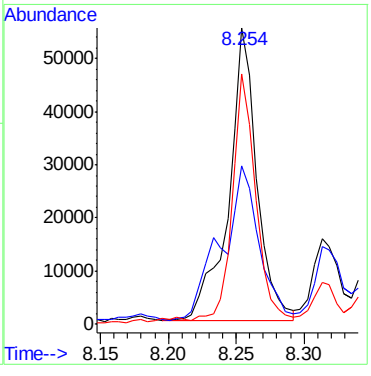




#59
Acenaphthene
Concen: 11.06 ppb
RT: 8.254 min Scan# 1284
Delta R.T. -0.091 min
Lab File: 3p18363.D
Acq: 4 Apr 2013 4:16 am

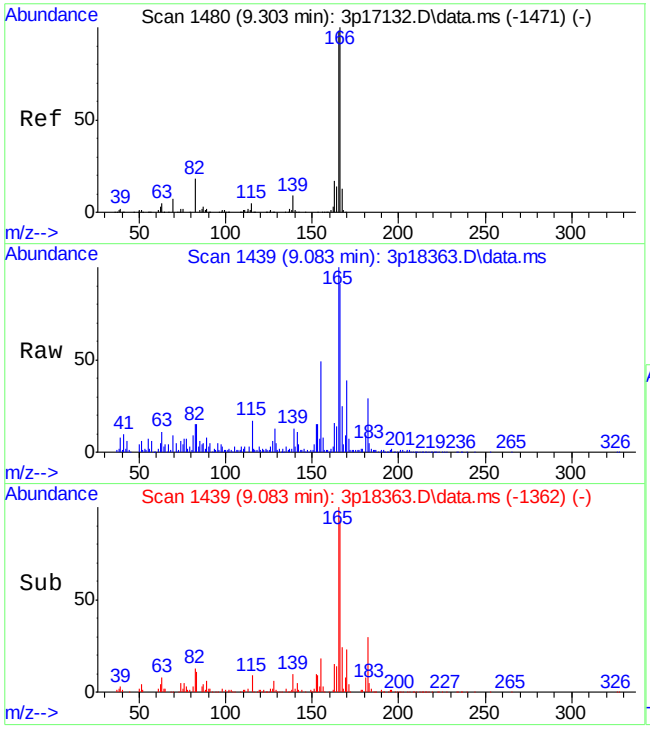
Tgt Ion:153 Resp: 79585

Ion	Ratio	Lower	Upper
153	100		
152	52.6	16.8	76.8
154	85.0	57.6	117.6



9.1.8

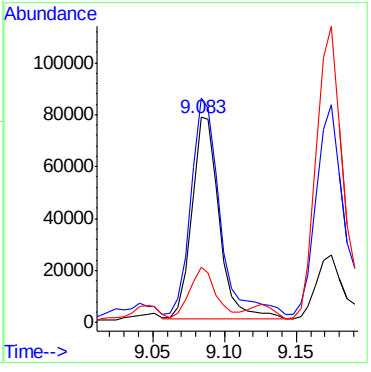
9

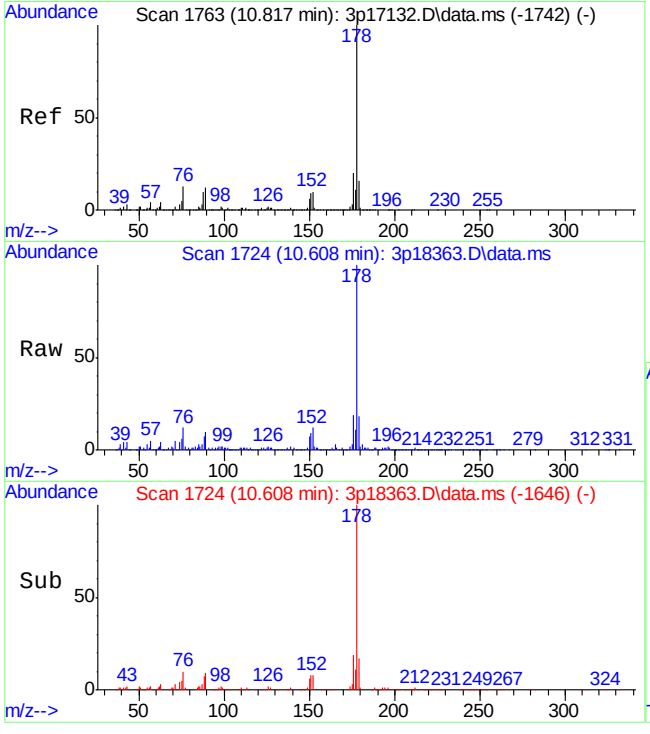


#66
Fluorene
Concen: 14.07 ppb
RT: 9.083 min Scan# 1439
Delta R.T. -0.086 min
Lab File: 3p18363.D
Acq: 4 Apr 2013 4:16 am

Tgt Ion:166 Resp: 103901

Ion	Ratio	Lower	Upper
166	100		
165	107.7	66.8	126.8
167	24.4	0.0	43.0

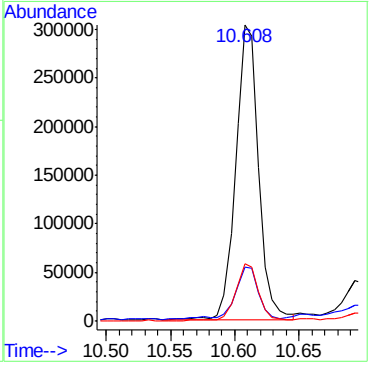


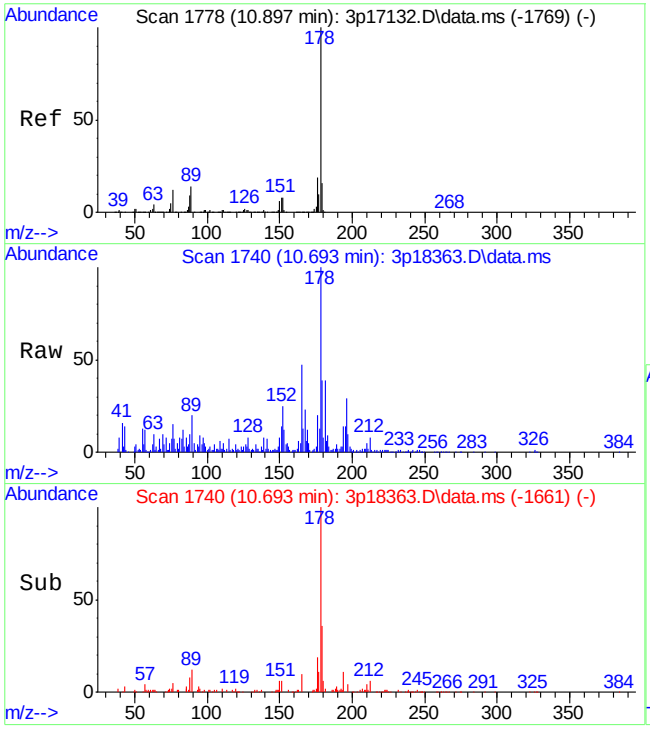


#77
Phenanthrene
Concen: 35.88 ppb
RT: 10.608 min Scan# 1724
Delta R.T. -0.080 min
Lab File: 3p18363.D
Acq: 4 Apr 2013 4:16 am

Tgt Ion:178 Resp: 376675

Ion	Ratio	Lower	Upper
178	100		
179	17.3	0.0	45.2
176	19.2	0.0	48.9

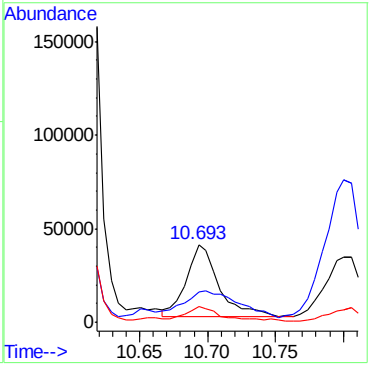


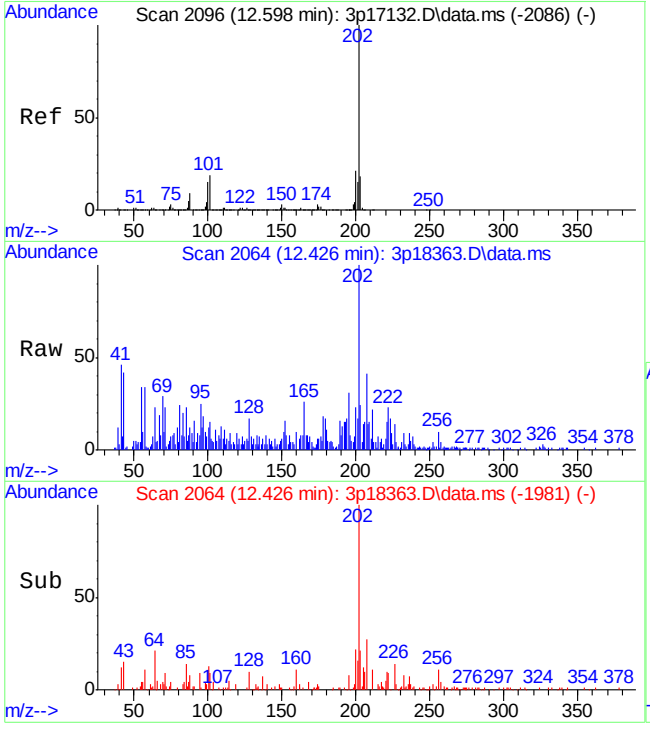


#78
Anthracene
Concen: 6.16 ppb
RT: 10.693 min Scan# 1740
Delta R.T. -0.075 min
Lab File: 3p18363.D
Acq: 4 Apr 2013 4:16 am

Tgt Ion:178 Resp: 64758

Ion	Ratio	Lower	Upper
178	100		
179	30.0	0.0	44.9
176	19.4	0.0	48.9

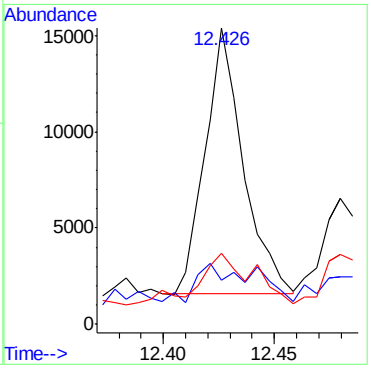


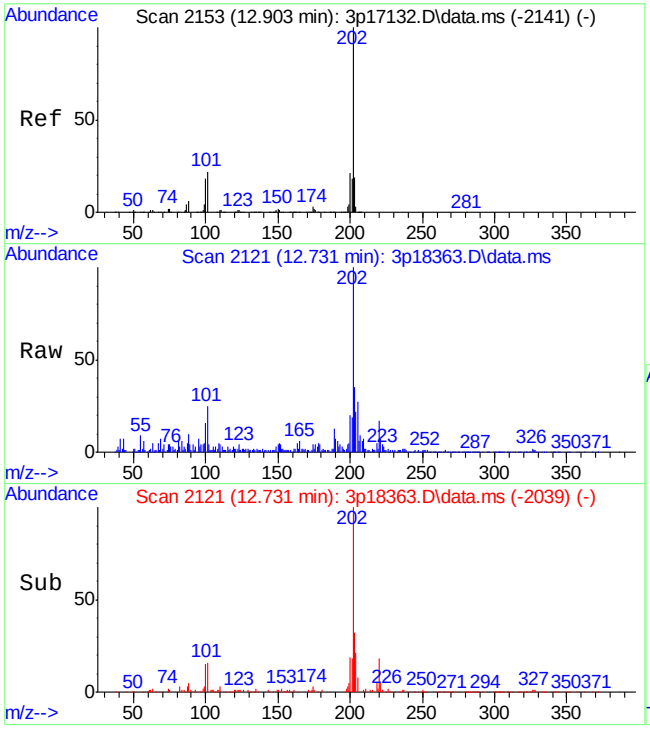


#81
Fluoranthene
Concen: 1.44 ppb
RT: 12.426 min Scan# 2064
Delta R.T. -0.053 min
Lab File: 3p18363.D
Acq: 4 Apr 2013 4:16 am

Tgt Ion:202 Resp: 16462

Ion	Ratio	Lower	Upper
202	100		
101	14.6	0.0	53.3
203	23.8	0.0	48.9

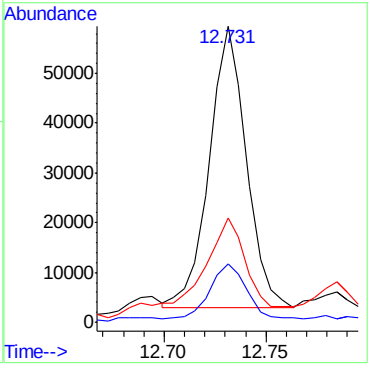




#84
Pyrene
Concen: 5.41 ppb
RT: 12.731 min Scan# 2121
Delta R.T. -0.059 min
Lab File: 3p18363.D
Acq: 4 Apr 2013 4:16 am

Tgt Ion:202 Resp: 71012

Ion	Ratio	Lower	Upper
202	100		
200	19.2	0.0	46.6
203	31.2	0.0	53.5



9.1.8

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18306.D
Acq On : 2 Apr 2013 7:22 pm
Operator : katelynh
Sample : jb31800-7
Misc : op64810,e3p825,30.7
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 03 12:02:29 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

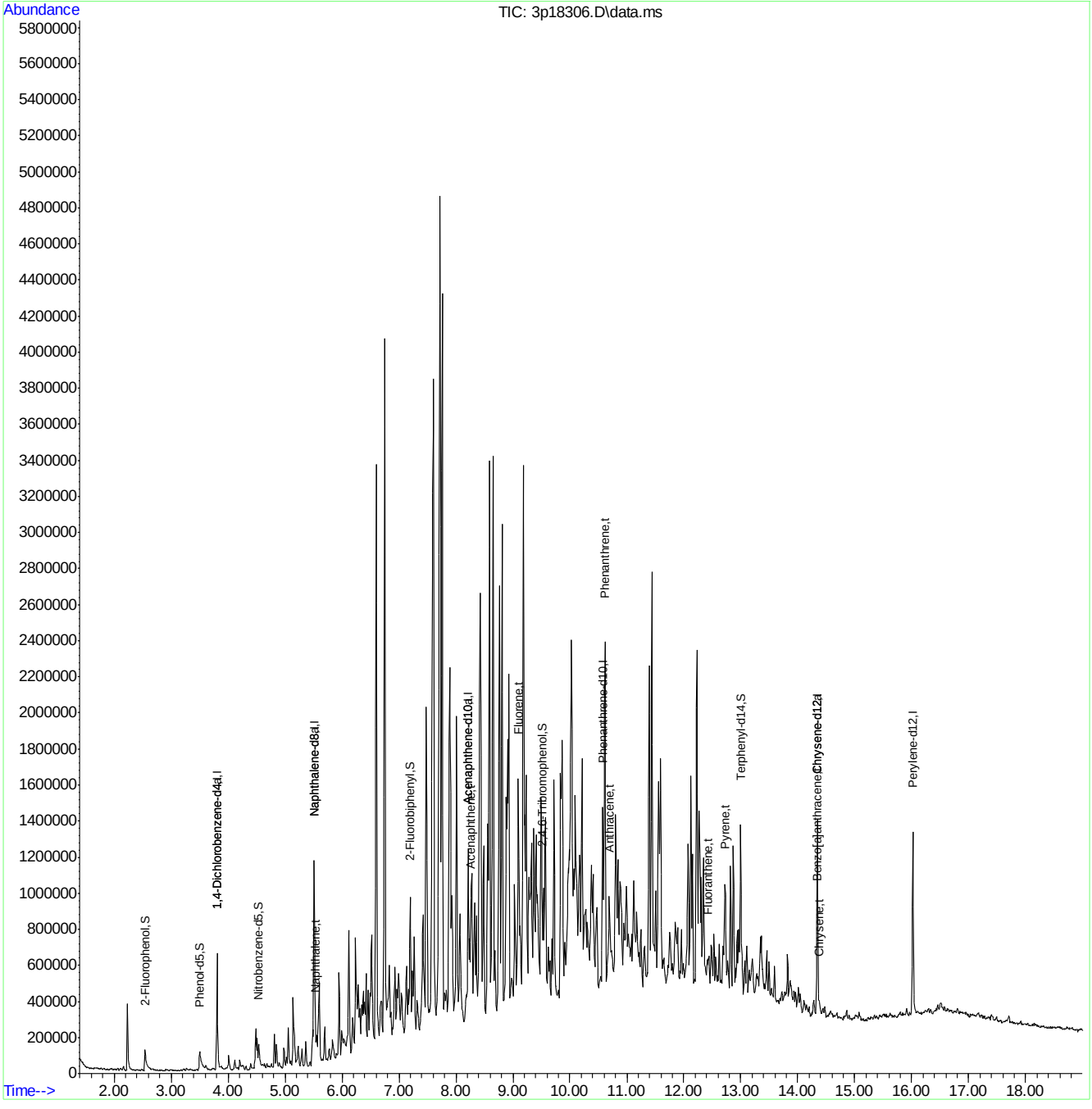
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	133263	40.00	ppb	-0.07
24) Naphthalene-d8	5.511	136	488022	40.00	ppb	-0.07
47) Acenaphthene-d10	8.212	164	225815	40.00	ppb	-0.07
69) Phenanthrene-d10	10.576	188	364725	40.00	ppb	-0.06
83) Chrysene-d12	14.347	240	406805	40.00	ppb	-0.05
91) Perylene-d12	16.021	264	396251	40.00	ppb	-0.04
101) 1,4-Dichlorobenzene-d4a	3.804	152	133263	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.212	164	225815	40.00	ppb	-0.06
106) Chrysene-d12a	14.347	240	406805	40.00	ppb	-0.04
108) Naphthalene-d8a	5.511	136	488022	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.542	112	67550	15.11	ppb	-0.02
Spiked Amount 50.000			Recovery	=	30.22%	
8) Phenol-d5	3.499	99	101618	19.01	ppb	-0.02
Spiked Amount 50.000			Recovery	=	38.02%	
25) Nitrobenzene-d5	4.537	82	70606	16.96	ppb	-0.05
Spiked Amount 50.000			Recovery	=	33.92%	
51) 2-Fluorobiphenyl	7.190	172	199153	27.85	ppb	-0.08
Spiked Amount 50.000			Recovery	=	55.70%	
73) 2,4,6-Tribromophenol	9.511	330	42212	34.23	ppb	-0.06
Spiked Amount 50.000			Recovery	=	68.46%	
85) Terphenyl-d14	12.993	244	284635	33.52	ppb	-0.06
Spiked Amount 50.000			Recovery	=	67.04%	
Target Compounds						Qvalue
38) Naphthalene	5.537	128	54946	4.31	ppb	93
59) Acenaphthene	8.260	153	139750	20.38	ppb	98
66) Fluorene	9.094	166	204624	29.05	ppb	90
77) Phenanthrene	10.619	178	820459	80.12	ppb	99
78) Anthracene	10.693	178	155699	15.17	ppb	90
81) Fluoranthene	12.426	202	40717	3.65	ppb	95
84) Pyrene	12.731	202	216059	16.37	ppb	88
87) Benzo[a]anthracene	14.336	228	19555	1.65	ppb	90
89) Chrysene	14.379	228	26483	2.43	ppb	75

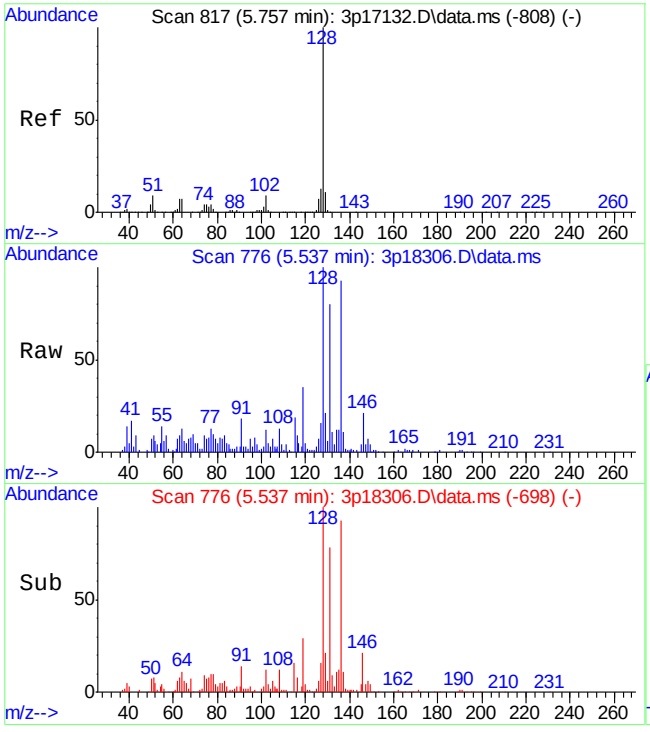
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18306.D
Acq On : 2 Apr 2013 7:22 pm
Operator : katelynh
Sample : jb31800-7
Misc : op64810,e3p825,30.7
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 03 12:02:29 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

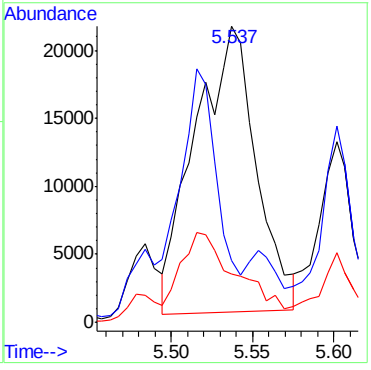


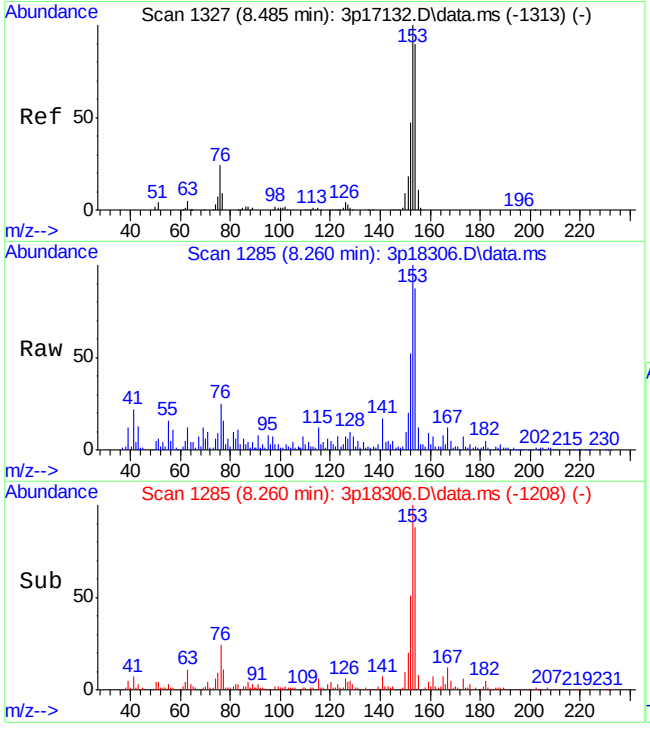


#38
Naphthalene
Concen: 4.31 ppb
RT: 5.537 min Scan# 776
Delta R.T. -0.080 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:128 Resp: 54946

Ion	Ratio	Lower	Upper
128	100		
129	5.2	0.0	40.8
127	13.2	0.0	43.0

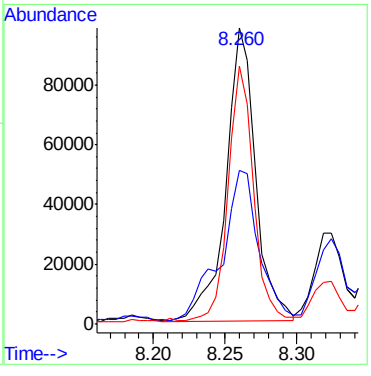




#59
Acenaphthene
Concen: 20.38 ppb
RT: 8.260 min Scan# 1285
Delta R.T. -0.086 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:153 Resp: 139750

Ion	Ratio	Lower	Upper
153	100		
152	50.7	16.8	76.8
154	87.4	57.6	117.6



9.1.9

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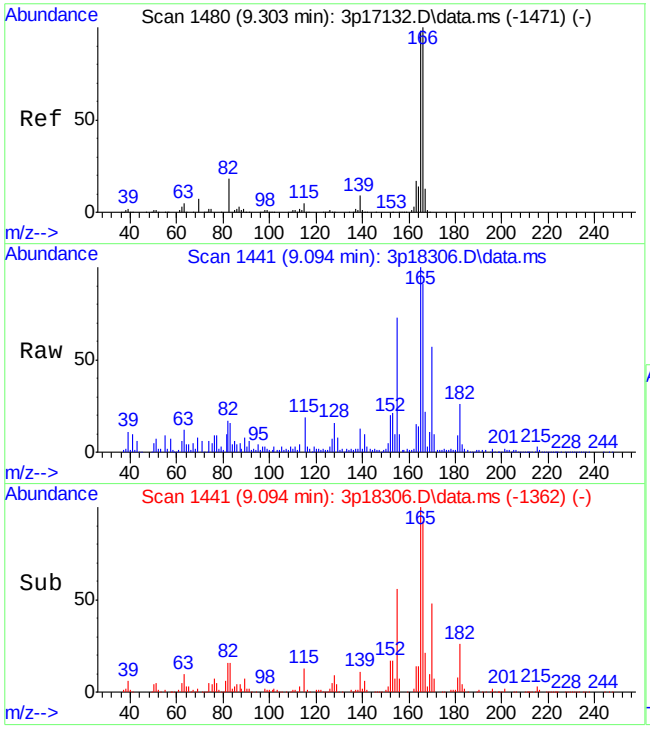
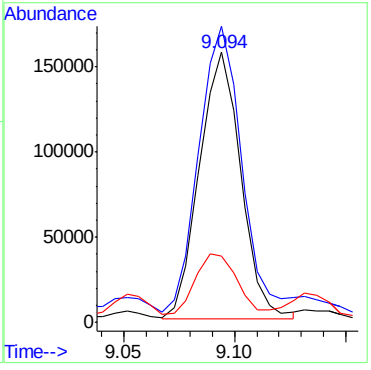
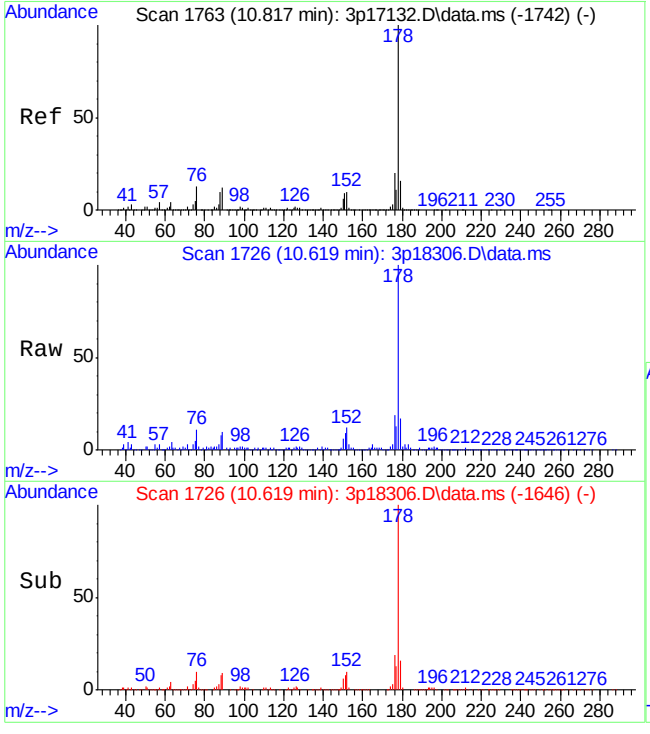


#66
Fluorene
Concen: 29.05 ppb
RT: 9.094 min Scan# 1441
Delta R.T. -0.075 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:166 Resp: 204624

Ion	Ratio	Lower	Upper
166	100		
165	106.2	66.8	126.8
167	19.5	0.0	43.0

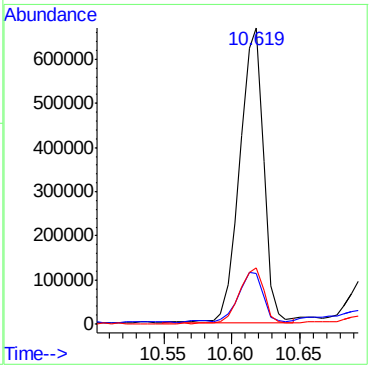


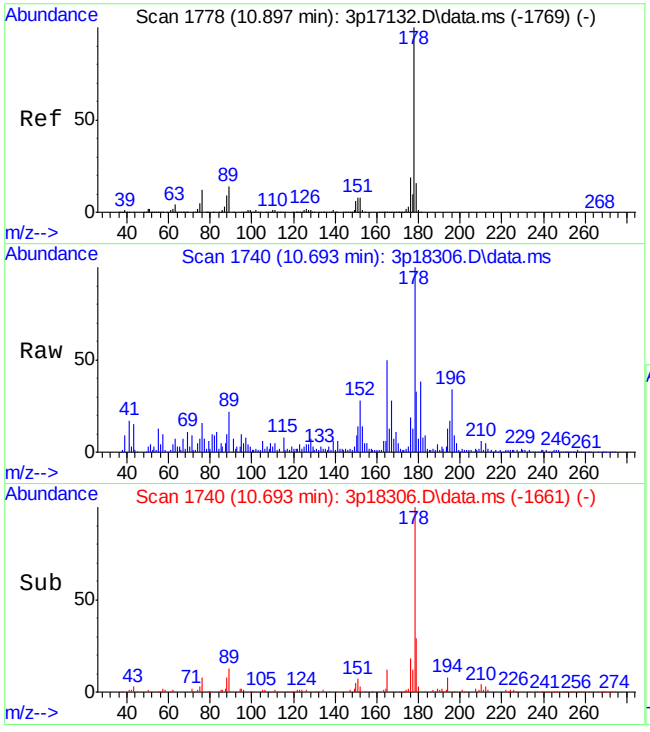


#77
Phenanthrene
Concen: 80.12 ppb
RT: 10.619 min Scan# 1726
Delta R.T. -0.070 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:178 Resp: 820459

Ion	Ratio	Lower	Upper
178	100		
179	16.2	0.0	45.2
176	18.7	0.0	48.9

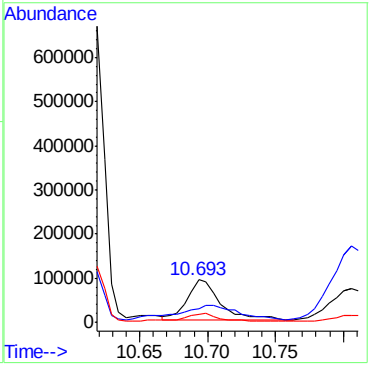


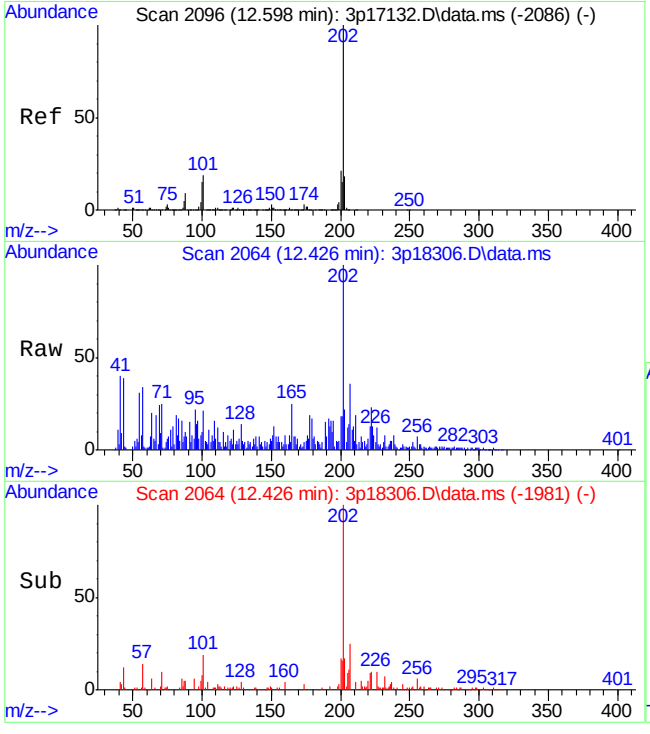


#78
Anthracene
Concen: 15.17 ppb
RT: 10.693 min Scan# 1740
Delta R.T. -0.075 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:178 Resp: 155699

Ion	Ratio	Lower	Upper
178	100		
179	23.5	0.0	44.9
176	17.8	0.0	48.9

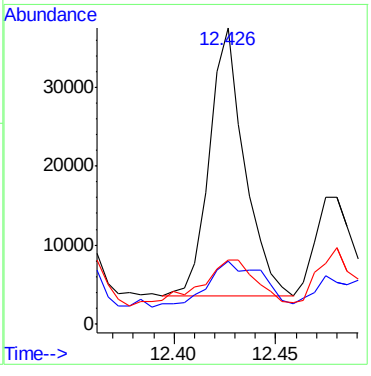


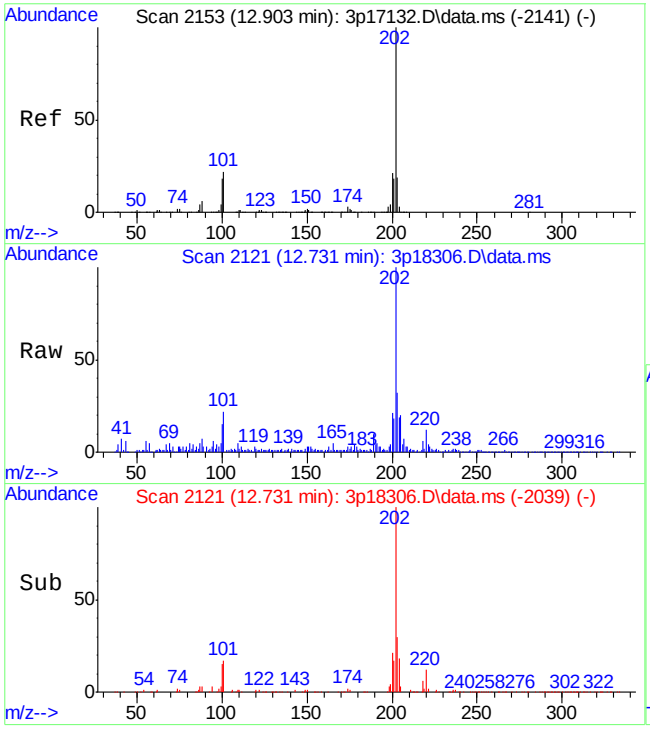


#81
Fluoranthene
Concen: 3.65 ppb
RT: 12.426 min Scan# 2064
Delta R.T. -0.053 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:202 Resp: 40717

Ion	Ratio	Lower	Upper
202	100		
101	21.3	0.0	53.3
203	21.6	0.0	48.9

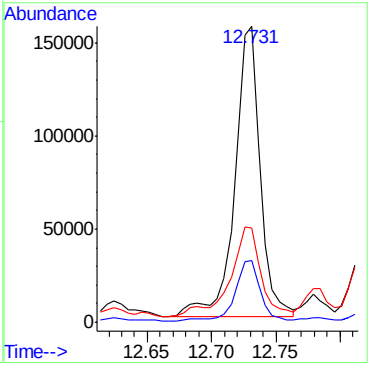


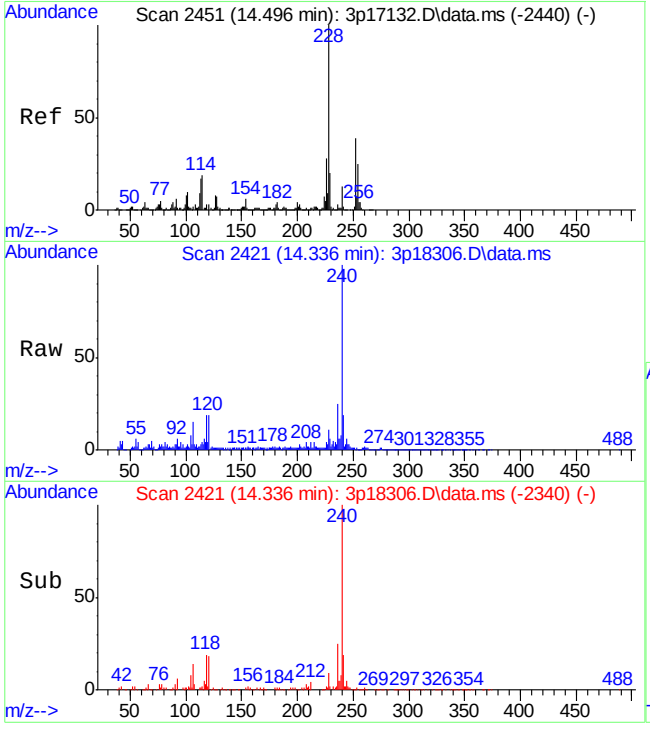


#84
Pyrene
Concen: 16.37 ppb
RT: 12.731 min Scan# 2121
Delta R.T. -0.059 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:202 Resp: 216059

Ion	Ratio	Lower	Upper
202	100		
200	20.9	0.0	46.6
203	30.1	0.0	53.5

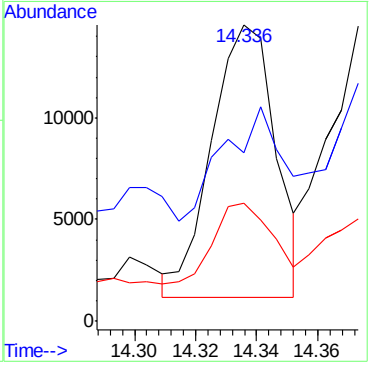




#87
Benzo[a]anthracene
Concen: 1.65 ppb
RT: 14.336 min Scan# 2421
Delta R.T. -0.064 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:228 Resp: 19555

Ion	Ratio	Lower	Upper
228	100		
229	15.1	0.0	49.9
226	33.4	0.0	58.4



9.1.9

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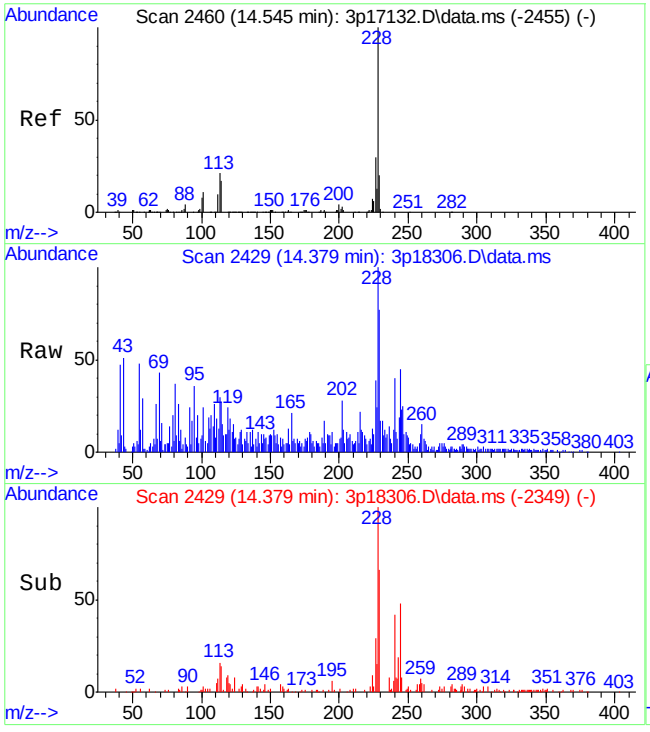
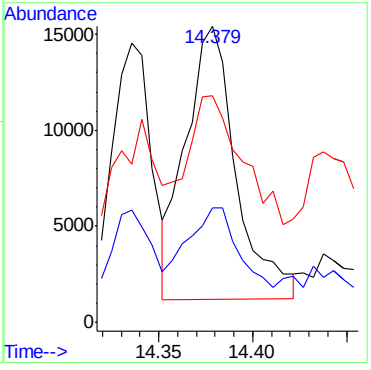


#89
Chrysene
Concen: 2.43 ppb
RT: 14.379 min Scan# 2429
Delta R.T. -0.070 min
Lab File: 3p18306.D
Acq: 2 Apr 2013 7:22 pm

Tgt Ion:228 Resp: 26483

Ion	Ratio	Lower	Upper
228	100		
226	29.8	0.0	59.7
229	48.4	0.0	49.1



9.1.9

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/04/13 13:57

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18364.D
Acq On : 4 Apr 2013 4:40 am
Operator : ashleyd
Sample : jb31800-8
Misc : op64810,e3p827,31.4
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 04 12:22:52 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.788	152	136676	40.00	ppb	-0.09
24) Naphthalene-d8	5.500	136	482935	40.00	ppb	-0.15
47) Acenaphthene-d10	8.212	164	236174	40.00	ppb	-0.07
69) Phenanthrene-d10	10.592	188	363363	40.00	ppb	-0.05
83) Chrysene-d12	14.389	240	403353	40.00	ppb	-0.01
91) Perylene-d12	16.069	264	408295	40.00	ppb	0.00
101) 1,4-Dichlorobenzene-d4a	3.788	152	136676	40.00	ppb	-0.07
103) Acenaphthene-d10a	8.212	164	236174	40.00	ppb	-0.06
106) Chrysene-d12a	14.389	240	403353	40.00	ppb	0.00
108) Naphthalene-d8a	5.500	136	482935	40.00	ppb	-0.07
System Monitoring Compounds						
5) 2-Fluorophenol	2.542	112	90989	19.84	ppb	-0.02
Spiked Amount 50.000			Recovery	=	39.68%	
8) Phenol-d5	3.516	99	116336	21.22	ppb	0.00
Spiked Amount 50.000			Recovery	=	42.44%	
25) Nitrobenzene-d5	4.521	82	83946	20.38	ppb	-0.07
Spiked Amount 50.000			Recovery	=	40.76%	
51) 2-Fluorobiphenyl	7.185	172	217726	29.11	ppb	-0.09
Spiked Amount 50.000			Recovery	=	58.22%	
73) 2,4,6-Tribromophenol	9.527	330	40797	33.21	ppb	-0.05
Spiked Amount 50.000			Recovery	=	66.42%	
85) Terphenyl-d14	13.026	244	277414	32.95	ppb	-0.03
Spiked Amount 50.000			Recovery	=	65.90%	
Target Compounds						Qvalue
38) Naphthalene	5.532	128	23149	1.84	ppb	69
44) 2-Methylnaphthalene	6.591	141	221704	30.33	ppb	98
59) Acenaphthene	8.260	153	79594	11.10	ppb	93
66) Fluorene	9.100	166	176280	23.93	ppb	77
77) Phenanthrene	10.629	178	484272	47.47	ppb	98
78) Anthracene	10.715	178	202486	19.81	ppb	85
81) Fluoranthene	12.453	202	111314	10.01	ppb	91
84) Pyrene	12.769	202	1018847	77.87	ppb	92
87) Benzo[a]anthracene	14.379	228	100176	8.51	ppb	63
89) Chrysene	14.416	228	122909m	11.38	ppb	

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

9.1.10

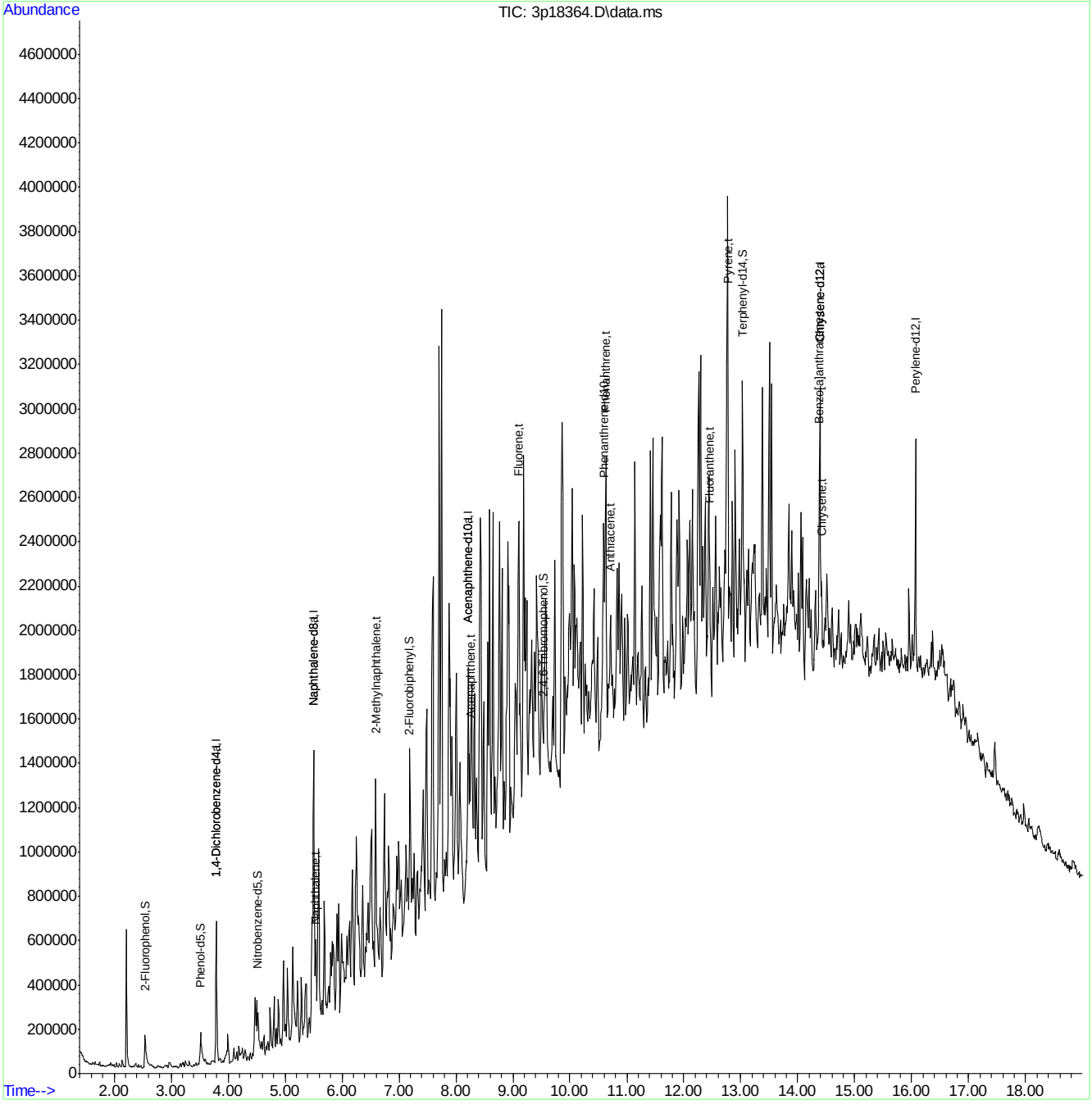
9

SGS ACCUTEST JB31800

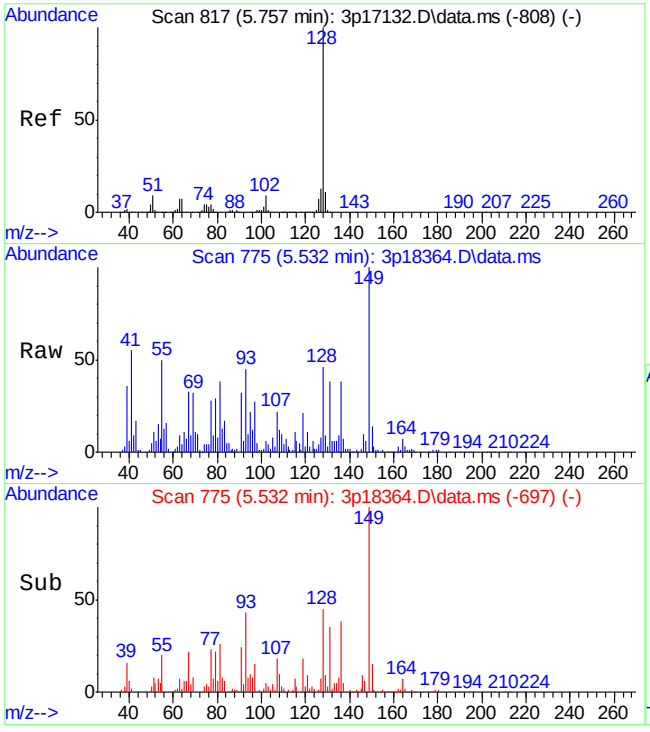
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18364.D
Acq On : 4 Apr 2013 4:40 am
Operator : ashleyd
Sample : jb31800-8
Misc : op64810,e3p827,31.4
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 04 12:22:52 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



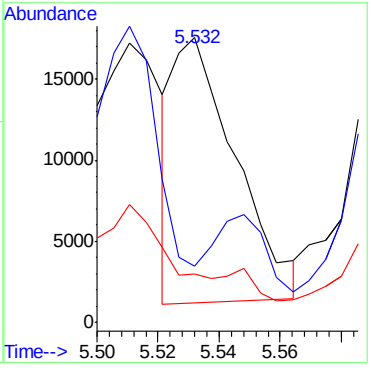
SGS ACCUTEST JB31800

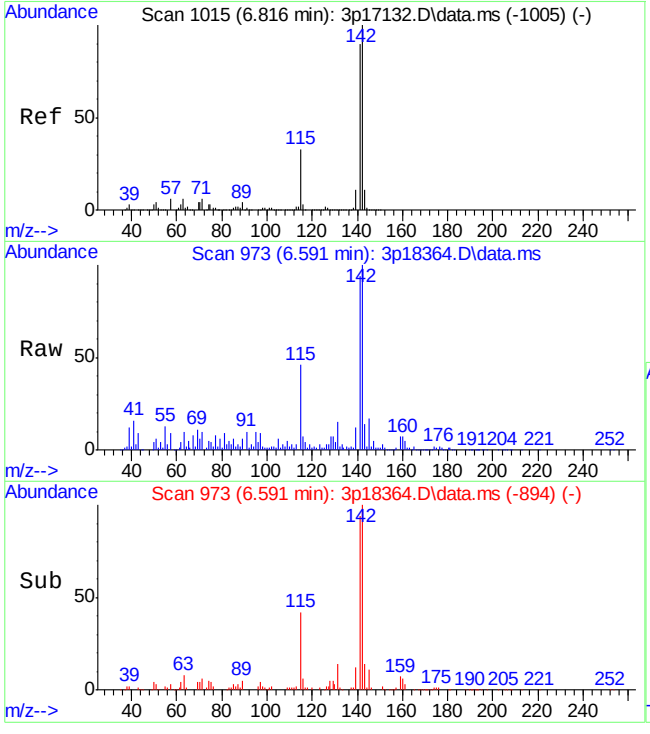


#38
Naphthalene
Concen: 1.84 ppb
RT: 5.532 min Scan# 775
Delta R.T. -0.085 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:128 Resp: 23149

Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	40.8
127	0.1	0.0	43.0

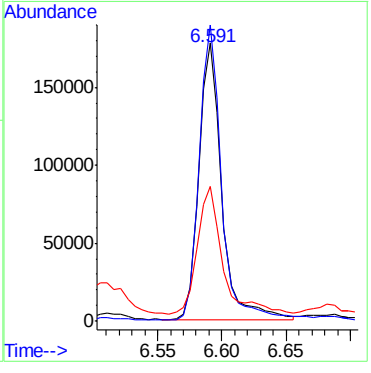


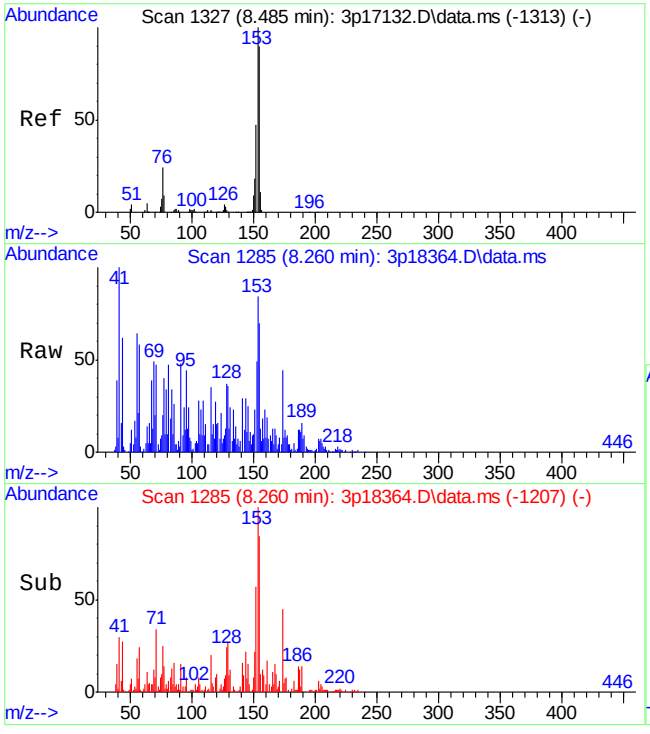


#44
2-Methylnaphthalene
Concen: 30.33 ppb
RT: 6.591 min Scan# 973
Delta R.T. -0.080 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:141 Resp: 221704

Ion	Ratio	Lower	Upper
141	100		
142	106.6	76.3	136.3
115	46.2	21.1	81.1

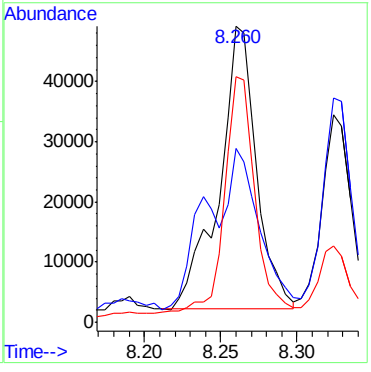


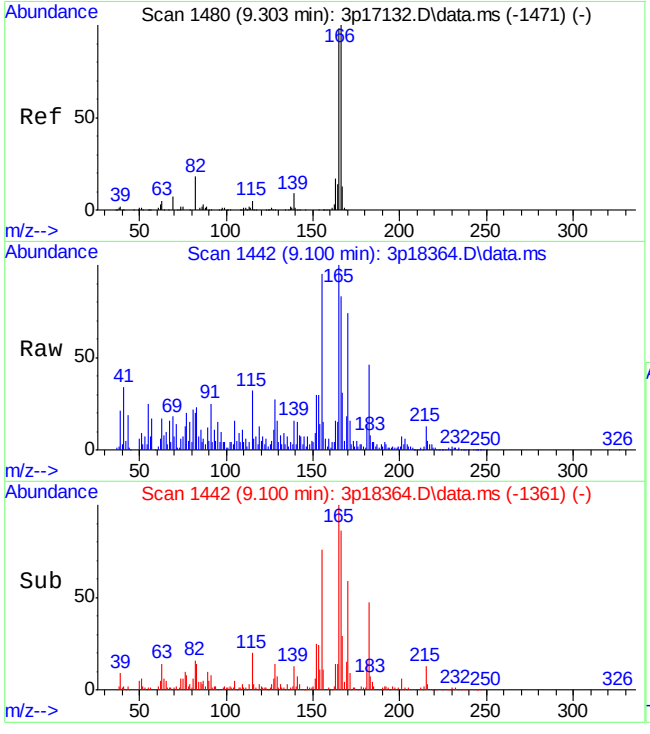


#59
Acenaphthene
Concen: 11.10 ppb
RT: 8.260 min Scan# 1285
Delta R.T. -0.085 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:153 Resp: 79594

Ion	Ratio	Lower	Upper
153	100		
152	55.5	16.8	76.8
154	83.5	57.6	117.6

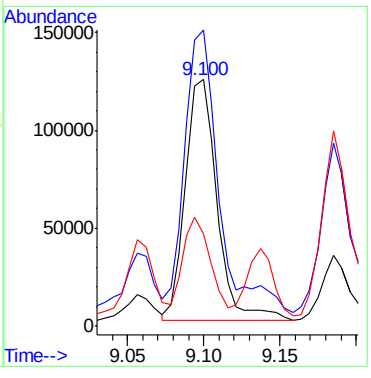


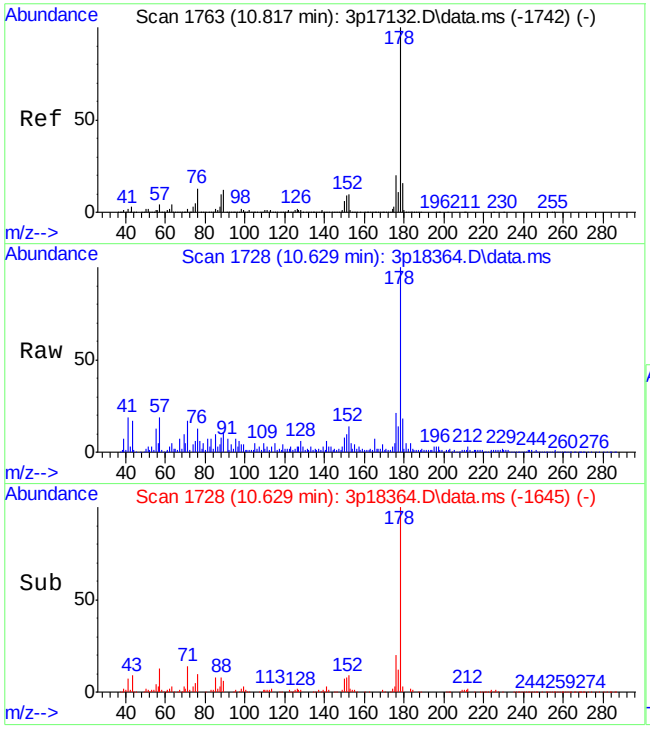


#66
Fluorene
Concen: 23.93 ppb
RT: 9.100 min Scan# 1442
Delta R.T. -0.069 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:166 Resp: 176280

Ion	Ratio	Lower	Upper
166	100		
165	115.9	66.8	126.8
167	31.7	0.0	43.0

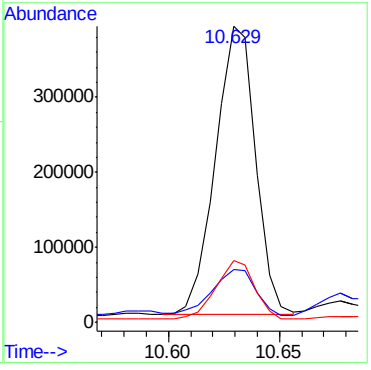


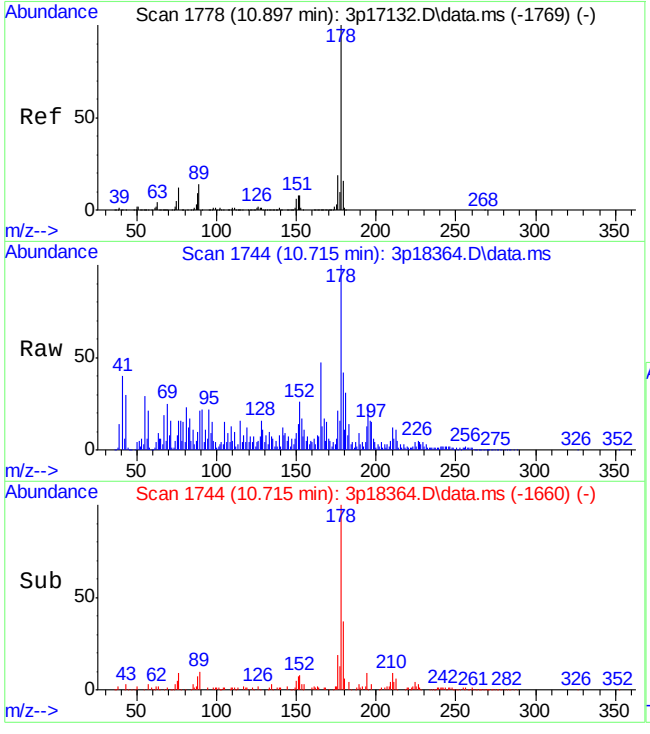


#77
Phenanthrene
Concen: 47.47 ppb
RT: 10.629 min Scan# 1728
Delta R.T. -0.059 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:178 Resp: 484272

Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	45.2
176	20.4	0.0	48.9

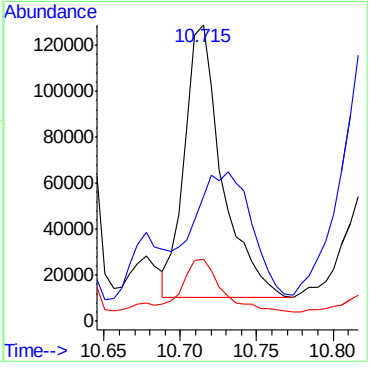




#78
Anthracene
Concen: 19.81 ppb
RT: 10.715 min Scan# 1744
Delta R.T. -0.053 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:178 Resp: 202486

Ion	Ratio	Lower	Upper
178	100		
179	29.3	0.0	44.9
176	18.9	0.0	48.9



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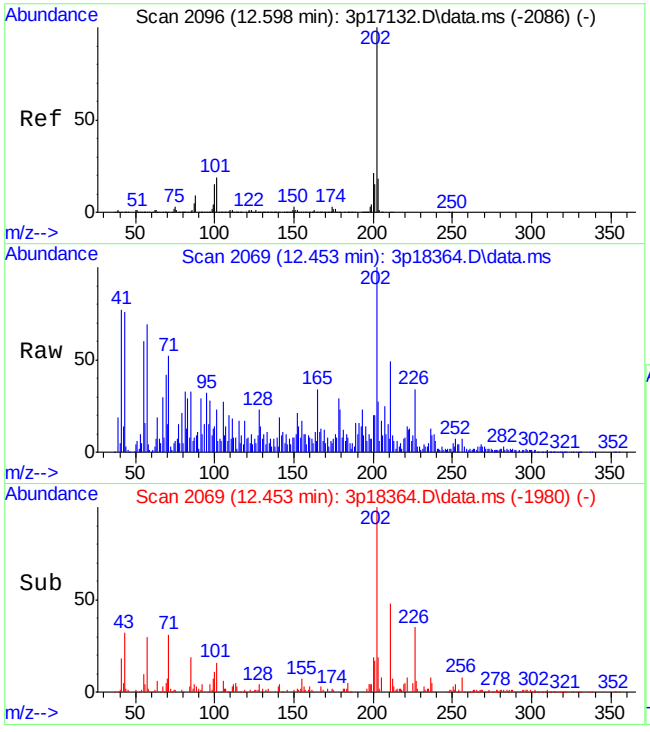
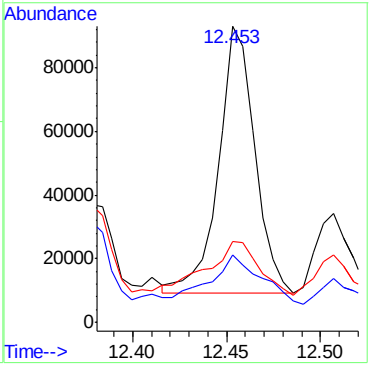
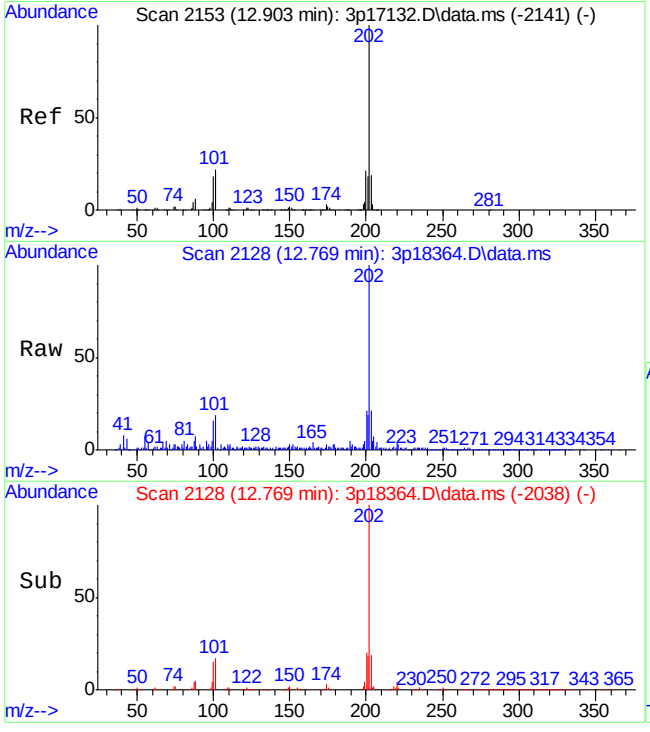


#81
Fluoranthene
Concen: 10.01 ppb
RT: 12.453 min Scan# 2069
Delta R.T. -0.027 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:202 Resp: 111314

Ion	Ratio	Lower	Upper
202	100		
101	22.8	0.0	53.3
203	27.2	0.0	48.9

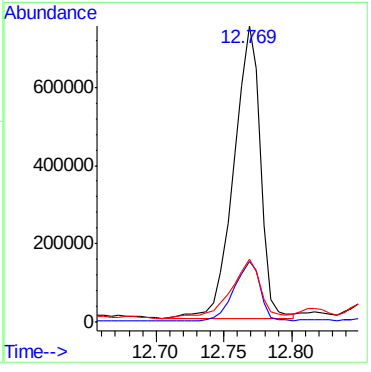


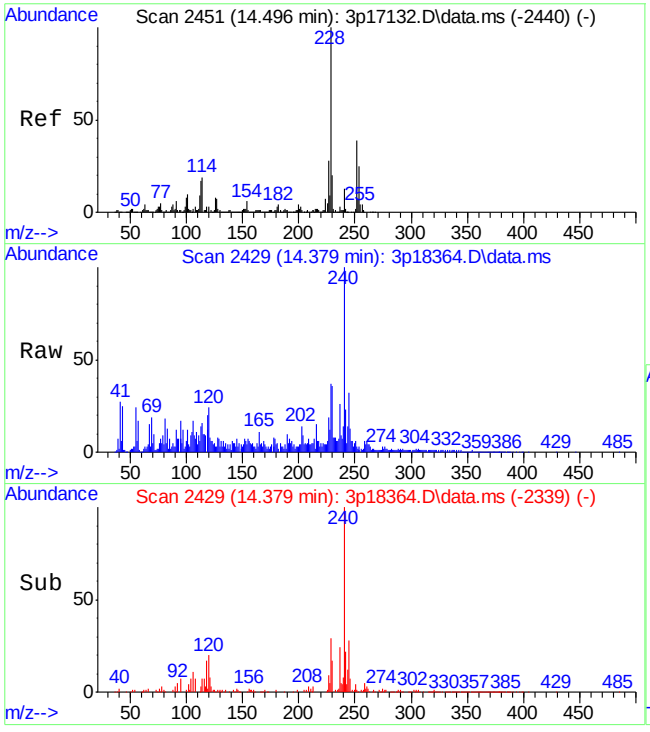


#84
Pyrene
Concen: 77.87 ppb
RT: 12.769 min Scan# 2128
Delta R.T. -0.021 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:202 Resp: 1018847

Ion	Ratio	Lower	Upper
202	100		
200	20.6	0.0	46.6
203	19.7	0.0	53.5

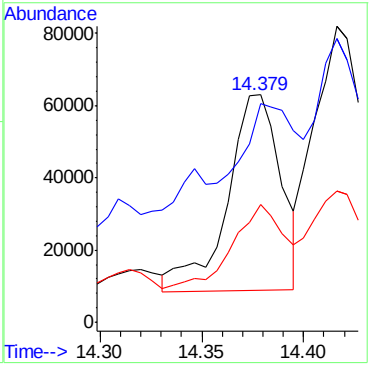


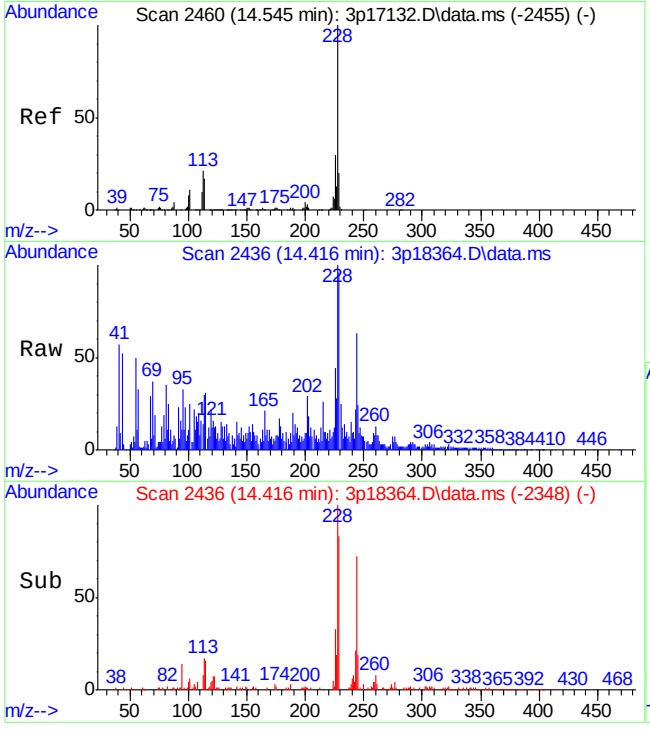


#87
Benzo[a]anthracene
Concen: 8.51 ppb
RT: 14.379 min Scan# 2429
Delta R.T. -0.021 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:228 Resp: 100176

Ion	Ratio	Lower	Upper
228	100		
229	45.1	0.0	49.9
226	41.5	0.0	58.4

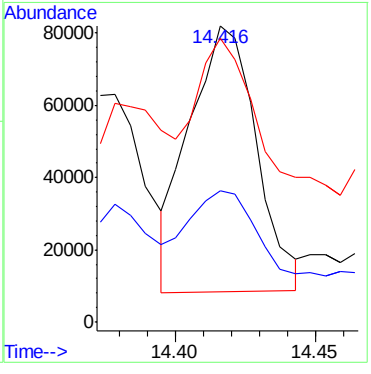




#89
Chrysene
Concen: 11.38 ppb m
RT: 14.416 min Scan# 2436
Delta R.T. -0.032 min
Lab File: 3p18364.D
Acq: 4 Apr 2013 4:40 am

Tgt Ion:228 Resp: 122909

Ion	Ratio	Lower	Upper
228	100		
226	44.4	0.0	59.7
229	95.8	0.0	49.1#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18307.D
Acq On : 2 Apr 2013 7:45 pm
Operator : katelynh
Sample : jb31800-9
Misc : op64810,e3p825,30.7
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 03 12:03:14 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	123612	40.00	ppb	-0.07
24) Naphthalene-d8	5.505	136	439148	40.00	ppb	-0.08
47) Acenaphthene-d10	8.201	164	221801	40.00	ppb	-0.09
69) Phenanthrene-d10	10.560	188	341388	40.00	ppb	-0.08
83) Chrysene-d12	14.341	240	378200	40.00	ppb	-0.06
91) Perylene-d12	16.015	264	364804	40.00	ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.804	152	123594	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.201	164	222513	40.00	ppb	-0.07
106) Chrysene-d12a	14.341	240	378200	40.00	ppb	-0.04
108) Naphthalene-d8a	5.505	136	439148	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	91796	22.14	ppb	-0.03
Spiked Amount 50.000			Recovery = 44.28%			
8) Phenol-d5	3.494	99	121159	24.44	ppb	-0.03
Spiked Amount 50.000			Recovery = 48.88%			
25) Nitrobenzene-d5	4.537	82	92236	24.62	ppb	-0.05
Spiked Amount 50.000			Recovery = 49.24%			
51) 2-Fluorobiphenyl	7.185	172	192264	27.37	ppb	-0.09
Spiked Amount 50.000			Recovery = 54.74%			
73) 2,4,6-Tribromophenol	9.501	330	44396	38.47	ppb	-0.07
Spiked Amount 50.000			Recovery = 76.94%			
85) Terphenyl-d14	12.988	244	295274	37.41	ppb	-0.07
Spiked Amount 50.000			Recovery = 74.82%			
Target Compounds						Qvalue
77) Phenanthrene	10.597	178	8863	0.92	ppb	96
81) Fluoranthene	12.426	202	4749	0.45	ppb	88
84) Pyrene	12.726	202	10864	0.89	ppb	85
87) Benzo[a]anthracene	14.331	228	6051	0.55	ppb	98
89) Chrysene	14.373	228	7322	0.72	ppb	98

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

9.1.11

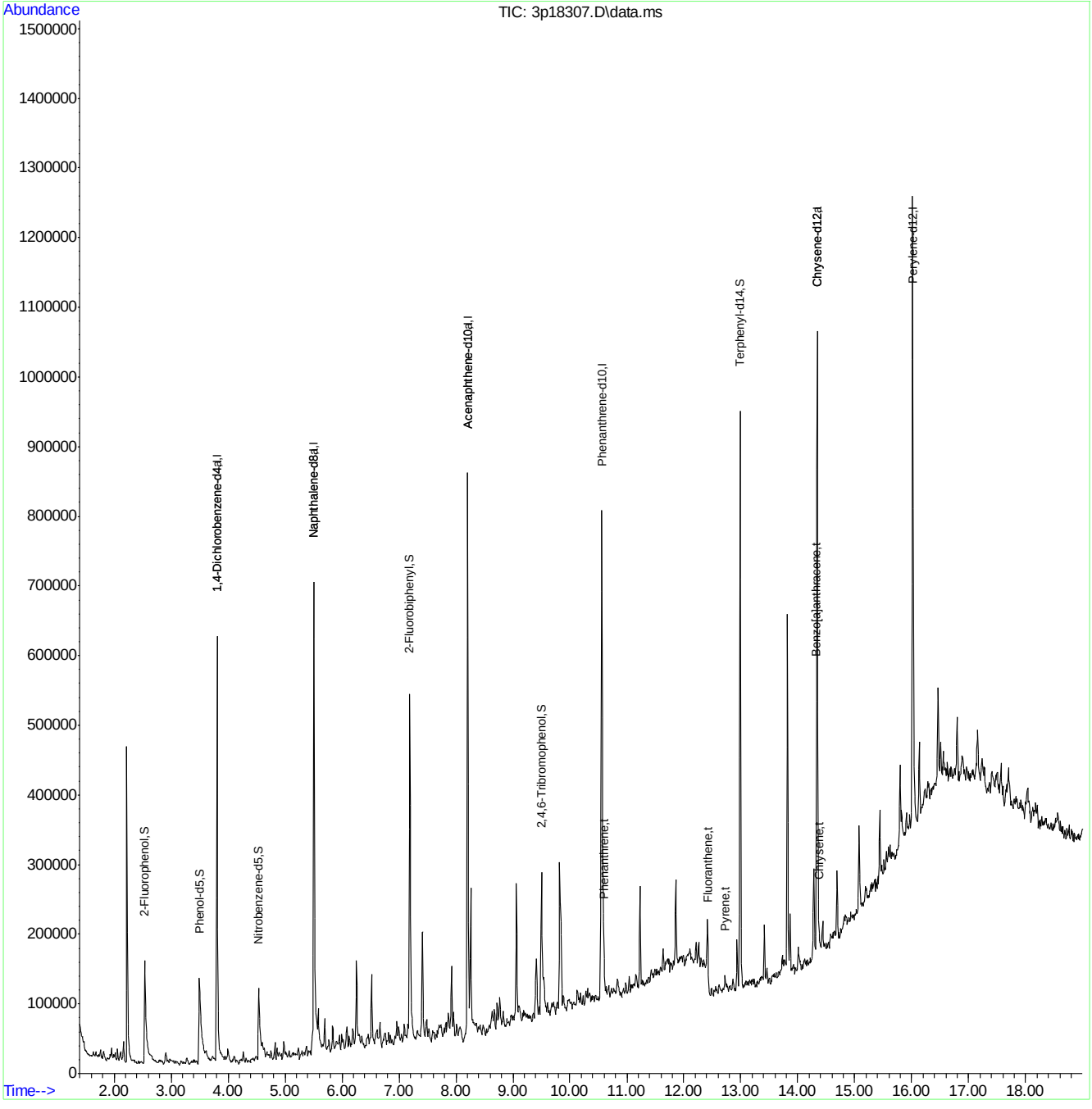
9

SGS ACCUTEST JB31800

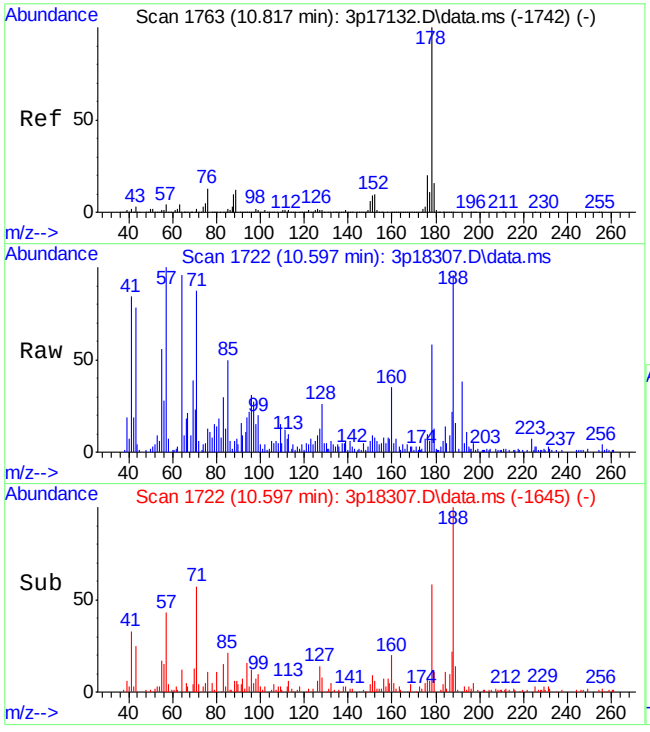
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18307.D
Acq On : 2 Apr 2013 7:45 pm
Operator : katelynh
Sample : jb31800-9
Misc : op64810,e3p825,30.7
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 03 12:03:14 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



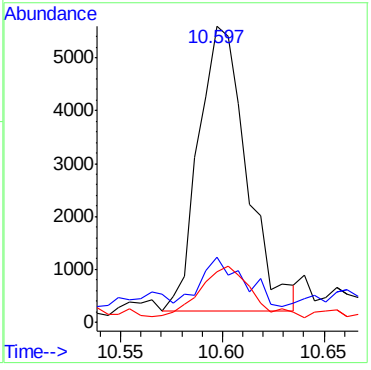
M3P782.M Wed Apr 03 12:03:17 2013 RPT1 Page: 2

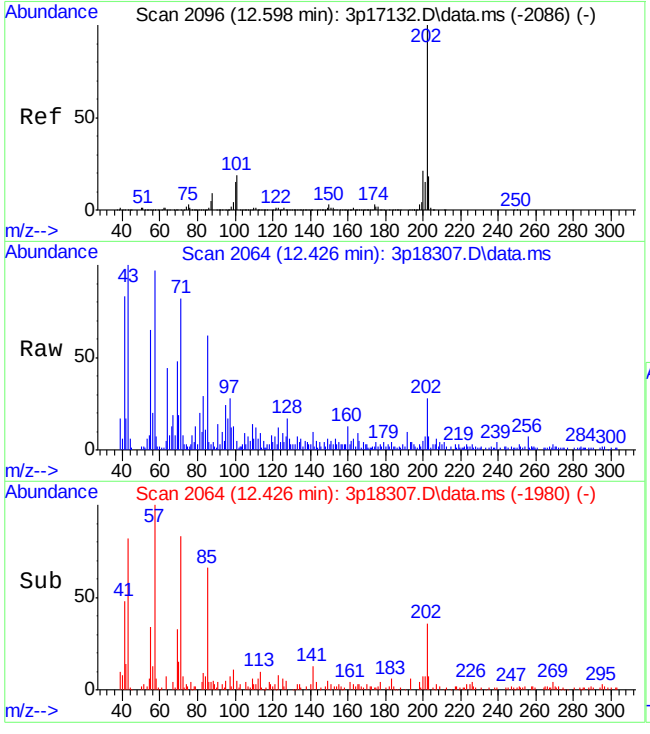


#77
Phenanthrene
Concen: 0.92 ppb
RT: 10.597 min Scan# 1722
Delta R.T. -0.091 min
Lab File: 3p18307.D
Acq: 2 Apr 2013 7:45 pm

Tgt Ion:178 Resp: 8863

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	45.2
176	15.3	0.0	48.9

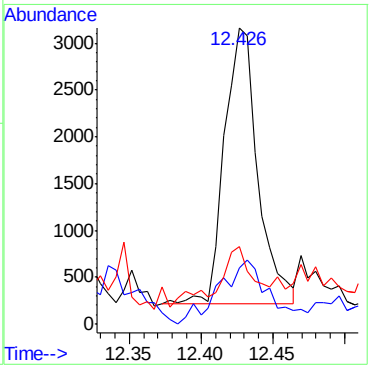




#81
Fluoranthene
Concen: 0.45 ppb
RT: 12.426 min Scan# 2064
Delta R.T. -0.053 min
Lab File: 3p18307.D
Acq: 2 Apr 2013 7:45 pm

Tgt Ion:202 Resp: 4749

Ion	Ratio	Lower	Upper
202	100		
101	19.0	0.0	53.3
203	26.1	0.0	48.9



9.1.11

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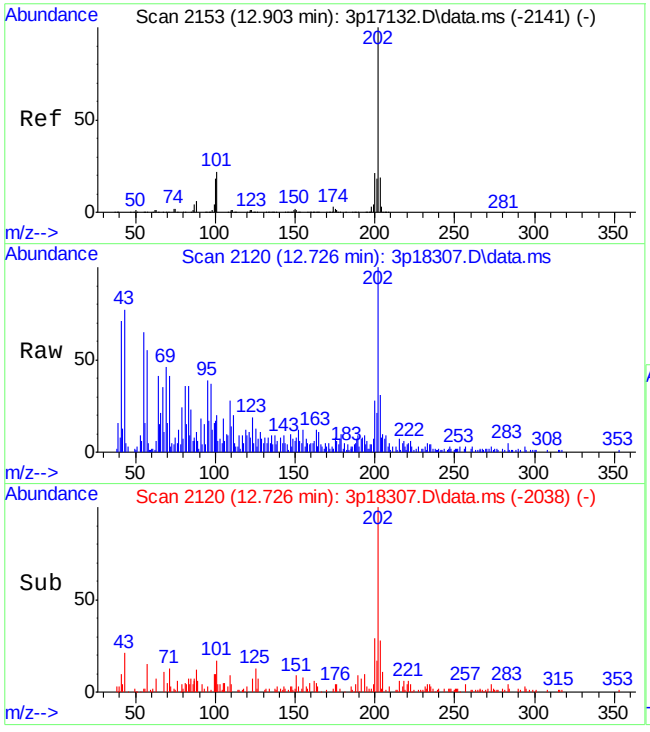
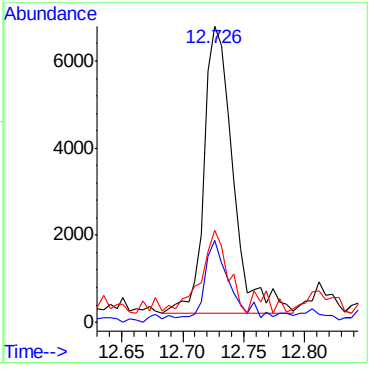
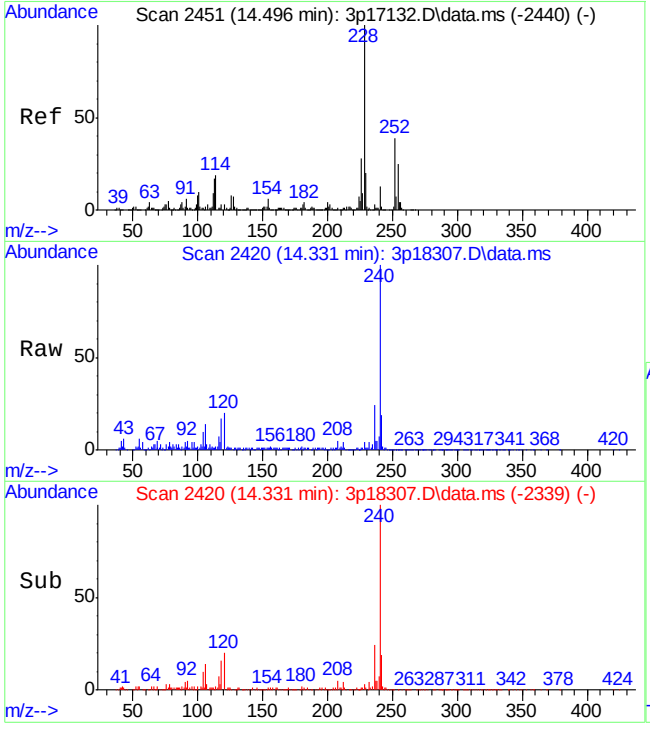


#84
Pyrene
Concen: 0.89 ppb
RT: 12.726 min Scan# 2120
Delta R.T. -0.064 min
Lab File: 3p18307.D
Acq: 2 Apr 2013 7:45 pm

Tgt Ion:202 Resp: 10864

Ion	Ratio	Lower	Upper
202	100		
200	27.0	0.0	46.6
203	28.0	0.0	53.5

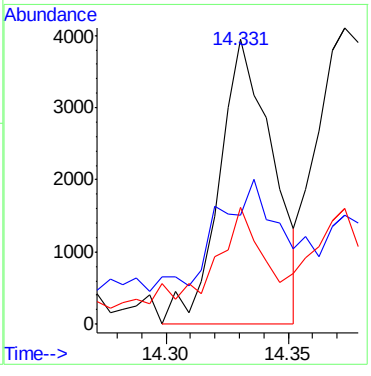




#87
Benzo[a]anthracene
Concen: 0.55 ppb
RT: 14.331 min Scan# 2420
Delta R.T. -0.069 min
Lab File: 3p18307.D
Acq: 2 Apr 2013 7:45 pm

Tgt Ion:228 Resp: 6051

Ion	Ratio	Lower	Upper
228	100		
229	20.1	0.0	49.9
226	30.2	0.0	58.4



9.1.11

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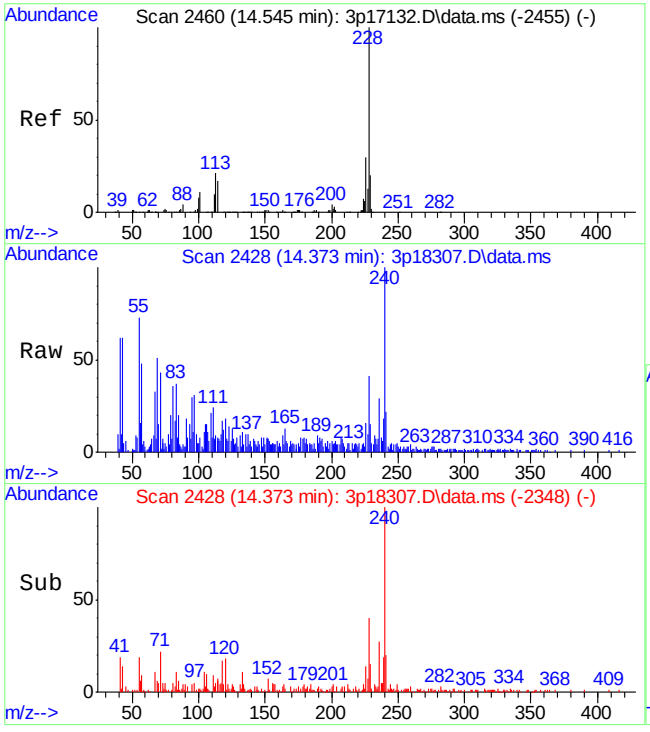
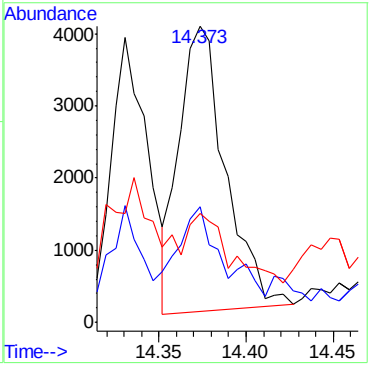


#89
Chrysene
Concen: 0.72 ppb
RT: 14.373 min Scan# 2428
Delta R.T. -0.075 min
Lab File: 3p18307.D
Acq: 2 Apr 2013 7:45 pm

Tgt Ion:228 Resp: 7322

Ion	Ratio	Lower	Upper
228	100		
226	30.9	0.0	59.7
229	18.6	0.0	49.1



9.1.11

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18365.D
Acq On : 4 Apr 2013 5:04 am
Operator : ashleyd
Sample : jb31800-10
Misc : op64810,e3p827,31.7
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 12:23:36 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.788	152	134483	40.00	ppb	-0.09
24) Naphthalene-d8	5.500	136	501747	40.00	ppb	-0.15
47) Acenaphthene-d10	8.201	164	242790	40.00	ppb	-0.09
69) Phenanthrene-d10	10.570	188	383734	40.00	ppb	-0.07
83) Chrysene-d12	14.379	240	407352	40.00	ppb	-0.02
91) Perylene-d12	16.090	264	402604	40.00	ppb	0.03
101) 1,4-Dichlorobenzene-d4a	3.788	152	134633	40.00	ppb	-0.07
103) Acenaphthene-d10a	8.201	164	242790	40.00	ppb	-0.07
106) Chrysene-d12a	14.379	240	407352	40.00	ppb	0.00
108) Naphthalene-d8a	5.500	136	501747	40.00	ppb	-0.07
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	130078	28.83	ppb	-0.03
Spiked Amount 50.000			Recovery = 57.66%			
8) Phenol-d5	3.510	99	158932	29.46	ppb	-0.01
Spiked Amount 50.000			Recovery = 58.92%			
25) Nitrobenzene-d5	4.521	82	144554	33.78	ppb	-0.07
Spiked Amount 50.000			Recovery = 67.56%			
51) 2-Fluorobiphenyl	7.179	172	284220	36.96	ppb	-0.09
Spiked Amount 50.000			Recovery = 73.92%			
73) 2,4,6-Tribromophenol	9.511	330	50172	38.67	ppb	-0.06
Spiked Amount 50.000			Recovery = 77.34%			
85) Terphenyl-d14	13.009	244	318417	37.45	ppb	-0.05
Spiked Amount 50.000			Recovery = 74.90%			
Target Compounds						Qvalue
38) Naphthalene	5.532	128	48537	3.71	ppb	95
44) 2-Methylnaphthalene	6.586	141	68949	9.08	ppb	92
77) Phenanthrene	10.608	178	75510	7.01	ppb	98
78) Anthracene	10.693	178	13426	1.24	ppb	90
81) Fluoranthene	12.432	202	21240	1.81	ppb	74
84) Pyrene	12.742	202	76360	5.78	ppb	88
87) Benzo[a]anthracene	14.368	228	17355	1.46	ppb	91
89) Chrysene	14.411	228	26088	2.39	ppb	91

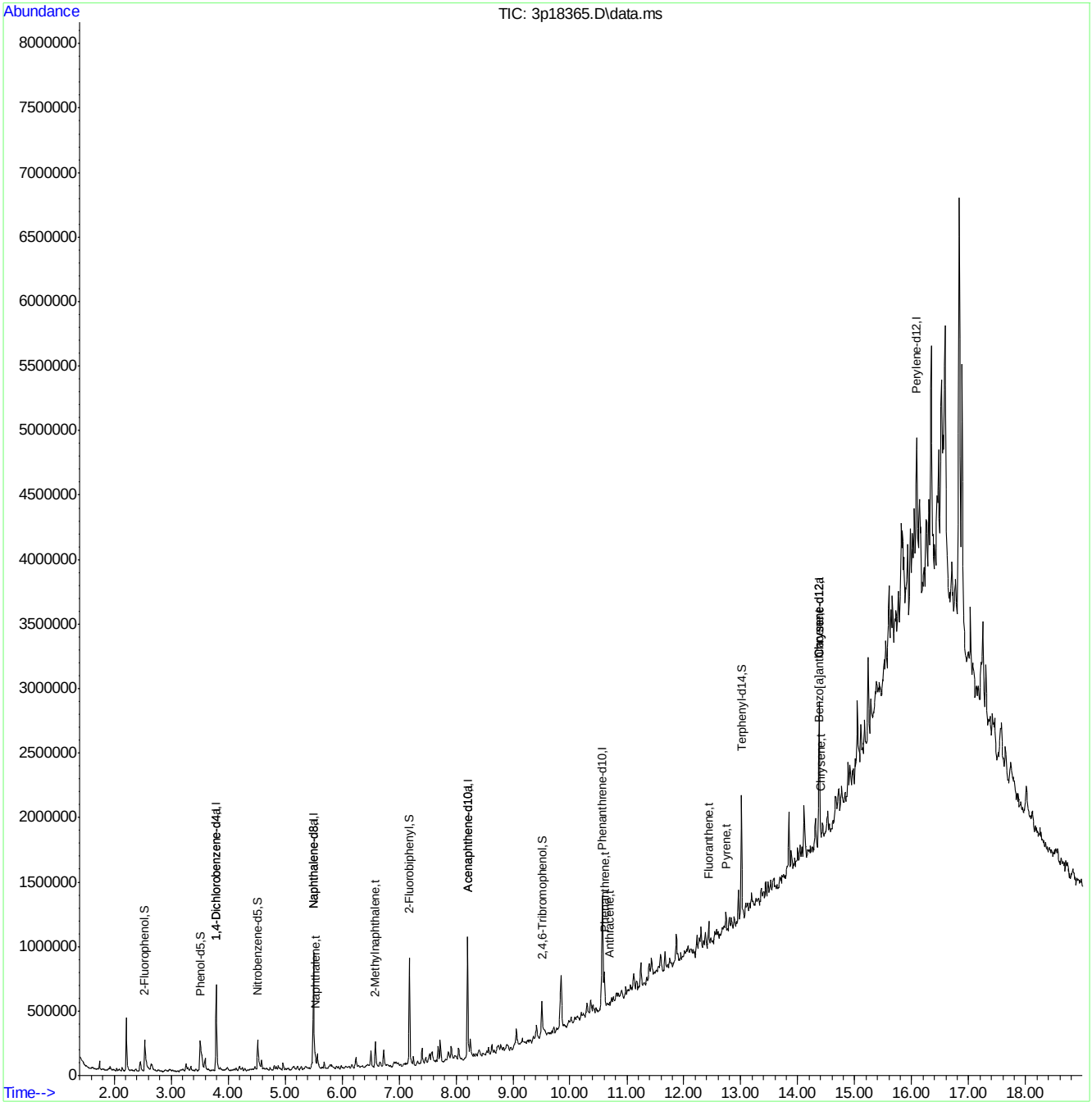
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

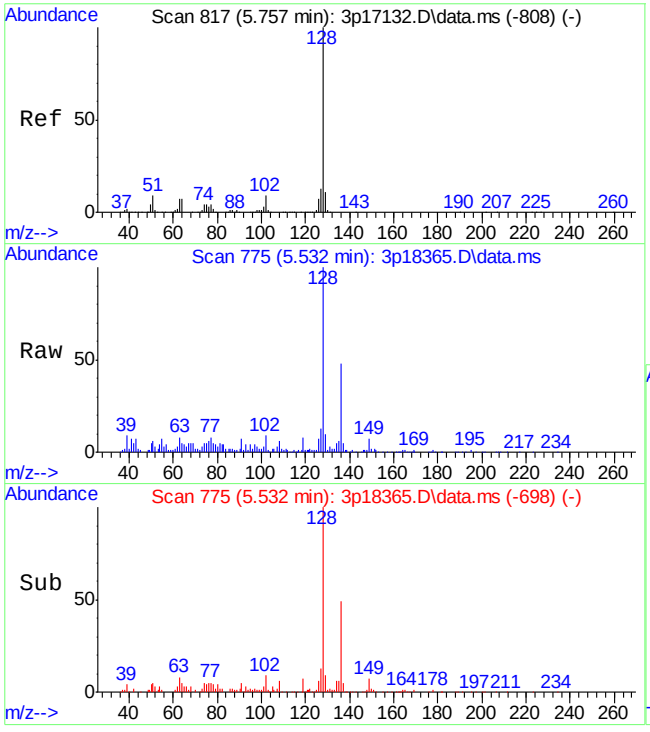
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\827\
Data File : 3p18365.D
Acq On : 4 Apr 2013 5:04 am
Operator : ashleyd
Sample : jb31800-10
Misc : op64810,e3p827,31.7
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 12:23:36 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



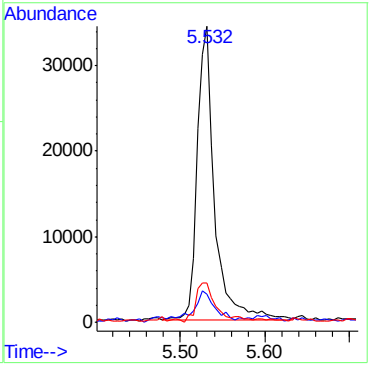
SGS ACCUTEST JB31800

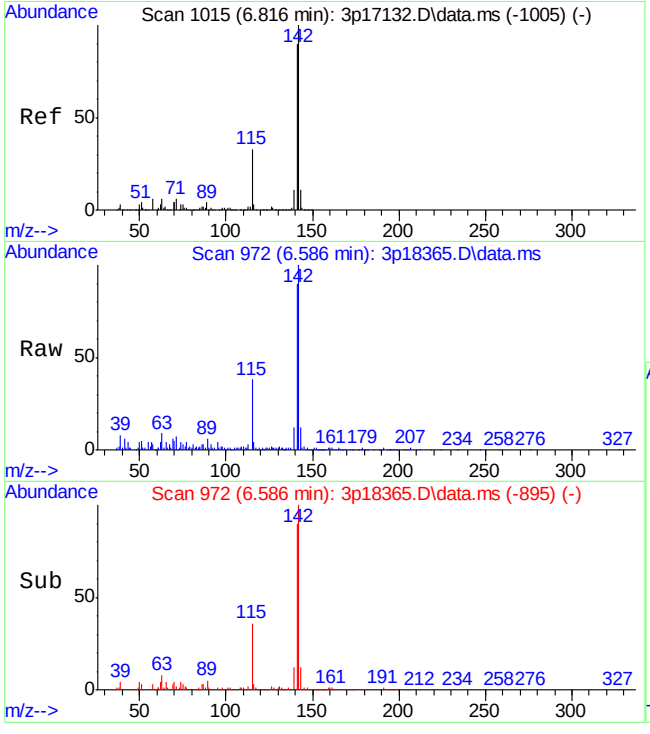


#38
Naphthalene
Concen: 3.71 ppb
RT: 5.532 min Scan# 775
Delta R.T. -0.086 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:128 Resp: 48537

Ion	Ratio	Lower	Upper
128	100		
129	8.3	0.0	40.8
127	11.6	0.0	43.0

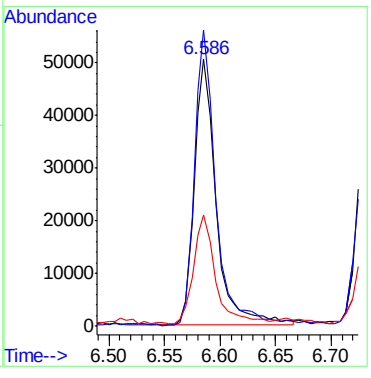


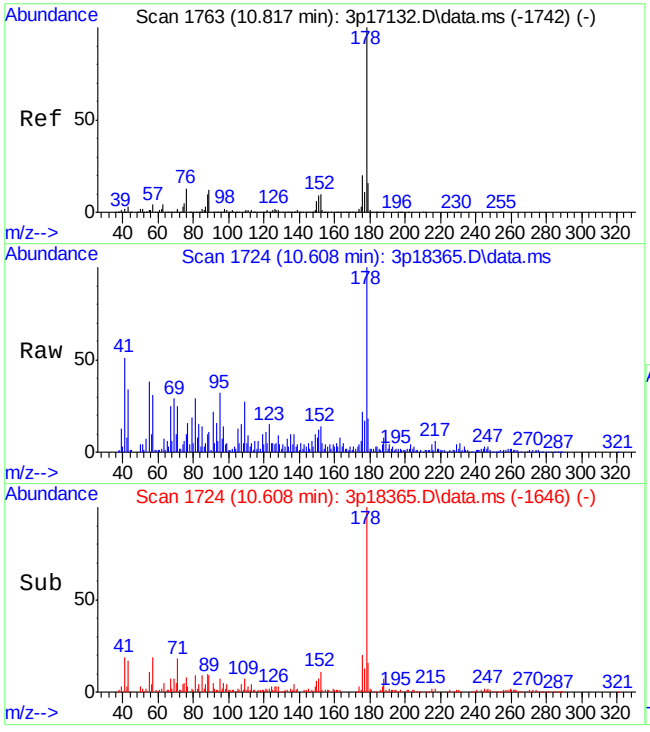


#44
2-Methylnaphthalene
Concen: 9.08 ppb
RT: 6.586 min Scan# 972
Delta R.T. -0.086 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:141 Resp: 68949

Ion	Ratio	Lower	Upper
141	100		
142	111.3	76.3	136.3
115	40.4	21.1	81.1

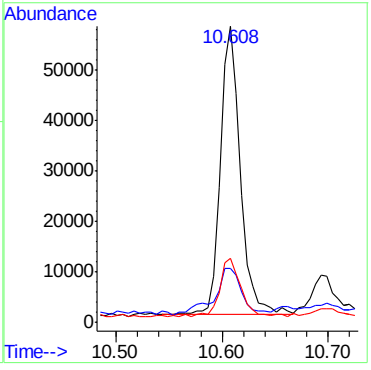


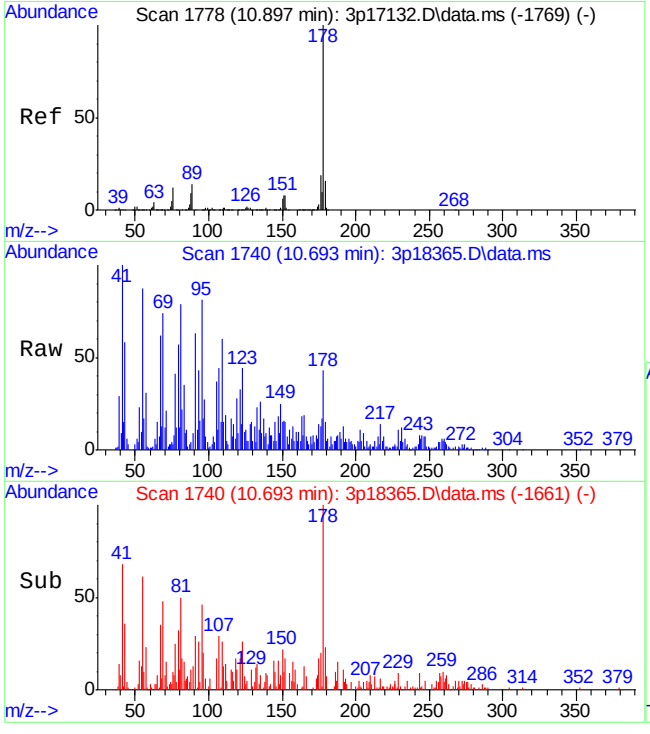


#77
Phenanthrene
Concen: 7.01 ppb
RT: 10.608 min Scan# 1724
Delta R.T. -0.080 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:178 Resp: 75510

Ion	Ratio	Lower	Upper
178	100		
179	14.2	0.0	45.2
176	19.5	0.0	48.9

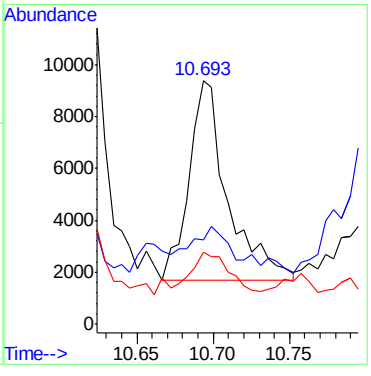




#78
Anthracene
Concen: 1.24 ppb
RT: 10.693 min Scan# 1740
Delta R.T. -0.075 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:178 Resp: 13426

Ion	Ratio	Lower	Upper
178	100		
179	11.6	0.0	44.9
176	13.8	0.0	48.9



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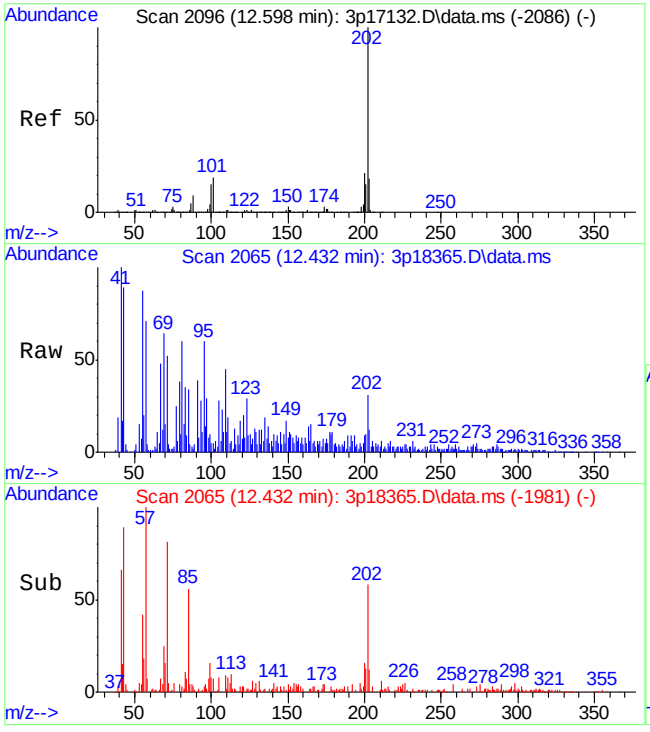
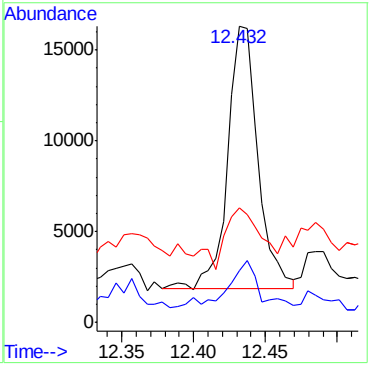
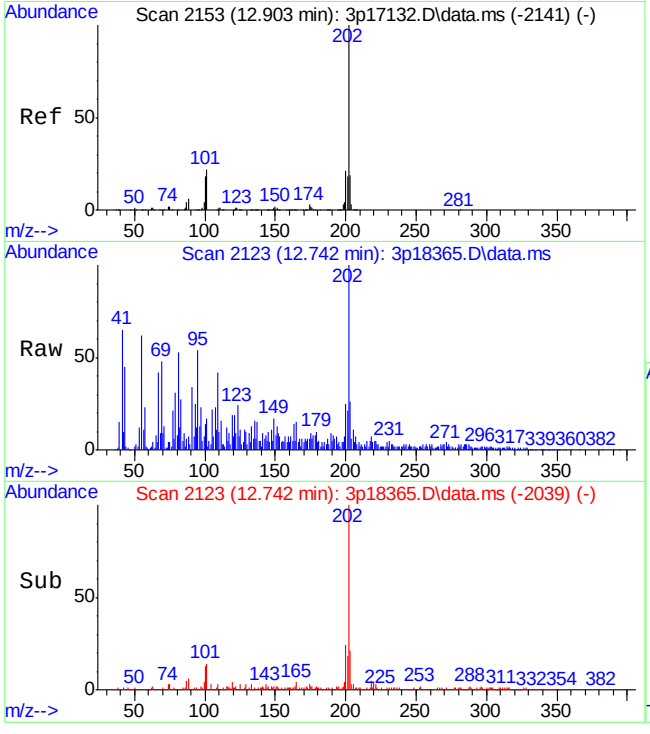


#81
Fluoranthene
Concen: 1.81 ppb
RT: 12.432 min Scan# 2065
Delta R.T. -0.048 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:202 Resp: 21240

Ion	Ratio	Lower	Upper
202	100		
101	17.4	0.0	53.3
203	38.6	0.0	48.9

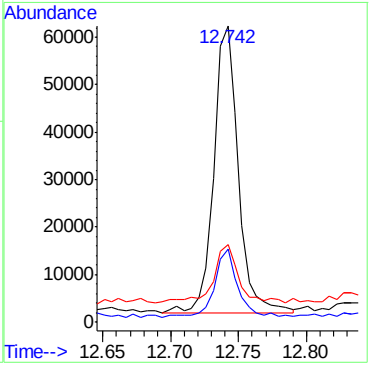


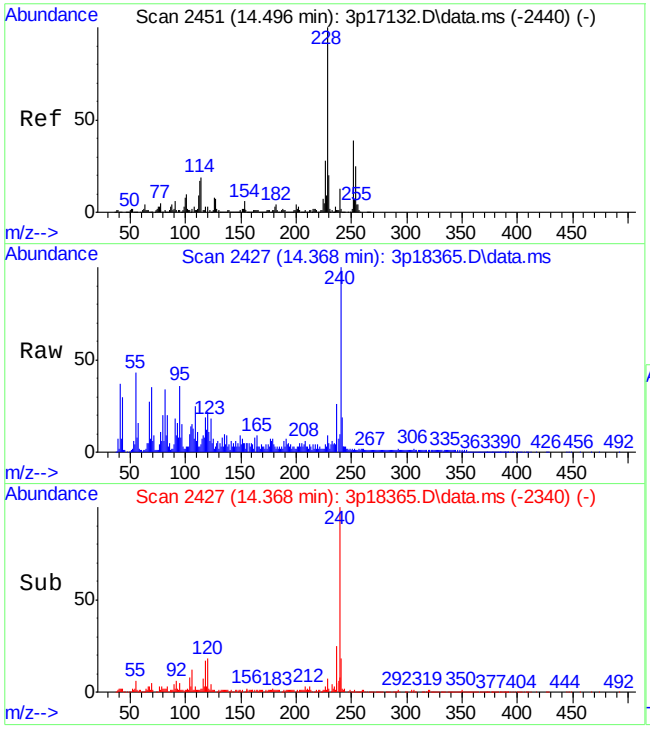


#84
Pyrene
Concen: 5.78 ppb
RT: 12.742 min Scan# 2123
Delta R.T. -0.048 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:202 Resp: 76360

Ion	Ratio	Lower	Upper
202	100		
200	23.7	0.0	46.6
203	19.6	0.0	53.5

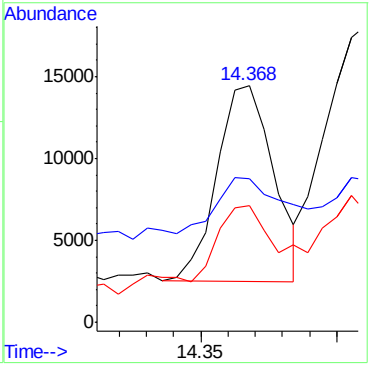


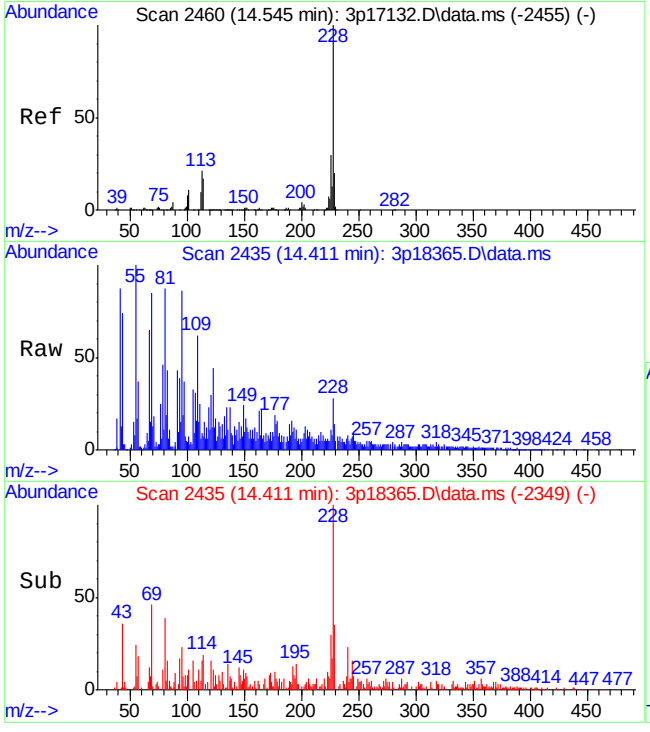


#87
Benzo[a]anthracene
Concen: 1.46 ppb
RT: 14.368 min Scan# 2427
Delta R.T. -0.032 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:228 Resp: 17355

Ion	Ratio	Lower	Upper
228	100		
229	23.6	0.0	49.9
226	33.2	0.0	58.4

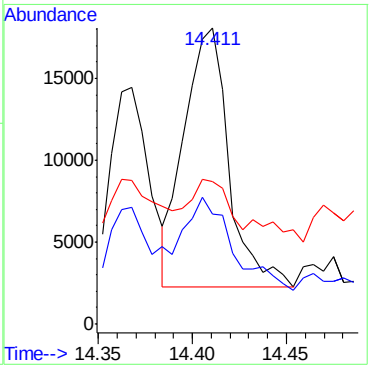




#89
Chrysene
Concen: 2.39 ppb
RT: 14.411 min Scan# 2435
Delta R.T. -0.037 min
Lab File: 3p18365.D
Acq: 4 Apr 2013 5:04 am

Tgt Ion:228 Resp: 26088

Ion	Ratio	Lower	Upper
228	100		
226	23.9	0.0	59.7
229	16.3	0.0	49.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18293.D
Acq On : 2 Apr 2013 1:52 pm
Operator : katelynh
Sample : jb31800-11
Misc : op64810,e3p825,32.4
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 02 14:22:27 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.804	152	107381	40.00 ppb	-0.07
24) Naphthalene-d8	5.511	136	383661	40.00 ppb	-0.07
47) Acenaphthene-d10	8.201	164	196753	40.00 ppb	-0.09
69) Phenanthrene-d10	10.560	188	316158	40.00 ppb	-0.08
83) Chrysene-d12	14.341	240	338584	40.00 ppb	-0.06
91) Perylene-d12	16.015	264	322883	40.00 ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.804	152	107405	40.00 ppb	-0.05
103) Acenaphthene-d10a	8.201	164	196753	40.00 ppb	-0.07
106) Chrysene-d12a	14.341	240	338584	40.00 ppb	-0.04
108) Naphthalene-d8a	5.511	136	383661	40.00 ppb	-0.06
System Monitoring Compounds					
5) 2-Fluorophenol	2.537	112	108881	30.22 ppb	-0.03
Spiked Amount 50.000			Recovery	= 60.44%	
8) Phenol-d5	3.494	99	127492	29.60 ppb	-0.03
Spiked Amount 50.000			Recovery	= 59.20%	
25) Nitrobenzene-d5	4.532	82	104062	31.80 ppb	-0.06
Spiked Amount 50.000			Recovery	= 63.60%	
51) 2-Fluorobiphenyl	7.190	172	213882	34.32 ppb	-0.08
Spiked Amount 50.000			Recovery	= 68.64%	
73) 2,4,6-Tribromophenol	9.501	330	44598	41.72 ppb	-0.07
Spiked Amount 50.000			Recovery	= 83.44%	
85) Terphenyl-d14	12.988	244	319354	45.19 ppb	-0.07
Spiked Amount 50.000			Recovery	= 90.38%	
Target Compounds					Qvalue
38) Naphthalene	5.543	128	527907	52.71 ppb	99
44) 2-Methylnaphthalene	6.596	141	401570	69.15 ppb	94

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

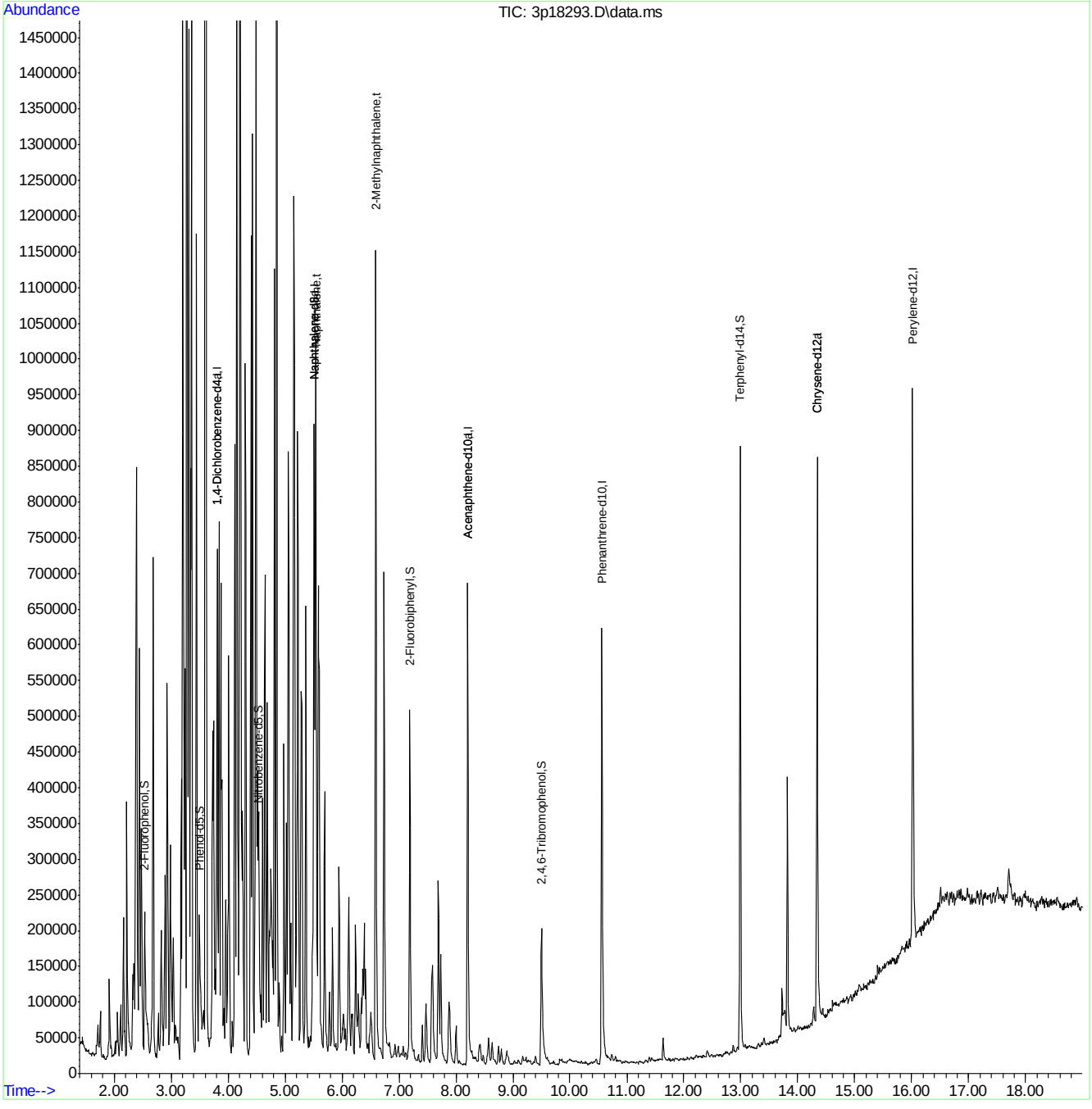
9.1.13

9

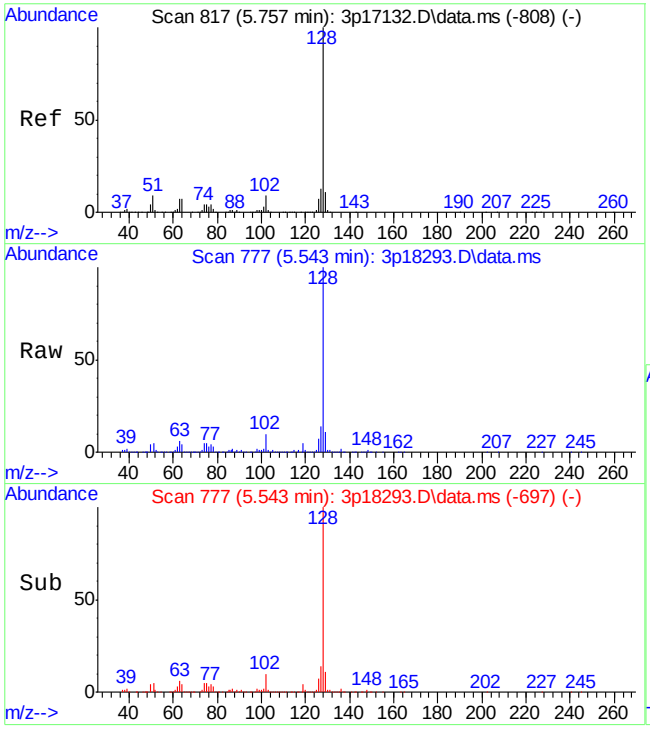
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18293.D
Acq On : 2 Apr 2013 1:52 pm
Operator : katelynh
Sample : jb31800-11
Misc : op64810,e3p825,32.4
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 02 14:22:27 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



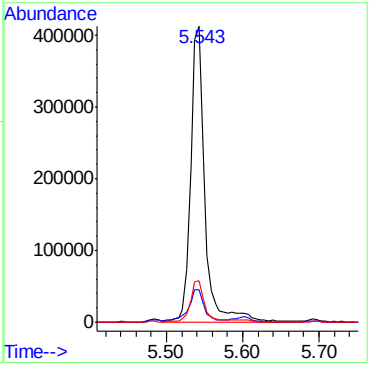
SGS ACCUTEST JB31800

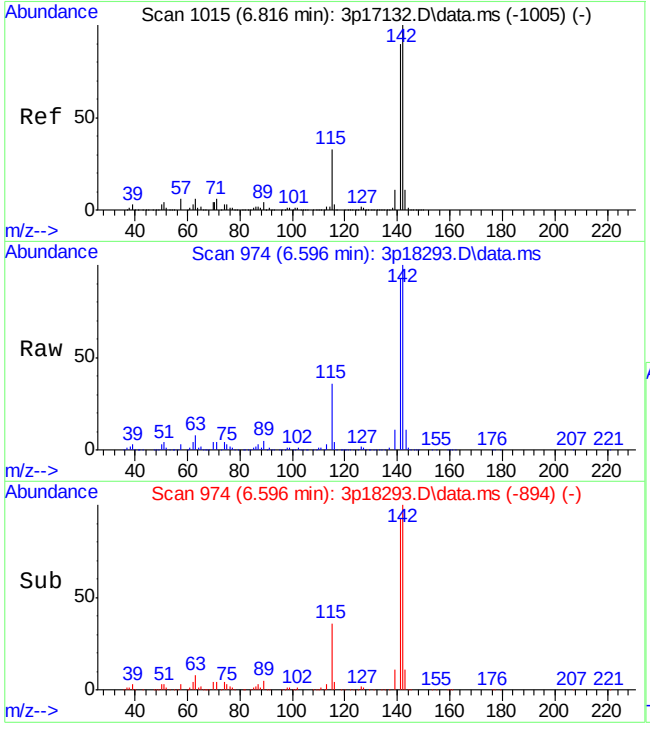


#38
Naphthalene
Concen: 52.71 ppb
RT: 5.543 min Scan# 777
Delta R.T. -0.075 min
Lab File: 3p18293.D
Acq: 2 Apr 2013 1:52 pm

Tgt Ion:128 Resp: 527907

Ion	Ratio	Lower	Upper
128	100		
129	10.8	0.0	40.8
127	13.8	0.0	43.0

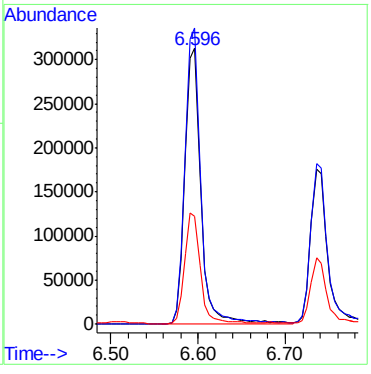




#44
2-Methylnaphthalene
Concen: 69.15 ppb
RT: 6.596 min Scan# 974
Delta R.T. -0.075 min
Lab File: 3p18293.D
Acq: 2 Apr 2013 1:52 pm

Tgt Ion:141 Resp: 401570

Ion	Ratio	Lower	Upper
141	100		
142	107.5	76.3	136.3
115	38.9	21.1	81.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18294.D
Acq On : 2 Apr 2013 2:16 pm
Operator : katelynh
Sample : jb31800-12
Misc : op64810,e3p825,33.2
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 02 15:47:03 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.805	152	143229	40.00 ppb	-0.07
24) Naphthalene-d8	5.505	136	488867	40.00 ppb	-0.08
47) Acenaphthene-d10	8.201	164	249077	40.00 ppb	-0.09
69) Phenanthrene-d10	10.560	188	395479	40.00 ppb	-0.08
83) Chrysene-d12	14.341	240	411871	40.00 ppb	-0.06
91) Perylene-d12	16.015	264	380024	40.00 ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.805	152	143229	40.00 ppb	-0.05
103) Acenaphthene-d10a	8.201	164	249077	40.00 ppb	-0.07
106) Chrysene-d12a	14.341	240	411871	40.00 ppb	-0.04
108) Naphthalene-d8a	5.505	136	488867	40.00 ppb	-0.06
System Monitoring Compounds					
5) 2-Fluorophenol	2.537	112	119711	24.91 ppb	-0.03
Spiked Amount 50.000			Recovery	= 49.82%	
8) Phenol-d5	3.494	99	149034	25.94 ppb	-0.03
Spiked Amount 50.000			Recovery	= 51.88%	
25) Nitrobenzene-d5	4.532	82	117626	28.21 ppb	-0.06
Spiked Amount 50.000			Recovery	= 56.42%	
51) 2-Fluorobiphenyl	7.185	172	237555	30.11 ppb	-0.09
Spiked Amount 50.000			Recovery	= 60.22%	
73) 2,4,6-Tribromophenol	9.501	330	44590	33.35 ppb	-0.07
Spiked Amount 50.000			Recovery	= 66.70%	
85) Terphenyl-d14	12.988	244	309288	35.98 ppb	-0.07
Spiked Amount 50.000			Recovery	= 71.96%	

Target Compounds Qvalue

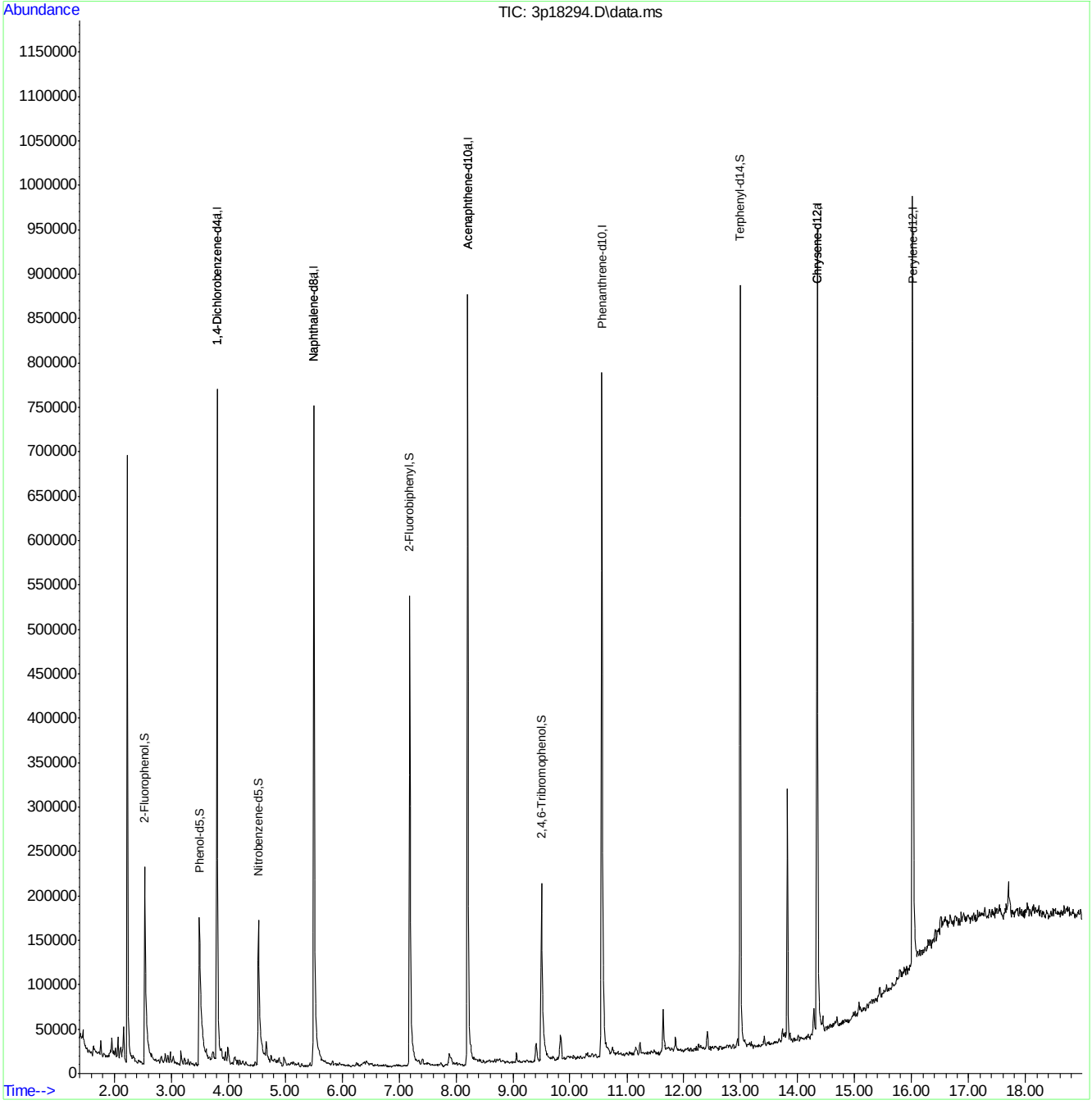
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18294.D
Acq On : 2 Apr 2013 2:16 pm
Operator : katelynh
Sample : jb31800-12
Misc : op64810,e3p825,33.2
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 02 15:47:03 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



M3P782.M Tue Apr 02 15:47:08 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18295.D
Acq On : 2 Apr 2013 3:03 pm
Operator : katelynh
Sample : jb31800-13
Misc : op64810,e3p825,31.4
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 02 15:48:18 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	124736	40.00	ppb	-0.07
24) Naphthalene-d8	5.511	136	443393	40.00	ppb	-0.07
47) Acenaphthene-d10	8.206	164	222155	40.00	ppb	-0.08
69) Phenanthrene-d10	10.565	188	337619	40.00	ppb	-0.07
83) Chrysene-d12	14.341	240	364476	40.00	ppb	-0.06
91) Perylene-d12	16.015	264	341101	40.00	ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.804	152	124736	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.206	164	222155	40.00	ppb	-0.07
106) Chrysene-d12a	14.341	240	364476	40.00	ppb	-0.04
108) Naphthalene-d8a	5.511	136	443393	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	97919	23.40	ppb	-0.03
Spiked Amount 50.000			Recovery = 46.80%			
8) Phenol-d5	3.494	99	123820	24.75	ppb	-0.03
Spiked Amount 50.000			Recovery = 49.50%			
25) Nitrobenzene-d5	4.532	82	90881	24.03	ppb	-0.06
Spiked Amount 50.000			Recovery = 48.06%			
51) 2-Fluorobiphenyl	7.185	172	204930	29.13	ppb	-0.09
Spiked Amount 50.000			Recovery = 58.26%			
73) 2,4,6-Tribromophenol	9.501	330	36996	32.41	ppb	-0.07
Spiked Amount 50.000			Recovery = 64.82%			
85) Terphenyl-d14	12.988	244	254540	33.46	ppb	-0.07
Spiked Amount 50.000			Recovery = 66.92%			
Target Compounds						Qvalue
44) 2-Methylnaphthalene	6.602	141	14299	2.13	ppb	91
59) Acenaphthene	8.254	153	6983	1.03	ppb	78
66) Fluorene	9.084	166	8571	1.24	ppb	73
77) Phenanthrene	10.603	178	23805	2.51	ppb	92
81) Fluoranthene	12.421	202	12524	1.21	ppb	87
84) Pyrene	12.726	202	16969	1.44	ppb	97
87) Benzo[a]anthracene	14.331	228	5384	0.51	ppb	87
89) Chrysene	14.379	228	8407	0.86	ppb	91

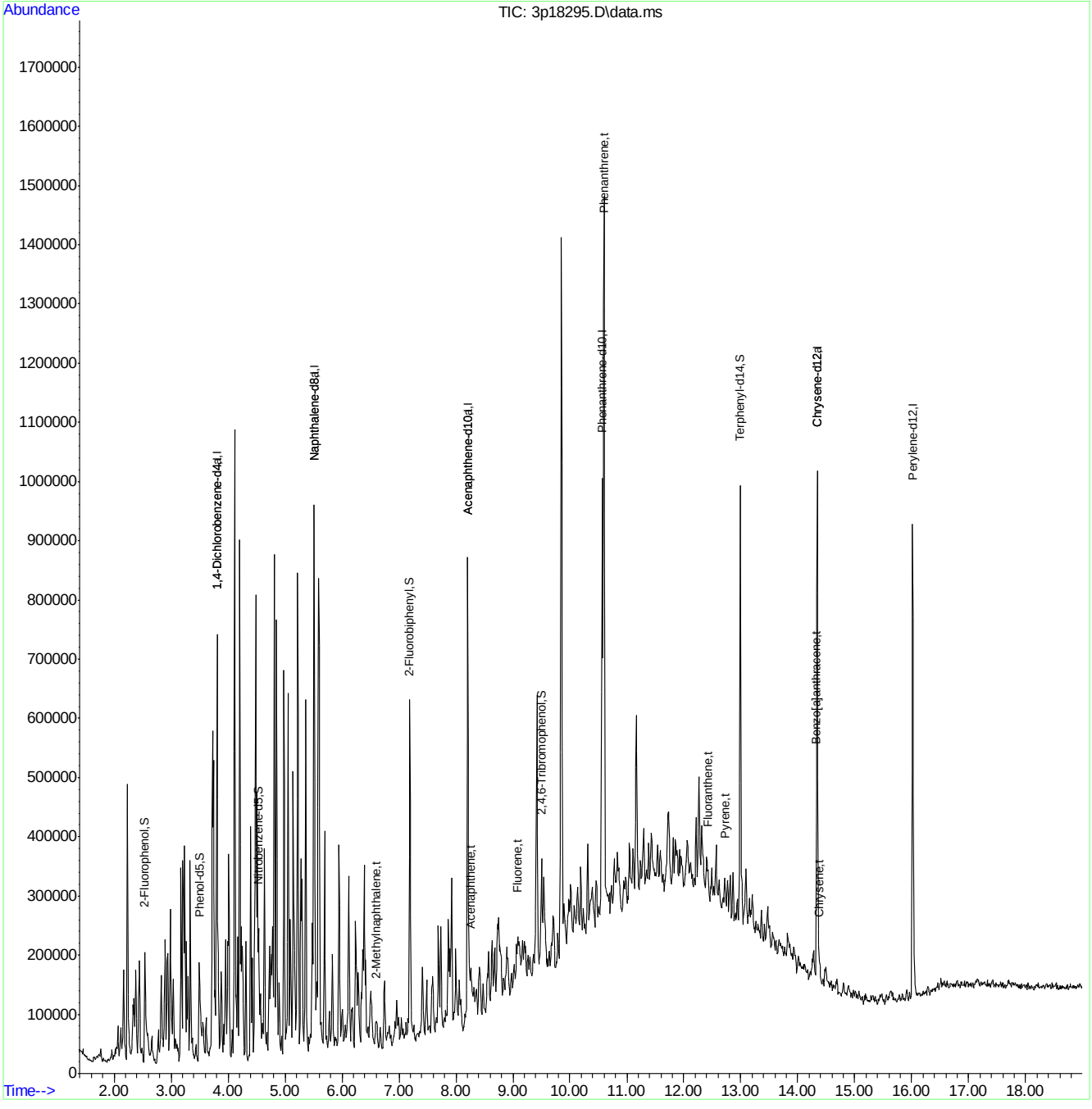
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

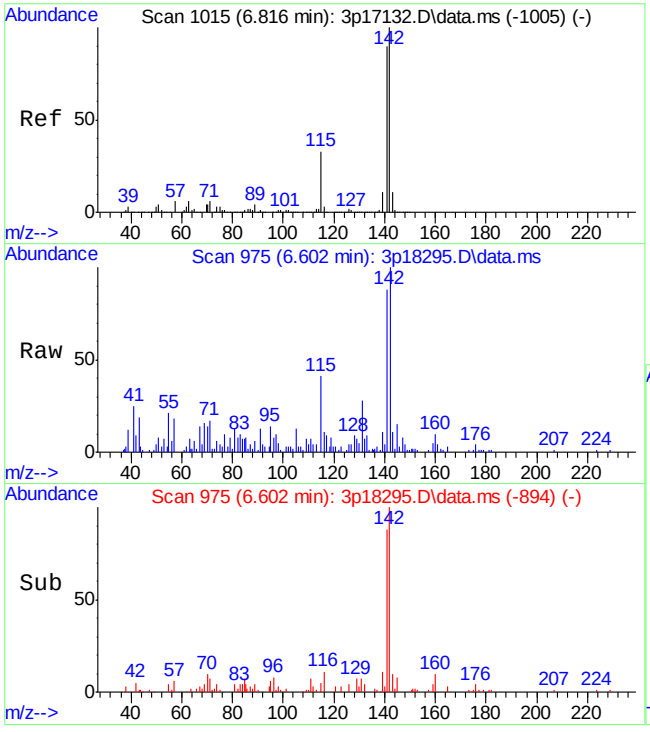
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18295.D
Acq On : 2 Apr 2013 3:03 pm
Operator : katelynh
Sample : jb31800-13
Misc : op64810,e3p825,31.4
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 02 15:48:18 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



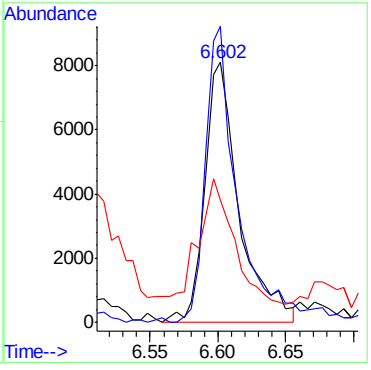
M3P782.M Tue Apr 02 15:48:21 2013 RPT1 Page: 2

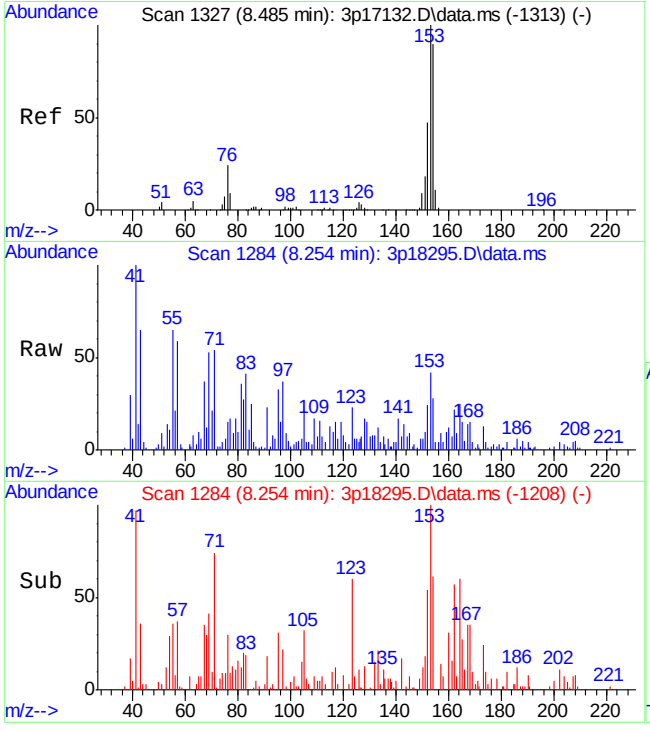


#44
2-Methylnaphthalene
Concen: 2.13 ppb
RT: 6.602 min Scan# 975
Delta R.T. -0.069 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:141 Resp: 14299

Ion	Ratio	Lower	Upper
141	100		
142	112.4	76.3	136.3
115	39.5	21.1	81.1

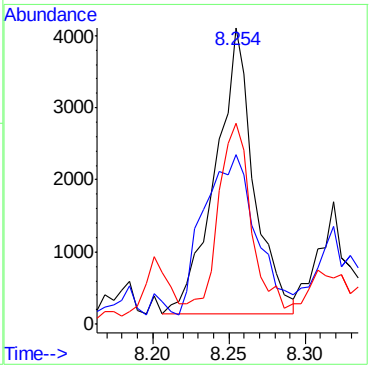


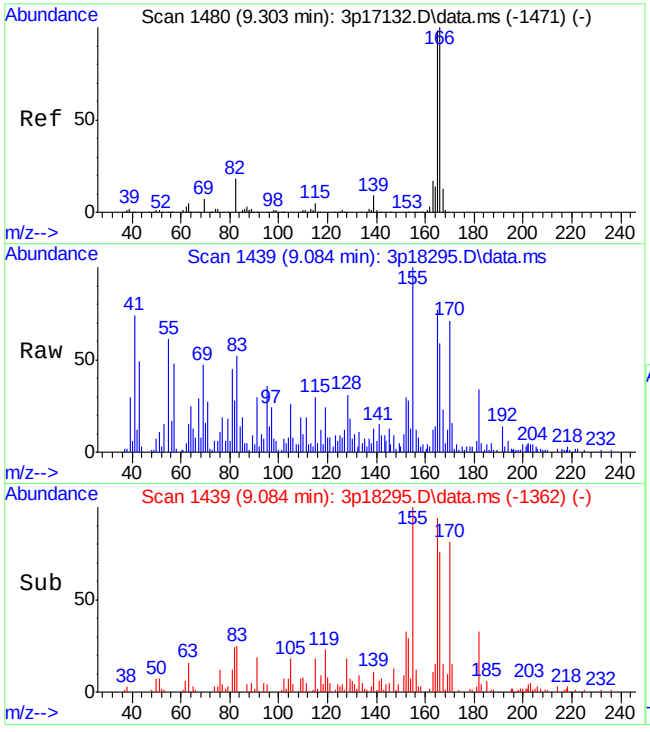


#59
Acenaphthene
Concen: 1.03 ppb
RT: 8.254 min Scan# 1284
Delta R.T. -0.091 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:153 Resp: 6983

Ion	Ratio	Lower	Upper
153	100		
152	51.6	16.8	76.8
154	59.1	57.6	117.6

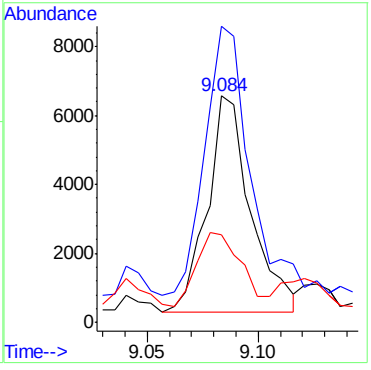


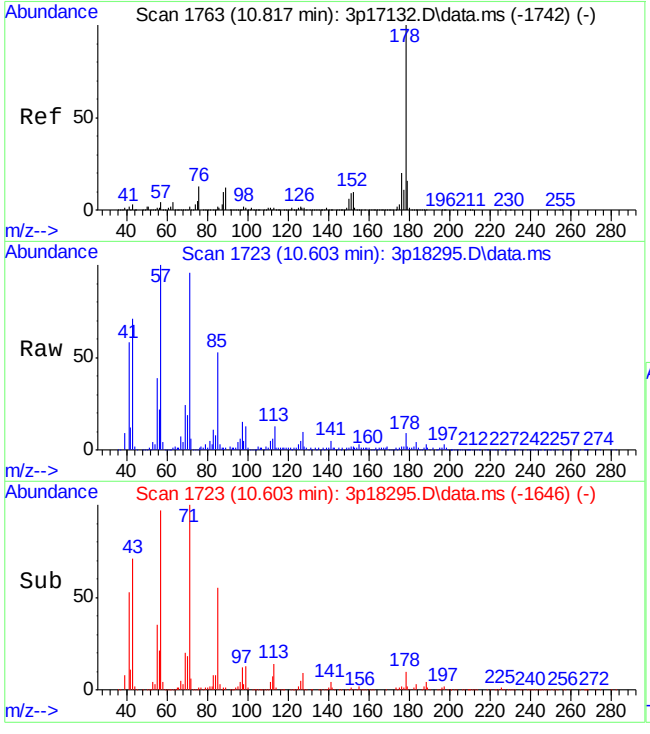


#66
Fluorene
Concen: 1.24 ppb
RT: 9.084 min Scan# 1439
Delta R.T. -0.085 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:166 Resp: 8571

Ion	Ratio	Lower	Upper
166	100		
165	122.2	66.8	126.8
167	28.2	0.0	43.0

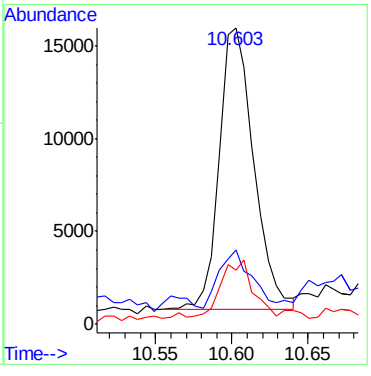


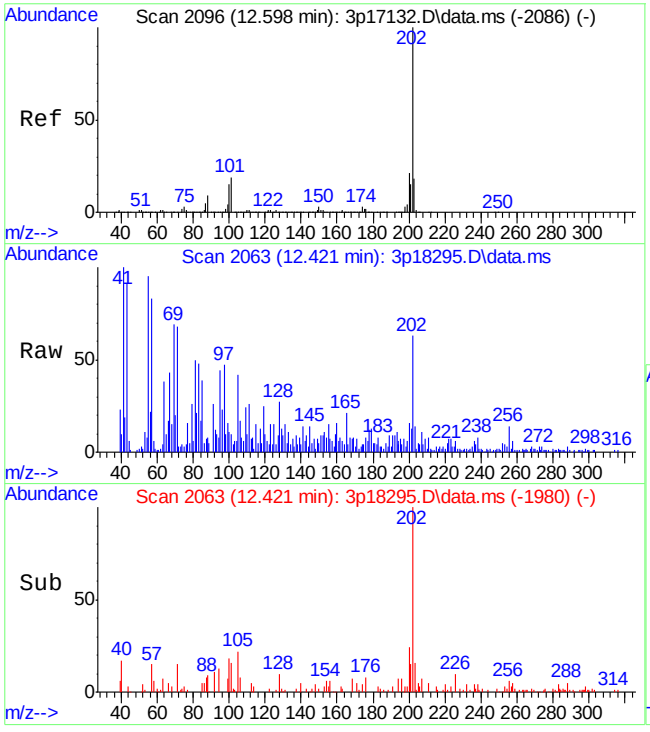


#77
Phenanthrene
Concen: 2.51 ppb
RT: 10.603 min Scan# 1723
Delta R.T. -0.085 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:178 Resp: 23805

Ion	Ratio	Lower	Upper
178	100		
179	19.3	0.0	45.2
176	15.9	0.0	48.9

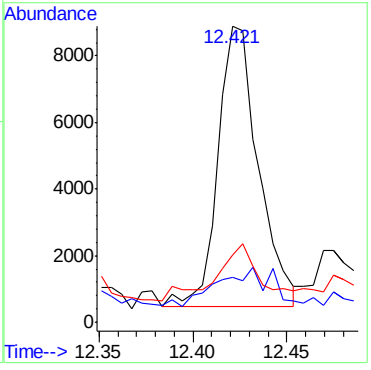


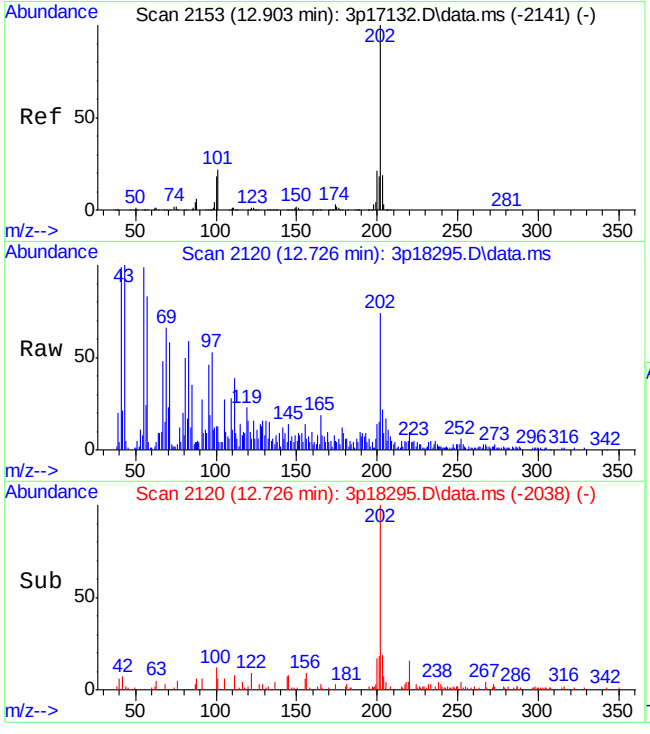


#81
Fluoranthene
Concen: 1.21 ppb
RT: 12.421 min Scan# 2063
Delta R.T. -0.059 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:202 Resp: 12524

Ion	Ratio	Lower	Upper
202	100		
101	15.1	0.0	53.3
203	22.7	0.0	48.9

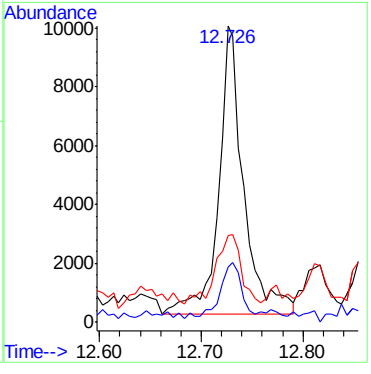


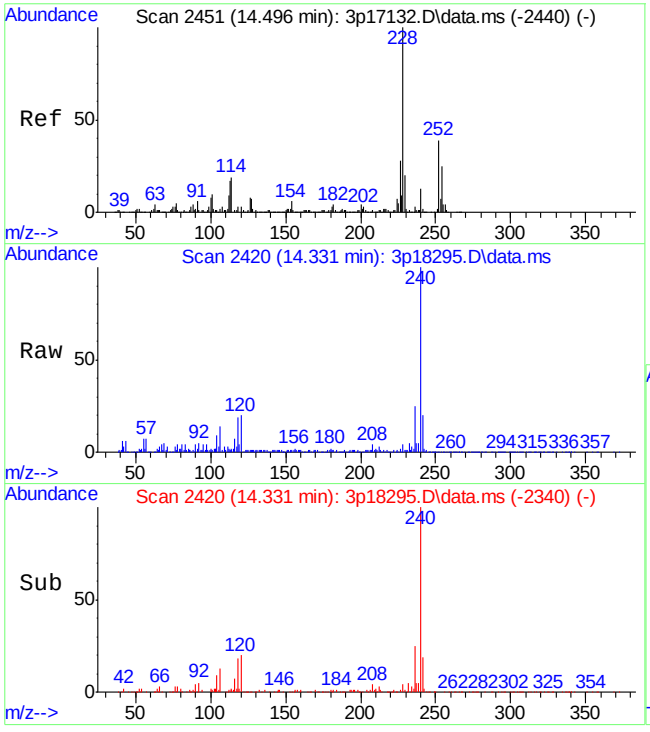


#84
Pyrene
Concen: 1.44 ppb
RT: 12.726 min Scan# 2120
Delta R.T. -0.064 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:202 Resp: 16969

Ion	Ratio	Lower	Upper
202	100		
200	16.4	0.0	46.6
203	21.3	0.0	53.5

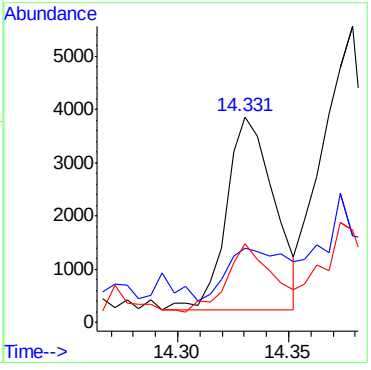


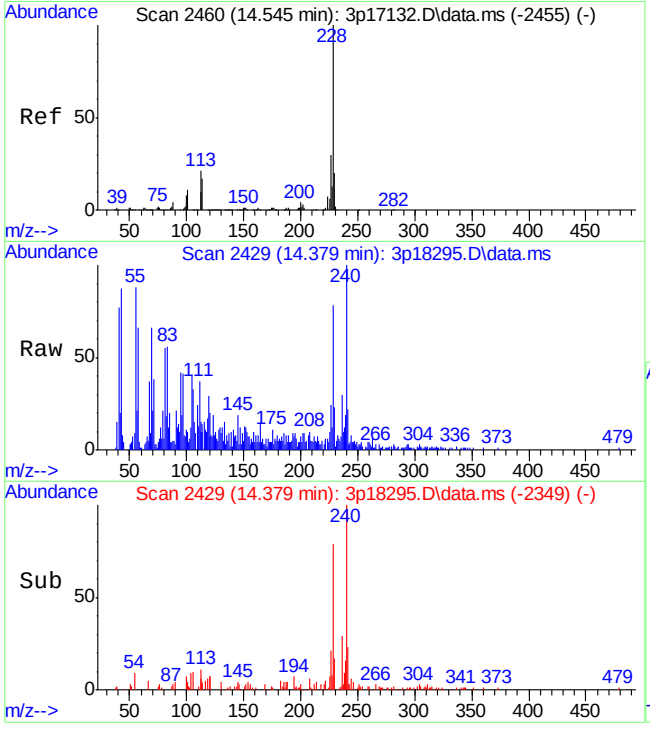


#87
Benzo[a]anthracene
Concen: 0.51 ppb
RT: 14.331 min Scan# 2420
Delta R.T. -0.069 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:228 Resp: 5384

Ion	Ratio	Lower	Upper
228	100		
229	11.6	0.0	49.9
226	33.5	0.0	58.4

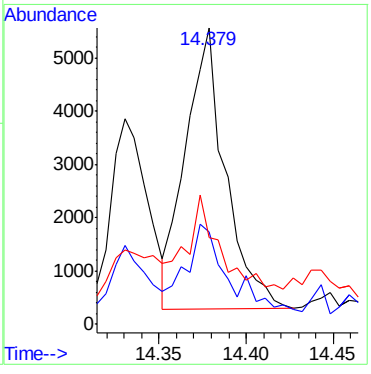




#89
Chrysene
Concen: 0.86 ppb
RT: 14.379 min Scan# 2429
Delta R.T. -0.069 min
Lab File: 3p18295.D
Acq: 2 Apr 2013 3:03 pm

Tgt Ion:228 Resp: 8407

Ion	Ratio	Lower	Upper
228	100		
226	26.6	0.0	59.7
229	12.9	0.0	49.1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18296.D
Acq On : 2 Apr 2013 3:27 pm
Operator : katelynh
Sample : jb31800-14
Misc : op64810,e3p825,31.6
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 02 15:48:47 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.805	152	94542	40.00 ppb	-0.07
24) Naphthalene-d8	5.505	136	339826	40.00 ppb	-0.08
47) Acenaphthene-d10	8.201	164	176574	40.00 ppb	-0.09
69) Phenanthrene-d10	10.560	188	281343	40.00 ppb	-0.08
83) Chrysene-d12	14.341	240	297054	40.00 ppb	-0.06
91) Perylene-d12	16.015	264	259192	40.00 ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.805	152	94542	40.00 ppb	-0.05
103) Acenaphthene-d10a	8.201	164	176574	40.00 ppb	-0.07
106) Chrysene-d12a	14.341	240	297054	40.00 ppb	-0.04
108) Naphthalene-d8a	5.505	136	339826	40.00 ppb	-0.06
System Monitoring Compounds					
5) 2-Fluorophenol	2.542	112	81787	25.79 ppb	-0.02
Spiked Amount 50.000			Recovery	= 51.58%	
8) Phenol-d5	3.500	99	102831	27.12 ppb	-0.02
Spiked Amount 50.000			Recovery	= 54.24%	
25) Nitrobenzene-d5	4.537	82	73665	25.42 ppb	-0.05
Spiked Amount 50.000			Recovery	= 50.84%	
51) 2-Fluorobiphenyl	7.190	172	167794	30.00 ppb	-0.08
Spiked Amount 50.000			Recovery	= 60.00%	
73) 2,4,6-Tribromophenol	9.506	330	34596	36.37 ppb	-0.07
Spiked Amount 50.000			Recovery	= 72.74%	
85) Terphenyl-d14	12.988	244	236332	38.12 ppb	-0.07
Spiked Amount 50.000			Recovery	= 76.24%	

Target Compounds Qvalue

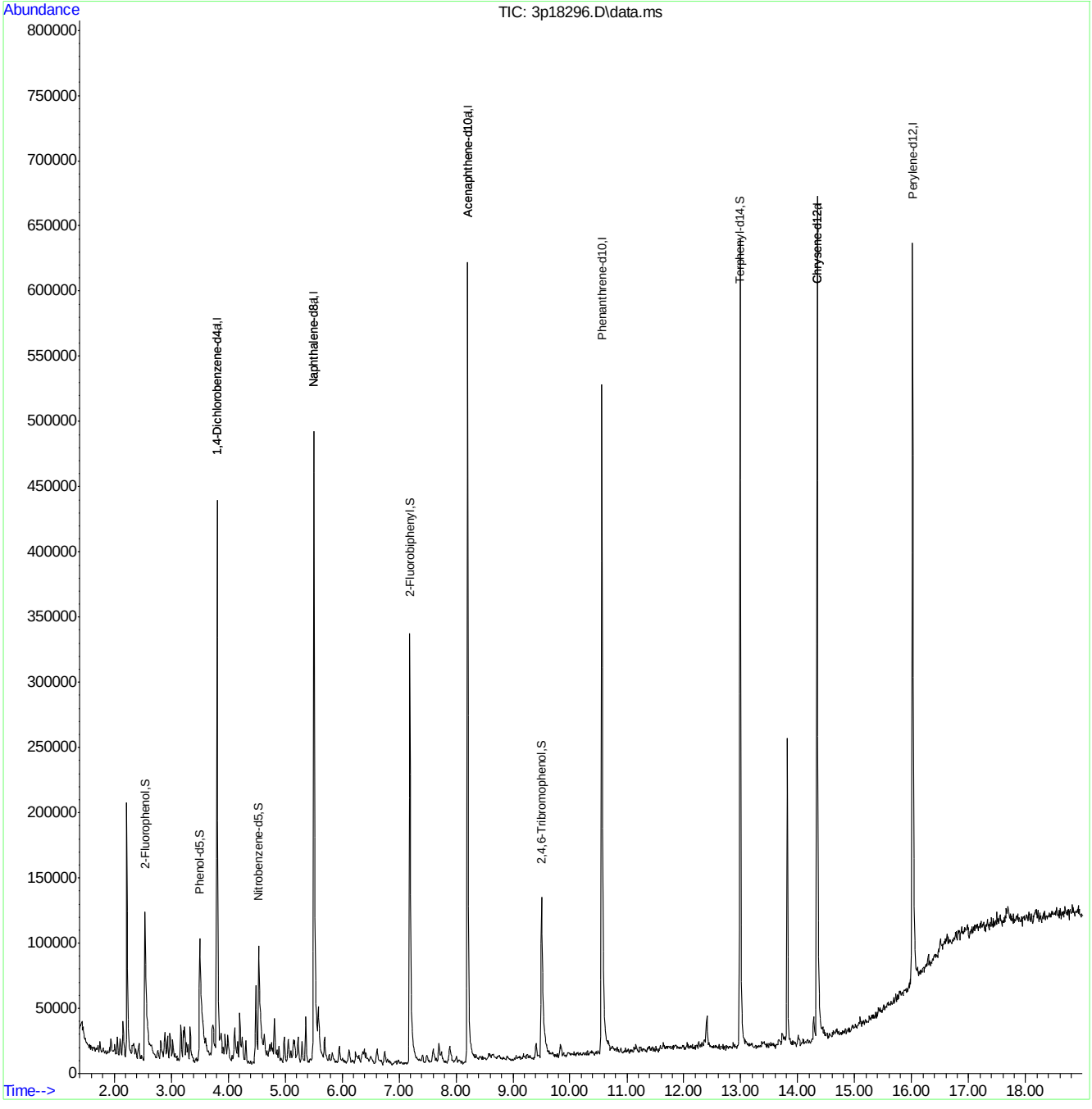
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18296.D
Acq On : 2 Apr 2013 3:27 pm
Operator : katelynh
Sample : jb31800-14
Misc : op64810,e3p825,31.6
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 02 15:48:47 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



M3P782.M Tue Apr 02 15:48:49 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18297.D
Acq On : 2 Apr 2013 3:50 pm
Operator : katelynh
Sample : jb31800-15
Misc : op64810,e3p825,32.1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 03 08:47:19 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.805	152	135178	40.00 ppb	-0.07
24) Naphthalene-d8	5.505	136	476565	40.00 ppb	-0.08
47) Acenaphthene-d10	8.201	164	246417	40.00 ppb	-0.09
69) Phenanthrene-d10	10.560	188	401130	40.00 ppb	-0.08
83) Chrysene-d12	14.341	240	431391	40.00 ppb	-0.06
91) Perylene-d12	16.015	264	408502	40.00 ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.805	152	135178	40.00 ppb	-0.05
103) Acenaphthene-d10a	8.201	164	246417	40.00 ppb	-0.07
106) Chrysene-d12a	14.341	240	431391	40.00 ppb	-0.04
108) Naphthalene-d8a	5.505	136	476565	40.00 ppb	-0.06
System Monitoring Compounds					
5) 2-Fluorophenol	2.542	112	65767	14.50 ppb	-0.02
Spiked Amount 50.000			Recovery	= 29.00%	
8) Phenol-d5	3.510	99	86210	15.90 ppb	-0.01
Spiked Amount 50.000			Recovery	= 31.80%	
25) Nitrobenzene-d5	4.543	82	61803	15.20 ppb	-0.05
Spiked Amount 50.000			Recovery	= 30.40%	
51) 2-Fluorobiphenyl	7.190	172	130824	16.76 ppb	-0.08
Spiked Amount 50.000			Recovery	= 33.52%	
73) 2,4,6-Tribromophenol	9.506	330	31119	22.95 ppb	-0.07
Spiked Amount 50.000			Recovery	= 45.90%	
85) Terphenyl-d14	12.988	244	233923	25.98 ppb	-0.07
Spiked Amount 50.000			Recovery	= 51.96%	

Target Compounds Qvalue

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

9.1.17

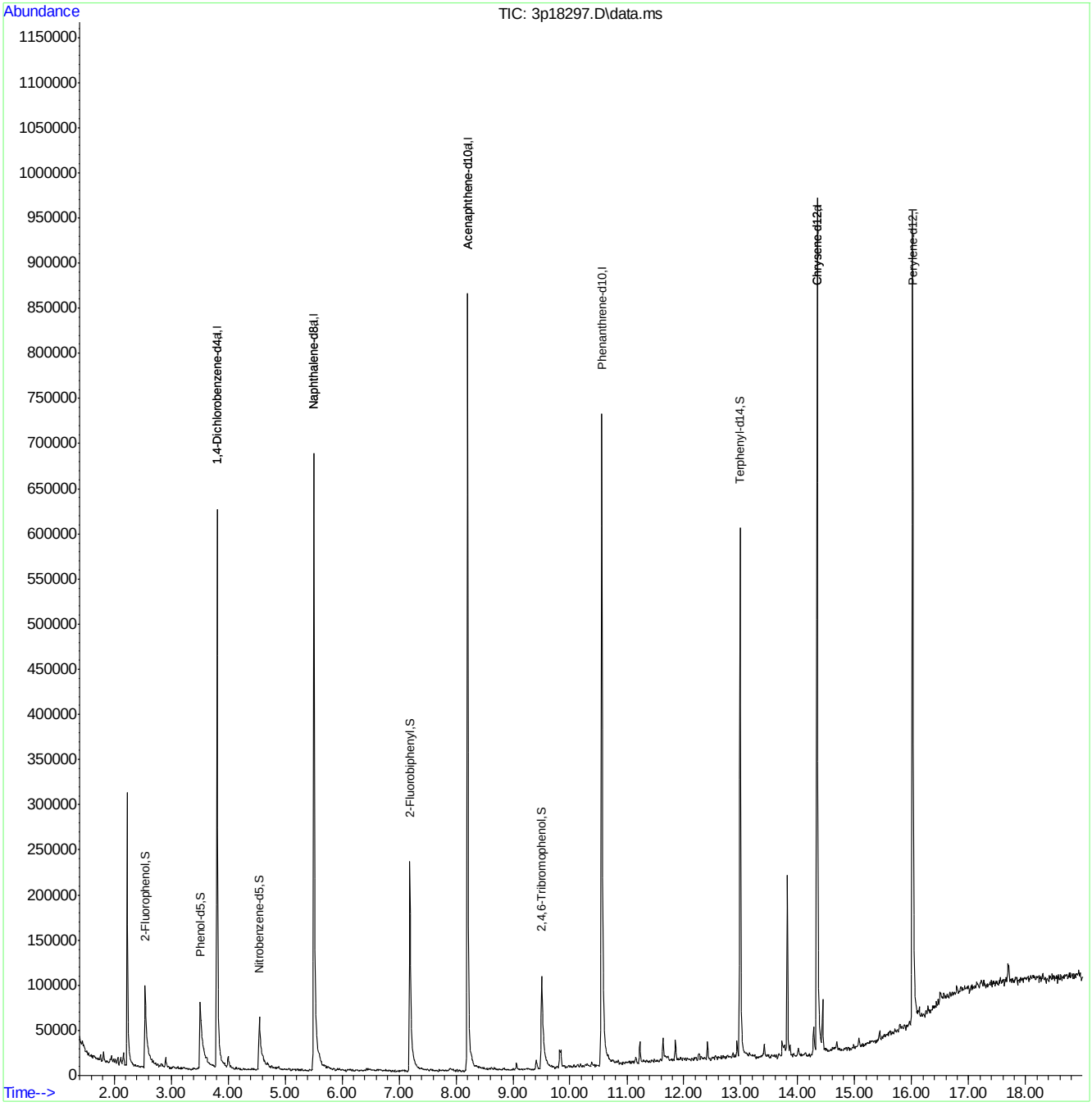
9

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18297.D
Acq On : 2 Apr 2013 3:50 pm
Operator : katelynh
Sample : jb31800-15
Misc : op64810,e3p825,32.1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 03 08:47:19 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



M3P782.M Wed Apr 03 08:47:23 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18298.D
Acq On : 2 Apr 2013 4:14 pm
Operator : katelynh
Sample : jb31800-16
Misc : op64810,e3p825,31.4
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 03 08:47:46 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.805	152	129438	40.00 ppb	-0.07
24) Naphthalene-d8	5.505	136	463813	40.00 ppb	-0.08
47) Acenaphthene-d10	8.201	164	232978	40.00 ppb	-0.09
69) Phenanthrene-d10	10.560	188	364051	40.00 ppb	-0.08
83) Chrysene-d12	14.341	240	387173	40.00 ppb	-0.06
91) Perylene-d12	16.010	264	373621	40.00 ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.805	152	129438	40.00 ppb	-0.05
103) Acenaphthene-d10a	8.201	164	232978	40.00 ppb	-0.07
106) Chrysene-d12a	14.341	240	387173	40.00 ppb	-0.04
108) Naphthalene-d8a	5.505	136	463813	40.00 ppb	-0.06
System Monitoring Compounds					
5) 2-Fluorophenol	2.537	112	110523	25.45 ppb	-0.03
Spiked Amount 50.000			Recovery	= 50.90%	
8) Phenol-d5	3.494	99	135598	26.12 ppb	-0.03
Spiked Amount 50.000			Recovery	= 52.24%	
25) Nitrobenzene-d5	4.532	82	92335	23.34 ppb	-0.06
Spiked Amount 50.000			Recovery	= 46.68%	
51) 2-Fluorobiphenyl	7.185	172	211846	28.71 ppb	-0.09
Spiked Amount 50.000			Recovery	= 57.42%	
73) 2,4,6-Tribromophenol	9.501	330	39465	32.06 ppb	-0.07
Spiked Amount 50.000			Recovery	= 64.12%	
85) Terphenyl-d14	12.988	244	290007	35.89 ppb	-0.07
Spiked Amount 50.000			Recovery	= 71.78%	

Target Compounds Qvalue

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

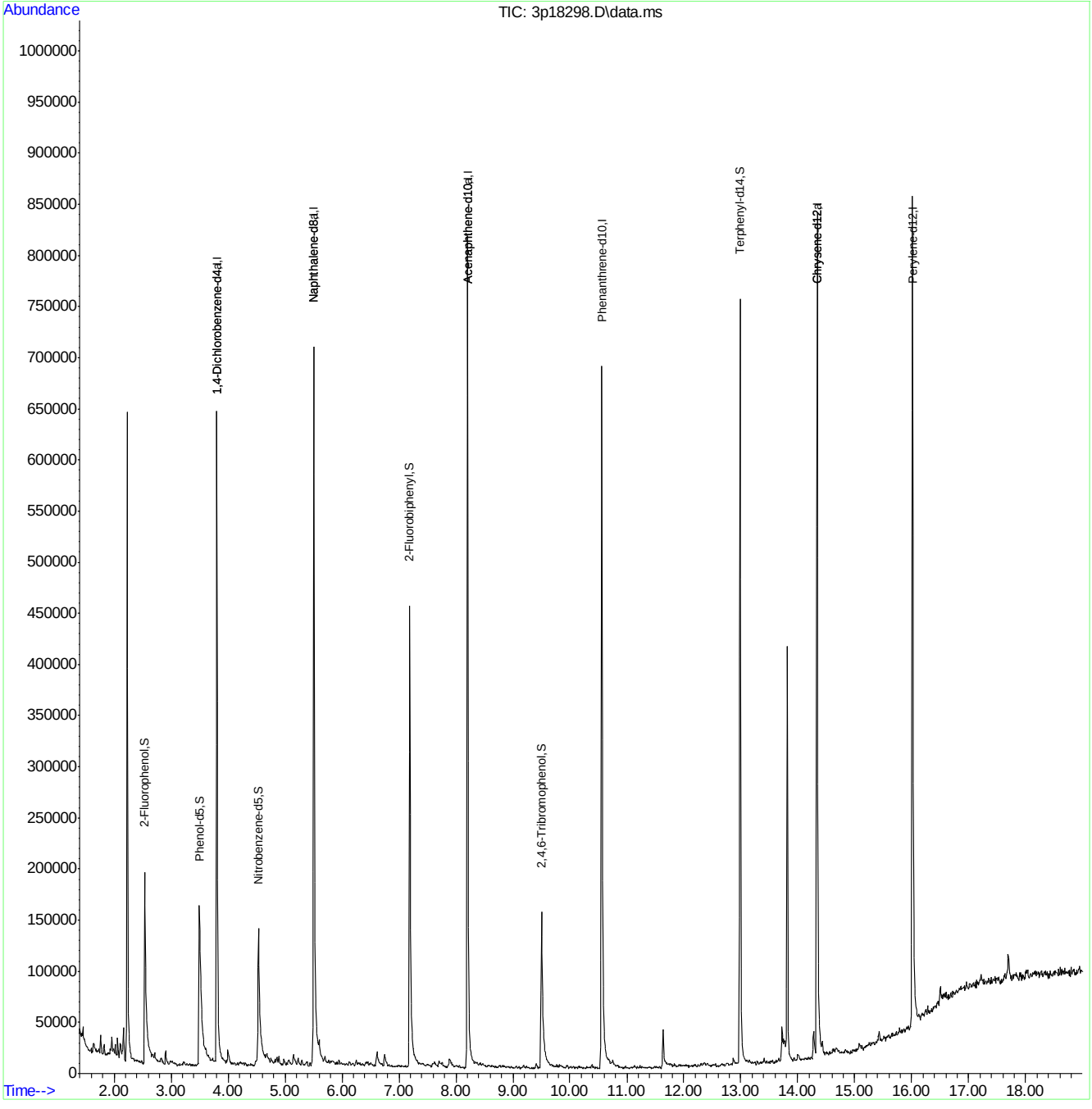
9.1.18

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18298.D
Acq On : 2 Apr 2013 4:14 pm
Operator : katelynh
Sample : jb31800-16
Misc : op64810,e3p825,31.4
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 03 08:47:46 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



M3P782.M Wed Apr 03 08:47:49 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18299.D
Acq On : 2 Apr 2013 4:37 pm
Operator : katelynh
Sample : jb31800-17
Misc : op64810,e3p825,32.9
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 03 08:48:23 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.804	152	131803	40.00 ppb	-0.07
24) Naphthalene-d8	5.505	136	472252	40.00 ppb	-0.08
47) Acenaphthene-d10	8.201	164	231742	40.00 ppb	-0.09
69) Phenanthrene-d10	10.560	188	382343	40.00 ppb	-0.08
83) Chrysene-d12	14.341	240	400789	40.00 ppb	-0.06
91) Perylene-d12	16.015	264	392779	40.00 ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.804	152	131803	40.00 ppb	-0.05
103) Acenaphthene-d10a	8.201	164	231742	40.00 ppb	-0.08
106) Chrysene-d12a	14.341	240	400789	40.00 ppb	-0.04
108) Naphthalene-d8a	5.505	136	472252	40.00 ppb	-0.06
System Monitoring Compounds					
5) 2-Fluorophenol	2.537	112	121722	27.53 ppb	-0.03
Spiked Amount 50.000			Recovery = 55.06%		
8) Phenol-d5	3.494	99	148602	28.11 ppb	-0.03
Spiked Amount 50.000			Recovery = 56.22%		
25) Nitrobenzene-d5	4.532	82	114821	28.51 ppb	-0.06
Spiked Amount 50.000			Recovery = 57.02%		
51) 2-Fluorobiphenyl	7.185	172	226331	30.84 ppb	-0.09
Spiked Amount 50.000			Recovery = 61.68%		
73) 2,4,6-Tribromophenol	9.501	330	40706	31.49 ppb	-0.08
Spiked Amount 50.000			Recovery = 62.98%		
85) Terphenyl-d14	12.988	244	313412	37.47 ppb	-0.07
Spiked Amount 50.000			Recovery = 74.94%		

Target Compounds Qvalue

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

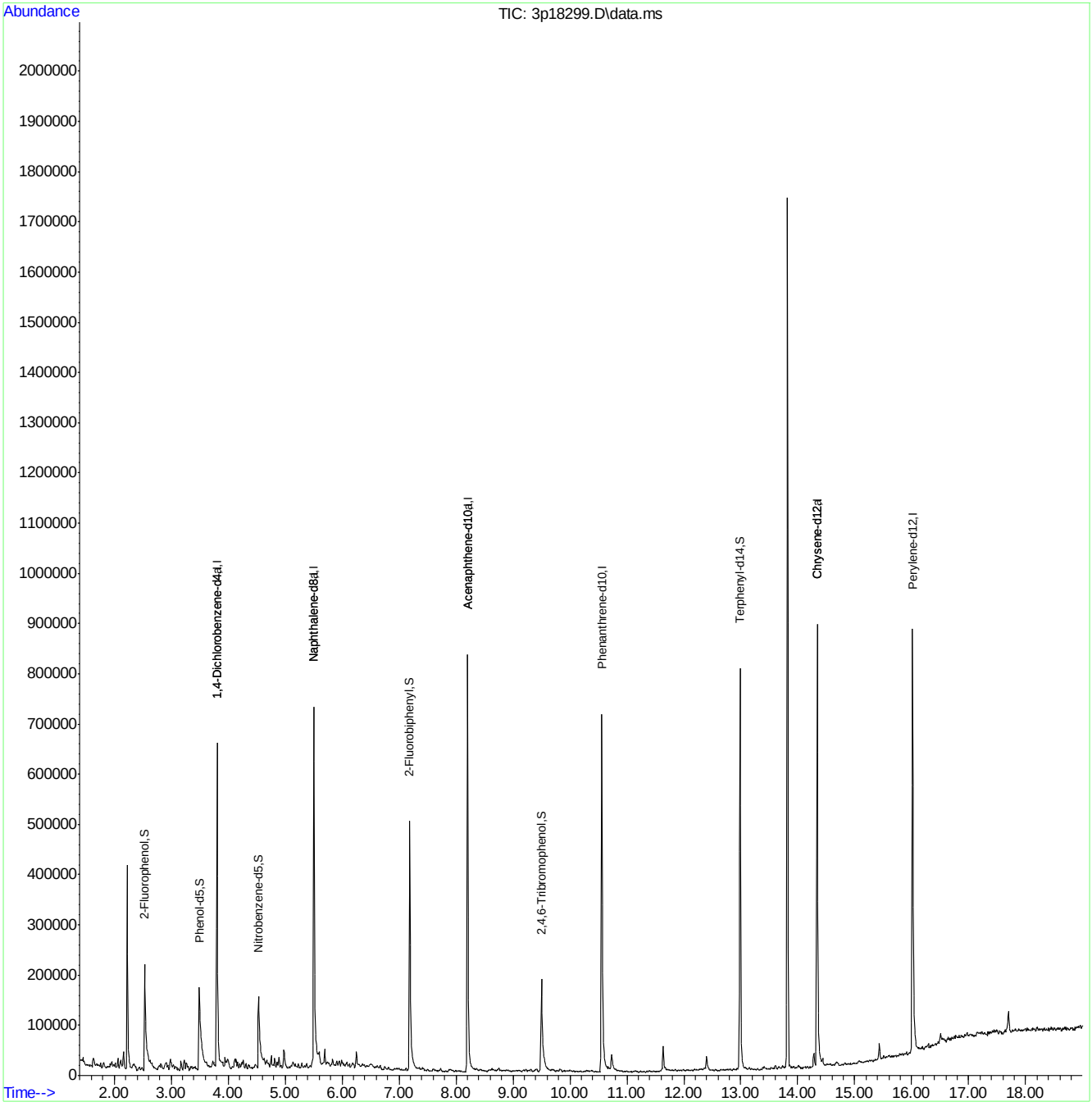
9.1.19

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18299.D
Acq On : 2 Apr 2013 4:37 pm
Operator : katelynh
Sample : jb31800-17
Misc : op64810,e3p825,32.9
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 03 08:48:23 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



M3P782.M Wed Apr 03 08:48:25 2013 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18300.D
Acq On : 2 Apr 2013 5:01 pm
Operator : katelynh
Sample : jb31800-18
Misc : op64810,e3p825,33.3
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 03 08:49:13 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.799	152	132883	40.00	ppb	-0.07
24) Naphthalene-d8	5.505	136	484313	40.00	ppb	-0.08
47) Acenaphthene-d10	8.201	164	241536	40.00	ppb	-0.09
69) Phenanthrene-d10	10.560	188	382919	40.00	ppb	-0.08
83) Chrysene-d12	14.341	240	408439	40.00	ppb	-0.06
91) Perylene-d12	16.015	264	391242	40.00	ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.799	152	132883	40.00	ppb	-0.06
103) Acenaphthene-d10a	8.201	164	241536	40.00	ppb	-0.07
106) Chrysene-d12a	14.341	240	408439	40.00	ppb	-0.04
108) Naphthalene-d8a	5.505	136	484313	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.542	112	97533	21.88	ppb	-0.02
Spiked Amount 50.000			Recovery = 43.76%			
8) Phenol-d5	3.489	99	128274	24.07	ppb	-0.03
Spiked Amount 50.000			Recovery = 48.14%			
25) Nitrobenzene-d5	4.526	82	98267	23.79	ppb	-0.06
Spiked Amount 50.000			Recovery = 47.58%			
51) 2-Fluorobiphenyl	7.185	172	195552	25.56	ppb	-0.09
Spiked Amount 50.000			Recovery = 51.12%			
73) 2,4,6-Tribromophenol	9.501	330	40961	31.64	ppb	-0.07
Spiked Amount 50.000			Recovery = 63.28%			
85) Terphenyl-d14	12.988	244	266234	31.23	ppb	-0.07
Spiked Amount 50.000			Recovery = 62.46%			
Target Compounds						Qvalue
38) Naphthalene	5.537	128	32927	2.60	ppb	97
44) 2-Methylnaphthalene	6.596	141	19442	2.65	ppb	94

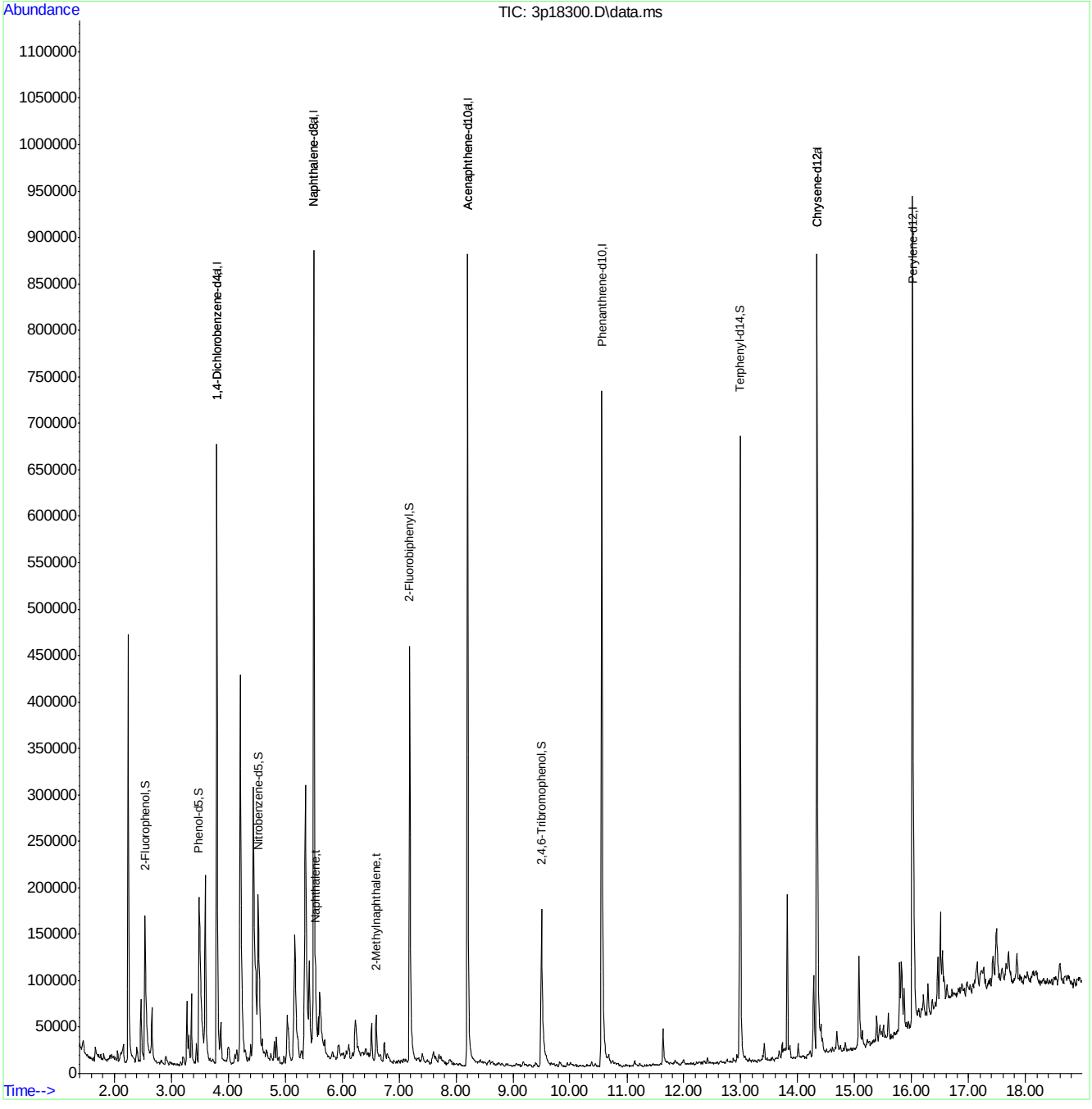
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

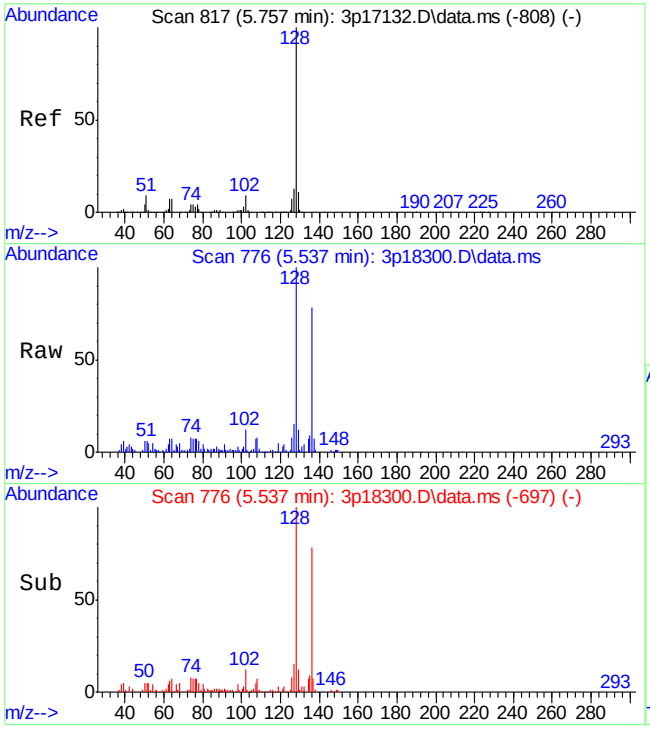
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18300.D
Acq On : 2 Apr 2013 5:01 pm
Operator : katelynh
Sample : jb31800-18
Misc : op64810,e3p825,33.3
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 03 08:49:13 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



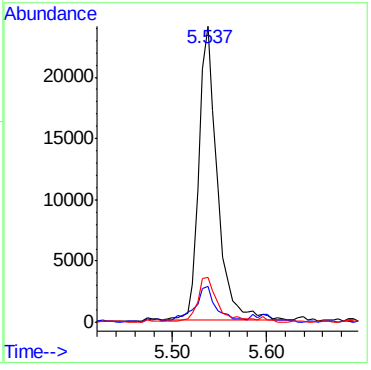
M3P782.M Wed Apr 03 08:49:16 2013 RPT1 Page: 2

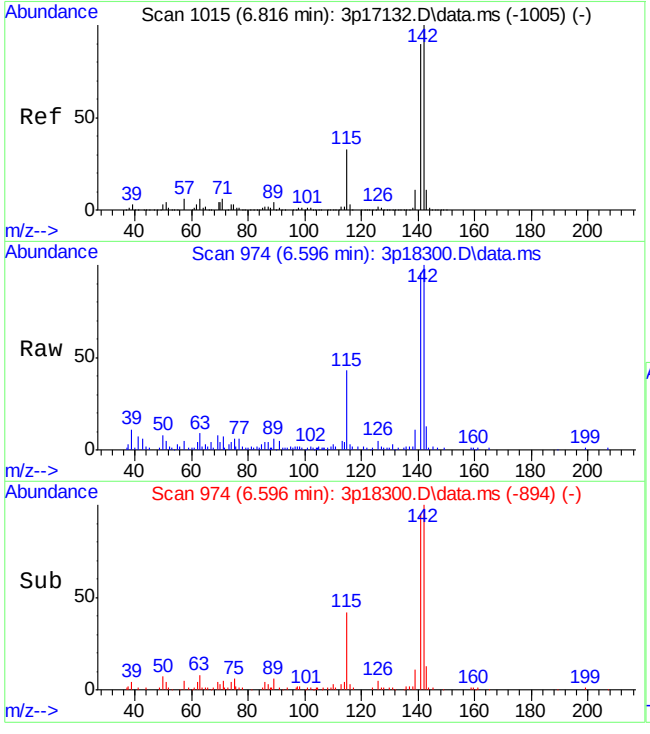


#38
Naphthalene
Concen: 2.60 ppb
RT: 5.537 min Scan# 776
Delta R.T. -0.080 min
Lab File: 3p18300.D
Acq: 2 Apr 2013 5:01 pm

Tgt Ion:128 Resp: 32927

Ion	Ratio	Lower	Upper
128	100		
129	11.5	0.0	40.8
127	14.7	0.0	43.0

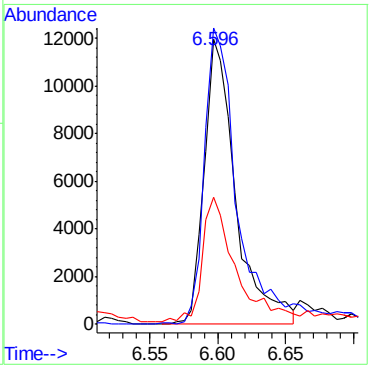




#44
2-Methylnaphthalene
Concen: 2.65 ppb
RT: 6.596 min Scan# 974
Delta R.T. -0.075 min
Lab File: 3p18300.D
Acq: 2 Apr 2013 5:01 pm

Tgt Ion:141 Resp: 19442

Ion	Ratio	Lower	Upper
141	100		
142	102.7	76.3	136.3
115	43.2	21.1	81.1



9.1.20

9

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18301.D
Acq On : 2 Apr 2013 5:24 pm
Operator : katelynh
Sample : jb31800-19
Misc : op64810,e3p825,30.1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 03 08:49:53 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	131294	40.00	ppb	-0.07
24) Naphthalene-d8	5.505	136	469302	40.00	ppb	-0.08
47) Acenaphthene-d10	8.201	164	238304	40.00	ppb	-0.09
69) Phenanthrene-d10	10.560	188	376326	40.00	ppb	-0.08
83) Chrysene-d12	14.341	240	419823	40.00	ppb	-0.06
91) Perylene-d12	16.010	264	401809	40.00	ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.804	152	131294	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.201	164	238304	40.00	ppb	-0.07
106) Chrysene-d12a	14.341	240	419823	40.00	ppb	-0.04
108) Naphthalene-d8a	5.505	136	469302	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	144625	32.84	ppb	-0.03
Spiked Amount 50.000			Recovery = 65.68%			
8) Phenol-d5	3.478	99	184715	35.08	ppb	-0.04
Spiked Amount 50.000			Recovery = 70.16%			
25) Nitrobenzene-d5	4.532	82	142327	35.56	ppb	-0.06
Spiked Amount 50.000			Recovery = 71.12%			
51) 2-Fluorobiphenyl	7.185	172	272193	36.06	ppb	-0.09
Spiked Amount 50.000			Recovery = 72.12%			
73) 2,4,6-Tribromophenol	9.501	330	56551	44.45	ppb	-0.07
Spiked Amount 50.000			Recovery = 88.90%			
85) Terphenyl-d14	12.988	244	359776	41.06	ppb	-0.07
Spiked Amount 50.000			Recovery = 82.12%			
Target Compounds						Qvalue
38) Naphthalene	5.537	128	99445	8.12	ppb	98

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

9.1.21

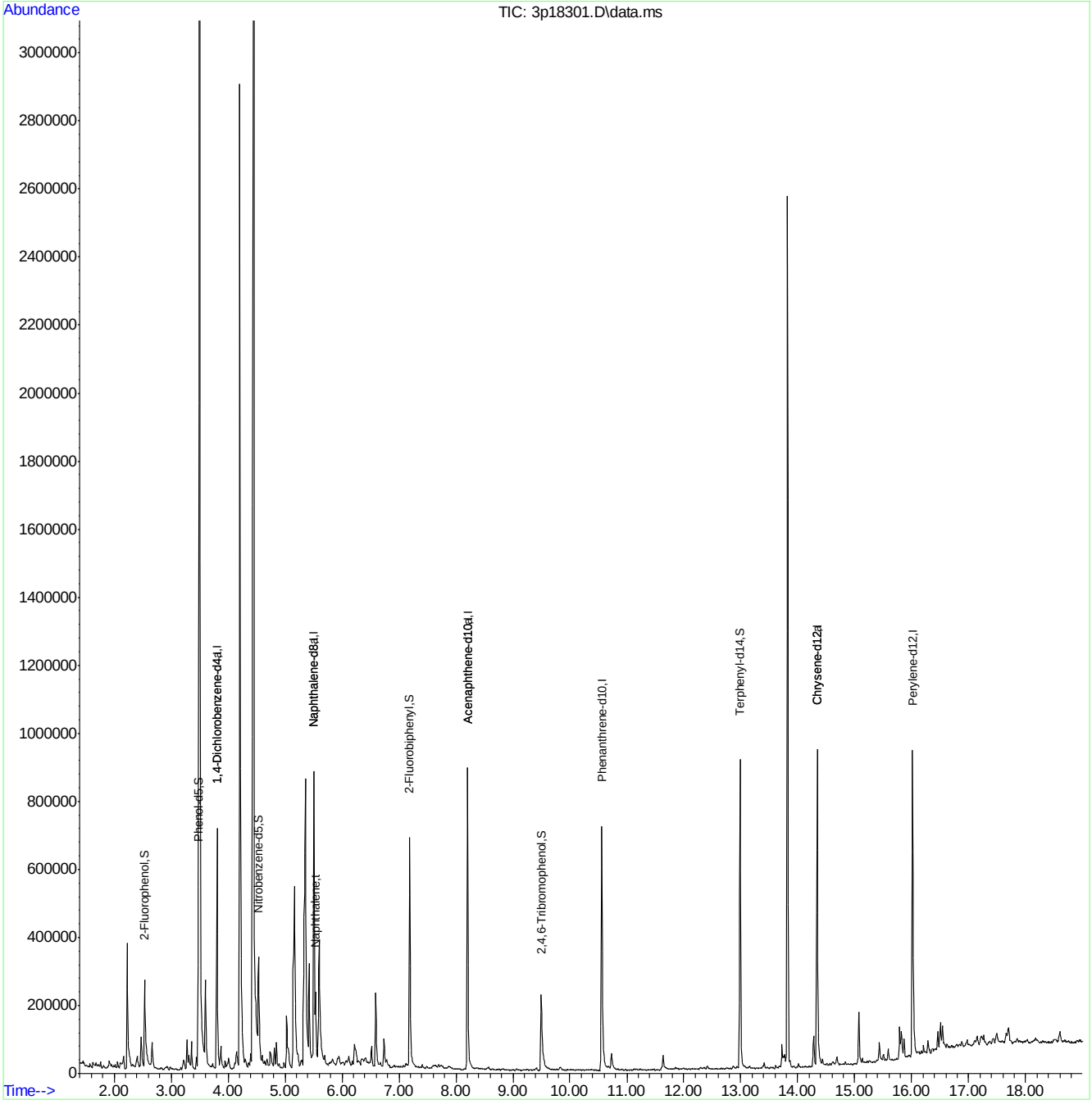
9

SGS ACCUTEST JB31800

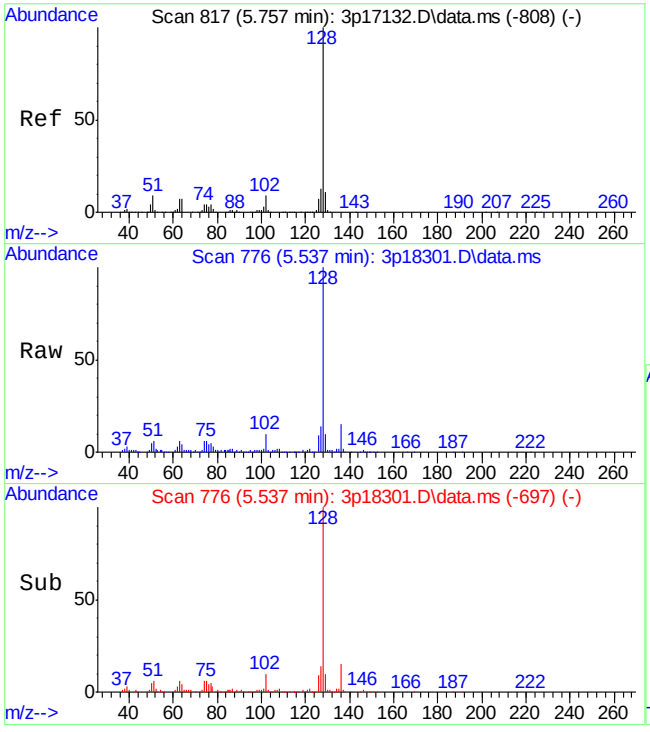
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18301.D
Acq On : 2 Apr 2013 5:24 pm
Operator : katelynh
Sample : jb31800-19
Misc : op64810,e3p825,30.1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 03 08:49:53 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



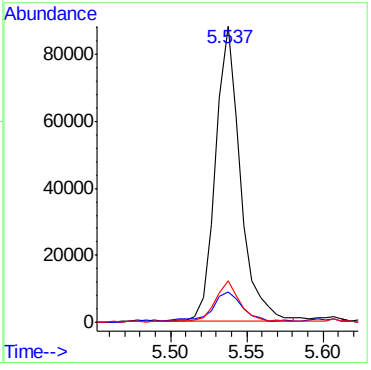
M3P782.M Wed Apr 03 08:49:55 2013 RPT1 Page: 2



#38
Naphthalene
Concen: 8.12 ppb
RT: 5.537 min Scan# 776
Delta R.T. -0.080 min
Lab File: 3p18301.D
Acq: 2 Apr 2013 5:24 pm

Tgt Ion:128 Resp: 99445

Ion	Ratio	Lower	Upper
128	100		
129	9.7	0.0	40.8
127	13.7	0.0	43.0



9.1.21

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/03/13 13:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18302.D
Acq On : 2 Apr 2013 5:48 pm
Operator : katelynh
Sample : jb31800-20
Misc : op64810,e3p825,30.4
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 03 08:50:46 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.804	152	125386	40.00	ppb	-0.07
24) Naphthalene-d8	5.505	136	444028	40.00	ppb	-0.08
47) Acenaphthene-d10	8.201	164	235717	40.00	ppb	-0.09
69) Phenanthrene-d10	10.560	188	367342	40.00	ppb	-0.08
83) Chrysene-d12	14.341	240	390823	40.00	ppb	-0.06
91) Perylene-d12	16.015	264	398546	40.00	ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.804	152	125386	40.00	ppb	-0.05
103) Acenaphthene-d10a	8.201	164	235717	40.00	ppb	-0.08
106) Chrysene-d12a	14.341	240	390823	40.00	ppb	-0.04
108) Naphthalene-d8a	5.505	136	444028	40.00	ppb	-0.06
System Monitoring Compounds						
5) 2-Fluorophenol	2.537	112	114332	27.18	ppb	-0.03
Spiked Amount 50.000			Recovery	=	54.36%	
8) Phenol-d5	3.494	99	138868	27.61	ppb	-0.03
Spiked Amount 50.000			Recovery	=	55.22%	
25) Nitrobenzene-d5	4.532	82	110554	29.19	ppb	-0.06
Spiked Amount 50.000			Recovery	=	58.38%	
51) 2-Fluorobiphenyl	7.185	172	238633	31.96	ppb	-0.09
Spiked Amount 50.000			Recovery	=	63.92%	
73) 2,4,6-Tribromophenol	9.501	330	45852	36.92	ppb	-0.07
Spiked Amount 50.000			Recovery	=	73.84%	
85) Terphenyl-d14	12.988	244	289876	35.54	ppb	-0.07
Spiked Amount 50.000			Recovery	=	71.08%	
Target Compounds						Qvalue
77) Phenanthrene	10.597	178	136115	13.20	ppb	99
81) Fluoranthene	12.410	202	320625	28.53	ppb	90
84) Pyrene	12.720	202	267344	21.09	ppb	91
87) Benzo[a]anthracene	14.330	228	76768	6.73	ppb	96
89) Chrysene	14.373	228	149957	14.32	ppb	99
93) Benzo[b]fluoranthene	15.609	252	148336m	11.23	ppb	
94) Benzo[k]fluoranthene	15.635	252	53884m	4.83	ppb	
95) Benzo[a]pyrene	15.956	252	71810	6.40	ppb	99
96) Indeno[1,2,3-cd]pyrene	17.106	276	47854	3.63	ppb	94
98) Dibenz[a,h]anthracene	17.106	278	12897	1.18	ppb	80
100) Benzo[g,h,i]perylene	17.395	276	42614	3.86	ppb	98

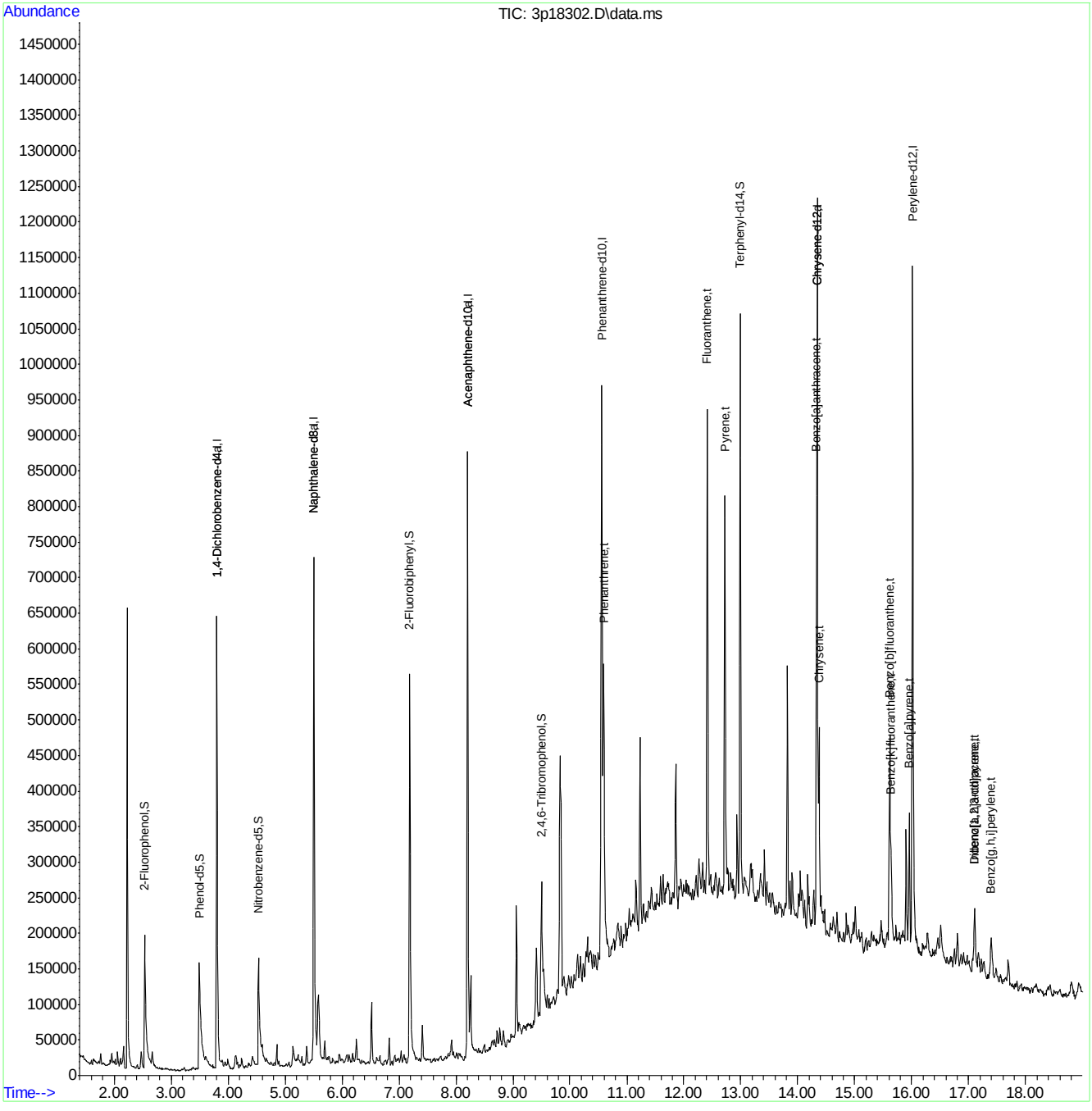
(#) = qualifier out of range (m) = manual integration (+) = signals summed

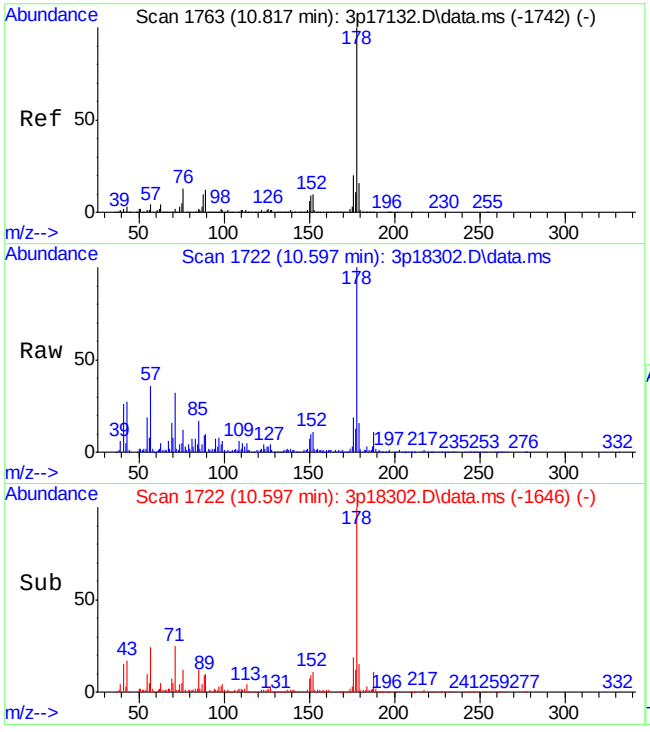
9.1.22
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18302.D
Acq On : 2 Apr 2013 5:48 pm
Operator : katelynh
Sample : jb31800-20
Misc : op64810,e3p825,30.4
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 03 08:50:46 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

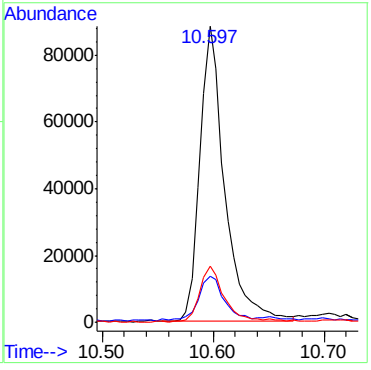


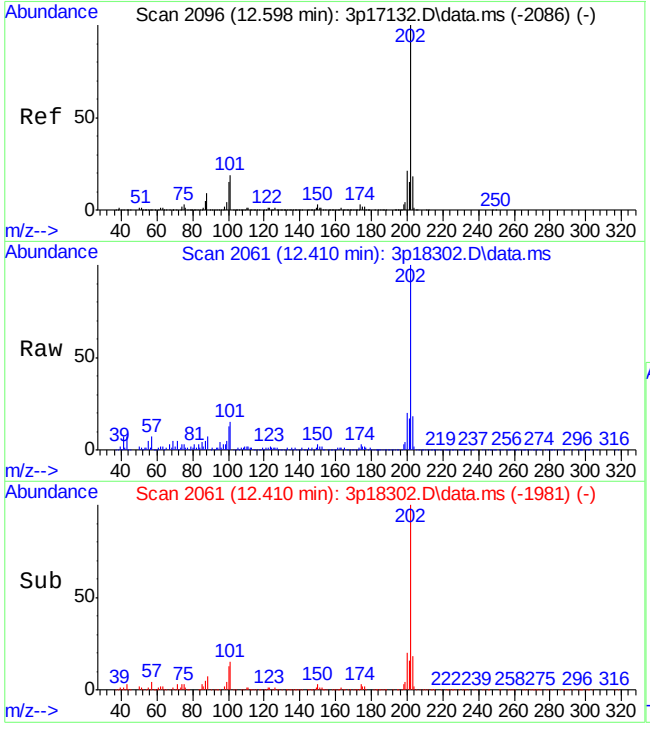


#77
Phenanthrene
Concen: 13.20 ppb
RT: 10.597 min Scan# 1722
Delta R.T. -0.091 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:178 Resp: 136115

Ion	Ratio	Lower	Upper
178	100		
179	14.8	0.0	45.2
176	18.8	0.0	48.9

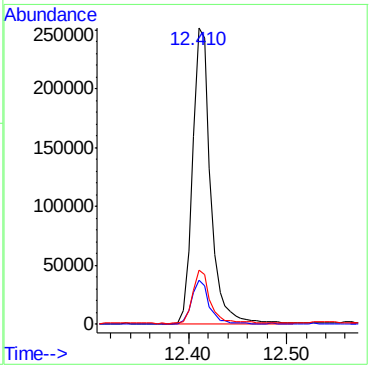


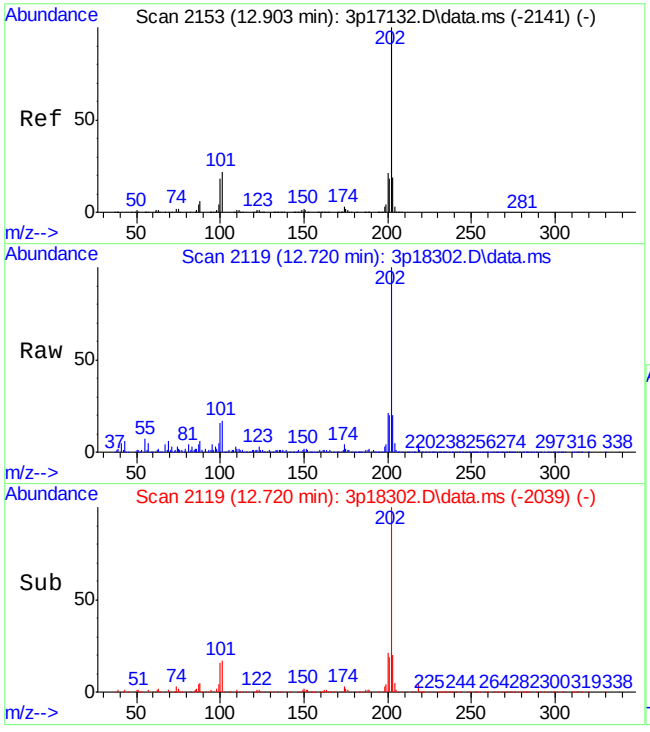


#81
Fluoranthene
Concen: 28.53 ppb
RT: 12.410 min Scan# 2061
Delta R.T. -0.070 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:202 Resp: 320625

Ion	Ratio	Lower	Upper
202	100		
101	14.8	0.0	53.3
203	18.2	0.0	48.9

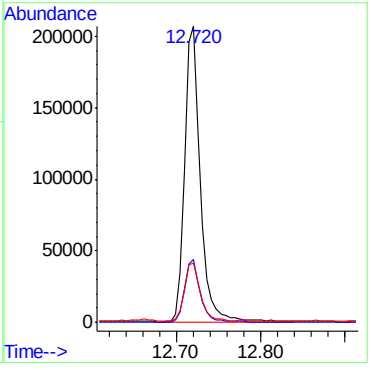


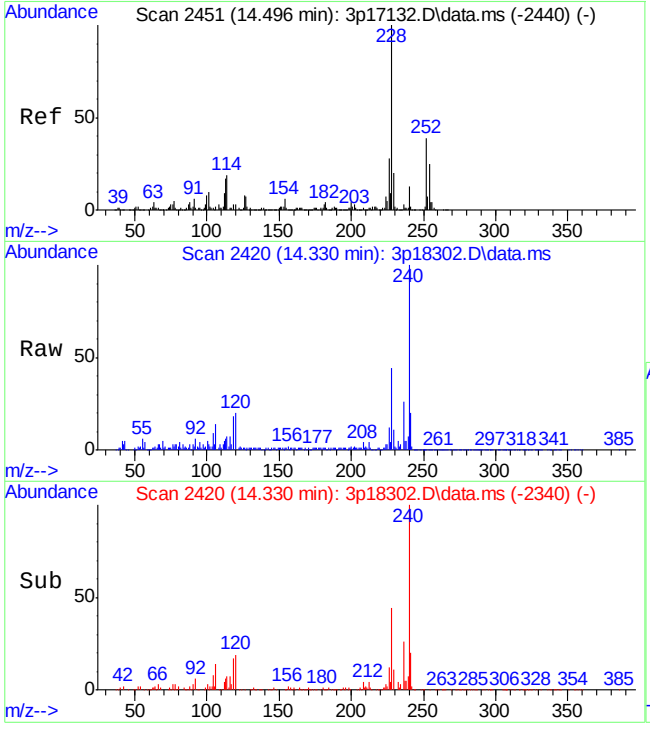


#84
Pyrene
Concen: 21.09 ppb
RT: 12.720 min Scan# 2119
Delta R.T. -0.070 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:202 Resp: 267344

Ion	Ratio	Lower	Upper
202	100		
200	21.3	0.0	46.6
203	19.5	0.0	53.5

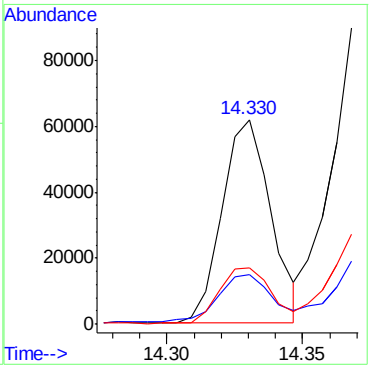




#87
Benzo[a]anthracene
Concen: 6.73 ppb
RT: 14.330 min Scan# 2420
Delta R.T. -0.070 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

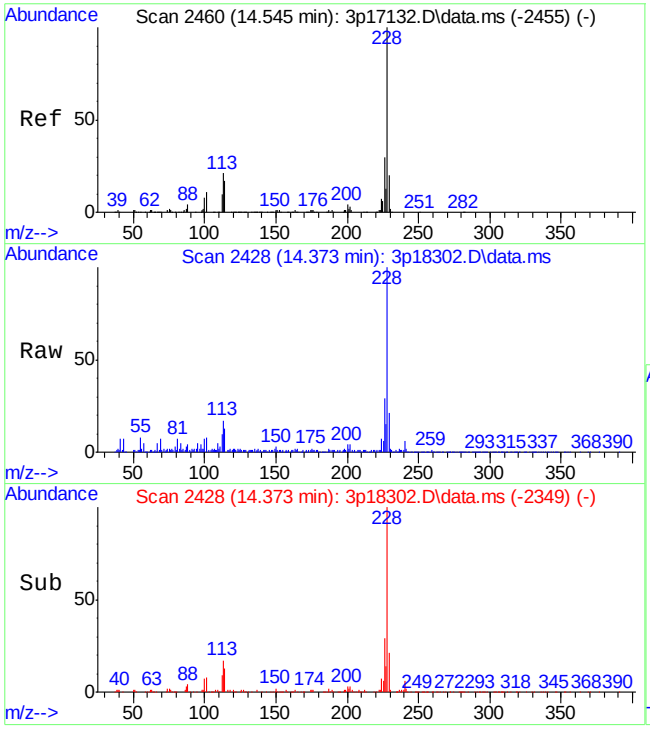
Tgt Ion:228 Resp: 76768

Ion	Ratio	Lower	Upper
228	100		
229	22.4	0.0	49.9
226	26.8	0.0	58.4



9.1.22

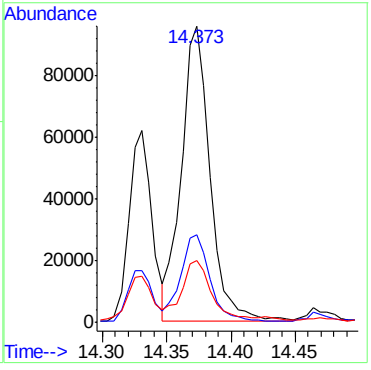
9

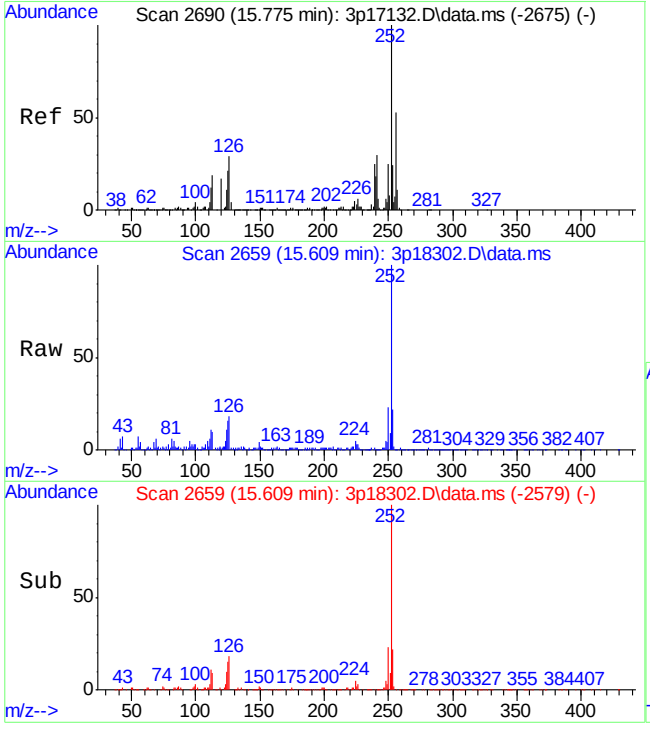


#89
Chrysene
Concen: 14.32 ppb
RT: 14.373 min Scan# 2428
Delta R.T. -0.075 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:228 Resp: 149957

Ion	Ratio	Lower	Upper
228	100		
226	29.3	0.0	59.7
229	19.7	0.0	49.1

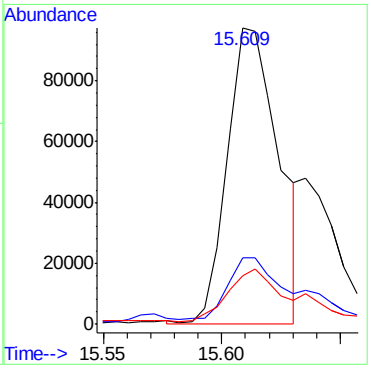


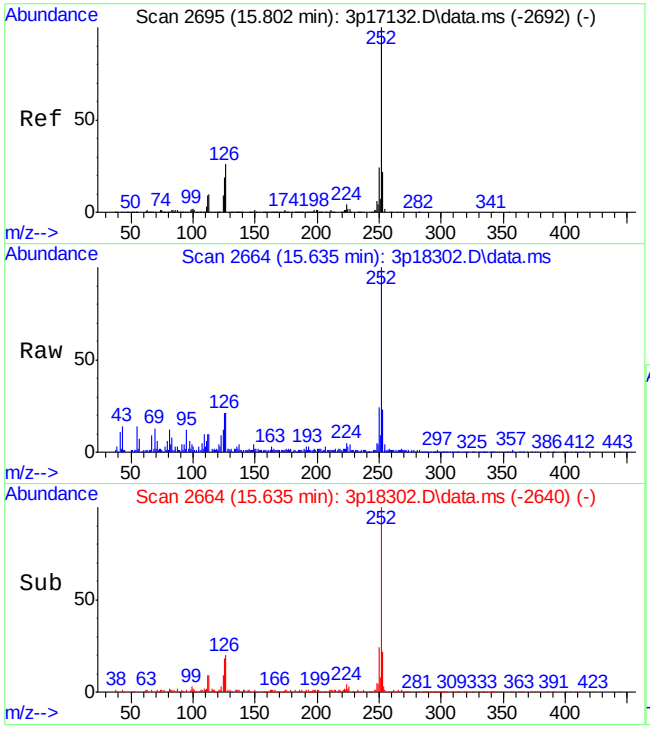


#93
Benzo[b]fluoranthene
Concen: 11.23 ppb m
RT: 15.609 min Scan# 2659
Delta R.T. -0.070 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:252 Resp: 148336

Ion	Ratio	Lower	Upper
252	100		
253	22.3	0.0	51.5
125	16.1	0.0	44.7

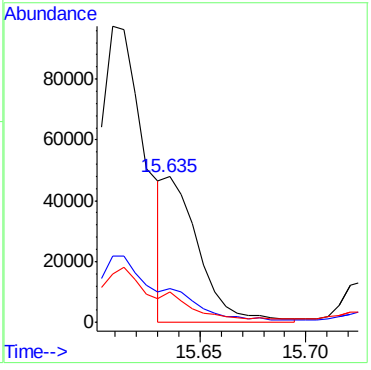


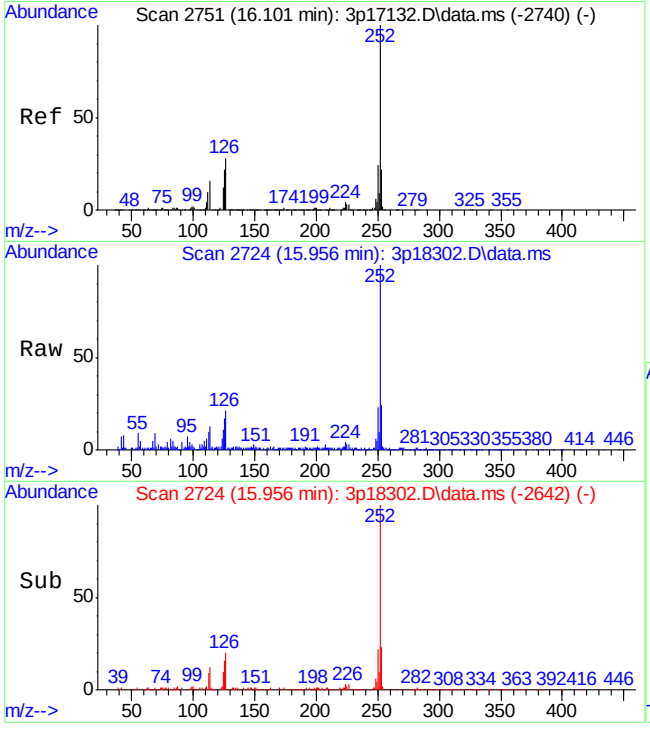


#94
Benzo[k]fluoranthene
Concen: 4.83 ppb m
RT: 15.635 min Scan# 2664
Delta R.T. -0.070 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:252 Resp: 53884

Ion	Ratio	Lower	Upper
252	100		
253	23.5	0.0	52.3
125	20.5	0.0	45.4

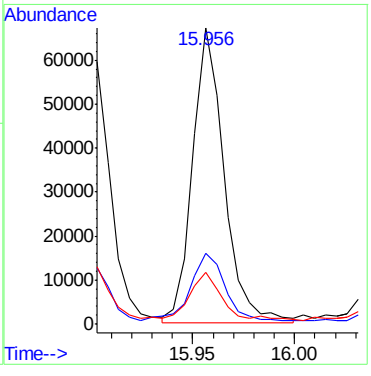


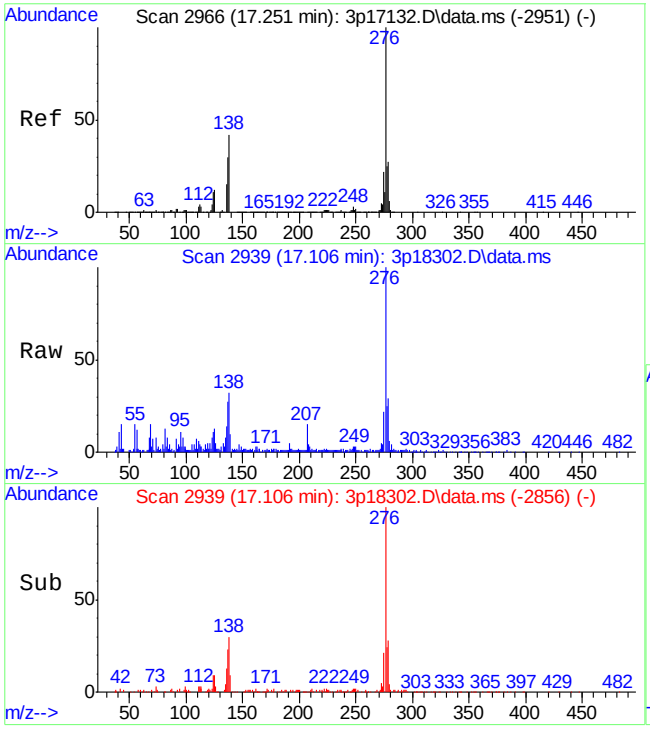


#95
Benzo[a]pyrene
Concen: 6.40 ppb
RT: 15.956 min Scan# 2724
Delta R.T. -0.059 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:252 Resp: 71810

Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	52.2
125	16.0	0.0	46.5

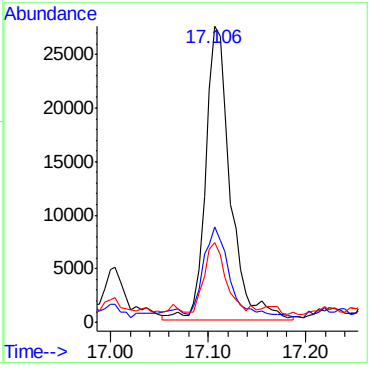


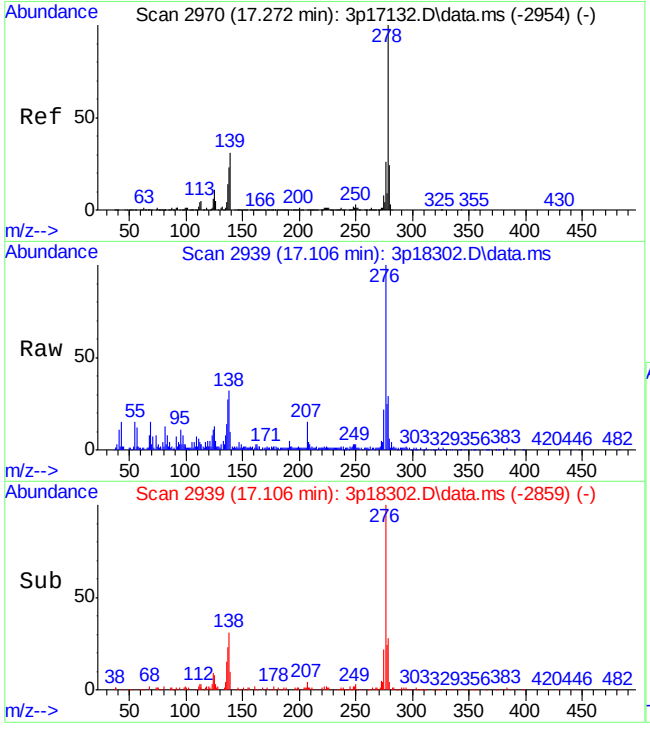


#96
Indeno[1,2,3-cd]pyrene
Concen: 3.63 ppb
RT: 17.106 min Scan# 2939
Delta R.T. -0.054 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:276 Resp: 47854

Ion	Ratio	Lower	Upper
276	100		
138	30.0	4.8	64.8
137	23.9	0.0	55.1

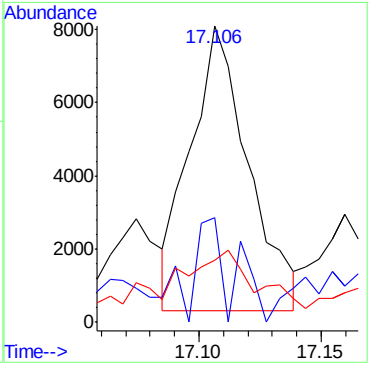


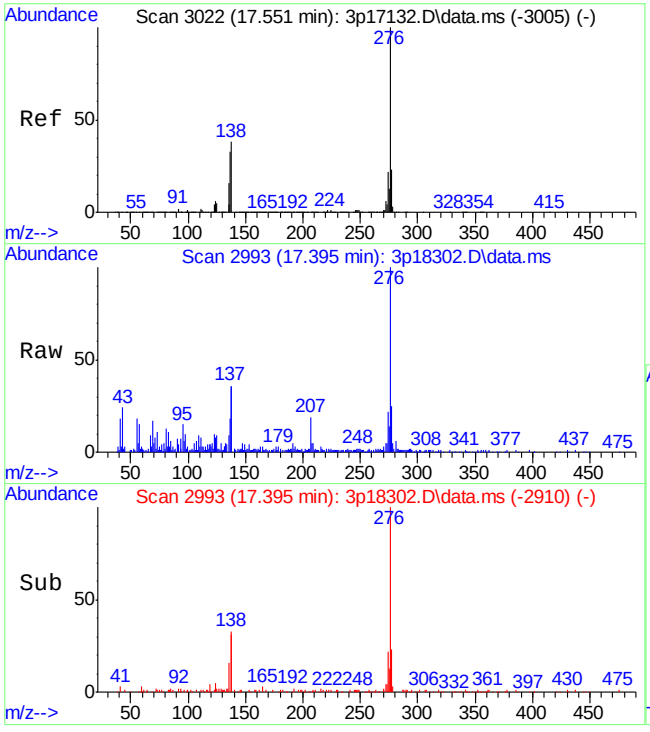


#98
Dibenz[a,h]anthracene
Concen: 1.18 ppb
RT: 17.106 min Scan# 2939
Delta R.T. -0.070 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:278 Resp: 12897

Ion	Ratio	Lower	Upper
278	100		
139	31.9	0.0	50.3
279	16.3	0.0	53.8

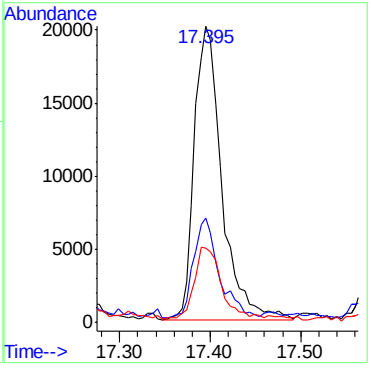




#100
Benzo[g,h,i]perylene
Concen: 3.86 ppb
RT: 17.395 min Scan# 2993
Delta R.T. -0.053 min
Lab File: 3p18302.D
Acq: 2 Apr 2013 5:48 pm

Tgt Ion:276 Resp: 42614

Ion	Ratio	Lower	Upper
276	100		
138	33.3	1.5	61.5
277	24.2	0.0	54.1



9.1.22

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18286.D
Acq On : 2 Apr 2013 11:07 am
Operator : katelynh
Sample : op64810-mb1
Misc : op64810,e3p825,35.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 02 11:56:51 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.804	152	142589	40.00 ppb	-0.07
24) Naphthalene-d8	5.505	136	496390	40.00 ppb	-0.08
47) Acenaphthene-d10	8.201	164	258260	40.00 ppb	-0.09
69) Phenanthrene-d10	10.560	188	409023	40.00 ppb	-0.08
83) Chrysene-d12	14.341	240	432020	40.00 ppb	-0.06
91) Perylene-d12	16.015	264	408041	40.00 ppb	-0.05
101) 1,4-Dichlorobenzene-d4a	3.804	152	142181	40.00 ppb	-0.05
103) Acenaphthene-d10a	8.201	164	258260	40.00 ppb	-0.08
106) Chrysene-d12a	14.341	240	432020	40.00 ppb	-0.04
108) Naphthalene-d8a	5.505	136	496390	40.00 ppb	-0.06
System Monitoring Compounds					
5) 2-Fluorophenol	2.531	112	184296	38.53 ppb	-0.03
Spiked Amount 50.000			Recovery = 77.06%		
8) Phenol-d5	3.489	99	211229	36.93 ppb	-0.03
Spiked Amount 50.000			Recovery = 73.86%		
25) Nitrobenzene-d5	4.526	82	202661	47.87 ppb	-0.06
Spiked Amount 50.000			Recovery = 95.74%		
51) 2-Fluorobiphenyl	7.185	172	365655	44.70 ppb	-0.09
Spiked Amount 50.000			Recovery = 89.40%		
73) 2,4,6-Tribromophenol	9.501	330	52833	38.21 ppb	-0.07
Spiked Amount 50.000			Recovery = 76.42%		
85) Terphenyl-d14	12.988	244	379530	42.09 ppb	-0.07
Spiked Amount 50.000			Recovery = 84.18%		

Target Compounds Qvalue

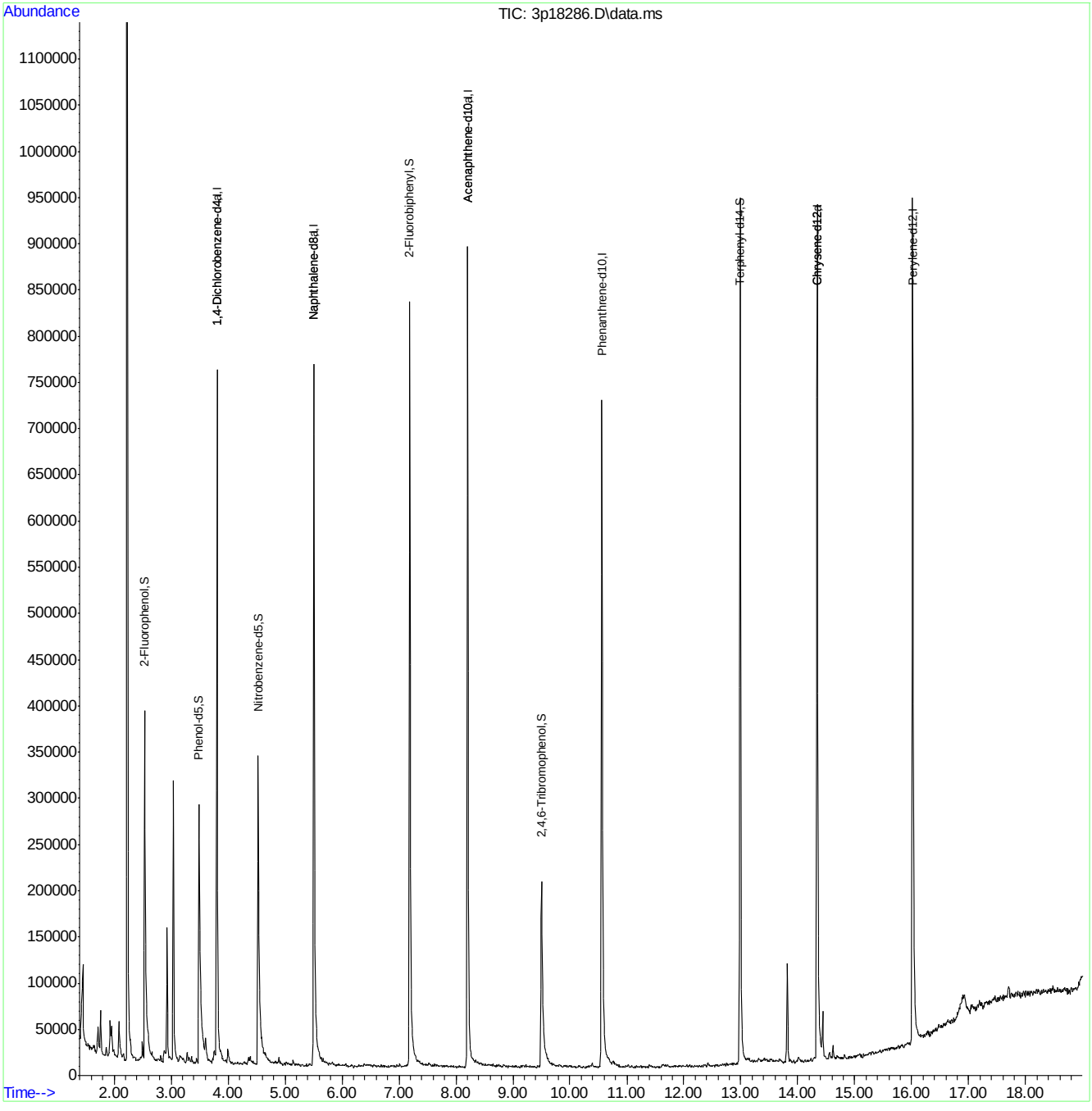
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SGS ACCUTEST JB31800

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\825\
Data File : 3p18286.D
Acq On : 2 Apr 2013 11:07 am
Operator : katelynh
Sample : op64810-mb1
Misc : op64810,e3p825,35.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 02 11:56:51 2013
Quant Method : C:\msdchem\1\METHODS\M3P782.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Mar 20 09:29:45 2013
Response via : Initial Calibration



M3P782.M Tue Apr 02 11:56:55 2013 RPT1 Page: 2

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:29	MA30840-STD1	1		STDA
12:35	MA30840-STD2	1		STDB
12:41	MA30840-STD3	1		STDC
12:48	MA30840-STD4	1		STDD
12:54	MA30840-ICV1	1		
13:00	MA30840-ICB1	1		
13:07	MA30840-CCV1	1		
13:13	MA30840-CCB1	1		
13:20	MA30840-CRI1	1		
13:26	MA30840-CRID1	1		
13:33	MA30840-CRIA1	1		
13:39	MA30840-CRI2	1		
13:45	MA30840-ICSA1	1		
13:52	MA30840-ICSAB1	1		
13:59	ZZZZZZ	1		
14:05	ZZZZZZ	1		
14:11	ZZZZZZ	1		
14:18	ZZZZZZ	1		
14:25	MA30840-CCV2	1		
14:31	MA30840-CCB2	1		
14:37	ZZZZZZ	2		
14:44	ZZZZZZ	2		
14:50	MP70819-S1	1		
14:57	MP70819-S2	1		
15:03	ZZZZZZ	2		
15:10	ZZZZZZ	2		
15:16	MP70845-LC1	1		
15:22	MP70845-MB1	1		
15:29	MP70845-B1	1		
15:35	MA30840-CCV3	1		
15:41	MA30840-CCB3	1		
15:48	MP70845-S1	1		
15:54	MP70845-S2	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:00	JB32706-7	1		(sample used for QC only; not part of login JB31800)
16:07	MP70845-SD1	5		
16:13	ZZZZZZ	1		
16:19	ZZZZZZ	1		
16:26	ZZZZZZ	1		
16:32	ZZZZZZ	1		
16:38	ZZZZZZ	1		
16:45	MA30840-CCV4	1		
16:51	MA30840-CCB4	1		
16:57	ZZZZZZ	1		
17:04	ZZZZZZ	1		
17:10	ZZZZZZ	1		
17:16	ZZZZZZ	1		
17:23	ZZZZZZ	1		
17:29	ZZZZZZ	1		
17:36	ZZZZZZ	1		
17:42	ZZZZZZ	1		
17:48	ZZZZZZ	1		
17:55	ZZZZZZ	3		
18:01	MA30840-CCV5	1		
18:08	MA30840-CCB5	1		
18:14	MA30840-CRI3	1		
18:20	MA30840-CRID2	1		
18:27	MA30840-CRIA2	1		
18:33	MA30840-ICSA2	1		
18:40	MA30840-ICSAB2	1		
18:46	MA30840-CCV6	1		
18:53	MA30840-CCB6	1		
18:59	ZZZZZZ	1		
19:06	ZZZZZZ	1		
19:12	ZZZZZZ	1		
19:18	ZZZZZZ	1		
19:25	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:31	MP70844-MB1	1		
19:38	MP70844-B1	1		
19:44	MP70844-S1	1		
19:51	MP70844-S2	1		
19:57	MA30840-CCV7	1		
20:03	MA30840-CCB7	1		
20:10	JB31800-5	1		
20:16	MP70844-SD1	5		
20:22	JB31800-1	1		
20:29	JB31800-2	1		
20:35	JB31800-3	1		
20:41	JB31800-4	1		
20:48	JB31800-6	1		
20:54	JB31800-7	1		
21:01	JB31800-8	1		
21:07	JB31800-9	1		
21:13	MA30840-CCV8	1		
21:20	MA30840-CCB8	1		
21:26	JB31800-10	1		
21:32	JB31800-11	1		
21:39	JB31800-12	1		
21:45	JB31800-13	1		FE=750ppm
21:52	JB31800-14	1		
21:58	JB31800-15	1		
22:04	JB31800-16	1		
22:11	JB31800-17	1		
22:17	JB31800-18	1		
22:23	JB31800-19	1		
22:30	MA30840-CCV9	1		
22:36	MA30840-CCB9	1		
22:43	JB31800-20	1		
---------->	Last reportable sample/prep for job JB31800			
22:49	MP70869-MB1	1		
22:55	MP70869-B1	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:02	MP70869-S1	1		
23:08	MP70869-S2	1		
23:14	JB32382-1	1		(sample used for QC only; not part of login JB31800)
23:21	MP70869-SD1	5		
23:27	ZZZZZZ	1		
23:34	ZZZZZZ	1		
23:40	ZZZZZZ	1		
23:47	MA30840-CCV10	1		
23:53	MA30840-CCB10	1		
00:00	ZZZZZZ	1		
00:06	MP70871-MB1	1		
00:13	MP70871-B1	1		
00:19	MP70871-S1	1		Bad readings on ISTD
00:25	MP70871-S2	1		Bad readings on ISTD
00:32	JB31940-1	1		(sample used for QC only; not part of login JB31800)
00:38	MP70871-SD1	5		
00:45	ZZZZZZ	1		
00:51	ZZZZZZ	1		
00:57	ZZZZZZ	1		
01:04	MA30840-CCV11	1		
01:10	MA30840-CCB11	1		
01:16	ZZZZZZ	1		
01:23	ZZZZZZ	1		
01:29	ZZZZZZ	1		
01:36	ZZZZZZ	1		
01:42	ZZZZZZ	1		
01:48	ZZZZZZ	1		
01:55	ZZZZZZ	1		
02:01	ZZZZZZ	1		
02:08	ZZZZZZ	1		
02:14	ZZZZZZ	1		
02:20	MA30840-CCV12	1		
02:27	MA30840-CCB12	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	02:33	MA30840-CRI4	1		
	02:39	MA30840-CRID3	1		
	02:46	MA30840-CRIA3	1		
	02:52	MA30840-ICSA3	1		
	02:59	MA30840-ICSAB3	1		
	03:06	MA30840-CCV13	1		empty
	03:12	MA30840-CCB13	1		empty
	03:18	ZZZZZZ	1		
	03:25	ZZZZZZ	1		
	03:31	ZZZZZZ	1		
	03:38	ZZZZZZ	1		
	03:44	ZZZZZZ	1		
	03:51	ZZZZZZ	1		
	03:57	ZZZZZZ	1		
	04:04	ZZZZZZ	1		
	04:10	ZZZZZZ	1		
	04:17	MA30840-CCV14	1		
	04:23	MA30840-CCB14	1		
---------->	Last reportable CCB for job JB31800				
	04:29	ZZZZZZ	1		
	04:36	ZZZZZZ	1		
	04:42	ZZZZZZ	1		
	04:48	ZZZZZZ	1		
	04:55	ZZZZZZ	1		
	05:01	ZZZZZZ	1		
	05:07	MP70884-MB1	1		
	05:14	MP70884-B1	1		Bad readings on ISTD
	05:20	MP70884-B2	1		
	05:26	MA30840-CCV15	1		
	05:33	MA30840-CCB15	1		
	05:39	JB32129-1	1		(sample used for QC only; not part of login JB31800)
	05:46	MP70884-SD1	5		
	05:52	ZZZZZZ	1		
	05:58	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
06:05	MA30840-CCV16	1		
06:11	MA30840-CCB16	1		
06:18	MA30840-CRI5	1		
06:24	MA30840-CRID4	1		
06:30	MA30840-CRIA4	1		
06:37	MA30840-ICSA4	1		
06:43	MA30840-ICSAB4	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
12:29	MA30840-STD1	1766 R	108240 R	32167 R	5396 R
12:35	MA30840-STD2	1744	108370	31655	5352
12:41	MA30840-STD3	1714	107040	31302	5275
12:48	MA30840-STD4	1671	106150	30884	5181
12:54	MA30840-ICV1	1716	106510	31194	5283
13:00	MA30840-ICB1	1776	108370	31766	5424
13:07	MA30840-CCV1	1719	107930	31334	5290
13:13	MA30840-CCB1	1763	110050	31965	5406
13:20	MA30840-CRI1	No results reported for the elements associated with this internal standard.			
13:26	MA30840-CRID1	1767	108690	32138	5413
13:33	MA30840-CRIA1	1775	109500	32168	5436
13:39	MA30840-CRI2	1762	109750	31853	5418
13:45	MA30840-ICSA1	1572	101990	29413	4925
13:52	MA30840-ICSAB1	1584	101340	29498	4965
13:59	ZZZZZZ	1747	108590	31723	5568
14:05	ZZZZZZ	1747	107360	30067	5243
14:11	ZZZZZZ	1699	108210	31999	5391
14:18	ZZZZZZ	1764	107960	31879	5384
14:25	MA30840-CCV2	1700	106660	31313	5235
14:31	MA30840-CCB2	1753	106700	31903	5347
14:37	ZZZZZZ	1656	105200	30841	5092
14:44	ZZZZZZ	1656	105530	30804	5102
14:50	MP70819-S1	1640	104140	30961	5042
14:57	MP70819-S2	1638	105110	31000	5033
15:03	ZZZZZZ	1713	107700	32686	5361
15:10	ZZZZZZ	1710	107240	32317	5333
15:16	MP70845-LC1	1750	109300	32273	5341
15:22	MP70845-MB1	1744	107390	32389	5340
15:29	MP70845-B1	1733	107580	31237	5382
15:35	MA30840-CCV3	1716	107360	31318	5277
15:41	MA30840-CCB3	1770	108330	32274	5396
15:48	MP70845-S1	1746	109460	31763	5375
15:54	MP70845-S2	1773	111510	31738	5436

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:00	JB32706-7	1794	112400	32969	5446
16:07	MP70845-SD1	1786	109550	32410	5446
16:13	ZZZZZZ	1783	111400	32348	5437
16:19	ZZZZZZ	1810	112730	32764	5493
16:26	ZZZZZZ	1806	111900	32341	5513
16:32	ZZZZZZ	1773	112640	33124	5478
16:38	ZZZZZZ	1791	109730	31746	5430
16:45	MA30840-CCV4	1761	107530	30385	5356
16:51	MA30840-CCB4	1766	109090	32046	5419
16:57	ZZZZZZ	1792	111490	32812	5451
17:04	ZZZZZZ	1848	113410	32205	5502
17:10	ZZZZZZ	1781	111430	32266	5438
17:16	ZZZZZZ	1799	113310	33601	5467
17:23	ZZZZZZ	1581	102880	29558	6412
17:29	ZZZZZZ	1816	111640	32051	5508
17:36	ZZZZZZ	1779	111630	32854	5462
17:42	ZZZZZZ	1776	110750	31695	5349
17:48	ZZZZZZ	1842	113600	32316	5520
17:55	ZZZZZZ	1692	108060	31394	5882
18:01	MA30840-CCV5	1741	108140	31350	5329
18:08	MA30840-CCB5	1810	101530	31557	5484
18:14	MA30840-CRI3	1791	110220	31537	5479
18:20	MA30840-CRID2	1774	109460	32345	5440
18:27	MA30840-CRIA2	1806	109670	31892	5475
18:33	MA30840-ICSA2	1618	102690	28709	5018
18:40	MA30840-ICSAB2	1579	102510	29845	4973
18:46	MA30840-CCV6	1749	107860	31165	5343
18:53	MA30840-CCB6	1821	109580	31365	5501
18:59	ZZZZZZ	1800	112920	33017	5496
19:06	ZZZZZZ	1807	112360	32898	5512
19:12	ZZZZZZ	1795	109200	31511	5446
19:18	ZZZZZZ	999999 !	111680	32334	999999 !
19:25	ZZZZZZ	1725	108930	31938	5300

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:31	MP70844-MB1	1808	107680	31491	5444
19:38	MP70844-B1	1767	109150	31174	5470
19:44	MP70844-S1	1784	113280	33156	5540
19:51	MP70844-S2	1816	112700	32097	5580
19:57	MA30840-CCV7	1770	108680	30503	5394
20:03	MA30840-CCB7	1780	109630	32499	5450
20:10	JB31800-5	1848	113470	32660	5592
20:16	MP70844-SD1	1826	110750	31641	5533
20:22	JB31800-1	1822	115450	33766	5533
20:29	JB31800-2	1837	112990	32673	5655
20:35	JB31800-3	1846	115040	32612	5603
20:41	JB31800-4	1825	115230	33928	5499
20:48	JB31800-6	1876	114460	32678	5599
20:54	JB31800-7	1796	112760	32172	5616
21:01	JB31800-8	1835	114020	33329	5598
21:07	JB31800-9	1885	115150	32506	5609
21:13	MA30840-CCV8	1742	109410	31821	5368
21:20	MA30840-CCB8	1832	108950	31903	5523
21:26	JB31800-10	1838	115160	33309	5620
21:32	JB31800-11	1773	111640	32390	5292
21:39	JB31800-12	1860	114960	32002	5798
21:45	JB31800-13	1822	115360	32967	6144
21:52	JB31800-14	1874	113760	32271	5625
21:58	JB31800-15	1848	114840	33081	5606
22:04	JB31800-16	1880	114360	32787	5604
22:11	JB31800-17	1855	114840	32983	5638
22:17	JB31800-18	1908	116040	33278	5593
22:23	JB31800-19	1893	116750	33428	5593
22:30	MA30840-CCV9	1779	109580	31750	5417
22:36	MA30840-CCB9	1841	110780	31872	5564
22:43	JB31800-20	1732	110480	31819	5559
22:49	MP70869-MB1	1637	103940	30292	4796
22:55	MP70869-B1	1616	103700	30936	4766

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:02	MP70869-S1	1650	103910	30267	4825
23:08	MP70869-S2	1624	104070	31140	4787
23:14	JB32382-1	1661	104190	30272	4823
23:21	MP70869-SD1	1766	110590	31692	5302
23:27	ZZZZZZ	1642	103440	30176	4761
23:34	ZZZZZZ	1624	101950	31304	4770
23:40	ZZZZZZ	1639	103190	30272	4749
23:47	MA30840-CCV10	1768	109500	31552	5408
23:53	MA30840-CCB10	1862	110680	31782	5590
00:00	ZZZZZZ	1575	100780	30394	4576
00:06	MP70871-MB1	1857	111100	32490	5594
00:13	MP70871-B1	1791	110800	32204	5531
00:19	MP70871-S1	999999 !	119740	33535	999999 !
00:25	MP70871-S2	1916	120260	34549	5604
00:32	JB31940-1	1962	119850	34276	5672
00:38	MP70871-SD1	1868	113540	32935	5609
00:45	ZZZZZZ	1927	118380	34128	5657
00:51	ZZZZZZ	1817	116160	33255	5422
00:57	ZZZZZZ	1883	116580	33476	5740
01:04	MA30840-CCV11	1795	111810	31238	5493
01:10	MA30840-CCB11	1874	112200	32111	5638
01:16	ZZZZZZ	1709	111720	32068	6558
01:23	ZZZZZZ	1921	118520	33364	5699
01:29	ZZZZZZ	1988	122990	35177	5738
01:36	ZZZZZZ	1966	120300	34008	5722
01:42	ZZZZZZ	1913	117770	34112	5668
01:48	ZZZZZZ	1990	122930	34941	5754
01:55	ZZZZZZ	1945	118850	34513	5708
02:01	ZZZZZZ	1961	120660	34482	5729
02:08	ZZZZZZ	1931	117940	33708	5732
02:14	ZZZZZZ	1925	118590	33990	5709
02:20	MA30840-CCV12	1832	112170	31860	5558
02:27	MA30840-CCB12	1857	112650	32271	5618

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
02:33	MA30840-CRI4	1872	112690	31832	5648
02:39	MA30840-CRID3	1873	113320	32577	5662
02:46	MA30840-CRIA3	1889	113120	32039	5689
02:52	MA30840-ICSA3	1669	106170	29992	5158
02:59	MA30840-ICSAB3	1678	106260	29687	5188
03:06	MA30840-CCV13	No results reported for the elements associated with this internal standard.			
03:12	MA30840-CCB13	No results reported for the elements associated with this internal standard.			
03:18	ZZZZZZ	5372 !	269760 !	46582 !	15168 !
03:25	ZZZZZZ	5449 !	263090 !	46133 !	15408 !
03:31	ZZZZZZ	5358 !	267540 !	46850 !	15163 !
03:38	ZZZZZZ	5450 !	272870 !	46769 !	15425 !
03:44	ZZZZZZ	5426 !	264070 !	46241 !	15337 !
03:51	ZZZZZZ	5461 !	272890 !	46869 !	15448 !
03:57	ZZZZZZ	5367 !	268500 !	45742 !	15193 !
04:04	ZZZZZZ	5388 !	269740 !	46531 !	15261 !
04:10	ZZZZZZ	5354 !	264570 !	45353 !	15170 !
04:17	MA30840-CCV14	1805	111510	31595	5511
04:23	MA30840-CCB14	1877	112560	31910	5660
04:29	ZZZZZZ	1869	116260	33407	5623
04:36	ZZZZZZ	1928	118310	33194	5736
04:42	ZZZZZZ	1896	117690	33560	5686
04:48	ZZZZZZ	1929	119110	33616	5710
04:55	ZZZZZZ	1918	118990	33807	5700
05:01	ZZZZZZ	1930	119270	33256	5698
05:07	MP70884-MB1	1878	115640	33212	5718
05:14	MP70884-B1	999999 !	113540	32145	999999 !
05:20	MP70884-B2	1845	113100	32452	5676
05:26	MA30840-CCV15	1830	112210	31519	5559
05:33	MA30840-CCB15	1887	113340	32505	5688
05:39	JB32129-1	1856	114000	32701	5710
05:46	MP70884-SD1	1880	113770	32726	5686
05:52	ZZZZZZ	1859	114290	32667	5723
05:58	ZZZZZZ	1855	114600	33186	5721

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
Analyst: ND Run ID: MA30840
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
06:05	MA30840-CCV16	1831	112430	31812	5561
06:11	MA30840-CCB16	1894	113390	32658	5706
06:18	MA30840-CRI5	1879	114160	31979	5686
06:24	MA30840-CRID4	1900	113890	32485	5717
06:30	MA30840-CRIA4	1894	113900	32624	5716
06:37	MA30840-ICSA4	1700	106390	29382	5218
06:43	MA30840-ICSAB4	1662	106100	29926	5146

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			13:00		13:13		14:31		15:41	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	12	anr							
Antimony	6.0	.9	anr							
Arsenic	3.0	.8	anr							
Barium	200	.5	anr							
Beryllium	1.0	.3	anr							
Bismuth	20	1.1								
Boron	100	2.6								
Cadmium	3.0	.2	anr							
Calcium	5000	26	anr							
Chromium	10	.6	anr							
Cobalt	50	.4	anr							
Copper	10	.5	anr							
Iron	100	8.3	anr							
Lead	3.0	1	0.30	<3.0	0.0	<3.0	1.0	<3.0	1.1	<3.0
Lithium	20	1.4								
Magnesium	5000	22	anr							
Manganese	15	.3	anr							
Molybdenum	20	.5								
Nickel	10	.4	anr							
Palladium	50	1.6								
Potassium	10000	42	anr							
Selenium	10	1.2	anr							
Silicon	200	11								
Silver	10	.3	anr							
Sodium	10000	11	anr							
Sulfur	50	2.5								
Strontium	10	.3								
Thallium	2.0	1.5	anr							
Tin	10	.8								
Titanium	10	.5								
Tungsten	50	10								
Vanadium	50	.4	anr							
Zinc	20	1.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			13:00		13:13		14:31		15:41	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.5								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			16:51		18:08		18:53		20:03	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	12	anr							
Antimony	6.0	.9	anr							
Arsenic	3.0	.8	anr							
Barium	200	.5	anr							
Beryllium	1.0	.3	anr							
Bismuth	20	1.1								
Boron	100	2.6								
Cadmium	3.0	.2	anr							
Calcium	5000	26	anr							
Chromium	10	.6	anr							
Cobalt	50	.4	anr							
Copper	10	.5	anr							
Iron	100	8.3	anr							
Lead	3.0	1	0.90	<3.0	1.3	<3.0	-0.10	<3.0	1.1	<3.0
Lithium	20	1.4								
Magnesium	5000	22	anr							
Manganese	15	.3	anr							
Molybdenum	20	.5								
Nickel	10	.4	anr							
Palladium	50	1.6								
Potassium	10000	42	anr							
Selenium	10	1.2	anr							
Silicon	200	11								
Silver	10	.3	anr							
Sodium	10000	11	anr							
Sulfur	50	2.5								
Strontium	10	.3								
Thallium	2.0	1.5	anr							
Tin	10	.8								
Titanium	10	.5								
Tungsten	50	10								
Vanadium	50	.4	anr							
Zinc	20	1.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			16:51		18:08		18:53		20:03	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.5								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			21:20		22:36		23:53		01:10	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	12	anr							
Antimony	6.0	.9	anr							
Arsenic	3.0	.8	anr							
Barium	200	.5	anr							
Beryllium	1.0	.3	anr							
Bismuth	20	1.1								
Boron	100	2.6								
Cadmium	3.0	.2	anr							
Calcium	5000	26	anr							
Chromium	10	.6	anr							
Cobalt	50	.4	anr							
Copper	10	.5	anr							
Iron	100	8.3	anr							
Lead	3.0	1	0.70	<3.0	1.0	<3.0	-0.20	<3.0	0.40	<3.0
Lithium	20	1.4								
Magnesium	5000	22	anr							
Manganese	15	.3	anr							
Molybdenum	20	.5								
Nickel	10	.4	anr							
Palladium	50	1.6								
Potassium	10000	42	anr							
Selenium	10	1.2	anr							
Silicon	200	11								
Silver	10	.3	anr							
Sodium	10000	11	anr							
Sulfur	50	2.5								
Strontium	10	.3								
Thallium	2.0	1.5	anr							
Tin	10	.8								
Titanium	10	.5								
Tungsten	50	10								
Vanadium	50	.4	anr							
Zinc	20	1.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			21:20		22:36		23:53		01:10	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.5								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			02:27		04:23	
Sample ID:			CCB12		CCB14	
Metal	RL	IDL	raw	final	raw	final
Aluminum	200	12	anr			
Antimony	6.0	.9	anr			
Arsenic	3.0	.8	anr			
Barium	200	.5	anr			
Beryllium	1.0	.3	anr			
Bismuth	20	1.1				
Boron	100	2.6				
Cadmium	3.0	.2	anr			
Calcium	5000	26	anr			
Chromium	10	.6	anr			
Cobalt	50	.4	anr			
Copper	10	.5	anr			
Iron	100	8.3	anr			
Lead	3.0	1	1.2	<3.0	0.90	<3.0
Lithium	20	1.4				
Magnesium	5000	22	anr			
Manganese	15	.3	anr			
Molybdenum	20	.5				
Nickel	10	.4	anr			
Palladium	50	1.6				
Potassium	10000	42	anr			
Selenium	10	1.2	anr			
Silicon	200	11				
Silver	10	.3	anr			
Sodium	10000	11	anr			
Sulfur	50	2.5				
Strontium	10	.3				
Thallium	2.0	1.5	anr			
Tin	10	.8				
Titanium	10	.5				
Tungsten	50	10				
Vanadium	50	.4	anr			
Zinc	20	1.5	anr			

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30840 Units: ug/l

Time:			02:27		04:23	
Sample ID:			CCB12		CCB14	
Metal	RL	IDL	raw	final	raw	final
Zirconium	10	.5				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		12:54			13:07			14:25	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2020	101.0	2000	2030	101.5	2000	2040	102.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		12:54			13:07			14:25	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		15:35			16:45			18:01	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2030	101.5	2000	2010	100.5	2000	2030	101.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		15:35			16:45			18:01	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		18:46			19:57			21:13	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2030	101.5	2000	2010	100.5	2000	2000	100.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		18:46			19:57			21:13	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		22:30			23:47			01:04	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2000	100.0	2000	2000	100.0	2000	1960	98.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		22:30			23:47			01:04	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		02:20			04:17	
Sample ID:	CCV	CCV12		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	2000	1980	99.0	2000	2010	100.5
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Palladium						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Sulfur						
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30840 Units: ug/l

Time:		02:20			04:17	
Sample ID:	CCV	CCV12		CCV	CCV14	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30840 Units: ug/l

Time:				13:26		13:33		13:39	
Sample ID:	CRI	CRIA	CRID	CRID1		CRIA1		CRI2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000		1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0						
Iron	100	500							
Lead	3.0	20	2.5	2.0	80.0	20.6	103.0	2.3	76.7
Lithium	20								
Magnesium	5000		100	anr					
Manganese	15		3.0	anr					
Molybdenum	20		4.0						
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000	anr					
Sulfur	50	50	50						
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30840 Units: ug/l

Time:				13:26		13:33		13:39	
Sample ID:	CRI	CRIA	CRID	CRID1		CRIA1		CRI2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10		5.0						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30840 Units: ug/l

Time:				18:14		18:20		18:27	
Sample ID:	CRI	CRIA	CRID	CRI3		CRID2		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000		1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	3.1	103.3	3.2	128.0	21.8	109.0
Lithium	20								
Magnesium	5000		100	anr					
Manganese	15		3.0	anr					
Molybdenum	20		4.0						
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000	anr					
Sulfur	50	50	50						
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30840 Units: ug/l

Time:				18:14		18:20		18:27	
Sample ID:	CRI	CRIA	CRID	CRI3		CRID2		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10		5.0						

(*) Outside of QC limits
(anr) Analyte not requested

10.1.4

10

SGS ACCUTEST
JB31800

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30840 Units: ug/l

Time:				02:33		02:39		02:46	
Sample ID:	CRI	CRIA	CRID	CRI4		CRID3		CRIA3	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000		1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	2.2	73.3	2.9	116.0	21.0	105.0
Lithium	20								
Magnesium	5000		100	anr					
Manganese	15		3.0	anr					
Molybdenum	20		4.0						
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000	anr					
Sulfur	50	50	50						
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30840 Units: ug/l

Time:				02:33		02:39		02:46	
Sample ID:	CRI	CRIA	CRID	CRI4		CRID3		CRIA3	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10		5.0						

(*) Outside of QC limits
(anr) Analyte not requested

10.1.4
10

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA30840 Units: ug/l

Time:			13:45		13:52		18:33		18:40	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	508000	101.6	502000	100.4	504000	100.8	501000	100.2
Antimony		1000	-1.1		995	99.5	0.20		1010	101.0
Arsenic		1000	2.7		1020	102.0	2.0		1040	104.0
Barium		500	-0.50		515	103.0	-0.60		512	102.4
Beryllium		500	0.0		480	96.0	0.0		466	93.2
Bismuth		500	1.6		503	100.6	3.9		507	101.4
Boron			-9.9		-20		-13		-24	
Cadmium		1000	0.50		986	98.6	0.50		1010	101.0
Calcium	400000	400000	372000	93.0	372000	93.0	386000	96.5	365000	91.3
Chromium		500	-0.70		458	91.6	-0.70		453	90.6
Cobalt		500	2.1		479	95.8	2.4		486	97.2
Copper		500	3.2		519	103.8	1.7		505	101.0
Iron	200000	200000	191000	95.5	192000	96.0	193000	96.5	192000	96.0
Lead		1000	2.9		917	91.7	-0.20		923	92.3
Lithium		500	4.3		530	106.0	4.9		531	106.2
Magnesium	500000	500000	535000	107.0	537000	107.4	561000	112.2	517000	103.4
Manganese		500	-1.0		473	94.6	0.20		481	96.2
Molybdenum		500	7.3		493	98.6	7.0		497	99.4
Nickel		1000	0.60		887	88.7	0.20		905	90.5
Palladium		500	20.6		551	110.2	18.9		536	107.2
Potassium			70.3		107		73.5		141	
Selenium		1000	1.7		964	96.4	5.6		990	99.0
Silicon			19.1		14.6		21.3		15.2	
Silver		1000	2.1		967	96.7	4.4		971	97.1
Sodium			10.4		35.7		19.3		44.8	
Sulfur		500	5.6		462	92.4	0.70		477	95.4
Strontium			-4.6		-4.7		-5.5		-4.4	
Thallium		1000	-0.80		930	93.0	-0.70		934	93.4
Tin			-3.8		-3.4		-3.5		-3.2	
Titanium			3.6		6.5		3.7		6.7	
Tungsten		500	13.8		527	105.4	3.4		520	104.0
Vanadium		500	-0.30		469	93.8	-0.90		456	91.2
Zinc		1000	0.0		931	93.1	0.60		971	97.1

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA30840 Units: ug/l

Time:			13:45		13:52		18:33		18:40	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-6.7		421	84.2	-6.8		409	81.8

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA30840 Units: ug/l

Time:			02:52		02:59	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	503000	100.6	511000	102.2
Antimony		1000	-1.7		980	98.0
Arsenic		1000	1.2		996	99.6
Barium		500	-0.60		495	99.0
Beryllium		500	0.0		474	94.8
Bismuth		500	4.4		491	98.2
Boron			-12		-23	
Cadmium		1000	0.40		993	99.3
Calcium	400000	400000	370000	92.5	372000	93.0
Chromium		500	-0.80		457	91.4
Cobalt		500	2.2		464	92.8
Copper		500	1.7		487	97.4
Iron	200000	200000	191000	95.5	193000	96.5
Lead		1000	-1.9		901	90.1
Lithium		500	5.7		521	104.2
Magnesium	500000	500000	527000	105.4	538000	107.6
Manganese		500	1.0		480	96.0
Molybdenum		500	7.0		476	95.2
Nickel		1000	0.60		902	90.2
Palladium		500	16.7		546	109.2
Potassium			98.7		152	
Selenium		1000	8.9		965	96.5
Silicon			19.8		16.1	
Silver		1000	6.4		956	95.6
Sodium			83.6		120	
Sulfur		500	0.20		454	90.8
Strontium			-4.9		-5.3	
Thallium		1000	-2.9		922	92.2
Tin			-3.7		-3.5	
Titanium			3.5		6.7	
Tungsten		500	1.8		497	99.4
Vanadium		500	-0.90		462	92.4
Zinc		1000	1.1		952	95.2

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040113M1.ICP Date Analyzed: 04/01/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA30840 Units: ug/l

Time:			02:52		02:59	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Zirconium		500	-6.7		410	82.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
Analyst: GT Run ID: MA30848
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:29	MA30848-STD1	1		STDA
07:35	MA30848-STD2	1		STDB
07:41	MA30848-STD3	1		STDC
07:47	MA30848-STD4	1		STDD
07:56	ZZZZZZ	1		
08:10	ZZZZZZ	1		
08:16	MA30848-ICV1	1		
08:29	MA30848-ICB1	1		
08:34	MA30848-ICCV1	1		
08:45	MA30848-CCB1	1		
08:52	MA30848-CRI1	1		See rerun.
08:58	MA30848-CRID1	1		See rerun.
09:05	MA30848-CRIA1	1		
09:11	MA30848-ICSA1	1		
09:18	MA30848-ICSAB1	1		
09:24	ZZZZZZ	1		
09:31	ZZZZZZ	1		
09:37	MA30848-CCV1	1		
09:43	MA30848-CCB2	1		
09:50	ZZZZZZ	1		
09:58	ZZZZZZ	5		
10:05	ZZZZZZ	1		
10:11	ZZZZZZ	3		
10:17	JB31800-13	2		
10:24	ZZZZZZ	1		
10:30	MA30848-CRI2	1		
10:37	MA30848-CRID2	1		See rerun.
10:43	MA30848-CCV2	1		
10:49	MA30848-CCB3	1		
10:56	MA30848-CRID3	1		
11:02	ZZZZZZ	1		
11:09	ZZZZZZ	1		
11:15	MP70734-MB3	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
Analyst: GT Run ID: MA30848
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:22	MP70734-LC3	1		
11:28	ZZZZZZ	1		
11:34	ZZZZZZ	1		
11:40	ZZZZZZ	1		
11:47	MA30848-CCV3	1		
11:54	MA30848-CCB4	1		
12:00	MP70752-MB2	1		
12:07	MP70752-B2	1		
12:13	ZZZZZZ	1		
12:19	MA30848-CCV4	1		
12:26	MA30848-CCB5	1		
12:32	MA30848-CRI3	1		
12:38	MA30848-CRID4	1		
12:45	MA30848-CRIA2	1		
12:51	MA30848-ICSA2	1		
12:58	MA30848-ICSAB2	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
Analyst: GT Run ID: MA30848
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:29	MA30848-STD1	1866 R	114030 R	32480 R	5652 R
07:35	MA30848-STD2	1881	114030	32179	5678
07:41	MA30848-STD3	1846	113580	31905	5605
07:47	MA30848-STD4	1808	111380	31390	5511
07:56	ZZZZZZ	1843	113580	32077	5596
08:10	ZZZZZZ	1908	115000	33009	5750
08:16	MA30848-ICV1	1894	115150	31628	5727
08:29	MA30848-ICB1	1962	117060	32391	5873
08:34	MA30848-ICCV1	1890	114760	32636	5705
08:45	MA30848-CCB1	1959	117950	33292	5892
08:52	MA30848-CRI1	No results reported for the elements associated with this internal standard.			
08:58	MA30848-CRID1	No results reported for the elements associated with this internal standard.			
09:05	MA30848-CRIA1	1955	116700	32589	5835
09:11	MA30848-ICSA1	1739	110050	30601	5329
09:18	MA30848-ICSAB1	1753	108920	29941	5327
09:24	ZZZZZZ	1894	116100	31734	5601
09:31	ZZZZZZ	1950	116150	32268	6023
09:37	MA30848-CCV1	1883	115680	32403	5689
09:43	MA30848-CCB2	1975	114740	33145	5865
09:50	ZZZZZZ	1938	117060	33848	5843
09:58	ZZZZZZ	1915	115340	31856	6168
10:05	ZZZZZZ	1936	119500	33869	5883
10:11	ZZZZZZ	1947	117100	32378	5821
10:17	JB31800-13	1952	119310	34039	6212
10:24	ZZZZZZ	1980	116560	32621	5883
10:30	MA30848-CRI2	1936	117430	33322	5836
10:37	MA30848-CRID2	No results reported for the elements associated with this internal standard.			
10:43	MA30848-CCV2	1890	116220	32756	5710
10:49	MA30848-CCB3	1974	116480	32830	5864
10:56	MA30848-CRID3	1945	117080	33358	5860
11:02	ZZZZZZ	1899	115650	33663	5724
11:09	ZZZZZZ	1951	118130	33727	5879
11:15	MP70734-MB3	1964	117020	33437	5863

INTERNAL STANDARD SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
Analyst: GT Run ID: MA30848
Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:22	MP70734-LC3	1935	118130	33285	5853
11:28	ZZZZZZ	1972	117560	33456	5893
11:34	ZZZZZZ	1916	116490	32298	5765
11:40	ZZZZZZ	1967	117210	33467	5883
11:47	MA30848-CCV3	1921	116350	32074	5762
11:54	MA30848-CCB4	1938	118810	33314	5826
12:00	MP70752-MB2	1981	117660	33604	5919
12:07	MP70752-B2	1914	117620	33520	5864
12:13	ZZZZZZ	2024	122200	34555	5905
12:19	MA30848-CCV4	1916	117980	32892	5810
12:26	MA30848-CCB5	1989	117300	33339	5925
12:32	MA30848-CRI3	1949	118730	33095	5868
12:38	MA30848-CRID4	1972	117120	33218	5898
12:45	MA30848-CRIA2	1977	117810	32853	5919
12:51	MA30848-ICSA2	1750	110490	30934	5356
12:58	MA30848-ICSAB2	1779	110560	29941	5409

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30848 Units: ug/l

Time:			08:29		08:45		09:43		10:49	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	12	anr							
Antimony	6.0	.9	anr							
Arsenic	3.0	.8	anr							
Barium	200	.5	anr							
Beryllium	1.0	.3	anr							
Bismuth	20	1.1								
Boron	100	2.6								
Cadmium	3.0	.2	anr							
Calcium	5000	26	anr							
Chromium	10	.6	anr							
Cobalt	50	.4	anr							
Copper	10	.5	anr							
Iron	100	8.3	anr							
Lead	3.0	1	0.0	<3.0	1.2	<3.0	0.50	<3.0	-0.20	<3.0
Lithium	20	1.4								
Magnesium	5000	22	anr							
Manganese	15	.3	anr							
Molybdenum	20	.5								
Nickel	10	.4	anr							
Palladium	50	1.6								
Potassium	10000	42	anr							
Selenium	10	1.2	anr							
Silicon	200	11								
Silver	10	.3	anr							
Sodium	10000	11	anr							
Sulfur	50	2.5								
Strontium	10	.3								
Thallium	2.0	1.5	anr							
Tin	10	.8								
Titanium	10	.5								
Tungsten	50	10								
Vanadium	50	.4	anr							
Zinc	20	1.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30848 Units: ug/l

Time:			08:29		08:45		09:43		10:49	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.5								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30848 Units: ug/l

Time:			11:54		12:26	
Sample ID:			CCB4		CCB5	
Metal	RL	IDL	raw	final	raw	final
Aluminum	200	12	anr			
Antimony	6.0	.9	anr			
Arsenic	3.0	.8	anr			
Barium	200	.5	anr			
Beryllium	1.0	.3	anr			
Bismuth	20	1.1				
Boron	100	2.6				
Cadmium	3.0	.2	anr			
Calcium	5000	26	anr			
Chromium	10	.6	anr			
Cobalt	50	.4	anr			
Copper	10	.5	anr			
Iron	100	8.3	anr			
Lead	3.0	1	-0.50	<3.0	0.50	<3.0
Lithium	20	1.4				
Magnesium	5000	22	anr			
Manganese	15	.3	anr			
Molybdenum	20	.5				
Nickel	10	.4	anr			
Palladium	50	1.6				
Potassium	10000	42	anr			
Selenium	10	1.2	anr			
Silicon	200	11				
Silver	10	.3	anr			
Sodium	10000	11	anr			
Sulfur	50	2.5				
Strontium	10	.3				
Thallium	2.0	1.5	anr			
Tin	10	.8				
Titanium	10	.5				
Tungsten	50	10				
Vanadium	50	.4	anr			
Zinc	20	1.5	anr			

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA30848 Units: ug/l

Time:			11:54		12:26	
Sample ID:			CCB4		CCB5	
Metal	RL	IDL	raw	final	raw	final
Zirconium	10	.5				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30848 Units: ug/l

Time:		08:34	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron			
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	2000	2000	100.0
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Palladium			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Sulfur			
Strontium			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30848 Units: ug/l

Time:		08:34	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

10.2.3 10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30848 Units: ug/l

Time:		08:16			09:37			10:43	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2000	100.0	2000	1980	99.0	2000	1980	99.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30848 Units: ug/l

Time:		08:16			09:37			10:43	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30848 Units: ug/l

Time:		11:47			12:19	
Sample ID:	CCV	CCV3		CCV	CCV4	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	2000	1980	99.0	2000	1970	98.5
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Palladium						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Sulfur						
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA30848 Units: ug/l

Time:		11:47			12:19	
Sample ID:	CCV	CCV3		CCV	CCV4	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30848 Units: ug/l

Time:				09:05		10:30		10:56	
Sample ID:	CRI	CRIA	CRID	CRIA1		CRI2		CRID3	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0						
Beryllium	2.0		1.0						
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0						
Calcium	5000		1000						
Chromium	10		2.0						
Cobalt	50		3.0						
Copper	10		2.0						
Iron	100	500		anr					
Lead	3.0	20	2.5	20.3	101.5	3.6	120.0	2.7	108.0
Lithium	20								
Magnesium	5000		100						
Manganese	15		3.0						
Molybdenum	20		4.0						
Nickel	10		4.0						
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		1.0						
Sodium	5000		1000						
Sulfur	50	50	50						
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0						
Zinc	20		10						

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30848 Units: ug/l

Time:				09:05		10:30		10:56	
Sample ID:	CRI	CRIA	CRID	CRIA1		CRI2		CRID3	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10		5.0						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30848 Units: ug/l

Time:				12:32		12:38		12:45	
Sample ID:	CRI	CRIA	CRID	CRI3		CRID4		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000		1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	2.6	86.7	3.2	128.0	20.2	101.0
Lithium	20								
Magnesium	5000		100	anr					
Manganese	15		3.0	anr					
Molybdenum	20		4.0						
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000	anr					
Sulfur	50	50	50						
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA30848 Units: ug/l

Time:				12:32		12:38		12:45	
Sample ID:	CRI	CRIA	CRID	CRI3		CRID4		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10		5.0						

(*) Outside of QC limits
(anr) Analyte not requested

10.2.5 10

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA30848 Units: ug/l

Time:			09:11		09:18		12:51		12:58	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	497000	99.4	500000	100.0	490000	98.0	500000	100.0
Antimony		1000	-1.1		988	98.8	-0.90		975	97.5
Arsenic		1000	1.6		1010	101.0	0.90		998	99.8
Barium		500	-0.40		503	100.6	-0.30		502	100.4
Beryllium		500	0.10		493	98.6	0.10		492	98.4
Bismuth		500	3.2		498	99.6	4.1		490	98.0
Boron			-4.8		-16		-6.4		-18	
Cadmium		1000	0.80		990	99.0	0.70		974	97.4
Calcium	400000	400000	370000	92.5	374000	93.5	366000	91.5	376000	94.0
Chromium		500	0.0		465	93.0	-0.20		458	91.6
Cobalt		500	1.9		471	94.2	2.3		466	93.2
Copper		500	1.6		509	101.8	1.5		501	100.2
Iron	200000	200000	189000	94.5	190000	95.0	188000	94.0	192000	96.0
Lead		1000	-3.0		907	90.7	-2.7		898	89.8
Lithium		500	6.6		523	104.6	6.0		518	103.6
Magnesium	500000	500000	531000	106.2	557000	111.4	522000	104.4	560000	112.0
Manganese		500	2.0		470	94.0	1.8		463	92.6
Molybdenum		500	7.3		485	97.0	7.4		481	96.2
Nickel		1000	0.90		902	90.2	0.20		886	88.6
Palladium		500	16.6		557	111.4	15.7		549	109.8
Potassium			94.4		128		70.4		113	
Selenium		1000	9.8		971	97.1	8.9		952	95.2
Silicon			16.2		13.2		17.0		13.6	
Silver		1000	7.6		956	95.6	7.4		943	94.3
Sodium			29.6		42.8		14.6		28.2	
Sulfur		500	0.60		445	89.0	-1.0		438	87.6
Strontium			-4.8		-5.2		-4.6		-5.4	
Thallium		1000	-1.5		957	95.7	1.2		940	94.0
Tin			-2.7		-4.4		-4.2		-3.8	
Titanium			4.1		6.7		3.7		7.0	
Tungsten		500	32.7		538	107.6	25.3		526	105.2
Vanadium		500	-0.80		474	94.8	-0.70		466	93.2
Zinc		1000	1.1		935	93.5	1.3		923	92.3

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

File ID: SB040213M1.ICP Date Analyzed: 04/02/13 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA30848 Units: ug/l

Time:			09:11		09:18		12:51		12:58	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-6.5		420	84.0	-6.6		411	82.2

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/29/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.2	.73		
Antimony	2.0	.089	.15		
Arsenic	2.0	.079	.13		
Barium	20	.05	.053		
Beryllium	0.20	.03	.02		
Bismuth	2.0	.11	.14		
Boron	9.9	.26	.14		
Cadmium	0.50	.02	.025		
Calcium	500	2.6	2.3		
Chromium	0.99	.059	.11		
Cobalt	5.0	.04	.031		
Copper	2.5	.05	.13		
Iron	50	.82	.78		
Lead	2.0	.099	.11	0.050	<2.0
Lithium	2.0	.14	.25		
Magnesium	500	2.2	3		
Manganese	1.5	.03	.048		
Molybdenum	2.0	.05	.073		
Nickel	4.0	.04	.1		
Palladium	5.0	.16	.17		
Potassium	990	4.1	14		
Selenium	2.0	.12	.24		
Silicon	20	1.1	1.9		
Silver	0.50	.03	.062		
Sodium	990	1.1	13		
Strontium	0.99	.03	.17		
Sulfur	5.0	.25	.64		
Thallium	0.99	.15	.22		
Tin	5.0	.079	1.5		
Titanium	0.99	.05	.61		
Tungsten	5.0	.99	1.1		
Vanadium	5.0	.04	.1		
Zinc	2.0	.15	.19		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/29/13

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.05	.1		

Associated samples MP70844: JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/29/13

Metal	JB31800-5 Original	MS	Spikelot MPIRS1	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	37.4	148	118	93.5	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Palladium					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/29/13

Metal	JB31800-5 Original MS	Spikelot MPIRS1	% Rec	QC Limits
Zirconium				

Associated samples MP70844: JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/29/13

Metal	JB31800-5 Original	MSD	Spikelot MPIRS1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	37.4	143	118	89.3	3.4	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Palladium						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/29/13

Metal	JB31800-5 Original MSD	Spikelot MPIRS1	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP70844: JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/29/13

Metal	BSP Result	Spikelot MPIRS1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	94.8	98	96.7	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/29/13

Metal	BSP Result	Spikelot MPIRS1	% Rec	QC Limits
Zirconium				

Associated samples MP70844: JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/29/13

Metal	JB31800-5 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	310	331	6.6	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB31800
Account: SECORPAE - Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

QC Batch ID: MP70844 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 03/29/13

Metal	JB31800-5 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP70844: JB31800-1, JB31800-2, JB31800-3, JB31800-4, JB31800-5, JB31800-6, JB31800-7, JB31800-8, JB31800-9, JB31800-10, JB31800-11, JB31800-12, JB31800-13, JB31800-14, JB31800-15, JB31800-16, JB31800-17, JB31800-18, JB31800-19, JB31800-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31800-1 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-1 (4.0-4.5)

Wet Weight (Total)	39.02	g
Tare Weight	29.03	g
Dry Weight (Total)	36.96	g
Solids, Percent	79.4	%

Sample: JB31800-2 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-2 (2.5-3.0)

Wet Weight (Total)	27.19	g
Tare Weight	19.15	g
Dry Weight (Total)	25.39	g
Solids, Percent	77.6	%

Sample: JB31800-3 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-3 (3.0-3.5)

Wet Weight (Total)	28.86	g
Tare Weight	22.33	g
Dry Weight (Total)	27.62	g
Solids, Percent	81	%

Sample: JB31800-4 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-4 (2.0-2.5)

Wet Weight (Total)	26.39	g
Tare Weight	20.79	g
Dry Weight (Total)	25.27	g
Solids, Percent	80	%

Sample: JB31800-5 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-5 (2.7-3.2)

Wet Weight (Total)	28.05	g
Tare Weight	21.97	g
Dry Weight (Total)	26.91	g
Solids, Percent	81.3	%

Sample: JB31800-6 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-6 (3.0-3.5)

Wet Weight (Total)	25.98	g
Tare Weight	17.6	g
Dry Weight (Total)	24.77	g
Solids, Percent	85.6	%

Percent Solids Raw Data Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31800-7 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-7 (1.9-2.4)

Wet Weight (Total)	27.4	g
Tare Weight	22.15	g
Dry Weight (Total)	26.44	g
Solids, Percent	81.7	%

Sample: JB31800-8 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-8 (3.0-3.5)

Wet Weight (Total)	27.38	g
Tare Weight	21.23	g
Dry Weight (Total)	26.22	g
Solids, Percent	81.1	%

Sample: JB31800-9 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-9 (5.0-5.5)

Wet Weight (Total)	36.86	g
Tare Weight	27.93	g
Dry Weight (Total)	35.37	g
Solids, Percent	83.3	%

Sample: JB31800-10 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 523-10 (0.25-0.50)

Wet Weight (Total)	33.98	g
Tare Weight	26.15	g
Dry Weight (Total)	32.45	g
Solids, Percent	80.5	%

Sample: JB31800-11 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 455-1 (4.5-5.0)

Wet Weight (Total)	34.66	g
Tare Weight	25.1	g
Dry Weight (Total)	33.03	g
Solids, Percent	82.9	%

Sample: JB31800-12 **Analyzed:** 27-MAR-13 by PD **Method:** SM2540 G-97
ClientID: MH 455-2 (2.5-3.0)

Wet Weight (Total)	28.5	g
Tare Weight	23.05	g
Dry Weight (Total)	27.28	g
Solids, Percent	77.6	%

Percent Solids Raw Data Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31800-13 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-3 (3.0-3.5)

Wet Weight (Total)	34.41	g
Tare Weight	25.04	g
Dry Weight (Total)	31.92	g
Solids, Percent	73.4	%

Sample: JB31800-14 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-4 (3.0-3.5)

Wet Weight (Total)	34.9	g
Tare Weight	25.69	g
Dry Weight (Total)	33.06	g
Solids, Percent	80	%

Sample: JB31800-15 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-5 (2.5-3.0)

Wet Weight (Total)	38.38	g
Tare Weight	29.49	g
Dry Weight (Total)	36.41	g
Solids, Percent	77.8	%

Sample: JB31800-16 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-6 (3.0-3.5)

Wet Weight (Total)	31.03	g
Tare Weight	21.47	g
Dry Weight (Total)	29.09	g
Solids, Percent	79.7	%

Sample: JB31800-17 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-7 (3.0-3.5)

Wet Weight (Total)	36.05	g
Tare Weight	28.46	g
Dry Weight (Total)	34.6	g
Solids, Percent	80.9	%

Sample: JB31800-18 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-8 (5.0-5.5)

Wet Weight (Total)	33.14	g
Tare Weight	25.59	g
Dry Weight (Total)	31.78	g
Solids, Percent	82	%

Percent Solids Raw Data Summary

Job Number: JB31800
Account: SECORPAE Stantec Consulting Services Inc.
Project: Sunoco - Marcus Hook Facility, PA

Sample: JB31800-19 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-9 (5.0-5.5)

Wet Weight (Total)	30.79	g
Tare Weight	22.29	g
Dry Weight (Total)	29.21	g
Solids, Percent	81.4	%

Sample: JB31800-20 **Analyzed:** 28-MAR-13 by KP **Method:** SM2540 G-97
ClientID: MH 455-10 (0.25-0.50)

Wet Weight (Total)	30.43	g
Tare Weight	21.84	g
Dry Weight (Total)	28.84	g
Solids, Percent	81.5	%