

T:\GIS\XOM\Rochester\0172.0180M008\MXDs\Site Plan - Investigation with callouts.mxd



Legend

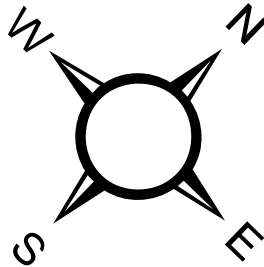
-  Soil Boring
-  SB/MW Location
-  Property Boundary

Notes

- 1) All features shown are approximate.
- 2) All Samples collected by Roux were taken from boring locations previously sampled by Leader Environmental

Sources

- 1) Aerial Photograph is a 12-inch resolution 4 band digital orthophoto available at NYSGIS Clearinghouse (<http://gis.ny.gov>).
- 2) Property Owner information obtained from the City of Rochester's Property Information Application. Accessed 12/3/2015.



Title:			
Summary of 2016 Soil Sample Results			
NYSDEC Spill #1511740			
22 Flint St. and 936 Exchange St. Rochester, NY			
Prepared For:			
ExxonMobil Environmental Services Company			
 ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled By:	MGV	Date: 4/19/2016
	Prepared By:	MGV	Scale: AS SHOWN
	Project Mgr.:	IR	Office: MA
	File No.:	ROCHESTER	Project:
			PLATE
			1



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03/29/16

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Automated Report

Technical Report for

Roux Associates

Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

0172.0180M008

SGS Accutest Job Number: MC44826

Sampling Date: 03/11/16

Report to:

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ATTN: Matt Casey

Total number of pages in report: **271**



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.

H. (Brad) Madadian
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579)
NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220)
DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.



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Sample Summary

Roux Associates

Job No: MC44826

Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Project No: 0172.0180M008

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC44826-1	03/11/16	09:50 MC	03/14/16	SO	Soil	RX-1
MC44826-2	03/11/16	10:30 MC	03/14/16	SO	Soil	RX-2
MC44826-3	03/11/16	11:00 MC	03/14/16	SO	Soil	RX-3
MC44826-4	03/11/16	11:20 MC	03/14/16	SO	Soil	RX-4
MC44826-5	03/11/16	12:30 MC	03/14/16	SO	Soil	RX-5
MC44826-6	03/11/16	13:10 MC	03/14/16	SO	Soil	RX-6
MC44826-7	03/11/16	15:00 MC	03/14/16	SO	Soil	RX-7
MC44826-8	03/11/16	15:00 MC	03/14/16	SO	Soil	RX-7A
MC44826-9	03/11/16	15:00 MC	03/14/16	SO	Soil	RX-7B
MC44826-10	03/11/16	15:40 MC	03/14/16	SO	Soil	RX-8
MC44826-11	03/11/16	15:40 MC	03/14/16	SO	Soil	RX-8A
MC44826-12	03/11/16	15:40 MC	03/14/16	SO	Soil	RX-8B
MC44826-13	03/11/16	12:00 MC	03/14/16	SO	Soil	B-8

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



Sample Summary
(continued)

Roux Associates

Job No: MC44826

Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Project No: 0172.0180M008

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample ID	
MC44826-14	03/11/16	12:30 MC	03/14/16	SO	Soil	B-9
MC44826-15	03/11/16	12:00 MC	03/14/16	AQ	Ground Water	RXGW1
MC44826-16	03/11/16	14:10 MC	03/14/16	AQ	Ground Water	RXGW2
MC44826-17	03/11/16	16:15 MC	03/14/16	AQ	Ground Water	RXGW3
MC44826-18	03/11/16	09:00 MC	03/14/16	AQ	Trip Blank Water	TRIP

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

Summary of Hits

Job Number: MC44826**Account:** Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY**Collected:** 03/11/16

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

MC44826-1 RX-1

Benzene	197	49		ug/kg	SW846 8260C
Chlorobenzene	323	190		ug/kg	SW846 8260C
cis-1,2-Dichloroethene	639	190		ug/kg	SW846 8260C
Trichloroethene	9360	190		ug/kg	SW846 8260C
m,p-Xylene	277	190		ug/kg	SW846 8260C
Xylene (total)	277	190		ug/kg	SW846 8260C
Benzo(a)anthracene	348	120		ug/kg	SW846 8270D
Chrysene	626	120		ug/kg	SW846 8270D
Arsenic	7.4	0.90		mg/kg	SW846 6010C
Beryllium	0.65	0.36		mg/kg	SW846 6010C
Cadmium	0.38	0.36		mg/kg	SW846 6010C
Chromium	15.5	0.90		mg/kg	SW846 6010C
Copper	18.9	2.3		mg/kg	SW846 6010C
Lead	15.8	0.90		mg/kg	SW846 6010C
Mercury	0.097	0.031		mg/kg	SW846 7471B
Nickel	20.8	3.6		mg/kg	SW846 6010C
Zinc	231	1.8		mg/kg	SW846 6010C

MC44826-2 RX-2

Chrysene	153	120		ug/kg	SW846 8270D
Arsenic	4.6	0.94		mg/kg	SW846 6010C
Chromium	10.4	0.94		mg/kg	SW846 6010C
Copper	7.4	2.4		mg/kg	SW846 6010C
Lead	6.5	0.94		mg/kg	SW846 6010C
Mercury	0.17	0.033		mg/kg	SW846 7471B
Nickel	8.8	3.8		mg/kg	SW846 6010C
Zinc	43.3	1.9		mg/kg	SW846 6010C

MC44826-3 RX-3

Fluoranthene	143	110		ug/kg	SW846 8270D
Pyrene	120	110		ug/kg	SW846 8270D
Arsenic	2.6	0.84		mg/kg	SW846 6010C
Chromium	8.2	0.84		mg/kg	SW846 6010C
Copper	8.8	2.1		mg/kg	SW846 6010C
Lead	4.4	0.84		mg/kg	SW846 6010C
Nickel	8.8	3.4		mg/kg	SW846 6010C
Zinc	28.7	1.7		mg/kg	SW846 6010C

MC44826-4 RX-4

Chrysene	250	120		ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826

Account: Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Collected: 03/11/16

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Phenanthrene		380	120		ug/kg	SW846 8270D
Arsenic		6.4	0.91		mg/kg	SW846 6010C
Beryllium		0.42	0.36		mg/kg	SW846 6010C
Chromium		11.2	0.91		mg/kg	SW846 6010C
Copper		15.2	2.3		mg/kg	SW846 6010C
Lead		30.7	0.91		mg/kg	SW846 6010C
Nickel		13.3	3.6		mg/kg	SW846 6010C
Zinc		116	1.8		mg/kg	SW846 6010C

MC44826-5 RX-5

Benzene	325	57		ug/kg	SW846 8260C
n-Butylbenzene	2720	570		ug/kg	SW846 8260C
sec-Butylbenzene	2610	570		ug/kg	SW846 8260C
Isopropylbenzene	1600	570		ug/kg	SW846 8260C
Naphthalene ^a	2360	570		ug/kg	SW846 8260C
n-Propylbenzene	3820	570		ug/kg	SW846 8260C
Vinyl Acetate	1210	570		ug/kg	SW846 8260C
m,p-Xylene	717	230		ug/kg	SW846 8260C
Xylene (total)	776	230		ug/kg	SW846 8260C
Chrysene	225	120		ug/kg	SW846 8270D
1-Methylnaphthalene	670	310		ug/kg	SW846 8270D
2-Methylnaphthalene	1350	120		ug/kg	SW846 8270D
Naphthalene	362	120		ug/kg	SW846 8270D
Arsenic	3.3	0.85		mg/kg	SW846 6010C
Chromium	5.4	0.85		mg/kg	SW846 6010C
Copper	10.2	2.1		mg/kg	SW846 6010C
Lead	21.4	0.85		mg/kg	SW846 6010C
Nickel	6.4	3.4		mg/kg	SW846 6010C
Zinc	142	1.7		mg/kg	SW846 6010C

MC44826-6 RX-6

Arsenic	3.9	0.84		mg/kg	SW846 6010C
Chromium	5.5	0.84		mg/kg	SW846 6010C
Copper	8.0	2.1		mg/kg	SW846 6010C
Lead	28.0	0.84		mg/kg	SW846 6010C
Nickel	6.4	3.3		mg/kg	SW846 6010C
Zinc	70.9	1.7		mg/kg	SW846 6010C

MC44826-7 RX-7

Acenaphthene	696	120		ug/kg	SW846 8270D
Acenaphthylene	168	120		ug/kg	SW846 8270D
Anthracene	1910	120		ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826

Account: Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Collected: 03/11/16

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Benzo(a)anthracene		1150	120		ug/kg	SW846 8270D
Benzo(a)pyrene		886	120		ug/kg	SW846 8270D
Benzo(b)fluoranthene		887	120		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		657	120		ug/kg	SW846 8270D
Benzo(k)fluoranthene		675	120		ug/kg	SW846 8270D
Carbazole		350	120		ug/kg	SW846 8270D
Chrysene		1210	120		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene		184	120		ug/kg	SW846 8270D
Dibenzofuran		603	120		ug/kg	SW846 8270D
Fluoranthene		3480	120		ug/kg	SW846 8270D
Fluorene		995	120		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		523	120		ug/kg	SW846 8270D
1-Methylnaphthalene		471	290		ug/kg	SW846 8270D
2-Methylnaphthalene		574	120		ug/kg	SW846 8270D
Naphthalene		831	120		ug/kg	SW846 8270D
Phenanthrene		2520	120		ug/kg	SW846 8270D
Pyrene		2990	120		ug/kg	SW846 8270D
Arsenic		25.4	0.91		mg/kg	SW846 6010C
Beryllium		0.57	0.37		mg/kg	SW846 6010C
Cadmium		0.44	0.37		mg/kg	SW846 6010C
Chromium		10.6	0.91		mg/kg	SW846 6010C
Copper		28.0	2.3		mg/kg	SW846 6010C
Lead		88.9	0.91		mg/kg	SW846 6010C
Mercury		0.24	0.031		mg/kg	SW846 7471B
Nickel		20.4	3.7		mg/kg	SW846 6010C
Selenium		1.4	0.91		mg/kg	SW846 6010C
Zinc		238	1.8		mg/kg	SW846 6010C

MC44826-8 RX-7A

m,p-Xylene	348	250	ug/kg	SW846 8260C
Xylene (total)	424	250	ug/kg	SW846 8260C
Acenaphthene	907	130	ug/kg	SW846 8270D
Acenaphthylene	726	130	ug/kg	SW846 8270D
Anthracene	3370	130	ug/kg	SW846 8270D
Benzo(a)anthracene	2200	130	ug/kg	SW846 8270D
Benzo(a)pyrene	2100	130	ug/kg	SW846 8270D
Benzo(b)fluoranthene	1790	130	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	1560	130	ug/kg	SW846 8270D
Benzo(k)fluoranthene	1460	130	ug/kg	SW846 8270D
Carbazole	464	130	ug/kg	SW846 8270D
Chrysene	2040	130	ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	353	130	ug/kg	SW846 8270D
Dibenzofuran	1170	130	ug/kg	SW846 8270D
Fluoranthene	5790	130	ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826

Account: Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Collected: 03/11/16

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

Fluorene		1540	130		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		1270	130		ug/kg	SW846 8270D
2-Methylnaphthalene		404	130		ug/kg	SW846 8270D
Naphthalene		1620	130		ug/kg	SW846 8270D
Phenanthrene		3080	130		ug/kg	SW846 8270D
Pyrene		5210	130		ug/kg	SW846 8270D
Arsenic		24.3	0.97		mg/kg	SW846 6010C
Beryllium		0.68	0.39		mg/kg	SW846 6010C
Cadmium		0.75	0.39		mg/kg	SW846 6010C
Chromium		14.3	0.97		mg/kg	SW846 6010C
Copper		34.8	2.4		mg/kg	SW846 6010C
Lead		92.4	0.97		mg/kg	SW846 6010C
Mercury		0.17	0.036		mg/kg	SW846 7471B
Nickel		24.6	3.9		mg/kg	SW846 6010C
Selenium		2.4	0.97		mg/kg	SW846 6010C
Zinc		246	1.9		mg/kg	SW846 6010C

MC44826-9 RX-7B

Fluorene	176	120		ug/kg	SW846 8270D
Phenanthrene	354	120		ug/kg	SW846 8270D
Arsenic	6.3	0.92		mg/kg	SW846 6010C
Beryllium	0.38	0.37		mg/kg	SW846 6010C
Chromium	13.8	0.92		mg/kg	SW846 6010C
Copper	11.4	2.3		mg/kg	SW846 6010C
Lead	10.6	0.92		mg/kg	SW846 6010C
Nickel	17.7	3.7		mg/kg	SW846 6010C
Zinc	725	1.8		mg/kg	SW846 6010C

MC44826-10 RX-8

sec-Butylbenzene	992	530		ug/kg	SW846 8260C
1,1,2,2-Tetrachloroethane	443	210		ug/kg	SW846 8260C
Arsenic	23.7	0.89		mg/kg	SW846 6010C
Beryllium	0.99	0.36		mg/kg	SW846 6010C
Cadmium	1.2	0.36		mg/kg	SW846 6010C
Chromium	16.1	0.89		mg/kg	SW846 6010C
Copper	14.1	2.2		mg/kg	SW846 6010C
Lead	13.6	0.89		mg/kg	SW846 6010C
Nickel	28.0	3.6		mg/kg	SW846 6010C
Zinc	448	1.8		mg/kg	SW846 6010C

MC44826-11 RX-8A

Methylene chloride	60.0	2.3		ug/kg	SW846 8260C

Summary of Hits

Job Number: MC44826

Account: Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Collected: 03/11/16

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Trichloroethene		42.5	2.3		ug/kg	SW846 8260C
Acenaphthene		204	130		ug/kg	SW846 8270D
Acenaphthylene		155	130		ug/kg	SW846 8270D
Anthracene		402	130		ug/kg	SW846 8270D
Benzo(a)anthracene		959	130		ug/kg	SW846 8270D
Benzo(a)pyrene		754	130		ug/kg	SW846 8270D
Benzo(b)fluoranthene		724	130		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		568	130		ug/kg	SW846 8270D
Benzo(k)fluoranthene		681	130		ug/kg	SW846 8270D
Carbazole		202	130		ug/kg	SW846 8270D
Chrysene		1000	130		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene		179	130		ug/kg	SW846 8270D
Dibenzofuran		301	130		ug/kg	SW846 8270D
Fluoranthene		2190	130		ug/kg	SW846 8270D
Fluorene		180	130		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		449	130		ug/kg	SW846 8270D
1-Methylnaphthalene		738	320		ug/kg	SW846 8270D
2-Methylnaphthalene		707	130		ug/kg	SW846 8270D
Naphthalene		524	130		ug/kg	SW846 8270D
Phenanthrene		2500	130		ug/kg	SW846 8270D
Pyrene		1920	130		ug/kg	SW846 8270D
Arsenic		129	0.98		mg/kg	SW846 6010C
Beryllium		0.79	0.39		mg/kg	SW846 6010C
Cadmium		0.41	0.39		mg/kg	SW846 6010C
Chromium		18.0	0.98		mg/kg	SW846 6010C
Copper		28.9	2.5		mg/kg	SW846 6010C
Lead		243	0.98		mg/kg	SW846 6010C
Mercury		0.79	0.038		mg/kg	SW846 7471B
Nickel		13.3	3.9		mg/kg	SW846 6010C
Selenium		15.9	0.98		mg/kg	SW846 6010C
Thallium		4.0	0.98		mg/kg	SW846 6010C
Zinc		321	2.0		mg/kg	SW846 6010C

MC44826-12 RX-8B

Methylene chloride	7.3	2.1	ug/kg	SW846 8260C
Benzo(a)anthracene	289	110	ug/kg	SW846 8270D
Benzo(a)pyrene	175	110	ug/kg	SW846 8270D
Benzo(b)fluoranthene	204	110	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	121	110	ug/kg	SW846 8270D
Benzo(k)fluoranthene	140	110	ug/kg	SW846 8270D
Chrysene	451	110	ug/kg	SW846 8270D
Dibenzofuran	291	110	ug/kg	SW846 8270D
Fluoranthene	511	110	ug/kg	SW846 8270D
1-Methylnaphthalene	1390	290	ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826

Account: Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Collected: 03/11/16

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
2-Methylnaphthalene		919	110		ug/kg	SW846 8270D
Naphthalene		360	110		ug/kg	SW846 8270D
Phenanthrene		1430	110		ug/kg	SW846 8270D
Pyrene		465	110		ug/kg	SW846 8270D
Arsenic		327	0.95		mg/kg	SW846 6010C
Beryllium		0.65	0.38		mg/kg	SW846 6010C
Chromium		9.6	0.95		mg/kg	SW846 6010C
Copper		12.5	2.4		mg/kg	SW846 6010C
Lead		58.5	0.95		mg/kg	SW846 6010C
Mercury		0.26	0.037		mg/kg	SW846 7471B
Nickel		8.3	3.8		mg/kg	SW846 6010C
Selenium		8.0	0.95		mg/kg	SW846 6010C
Thallium		1.4	0.95		mg/kg	SW846 6010C
Zinc		61.4	1.9		mg/kg	SW846 6010C

MC44826-13 B-8

sec-Butylbenzene	591	490		ug/kg	SW846 8260C
Acenaphthene	1020	150		ug/kg	SW846 8270D
Anthracene	1600	150		ug/kg	SW846 8270D
Benzo(a)anthracene	385	150		ug/kg	SW846 8270D
Benzo(a)pyrene	265	150		ug/kg	SW846 8270D
Benzo(b)fluoranthene	226	150		ug/kg	SW846 8270D
Benzo(g,h,i)perylene	190	150		ug/kg	SW846 8270D
Benzo(k)fluoranthene	196	150		ug/kg	SW846 8270D
Chrysene	460	150		ug/kg	SW846 8270D
Dibenzofuran	307	150		ug/kg	SW846 8270D
Fluoranthene	1840	150		ug/kg	SW846 8270D
Fluorene	1130	150		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	154	150		ug/kg	SW846 8270D
Phenanthrene	2990	150		ug/kg	SW846 8270D
Pyrene	1380	150		ug/kg	SW846 8270D
Arsenic	9.8	1.2		mg/kg	SW846 6010C
Beryllium	0.90	0.47		mg/kg	SW846 6010C
Chromium	29.7	1.2		mg/kg	SW846 6010C
Copper	21.5	2.9		mg/kg	SW846 6010C
Lead	27.7	1.2		mg/kg	SW846 6010C
Mercury	0.076	0.043		mg/kg	SW846 7471B
Nickel	26.7	4.7		mg/kg	SW846 6010C
Zinc	335	2.4		mg/kg	SW846 6010C

MC44826-14 B-9

Acetone	35.2	13		ug/kg	SW846 8260C
sec-Butylbenzene	32.8	5.8		ug/kg	SW846 8260C

Summary of Hits

Job Number: MC44826

Account: Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Collected: 03/11/16

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

tert-Butylbenzene		17.7	5.8		ug/kg	SW846 8260C
Methylene chloride		3.5	2.3		ug/kg	SW846 8260C
Naphthalene		8.0	5.8		ug/kg	SW846 8260C
Trichloroethene		32.8	2.3		ug/kg	SW846 8260C
Phenanthrene		134	120		ug/kg	SW846 8270D
Arsenic		64.8	0.95		mg/kg	SW846 6010C
Beryllium		1.2	0.38		mg/kg	SW846 6010C
Cadmium		1.0	0.38		mg/kg	SW846 6010C
Chromium		15.1	0.95		mg/kg	SW846 6010C
Copper		18.0	2.4		mg/kg	SW846 6010C
Lead		22.3	0.95		mg/kg	SW846 6010C
Mercury		0.084	0.033		mg/kg	SW846 7471B
Nickel		56.6	3.8		mg/kg	SW846 6010C
Selenium		4.8	0.95		mg/kg	SW846 6010C
Zinc		630	1.9		mg/kg	SW846 6010C

MC44826-15 RXGW1

Methyl Tert Butyl Ether ^b		5.4	1.0		ug/l	SW846 8260C
Chrysene		125	35		ug/l	SW846 8270D
Phenanthrene		204	35		ug/l	SW846 8270D
Arsenic ^c		289	8.0		ug/l	SW846 6010C
Beryllium ^c		19.3	8.0		ug/l	SW846 6010C
Cadmium ^c		18.1	8.0		ug/l	SW846 6010C
Chromium ^c		404	20		ug/l	SW846 6010C
Copper ^c		715	50		ug/l	SW846 6010C
Lead ^c		2260	10		ug/l	SW846 6010C
Mercury		1.3	0.20		ug/l	SW846 7470A
Nickel ^c		604	80		ug/l	SW846 6010C
Zinc ^c		6710	40		ug/l	SW846 6010C

MC44826-16 RXGW2

Arsenic		21.6	4.0		ug/l	SW846 6010C
Chromium		28.3	10		ug/l	SW846 6010C
Copper		51.2	25		ug/l	SW846 6010C
Lead		38.5	5.0		ug/l	SW846 6010C
Zinc		758	20		ug/l	SW846 6010C

MC44826-17 RXGW3

Antimony ^c		90.3	60		ug/l	SW846 6010C
Arsenic		19000	40		ug/l	SW846 6010C
Chromium		436	100		ug/l	SW846 6010C
Copper		2380	250		ug/l	SW846 6010C

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
Lead		3030	50		ug/l	SW846 6010C
Mercury ^c		11.9	2.0		ug/l	SW846 7470A
Nickel		628	400		ug/l	SW846 6010C
Selenium		1400	100		ug/l	SW846 6010C
Thallium		83.7	50		ug/l	SW846 6010C
Zinc		5520	200		ug/l	SW846 6010C

MC44826-18 TRIP

No hits reported in this sample.

- (a) Continuing Calibration outside of acceptance criteria. Result may be biased low.
- (b) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.
- (c) Elevated RL due to dilution required for matrix interference.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RX-1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-1	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95760.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.87 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	970	ug/kg	
71-43-2	Benzene	197	49	ug/kg	
108-86-1	Bromobenzene	ND	490	ug/kg	
74-97-5	Bromochloromethane	ND	490	ug/kg	
75-27-4	Bromodichloromethane	ND	190	ug/kg	
75-25-2	Bromoform	ND	190	ug/kg	
74-83-9	Bromomethane ^a	ND	190	ug/kg	
78-93-3	2-Butanone (MEK)	ND	970	ug/kg	
104-51-8	n-Butylbenzene	ND	490	ug/kg	
135-98-8	sec-Butylbenzene	ND	490	ug/kg	
98-06-6	tert-Butylbenzene	ND	490	ug/kg	
75-15-0	Carbon disulfide	ND	490	ug/kg	
56-23-5	Carbon tetrachloride	ND	190	ug/kg	
108-90-7	Chlorobenzene	323	190	ug/kg	
75-00-3	Chloroethane	ND	490	ug/kg	
67-66-3	Chloroform	ND	190	ug/kg	
74-87-3	Chloromethane ^a	ND	490	ug/kg	
95-49-8	o-Chlorotoluene	ND	490	ug/kg	
106-43-4	p-Chlorotoluene	ND	490	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	490	ug/kg	
124-48-1	Dibromochloromethane	ND	190	ug/kg	
106-93-4	1,2-Dibromoethane	ND	190	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	190	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	190	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	190	ug/kg	
75-34-3	1,1-Dichloroethane	ND	190	ug/kg	
107-06-2	1,2-Dichloroethane	ND	190	ug/kg	
75-35-4	1,1-Dichloroethene	ND	190	ug/kg	
156-59-2	cis-1,2-Dichloroethene	639	190	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	190	ug/kg	
78-87-5	1,2-Dichloropropane	ND	190	ug/kg	

ND = Not detected

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:	RX-1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-1	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	490	ug/kg	
594-20-7	2,2-Dichloropropane	ND	490	ug/kg	
563-58-6	1,1-Dichloropropene	ND	490	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	190	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	190	ug/kg	
100-41-4	Ethylbenzene	ND	190	ug/kg	
87-68-3	Hexachlorobutadiene	ND	490	ug/kg	
591-78-6	2-Hexanone	ND	970	ug/kg	
74-88-4	Iodomethane	ND	490	ug/kg	
98-82-8	Isopropylbenzene	ND	490	ug/kg	
99-87-6	p-Isopropyltoluene	ND	490	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	190	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	490	ug/kg	
74-95-3	Methylene bromide	ND	490	ug/kg	
75-09-2	Methylene chloride	ND	190	ug/kg	
91-20-3	Naphthalene ^a	ND	490	ug/kg	
103-65-1	n-Propylbenzene	ND	490	ug/kg	
100-42-5	Styrene	ND	490	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	490	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	190	ug/kg	
127-18-4	Tetrachloroethene	ND	190	ug/kg	
108-88-3	Toluene	ND	490	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	490	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	490	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	190	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	190	ug/kg	
79-01-6	Trichloroethene	9360	190	ug/kg	
75-69-4	Trichlorofluoromethane	ND	190	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	490	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	490	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	490	ug/kg	
108-05-4	Vinyl Acetate	ND	490	ug/kg	
75-01-4	Vinyl chloride ^a	ND	190	ug/kg	
	m,p-Xylene	277	190	ug/kg	
95-47-6	o-Xylene	ND	190	ug/kg	
1330-20-7	Xylene (total)	277	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		65-141%

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J = Indicates an estimated value

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-1	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		65-129%
460-00-4	4-Bromofluorobenzene	92%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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:	RX-1		
Lab Sample ID:	MC44826-1	Date Sampled:	03/11/16
Matrix:	SO - Soil	Date Received:	03/14/16
Method:	SW846 8270D SW846 3546	Percent Solids:	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 ^a	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	580	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^b	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	348	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	580	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	626	120	ug/kg	

ND = Not detected

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:	RX-1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-1	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	ND	290	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	580	ug/kg	
99-09-2	3-Nitroaniline	ND	580	ug/kg	
100-01-6	4-Nitroaniline	ND	580	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	580	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected

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:	RX-1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-1	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	76%	75%	24-110%
4165-62-2	Phenol-d5	77%	77%	30-114%
118-79-6	2,4,6-Tribromophenol	97%	95%	20-139%
4165-60-0	Nitrobenzene-d5	87%	88%	27-112%
321-60-8	2-Fluorobiphenyl	85%	85%	35-115%
1718-51-0	Terphenyl-d14	96%	98%	48-136%

(a) Confirmation run for internal standard areas.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected

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:	RX-1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-1	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50259.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.8	ug/kg	
319-84-6	alpha-BHC	ND	5.8	ug/kg	
319-85-7	beta-BHC	ND	5.8	ug/kg	
319-86-8	delta-BHC	ND	5.8	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.8	ug/kg	
12789-03-6	Chlordane	ND	58	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.8	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.8	ug/kg	
60-57-1	Dieldrin	ND	5.8	ug/kg	
72-54-8	4,4' -DDD	ND	5.8	ug/kg	
72-55-9	4,4' -DDE	ND	5.8	ug/kg	
50-29-3	4,4' -DDT	ND	5.8	ug/kg	
72-20-8	Endrin	ND	5.8	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.8	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.8	ug/kg	
959-98-8	Endosulfan-I	ND	5.8	ug/kg	
33213-65-9	Endosulfan-II	ND	5.8	ug/kg	
76-44-8	Heptachlor	ND	5.8	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.8	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.8	ug/kg	
72-43-5	Methoxychlor	ND	5.8	ug/kg	
53494-70-5	Endrin ketone	ND	5.8	ug/kg	
8001-35-2	Toxaphene	ND	58	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	52%		10-143%
877-09-8	Tetrachloro-m-xylene	58%		10-143%
2051-24-3	Decachlorobiphenyl	44%		10-172%
2051-24-3	Decachlorobiphenyl	54%		10-172%

ND = Not detected

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:	RX-1						
Lab Sample ID:	MC44826-1					Date Sampled:	03/11/16
Matrix:	SO - Soil					Date Received:	03/14/16
Method:	SW846 8082A SW846 3546					Percent Solids:	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56286.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	71%		35-136%
877-09-8	Tetrachloro-m-xylene	61%		35-136%
2051-24-3	Decachlorobiphenyl	87%		24-171%
2051-24-3	Decachlorobiphenyl	66%		24-171%

ND = Not detected
 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:	RX-1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-1	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Antimony	< 0.90	0.90	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	7.4	0.90	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	0.65	0.36	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	0.38	0.36	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	15.5	0.90	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	18.9	2.3	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	15.8	0.90	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	0.097	0.031	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	20.8	3.6	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.90	0.90	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.45	0.45	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.90	0.90	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	231	1.8	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95761.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	8.08 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	880	ug/kg	
71-43-2	Benzene	ND	44	ug/kg	
108-86-1	Bromobenzene	ND	440	ug/kg	
74-97-5	Bromochloromethane	ND	440	ug/kg	
75-27-4	Bromodichloromethane	ND	180	ug/kg	
75-25-2	Bromoform	ND	180	ug/kg	
74-83-9	Bromomethane ^a	ND	180	ug/kg	
78-93-3	2-Butanone (MEK)	ND	880	ug/kg	
104-51-8	n-Butylbenzene	ND	440	ug/kg	
135-98-8	sec-Butylbenzene	ND	440	ug/kg	
98-06-6	tert-Butylbenzene	ND	440	ug/kg	
75-15-0	Carbon disulfide	ND	440	ug/kg	
56-23-5	Carbon tetrachloride	ND	180	ug/kg	
108-90-7	Chlorobenzene	ND	180	ug/kg	
75-00-3	Chloroethane	ND	440	ug/kg	
67-66-3	Chloroform	ND	180	ug/kg	
74-87-3	Chloromethane ^a	ND	440	ug/kg	
95-49-8	o-Chlorotoluene	ND	440	ug/kg	
106-43-4	p-Chlorotoluene	ND	440	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	440	ug/kg	
124-48-1	Dibromochloromethane	ND	180	ug/kg	
106-93-4	1,2-Dibromoethane	ND	180	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	180	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	180	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	180	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	180	ug/kg	
75-34-3	1,1-Dichloroethane	ND	180	ug/kg	
107-06-2	1,2-Dichloroethane	ND	180	ug/kg	
75-35-4	1,1-Dichloroethene	ND	180	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	180	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	180	ug/kg	
78-87-5	1,2-Dichloropropane	ND	180	ug/kg	

ND = Not detected

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:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	440	ug/kg	
594-20-7	2,2-Dichloropropane	ND	440	ug/kg	
563-58-6	1,1-Dichloropropene	ND	440	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	180	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	180	ug/kg	
100-41-4	Ethylbenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	440	ug/kg	
591-78-6	2-Hexanone	ND	880	ug/kg	
74-88-4	Iodomethane	ND	440	ug/kg	
98-82-8	Isopropylbenzene	ND	440	ug/kg	
99-87-6	p-Isopropyltoluene	ND	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	180	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	440	ug/kg	
74-95-3	Methylene bromide	ND	440	ug/kg	
75-09-2	Methylene chloride	ND	180	ug/kg	
91-20-3	Naphthalene ^a	ND	440	ug/kg	
103-65-1	n-Propylbenzene	ND	440	ug/kg	
100-42-5	Styrene	ND	440	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	440	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	180	ug/kg	
127-18-4	Tetrachloroethene	ND	180	ug/kg	
108-88-3	Toluene	ND	440	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	440	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	440	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	180	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	180	ug/kg	
79-01-6	Trichloroethene	ND	180	ug/kg	
75-69-4	Trichlorofluoromethane	ND	180	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	440	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	440	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	440	ug/kg	
108-05-4	Vinyl Acetate	ND	440	ug/kg	
75-01-4	Vinyl chloride ^a	ND	180	ug/kg	
	m,p-Xylene	ND	180	ug/kg	
95-47-6	o-Xylene	ND	180	ug/kg	
1330-20-7	Xylene (total)	ND	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		65-141%

ND = Not detected

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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:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		65-129%
460-00-4	4-Bromofluorobenzene	100%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47211.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	600	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	600	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	600	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	600	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	600	ug/kg	
95-48-7	2-Methylphenol	ND	600	ug/kg	
	3&4-Methylphenol	ND	600	ug/kg	
88-75-5	2-Nitrophenol	ND	600	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	600	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	600	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	600	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	600	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^a	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	600	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	600	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	153	120	ug/kg	

ND = Not detected

RL = Reporting Limit

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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:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	600	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	600	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	600	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	600	ug/kg	
99-09-2	3-Nitroaniline	ND	600	ug/kg	
100-01-6	4-Nitroaniline	ND	600	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	600	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

ND = Not detected

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:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		24-110%
4165-62-2	Phenol-d5	69%		30-114%
118-79-6	2,4,6-Tribromophenol	110%		20-139%
4165-60-0	Nitrobenzene-d5	84%		27-112%
321-60-8	2-Fluorobiphenyl	90%		35-115%
1718-51-0	Terphenyl-d14	83%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
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:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50260.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4' -DDD	ND	6.0	ug/kg	
72-55-9	4,4' -DDE	ND	6.0	ug/kg	
50-29-3	4,4' -DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	50%		10-143%
877-09-8	Tetrachloro-m-xylene	66%		10-143%
2051-24-3	Decachlorobiphenyl	56%		10-172%
2051-24-3	Decachlorobiphenyl	64%		10-172%

ND = Not detected

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:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56287.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		35-136%
877-09-8	Tetrachloro-m-xylene	51%		35-136%
2051-24-3	Decachlorobiphenyl	85%		24-171%
2051-24-3	Decachlorobiphenyl	66%		24-171%

ND = Not detected
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J = Indicates an estimated value
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 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-2	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.94	0.94	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	4.6	0.94	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	< 0.38	0.38	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	< 0.38	0.38	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	10.4	0.94	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	7.4	2.4	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	6.5	0.94	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	0.17	0.033	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	8.8	3.8	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.94	0.94	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.94	0.94	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	43.3	1.9	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95762.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.93 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	870	ug/kg	
71-43-2	Benzene	ND	44	ug/kg	
108-86-1	Bromobenzene	ND	440	ug/kg	
74-97-5	Bromochloromethane	ND	440	ug/kg	
75-27-4	Bromodichloromethane	ND	170	ug/kg	
75-25-2	Bromoform	ND	170	ug/kg	
74-83-9	Bromomethane ^a	ND	170	ug/kg	
78-93-3	2-Butanone (MEK)	ND	870	ug/kg	
104-51-8	n-Butylbenzene	ND	440	ug/kg	
135-98-8	sec-Butylbenzene	ND	440	ug/kg	
98-06-6	tert-Butylbenzene	ND	440	ug/kg	
75-15-0	Carbon disulfide	ND	440	ug/kg	
56-23-5	Carbon tetrachloride	ND	170	ug/kg	
108-90-7	Chlorobenzene	ND	170	ug/kg	
75-00-3	Chloroethane	ND	440	ug/kg	
67-66-3	Chloroform	ND	170	ug/kg	
74-87-3	Chloromethane ^a	ND	440	ug/kg	
95-49-8	o-Chlorotoluene	ND	440	ug/kg	
106-43-4	p-Chlorotoluene	ND	440	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	440	ug/kg	
124-48-1	Dibromochloromethane	ND	170	ug/kg	
106-93-4	1,2-Dibromoethane	ND	170	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	170	ug/kg	
75-34-3	1,1-Dichloroethane	ND	170	ug/kg	
107-06-2	1,2-Dichloroethane	ND	170	ug/kg	
75-35-4	1,1-Dichloroethene	ND	170	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	170	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	170	ug/kg	
78-87-5	1,2-Dichloropropane	ND	170	ug/kg	

ND = Not detected

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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	440	ug/kg	
594-20-7	2,2-Dichloropropane	ND	440	ug/kg	
563-58-6	1,1-Dichloropropene	ND	440	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	170	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	170	ug/kg	
100-41-4	Ethylbenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	440	ug/kg	
591-78-6	2-Hexanone	ND	870	ug/kg	
74-88-4	Iodomethane	ND	440	ug/kg	
98-82-8	Isopropylbenzene	ND	440	ug/kg	
99-87-6	p-Isopropyltoluene	ND	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	170	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	440	ug/kg	
74-95-3	Methylene bromide	ND	440	ug/kg	
75-09-2	Methylene chloride	ND	170	ug/kg	
91-20-3	Naphthalene ^a	ND	440	ug/kg	
103-65-1	n-Propylbenzene	ND	440	ug/kg	
100-42-5	Styrene	ND	440	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	440	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	170	ug/kg	
127-18-4	Tetrachloroethene	ND	170	ug/kg	
108-88-3	Toluene	ND	440	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	440	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	440	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	170	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	170	ug/kg	
79-01-6	Trichloroethene	ND	170	ug/kg	
75-69-4	Trichlorofluoromethane	ND	170	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	440	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	440	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	440	ug/kg	
108-05-4	Vinyl Acetate	ND	440	ug/kg	
75-01-4	Vinyl chloride ^a	ND	170	ug/kg	
	m,p-Xylene	ND	170	ug/kg	
95-47-6	o-Xylene	ND	170	ug/kg	
1330-20-7	Xylene (total)	ND	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		65-141%

ND = Not detected

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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	98%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47212.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.8 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	540	ug/kg	
95-57-8	2-Chlorophenol	ND	270	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	540	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	540	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	540	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	540	ug/kg	
95-48-7	2-Methylphenol	ND	540	ug/kg	
	3&4-Methylphenol	ND	540	ug/kg	
88-75-5	2-Nitrophenol	ND	540	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	540	ug/kg	
108-95-2	Phenol	ND	270	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	540	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg	
83-32-9	Acenaphthene	ND	110	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
62-53-3	Aniline	ND	540	ug/kg	
120-12-7	Anthracene	ND	110	ug/kg	
92-87-5	Benzidine ^a	ND	1100	ug/kg	
56-55-3	Benzo(a)anthracene	ND	110	ug/kg	
50-32-8	Benzo(a)pyrene	ND	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	270	ug/kg	
100-51-6	Benzyl Alcohol	ND	540	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	540	ug/kg	
86-74-8	Carbazole	ND	110	ug/kg	
218-01-9	Chrysene	ND	110	ug/kg	

ND = Not detected

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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	270	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	270	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	540	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	540	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
132-64-9	Dibenzofuran	ND	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg	
84-66-2	Diethyl phthalate	ND	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	270	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg	
206-44-0	Fluoranthene	143	110	ug/kg	
86-73-7	Fluorene	ND	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	270	ug/kg	
87-68-3	Hexachlorobutadiene	ND	270	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	540	ug/kg	
67-72-1	Hexachloroethane	ND	270	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
78-59-1	Isophorone	ND	270	ug/kg	
90-12-0	1-Methylnaphthalene	ND	270	ug/kg	
91-57-6	2-Methylnaphthalene	ND	110	ug/kg	
88-74-4	2-Nitroaniline	ND	540	ug/kg	
99-09-2	3-Nitroaniline	ND	540	ug/kg	
100-01-6	4-Nitroaniline	ND	540	ug/kg	
91-20-3	Naphthalene	ND	110	ug/kg	
98-95-3	Nitrobenzene	ND	270	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	270	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg	
85-01-8	Phenanthrene	ND	110	ug/kg	
129-00-0	Pyrene	120	110	ug/kg	
110-86-1	Pyridine	ND	540	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg	

ND = Not detected

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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		24-110%
4165-62-2	Phenol-d5	72%		30-114%
118-79-6	2,4,6-Tribromophenol	75%		20-139%
4165-60-0	Nitrobenzene-d5	87%		27-112%
321-60-8	2-Fluorobiphenyl	85%		35-115%
1718-51-0	Terphenyl-d14	85%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50261.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	21.0 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.4	ug/kg	
319-84-6	alpha-BHC	ND	5.4	ug/kg	
319-85-7	beta-BHC	ND	5.4	ug/kg	
319-86-8	delta-BHC	ND	5.4	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.4	ug/kg	
12789-03-6	Chlordane	ND	54	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.4	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.4	ug/kg	
60-57-1	Dieldrin	ND	5.4	ug/kg	
72-54-8	4,4' -DDD	ND	5.4	ug/kg	
72-55-9	4,4' -DDE	ND	5.4	ug/kg	
50-29-3	4,4' -DDT	ND	5.4	ug/kg	
72-20-8	Endrin	ND	5.4	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.4	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.4	ug/kg	
959-98-8	Endosulfan-I	ND	5.4	ug/kg	
33213-65-9	Endosulfan-II	ND	5.4	ug/kg	
76-44-8	Heptachlor	ND	5.4	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.4	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.4	ug/kg	
72-43-5	Methoxychlor	ND	5.4	ug/kg	
53494-70-5	Endrin ketone	ND	5.4	ug/kg	
8001-35-2	Toxaphene	ND	54	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	64%		10-143%
877-09-8	Tetrachloro-m-xylene	72%		10-143%
2051-24-3	Decachlorobiphenyl	61%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

ND = Not detected

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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56288.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	21.0 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	27	ug/kg	
11104-28-2	Aroclor 1221	ND	27	ug/kg	
11141-16-5	Aroclor 1232	ND	27	ug/kg	
53469-21-9	Aroclor 1242	ND	27	ug/kg	
12672-29-6	Aroclor 1248	ND	27	ug/kg	
11097-69-1	Aroclor 1254	ND	27	ug/kg	
11096-82-5	Aroclor 1260	ND	27	ug/kg	
37324-23-5	Aroclor 1262	ND	27	ug/kg	
11100-14-4	Aroclor 1268	ND	27	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	57%		35-136%
877-09-8	Tetrachloro-m-xylene	49%		35-136%
2051-24-3	Decachlorobiphenyl	74%		24-171%
2051-24-3	Decachlorobiphenyl	59%		24-171%

ND = Not detected
 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:	RX-3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-3	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Antimony	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Arsenic	2.6	0.84	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Beryllium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Cadmium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Chromium	8.2	0.84	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Copper	8.8	2.1	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Lead	4.4	0.84	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Mercury	< 0.030	0.030	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	8.8	3.4	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.42	0.42	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴
Zinc	28.7	1.7	mg/kg	1	03/18/16	03/18/16 EAL	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18984

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95763.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.50 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	940	ug/kg	
71-43-2	Benzene	ND	47	ug/kg	
108-86-1	Bromobenzene	ND	470	ug/kg	
74-97-5	Bromochloromethane	ND	470	ug/kg	
75-27-4	Bromodichloromethane	ND	190	ug/kg	
75-25-2	Bromoform	ND	190	ug/kg	
74-83-9	Bromomethane ^a	ND	190	ug/kg	
78-93-3	2-Butanone (MEK)	ND	940	ug/kg	
104-51-8	n-Butylbenzene	ND	470	ug/kg	
135-98-8	sec-Butylbenzene	ND	470	ug/kg	
98-06-6	tert-Butylbenzene	ND	470	ug/kg	
75-15-0	Carbon disulfide	ND	470	ug/kg	
56-23-5	Carbon tetrachloride	ND	190	ug/kg	
108-90-7	Chlorobenzene	ND	190	ug/kg	
75-00-3	Chloroethane	ND	470	ug/kg	
67-66-3	Chloroform	ND	190	ug/kg	
74-87-3	Chloromethane ^a	ND	470	ug/kg	
95-49-8	o-Chlorotoluene	ND	470	ug/kg	
106-43-4	p-Chlorotoluene	ND	470	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	470	ug/kg	
124-48-1	Dibromochloromethane	ND	190	ug/kg	
106-93-4	1,2-Dibromoethane	ND	190	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	190	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	190	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	190	ug/kg	
75-34-3	1,1-Dichloroethane	ND	190	ug/kg	
107-06-2	1,2-Dichloroethane	ND	190	ug/kg	
75-35-4	1,1-Dichloroethene	ND	190	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	190	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	190	ug/kg	
78-87-5	1,2-Dichloropropane	ND	190	ug/kg	

ND = Not detected

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:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	470	ug/kg	
594-20-7	2,2-Dichloropropane	ND	470	ug/kg	
563-58-6	1,1-Dichloropropene	ND	470	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	190	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	190	ug/kg	
100-41-4	Ethylbenzene	ND	190	ug/kg	
87-68-3	Hexachlorobutadiene	ND	470	ug/kg	
591-78-6	2-Hexanone	ND	940	ug/kg	
74-88-4	Iodomethane	ND	470	ug/kg	
98-82-8	Isopropylbenzene	ND	470	ug/kg	
99-87-6	p-Isopropyltoluene	ND	470	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	190	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	470	ug/kg	
74-95-3	Methylene bromide	ND	470	ug/kg	
75-09-2	Methylene chloride	ND	190	ug/kg	
91-20-3	Naphthalene ^a	ND	470	ug/kg	
103-65-1	n-Propylbenzene	ND	470	ug/kg	
100-42-5	Styrene	ND	470	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	470	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	190	ug/kg	
127-18-4	Tetrachloroethene	ND	190	ug/kg	
108-88-3	Toluene	ND	470	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	470	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	470	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	190	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	190	ug/kg	
79-01-6	Trichloroethene	ND	190	ug/kg	
75-69-4	Trichlorofluoromethane	ND	190	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	470	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	470	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	470	ug/kg	
108-05-4	Vinyl Acetate	ND	470	ug/kg	
75-01-4	Vinyl chloride ^a	ND	190	ug/kg	
	m,p-Xylene	ND	190	ug/kg	
95-47-6	o-Xylene	ND	190	ug/kg	
1330-20-7	Xylene (total)	ND	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		65-141%

ND = Not detected

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Report of Analysis

Client Sample ID:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	91%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47213.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	600	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	600	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	600	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	600	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	600	ug/kg	
95-48-7	2-Methylphenol	ND	600	ug/kg	
	3&4-Methylphenol	ND	600	ug/kg	
88-75-5	2-Nitrophenol	ND	600	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	600	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	600	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	600	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	600	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^a	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	600	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	600	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	250	120	ug/kg	

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	600	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	600	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	600	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	600	ug/kg	
99-09-2	3-Nitroaniline	ND	600	ug/kg	
100-01-6	4-Nitroaniline	ND	600	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	380	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	600	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

ND = Not detected

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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:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%		24-110%
4165-62-2	Phenol-d5	75%		30-114%
118-79-6	2,4,6-Tribromophenol	101%		20-139%
4165-60-0	Nitrobenzene-d5	94%		27-112%
321-60-8	2-Fluorobiphenyl	89%		35-115%
1718-51-0	Terphenyl-d14	85%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50262.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.1	ug/kg	
319-84-6	alpha-BHC	ND	6.1	ug/kg	
319-85-7	beta-BHC	ND	6.1	ug/kg	
319-86-8	delta-BHC	ND	6.1	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.1	ug/kg	
12789-03-6	Chlordane	ND	61	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.1	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.1	ug/kg	
60-57-1	Dieldrin	ND	6.1	ug/kg	
72-54-8	4,4' -DDD	ND	6.1	ug/kg	
72-55-9	4,4' -DDE	ND	6.1	ug/kg	
50-29-3	4,4' -DDT	ND	6.1	ug/kg	
72-20-8	Endrin	ND	6.1	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.1	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.1	ug/kg	
959-98-8	Endosulfan-I	ND	6.1	ug/kg	
33213-65-9	Endosulfan-II	ND	6.1	ug/kg	
76-44-8	Heptachlor	ND	6.1	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.1	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.1	ug/kg	
72-43-5	Methoxychlor	ND	6.1	ug/kg	
53494-70-5	Endrin ketone	ND	6.1	ug/kg	
8001-35-2	Toxaphene	ND	61	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	78%		10-143%
877-09-8	Tetrachloro-m-xylene	92%		10-143%
2051-24-3	Decachlorobiphenyl	47%		10-172%
2051-24-3	Decachlorobiphenyl	57%		10-172%

ND = Not detected

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-4	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.2
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56289.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	62%		35-136%
877-09-8	Tetrachloro-m-xylene	49%		35-136%
2051-24-3	Decachlorobiphenyl	75%		24-171%
2051-24-3	Decachlorobiphenyl	56%		24-171%

ND = Not detected
 RL = Reporting Limit
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 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-4	Date Sampled: 03/11/16
Lab Sample ID: MC44826-4	Date Received: 03/14/16
Matrix: SO - Soil	Percent Solids: 81.2
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	6.4	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	0.42	0.36	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	< 0.36	0.36	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	11.2	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	15.2	2.3	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	30.7	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	< 0.032	0.032	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	13.3	3.6	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.45	0.45	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	116	1.8	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-5	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-5	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.4
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95764.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.99 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	325	57	ug/kg	
108-86-1	Bromobenzene	ND	570	ug/kg	
74-97-5	Bromochloromethane	ND	570	ug/kg	
75-27-4	Bromodichloromethane	ND	230	ug/kg	
75-25-2	Bromoform	ND	230	ug/kg	
74-83-9	Bromomethane ^a	ND	230	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
104-51-8	n-Butylbenzene	2720	570	ug/kg	
135-98-8	sec-Butylbenzene	2610	570	ug/kg	
98-06-6	tert-Butylbenzene	ND	570	ug/kg	
75-15-0	Carbon disulfide	ND	570	ug/kg	
56-23-5	Carbon tetrachloride	ND	230	ug/kg	
108-90-7	Chlorobenzene	ND	230	ug/kg	
75-00-3	Chloroethane	ND	570	ug/kg	
67-66-3	Chloroform	ND	230	ug/kg	
74-87-3	Chloromethane ^a	ND	570	ug/kg	
95-49-8	o-Chlorotoluene	ND	570	ug/kg	
106-43-4	p-Chlorotoluene	ND	570	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	570	ug/kg	
124-48-1	Dibromochloromethane	ND	230	ug/kg	
106-93-4	1,2-Dibromoethane	ND	230	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	230	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	230	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	230	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	230	ug/kg	
75-34-3	1,1-Dichloroethane	ND	230	ug/kg	
107-06-2	1,2-Dichloroethane	ND	230	ug/kg	
75-35-4	1,1-Dichloroethene	ND	230	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	230	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	230	ug/kg	
78-87-5	1,2-Dichloropropane	ND	230	ug/kg	

ND = Not detected

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:	RX-5	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-5	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.4
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	570	ug/kg	
594-20-7	2,2-Dichloropropane	ND	570	ug/kg	
563-58-6	1,1-Dichloropropene	ND	570	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	230	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	230	ug/kg	
100-41-4	Ethylbenzene	ND	230	ug/kg	
87-68-3	Hexachlorobutadiene	ND	570	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
74-88-4	Iodomethane	ND	570	ug/kg	
98-82-8	Isopropylbenzene	1600	570	ug/kg	
99-87-6	p-Isopropyltoluene	ND	570	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	230	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	570	ug/kg	
74-95-3	Methylene bromide	ND	570	ug/kg	
75-09-2	Methylene chloride	ND	230	ug/kg	
91-20-3	Naphthalene ^b	2360	570	ug/kg	
103-65-1	n-Propylbenzene	3820	570	ug/kg	
100-42-5	Styrene	ND	570	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	570	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	ug/kg	
127-18-4	Tetrachloroethene	ND	230	ug/kg	
108-88-3	Toluene	ND	570	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	570	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	570	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	230	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	230	ug/kg	
79-01-6	Trichloroethene	ND	230	ug/kg	
75-69-4	Trichlorofluoromethane	ND	230	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	570	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	570	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	570	ug/kg	
108-05-4	Vinyl Acetate	1210	570	ug/kg	
75-01-4	Vinyl chloride ^a	ND	230	ug/kg	
	m,p-Xylene	717	230	ug/kg	
95-47-6	o-Xylene	ND	230	ug/kg	
1330-20-7	Xylene (total)	776	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		65-141%

ND = Not detected

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:	RX-5	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-5	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.4
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(b) Continuing Calibration outside of acceptance criteria. Result may be biased low.

ND = Not detected
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:	RX-5	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-5	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.4
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47215.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	310	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	610	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	310	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^a	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	310	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	310	ug/kg	
100-51-6	Benzyl Alcohol	ND	610	ug/kg	
91-58-7	2-Chloronaphthalene	ND	310	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	225	120	ug/kg	

ND = Not detected

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:	RX-5	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-5	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.4
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	310	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	310	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	310	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	310	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	310	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	310	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	310	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	310	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	310	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	310	ug/kg	
84-66-2	Diethyl phthalate	ND	310	ug/kg	
131-11-3	Dimethyl phthalate	ND	310	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	310	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	310	ug/kg	
87-68-3	Hexachlorobutadiene	ND	310	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg	
67-72-1	Hexachloroethane	ND	310	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	310	ug/kg	
90-12-0	1-Methylnaphthalene	670	310	ug/kg	
91-57-6	2-Methylnaphthalene	1350	120	ug/kg	
88-74-4	2-Nitroaniline	ND	610	ug/kg	
99-09-2	3-Nitroaniline	ND	610	ug/kg	
100-01-6	4-Nitroaniline	ND	610	ug/kg	
91-20-3	Naphthalene	362	120	ug/kg	
98-95-3	Nitrobenzene	ND	310	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	310	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	310	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	310	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	610	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg	

ND = Not detected

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:	RX-5	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-5	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.4
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		24-110%
4165-62-2	Phenol-d5	66%		30-114%
118-79-6	2,4,6-Tribromophenol	95%		20-139%
4165-60-0	Nitrobenzene-d5	79%		27-112%
321-60-8	2-Fluorobiphenyl	82%		35-115%
1718-51-0	Terphenyl-d14	86%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
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:	RX-5	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-5	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	81.4
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50263.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.1	ug/kg	
319-84-6	alpha-BHC	ND	6.1	ug/kg	
319-85-7	beta-BHC	ND	6.1	ug/kg	
319-86-8	delta-BHC	ND	6.1	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.1	ug/kg	
12789-03-6	Chlordane	ND	61	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.1	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.1	ug/kg	
60-57-1	Dieldrin	ND	6.1	ug/kg	
72-54-8	4,4' -DDD	ND	6.1	ug/kg	
72-55-9	4,4' -DDE	ND	6.1	ug/kg	
50-29-3	4,4' -DDT	ND	6.1	ug/kg	
72-20-8	Endrin	ND	6.1	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.1	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.1	ug/kg	
959-98-8	Endosulfan-I	ND	6.1	ug/kg	
33213-65-9	Endosulfan-II	ND	6.1	ug/kg	
76-44-8	Heptachlor	ND	6.1	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.1	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.1	ug/kg	
72-43-5	Methoxychlor	ND	6.1	ug/kg	
53494-70-5	Endrin ketone	ND	6.1	ug/kg	
8001-35-2	Toxaphene	ND	61	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	56%		10-143%
877-09-8	Tetrachloro-m-xylene	69%		10-143%
2051-24-3	Decachlorobiphenyl	44%		10-172%
2051-24-3	Decachlorobiphenyl	56%		10-172%

ND = Not detected

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:	RX-5						
Lab Sample ID:	MC44826-5					Date Sampled:	03/11/16
Matrix:	SO - Soil					Date Received:	03/14/16
Method:	SW846 8082A SW846 3546					Percent Solids:	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56290.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	69%		35-136%
877-09-8	Tetrachloro-m-xylene	57%		35-136%
2051-24-3	Decachlorobiphenyl	91%		24-171%
2051-24-3	Decachlorobiphenyl	69%		24-171%

ND = Not detected
 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: RX-5	Date Sampled: 03/11/16
Lab Sample ID: MC44826-5	Date Received: 03/14/16
Matrix: SO - Soil	Percent Solids: 81.4
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY	

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.85	0.85	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	3.3	0.85	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	5.4	0.85	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	10.2	2.1	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	21.4	0.85	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	< 0.028	0.028	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	6.4	3.4	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.85	0.85	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.42	0.42	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.85	0.85	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	142	1.7	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95765.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.89 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	840	ug/kg	
71-43-2	Benzene	ND	42	ug/kg	
108-86-1	Bromobenzene	ND	420	ug/kg	
74-97-5	Bromochloromethane	ND	420	ug/kg	
75-27-4	Bromodichloromethane	ND	170	ug/kg	
75-25-2	Bromoform	ND	170	ug/kg	
74-83-9	Bromomethane ^a	ND	170	ug/kg	
78-93-3	2-Butanone (MEK)	ND	840	ug/kg	
104-51-8	n-Butylbenzene	ND	420	ug/kg	
135-98-8	sec-Butylbenzene	ND	420	ug/kg	
98-06-6	tert-Butylbenzene	ND	420	ug/kg	
75-15-0	Carbon disulfide	ND	420	ug/kg	
56-23-5	Carbon tetrachloride	ND	170	ug/kg	
108-90-7	Chlorobenzene	ND	170	ug/kg	
75-00-3	Chloroethane	ND	420	ug/kg	
67-66-3	Chloroform	ND	170	ug/kg	
74-87-3	Chloromethane ^a	ND	420	ug/kg	
95-49-8	o-Chlorotoluene	ND	420	ug/kg	
106-43-4	p-Chlorotoluene	ND	420	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	420	ug/kg	
124-48-1	Dibromochloromethane	ND	170	ug/kg	
106-93-4	1,2-Dibromoethane	ND	170	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	170	ug/kg	
75-34-3	1,1-Dichloroethane	ND	170	ug/kg	
107-06-2	1,2-Dichloroethane	ND	170	ug/kg	
75-35-4	1,1-Dichloroethene	ND	170	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	170	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	170	ug/kg	
78-87-5	1,2-Dichloropropane	ND	170	ug/kg	

ND = Not detected

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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	420	ug/kg	
594-20-7	2,2-Dichloropropane	ND	420	ug/kg	
563-58-6	1,1-Dichloropropene	ND	420	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	170	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	170	ug/kg	
100-41-4	Ethylbenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	420	ug/kg	
591-78-6	2-Hexanone	ND	840	ug/kg	
74-88-4	Iodomethane	ND	420	ug/kg	
98-82-8	Isopropylbenzene	ND	420	ug/kg	
99-87-6	p-Isopropyltoluene	ND	420	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	170	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	420	ug/kg	
74-95-3	Methylene bromide	ND	420	ug/kg	
75-09-2	Methylene chloride	ND	170	ug/kg	
91-20-3	Naphthalene ^a	ND	420	ug/kg	
103-65-1	n-Propylbenzene	ND	420	ug/kg	
100-42-5	Styrene	ND	420	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	420	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	170	ug/kg	
127-18-4	Tetrachloroethene	ND	170	ug/kg	
108-88-3	Toluene	ND	420	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	420	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	420	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	170	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	170	ug/kg	
79-01-6	Trichloroethene	ND	170	ug/kg	
75-69-4	Trichlorofluoromethane	ND	170	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	420	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	420	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	420	ug/kg	
108-05-4	Vinyl Acetate	ND	420	ug/kg	
75-01-4	Vinyl chloride ^a	ND	170	ug/kg	
	m,p-Xylene	ND	170	ug/kg	
95-47-6	o-Xylene	ND	170	ug/kg	
1330-20-7	Xylene (total)	ND	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected

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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	98%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47216.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 ^a	R47228.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	580	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^b	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	580	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected

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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg	
91-94-1	3,3' -Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	ND	290	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	580	ug/kg	
99-09-2	3-Nitroaniline	ND	580	ug/kg	
100-01-6	4-Nitroaniline	ND	580	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	580	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected

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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%	72%	24-110%
4165-62-2	Phenol-d5	59%	53%	30-114%
118-79-6	2,4,6-Tribromophenol	102%	101%	20-139%
4165-60-0	Nitrobenzene-d5	86%	83%	27-112%
321-60-8	2-Fluorobiphenyl	106%	121% ^c	35-115%
1718-51-0	Terphenyl-d14	93%	98%	48-136%

- (a) Confirmation run for internal standard areas.
- (b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.
- (c) Outside control limits due to possible matrix interference.

ND = Not detected
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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50264.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.7	ug/kg	
319-84-6	alpha-BHC	ND	5.7	ug/kg	
319-85-7	beta-BHC	ND	5.7	ug/kg	
319-86-8	delta-BHC	ND	5.7	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.7	ug/kg	
12789-03-6	Chlordane	ND	57	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.7	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.7	ug/kg	
60-57-1	Dieldrin	ND	5.7	ug/kg	
72-54-8	4,4' -DDD	ND	5.7	ug/kg	
72-55-9	4,4' -DDE	ND	5.7	ug/kg	
50-29-3	4,4' -DDT	ND	5.7	ug/kg	
72-20-8	Endrin	ND	5.7	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.7	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.7	ug/kg	
959-98-8	Endosulfan-I	ND	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	5.7	ug/kg	
76-44-8	Heptachlor	ND	5.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.7	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.7	ug/kg	
72-43-5	Methoxychlor	ND	5.7	ug/kg	
53494-70-5	Endrin ketone	ND	5.7	ug/kg	
8001-35-2	Toxaphene	ND	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	54%		10-143%
877-09-8	Tetrachloro-m-xylene	66%		10-143%
2051-24-3	Decachlorobiphenyl	39%		10-172%
2051-24-3	Decachlorobiphenyl	50%		10-172%

ND = Not detected

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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56305.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	64%		35-136%
877-09-8	Tetrachloro-m-xylene	60%		35-136%
2051-24-3	Decachlorobiphenyl	87%		24-171%
2051-24-3	Decachlorobiphenyl	80%		24-171%

ND = Not detected
 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:	RX-6	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-6	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	3.9	0.84	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	< 0.33	0.33	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	< 0.33	0.33	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	5.5	0.84	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	8.0	2.1	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	28.0	0.84	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	< 0.032	0.032	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	6.4	3.3	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.42	0.42	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	70.9	1.7	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95766.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.68 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	59	ug/kg	
108-86-1	Bromobenzene	ND	590	ug/kg	
74-97-5	Bromochloromethane	ND	590	ug/kg	
75-27-4	Bromodichloromethane	ND	240	ug/kg	
75-25-2	Bromoform	ND	240	ug/kg	
74-83-9	Bromomethane ^a	ND	240	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
104-51-8	n-Butylbenzene	ND	590	ug/kg	
135-98-8	sec-Butylbenzene	ND	590	ug/kg	
98-06-6	tert-Butylbenzene	ND	590	ug/kg	
75-15-0	Carbon disulfide	ND	590	ug/kg	
56-23-5	Carbon tetrachloride	ND	240	ug/kg	
108-90-7	Chlorobenzene	ND	240	ug/kg	
75-00-3	Chloroethane	ND	590	ug/kg	
67-66-3	Chloroform	ND	240	ug/kg	
74-87-3	Chloromethane ^a	ND	590	ug/kg	
95-49-8	o-Chlorotoluene	ND	590	ug/kg	
106-43-4	p-Chlorotoluene	ND	590	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	590	ug/kg	
124-48-1	Dibromochloromethane	ND	240	ug/kg	
106-93-4	1,2-Dibromoethane	ND	240	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	240	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	240	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	240	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	240	ug/kg	
75-34-3	1,1-Dichloroethane	ND	240	ug/kg	
107-06-2	1,2-Dichloroethane	ND	240	ug/kg	
75-35-4	1,1-Dichloroethene	ND	240	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	240	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	240	ug/kg	
78-87-5	1,2-Dichloropropane	ND	240	ug/kg	

ND = Not detected

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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	590	ug/kg	
594-20-7	2,2-Dichloropropane	ND	590	ug/kg	
563-58-6	1,1-Dichloropropene	ND	590	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	240	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	240	ug/kg	
100-41-4	Ethylbenzene	ND	240	ug/kg	
87-68-3	Hexachlorobutadiene	ND	590	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
74-88-4	Iodomethane	ND	590	ug/kg	
98-82-8	Isopropylbenzene	ND	590	ug/kg	
99-87-6	p-Isopropyltoluene	ND	590	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	240	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	590	ug/kg	
74-95-3	Methylene bromide	ND	590	ug/kg	
75-09-2	Methylene chloride	ND	240	ug/kg	
91-20-3	Naphthalene ^a	ND	590	ug/kg	
103-65-1	n-Propylbenzene	ND	590	ug/kg	
100-42-5	Styrene	ND	590	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	590	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	240	ug/kg	
127-18-4	Tetrachloroethene	ND	240	ug/kg	
108-88-3	Toluene	ND	590	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	590	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	590	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	240	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	240	ug/kg	
79-01-6	Trichloroethene	ND	240	ug/kg	
75-69-4	Trichlorofluoromethane	ND	240	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	590	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	590	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	590	ug/kg	
108-05-4	Vinyl Acetate	ND	590	ug/kg	
75-01-4	Vinyl chloride ^a	ND	240	ug/kg	
	m,p-Xylene	ND	240	ug/kg	
95-47-6	o-Xylene	ND	240	ug/kg	
1330-20-7	Xylene (total)	ND	240	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected

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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	89%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47217.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	590	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	590	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	590	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	590	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	590	ug/kg	
95-48-7	2-Methylphenol	ND	590	ug/kg	
	3&4-Methylphenol	ND	590	ug/kg	
88-75-5	2-Nitrophenol	ND	590	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	590	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	590	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	590	ug/kg	
83-32-9	Acenaphthene	696	120	ug/kg	
208-96-8	Acenaphthylene	168	120	ug/kg	
62-53-3	Aniline	ND	590	ug/kg	
120-12-7	Anthracene	1910	120	ug/kg	
92-87-5	Benzidine ^a	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	1150	120	ug/kg	
50-32-8	Benzo(a)pyrene	886	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	887	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	657	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	675	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	590	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	590	ug/kg	
86-74-8	Carbazole	350	120	ug/kg	
218-01-9	Chrysene	1210	120	ug/kg	

ND = Not detected

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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	590	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	590	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	184	120	ug/kg	
132-64-9	Dibenzofuran	603	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	3480	120	ug/kg	
86-73-7	Fluorene	995	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	590	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	523	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	471	290	ug/kg	
91-57-6	2-Methylnaphthalene	574	120	ug/kg	
88-74-4	2-Nitroaniline	ND	590	ug/kg	
99-09-2	3-Nitroaniline	ND	590	ug/kg	
100-01-6	4-Nitroaniline	ND	590	ug/kg	
91-20-3	Naphthalene	831	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	2520	120	ug/kg	
129-00-0	Pyrene	2990	120	ug/kg	
110-86-1	Pyridine	ND	590	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected

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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	67%		24-110%
4165-62-2	Phenol-d5	67%		30-114%
118-79-6	2,4,6-Tribromophenol	86%		20-139%
4165-60-0	Nitrobenzene-d5	70%		27-112%
321-60-8	2-Fluorobiphenyl	80%		35-115%
1718-51-0	Terphenyl-d14	78%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50265.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4' -DDD	ND	6.0	ug/kg	
72-55-9	4,4' -DDE	ND	6.0	ug/kg	
50-29-3	4,4' -DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	56%		10-143%
877-09-8	Tetrachloro-m-xylene	65%		10-143%
2051-24-3	Decachlorobiphenyl	48%		10-172%
2051-24-3	Decachlorobiphenyl	57%		10-172%

ND = Not detected

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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56306.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	68%		35-136%
877-09-8	Tetrachloro-m-xylene	54%		35-136%
2051-24-3	Decachlorobiphenyl	94%		24-171%
2051-24-3	Decachlorobiphenyl	81%		24-171%

ND = Not detected
 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:	RX-7	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-7	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Antimony	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	25.4	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	0.57	0.37	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	0.44	0.37	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	10.6	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	28.0	2.3	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	88.9	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	0.24	0.031	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	20.4	3.7	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	1.4	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.46	0.46	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	238	1.8	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95767.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.97 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	62	ug/kg	
108-86-1	Bromobenzene	ND	620	ug/kg	
74-97-5	Bromochloromethane	ND	620	ug/kg	
75-27-4	Bromodichloromethane	ND	250	ug/kg	
75-25-2	Bromoform	ND	250	ug/kg	
74-83-9	Bromomethane ^a	ND	250	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
104-51-8	n-Butylbenzene	ND	620	ug/kg	
135-98-8	sec-Butylbenzene	ND	620	ug/kg	
98-06-6	tert-Butylbenzene	ND	620	ug/kg	
75-15-0	Carbon disulfide	ND	620	ug/kg	
56-23-5	Carbon tetrachloride	ND	250	ug/kg	
108-90-7	Chlorobenzene	ND	250	ug/kg	
75-00-3	Chloroethane	ND	620	ug/kg	
67-66-3	Chloroform	ND	250	ug/kg	
74-87-3	Chloromethane ^a	ND	620	ug/kg	
95-49-8	o-Chlorotoluene	ND	620	ug/kg	
106-43-4	p-Chlorotoluene	ND	620	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	620	ug/kg	
124-48-1	Dibromochloromethane	ND	250	ug/kg	
106-93-4	1,2-Dibromoethane	ND	250	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	250	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	250	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	250	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	250	ug/kg	
75-34-3	1,1-Dichloroethane	ND	250	ug/kg	
107-06-2	1,2-Dichloroethane	ND	250	ug/kg	
75-35-4	1,1-Dichloroethene	ND	250	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	250	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	250	ug/kg	
78-87-5	1,2-Dichloropropane	ND	250	ug/kg	

ND = Not detected

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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	620	ug/kg	
594-20-7	2,2-Dichloropropane	ND	620	ug/kg	
563-58-6	1,1-Dichloropropene	ND	620	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	250	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	250	ug/kg	
100-41-4	Ethylbenzene	ND	250	ug/kg	
87-68-3	Hexachlorobutadiene	ND	620	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
74-88-4	Iodomethane	ND	620	ug/kg	
98-82-8	Isopropylbenzene	ND	620	ug/kg	
99-87-6	p-Isopropyltoluene	ND	620	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	250	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	620	ug/kg	
74-95-3	Methylene bromide	ND	620	ug/kg	
75-09-2	Methylene chloride	ND	250	ug/kg	
91-20-3	Naphthalene ^a	ND	620	ug/kg	
103-65-1	n-Propylbenzene	ND	620	ug/kg	
100-42-5	Styrene	ND	620	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	620	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	ug/kg	
127-18-4	Tetrachloroethene	ND	250	ug/kg	
108-88-3	Toluene	ND	620	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	620	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	620	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	250	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	250	ug/kg	
79-01-6	Trichloroethene	ND	250	ug/kg	
75-69-4	Trichlorofluoromethane	ND	250	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	620	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	620	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	620	ug/kg	
108-05-4	Vinyl Acetate	ND	620	ug/kg	
75-01-4	Vinyl chloride ^a	ND	250	ug/kg	
	m,p-Xylene	348	250	ug/kg	
95-47-6	o-Xylene	ND	250	ug/kg	
1330-20-7	Xylene (total)	424	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected

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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	100%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47218.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	650	ug/kg	
95-57-8	2-Chlorophenol	ND	320	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	650	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	650	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	650	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1300	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	650	ug/kg	
95-48-7	2-Methylphenol	ND	650	ug/kg	
	3&4-Methylphenol	ND	650	ug/kg	
88-75-5	2-Nitrophenol	ND	650	ug/kg	
100-02-7	4-Nitrophenol	ND	1300	ug/kg	
87-86-5	Pentachlorophenol	ND	650	ug/kg	
108-95-2	Phenol	ND	320	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	650	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	650	ug/kg	
83-32-9	Acenaphthene	907	130	ug/kg	
208-96-8	Acenaphthylene	726	130	ug/kg	
62-53-3	Aniline	ND	650	ug/kg	
120-12-7	Anthracene	3370	130	ug/kg	
92-87-5	Benzidine ^a	ND	1300	ug/kg	
56-55-3	Benzo(a)anthracene	2200	130	ug/kg	
50-32-8	Benzo(a)pyrene	2100	130	ug/kg	
205-99-2	Benzo(b)fluoranthene	1790	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1560	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	1460	130	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	320	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	320	ug/kg	
100-51-6	Benzyl Alcohol	ND	650	ug/kg	
91-58-7	2-Chloronaphthalene	ND	320	ug/kg	
106-47-8	4-Chloroaniline	ND	650	ug/kg	
86-74-8	Carbazole	464	130	ug/kg	
218-01-9	Chrysene	2040	130	ug/kg	

ND = Not detected

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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	320	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	320	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	320	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	320	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	320	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	320	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	320	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	320	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	650	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	650	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	320	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	353	130	ug/kg	
132-64-9	Dibenzofuran	1170	130	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	320	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	320	ug/kg	
84-66-2	Diethyl phthalate	ND	320	ug/kg	
131-11-3	Dimethyl phthalate	ND	320	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	320	ug/kg	
206-44-0	Fluoranthene	5790	130	ug/kg	
86-73-7	Fluorene	1540	130	ug/kg	
118-74-1	Hexachlorobenzene	ND	320	ug/kg	
87-68-3	Hexachlorobutadiene	ND	320	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	650	ug/kg	
67-72-1	Hexachloroethane	ND	320	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1270	130	ug/kg	
78-59-1	Isophorone	ND	320	ug/kg	
90-12-0	1-Methylnaphthalene	ND	320	ug/kg	
91-57-6	2-Methylnaphthalene	404	130	ug/kg	
88-74-4	2-Nitroaniline	ND	650	ug/kg	
99-09-2	3-Nitroaniline	ND	650	ug/kg	
100-01-6	4-Nitroaniline	ND	650	ug/kg	
91-20-3	Naphthalene	1620	130	ug/kg	
98-95-3	Nitrobenzene	ND	320	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	320	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	320	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	320	ug/kg	
85-01-8	Phenanthrene	3080	130	ug/kg	
129-00-0	Pyrene	5210	130	ug/kg	
110-86-1	Pyridine	ND	650	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg	

ND = Not detected

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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		24-110%
4165-62-2	Phenol-d5	55%		30-114%
118-79-6	2,4,6-Tribromophenol	78%		20-139%
4165-60-0	Nitrobenzene-d5	62%		27-112%
321-60-8	2-Fluorobiphenyl	71%		35-115%
1718-51-0	Terphenyl-d14	72%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50266.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.5	ug/kg	
319-84-6	alpha-BHC	ND	6.5	ug/kg	
319-85-7	beta-BHC	ND	6.5	ug/kg	
319-86-8	delta-BHC	ND	6.5	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.5	ug/kg	
12789-03-6	Chlordane	ND	65	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.5	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.5	ug/kg	
60-57-1	Dieldrin	ND	6.5	ug/kg	
72-54-8	4,4' -DDD	ND	6.5	ug/kg	
72-55-9	4,4' -DDE	ND	6.5	ug/kg	
50-29-3	4,4' -DDT	ND	6.5	ug/kg	
72-20-8	Endrin	ND	6.5	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.5	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.5	ug/kg	
959-98-8	Endosulfan-I	ND	6.5	ug/kg	
33213-65-9	Endosulfan-II	ND	6.5	ug/kg	
76-44-8	Heptachlor	ND	6.5	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.5	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.5	ug/kg	
72-43-5	Methoxychlor	ND	6.5	ug/kg	
53494-70-5	Endrin ketone	ND	6.5	ug/kg	
8001-35-2	Toxaphene	ND	65	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		10-143%
877-09-8	Tetrachloro-m-xylene	91%		10-143%
2051-24-3	Decachlorobiphenyl	59%		10-172%
2051-24-3	Decachlorobiphenyl	83%		10-172%

ND = Not detected

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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56307.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	74%		35-136%
877-09-8	Tetrachloro-m-xylene	56%		35-136%
2051-24-3	Decachlorobiphenyl	93%		24-171%
2051-24-3	Decachlorobiphenyl	77%		24-171%

ND = Not detected
 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:	RX-7A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-8	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.97	0.97	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	24.3	0.97	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	0.68	0.39	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	0.75	0.39	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	14.3	0.97	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	34.8	2.4	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	92.4	0.97	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	0.17	0.036	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	24.6	3.9	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	2.4	0.97	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.48	0.48	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.97	0.97	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	246	1.9	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95768.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.48 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	870	ug/kg	
71-43-2	Benzene	ND	44	ug/kg	
108-86-1	Bromobenzene	ND	440	ug/kg	
74-97-5	Bromochloromethane	ND	440	ug/kg	
75-27-4	Bromodichloromethane	ND	170	ug/kg	
75-25-2	Bromoform	ND	170	ug/kg	
74-83-9	Bromomethane ^a	ND	170	ug/kg	
78-93-3	2-Butanone (MEK)	ND	870	ug/kg	
104-51-8	n-Butylbenzene	ND	440	ug/kg	
135-98-8	sec-Butylbenzene	ND	440	ug/kg	
98-06-6	tert-Butylbenzene	ND	440	ug/kg	
75-15-0	Carbon disulfide	ND	440	ug/kg	
56-23-5	Carbon tetrachloride	ND	170	ug/kg	
108-90-7	Chlorobenzene	ND	170	ug/kg	
75-00-3	Chloroethane	ND	440	ug/kg	
67-66-3	Chloroform	ND	170	ug/kg	
74-87-3	Chloromethane ^a	ND	440	ug/kg	
95-49-8	o-Chlorotoluene	ND	440	ug/kg	
106-43-4	p-Chlorotoluene	ND	440	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	440	ug/kg	
124-48-1	Dibromochloromethane	ND	170	ug/kg	
106-93-4	1,2-Dibromoethane	ND	170	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	170	ug/kg	
75-34-3	1,1-Dichloroethane	ND	170	ug/kg	
107-06-2	1,2-Dichloroethane	ND	170	ug/kg	
75-35-4	1,1-Dichloroethene	ND	170	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	170	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	170	ug/kg	
78-87-5	1,2-Dichloropropane	ND	170	ug/kg	

ND = Not detected

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:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	440	ug/kg	
594-20-7	2,2-Dichloropropane	ND	440	ug/kg	
563-58-6	1,1-Dichloropropene	ND	440	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	170	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	170	ug/kg	
100-41-4	Ethylbenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	440	ug/kg	
591-78-6	2-Hexanone	ND	870	ug/kg	
74-88-4	Iodomethane	ND	440	ug/kg	
98-82-8	Isopropylbenzene	ND	440	ug/kg	
99-87-6	p-Isopropyltoluene	ND	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	170	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	440	ug/kg	
74-95-3	Methylene bromide	ND	440	ug/kg	
75-09-2	Methylene chloride	ND	170	ug/kg	
91-20-3	Naphthalene ^a	ND	440	ug/kg	
103-65-1	n-Propylbenzene	ND	440	ug/kg	
100-42-5	Styrene	ND	440	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	440	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	170	ug/kg	
127-18-4	Tetrachloroethene	ND	170	ug/kg	
108-88-3	Toluene	ND	440	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	440	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	440	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	170	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	170	ug/kg	
79-01-6	Trichloroethene	ND	170	ug/kg	
75-69-4	Trichlorofluoromethane	ND	170	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	440	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	440	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	440	ug/kg	
108-05-4	Vinyl Acetate	ND	440	ug/kg	
75-01-4	Vinyl chloride ^a	ND	170	ug/kg	
	m,p-Xylene	ND	170	ug/kg	
95-47-6	o-Xylene	ND	170	ug/kg	
1330-20-7	Xylene (total)	ND	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected

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:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	90%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47219.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	580	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^a	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	580	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected

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:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	176	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	ND	290	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	580	ug/kg	
99-09-2	3-Nitroaniline	ND	580	ug/kg	
100-01-6	4-Nitroaniline	ND	580	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	354	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	580	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected

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:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	68%		24-110%
4165-62-2	Phenol-d5	69%		30-114%
118-79-6	2,4,6-Tribromophenol	76%		20-139%
4165-60-0	Nitrobenzene-d5	90%		27-112%
321-60-8	2-Fluorobiphenyl	87%		35-115%
1718-51-0	Terphenyl-d14	89%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
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:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50269.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.7	ug/kg	
319-84-6	alpha-BHC	ND	5.7	ug/kg	
319-85-7	beta-BHC	ND	5.7	ug/kg	
319-86-8	delta-BHC	ND	5.7	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.7	ug/kg	
12789-03-6	Chlordane	ND	57	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.7	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.7	ug/kg	
60-57-1	Dieldrin	ND	5.7	ug/kg	
72-54-8	4,4' -DDD	ND	5.7	ug/kg	
72-55-9	4,4' -DDE	ND	5.7	ug/kg	
50-29-3	4,4' -DDT	ND	5.7	ug/kg	
72-20-8	Endrin	ND	5.7	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.7	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.7	ug/kg	
959-98-8	Endosulfan-I	ND	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	5.7	ug/kg	
76-44-8	Heptachlor	ND	5.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.7	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.7	ug/kg	
72-43-5	Methoxychlor	ND	5.7	ug/kg	
53494-70-5	Endrin ketone	ND	5.7	ug/kg	
8001-35-2	Toxaphene	ND	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	61%		10-143%
877-09-8	Tetrachloro-m-xylene	63%		10-143%
2051-24-3	Decachlorobiphenyl	57%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

ND = Not detected

RL = Reporting Limit

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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:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56308.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	72%		35-136%
877-09-8	Tetrachloro-m-xylene	60%		35-136%
2051-24-3	Decachlorobiphenyl	102%		24-171%
2051-24-3	Decachlorobiphenyl	89%		24-171%

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

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 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-9	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Antimony	< 0.92	0.92	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	6.3	0.92	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	0.38	0.37	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	< 0.37	0.37	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	13.8	0.92	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	11.4	2.3	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	10.6	0.92	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	< 0.030	0.030	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	17.7	3.7	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.92	0.92	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.46	0.46	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.92	0.92	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	725	1.8	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95769.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.33 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	53	ug/kg	
108-86-1	Bromobenzene	ND	530	ug/kg	
74-97-5	Bromochloromethane	ND	530	ug/kg	
75-27-4	Bromodichloromethane	ND	210	ug/kg	
75-25-2	Bromoform	ND	210	ug/kg	
74-83-9	Bromomethane ^a	ND	210	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
104-51-8	n-Butylbenzene	ND	530	ug/kg	
135-98-8	sec-Butylbenzene	992	530	ug/kg	
98-06-6	tert-Butylbenzene	ND	530	ug/kg	
75-15-0	Carbon disulfide	ND	530	ug/kg	
56-23-5	Carbon tetrachloride	ND	210	ug/kg	
108-90-7	Chlorobenzene	ND	210	ug/kg	
75-00-3	Chloroethane	ND	530	ug/kg	
67-66-3	Chloroform	ND	210	ug/kg	
74-87-3	Chloromethane ^a	ND	530	ug/kg	
95-49-8	o-Chlorotoluene	ND	530	ug/kg	
106-43-4	p-Chlorotoluene	ND	530	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	530	ug/kg	
124-48-1	Dibromochloromethane	ND	210	ug/kg	
106-93-4	1,2-Dibromoethane	ND	210	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	210	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	210	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	210	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	210	ug/kg	
75-34-3	1,1-Dichloroethane	ND	210	ug/kg	
107-06-2	1,2-Dichloroethane	ND	210	ug/kg	
75-35-4	1,1-Dichloroethene	ND	210	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	210	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	210	ug/kg	
78-87-5	1,2-Dichloropropane	ND	210	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	530	ug/kg	
594-20-7	2,2-Dichloropropane	ND	530	ug/kg	
563-58-6	1,1-Dichloropropene	ND	530	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	210	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	210	ug/kg	
100-41-4	Ethylbenzene	ND	210	ug/kg	
87-68-3	Hexachlorobutadiene	ND	530	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
74-88-4	Iodomethane	ND	530	ug/kg	
98-82-8	Isopropylbenzene	ND	530	ug/kg	
99-87-6	p-Isopropyltoluene	ND	530	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	210	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	530	ug/kg	
74-95-3	Methylene bromide	ND	530	ug/kg	
75-09-2	Methylene chloride	ND	210	ug/kg	
91-20-3	Naphthalene ^a	ND	530	ug/kg	
103-65-1	n-Propylbenzene	ND	530	ug/kg	
100-42-5	Styrene	ND	530	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	530	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	443	210	ug/kg	
127-18-4	Tetrachloroethene	ND	210	ug/kg	
108-88-3	Toluene	ND	530	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	530	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	530	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	210	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	210	ug/kg	
79-01-6	Trichloroethene	ND	210	ug/kg	
75-69-4	Trichlorofluoromethane	ND	210	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	530	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	530	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	530	ug/kg	
108-05-4	Vinyl Acetate	ND	530	ug/kg	
75-01-4	Vinyl chloride ^a	ND	210	ug/kg	
	m,p-Xylene	ND	210	ug/kg	
95-47-6	o-Xylene	ND	210	ug/kg	
1330-20-7	Xylene (total)	ND	210	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	97%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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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:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47220.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 ^a	F84625.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	610	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^b	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	610	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected

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:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	610	ug/kg	
99-09-2	3-Nitroaniline	ND	610	ug/kg	
100-01-6	4-Nitroaniline	ND	610	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	610	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

ND = Not detected

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:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%	57%	24-110%
4165-62-2	Phenol-d5	60%	64%	30-114%
118-79-6	2,4,6-Tribromophenol	75%	72%	20-139%
4165-60-0	Nitrobenzene-d5	72%	70%	27-112%
321-60-8	2-Fluorobiphenyl	82%	74%	35-115%
1718-51-0	Terphenyl-d14	87%	82%	48-136%

(a) Confirmation run for internal standard areas.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected

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:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50270.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4' -DDD	ND	6.0	ug/kg	
72-55-9	4,4' -DDE	ND	6.0	ug/kg	
50-29-3	4,4' -DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	58%		10-143%
877-09-8	Tetrachloro-m-xylene	66%		10-143%
2051-24-3	Decachlorobiphenyl	49%		10-172%
2051-24-3	Decachlorobiphenyl	60%		10-172%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Method:	SW846 8082A SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56309.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	69%		35-136%
877-09-8	Tetrachloro-m-xylene	58%		35-136%
2051-24-3	Decachlorobiphenyl	88%		24-171%
2051-24-3	Decachlorobiphenyl	74%		24-171%

ND = Not detected
 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:	RX-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-10	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Antimony	< 0.89	0.89	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	23.7	0.89	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	0.99	0.36	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	1.2	0.36	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	16.1	0.89	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	14.1	2.2	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	13.6	0.89	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	< 0.032	0.032	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	28.0	3.6	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	< 0.89	0.89	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.44	0.44	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	< 0.89	0.89	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	448	1.8	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-8A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-11	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	77.6
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748
Run #2							

	Initial Weight	Final Volume
Run #1	5.56 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	12	ug/kg	
71-43-2	Benzene	ND	0.58	ug/kg	
108-86-1	Bromobenzene	ND	5.8	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	ug/kg	
75-25-2	Bromoform	ND	2.3	ug/kg	
74-83-9	Bromomethane	ND	2.3	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
104-51-8	n-Butylbenzene	ND	5.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.8	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.8	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	ug/kg	
75-00-3	Chloroethane	ND	5.8	ug/kg	
67-66-3	Chloroform	ND	2.3	ug/kg	
74-87-3	Chloromethane	ND	5.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.3	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.3	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	ug/kg	

ND = Not detected

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E = Indicates value exceeds calibration range

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-11	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	77.6
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.8	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.8	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
74-88-4	Iodomethane	ND	5.8	ug/kg	
98-82-8	Isopropylbenzene	ND	5.8	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.8	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIB ^a)	ND	5.8	ug/kg	
74-95-3	Methylene bromide	ND	5.8	ug/kg	
75-09-2	Methylene chloride	60.0	2.3	ug/kg	
91-20-3	Naphthalene	ND	5.8	ug/kg	
103-65-1	n-Propylbenzene	ND	5.8	ug/kg	
100-42-5	Styrene	ND	5.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	ug/kg	
108-88-3	Toluene	ND	5.8	ug/kg	JB
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ug/kg	
79-01-6	Trichloroethene	42.5	2.3	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.8	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.8	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.8	ug/kg	
108-05-4	Vinyl Acetate	ND	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	ug/kg	
	m,p-Xylene	ND	2.3	ug/kg	
95-47-6	o-Xylene	ND	2.3	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		65-141%

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Report of Analysis

Client Sample ID:	RX-8A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-11	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	77.6
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		65-129%
460-00-4	4-Bromofluorobenzene	102%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A						
Lab Sample ID:	MC44826-11					Date Sampled:	03/11/16
Matrix:	SO - Soil					Date Received:	03/14/16
Method:	SW846 8270D SW846 3546					Percent Solids:	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47221.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 ^a	F84626.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	640	ug/kg	
95-57-8	2-Chlorophenol	ND	320	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	640	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	640	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	640	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1300	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	640	ug/kg	
95-48-7	2-Methylphenol	ND	640	ug/kg	
	3&4-Methylphenol	ND	640	ug/kg	
88-75-5	2-Nitrophenol	ND	640	ug/kg	
100-02-7	4-Nitrophenol	ND	1300	ug/kg	
87-86-5	Pentachlorophenol	ND	640	ug/kg	
108-95-2	Phenol	ND	320	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	640	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	640	ug/kg	
83-32-9	Acenaphthene	204	130	ug/kg	
208-96-8	Acenaphthylene	155	130	ug/kg	
62-53-3	Aniline	ND	640	ug/kg	
120-12-7	Anthracene	402	130	ug/kg	
92-87-5	Benzidine ^b	ND	1300	ug/kg	
56-55-3	Benzo(a)anthracene	959	130	ug/kg	
50-32-8	Benzo(a)pyrene	754	130	ug/kg	
205-99-2	Benzo(b)fluoranthene	724	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	568	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	681	130	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	320	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	320	ug/kg	
100-51-6	Benzyl Alcohol	ND	640	ug/kg	
91-58-7	2-Chloronaphthalene	ND	320	ug/kg	
106-47-8	4-Chloroaniline	ND	640	ug/kg	
86-74-8	Carbazole	202	130	ug/kg	
218-01-9	Chrysene	1000	130	ug/kg	

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-11	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	77.6
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	320	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	320	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	320	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	320	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	320	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	320	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	320	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	320	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	640	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	640	ug/kg	
91-94-1	3,3' -Dichlorobenzidine	ND	320	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	179	130	ug/kg	
132-64-9	Dibenzofuran	301	130	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	320	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	320	ug/kg	
84-66-2	Diethyl phthalate	ND	320	ug/kg	
131-11-3	Dimethyl phthalate	ND	320	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	320	ug/kg	
206-44-0	Fluoranthene	2190	130	ug/kg	
86-73-7	Fluorene	180	130	ug/kg	
118-74-1	Hexachlorobenzene	ND	320	ug/kg	
87-68-3	Hexachlorobutadiene	ND	320	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	640	ug/kg	
67-72-1	Hexachloroethane	ND	320	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	449	130	ug/kg	
78-59-1	Isophorone	ND	320	ug/kg	
90-12-0	1-Methylnaphthalene	738	320	ug/kg	
91-57-6	2-Methylnaphthalene	707	130	ug/kg	
88-74-4	2-Nitroaniline	ND	640	ug/kg	
99-09-2	3-Nitroaniline	ND	640	ug/kg	
100-01-6	4-Nitroaniline	ND	640	ug/kg	
91-20-3	Naphthalene	524	130	ug/kg	
98-95-3	Nitrobenzene	ND	320	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	320	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	320	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	320	ug/kg	
85-01-8	Phenanthrene	2500	130	ug/kg	
129-00-0	Pyrene	1920	130	ug/kg	
110-86-1	Pyridine	ND	640	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg	

ND = Not detected

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:	RX-8A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-11	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	77.6
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%	82%	24-110%
4165-62-2	Phenol-d5	72%	81%	30-114%
118-79-6	2,4,6-Tribromophenol	91%	90%	20-139%
4165-60-0	Nitrobenzene-d5	89%	79%	27-112%
321-60-8	2-Fluorobiphenyl	89%	86%	35-115%
1718-51-0	Terphenyl-d14	94%	104%	48-136%

(a) Confirmation run for internal standard areas.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected

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:	RX-8A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-11	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	77.6
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50271.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.3	ug/kg	
319-84-6	alpha-BHC	ND	6.3	ug/kg	
319-85-7	beta-BHC	ND	6.3	ug/kg	
319-86-8	delta-BHC	ND	6.3	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.3	ug/kg	
12789-03-6	Chlordane	ND	63	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.3	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.3	ug/kg	
60-57-1	Dieldrin	ND	6.3	ug/kg	
72-54-8	4,4' -DDD	ND	6.3	ug/kg	
72-55-9	4,4' -DDE	ND	6.3	ug/kg	
50-29-3	4,4' -DDT	ND	6.3	ug/kg	
72-20-8	Endrin	ND	6.3	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.3	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.3	ug/kg	
959-98-8	Endosulfan-I	ND	6.3	ug/kg	
33213-65-9	Endosulfan-II	ND	6.3	ug/kg	
76-44-8	Heptachlor	ND	6.3	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.3	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.3	ug/kg	
72-43-5	Methoxychlor	ND	6.3	ug/kg	
53494-70-5	Endrin ketone	ND	6.3	ug/kg	
8001-35-2	Toxaphene	ND	63	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	58%		10-143%
877-09-8	Tetrachloro-m-xylene	57%		10-143%
2051-24-3	Decachlorobiphenyl	47%		10-172%
2051-24-3	Decachlorobiphenyl	57%		10-172%

ND = Not detected

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:	RX-8A						
Lab Sample ID:	MC44826-11					Date Sampled:	03/11/16
Matrix:	SO - Soil					Date Received:	03/14/16
Method:	SW846 8082A SW846 3546					Percent Solids:	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56310.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		35-136%
877-09-8	Tetrachloro-m-xylene	72%		35-136%
2051-24-3	Decachlorobiphenyl	105%		24-171%
2051-24-3	Decachlorobiphenyl	94%		24-171%

ND = Not detected
 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:	RX-8A	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-11	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.98	0.98	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Arsenic	129	0.98	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Beryllium	0.79	0.39	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Cadmium	0.41	0.39	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Chromium	18.0	0.98	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Copper	28.9	2.5	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Lead	243	0.98	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Mercury	0.79	0.038	mg/kg	1	03/16/16	03/16/16 EC	SW846 7471B ¹	SW846 7471B ³
Nickel	13.3	3.9	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Selenium	15.9	0.98	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Silver	< 0.49	0.49	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Thallium	4.0	0.98	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴
Zinc	321	2.0	mg/kg	1	03/18/16	03/18/16 EC	SW846 6010C ²	SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76928.D	1	03/16/16	KD	n/a	n/a	MSM2748
Run #2							

	Initial Weight	Final Volume
Run #1	5.69 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/kg	
71-43-2	Benzene	ND	0.52	ug/kg	
108-86-1	Bromobenzene	ND	5.2	ug/kg	
74-97-5	Bromochloromethane	ND	5.2	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	ug/kg	
75-25-2	Bromoform	ND	2.1	ug/kg	
74-83-9	Bromomethane	ND	2.1	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
104-51-8	n-Butylbenzene	ND	5.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.2	ug/kg	
75-15-0	Carbon disulfide	ND	5.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	ug/kg	
75-00-3	Chloroethane	ND	5.2	ug/kg	
67-66-3	Chloroform	ND	2.1	ug/kg	
74-87-3	Chloromethane	ND	5.2	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.2	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.2	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.1	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.1	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.1	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.1	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

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B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.2	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
74-88-4	Iodomethane	ND	5.2	ug/kg	
98-82-8	Isopropylbenzene	ND	5.2	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIB ^a)	ND	5.2	ug/kg	
74-95-3	Methylene bromide	ND	5.2	ug/kg	
75-09-2	Methylene chloride	7.3	2.1	ug/kg	
91-20-3	Naphthalene	ND	5.2	ug/kg	
103-65-1	n-Propylbenzene	ND	5.2	ug/kg	
100-42-5	Styrene	ND	5.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	ug/kg	
108-88-3	Toluene	ND	5.2	ug/kg	B
87-61-6	1,2,3-Trichlorobenzene	ND	5.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ug/kg	
79-01-6	Trichloroethene	ND	2.1	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.2	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.2	ug/kg	
108-05-4	Vinyl Acetate	ND	5.2	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	ug/kg	
	m,p-Xylene	ND	2.1	ug/kg	
95-47-6	o-Xylene	ND	2.1	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%		65-141%

ND = Not detected

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	104%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47222.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	570	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	570	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	570	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	570	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	570	ug/kg	
95-48-7	2-Methylphenol	ND	570	ug/kg	
	3&4-Methylphenol	ND	570	ug/kg	
88-75-5	2-Nitrophenol	ND	570	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	570	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	570	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	570	ug/kg	
83-32-9	Acenaphthene	ND	110	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
62-53-3	Aniline	ND	570	ug/kg	
120-12-7	Anthracene	ND	110	ug/kg	
92-87-5	Benzidine ^a	ND	1100	ug/kg	
56-55-3	Benzo(a)anthracene	289	110	ug/kg	
50-32-8	Benzo(a)pyrene	175	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	204	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	121	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	140	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	570	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	570	ug/kg	
86-74-8	Carbazole	ND	110	ug/kg	
218-01-9	Chrysene	451	110	ug/kg	

ND = Not detected

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E = Indicates value exceeds calibration range

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	570	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	570	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
132-64-9	Dibenzofuran	291	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	511	110	ug/kg	
86-73-7	Fluorene	ND	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	570	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	1390	290	ug/kg	
91-57-6	2-Methylnaphthalene	919	110	ug/kg	
88-74-4	2-Nitroaniline	ND	570	ug/kg	
99-09-2	3-Nitroaniline	ND	570	ug/kg	
100-01-6	4-Nitroaniline	ND	570	ug/kg	
91-20-3	Naphthalene	360	110	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	1430	110	ug/kg	
129-00-0	Pyrene	465	110	ug/kg	
110-86-1	Pyridine	ND	570	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected

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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:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	63%		24-110%
4165-62-2	Phenol-d5	62%		30-114%
118-79-6	2,4,6-Tribromophenol	80%		20-139%
4165-60-0	Nitrobenzene-d5	78%		27-112%
321-60-8	2-Fluorobiphenyl	78%		35-115%
1718-51-0	Terphenyl-d14	85%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

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 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50272.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.7	ug/kg	
319-84-6	alpha-BHC	ND	5.7	ug/kg	
319-85-7	beta-BHC	ND	5.7	ug/kg	
319-86-8	delta-BHC	ND	5.7	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.7	ug/kg	
12789-03-6	Chlordane	ND	57	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.7	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.7	ug/kg	
60-57-1	Dieldrin	ND	5.7	ug/kg	
72-54-8	4,4' -DDD	ND	5.7	ug/kg	
72-55-9	4,4' -DDE	ND	5.7	ug/kg	
50-29-3	4,4' -DDT	ND	5.7	ug/kg	
72-20-8	Endrin	ND	5.7	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.7	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.7	ug/kg	
959-98-8	Endosulfan-I	ND	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	5.7	ug/kg	
76-44-8	Heptachlor	ND	5.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.7	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.7	ug/kg	
72-43-5	Methoxychlor	ND	5.7	ug/kg	
53494-70-5	Endrin ketone	ND	5.7	ug/kg	
8001-35-2	Toxaphene	ND	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	65%		10-143%
877-09-8	Tetrachloro-m-xylene	69%		10-143%
2051-24-3	Decachlorobiphenyl	50%		10-172%
2051-24-3	Decachlorobiphenyl	53%		10-172%

ND = Not detected

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:	RX-8B						
Lab Sample ID:	MC44826-12					Date Sampled:	03/11/16
Matrix:	SO - Soil					Date Received:	03/14/16
Method:	SW846 8082A SW846 3546					Percent Solids:	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56311.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		35-136%
877-09-8	Tetrachloro-m-xylene	69%		35-136%
2051-24-3	Decachlorobiphenyl	94%		24-171%
2051-24-3	Decachlorobiphenyl	84%		24-171%

ND = Not detected
 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:	RX-8B	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-12	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.95	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Arsenic	327	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Beryllium	0.65	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Cadmium	< 0.38	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Chromium	9.6	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Copper	12.5	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Lead	58.5	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Mercury	0.26	0.037	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B ¹ SW846 7471B ³
Nickel	8.3	3.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Selenium	8.0	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Silver	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Thallium	1.4	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Zinc	61.4	1.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95770.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.2 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	990	ug/kg	
71-43-2	Benzene	ND	49	ug/kg	
108-86-1	Bromobenzene	ND	490	ug/kg	
74-97-5	Bromochloromethane	ND	490	ug/kg	
75-27-4	Bromodichloromethane	ND	200	ug/kg	
75-25-2	Bromoform	ND	200	ug/kg	
74-83-9	Bromomethane ^a	ND	200	ug/kg	
78-93-3	2-Butanone (MEK)	ND	990	ug/kg	
104-51-8	n-Butylbenzene	ND	490	ug/kg	
135-98-8	sec-Butylbenzene	591	490	ug/kg	
98-06-6	tert-Butylbenzene	ND	490	ug/kg	
75-15-0	Carbon disulfide	ND	490	ug/kg	
56-23-5	Carbon tetrachloride	ND	200	ug/kg	
108-90-7	Chlorobenzene	ND	200	ug/kg	
75-00-3	Chloroethane	ND	490	ug/kg	
67-66-3	Chloroform	ND	200	ug/kg	
74-87-3	Chloromethane ^a	ND	490	ug/kg	
95-49-8	o-Chlorotoluene	ND	490	ug/kg	
106-43-4	p-Chlorotoluene	ND	490	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan ^a	ND	490	ug/kg	
124-48-1	Dibromochloromethane	ND	200	ug/kg	
106-93-4	1,2-Dibromoethane	ND	200	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	200	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	200	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	200	ug/kg	
75-71-8	Dichlorodifluoromethane ^a	ND	200	ug/kg	
75-34-3	1,1-Dichloroethane	ND	200	ug/kg	
107-06-2	1,2-Dichloroethane	ND	200	ug/kg	
75-35-4	1,1-Dichloroethene	ND	200	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	200	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	200	ug/kg	
78-87-5	1,2-Dichloropropane	ND	200	ug/kg	

ND = Not detected

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:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	490	ug/kg	
594-20-7	2,2-Dichloropropane	ND	490	ug/kg	
563-58-6	1,1-Dichloropropene	ND	490	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	200	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	200	ug/kg	
100-41-4	Ethylbenzene	ND	200	ug/kg	
87-68-3	Hexachlorobutadiene	ND	490	ug/kg	
591-78-6	2-Hexanone	ND	990	ug/kg	
74-88-4	Iodomethane	ND	490	ug/kg	
98-82-8	Isopropylbenzene	ND	490	ug/kg	
99-87-6	p-Isopropyltoluene	ND	490	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	200	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	490	ug/kg	
74-95-3	Methylene bromide	ND	490	ug/kg	
75-09-2	Methylene chloride	ND	200	ug/kg	
91-20-3	Naphthalene ^a	ND	490	ug/kg	
103-65-1	n-Propylbenzene	ND	490	ug/kg	
100-42-5	Styrene	ND	490	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	490	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	ug/kg	
127-18-4	Tetrachloroethene	ND	200	ug/kg	
108-88-3	Toluene	ND	490	ug/kg	
87-61-6	1,2,3-Trichlorobenzene ^a	ND	490	ug/kg	
120-82-1	1,2,4-Trichlorobenzene ^a	ND	490	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	200	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	200	ug/kg	
79-01-6	Trichloroethene	ND	200	ug/kg	
75-69-4	Trichlorofluoromethane	ND	200	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	490	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	490	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	490	ug/kg	
108-05-4	Vinyl Acetate	ND	490	ug/kg	
75-01-4	Vinyl chloride ^a	ND	200	ug/kg	
	m,p-Xylene	ND	200	ug/kg	
95-47-6	o-Xylene	ND	200	ug/kg	
1330-20-7	Xylene (total)	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	90%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47223.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 ^a	F84627.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	770	ug/kg	
95-57-8	2-Chlorophenol	ND	380	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	770	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	770	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	770	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1500	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	770	ug/kg	
95-48-7	2-Methylphenol	ND	770	ug/kg	
	3&4-Methylphenol	ND	770	ug/kg	
88-75-5	2-Nitrophenol	ND	770	ug/kg	
100-02-7	4-Nitrophenol	ND	1500	ug/kg	
87-86-5	Pentachlorophenol	ND	770	ug/kg	
108-95-2	Phenol	ND	380	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	770	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	770	ug/kg	
83-32-9	Acenaphthene	1020	150	ug/kg	
208-96-8	Acenaphthylene	ND	150	ug/kg	
62-53-3	Aniline	ND	770	ug/kg	
120-12-7	Anthracene	1600	150	ug/kg	
92-87-5	Benzidine ^b	ND	1500	ug/kg	
56-55-3	Benzo(a)anthracene	385	150	ug/kg	
50-32-8	Benzo(a)pyrene	265	150	ug/kg	
205-99-2	Benzo(b)fluoranthene	226	150	ug/kg	
191-24-2	Benzo(g,h,i)perylene	190	150	ug/kg	
207-08-9	Benzo(k)fluoranthene	196	150	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	380	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	380	ug/kg	
100-51-6	Benzyl Alcohol	ND	770	ug/kg	
91-58-7	2-Chloronaphthalene	ND	380	ug/kg	
106-47-8	4-Chloroaniline	ND	770	ug/kg	
86-74-8	Carbazole	ND	150	ug/kg	
218-01-9	Chrysene	460	150	ug/kg	

ND = Not detected

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:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	380	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	380	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	380	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	380	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	380	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	380	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	380	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	380	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	770	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	770	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	380	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	150	ug/kg	
132-64-9	Dibenzofuran	307	150	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	380	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	380	ug/kg	
84-66-2	Diethyl phthalate	ND	380	ug/kg	
131-11-3	Dimethyl phthalate	ND	380	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	380	ug/kg	
206-44-0	Fluoranthene	1840	150	ug/kg	
86-73-7	Fluorene	1130	150	ug/kg	
118-74-1	Hexachlorobenzene	ND	380	ug/kg	
87-68-3	Hexachlorobutadiene	ND	380	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	770	ug/kg	
67-72-1	Hexachloroethane	ND	380	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	154	150	ug/kg	
78-59-1	Isophorone	ND	380	ug/kg	
90-12-0	1-Methylnaphthalene	ND	380	ug/kg	
91-57-6	2-Methylnaphthalene	ND	150	ug/kg	
88-74-4	2-Nitroaniline	ND	770	ug/kg	
99-09-2	3-Nitroaniline	ND	770	ug/kg	
100-01-6	4-Nitroaniline	ND	770	ug/kg	
91-20-3	Naphthalene	ND	150	ug/kg	
98-95-3	Nitrobenzene	ND	380	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	380	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	380	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	380	ug/kg	
85-01-8	Phenanthrene	2990	150	ug/kg	
129-00-0	Pyrene	1380	150	ug/kg	
110-86-1	Pyridine	ND	770	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	380	ug/kg	

ND = Not detected

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:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%	80%	24-110%
4165-62-2	Phenol-d5	74%	83%	30-114%
118-79-6	2,4,6-Tribromophenol	97%	87%	20-139%
4165-60-0	Nitrobenzene-d5	88%	72%	27-112%
321-60-8	2-Fluorobiphenyl	88%	82%	35-115%
1718-51-0	Terphenyl-d14	87%	90%	48-136%

(a) Confirmation run for internal standard areas.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected

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:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50273.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.8 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	7.6	ug/kg	
319-84-6	alpha-BHC	ND	7.6	ug/kg	
319-85-7	beta-BHC	ND	7.6	ug/kg	
319-86-8	delta-BHC	ND	7.6	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	7.6	ug/kg	
12789-03-6	Chlordane	ND	76	ug/kg	
5103-71-9	alpha-Chlordane	ND	7.6	ug/kg	
5103-74-2	gamma-Chlordane	ND	7.6	ug/kg	
60-57-1	Dieldrin	ND	7.6	ug/kg	
72-54-8	4,4' -DDD	ND	7.6	ug/kg	
72-55-9	4,4' -DDE	ND	7.6	ug/kg	
50-29-3	4,4' -DDT	ND	7.6	ug/kg	
72-20-8	Endrin	ND	7.6	ug/kg	
1031-07-8	Endosulfan sulfate	ND	7.6	ug/kg	
7421-93-4	Endrin aldehyde	ND	7.6	ug/kg	
959-98-8	Endosulfan-I	ND	7.6	ug/kg	
33213-65-9	Endosulfan-II	ND	7.6	ug/kg	
76-44-8	Heptachlor	ND	7.6	ug/kg	
1024-57-3	Heptachlor epoxide	ND	7.6	ug/kg	
118-74-1	Hexachlorobenzene	ND	7.6	ug/kg	
72-43-5	Methoxychlor	ND	7.6	ug/kg	
53494-70-5	Endrin ketone	ND	7.6	ug/kg	
8001-35-2	Toxaphene	ND	76	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	61%		10-143%
877-09-8	Tetrachloro-m-xylene	97%		10-143%
2051-24-3	Decachlorobiphenyl	55%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

ND = Not detected

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:	B-8						
Lab Sample ID:	MC44826-13					Date Sampled:	03/11/16
Matrix:	SO - Soil					Date Received:	03/14/16
Method:	SW846 8082A SW846 3546					Percent Solids:	63.5
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56312.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	38	ug/kg	
11104-28-2	Aroclor 1221	ND	38	ug/kg	
11141-16-5	Aroclor 1232	ND	38	ug/kg	
53469-21-9	Aroclor 1242	ND	38	ug/kg	
12672-29-6	Aroclor 1248	ND	38	ug/kg	
11097-69-1	Aroclor 1254	ND	38	ug/kg	
11096-82-5	Aroclor 1260	ND	38	ug/kg	
37324-23-5	Aroclor 1262	ND	38	ug/kg	
11100-14-4	Aroclor 1268	ND	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	74%		35-136%
877-09-8	Tetrachloro-m-xylene	53%		35-136%
2051-24-3	Decachlorobiphenyl	89%		24-171%
2051-24-3	Decachlorobiphenyl	75%		24-171%

ND = Not detected
 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:	B-8	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-13	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	63.5
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 1.2	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Arsenic	9.8	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Beryllium	0.90	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Cadmium	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Chromium	29.7	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Copper	21.5	2.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Lead	27.7	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Mercury	0.076	0.043	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B ¹ SW846 7471B ³
Nickel	26.7	4.7	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Selenium	< 1.2	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Silver	< 0.59	0.59	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Thallium	< 1.2	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Zinc	335	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76942.D	1	03/17/16	KD	n/a	n/a	MSM2749
Run #2	M76929.D	1	03/16/16	KD	n/a	n/a	MSM2748

	Initial Weight	Final Volume
Run #1	5.40 g	5.0 ml
Run #2	5.00 g	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	35.2 ^a	13	ug/kg	
71-43-2	Benzene	ND	0.58	ug/kg	
108-86-1	Bromobenzene	ND	5.8	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	ug/kg	
75-25-2	Bromoform	ND	2.3	ug/kg	
74-83-9	Bromomethane	ND	2.3	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
104-51-8	n-Butylbenzene	ND	5.8	ug/kg	
135-98-8	sec-Butylbenzene	32.8	5.8	ug/kg	
98-06-6	tert-Butylbenzene	17.7	5.8	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	ug/kg	
75-00-3	Chloroethane	ND	5.8	ug/kg	
67-66-3	Chloroform	ND	2.3	ug/kg	
74-87-3	Chloromethane	ND	5.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.3	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.3	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	ug/kg	

ND = Not detected

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:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.8	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.8	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
74-88-4	Iodomethane	ND	5.8	ug/kg	
98-82-8	Isopropylbenzene	ND	5.8	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.8	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.8	ug/kg	
74-95-3	Methylene bromide	ND	5.8	ug/kg	
75-09-2	Methylene chloride	3.5	2.3	ug/kg	
91-20-3	Naphthalene	8.0	5.8	ug/kg	
103-65-1	n-Propylbenzene	ND	5.8	ug/kg	
100-42-5	Styrene	ND	5.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	ug/kg	
108-88-3	Toluene	ND	5.8	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ug/kg	
79-01-6	Trichloroethene	32.8	2.3	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.8	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.8	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.8	ug/kg	
108-05-4	Vinyl Acetate	ND	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	ug/kg	
	m,p-Xylene	ND	2.3	ug/kg	
95-47-6	o-Xylene	ND	2.3	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%	109%	65-141%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%	103%	65-129%
460-00-4	4-Bromofluorobenzene	112%	148% ^b	63-137%

(a) Result is from Run# 2

(b) Outside control limits due to possible matrix interference. Associated compounds not reported in sample.

ND = Not detected

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:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47224.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 ^a	F84628.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

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

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	610	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine ^b	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	610	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	610	ug/kg	
99-09-2	3-Nitroaniline	ND	610	ug/kg	
100-01-6	4-Nitroaniline	ND	610	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	134	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	610	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

ND = Not detected

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:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8270D SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	71%	80%	24-110%
4165-62-2	Phenol-d5	71%	78%	30-114%
118-79-6	2,4,6-Tribromophenol	87%	77%	20-139%
4165-60-0	Nitrobenzene-d5	87%	77%	27-112%
321-60-8	2-Fluorobiphenyl	90%	88%	35-115%
1718-51-0	Terphenyl-d14	96%	93%	48-136%

(a) Confirmation run for internal standard areas.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected

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:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Method:	SW846 8081B SW846 3546		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50274.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.9 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4' -DDD	ND	6.0	ug/kg	
72-55-9	4,4' -DDE	ND	6.0	ug/kg	
50-29-3	4,4' -DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	69%		10-143%
877-09-8	Tetrachloro-m-xylene	82%		10-143%
2051-24-3	Decachlorobiphenyl	67%		10-172%
2051-24-3	Decachlorobiphenyl	82%		10-172%

ND = Not detected

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:	B-9						
Lab Sample ID:	MC44826-14					Date Sampled:	03/11/16
Matrix:	SO - Soil					Date Received:	03/14/16
Method:	SW846 8082A SW846 3546					Percent Solids:	79.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY						

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56313.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.9 g	10.0 ml
Run #2		

PCB List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	68%		35-136%
877-09-8	Tetrachloro-m-xylene	58%		35-136%
2051-24-3	Decachlorobiphenyl	91%		24-171%
2051-24-3	Decachlorobiphenyl	74%		24-171%

ND = Not detected
 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:	B-9	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-14	Date Received:	03/14/16
Matrix:	SO - Soil	Percent Solids:	79.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 0.95	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Arsenic	64.8	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Beryllium	1.2	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Cadmium	1.0	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Chromium	15.1	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Copper	18.0	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Lead	22.3	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Mercury	0.084	0.033	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B ¹ SW846 7471B ³
Nickel	56.6	3.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Selenium	4.8	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Silver	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Thallium	< 0.95	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴
Zinc	630	1.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C ² SW846 3050B ⁴

(1) Instrument QC Batch: MA18978

(2) Instrument QC Batch: MA18986

(3) Prep QC Batch: MP25923

(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RXGW1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-15	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	G150525.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

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:	RXGW1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-15	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.4	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-127%

ND = Not detected

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:	RXGW1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-15	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	108%		80-116%
460-00-4	4-Bromofluorobenzene	117%		77-124%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

ND = Not detected
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:	RXGW1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-15	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F84580.D	5	03/22/16	MR	03/15/16	OP46751	MSF3634
Run #2 ^a	F84596.D	20	03/22/16	MR	03/15/16	OP46751	MSF3634

	Initial Volume	Final Volume
Run #1	850 ml	3.0 ml
Run #2	850 ml	3.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid ^b	ND	180	ug/l	
95-57-8	2-Chlorophenol	ND	88	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	180	ug/l	
120-83-2	2,4-Dichlorophenol	ND	180	ug/l	
105-67-9	2,4-Dimethylphenol	ND	180	ug/l	
51-28-5	2,4-Dinitrophenol	ND	350	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	180	ug/l	
95-48-7	2-Methylphenol	ND	180	ug/l	
	3&4-Methylphenol	ND	180	ug/l	
88-75-5	2-Nitrophenol	ND	180	ug/l	
100-02-7	4-Nitrophenol	ND	350	ug/l	
87-86-5	Pentachlorophenol ^b	ND	180	ug/l	
108-95-2	Phenol	ND	88	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	180	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	180	ug/l	
83-32-9	Acenaphthene	ND	35	ug/l	
208-96-8	Acenaphthylene	ND	35	ug/l	
62-53-3	Aniline	ND	180	ug/l	
120-12-7	Anthracene	ND	35	ug/l	
92-87-5	Benzidine ^c	ND	88	ug/l	
56-55-3	Benzo(a)anthracene	ND	35	ug/l	
50-32-8	Benzo(a)pyrene	ND	35	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	35	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	35	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	35	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	88	ug/l	
85-68-7	Butyl benzyl phthalate	ND	88	ug/l	
100-51-6	Benzyl Alcohol	ND	180	ug/l	
91-58-7	2-Chloronaphthalene	ND	88	ug/l	
106-47-8	4-Chloroaniline	ND	180	ug/l	
86-74-8	Carbazole	ND	35	ug/l	
218-01-9	Chrysene	125	35	ug/l	

ND = Not detected

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E = Indicates value exceeds calibration range

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-15	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	88	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	88	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	88	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	88	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	88	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	88	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	88	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	88	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	180	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	180	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	88	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	35	ug/l	
132-64-9	Dibenzofuran	ND	35	ug/l	
84-74-2	Di-n-butyl phthalate	ND	88	ug/l	
117-84-0	Di-n-octyl phthalate	ND	88	ug/l	
84-66-2	Diethyl phthalate	ND	88	ug/l	
131-11-3	Dimethyl phthalate	ND	88	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	35	ug/l	
206-44-0	Fluoranthene	ND	35	ug/l	
86-73-7	Fluorene	ND	35	ug/l	
118-74-1	Hexachlorobenzene	ND	88	ug/l	
87-68-3	Hexachlorobutadiene	ND	88	ug/l	
77-47-4	Hexachlorocyclopentadiene ^b	ND	180	ug/l	
67-72-1	Hexachloroethane	ND	88	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	35	ug/l	
78-59-1	Isophorone	ND	88	ug/l	
90-12-0	1-Methylnaphthalene	ND	35	ug/l	
91-57-6	2-Methylnaphthalene	ND	35	ug/l	
88-74-4	2-Nitroaniline	ND	180	ug/l	
99-09-2	3-Nitroaniline	ND	180	ug/l	
100-01-6	4-Nitroaniline	ND	180	ug/l	
91-20-3	Naphthalene	ND	35	ug/l	
98-95-3	Nitrobenzene	ND	88	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	88	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	88	ug/l	
85-01-8	Phenanthrene	204	35	ug/l	
129-00-0	Pyrene	ND	35	ug/l	
110-86-1	Pyridine	ND	180	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	88	ug/l	

ND = Not detected

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:	RXGW1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-15	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	0% ^e	0% ^d	10-80%
4165-62-2	Phenol-d5	0% ^e	0% ^d	10-72%
118-79-6	2,4,6-Tribromophenol	66%	89%	42-134%
4165-60-0	Nitrobenzene-d5	0% ^e	0% ^d	25-117%
321-60-8	2-Fluorobiphenyl	87%	100%	24-112%
1718-51-0	Terphenyl-d14	89%	101%	48-133%

- (a) Confirmation run for surrogate recoveries.
- (b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.
- (c) Insufficient sample volume for re-extraction/reanalysis. Associated samples may be biased low for this compound.
- (d) Outside control limits due to dilution.
- (e) Outside control limits due to matrix interference. Confirmed by reanalysis. Insufficient sample volume for re-extraction.

ND = Not detected
 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:	RXGW1	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-15	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Antimony ^a	< 12	12	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Arsenic ^a	289	8.0	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Beryllium ^a	19.3	8.0	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Cadmium ^a	18.1	8.0	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Chromium ^a	404	20	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Copper ^a	715	50	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Lead ^a	2260	10	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Mercury	1.3	0.20	ug/l	1	03/18/16	03/21/16	EC	SW846 7470A ³ SW846 7470A ⁵
Nickel ^a	604	80	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Selenium ^a	< 20	20	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Silver ^a	< 25	25	ug/l	5	03/16/16	03/18/16	EC	SW846 6010C ² SW846 3010A ⁴
Thallium ^a	< 10	10	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴
Zinc ^a	6710	40	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ⁴

(1) Instrument QC Batch: MA18982

(2) Instrument QC Batch: MA18987

(3) Instrument QC Batch: MA18988

(4) Prep QC Batch: MP25922

(5) Prep QC Batch: MP25932

(a) Elevated RL due to dilution required for matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RXGW2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-16	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	G150526.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2 ^a	G150614.D	1	03/22/16	CB	n/a	n/a	MSG5628

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND ^b	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

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:	RXGW2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-16	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	97%	79-127%

ND = Not detected

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:	RXGW2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-16	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%	99%	80-116%
460-00-4	4-Bromofluorobenzene	96%	105%	77-124%

- (a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.
(b) Result is from Run# 2

ND = Not detected
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:	RXGW2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-16	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F84581.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid ^a	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol ^a	ND	11	ug/l	
108-95-2	Phenol	ND	5.4	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
83-32-9	Acenaphthene	ND	2.2	ug/l	
208-96-8	Acenaphthylene	ND	2.2	ug/l	
62-53-3	Aniline	ND	11	ug/l	
120-12-7	Anthracene	ND	2.2	ug/l	
92-87-5	Benzidine ^b	ND	5.4	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	
86-74-8	Carbazole	ND	2.2	ug/l	
218-01-9	Chrysene	ND	2.2	ug/l	

ND = Not detected

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:	RXGW2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-16	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.4	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.4	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.4	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.2	ug/l	
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	ug/l	
84-66-2	Diethyl phthalate	ND	5.4	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
206-44-0	Fluoranthene	ND	2.2	ug/l	
86-73-7	Fluorene	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.4	ug/l	
77-47-4	Hexachlorocyclopentadiene ^a	ND	11	ug/l	
67-72-1	Hexachloroethane	ND	5.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	
100-01-6	4-Nitroaniline	ND	11	ug/l	
91-20-3	Naphthalene	ND	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	ug/l	
85-01-8	Phenanthrene	ND	2.2	ug/l	
129-00-0	Pyrene	ND	2.2	ug/l	
110-86-1	Pyridine	ND	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.4	ug/l	

ND = Not detected

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:	RXGW2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-16	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		10-80%
4165-62-2	Phenol-d5	24%		10-72%
118-79-6	2,4,6-Tribromophenol	91%		42-134%
4165-60-0	Nitrobenzene-d5	75%		25-117%
321-60-8	2-Fluorobiphenyl	76%		24-112%
1718-51-0	Terphenyl-d14	86%		48-133%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

(b) Insufficient sample volume for re-extraction/reanalysis. Associated samples may be biased low for this compound.

ND = Not detected
 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:	RXGW2	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-16	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analized By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Arsenic	21.6	4.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Beryllium	< 4.0	4.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Cadmium	< 4.0	4.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Chromium	28.3	10	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Copper	51.2	25	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Lead	38.5	5.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Mercury	< 0.20	0.20	ug/l	1	03/18/16	03/21/16	EC	SW846 7470A ² SW846 7470A ⁴
Nickel	< 40	40	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Selenium	< 10	10	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Silver	< 5.0	5.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Thallium	< 5.0	5.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³
Zinc	758	20	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C ¹ SW846 3010A ³

(1) Instrument QC Batch: MA18982

(2) Instrument QC Batch: MA18988

(3) Prep QC Batch: MP25922

(4) Prep QC Batch: MP25932

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RXGW3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-17	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	G150527.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

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:	RXGW3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-17	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		79-127%

ND = Not detected

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:	RXGW3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-17	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		80-116%
460-00-4	4-Bromofluorobenzene	105%		77-124%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

ND = Not detected
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:	RXGW3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-17	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F84582.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
Run #2							

	Initial Volume	Final Volume
Run #1	880 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid ^a	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.7	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	23	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	23	ug/l	
87-86-5	Pentachlorophenol ^a	ND	11	ug/l	
108-95-2	Phenol	ND	5.7	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
83-32-9	Acenaphthene	ND	2.3	ug/l	
208-96-8	Acenaphthylene	ND	2.3	ug/l	
62-53-3	Aniline	ND	11	ug/l	
120-12-7	Anthracene	ND	2.3	ug/l	
92-87-5	Benzidine ^b	ND	5.7	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.3	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.3	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.3	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.3	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.7	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.7	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.7	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	
86-74-8	Carbazole	ND	2.3	ug/l	
218-01-9	Chrysene	ND	2.3	ug/l	

ND = Not detected

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:	RXGW3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-17	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	5.7	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.7	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.7	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.7	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.7	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.7	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.7	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.7	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.7	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.3	ug/l	
132-64-9	Dibenzofuran	ND	2.3	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.7	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.7	ug/l	
84-66-2	Diethyl phthalate	ND	5.7	ug/l	
131-11-3	Dimethyl phthalate	ND	5.7	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.3	ug/l	
206-44-0	Fluoranthene	ND	2.3	ug/l	
86-73-7	Fluorene	ND	2.3	ug/l	
118-74-1	Hexachlorobenzene	ND	5.7	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.7	ug/l	
77-47-4	Hexachlorocyclopentadiene ^a	ND	11	ug/l	
67-72-1	Hexachloroethane	ND	5.7	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.3	ug/l	
78-59-1	Isophorone	ND	5.7	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.3	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.3	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	
100-01-6	4-Nitroaniline	ND	11	ug/l	
91-20-3	Naphthalene	ND	2.3	ug/l	
98-95-3	Nitrobenzene	ND	5.7	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.7	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.7	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.7	ug/l	
85-01-8	Phenanthrene	ND	2.3	ug/l	
129-00-0	Pyrene	ND	2.3	ug/l	
110-86-1	Pyridine	ND	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.7	ug/l	

ND = Not detected

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:	RXGW3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-17	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D SW846 3510C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		10-80%
4165-62-2	Phenol-d5	24%		10-72%
118-79-6	2,4,6-Tribromophenol	80%		42-134%
4165-60-0	Nitrobenzene-d5	58%		25-117%
321-60-8	2-Fluorobiphenyl	56%		24-112%
1718-51-0	Terphenyl-d14	72%		48-133%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

(b) Insufficient sample volume for re-extraction/reanalysis. Associated samples may be biased low for this compound.

ND = Not detected
 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:	RXGW3	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-17	Date Received:	03/14/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony ^a	90.3	60	ug/l	10	03/16/16	03/18/16 EC	SW846 6010C ²	SW846 3010A ⁴
Arsenic	19000	40	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Beryllium	< 40	40	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Cadmium	< 40	40	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Chromium	436	100	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Copper	2380	250	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Lead	3030	50	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Mercury ^a	11.9	2.0	ug/l	10	03/18/16	03/21/16 EC	SW846 7470A ³	SW846 7470A ⁵
Nickel	628	400	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Selenium	1400	100	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Silver ^a	< 50	50	ug/l	10	03/16/16	03/18/16 EC	SW846 6010C ²	SW846 3010A ⁴
Thallium	83.7	50	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴
Zinc	5520	200	ug/l	10	03/16/16	03/17/16 EC	SW846 6010C ¹	SW846 3010A ⁴

(1) Instrument QC Batch: MA18982

(2) Instrument QC Batch: MA18987

(3) Instrument QC Batch: MA18988

(4) Prep QC Batch: MP25922

(5) Prep QC Batch: MP25932

(a) Elevated RL due to dilution required for matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TRIP	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-18	Date Received:	03/14/16
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G150514.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected

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:	TRIP	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-18	Date Received:	03/14/16
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-127%

ND = Not detected

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:	TRIP	Date Sampled:	03/11/16
Lab Sample ID:	MC44826-18	Date Received:	03/14/16
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		80-116%
460-00-4	4-Bromofluorobenzene	100%		77-124%

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

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



ACCUTEST

CHAIN OF CUSTODY

SGS Accutest of New England
50 D'Angelo Drive, Building One Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 2

Client / Reporting Information				Project Information				Requested Analysis (see TEST CODE sheet)												Matrix Codes					
Company Name Roux Associates				Project Name 100 Rochester, NY Vacuum Oil Terminal																					
Street Address 12 Gill St. Suite 4700				City 12 Flint St. x 936 Exchange																					
City Woburn, MA, 01801				Billing Information (If different from Report to)																					
Project Contact Math Casey				Company Name Roux Associates																					
E-mail mcasey@rouxinc.com				Street Address 12 Gill St.																					
Phone # 781-569-4032				City Woburn, MA 01801																					
Fax # 781-569-4032				State MA																					
Project Manager Math Casey				Attention Math Casey																					
Sampler(s) Name(s) M. Casey				PCB PCB																					
Field ID / Point of Collection				Collection				Number of preserved Bottles																	
MECH/DI Vial #				Date				Time				Sampled				Matrix									
1 RX-1				3-11-16				0950				MC SO				4									
2 RX-2				3-11-16				1030				MC SO				4									
3 RX-3				3-11-16				1100				MC SO				4									
4 RX-4				3-11-16				1120				MC SO				4									
5 RX-5				3-11-16				1230				MC SO				4									
6 RX-6				3-11-16				110				MC SO				4									
7 RX-7				3-11-16				300				MC SO				4									
8 RX-7A				3-11-16				300				MC SO				2									
9 RX-7R				3-11-16				300				MC SO				2									
10 RX-8				3-11-16				340				MC SO				4									
11 RX-8A				3-11-16				340				MC SO				2									
12 RX-8B				2-11-16				340				MC SO				2									
Data Deliverable Information																		Comments / Special Instructions							
☒ Turnaround Time (Business days) ☐ Std. 10 Business Days ☐ Std. 5 Business Days (By Contract only) ☐ 5 Day RUSH ☐ 3 Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY Emergency & Rush T/A data available VIA Lablink																		Approved By (SGS Accutest PM) / Date: 		☐ Commercial "A" (Level 1) ☐ Commercial "B" (Level 2) ☐ FULLT1 (Level 3+4) ☐ CT RCP ☐ MA MCP Commercial "A" = Results Only Commercial "B" = Results + QC Summary		☐ NYASP Category A ☐ NYASP Category B ☐ State Forms ☐ EDD Format ☐ Other 		INITIAL ASSESSMENT <u>h.a.</u>	
																		LABEL VERIFICATION <u>h.a.</u>							
Sample Custody must be documented below each time samples change possession, including courier delivery.																									
1 Relinquished By: <u>Math Casey</u>				Date Time: <u>3/14/16</u>				Received By: <u>Math Casey</u>				Date Time: <u>14/0</u>				2 Relinquished By:				Date Time:					
3 Relinquished By:				Date Time:				Received By:				Date Time:				4 Relinquished By:				Date Time:					
5 Relinquished By:				Date Time:				Received By:				Date Time:				Custody Seal #				☐ Intact Preserved where applicable ☐ Not intact		On Ice ☒ Cooler Temp: <u>3.0, 5.2</u>			

MC44826: Chain of Custody

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SGS Accutest of New England
50 D'Angelo Drive, Building One Marlborough, MA 01752
TEL: 508-481-6200 FAX: 508-481-7753
www.accutest.com

[illegible]

MC44826: Chain of Custody

Page 2 of 4

SGS Accutest Sample Receipt Summary

Job Number: MC44826

Client: ROUX

Project: ROCHESTER

Date / Time Received: 3/14/2016 2:10:00 PM

Delivery Method: DROP OFF

Airbill #s:
Cooler Temps (Initial/Adjusted): #1: (3/3); #2: (5.2/5.2);

Cooler Security
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:	IRGUN1	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	2	

Quality Control Preservation
Y
N
N/A

1. Trip Blank present / cooler:	☒	☐	
2. Trip Blank listed on COC:	☒	☐	
3. Samples preserved properly:	☒	☐	
4. VOCs headspace free:	☒	☐	☐

Comments

-5 Time on labels is "12:40" , COC is "12:30"

-6 Time on labels is "13:45" , COC is "1:10"

-15 -17 Only 1-950ML (GLASS ,NO PRE) for SVOC, PEST,PCB
1-500ML (POLY-NO PRE) submitted , no analysis req.
1-40ML (HCL) recd. For VOC (other 40ML is Non Pres)

-16 Only 1-950ML (GLASS , NO PRE) for SVOC,PEST,PCB
1-40ML (HCL) recd. For VOC (other 40ML is Non Pres)

-18 Trip Blank is 1-40ML (HCL) , COC indicates Sod Bi
(is aqueous TB)

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 rec'd within HT:	☒	☐
2. All containers accounted for:	☒	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions
Y
N
N/A

1. Analysis requested is clear:	☒	☐	
2. Bottles received for unspecified tests	☐	☒	
3. Sufficient volume rec'd for analysis:	☐	☒	
4. Compositing instructions clear:	☐	☐	☒
5. Filtering instructions clear:	☐	☐	☒

MC44826: Chain of Custody

Page 3 of 4

Sample Receipt Summary - Problem Resolution

Job Number: MC44826

CSR: Frank D'Agostino

Response Date: 3/15/2016

Response: See the email from the client

4.1
4

MC44826: Chain of Custody
Page 4 of 4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-MB	M76916.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/kg	
71-43-2	Benzene	ND	0.50	ug/kg	
108-86-1	Bromobenzene	ND	5.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	

Method Blank Summary

Page 2 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-MB	M76916.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
74-88-4	Iodomethane	ND	5.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	5.2	5.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/kg	
108-05-4	Vinyl Acetate	ND	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
	m,p-Xylene	ND	2.0	ug/kg	
95-47-6	o-Xylene	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-MB	M76916.D	1	03/16/16	KD	n/a	n/a	MSM2748

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

MC44826-11, MC44826-12, MC44826-14

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	112% 65-141%
2037-26-5	Toluene-D8	101% 65-129%
460-00-4	4-Bromofluorobenzene	101% 63-137%

Method Blank Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-MB	G150511.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-MB	G150511.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-MB	G150511.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	99% 79-127%
2037-26-5	Toluene-D8	100% 80-116%
460-00-4	4-Bromofluorobenzene	103% 77-124%

Method Blank Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-MB	M76940.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-14

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/kg	
108-86-1	Bromobenzene	ND	5.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	

Method Blank Summary

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Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-MB	M76940.D	1	03/17/16	KD	n/a	n/a	MSM2749

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

MC44826-14

CAS No.	Compound	Result	RL	Units	Q
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
74-88-4	Iodomethane	ND	5.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	ug/kg	
75-09-2	Methylene chloride	0.53	2.0	ug/kg	J
91-20-3	Naphthalene	ND	5.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/kg	
108-05-4	Vinyl Acetate	ND	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
	m,p-Xylene	ND	2.0	ug/kg	
95-47-6	o-Xylene	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	115% 65-141%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-MB	M76940.D	1	03/17/16	KD	n/a	n/a	MSM2749

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

MC44826-14

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	98% 65-129%
460-00-4	4-Bromofluorobenzene	100% 63-137%

Method Blank Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-MB	K95754.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	500	ug/kg	
71-43-2	Benzene	ND	25	ug/kg	
108-86-1	Bromobenzene	ND	250	ug/kg	
74-97-5	Bromochloromethane	ND	250	ug/kg	
75-27-4	Bromodichloromethane	ND	100	ug/kg	
75-25-2	Bromoform	ND	100	ug/kg	
74-83-9	Bromomethane	ND	100	ug/kg	
78-93-3	2-Butanone (MEK)	ND	500	ug/kg	
104-51-8	n-Butylbenzene	ND	250	ug/kg	
135-98-8	sec-Butylbenzene	ND	250	ug/kg	
98-06-6	tert-Butylbenzene	ND	250	ug/kg	
75-15-0	Carbon disulfide	ND	250	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	ug/kg	
108-90-7	Chlorobenzene	ND	100	ug/kg	
75-00-3	Chloroethane	ND	250	ug/kg	
67-66-3	Chloroform	ND	100	ug/kg	
74-87-3	Chloromethane	ND	250	ug/kg	
95-49-8	o-Chlorotoluene	ND	250	ug/kg	
106-43-4	p-Chlorotoluene	ND	250	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg	
124-48-1	Dibromochloromethane	ND	100	ug/kg	
106-93-4	1,2-Dibromoethane	ND	100	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	ug/kg	
142-28-9	1,3-Dichloropropane	ND	250	ug/kg	
594-20-7	2,2-Dichloropropane	ND	250	ug/kg	
563-58-6	1,1-Dichloropropene	ND	250	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg	

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-MB	K95754.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	100	ug/kg	
100-41-4	Ethylbenzene	ND	100	ug/kg	
87-68-3	Hexachlorobutadiene	61.3	250	ug/kg	J
591-78-6	2-Hexanone	ND	500	ug/kg	
74-88-4	Iodomethane	ND	250	ug/kg	
98-82-8	Isopropylbenzene	ND	250	ug/kg	
99-87-6	p-Isopropyltoluene	ND	250	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg	
74-95-3	Methylene bromide	ND	250	ug/kg	
75-09-2	Methylene chloride	ND	100	ug/kg	
91-20-3	Naphthalene	ND	250	ug/kg	
103-65-1	n-Propylbenzene	ND	250	ug/kg	
100-42-5	Styrene	ND	250	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg	
127-18-4	Tetrachloroethene	ND	100	ug/kg	
108-88-3	Toluene	ND	250	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	74.7	250	ug/kg	J
120-82-1	1,2,4-Trichlorobenzene	30.9	250	ug/kg	J
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg	
79-01-6	Trichloroethene	ND	100	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	250	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	ug/kg	
108-05-4	Vinyl Acetate	ND	250	ug/kg	
75-01-4	Vinyl chloride	ND	100	ug/kg	
	m,p-Xylene	ND	100	ug/kg	
95-47-6	o-Xylene	ND	100	ug/kg	
1330-20-7	Xylene (total)	ND	100	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-MB	K95754.D	1	03/17/16	TB	n/a	n/a	MSK2944

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

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	104% 65-141%
2037-26-5	Toluene-D8	94% 65-129%
460-00-4	4-Bromofluorobenzene	97% 63-137%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5628-MB	G150605.D	1	03/22/16	CB	n/a	n/a	MSG5628

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

MC44826-16

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	96% 79-127%
2037-26-5	Toluene-D8	99% 80-116%
460-00-4	4-Bromofluorobenzene	104% 77-124%

Blank Spike Summary

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Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-BS	M76914.D	1	03/16/16	KD	n/a	n/a	MSM2748

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

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	57.8	116	24-179
71-43-2	Benzene	50	49.5	99	73-115
108-86-1	Bromobenzene	50	51.6	103	76-121
74-97-5	Bromochloromethane	50	56.3	113	76-129
75-27-4	Bromodichloromethane	50	55.1	110	76-122
75-25-2	Bromoform	50	46.4	93	67-151
74-83-9	Bromomethane	50	48.6	97	52-139
78-93-3	2-Butanone (MEK)	50	56.1	112	32-151
104-51-8	n-Butylbenzene	50	51.8	104	71-124
135-98-8	sec-Butylbenzene	50	51.9	104	71-124
98-06-6	tert-Butylbenzene	50	54.8	110	66-125
75-15-0	Carbon disulfide	50	54.1	108	57-143
56-23-5	Carbon tetrachloride	50	64.2	128	73-129
108-90-7	Chlorobenzene	50	48.8	98	79-123
75-00-3	Chloroethane	50	55.4	111	51-159
67-66-3	Chloroform	50	56.7	113	72-122
74-87-3	Chloromethane	50	52.7	105	57-143
95-49-8	o-Chlorotoluene	50	52.5	105	68-121
106-43-4	p-Chlorotoluene	50	52.8	106	68-119
96-12-8	1,2-Dibromo-3-chloropropane	50	45.9	92	52-132
124-48-1	Dibromochloromethane	50	49.6	99	74-139
106-93-4	1,2-Dibromoethane	50	46.4	93	76-130
95-50-1	1,2-Dichlorobenzene	50	50.1	100	73-122
541-73-1	1,3-Dichlorobenzene	50	51.4	103	74-119
106-46-7	1,4-Dichlorobenzene	50	51.8	104	75-118
75-71-8	Dichlorodifluoromethane	50	52.3	105	11-183
75-34-3	1,1-Dichloroethane	50	55.0	110	70-128
107-06-2	1,2-Dichloroethane	50	60.9	122	70-126
75-35-4	1,1-Dichloroethene	50	51.3	103	71-136
156-59-2	cis-1,2-Dichloroethene	50	53.2	106	78-128
156-60-5	trans-1,2-Dichloroethene	50	47.0	94	71-131
78-87-5	1,2-Dichloropropane	50	50.6	101	79-124
142-28-9	1,3-Dichloropropane	50	51.1	102	78-128
594-20-7	2,2-Dichloropropane	50	57.1	114	54-145
563-58-6	1,1-Dichloropropene	50	52.6	105	67-125
10061-01-5	cis-1,3-Dichloropropene	50	50.6	101	75-126

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-BS	M76914.D	1	03/16/16	KD	n/a	n/a	MSM2748

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

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	49.6	99	75-128
100-41-4	Ethylbenzene	50	47.7	95	76-122
87-68-3	Hexachlorobutadiene	50	52.4	105	73-137
591-78-6	2-Hexanone	50	47.7	95	26-169
74-88-4	Iodomethane	50	60.2	120	70-142
98-82-8	Isopropylbenzene	50	52.4	105	69-124
99-87-6	p-Isopropyltoluene	50	53.3	107	73-124
1634-04-4	Methyl Tert Butyl Ether	50	48.5	97	58-133
108-10-1	4-Methyl-2-pentanone (MIBK)	50	40.9	82	43-166
74-95-3	Methylene bromide	50	52.9	106	76-125
75-09-2	Methylene chloride	50	47.5	95	74-125
91-20-3	Naphthalene	50	43.3	87	39-158
103-65-1	n-Propylbenzene	50	50.3	101	69-121
100-42-5	Styrene	50	44.5	89	79-124
630-20-6	1,1,1,2-Tetrachloroethane	50	51.7	103	75-136
79-34-5	1,1,2,2-Tetrachloroethane	50	49.3	99	66-134
127-18-4	Tetrachloroethene	50	46.7	93	76-125
108-88-3	Toluene	50	63.4	127* a	76-119
87-61-6	1,2,3-Trichlorobenzene	50	48.6	97	52-146
120-82-1	1,2,4-Trichlorobenzene	50	47.4	95	66-133
71-55-6	1,1,1-Trichloroethane	50	61.8	124	70-130
79-00-5	1,1,2-Trichloroethane	50	49.0	98	75-124
79-01-6	Trichloroethene	50	52.2	104	74-127
75-69-4	Trichlorofluoromethane	50	62.4	125	48-156
96-18-4	1,2,3-Trichloropropane	50	48.6	97	65-130
95-63-6	1,2,4-Trimethylbenzene	50	51.8	104	69-119
108-67-8	1,3,5-Trimethylbenzene	50	55.3	111	69-123
108-05-4	Vinyl Acetate	50	51.0	102	10-200
75-01-4	Vinyl chloride	50	48.3	97	33-166
	m,p-Xylene	100	95.5	96	78-122
95-47-6	o-Xylene	50	46.9	94	77-123
1330-20-7	Xylene (total)	150	142	95	78-122

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-BS	M76914.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	110%	65-141%
2037-26-5	Toluene-D8	99%	65-129%
460-00-4	4-Bromofluorobenzene	102%	63-137%

(a) Outside control limits. Associated samples are less than the RL for this compound.

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 3

Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-BS	M76938.D	1	03/17/16	KD	n/a	n/a	MSM2749

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

MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	49.1	98	73-115
108-86-1	Bromobenzene	50	53.0	106	76-121
74-97-5	Bromochloromethane	50	55.6	111	76-129
75-27-4	Bromodichloromethane	50	56.1	112	76-122
75-25-2	Bromoform	50	53.0	106	67-151
74-83-9	Bromomethane	50	46.6	93	52-139
78-93-3	2-Butanone (MEK)	50	56.1	112	32-151
104-51-8	n-Butylbenzene	50	50.8	102	71-124
135-98-8	sec-Butylbenzene	50	51.8	104	71-124
98-06-6	tert-Butylbenzene	50	55.5	111	66-125
75-15-0	Carbon disulfide	50	57.7	115	57-143
56-23-5	Carbon tetrachloride	50	60.4	121	73-129
108-90-7	Chlorobenzene	50	50.2	100	79-123
75-00-3	Chloroethane	50	45.7	91	51-159
67-66-3	Chloroform	50	56.7	113	72-122
74-87-3	Chloromethane	50	44.7	89	57-143
95-49-8	o-Chlorotoluene	50	53.2	106	68-121
106-43-4	p-Chlorotoluene	50	53.8	108	68-119
96-12-8	1,2-Dibromo-3-chloropropane	50	54.8	110	52-132
124-48-1	Dibromochloromethane	50	54.6	109	74-139
106-93-4	1,2-Dibromoethane	50	51.7	103	76-130
95-50-1	1,2-Dichlorobenzene	50	51.4	103	73-122
541-73-1	1,3-Dichlorobenzene	50	52.3	105	74-119
106-46-7	1,4-Dichlorobenzene	50	53.2	106	75-118
75-71-8	Dichlorodifluoromethane	50	43.0	86	11-183
75-34-3	1,1-Dichloroethane	50	55.9	112	70-128
107-06-2	1,2-Dichloroethane	50	62.6	125	70-126
75-35-4	1,1-Dichloroethene	50	53.0	106	71-136
156-59-2	cis-1,2-Dichloroethene	50	50.6	101	78-128
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	71-131
78-87-5	1,2-Dichloropropane	50	50.6	101	79-124
142-28-9	1,3-Dichloropropane	50	53.6	107	78-128
594-20-7	2,2-Dichloropropane	50	57.2	114	54-145
563-58-6	1,1-Dichloropropene	50	54.1	108	67-125
10061-01-5	cis-1,3-Dichloropropene	50	52.2	104	75-126
10061-02-6	trans-1,3-Dichloropropene	50	55.5	111	75-128

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-BS	M76938.D	1	03/17/16	KD	n/a	n/a	MSM2749

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

MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
100-41-4	Ethylbenzene	50	48.3	97	76-122
87-68-3	Hexachlorobutadiene	50	50.2	100	73-137
591-78-6	2-Hexanone	50	48.4	97	26-169
74-88-4	Iodomethane	50	45.1	90	70-142
98-82-8	Isopropylbenzene	50	52.4	105	69-124
99-87-6	p-Isopropyltoluene	50	52.6	105	73-124
1634-04-4	Methyl Tert Butyl Ether	50	52.9	106	58-133
108-10-1	4-Methyl-2-pentanone (MIBK)	50	46.8	94	43-166
74-95-3	Methylene bromide	50	55.0	110	76-125
75-09-2	Methylene chloride	50	47.8	96	74-125
91-20-3	Naphthalene	50	50.7	101	39-158
103-65-1	n-Propylbenzene	50	51.3	103	69-121
100-42-5	Styrene	50	48.5	97	79-124
630-20-6	1,1,1,2-Tetrachloroethane	50	52.4	105	75-136
79-34-5	1,1,2,2-Tetrachloroethane	50	54.3	109	66-134
127-18-4	Tetrachloroethene	50	48.6	97	76-125
108-88-3	Toluene	50	48.5	97	76-119
87-61-6	1,2,3-Trichlorobenzene	50	49.5	99	52-146
120-82-1	1,2,4-Trichlorobenzene	50	48.0	96	66-133
71-55-6	1,1,1-Trichloroethane	50	58.3	117	70-130
79-00-5	1,1,2-Trichloroethane	50	51.1	102	75-124
79-01-6	Trichloroethene	50	51.1	102	74-127
75-69-4	Trichlorofluoromethane	50	58.1	116	48-156
96-18-4	1,2,3-Trichloropropane	50	56.4	113	65-130
95-63-6	1,2,4-Trimethylbenzene	50	52.7	105	69-119
108-67-8	1,3,5-Trimethylbenzene	50	52.8	106	69-123
108-05-4	Vinyl Acetate	50	54.9	110	10-200
75-01-4	Vinyl chloride	50	37.8	76	33-166
	m,p-Xylene	100	97.2	97	78-122
95-47-6	o-Xylene	50	48.1	96	77-123
1330-20-7	Xylene (total)	150	145	97	78-122

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	65-141%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-BS	M76938.D	1	03/17/16	KD	n/a	n/a	MSM2749

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

MC44826-14

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	97%	65-129%
460-00-4	4-Bromofluorobenzene	102%	63-137%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-BS	G150507.D	1	03/17/16	CB	n/a	n/a	MSG5625
MSG5625-BSD	G150508.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	68.2	136	68.0	136	0	10-200/25
71-43-2	Benzene	50	48.7	97	48.1	96	1	74-124/25
108-86-1	Bromobenzene	50	52.9	106	52.1	104	2	80-117/25
74-97-5	Bromochloromethane	50	51.2	102	51.0	102	0	73-130/25
75-27-4	Bromodichloromethane	50	54.2	108	53.3	107	2	76-136/25
75-25-2	Bromoform	50	56.5	113	55.8	112	1	63-139/25
74-83-9	Bromomethane	50	54.7	109	55.1	110	1	49-161/25
78-93-3	2-Butanone (MEK)	50	69.0	138	67.6	135	2	44-191/25
104-51-8	n-Butylbenzene	50	56.6	113	56.6	113	0	84-134/25
135-98-8	sec-Butylbenzene	50	55.5	111	55.9	112	1	76-125/25
98-06-6	tert-Butylbenzene	50	56.2	112	56.2	112	0	74-123/25
75-15-0	Carbon disulfide	50	60.0	120	60.8	122	1	45-138/25
56-23-5	Carbon tetrachloride	50	65.8	132	64.7	129	2	64-149/25
108-90-7	Chlorobenzene	50	52.4	105	52.1	104	1	73-114/25
75-00-3	Chloroethane	50	51.6	103	52.4	105	2	43-165/25
67-66-3	Chloroform	50	52.9	106	51.8	104	2	72-132/25
74-87-3	Chloromethane	50	61.1	122	61.1	122	0	30-173/25
95-49-8	o-Chlorotoluene	50	53.1	106	53.1	106	0	75-116/25
106-43-4	p-Chlorotoluene	50	51.7	103	51.7	103	0	78-116/25
96-12-8	1,2-Dibromo-3-chloropropane	50	58.8	118	57.0	114	3	50-157/25
124-48-1	Dibromochloromethane	50	52.2	104	51.2	102	2	75-133/25
106-93-4	1,2-Dibromoethane	50	52.0	104	51.2	102	2	72-133/25
95-50-1	1,2-Dichlorobenzene	50	53.0	106	53.0	106	0	73-122/25
541-73-1	1,3-Dichlorobenzene	50	53.1	106	52.9	106	0	76-117/25
106-46-7	1,4-Dichlorobenzene	50	52.9	106	52.8	106	0	74-120/25
75-71-8	Dichlorodifluoromethane	50	80.8	162	87.9	176	8	30-180/25
75-34-3	1,1-Dichloroethane	50	50.3	101	50.1	100	0	62-130/25
107-06-2	1,2-Dichloroethane	50	59.1	118	57.6	115	3	65-140/25
75-35-4	1,1-Dichloroethene	50	47.7	95	47.9	96	0	57-132/25
156-59-2	cis-1,2-Dichloroethene	50	53.5	107	52.3	105	2	72-131/25
156-60-5	trans-1,2-Dichloroethene	50	48.3	97	48.1	96	0	69-127/25
78-87-5	1,2-Dichloropropane	50	51.3	103	51.5	103	0	74-130/25
142-28-9	1,3-Dichloropropane	50	53.2	106	51.0	102	4	80-129/25
594-20-7	2,2-Dichloropropane	50	61.0	122	59.9	120	2	54-162/25
563-58-6	1,1-Dichloropropene	50	55.0	110	54.4	109	1	75-116/25
10061-01-5	cis-1,3-Dichloropropene	50	50.2	100	49.0	98	2	86-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-BS	G150507.D	1	03/17/16	CB	n/a	n/a	MSG5625
MSG5625-BSD	G150508.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	49.9	100	48.7	97	2	80-134/25
100-41-4	Ethylbenzene	50	52.7	105	52.0	104	1	76-125/25
87-68-3	Hexachlorobutadiene	50	76.8	154	77.8	156* a	1	64-154/25
591-78-6	2-Hexanone	50	76.8	154	74.4	149	3	35-200/25
74-88-4	Iodomethane	50	51.3	103	50.6	101	1	50-154/25
98-82-8	Isopropylbenzene	50	52.9	106	52.7	105	0	74-121/25
99-87-6	p-Isopropyltoluene	50	55.9	112	56.5	113	1	84-128/25
1634-04-4	Methyl Tert Butyl Ether	50	51.5	103	50.9	102	1	67-145/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	54.9	110	53.3	107	3	61-155/25
74-95-3	Methylene bromide	50	53.5	107	53.2	106	1	75-124/25
75-09-2	Methylene chloride	50	48.7	97	48.8	98	0	62-137/25
91-20-3	Naphthalene	50	65.1	130	65.3	131	0	24-164/25
103-65-1	n-Propylbenzene	50	51.6	103	51.8	104	0	76-120/25
100-42-5	Styrene	50	50.3	101	49.4	99	2	74-132/25
630-20-6	1,1,1,2-Tetrachloroethane	50	56.9	114	55.6	111	2	71-136/25
79-34-5	1,1,2,2-Tetrachloroethane	50	47.2	94	46.7	93	1	65-145/25
127-18-4	Tetrachloroethene	50	56.1	112	55.8	112	1	73-122/25
108-88-3	Toluene	50	52.6	105	52.3	105	1	80-122/25
87-61-6	1,2,3-Trichlorobenzene	50	86.4	173* a	89.0	178* a	3	33-170/25
120-82-1	1,2,4-Trichlorobenzene	50	70.1	140	69.8	140	0	43-159/25
71-55-6	1,1,1-Trichloroethane	50	66.4	133	65.1	130	2	68-137/25
79-00-5	1,1,2-Trichloroethane	50	51.4	103	50.4	101	2	76-134/25
79-01-6	Trichloroethene	50	54.1	108	52.7	105	3	80-125/25
75-69-4	Trichlorofluoromethane	50	84.1	168* a	73.6	147	13	56-166/25
96-18-4	1,2,3-Trichloropropane	50	49.1	98	48.9	98	0	65-147/25
95-63-6	1,2,4-Trimethylbenzene	50	54.5	109	54.8	110	1	79-124/25
108-67-8	1,3,5-Trimethylbenzene	50	57.5	115	57.2	114	1	80-130/25
108-05-4	Vinyl Acetate	50	49.9	100	49.5	99	1	72-200/25
75-01-4	Vinyl chloride	50	62.3	125	58.4	117	6	39-176/25
	m,p-Xylene	100	101	101	101	101	0	75-121/25
95-47-6	o-Xylene	50	50.9	102	50.4	101	1	71-123/25
1330-20-7	Xylene (total)	150	152	101	152	101	0	74-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-BS	G150507.D	1	03/17/16	CB	n/a	n/a	MSG5625
MSG5625-BSD	G150508.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	100%	79-127%
2037-26-5	Toluene-D8	99%	100%	80-116%
460-00-4	4-Bromofluorobenzene	100%	101%	77-124%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-BS	K95751.D	1	03/17/16	TB	n/a	n/a	MSK2944
MSK2944-BSD	K95752.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2850	114	2820	113	1	24-179/25
71-43-2	Benzene	2500	2250	90	2150	86	5	73-115/25
108-86-1	Bromobenzene	2500	2460	98	2210	88	11	76-121/25
74-97-5	Bromochloromethane	2500	2510	100	2350	94	7	76-129/25
75-27-4	Bromodichloromethane	2500	2310	92	2180	87	6	76-122/25
75-25-2	Bromoform	2500	2460	98	2260	90	8	67-151/25
74-83-9	Bromomethane	2500	1800	72	1960	78	9	52-139/25
78-93-3	2-Butanone (MEK)	2500	5700	228* a	6050	242* a	6	32-151/25
104-51-8	n-Butylbenzene	2500	2350	94	2180	87	8	71-124/25
135-98-8	sec-Butylbenzene	2500	2290	92	2120	85	8	71-124/25
98-06-6	tert-Butylbenzene	2500	2250	90	2090	84	7	66-125/25
75-15-0	Carbon disulfide	2500	2480	99	2430	97	2	57-143/25
56-23-5	Carbon tetrachloride	2500	2110	84	2150	86	2	73-129/25
108-90-7	Chlorobenzene	2500	2240	90	2160	86	4	79-123/25
75-00-3	Chloroethane	2500	2120	85	2300	92	8	51-159/25
67-66-3	Chloroform	2500	2230	89	2140	86	4	72-122/25
74-87-3	Chloromethane	2500	1930	77	1890	76	2	57-143/25
95-49-8	o-Chlorotoluene	2500	2330	93	2130	85	9	68-121/25
106-43-4	p-Chlorotoluene	2500	2380	95	2160	86	10	68-119/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2090	84	1860	74	12	52-132/25
124-48-1	Dibromochloromethane	2500	2380	95	2180	87	9	74-139/25
106-93-4	1,2-Dibromoethane	2500	2410	96	2290	92	5	76-130/25
95-50-1	1,2-Dichlorobenzene	2500	2330	93	2090	84	11	73-122/25
541-73-1	1,3-Dichlorobenzene	2500	2320	93	2110	84	9	74-119/25
106-46-7	1,4-Dichlorobenzene	2500	2320	93	2120	85	9	75-118/25
75-71-8	Dichlorodifluoromethane	2500	1830	73	1720	69	6	11-183/25
75-34-3	1,1-Dichloroethane	2500	2210	88	2130	85	4	70-128/25
107-06-2	1,2-Dichloroethane	2500	2330	93	2170	87	7	70-126/25
75-35-4	1,1-Dichloroethene	2500	2720	109	2170	87	22	71-136/25
156-59-2	cis-1,2-Dichloroethene	2500	2410	96	2340	94	3	78-128/25
156-60-5	trans-1,2-Dichloroethene	2500	2180	87	2130	85	2	71-131/25
78-87-5	1,2-Dichloropropane	2500	2350	94	2220	89	6	79-124/25
142-28-9	1,3-Dichloropropane	2500	2420	97	2290	92	6	78-128/25
594-20-7	2,2-Dichloropropane	2500	2070	83	1980	79	4	54-145/25
563-58-6	1,1-Dichloropropene	2500	2320	93	2210	88	5	67-125/25
10061-01-5	cis-1,3-Dichloropropene	2500	2470	99	2330	93	6	75-126/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-BS	K95751.D	1	03/17/16	TB	n/a	n/a	MSK2944
MSK2944-BSD	K95752.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	2500	2330	93	2170	87	7	75-128/25
100-41-4	Ethylbenzene	2500	2190	88	2110	84	4	76-122/25
87-68-3	Hexachlorobutadiene	2500	2120	85	2020	81	5	73-137/25
591-78-6	2-Hexanone	2500	2070	83	2060	82	0	26-169/25
74-88-4	Iodomethane	2500	2260	90	2700	108	18	70-142/25
98-82-8	Isopropylbenzene	2500	2340	94	2100	84	11	69-124/25
99-87-6	p-Isopropyltoluene	2500	2300	92	2170	87	6	73-124/25
1634-04-4	Methyl Tert Butyl Ether	2500	2250	90	2140	86	5	58-133/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2510	100	2260	90	10	43-166/25
74-95-3	Methylene bromide	2500	2450	98	2330	93	5	76-125/25
75-09-2	Methylene chloride	2500	2260	90	2210	88	2	74-125/25
91-20-3	Naphthalene	2500	1790	72	1650	66	8	39-158/25
103-65-1	n-Propylbenzene	2500	2340	94	2130	85	9	69-121/25
100-42-5	Styrene	2500	2260	90	2210	88	2	79-124/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	2270	91	2200	88	3	75-136/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2460	98	2250	90	9	66-134/25
127-18-4	Tetrachloroethene	2500	2120	85	2050	82	3	76-125/25
108-88-3	Toluene	2500	2240	90	2180	87	3	76-119/25
87-61-6	1,2,3-Trichlorobenzene	2500	1780	71	1700	68	5	52-146/25
120-82-1	1,2,4-Trichlorobenzene	2500	1880	75	1740	70	8	66-133/25
71-55-6	1,1,1-Trichloroethane	2500	2280	91	2160	86	5	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2430	97	2290	92	6	75-124/25
79-01-6	Trichloroethene	2500	2180	87	2090	84	4	74-127/25
75-69-4	Trichlorofluoromethane	2500	2160	86	2170	87	0	48-156/25
96-18-4	1,2,3-Trichloropropane	2500	2540	102	2210	88	14	65-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2290	92	2100	84	9	69-119/25
108-67-8	1,3,5-Trimethylbenzene	2500	2350	94	2190	88	7	69-123/25
108-05-4	Vinyl Acetate	2500	2540	102	2370	95	7	10-200/25
75-01-4	Vinyl chloride	2500	1980	79	1860	74	6	33-166/25
	m,p-Xylene	5000	4360	87	4230	85	3	78-122/25
95-47-6	o-Xylene	2500	2050	82	2030	81	1	77-123/25
1330-20-7	Xylene (total)	7500	6410	85	6260	83	2	78-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-BS	K95751.D	1	03/17/16	TB	n/a	n/a	MSK2944
MSK2944-BSD	K95752.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	96%	98%	65-141%
2037-26-5	Toluene-D8	101%	101%	65-129%
460-00-4	4-Bromofluorobenzene	103%	98%	63-137%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5628-BS	G150601.D	1	03/22/16	CB	n/a	n/a	MSG5628
MSG5628-BSD	G150602.D	1	03/22/16	CB	n/a	n/a	MSG5628

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	62.3	125	58.0	116	7	10-200/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	97%	95%	79-127%
2037-26-5	Toluene-D8	99%	99%	80-116%
460-00-4	4-Bromofluorobenzene	101%	102%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44826-11MS	M76930.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11MSD	M76931.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	MC44826-11 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits	
		ug/kg	Q	ug/kg	ug/kg						%
67-64-1	Acetone	ND		57.8	70.8	123	59.6	81.2	136	14	10-200/30
71-43-2	Benzene	ND		57.8	42.1	73	59.6	36.6	61	14	38-135/30
108-86-1	Bromobenzene	ND		57.8	25.2	44	59.6	13.1	22*	63*	26-150/30
74-97-5	Bromochloromethane	ND		57.8	43.3	75	59.6	39.1	66	10	51-140/30
75-27-4	Bromodichloromethane	ND		57.8	43.9	76	59.6	36.1	61	20	45-136/30
75-25-2	Bromoform	ND		57.8	27.2	47	59.6	21.4	36*	24	42-150/30
74-83-9	Bromomethane	ND		57.8	48.5	84	59.6	45.6	76	6	20-159/30
78-93-3	2-Butanone (MEK)	ND		57.8	64.4	111	59.6	61.4	103	5	10-187/30
104-51-8	n-Butylbenzene	ND		57.8	28.1	49	59.6	15.6	26	57*	12-162/30
135-98-8	sec-Butylbenzene	ND		57.8	43.4	75	59.6	24.9	42	54*	24-152/30
98-06-6	tert-Butylbenzene	ND		57.8	52.8	91	59.6	31.4	53	51*	25-151/30
75-15-0	Carbon disulfide	ND		57.8	40.5	70	59.6	35.6	60	13	29-157/30
56-23-5	Carbon tetrachloride	ND		57.8	59.6	103	59.6	51.9	87	14	42-148/30
108-90-7	Chlorobenzene	ND		57.8	26.1	45	59.6	19.2	32*	30	33-148/30
75-00-3	Chloroethane	ND		57.8	53.1	92	59.6	48.4	81	9	32-162/30
67-66-3	Chloroform	0.68		57.8	49.1	84	59.6	43.6	72	12	46-136/30
74-87-3	Chloromethane	ND		57.8	50.7	88	59.6	44.6	75	13	33-152/30
95-49-8	o-Chlorotoluene	ND		57.8	34.8	60	59.6	18.6	31	61*	21-154/30
106-43-4	p-Chlorotoluene	ND		57.8	25.9	45	59.6	13.0	22	66*	21-146/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		57.8	30.7	53	59.6	19.7	33	44*	18-153/30
124-48-1	Dibromochloromethane	ND		57.8	35.6	62	59.6	27.6	46	25	46-147/30
106-93-4	1,2-Dibromoethane	ND		57.8	30.5	53	59.6	23.7	40*	25	42-147/30
95-50-1	1,2-Dichlorobenzene	ND		57.8	17.5	30	59.6	8.3	14*	71*	17-148/30
541-73-1	1,3-Dichlorobenzene	ND		57.8	18.7	32	59.6	8.9	15*	71*	20-146/30
106-46-7	1,4-Dichlorobenzene	ND		57.8	16.3	28	59.6	7.6	13*	73*	16-151/30
75-71-8	Dichlorodifluoromethane	ND		57.8	50.6	88	59.6	44.1	74	14	10-186/30
75-34-3	1,1-Dichloroethane	ND		57.8	50.8	88	59.6	46.1	77	10	49-134/30
107-06-2	1,2-Dichloroethane	ND		57.8	47.7	83	59.6	40.6	68	16	46-135/30
75-35-4	1,1-Dichloroethene	ND		57.8	49.2	85	59.6	45.4	76	8	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND		57.8	41.2	71	59.6	35.9	60	14	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND		57.8	37.3	65	59.6	33.8	57	10	44-145/30
78-87-5	1,2-Dichloropropane	ND		57.8	44.5	77	59.6	37.6	63	17	48-138/30
142-28-9	1,3-Dichloropropane	ND		57.8	37.0	64	59.6	30.6	51	19	42-150/30
594-20-7	2,2-Dichloropropane	ND		57.8	52.8	91	59.6	48.5	81	8	27-154/30
563-58-6	1,1-Dichloropropene	ND		57.8	43.7	76	59.6	37.5	63	15	38-142/30
10061-01-5	cis-1,3-Dichloropropene	ND		57.8	30.6	53	59.6	24.5	41	22	34-149/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44826-11MS	M76930.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11MSD	M76931.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	MC44826-11 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits	
		ug/kg	Q	ug/kg	ug/kg						%
10061-02-6	trans-1,3-Dichloropropene	ND		57.8	24.4	42	59.6	18.6	31	27	28-151/30
100-41-4	Ethylbenzene	ND		57.8	34.1	59	59.6	25.9	43	27	32-150/30
87-68-3	Hexachlorobutadiene	ND		57.8	31.3	54	59.6	15.6	26	67*	10-173/30
591-78-6	2-Hexanone	ND		57.8	46.4	80	59.6	42.9	72	8	10-184/30
74-88-4	Iodomethane	ND		57.8	49.4	85	59.6	39.5	66	22	37-159/30
98-82-8	Isopropylbenzene	ND		57.8	50.5	87	59.6	30.2	51	50*	29-152/30
99-87-6	p-Isopropyltoluene	ND		57.8	39.6	69	59.6	22.6	38	55*	23-155/30
1634-04-4	Methyl Tert Butyl Ether	ND		57.8	46.8	81	59.6	44.0	74	6	42-142/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		57.8	39.3	68	59.6	36.1	61	8	35-164/30
74-95-3	Methylene bromide	ND		57.8	37.0	64	59.6	30.9	52	18	48-137/30
75-09-2	Methylene chloride	60.0		57.8	114	93	59.6	104	74	9	48-140/30
91-20-3	Naphthalene	ND		57.8	6.7	12	59.6	3.2	5*	71*	10-168/30
103-65-1	n-Propylbenzene	ND		57.8	38.5	67	59.6	22.2	37	54*	25-149/30
100-42-5	Styrene	ND		57.8	17.2	30	59.6	11.6	19	39*	17-160/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		57.8	41.7	72	59.6	32.9	55	24	42-156/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		57.8	45.8	79	59.6	28.3	47	47*	30-157/30
127-18-4	Tetrachloroethene	ND		57.8	37.8	65	59.6	30.7	51	21	40-146/30
108-88-3	Toluene	4.0	JB	57.8	41.0	64	59.6	31.8	47	25	33-145/30
87-61-6	1,2,3-Trichlorobenzene	ND		57.8	6.9	12	59.6	3.1	5*	76*	10-144/30
120-82-1	1,2,4-Trichlorobenzene	ND		57.8	6.7	12	59.6	2.8	5*	82*	10-154/30
71-55-6	1,1,1-Trichloroethane	ND		57.8	57.0	99	59.6	52.0	87	9	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		57.8	37.9	66	59.6	31.5	53	18	40-148/30
79-01-6	Trichloroethene	42.5		57.8	161	205* a	59.6	120	130	29	36-155/30
75-69-4	Trichlorofluoromethane	ND		57.8	60.2	104	59.6	56.3	94	7	26-164/30
96-18-4	1,2,3-Trichloropropane	ND		57.8	38.3	66	59.6	24.4	41	44*	34-148/30
95-63-6	1,2,4-Trimethylbenzene	ND		57.8	35.6	62	59.6	18.9	32	61*	18-154/30
108-67-8	1,3,5-Trimethylbenzene	ND		57.8	45.1	78	59.6	25.1	42	57*	21-156/30
108-05-4	Vinyl Acetate	ND		57.8	ND	0*	59.6	ND	0*	nc	10-200/30
75-01-4	Vinyl chloride	ND		57.8	45.8	79	59.6	39.5	66	15	11-183/30
	m,p-Xylene	ND		116	64.6	56	119	48.8	41	28	34-149/30
95-47-6	o-Xylene	ND		57.8	32.0	55	59.6	23.8	40	29	27-156/30
1330-20-7	Xylene (total)	ND		173	96.6	56	179	72.5	41	29	33-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44826-11MS	M76930.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11MSD	M76931.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-11 Limits	
1868-53-7	Dibromofluoromethane	107%	108%	116%	65-141%
2037-26-5	Toluene-D8	99%	97%	99%	65-129%
460-00-4	4-Bromofluorobenzene	117%	106%	102%	63-137%

(a) Outside control limits due to possible sample inhomogeneity or matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44795-3MS	M76943.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3MSD	M76944.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3	M76941.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-14

CAS No.	Compound	MC44795-3 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	57.9	47.0	81	58.3	53.7	92	13	38-135/30
108-86-1	Bromobenzene	ND	57.9	47.7	82	58.3	55.3	95	15	26-150/30
74-97-5	Bromochloromethane	ND	57.9	54.1	94	58.3	58.7	101	8	51-140/30
75-27-4	Bromodichloromethane	ND	57.9	51.8	90	58.3	56.2	96	8	45-136/30
75-25-2	Bromoform	ND	57.9	47.2	82	58.3	51.4	88	9	42-150/30
74-83-9	Bromomethane	ND	57.9	48.7	84	58.3	54.0	93	10	20-159/30
78-93-3	2-Butanone (MEK)	ND	57.9	76.9	133	58.3	87.3	150	13	10-187/30
104-51-8	n-Butylbenzene	ND	57.9	42.9	74	58.3	53.0	91	21	12-162/30
135-98-8	sec-Butylbenzene	ND	57.9	45.6	79	58.3	58.4	100	25	24-152/30
98-06-6	tert-Butylbenzene	ND	57.9	48.7	84	58.3	64.0	110	27	25-151/30
75-15-0	Carbon disulfide	ND	57.9	48.8	84	58.3	53.9	92	10	29-157/30
56-23-5	Carbon tetrachloride	ND	57.9	56.3	97	58.3	65.4	112	15	42-148/30
108-90-7	Chlorobenzene	ND	57.9	45.8	79	58.3	52.0	89	13	33-148/30
75-00-3	Chloroethane	ND	57.9	52.1	90	58.3	58.5	100	12	32-162/30
67-66-3	Chloroform	ND	57.9	52.1	90	58.3	58.4	100	11	46-136/30
74-87-3	Chloromethane	ND	57.9	45.4	78	58.3	49.9	86	9	33-152/30
95-49-8	o-Chlorotoluene	ND	57.9	46.8	81	58.3	58.2	100	22	21-154/30
106-43-4	p-Chlorotoluene	ND	57.9	46.8	81	58.3	55.0	94	16	21-146/30
96-12-8	1,2-Dibromo-3-chloropropane	ND	57.9	48.4	84	58.3	55.8	96	14	18-153/30
124-48-1	Dibromochloromethane	ND	57.9	49.4	85	58.3	55.4	95	11	46-147/30
106-93-4	1,2-Dibromoethane	ND	57.9	49.1	85	58.3	53.0	91	8	42-147/30
95-50-1	1,2-Dichlorobenzene	ND	57.9	43.5	75	58.3	49.8	85	14	17-148/30
541-73-1	1,3-Dichlorobenzene	ND	57.9	43.6	75	58.3	50.4	86	14	20-146/30
106-46-7	1,4-Dichlorobenzene	ND	57.9	44.5	77	58.3	49.6	85	11	16-151/30
75-71-8	Dichlorodifluoromethane	ND	57.9	41.9	72	58.3	44.6	76	6	10-186/30
75-34-3	1,1-Dichloroethane	ND	57.9	50.5	87	58.3	57.6	99	13	49-134/30
107-06-2	1,2-Dichloroethane	ND	57.9	56.4	97	58.3	61.2	105	8	46-135/30
75-35-4	1,1-Dichloroethene	ND	57.9	50.3	87	58.3	56.5	97	12	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND	57.9	49.5	86	58.3	55.6	95	12	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND	57.9	44.6	77	58.3	50.1	86	12	44-145/30
78-87-5	1,2-Dichloropropane	ND	57.9	48.4	84	58.3	54.5	93	12	48-138/30
142-28-9	1,3-Dichloropropane	ND	57.9	51.6	89	58.3	58.1	100	12	42-150/30
594-20-7	2,2-Dichloropropane	ND	57.9	51.6	89	58.3	59.0	101	13	27-154/30
563-58-6	1,1-Dichloropropene	ND	57.9	49.3	85	58.3	56.1	96	13	38-142/30
10061-01-5	cis-1,3-Dichloropropene	ND	57.9	46.8	81	58.3	50.1	86	7	34-149/30
10061-02-6	trans-1,3-Dichloropropene	ND	57.9	46.0	80	58.3	47.0	81	2	28-151/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44795-3MS	M76943.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3MSD	M76944.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3	M76941.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-14

CAS No.	Compound	MC44795-3		Spike	MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/kg	Q	ug/kg	ug/kg	%	ug/kg	ug/kg	%		Rec/RPD
100-41-4	Ethylbenzene	ND		57.9	45.2	78	58.3	53.4	92	17	32-150/30
87-68-3	Hexachlorobutadiene	ND		57.9	35.1	61	58.3	47.5	81	30	10-173/30
591-78-6	2-Hexanone	ND		57.9	66.9	116	58.3	72.2	124	8	10-184/30
74-88-4	Iodomethane	ND		57.9	50.5	87	58.3	58.1	100	14	37-159/30
98-82-8	Isopropylbenzene	ND		57.9	49.7	86	58.3	62.8	108	23	29-152/30
99-87-6	p-Isopropyltoluene	ND		57.9	46.4	80	58.3	58.8	101	24	23-155/30
1634-04-4	Methyl Tert Butyl Ether	ND		57.9	48.6	84	58.3	53.8	92	10	42-142/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		57.9	48.6	84	58.3	52.9	91	8	35-164/30
74-95-3	Methylene bromide	ND		57.9	51.6	89	58.3	55.8	96	8	48-137/30
75-09-2	Methylene chloride	1.5	JB	57.9	45.8	77	58.3	52.5	87	14	48-140/30
91-20-3	Naphthalene	ND		57.9	38.2	66	58.3	38.6	66	1	10-168/30
103-65-1	n-Propylbenzene	ND		57.9	46.1	80	58.3	57.4	98	22	25-149/30
100-42-5	Styrene	ND		57.9	41.3	71	58.3	46.1	79	11	17-160/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		57.9	48.7	84	58.3	57.6	99	17	42-156/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		57.9	53.6	93	58.3	63.7	109	17	30-157/30
127-18-4	Tetrachloroethene	ND		57.9	45.4	78	58.3	54.1	93	17	40-146/30
108-88-3	Toluene	2.0	J	57.9	48.4	80	58.3	63.6	106	27	33-145/30
87-61-6	1,2,3-Trichlorobenzene	ND		57.9	34.9	60	58.3	36.0	62	3	10-144/30
120-82-1	1,2,4-Trichlorobenzene	ND		57.9	34.0	59	58.3	35.7	61	5	10-154/30
71-55-6	1,1,1-Trichloroethane	ND		57.9	55.3	96	58.3	62.9	108	13	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		57.9	49.6	86	58.3	53.3	91	7	40-148/30
79-01-6	Trichloroethene	ND		57.9	49.3	85	58.3	54.5	93	10	36-155/30
75-69-4	Trichlorofluoromethane	ND		57.9	56.4	97	58.3	63.4	109	12	26-164/30
96-18-4	1,2,3-Trichloropropane	ND		57.9	53.5	92	58.3	59.9	103	11	34-148/30
95-63-6	1,2,4-Trimethylbenzene	ND		57.9	46.9	81	58.3	59.4	102	24	18-154/30
108-67-8	1,3,5-Trimethylbenzene	ND		57.9	50.3	87	58.3	63.9	110	24	21-156/30
108-05-4	Vinyl Acetate	ND		57.9	37.2	64	58.3	35.8	61	4	10-200/30
75-01-4	Vinyl chloride	ND		57.9	40.2	69	58.3	45.8	79	13	11-183/30
	m,p-Xylene	ND		116	90.5	78	117	109	93	19	34-149/30
95-47-6	o-Xylene	ND		57.9	44.0	76	58.3	52.4	90	17	27-156/30
1330-20-7	Xylene (total)	0.59	J	174	134	77	175	162	92	19	33-150/30

CAS No.	Surrogate Recoveries	MS	MSD	MC44795-3	Limits
1868-53-7	Dibromofluoromethane	103%	104%	113%	65-141%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44795-3MS	M76943.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3MSD	M76944.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3	M76941.D	1	03/17/16	KD	n/a	n/a	MSM2749

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

MC44826-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44795-3	Limits
2037-26-5	Toluene-D8	97%	97%	99%	65-129%
460-00-4	4-Bromofluorobenzene	103%	107%	102%	63-137%

* = Outside of Control Limits.

5.4.2
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Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44784-7MS	G150530.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7MSD	G150531.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7	G150524.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	MC44784-7 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	50	33.1	66	50	36.1	72	9	10-156/30
71-43-2	Benzene	ND	50	49.1	98	50	52.0	104	6	63-135/30
108-86-1	Bromobenzene	ND	50	56.4	113	50	54.0	108	4	75-116/30
74-97-5	Bromochloromethane	ND	50	51.0	102	50	54.0	108	6	67-136/30
75-27-4	Bromodichloromethane	ND	50	48.1	96	50	51.0	102	6	69-140/30
75-25-2	Bromoform	ND	50	44.5	89	50	49.7	99	11	57-138/30
74-83-9	Bromomethane	ND	50	50.9	102	50	51.4	103	1	25-169/30
78-93-3	2-Butanone (MEK)	ND	50	46.8	94	50	50.7	101	8	23-159/30
104-51-8	n-Butylbenzene	ND	50	53.5	107	50	58.5	117	9	75-135/30
135-98-8	sec-Butylbenzene	ND	50	59.7	119	50	60.0	120	1	70-125/30
98-06-6	tert-Butylbenzene	ND	50	64.2	128	50	65.6	131* a	2	64-128/30
75-15-0	Carbon disulfide	ND	50	51.9	104	50	51.3	103	1	40-139/30
56-23-5	Carbon tetrachloride	ND	50	56.2	112	50	59.9	120	6	60-149/30
108-90-7	Chlorobenzene	ND	50	52.0	104	50	56.0	112	7	70-115/30
75-00-3	Chloroethane	ND	50	51.3	103	50	49.5	99	4	37-175/30
67-66-3	Chloroform	ND	50	49.7	99	50	52.4	105	5	64-141/30
74-87-3	Chloromethane	ND	50	60.8	122	50	64.6	129	6	21-178/30
95-49-8	o-Chlorotoluene	ND	50	52.9	106	50	53.0	106	0	60-130/30
106-43-4	p-Chlorotoluene	ND	50	54.3	109	50	52.4	105	4	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	59.6	119	50	54.8	110	8	51-156/30
124-48-1	Dibromochloromethane	ND	50	47.0	94	50	49.7	99	6	70-131/30
106-93-4	1,2-Dibromoethane	ND	50	51.5	103	50	55.9	112	8	72-131/30
95-50-1	1,2-Dichlorobenzene	ND	50	52.5	105	50	55.6	111	6	68-122/30
541-73-1	1,3-Dichlorobenzene	ND	50	51.3	103	50	55.5	111	8	71-117/30
106-46-7	1,4-Dichlorobenzene	ND	50	50.9	102	50	55.0	110	8	69-120/30
75-71-8	Dichlorodifluoromethane	ND	50	73.6	147	50	77.1	154	5	28-181/30
75-34-3	1,1-Dichloroethane	ND	50	49.2	98	50	44.1	88	11	56-138/30
107-06-2	1,2-Dichloroethane	ND	50	49.9	100	50	52.7	105	5	60-146/30
75-35-4	1,1-Dichloroethene	ND	50	43.0	86	50	45.3	91	5	52-137/30
156-59-2	cis-1,2-Dichloroethene	ND	50	54.6	109	50	57.0	114	4	64-139/30
156-60-5	trans-1,2-Dichloroethene	ND	50	42.8	86	50	44.8	90	5	63-132/30
78-87-5	1,2-Dichloropropane	ND	50	51.9	104	50	54.5	109	5	67-137/30
142-28-9	1,3-Dichloropropane	ND	50	51.9	104	50	56.7	113	9	78-130/30
594-20-7	2,2-Dichloropropane	ND	50	54.3	109	50	55.7	111	3	36-166/30
563-58-6	1,1-Dichloropropene	ND	50	52.6	105	50	56.9	114	8	68-123/30
10061-01-5	cis-1,3-Dichloropropene	ND	50	46.0	92	50	47.8	96	4	77-142/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44784-7MS	G150530.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7MSD	G150531.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7	G150524.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	MC44784-7 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND	50	42.3	85	50	44.4	89	5	73-136/30
100-41-4	Ethylbenzene	8.4	50	60.8	105	50	65.6	114	8	60-136/30
87-68-3	Hexachlorobutadiene	ND	50	77.7	155* a	50	72.7	145* a	7	63-143/30
591-78-6	2-Hexanone	ND	50	49.7	99	50	54.2	108	9	29-151/30
74-88-4	Iodomethane	ND	50	44.9	90	50	46.3	93	3	37-158/30
98-82-8	Isopropylbenzene	3.3	50	61.3	116	50	60.9	115	1	67-123/30
99-87-6	p-Isopropyltoluene	ND	50	53.7	107	50	57.5	115	7	78-126/30
1634-04-4	Methyl Tert Butyl Ether	ND	50	43.7	87	50	45.9	92	5	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	35.1	70	50	36.7	73	4	47-167/30
74-95-3	Methylene bromide	ND	50	50.4	101	50	53.6	107	6	70-130/30
75-09-2	Methylene chloride	ND	50	43.6	87	50	45.5	91	4	55-144/30
91-20-3	Naphthalene	ND	50	74.5	149	50	69.7	139	7	23-167/30
103-65-1	n-Propylbenzene	1.9	50	58.3	113	50	55.6	107	5	66-124/30
100-42-5	Styrene	ND	50	29.1	58* a	50	33.2	66	13	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	52.8	106	50	56.7	113	7	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	52.9	106	50	50.9	102	4	62-149/30
127-18-4	Tetrachloroethene	ND	50	55.0	110	50	59.4	119	8	65-124/30
108-88-3	Toluene	ND	50	50.8	102	50	53.7	107	6	69-134/30
87-61-6	1,2,3-Trichlorobenzene	ND	50	93.9	188* a	50	91.9	184* a	2	41-157/30
120-82-1	1,2,4-Trichlorobenzene	ND	50	72.5	145	50	67.5	135	7	46-147/30
71-55-6	1,1,1-Trichloroethane	ND	50	59.4	119	50	62.4	125	5	61-144/30
79-00-5	1,1,2-Trichloroethane	ND	50	50.1	100	50	52.9	106	5	69-142/30
79-01-6	Trichloroethene	ND	50	51.4	103	50	54.3	109	5	69-133/30
75-69-4	Trichlorofluoromethane	ND	50	56.2	112	50	60.6	121	8	60-163/30
96-18-4	1,2,3-Trichloropropane	ND	50	51.8	104	50	51.5	103	1	57-150/30
95-63-6	1,2,4-Trimethylbenzene	3.7	50	54.2	101	50	53.5	100	1	67-130/30
108-67-8	1,3,5-Trimethylbenzene	ND	50	49.6	99	50	50.7	101	2	66-137/30
108-05-4	Vinyl Acetate	ND	50	44.6	89	50	36.6	73	20	48-200/30
75-01-4	Vinyl chloride	ND	50	63.4	127	50	66.5	133	5	39-176/30
	m,p-Xylene	ND	100	95.3	95	100	103	103	8	64-128/30
95-47-6	o-Xylene	0.64	50	48.1	95	50	51.7	102	7	64-126/30
1330-20-7	Xylene (total)	0.90	150	143	95	150	154	102	7	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44784-7MS	G150530.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7MSD	G150531.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7	G150524.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Surrogate Recoveries	MS	MSD	MC44784-7	Limits
1868-53-7	Dibromofluoromethane	99%	97%	100%	79-127%
2037-26-5	Toluene-D8	98%	98%	98%	80-116%
460-00-4	4-Bromofluorobenzene	107%	98%	101%	77-124%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44841-5MS	K95772.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5MSD	K95773.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5	K95755.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	MC44841-5	Spike	MS	MS	Spike	MSD	MSD	RPD	Limits	
		ug/kg	Q	ug/kg	ug/kg	%	ug/kg	ug/kg		%	Rec/RPD
67-64-1	Acetone	ND		15300	20200	132	15300	19900	130	1	10-200/30
71-43-2	Benzene	201		15300	15200	98	15300	16100	104	6	38-135/30
108-86-1	Bromobenzene	ND		15300	15500	101	15300	16800	110	8	26-150/30
74-97-5	Bromochloromethane	ND		15300	16500	108	15300	17600	115	6	51-140/30
75-27-4	Bromodichloromethane	ND		15300	14600	95	15300	15900	104	9	45-136/30
75-25-2	Bromoform	ND		15300	15500	101	15300	16700	109	7	42-150/30
74-83-9	Bromomethane	ND		15300	15000	98	15300	16200	106	8	20-159/30
78-93-3	2-Butanone (MEK)	ND		15300	17500	114	15300	18400	120	5	10-187/30
104-51-8	n-Butylbenzene	202	J	15300	14600	94	15300	16100	104	10	12-162/30
135-98-8	sec-Butylbenzene	ND		15300	14500	95	15300	15900	104	9	24-152/30
98-06-6	tert-Butylbenzene	ND		15300	14200	93	15300	15500	101	9	25-151/30
75-15-0	Carbon disulfide	ND		15300	17200	112	15300	17800	116	3	29-157/30
56-23-5	Carbon tetrachloride	ND		15300	14300	93	15300	15600	102	9	42-148/30
108-90-7	Chlorobenzene	95.6	J	15300	14900	97	15300	15800	102	6	33-148/30
75-00-3	Chloroethane	ND		15300	15700	102	15300	17100	112	9	32-162/30
67-66-3	Chloroform	ND		15300	14800	97	15300	15600	102	5	46-136/30
74-87-3	Chloromethane	ND		15300	14100	92	15300	15100	99	7	33-152/30
95-49-8	o-Chlorotoluene	ND		15300	14900	97	15300	16100	105	8	21-154/30
106-43-4	p-Chlorotoluene	ND		15300	14900	97	15300	15800	103	6	21-146/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		15300	13600	89	15300	15600	102	14	18-153/30
124-48-1	Dibromochloromethane	ND		15300	15100	99	15300	16100	105	6	46-147/30
106-93-4	1,2-Dibromoethane	ND		15300	15600	102	15300	16500	108	6	42-147/30
95-50-1	1,2-Dichlorobenzene	ND		15300	14200	93	15300	15300	100	7	17-148/30
541-73-1	1,3-Dichlorobenzene	ND		15300	14300	93	15300	15500	101	8	20-146/30
106-46-7	1,4-Dichlorobenzene	ND		15300	14400	94	15300	15600	102	8	16-151/30
75-71-8	Dichlorodifluoromethane	ND		15300	12000	78	15300	12300	80	2	10-186/30
75-34-3	1,1-Dichloroethane	ND		15300	14900	97	15300	15800	103	6	49-134/30
107-06-2	1,2-Dichloroethane	ND		15300	14300	93	15300	15600	102	9	46-135/30
75-35-4	1,1-Dichloroethene	ND		15300	15700	102	15300	17800	116	13	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND		15300	16300	106	15300	17300	113	6	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND		15300	15100	99	15300	16100	105	6	44-145/30
78-87-5	1,2-Dichloropropane	ND		15300	15600	102	15300	16500	108	6	48-138/30
142-28-9	1,3-Dichloropropane	ND		15300	15600	102	15300	16400	107	5	42-150/30
594-20-7	2,2-Dichloropropane	ND		15300	13000	85	15300	13900	91	7	27-154/30
563-58-6	1,1-Dichloropropene	ND		15300	15500	101	15300	16500	108	6	38-142/30
10061-01-5	cis-1,3-Dichloropropene	ND		15300	15300	100	15300	16400	107	7	34-149/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44841-5MS	K95772.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5MSD	K95773.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5	K95755.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	MC44841-5		Spike	MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/kg	Q	ug/kg	ug/kg	%	ug/kg	ug/kg	%		Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		15300	14500	95	15300	15500	101	7	28-151/30
100-41-4	Ethylbenzene	588	J	15300	15200	95	15300	16100	101	6	32-150/30
87-68-3	Hexachlorobutadiene	214	JB	15300	12400	80	15300	14300	92	14	10-173/30
591-78-6	2-Hexanone	ND		15300	16200	106	15300	17400	114	7	10-184/30
74-88-4	Iodomethane	ND		15300	15100	99	15300	17700	115	16	37-159/30
98-82-8	Isopropylbenzene	ND		15300	15300	100	15300	16400	107	7	29-152/30
99-87-6	p-Isopropyltoluene	815	J	15300	15500	96	15300	17000	106	9	23-155/30
1634-04-4	Methyl Tert Butyl Ether	ND		15300	14700	96	15300	16000	104	8	42-142/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		15300	16100	105	15300	17600	115	9	35-164/30
74-95-3	Methylene bromide	ND		15300	15500	101	15300	16500	108	6	48-137/30
75-09-2	Methylene chloride	ND		15300	14900	97	15300	15900	104	6	48-140/30
91-20-3	Naphthalene	368	J	15300	11200	71	15300	14200	90	24	10-168/30
103-65-1	n-Propylbenzene	243	J	15300	15200	98	15300	16500	106	8	25-149/30
100-42-5	Styrene	ND		15300	15300	100	15300	16000	104	4	17-160/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		15300	15300	100	15300	16100	105	5	42-156/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		15300	15500	101	15300	17000	111	9	30-157/30
127-18-4	Tetrachloroethene	ND		15300	14200	93	15300	15000	98	5	40-146/30
108-88-3	Toluene	1800		15300	16800	98	15300	18000	106	7	33-145/30
87-61-6	1,2,3-Trichlorobenzene	ND		15300	9500	62	15300	13500	88	35* a	10-144/30
120-82-1	1,2,4-Trichlorobenzene	ND		15300	11000	72	15300	13100	85	17	10-154/30
71-55-6	1,1,1-Trichloroethane	ND		15300	15500	101	15300	16100	105	4	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		15300	15700	102	15300	16900	110	7	40-148/30
79-01-6	Trichloroethene	ND		15300	14500	95	15300	15600	102	7	36-155/30
75-69-4	Trichlorofluoromethane	ND		15300	14600	95	15300	15600	102	7	26-164/30
96-18-4	1,2,3-Trichloropropane	ND		15300	15800	103	15300	16900	110	7	34-148/30
95-63-6	1,2,4-Trimethylbenzene	1640		15300	16200	95	15300	17600	104	8	18-154/30
108-67-8	1,3,5-Trimethylbenzene	438	J	15300	15500	98	15300	16800	107	8	21-156/30
108-05-4	Vinyl Acetate	ND		15300	15900	104	15300	17000	111	7	10-200/30
75-01-4	Vinyl chloride	ND		15300	19000	124	15300	20900	136	10	11-183/30
	m,p-Xylene	3060		30700	31900	94	30700	33600	100	5	34-149/30
95-47-6	o-Xylene	1260		15300	15100	90	15300	16100	97	6	27-156/30
1330-20-7	Xylene (total)	4320		46000	47000	93	46000	49700	99	6	33-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 3 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44841-5MS	K95772.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5MSD	K95773.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5	K95755.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Surrogate Recoveries	MS	MSD	MC44841-5	Limits
1868-53-7	Dibromofluoromethane	97%	98%	102%	65-141%
2037-26-5	Toluene-D8	102%	104%	96%	65-129%
460-00-4	4-Bromofluorobenzene	101%	101%	97%	63-137%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8260C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC44826-15	G150525.D	101	108	117
MC44826-16	G150614.D	97	99	105
MC44826-16	G150526.D	98	98	96
MC44826-17	G150527.D	98	99	105
MC44826-18	G150514.D	100	99	100
MC44784-7MS	G150530.D	99	98	107
MC44784-7MSD	G150531.D	97	98	98
MSG5625-BS	G150507.D	102	99	100
MSG5625-BSD	G150508.D	100	100	101
MSG5625-MB	G150511.D	99	100	103
MSG5628-BS	G150601.D	97	99	101
MSG5628-BSD	G150602.D	95	99	102
MSG5628-MB	G150605.D	96	99	104

Surrogate Compounds

Recovery Limits

S1 = Dibromofluoromethane

79-127%

S2 = Toluene-D8

80-116%

S3 = 4-Bromofluorobenzene

77-124%

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8260C

Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC44826-1	K95760.D	102	94	92
MC44826-2	K95761.D	100	99	100
MC44826-3	K95762.D	102	95	98
MC44826-4	K95763.D	101	96	91
MC44826-5	K95764.D	101	95	94
MC44826-6	K95765.D	103	98	98
MC44826-7	K95766.D	103	91	89
MC44826-8	K95767.D	103	95	100
MC44826-9	K95768.D	103	91	90
MC44826-10	K95769.D	103	95	97
MC44826-11	M76927.D	116	99	102
MC44826-12	M76928.D	118	100	104
MC44826-13	K95770.D	103	91	90
MC44826-14	M76942.D	108	102	112
MC44826-14	M76929.D	109	103	148* a
MC44795-3MS	M76943.D	103	97	103
MC44795-3MSD	M76944.D	104	97	107
MC44826-11MS	M76930.D	107	99	117
MC44826-11MSD	M76931.D	108	97	106
MC44841-5MS	K95772.D	97	102	101
MC44841-5MSD	K95773.D	98	104	101
MSK2944-BS	K95751.D	96	101	103
MSK2944-BSD	K95752.D	98	101	98
MSK2944-MB	K95754.D	104	94	97
MSM2748-BS	M76914.D	110	99	102
MSM2748-MB	M76916.D	112	101	101
MSM2749-BS	M76938.D	109	97	102
MSM2749-MB	M76940.D	115	98	100

Surrogate Compounds

Recovery Limits

S1 = Dibromofluoromethane

65-141%

S2 = Toluene-D8

65-129%

S3 = 4-Bromofluorobenzene

63-137%

(a) Outside control limits due to possible matrix interference. Associated compounds not reported in sample.

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 3

Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-MB	F84577.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples:**Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
95-48-7	2-Methylphenol	ND	10	ug/l	
	3&4-Methylphenol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	10	ug/l	
100-02-7	4-Nitrophenol	ND	20	ug/l	
87-86-5	Pentachlorophenol	ND	10	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	ug/l	
83-32-9	Acenaphthene	ND	2.0	ug/l	
208-96-8	Acenaphthylene	ND	2.0	ug/l	
62-53-3	Aniline	ND	10	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
92-87-5	Benzidine	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	ug/l	
100-51-6	Benzyl Alcohol	ND	10	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	10	ug/l	
86-74-8	Carbazole	ND	2.0	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	ug/l	

Method Blank Summary

Page 2 of 3

Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-MB	F84577.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples:**Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l	
132-64-9	Dibenzofuran	ND	2.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	ug/l	
67-72-1	Hexachloroethane	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	ug/l	
99-09-2	3-Nitroaniline	ND	10	ug/l	
100-01-6	4-Nitroaniline	ND	10	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	
110-86-1	Pyridine	ND	10	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-MB	F84577.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples: Method: SW846 8270D
MC44826-15, MC44826-16, MC44826-17

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	46% 10-80%
4165-62-2	Phenol-d5	34% 10-72%
118-79-6	2,4,6-Tribromophenol	96% 42-134%
4165-60-0	Nitrobenzene-d5	72% 25-117%
321-60-8	2-Fluorobiphenyl	70% 24-112%
1718-51-0	Terphenyl-d14	99% 48-133%

Method Blank Summary

Page 1 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MB	R47202.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	480	ug/kg	
95-57-8	2-Chlorophenol	ND	240	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	480	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	480	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	480	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	960	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	480	ug/kg	
95-48-7	2-Methylphenol	ND	480	ug/kg	
	3&4-Methylphenol	ND	480	ug/kg	
88-75-5	2-Nitrophenol	ND	480	ug/kg	
100-02-7	4-Nitrophenol	ND	960	ug/kg	
87-86-5	Pentachlorophenol	ND	480	ug/kg	
108-95-2	Phenol	ND	240	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	480	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	480	ug/kg	
83-32-9	Acenaphthene	ND	96	ug/kg	
208-96-8	Acenaphthylene	ND	96	ug/kg	
62-53-3	Aniline	ND	480	ug/kg	
120-12-7	Anthracene	ND	96	ug/kg	
92-87-5	Benzidine	ND	960	ug/kg	
56-55-3	Benzo(a)anthracene	ND	96	ug/kg	
50-32-8	Benzo(a)pyrene	ND	96	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	96	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	96	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	96	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	240	ug/kg	
100-51-6	Benzyl Alcohol	ND	480	ug/kg	
91-58-7	2-Chloronaphthalene	ND	240	ug/kg	
106-47-8	4-Chloroaniline	ND	480	ug/kg	
86-74-8	Carbazole	ND	96	ug/kg	
218-01-9	Chrysene	ND	96	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	240	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	240	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	240	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	240	ug/kg	

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Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MB	R47202.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:**Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	240	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	240	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	240	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	240	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	480	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	480	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	240	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	96	ug/kg	
132-64-9	Dibenzofuran	ND	96	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	240	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	240	ug/kg	
84-66-2	Diethyl phthalate	ND	240	ug/kg	
131-11-3	Dimethyl phthalate	ND	240	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	240	ug/kg	
206-44-0	Fluoranthene	ND	96	ug/kg	
86-73-7	Fluorene	ND	96	ug/kg	
118-74-1	Hexachlorobenzene	ND	240	ug/kg	
87-68-3	Hexachlorobutadiene	ND	240	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	480	ug/kg	
67-72-1	Hexachloroethane	ND	240	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	96	ug/kg	
78-59-1	Isophorone	ND	240	ug/kg	
90-12-0	1-Methylnaphthalene	ND	240	ug/kg	
91-57-6	2-Methylnaphthalene	ND	96	ug/kg	
88-74-4	2-Nitroaniline	ND	480	ug/kg	
99-09-2	3-Nitroaniline	ND	480	ug/kg	
100-01-6	4-Nitroaniline	ND	480	ug/kg	
91-20-3	Naphthalene	ND	96	ug/kg	
98-95-3	Nitrobenzene	ND	240	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	240	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	240	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	240	ug/kg	
85-01-8	Phenanthrene	ND	96	ug/kg	
129-00-0	Pyrene	ND	96	ug/kg	
110-86-1	Pyridine	ND	480	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	240	ug/kg	

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MB	R47202.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	70% 24-110%
4165-62-2	Phenol-d5	69% 30-114%
118-79-6	2,4,6-Tribromophenol	87% 20-139%
4165-60-0	Nitrobenzene-d5	81% 27-112%
321-60-8	2-Fluorobiphenyl	73% 35-115%
1718-51-0	Terphenyl-d14	86% 48-136%

Blank Spike Summary

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Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-BS	R47203.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:**Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
65-85-0	Benzoic acid	2440	1610	66	14-116
95-57-8	2-Chlorophenol	2440	1750	72	42-103
59-50-7	4-Chloro-3-methyl phenol	2440	1910	78	51-107
120-83-2	2,4-Dichlorophenol	2440	1960	80	47-109
105-67-9	2,4-Dimethylphenol	2440	1730	71	41-105
51-28-5	2,4-Dinitrophenol	2440	2280	94	10-123
534-52-1	4,6-Dinitro-o-cresol	2440	2610	107	32-130
95-48-7	2-Methylphenol	2440	1660	68	43-103
	3&4-Methylphenol	4870	3430	70	43-109
88-75-5	2-Nitrophenol	2440	2290	94	44-108
100-02-7	4-Nitrophenol	2440	2050	84	30-124
87-86-5	Pentachlorophenol	2440	1930	79	23-120
108-95-2	Phenol	2440	1660	68	42-105
95-95-4	2,4,5-Trichlorophenol	2440	2180	89	56-112
88-06-2	2,4,6-Trichlorophenol	2440	2080	85	52-108
83-32-9	Acenaphthene	2440	1830	75	48-110
208-96-8	Acenaphthylene	2440	1420	58	38-101
62-53-3	Aniline	2440	1190	49	15-88
120-12-7	Anthracene	2440	1860	76	53-111
92-87-5	Benzidine	2440	1440	59	10-159
56-55-3	Benzo(a)anthracene	2440	1990	82	55-119
50-32-8	Benzo(a)pyrene	2440	1960	80	57-114
205-99-2	Benzo(b)fluoranthene	2440	2010	82	53-125
191-24-2	Benzo(g,h,i)perylene	2440	2030	83	56-120
207-08-9	Benzo(k)fluoranthene	2440	1930	79	54-117
101-55-3	4-Bromophenyl phenyl ether	2440	1980	81	54-118
85-68-7	Butyl benzyl phthalate	2440	2090	86	54-122
100-51-6	Benzyl Alcohol	2440	1720	71	32-113
91-58-7	2-Chloronaphthalene	2440	1810	74	48-117
106-47-8	4-Chloroaniline	2440	976	40	15-92
86-74-8	Carbazole	2440	2030	83	56-116
218-01-9	Chrysene	2440	1930	79	56-116
111-91-1	bis(2-Chloroethoxy)methane	2440	1600	66	43-107
111-44-4	bis(2-Chloroethyl)ether	2440	1570	64	28-116
108-60-1	bis(2-Chloroisopropyl)ether	2440	1840	76	34-132
7005-72-3	4-Chlorophenyl phenyl ether	2440	1940	80	55-112

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826**Account:** ROUXMA Roux Associates**Project:** Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-BS	R47203.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:**Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-50-1	1,2-Dichlorobenzene	2440	1670	69	36-104
122-66-7	1,2-Diphenylhydrazine	2440	1640	67	49-112
541-73-1	1,3-Dichlorobenzene	2440	1660	68	36-104
106-46-7	1,4-Dichlorobenzene	2440	1640	67	36-103
121-14-2	2,4-Dinitrotoluene	2440	2650	109	51-118
606-20-2	2,6-Dinitrotoluene	2440	2370	97	52-114
91-94-1	3,3'-Dichlorobenzidine	2440	1310	54	26-124
53-70-3	Dibenzo(a,h)anthracene	2440	1990	82	56-114
132-64-9	Dibenzofuran	2440	1880	77	53-110
84-74-2	Di-n-butyl phthalate	2440	2010	82	56-114
117-84-0	Di-n-octyl phthalate	2440	2010	82	56-124
84-66-2	Diethyl phthalate	2440	1950	80	55-110
131-11-3	Dimethyl phthalate	2440	1910	78	54-112
117-81-7	bis(2-Ethylhexyl)phthalate	2440	2020	83	57-123
206-44-0	Fluoranthene	2440	2130	87	55-118
86-73-7	Fluorene	2440	1960	80	53-112
118-74-1	Hexachlorobenzene	2440	2020	83	53-119
87-68-3	Hexachlorobutadiene	2440	1830	75	38-110
77-47-4	Hexachlorocyclopentadiene	2440	1160	48	10-81
67-72-1	Hexachloroethane	2440	1610	66	36-102
193-39-5	Indeno(1,2,3-cd)pyrene	2440	1940	80	57-119
78-59-1	Isophorone	2440	1700	70	36-97
90-12-0	1-Methylnaphthalene	2440	1830	75	39-111
91-57-6	2-Methylnaphthalene	2440	1850	76	41-116
88-74-4	2-Nitroaniline	2440	2230	92	56-119
99-09-2	3-Nitroaniline	2440	1440	59	32-103
100-01-6	4-Nitroaniline	2440	2090	86	49-114
91-20-3	Naphthalene	2440	1740	71	28-128
98-95-3	Nitrobenzene	2440	1710	70	31-109
62-75-9	n-Nitrosodimethylamine	2440	1430	59	36-109
621-64-7	N-Nitroso-di-n-propylamine	2440	1750	72	37-113
86-30-6	N-Nitrosodiphenylamine	2440	1810	74	42-115
85-01-8	Phenanthrene	2440	1950	80	53-113
129-00-0	Pyrene	2440	2030	83	53-119
110-86-1	Pyridine	2440	1190	49	23-81
120-82-1	1,2,4-Trichlorobenzene	2440	1780	73	40-108

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-BS	R47203.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	75%	24-110%
4165-62-2	Phenol-d5	73%	30-114%
118-79-6	2,4,6-Tribromophenol	91%	20-139%
4165-60-0	Nitrobenzene-d5	87%	27-112%
321-60-8	2-Fluorobiphenyl	79%	35-115%
1718-51-0	Terphenyl-d14	87%	48-136%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-BS	F84578.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
OP46751-BSD	F84579.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	50	19.2	38	17.2	34	11	10-70/20
95-57-8	2-Chlorophenol	50	32.0	64	33.8	68	5	39-100/20
59-50-7	4-Chloro-3-methyl phenol	50	40.3	81	39.1	78	3	43-112/20
120-83-2	2,4-Dichlorophenol	50	38.0	76	38.5	77	1	44-113/20
105-67-9	2,4-Dimethylphenol	50	35.1	70	35.8	72	2	21-108/20
51-28-5	2,4-Dinitrophenol	50	50.7	101	51.2	102	1	22-128/20
534-52-1	4,6-Dinitro-o-cresol	50	54.0	108	54.7	109	1	42-132/20
95-48-7	2-Methylphenol	50	30.9	62	32.2	64	4	34-91/20
	3&4-Methylphenol	100	60.9	61	60.1	60	1	31-90/20
88-75-5	2-Nitrophenol	50	41.0	82	40.8	82	0	40-118/20
100-02-7	4-Nitrophenol	50	18.9	38	19.2	38	2	10-71/20
87-86-5	Pentachlorophenol	50	30.1	60	29.0	58	4	33-123/20
108-95-2	Phenol	50	15.2	30	16.0	32	5	11-57/20
95-95-4	2,4,5-Trichlorophenol	50	42.1	84	41.3	83	2	50-122/20
88-06-2	2,4,6-Trichlorophenol	50	40.7	81	41.5	83	2	48-118/20
83-32-9	Acenaphthene	50	38.5	77	42.1	84	9	46-118/20
208-96-8	Acenaphthylene	50	29.2	58	31.4	63	7	37-108/20
62-53-3	Aniline	50	24.7	49	28.2	56	13	18-90/20
120-12-7	Anthracene	50	39.2	78	41.5	83	6	55-117/20
92-87-5	Benzidine	50	ND	0* a	ND	0* a	nc	10-200/20
56-55-3	Benzo(a)anthracene	50	42.1	84	46.1	92	9	59-123/20
50-32-8	Benzo(a)pyrene	50	40.3	81	44.2	88	9	59-119/20
205-99-2	Benzo(b)fluoranthene	50	41.4	83	44.0	88	6	58-125/20
191-24-2	Benzo(g,h,i)perylene	50	42.2	84	46.2	92	9	61-126/20
207-08-9	Benzo(k)fluoranthene	50	39.2	78	44.1	88	12	59-119/20
101-55-3	4-Bromophenyl phenyl ether	50	39.2	78	41.9	84	7	55-126/20
85-68-7	Butyl benzyl phthalate	50	44.2	88	48.8	98	10	56-124/20
100-51-6	Benzyl Alcohol	50	31.3	63	34.3	69	9	13-106/20
91-58-7	2-Chloronaphthalene	50	35.8	72	39.2	78	9	45-123/20
106-47-8	4-Chloroaniline	50	38.2	76	40.5	81	6	35-111/20
86-74-8	Carbazole	50	42.5	85	45.5	91	7	60-121/20
218-01-9	Chrysene	50	41.1	82	44.6	89	8	60-120/20
111-91-1	bis(2-Chloroethoxy)methane	50	35.3	71	36.9	74	4	41-117/20
111-44-4	bis(2-Chloroethyl)ether	50	31.7	63	35.4	71	11	31-114/20
108-60-1	bis(2-Chloroisopropyl)ether	50	34.2	68	37.6	75	9	33-135/20
7005-72-3	4-Chlorophenyl phenyl ether	50	38.6	77	40.8	82	6	52-124/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-BS	F84578.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
OP46751-BSD	F84579.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
95-50-1	1,2-Dichlorobenzene	50	18.7	37	21.8	44	15	20-101/20
122-66-7	1,2-Diphenylhydrazine	50	39.3	79	42.3	85	7	45-119/20
541-73-1	1,3-Dichlorobenzene	50	17.5	35	20.3	41	15	21-98/20
106-46-7	1,4-Dichlorobenzene	50	17.7	35	20.6	41	15	22-97/20
121-14-2	2,4-Dinitrotoluene	50	45.7	91	48.5	97	6	52-128/20
606-20-2	2,6-Dinitrotoluene	50	45.1	90	47.8	96	6	50-126/20
91-94-1	3,3'-Dichlorobenzidine	50	37.8	76	40.9	82	8	46-134/20
53-70-3	Dibenzo(a,h)anthracene	50	41.6	83	45.2	90	8	59-121/20
132-64-9	Dibenzofuran	50	38.7	77	42.6	85	10	51-118/20
84-74-2	Di-n-butyl phthalate	50	42.2	84	44.8	90	6	57-120/20
117-84-0	Di-n-octyl phthalate	50	42.4	85	45.6	91	7	58-125/20
84-66-2	Diethyl phthalate	50	40.7	81	43.5	87	7	40-125/20
131-11-3	Dimethyl phthalate	50	40.4	81	44.1	88	9	10-145/20
117-81-7	bis(2-Ethylhexyl)phthalate	50	43.3	87	47.7	95	10	60-126/20
206-44-0	Fluoranthene	50	42.6	85	45.5	91	7	58-125/20
86-73-7	Fluorene	50	41.2	82	43.5	87	5	52-120/20
118-74-1	Hexachlorobenzene	50	38.9	78	43.5	87	11	53-127/20
87-68-3	Hexachlorobutadiene	50	18.9	38	21.0	42	11	17-110/20
77-47-4	Hexachlorocyclopentadiene	50	11.7	23	13.6	27	15	10-75/20
67-72-1	Hexachloroethane	50	15.7	31	18.6	37	17	15-98/20
193-39-5	Indeno(1,2,3-cd)pyrene	50	40.9	82	44.5	89	8	61-126/20
78-59-1	Isophorone	50	36.6	73	39.8	80	8	36-106/20
90-12-0	1-Methylnaphthalene	50	32.9	66	34.9	70	6	34-115/20
91-57-6	2-Methylnaphthalene	50	33.3	67	35.9	72	8	41-112/20
88-74-4	2-Nitroaniline	50	45.4	91	49.2	98	8	52-130/20
99-09-2	3-Nitroaniline	50	43.8	88	48.0	96	9	47-120/20
100-01-6	4-Nitroaniline	50	42.0	84	46.7	93	11	51-121/20
91-20-3	Naphthalene	50	28.6	57	31.5	63	10	29-119/20
98-95-3	Nitrobenzene	50	29.6	59	32.5	65	9	27-120/20
62-75-9	n-Nitrosodimethylamine	50	20.6	41	22.8	46	10	10-87/20
621-64-7	N-Nitroso-di-n-propylamine	50	39.8	80	43.1	86	8	37-123/20
86-30-6	N-Nitrosodiphenylamine	50	39.6	79	41.8	84	5	50-112/20
85-01-8	Phenanthrene	50	40.8	82	43.5	87	6	57-118/20
129-00-0	Pyrene	50	42.9	86	46.3	93	8	57-120/20
110-86-1	Pyridine	50	6.7	13	8.0	16	18	10-72/20
120-82-1	1,2,4-Trichlorobenzene	50	23.8	48	26.5	53	11	27-107/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Page 3 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-BS	F84578.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
OP46751-BSD	F84579.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	40%	42%	10-80%
4165-62-2	Phenol-d5	29%	30%	10-72%
118-79-6	2,4,6-Tribromophenol	84%	85%	42-134%
4165-60-0	Nitrobenzene-d5	70%	71%	25-117%
321-60-8	2-Fluorobiphenyl	68%	66%	24-112%
1718-51-0	Terphenyl-d14	86%	91%	48-133%

(a) Outside control limits. Associated samples may be biased low for this compound.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MS	R47204.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
OP46765-MSD	R47205.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1 ^a	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	ND	2930	1030	35	2900	959	33	7	10-157/30
95-57-8	2-Chlorophenol	ND	2930	2080	71	2900	2030	70	2	30-112/30
59-50-7	4-Chloro-3-methyl phenol	ND	2930	2250	77	2900	2140	74	5	29-133/30
120-83-2	2,4-Dichlorophenol	ND	2930	2380	81	2900	2250	78	6	36-120/30
105-67-9	2,4-Dimethylphenol	ND	2930	2170	74	2900	2090	72	4	31-118/30
51-28-5	2,4-Dinitrophenol	ND	2930	ND	0* ^b	2900	ND	0* ^b	nc	10-111/30
534-52-1	4,6-Dinitro-o-cresol	ND	2930	828	28	2900	650	22	24	10-134/30
95-48-7	2-Methylphenol	ND	2930	2000	68	2900	1950	67	3	31-113/30
	3&4-Methylphenol	ND	5850	4160	71	5800	4070	70	2	31-120/30
88-75-5	2-Nitrophenol	ND	2930	2600	89	2900	2410	83	8	24-122/30
100-02-7	4-Nitrophenol	ND	2930	2420	83	2900	2300	79	5	23-135/30
87-86-5	Pentachlorophenol	ND	2930	2180	74	2900	2040	70	7	10-132/30
108-95-2	Phenol	ND	2930	1960	67	2900	1930	67	2	25-121/30
95-95-4	2,4,5-Trichlorophenol	ND	2930	2590	88	2900	2460	85	5	39-127/30
88-06-2	2,4,6-Trichlorophenol	ND	2930	2540	87	2900	2450	85	4	35-125/30
83-32-9	Acenaphthene	ND	2930	2290	78	2900	2200	76	4	28-134/30
208-96-8	Acenaphthylene	ND	2930	1750	60	2900	1670	58	5	26-112/30
62-53-3	Aniline	ND	2930	997	34	2900	899	31	10	10-84/30
120-12-7	Anthracene	ND	2930	2230	76	2900	2160	75	3	25-143/30
92-87-5	Benzidine	ND	2930	575	20	2900	544	19	6	10-154/30
56-55-3	Benzo(a)anthracene	348	2930	2600	77	2900	2560	76	2	26-148/30
50-32-8	Benzo(a)pyrene	ND	2930	2330	80	2900	2320	80	0	20-151/30
205-99-2	Benzo(b)fluoranthene	ND	2930	2570	88	2900	2780	96	8	27-150/30
191-24-2	Benzo(g,h,i)perylene	ND	2930	2040	70	2900	2510	87	21	24-149/30
207-08-9	Benzo(k)fluoranthene	ND	2930	2230	76	2900	1850	64	19	19-149/30
101-55-3	4-Bromophenyl phenyl ether	ND	2930	2390	82	2900	2320	80	3	45-127/30
85-68-7	Butyl benzyl phthalate	ND	2930	2010	69	2900	1920	66	5	42-132/30
100-51-6	Benzyl Alcohol	ND	2930	2000	68	2900	1930	67	4	25-114/30
91-58-7	2-Chloronaphthalene	ND	2930	2270	78	2900	2170	75	5	42-124/30
106-47-8	4-Chloroaniline	ND	2930	955	33	2900	927	32	3	10-107/30
86-74-8	Carbazole	ND	2930	2310	79	2900	2240	77	3	34-137/30
218-01-9	Chrysene	626	2930	2780	74	2900	2640	69	5	28-144/30
111-91-1	bis(2-Chloroethoxy)methane	ND	2930	1940	66	2900	1850	64	5	36-112/30
111-44-4	bis(2-Chloroethyl)ether	ND	2930	1790	61	2900	1750	60	2	25-115/30
108-60-1	bis(2-Chloroisopropyl)ether	ND	2930	2150	73	2900	2110	73	2	27-134/30
7005-72-3	4-Chlorophenyl phenyl ether	ND	2930	2370	81	2900	2260	78	5	43-125/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MS	R47204.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
OP46765-MSD	R47205.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1 ^a	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-50-1	1,2-Dichlorobenzene	ND	2930	1960	67	2900	1930	67	2	28-108/30
122-66-7	1,2-Diphenylhydrazine	ND	2930	2000	68	2900	1930	67	4	38-120/30
541-73-1	1,3-Dichlorobenzene	ND	2930	1890	65	2900	1860	64	2	27-108/30
106-46-7	1,4-Dichlorobenzene	ND	2930	1910	65	2900	1880	65	2	28-107/30
121-14-2	2,4-Dinitrotoluene	ND	2930	3150	108	2900	2940	101	7	35-130/30
606-20-2	2,6-Dinitrotoluene	ND	2930	2910	99	2900	2730	94	6	39-124/30
91-94-1	3,3'-Dichlorobenzidine	ND	2930	1630	56	2900	1660	57	2	10-148/30
53-70-3	Dibenzo(a,h)anthracene	ND	2930	1950	67	2900	2250	78	14	39-129/30
132-64-9	Dibenzofuran	ND	2930	2300	79	2900	2190	76	5	28-136/30
84-74-2	Di-n-butyl phthalate	ND	2930	2010	69	2900	1900	66	6	44-124/30
117-84-0	Di-n-octyl phthalate	ND	2930	2000	68	2900	1940	67	3	41-137/30
84-66-2	Diethyl phthalate	ND	2930	2320	79	2900	2200	76	5	43-120/30
131-11-3	Dimethyl phthalate	ND	2930	2330	80	2900	2230	77	4	37-128/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2930	1810	62	2900	1740	60	4	34-145/30
206-44-0	Fluoranthene	ND	2930	2230	76	2900	2220	77	0	19-152/30
86-73-7	Fluorene	ND	2930	2420	83	2900	2330	80	4	37-128/30
118-74-1	Hexachlorobenzene	ND	2930	2400	82	2900	2330	80	3	44-127/30
87-68-3	Hexachlorobutadiene	ND	2930	2230	76	2900	2170	75	3	32-117/30
77-47-4	Hexachlorocyclopentadiene	ND	2930	831	28	2900	580	20	36* ^b	10-90/30
67-72-1	Hexachloroethane	ND	2930	1850	63	2900	1790	62	3	13-122/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2930	1900	65	2900	2210	76	15	27-148/30
78-59-1	Isophorone	ND	2930	2050	70	2900	1960	68	4	30-104/30
90-12-0	1-Methylnaphthalene	59.2	2930	2230	74	2900	2140	72	4	32-118/30
91-57-6	2-Methylnaphthalene	36.2	2930	2280	77	2900	2190	74	4	35-122/30
88-74-4	2-Nitroaniline	ND	2930	2740	94	2900	2580	89	6	42-130/30
99-09-2	3-Nitroaniline	ND	2930	1770	60	2900	1730	60	2	25-117/30
100-01-6	4-Nitroaniline	ND	2930	2060	70	2900	1950	67	5	22-129/30
91-20-3	Naphthalene	ND	2930	2100	72	2900	2010	69	4	19-133/30
98-95-3	Nitrobenzene	ND	2930	2040	70	2900	1960	68	4	26-114/30
62-75-9	n-Nitrosodimethylamine	ND	2930	1440	49	2900	1340	46	7	22-112/30
621-64-7	N-Nitroso-di-n-propylamine	ND	2930	2160	74	2900	2160	75	0	22-128/30
86-30-6	N-Nitrosodiphenylamine	ND	2930	2410	82	2900	2390	82	1	25-136/30
85-01-8	Phenanthrene	ND	2930	2370	81	2900	2290	79	3	24-142/30
129-00-0	Pyrene	ND	2930	2650	91	2900	2740	95	3	19-153/30
110-86-1	Pyridine	ND	2930	1150	39	2900	1060	37	8	10-85/30
120-82-1	1,2,4-Trichlorobenzene	ND	2930	2150	73	2900	2060	71	4	30-116/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MS	R47204.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
OP46765-MSD	R47205.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1 ^a	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples:

Method: SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-1	MC44826-1	Limits
367-12-4	2-Fluorophenol	73%	74%	76%	75%	24-110%
4165-62-2	Phenol-d5	74%	73%	77%	77%	30-114%
118-79-6	2,4,6-Tribromophenol	94%	93%	97%	95%	20-139%
4165-60-0	Nitrobenzene-d5	93%	85%	87%	88%	27-112%
321-60-8	2-Fluorobiphenyl	83%	80%	85%	85%	35-115%
1718-51-0	Terphenyl-d14	85%	87%	96%	98%	48-136%

(a) Confirmation run for internal standard areas.

(b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8270D	Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC44826-15	F84596.D	0* a	0* a	89	0* a	100	101
MC44826-15	F84580.D	0* b	0* b	66	0* b	87	89
MC44826-16	F84581.D	34	24	91	75	76	86
MC44826-17	F84582.D	33	24	80	58	56	72
OP46751-BS	F84578.D	40	29	84	70	68	86
OP46751-BSD	F84579.D	42	30	85	71	66	91
OP46751-MB	F84577.D	46	34	96	72	70	99

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	10-80%
S2 = Phenol-d5	10-72%
S3 = 2,4,6-Tribromophenol	42-134%
S4 = Nitrobenzene-d5	25-117%
S5 = 2-Fluorobiphenyl	24-112%
S6 = Terphenyl-d14	48-133%

- (a) Outside control limits due to dilution.
(b) Outside control limits due to matrix interference. Confirmed by reanalysis. Insufficient sample volume for re-extraction.

Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8270D

Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC44826-1	R47214.D	75	77	95	88	85	98
MC44826-1	R47206.D	76	77	97	87	85	96
MC44826-2	R47211.D	65	69	110	84	90	83
MC44826-3	R47212.D	69	72	75	87	85	85
MC44826-4	R47213.D	74	75	101	94	89	85
MC44826-5	R47215.D	65	66	95	79	82	86
MC44826-6	R47228.D	72	53	101	83	121* a	98
MC44826-6	R47216.D	73	59	102	86	106	93
MC44826-7	R47217.D	67	67	86	70	80	78
MC44826-8	R47218.D	47	55	78	62	71	72
MC44826-9	R47219.D	68	69	76	90	87	89
MC44826-10	F84625.D	57	64	72	70	74	82
MC44826-10	R47220.D	55	60	75	72	82	87
MC44826-11	F84626.D	82	81	90	79	86	104
MC44826-11	R47221.D	73	72	91	89	89	94
MC44826-12	R47222.D	63	62	80	78	78	85
MC44826-13	F84627.D	80	83	87	72	82	90
MC44826-13	R47223.D	74	74	97	88	88	87
MC44826-14	F84628.D	80	78	77	77	88	93
MC44826-14	R47224.D	71	71	87	87	90	96
OP46765-BS	R47203.D	75	73	91	87	79	87
OP46765-MB	R47202.D	70	69	87	81	73	86
OP46765-MS	R47204.D	73	74	94	93	83	85
OP46765-MSD	R47205.D	74	73	93	85	80	87

Surrogate Compounds

Recovery Limits

S1 = 2-Fluorophenol	24-110%
S2 = Phenol-d5	30-114%
S3 = 2,4,6-Tribromophenol	20-139%
S4 = Nitrobenzene-d5	27-112%
S5 = 2-Fluorobiphenyl	35-115%
S6 = Terphenyl-d14	48-136%

(a) Outside control limits due to possible matrix interference.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46831-MB	BE50257.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527

The QC reported here applies to the following samples:

Method: SW846 8081B

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	4.9	ug/kg	
319-84-6	alpha-BHC	ND	4.9	ug/kg	
319-85-7	beta-BHC	ND	4.9	ug/kg	
319-86-8	delta-BHC	ND	4.9	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	4.9	ug/kg	
12789-03-6	Chlordane	ND	49	ug/kg	
5103-71-9	alpha-Chlordane	ND	4.9	ug/kg	
5103-74-2	gamma-Chlordane	ND	4.9	ug/kg	
60-57-1	Dieldrin	ND	4.9	ug/kg	
72-54-8	4,4'-DDD	ND	4.9	ug/kg	
72-55-9	4,4'-DDE	ND	4.9	ug/kg	
50-29-3	4,4'-DDT	ND	4.9	ug/kg	
72-20-8	Endrin	ND	4.9	ug/kg	
1031-07-8	Endosulfan sulfate	ND	4.9	ug/kg	
7421-93-4	Endrin aldehyde	ND	4.9	ug/kg	
959-98-8	Endosulfan-I	ND	4.9	ug/kg	
33213-65-9	Endosulfan-II	ND	4.9	ug/kg	
76-44-8	Heptachlor	ND	4.9	ug/kg	
1024-57-3	Heptachlor epoxide	ND	4.9	ug/kg	
118-74-1	Hexachlorobenzene	ND	4.9	ug/kg	
72-43-5	Methoxychlor	ND	4.9	ug/kg	
53494-70-5	Endrin ketone	ND	4.9	ug/kg	
8001-35-2	Toxaphene	ND	49	ug/kg	

CAS No.	Surrogate Recoveries	Limits
877-09-8	Tetrachloro-m-xylene	88% 10-143%
877-09-8	Tetrachloro-m-xylene	89% 10-143%
2051-24-3	Decachlorobiphenyl	98% 10-172%
2051-24-3	Decachlorobiphenyl	91% 10-172%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46830-MB	BK56284.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776

The QC reported here applies to the following samples: Method: SW846 8082A

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

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

CAS No.	Surrogate Recoveries	Limits
877-09-8	Tetrachloro-m-xylene	95% 35-136%
877-09-8	Tetrachloro-m-xylene	95% 35-136%
2051-24-3	Decachlorobiphenyl	97% 24-171%
2051-24-3	Decachlorobiphenyl	98% 24-171%

Blank Spike Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46831-BS	BE50258.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527

The QC reported here applies to the following samples:

Method: SW846 8081B

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	32.1	31.5	98	37-165
319-84-6	alpha-BHC	32.1	28.9	90	32-157
319-85-7	beta-BHC	32.1	27.9	87	41-159
319-86-8	delta-BHC	32.1	27.3	85	26-157
58-89-9	gamma-BHC (Lindane)	32.1	27.9	87	34-156
5103-71-9	alpha-Chlordane	32.1	30.3	94	42-164
5103-74-2	gamma-Chlordane	32.1	29.2	91	36-165
60-57-1	Dieldrin	32.1	31.0	97	42-171
72-54-8	4,4'-DDD	32.1	29.9	93	41-168
72-55-9	4,4'-DDE	32.1	30.1	94	42-167
50-29-3	4,4'-DDT	32.1	23.6	74	37-172
72-20-8	Endrin	32.1	30.2	94	30-191
1031-07-8	Endosulfan sulfate	32.1	29.3	91	41-162
7421-93-4	Endrin aldehyde	32.1	27.2	85	32-161
959-98-8	Endosulfan-I	32.1	31.9	99	42-168
33213-65-9	Endosulfan-II	32.1	28.7	89	41-166
76-44-8	Heptachlor	32.1	27.5	86	43-159
1024-57-3	Heptachlor epoxide	32.1	30.7	96	42-167
118-74-1	Hexachlorobenzene	32.1	25.1	78	49-143
72-43-5	Methoxychlor	32.1	23.5	73	28-187
53494-70-5	Endrin ketone	32.1	30.2	94	32-170

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	86%	10-143%
877-09-8	Tetrachloro-m-xylene	87%	10-143%
2051-24-3	Decachlorobiphenyl	89%	10-172%
2051-24-3	Decachlorobiphenyl	85%	10-172%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46830-BS	BK56285.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776

The QC reported here applies to the following samples:

Method: SW846 8082A

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	255	216	85	47-143
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	255	233	91	44-153
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	80%	35-136%
877-09-8	Tetrachloro-m-xylene	80%	35-136%
2051-24-3	Decachlorobiphenyl	91%	24-171%
2051-24-3	Decachlorobiphenyl	92%	24-171%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46831-MS1	BE50275.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
OP46831-MSD1	BE50276.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
MC44826-8	BE50266.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527

The QC reported here applies to the following samples:

Method: SW846 8081B

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-8 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND	42.8	23.5	55	42.7	28.2	66	18	26-173/30
319-84-6	alpha-BHC	ND	42.8	29.0	68	42.7	31.0	73	7	17-169/30
319-85-7	beta-BHC	ND	42.8	59.2	138	42.7	53.1	124	11	22-173/30
319-86-8	delta-BHC	ND	42.8	23.8	56	42.7	30.0	70	23	12-165/30
58-89-9	gamma-BHC (Lindane)	ND	42.8	26.2	61	42.7	33.6	79	25	16-172/30
5103-71-9	alpha-Chlordane	ND	42.8	24.7	58	42.7	23.1	54	7	25-171/30
5103-74-2	gamma-Chlordane	ND	42.8	27.6	65	42.7	30.4	71	10	19-188/30
60-57-1	Dieldrin	ND	42.8	26.4	62	42.7	24.9	58	6	28-194/30
72-54-8	4,4'-DDD	ND	42.8	23.9	56	42.7	24.4	57	2	24-189/30
72-55-9	4,4'-DDE	ND	42.8	25.1	59	42.7	24.1	56	4	20-197/30
50-29-3	4,4'-DDT	ND	42.8	20.2	47	42.7	21.4	50	6	26-200/30
72-20-8	Endrin	ND	42.8	30.9	72	42.7	30.9	72	0	27-198/30
1031-07-8	Endosulfan sulfate	ND	42.8	24.0	56	42.7	24.8	58	3	28-171/30
7421-93-4	Endrin aldehyde	ND	42.8	15.9	37	42.7	15.9	37	0	10-173/30
959-98-8	Endosulfan-I	ND	42.8	29.4	69	42.7	26.9	63	9	25-174/30
33213-65-9	Endosulfan-II	ND	42.8	22.9	54	42.7	23.0	54	0	19-185/30
76-44-8	Heptachlor	ND	42.8	42.5	99	42.7	34.8	82	20	20-186/30
1024-57-3	Heptachlor epoxide	ND	42.8	25.6	60	42.7	26.7	63	4	23-186/30
118-74-1	Hexachlorobenzene	ND	42.8	15.5	36	42.7	20.1	47	26	26-164/30
72-43-5	Methoxychlor	ND	42.8	24.8	58	42.7	28.5	67	14	17-200/30
53494-70-5	Endrin ketone	ND	42.8	23.9	56	42.7	24.7	58	3	17-189/30

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-8	Limits
877-09-8	Tetrachloro-m-xylene	63%	61%	63%	10-143%
877-09-8	Tetrachloro-m-xylene	78%	88%	91%	10-143%
2051-24-3	Decachlorobiphenyl	61%	67%	59%	10-172%
2051-24-3	Decachlorobiphenyl	79%	101%	83%	10-172%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46830-MS	BK56314.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
OP46830-MSD	BK56316.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
MC44826-9	BK56308.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776

The QC reported here applies to the following samples: Method: SW846 8082A

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-9 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	294	200	68	299	183	61	9	25-162/50
11104-28-2	Aroclor 1221	ND		ND			ND		nc	40-140/50
11141-16-5	Aroclor 1232	ND		ND			ND		nc	40-140/50
53469-21-9	Aroclor 1242	ND		ND			ND		nc	40-140/50
12672-29-6	Aroclor 1248	ND		ND			ND		nc	40-140/50
11097-69-1	Aroclor 1254	ND		ND			ND		nc	40-140/50
11096-82-5	Aroclor 1260	ND	294	245	83	299	219	73	11	18-177/50
37324-23-5	Aroclor 1262	ND		ND			ND		nc	40-140/50
11100-14-4	Aroclor 1268	ND		ND			ND		nc	40-140/50

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-9	Limits
877-09-8	Tetrachloro-m-xylene	73%	68%	72%	35-136%
877-09-8	Tetrachloro-m-xylene	62%	63%	60%	35-136%
2051-24-3	Decachlorobiphenyl	102%	90%	102%	24-171%
2051-24-3	Decachlorobiphenyl	88%	79%	89%	24-171%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8081B

Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
MC44826-1	BE50259.D	52	58	44	54
MC44826-2	BE50260.D	50	66	56	64
MC44826-3	BE50261.D	64	72	61	68
MC44826-4	BE50262.D	78	92	47	57
MC44826-5	BE50263.D	56	69	44	56
MC44826-6	BE50264.D	54	66	39	50
MC44826-7	BE50265.D	56	65	48	57
MC44826-8	BE50266.D	63	91	59	83
MC44826-9	BE50269.D	61	63	57	68
MC44826-10	BE50270.D	58	66	49	60
MC44826-11	BE50271.D	58	57	47	57
MC44826-12	BE50272.D	65	69	50	53
MC44826-13	BE50273.D	61	97	55	68
MC44826-14	BE50274.D	69	82	67	82
OP46831-BS	BE50258.D	86	87	89	85
OP46831-MB	BE50257.D	88	89	98	91
OP46831-MS1	BE50275.D	63	78	61	79
OP46831-MSD1	BE50276.D	61	88	67	101

Surrogate Compounds

Recovery Limits

S1 = Tetrachloro-m-xylene

10-143%

S2 = Decachlorobiphenyl

10-172%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2

7.4.1

7

Semivolatile Surrogate Recovery Summary

Page 1 of 1

Job Number: MC44826

Account: ROUXMA Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8082A

Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ^a	S1 ^b	S2 ^a	S2 ^b
MC44826-1	BK56286.D	71	61	87	66
MC44826-2	BK56287.D	63	51	85	66
MC44826-3	BK56288.D	57	49	74	59
MC44826-4	BK56289.D	62	49	75	56
MC44826-5	BK56290.D	69	57	91	69
MC44826-6	BK56305.D	64	60	87	80
MC44826-7	BK56306.D	68	54	94	81
MC44826-8	BK56307.D	74	56	93	77
MC44826-9	BK56308.D	72	60	102	89
MC44826-10	BK56309.D	69	58	88	74
MC44826-11	BK56310.D	77	72	105	94
MC44826-12	BK56311.D	73	69	94	84
MC44826-13	BK56312.D	74	53	89	75
MC44826-14	BK56313.D	68	58	91	74
OP46830-BS	BK56285.D	80	80	91	92
OP46830-MB	BK56284.D	95	95	97	98
OP46830-MS	BK56314.D	73	62	102	88
OP46830-MSD	BK56316.D	68	63	90	79

Surrogate Compounds

Recovery Limits

S1 = Tetrachloro-m-xylene

35-136%

S2 = Decachlorobiphenyl

24-171%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2

7.4.2

7

Metals Analysis

QC Data Summaries



Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/16/16

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	12	25		
Antimony	6.0	.92	1.2	0.30	<6.0
Arsenic	4.0	.85	2	-1.1	<4.0
Barium	50	.3	.57		
Beryllium	4.0	.079	.34	0.0	<4.0
Bismuth	50	1.1	1.8		
Boron	100	.32	2.3		
Cadmium	4.0	.12	.3	0.10	<4.0
Calcium	5000	4	18		
Chromium	10	.25	1.1	0.20	<10
Cobalt	50	.18	.41		
Copper	25	.48	4.2	0.0	<25
Gold	50	1.1	1.3		
Iron	100	58	16		
Lead	5.0	.61	1.1	0.40	<5.0
Lithium	500	1.3	1.8		
Magnesium	5000	19	56		
Manganese	15	.16	.41		
Molybdenum	100	2	16		
Nickel	40	.19	.35	-0.10	<40
Palladium	50	1.2	1.4		
Platinum	50	3.5	4.7		
Potassium	5000	26	78		
Selenium	10	1	3.4	0.0	<10
Silicon	100	1.6	11		
Silver	5.0	.31	1.4	0.20	<5.0
Sodium	5000	7.4	35		
Sulfur	50	1.9	3.3		
Strontium	10	.1	.17		
Thallium	5.0	.57	1.8	-0.30	<5.0
Tin	100	.33	2.2		
Titanium	50	.28	.99		
Tungsten	100	4	23		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/16/16

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.31	.4		
Zinc	20	.24	1	0.30	<20
Zirconium	50	.22	2.6		

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.1.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original MS		SpikeLot MPICP7	% Rec	QC Limits
Aluminum					
Antimony	0.0	539	500	107.8	75-125
Arsenic	0.0	566	500	113.2(a)	75-125
Barium	anr				
Beryllium	0.0	495	500	99.0	75-125
Bismuth					
Boron					
Cadmium	0.0	538	500	107.6	75-125
Calcium					
Chromium	1.2	467	500	93.2	75-125
Cobalt					
Copper	0.80	490	500	97.8	75-125
Gold					
Iron					
Lead	0.0	1050 (b)	1000	105.0	75-125
Lithium					
Magnesium					
Manganese	anr				
Molybdenum					
Nickel	0.80	535 (b)	500	106.8	75-125
Palladium					
Platinum					
Potassium					
Selenium	2.8	548	500	109.0	75-125
Silicon					
Silver	0.0	216	200	108.0	75-125
Sodium					
Sulfur					
Strontium					
Thallium	1.5	489 (b)	500	97.5	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original MS	Spike lot MPICP7	% Rec	QC Limits

Vanadium

Zinc 5.7 503 500 99.5 75-125

Zirconium

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) For DOD-QSM5 data: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

(b) Elevated RL due to dilution required for matrix interference.

8.1.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	MSD	SpikeLot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	0.0	536	500	107.2	0.6	20
Arsenic	0.0	565	500	113.0	0.2	20
Barium	anr					
Beryllium	0.0	491	500	98.2	0.8	20
Bismuth						
Boron						
Cadmium	0.0	534	500	106.8	0.7	20
Calcium						
Chromium	1.2	470	500	93.8	0.6	20
Cobalt						
Copper	0.80	493	500	98.4	0.6	20
Gold						
Iron						
Lead	0.0	1050 (a)	1000	105.0	0.0	20
Lithium						
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	0.80	536 (a)	500	107.0	0.2	20
Palladium						
Platinum						
Potassium						
Selenium	2.8	544	500	108.2	0.7	20
Silicon						
Silver	0.0	217	200	108.5	0.5	20
Sodium						
Sulfur						
Strontium						
Thallium	1.5	490 (a)	500	97.7	0.2	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/16/16

Metal	MC44830-3 Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit

Vanadium

Zinc 5.7 501 500 99.1 0.4 20

Zirconium

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Elevated RL due to dilution required for matrix interference.

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/16/16

03/16/16

Metal	BSP Result	SpikeLot MPICP7	% Rec	QC Limits	BSD Result	SpikeLot MPICP7	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	512	500	102.4	80-120	508	500	101.6	0.8	20
Arsenic	510	500	102.0	80-120	510	500	102.0	0.0	20
Barium	anr								
Beryllium	498	500	99.6	80-120	495	500	99.0	0.6	20
Bismuth									
Boron									
Cadmium	499	500	99.8	80-120	493	500	98.6	1.2	20
Calcium									
Chromium	479	500	95.8	80-120	474	500	94.8	1.0	20
Cobalt									
Copper	494	500	98.8	80-120	488	500	97.6	1.2	20
Gold									
Iron									
Lead	1020	1000	102.0	80-120	1010	1000	101.0	1.0	20
Lithium									
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	507	500	101.4	80-120	502	500	100.4	1.0	20
Palladium									
Platinum									
Potassium									
Selenium	498	500	99.6	80-120	496	500	99.2	0.4	20
Silicon									
Silver	195	200	97.5	80-120	193	200	96.5	1.0	20
Sodium									
Sulfur									
Strontium									
Thallium	503	500	100.6	80-120	500	500	100.0	0.6	20
Tin									
Titanium									
Tungsten									

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/16/16

03/16/16

Metal	BSP Result	SpikeLot MPICP7	% Rec	QC Limits	BSD Result	SpikeLot MPICP7	% Rec	BSD RPD	QC Limit

Vanadium

Zinc	496	500	99.2	80-120	489	500	97.8	1.4	20

Zirconium

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.1.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	1.20	2.30	91.7 (a)	0-10
Cobalt				
Copper	0.800	0.00	100.0(a)	0-10
Gold				
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	0.800	1.00	25.0 (a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	2.80	0.00	100.0(a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Sulfur				
Strontium				
Thallium	1.50	3.80	153.3(a)	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826
 Account: ROUXMA - Roux Associates
 Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922 Methods: SW846 6010C
 Matrix Type: AQUEOUS Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3		QC
	Original	SDL 1:5	%DIF Limits

Vanadium

Zinc 5.70 9.70 70.2 (a) 0-10

Zirconium

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923

Methods: SW846 7471B

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/16/16

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0058	.0057	-0.0065	<0.033

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.2.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923

Methods: SW846 7471B

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/16/16

Metal	MC44826-3		Spike lot		QC
	Original	MS	HGRWSi	% Rec	Limits
Mercury	0.0090	0.52	0.456	112.1	80-120

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

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

8.2.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923

Methods: SW846 7471B

Matrix Type: SOLID

Units: mg/kg

Prep Date:

03/16/16

Metal	MC44826-3 Original MSD	Spike lot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0090 0.52	0.45	113.6	0.0	20

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

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

8.2.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923

Methods: SW846 7471B

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/16/16

03/16/16

Metal	BSP Result	Spike lot HGRWS1	% Rec	QC Limits	BSD Result	Spike lot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	0.54	0.5	108.0	80-120	0.53	0.5	106.0	1.9	20

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.2.3

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923

Methods: SW846 7471B

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/16/16

Metal	LCS Result	Spike lot HGLCS86	% Rec	QC Limits
Mercury	20.3	20.2	100.5	71-129

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.2.3

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/18/16

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	.88	1.2		
Antimony	1.0	.11	.17	0.060	<1.0
Arsenic	1.0	.23	.2	-0.070	<1.0
Barium	5.0	.024	.076		
Beryllium	0.40	.015	.015	0.0	<0.40
Bismuth	5.0	.11	.15		
Boron	10	.1	.13		
Cadmium	0.40	.025	.031	0.010	<0.40
Calcium	500	.53	.86		
Chromium	1.0	.033	.047	0.060	<1.0
Cobalt	5.0	.024	.031		
Copper	2.5	.064	.1	0.010	<2.5
Gold	5.0	.13	.11		
Iron	10	.23	.44		
Lead	1.0	.1	.11	0.0	<1.0
Lithium	50	.11	.18		
Magnesium	500	3.4	4		
Manganese	1.5	.0056	.047		
Molybdenum	10	.021	.51		
Nickel	4.0	.021	.057	0.020	<4.0
Palladium	5.0	.11	.14		
Platinum	5.0	.26	.54		
Potassium	500	3.4	3.4		
Selenium	1.0	.26	.3	0.0	<1.0
Silicon	10	.14	.51		
Silver	0.50	.066	.061	0.010	<0.50
Sodium	500	.82	1.2		
Sulfur	5.0	.26	.31		
Strontium	1.0	.015	.022		
Thallium	1.0	.11	.11	0.14	<1.0
Tin	10	.075	.078		
Titanium	5.0	.036	.054		
Tungsten	10	.52	.93		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/18/16

Metal	RL	IDL	MDL	MB raw	final

Vanadium 1.0 .036 .04

Zinc 2.0 .031 .17 0.35 <2.0

Zirconium 5.0 .034 .17

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/18/16

Metal	MC44826-3 Original MS		SpikeLot MPICP7	% Rec	QC Limits
Aluminum					
Antimony	0.0	15.6	41.4	37.7 (a)	75-125
Arsenic	2.6	38.8	41.4	87.5	75-125
Barium	anr				
Beryllium	0.28	35.8	41.4	85.9	75-125
Bismuth					
Boron					
Cadmium	0.042	38.6	41.4	93.2	75-125
Calcium					
Chromium	8.2	39.9	41.4	76.7	75-125
Cobalt					
Copper	8.8	46.7	41.4	91.6	75-125
Gold					
Iron					
Lead	4.4	79.9	82.7	91.3	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	8.8	45.4	41.4	88.5	75-125
Palladium					
Platinum					
Potassium					
Selenium	0.0	37.8	41.4	91.4	75-125
Silicon					
Silver	0.0	14.9	16.5	90.1	75-125
Sodium					
Sulfur					
Strontium					
Thallium	0.28	37.3	41.4	89.5	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/18/16

Metal	MC44826-3 Original MS	Spike lot MPICP7	% Rec	QC Limits

Vanadium

Zinc 28.7 59.8 41.4 75.2 75-125

Zirconium

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Post spike within acceptable range.

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date:

03/18/16

Metal	MC44826-3 Original	MSD	SpikeLot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	0.0	15.6	42	37.2 (a)	0.0	20
Arsenic	2.6	38.3	42	85.1	1.3	20
Barium	anr					
Beryllium	0.28	35.8	42	84.6	0.0	20
Bismuth						
Boron						
Cadmium	0.042	38.0	42	90.4	1.6	20
Calcium						
Chromium	8.2	39.9	42	75.5	0.0	20
Cobalt						
Copper	8.8	45.9	42	88.4	1.7	20
Gold						
Iron						
Lead	4.4	78.3	83.9	88.0	2.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	8.8	45.1	42	86.5	0.7	20
Palladium						
Platinum						
Potassium						
Selenium	0.0	36.1	42	86.0	4.6	20
Silicon						
Silver	0.0	14.9	16.8	88.7	0.0	20
Sodium						
Sulfur						
Strontium						
Thallium	0.28	36.7	42	86.8	1.6	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date:

03/18/16

Metal	MC44826-3 Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit

Vanadium

Zinc 28.7 60.8 42 76.5 1.7 20

Zirconium

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

8.3.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date:

03/18/16

03/18/16

Metal	BSP Result	SpikeLot MPICP7	% Rec	QC Limits	BSD Result	SpikeLot MPICP7	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	48.0	50	96.0	80-120	47.8	50	95.6	0.4	20
Arsenic	47.6	50	95.2	80-120	47.4	50	94.8	0.4	20
Barium	anr								
Beryllium	48.2	50	96.4	80-120	47.4	50	94.8	1.7	20
Bismuth									
Boron									
Cadmium	49.4	50	98.8	80-120	49.0	50	98.0	0.8	20
Calcium									
Chromium	44.0	50	88.0	80-120	43.2	50	86.4	1.8	20
Cobalt									
Copper	46.7	50	93.4	80-120	46.0	50	92.0	1.5	20
Gold									
Iron									
Lead	96.1	100	96.1	80-120	95.2	100	95.2	0.9	20
Lithium									
Magnesium									
Manganese									
Molybdenum									
Nickel	48.2	50	96.4	80-120	47.8	50	95.6	0.8	20
Palladium									
Platinum									
Potassium									
Selenium	49.0	50	98.0	80-120	49.4	50	98.8	0.8	20
Silicon									
Silver	19.4	20	97.0	80-120	19.1	20	95.5	1.6	20
Sodium									
Sulfur									
Strontium									
Thallium	48.6	50	97.2	80-120	48.6	50	97.2	0.0	20
Tin									
Titanium									
Tungsten									

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date:

03/18/16

03/18/16

Metal	BSP Result	Spike lot MPICP7	% Rec	QC Limits	BSD Result	Spike lot MPICP7	% Rec	BSD RPD	QC Limit

Vanadium

Zinc	45.9	50	91.8	80-120	45.5	50	91.0	0.9	20

Zirconium

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.3.3

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/18/16

Metal	LCS Result	Spike lot MPLCS86	% Rec	QC Limits
Aluminum				
Antimony	61.2	86.5	70.8	1-199
Arsenic	93.5	97.5	95.9	78-122
Barium	anr			
Beryllium	95.4	100	95.4	83-118
Bismuth				
Boron				
Cadmium	74.7	76.6	97.5	82-118
Calcium				
Chromium	91.4	103	88.7	80-121
Cobalt				
Copper	100	108	92.6	81-119
Gold				
Iron				
Lead	91.4	96.7	94.5	82-118
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	143	153	93.5	82-118
Palladium				
Platinum				
Potassium				
Selenium	164	161	101.9	78-123
Silicon				
Silver	49.4	49.3	100.2	75-125
Sodium				
Sulfur				
Strontium				
Thallium	121	119	101.7	79-121
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: mg/kg

Prep Date: 03/18/16

Metal	LCS Result	Spike lot MPLCS86	% Rec	QC Limits

Vanadium

Zinc	202	229	88.2	82-118

Zirconium

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.3.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: ug/l

Prep Date: 03/18/16

Metal	MC44826-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	0.00	0.00	NC	0-10
Arsenic	30.4	30.1	1.0	0-10
Barium	anr			
Beryllium	3.30	3.30	0.0	0-10
Bismuth				
Boron				
Cadmium	0.500	0.00	100.0(a)	0-10
Calcium				
Chromium	97.7	108	10.6 (b)	0-10
Cobalt				
Copper	104	107	2.6	0-10
Gold				
Iron				
Lead	52.0	53.5	2.9	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	105	109	3.4	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Sulfur				
Strontium				
Thallium	3.30	0.00	100.0(a)	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: ug/l

Prep Date: 03/18/16

Metal	MC44826-3 Original	SDL 1:5	%DIF	QC Limits

Vanadium

Zinc 342 380 11.0 (b) 0-10

Zirconium

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial dilution indicates possible matrix interference.

8.3.4

8

POST DIGESTATE SPIKE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: ug/l

Prep Date:

03/18/16

Metal	Sample ml	Final ml	MC44826-3 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	10	10.1			18.3	.1	2	19.80198	92.4	80-120
Arsenic										
Barium										
Beryllium										
Bismuth										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Sulfur										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										

POST DIGESTATE SPIKE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929

Methods: SW846 6010C

Matrix Type: SOLID

Units: ug/l

Prep Date:

03/18/16

Metal	Sample ml	Final ml	MC44826-3 Raw	PS Corr.** ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits

Vanadium

Zinc

Zirconium

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(**) Corr. sample result = Raw * (sample volume / final volume)

(anr) Analyte not requested

8.3.5

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932

Methods: SW846 7470A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/18/16

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.034	-0.040	<0.20

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.4.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932

Methods: SW846 7470A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 03/18/16

Metal	MC44850-9		Spike lot		QC
	Original	MS	HGRWS1	% Rec	Limits
Mercury	0.0	3.0	3	100.0	75-125

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

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

8.4.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932

Methods: SW846 7470A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/18/16

Metal	MC44850-9		Spike lot		MSD	QC
	Original	MSD	HGRWS1	% Rec	RPD	Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

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

8.4.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826

Account: ROUXMA - Roux Associates

Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932

Methods: SW846 7470A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/18/16

03/18/16

Metal	BSP Result	Spike lot HGRWS1	% Rec	QC Limits	BSD Result	Spike lot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.2	3	106.7	80-120	3.1	3	103.3	3.2	20

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

8.4.3

8



ANALYTICAL REPORT

Lab Number:	L1607393
Client:	NewFields 300 Ledgewood Place Suite 305 Rockland, MA 02370
ATTN:	Eric Litman
Phone:	(781) 681-5040
Project Name:	FLINT ST
Project Number:	Not Specified
Report Date:	03/31/16

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1607393-01	RXGW1	WATER	Not Specified	03/11/16 12:00	03/14/16
L1607393-02	RXGW2	WATER	Not Specified	03/11/16 14:10	03/14/16
L1607393-03	RXGW3	WATER	Not Specified	03/11/16 16:15	03/14/16
L1607393-04	RXGW1-NAPL	OIL	Not Specified	03/11/16 12:00	03/14/16

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

The initial calibration analyzed on 03/01/16, P4030216.M, has the Relative Standard Deviation (RSD) above the 25% limit for Tridecane (31.2%). The RSD was below 35% and the compound represents less than 10% of the analytes, therefore the calibration was accepted.

The Independent Calibration Verification (ICV) I403011603 had the compound Tertiary butanol above the QC limit (20%) at 22.9%. This value represents less than 10% of all compounds, therefore the calibration was accepted.

Method blank WG875264-6 has Decane, Naphthalene, and 2-Methylnaphthalene which are J qualified. Associated field sample results are flagged with "B" qualifiers if the concentrations of the analytes in the samples are less than 10x the concentration in the blank.

WG875264-8 The relative percent difference (RPD) was not reported for 2,3-Dimethylbutane, 3-Methylhexane, 2,3,4-Trimethylpentane, and 1-Methyl-2-propylbenzene due to the compounds not being detected in either the native or duplicate sample. No further corrective action was taken.

Sample Preparation

Samples L1607393-01 through -03 were combine extracted for ALKPAH/TPH/PCB/Pest analyses. A NAPL layer was observed in sample -01 (RXGW1). Per client request, this layer was isolated, logged as sample -04 (RXGW1-NAPL), and analyzed for ALKPAH/Biomarkers/TPH.

Petroleum Hydrocarbon Quantitation

The method blank WG875045-1 contained low-level target compounds detected below the reporting limit. Associated field sample results are flagged with "B" qualifiers if the concentration of the analyte in the sample is less than 10X the concentration in the blank.

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Case Narrative (continued)

PCBs

Sample L1607393-01 and -03 had the surrogate Decachlorobiphenyl (DCB) recover below the acceptance criteria at 20% and 29% respectively for column B. All other surrogate recoveries were within acceptance criteria; therefore no further action was taken.

The continuing calibration standard (CCV) WG875277-2, which is the closing CCV for the method blank WG875047-1, laboratory control sample and control sample duplicate WG875047-2 and -3 and the opening associated with L1607393-01, -02, and -03, had the response for the surrogate Tetrachloro-m-xylene (TMX) (20.3%D column A) above the acceptance criteria. All associated surrogate recoveries were within acceptance criteria; therefore no further action was taken.

Pesticides

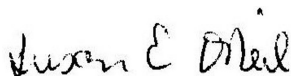
Sample L1607393-01 required dilution due to matrix. Only the dilution analysis is reported.

The closing continuing calibration standard (CCV) WG875275-6, associated with L1607393-01D, -02, -03 and the method blank, laboratory control sample and its duplicate WG875046-1, -2 and -3, had the response for alpha-BHC (27.8% D column B), and gamma-BHC (20.2% D column B) outside the acceptance criteria.

The results for these compounds, if detected, were reported from the compliant column. The compounds delta-BHC (21.2% D column A, 25.4% D column B) and Aldrin (21.4% D column A; 26.0%D column B) exceeded the acceptance criteria on both columns, but were not detected in the associated samples; therefore no further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 03/31/16

ORGANICS

VOLATILES

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 19:37
Analyst: MR

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	1.98	J	ug/l	2.00	0.745	1
1-Pentene	ND		ug/l	2.00	0.619	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.657	1
Pentane	1.29	J	ug/l	2.00	0.623	1
trans-2-Pentene	ND		ug/l	2.00	0.704	1
cis-2-Pentene	ND		ug/l	2.00	0.524	1
Tertiary Butanol	ND		ug/l	20.0	8.10	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	2.28		ug/l	2.00	0.825	1
2-Methylpentane	0.853	J	ug/l	2.00	0.644	1
Methyl tert butyl ether	5.47		ug/l	2.00	0.623	1
3-Methylpentane	11.1		ug/l	2.00	0.601	1
1-Hexene	ND		ug/l	2.00	0.574	1
n-Hexane	0.335	J	ug/l	2.00	0.583	1
Isopropyl Ether	ND		ug/l	2.00	0.549	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521	1
2,2-Dimethylpentane	2.55		ug/l	2.00	0.518	1
Methylcyclopentane	4.64		ug/l	2.00	0.608	1
2,4-Dimethylpentane	4.21		ug/l	2.00	0.525	1
1,2-Dichloroethane	ND		ug/l	2.00	0.606	1
Cyclohexane	8.92		ug/l	2.00	0.577	1
2-Methylhexane	ND		ug/l	2.00	0.466	1
Benzene	ND		ug/l	2.00	0.433	1
2,3-Dimethylpentane	14.5		ug/l	2.00	0.506	1
Thiophene	ND		ug/l	2.00	0.519	1
3-Methylhexane	2.10		ug/l	2.00	0.526	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529	1
1-Heptene/1,2-DMCP (trans)	30.5		ug/l	4.00	1.23	1
Isooctane	ND		ug/l	2.00	0.467	1
Heptane	ND		ug/l	2.00	0.549	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Methylcyclohexane	144		ug/l	2.00	0.426	1
2,5-Dimethylhexane	23.6		ug/l	2.00	0.479	1
2,4-Dimethylhexane	32.3		ug/l	2.00	0.472	1
2,2,3-Trimethylpentane	1.95	J	ug/l	2.00	0.501	1
2,3,4-Trimethylpentane	2.33		ug/l	2.00	0.459	1
2,3,3-Trimethylpentane	3.26		ug/l	2.00	0.438	1
2,3-Dimethylhexane	31.7		ug/l	2.00	0.484	1
2-Methylheptane	ND		ug/l	2.00	0.463	1
3-Methylheptane	3.72		ug/l	2.00	0.388	1
3-Ethylhexane	38.7		ug/l	2.00	0.511	1
Toluene	0.505	J	ug/l	2.00	0.289	1
2-Methylthiophene	ND		ug/l	2.00	0.298	1
3-Methylthiophene	ND		ug/l	2.00	0.308	1
1-Octene	ND		ug/l	2.00	0.305	1
Octane	ND		ug/l	2.00	0.423	1
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.219	1
p/m-Xylene	1.27	J	ug/l	4.00	0.563	1
1-Nonene	ND		ug/l	2.00	0.207	1
Nonane (C9)	ND		ug/l	2.00	0.438	1
Styrene	ND		ug/l	2.00	0.278	1
o-Xylene	0.571	J	ug/l	2.00	0.307	1
Isopropylbenzene	ND		ug/l	2.00	0.334	1
n-Propylbenzene	ND		ug/l	2.00	0.377	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380	1
1-Decene	ND		ug/l	2.00	0.278	1
1-Methyl-2-Ethylbenzene	1.31	J	ug/l	2.00	0.409	1
Decane (C10)	ND		ug/l	2.00	0.305	1
1,2,4-Trimethylbenzene	0.346	J	ug/l	2.00	0.437	1
sec-Butylbenzene	1.06	J	ug/l	2.00	0.405	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458	1
1-Methyl-2-Isopropylbenzene	10.7		ug/l	2.00	0.549	1
Indane	10.0		ug/l	2.00	0.463	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
n-Butylbenzene	ND		ug/l	2.00	0.499	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486	1
1,2-Diethylbenzene	6.82		ug/l	2.00	0.462	1
1-Methyl-2-N-Propylbenzene	2.06		ug/l	2.00	0.407	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446	1
Undecane	ND		ug/l	2.00	0.706	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428	1
1,3-Dimethyl-5-Ethylbenzene	128		ug/l	2.00	0.486	1
1,3-Dimethyl-2-Ethylbenzene	9.83		ug/l	2.00	0.474	1
1,2-Dimethyl-3-Ethylbenzene	12.9		ug/l	2.00	0.436	1
1,2,4,5-Tetramethylbenzene	28.1		ug/l	2.00	0.452	1
N-Pentylbenzene	ND		ug/l	2.00	0.396	1
Dodecane (C12)	ND		ug/l	2.00	0.878	1
Naphthalene	ND		ug/l	2.00	0.834	1
Benzothiophene	ND		ug/l	2.00	1.06	1
MMT	ND		ug/l	5.00	1.28	1
Tridecane	ND		ug/l	5.00	1.30	1
2-Methylnaphthalene	ND		ug/l	5.00	1.32	1
1-Methylnaphthalene	ND		ug/l	5.00	1.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	120		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	119		70-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 22:06
Analyst: MR

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	0.283	J	ug/l	2.00	0.745	1
1-Pentene	ND		ug/l	2.00	0.619	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.657	1
Pentane	ND		ug/l	2.00	0.623	1
trans-2-Pentene	ND		ug/l	2.00	0.704	1
cis-2-Pentene	ND		ug/l	2.00	0.524	1
Tertiary Butanol	ND		ug/l	20.0	8.10	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	0.207	J	ug/l	2.00	0.825	1
2-Methylpentane	ND		ug/l	2.00	0.644	1
Methyl tert butyl ether	ND		ug/l	2.00	0.623	1
3-Methylpentane	ND		ug/l	2.00	0.601	1
1-Hexene	ND		ug/l	2.00	0.574	1
n-Hexane	ND		ug/l	2.00	0.583	1
Isopropyl Ether	ND		ug/l	2.00	0.549	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521	1
2,2-Dimethylpentane	0.793	J	ug/l	2.00	0.518	1
Methylcyclopentane	ND		ug/l	2.00	0.608	1
2,4-Dimethylpentane	1.87	J	ug/l	2.00	0.525	1
1,2-Dichloroethane	ND		ug/l	2.00	0.606	1
Cyclohexane	ND		ug/l	2.00	0.577	1
2-Methylhexane	ND		ug/l	2.00	0.466	1
Benzene	ND		ug/l	2.00	0.433	1
2,3-Dimethylpentane	2.54		ug/l	2.00	0.506	1
Thiophene	ND		ug/l	2.00	0.519	1
3-Methylhexane	ND		ug/l	2.00	0.526	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529	1
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	1.23	1
Isooctane	ND		ug/l	2.00	0.467	1
Heptane	ND		ug/l	2.00	0.549	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Methylcyclohexane	ND		ug/l	2.00	0.426	1
2,5-Dimethylhexane	2.61		ug/l	2.00	0.479	1
2,4-Dimethylhexane	1.48	J	ug/l	2.00	0.472	1
2,2,3-Trimethylpentane	0.240	J	ug/l	2.00	0.501	1
2,3,4-Trimethylpentane	0.298	J	ug/l	2.00	0.459	1
2,3,3-Trimethylpentane	0.399	J	ug/l	2.00	0.438	1
2,3-Dimethylhexane	0.476	J	ug/l	2.00	0.484	1
2-Methylheptane	ND		ug/l	2.00	0.463	1
3-Methylheptane	0.417	J	ug/l	2.00	0.388	1
3-Ethylhexane	0.739	J	ug/l	2.00	0.511	1
Toluene	0.139	J	ug/l	2.00	0.289	1
2-Methylthiophene	ND		ug/l	2.00	0.298	1
3-Methylthiophene	ND		ug/l	2.00	0.308	1
1-Octene	ND		ug/l	2.00	0.305	1
Octane	ND		ug/l	2.00	0.423	1
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.219	1
p/m-Xylene	ND		ug/l	4.00	0.563	1
1-Nonene	ND		ug/l	2.00	0.207	1
Nonane (C9)	ND		ug/l	2.00	0.438	1
Styrene	ND		ug/l	2.00	0.278	1
o-Xylene	ND		ug/l	2.00	0.307	1
Isopropylbenzene	ND		ug/l	2.00	0.334	1
n-Propylbenzene	ND		ug/l	2.00	0.377	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380	1
1-Decene	ND		ug/l	2.00	0.278	1
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.409	1
Decane (C10)	ND		ug/l	2.00	0.305	1
1,2,4-Trimethylbenzene	0.134	J	ug/l	2.00	0.437	1
sec-Butylbenzene	0.816	J	ug/l	2.00	0.405	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458	1
1-Methyl-2-Isopropylbenzene	0.863	J	ug/l	2.00	0.549	1
Indane	1.04	J	ug/l	2.00	0.463	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
n-Butylbenzene	0.298	J	ug/l	2.00	0.499	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486	1
1,2-Diethylbenzene	0.516	J	ug/l	2.00	0.462	1
1-Methyl-2-N-Propylbenzene	0.268	J	ug/l	2.00	0.407	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446	1
Undecane	ND		ug/l	2.00	0.706	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428	1
1,3-Dimethyl-5-Ethylbenzene	3.11		ug/l	2.00	0.486	1
1,3-Dimethyl-2-Ethylbenzene	0.352	J	ug/l	2.00	0.474	1
1,2-Dimethyl-3-Ethylbenzene	0.271	J	ug/l	2.00	0.436	1
1,2,4,5-Tetramethylbenzene	3.27		ug/l	2.00	0.452	1
N-Pentylbenzene	ND		ug/l	2.00	0.396	1
Dodecane (C12)	ND		ug/l	2.00	0.878	1
Naphthalene	0.594	JB	ug/l	2.00	0.834	1
Benzothiophene	ND		ug/l	2.00	1.06	1
MMT	ND		ug/l	5.00	1.28	1
Tridecane	ND		ug/l	5.00	1.30	1
2-Methylnaphthalene	0.382	JB	ug/l	5.00	1.32	1
1-Methylnaphthalene	0.571	J	ug/l	5.00	1.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 23:20
Analyst: MR

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	0.834	J	ug/l	2.00	0.745	1
1-Pentene	ND		ug/l	2.00	0.619	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.657	1
Pentane	ND		ug/l	2.00	0.623	1
trans-2-Pentene	ND		ug/l	2.00	0.704	1
cis-2-Pentene	ND		ug/l	2.00	0.524	1
Tertiary Butanol	ND		ug/l	20.0	8.10	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	ND		ug/l	2.00	0.825	1
2-Methylpentane	ND		ug/l	2.00	0.644	1
Methyl tert butyl ether	ND		ug/l	2.00	0.623	1
3-Methylpentane	ND		ug/l	2.00	0.601	1
1-Hexene	ND		ug/l	2.00	0.574	1
n-Hexane	ND		ug/l	2.00	0.583	1
Isopropyl Ether	ND		ug/l	2.00	0.549	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521	1
2,2-Dimethylpentane	ND		ug/l	2.00	0.518	1
Methylcyclopentane	ND		ug/l	2.00	0.608	1
2,4-Dimethylpentane	ND		ug/l	2.00	0.525	1
1,2-Dichloroethane	ND		ug/l	2.00	0.606	1
Cyclohexane	0.332	J	ug/l	2.00	0.577	1
2-Methylhexane	ND		ug/l	2.00	0.466	1
Benzene	ND		ug/l	2.00	0.433	1
2,3-Dimethylpentane	ND		ug/l	2.00	0.506	1
Thiophene	ND		ug/l	2.00	0.519	1
3-Methylhexane	ND		ug/l	2.00	0.526	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529	1
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	1.23	1
Isooctane	ND		ug/l	2.00	0.467	1
Heptane	ND		ug/l	2.00	0.549	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Methylcyclohexane	0.442	J	ug/l	2.00	0.426	1
2,5-Dimethylhexane	ND		ug/l	2.00	0.479	1
2,4-Dimethylhexane	ND		ug/l	2.00	0.472	1
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.501	1
2,3,4-Trimethylpentane	ND		ug/l	2.00	0.459	1
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.438	1
2,3-Dimethylhexane	ND		ug/l	2.00	0.484	1
2-Methylheptane	ND		ug/l	2.00	0.463	1
3-Methylheptane	ND		ug/l	2.00	0.388	1
3-Ethylhexane	ND		ug/l	2.00	0.511	1
Toluene	0.142	J	ug/l	2.00	0.289	1
2-Methylthiophene	ND		ug/l	2.00	0.298	1
3-Methylthiophene	ND		ug/l	2.00	0.308	1
1-Octene	ND		ug/l	2.00	0.305	1
Octane	ND		ug/l	2.00	0.423	1
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.219	1
p/m-Xylene	ND		ug/l	4.00	0.563	1
1-Nonene	ND		ug/l	2.00	0.207	1
Nonane (C9)	ND		ug/l	2.00	0.438	1
Styrene	ND		ug/l	2.00	0.278	1
o-Xylene	ND		ug/l	2.00	0.307	1
Isopropylbenzene	ND		ug/l	2.00	0.334	1
n-Propylbenzene	ND		ug/l	2.00	0.377	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380	1
1-Decene	ND		ug/l	2.00	0.278	1
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.409	1
Decane (C10)	0.215	JB	ug/l	2.00	0.305	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	0.437	1
sec-Butylbenzene	ND		ug/l	2.00	0.405	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458	1
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.549	1
Indane	ND		ug/l	2.00	0.463	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
n-Butylbenzene	ND		ug/l	2.00	0.499	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486	1
1,2-Diethylbenzene	ND		ug/l	2.00	0.462	1
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.407	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446	1
Undecane	ND		ug/l	2.00	0.706	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428	1
1,3-Dimethyl-5-Ethylbenzene	0.240	J	ug/l	2.00	0.486	1
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.474	1
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.436	1
1,2,4,5-Tetramethylbenzene	0.110	J	ug/l	2.00	0.452	1
N-Pentylbenzene	ND		ug/l	2.00	0.396	1
Dodecane (C12)	ND		ug/l	2.00	0.878	1
Naphthalene	0.393	JB	ug/l	2.00	0.834	1
Benzothiophene	ND		ug/l	2.00	1.06	1
MMT	ND		ug/l	5.00	1.28	1
Tridecane	ND		ug/l	5.00	1.30	1
2-Methylnaphthalene	0.153	JB	ug/l	5.00	1.32	1
1-Methylnaphthalene	ND		ug/l	5.00	1.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
Isopentane	ND		ug/l	2.00	0.745
1-Pentene	ND		ug/l	2.00	0.619
2-Methyl-1-Butene	ND		ug/l	2.00	0.657
Pentane	ND		ug/l	2.00	0.623
trans-2-Pentene	ND		ug/l	2.00	0.704
cis-2-Pentene	ND		ug/l	2.00	0.524
Tertiary Butanol	ND		ug/l	20.0	8.10
Cyclopentane	ND		ug/l	2.00	0.519
2,3-Dimethylbutane	ND		ug/l	2.00	0.825
2-Methylpentane	ND		ug/l	2.00	0.644
Methyl tert butyl ether	ND		ug/l	2.00	0.623
3-Methylpentane	ND		ug/l	2.00	0.601
1-Hexene	ND		ug/l	2.00	0.574
n-Hexane	ND		ug/l	2.00	0.583
Isopropyl Ether	ND		ug/l	2.00	0.549
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521
2,2-Dimethylpentane	ND		ug/l	2.00	0.518
Methylcyclopentane	ND		ug/l	2.00	0.608
2,4-Dimethylpentane	ND		ug/l	2.00	0.525
1,2-Dichloroethane	ND		ug/l	2.00	0.606
Cyclohexane	ND		ug/l	2.00	0.577
2-Methylhexane	ND		ug/l	2.00	0.466
Benzene	ND		ug/l	2.00	0.433
2,3-Dimethylpentane	ND		ug/l	2.00	0.506
Thiophene	ND		ug/l	2.00	0.519
3-Methylhexane	ND		ug/l	2.00	0.526
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	1.23
Isooctane	ND		ug/l	2.00	0.467

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
Heptane	ND		ug/l	2.00	0.549
Methylcyclohexane	ND		ug/l	2.00	0.426
2,5-Dimethylhexane	ND		ug/l	2.00	0.479
2,4-Dimethylhexane	ND		ug/l	2.00	0.472
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.501
2,3,4-Trimethylpentane	ND		ug/l	2.00	0.459
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.438
2,3-Dimethylhexane	ND		ug/l	2.00	0.484
2-Methylheptane	ND		ug/l	2.00	0.463
3-Methylheptane	ND		ug/l	2.00	0.388
3-Ethylhexane	ND		ug/l	2.00	0.511
Toluene	ND		ug/l	2.00	0.289
2-Methylthiophene	ND		ug/l	2.00	0.298
3-Methylthiophene	ND		ug/l	2.00	0.308
1-Octene	ND		ug/l	2.00	0.305
Octane	ND		ug/l	2.00	0.423
1,2-Dibromoethane	ND		ug/l	2.00	0.320
Ethylbenzene	ND		ug/l	2.00	0.216
2-Ethylthiophene	ND		ug/l	2.00	0.219
p/m-Xylene	ND		ug/l	4.00	0.563
1-Nonene	ND		ug/l	2.00	0.207
Nonane (C9)	ND		ug/l	2.00	0.438
Styrene	ND		ug/l	2.00	0.278
o-Xylene	ND		ug/l	2.00	0.307
Isopropylbenzene	ND		ug/l	2.00	0.334
n-Propylbenzene	ND		ug/l	2.00	0.377
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
1-Decene	ND		ug/l	2.00	0.278
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.409
Decane (C10)	0.286	J	ug/l	2.00	0.305
1,2,4-Trimethylbenzene	ND		ug/l	2.00	0.437
sec-Butylbenzene	ND		ug/l	2.00	0.405
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.549
Indane	ND		ug/l	2.00	0.463
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469
n-Butylbenzene	ND		ug/l	2.00	0.499
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486
1,2-Diethylbenzene	ND		ug/l	2.00	0.462
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.407
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446
Undecane	ND		ug/l	2.00	0.706
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428
1,3-Dimethyl-5-Ethylbenzene	ND		ug/l	2.00	0.486
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.474
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.436
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.00	0.452
N-Pentylbenzene	ND		ug/l	2.00	0.396
Dodecane (C12)	ND		ug/l	2.00	0.878
Naphthalene	0.445	J	ug/l	2.00	0.834
Benzothiophene	ND		ug/l	2.00	1.06
MMT	ND		ug/l	5.00	1.28
Tridecane	ND		ug/l	5.00	1.30
2-Methylnaphthalene	0.099	J	ug/l	5.00	1.32

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
1-Methylnaphthalene	ND		ug/l	5.00	1.47

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875264-3 WG875264-4								
1-Pentene	88		92		50-130	4		30
Pentane	82		86		50-130	5		30
Tertiary Butanol	102		102		50-130	0		30
Cyclopentane	90		91		50-130	1		30
2-Methylpentane	89		91		50-130	2		30
Methyl tert butyl ether	95		96		50-130	1		30
3-Methylpentane	92		94		50-130	2		30
1-Hexene	90		90		50-130	0		30
n-Hexane	90		92		50-130	2		30
Isopropyl Ether	96		98		50-130	2		30
Ethyl-Tert-Butyl-Ether	95		96		50-130	1		30
Methylcyclopentane	95		95		50-130	0		30
2,4-Dimethylpentane	91		88		50-130	3		30
Cyclohexane	92		94		50-130	2		30
2-Methylhexane	90		92		50-130	2		30
Benzene	97		98		50-130	1		30
2,3-Dimethylpentane	94		94		50-130	0		30
3-Methylhexane	86		87		50-130	1		30
Tertiary-Amyl Methyl Ether	90		92		50-130	2		30
Isooctane	94		95		50-130	1		30
Heptane	89		91		50-130	2		30

Lab Control Sample Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875264-3 WG875264-4								
Methylcyclohexane	96		96		50-130	0		30
2-Methylheptane	92		95		50-130	3		30
3-Methylheptane	92		94		50-130	2		30
Toluene	97		98		50-130	1		30
Octane	91		92		50-130	1		30
Ethylbenzene	96		96		50-130	0		30
p/m-Xylene	98		98		50-130	0		30
Nonane (C9)	89		88		50-130	1		30
o-Xylene	98		99		50-130	1		30
Isopropylbenzene	98		99		50-130	1		30
n-Propylbenzene	96		98		50-130	2		30
1-Methyl-3-Ethylbenzene	97		98		50-130	1		30
1-Methyl-4-Ethylbenzene	99		98		50-130	1		30
1,3,5-Trimethylbenzene	98		100		50-130	2		30
1-Decene	92		93		50-130	1		30
1-Methyl-2-Ethylbenzene	100		102		50-130	2		30
Decane (C10)	92		92		50-130	0		30
1,2,4-Trimethylbenzene	98		100		50-130	2		30
sec-Butylbenzene	98		100		50-130	2		30
1-Methyl-4-N-Propylbenzene	100		100		50-130	0		30
n-Butylbenzene	98		100		50-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875264-3 WG875264-4								
1,2-Diethylbenzene	98		100		50-130	2		30
Undecane	98		100		50-130	2		30
N-Pentylbenzene	98		99		50-130	1		30
Dodecane (C12)	100		100		50-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Dibromofluoromethane	104		102		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	101		100		70-130

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1						
Isopentane	1.98J	1.64J	ug/l	NC		30
1-Pentene	ND	ND	ug/l	NC		30
2-Methyl-1-Butene	ND	ND	ug/l	NC		30
Pentane	1.29J	1.06J	ug/l	NC		30
trans-2-Pentene	ND	ND	ug/l	NC		30
cis-2-Pentene	ND	ND	ug/l	NC		30
Tertiary Butanol	ND	ND	ug/l	NC		30
Cyclopentane	ND	ND	ug/l	NC		30
2,3-Dimethylbutane	2.28	1.95J	ug/l	NC		30
2-Methylpentane	0.853J	0.731J	ug/l	NC		30
Methyl tert butyl ether	5.47	4.62	ug/l	17		30
3-Methylpentane	11.1	8.94	ug/l	22		30
1-Hexene	ND	ND	ug/l	NC		30
n-Hexane	0.335J	0.334J	ug/l	NC		30
Isopropyl Ether	ND	ND	ug/l	NC		30
Ethyl-Tert-Butyl-Ether	ND	ND	ug/l	NC		30
2,2-Dimethylpentane	2.55	2.09	ug/l	20		30
Methylcyclopentane	4.64	3.95	ug/l	16		30
2,4-Dimethylpentane	4.21	3.27	ug/l	25		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
1,2-Dichloroethane	ND	ND	ug/l	NC	30
Cyclohexane	8.92	7.54	ug/l	17	30
2-Methylhexane	ND	ND	ug/l	NC	30
Benzene	ND	ND	ug/l	NC	30
2,3-Dimethylpentane	14.5	11.6	ug/l	22	30
Thiophene	ND	ND	ug/l	NC	30
3-Methylhexane	2.10	1.97J	ug/l	NC	30
Tertiary-Amyl Methyl Ether	ND	ND	ug/l	NC	30
1-Heptene/1,2-DMCP (trans)	30.5	25.3	ug/l	19	30
Isooctane	ND	ND	ug/l	NC	30
Heptane	ND	ND	ug/l	NC	30
Methylcyclohexane	144	122	ug/l	17	30
2,5-Dimethylhexane	23.6	19.5	ug/l	19	30
2,4-Dimethylhexane	32.3	26.9	ug/l	18	30
2,2,3-Trimethylpentane	1.95J	1.62J	ug/l	NC	30
2,3,4-Trimethylpentane	2.33	1.88J	ug/l	NC	30
2,3,3-Trimethylpentane	3.26	2.69	ug/l	19	30
2,3-Dimethylhexane	31.7	26.5	ug/l	18	30
2-Methylheptane	ND	ND	ug/l	NC	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
3-Methylheptane	3.72	3.38	ug/l	10	30
3-Ethylhexane	38.7	32.4	ug/l	18	30
Toluene	0.505J	0.498J	ug/l	NC	30
2-Methylthiophene	ND	ND	ug/l	NC	30
3-Methylthiophene	ND	ND	ug/l	NC	30
1-Octene	ND	ND	ug/l	NC	30
Octane	ND	ND	ug/l	NC	30
1,2-Dibromoethane	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
2-Ethylthiophene	ND	ND	ug/l	NC	30
p/m-Xylene	1.27J	1.17J	ug/l	NC	30
1-Nonene	ND	ND	ug/l	NC	30
Nonane (C9)	ND	ND	ug/l	NC	30
Styrene	ND	ND	ug/l	NC	30
o-Xylene	0.571J	0.627J	ug/l	NC	30
Isopropylbenzene	ND	ND	ug/l	NC	30
n-Propylbenzene	ND	ND	ug/l	NC	30
1-Methyl-3-Ethylbenzene	ND	ND	ug/l	NC	30
1-Methyl-4-Ethylbenzene	ND	ND	ug/l	NC	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
1,3,5-Trimethylbenzene	ND	ND	ug/l	NC	30
1-Decene	ND	ND	ug/l	NC	30
1-Methyl-2-Ethylbenzene	1.31J	1.10J	ug/l	NC	30
Decane (C10)	ND	ND	ug/l	NC	30
1,2,4-Trimethylbenzene	0.346J	0.305J	ug/l	NC	30
sec-Butylbenzene	1.06J	0.954J	ug/l	NC	30
1-Methyl-3-Isopropylbenzene	ND	ND	ug/l	NC	30
1-Methyl-4-Isopropylbenzene	ND	ND	ug/l	NC	30
1-Methyl-2-Isopropylbenzene	10.7	8.58	ug/l	22	30
Indane	10.0	8.50	ug/l	16	30
1-Methyl-3-N-Propylbenzene	ND	ND	ug/l	NC	30
1-Methyl-4-N-Propylbenzene	ND	ND	ug/l	NC	30
n-Butylbenzene	ND	ND	ug/l	NC	30
1,2-Dimethyl-4-Ethylbenzene	ND	ND	ug/l	NC	30
1,2-Diethylbenzene	6.82	5.40	ug/l	23	30
1-Methyl-2-N-Propylbenzene	2.06	1.82J	ug/l	NC	30
1,4-Dimethyl-2-Ethylbenzene	ND	ND	ug/l	NC	30
Undecane	ND	ND	ug/l	NC	30
1,3-Dimethyl-4-Ethylbenzene	ND	ND	ug/l	NC	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
1,3-Dimethyl-5-Ethylbenzene	128	98.1	ug/l	26	30
1,3-Dimethyl-2-Ethylbenzene	9.83	7.57	ug/l	26	30
1,2-Dimethyl-3-Ethylbenzene	12.9	9.99	ug/l	25	30
1,2,4,5-Tetramethylbenzene	28.1	21.8	ug/l	25	30
N-Pentylbenzene	ND	ND	ug/l	NC	30
Dodecane (C12)	ND	ND	ug/l	NC	30
Naphthalene	ND	ND	ug/l	NC	30
Benzothiophene	ND	ND	ug/l	NC	30
MMT	ND	ND	ug/l	NC	30
Tridecane	ND	ND	ug/l	NC	30
2-Methylnaphthalene	ND	ND	ug/l	NC	30
1-Methylnaphthalene	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	120		104		70-130
Toluene-d8	108		100		70-130
4-Bromofluorobenzene	119		111		70-130

SEMIVOLATILES

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 05:06
Analyst: AC

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
cis/trans-Decalin	211000		ng/l	122	60.0	1
C1-Decalins	335000		ng/l	244	60.0	1
C2-Decalins	335000		ng/l	244	60.0	1
C3-Decalins	187000		ng/l	244	60.0	1
C4-Decalins	219000		ng/l	244	60.0	1
Naphthalene	1790		ng/l	244	48.0	1
C1-Naphthalenes	2430		ng/l	244	48.0	1
C2-Naphthalenes	86000		ng/l	244	48.0	1
C3-Naphthalenes	231000		ng/l	244	48.0	1
C4-Naphthalenes	177000		ng/l	244	48.0	1
2-Methylnaphthalene	1390		ng/l	244	56.1	1
1-Methylnaphthalene	1630		ng/l	244	47.6	1
Benzo(b)thiophene	ND		ng/l	244	37.1	1
C1-Benzo(b)thiophenes	13500		ng/l	244	37.1	1
C2-Benzo(b)thiophenes	4860		ng/l	244	37.1	1
C3-Benzo(b)thiophenes	8930		ng/l	244	37.1	1
C4-Benzo(b)thiophenes	7950		ng/l	244	37.1	1
Biphenyl	ND		ng/l	244	56.8	1
2,6-Dimethylnaphthalene	2980		ng/l	244	56.8	1
Dibenzofuran	1980		ng/l	244	44.4	1
Acenaphthylene	1240		ng/l	244	48.8	1
Acenaphthene	904		ng/l	244	31.2	1
2,3,5-Trimethylnaphthalene	29900		ng/l	244	36.8	1
Fluorene	5340		ng/l	244	43.2	1
C1-Fluorenes	29900		ng/l	244	43.2	1
C2-Fluorenes	107000		ng/l	244	43.2	1
C3-Fluorenes	154000		ng/l	244	43.2	1
Dibenzothiophene	3390		ng/l	244	35.6	1
4-Methyldibenzothiophene(4MDT)	11600		ng/l	244	35.6	1
2/3-Methyldibenzothiophene(2MDT)	5960		ng/l	244	35.6	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	1180		ng/l	244	35.6	1
C1-Dibenzothiophenes	20700		ng/l	244	35.6	1
C2-Dibenzothiophenes	42900		ng/l	244	35.6	1
C3-Dibenzothiophenes	51000		ng/l	244	35.6	1
C4-Dibenzothiophenes	35200		ng/l	244	35.6	1
Phenanthrene	25200		ng/l	244	29.3	1
3-Methylphenanthrene (3MP)	28600		ng/l	244	29.3	1
2-Methylphenanthrene (2MP)	27500		ng/l	244	29.3	1
2-Methylanthracene (2MA)	1660		ng/l	244	29.3	1
9/4-Methylphenanthrene (9MP)	43000		ng/l	244	29.3	1
1-Methylphenanthrene (1MP)	25100		ng/l	244	29.3	1
C1-Phenanthrenes/Anthracenes	131000		ng/l	244	29.3	1
C2-Phenanthrenes/Anthracen	249000		ng/l	244	29.3	1
C3-Phenanthrenes/Anthracenes	231000		ng/l	244	29.3	1
C4-Phenanthrenes/Anthracenes	147000		ng/l	244	29.3	1
Retene	ND		ng/l	244	68.3	1
Anthracene	2150		ng/l	244	44.1	1
Carbazole	ND		ng/l	244	37.6	1
Fluoranthene	1870		ng/l	244	43.4	1
Benzo(b)fluorene	1100		ng/l	244	64.6	1
Pyrene	7170		ng/l	244	44.4	1
C1-Fluoranthenes/Pyrenes	24500		ng/l	244	44.4	1
C2-Fluoranthenes/Pyrenes	43200		ng/l	244	44.4	1
C3-Fluoranthenes/Pyrenes	61200		ng/l	244	44.4	1
C4-Fluoranthenes/Pyrenes	63200		ng/l	244	44.4	1
Naphthobenzothiophenes	2770		ng/l	244	40.0	1
C1-Naphthobenzothiophenes	11500		ng/l	244	40.0	1
C2-Naphthobenzothiophenes	18800		ng/l	244	40.0	1
C3-Naphthobenzothiophenes	18000		ng/l	244	40.0	1
C4-Naphthobenzothiophenes	22700		ng/l	244	40.0	1
Benz(a)anthracene	2740		ng/l	244	28.3	1
Chrysene/Triphenylene	13700		ng/l	244	30.7	1
C1-Chrysenes	43200		ng/l	244	30.7	1
C2-Chrysenes	65800		ng/l	244	30.7	1
C3-Chrysenes	69200		ng/l	244	30.7	1
C4-Chrysenes	46900		ng/l	244	30.7	1
Benzo(b)fluoranthene	792		ng/l	244	35.8	1
Benzo(j)+(k)fluoranthene	502		ng/l	244	36.3	1
Benzo(a)fluoranthene	ND		ng/l	244	36.3	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
Benzo(e)pyrene	3830		ng/l	244	32.0	1
Benzo(a)pyrene	1190		ng/l	244	52.4	1
Perylene	449		ng/l	244	44.6	1
Indeno(1,2,3-cd)pyrene	354		ng/l	244	60.0	1
Dibenz(a,h)+(a,c)anthracene	446		ng/l	244	71.7	1
Benzo(g,h,i)perylene	467		ng/l	244	64.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	96		50-130
Phenanthrene-d10	91		50-130
Benzo(a)pyrene-d12	82		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 06:35
Analyst: AC

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
cis/trans-Decalin	1760		ng/l	45.4	22.4	1
C1-Decalins	6380		ng/l	90.9	22.4	1
C2-Decalins	12800		ng/l	90.9	22.4	1
C3-Decalins	11300		ng/l	90.9	22.4	1
C4-Decalins	15300		ng/l	90.9	22.4	1
Naphthalene	94.8		ng/l	90.9	17.9	1
C1-Naphthalenes	113		ng/l	90.9	17.9	1
C2-Naphthalenes	804		ng/l	90.9	17.9	1
C3-Naphthalenes	2790		ng/l	90.9	17.9	1
C4-Naphthalenes	5970		ng/l	90.9	17.9	1
2-Methylnaphthalene	47.3	J	ng/l	90.9	20.9	1
1-Methylnaphthalene	68.8	J	ng/l	90.9	17.7	1
Benzo(b)thiophene	16.9	J	ng/l	90.9	13.8	1
C1-Benzo(b)thiophenes	449		ng/l	90.9	13.8	1
C2-Benzo(b)thiophenes	466		ng/l	90.9	13.8	1
C3-Benzo(b)thiophenes	1600		ng/l	90.9	13.8	1
C4-Benzo(b)thiophenes	920		ng/l	90.9	13.8	1
Biphenyl	33.5	J	ng/l	90.9	21.2	1
2,6-Dimethylnaphthalene	93.8		ng/l	90.9	21.2	1
Dibenzofuran	70.4	J	ng/l	90.9	16.5	1
Acenaphthylene	48.8	J	ng/l	90.9	18.2	1
Acenaphthene	ND		ng/l	90.9	11.6	1
2,3,5-Trimethylnaphthalene	164		ng/l	90.9	13.7	1
Fluorene	209		ng/l	90.9	16.1	1
C1-Fluorenes	660		ng/l	90.9	16.1	1
C2-Fluorenes	3180		ng/l	90.9	16.1	1
C3-Fluorenes	5600		ng/l	90.9	16.1	1
Dibenzothiophene	127		ng/l	90.9	13.3	1
4-Methyldibenzothiophene(4MDT)	166		ng/l	90.9	13.3	1
2/3-Methyldibenzothiophene(2MDT)	95.4		ng/l	90.9	13.3	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	47.8	J	ng/l	90.9	13.3	1
C1-Dibenzothiophenes	480		ng/l	90.9	13.3	1
C2-Dibenzothiophenes	1030		ng/l	90.9	13.3	1
C3-Dibenzothiophenes	1240		ng/l	90.9	13.3	1
C4-Dibenzothiophenes	983		ng/l	90.9	13.3	1
Phenanthrene	69.8	J	ng/l	90.9	10.9	1
3-Methylphenanthrene (3MP)	102		ng/l	90.9	10.9	1
2-Methylphenanthrene (2MP)	65.6	J	ng/l	90.9	10.9	1
2-Methylanthracene (2MA)	41.4	J	ng/l	90.9	10.9	1
9/4-Methylphenanthrene (9MP)	185		ng/l	90.9	10.9	1
1-Methylphenanthrene (1MP)	143		ng/l	90.9	10.9	1
C1-Phenanthrenes/Anthracenes	690		ng/l	90.9	10.9	1
C2-Phenanthrenes/Anthracen	2660		ng/l	90.9	10.9	1
C3-Phenanthrenes/Anthracenes	3790		ng/l	90.9	10.9	1
C4-Phenanthrenes/Anthracenes	2790		ng/l	90.9	10.9	1
Retene	ND		ng/l	90.9	25.4	1
Anthracene	135	G	ng/l	90.9	16.4	1
Carbazole	33.4	J	ng/l	90.9	14.0	1
Fluoranthene	77.9	J	ng/l	90.9	16.2	1
Benzo(b)fluorene	18.9	J	ng/l	90.9	24.1	1
Pyrene	150		ng/l	90.9	16.5	1
C1-Fluoranthenes/Pyrenes	446		ng/l	90.9	16.5	1
C2-Fluoranthenes/Pyrenes	755		ng/l	90.9	16.5	1
C3-Fluoranthenes/Pyrenes	1150		ng/l	90.9	16.5	1
C4-Fluoranthenes/Pyrenes	1260		ng/l	90.9	16.5	1
Naphthobenzothiophenes	41.2	J	ng/l	90.9	14.9	1
C1-Naphthobenzothiophenes	211		ng/l	90.9	14.9	1
C2-Naphthobenzothiophenes	392		ng/l	90.9	14.9	1
C3-Naphthobenzothiophenes	402		ng/l	90.9	14.9	1
C4-Naphthobenzothiophenes	767		ng/l	90.9	14.9	1
Benz(a)anthracene	69.3	J	ng/l	90.9	10.5	1
Chrysene/Triphenylene	221		ng/l	90.9	11.4	1
C1-Chrysenes	694		ng/l	90.9	11.4	1
C2-Chrysenes	1150		ng/l	90.9	11.4	1
C3-Chrysenes	1490		ng/l	90.9	11.4	1
C4-Chrysenes	1140		ng/l	90.9	11.4	1
Benzo(b)fluoranthene	45.2	J	ng/l	90.9	13.4	1
Benzo(j)+(k)fluoranthene	31.8	J	ng/l	90.9	13.5	1
Benzo(a)fluoranthene	ND		ng/l	90.9	13.5	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
Benzo(e)pyrene	91.1		ng/l	90.9	11.9	1
Benzo(a)pyrene	28.1	J	ng/l	90.9	19.5	1
Perylene	27.4	J	ng/l	90.9	16.6	1
Indeno(1,2,3-cd)pyrene	28.2	J	ng/l	90.9	22.4	1
Dibenz(a,h)+(a,c)anthracene	14.3	J	ng/l	90.9	26.7	1
Benzo(g,h,i)perylene	31.5	J	ng/l	90.9	24.1	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	88		50-130
Phenanthrene-d10	90		50-130
Benzo(a)pyrene-d12	64		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 08:02
Analyst: AC

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
cis/trans-Decalin	860		ng/l	11.8	5.79	1
C1-Decalins	1950		ng/l	23.5	5.79	1
C2-Decalins	2870		ng/l	23.5	5.79	1
C3-Decalins	1770		ng/l	23.5	5.79	1
C4-Decalins	1860		ng/l	23.5	5.79	1
Naphthalene	43.9		ng/l	23.5	4.64	1
C1-Naphthalenes	81.2		ng/l	23.5	4.64	1
C2-Naphthalenes	135		ng/l	23.5	4.64	1
C3-Naphthalenes	241		ng/l	23.5	4.64	1
C4-Naphthalenes	582		ng/l	23.5	4.64	1
2-Methylnaphthalene	48.1		ng/l	23.5	5.41	1
1-Methylnaphthalene	62.8		ng/l	23.5	4.59	1
Benzothiophene	5.01	J	ng/l	23.5	3.58	1
C1-Benzo(b)thiophenes	93.9		ng/l	23.5	3.58	1
C2-Benzo(b)thiophenes	42.4		ng/l	23.5	3.58	1
C3-Benzo(b)thiophenes	99.1		ng/l	23.5	3.58	1
C4-Benzo(b)thiophenes	66.4		ng/l	23.5	3.58	1
Biphenyl	6.75	J	ng/l	23.5	5.48	1
2,6-Dimethylnaphthalene	26.6		ng/l	23.5	5.48	1
Dibenzofuran	15.2	J	ng/l	23.5	4.28	1
Acenaphthylene	6.47	J	ng/l	23.5	4.70	1
Acenaphthene	16.6	J	ng/l	23.5	3.01	1
2,3,5-Trimethylnaphthalene	14.0	J	ng/l	23.5	3.55	1
Fluorene	27.6		ng/l	23.5	4.16	1
C1-Fluorenes	95.6		ng/l	23.5	4.16	1
C2-Fluorenes	312		ng/l	23.5	4.16	1
C3-Fluorenes	438		ng/l	23.5	4.16	1
Dibenzothiophene	18.6	J	ng/l	23.5	3.44	1
4-Methyldibenzothiophene(4MDT)	21.3	J	ng/l	23.5	3.44	1
2/3-Methyldibenzothiophene(2MDT)	13.8	J	ng/l	23.5	3.44	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	2.87	J	ng/l	23.5	3.44	1
C1-Dibenzothiophenes	49.7		ng/l	23.5	3.44	1
C2-Dibenzothiophenes	122		ng/l	23.5	3.44	1
C3-Dibenzothiophenes	188		ng/l	23.5	3.44	1
C4-Dibenzothiophenes	165		ng/l	23.5	3.44	1
Phenanthrene	62.6		ng/l	23.5	2.82	1
3-Methylphenanthrene (3MP)	22.7	J	ng/l	23.5	2.82	1
2-Methylphenanthrene (2MP)	25.9		ng/l	23.5	2.82	1
2-Methylanthracene (2MA)	4.69	J	ng/l	23.5	2.82	1
9/4-Methylphenanthrene (9MP)	34.1		ng/l	23.5	2.82	1
1-Methylphenanthrene (1MP)	23.2	J	ng/l	23.5	2.82	1
C1-Phenanthrenes/Anthracenes	127		ng/l	23.5	2.82	1
C2-Phenanthrenes/Anthracen	326		ng/l	23.5	2.82	1
C3-Phenanthrenes/Anthracenes	508		ng/l	23.5	2.82	1
C4-Phenanthrenes/Anthracenes	427		ng/l	23.5	2.82	1
Retene	ND		ng/l	23.5	6.59	1
Anthracene	9.73	J	ng/l	23.5	4.26	1
Carbazole	7.35	J	ng/l	23.5	3.62	1
Fluoranthene	53.6		ng/l	23.5	4.19	1
Benzo(b)fluorene	5.18	J	ng/l	23.5	6.24	1
Pyrene	53.6		ng/l	23.5	4.28	1
C1-Fluoranthenes/Pyrenes	110		ng/l	23.5	4.28	1
C2-Fluoranthenes/Pyrenes	184		ng/l	23.5	4.28	1
C3-Fluoranthenes/Pyrenes	288		ng/l	23.5	4.28	1
C4-Fluoranthenes/Pyrenes	285		ng/l	23.5	4.28	1
Naphthobenzothiophenes	19.8	J	ng/l	23.5	3.86	1
C1-Naphthobenzothiophenes	64.6		ng/l	23.5	3.86	1
C2-Naphthobenzothiophenes	112		ng/l	23.5	3.86	1
C3-Naphthobenzothiophenes	128		ng/l	23.5	3.86	1
C4-Naphthobenzothiophenes	213		ng/l	23.5	3.86	1
Benz(a)anthracene	32.2		ng/l	23.5	2.73	1
Chrysene/Triphenylene	59.6		ng/l	23.5	2.96	1
C1-Chrysenes	179		ng/l	23.5	2.96	1
C2-Chrysenes	325		ng/l	23.5	2.96	1
C3-Chrysenes	515		ng/l	23.5	2.96	1
C4-Chrysenes	390		ng/l	23.5	2.96	1
Benzo(b)fluoranthene	23.2	J	ng/l	23.5	3.46	1
Benzo(j)+(k)fluoranthene	21.4	J	ng/l	23.5	3.50	1
Benzo(a)fluoranthene	7.91	J	ng/l	23.5	3.50	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
Benzo(e)pyrene	42.4		ng/l	23.5	3.08	1
Benzo(a)pyrene	27.7		ng/l	23.5	5.06	1
Perylene	8.20	J	ng/l	23.5	4.30	1
Indeno(1,2,3-cd)pyrene	15.7	J	ng/l	23.5	5.79	1
Dibenz(a,h)+(a,c)anthracene	5.80	J	ng/l	23.5	6.92	1
Benzo(g,h,i)perylene	21.8	J	ng/l	23.5	6.24	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	86		50-130
Phenanthrene-d10	96		50-130
Benzo(a)pyrene-d12	87		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
Client ID: RXGW1-NAPL
Sample Location: Not Specified
Matrix: Oil
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/24/16 02:25
Analyst: AC
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
Cis/Trans-Decalin	586		mg/kg	0.886	0.668	1
C1-Decalins	904		mg/kg	1.77	0.668	1
C2-Decalins	860		mg/kg	1.77	0.668	1
C3-Decalins	492		mg/kg	1.77	0.668	1
C4-Decalins	514		mg/kg	1.77	0.668	1
Naphthalene	4.10		mg/kg	1.77	0.764	1
C1-Naphthalenes	5.98		mg/kg	1.77	0.764	1
C2-Naphthalenes	205		mg/kg	1.77	0.764	1
C3-Naphthalenes	559		mg/kg	1.77	0.764	1
C4-Naphthalenes	426		mg/kg	1.77	0.764	1
2-Methylnaphthalene	3.43		mg/kg	1.77	0.686	1
1-Methylnaphthalene	4.20		mg/kg	1.77	0.838	1
Benzo(b)thiophene	ND		mg/kg	1.77	0.833	1
C1-Benzo(b)thiophenes	33.9		mg/kg	1.77	0.833	1
C2-Benzo(b)thiophenes	11.7		mg/kg	1.77	0.833	1
C3-Benzo(b)thiophenes	26.0		mg/kg	1.77	0.833	1
C4-Benzo(b)thiophenes	21.3		mg/kg	1.77	0.833	1
Biphenyl	0.785	J	mg/kg	1.77	0.822	1
2,6-Dimethylnaphthalene	6.75		mg/kg	1.77	0.632	1
Dibenzofuran	4.73		mg/kg	1.77	0.838	1
Acenaphthylene	3.17		mg/kg	1.77	0.507	1
Acenaphthene	2.96		mg/kg	1.77	0.469	1
2,3,5-Trimethylnaphthalene	76.0		mg/kg	1.77	0.435	1
Fluorene	12.8		mg/kg	1.77	0.709	1
C1-Fluorenes	72.7		mg/kg	1.77	0.709	1
C2-Fluorenes	247		mg/kg	1.77	0.709	1
C3-Fluorenes	357		mg/kg	1.77	0.709	1
Dibenzothiophene	7.51		mg/kg	1.77	0.733	1
4-Methyldibenzothiophene(4MDT)	26.7		mg/kg	1.77	0.733	1
2/3-Methyldibenzothiophene(2MDT)	15.8		mg/kg	1.77	0.733	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
Client ID: RXGW1-NAPL
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	2.77		mg/kg	1.77	0.733	1
C1-Dibenzothiophenes	48.7		mg/kg	1.77	0.733	1
C2-Dibenzothiophenes	99.4		mg/kg	1.77	0.733	1
C3-Dibenzothiophenes	121		mg/kg	1.77	0.733	1
C4-Dibenzothiophenes	81.1		mg/kg	1.77	0.733	1
Phenanthrene	56.3		mg/kg	1.77	0.881	1
3-Methylphenanthrene (3MP)	63.9		mg/kg	1.77	0.881	1
2-Methylphenanthrene (2MP)	64.0		mg/kg	1.77	0.881	1
2-Methylanthracene (2MA)	5.19		mg/kg	1.77	0.881	1
9/4-Methylphenanthrene (9MP)	96.4		mg/kg	1.77	0.881	1
1-Methylphenanthrene (1MP)	63.7		mg/kg	1.77	0.881	1
C1-Phenanthrenes/Anthracenes	304		mg/kg	1.77	0.881	1
C2-Phenanthrenes/Anthracenes	574		mg/kg	1.77	0.881	1
C3-Phenanthrenes/Anthracenes	525		mg/kg	1.77	0.881	1
C4-Phenanthrenes/Anthracenes	336		mg/kg	1.77	0.881	1
Retene	ND		mg/kg	1.77	0.652	1
Anthracene	4.41		mg/kg	1.77	0.548	1
Carbazole	ND		mg/kg	1.77	0.870	1
Fluoranthene	4.47		mg/kg	1.77	0.845	1
Benzo(b)fluorene	2.55		mg/kg	1.77	0.770	1
Pyrene	16.1		mg/kg	1.77	0.699	1
C1-Fluoranthenes/Pyrenes	58.6		mg/kg	1.77	0.699	1
C2-Fluoranthenes/Pyrenes	94.9		mg/kg	1.77	0.699	1
C3-Fluoranthenes/Pyrenes	132		mg/kg	1.77	0.699	1
C4-Fluoranthenes/Pyrenes	137		mg/kg	1.77	0.699	1
Naphthobenzothiophene	6.05		mg/kg	1.77	0.744	1
C1-Naphthobenzothiophenes	27.4		mg/kg	1.77	0.744	1
C2-Naphthobenzothiophenes	47.3		mg/kg	1.77	0.744	1
C3-Naphthobenzothiophenes	39.8		mg/kg	1.77	0.744	1
C4-Naphthobenzothiophenes	54.6		mg/kg	1.77	0.744	1
Benz(a)anthracene	5.77		mg/kg	1.77	0.542	1
Chrysene/Triphenylene	31.2		mg/kg	1.77	0.538	1
C1-Chrysenes	101		mg/kg	1.77	0.538	1
C2-Chrysenes	143		mg/kg	1.77	0.538	1
C3-Chrysenes	158		mg/kg	1.77	0.360	1
C4-Chrysenes	108		mg/kg	1.77	0.538	1
Benzo(b)fluoranthene	1.72	J	mg/kg	1.77	0.692	1
Benzo(j)+(k)Fluoranthene	0.848	J	mg/kg	1.77	0.528	1
Benzo(a)fluoranthene	ND		mg/kg	1.77	0.528	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
Client ID: RXGW1-NAPL
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
Benzo(e)Pyrene	8.93		mg/kg	1.77	0.549	1
Benzo(a)pyrene	2.56		mg/kg	1.77	0.759	1
Perylene	ND		mg/kg	1.77	0.513	1
Indeno(1,2,3-cd)Pyrene	0.752	J	mg/kg	1.77	0.722	1
Dibenz(a,h)+(a,c)anthracene	1.10	J	mg/kg	1.77	0.718	1
Benzo(ghi)perylene	1.17	J	mg/kg	1.77	0.706	1
Hopane (T19)	5.10		mg/kg	1.77	0.757	1
C23 Tricyclic Terpane (T4)	8.19		mg/kg	1.77	0.757	1
C24 Tricyclic Terpane (T5)	ND		mg/kg	1.77	0.757	1
C25 Tricyclic Terpane (T6)	ND		mg/kg	1.77	0.757	1
C24 Tetracyclic Terpane (T6a)	ND		mg/kg	1.77	0.757	1
C26 Tricyclic Terpane-22S (T6b)	7.41		mg/kg	1.77	0.757	1
C26 Tricyclic Terpane-22R (T6c)	3.37		mg/kg	1.77	0.757	1
C28 Tricyclic Terpane-22S (T7)	ND		mg/kg	1.77	0.757	1
C28 Tricyclic Terpane-22R (T8)	ND		mg/kg	1.77	0.757	1
C29 Tricyclic Terpane-22S (T9)	3.59		mg/kg	1.77	0.757	1
C29 Tricyclic Terpane-22R (T10)	3.12		mg/kg	1.77	0.757	1
18a-22,29,30-Trisnorneohopane-TS (T11)	8.65		mg/kg	1.77	0.757	1
C30 Tricyclic Terpane-22S	1.76	J	mg/kg	1.77	0.757	1
C30 Tricyclic Terpane-22R	ND		mg/kg	1.77	0.757	1
17a(H)-22,29,30-Trisnorhopane-TM (T12)	ND		mg/kg	1.77	0.757	1
17a/b,21b/a 28,30-Bisnorhopane (T14a)	ND		mg/kg	1.77	0.757	1
17a(H),21b(H)-25-Norhopane (T14b)	ND		mg/kg	1.77	0.757	1
30-Norhopane (T15)	3.30		mg/kg	1.77	0.757	1
18a(H)-30-Norneohopane-C29Ts (T16)	3.39	G	mg/kg	1.77	0.757	1
17a(H)-Diahopane (X)	5.14	G	mg/kg	1.77	0.757	1
30-Normoretane (T17)	ND		mg/kg	1.77	0.757	1
18a(H)&18b(H)-Oleananes (T18)	ND		mg/kg	1.77	0.757	1
Moretane (T20)	ND		mg/kg	1.77	0.757	1
30-Homohopane-22S (T21)	2.27		mg/kg	1.77	0.757	1
30-Homohopane-22R (T22)	2.56		mg/kg	1.77	0.757	1
Gammacerane/C32-Diahopane	ND		mg/kg	1.77	0.757	1
30,31-Bishomohopane-22S (T26)	ND		mg/kg	1.77	0.757	1
30,31-Bishomohopane-22R (T27)	ND		mg/kg	1.77	0.757	1
30,31-Trishomohopane-22S (T30)	ND		mg/kg	1.77	0.757	1
30,31-Trishomohopane-22R (T31)	ND		mg/kg	1.77	0.757	1
Tetrakishomohopane-22S (T32)	ND		mg/kg	1.77	0.757	1
Tetrakishomohopane-22R (T33)	ND		mg/kg	1.77	0.757	1
Pentakishomohopane-22S (T34)	ND		mg/kg	1.77	0.757	1

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
Client ID: RXGW1-NAPL
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
Pentakishomohopane-22R (T35)	ND		mg/kg	1.77	0.757	1
13b(H),17a(H)-20S-Diacholestane (S4)	31.0		mg/kg	1.77	0.591	1
13b(H),17a(H)-20R-Diacholestane (S5)	14.4		mg/kg	1.77	0.591	1
13b,17a-20S-Methyldiacholestane (S8)	11.4		mg/kg	1.77	0.591	1
17a(H)20SC27/C29dia	39.4		mg/kg	1.77	0.591	1
17a(H)20rc27/C29dia	30.4		mg/kg	1.77	0.591	1
Unknown Sterane (S18)	10.3		mg/kg	1.77	0.591	1
13a,17b-20S-Ethyldiacholestane (S19)	ND		mg/kg	1.77	0.591	1
14a,17a-20S-Methylcholestane (S20)	12.4		mg/kg	1.77	0.591	1
14a,17a-20R-Methylcholestane (S24)	5.18		mg/kg	1.77	0.591	1
14a(H),17a(H)-20S-Ethylcholestane (S25)	5.48		mg/kg	1.77	0.591	1
14a(H),17a(H)-20R-Ethylcholestane (S28)	5.66		mg/kg	1.77	0.591	1
14b(H),17b(H)-20R-Cholestane (S14)	5.20		mg/kg	1.77	0.591	1
14b(H),17b(H)-20S-Cholestane (S15)	5.35		mg/kg	1.77	0.591	1
14b,17b-20R-Methylcholestane (S22)	2.58		mg/kg	1.77	0.591	1
14b,17b-20S-Methylcholestane (S23)	6.68	G	mg/kg	1.77	0.591	1
14b(H),17b(H)-20R-Ethylcholestane (S26)	9.33		mg/kg	1.77	0.591	1
14b(H),17b(H)-20S-Ethylcholestane (S27)	6.44		mg/kg	1.77	0.591	1
C26,20R- +C27,20S-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1
C28,20S-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1
C27,20R-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1
C28,20R-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	95		50-130
Phenanthrene-d10	94		50-130
Benzo(a)pyrene-d12	86		50-130
5B(H)Cholane-Surr	117		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 00:41
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
Cis/Trans-Decalin	ND		ng/l	10.0	4.92
C1-Decalins	ND		ng/l	20.0	4.92
C2-Decalins	ND		ng/l	20.0	4.92
C3-Decalins	ND		ng/l	20.0	4.92
C4-Decalins	ND		ng/l	20.0	4.92
Naphthalene	1.72	J	ng/l	20.0	3.94
C1-Naphthalenes	2.98	J	ng/l	20.0	3.94
C2-Naphthalenes	ND		ng/l	20.0	3.94
C3-Naphthalenes	ND		ng/l	20.0	3.94
C4-Naphthalenes	ND		ng/l	20.0	3.94
2-Methylnaphthalene	1.65	J	ng/l	20.0	4.60
1-Methylnaphthalene	1.70	J	ng/l	20.0	3.90
Benzothiophene	ND		ng/l	20.0	3.04
C1-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
C2-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
C3-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
C4-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
Biphenyl	ND		ng/l	20.0	4.66
2,6-Dimethylnaphthalene	ND		ng/l	20.0	4.66
Dibenzofuran	ND		ng/l	20.0	3.64
Acenaphthylene	ND		ng/l	20.0	4.00
Acenaphthene	ND		ng/l	20.0	2.56
2,3,5-Trimethylnaphthalene	ND		ng/l	20.0	3.02
Fluorene	0.996	J	ng/l	20.0	3.54
C1-Fluorenes	ND		ng/l	20.0	3.54
C2-Fluorenes	ND		ng/l	20.0	3.54
C3-Fluorenes	ND		ng/l	20.0	3.54
Dibenzothiophene	0.606	J	ng/l	20.0	2.92
4-Methyldibenzothiophene(4MDT)	ND		ng/l	20.0	2.92

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 00:41
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
2/3-Methyldibenzothiophene(2MDT)	ND		ng/l	20.0	2.92
1-Methyldibenzothiophene(1MDT)	ND		ng/l	20.0	2.92
C1-Dibenzothiophenes	ND		ng/l	20.0	2.92
C2-Dibenzothiophenes	ND		ng/l	20.0	2.92
C3-Dibenzothiophenes	ND		ng/l	20.0	2.92
C4-Dibenzothiophenes	ND		ng/l	20.0	2.92
Phenanthrene	1.62	J	ng/l	20.0	2.40
3-Methylphenanthrene (3MP)	ND		ng/l	20.0	2.40
2-Methylphenanthrene (2MP)	ND		ng/l	20.0	2.40
2-Methylanthracene (2MA)	ND		ng/l	20.0	2.40
9/4-Methylphenanthrene (9MP)	ND		ng/l	20.0	2.40
1-Methylphenanthrene (1MP)	ND		ng/l	20.0	2.40
C1-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
C2-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
C3-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
C4-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
Retene	ND		ng/l	20.0	5.60
Anthracene	ND		ng/l	20.0	3.62
Carbazole	ND		ng/l	20.0	3.08
Fluoranthene	0.590	J	ng/l	20.0	3.56
Benzo(b)fluorene	ND		ng/l	20.0	5.30
Pyrene	0.594	J	ng/l	20.0	3.64
C1-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
C2-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
C3-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
C4-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
Naphthobenzothiophene	ND		ng/l	20.0	3.28
C1-Naphthobenzothiophenes	ND		ng/l	20.0	3.28
C2-Naphthobenzothiophenes	ND		ng/l	20.0	3.28

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 00:41
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
C3-Naphthobenzothiophenes	ND		ng/l	20.0	3.28
C4-Naphthobenzothiophenes	ND		ng/l	20.0	3.28
Benz(a)anthracene	0.464	J	ng/l	20.0	2.32
Chrysene/Triphenylene	0.898	J	ng/l	20.0	2.52
C1-Chrysenes	ND		ng/l	20.0	2.52
C2-Chrysenes	ND		ng/l	20.0	2.52
C3-Chrysenes	ND		ng/l	20.0	2.52
C4-Chrysenes	ND		ng/l	20.0	2.52
Benzo(b)fluoranthene	ND		ng/l	20.0	2.94
Benzo(j)+(k)Fluoranthene	ND		ng/l	20.0	2.98
Benzo(a)fluoranthene	ND		ng/l	20.0	2.98
Benzo(e)Pyrene	ND		ng/l	20.0	2.62
Benzo(a)pyrene	ND		ng/l	20.0	4.30
Perylene	ND		ng/l	20.0	3.66
Indeno(1,2,3-cd)Pyrene	ND		ng/l	20.0	4.92
Dibenz(a,h)+(a,c)anthracene	ND		ng/l	20.0	5.88
Benzo(ghi)perylene	ND		ng/l	20.0	5.30

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	85		50-130
Phenanthrene-d10	97		50-130
Benzo(a)pyrene-d12	81		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
Cis/Trans-Decalin	ND		mg/kg	1.00	0.753
C1-Decalins	ND		mg/kg	2.00	0.753
C2-Decalins	ND		mg/kg	2.00	0.753
C3-Decalins	ND		mg/kg	2.00	0.753
C4-Decalins	ND		mg/kg	2.00	0.753
Naphthalene	0.233	J	mg/kg	2.00	0.862
C1-Naphthalenes	0.220	J	mg/kg	2.00	0.862
C2-Naphthalenes	ND		mg/kg	2.00	0.862
C3-Naphthalenes	ND		mg/kg	2.00	0.862
C4-Naphthalenes	ND		mg/kg	2.00	0.862
2-Methylnaphthalene	0.102	J	mg/kg	2.00	0.774
1-Methylnaphthalene	0.096	J	mg/kg	2.00	0.945
Benzothiophene	ND		mg/kg	2.00	0.940
C1-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
C2-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
C3-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
C4-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
Biphenyl	ND		mg/kg	2.00	0.927
2,6-Dimethylnaphthalene	ND		mg/kg	2.00	0.713
Dibenzofuran	ND		mg/kg	2.00	0.945
Acenaphthylene	ND		mg/kg	2.00	0.572
Acenaphthene	ND		mg/kg	2.00	0.529
2,3,5-Trimethylnaphthalene	ND		mg/kg	2.00	0.491
Fluorene	0.113	J	mg/kg	2.00	0.800
C1-Fluorenes	ND		mg/kg	2.00	0.800
C2-Fluorenes	ND		mg/kg	2.00	0.800
C3-Fluorenes	ND		mg/kg	2.00	0.800
Dibenzothiophene	ND		mg/kg	2.00	0.827
4-Methyldibenzothiophene(4MDT)	ND		mg/kg	2.00	0.827

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
2/3-Methyldibenzothiophene(2MDT)	ND		mg/kg	2.00	0.827
1-Methyldibenzothiophene(1MDT)	ND		mg/kg	2.00	0.827
C1-Dibenzothiophenes	ND		mg/kg	2.00	0.827
C2-Dibenzothiophenes	ND		mg/kg	2.00	0.827
C3-Dibenzothiophenes	ND		mg/kg	2.00	0.827
C4-Dibenzothiophenes	ND		mg/kg	2.00	0.827
Phenanthrene	0.055	J	mg/kg	2.00	0.994
3-Methylphenanthrene (3MP)	ND		mg/kg	2.00	0.994
2-Methylphenanthrene (2MP)	ND		mg/kg	2.00	0.994
2-Methylanthracene (2MA)	ND		mg/kg	2.00	0.994
9/4-Methylphenanthrene (9MP)	ND		mg/kg	2.00	0.994
1-Methylphenanthrene (1MP)	ND		mg/kg	2.00	0.994
C1-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
C2-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
C3-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
C4-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
Retene	ND		mg/kg	2.00	0.736
Anthracene	ND		mg/kg	2.00	0.618
Carbazole	ND		mg/kg	2.00	0.981
Fluoranthene	ND		mg/kg	2.00	0.953
Benzo(b)fluorene	ND		mg/kg	2.00	0.869
Pyrene	ND		mg/kg	2.00	0.789
C1-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
C2-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
C3-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
C4-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
Naphthobenzothiophene	0.033	J	mg/kg	2.00	0.839
C1-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839
C2-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
C3-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839
C4-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839
Benz(a)anthracene	0.046	J	mg/kg	2.00	0.612
Chrysene/Triphenylene	0.064	J	mg/kg	2.00	0.606
C1-Chrysenes	ND		mg/kg	2.00	0.606
C2-Chrysenes	ND		mg/kg	2.00	0.606
C3-Chrysenes	ND		mg/kg	2.00	0.406
C4-Chrysenes	ND		mg/kg	2.00	0.606
Benzo(b)fluoranthene	ND		mg/kg	2.00	0.780
Benzo(j)+(k)Fluoranthene	ND		mg/kg	2.00	0.595
Benzo(a)fluoranthene	ND		mg/kg	2.00	0.595
Benzo(e)Pyrene	ND		mg/kg	2.00	0.619
Benzo(a)pyrene	ND		mg/kg	2.00	0.856
Perylene	ND		mg/kg	2.00	0.579
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	2.00	0.814
Dibenz(a,h)+(a,c)anthracene	ND		mg/kg	2.00	0.810
Benzo(ghi)perylene	ND		mg/kg	2.00	0.797
Hopane (T19)	ND		mg/kg	2.00	0.854
C23 Tricyclic Terpane (T4)	ND		mg/kg	2.00	0.854
C24 Tricyclic Terpane (T5)	ND		mg/kg	2.00	0.854
C25 Tricyclic Terpane (T6)	ND		mg/kg	2.00	0.854
C24 Tetracyclic Terpane (T6a)	ND		mg/kg	2.00	0.854
C26 Tricyclic Terpane-22S (T6b)	ND		mg/kg	2.00	0.854
C26 Tricyclic Terpane-22R (T6c)	ND		mg/kg	2.00	0.854
C28 Tricyclic Terpane-22S (T7)	ND		mg/kg	2.00	0.854
C28 Tricyclic Terpane-22R (T8)	ND		mg/kg	2.00	0.854
C29 Tricyclic Terpane-22S (T9)	ND		mg/kg	2.00	0.854
C29 Tricyclic Terpane-22R (T10)	ND		mg/kg	2.00	0.854
18a-22,29,30-Trisnorneohopane-TS (T11)	ND		mg/kg	2.00	0.854

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
C30 Tricyclic Terpane-22S	ND		mg/kg	2.00	0.854
C30 Tricyclic Terpane-22R	ND		mg/kg	2.00	0.854
17a(H)-22,29,30-Trisnorhopane-TM (T12)	ND		mg/kg	2.00	0.854
17a/b,21b/a 28,30-Bisnorhopane (T14a)	ND		mg/kg	2.00	0.854
17a(H),21b(H)-25-Norhopane (T14b)	ND		mg/kg	2.00	0.854
30-Norhopane (T15)	ND		mg/kg	2.00	0.854
18a(H)-30-Norneohopane-C29Ts (T16)	ND		mg/kg	2.00	0.854
17a(H)-Diahopane (X)	ND		mg/kg	2.00	0.854
30-Normoretane (T17)	ND		mg/kg	2.00	0.854
18a(H)&18b(H)-Oleananes (T18)	ND		mg/kg	2.00	0.854
Moretane (T20)	ND		mg/kg	2.00	0.854
30-Homohopane-22S (T21)	ND		mg/kg	2.00	0.854
30-Homohopane-22R (T22)	ND		mg/kg	2.00	0.854
Gammacerane/C32-Diahopane	ND		mg/kg	2.00	0.854
30,31-Bishomohopane-22S (T26)	ND		mg/kg	2.00	0.854
30,31-Bishomohopane-22R (T27)	ND		mg/kg	2.00	0.854
30,31-Trishomohopane-22S (T30)	ND		mg/kg	2.00	0.854
30,31-Trishomohopane-22R (T31)	ND		mg/kg	2.00	0.854
Tetrakishomohopane-22S (T32)	ND		mg/kg	2.00	0.854
Tetrakishomohopane-22R (T33)	ND		mg/kg	2.00	0.854
Pentakishomohopane-22S (T34)	ND		mg/kg	2.00	0.854
Pentakishomohopane-22R (T35)	ND		mg/kg	2.00	0.854
13b(H),17a(H)-20S-Diacholestane (S4)	ND		mg/kg	2.00	0.666
13b(H),17a(H)-20R-Diacholestane (S5)	ND		mg/kg	2.00	0.666
13b,17a-20S-Methylidiacholestane (S8)	ND		mg/kg	2.00	0.666
17a(H)20SC27/C29dia	ND		mg/kg	2.00	0.666
17a(H)20rc27/C29dia	ND		mg/kg	2.00	0.666
Unknown Sterane (S18)	ND		mg/kg	2.00	0.666
13a,17b-20S-Ethylidiacholestane (S19)	ND		mg/kg	2.00	0.666

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
14a,17a-20S-Methylcholestane (S20)	ND		mg/kg	2.00	0.666
14a,17a-20R-Methylcholestane (S24)	ND		mg/kg	2.00	0.666
14a(H),17a(H)-20S-Ethylcholestane (S25)	ND		mg/kg	2.00	0.666
14a(H),17a(H)-20R-Ethylcholestane (S28)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20R-Cholestane (S14)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20S-Cholestane (S15)	ND		mg/kg	2.00	0.666
14b,17b-20R-Methylcholestane (S22)	ND		mg/kg	2.00	0.666
14b,17b-20S-Methylcholestane (S23)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20R-Ethylcholestane (S26)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20S-Ethylcholestane (S27)	ND		mg/kg	2.00	0.666
C26,20R- +C27,20S-Triaromatic Steroid	ND		mg/kg	2.00	0.666
C28,20S-Triaromatic Steroid	ND		mg/kg	2.00	0.666
C27,20R-Triaromatic Steroid	ND		mg/kg	2.00	0.666
C28,20R-Triaromatic Steroid	ND		mg/kg	2.00	0.666

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	90		50-130
Phenanthrene-d10	102		50-130
Benzo(a)pyrene-d12	89		50-130
5B(H)Cholane-Surr	107		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875045-2 WG875045-3								
Naphthalene	86		90		50-130	5		30
2-Methylnaphthalene	89		93		50-130	4		30
Acenaphthylene	85		88		50-130	3		30
Acenaphthene	90		92		50-130	2		30
Fluorene	96		98		50-130	2		30
Phenanthrene	100		102		50-130	2		30
Anthracene	106		108		50-130	2		30
Fluoranthene	102		104		50-130	2		30
Pyrene	96		98		50-130	2		30
Benz(a)anthracene	94		98		50-130	4		30
Chrysene/Triphenylene	96		101		50-130	5		30
Benzo(b)fluoranthene	95		98		50-130	3		30
Benzo(j)+(k)fluoranthene	105		108		50-130	3		30
Benzo(a)pyrene	90		94		50-130	4		30
Indeno(1,2,3-cd)pyrene	81		83		50-130	2		30
Dibenz(a,h)+(a,c)anthracene	90		93		50-130	3		30
Benzo(g,h,i)perylene	88		90		50-130	2		30

Lab Control Sample Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875045-2 WG875045-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Naphthalene-d8	86		87		50-130
Phenanthrene-d10	100		100		50-130
Benzo(a)pyrene-d12	75		79		50-130

Lab Control Sample Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 Batch: WG875721-2 WG875721-3								
Naphthalene	81		85		50-130	5		30
2-Methylnaphthalene	88		91		50-130	3		30
Acenaphthylene	85		89		50-130	5		30
Acenaphthene	87		88		50-130	1		30
Fluorene	88		93		50-130	6		30
Phenanthrene	89		92		50-130	3		30
Anthracene	97		100		50-130	3		30
Fluoranthene	90		94		50-130	4		30
Pyrene	87		88		50-130	1		30
Benz(a)anthracene	87		90		50-130	3		30
Chrysene/Triphenylene	86		87		50-130	1		30
Benzo(b)fluoranthene	88		89		50-130	1		30
Benzo(j)+(k)Fluoranthene	88		91		50-130	3		30
Benzo(a)pyrene	88		90		50-130	2		30
Indeno(1,2,3-cd)Pyrene	87		88		50-130	1		30
Dibenz(a,h)+(a,c)anthracene	87		89		50-130	2		30
Benzo(ghi)perylene	80		83		50-130	4		30

Lab Control Sample Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 Batch: WG875721-2 WG875721-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Naphthalene-d8	90		90		50-130
Phenanthrene-d10	100		100		50-130
Benzo(a)pyrene-d12	87		87		50-130
5B(H)Cholane-Surr	103		105		50-130

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL						
Cis/Trans-Decalin	586	601	mg/kg	3		30
C1-Decalins	904	917	mg/kg	1		30
C2-Decalins	860	879	mg/kg	2		30
C3-Decalins	492	490	mg/kg	0		30
C4-Decalins	514	514	mg/kg	0		30
Naphthalene	4.10	3.99	mg/kg	3		30
C1-Naphthalenes	5.98	6.18	mg/kg	3		30
C2-Naphthalenes	205	204	mg/kg	0		30
C3-Naphthalenes	559	553	mg/kg	1		30
C4-Naphthalenes	426	421	mg/kg	1		30
2-Methylnaphthalene	3.43	3.68	mg/kg	7		30
1-Methylnaphthalene	4.20	3.95	mg/kg	6		30
Benzothiophene	ND	ND	mg/kg	NC		30
C1-Benzo(b)thiophenes	33.9	33.8	mg/kg	0		30
C2-Benzo(b)thiophenes	11.7	12.0	mg/kg	3		30
C3-Benzo(b)thiophenes	26.0	24.5	mg/kg	6		30
C4-Benzo(b)thiophenes	21.3	21.6	mg/kg	1		30
Biphenyl	0.785J	0.838J	mg/kg	NC		30
2,6-Dimethylnaphthalene	6.75	6.77	mg/kg	0		30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
Dibenzofuran	4.73	5.50	mg/kg	15	30
Acenaphthylene	3.17	2.98	mg/kg	6	30
Acenaphthene	2.96	2.73	mg/kg	8	30
2,3,5-Trimethylnaphthalene	76.0	76.3	mg/kg	0	30
Fluorene	12.8	13.0	mg/kg	2	30
C1-Fluorenes	72.7	73.1	mg/kg	1	30
C2-Fluorenes	247	246	mg/kg	0	30
C3-Fluorenes	357	357	mg/kg	0	30
Dibenzothiophene	7.51	7.86	mg/kg	5	30
4-Methyldibenzothiophene(4MDT)	26.7	26.1	mg/kg	2	30
2/3-Methyldibenzothiophene(2MDT)	15.8	14.9	mg/kg	6	30
1-Methyldibenzothiophene(1MDT)	2.77	2.90	mg/kg	5	30
C1-Dibenzothiophenes	48.7	47.7	mg/kg	2	30
C2-Dibenzothiophenes	99.4	97.4	mg/kg	2	30
C3-Dibenzothiophenes	121	116	mg/kg	4	30
C4-Dibenzothiophenes	81.1	83.9	mg/kg	3	30
Phenanthrene	56.3	55.6	mg/kg	1	30
3-Methylphenanthrene (3MP)	63.9	64.2	mg/kg	0	30
2-Methylphenanthrene (2MP)	64.0	62.4	mg/kg	3	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
2-Methylanthracene (2MA)	5.19	4.71	mg/kg	10	30
9/4-Methylphenanthrene (9MP)	96.4	94.1	mg/kg	2	30
1-Methylphenanthrene (1MP)	63.7	63.5	mg/kg	0	30
C1-Phenanthrenes/Anthracenes	304	298	mg/kg	2	30
C2-Phenanthrenes/Anthracenes	574	563	mg/kg	2	30
C3-Phenanthrenes/Anthracenes	525	513	mg/kg	2	30
C4-Phenanthrenes/Anthracenes	336	326	mg/kg	3	30
Retene	ND	ND	mg/kg	NC	30
Anthracene	4.41	3.69	mg/kg	18	30
Carbazole	ND	ND	mg/kg	NC	30
Fluoranthene	4.47	4.60	mg/kg	3	30
Benzo(b)fluorene	2.55	2.51	mg/kg	2	30
Pyrene	16.1	16.1	mg/kg	0	30
C1-Fluoranthenes/Pyrenes	58.6	57.9	mg/kg	1	30
C2-Fluoranthenes/Pyrenes	94.9	91.4	mg/kg	4	30
C3-Fluoranthenes/Pyrenes	132	129	mg/kg	2	30
C4-Fluoranthenes/Pyrenes	137	134	mg/kg	2	30
Naphthobenzothiophene	6.05	6.06	mg/kg	0	30
C1-Naphthobenzothiophenes	27.4	25.1	mg/kg	9	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
C2-Naphthobenzothiophenes	47.3	45.4	mg/kg	4	30
C3-Naphthobenzothiophenes	39.8	38.8	mg/kg	3	30
C4-Naphthobenzothiophenes	54.6	51.0	mg/kg	7	30
Benz(a)anthracene	5.77	6.23	mg/kg	8	30
Chrysene/Triphenylene	31.2	33.0	mg/kg	6	30
C1-Chrysenes	101	101	mg/kg	0	30
C2-Chrysenes	143	145	mg/kg	1	30
C3-Chrysenes	158	159	mg/kg	1	30
C4-Chrysenes	108	106	mg/kg	2	30
Benzo(b)fluoranthene	1.72J	1.63J	mg/kg	NC	30
Benzo(j)+(k)Fluoranthene	0.848J	0.950J	mg/kg	NC	30
Benzo(a)fluoranthene	ND	ND	mg/kg	NC	30
Benzo(e)Pyrene	8.93	8.38	mg/kg	6	30
Benzo(a)pyrene	2.56	2.24	mg/kg	13	30
Perylene	ND	ND	mg/kg	NC	30
Indeno(1,2,3-cd)Pyrene	0.752J	0.748J	mg/kg	NC	30
Dibenz(a,h)+(a,c)anthracene	1.10J	0.953J	mg/kg	NC	30
Benzo(ghi)perylene	1.17J	1.15J	mg/kg	NC	30
Hopane (T19)	5.10	5.89	mg/kg	14	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
C23 Tricyclic Terpane (T4)	8.19	6.72	mg/kg	20	30
C24 Tricyclic Terpane (T5)	ND	ND	mg/kg	NC	30
C25 Tricyclic Terpane (T6)	ND	ND	mg/kg	NC	30
C24 Tetracyclic Terpane (T6a)	ND	ND	mg/kg	NC	30
C26 Tricyclic Terpane-22S (T6b)	7.41	7.47	mg/kg	1	30
C26 Tricyclic Terpane-22R (T6c)	3.37	2.88	mg/kg	16	30
C28 Tricyclic Terpane-22S (T7)	ND	ND	mg/kg	NC	30
C28 Tricyclic Terpane-22R (T8)	ND	ND	mg/kg	NC	30
C29 Tricyclic Terpane-22S (T9)	3.59	2.98	mg/kg	19	30
C29 Tricyclic Terpane-22R (T10)	3.12	3.32	mg/kg	6	30
18a-22,29,30-Trisnorneohopane-TS (T11)	8.65	8.98	mg/kg	4	30
C30 Tricyclic Terpane-22S	1.76J	3.12	mg/kg	NC	30
C30 Tricyclic Terpane-22R	ND	ND	mg/kg	NC	30
17a(H)-22,29,30-Trisnorhopane-TM (T12)	ND	ND	mg/kg	NC	30
17a/b,21b/a 28,30-Bisnorhopane (T14a)	ND	ND	mg/kg	NC	30
17a(H),21b(H)-25-Norhopane (T14b)	ND	ND	mg/kg	NC	30
30-Norhopane (T15)	3.30	3.34	mg/kg	1	30
18a(H)-30-Norneohopane-C29Ts (T16)	3.39G	4.08	mg/kg	18	30
17a(H)-Diahopane (X)	5.14G	5.54	mg/kg	7	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
30-Normoretane (T17)	ND	ND	mg/kg	NC	30
18a(H)&18b(H)-Oleananes (T18)	ND	ND	mg/kg	NC	30
Moretane (T20)	ND	ND	mg/kg	NC	30
30-Homohopane-22S (T21)	2.27	2.29	mg/kg	1	30
30-Homohopane-22R (T22)	2.56	2.03	mg/kg	23	30
Gammacerane/C32-Diahopane	ND	ND	mg/kg	NC	30
30,31-Bishomohopane-22S (T26)	ND	ND	mg/kg	NC	30
30,31-Bishomohopane-22R (T27)	ND	ND	mg/kg	NC	30
30,31-Trishomohopane-22S (T30)	ND	ND	mg/kg	NC	30
30,31-Trishomohopane-22R (T31)	ND	ND	mg/kg	NC	30
Tetrakishomohopane-22S (T32)	ND	ND	mg/kg	NC	30
Tetrakishomohopane-22R (T33)	ND	ND	mg/kg	NC	30
Pentakishomohopane-22S (T34)	ND	ND	mg/kg	NC	30
Pentakishomohopane-22R (T35)	ND	ND	mg/kg	NC	30
13b(H),17a(H)-20S-Diacholestane (S4)	31.0	28.8	mg/kg	7	30
13b(H),17a(H)-20R-Diacholestane (S5)	14.4	13.2	mg/kg	9	30
13b,17a-20S-Methyldiacholestane (S8)	11.4	10.8	mg/kg	5	30
17a(H)20SC27/C29dia	39.4	41.0	mg/kg	4	30
17a(H)20rc27/C29dia	30.4	35.0	mg/kg	14	30

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
Unknown Sterane (S18)	10.3	12.5	mg/kg	19	30
13a,17b-20S-Ethylcholestanane (S19)	ND	ND	mg/kg	NC	30
14a,17a-20S-Methylcholestanane (S20)	12.4	12.1	mg/kg	2	30
14a,17a-20R-Methylcholestanane (S24)	5.18	4.15	mg/kg	22	30
14a(H),17a(H)-20S-Ethylcholestanane (S25)	5.48	5.96	mg/kg	8	30
14a(H),17a(H)-20R-Ethylcholestanane (S28)	5.66	6.17	mg/kg	9	30
14b(H),17b(H)-20R-Cholestanane (S14)	5.20	6.27	mg/kg	19	30
14b(H),17b(H)-20S-Cholestanane (S15)	5.35	6.01	mg/kg	12	30
14b,17b-20R-Methylcholestanane (S22)	2.58	3.07	mg/kg	17	30
14b,17b-20S-Methylcholestanane (S23)	6.68G	6.38G	mg/kg	5	30
14b(H),17b(H)-20R-Ethylcholestanane (S26)	9.33	9.72	mg/kg	4	30
14b(H),17b(H)-20S-Ethylcholestanane (S27)	6.44	6.98	mg/kg	8	30
C26,20R- +C27,20S-Triaromatic Steroid	ND	ND	mg/kg	NC	30
C28,20S-Triaromatic Steroid	ND	ND	mg/kg	NC	30
C27,20R-Triaromatic Steroid	ND	ND	mg/kg	NC	30
C28,20R-Triaromatic Steroid	ND	ND	mg/kg	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	95		95		50-130
Phenanthrene-d10	94		94		50-130
Benzo(a)pyrene-d12	86		85		50-130
5B(H)Cholane-Surr	117		117		50-130

PETROLEUM HYDROCARBONS

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8015D(M)
Analytical Date: 03/22/16 11:07
Analyst: AC

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab

Total Petroleum Hydrocarbons (C9-C44)	266		mg/l	0.805	0.129	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	93		50-130
d50-Tetracosane	92		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
 Client ID: RXGW2
 Sample Location: Not Specified
 Matrix: Water
 Analytical Method: 1,8015D(M)
 Analytical Date: 03/22/16 12:36
 Analyst: AC

Date Collected: 03/11/16 14:10
 Date Received: 03/14/16
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab

Total Petroleum Hydrocarbons (C9-C44)	21.7		mg/l	0.300	0.048	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	93		50-130
d50-Tetracosane	86		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
 Client ID: RXGW3
 Sample Location: Not Specified
 Matrix: Water
 Analytical Method: 1,8015D(M)
 Analytical Date: 03/22/16 14:04
 Analyst: AC

Date Collected: 03/11/16 16:15
 Date Received: 03/14/16
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab

Total Petroleum Hydrocarbons (C9-C44)	2.89	B	mg/l	0.078	0.012	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	91		50-130
d50-Tetracosane	87		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
 Client ID: RXGW1-NAPL
 Sample Location: Not Specified
 Matrix: Oil
 Analytical Method: 1,8015D(M)
 Analytical Date: 03/22/16 00:54
 Analyst: AC
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 03/11/16 12:00
 Date Received: 03/14/16
 Field Prep: Not Specified
 Extraction Method: EPA 3580A
 Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab

Total Petroleum Hydrocarbons (C9-C44)	758000		mg/kg	5850	54.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	86		50-130
d50-Tetracosane	83		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 03/22/16 06:44
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
Total Petroleum Hydrocarbons (C9-C44)	0.00869	J	mg/l	0.06600	0.01060

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	89		50-130
d50-Tetracosane	87		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 03/21/16 19:03
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	6600	61.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	92		50-130
d50-Tetracosane	87		50-130

Lab Control Sample Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 01-03 Batch: WG875045-2 WG875045-3								
Nonane (C9)	70		72		50-130	3		30
Decane (C10)	75		74		50-130	1		30
Dodecane (C12)	80		85		50-130	6		30
Tetradecane (C14)	86		90		50-130	5		30
Hexadecane (C16)	102		105		50-130	3		30
Octadecane (C18)	101		103		50-130	2		30
Nonadecane (C19)	94		95		50-130	1		30
Eicosane (C20)	95		100		50-130	5		30
Docosane (C22)	98		99		50-130	1		30
Tetracosane (C24)	98		99		50-130	1		30
Hexacosane (C26)	97		98		50-130	1		30
Octacosane (C28)	101		102		50-130	1		30
Triacontane (C30)	99		100		50-130	1		30
Hexatriacontane (C36)	96		98		50-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	90		91		50-130
d50-Tetracosane	86		86		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 04 Batch: WG875721-2 WG875721-3								
Nonane (C9)	88		92		50-130	4		30
Decane (C10)	86		89		50-130	3		30
Dodecane (C12)	88		90		50-130	2		30
Tetradecane (C14)	89		92		50-130	3		30
Hexadecane (C16)	96		98		50-130	2		30
Octadecane (C18)	98		100		50-130	2		30
Nonadecane (C19)	90		92		50-130	2		30
Eicosane (C20)	91		93		50-130	2		30
Docosane (C22)	92		94		50-130	2		30
Tetracosane (C24)	93		94		50-130	1		30
Hexacosane (C26)	92		93		50-130	1		30
Octacosane (C28)	94		95		50-130	1		30
Triacontane (C30)	94		95		50-130	1		30
Hexatriacontane (C36)	90		92		50-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	91		92		50-130
d50-Tetracosane	86		87		50-130

Lab Duplicate Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL						
Total Petroleum Hydrocarbons (C9-C44)	758000	770000	mg/kg	2		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	86		86		50-130
d50-Tetracosane	83		84		50-130

PCBS

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 03/18/16 23:51
Analyst: DP

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Mansfield Lab							
Aroclor 1016	ND		ug/l	0.048	0.048	1	A
Aroclor 1221	ND		ug/l	0.048	0.048	1	A
Aroclor 1232	ND		ug/l	0.048	0.048	1	A
Aroclor 1242	ND		ug/l	0.048	0.048	1	A
Aroclor 1248	ND		ug/l	0.048	0.048	1	A
Aroclor 1254	ND		ug/l	0.049	0.049	1	A
Aroclor 1260	ND		ug/l	0.049	0.049	1	A
Aroclor 1262	ND		ug/l	0.049	0.049	1	A
Aroclor 1268	ND		ug/l	0.049	0.049	1	A
PCBs, Total	ND		ug/l	0.049	0.049	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	71		30-150	A
Decachlorobiphenyl	32		30-150	A
Tetrachloro-meta-Xylene	47		30-150	B
Decachlorobiphenyl	20	Q	30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 03/19/16 00:22
Analyst: DP

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Mansfield Lab							
Aroclor 1016	ND		ug/l	0.182	0.182	1	A
Aroclor 1221	ND		ug/l	0.182	0.182	1	A
Aroclor 1232	ND		ug/l	0.182	0.182	1	A
Aroclor 1242	ND		ug/l	0.182	0.182	1	A
Aroclor 1248	ND		ug/l	0.182	0.182	1	A
Aroclor 1254	ND		ug/l	0.182	0.182	1	A
Aroclor 1260	ND		ug/l	0.182	0.182	1	A
Aroclor 1262	ND		ug/l	0.182	0.182	1	A
Aroclor 1268	ND		ug/l	0.182	0.182	1	A
PCBs, Total	ND		ug/l	0.182	0.182	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	63		30-150	A
Decachlorobiphenyl	56		30-150	A
Tetrachloro-meta-Xylene	48		30-150	B
Decachlorobiphenyl	38		30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 03/19/16 00:53
Analyst: DP

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Mansfield Lab							
Aroclor 1016	ND		ug/l	0.047	0.047	1	A
Aroclor 1221	ND		ug/l	0.047	0.047	1	A
Aroclor 1232	ND		ug/l	0.047	0.047	1	A
Aroclor 1242	ND		ug/l	0.047	0.047	1	A
Aroclor 1248	ND		ug/l	0.047	0.047	1	A
Aroclor 1254	ND		ug/l	0.047	0.047	1	A
Aroclor 1260	ND		ug/l	0.047	0.047	1	A
Aroclor 1262	ND		ug/l	0.047	0.047	1	A
Aroclor 1268	ND		ug/l	0.047	0.047	1	A
PCBs, Total	ND		ug/l	0.047	0.047	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	74		30-150	A
Decachlorobiphenyl	44		30-150	A
Tetrachloro-meta-Xylene	60		30-150	B
Decachlorobiphenyl	29	Q	30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 03/18/16 16:43
Analyst: DP

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Mansfield Lab for sample(s): 01-03 Batch: WG875047-1						
Aroclor 1016	ND		ug/l	0.040	0.040	A
Aroclor 1221	ND		ug/l	0.040	0.040	A
Aroclor 1232	ND		ug/l	0.040	0.040	A
Aroclor 1242	ND		ug/l	0.040	0.040	A
Aroclor 1248	ND		ug/l	0.040	0.040	A
Aroclor 1254	ND		ug/l	0.040	0.040	A
Aroclor 1260	ND		ug/l	0.040	0.040	A
Aroclor 1262	ND		ug/l	0.040	0.040	A
Aroclor 1268	ND		ug/l	0.040	0.040	A
PCBs, Total	ND		ug/l	0.040	0.040	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	75		30-150	A
Decachlorobiphenyl	79		30-150	A
Tetrachloro-meta-Xylene	69		30-150	B
Decachlorobiphenyl	70		30-150	B

Lab Control Sample Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875047-2 WG875047-3									
Aroclor 1016	96		89		40-140	8		50	A
Aroclor 1260	99		87		40-140	10		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	83		75		30-150	A
Decachlorobiphenyl	74		63		30-150	A
Tetrachloro-meta-Xylene	73		69		30-150	B
Decachlorobiphenyl	62		57		30-150	B

PESTICIDES

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01 D
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 03/23/16 15:53
Analyst: DP

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00
Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							
Alpha-BHC	ND		ug/l	0.0061	0.0061	5	A
Hexachlorobenzene	ND		ug/l	0.0244	0.0244	5	A
Beta-BHC	ND		ug/l	0.0061	0.0061	5	A
gamma-BHC	ND		ug/l	0.0061	0.0061	5	A
Delta-BHC	ND		ug/l	0.0061	0.0061	5	A
Heptachlor	ND		ug/l	0.0061	0.0061	5	A
Aldrin	ND		ug/l	0.0122	0.0122	5	A
Heptachlor epoxide	ND		ug/l	0.0061	0.0061	5	B
Oxychlordane	ND		ug/l	0.0061	0.0061	5	B
trans-Chlordane	ND		ug/l	0.0061	0.0061	5	A
2,4'-DDE	ND		ug/l	0.0061	0.0061	5	A
Endosulfan I	ND		ug/l	0.0061	0.0061	5	A
cis-Chlordane	ND		ug/l	0.0061	0.0061	5	A
trans-Nonachlor	ND		ug/l	0.0061	0.0061	5	A
4,4'-DDE	ND		ug/l	0.0061	0.0061	5	A
Dieldrin	ND		ug/l	0.0061	0.0061	5	A
2,4'-DDD	ND		ug/l	0.0061	0.0061	5	A
Endrin	ND		ug/l	0.0061	0.0061	5	A
Endosulfan II	ND		ug/l	0.0061	0.0061	5	A
4,4'-DDD	ND		ug/l	0.0061	0.0061	5	A
2,4'-DDT	ND		ug/l	0.0061	0.0061	5	A
cis-Nonachlor	ND		ug/l	0.0061	0.0061	5	A
Endrin aldehyde	ND		ug/l	0.0061	0.0061	5	A
Endosulfan sulfate	ND		ug/l	0.0061	0.0061	5	A
4,4'-DDT	ND		ug/l	0.0061	0.0061	5	A
Endrin ketone	ND		ug/l	0.0061	0.0061	5	A
Methoxychlor	ND		ug/l	0.0610	0.0610	5	A
Mirex	ND		ug/l	0.0061	0.0061	5	A
Toxaphene	ND		ug/l	0.305	0.305	5	A
Chlordane	ND		ug/l	0.305	0.305	5	A

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01 D
 Client ID: RXGW1
 Sample Location: Not Specified

Date Collected: 03/11/16 12:00
 Date Received: 03/14/16
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Organochlorine Pesticides by GC - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	72		30-150	A
Decachlorobiphenyl	41		30-150	A
Tetrachloro-meta-Xylene	69		30-150	B
Decachlorobiphenyl	44		30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 03/23/16 16:27
Analyst: DP

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00
Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							
Alpha-BHC	ND		ug/l	0.0045	0.0045	1	A
Hexachlorobenzene	ND		ug/l	0.0182	0.0182	1	A
Beta-BHC	ND		ug/l	0.0045	0.0045	1	A
gamma-BHC	ND		ug/l	0.0045	0.0045	1	A
Delta-BHC	ND		ug/l	0.0045	0.0045	1	A
Heptachlor	ND		ug/l	0.0045	0.0045	1	A
Aldrin	ND		ug/l	0.0090	0.0090	1	A
Heptachlor epoxide	ND		ug/l	0.0045	0.0045	1	B
Oxychlordane	ND		ug/l	0.0045	0.0045	1	B
trans-Chlordane	ND		ug/l	0.0045	0.0045	1	A
2,4'-DDE	ND		ug/l	0.0045	0.0045	1	A
Endosulfan I	ND		ug/l	0.0045	0.0045	1	A
cis-Chlordane	ND		ug/l	0.0045	0.0045	1	A
trans-Nonachlor	ND		ug/l	0.0045	0.0045	1	A
4,4'-DDE	ND		ug/l	0.0045	0.0045	1	A
Dieldrin	ND		ug/l	0.0045	0.0045	1	A
2,4'-DDD	ND		ug/l	0.0045	0.0045	1	A
Endrin	ND		ug/l	0.0045	0.0045	1	A
Endosulfan II	ND		ug/l	0.0045	0.0045	1	A
4,4'-DDD	ND		ug/l	0.0045	0.0045	1	A
2,4'-DDT	ND		ug/l	0.0045	0.0045	1	A
cis-Nonachlor	ND		ug/l	0.0045	0.0045	1	A
Endrin aldehyde	ND		ug/l	0.0045	0.0045	1	A
Endosulfan sulfate	ND		ug/l	0.0045	0.0045	1	A
4,4'-DDT	ND		ug/l	0.0045	0.0045	1	A
Endrin ketone	ND		ug/l	0.0045	0.0045	1	A
Methoxychlor	ND		ug/l	0.0454	0.0454	1	A
Mirex	ND		ug/l	0.0045	0.0045	1	A
Toxaphene	ND		ug/l	0.227	0.227	1	A
Chlordane	ND		ug/l	0.227	0.227	1	A

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Organochlorine Pesticides by GC - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	88		30-150	A
Decachlorobiphenyl	80		30-150	A
Tetrachloro-meta-Xylene	96		30-150	B
Decachlorobiphenyl	81		30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 03/23/16 17:01
Analyst: DP

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00
Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							
Alpha-BHC	0.0044		ug/l	0.0011	0.0011	1	A
Hexachlorobenzene	ND		ug/l	0.0047	0.0047	1	A
Beta-BHC	0.0133	P	ug/l	0.0011	0.0011	1	B
gamma-BHC	0.0044		ug/l	0.0011	0.0011	1	A
Delta-BHC	ND		ug/l	0.0011	0.0011	1	A
Heptachlor	ND		ug/l	0.0011	0.0011	1	A
Aldrin	ND		ug/l	0.0023	0.0023	1	A
Heptachlor epoxide	ND		ug/l	0.0011	0.0011	1	B
Oxychlordane	ND		ug/l	0.0011	0.0011	1	B
trans-Chlordane	ND		ug/l	0.0011	0.0011	1	A
2,4'-DDE	ND		ug/l	0.0011	0.0011	1	A
Endosulfan I	ND		ug/l	0.0011	0.0011	1	A
cis-Chlordane	ND		ug/l	0.0011	0.0011	1	A
trans-Nonachlor	ND		ug/l	0.0011	0.0011	1	A
4,4'-DDE	0.0012		ug/l	0.0011	0.0011	1	B
Dieldrin	ND		ug/l	0.0011	0.0011	1	A
2,4'-DDD	ND		ug/l	0.0011	0.0011	1	A
Endrin	ND		ug/l	0.0011	0.0011	1	A
Endosulfan II	ND		ug/l	0.0011	0.0011	1	A
4,4'-DDD	ND		ug/l	0.0011	0.0011	1	A
2,4'-DDT	ND		ug/l	0.0011	0.0011	1	A
cis-Nonachlor	ND		ug/l	0.0011	0.0011	1	A
Endrin aldehyde	ND		ug/l	0.0011	0.0011	1	A
Endosulfan sulfate	ND		ug/l	0.0011	0.0011	1	A
4,4'-DDT	ND		ug/l	0.0011	0.0011	1	A
Endrin ketone	ND		ug/l	0.0011	0.0011	1	A
Methoxychlor	ND		ug/l	0.0118	0.0118	1	A
Mirex	ND		ug/l	0.0011	0.0011	1	A
Toxaphene	ND		ug/l	0.0588	0.0588	1	A
Chlordane	ND		ug/l	0.0588	0.0588	1	A

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Organochlorine Pesticides by GC - Mansfield Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	81		30-150	A
Decachlorobiphenyl	62		30-150	A
Tetrachloro-meta-Xylene	94		30-150	B
Decachlorobiphenyl	66		30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 03/23/16 14:11
Analyst: DP

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Mansfield Lab for sample(s): 01-03 Batch: WG875046-1						
Alpha-BHC	ND		ug/l	0.0010	0.0010	A
Hexachlorobenzene	ND		ug/l	0.0040	0.0040	A
Beta-BHC	ND		ug/l	0.0010	0.0010	A
gamma-BHC	ND		ug/l	0.0010	0.0010	A
Heptachlor	ND		ug/l	0.0010	0.0010	A
trans-Chlordane	ND		ug/l	0.0010	0.0010	A
2,4'-DDE	ND		ug/l	0.0010	0.0010	A
Endosulfan I	ND		ug/l	0.0010	0.0010	A
cis-Chlordane	ND		ug/l	0.0010	0.0010	A
trans-Nonachlor	ND		ug/l	0.0010	0.0010	A
4,4'-DDE	ND		ug/l	0.0010	0.0010	A
Dieldrin	ND		ug/l	0.0010	0.0010	A
2,4'-DDD	ND		ug/l	0.0010	0.0010	A
Endrin	ND		ug/l	0.0010	0.0010	A
Endosulfan II	ND		ug/l	0.0010	0.0010	A
4,4'-DDD	ND		ug/l	0.0010	0.0010	A
2,4'-DDT	ND		ug/l	0.0010	0.0010	A
cis-Nonachlor	ND		ug/l	0.0010	0.0010	A
Endrin aldehyde	ND		ug/l	0.0010	0.0010	A
Endosulfan sulfate	ND		ug/l	0.0010	0.0010	A
4,4'-DDT	ND		ug/l	0.0010	0.0010	A
Endrin ketone	ND		ug/l	0.0010	0.0010	A
Methoxychlor	ND		ug/l	0.0100	0.0100	A
Mirex	ND		ug/l	0.0010	0.0010	A
Toxaphene	ND		ug/l	0.0500	0.0500	A
Chlordane	ND		ug/l	0.0500	0.0500	A
Delta-BHC	ND		ug/l	0.0010	0.0010	B
Aldrin	ND		ug/l	0.0020	0.0020	B
Heptachlor epoxide	ND		ug/l	0.0010	0.0010	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 03/23/16 14:11
Analyst: DP

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL
Organochlorine Pesticides by GC - Mansfield Lab for sample(s): 01-03 Batch: WG875046-1					
Oxychlorthane	ND		ug/l	0.0010	0.0010 B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	69		30-150	A
Decachlorobiphenyl	72		30-150	A
Tetrachloro-meta-Xylene	70		30-150	B
Decachlorobiphenyl	72		30-150	B

Lab Control Sample Analysis Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875046-2 WG875046-3									
Alpha-BHC	90		79		40-140	13		50	A
Hexachlorobenzene	75		66		40-140	13		50	A
Beta-BHC	84		79		40-140	6		50	A
gamma-BHC	91		82		40-140	11		50	A
Heptachlor	86		77		40-140	11		50	A
Aldrin	87		77		40-140	12		50	A
trans-Chlordane	92		87		40-140	6		50	A
2,4'-DDE	84		79		40-140	6		50	A
Endosulfan I	88		84		40-140	5		50	A
cis-Chlordane	90		85		40-140	6		50	A
trans-Nonachlor	87		81		40-140	7		50	A
4,4'-DDE	93		88		40-140	5		50	A
Dieldrin	100		96		40-140	4		50	A
2,4'-DDD	86		83		40-140	4		50	A
Endrin	98		95		40-140	4		50	A
Endosulfan II	98		97		40-140	2		50	A
4,4'-DDD	103		99		40-140	4		50	A
2,4'-DDT	89		85		40-140	4		50	A
cis-Nonachlor	84		81		40-140	4		50	A
Endrin aldehyde	103		103		40-140	0		50	A
Endosulfan sulfate	100		99		40-140	1		50	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875046-2 WG875046-3								
4,4'-DDT	100		97		40-140	3		50 A
Endrin ketone	108		107		40-140	1		50 A
Methoxychlor	99		97		40-140	2		50 A
Mirex	77		74		40-140	4		50 A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	79		68		30-150	A
Decachlorobiphenyl	63		65		30-150	A
Tetrachloro-meta-Xylene	78		69		30-150	B
Decachlorobiphenyl	64		67		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875046-2 WG875046-3									
Delta-BHC	54		52		40-140	5		50	B
Heptachlor epoxide	93		88		40-140	5		50	B
Oxychlordane	87		81		40-140	7		50	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	79		68		30-150	A
Decachlorobiphenyl	63		65		30-150	A
Tetrachloro-meta-Xylene	78		69		30-150	B
Decachlorobiphenyl	64		67		30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1607393-01A	Amber 1000ml unpreserved	A	N/A	4.6	Y	Absent	A2-NFTPH(7),A2-PCB-8082-LOW(7),A2-PEST-8081-LOW(7),A2-NFALKPAH(7)
L1607393-01B	Vial HCl preserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-01C	Vial unpreserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-02A	Plastic 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-NFTPH(7),A2-PCB-8082-LOW(7),A2-PEST-8081-LOW(7),A2-NFALKPAH(7)
L1607393-02B	Vial HCl preserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-02C	Vial unpreserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-03A	Amber 1000ml unpreserved	A	N/A	4.6	Y	Absent	A2-NFTPH(7),A2-PCB-8082-LOW(7),A2-PEST-8081-LOW(7),A2-NFALKPAH(7)
L1607393-03B	Vial HCl preserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-03C	Vial unpreserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-04X	Glass 60mL/2oz unpreserved	A	N/A	4.6	Y	Absent	A2-NFALKPAHBIOMARKER(365),A2-NFTPH(365)

*Values in parentheses indicate holding time in days



Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: DU Report with 'J' Qualifiers



Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Data Qualifiers

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation

EPA 9038: NPW: Sulfate

EPA 9050A: NPW: Specific Conductance

EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols

EPA 9251: NPW: Chloride

SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam

EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane

SM 2540D: TSS

SM2540G: SCM: Percent Solids

EPA 1631E: SCM: Mercury

EPA 7474: SCM: Mercury

EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA 8270-SIM: NPW and SCM: Alkylated PAHs.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

Biological Tissue Matrix: **8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:** Lead; **8270D:** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Ti; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO₃-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1,**

SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Ti, Zn;

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, V, Zn;

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH₃-BH, EPA

350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO₃-F,**

EPA 353.2: Nitrate-N, **SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D,**

EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



ANALYTICAL REPORT

Prepared for:

NewFields

300 Ledgewood Place, Suite 305

Rockland, MA 02370

Project: Flint Street

ETR: 1603006

Report Date: April 04, 2016

Certifications and Accreditations

Massachusetts M-MA030

Connecticut PH-0141

New Hampshire 2206

Rhode Island LAO00289

New Jersey MA015

Maine MA0030

New York 11627

Louisiana 03090

Florida E87814

Pennsylvania 68-02089

Army Corps of Engineers

Department of the Navy

This report shall not be reproduced except in full, without written approval from the laboratory.



Sample ID Cross Reference



Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Lab Sample ID	Client Sample ID	Matrix
1603006-01	RX-1	Soil
1603006-02	RX-2	Soil
1603006-03	RX-3	Soil
1603006-04	RX-4	Soil
1603006-05	RX-5	Soil
1603006-06	RX-6	Soil
1603006-07	RX-7	Soil
1603006-08	RX-7A	Soil
1603006-09	RX-7B	Soil
1603006-10	RX-8	Soil
1603006-11	RX-8A	Soil
1603006-12	RX-8B	Soil

Certificate/Approval Program Summary



Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

Connecticut Department of Public Health Certificate/Lab ID : PH-0141 - *Wastewater* (General Chemistry: EPA 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2, 365.2; Metals: 200.8, 245.1; Organics: 608, 624, 625, ETPH) *Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9060; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

Florida Department of Health Certificate/Lab ID : E87814 - Primary NELAP Accreditation Authority for Air & Emissions. Secondary NELAP Accreditation for Wastewater and Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 335.2, 365.2, SM2320B, SM2340B, SM2540G, SM4500NH3; Metals: 245.1; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9065, Reactivity 7.3; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

Louisiana Department of Environmental Quality Certificate/Lab ID : 03090 - Primary NELAP Accrediting Authority for Wastewater, Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1, 6020; Organics: 608, 624, 625, 8015-DRO/GRO, 8081, 8082, 8260, 8270). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060, Reactivity 7.3; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO/GRO, 8081, 8082, 8260, 8270).

Maine Department of Human Services Certificate/Lab ID : MA0030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2, 365.2; Metals: EPA 245.1; Organics: 608, 624).

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2, 365.2; Metals: EPA 245.1; Organics: EPA 608, 624).

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, SM2540G; Metals: 200.8, 245.4; Organics: 608, 624, 625).

New Jersey Department of Environmental Protection Certificate/Lab ID : MA015 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1 6020; Organics: 608, 624, 625, 8081, 8082, 8260, 8270). *Solid & Hazardous Waste* (General Chemistry: EPA 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO/GRO, 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

New York Department of Health Certificate/Lab ID : 11627 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 365.2, 376.2; Metals: 245.1; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: EPA 1010, 1311; : 245.1; 6020, 7041; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

Rhode Island Department of Health Certificate/Lab ID : LAO00289 - Chemistry: *Organic and Inorganic in Non-Portable Water, Wastewater/Sewage and Soil* (Refer to LADEQ and MADEP certificates for method numbers.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-02089 - Registered laboratory

U.S. Army Corps of Engineers

Department of the Navy

CASE NARRATIVE

Alpha Analytical

ETR: 1603006
Project: Flint Street

All analyses were performed according to the Alpha Analytical quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Alpha Analytical certifies that the test results within meet all of the requirements of NELAC, for all NELAC accredited parameters.

Sample Receipt

Samples 1603006-01 through -12 were received on March 15, 2016, in good condition, between 2° and 6°C. PIANO samples were received in methanol preserved VOC vials.

PIANO Volatiles by GC/MS- Soil

Volatile Organic Compounds were analyzed by GC/MS following the procedures in the Alpha Analytical SOP *PIANO Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (SOP 2255, Rev. 4, 7/27/15)* Method 8260B, modified. Soil samples were prepared by removing an approximate 5g sample aliquot and adding it to a vial containing 10 mL of Methanol. 100uL of the methanol extract was removed and added to 5mL of water for analysis. Volatile compounds were introduced into the GC by the purge-and-trap method. Internal standards and surrogates along with an additional aliquot of water were added to the samples, and the samples were heated to 40°C and agitated during the purge. Purged sample components were trapped in a tube containing suitable sorbent materials. The sorbent tube was then heated and back flushed to desorb trapped sample components. The analytes were desorbed directly to a gas chromatograph equipped with a narrow bore capillary column for analysis and detection by mass spectrometry. Qualitative identifications were confirmed by analyzing standards under the same conditions used for samples and comparing mass spectra and GC retention times. Quantification was based on the average response factor derived from a multi-level initial calibration using internal standard techniques. All enclosed data was evaluated below the reporting limits to three times signal to noise. The sample specific reporting limit is the value reported for all compounds which are not detected ("U" qualified).

The initial calibration analyzed on 03/01/16, P4030216.M, has the Relative Standard Deviation (RSD) above the 25% limit for Tridecane (31.2%). The RSD was below 35% and the compound represents less than 10% of the analytes, therefore the calibration was accepted. The Independent Calibration Verification (ICV) I403011603 had the compound Tertiary butanol above the QC limit (20%) at 22.9%. This value represents less than 10% of all compounds, therefore the calibration was accepted.

1. The method blank VS031816B01 contained low-level analytes detected below the reporting limit. Associated field sample results are flagged with "B" qualifiers if the concentration of the analytes in the sample is less than 10x the concentration in the blank.
2. The continuing calibration verification, C403181602, had the percent deviation for 1-Methylnaphthalene above the 25%D QC limit at 25.2%D. This value was below 35%D and represents less than 10% of all compounds, therefore the calibration was accepted.
3. An analytical duplicate sample analysis was performed on sample RX-5 (1603006-05). The surrogate recovery for 2-Bromo-1-chloropropane was above acceptance criteria for the duplicate analysis (1603006-05D) at 137%. All other duplicate criteria were met and no further action was taken.

- Two of the extraction surrogate recoveries for sample RX-6 (1603006-06) were outside the QC limit (70-130%). The associated batch QC was within QC limits demonstrating the high recoveries are attributed to sample matrix. Refer to individual Form I for recoveries.
- The extraction surrogate recovery for 1,4-dichlorobutane for sample RX-8 (1603006-10) is below the QC limit (70-130%). Integrations were verified and found to be correct, and the sample results should be considered biased low.
- Sample RX-7B (1603006-09) was re-analyzed at a 5X dilution due to over-calibration concentrations of target compounds. The diluted analysis is only quantified for the compounds which were detected over the calibration range of the analytical instrument in the un-diluted analysis.

Alkylated Polynuclear Aromatic Hydrocarbons, Triterpanes and Triaromatic Steroids by GC/MS-SIM – Soil

Polynuclear aromatic hydrocarbons and geochemical biomarkers were analyzed following Alpha Analytical SOP *Analysis of Parent and Alkylated Polynuclear Aromatic Hydrocarbons, Selected Heterocyclic Compounds, Steranes, Triterpanes, and Triaromatic Steroids by Gas Chromatography/Mass Spectrometry with Selected Ion Monitoring* (SOP 2247, Rev. 8, 09/04/2015). Soil samples are spiked with surrogate compounds and extracted by *Shaker Table Extraction* (SOP 2261, Rev. 6, 09/04/2015). Solvent extracts are dried over sodium sulfate and concentrated to an appropriate volume by *Gravimetric Determination* (SOP 2263, Rev. 5, 08/03/2015). A pre-determined volume of the extract is alumina cleaned by *Alumina Column Cleanup of Organic Extract* (SOP 2260, Rev. 4, 08/03/2015) and concentrated to 1mL. Qualitative identifications are confirmed by analyzing standards under the same conditions used for samples, comparing mass spectra, GC retention times, and patterns generated from reference oils. Quantification is based on response factors derived from a multi-level initial calibration using internal standard techniques. Alkyl homologues are quantified using the response factor of the parent PAH compound. Target triterpane biomarker concentrations are quantified using the response factor of Hopane and the steranes and steroids are quantified using the response factor of 5 β (H)-Cholane. All enclosed data was evaluated below the reporting limits to three times signal to noise. The sample specific reporting limit is the value reported for all compounds which are not detected (“U” qualified).

- The method blank SS032516B02 contained low-level target compounds detected below the reporting limit. Associated field sample results are flagged with “B” qualifiers if the concentration of the analyte in the sample is less than 10X the concentration in the blank. Please note that no “B” qualifier was utilized.
- Samples 1603006-10 and -12 required dilutions due to over-calibration concentrations of target compounds. The diluted analyses are only quantified for the compounds that were over the calibration range of the analytical instrument in the un-diluted analyses.
- Concentrations for compounds flagged with “G” qualifiers may be biased high due to matrix interference included in the quantitation.
- The relative percent difference (RPD) between the sample 1603006-04 and its duplicate 1603006-04D had some compounds above the 30% QC limit. The integrations and calculations in the native sample and the duplicate were reviewed and found to be appropriate. See Duplicate Summary Report for individual compounds affected.

Total Petroleum Hydrocarbons by GC/FID – Soil

Samples for total petroleum hydrocarbons were analyzed following the procedures in Alpha Analytical SOP *Total Petroleum and Saturated Hydrocarbons by Gas Chromatography/Flame Ionization Detector* (SOP 2246, Rev. 7, 09/04/2015) Method 8100/8015mod. Samples were prepared as stated above for the PAH analysis. A portion of the final extract was analyzed for GC/FID (gas chromatography with flame ionization detection). A multi-level initial calibration over the n-alkane range from C9-C40 was evaluated and quantified using internal standard techniques prior to sample analysis. All enclosed data was evaluated below the reporting limits to three times signal to noise. The sample specific reporting limit is the value reported for all compounds which are not detected (“U” qualified).

- All quality control parameters met the specified criteria.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Analytical makes no

representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Analytical. To the best of my knowledge, the information contained in this report is accurate and complete. For any questions regarding this report, please contact the signatory below at 508-822-9300.

Approved by: *Susan O'Neil* Title: **Project Manager** Date: 4/4/16
Susan O'Neil

P-I-A-N-O Volatiles



Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-1**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-01**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	84.4	10	6.22	0.1	5	1	MR

Parameter	Result
Isopentane	112 J
1-Pentene	209 U
2-Methyl-1-butene	209 U
Pentane	530
2-Pentene (trans)	209 U
2-Pentene (cis)	209 U
Tertiary butanol	2610 U
Cyclopentane	209 U
2,3-Dimethylbutane	209 U
2-Methylpentane	174 J
MTBE	209 U
3-Methylpentane	395
1-Hexene	209 U
Hexane	689
Diisopropyl Ether (DIPE)	209 U
Ethyl Tertiary Butyl Ether (ETBE)	209 U
2,2-Dimethylpentane	67.7 J
Methylcyclopentane	171 J
2,4-Dimethylpentane	185 J
1,2-Dichloroethane	209 U
Cyclohexane	223
2-Methylhexane	128 J
Benzene	287
2,3-Dimethylpentane	516
Thiophene	209 U
3-Methylhexane	204 J
TAME	209 U
1-Heptene/1,2-DMCP (trans) ¹	125 J
Isooctane	18.4 J
Heptane	748
Methylcyclohexane	820
2,5-Dimethylhexane	1000
2,4-Dimethylhexane	1070
2,2,3-Trimethylpentane	87.1 J
2,3,4-Trimethylpentane	106 J
2,3,3-Trimethylpentane	147 J
2,3-Dimethylhexane	388
3-Ethylhexane	541
2-Methylheptane	143 J

Parameter	Result
3-Methylheptane	216
Toluene	36.7 J
2-Methylthiophene	209 U
3-Methylthiophene	209 U
1-Octene	209 U
Octane	323
1,2-Dibromoethane	209 U
Ethylbenzene	86.7 JB
2-Ethylthiophene	209 U
p/m-Xylene	369 J
1-Nonene	209 U
Nonane	110 J
Styrene	209 U
o-Xylene	20.0 J
Isopropylbenzene	44.0 J
n-Propylbenzene	54.8 J
1-Methyl-3-ethylbenzene	209 U
1-Methyl-4-ethylbenzene	209 U
1,3,5-Trimethylbenzene	29.7 J
1-Decene	209 U
1-Methyl-2-ethylbenzene	209 U
Decane	59.3 JB
1,2,4-Trimethylbenzene	47.7 J
sec-Butylbenzene	22.2 J
1-Methyl-3-isopropylbenzene	209 U
1-Methyl-4-isopropylbenzene	209 U
1-Methyl-2-isopropylbenzene	209 U
Indan	209 U
1-Methyl-3-propylbenzene	209 U
1-Methyl-4-propylbenzene	209 U
n-Butylbenzene	209 U
1,2-Dimethyl-4-ethylbenzene	209 U
1,2-Diethylbenzene	209 U
1-Methyl-2-propylbenzene	13.4 J
1,4-Dimethyl-2-ethylbenzene	209 U
Undecane	38.7 J
1,3-Dimethyl-4-ethylbenzene	209 U
1,3-Dimethyl-5-ethylbenzene	71.4 J
1,3-Dimethyl-2-ethylbenzene	209 U



Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-1**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-01**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	84.4	10	6.22	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	209 U
1,2,4,5-Tetramethylbenzene	44.9 J
Pentylbenzene	209 U
Dodecane	209 U
Naphthalene	73.5 JB

Parameter	Result
Benzothiophene	209 U
MMT	523 U
Tridecane	523 U
2-Methylnaphthalene	49.1 JB
1-Methylnaphthalene	46.6 JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	118	70-130
1-Chloro-2-fluorobenzene	116	70-130
1,4-Dichlorobutane	104	70-130
Dibromofluoromethane	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009735.D
 Acq On : 19 Mar 2016 12:36 am
 Operator : VOA4:MR
 Sample : 1603006-01
 Misc : 1X
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 12:04:54 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	630282	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	187297	51.136	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	102.27%		
62) Toluene-d8 (surr)	30.74	98	785286	49.460	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.92%		
64) 2-Bromo-1-chloropropane (	30.96	77	250251	53.550	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	107.10%		
87) 1-Chloro-2-fluorobenzene	40.14	130	541054	52.905	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	105.81%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	446717	47.480	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	94.96%		
101) 4-Bromofluorobenzene (sur	45.93	95	309093	50.039	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	100.08%		
Target Compounds						
					Qvalue	
3) Isopentane	8.17	43	5516	1.075	ug/L	95
6) Pentane	9.19	43	42379	5.073	ug/L	98
15) 2-Methylpentane	13.02	43	17652	1.666	ug/L	94
17) 3-Methylpentane	13.99	57	33097	3.777	ug/L #	89
19) Hexane	15.17	57	49779	6.594	ug/L	90
26) 2,2-Dimethylpentane	17.19	57	7032	0.648	ug/L	90
27) Methylcyclopentane	17.45	56	16315M1	1.633	ug/L	
28) 2,4-Dimethylpentane	17.62	43	17286	1.773	ug/L	97
32) Cyclohexane	20.33	56	18294	2.137	ug/L	92
33) 2-Methylhexane	20.76	43	13161	1.229	ug/L	93
34) Benzene	20.90	78	39884	2.747	ug/L	94
35) 2,3-Dimethylpentane	21.07	56	40648	4.939	ug/L	94
38) 3-Methylhexane	21.58	43	18243	1.948	ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.89	70	3788	1.196	ug/L #	63
44) Isooctane	23.00	57	3750M1	0.176	ug/L	
46) Heptane	23.73	43	63296	7.151	ug/L	99
51) Methycyclohexane	26.12	83	53336	7.845	ug/L	93
52) 2,5-Dimethylhexane	26.80	57	101855	9.617	ug/L	94
53) 2,4-Dimethylhexane	27.06	57	86033	10.244	ug/L	99
55) 2,2,3-Trimethylpentane	27.32	57	13957	0.833	ug/L	93
57) 2,3,4-Trimethylpentane	28.84	43	13351	1.017	ug/L	96
58) 2,3,3-Trimethylpentane	29.39	43	15989M1	1.402	ug/L	
59) 2,3-Dimethylhexane	29.67	43	44640	3.710	ug/L	91

AS 3/29/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009735.D
 Acq On : 19 Mar 2016 12:36 am
 Operator : VOA4:MR
 Sample : 1603006-01
 Misc : 1X
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 12:04:54 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
60)	2-Methylheptane	30.13	57	13165M6	1.369	ug/L	
63)	3-Methylheptane	30.86	43	19521M6	2.068	ug/L	
65)	3-Ethylhexane	30.98	43	75498	5.179	ug/L	98
66)	Toluene	31.13	91	5803	0.351	ug/L	89
71)	Octane	33.37	43	34739	3.094	ug/L	95
86)	Ethylbenzene	40.14	91	15876	0.829	ug/L	88
91)	p/m-Xylene	41.41	91	52199	3.533	ug/L	92
95)	Nonane	42.90	43	11267	1.047	ug/L	89
98)	o-Xylene	43.64	91	2847M1	0.191	ug/L	
102)	Isopropylbenzene	45.99	105	8024M1	0.421	ug/L	
104)	n-Propylbenzene	48.58	91	12023	0.524	ug/L	# 78
109)	1,3,5-Trimethylbenzene	49.95	105	4587	0.284	ug/L	93
113)	Decane	50.53	43	6065M4	0.567	ug/L	
115)	1,2,4-Trimethylbenzene	51.17	105	7439	0.456	ug/L	96
117)	sec-Butylbenzene	51.42	105	4540	0.212	ug/L	95
130)	1-Methyl-2-propylbenzene	53.42	105	2823	0.128	ug/L	# 52
132)	Undecane	53.79	57	3994	0.370	ug/L	92
134)	1,3-Dimethyl-5-ethylbenze	53.95	119	13305	0.683	ug/L	98
137)	1,2,4,5-Tetramethylbenzen	54.93	119	8759	0.429	ug/L	97
144)	Naphthalene	56.83	128	12214	0.703	ug/L	92
150)	2-Methylnaphthalene	59.56	142	4159	0.470	ug/L	89
151)	1-Methylnaphthalene	60.03	142	3328M1	0.446	ug/L	

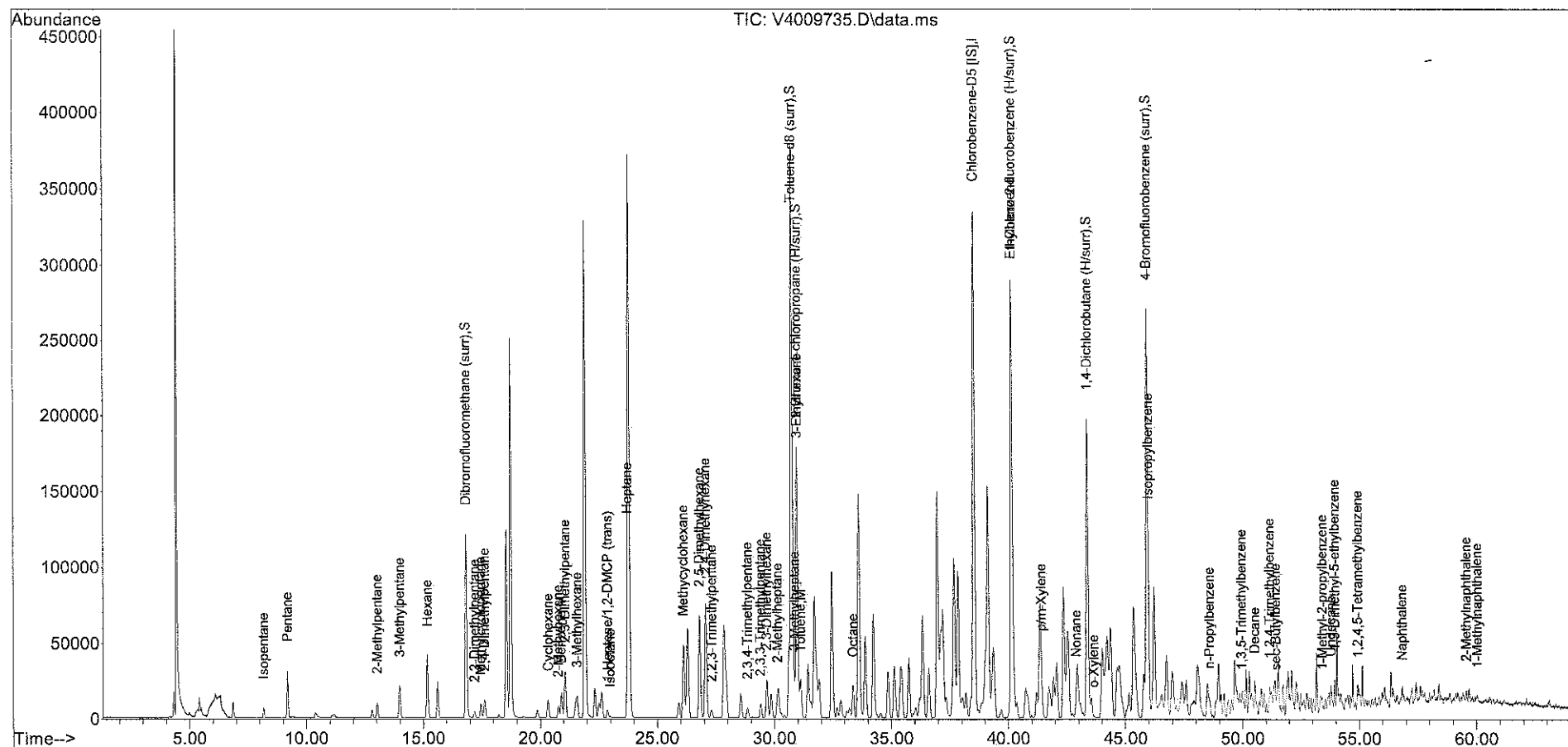
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009735.D
 Acq On : 19 Mar 2016 12:36 am
 Operator : VOA4:MR
 Sample : 1603006-01
 Misc : 1X
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 12:04:54 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-2**

Case: **N/A** SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-02**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	80.0	10	6.97	0.1	5	1	MR

Parameter	Result
Isopentane	204 U
1-Pentene	204 U
2-Methyl-1-butene	204 U
Pentane	204 U
2-Pentene (trans)	204 U
2-Pentene (cis)	204 U
Tertiary butanol	2550 U
Cyclopentane	204 U
2,3-Dimethylbutane	253
2-Methylpentane	204 U
MTBE	204 U
3-Methylpentane	204 U
1-Hexene	204 U
Hexane	204 U
Diisopropyl Ether (DIPE)	204 U
Ethyl Tertiary Butyl Ether (ETBE)	204 U
2,2-Dimethylpentane	91.4 J
Methylcyclopentane	204 U
2,4-Dimethylpentane	955
1,2-Dichloroethane	204 U
Cyclohexane	204 U
2-Methylhexane	204 U
Benzene	204 U
2,3-Dimethylpentane	305
Thiophene	204 U
3-Methylhexane	204 U
TAME	204 U
1-Heptene/1,2-DMCP (trans) ¹	408 U
Isooctane	79.4 J
Heptane	204 U
Methylcyclohexane	204 U
2,5-Dimethylhexane	204 U
2,4-Dimethylhexane	204 U
2,2,3-Trimethylpentane	158 J
2,3,4-Trimethylpentane	189 J
2,3,3-Trimethylpentane	275
2,3-Dimethylhexane	204 U
3-Ethylhexane	204 U
2-Methylheptane	204 U

Parameter	Result
3-Methylheptane	204 U
Toluene	204 U
2-Methylthiophene	204 U
3-Methylthiophene	204 U
1-Octene	204 U
Octane	204 U
1,2-Dibromoethane	204 U
Ethylbenzene	31.1 JB
2-Ethylthiophene	204 U
p/m-Xylene	408 U
1-Nonene	204 U
Nonane	57.7 J
Styrene	204 U
o-Xylene	204 U
Isopropylbenzene	204 U
n-Propylbenzene	204 U
1-Methyl-3-ethylbenzene	204 U
1-Methyl-4-ethylbenzene	204 U
1,3,5-Trimethylbenzene	204 U
1-Decene	204 U
1-Methyl-2-ethylbenzene	204 U
Decane	204 U
1,2,4-Trimethylbenzene	204 U
sec-Butylbenzene	204 U
1-Methyl-3-isopropylbenzene	204 U
1-Methyl-4-isopropylbenzene	204 U
1-Methyl-2-isopropylbenzene	204 U
Indan	204 U
1-Methyl-3-propylbenzene	204 U
1-Methyl-4-propylbenzene	204 U
n-Butylbenzene	204 U
1,2-Dimethyl-4-ethylbenzene	204 U
1,2-Diethylbenzene	204 U
1-Methyl-2-propylbenzene	204 U
1,4-Dimethyl-2-ethylbenzene	204 U
Undecane	204 U
1,3-Dimethyl-4-ethylbenzene	204 U
1,3-Dimethyl-5-ethylbenzene	204 U
1,3-Dimethyl-2-ethylbenzene	204 U



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-2**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-02**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	80.0	10	6.97	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	204 U
1,2,4,5-Tetramethylbenzene	204 U
Pentylbenzene	204 U
Dodecane	204 U
Naphthalene	73.8 JB

Parameter	Result
Benzothiophene	204 U
MMT	511 U
Tridecane	511 U
2-Methylnaphthalene	511 U
1-Methylnaphthalene	511 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	99	70-130
1-Chloro-2-fluorobenzene	98	70-130
1,4-Dichlorobutane	83	70-130
Dibromofluoromethane	113	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	99	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009736.D
 Acq On : 19 Mar 2016 1:50 am
 Operator : VOA4:MR
 Sample : 1603006-02
 Misc : 1X
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 21 12:21:35 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	523128	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	172350	56.693	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	113.39%		
62) Toluene-d8 (surr)	30.74	98	706274	53.595	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	107.19%		
64) 2-Bromo-1-chloropropane (	30.96	77	169065	43.588	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	87.18%		
87) 1-Chloro-2-fluorobenzene	40.14	130	366446	43.171	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	86.34%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	285181M4	36.519	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	73.04%		
101) 4-Bromofluorobenzene (sur	45.94	95	254025	49.547	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	99.09%		
Target Compounds						
					Qvalue	
14) 2,3-Dimethylbutane	12.81	71	4179	2.477	ug/L #	1
26) 2,2-Dimethylpentane	17.20	57	8064	0.895	ug/L	86
28) 2,4-Dimethylpentane	17.62	43	75642	9.350	ug/L	98
35) 2,3-Dimethylpentane	21.08	56	20431	2.991	ug/L #	90
44) Isooctane	23.00	57	13765M1	0.778	ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	21591	1.552	ug/L	98
57) 2,3,4-Trimethylpentane	28.84	43	20166M1	1.851	ug/L	
58) 2,3,3-Trimethylpentane	29.40	43	25532	2.697	ug/L	99
86) Ethylbenzene	40.16	91	4843M1	0.305	ug/L	
95) Nonane	42.91	43	5045M4	0.565	ug/L	
144) Naphthalene	56.84	128	10417	0.723	ug/L #	82

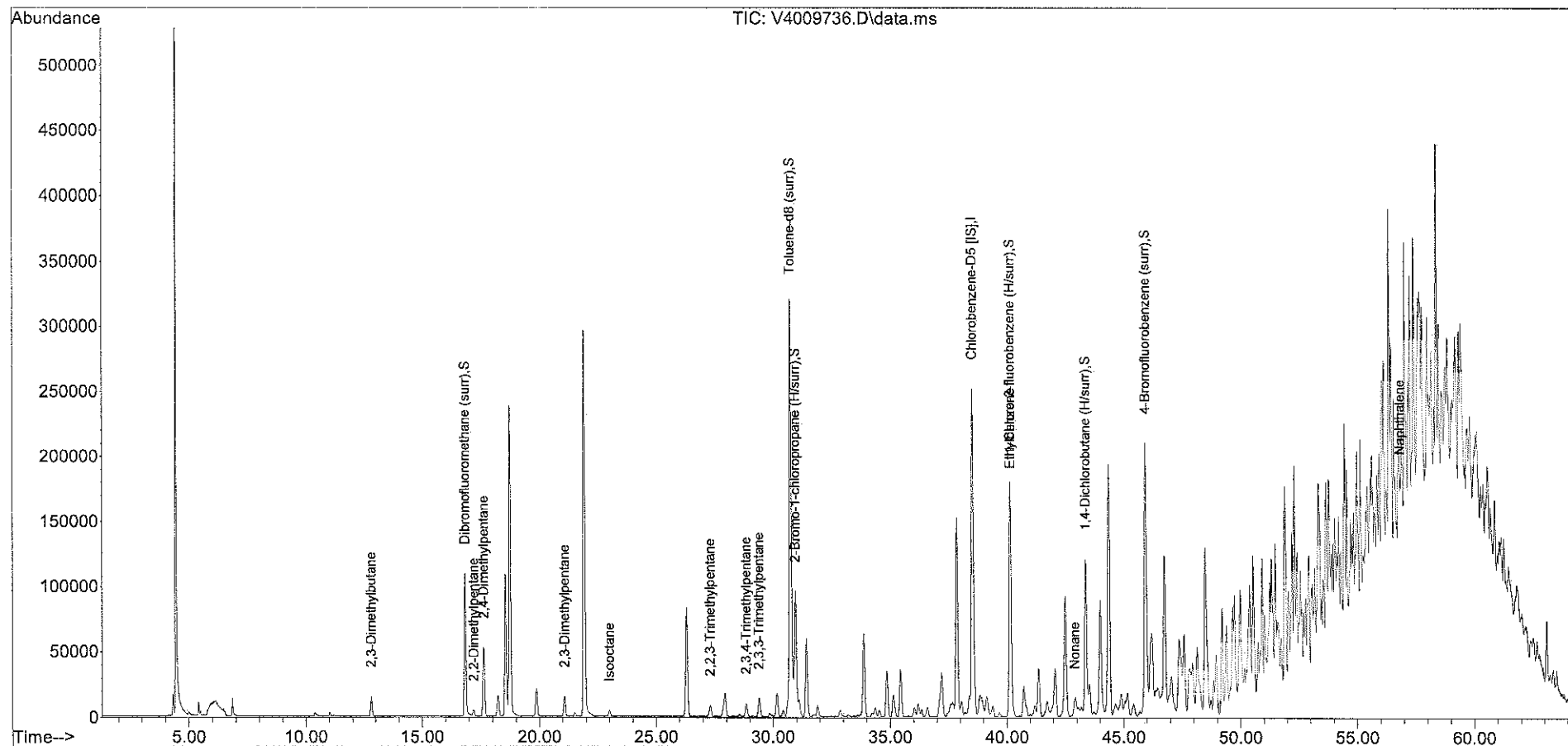
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009736.D
 Acq On : 19 Mar 2016 1:50 am
 Operator : VOA4:MR
 Sample : 1603006-02
 Misc : 1X
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 21 12:21:35 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-3

Case: N/A

SDG: N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-03

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	89.6	10	7.24	0.1	5	1	MR

Parameter	Result
Isopentane	31.0 J
1-Pentene	166 U
2-Methyl-1-butene	166 U
Pentane	166 U
2-Pentene (trans)	166 U
2-Pentene (cis)	166 U
Tertiary butanol	2070 U
Cyclopentane	166 U
2,3-Dimethylbutane	123 J
2-Methylpentane	166 U
MTBE	166 U
3-Methylpentane	166 U
1-Hexene	166 U
Hexane	31.2 J
Diisopropyl Ether (DIPE)	166 U
Ethyl Tertiary Butyl Ether (ETBE)	166 U
2,2-Dimethylpentane	192
Methylcyclopentane	166 U
2,4-Dimethylpentane	715
1,2-Dichloroethane	166 U
Cyclohexane	166 U
2-Methylhexane	166 U
Benzene	148 J
2,3-Dimethylpentane	534
Thiophene	166 U
3-Methylhexane	166 U
TAME	166 U
1-Heptene/1,2-DMCP (trans) ¹	332 U
Isooctane	34.5 J
Heptane	166 U
Methylcyclohexane	37.9 J
2,5-Dimethylhexane	1710
2,4-Dimethylhexane	380
2,2,3-Trimethylpentane	108 J
2,3,4-Trimethylpentane	129 J
2,3,3-Trimethylpentane	146 J
2,3-Dimethylhexane	66.9 J
3-Ethylhexane	136 J
2-Methylheptane	166 U

Parameter	Result
3-Methylheptane	166
Toluene	44.5 J
2-Methylthiophene	166 U
3-Methylthiophene	166 U
1-Octene	166 U
Octane	166 U
1,2-Dibromoethane	166 U
Ethylbenzene	32.2 JB
2-Ethylthiophene	166 U
p/m-Xylene	41.7 J
1-Nonene	166 U
Nonane	134 J
Styrene	166 U
o-Xylene	166 U
Isopropylbenzene	166 U
n-Propylbenzene	166 U
1-Methyl-3-ethylbenzene	166 U
1-Methyl-4-ethylbenzene	166 U
1,3,5-Trimethylbenzene	166 U
1-Decene	166 U
1-Methyl-2-ethylbenzene	166 U
Decane	166 U
1,2,4-Trimethylbenzene	45.2 J
sec-Butylbenzene	28.3 J
1-Methyl-3-isopropylbenzene	166 U
1-Methyl-4-isopropylbenzene	166 U
1-Methyl-2-isopropylbenzene	64.2 J
Indan	166 U
1-Methyl-3-propylbenzene	166 U
1-Methyl-4-propylbenzene	166 U
n-Butylbenzene	166 U
1,2-Dimethyl-4-ethylbenzene	166 U
1,2-Diethylbenzene	105 J
1-Methyl-2-propylbenzene	59.5 J
1,4-Dimethyl-2-ethylbenzene	22.0 J
Undecane	166 U
1,3-Dimethyl-4-ethylbenzene	166 U
1,3-Dimethyl-5-ethylbenzene	241
1,3-Dimethyl-2-ethylbenzene	166 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-3**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-03**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	89.6	10	7.24	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	19.7 J
1,2,4,5-Tetramethylbenzene	738
Pentylbenzene	166 U
Dodecane	166 U
Naphthalene	166 U

Parameter	Result
Benzothiophene	166 U
MMT	414 U
Tridecane	414 U
2-Methylnaphthalene	414 U
1-Methylnaphthalene	414 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	119	70-130
1-Chloro-2-fluorobenzene	117	70-130
1,4-Dichlorobutane	96	70-130
Dibromofluoromethane	115	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	97	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009737.D
 Acq On : 19 Mar 2016 3:05 am
 Operator : VOA4:MR
 Sample : 1603006-03
 Misc : 1X
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 21 12:29:29 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	510511	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	171012	57.643	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	115.29%		
62) Toluene-d8 (surr)	30.75	98	692161	53.822	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	107.64%		
64) 2-Bromo-1-chloropropane (	30.96	77	209998	55.479	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	110.96%		
87) 1-Chloro-2-fluorobenzene	40.15	130	450204	54.349	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	108.70%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	339825	44.592	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	89.18%		
101) 4-Bromofluorobenzene (sur	45.94	95	242000	48.368	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	96.74%		
Target Compounds						
					Qvalue	
3) Isopentane	8.19	43	1553	0.374	ug/L #	65
14) 2,3-Dimethylbutane	12.80	71	2446	1.486	ug/L #	1
19) Hexane	15.17	57	2305	0.377	ug/L #	81
26) 2,2-Dimethylpentane	17.19	57	20354	2.315	ug/L	94
28) 2,4-Dimethylpentane	17.62	43	68085	8.624	ug/L	97
34) Benzene	20.91	78	20955	1.782	ug/L	96
35) 2,3-Dimethylpentane	21.07	56	42911	6.438	ug/L	99
44) Isooctane	23.00	57	7185	0.416	ug/L #	70
51) Methycyclohexane	26.11	83	2516M1	0.457	ug/L	
52) 2,5-Dimethylhexane	26.81	57	177249	20.662	ug/L	97
53) 2,4-Dimethylhexane	27.06	57	31153	4.580	ug/L	100
55) 2,2,3-Trimethylpentane	27.31	57	17697	1.303	ug/L	92
57) 2,3,4-Trimethylpentane	28.85	43	16497	1.552	ug/L	91
58) 2,3,3-Trimethylpentane	29.40	43	16325	1.767	ug/L	95
59) 2,3-Dimethylhexane	29.65	43	7864M3	0.807	ug/L	
63) 3-Methylheptane	30.87	43	15353M6	2.008	ug/L	
65) 3-Ethylhexane	30.98	43	19424M6	1.645	ug/L	
66) Toluene	31.11	91	7206	0.537	ug/L #	74
86) Ethylbenzene	40.15	91	6012M1	0.388	ug/L	
91) p/m-Xylene	41.38	91	6021	0.503	ug/L #	29
95) Nonane	42.94	43	14144M6	1.623	ug/L	
115) 1,2,4-Trimethylbenzene	51.16	105	7194	0.545	ug/L	100
117) sec-Butylbenzene	51.42	105	5922M6	0.342	ug/L	

AS 3/29/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009737.D
 Acq On : 19 Mar 2016 3:05 am
 Operator : VOA4:MR
 Sample : 1603006-03
 Misc : 1X
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 21 12:29:29 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
121)	1-Methyl-2-isopropylbenze	52.49	119	11653	0.774	ug/L #	69
129)	1,2-Diethylbenzene	53.22	119	9567	1.265	ug/L	94
130)	1-Methyl-2-propylbenzene	53.42	105	12870M4	0.718	ug/L	
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	3832	0.266	ug/L #	1
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	45815	2.904	ug/L	98
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	3724	0.238	ug/L #	1
137)	1,2,4,5-Tetramethylbenzen	54.94	119	147339M4	8.908	ug/L	

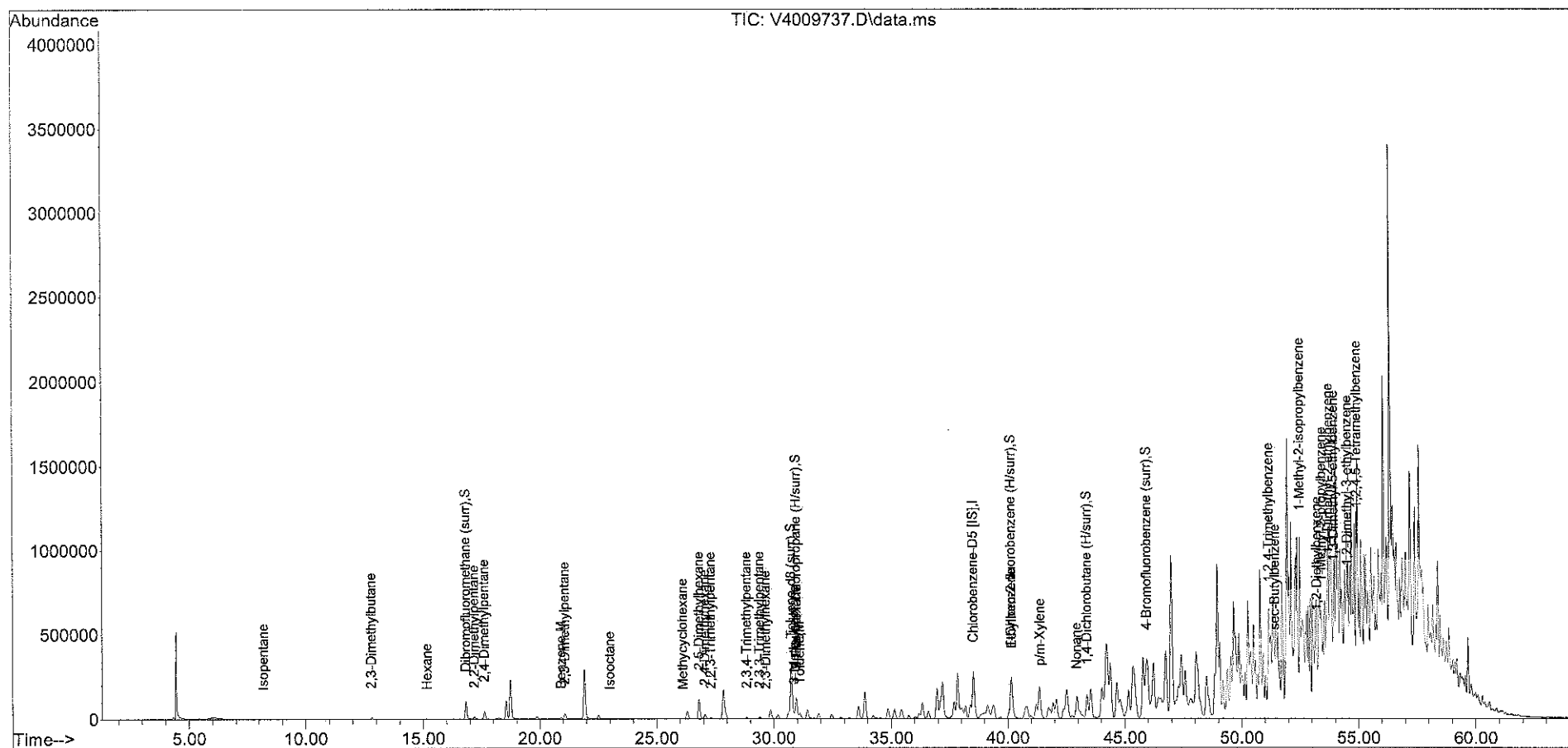
(#) = qualifier out of range (m) = manual integration (+) = signals summed

(QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009737.D
Acq On : 19 Mar 2016 3:05 am
Operator : VOA4:MR
Sample : 1603006-03
Misc : 1X
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 21 12:29:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-4**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-04**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.2	10	5.53	0.1	5	1	MR

Parameter	Result
Isopentane	259 U
1-Pentene	259 U
2-Methyl-1-butene	259 U
Pentane	259 U
2-Pentene (trans)	259 U
2-Pentene (cis)	259 U
Tertiary butanol	3240 U
Cyclopentane	259 U
2,3-Dimethylbutane	259 U
2-Methylpentane	259 U
MTBE	259 U
3-Methylpentane	411
1-Hexene	259 U
Hexane	259 U
Diisopropyl Ether (DIPE)	259 U
Ethyl Tertiary Butyl Ether (ETBE)	259 U
2,2-Dimethylpentane	122 J
Methylcyclopentane	71.0 J
2,4-Dimethylpentane	223 J
1,2-Dichloroethane	259 U
Cyclohexane	238 J
2-Methylhexane	259 U
Benzene	259 U
2,3-Dimethylpentane	813
Thiophene	259 U
3-Methylhexane	86.4 J
TAME	259 U
1-Heptene/1,2-DMCP (trans) ¹	1450
Isooctane	259 U
Heptane	259 U
Methylcyclohexane	4070
2,5-Dimethylhexane	1610
2,4-Dimethylhexane	2050
2,2,3-Trimethylpentane	140 J
2,3,4-Trimethylpentane	153 J
2,3,3-Trimethylpentane	211 J
2,3-Dimethylhexane	2010
3-Ethylhexane	2590
2-Methylheptane	259 U

Parameter	Result
3-Methylheptane	259 U
Toluene	259 U
2-Methylthiophene	259 U
3-Methylthiophene	259 U
1-Octene	259 U
Octane	259 U
1,2-Dibromoethane	259 U
Ethylbenzene	62.2 JB
2-Ethylthiophene	259 U
p/m-Xylene	518 U
1-Nonene	259 U
Nonane	259 U
Styrene	259 U
o-Xylene	259 U
Isopropylbenzene	259 U
n-Propylbenzene	259 U
1-Methyl-3-ethylbenzene	259 U
1-Methyl-4-ethylbenzene	259 U
1,3,5-Trimethylbenzene	259 U
1-Decene	259 U
1-Methyl-2-ethylbenzene	44.8 J
Decane	259 U
1,2,4-Trimethylbenzene	259 U
sec-Butylbenzene	259 U
1-Methyl-3-isopropylbenzene	259 U
1-Methyl-4-isopropylbenzene	259 U
1-Methyl-2-isopropylbenzene	626
Indan	221 J
1-Methyl-3-propylbenzene	259 U
1-Methyl-4-propylbenzene	259 U
n-Butylbenzene	259 U
1,2-Dimethyl-4-ethylbenzene	259 U
1,2-Diethylbenzene	485
1-Methyl-2-propylbenzene	133 J
1,4-Dimethyl-2-ethylbenzene	259 U
Undecane	259 U
1,3-Dimethyl-4-ethylbenzene	259 U
1,3-Dimethyl-5-ethylbenzene	7900
1,3-Dimethyl-2-ethylbenzene	334

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-4**

Case: **N/A** SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-04**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.2	10	5.53	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	459
1,2,4,5-Tetramethylbenzene	135 J
Pentylbenzene	259 U
Dodecane	259 U
Naphthalene	259 U

Parameter	Result
Benzothiophene	259 U
MMT	648 U
Tridecane	648 U
2-Methylnaphthalene	648 U
1-Methylnaphthalene	648 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	124	70-130
1-Chloro-2-fluorobenzene	117	70-130
1,4-Dichlorobutane	92	70-130
Dibromofluoromethane	116	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	105	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009738.D
 Acq On : 19 Mar 2016 4:19 am
 Operator : VOA4:MR
 Sample : 1603006-04
 Misc : 1X
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 21 12:33:21 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	486574	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	163417	57.793	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	115.59%		
62) Toluene-d8 (surr)	30.75	98	670451	54.699	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	109.40%		
64) 2-Bromo-1-chloropropane (	30.96	77	199354	55.258	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	110.52%		
87) 1-Chloro-2-fluorobenzene	40.13	130	412967	52.307	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	104.61%		
97) 1,4-Dichlorobutane (H/sur	43.37	55	297264M4	40.926	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	81.85%		
101) 4-Bromofluorobenzene (sur	45.92	95	250713	52.575	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery =	105.15%		
Target Compounds						
						Qvalue
17) 3-Methylpentane	13.99	57	21459	3.172	ug/L #	99
26) 2,2-Dimethylpentane	17.19	57	7885	0.941	ug/L	95
27) Methylcyclopentane	17.47	56	4229	0.548	ug/L #	76
28) 2,4-Dimethylpentane	17.61	43	12933	1.719	ug/L	87
32) Cyclohexane	20.33	56	12140	1.837	ug/L	99
35) 2,3-Dimethylpentane	21.07	56	39865	6.275	ug/L #	92
38) 3-Methylhexane	21.58	43	4820	0.667	ug/L #	61
43) 1-Heptene/1,2-DMCP (trans	22.87	70	27369	11.192	ug/L #	63
51) Methycyclohexane	26.13	83	164759	31.390	ug/L	96
52) 2,5-Dimethylhexane	26.80	57	101846	12.457	ug/L	93
53) 2,4-Dimethylhexane	27.07	57	102651	15.832	ug/L	97
55) 2,2,3-Trimethylpentane	27.30	57	13981	1.080	ug/L	98
57) 2,3,4-Trimethylpentane	28.84	43	12009	1.185	ug/L	95
58) 2,3,3-Trimethylpentane	29.40	43	14318M1	1.626	ug/L	
59) 2,3-Dimethylhexane	29.68	43	143935	15.497	ug/L	95
65) 3-Ethylhexane	30.98	43	224945M4	19.987	ug/L	
86) Ethylbenzene	40.13	91	7089M1	0.480	ug/L	
112) 1-Methyl-2-ethylbenzene	50.30	105	5028	0.346	ug/L #	44
121) 1-Methyl-2-isopropylbenze	52.48	119	69361	4.834	ug/L	95
122) Indan	52.57	117	21620	1.706	ug/L #	90
129) 1,2-Diethylbenzene	53.22	119	27008	3.747	ug/L	94
130) 1-Methyl-2-propylbenzene	53.40	105	17593	1.030	ug/L	94

AS 3/29/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009738.D
Acq On : 19 Mar 2016 4:19 am
Operator : VOA4:MR
Sample : 1603006-04
Misc : 1X
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 21 12:33:21 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	917644	61.028	ug/L	100
135)	1,3-Dimethyl-2-ethylbenze	54.16	119	42603M6	2.580	ug/L	
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	52958M4	3.548	ug/L	
137)	1,2,4,5-Tetramethylbenzen	54.93	119	16397M6	1.040	ug/L	

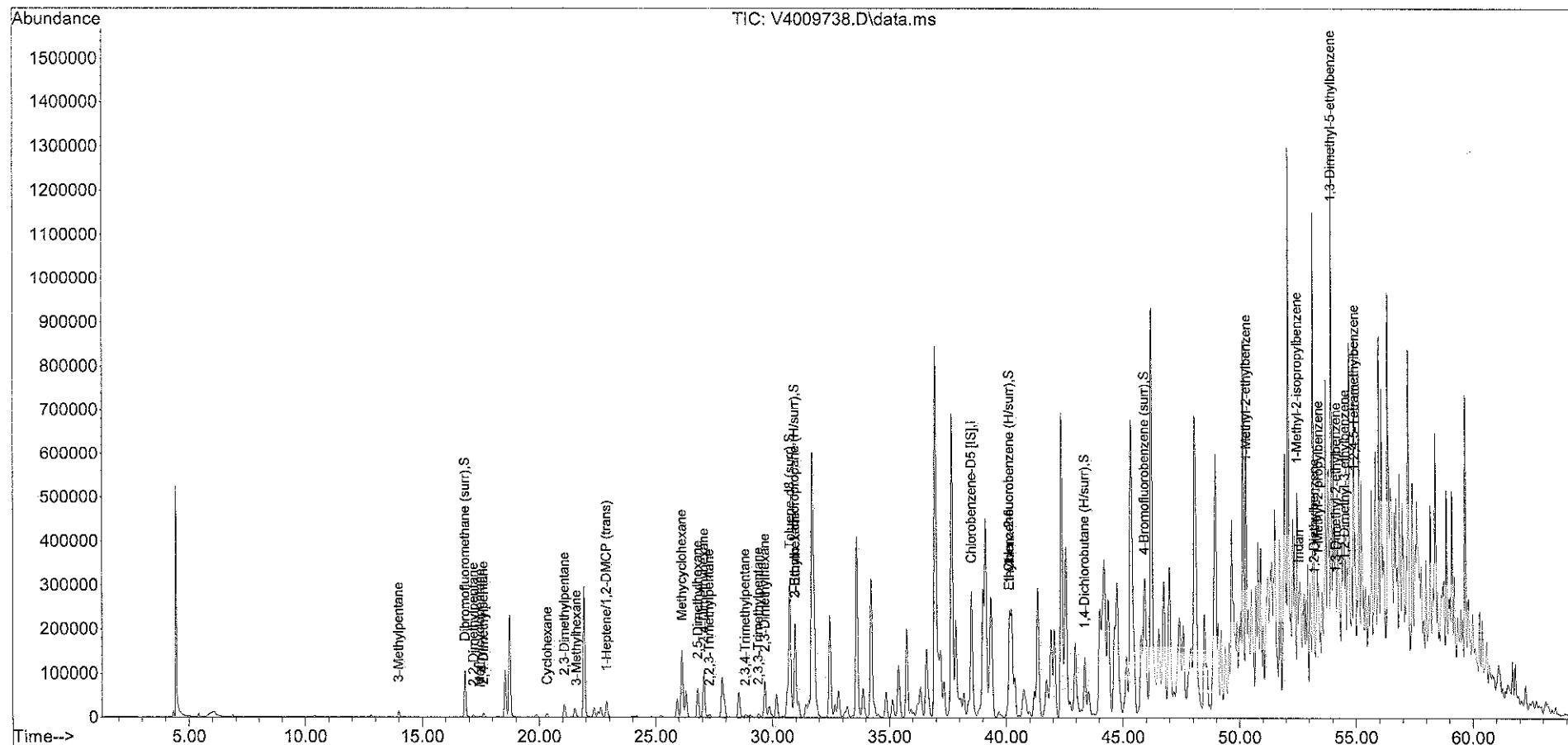
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009738.D
 Acq On : 19 Mar 2016 4:19 am
 Operator : VOA4:MR
 Sample : 1603006-04
 Misc : 1X
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 21 12:33:21 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-5

Case: N/A

SDG: N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-05

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result
Isopentane	2690
1-Pentene	206 U
2-Methyl-1-butene	206 U
Pentane	638
2-Pentene (trans)	206 U
2-Pentene (cis)	206 U
Tertiary butanol	2580 U
Cyclopentane	753
2,3-Dimethylbutane	1560
2-Methylpentane	828
MTBE	206 U
3-Methylpentane	4560
1-Hexene	206 U
Hexane	376
Diisopropyl Ether (DIPE)	206 U
Ethyl Tertiary Butyl Ether (ETBE)	206 U
2,2-Dimethylpentane	673
Methylcyclopentane	3320
2,4-Dimethylpentane	1320
1,2-Dichloroethane	206 U
Cyclohexane	1990
2-Methylhexane	234
Benzene	177 J
2,3-Dimethylpentane	3130
Thiophene	206 U
3-Methylhexane	1200
TAME	206 U
1-Heptene/1,2-DMCP (trans) ¹	2240
Isooctane	540
Heptane	171 J
Methylcyclohexane	5460
2,5-Dimethylhexane	1660
2,4-Dimethylhexane	2190
2,2,3-Trimethylpentane	184 J
2,3,4-Trimethylpentane	449
2,3,3-Trimethylpentane	474
2,3-Dimethylhexane	1420
3-Ethylhexane	1350
2-Methylheptane	113 J

Parameter	Result
3-Methylheptane	451
Toluene	40.0 J
2-Methylthiophene	206 U
3-Methylthiophene	206 U
1-Octene	206 U
Octane	135 J
1,2-Dibromoethane	206 U
Ethylbenzene	61.2 JB
2-Ethylthiophene	206 U
p/m-Xylene	297 J
1-Nonene	206 U
Nonane	140 J
Styrene	206 U
o-Xylene	36.6 J
Isopropylbenzene	944
n-Propylbenzene	2270
1-Methyl-3-ethylbenzene	37.5 J
1-Methyl-4-ethylbenzene	39.2 J
1,3,5-Trimethylbenzene	97.7 J
1-Decene	206 U
1-Methyl-2-ethylbenzene	65.6 J
Decane	206 U
1,2,4-Trimethylbenzene	209
sec-Butylbenzene	1520
1-Methyl-3-isopropylbenzene	206 U
1-Methyl-4-isopropylbenzene	206 U
1-Methyl-2-isopropylbenzene	297
Indan	1580
1-Methyl-3-propylbenzene	23.9 J
1-Methyl-4-propylbenzene	206 U
n-Butylbenzene	1440
1,2-Dimethyl-4-ethylbenzene	35.7 J
1,2-Diethylbenzene	820
1-Methyl-2-propylbenzene	35.7 J
1,4-Dimethyl-2-ethylbenzene	140 J
Undecane	206 U
1,3-Dimethyl-4-ethylbenzene	206 U
1,3-Dimethyl-5-ethylbenzene	5550
1,3-Dimethyl-2-ethylbenzene	736



Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-5

Case: N/A

SDG: N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-05

Associated Blank: VS031816B01

Concentration Units: $\mu\text{g/Kg}$

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	206 U
1,2,4,5-Tetramethylbenzene	2790
Pentylbenzene	555
Dodecane	206 U
Naphthalene	2190

Parameter	Result
Benzothiophene	206 U
MMT	515 U
Tridecane	515 U
2-Methylnaphthalene	7510
1-Methylnaphthalene	4310

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	128	70-130
1-Chloro-2-fluorobenzene	112	70-130
1,4-Dichlorobutane	80	70-130
Dibromofluoromethane	123	70-130
Toluene-d8	114	70-130
4-Bromofluorobenzene	93	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009740.D
 Acq On : 19 Mar 2016 6:48 am
 Operator : VOA4:MR
 Sample : 1603006-05
 Misc : 1X
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 21 12:38:13 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	460466	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	164617	61.518	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	123.04%#		
62) Toluene-d8 (surr)	30.74	98	663949	57.239	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery =	114.48%#		
64) 2-Bromo-1-chloropropane (	30.95	77	193937	56.805	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	113.61%		
87) 1-Chloro-2-fluorobenzene	40.14	130	370197	49.548	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	99.10%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	243332M6	35.401	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	70.80%		
101) 4-Bromofluorobenzene (sur	45.93	95	210732	46.696	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	93.39%		
Target Compounds						
						Qvalue
3) Isopentane	8.19	43	97739	26.081	ug/L	98
6) Pentane	9.21	43	37810	6.195	ug/L	97
13) Cyclopentane	12.82	70	14438	7.313	ug/L #	50
14) 2,3-Dimethylbutane	12.80	71	22525	15.167	ug/L #	29
15) 2-Methylpentane	13.02	43	62234	8.039	ug/L	96
17) 3-Methylpentane	13.99	57	283240	44.240	ug/L	97
19) Hexane	15.18	57	20116	3.647	ug/L	94
26) 2,2-Dimethylpentane	17.20	57	51807	6.532	ug/L	97
27) Methylcyclopentane	17.46	56	235379	32.257	ug/L	97
28) 2,4-Dimethylpentane	17.63	43	91081	12.791	ug/L	98
32) Cyclohexane	20.33	56	121017	19.351	ug/L	95
33) 2-Methylhexane	20.78	43	17747	2.268	ug/L	90
34) Benzene	20.91	78	18262	1.722	ug/L	99
35) 2,3-Dimethylpentane	21.07	56	182938	30.428	ug/L	97
38) 3-Methylhexane	21.58	43	79765	11.660	ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.87	70	50305	21.738	ug/L #	60
44) Isooctane	23.00	57	81621M6	5.243	ug/L	
46) Heptane	23.74	43	10740	1.661	ug/L	96
51) Methycyclohexane	26.12	83	263581	53.064	ug/L	97
52) 2,5-Dimethylhexane	26.81	57	124894	16.142	ug/L	97
53) 2,4-Dimethylhexane	27.06	57	130758	21.311	ug/L	98
55) 2,2,3-Trimethylpentane	27.31	57	21849	1.784	ug/L	94

AT 3/21/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009740.D
 Acq On : 19 Mar 2016 6:48 am
 Operator : VOA4:MR
 Sample : 1603006-05
 Misc : 1X
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 21 12:38:13 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) 2,3,4-Trimethylpentane	28.84	43	41771	4.356	ug/L	97
58) 2,3,3-Trimethylpentane	29.40	43	38308	4.598	ug/L	99
59) 2,3-Dimethylhexane	29.67	43	121660	13.842	ug/L	93
60) 2-Methylheptane	30.12	57	7735M6	1.101	ug/L	
63) 3-Methylheptane	30.86	43	30195M6	4.379	ug/L	
65) 3-Ethylhexane	30.98	43	140033	13.148	ug/L	91
66) Toluene	31.09	91	4695M1	0.388	ug/L	
71) Octane	33.37	43	10737M1	1.309	ug/L	
86) Ethylbenzene	40.15	91	8315	0.594	ug/L	98
91) p/m-Xylene	41.39	91	31126M1	2.883	ug/L	
95) Nonane	42.89	43	10673M6	1.358	ug/L	
98) o-Xylene	43.67	91	3871M1	0.355	ug/L	
102) Isopropylbenzene	45.99	105	127661	9.166	ug/L	99
104) n-Propylbenzene	48.57	91	369255	22.023	ug/L	98
107) 1-Methyl-3-ethylbenzene	49.21	105	5080	0.364	ug/L	98
108) 1-Methyl-4-ethylbenzene	49.38	105	5180	0.381	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	11186	0.949	ug/L	95
112) 1-Methyl-2-ethylbenzene	50.28	105	8758	0.637	ug/L	96
115) 1,2,4-Trimethylbenzene	51.16	105	24211	2.032	ug/L	92
117) sec-Butylbenzene	51.42	105	231457	14.813	ug/L	100
121) 1-Methyl-2-isopropylbenzene	52.48	119	39119	2.881	ug/L	96
122) Indan	52.57	117	184637	15.394	ug/L	98
124) 1-Methyl-3-propylbenzene	52.86	105	3567	0.232	ug/L #	53
127) n-Butylbenzene	53.00	91	196463	13.952	ug/L #	88
128) 1,2-Dimethyl-4-ethylbenzene	53.12	119	4718	0.347	ug/L #	59
129) 1,2-Diethylbenzene	53.22	119	54288	7.960	ug/L	94
130) 1-Methyl-2-propylbenzene	53.41	105	5611	0.347	ug/L	98
131) 1,4-Dimethyl-2-ethylbenzene	53.72	119	17687M3	1.361	ug/L	
134) 1,3-Dimethyl-5-ethylbenzene	53.94	119	766717	53.882	ug/L	99
135) 1,3-Dimethyl-2-ethylbenzene	54.17	119	111755M6	7.151	ug/L	
137) 1,2,4,5-Tetramethylbenzene	54.93	119	403973	27.078	ug/L	99
139) Pentylbenzene	55.51	91	63214M4	5.392	ug/L	
144) Naphthalene	56.82	128	269496	21.242	ug/L	98
150) 2-Methylnaphthalene	59.56	142	471534	72.963	ug/L	99
151) 1-Methylnaphthalene	60.03	142	228103	41.813	ug/L	99

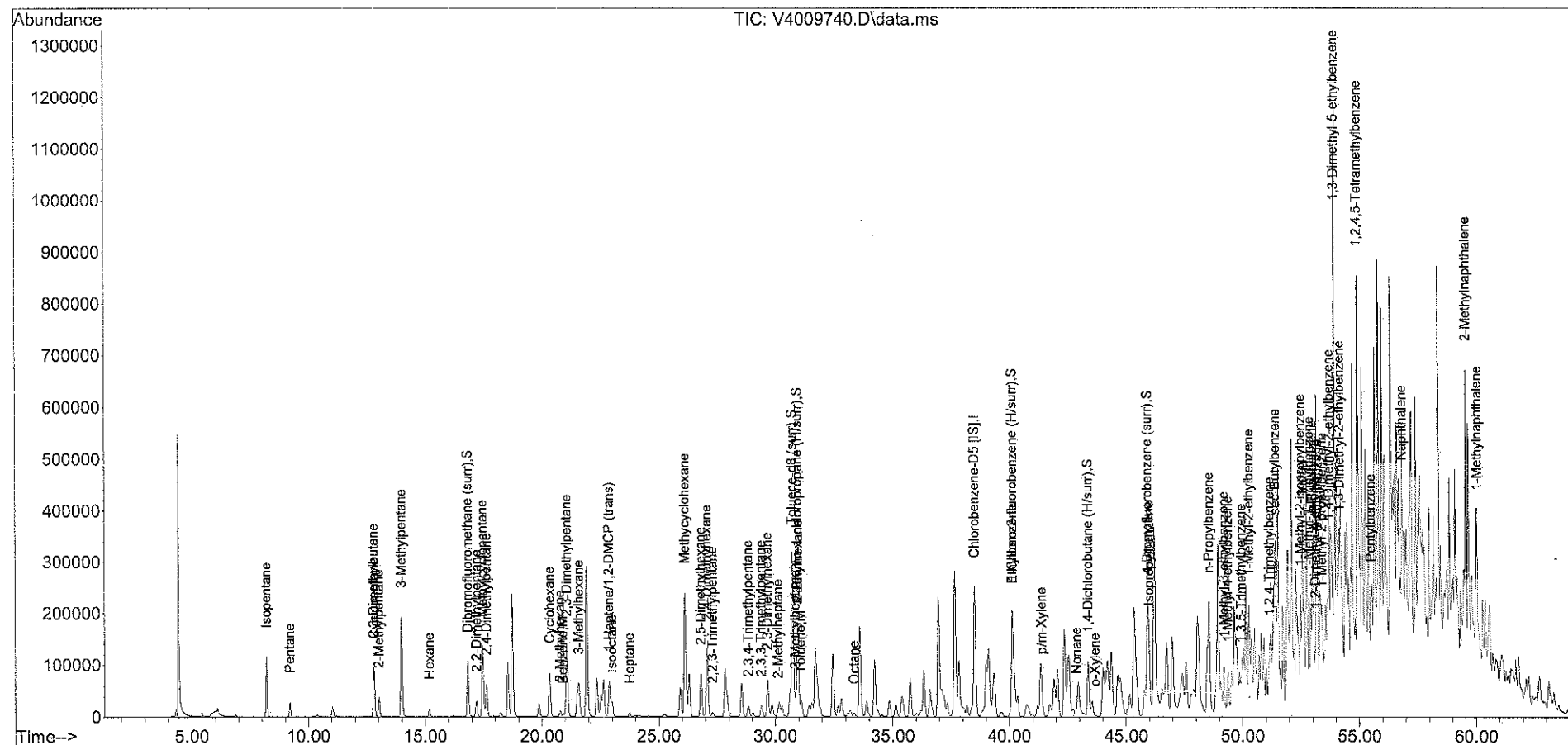
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009740.D
 Acq On : 19 Mar 2016 6:48 am
 Operator : VOA4:MR
 Sample : 1603006-05
 Misc : 1X
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 21 12:38:13 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I Duplicate PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-5

Case: N/A

SDG:

N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-05 D

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result
Isopentane	2480
1-Pentene	206 U
2-Methyl-1-butene	206 U
Pentane	630
2-Pentene (trans)	206 U
2-Pentene (cis)	206 U
Tertiary butanol	2580 U
Cyclopentane	758
2,3-Dimethylbutane	1550
2-Methylpentane	825
MTBE	206 U
3-Methylpentane	4560
1-Hexene	206 U
Hexane	380
Diisopropyl Ether (DIPE)	206 U
Ethyl Tertiary Butyl Ether (ETBE)	206 U
2,2-Dimethylpentane	681
Methylcyclopentane	3470
2,4-Dimethylpentane	1370
1,2-Dichloroethane	206 U
Cyclohexane	2120
2-Methylhexane	249
Benzene	201 J
2,3-Dimethylpentane	3240
Thiophene	206 U
3-Methylhexane	1260
TAME	206 U
1-Heptene/1,2-DMCP (trans) ¹	2350
Isooctane	564
Heptane	186 J
Methylcyclohexane	5820
2,5-Dimethylhexane	1720
2,4-Dimethylhexane	2340
2,2,3-Trimethylpentane	188 J
2,3,4-Trimethylpentane	472
2,3,3-Trimethylpentane	489
2,3-Dimethylhexane	1530
3-Ethylhexane	1440
2-Methylheptane	137 J

Parameter	Result
3-Methylheptane	534
Toluene	46.2 J
2-Methylthiophene	206 U
3-Methylthiophene	206 U
1-Octene	206 U
Octane	155 J
1,2-Dibromoethane	206 U
Ethylbenzene	64.9 JB
2-Ethylthiophene	206 U
p/m-Xylene	342 J
1-Nonene	206 U
Nonane	173 J
Styrene	206 U
o-Xylene	40.7 J
Isopropylbenzene	1020
n-Propylbenzene	2540
1-Methyl-3-ethylbenzene	46.6 J
1-Methyl-4-ethylbenzene	45.6 J
1,3,5-Trimethylbenzene	108 J
1-Decene	206 U
1-Methyl-2-ethylbenzene	69.2 J
Decane	206 U
1,2,4-Trimethylbenzene	253
sec-Butylbenzene	1690
1-Methyl-3-isopropylbenzene	206 U
1-Methyl-4-isopropylbenzene	206 U
1-Methyl-2-isopropylbenzene	325
Indan	1780
1-Methyl-3-propylbenzene	27.4 J
1-Methyl-4-propylbenzene	206 U
n-Butylbenzene	1600
1,2-Dimethyl-4-ethylbenzene	40.1 J
1,2-Diethylbenzene	905
1-Methyl-2-propylbenzene	35.9 J
1,4-Dimethyl-2-ethylbenzene	166 J
Undecane	206 U
1,3-Dimethyl-4-ethylbenzene	206 U
1,3-Dimethyl-5-ethylbenzene	6040
1,3-Dimethyl-2-ethylbenzene	771



Form I
Duplicate
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-5**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-05 D**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	206 U
1,2,4,5-Tetramethylbenzene	3020
Pentylbenzene	555
Dodecane	206 U
Naphthalene	2510

Parameter	Result
Benzothiophene	206 U
MMT	515 U
Tridecane	515 U
2-Methylnaphthalene	8360
1-Methylnaphthalene	4930

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	137	§ 70-130
1-Chloro-2-fluorobenzene	121	70-130
1,4-Dichlorobutane	88	70-130
Dibromofluoromethane	124	70-130
Toluene-d8	115	70-130
4-Bromofluorobenzene	93	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

§ - Surrogate value outside of acceptable range.

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009746.D
 Acq On : 19 Mar 2016 1:33 pm
 Operator : VOA4:MR
 Sample : 1603006-05D
 Misc : 1X
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Mar 21 12:44:27 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	405337	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	145981	61.974	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	123.95%#		
62) Toluene-d8 (surr)	30.74	98	587794	57.566	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	115.13%#		
64) 2-Bromo-1-chloropropane (	30.96	77	182134	60.603	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	121.21%		
87) 1-Chloro-2-fluorobenzene	40.14	130	352205	53.551	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	107.10%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	235354	38.897	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	77.79%		
101) 4-Bromofluorobenzene (sur	45.94	95	185669	46.738	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	93.48%		
Target Compounds						
						Qvalue
3) Isopentane	8.19	43	79526	24.108	ug/L	96
6) Pentane	9.21	43	32849	6.115	ug/L	99
13) Cyclopentane	12.82	70	12787	7.358	ug/L #	42
14) 2,3-Dimethylbutane	12.82	71	19668	15.044	ug/L #	24
15) 2-Methylpentane	13.03	43	54608	8.014	ug/L	98
17) 3-Methylpentane	13.99	57	249777	44.319	ug/L	99
19) Hexane	15.17	57	17918	3.691	ug/L	97
26) 2,2-Dimethylpentane	17.20	57	46175	6.614	ug/L	95
27) Methylcyclopentane	17.46	56	216155	33.652	ug/L	99
28) 2,4-Dimethylpentane	17.63	43	83211	13.275	ug/L	95
32) Cyclohexane	20.33	56	113175	20.559	ug/L	97
33) 2-Methylhexane	20.78	43	16631	2.415	ug/L	91
34) Benzene	20.92	78	18238	1.953	ug/L	95
35) 2,3-Dimethylpentane	21.08	56	166522	31.465	ug/L	97
38) 3-Methylhexane	21.58	43	73680	12.236	ug/L	95
43) 1-Heptene/1,2-DMCP (trans	22.87	70	46560	22.856	ug/L	73
44) Isooctane	23.00	57	75073M6	5.479	ug/L	
46) Heptane	23.75	43	10298	1.809	ug/L	93
51) Methycyclohexane	26.14	83	247237	56.543	ug/L	97
52) 2,5-Dimethylhexane	26.81	57	114114	16.754	ug/L	98
53) 2,4-Dimethylhexane	27.06	57	122710M4	22.719	ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	19639	1.822	ug/L	91
57) 2,3,4-Trimethylpentane	28.84	43	38728	4.588	ug/L	97

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009746.D
 Acq On : 19 Mar 2016 1:33 pm
 Operator : VOA4:MR
 Sample : 1603006-05D
 Misc : 1X
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Mar 21 12:44:27 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) 2,3,3-Trimethylpentane	29.40	43	34806	4.746	ug/L	95
59) 2,3-Dimethylhexane	29.67	43	114625	14.815	ug/L	94
60) 2-Methylheptane	30.12	57	8219M6	1.329	ug/L	
63) 3-Methylheptane	30.87	43	31487M4	5.188	ug/L	
65) 3-Ethylhexane	30.98	43	131127	13.986	ug/L	96
66) Toluene	31.12	91	4780M1	0.449	ug/L	
71) Octane	33.35	43	10876M1	1.506	ug/L	
86) Ethylbenzene	40.15	91	7753M1	0.630	ug/L	
91) p/m-Xylene	41.41	91	31572M1	3.322	ug/L	
95) Nonane	42.89	43	11633	1.682	ug/L #	82
98) o-Xylene	43.67	91	3790M1	0.395	ug/L	
102) Isopropylbenzene	45.99	105	122054	9.955	ug/L	99
104) n-Propylbenzene	48.57	91	363316	24.616	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	5563	0.453	ug/L	96
108) 1-Methyl-4-ethylbenzene	49.37	105	5303	0.443	ug/L	86
109) 1,3,5-Trimethylbenzene	49.95	105	10828	1.044	ug/L	87
112) 1-Methyl-2-ethylbenzene	50.29	105	8124	0.672	ug/L	96
115) 1,2,4-Trimethylbenzene	51.16	105	25802	2.460	ug/L	95
117) sec-Butylbenzene	51.42	105	225992	16.431	ug/L	100
121) 1-Methyl-2-isopropylbenzene	52.48	119	37777	3.160	ug/L	96
122) Indan	52.57	117	182123	17.250	ug/L	97
124) 1-Methyl-3-propylbenzene	52.86	105	3604	0.266	ug/L #	48
127) n-Butylbenzene	53.00	91	192710	15.547	ug/L #	87
128) 1,2-Dimethyl-4-ethylbenzene	53.13	119	4655	0.389	ug/L #	49
129) 1,2-Diethylbenzene	53.22	119	52738	8.784	ug/L	97
130) 1-Methyl-2-propylbenzene	53.41	105	4960	0.349	ug/L	100
131) 1,4-Dimethyl-2-ethylbenzene	53.73	119	18434M3	1.611	ug/L	
134) 1,3-Dimethyl-5-ethylbenzene	53.94	119	735051	58.682	ug/L	99
135) 1,3-Dimethyl-2-ethylbenzene	54.17	119	103018	7.488	ug/L #	90
137) 1,2,4,5-Tetramethylbenzene	54.93	119	385009M6	29.316	ug/L	
139) Pentylbenzene	55.51	91	55607M6	5.388	ug/L	
144) Naphthalene	56.83	128	272396	24.391	ug/L	98
150) 2-Methylnaphthalene	59.56	142	461573	81.136	ug/L	99
151) 1-Methylnaphthalene	60.03	142	229919	47.878	ug/L	99

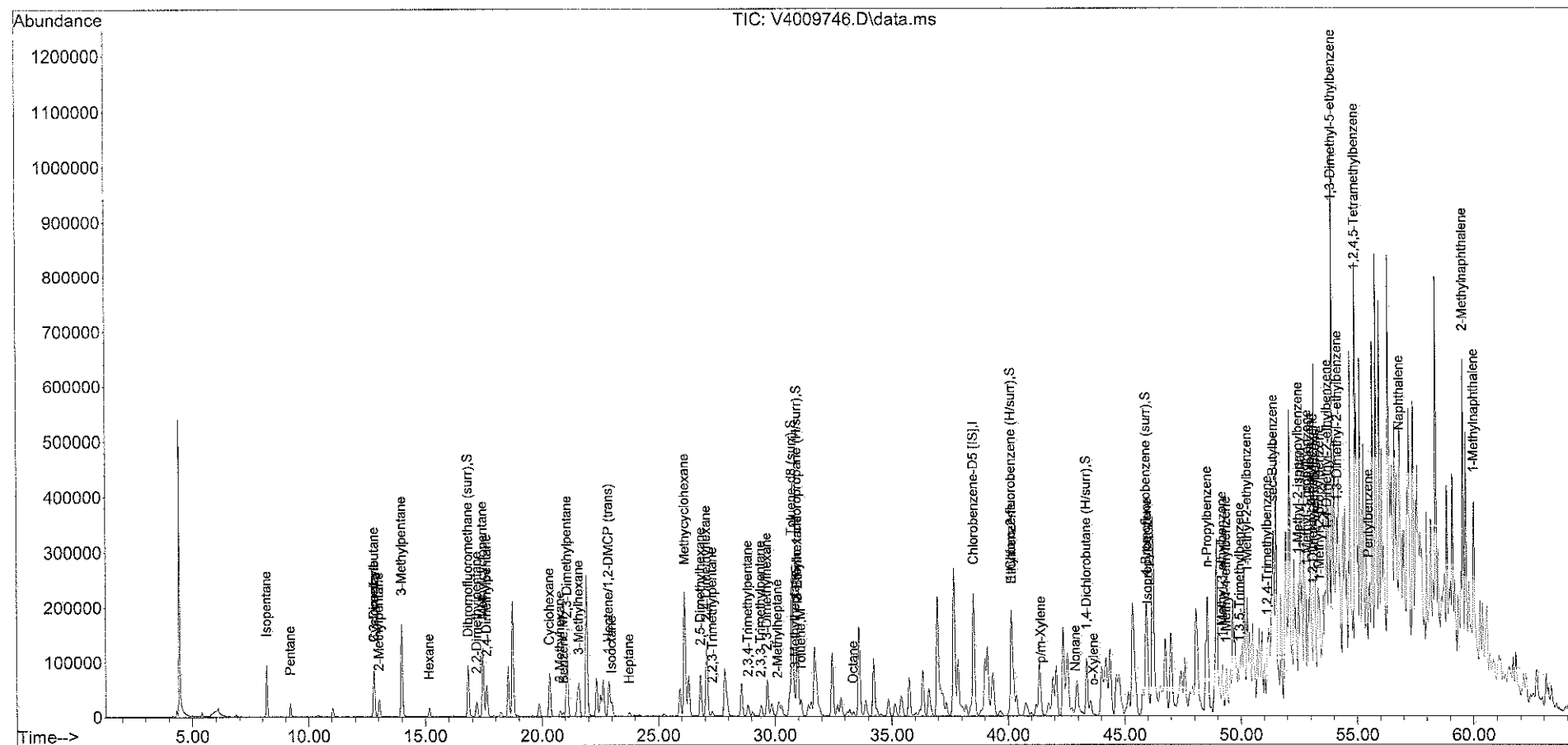
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009746.D
 Acq On : 19 Mar 2016 1:33 pm
 Operator : VOA4:MR
 Sample : 1603006-05D
 Misc : 1X
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Mar 21 12:44:27 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Duplicate PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-5

Case: N/A

SDG: N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-05

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Percent Solid	Analyst
03/11/16	03/14/16	81.0	MR

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Isopentane	2690	2480	8	30
1-Pentene	206 U	206 U	N/A	30
2-Methyl-1-butene	206 U	206 U	N/A	30
Pentane	638	630	1	30
2-Pentene (trans)	206 U	206 U	N/A	30
2-Pentene (cis)	206 U	206 U	N/A	30
Tertiary butanol	2580 U	2580 U	N/A	30
Cyclopentane	753	758	1	30
2,3-Dimethylbutane	1560	1550	1	30
2-Methylpentane	828	825	0	30
MTBE	206 U	206 U	N/A	30
3-Methylpentane	4560	4560	0	30
1-Hexene	206 U	206 U	N/A	30
Hexane	376	380	1	30
Diisopropyl Ether (DIPE)	206 U	206 U	N/A	30
Ethyl Tertiary Butyl Ether (ETBE)	206 U	206 U	N/A	30
2,2-Dimethylpentane	673	681	1	30
Methylcyclopentane	3320	3470	4	30
2,4-Dimethylpentane	1320	1370	4	30
1,2-Dichloroethane	206 U	206 U	N/A	30
Cyclohexane	1990	2120	6	30
2-Methylhexane	234	249	6	30
Benzene	177 J	201 J	13	30
2,3-Dimethylpentane	3130	3240	3	30
Thiophene	206 U	206 U	N/A	30
3-Methylhexane	1200	1260	5	30
TAME	206 U	206 U	N/A	30
1-Heptene/1,2-DMCP (trans) ¹	2240	2350	5	30
Isooctane	540	564	4	30
Heptane	171 J	186 J	9	30
Methylcyclohexane	5460	5820	6	30
2,5-Dimethylhexane	1660	1720	4	30
2,4-Dimethylhexane	2190	2340	6	30
2,2,3-Trimethylpentane	184 J	188 J	2	30
2,3,4-Trimethylpentane	449	472	5	30

U - The analyte was analyzed for but not detected at the sample specific level reported.

J - Estimated value, below quantitation limit.

N/A - Not Applicable



Duplicate PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-5

Case: N/A

SDG: N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-05

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Percent Solid	Analyst
03/11/16	03/14/16	81.0	MR

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
2,3,3-Trimethylpentane	474	489	3	30
2,3-Dimethylhexane	1420	1530	7	30
3-Ethylhexane	1350	1440	6	30
2-Methylheptane	113 J	137 J	19	30
3-Methylheptane	451	534	17	30
Toluene	40.0 J	46.2 J	15	30
2-Methylthiophene	206 U	206 U	N/A	30
3-Methylthiophene	206 U	206 U	N/A	30
1-Octene	206 U	206 U	N/A	30
Octane	135 J	155 J	14	30
1,2-Dibromoethane	206 U	206 U	N/A	30
Ethylbenzene	61.2 JB	64.9 JB	6	30
2-Ethylthiophene	206 U	206 U	N/A	30
p/m-Xylene	297 J	342 J	14	30
1-Nonene	206 U	206 U	N/A	30
Nonane	140 J	173 J	21	30
Styrene	206 U	206 U	N/A	30
o-Xylene	36.6 J	40.7 J	11	30
Isopropylbenzene	944	1020	8	30
n-Propylbenzene	2270	2540	11	30
1-Methyl-3-ethylbenzene	37.5 J	46.6 J	22	30
1-Methyl-4-ethylbenzene	39.2 J	45.6 J	15	30
1,3,5-Trimethylbenzene	97.7 J	108 J	10	30
1-Decene	206 U	206 U	N/A	30
1-Methyl-2-ethylbenzene	65.6 J	69.2 J	5	30
Decane	206 U	206 U	N/A	30
1,2,4-Trimethylbenzene	209	253	19	30
sec-Butylbenzene	1520	1690	10	30
1-Methyl-3-isopropylbenzene	206 U	206 U	N/A	30
1-Methyl-4-isopropylbenzene	206 U	206 U	N/A	30
1-Methyl-2-isopropylbenzene	297	325	9	30
Indan	1580	1780	11	30
1-Methyl-3-propylbenzene	23.9 J	27.4 J	14	30
1-Methyl-4-propylbenzene	206 U	206 U	N/A	30
n-Butylbenzene	1440	1600	11	30

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Duplicate PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-5**

Case: **N/A**

Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-05**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Percent Solid	Analyst
03/11/16	03/14/16	81.0	MR

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
1,2-Dimethyl-4-ethylbenzene	35.7 J	40.1 J	11	30
1,2-Diethylbenzene	820	905	10	30
1-Methyl-2-propylbenzene	35.7 J	35.9 J	1	30
1,4-Dimethyl-2-ethylbenzene	140 J	166 J	17	30
Undecane	206 U	206 U	N/A	30
1,3-Dimethyl-4-ethylbenzene	206 U	206 U	N/A	30
1,3-Dimethyl-5-ethylbenzene	5550	6040	9	30
1,3-Dimethyl-2-ethylbenzene	736	771	5	30
1,2-Dimethyl-3-ethylbenzene	206 U	206 U	N/A	30
1,2,4,5-Tetramethylbenzene	2790	3020	8	30
Pentylbenzene	555	555	0	30
Dodecane	206 U	206 U	N/A	30
Naphthalene	2190	2510	14	30
Benzothiophene	206 U	206 U	N/A	30
MMT	515 U	515 U	N/A	30
Tridecane	515 U	515 U	N/A	30
2-Methylnaphthalene	7510	8360	11	30
1-Methylnaphthalene	4310	4930	14	30

Surrogate	% Recovery		Acceptance Range (%)
2-Bromo-1-chloropropane	128	137	§ 70-130
1-Chloro-2-fluorobenzene	112	121	70-130
1,4-Dichlorobutane	80	88	70-130
Dibromofluoromethane	123	124	70-130
Toluene-d8	114	115	70-130
4-Bromofluorobenzene	93	93	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

§ - Surrogate value outside of acceptable range.

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.



Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-6

Case: N/A

Matrix: Soil

SDG: N/A

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-06

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	88.0	10	7.05	0.1	5	1	MR

Parameter	Result	Parameter	Result
Isopentane	175 U	3-Methylheptane	175 U
1-Pentene	175 U	Toluene	175 U
2-Methyl-1-butene	175 U	2-Methylthiophene	175 U
Pentane	175 U	3-Methylthiophene	175 U
2-Pentene (trans)	175 U	1-Octene	175 U
2-Pentene (cis)	175 U	Octane	175 U
Tertiary butanol	2190 U	1,2-Dibromoethane	175 U
Cyclopentane	175 U	Ethylbenzene	35.2 JB
2,3-Dimethylbutane	175 U	2-Ethylthiophene	175 U
2-Methylpentane	175 U	p/m-Xylene	350 U
MTBE	175 U	1-Nonene	175 U
3-Methylpentane	175 U	Nonane	18.6 J
1-Hexene	175 U	Styrene	175 U
Hexane	175 U	o-Xylene	175 U
Diisopropyl Ether (DIPE)	175 U	Isopropylbenzene	175 U
Ethyl Tertiary Butyl Ether (ETBE)	175 U	n-Propylbenzene	175 U
2,2-Dimethylpentane	175 U	1-Methyl-3-ethylbenzene	175 U
Methylcyclopentane	175 U	1-Methyl-4-ethylbenzene	175 U
2,4-Dimethylpentane	175 U	1,3,5-Trimethylbenzene	175 U
1,2-Dichloroethane	175 U	1-Decene	175 U
Cyclohexane	175 U	1-Methyl-2-ethylbenzene	175 U
2-Methylhexane	175 U	Decane	175 U
Benzene	175 U	1,2,4-Trimethylbenzene	11.3 J
2,3-Dimethylpentane	175 U	sec-Butylbenzene	175 U
Thiophene	175 U	1-Methyl-3-isopropylbenzene	175 U
3-Methylhexane	175 U	1-Methyl-4-isopropylbenzene	175 U
TAME	175 U	1-Methyl-2-isopropylbenzene	175 U
1-Heptene/1,2-DMCP (trans) ¹	350 U	Indan	175 U
Isooctane	175 U	1-Methyl-3-propylbenzene	175 U
Heptane	175 U	1-Methyl-4-propylbenzene	175 U
Methylcyclohexane	175 U	n-Butylbenzene	175 U
2,5-Dimethylhexane	175 U	1,2-Dimethyl-4-ethylbenzene	175 U
2,4-Dimethylhexane	175 U	1,2-Diethylbenzene	175 U
2,2,3-Trimethylpentane	175 U	1-Methyl-2-propylbenzene	175 U
2,3,4-Trimethylpentane	175 U	1,4-Dimethyl-2-ethylbenzene	175 U
2,3,3-Trimethylpentane	175 U	Undecane	175 U
2,3-Dimethylhexane	175 U	1,3-Dimethyl-4-ethylbenzene	175 U
3-Ethylhexane	175 U	1,3-Dimethyl-5-ethylbenzene	15.6 J
2-Methylheptane	175 U	1,3-Dimethyl-2-ethylbenzene	175 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-6**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-06**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	88.0	10	7.05	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	175 U
1,2,4,5-Tetramethylbenzene	9.88 J
Pentylbenzene	175 U
Dodecane	175 U
Naphthalene	52.2 JB

Parameter	Result
Benzothiophene	175 U
MMT	437 U
Tridecane	437 U
2-Methylnaphthalene	106 JB
1-Methylnaphthalene	65.0 JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	135	§ 70-130
1-Chloro-2-fluorobenzene	138	§ 70-130
1,4-Dichlorobutane	123	70-130
Dibromofluoromethane	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

§ - Surrogate value outside of acceptable range.

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009741.D
 Acq On : 19 Mar 2016 8:03 am
 Operator : VOA4:MR
 Sample : 1603006-06
 Misc : 1X
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 21 15:18:03 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANOW - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	620290	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	183092	50.793	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	101.59%		
62) Toluene-d8 (surr)	30.74	98	768566	49.186	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.37%		
64) 2-Bromo-1-chloropropane (	30.95	77	285468	62.070	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	124.14%		
87) 1-Chloro-2-fluorobenzene	40.14	130	638365	63.426	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	126.85%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	524432	56.637	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	113.27%		
101) 4-Bromofluorobenzene (sur	45.93	95	306386	50.399	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	100.80%		
Target Compounds						
					Qvalue	
86) Ethylbenzene	40.13	91	7596	0.403	ug/L	84
95) Nonane	42.90	43	2253M1	0.213	ug/L	
115) 1,2,4-Trimethylbenzene	51.16	105	2077	0.129	ug/L #	30
134) 1,3-Dimethyl-5-ethylbenze	53.95	119	3405	0.178	ug/L	97
137) 1,2,4,5-Tetramethylbenzen	54.93	119	2280	0.113	ug/L #	64
144) Naphthalene	56.83	128	10206	0.597	ug/L	97
150) 2-Methylnaphthalene	59.57	142	10574	1.215	ug/L	92
151) 1-Methylnaphthalene	60.03	142	5463	0.743	ug/L	98

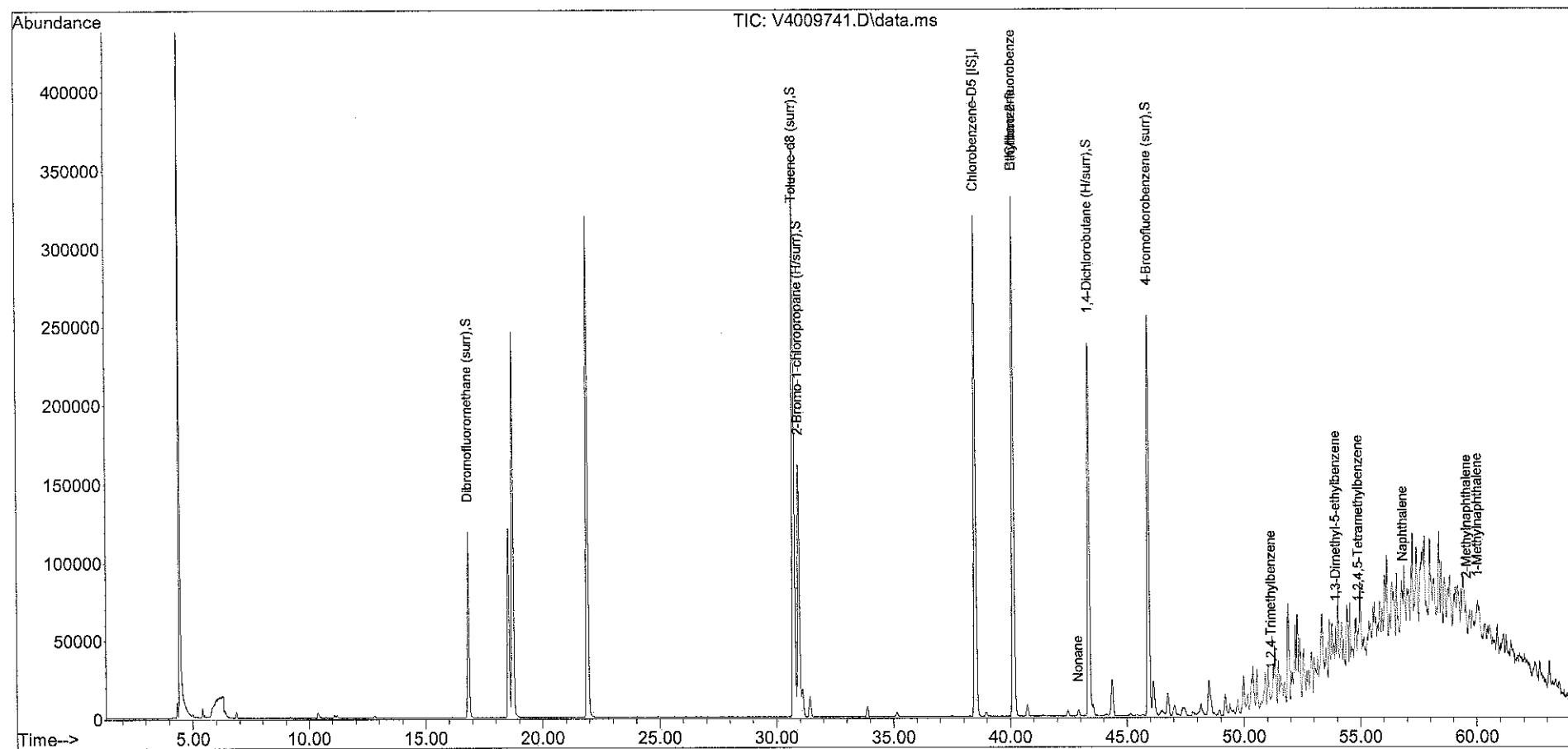
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009741.D
 Acq On : 19 Mar 2016 8:03 am
 Operator : VOA4:MR
 Sample : 1603006-06
 Misc : 1X
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 21 15:18:03 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANOW - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-7

Case: N/A

SDG: N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-07

Associated Blank: VS031816B01

Concentration Units: $\mu\text{g/Kg}$

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	79.1	10	5.64	0.1	5	1	MR

Parameter	Result
Isopentane	123 J
1-Pentene	251 U
2-Methyl-1-butene	251 U
Pentane	251 U
2-Pentene (trans)	251 U
2-Pentene (cis)	251 U
Tertiary butanol	3130 U
Cyclopentane	251 U
2,3-Dimethylbutane	841
2-Methylpentane	251 U
MTBE	251 U
3-Methylpentane	211 J
1-Hexene	251 U
Hexane	26.2 J
Diisopropyl Ether (DIPE)	251 U
Ethyl Tertiary Butyl Ether (ETBE)	251 U
2,2-Dimethylpentane	1280
Methylcyclopentane	251 U
2,4-Dimethylpentane	2140
1,2-Dichloroethane	251 U
Cyclohexane	251 U
2-Methylhexane	251 U
Benzene	251 U
2,3-Dimethylpentane	5840
Thiophene	251 U
3-Methylhexane	41.7 J
TAME	251 U
1-Heptene/1,2-DMCP (trans) ¹	501 U
Isooctane	92.9 J
Heptane	66.3 J
Methylcyclohexane	107 J
2,5-Dimethylhexane	5700
2,4-Dimethylhexane	3660
2,2,3-Trimethylpentane	304
2,3,4-Trimethylpentane	288
2,3,3-Trimethylpentane	360
2,3-Dimethylhexane	4170
3-Ethylhexane	1500
2-Methylheptane	251 U

Parameter	Result
3-Methylheptane	305
Toluene	48.5 J
2-Methylthiophene	251 U
3-Methylthiophene	251 U
1-Octene	251 U
Octane	86.8 J
1,2-Dibromoethane	251 U
Ethylbenzene	59.8 JB
2-Ethylthiophene	251 U
p/m-Xylene	163 J
1-Nonene	251 U
Nonane	128 J
Styrene	251 U
o-Xylene	32.0 J
Isopropylbenzene	251 U
n-Propylbenzene	251 U
1-Methyl-3-ethylbenzene	18.9 J
1-Methyl-4-ethylbenzene	251 U
1,3,5-Trimethylbenzene	20.9 J
1-Decene	251 U
1-Methyl-2-ethylbenzene	32.5 J
Decane	251 U
1,2,4-Trimethylbenzene	79.1 J
sec-Butylbenzene	75.8 J
1-Methyl-3-isopropylbenzene	251 U
1-Methyl-4-isopropylbenzene	251 U
1-Methyl-2-isopropylbenzene	135 J
Indan	46.0 J
1-Methyl-3-propylbenzene	251 U
1-Methyl-4-propylbenzene	251 U
n-Butylbenzene	28.6 J
1,2-Dimethyl-4-ethylbenzene	251 U
1,2-Diethylbenzene	71.6 J
1-Methyl-2-propylbenzene	42.5 J
1,4-Dimethyl-2-ethylbenzene	251 U
Undecane	251 U
1,3-Dimethyl-4-ethylbenzene	251 U
1,3-Dimethyl-5-ethylbenzene	1340
1,3-Dimethyl-2-ethylbenzene	110 J

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-7**

Case: **N/A** SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-07**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	79.1	10	5.64	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	251 U
1,2,4,5-Tetramethylbenzene	734
Pentylbenzene	29.1 J
Dodecane	251 U
Naphthalene	223 JB

Parameter	Result
Benzothiophene	251 U
MMT	627 U
Tridecane	627 U
2-Methylnaphthalene	136 JB
1-Methylnaphthalene	114 JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	118	70-130
1-Chloro-2-fluorobenzene	122	70-130
1,4-Dichlorobutane	105	70-130
Dibromofluoromethane	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009745.D
 Acq On : 19 Mar 2016 12:23 pm
 Operator : VOA4:MR
 Sample : 1603006-07
 Misc : 1X
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 21 15:33:20 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	589207	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	172579	50.402	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	100.80%		
62) Toluene-d8 (surr)	30.74	98	738098	49.728	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery =	99.46%		
64) 2-Bromo-1-chloropropane (	30.96	77	229621	52.561	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	105.12%		
87) 1-Chloro-2-fluorobenzene	40.14	130	522828	54.687	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	109.37%		
97) 1,4-Dichlorobutane (H/sur	43.37	55	414779	47.158	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	94.32%		
101) 4-Bromofluorobenzene (sur	45.93	95	296496	51.345	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	102.69%		
Target Compounds						
					Qvalue	
3) Isopentane	8.18	43	4693	0.979	ug/L	95
14) 2,3-Dimethylbutane	12.80	71	12746	6.707	ug/L #	1
17) 3-Methylpentane	14.00	57	13814	1.686	ug/L #	83
19) Hexane	15.19	57	1477	0.209	ug/L #	83
26) 2,2-Dimethylpentane	17.18	57	103959	10.244	ug/L	99
28) 2,4-Dimethylpentane	17.62	43	155324	17.046	ug/L	96
35) 2,3-Dimethylpentane	21.07	56	358155	46.556	ug/L	97
38) 3-Methylhexane	21.56	43	2916M6	0.333	ug/L	
44) Isooctane	23.00	57	14755	0.741	ug/L #	84
46) Heptane	23.75	43	4375	0.529	ug/L #	39
51) Methycyclohexane	26.11	83	5447	0.857	ug/L	90
52) 2,5-Dimethylhexane	26.81	57	450624	45.514	ug/L	95
53) 2,4-Dimethylhexane	27.06	57	228930M4	29.159	ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	38001	2.425	ug/L	93
57) 2,3,4-Trimethylpentane	28.84	43	28231	2.301	ug/L	97
58) 2,3,3-Trimethylpentane	29.40	43	30660	2.876	ug/L	96
59) 2,3-Dimethylhexane	29.67	43	374345	33.284	ug/L	92
63) 3-Methylheptane	30.86	43	21467M4	2.433	ug/L	
65) 3-Ethylhexane	30.98	43	163073M4	11.966	ug/L	
66) Toluene	31.11	91	5997M1	0.387	ug/L	
71) Octane	33.35	43	7260	0.692	ug/L	92
86) Ethylbenzene	40.13	91	8540	0.477	ug/L	96
91) p/m-Xylene	41.36	91	17962M1	1.300	ug/L	

AT 3/29/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009745.D
 Acq On : 19 Mar 2016 12:23 pm
 Operator : VOA4:MR
 Sample : 1603006-07
 Misc : 1X
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 21 15:33:20 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95)	Nonane	42.91	43	10267M4	1.021	ug/L	
98)	o-Xylene	43.63	91	3563M1	0.255	ug/L	
107)	1-Methyl-3-ethylbenzene	49.20	105	2703	0.151	ug/L	92
109)	1,3,5-Trimethylbenzene	49.95	105	2516	0.167	ug/L	93
112)	1-Methyl-2-ethylbenzene	50.28	105	4555	0.259	ug/L	100
115)	1,2,4-Trimethylbenzene	51.16	105	9619	0.631	ug/L	97
117)	sec-Butylbenzene	51.42	105	12092	0.605	ug/L	99
121)	1-Methyl-2-isopropylbenze	52.48	119	18751	1.079	ug/L	91
122)	Indan	52.58	117	5635	0.367	ug/L #	92
127)	n-Butylbenzene	53.01	91	4115	0.228	ug/L	82
129)	1,2-Diethylbenzene	53.22	119	4984	0.571	ug/L	97
130)	1-Methyl-2-propylbenzene	53.41	105	7020	0.339	ug/L	93
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	195173	10.719	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	17469M3	0.874	ug/L	
137)	1,2,4,5-Tetramethylbenzen	54.93	119	111788M6	5.856	ug/L	
139)	Pentylbenzene	55.50	91	3484M4	0.232	ug/L	
144)	Naphthalene	56.83	128	28875	1.779	ug/L	96
150)	2-Methylnaphthalene	59.56	142	8963	1.084	ug/L	84
151)	1-Methylnaphthalene	60.03	142	6342	0.909	ug/L	92

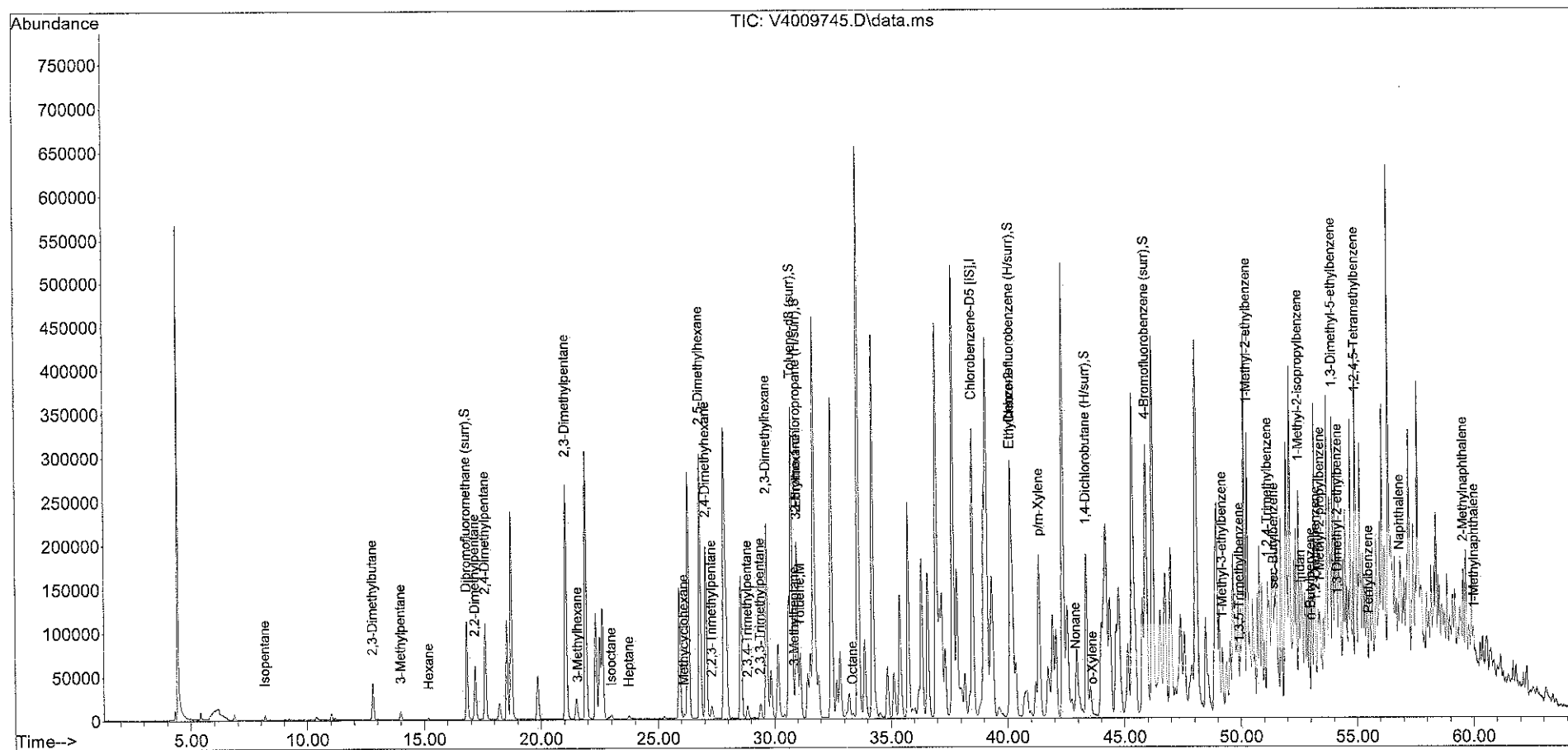
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009745.D
 Acq On : 19 Mar 2016 12:23 pm
 Operator : VOA4:MR
 Sample : 1603006-07
 Misc : 1X
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 21 15:33:20 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-7A

Case: N/A

SDG:

N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-08

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.1	10	5.98	0.1	5	1	MR

Parameter	Result
Isopentane	161 J
1-Pentene	242 U
2-Methyl-1-butene	242 U
Pentane	91.4 J
2-Pentene (trans)	242 U
2-Pentene (cis)	242 U
Tertiary butanol	3030 U
Cyclopentane	242 U
2,3-Dimethylbutane	169 J
2-Methylpentane	51.6 J
MTBE	242 U
3-Methylpentane	123 J
1-Hexene	242 U
Hexane	150 J
Diisopropyl Ether (DIPE)	242 U
Ethyl Tertiary Butyl Ether (ETBE)	242 U
2,2-Dimethylpentane	256
Methylcyclopentane	80.4 J
2,4-Dimethylpentane	521
1,2-Dichloroethane	242 U
Cyclohexane	46.0 J
2-Methylhexane	242 U
Benzene	57.0 J
2,3-Dimethylpentane	1210
Thiophene	242 U
3-Methylhexane	45.6 J
TAME	242 U
1-Heptene/1,2-DMCP (trans) ¹	73.2 J
Isooctane	242 U
Heptane	321
Methylcyclohexane	202 J
2,5-Dimethylhexane	1040
2,4-Dimethylhexane	625
2,2,3-Trimethylpentane	62.0 J
2,3,4-Trimethylpentane	51.3 J
2,3,3-Trimethylpentane	66.0 J
2,3-Dimethylhexane	233 J
3-Ethylhexane	232 J
2-Methylheptane	71.2 J

Parameter	Result
3-Methylheptane	147 J
Toluene	159 J
2-Methylthiophene	242 U
3-Methylthiophene	242 U
1-Octene	242 U
Octane	388
1,2-Dibromoethane	242 U
Ethylbenzene	93.8 JB
2-Ethylthiophene	242 U
p/m-Xylene	577
1-Nonene	242 U
Nonane	358
Styrene	242 U
o-Xylene	99.5 J
Isopropylbenzene	242 U
n-Propylbenzene	36.7 J
1-Methyl-3-ethylbenzene	60.4 J
1-Methyl-4-ethylbenzene	37.9 J
1,3,5-Trimethylbenzene	54.8 J
1-Decene	242 U
1-Methyl-2-ethylbenzene	23.5 J
Decane	231 JB
1,2,4-Trimethylbenzene	155 J
sec-Butylbenzene	17.1 J
1-Methyl-3-isopropylbenzene	242 U
1-Methyl-4-isopropylbenzene	29.9 J
1-Methyl-2-isopropylbenzene	242 U
Indan	23.4 J
1-Methyl-3-propylbenzene	33.2 J
1-Methyl-4-propylbenzene	21.8 J
n-Butylbenzene	20.9 J
1,2-Dimethyl-4-ethylbenzene	15.6 J
1,2-Diethylbenzene	242 U
1-Methyl-2-propylbenzene	20.3 J
1,4-Dimethyl-2-ethylbenzene	14.3 J
Undecane	219 J
1,3-Dimethyl-4-ethylbenzene	14.6 J
1,3-Dimethyl-5-ethylbenzene	71.1 J
1,3-Dimethyl-2-ethylbenzene	242 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**
Project: **Flint Street**

Client ID: **RX-7A**

Case: **N/A** SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-08**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.1	10	5.98	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	242 U
1,2,4,5-Tetramethylbenzene	55.8 J
Pentylbenzene	18.2 J
Dodecane	204 J
Naphthalene	419 B

Parameter	Result
Benzothiophene	242 U
MMT	605 U
Tridecane	215 J
2-Methylnaphthalene	386 JB
1-Methylnaphthalene	213 JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	113	70-130
1-Chloro-2-fluorobenzene	115	70-130
1,4-Dichlorobutane	98	70-130
Dibromofluoromethane	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009747.D
 Acq On : 19 Mar 2016 2:42 pm
 Operator : VOA4:MR
 Sample : 1603006-08
 Misc : 1X
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Mar 21 15:38:27 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	552151	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	158249	49.319	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	98.64%		
62) Toluene-d8 (surr)	30.75	98	684892	49.240	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.48%		
64) 2-Bromo-1-chloropropane (	30.96	77	204559	49.967	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	99.93%		
87) 1-Chloro-2-fluorobenzene	40.13	130	456817	50.989	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	101.98%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	357875	43.419	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	86.84%		
101) 4-Bromofluorobenzene (sur	45.94	95	268317	49.584	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	99.17%		
Target Compounds						
					Qvalue	
3) Isopentane	8.17	43	5972	1.329	ug/L	96
6) Pentane	9.19	43	5526	0.755	ug/L #	80
14) 2,3-Dimethylbutane	12.82	71	2484	1.395	ug/L #	1
15) 2-Methylpentane	13.02	43	3953	0.426	ug/L #	52
17) 3-Methylpentane	13.99	57	7825	1.019	ug/L #	89
19) Hexane	15.16	57	8210	1.241	ug/L #	85
26) 2,2-Dimethylpentane	17.19	57	20105	2.114	ug/L	98
27) Methylcyclopentane	17.47	56	5813M1	0.664	ug/L	
28) 2,4-Dimethylpentane	17.63	43	36732	4.302	ug/L	95
32) Cyclohexane	20.34	56	2847M1	0.380	ug/L	
34) Benzene	20.90	78	5985M1	0.471	ug/L	
35) 2,3-Dimethylpentane	21.08	56	72254	10.022	ug/L	99
38) 3-Methylhexane	21.59	43	3093M6	0.377	ug/L	
43) 1-Heptene/1,2-DMCP (trans	22.89	70	1678M1	0.605	ug/L	
46) Heptane	23.74	43	20550	2.650	ug/L #	80
51) Methycyclohexane	26.12	83	9941	1.669	ug/L	82
52) 2,5-Dimethylhexane	26.81	57	79591	8.578	ug/L	98
53) 2,4-Dimethylhexane	27.06	57	38001	5.165	ug/L	99
55) 2,2,3-Trimethylpentane	27.31	57	7512	0.512	ug/L	94
57) 2,3,4-Trimethylpentane	28.83	43	4875	0.424	ug/L	89
58) 2,3,3-Trimethylpentane	29.42	43	5449M1	0.545	ug/L	
59) 2,3-Dimethylhexane	29.68	43	20243	1.921	ug/L	99
60) 2-Methylheptane	30.12	57	4956M6	0.588	ug/L	

AT 3/29/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009747.D
 Acq On : 19 Mar 2016 2:42 pm
 Operator : VOA4:MR
 Sample : 1603006-08
 Misc : 1X
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Mar 21 15:38:27 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
63)	3-Methylheptane	30.87	43	10063M6	1.217	ug/L	
65)	3-Ethylhexane	30.98	43	24497	1.918	ug/L	97
66)	Toluene	31.12	91	19038	1.313	ug/L	96
71)	Octane	33.36	43	31507	3.203	ug/L	97
86)	Ethylbenzene	40.15	91	12998	0.775	ug/L	96
91)	p/m-Xylene	41.36	91	61745	4.770	ug/L	96
95)	Nonane	42.90	43	27884	2.959	ug/L	94
98)	o-Xylene	43.66	91	10754	0.822	ug/L	87
104)	n-Propylbenzene	48.58	91	6094	0.303	ug/L	# 52
107)	1-Methyl-3-ethylbenzene	49.20	105	8355	0.499	ug/L	92
108)	1-Methyl-4-ethylbenzene	49.38	105	5102M3	0.313	ug/L	
109)	1,3,5-Trimethylbenzene	49.95	105	6402	0.453	ug/L	98
112)	1-Methyl-2-ethylbenzene	50.28	105	3203	0.194	ug/L	88
113)	Decane	50.51	43	17911M4	1.911	ug/L	
115)	1,2,4-Trimethylbenzene	51.16	105	18300	1.281	ug/L	95
117)	sec-Butylbenzene	51.42	105	2651	0.141	ug/L	# 67
119)	1-Methyl-4-isopropylbenze	52.01	119	4028	0.247	ug/L	# 80
122)	Indan	52.58	117	2772	0.193	ug/L	# 83
124)	1-Methyl-3-propylbenzene	52.86	105	5055	0.274	ug/L	# 92
126)	1-Methyl-4-propylbenzene	53.01	105	3860	0.180	ug/L	97
127)	n-Butylbenzene	53.01	91	2927	0.173	ug/L	94
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	2104	0.129	ug/L	# 88
130)	1-Methyl-2-propylbenzene	53.40	105	3262	0.168	ug/L	86
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	1834M3	0.118	ug/L	
132)	Undecane	53.78	57	17163	1.813	ug/L	91
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	2265M3	0.121	ug/L	
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	10017	0.587	ug/L	92
137)	1,2,4,5-Tetramethylbenzen	54.93	119	8249	0.461	ug/L	# 92
139)	Pentylbenzene	55.51	91	2107M6	0.150	ug/L	
142)	Dodecane	56.01	43	11515	1.683	ug/L	# 86
144)	Naphthalene	56.83	128	52610	3.458	ug/L	97
149)	Tridecane	58.09	57	10404M6	1.780	ug/L	
150)	2-Methylnaphthalene	59.56	142	24710	3.189	ug/L	99
151)	1-Methylnaphthalene	60.03	142	11531	1.763	ug/L	96

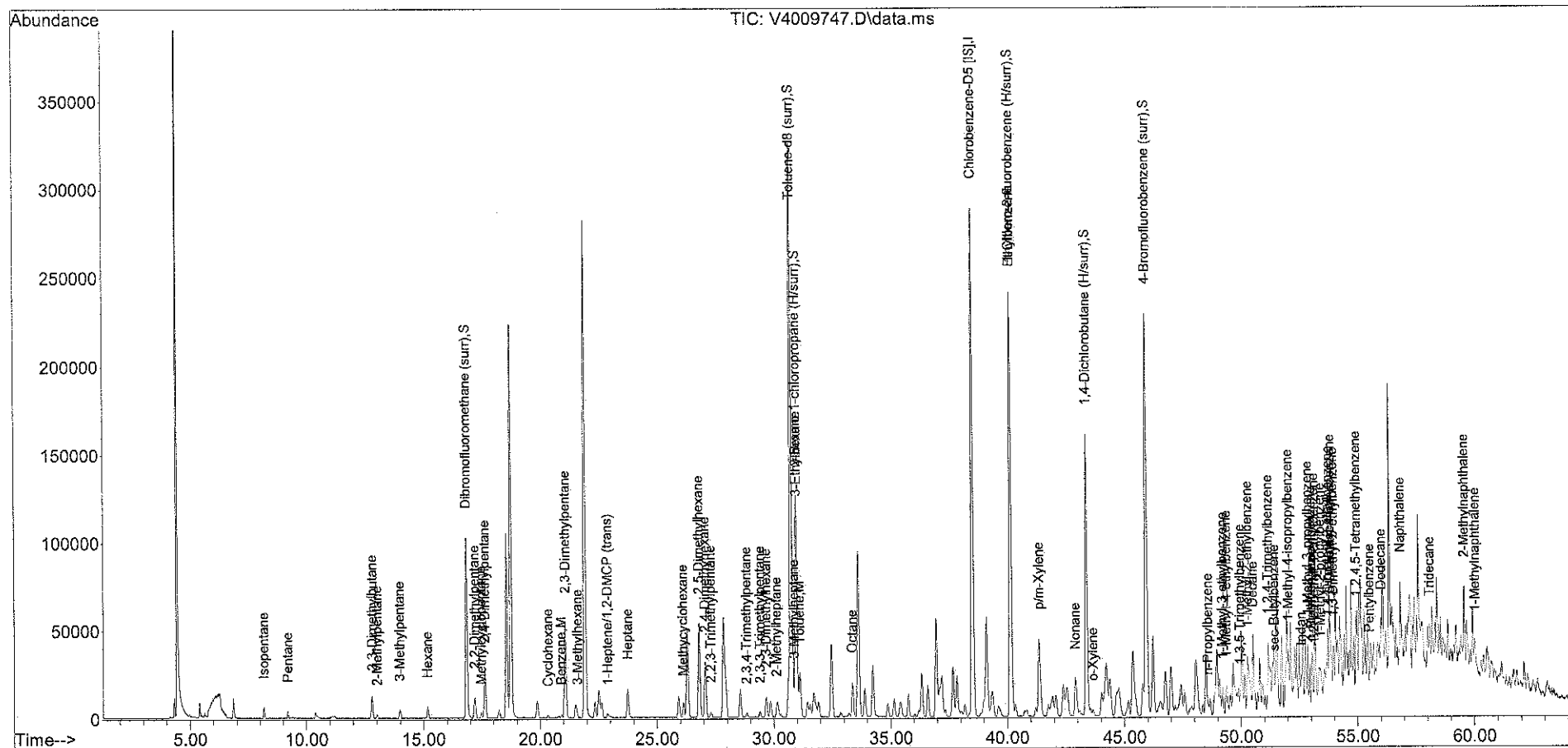
(#) = qualifier out of range (m) = manual integration (+) = signals summed

(QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009747.D
Acq On : 19 Mar 2016 2:42 pm
Operator : VOA4:MR
Sample : 1603006-08
Misc : 1X
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Mar 21 15:38:27 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO-VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	1	MR

Parameter	Result
Isopentane	224
1-Pentene	195 U
2-Methyl-1-butene	195 U
Pentane	195 U
2-Pentene (trans)	195 U
2-Pentene (cis)	195 U
Tertiary butanol	2440 U
Cyclopentane	195 U
2,3-Dimethylbutane	2830
2-Methylpentane	195 U
MTBE	195 U
3-Methylpentane	834
1-Hexene	195 U
Hexane	195 U
Diisopropyl Ether (DIPE)	195 U
Ethyl Tertiary Butyl Ether (ETBE)	195 U
2,2-Dimethylpentane	4510
Methylcyclopentane	195 U
2,4-Dimethylpentane	7280
1,2-Dichloroethane	195 U
Cyclohexane	195 U
2-Methylhexane	195 U
Benzene	195 U
2,3-Dimethylpentane	20800 E
Thiophene	195 U
3-Methylhexane	329
TAME	195 U
1-Heptene/1,2-DMCP (trans) ¹	390 U
Isooctane	321
Heptane	195 U
Methylcyclohexane	195 U
2,5-Dimethylhexane	19800 E
2,4-Dimethylhexane	12800
2,2,3-Trimethylpentane	1040
2,3,4-Trimethylpentane	1010
2,3,3-Trimethylpentane	1270
2,3-Dimethylhexane	17300
3-Ethylhexane	12200
2-Methylheptane	195 U

Parameter	Result
3-Methylheptane	195 U
Toluene	195 U
2-Methylthiophene	195 U
3-Methylthiophene	195 U
1-Octene	195 U
Octane	195 U
1,2-Dibromoethane	195 U
Ethylbenzene	44.5 JB
2-Ethylthiophene	195 U
p/m-Xylene	390 U
1-Nonene	195 U
Nonane	195 U
Styrene	195 U
o-Xylene	195 U
Isopropylbenzene	195 U
n-Propylbenzene	195 U
1-Methyl-3-ethylbenzene	195 U
1-Methyl-4-ethylbenzene	195 U
1,3,5-Trimethylbenzene	195 U
1-Decene	195 U
1-Methyl-2-ethylbenzene	90.5 J
Decane	195 U
1,2,4-Trimethylbenzene	34.2 J
sec-Butylbenzene	452
1-Methyl-3-isopropylbenzene	195 U
1-Methyl-4-isopropylbenzene	195 U
1-Methyl-2-isopropylbenzene	559
Indan	176 J
1-Methyl-3-propylbenzene	195 U
1-Methyl-4-propylbenzene	195 U
n-Butylbenzene	64.5 J
1,2-Dimethyl-4-ethylbenzene	195 U
1,2-Diethylbenzene	273
1-Methyl-2-propylbenzene	134 J
1,4-Dimethyl-2-ethylbenzene	195 U
Undecane	195 U
1,3-Dimethyl-4-ethylbenzene	195 U
1,3-Dimethyl-5-ethylbenzene	5920
1,3-Dimethyl-2-ethylbenzene	519



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-7B**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-09**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	195 U
1,2,4,5-Tetramethylbenzene	3460
Pentylbenzene	195 U
Dodecane	195 U
Naphthalene	195 U

Parameter	Result
Benzothiophene	195 U
MMT	488 U
Tridecane	488 U
2-Methylnaphthalene	46.2 JB
1-Methylnaphthalene	488 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	109	70-130
1-Chloro-2-fluorobenzene	107	70-130
1,4-Dichlorobutane	83	70-130
Dibromofluoromethane	116	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	116	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

E - Estimated value, exceeds the upper limit of calibration.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009752.D
 Acq On : 19 Mar 2016 8:30 pm
 Operator : VOA4:MR
 Sample : 1603006-09
 Misc : 1X
 ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 13:22:53 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	426142	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	143566	57.973	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 115.95%			
62) Toluene-d8 (surr)	30.74	98	575049	53.568	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 107.14%			
64) 2-Bromo-1-chloropropane (	30.96	77	153908	48.711	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.42%			
87) 1-Chloro-2-fluorobenzene	40.14	130	329595	47.667	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 95.33%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	236377M4	37.159	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 74.32%			
101) 4-Bromofluorobenzene (sur	45.93	95	242331M4	58.024	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 116.05%			
Target Compounds						
					Qvalue	
3) Isopentane	8.19	43	7955	2.294	ug/L	86
14) 2,3-Dimethylbutane	12.80	71	39820	28.972	ug/L #	1
17) 3-Methylpentane	14.00	57	50615	8.542	ug/L #	97
26) 2,2-Dimethylpentane	17.19	57	339448	46.246	ug/L	98
28) 2,4-Dimethylpentane	17.63	43	491759	74.621	ug/L	98
35) 2,3-Dimethylpentane	21.07	56	1185552	213.076	ug/L E	98
38) 3-Methylhexane	21.57	43	21312M6	3.366	ug/L	
44) Isooctane	23.00	57	47397	3.290	ug/L	82
52) 2,5-Dimethylhexane	26.81	57	1454747	203.159	ug/L E	96
53) 2,4-Dimethylhexane	27.07	57	743746	130.979	ug/L	92
55) 2,2,3-Trimethylpentane	27.31	57	120403	10.623	ug/L	98
57) 2,3,4-Trimethylpentane	28.84	43	91639	10.326	ug/L	96
58) 2,3,3-Trimethylpentane	29.40	43	100362	13.016	ug/L	93
59) 2,3-Dimethylhexane	29.68	43	1443498	177.458	ug/L	93
65) 3-Ethylhexane	30.99	43	1235694M4	125.364	ug/L	
86) Ethylbenzene	40.14	91	5907M3	0.456	ug/L	
112) 1-Methyl-2-ethylbenzene	50.30	105	11784	0.927	ug/L	89
115) 1,2,4-Trimethylbenzene	51.16	105	3856	0.350	ug/L	97
117) sec-Butylbenzene	51.42	105	66995	4.633	ug/L	98
121) 1-Methyl-2-isopropylbenze	52.48	119	72003	5.729	ug/L	96
122) Indan	52.57	117	19993	1.801	ug/L #	92

AT 3/27/16 MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009752.D
 Acq On : 19 Mar 2016 8:30 pm
 Operator : VOA4:MR
 Sample : 1603006-09
 Misc : 1X
 ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 13:22:53 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
127) n-Butylbenzene	53.01	91	8614M4	0.661	ug/L	
129) 1,2-Diethylbenzene	53.22	119	17650	2.796	ug/L	96
130) 1-Methyl-2-propylbenzene	53.41	105	20567	1.375	ug/L	98
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	798066	60.602	ug/L	100
135) 1,3-Dimethyl-2-ethylbenze	54.17	119	76950M3	5.320	ug/L	
137) 1,2,4,5-Tetramethylbenzen	54.93	119	490047M6	35.493	ug/L	
150) 2-Methylnaphthalene	59.56	142	2830	0.473	ug/L	91

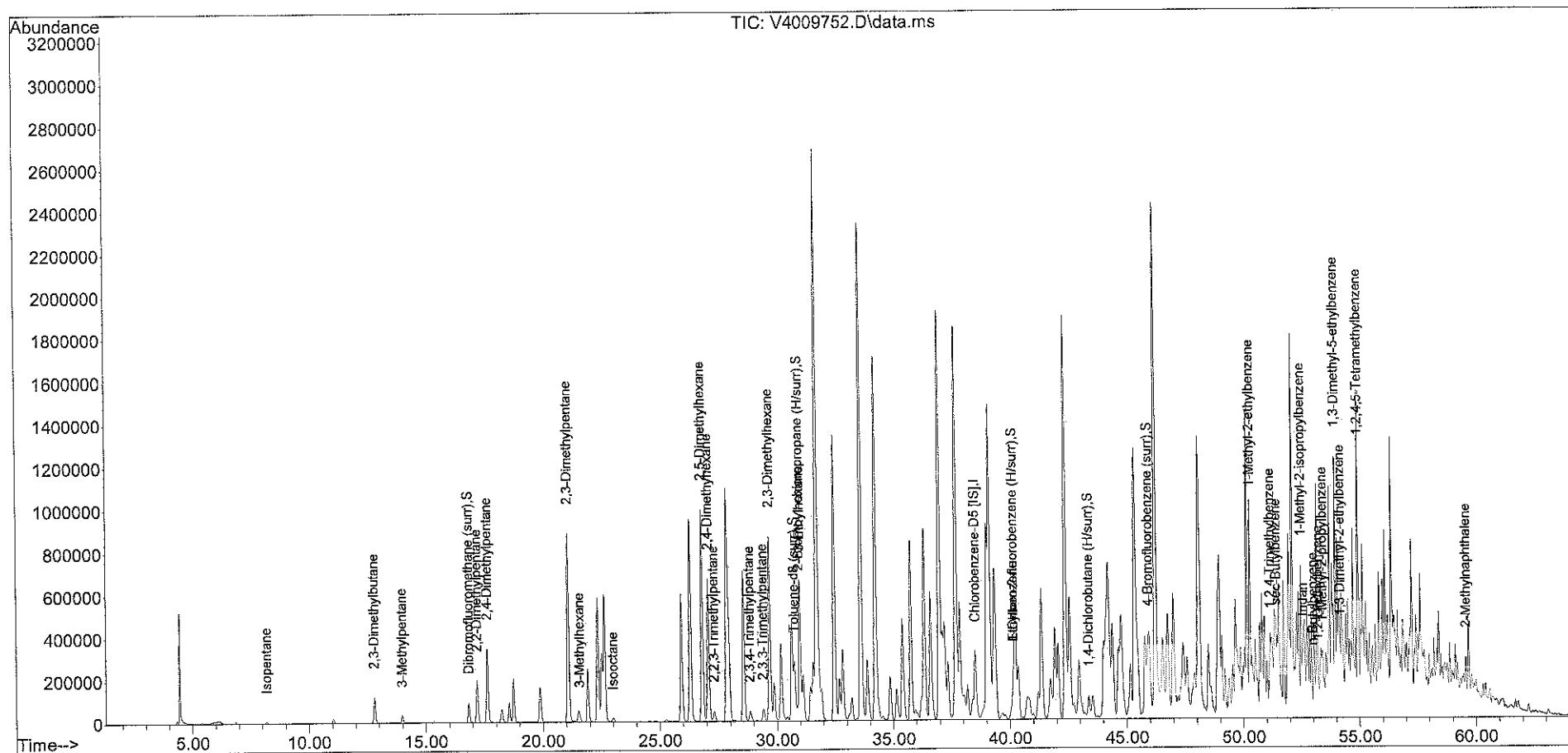
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009752.D
 Acq On : 19 Mar 2016 8:30 pm
 Operator : VOA4:MR
 Sample : 1603006-09
 Misc : 1X
 ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 13:22:53 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields

Project: Flint Street

Client ID: RX-7B

Case: N/A

SDG: N/A

Matrix: Soil

Lab Code: MA00030

ETR: 1603006

Lab ID: 1603006-09E

Associated Blank: VS031816B01

Concentration Units: µg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	5	MR

Parameter	Result	Parameter	Result
Isopentane	976 U	3-Methylheptane	976 U
1-Pentene	976 U	Toluene	976 U
2-Methyl-1-butene	976 U	2-Methylthiophene	976 U
Pentane	976 U	3-Methylthiophene	976 U
2-Pentene (trans)	976 U	1-Octene	976 U
2-Pentene (cis)	976 U	Octane	976 U
Tertiary butanol	12200 U	1,2-Dibromoethane	976 U
Cyclopentane	976 U	Ethylbenzene	976 U
2,3-Dimethylbutane	976 U	2-Ethylthiophene	976 U
2-Methylpentane	976 U	p/m-Xylene	1950 U
MTBE	976 U	1-Nonene	976 U
3-Methylpentane	976 U	Nonane	976 U
1-Hexene	976 U	Styrene	976 U
Hexane	976 U	o-Xylene	976 U
Diisopropyl Ether (DIPE)	976 U	Isopropylbenzene	976 U
Ethyl Tertiary Butyl Ether (ETBE)	976 U	n-Propylbenzene	976 U
2,2-Dimethylpentane	976 U	1-Methyl-3-ethylbenzene	976 U
Methylcyclopentane	976 U	1-Methyl-4-ethylbenzene	976 U
2,4-Dimethylpentane	976 U	1,3,5-Trimethylbenzene	976 U
1,2-Dichloroethane	976 U	1-Decene	976 U
Cyclohexane	976 U	1-Methyl-2-ethylbenzene	976 U
2-Methylhexane	976 U	Decane	976 U
Benzene	976 U	1,2,4-Trimethylbenzene	976 U
2,3-Dimethylpentane	16300	sec-Butylbenzene	976 U
Thiophene	976 U	1-Methyl-3-isopropylbenzene	976 U
3-Methylhexane	976 U	1-Methyl-4-isopropylbenzene	976 U
TAME	976 U	1-Methyl-2-isopropylbenzene	976 U
1-Heptene/1,2-DMCP (trans) ¹	1950 U	Indan	976 U
Isooctane	976 U	1-Methyl-3-propylbenzene	976 U
Heptane	976 U	1-Methyl-4-propylbenzene	976 U
Methylcyclohexane	976 U	n-Butylbenzene	976 U
2,5-Dimethylhexane	16000	1,2-Dimethyl-4-ethylbenzene	976 U
2,4-Dimethylhexane	976 U	1,2-Diethylbenzene	976 U
2,2,3-Trimethylpentane	976 U	1-Methyl-2-propylbenzene	976 U
2,3,4-Trimethylpentane	976 U	1,4-Dimethyl-2-ethylbenzene	976 U
2,3,3-Trimethylpentane	976 U	Undecane	976 U
2,3-Dimethylhexane	976 U	1,3-Dimethyl-4-ethylbenzene	976 U
3-Ethylhexane	976 U	1,3-Dimethyl-5-ethylbenzene	976 U
2-Methylheptane	976 U	1,3-Dimethyl-2-ethylbenzene	976 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-7B**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-09E**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	5	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	976 U
1,2,4,5-Tetramethylbenzene	976 U
Pentylbenzene	976 U
Dodecane	976 U
Naphthalene	976 U

Parameter	Result
Benzothiophene	976 U
MMT	2440 U
Tridecane	2440 U
2-Methylnaphthalene	2440 U
1-Methylnaphthalene	2440 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	106	70-130
1-Chloro-2-fluorobenzene	111	70-130
1,4-Dichlorobutane	97	70-130
Dibromofluoromethane	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009751.D
 Acq On : 19 Mar 2016 7:20 pm
 Operator : VOA4:MR
 Sample : 1603006-09-RE-D5
 Misc : 5X
 ALS Vial : 30 Sample Multiplier: 1

Quant Time: Mar 23 13:25:49 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	598826	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	175638	50.471	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	100.94%		
62) Toluene-d8 (surr)	30.74	98	739096	48.996	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	97.99%		
64) 2-Bromo-1-chloropropane (	30.96	77	42146	9.492	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	18.98%#		
87) 1-Chloro-2-fluorobenzene	40.15	130	96356	9.917	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	19.83%#		
97) 1,4-Dichlorobutane (H/sur	43.38	55	77437	8.663	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	17.33%#		
101) 4-Bromofluorobenzene (sur	45.93	95	298103	50.794	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	101.59%		
Target Compounds						
						Qvalue
35) 2,3-Dimethylpentane	21.07	56	261399	33.433	ug/L	98
52) 2,5-Dimethylhexane	26.80	57	329610	32.757	ug/L	93

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

AS 3/29/16

MR

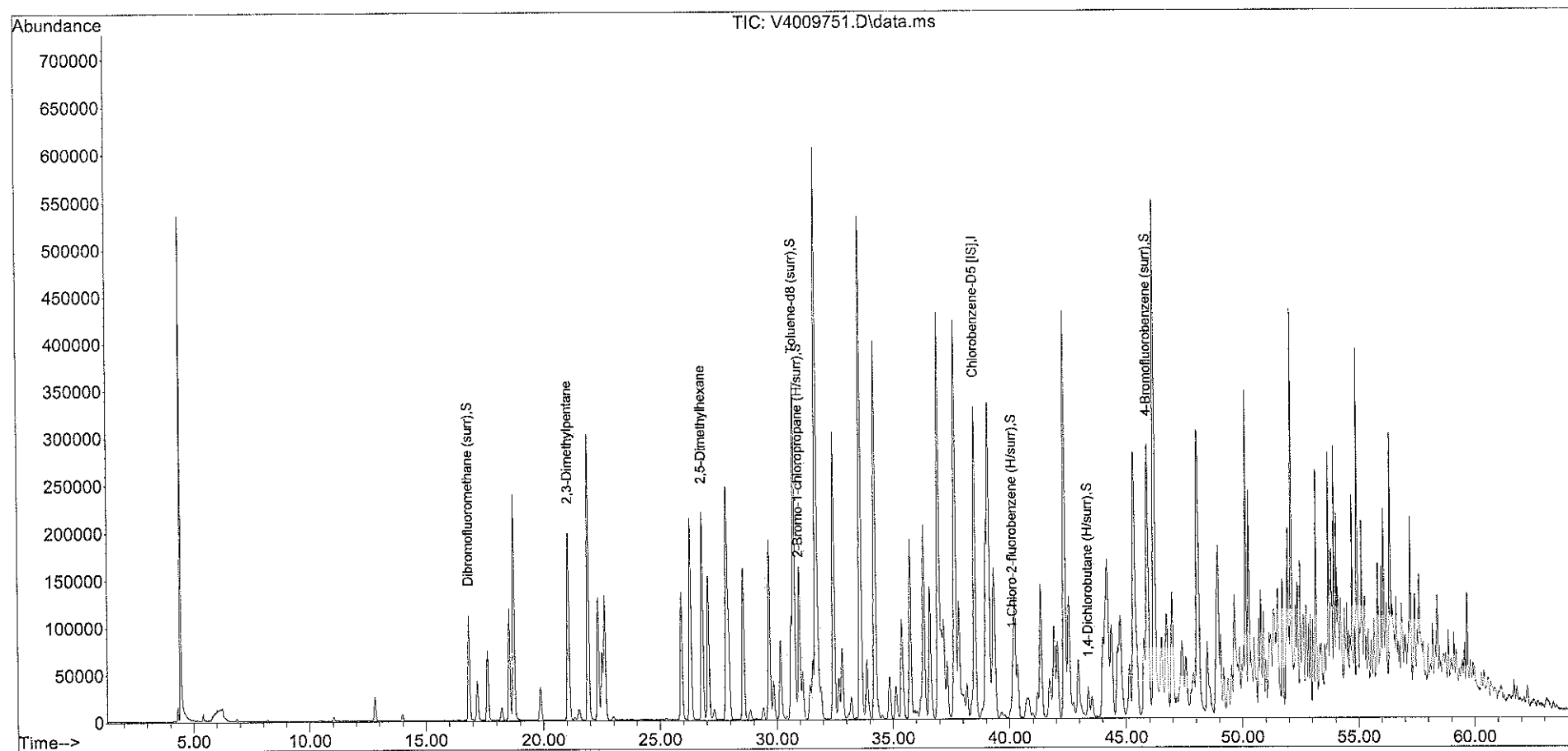
3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009751.D
 Acq On : 19 Mar 2016 7:20 pm
 Operator : VOA4:MR
 Sample : 1603006-09-RE-D5
 Misc : 5X
 ALS Vial : 30 Sample Multiplier: 1

Quant Time: Mar 23 13:25:49 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields
Project: Flint Street
Client ID: RX-8
Case: N/A
Matrix: Soil

SDG: N/A

Lab Code: MA00030
ETR: 1603006
Lab ID: 1603006-10
Associated Blank: VS031816B01
Concentration Units: µg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.4	10	6.12	0.1	5	1	MR

Parameter	Result	Parameter	Result
Isopentane	49.7 J	3-Methylheptane	545
1-Pentene	224 U	Toluene	224 U
2-Methyl-1-butene	224 U	2-Methylthiophene	224 U
Pentane	224 U	3-Methylthiophene	224 U
2-Pentene (trans)	224 U	1-Octene	224 U
2-Pentene (cis)	224 U	Octane	224 U
Tertiary butanol	2800 U	1,2-Dibromoethane	224 U
Cyclopentane	224 U	Ethylbenzene	29.6 JB
2,3-Dimethylbutane	393	2-Ethylthiophene	224 U
2-Methylpentane	224 U	p/m-Xylene	447 U
MTBE	224 U	1-Nonene	224 U
3-Methylpentane	71.8 J	Nonane	224 U
1-Hexene	224 U	Styrene	224 U
Hexane	224 U	o-Xylene	224 U
Diisopropyl Ether (DIPE)	224 U	Isopropylbenzene	55.6 J
Ethyl Tertiary Butyl Ether (ETBE)	224 U	n-Propylbenzene	224 U
2,2-Dimethylpentane	316	1-Methyl-3-ethylbenzene	224 U
Methylcyclopentane	224 U	1-Methyl-4-ethylbenzene	224 U
2,4-Dimethylpentane	490	1,3,5-Trimethylbenzene	224 U
1,2-Dichloroethane	224 U	1-Decene	224 U
Cyclohexane	224 U	1-Methyl-2-ethylbenzene	224 U
2-Methylhexane	224 U	Decane	224 U
Benzene	224 U	1,2,4-Trimethylbenzene	27.3 J
2,3-Dimethylpentane	1190	sec-Butylbenzene	859
Thiophene	224 U	1-Methyl-3-isopropylbenzene	224 U
3-Methylhexane	224 U	1-Methyl-4-isopropylbenzene	224 U
TAME	224 U	1-Methyl-2-isopropylbenzene	307
1-Heptene/1,2-DMCP (trans) ¹	447 U	Indan	28.8 J
Isooctane	87.1 J	1-Methyl-3-propylbenzene	224 U
Heptane	224 U	1-Methyl-4-propylbenzene	224 U
Methylcyclohexane	224 U	n-Butylbenzene	148 J
2,5-Dimethylhexane	1040	1,2-Dimethyl-4-ethylbenzene	224 U
2,4-Dimethylhexane	1470	1,2-Diethylbenzene	136 J
2,2,3-Trimethylpentane	376	1-Methyl-2-propylbenzene	69.8 J
2,3,4-Trimethylpentane	326	1,4-Dimethyl-2-ethylbenzene	78.7 J
2,3,3-Trimethylpentane	516	Undecane	224 U
2,3-Dimethylhexane	939	1,3-Dimethyl-4-ethylbenzene	224 U
3-Ethylhexane	1180	1,3-Dimethyl-5-ethylbenzene	2100
2-Methylheptane	224 U	1,3-Dimethyl-2-ethylbenzene	224 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-10**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.4	10	6.12	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	224 U
1,2,4,5-Tetramethylbenzene	3810
Pentylbenzene	224 U
Dodecane	224 U
Naphthalene	224 U

Parameter	Result
Benzothiophene	224 U
MMT	559 U
Tridecane	559 U
2-Methylnaphthalene	89.0 JB
1-Methylnaphthalene	559 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	108	70-130
1-Chloro-2-fluorobenzene	94	70-130
1,4-Dichlorobutane	60	§ 70-130
Dibromofluoromethane	128	70-130
Toluene-d8	119	70-130
4-Bromofluorobenzene	91	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 B - Found in associated blank as well as sample.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 § - Surrogate value outside of acceptable range.

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009748.D
 Acq On : 19 Mar 2016 3:52 pm
 Operator : VOA4:MR
 Sample : 1603006-10
 Misc : 1X
 ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 23 12:28:57 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	395265	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	147008	64.000	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	128.00%#		
62) Toluene-d8 (surr)	30.74	98	592576	59.513	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	119.03%#		
64) 2-Bromo-1-chloropropane (	30.96	77	142536	48.636	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	97.27%		
87) 1-Chloro-2-fluorobenzene	40.15	130	271854	42.388	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	84.78%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	158104	26.796	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	53.59%#		
101) 4-Bromofluorobenzene (sur	45.93	95	176312	45.514	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	91.03%		
Target Compounds						
						Qvalue
3) Isopentane	8.20	43	1430M1	0.445	ug/L	
14) 2,3-Dimethylbutane	12.81	71	4483	3.517	ug/L #	1
17) 3-Methylpentane	13.99	57	3526	0.642	ug/L #	99
26) 2,2-Dimethylpentane	17.19	57	19238	2.826	ug/L	91
28) 2,4-Dimethylpentane	17.63	43	26824	4.388	ug/L	97
35) 2,3-Dimethylpentane	21.08	56	54785	10.616	ug/L	98
44) Isooctane	23.00	57	10405	0.779	ug/L #	81
52) 2,5-Dimethylhexane	26.81	57	61980	9.332	ug/L	93
53) 2,4-Dimethylhexane	27.06	57	69245	13.147	ug/L	98
55) 2,2,3-Trimethylpentane	27.32	57	35392M1	3.366	ug/L	
57) 2,3,4-Trimethylpentane	28.85	43	24038	2.920	ug/L	95
58) 2,3,3-Trimethylpentane	29.41	43	33019	4.617	ug/L	98
59) 2,3-Dimethylhexane	29.68	43	63402	8.403	ug/L	92
63) 3-Methylheptane	30.86	43	28837M6	4.872	ug/L	
65) 3-Ethylhexane	30.99	43	96072M6	10.508	ug/L	
86) Ethylbenzene	40.13	91	3185M1	0.265	ug/L	
102) Isopropylbenzene	45.98	105	5946	0.497	ug/L #	48
115) 1,2,4-Trimethylbenzene	51.16	105	2492	0.244	ug/L	94
117) sec-Butylbenzene	51.42	105	103067	7.684	ug/L	100
121) 1-Methyl-2-isopropylbenze	52.49	119	31969	2.743	ug/L #	91
122) Indan	52.58	117	2652	0.258	ug/L #	68
127) n-Butylbenzene	53.00	91	16018M4	1.325	ug/L	
129) 1,2-Diethylbenzene	53.22	119	7125	1.217	ug/L	90

AS 3/29/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009748.D
Acq On : 19 Mar 2016 3:52 pm
Operator : VOA4:MR
Sample : 1603006-10
Misc : 1X
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 23 12:28:57 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
130)	1-Methyl-2-propylbenzene	53.41	105	8654	0.624	ug/L	100
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	7853M3	0.704	ug/L	
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	229141	18.759	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	436183M6	34.059	ug/L	
150)	2-Methylnaphthalene	59.56	142	4414	0.796	ug/L	87

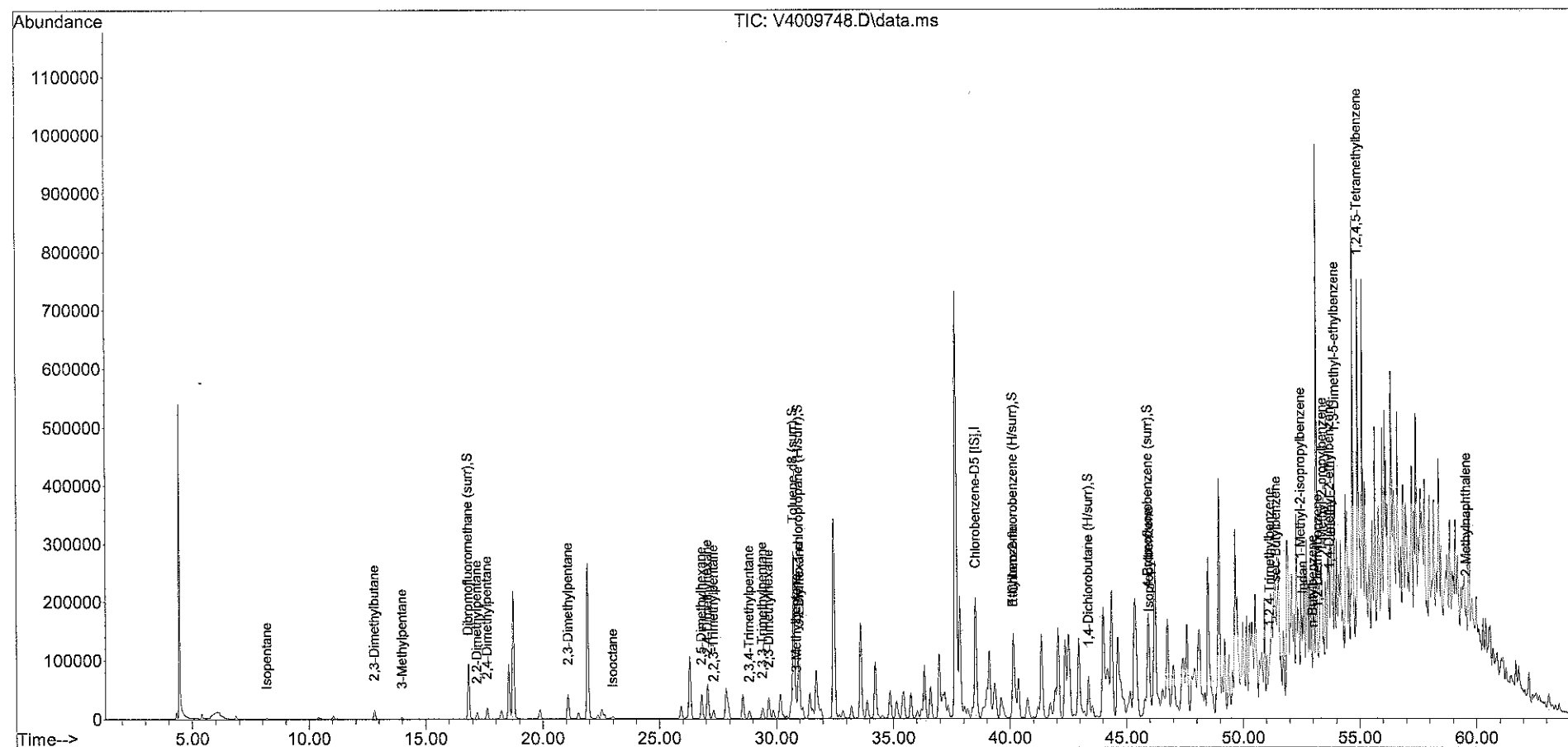
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009748.D
 Acq On : 19 Mar 2016 3:52 pm
 Operator : VOA4:MR
 Sample : 1603006-10
 Misc : 1X
 ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 23 12:28:57 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-8A**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-11**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	68.5	10	5.62	0.1	5	1	MR

Parameter	Result
Isopentane	191 J
1-Pentene	306 U
2-Methyl-1-butene	306 U
Pentane	306 U
2-Pentene (trans)	306 U
2-Pentene (cis)	306 U
Tertiary butanol	3820 U
Cyclopentane	306 U
2,3-Dimethylbutane	306 U
2-Methylpentane	88.4 J
MTBE	306 U
3-Methylpentane	42.5 J
1-Hexene	306 U
Hexane	23.8 J
Diisopropyl Ether (DIPE)	306 U
Ethyl Tertiary Butyl Ether (ETBE)	306 U
2,2-Dimethylpentane	306 U
Methylcyclopentane	102 J
2,4-Dimethylpentane	306 U
1,2-Dichloroethane	306 U
Cyclohexane	122 J
2-Methylhexane	306 U
Benzene	306 U
2,3-Dimethylpentane	306 U
Thiophene	306 U
3-Methylhexane	306 U
TAME	306 U
1-Heptene/1,2-DMCP (trans) ¹	612 U
Isooctane	306 U
Heptane	306 U
Methylcyclohexane	531
2,5-Dimethylhexane	306 U
2,4-Dimethylhexane	306 U
2,2,3-Trimethylpentane	306 U
2,3,4-Trimethylpentane	306 U
2,3,3-Trimethylpentane	306 U
2,3-Dimethylhexane	306 U
3-Ethylhexane	306 U
2-Methylheptane	28.9 J

Parameter	Result
3-Methylheptane	306 U
Toluene	178 J
2-Methylthiophene	306 U
3-Methylthiophene	306 U
1-Octene	306 U
Octane	306 U
1,2-Dibromoethane	306 U
Ethylbenzene	77.0 JB
2-Ethylthiophene	306 U
p/m-Xylene	227 J
1-Nonene	306 U
Nonane	58.6 J
Styrene	306 U
o-Xylene	136 J
Isopropylbenzene	306 U
n-Propylbenzene	306 U
1-Methyl-3-ethylbenzene	36.4 J
1-Methyl-4-ethylbenzene	306 U
1,3,5-Trimethylbenzene	30.4 J
1-Decene	306 U
1-Methyl-2-ethylbenzene	27.2 J
Decane	96.8 JB
1,2,4-Trimethylbenzene	126 J
sec-Butylbenzene	306 U
1-Methyl-3-isopropylbenzene	306 U
1-Methyl-4-isopropylbenzene	306 U
1-Methyl-2-isopropylbenzene	306 U
Indan	306 U
1-Methyl-3-propylbenzene	306 U
1-Methyl-4-propylbenzene	306 U
n-Butylbenzene	306 U
1,2-Dimethyl-4-ethylbenzene	306 U
1,2-Diethylbenzene	306 U
1-Methyl-2-propylbenzene	306 U
1,4-Dimethyl-2-ethylbenzene	306 U
Undecane	157 J
1,3-Dimethyl-4-ethylbenzene	306 U
1,3-Dimethyl-5-ethylbenzene	31.2 J
1,3-Dimethyl-2-ethylbenzene	306 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-8A**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-11**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	68.5	10	5.62	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	306 U
1,2,4,5-Tetramethylbenzene	30.0 J
Pentylbenzene	306 U
Dodecane	140 J
Naphthalene	279 JB

Parameter	Result
Benzothiophene	306 U
MMT	764 U
Tridecane	148 J
2-Methylnaphthalene	291 JB
1-Methylnaphthalene	222 JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	107	70-130
1-Chloro-2-fluorobenzene	111	70-130
1,4-Dichlorobutane	94	70-130
Dibromofluoromethane	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

B - Found in associated blank as well as sample.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009749.D
 Acq On : 19 Mar 2016 5:01 pm
 Operator : VOA4:MR
 Sample : 1603006-11
 Misc : 1X
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Mar 23 13:13:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	597020	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	174167	50.200	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 100.40%			
62) Toluene-d8 (surr)	30.74	98	747778	49.721	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 99.44%			
64) 2-Bromo-1-chloropropane (	30.96	77	201919	45.615	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 91.23%			
87) 1-Chloro-2-fluorobenzene	40.14	130	455802	47.052	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.10%			
97) 1,4-Dichlorobutane (H/sur	43.37	55	356790M1	40.034	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 80.07%			
101) 4-Bromofluorobenzene (sur	45.92	95	291556	49.829	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.66%			
Target Compounds						
					Qvalue	
3) Isopentane	8.17	43	6062	1.248	ug/L	86
15) 2-Methylpentane	13.02	43	5797	0.578	ug/L #	88
17) 3-Methylpentane	14.00	57	2306	0.278	ug/L #	92
19) Hexane	15.17	57	1113	0.156	ug/L #	94
27) Methylcyclopentane	17.45	56	6338	0.670	ug/L #	94
32) Cyclohexane	20.32	56	6453	0.796	ug/L #	82
51) Methycyclohexane	26.12	83	22380	3.475	ug/L	97
60) 2-Methylheptane	30.12	57	1722M1	0.189	ug/L	
66) Toluene	31.11	91	18234	1.163	ug/L	94
86) Ethylbenzene	40.14	91	9142M1	0.504	ug/L	
91) p/m-Xylene	41.38	91	20793	1.486	ug/L	94
95) Nonane	42.91	43	3907	0.383	ug/L #	70
98) o-Xylene	43.65	91	12590	0.890	ug/L	92
107) 1-Methyl-3-ethylbenzene	49.20	105	4314	0.238	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	3034	0.199	ug/L	96
112) 1-Methyl-2-ethylbenzene	50.29	105	3169	0.178	ug/L	98
113) Decane	50.52	43	6411	0.633	ug/L	97
115) 1,2,4-Trimethylbenzene	51.16	105	12754	0.826	ug/L	99
126) 1-Methyl-4-propylbenzene	53.01	105	1394	0.060	ug/L	78
132) Undecane	53.79	57	10535	1.029	ug/L	98
133) 1,3-Dimethyl-4-ethylbenze	53.82	119	2001	0.099	ug/L #	54
134) 1,3-Dimethyl-5-ethylbenze	53.95	119	3764	0.204	ug/L	94

AS 3/29/16

MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009749.D
Acq On : 19 Mar 2016 5:01 pm
Operator : VOA4:MR
Sample : 1603006-11
Misc : 1X
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Mar 23 13:13:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
137) 1,2,4,5-Tetramethylbenzen	54.94	119	3791M6	0.196	ug/L	
142) Dodecane	56.01	43	6778	0.916	ug/L	93
144) Naphthalene	56.83	128	29990	1.823	ug/L	100
149) Tridecane	58.10	57	6105	0.966	ug/L	86
150) 2-Methylnaphthalene	59.56	142	15967	1.906	ug/L	85
151) 1-Methylnaphthalene	60.04	142	10250	1.449	ug/L	89

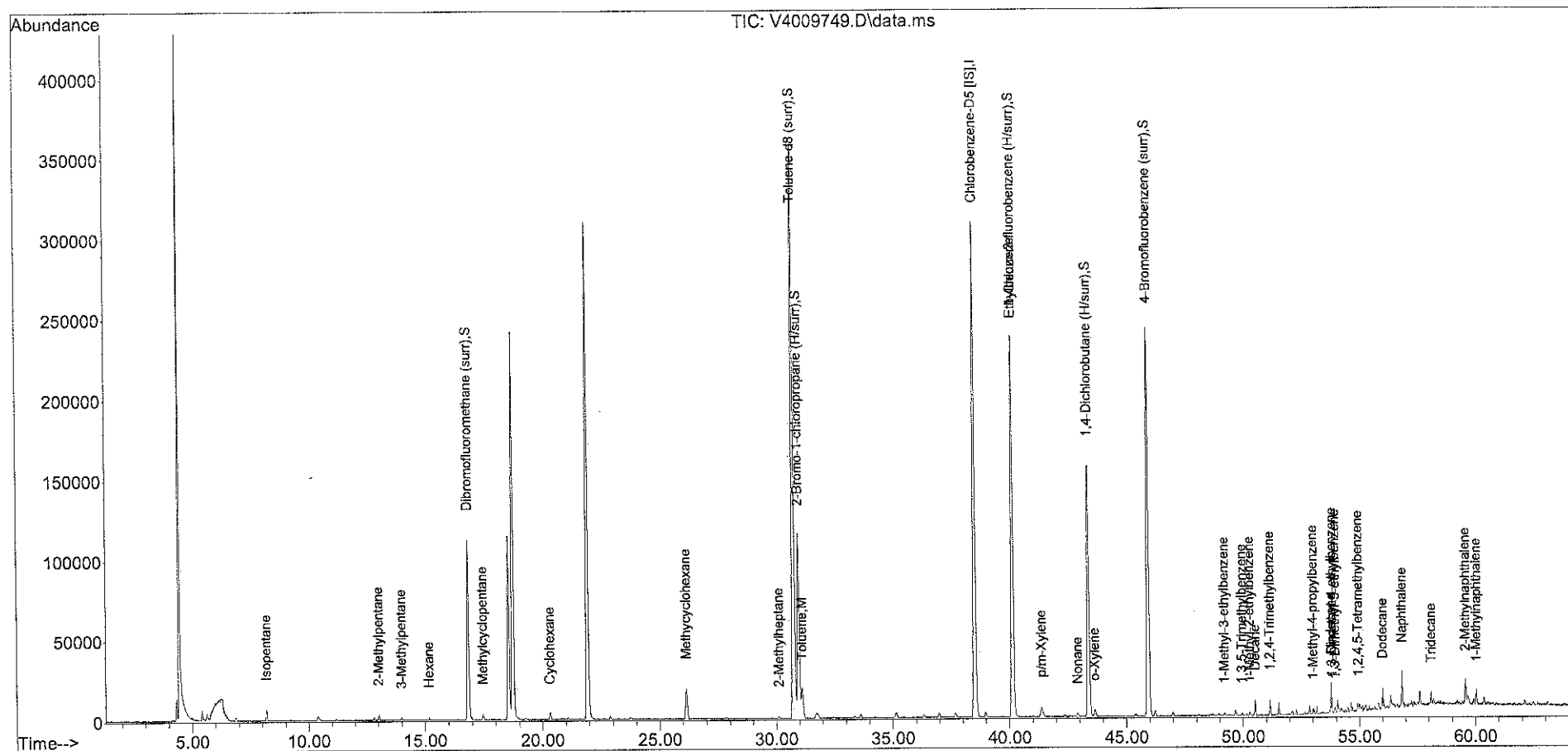
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009749.D
 Acq On : 19 Mar 2016 5:01 pm
 Operator : VOA4:MR
 Sample : 1603006-11
 Misc : 1X
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Mar 23 13:13:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-8B**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-12**

Associated Blank: **VS031816B01**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.8	10	7.01	0.1	5	1	MR

Parameter	Result	Parameter	Result
Isopentane	137 J	3-Methylheptane	197 U
1-Pentene	197 U	Toluene	107 J
2-Methyl-1-butene	197 U	2-Methylthiophene	197 U
Pentane	197 U	3-Methylthiophene	197 U
2-Pentene (trans)	197 U	1-Octene	197 U
2-Pentene (cis)	197 U	Octane	39.6 J
Tertiary butanol	2460 U	1,2-Dibromoethane	197 U
Cyclopentane	197 U	Ethylbenzene	53.0 JB
2,3-Dimethylbutane	197 U	2-Ethylthiophene	197 U
2-Methylpentane	62.4 J	p/m-Xylene	138 J
MTBE	197 U	1-Nonene	197 U
3-Methylpentane	30.5 J	Nonane	46.4 J
1-Hexene	197 U	Styrene	197 U
Hexane	25.1 J	o-Xylene	82.2 J
Diisopropyl Ether (DIPE)	197 U	Isopropylbenzene	197 U
Ethyl Tertiary Butyl Ether (ETBE)	197 U	n-Propylbenzene	197 U
2,2-Dimethylpentane	197 U	1-Methyl-3-ethylbenzene	20.9 J
Methylcyclopentane	55.6 J	1-Methyl-4-ethylbenzene	197 U
2,4-Dimethylpentane	197 U	1,3,5-Trimethylbenzene	25.4 J
1,2-Dichloroethane	197 U	1-Decene	197 U
Cyclohexane	104 J	1-Methyl-2-ethylbenzene	15.4 J
2-Methylhexane	197 U	Decane	62.5 JB
Benzene	24.4 J	1,2,4-Trimethylbenzene	79.3 J
2,3-Dimethylpentane	28.6 J	sec-Butylbenzene	197 U
Thiophene	197 U	1-Methyl-3-isopropylbenzene	197 U
3-Methylhexane	197 U	1-Methyl-4-isopropylbenzene	197 U
TAME	197 U	1-Methyl-2-isopropylbenzene	197 U
1-Heptene/1,2-DMCP (trans) ¹	394 U	Indan	197 U
Isooctane	197 U	1-Methyl-3-propylbenzene	10.3 J
Heptane	34.0 J	1-Methyl-4-propylbenzene	197 U
Methylcyclohexane	438	n-Butylbenzene	197 U
2,5-Dimethylhexane	197 U	1,2-Dimethyl-4-ethylbenzene	197 U
2,4-Dimethylhexane	197 U	1,2-Diethylbenzene	197 U
2,2,3-Trimethylpentane	197 U	1-Methyl-2-propylbenzene	197 U
2,3,4-Trimethylpentane	197 U	1,4-Dimethyl-2-ethylbenzene	197 U
2,3,3-Trimethylpentane	197 U	Undecane	88.4 J
2,3-Dimethylhexane	197 U	1,3-Dimethyl-4-ethylbenzene	197 U
3-Ethylhexane	197 U	1,3-Dimethyl-5-ethylbenzene	15.2 J
2-Methylheptane	38.8 J	1,3-Dimethyl-2-ethylbenzene	197 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8B**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-12**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.8	10	7.01	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	197 U
1,2,4,5-Tetramethylbenzene	12.5 J
Pentylbenzene	197 U
Dodecane	94.9 J
Naphthalene	160 JB

Parameter	Result
Benzothiophene	197 U
MMT	492 U
Tridecane	96.7 J
2-Methylnaphthalene	203 JB
1-Methylnaphthalene	175 JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	121	70-130
1-Chloro-2-fluorobenzene	123	70-130
1,4-Dichlorobutane	103	70-130
Dibromofluoromethane	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 B - Found in associated blank as well as sample.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009750.D
 Acq On : 19 Mar 2016 6:11 pm
 Operator : VOA4:MR
 Sample : 1603006-12
 Misc : 1X
 ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 23 13:16:14 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	611682	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	181525	51.067	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	102.13%		
62) Toluene-d8 (surr)	30.74	98	765058	49.651	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	99.30%		
64) 2-Bromo-1-chloropropane (	30.96	77	243072	53.596	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	107.19%		
87) 1-Chloro-2-fluorobenzene	40.15	130	539992	54.407	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	108.81%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	416911	45.659	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery =	91.32%		
101) 4-Bromofluorobenzene (sur	45.94	95	295158	49.236	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	98.47%		
Target Compounds						
					Qvalue	
3) Isopentane	8.18	43	6921	1.390	ug/L	84
15) 2-Methylpentane	13.03	43	6519	0.634	ug/L #	81
17) 3-Methylpentane	13.99	57	2635	0.310	ug/L #	91
19) Hexane	15.17	57	1865	0.255	ug/L #	92
27) Methylcyclopentane	17.46	56	5477	0.565	ug/L #	93
32) Cyclohexane	20.33	56	8778	1.057	ug/L	97
34) Benzene	20.90	78	3493	0.248	ug/L #	53
35) 2,3-Dimethylpentane	21.09	56	2322M1	0.291	ug/L	
46) Heptane	23.75	43	2962M1	0.345	ug/L	
51) Methycyclohexane	26.13	83	29338	4.446	ug/L	89
60) 2-Methylheptane	30.09	57	3673M1	0.394	ug/L	
66) Toluene	31.11	91	17499	1.089	ug/L	92
71) Octane	33.36	43	4385	0.402	ug/L #	79
86) Ethylbenzene	40.14	91	9988	0.538	ug/L	95
91) p/m-Xylene	41.36	91	20156	1.406	ug/L	97
95) Nonane	42.91	43	4932	0.472	ug/L #	79
98) o-Xylene	43.68	91	12103M1	0.835	ug/L	
107) 1-Methyl-3-ethylbenzene	49.21	105	3938	0.212	ug/L	83
109) 1,3,5-Trimethylbenzene	49.96	105	4042	0.258	ug/L	97
112) 1-Methyl-2-ethylbenzene	50.28	105	2865	0.157	ug/L	97
113) Decane	50.53	43	6596	0.635	ug/L	91
115) 1,2,4-Trimethylbenzene	51.16	105	12756	0.806	ug/L	86
124) 1-Methyl-3-propylbenzene	52.86	105	2147	0.105	ug/L #	84

AS 3/29/16

MR 3/31/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009750.D
 Acq On : 19 Mar 2016 6:11 pm
 Operator : VOA4:MR
 Sample : 1603006-12
 Misc : 1X
 ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 23 13:16:14 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
132) Undecane	53.79	57	9422	0.898	ug/L	91
133) 1,3-Dimethyl-4-ethylbenze	53.81	119	1931	0.093	ug/L #	54
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	2903	0.154	ug/L	94
137) 1,2,4,5-Tetramethylbenzen	54.94	119	2514	0.127	ug/L #	88
142) Dodecane	56.01	43	7304	0.964	ug/L	96
144) Naphthalene	56.83	128	27347	1.623	ug/L	96
149) Tridecane	58.09	57	6361	0.983	ug/L	94
150) 2-Methylnaphthalene	59.57	142	17743	2.067	ug/L	93
151) 1-Methylnaphthalene	60.03	142	12855	1.774	ug/L	99

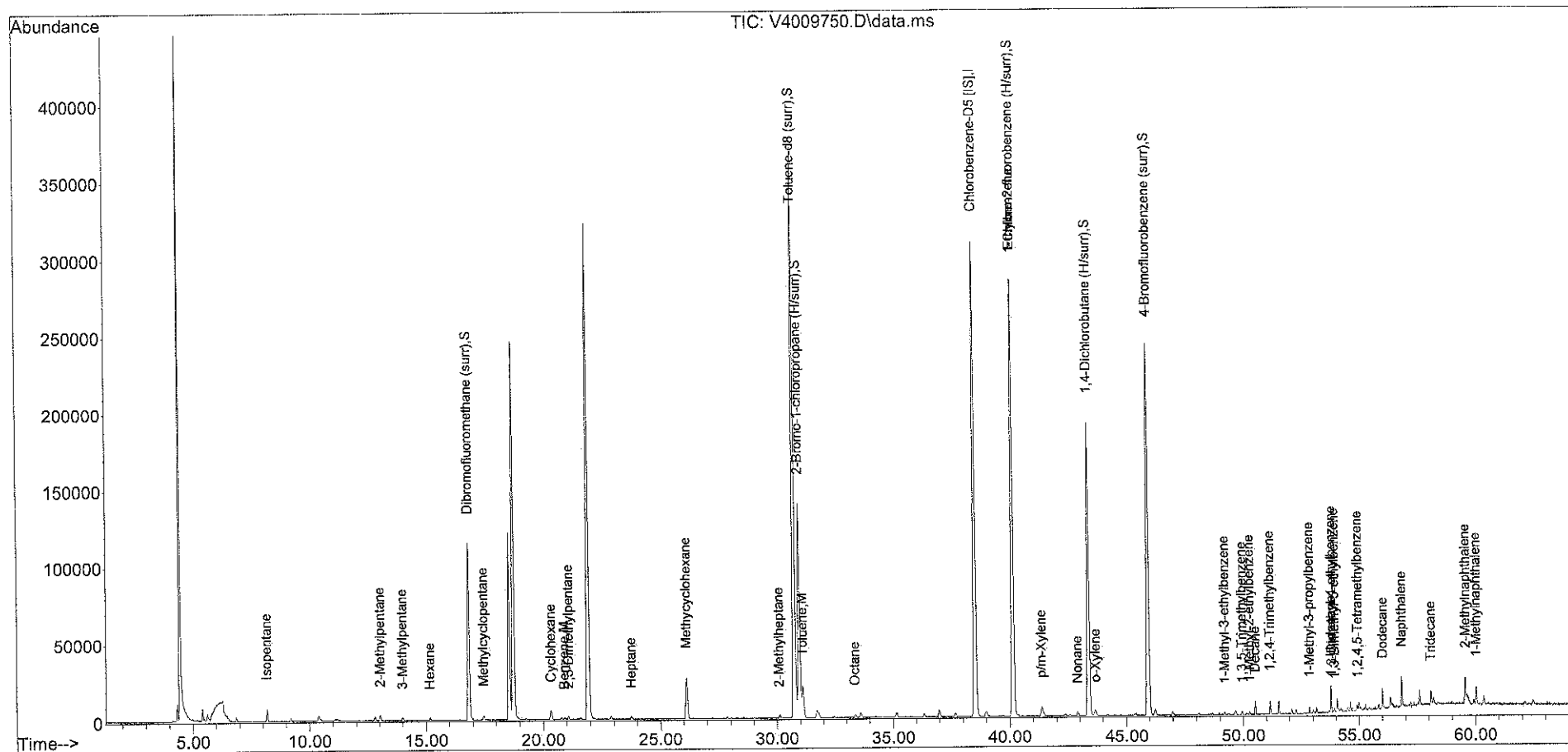
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009750.D
 Acq On : 19 Mar 2016 6:11 pm
 Operator : VOA4:MR
 Sample : 1603006-12
 Misc : 1X
 ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 23 13:16:14 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **Blank**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **VS031816B01**

Associated Blank: **N/A**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result
Isopentane	200 U
1-Pentene	200 U
2-Methyl-1-butene	200 U
Pentane	200 U
2-Pentene (trans)	200 U
2-Pentene (cis)	200 U
Tertiary butanol	2500 U
Cyclopentane	200 U
2,3-Dimethylbutane	200 U
2-Methylpentane	200 U
MTBE	200 U
3-Methylpentane	200 U
1-Hexene	200 U
Hexane	200 U
Diisopropyl Ether (DIPE)	200 U
Ethyl Tertiary Butyl Ether (ETBE)	200 U
2,2-Dimethylpentane	200 U
Methylcyclopentane	200 U
2,4-Dimethylpentane	200 U
1,2-Dichloroethane	200 U
Cyclohexane	200 U
2-Methylhexane	200 U
Benzene	200 U
2,3-Dimethylpentane	200 U
Thiophene	200 U
3-Methylhexane	200 U
TAME	200 U
1-Heptene/1,2-DMCP (trans) ¹	400 U
Isooctane	200 U
Heptane	200 U
Methylcyclohexane	200 U
2,5-Dimethylhexane	200 U
2,4-Dimethylhexane	200 U
2,2,3-Trimethylpentane	200 U
2,3,4-Trimethylpentane	200 U
2,3,3-Trimethylpentane	200 U
2,3-Dimethylhexane	200 U
3-Ethylhexane	200 U
2-Methylheptane	200 U

Parameter	Result
3-Methylheptane	200 U
Toluene	200 U
2-Methylthiophene	200 U
3-Methylthiophene	200 U
1-Octene	200 U
Octane	200 U
1,2-Dibromoethane	200 U
Ethylbenzene	34.3 J
2-Ethylthiophene	200 U
p/m-Xylene	400 U
1-Nonene	200 U
Nonane	200 U
Styrene	200 U
o-Xylene	200 U
Isopropylbenzene	200 U
n-Propylbenzene	200 U
1-Methyl-3-ethylbenzene	200 U
1-Methyl-4-ethylbenzene	200 U
1,3,5-Trimethylbenzene	200 U
1-Decene	200 U
1-Methyl-2-ethylbenzene	200 U
Decane	31.1 J
1,2,4-Trimethylbenzene	200 U
sec-Butylbenzene	200 U
1-Methyl-3-isopropylbenzene	200 U
1-Methyl-4-isopropylbenzene	200 U
1-Methyl-2-isopropylbenzene	200 U
Indan	200 U
1-Methyl-3-propylbenzene	200 U
1-Methyl-4-propylbenzene	200 U
n-Butylbenzene	200 U
1,2-Dimethyl-4-ethylbenzene	200 U
1,2-Diethylbenzene	200 U
1-Methyl-2-propylbenzene	200 U
1,4-Dimethyl-2-ethylbenzene	200 U
Undecane	200 U
1,3-Dimethyl-4-ethylbenzene	200 U
1,3-Dimethyl-5-ethylbenzene	200 U
1,3-Dimethyl-2-ethylbenzene	200 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**

Project: **Flint Street**

Client ID: **Blank**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **VS031816B01**

Associated Blank: **N/A**

Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	200 U
1,2,4,5-Tetramethylbenzene	200 U
Pentylbenzene	200 U
Dodecane	200 U
Naphthalene	60.2 J

Parameter	Result
Benzothiophene	200 U
MMT	500 U
Tridecane	500 U
2-Methylnaphthalene	54.7 J
1-Methylnaphthalene	25.1 J

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	96	70-130
1-Chloro-2-fluorobenzene	100	70-130
1,4-Dichlorobutane	88	70-130
Dibromofluoromethane	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009729.D
 Acq On : 18 Mar 2016 5:09 pm
 Operator : VOA4:MR
 Sample : VS031816B01
 Misc : 1X
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 11:59:02 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	607163	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	181984	51.577	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	103.15%		
62) Toluene-d8 (surr)	30.74	98	753013	49.233	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.47%		
64) 2-Bromo-1-chloropropane (	30.96	77	215021	47.764	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	95.53%		
87) 1-Chloro-2-fluorobenzene	40.15	130	494103	50.154	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	100.31%		
97) 1,4-Dichlorobutane (H/sur	43.37	55	400584	44.197	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	88.39%		
101) 4-Bromofluorobenzene (sur	45.93	95	299068	50.259	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	100.52%		
Target Compounds						
					Qvalue	
86) Ethylbenzene	40.15	91	6332	0.343	ug/L	94
113) Decane	50.51	43	3203	0.311	ug/L #	84
144) Naphthalene	56.83	128	10068	0.602	ug/L #	86
150) 2-Methylnaphthalene	59.58	142	4661	0.547	ug/L	96
151) 1-Methylnaphthalene	60.03	142	1805	0.251	ug/L	99

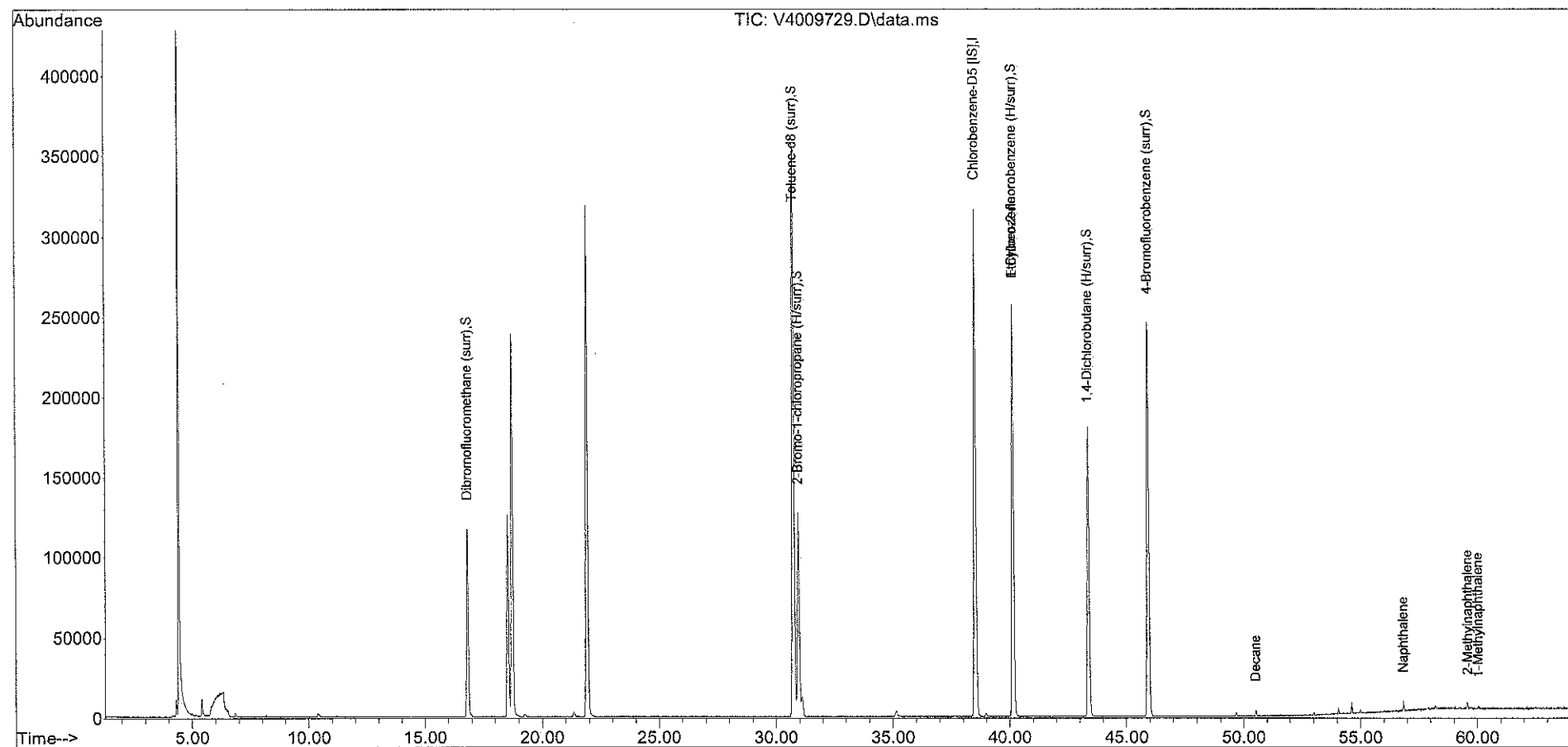
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009729.D
 Acq On : 18 Mar 2016 5:09 pm
 Operator : VOA4:MR
 Sample : VS031816B01
 Misc : 1X
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 11:59:02 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form III

Spike Recovery Summary

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **See Below**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Lab ID: VS031816B01 VS031816LCS01 VS031816LCSD01

Parameter	Blank Conc.		LCS Conc.	% Recovery	LCSD Conc.	% Recovery	% RPD	RPD % Recovery Limit	% Recovery Limits
1-Pentene	200	U	1760	88	1840	92	5	30	50-130
Pentane	200	U	1640	82	1720	86	5	30	50-130
Tertiary butanol	2500	U	10100	101	9990	100	1	30	50-130
Cyclopentane	200	U	1790	89	1820	91	2	30	50-130
2-Methylpentane	200	U	1780	89	1820	91	2	30	50-130
MTBE	200	U	1900	95	1930	96	1	30	50-130
3-Methylpentane	200	U	1840	92	1880	94	2	30	50-130
1-Hexene	200	U	1790	89	1810	91	1	30	50-130
Hexane	200	U	1810	91	1850	93	2	30	50-130
Diisopropyl Ether (DIPE)	200	U	1910	96	1950	98	2	30	50-130
Ethyl Tertiary Butyl Ether (ETBE)	200	U	1900	95	1920	96	1	30	50-130
Methylcyclopentane	200	U	1910	95	1900	95	0	30	50-130
2,4-Dimethylpentane	200	U	1820	91	1820	91	0	30	50-130
Cyclohexane	200	U	1850	93	1890	95	2	30	50-130
2-Methylhexane	200	U	1800	90	1840	92	2	30	50-130
Benzene	200	U	1940	97	1960	98	1	30	50-130
2,3-Dimethylpentane	200	U	1880	94	1890	94	0	30	50-130
3-Methylhexane	200	U	1710	85	1740	87	2	30	50-130
TAME	200	U	1810	91	1840	92	1	30	50-130
Isooctane	200	U	1870	94	1900	95	2	30	50-130
Heptane	200	U	1790	90	1830	91	2	30	50-130
Methylcyclohexane	200	U	1910	95	1930	96	1	30	50-130
2-Methylheptane	200	U	1850	93	1900	95	2	30	50-130
3-Methylheptane	200	U	1780	89	1820	91	2	30	50-130
Toluene	200	U	1940	97	1960	98	1	30	50-130
Octane	200	U	1820	91	1840	92	1	30	50-130
Ethylbenzene	34.3		1930	96	1920	96	0	30	50-130
p/m-Xylene	400	U	3910	98	3940	99	1	30	50-130
Nonane	200	U	1790	90	1780	89	1	30	50-130
o-Xylene	200	U	1960	98	1980	99	1	30	50-130
Isopropylbenzene	200	U	1950	98	1980	99	2	30	50-130
n-Propylbenzene	200	U	1920	96	1970	99	3	30	50-130
1-Methyl-3-ethylbenzene	200	U	1940	97	1960	98	1	30	50-130



Form III

Spike Recovery Summary

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **See Below**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Lab ID: VS031816B01 VS031816LCS01 VS031816LCSD01

Parameter	Blank		LCS		LCSD		% RPD	RPD % Recovery	
	Conc.		Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
1-Methyl-4-ethylbenzene	200	U	1980	99	1970	98	1	30	50-130
1,3,5-Trimethylbenzene	200	U	1970	98	2000	100	2	30	50-130
1-Decene	200	U	1840	92	1860	93	1	30	50-130
1-Methyl-2-ethylbenzene	200	U	2000	100	2030	102	2	30	50-130
Decane	31.1		1830	91	1840	92	1	30	50-130
1,2,4-Trimethylbenzene	200	U	1970	99	1990	99	1	30	50-130
sec-Butylbenzene	200	U	1960	98	1990	100	1	30	50-130
1-Methyl-4-propylbenzene	200	U	1990	99	1990	100	0	30	50-130
n-Butylbenzene	200	U	1970	99	2010	100	2	30	50-130
1,2-Diethylbenzene	200	U	1960	98	2010	100	3	30	50-130
Undecane	200	U	1970	98	1990	99	1	30	50-130
Pentylbenzene	200	U	1960	98	1980	99	1	30	50-130
Dodecane	200	U	2010	101	2000	100	1	30	50-130

Surrogate	% Recovery		Acceptance Range (%)
2-Bromo-1-chloropropane	N/A	N/A	70-130
1-Chloro-2-fluorobenzene	N/A	N/A	70-130
1,4-Dichlorobutane	N/A	N/A	70-130
Dibromofluoromethane	104	102	70-130
Toluene-d8	99	99	70-130
4-Bromofluorobenzene	101	100	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.



Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **VS031816LCS01**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result	Parameter	Result
Isopentane	200 U	3-Methylheptane	1780 S
1-Pentene	1760 S	Toluene	1940 S
2-Methyl-1-butene	200 U	2-Methylthiophene	200 U
Pentane	1640 S	3-Methylthiophene	200 U
2-Pentene (trans)	200 U	1-Octene	200 U
2-Pentene (cis)	200 U	Octane	1820 S
Tertiary butanol	10100 S	1,2-Dibromoethane	200 U
Cyclopentane	1790 S	Ethylbenzene	1930 S
2,3-Dimethylbutane	200 U	2-Ethylthiophene	200 U
2-Methylpentane	1780 S	p/m-Xylene	3910 S
MTBE	1900 S	1-Nonene	200 U
3-Methylpentane	1840 S	Nonane	1790 S
1-Hexene	1790 S	Styrene	200 U
Hexane	1810 S	o-Xylene	1960 S
Diisopropyl Ether (DIPE)	1910 S	Isopropylbenzene	1950 S
Ethyl Tertiary Butyl Ether (ETBE)	1900 S	n-Propylbenzene	1920 S
2,2-Dimethylpentane	200 U	1-Methyl-3-ethylbenzene	1940 S
Methylcyclopentane	1910 S	1-Methyl-4-ethylbenzene	1980 S
2,4-Dimethylpentane	1820 S	1,3,5-Trimethylbenzene	1970 S
1,2-Dichloroethane	200 U	1-Decene	1840 S
Cyclohexane	1850 S	1-Methyl-2-ethylbenzene	2000 S
2-Methylhexane	1800 S	Decane	1830 S
Benzene	1940 S	1,2,4-Trimethylbenzene	1970 S
2,3-Dimethylpentane	1880 S	sec-Butylbenzene	1960 S
Thiophene	200 U	1-Methyl-3-isopropylbenzene	200 U
3-Methylhexane	1710 S	1-Methyl-4-isopropylbenzene	200 U
TAME	1810 S	1-Methyl-2-isopropylbenzene	200 U
1-Heptene/1,2-DMCP (trans) ¹	1290	Indan	200 U
Isooctane	1870 S	1-Methyl-3-propylbenzene	200 U
Heptane	1790 S	1-Methyl-4-propylbenzene	1990 S
Methylcyclohexane	1910 S	n-Butylbenzene	1970 S
2,5-Dimethylhexane	200 U	1,2-Dimethyl-4-ethylbenzene	200 U
2,4-Dimethylhexane	200 U	1,2-Diethylbenzene	1960 S
2,2,3-Trimethylpentane	200 U	1-Methyl-2-propylbenzene	200 U
2,3,4-Trimethylpentane	200 U	1,4-Dimethyl-2-ethylbenzene	200 U
2,3,3-Trimethylpentane	200 U	Undecane	1970 S
2,3-Dimethylhexane	200 U	1,3-Dimethyl-4-ethylbenzene	200 U
3-Ethylhexane	200 U	1,3-Dimethyl-5-ethylbenzene	2010
2-Methylheptane	1850 S	1,3-Dimethyl-2-ethylbenzene	200 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **VS031816LCS01**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	200 U
1,2,4,5-Tetramethylbenzene	200 U
Pentylbenzene	1960 S
Dodecane	2010 S
Naphthalene	200 U

Parameter	Result
Benzothiophene	200 U
MMT	500 U
Tridecane	500 U
2-Methylnaphthalene	500 U
1-Methylnaphthalene	500 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	N/A	70-130
1-Chloro-2-fluorobenzene	N/A	70-130
1,4-Dichlorobutane	N/A	70-130
Dibromofluoromethane	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

S - Spike compound.
 U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009726.D
 Acq On : 18 Mar 2016 1:25 pm
 Operator : VOA4:MR
 Sample : VS031816LCS01
 Misc : 1X
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 11:51:48 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	643757	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	195264	52.195	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	104.39%		
62) Toluene-d8 (surr)	30.74	98	800168	49.342	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.68%		
64) 2-Bromo-1-chloropropane (	0.00	77	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
87) 1-Chloro-2-fluorobenzene	0.00	130	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
97) 1,4-Dichlorobutane (H/sur	0.00	55	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
101) 4-Bromofluorobenzene (sur	45.93	95	318751	50.522	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	101.04%		
Target Compounds						
						Qvalue
4) 1-Pentene	8.82	42	107934	17.583	ug/L	100
6) Pentane	9.19	43	139600	16.362	ug/L	99
10) Tertiary butanol	10.58	59	62350M1	100.661	ug/L	
13) Cyclopentane	12.80	70	49298	17.862	ug/L #	27
15) 2-Methylpentane	13.02	43	193003	17.833	ug/L	98
16) MTBE	13.29	73	212383	19.020	ug/L	98
17) 3-Methylpentane	13.99	57	164774	18.409	ug/L	100
18) 1-Hexene	14.56	56	98306	17.864	ug/L	95
19) Hexane	15.16	57	139874	18.140	ug/L	96
20) Diisopropyl ether	15.44	45	298516	19.130	ug/L	97
25) Ethyl tertiary butyl ethe	16.89	59	264256	19.025	ug/L	96
27) Methylcyclopentane	17.45	56	194403	19.056	ug/L	99
28) 2,4-Dimethylpentane	17.62	43	181089	18.190	ug/L	98
32) Cyclohexane	20.33	56	161804	18.507	ug/L	99
33) 2-Methyhexane	20.77	43	196371	17.953	ug/L	98
34) Benzene	20.90	78	288301	19.440	ug/L	100
35) 2,3-Dimethylpentane	21.06	56	158020	18.800	ug/L	97
38) 3-Methylhexane	21.58	43	163252	17.070	ug/L	99
39) TAME	21.91	73	219904	18.107	ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.95	70	41774	12.912	ug/L #	1
44) Isooctane	23.00	57	407361	18.718	ug/L	92
46) Heptane	23.74	43	162207	17.941	ug/L	98
51) Methycyclohexane	26.12	83	132553	19.088	ug/L	96

MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009726.D
 Acq On : 18 Mar 2016 1:25 pm
 Operator : VOA4:MR
 Sample : VS031816LCS01
 Misc : 1X
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 11:51:48 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
60)	2-Methylheptane	30.10	57	182051	18.534	ug/L	97
63)	3-Methylheptane	30.85	43	171633M4	17.805	ug/L	
66)	Toluene	31.10	91	328488	19.427	ug/L	100
71)	Octane	33.36	43	208163	18.152	ug/L	98
86)	Ethylbenzene	40.15	91	376707	19.263	ug/L	99
91)	p/m-Xylene	41.39	91	589931	39.089	ug/L	99
95)	Nonane	42.89	43	196765	17.908	ug/L	98
98)	o-Xylene	43.66	91	298823	19.591	ug/L	100
102)	Isopropylbenzene	46.00	105	379912	19.511	ug/L	98
104)	n-Propylbenzene	48.57	91	450312	19.210	ug/L	99
107)	1-Methyl-3-ethylbenzene	49.20	105	378349	19.394	ug/L	99
108)	1-Methyl-4-ethylbenzene	49.37	105	376749	19.801	ug/L	98
109)	1,3,5-Trimethylbenzene	49.95	105	323874	19.659	ug/L	99
110)	1-Decene	50.13	41	101394	18.399	ug/L	94
112)	1-Methyl-2-ethylbenzene	50.28	105	384626	20.024	ug/L	99
113)	Decane	50.51	43	199749	18.284	ug/L	96
115)	1,2,4-Trimethylbenzene	51.16	105	328789	19.736	ug/L	98
117)	sec-Butylbenzene	51.42	105	428859	19.632	ug/L	97
126)	1-Methyl-4-propylbenzene	53.00	105	495310	19.861	ug/L	99
127)	n-Butylbenzene	53.00	91	388492	19.734	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	186780	19.588	ug/L	99
132)	Undecane	53.78	57	217207	19.679	ug/L	98
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	399251	20.069	ug/L	99
139)	Pentylbenzene	55.51	91	320635	19.561	ug/L	100
142)	Dodecane	56.01	43	160627	20.136	ug/L	97

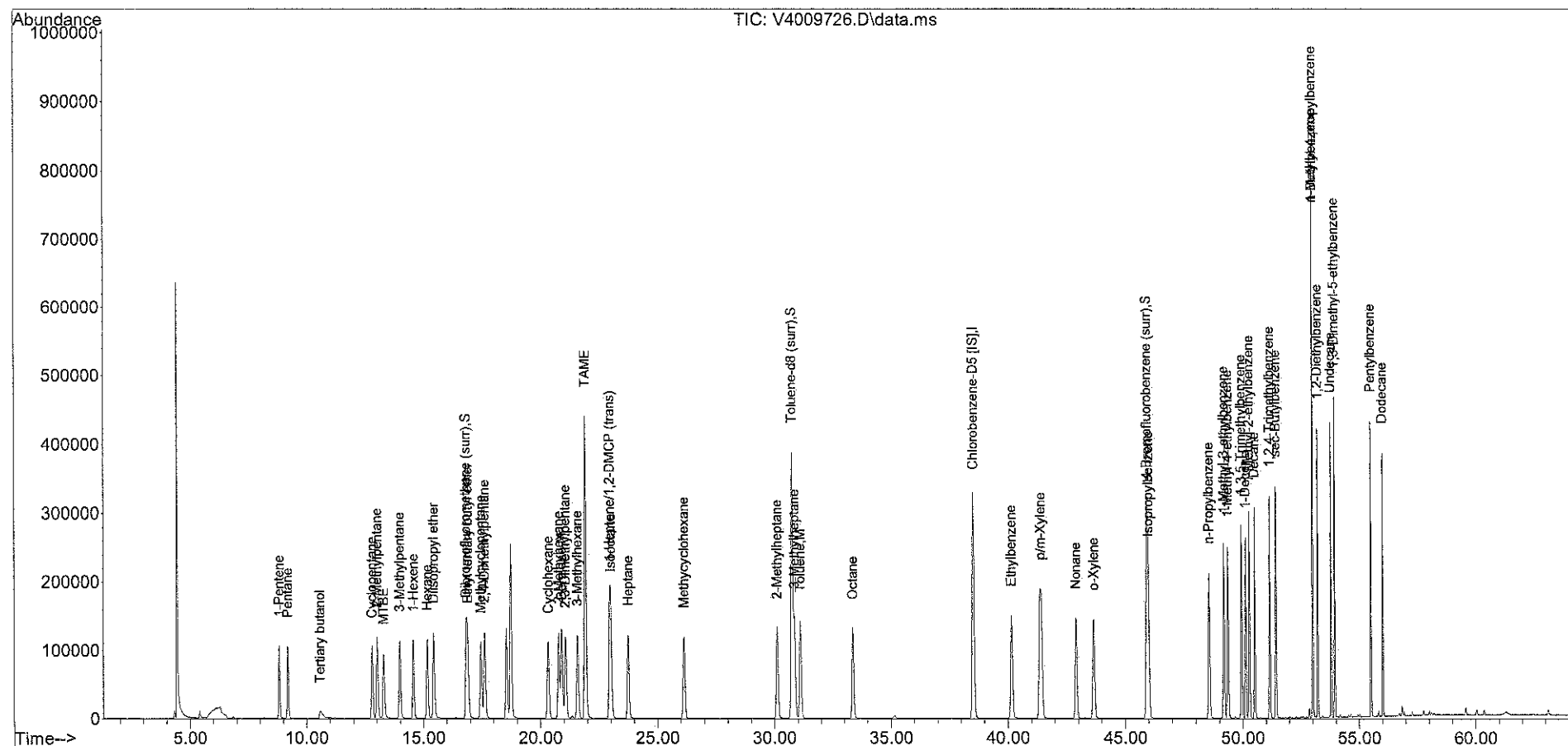
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009726.D
 Acq On : 18 Mar 2016 1:25 pm
 Operator : VOA4:MR
 Sample : VS031816LCS01
 Misc : 1X
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 11:51:48 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form I

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample Dup**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **VS031816LCSD01**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result
Isopentane	200 U
1-Pentene	1840 S
2-Methyl-1-butene	200 U
Pentane	1720 S
2-Pentene (trans)	200 U
2-Pentene (cis)	200 U
Tertiary butanol	9990 S
Cyclopentane	1820 S
2,3-Dimethylbutane	200 U
2-Methylpentane	1820 S
MTBE	1930 S
3-Methylpentane	1880 S
1-Hexene	1810 S
Hexane	1850 S
Diisopropyl Ether (DIPE)	1950 S
Ethyl Tertiary Butyl Ether (ETBE)	1920 S
2,2-Dimethylpentane	200 U
Methylcyclopentane	1900 S
2,4-Dimethylpentane	1820 S
1,2-Dichloroethane	200 U
Cyclohexane	1890 S
2-Methylhexane	1840 S
Benzene	1960 S
2,3-Dimethylpentane	1890 S
Thiophene	200 U
3-Methylhexane	1740 S
TAME	1840 S
1-Heptene/1,2-DMCP (trans) ¹	1310
Isooctane	1900 S
Heptane	1830 S
Methylcyclohexane	1930 S
2,5-Dimethylhexane	200 U
2,4-Dimethylhexane	200 U
2,2,3-Trimethylpentane	200 U
2,3,4-Trimethylpentane	200 U
2,3,3-Trimethylpentane	200 U
2,3-Dimethylhexane	200 U
3-Ethylhexane	200 U
2-Methylheptane	1900 S

Parameter	Result
3-Methylheptane	1820 S
Toluene	1960 S
2-Methylthiophene	200 U
3-Methylthiophene	200 U
1-Octene	200 U
Octane	1840 S
1,2-Dibromoethane	200 U
Ethylbenzene	1920 S
2-Ethylthiophene	200 U
p/m-Xylene	3940 S
1-Nonene	200 U
Nonane	1780 S
Styrene	200 U
o-Xylene	1980 S
Isopropylbenzene	1980 S
n-Propylbenzene	1970 S
1-Methyl-3-ethylbenzene	1960 S
1-Methyl-4-ethylbenzene	1970 S
1,3,5-Trimethylbenzene	2000 S
1-Decene	1860 S
1-Methyl-2-ethylbenzene	2030 S
Decane	1840 S
1,2,4-Trimethylbenzene	1990 S
sec-Butylbenzene	1990 S
1-Methyl-3-isopropylbenzene	200 U
1-Methyl-4-isopropylbenzene	200 U
1-Methyl-2-isopropylbenzene	200 U
Indan	200 U
1-Methyl-3-propylbenzene	200 U
1-Methyl-4-propylbenzene	1990 S
n-Butylbenzene	2010 S
1,2-Dimethyl-4-ethylbenzene	200 U
1,2-Diethylbenzene	2010 S
1-Methyl-2-propylbenzene	200 U
1,4-Dimethyl-2-ethylbenzene	200 U
Undecane	1990 S
1,3-Dimethyl-4-ethylbenzene	200 U
1,3-Dimethyl-5-ethylbenzene	2030
1,3-Dimethyl-2-ethylbenzene	200 U

Form I

PIANO Volatile Hydrocarbons by GC/MS



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample Dup**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **VS031816LCSD01**
 Associated Blank: **VS031816B01**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	200 U
1,2,4,5-Tetramethylbenzene	200 U
Pentylbenzene	1980 S
Dodecane	2000 S
Naphthalene	200 U

Parameter	Result
Benzothiophene	200 U
MMT	500 U
Tridecane	500 U
2-Methylnaphthalene	500 U
1-Methylnaphthalene	500 U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	N/A	70-130
1-Chloro-2-fluorobenzene	N/A	70-130
1,4-Dichlorobutane	N/A	70-130
Dibromofluoromethane	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

S - Spike compound.
 U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009727.D
 Acq On : 18 Mar 2016 2:40 pm
 Operator : VOA4:MR
 Sample : VS031816LCSD01
 Misc : 1X
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 11:54:16 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	635096	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	189082	51.232	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	102.46%		
62) Toluene-d8 (surr)	30.74	98	790232	49.394	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.79%		
64) 2-Bromo-1-chloropropane (	0.00	77	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
87) 1-Chloro-2-fluorobenzene	0.00	130	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
97) 1,4-Dichlorobutane (H/sur	0.00	55	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
101) 4-Bromofluorobenzene (sur	45.93	95	311336	50.020	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	100.04%		
Target Compounds						
						Qvalue
4) 1-Pentene	8.82	42	111432	18.400	ug/L	98
6) Pentane	9.19	43	144396	17.155	ug/L	97
10) Tertiary butanol	10.58	59	61059M1	99.921	ug/L	
13) Cyclopentane	12.81	70	49463M1	18.166	ug/L	
15) 2-Methylpentane	13.02	43	194211	18.190	ug/L	100
16) MTBE	13.29	73	212112	19.255	ug/L	97
17) 3-Methylpentane	13.99	57	165843	18.781	ug/L	97
18) 1-Hexene	14.56	56	98368	18.119	ug/L	98
19) Hexane	15.17	57	140955	18.529	ug/L	98
20) Diisopropyl ether	15.44	45	300411	19.514	ug/L	99
25) Ethyl tertiary butyl ethe	16.89	59	262626	19.165	ug/L	96
27) Methylcyclopentane	17.45	56	190828	18.961	ug/L	97
28) 2,4-Dimethylpentane	17.62	43	178808M1	18.206	ug/L	
32) Cyclohexane	20.32	56	163392	18.943	ug/L	99
33) 2-Methyhexane	20.77	43	198552	18.400	ug/L	97
34) Benzene	20.90	78	286157	19.558	ug/L	98
35) 2,3-Dimethylpentane	21.06	56	156593	18.884	ug/L	97
38) 3-Methylhexane	21.58	43	163861	17.367	ug/L	98
39) TAME	21.91	73	220000	18.362	ug/L	97
43) 1-Heptene/1,2-DMCP (trans	22.94	70	41885	13.123	ug/L #	1
44) Isooctane	23.00	57	408362	19.020	ug/L	94
46) Heptane	23.74	43	163148	18.291	ug/L	98
51) Methycyclohexane	26.13	83	131991	19.266	ug/L	97

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009727.D
 Acq On : 18 Mar 2016 2:40 pm
 Operator : VOA4:MR
 Sample : VS031816LCSD01
 Misc : 1X
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 11:54:16 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
60)	2-Methylheptane	30.11	57	183748	18.962	ug/L	97
63)	3-Methylheptane	30.85	43	172816M4	18.172	ug/L	
66)	Toluene	31.10	91	327482	19.631	ug/L	97
71)	Octane	33.36	43	208073	18.392	ug/L	99
86)	Ethylbenzene	40.15	91	371435	19.252	ug/L	99
91)	p/m-Xylene	41.38	91	586882	39.417	ug/L	100
95)	Nonane	42.90	43	193049	17.810	ug/L	98
98)	o-Xylene	43.65	91	297556	19.774	ug/L	98
102)	Isopropylbenzene	46.00	105	380558	19.810	ug/L	99
104)	n-Propylbenzene	48.58	91	455852	19.712	ug/L	98
107)	1-Methyl-3-ethylbenzene	49.19	105	376953	19.586	ug/L	100
108)	1-Methyl-4-ethylbenzene	49.37	105	369058	19.661	ug/L	99
109)	1,3,5-Trimethylbenzene	49.95	105	325278	20.013	ug/L	99
110)	1-Decene	50.13	41	101196	18.613	ug/L	99
112)	1-Methyl-2-ethylbenzene	50.28	105	385517	20.344	ug/L	98
113)	Decane	50.51	43	198121	18.382	ug/L	98
115)	1,2,4-Trimethylbenzene	51.16	105	326622	19.873	ug/L	99
117)	sec-Butylbenzene	51.42	105	429246	19.918	ug/L	100
126)	1-Methyl-4-propylbenzene	53.00	105	490543	19.938	ug/L	99
127)	n-Butylbenzene	53.00	91	389585	20.059	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	189013	20.093	ug/L	94
132)	Undecane	53.78	57	216637	19.895	ug/L	100
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	399155	20.338	ug/L	98
139)	Pentylbenzene	55.51	91	321029	19.852	ug/L	100
142)	Dodecane	56.01	43	157460	20.008	ug/L	97

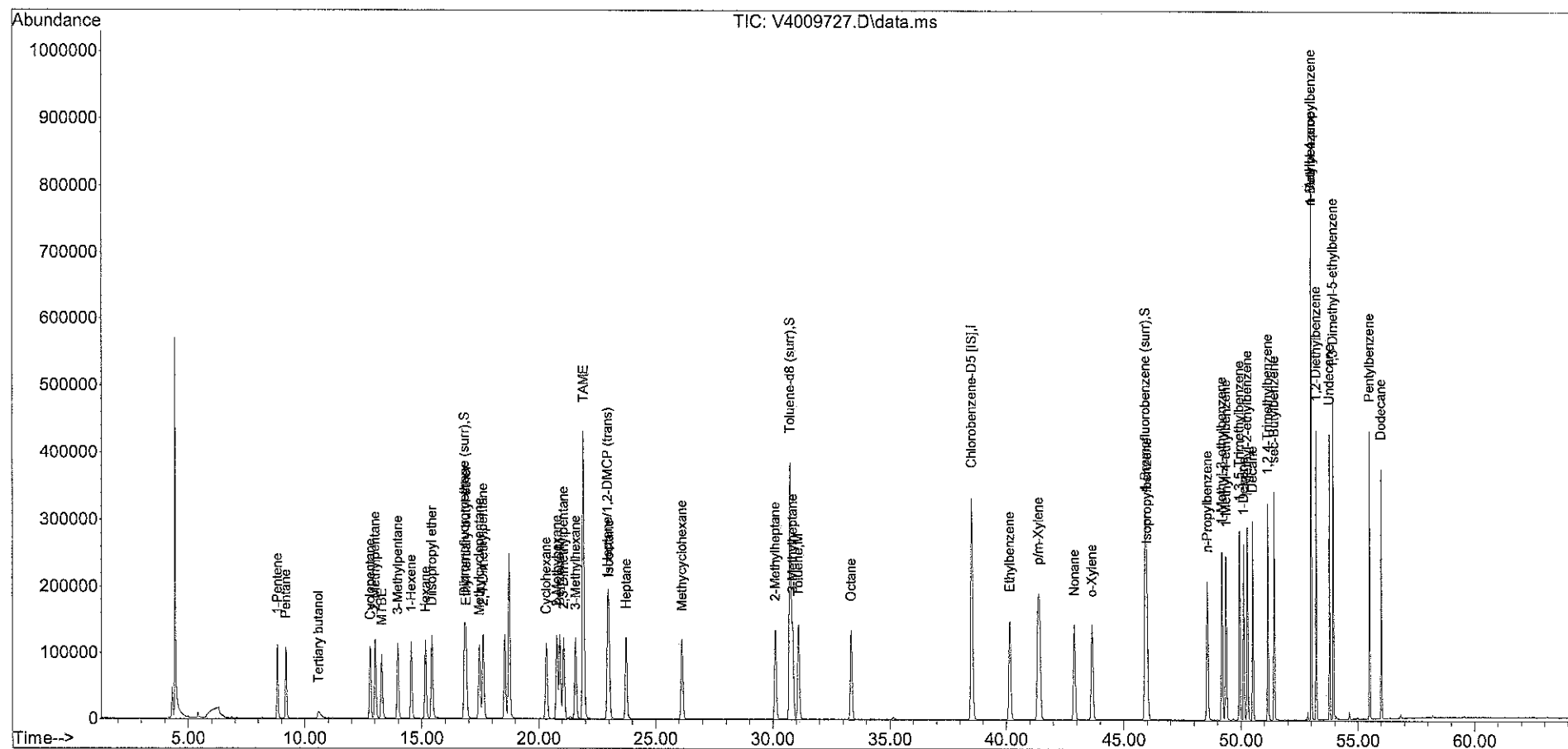
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009727.D
 Acq On : 18 Mar 2016 2:40 pm
 Operator : VOA4:MR
 Sample : VS031816LCSD01
 Misc : 1X
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 11:54:16 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .





Form III

Spike Recovery Summary

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields
 Project: Flint Street
 Client ID: Gasoline Reference Oil - LD-7
 Case: N/A SDG: N/A
 Matrix: Oil

Lab Code: MA00030
 ETR: 1603006
 Lab ID: VS031816LD701
 Associated Blank: N/A
 Concentration Units: mg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Isopentane	31223	30600	98	65-135
Pentane	26748	25100	94	65-135
Cyclopentane	4090	3880	95	65-135
2,3-Dimethylbutane	8480	7610	90	65-135
2-Methylpentane	33695	28300	84	65-135
3-Methylpentane	20693	18200	88	65-135
Hexane	31248	29300	94	65-135
2,2-Dimethylpentane	3933	3560	91	65-135
Methylcyclopentane	27356	25100	92	65-135
2,4-Dimethylpentane	5652	4820	85	65-135
Cyclohexane	44344	40800	92	65-135
2-Methylhexane	19898	17000	86	65-135
Benzene	3408	3200	94	65-135
2,3-Dimethylpentane	7333	7020	96	65-135
3-Methylhexane	19898	16800	85	65-135
1-Heptene/1,2-DMCP (trans) ¹	13444	12300	92	65-135
Isooctane	12819	11600	91	65-135
Heptane	33718	28500	85	65-135
Methylcyclohexane	99570	87200	88	65-135
2,5-Dimethylhexane	4910	4400	90	65-135
2,4-Dimethylhexane	6202	5590	90	65-135
2,3,4-Trimethylpentane	4894	4070	83	65-135
2,3,3-Trimethylpentane	3110	2610	84	65-135
2,3-Dimethylhexane	4700	4060	86	65-135
3-Ethylhexane	2163	1990	92	65-135
2-Methylheptane	16966	15400	91	65-135
3-Methylheptane	13911	12000	86	65-135
Toluene	2400	2120	88	65-135
Octane	31798	27000	85	65-135
Ethylbenzene	5610	5160	92	65-135
p/m-Xylene	17224	16200	94	65-135
Nonane	23088	23400	101	65-135
o-Xylene	7075	6770	96	65-135



Form III

Spike Recovery Summary

PIANO Volatile Hydrocarbons by GC/MS

Client: NewFields
 Project: Flint Street
 Client ID: Gasoline Reference Oil - LD-7
 Case: N/A SDG: N/A
 Matrix: Oil

Lab Code: MA00030
 ETR: 1603006
 Lab ID: VS031816LD701
 Associated Blank: N/A
 Concentration Units: mg/Kg

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Isopropylbenzene	1184	1100	93	65-135
n-Propylbenzene	1555	1450	93	65-135
1-Methyl-3-ethylbenzene	4712	4330	92	65-135
1-Methyl-4-ethylbenzene	2069	2030	98	65-135
1,3,5-Trimethylbenzene	4982	4740	95	65-135
1-Methyl-2-ethylbenzene	1844	1820	99	65-135
Decane	14859	12800	86	65-135
1,2,4-Trimethylbenzene	9407	9190	98	65-135
1-Methyl-3-propylbenzene	1255	1270	101	65-135
1,2-Dimethyl-4-ethylbenzene	1559	1540	99	65-135
Undecane	3952	4160	105	65-135
1,3-Dimethyl-5-ethylbenzene	1642	1720	105	65-135
1,2,4,5-Tetramethylbenzene	1477	1360	92	65-135
Dodecane	2437	2420	99	65-135
Naphthalene	7917	8720	110	65-135
2-Methylnaphthalene	7963	8950	112	65-135
1-Methylnaphthalene	4383	4620	105	65-135

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Dibromofluoromethane	102	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	100	70-130	

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.



Form I
Gasoline Reference Oil - LD-7
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Gasoline Reference Oil - LD-7**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LD701**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	Result
Isopentane	30600
1-Pentene	996 U
2-Methyl-1-butene	996 U
Pentane	25100
2-Pentene (trans)	290 J
2-Pentene (cis)	996 U
Tertiary butanol	12500 U
Cyclopentane	3880
2,3-Dimethylbutane	7610
2-Methylpentane	28300
MTBE	996 U
3-Methylpentane	18200
1-Hexene	996 U
Hexane	29300
Diisopropyl Ether (DIPE)	996 U
Ethyl Tertiary Butyl Ether (ETBE)	996 U
2,2-Dimethylpentane	3560
Methylcyclopentane	25100
2,4-Dimethylpentane	4820
1,2-Dichloroethane	996 U
Cyclohexane	40800
2-Methylhexane	17000
Benzene	3200
2,3-Dimethylpentane	7020
Thiophene	996 U
3-Methylhexane	16800
TAME	996 U
1-Heptene/1,2-DMCP (trans) ¹	12300
Isooctane	11600
Heptane	28500
Methylcyclohexane	87200
2,5-Dimethylhexane	4400
2,4-Dimethylhexane	5590
2,2,3-Trimethylpentane	582 J
2,3,4-Trimethylpentane	4070
2,3,3-Trimethylpentane	2610
2,3-Dimethylhexane	4060
3-Ethylhexane	1990
2-Methylheptane	15400

Parameter	Result
3-Methylheptane	12000
Toluene	2120
2-Methylthiophene	996 U
3-Methylthiophene	996 U
1-Octene	996 U
Octane	27000
1,2-Dibromoethane	996 U
Ethylbenzene	5160
2-Ethylthiophene	996 U
p/m-Xylene	16200
1-Nonene	996 U
Nonane	23400
Styrene	996 U
o-Xylene	6770
Isopropylbenzene	1100
n-Propylbenzene	1450
1-Methyl-3-ethylbenzene	4330
1-Methyl-4-ethylbenzene	2030
1,3,5-Trimethylbenzene	4740
1-Decene	996 U
1-Methyl-2-ethylbenzene	1820
Decane	12800
1,2,4-Trimethylbenzene	9190
sec-Butylbenzene	329 J
1-Methyl-3-isopropylbenzene	578 J
1-Methyl-4-isopropylbenzene	283 J
1-Methyl-2-isopropylbenzene	124 J
Indan	798 J
1-Methyl-3-propylbenzene	1270
1-Methyl-4-propylbenzene	638 J
n-Butylbenzene	470 J
1,2-Dimethyl-4-ethylbenzene	1540
1,2-Diethylbenzene	136 J
1-Methyl-2-propylbenzene	448 J
1,4-Dimethyl-2-ethylbenzene	899 J
Undecane	4160
1,3-Dimethyl-4-ethylbenzene	904 J
1,3-Dimethyl-5-ethylbenzene	1720
1,3-Dimethyl-2-ethylbenzene	181 J



Form I
Gasoline Reference Oil - LD-7
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**

Project: **Flint Street**

Client ID: **Gasoline Reference Oil - LD-7**

Case: **N/A** SDG: **N/A**

Matrix: **Oil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **VS031816LD701**

Associated Blank: **N/A**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	Result
1,2-Dimethyl-3-ethylbenzene	472 J
1,2,4,5-Tetramethylbenzene	1360
Pentylbenzene	345 J
Dodecane	2420
Naphthalene	8720

Parameter	Result
Benzothiophene	996 U
MMT	2490 U
Tridecane	887 J
2-Methylnaphthalene	8950
1-Methylnaphthalene	4620

U - The analyte was analyzed for but not detected at the sample specific level reported.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009728.D
 Acq On : 18 Mar 2016 3:54 pm
 Operator : VOA4:MR
 Sample : VS031816LD701
 Misc : 100X
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	625446	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	185852	51.134	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	102.27%		
62) Toluene-d8 (surr)	30.74	98	767907	48.739	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery =	97.48%		
64) 2-Bromo-1-chloropropane (	0.00	77	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
87) 1-Chloro-2-fluorobenzene	0.00	130	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
97) 1,4-Dichlorobutane (H/sur	0.00	55	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
101) 4-Bromofluorobenzene (sur	45.93	95	307428	50.154	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	100.31%		
Target Compounds						
						Qvalue
3) Isopentane	8.16	43	312365	61.367	ug/L	98
6) Pentane	9.19	43	418247	50.456	ug/L	99
7) 2-Pentene (trans)	9.63	55	5022	0.583	ug/L	91
13) Cyclopentane	12.80	70	20862	7.780	ug/L #	34
14) 2,3-Dimethylbutane	12.80	71	30830	15.283	ug/L #	25
15) 2-Methylpentane	13.02	43	598361	56.906	ug/L	98
17) 3-Methylpentane	13.99	57	318693	36.647	ug/L	98
19) Hexane	15.16	57	441042	58.871	ug/L	97
26) 2,2-Dimethylpentane	17.18	57	77124	7.159	ug/L	97
27) Methylcyclopentane	17.46	56	499866	50.434	ug/L	98
28) 2,4-Dimethylpentane	17.62	43	93607	9.678	ug/L	94
32) Cyclohexane	20.33	56	696617	82.010	ug/L	97
33) 2-Methylhexane	20.77	43	363608	34.216	ug/L	97
34) Benzene	20.90	78	92630	6.429	ug/L	100
35) 2,3-Dimethylpentane	21.06	56	115088	14.093	ug/L	99
38) 3-Methylhexane	21.58	43	313967	33.791	ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.87	70	77674	24.711	ug/L	73
44) Isooctane	22.99	57	493094M6	23.321	ug/L	
46) Heptane	23.74	43	503034	57.267	ug/L	99
51) Methycyclohexane	26.12	83	1181209	175.074	ug/L	99
52) 2,5-Dimethylhexane	26.81	57	92919	8.841	ug/L	93
53) 2,4-Dimethylhexane	27.06	57	93582	11.229	ug/L	100
55) 2,2,3-Trimethylpentane	27.30	57	19454	1.169	ug/L	92

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009728.D
 Acq On : 18 Mar 2016 3:54 pm
 Operator : VOA4:MR
 Sample : VS031816LD701
 Misc : 100X
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
57)	2,3,4-Trimethylpentane	28.83	43	106312	8.162	ug/L	98
58)	2,3,3-Trimethylpentane	29.41	43	59382	5.247	ug/L	96
59)	2,3-Dimethylhexane	29.67	43	97282	8.148	ug/L	92
60)	2-Methylheptane	30.12	57	295698	30.986	ug/L	94
63)	3-Methylheptane	30.86	43	225747M4	24.104	ug/L	
65)	3-Ethylhexane	30.98	43	57730M3	3.991	ug/L	
66)	Toluene	31.12	91	69886	4.254	ug/L	94
71)	Octane	33.35	43	604028	54.215	ug/L	99
86)	Ethylbenzene	40.15	91	196838	10.360	ug/L	97
91)	p/m-Xylene	41.35	91	475742	32.446	ug/L	98
95)	Nonane	42.90	43	501139	46.946	ug/L	99
98)	o-Xylene	43.65	91	201591	13.603	ug/L	97
102)	Isopropylbenzene	45.99	105	41913	2.215	ug/L	87
104)	n-Propylbenzene	48.58	91	66259	2.909	ug/L	98
107)	1-Methyl-3-ethylbenzene	49.19	105	164624	8.686	ug/L	98
108)	1-Methyl-4-ethylbenzene	49.37	105	75278	4.072	ug/L	96
109)	1,3,5-Trimethylbenzene	49.95	105	152335	9.517	ug/L	98
112)	1-Methyl-2-ethylbenzene	50.28	105	68125	3.650	ug/L	100
113)	Decane	50.51	43	271958	25.622	ug/L	98
115)	1,2,4-Trimethylbenzene	51.16	105	298653	18.452	ug/L	99
117)	sec-Butylbenzene	51.42	105	14031	0.661	ug/L	96
118)	1-Methyl-3-isopropylbenze	51.81	119	20820	1.161	ug/L	97
119)	1-Methyl-4-isopropylbenze	52.01	119	10485	0.569	ug/L	93
121)	1-Methyl-2-isopropylbenze	52.49	119	4570	0.248	ug/L	97
122)	Indan	52.58	117	26101	1.602	ug/L	93
124)	1-Methyl-3-propylbenzene	52.86	105	53155	2.545	ug/L	100
126)	1-Methyl-4-propylbenzene	53.00	105	31040	1.281	ug/L	80
127)	n-Butylbenzene	53.01	91	18032	0.943	ug/L	89
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	56997	3.086	ug/L	97
129)	1,2-Diethylbenzene	53.22	119	2533	0.273	ug/L	90
130)	1-Methyl-2-propylbenzene	53.41	105	19764	0.900	ug/L	98
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	31871	1.805	ug/L	97
132)	Undecane	53.79	57	89467M4	8.343	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	38483	1.816	ug/L	95
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	66826	3.457	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	7727	0.364	ug/L	94
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	18196	0.948	ug/L	97
137)	1,2,4,5-Tetramethylbenzen	54.93	119	55453	2.736	ug/L	99
139)	Pentylbenzene	55.51	91	11034M6	0.693	ug/L	
142)	Dodecane	56.01	43	37620	4.854	ug/L	97
144)	Naphthalene	56.83	128	301822	17.515	ug/L	99

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009728.D
Acq On : 18 Mar 2016 3:54 pm
Operator : VOA4:MR
Sample : VS031816LD701
Misc : 100X
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
149)	Tridecane	58.09	57	11792	1.781	ug/L	94
150)	2-Methylnaphthalene	59.56	142	157737	17.969	ug/L	96
151)	1-Methylnaphthalene	60.03	142	68685	9.269	ug/L	98

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

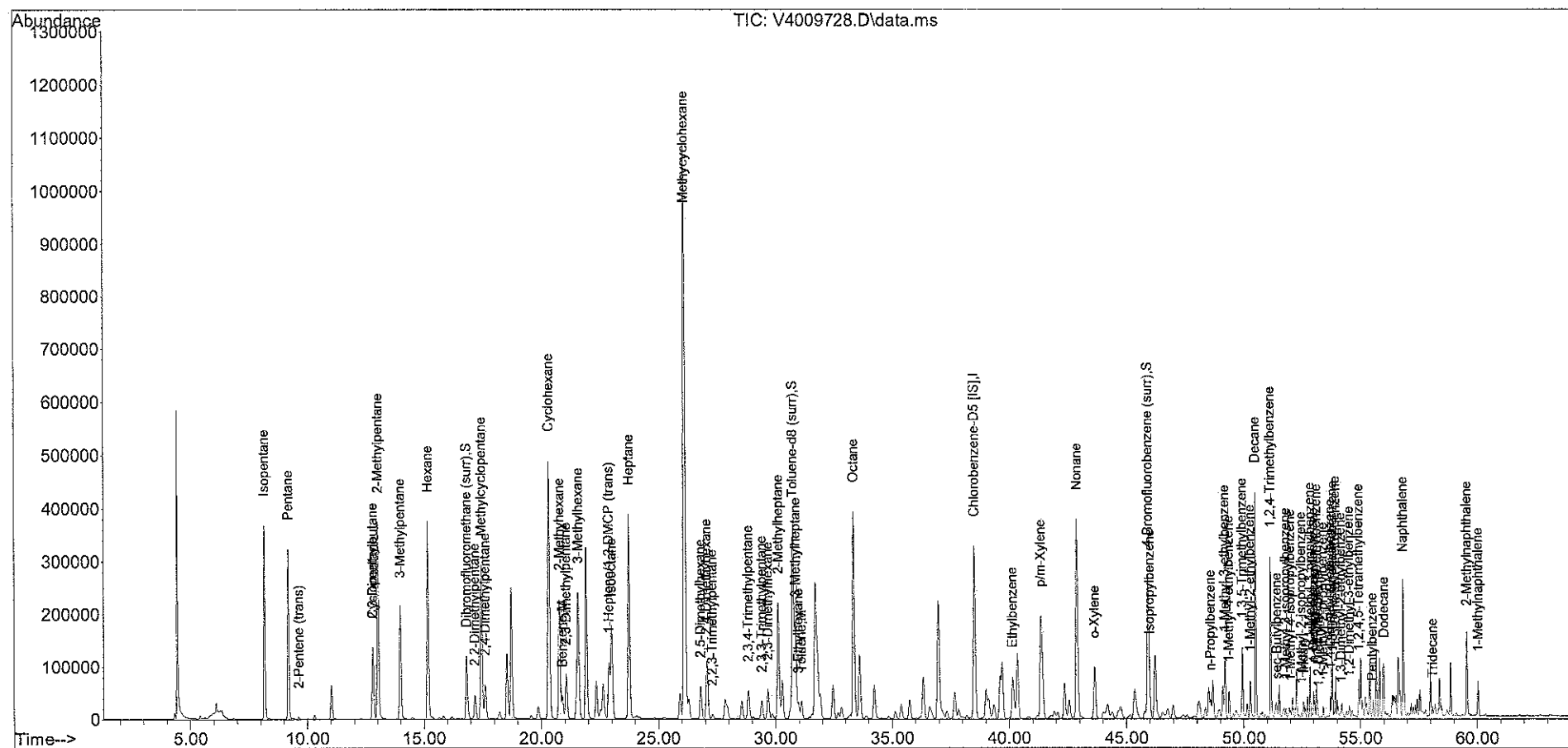
Quantitation Report

(QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009728.D
Acq On : 18 Mar 2016 3:54 pm
Operator : VOA4:MR
Sample : VS031816LD701
Misc : 100X
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Analysis log File

Total Files Reported in Log : 27

Log Generated From Directory: O:\Organics\DATA\VOA4\2016\160318\

No.	DATA FILE	SAMPLE NAME	MISC	DATE	INJ'D
1	V4009722.D	BLANK		3/18/2016	9:31 am
2	V4009723.D	T403181601		3/18/2016	10:10 am
3	V4009725.D	C403181602		3/18/2016	12:12 pm
4	V4009726.D	VS031816LCS01	1X	3/18/2016	1:25 pm
5	V4009727.D	VS031816LCSD01	1X	3/18/2016	2:40 pm
6	V4009728.D	VS031816LD701	100X	3/18/2016	3:54 pm
7	V4009729.D	VS031816B01	1X	3/18/2016	5:09 pm
8	V4009735.D	1603006-01	1X	3/19/2016	12:36 am
9	V4009736.D	1603006-02	1X	3/19/2016	1:50 am
10	V4009737.D	1603006-03	1X	3/19/2016	3:05 am
11	V4009738.D	1603006-04	1X	3/19/2016	4:19 am
12	V4009739.D	1603006-05	1X	3/19/2016	5:34 am
13	V4009740.D	1603006-05	1X	3/19/2016	6:48 am
14	V4009741.D	1603006-06	1X	3/19/2016	8:03 am
15	V4009742.D	T403181602		3/19/2016	9:16 am
16	V4009743.D	C403181603		3/19/2016	9:56 am
17	V4009744.D	BLANK		3/19/2016	11:06 am
18	V4009745.D	1603006-07	1X	3/19/2016	12:23 pm
19	V4009746.D	1603006-05	1X	3/19/2016	1:33 pm
20	V4009747.D	1603006-08	1X	3/19/2016	2:42 pm
21	V4009748.D	1603006-10	1X	3/19/2016	3:52 pm
22	V4009749.D	1603006-11	1X	3/19/2016	5:01 pm
23	V4009750.D	1603006-12	1X	3/19/2016	6:11 pm
24	V4009751.D	1603006-09-RE-D5	5X	3/19/2016	7:20 pm
25	V4009752.D	1603006-09	1X	3/19/2016	8:30 pm
26	V4009753.D	BLANK		3/19/2016	9:39 pm
27	V4009754.D	C403181604		3/19/2016	10:49 pm

BFB: VW021216F Conc.: 50ug/mL, amount: 1uL
 IS/SURR: VW021216E Conc.: 250ug/mL, amount: 1uL
 PIANO MIX: VW021216A Conc.: 100-500ug/mL
 PIANO IND. CHECK: VW021216B Conc.: 100-500ug/mL

Supporting Quality Control Results



Form II
Surrogate Recovery
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Matrix: **Soil**

Case: **N/A** SDG: **N/A**

Client ID	Lab ID	Dibromofluoromethane	Toluene-d8	4-Bromofluorobenzene
LCS	VS031816LCS01	104	99	101
LCSD	VS031816LCSD01	102	99	100
Blank	VS031816B01	103	98	101
RX-1	1603006-01	102	99	100
RX-2	1603006-02	113	107	99
RX-3	1603006-03	115	108	97
RX-4	1603006-04	116	109	105
RX-5	1603006-05	123	114	93
RX-6	1603006-06	102	98	101
RX-7	1603006-07	101	99	103
RX-5	1603006-05 D	124	115	93
RX-7A	1603006-08	99	98	99
RX-8	1603006-10	128	119	91
RX-8A	1603006-11	100	99	100
RX-8B	1603006-12	102	99	98
RX-7B	1603006-09E	101	98	102
RX-7B	1603006-09	116	107	116

N/A - Not Applicable

Surrogate	QC Limit
2-Bromo-1-chloropropane	70-130
1-Chloro-2-fluorobenzene	70-130
1,4-Dichlorobutane	70-130
Dibromofluoromethane	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130



Form II
Surrogate Recovery
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Matrix: **Soil**

Case: **N/A** SDG: **N/A**

Client ID	Lab ID	2-Bromo-1-chloropropane	1-Chloro-2-fluorobenzene	1,4-Dichlorobutane
LCS	VS031816LCS01	N/A	N/A	N/A
LCSD	VS031816LCSD01	N/A	N/A	N/A
Blank	VS031816B01	96	100	88
RX-1	1603006-01	118	116	104
RX-2	1603006-02	99	98	83
RX-3	1603006-03	119	117	96
RX-4	1603006-04	124	117	92
RX-5	1603006-05	128	112	80
RX-6	1603006-06	135 §	138 §	123
RX-7	1603006-07	118	122	105
RX-5	1603006-05 D	137 §	121	88
RX-7A	1603006-08	113	115	98
RX-8	1603006-10	108	94	60 §
RX-8A	1603006-11	107	111	94
RX-8B	1603006-12	121	123	103
RX-7B	1603006-09E	106	111	97
RX-7B	1603006-09	109	107	83

Surrogate	QC Limit
2-Bromo-1-chloropropane	70-130
1-Chloro-2-fluorobenzene	70-130
1,4-Dichlorobutane	70-130
Dibromofluoromethane	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

N/A - Not Applicable

§ - Surrogate value outside of acceptable range.



Form IV
Method Blank Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **VS031816B01**

Date Analyzed: **03/18/16 17:09**

Case: **N/A** SDG: **N/A**

Client ID	Lab ID	Date/Time Analyzed
LCS	VS031816LCS01	03/18/16 13:25
LCSD	VS031816LCSD01	03/18/16 14:40
RX-1	1603006-01	03/19/16 00:36
RX-2	1603006-02	03/19/16 01:50
RX-3	1603006-03	03/19/16 03:05
RX-4	1603006-04	03/19/16 04:19
RX-5	1603006-05	03/19/16 06:48
RX-6	1603006-06	03/19/16 08:03
RX-7	1603006-07	03/19/16 12:23
RX-5	1603006-05 D	03/19/16 13:33
RX-7A	1603006-08	03/19/16 14:42
RX-8	1603006-10	03/19/16 15:52
RX-8A	1603006-11	03/19/16 17:01
RX-8B	1603006-12	03/19/16 18:11
RX-7B	1603006-09E	03/19/16 19:20
RX-7B	1603006-09	03/19/16 20:30

N/A - Not Applicable



Form V
Tune Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **T403011601**

Date Analyzed: **03/01/16 17:31**

Case: **N/A** SDG: **N/A**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	22.6	13432	Pass
75	95	30	60	48.1	28619	Pass
95	95	100	100	100	59477	Pass
96	95	5	9	6.7	3971	Pass
173	174	0	2	0.6	283	Pass
174	95	50	100	84.1	50008	Pass
175	174	5	9	7.8	3901	Pass
176	174	95	101	96.2	48104	Pass
177	176	5	9	6.5	3112	Pass

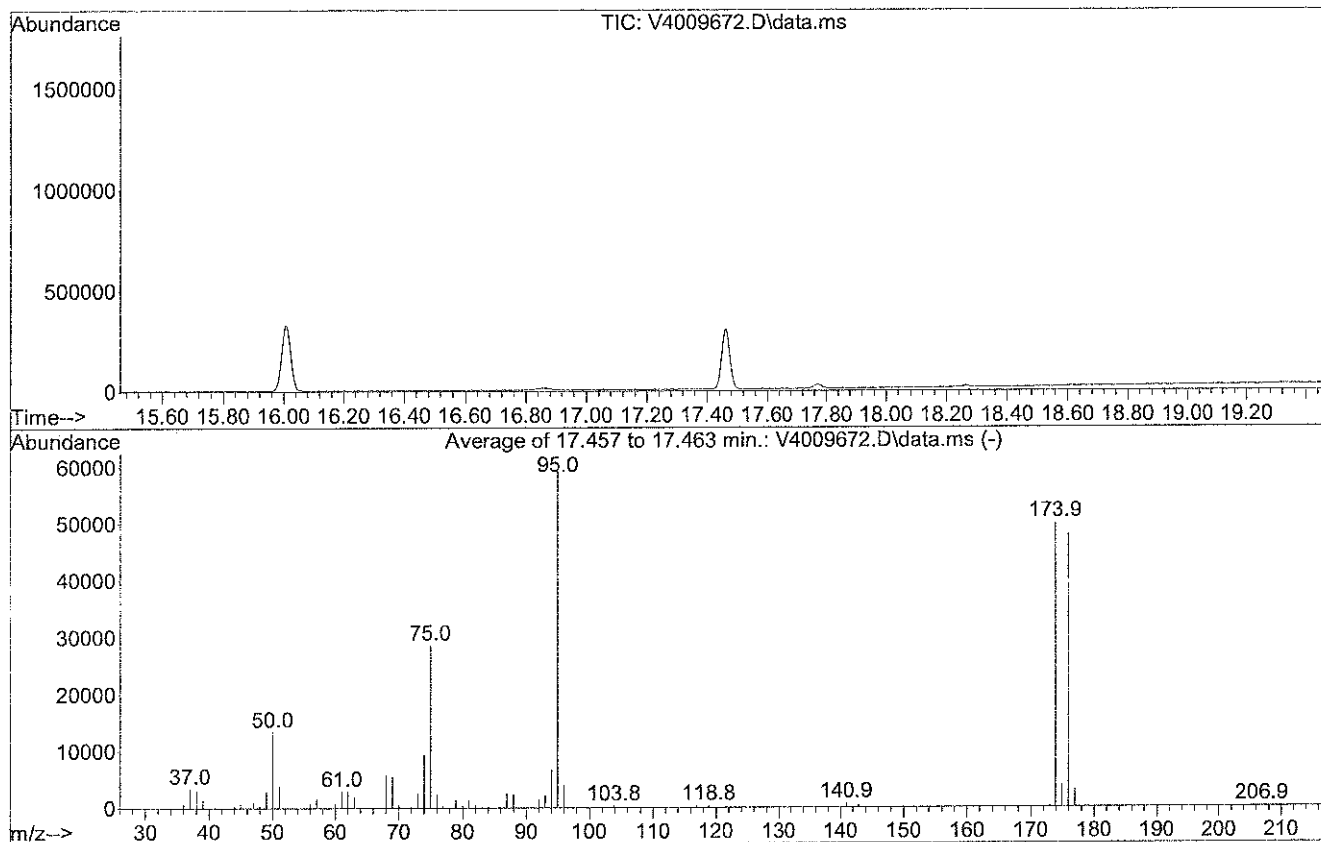
Client ID	Lab ID	Date/Time Analyzed
Initial Calibration	I403011601	03/01/16 18:27
Initial Calibration	I403011602	03/01/16 19:41
Initial Calibration	I403011604	03/01/16 22:10
Initial Calibration	I403011605	03/01/16 23:25
Initial Calibration	I403011606	03/02/16 00:39
Initial Calibration	I403011603	03/02/16 12:56

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009672.D
Acq On : 1 Mar 2016 5:31 pm
Operator : VOA4:MR
Sample : T403011601
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Title : PIANO VOLATILES
Last Update : Mon Mar 07 10:32:20 2016



AutoFind: Scans 5029, 5030, 5031; Background Corrected with Scan 5015

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.6	13432	PASS
75	95	30	60	48.1	28619	PASS
95	95	100	100	100.0	59477	PASS
96	95	5	9	6.7	3971	PASS
173	174	0.00	2	0.6	283	PASS
174	95	50	100	84.1	50008	PASS
175	174	5	9	7.8	3901	PASS
176	174	95	101	96.2	48104	PASS
177	176	5	9	6.5	3112	PASS



Form V
Tune Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **T403181601**

Date Analyzed: **03/18/16 10:10**

Case: **N/A** SDG: **N/A**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	22.3	8928	Pass
75	95	30	60	47.5	18975	Pass
95	95	100	100	100	39975	Pass
96	95	5	9	6.7	2659	Pass
173	174	0	2	0.4	133	Pass
174	95	50	100	83.5	33366	Pass
175	174	5	9	7.9	2635	Pass
176	174	95	101	96.6	32242	Pass
177	176	5	9	6.9	2213	Pass

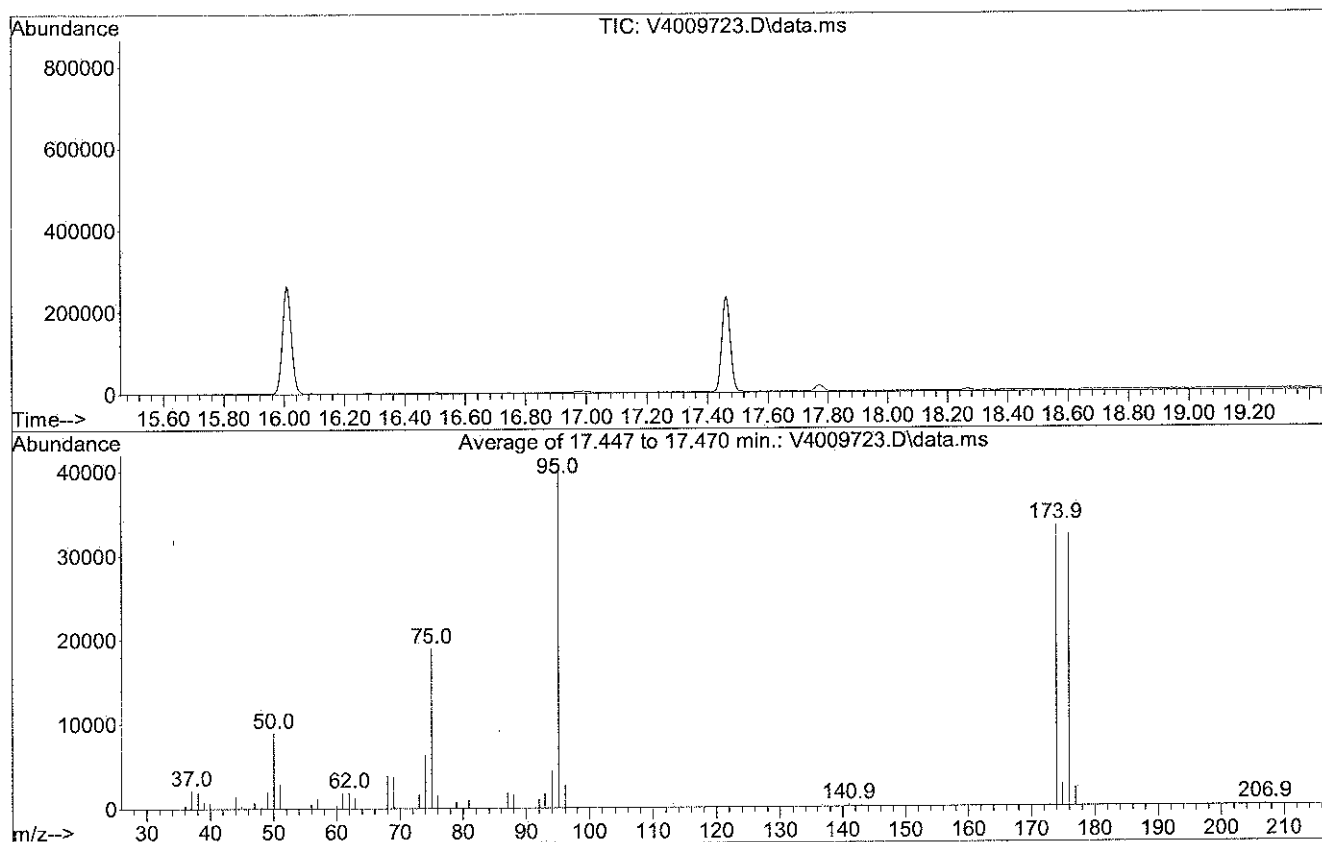
Client ID	Lab ID	Date/Time Analyzed
CCV	C403181602	03/18/16 12:12
LCS	VS031816LCS01	03/18/16 13:25
LCSD	VS031816LCSD01	03/18/16 14:40
Blank	VS031816B01	03/18/16 17:09
RX-1	1603006-01	03/19/16 00:36
RX-2	1603006-02	03/19/16 01:50
RX-3	1603006-03	03/19/16 03:05
RX-4	1603006-04	03/19/16 04:19
RX-5	1603006-05	03/19/16 06:48
RX-6	1603006-06	03/19/16 08:03

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009723.D
 Acq On : 18 Mar 2016 10:10 am
 Operator : VOA4:MR
 Sample : T403181601
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Title : PIANO VOLATILES
 Last Update : Mon Mar 07 10:32:20 2016



Spectrum Information: Average of 17.447 to 17.470 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.3	8928	PASS
75	95	30	60	47.5	18975	PASS
95	95	100	100	100.0	39975	PASS
96	95	5	9	6.7	2659	PASS
173	174	0.00	2	0.4	133	PASS
174	95	50	100	83.5	33366	PASS
175	174	5	9	7.9	2635	PASS
176	174	95	101	96.6	32242	PASS
177	176	5	9	6.9	2213	PASS



Form V
Tune Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **T403181602**

Date Analyzed: **03/19/16 09:16**

Case: **N/A** SDG: **N/A**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	20.3	8225	Pass
75	95	30	60	46.2	18720	Pass
95	95	100	100	100	40541	Pass
96	95	5	9	7.3	2951	Pass
173	174	0	2	0.6	191	Pass
174	95	50	100	84.6	34283	Pass
175	174	5	9	7.5	2581	Pass
176	174	95	101	95.5	32752	Pass
177	176	5	9	6.5	2137	Pass

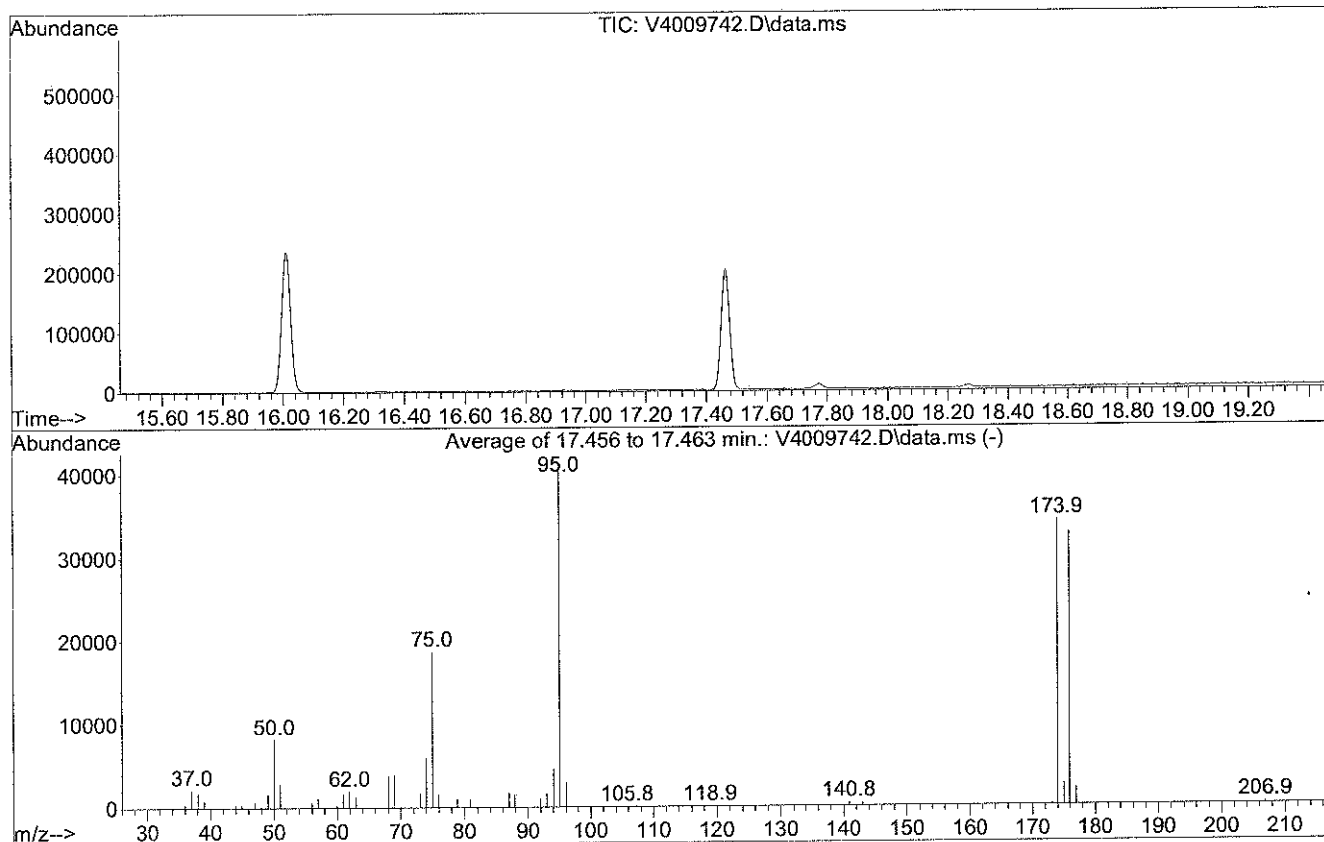
Client ID	Lab ID	Date/Time Analyzed
CCV	C403181603	03/19/16 09:56
RX-7	1603006-07	03/19/16 12:23
RX-5	1603006-05 D	03/19/16 13:33
RX-7A	1603006-08	03/19/16 14:42
RX-8	1603006-10	03/19/16 15:52
RX-8A	1603006-11	03/19/16 17:01
RX-8B	1603006-12	03/19/16 18:11
RX-7B	1603006-09E	03/19/16 19:20
RX-7B	1603006-09	03/19/16 20:30
CCV	C403181604	03/19/16 22:49

N/A - Not Applicable

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009742.D
Acq On : 19 Mar 2016 9:16 am
Operator : VOA4:MR
Sample : T403181602
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P

Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Title : PIANO VOLATILES
Last Update : Sat Mar 19 12:25:34 2016



Spectrum Information: Average of 17.456 to 17.463 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.3	8225	PASS
75	95	30	60	46.2	18720	PASS
95	95	100	100	100.0	40541	PASS
96	95	5	9	7.3	2951	PASS
173	174	0.00	2	0.6	191	PASS
174	95	50	100	84.6	34283	PASS
175	174	5	9	7.5	2581	PASS
176	174	95	101	95.5	32752	PASS
177	176	5	9	6.5	2137	PASS

Analysis log File

Total Files Reported in Log : 12

Log Generated From Directory: O:\Organics\DATA\VOA4\2016\160302\

No.	DATA FILE	SAMPLE NAME	MISC	DATE INJ'D
1	V4009672.D	T403011601		3/1/2016 5:31 pm
2	V4009673.D	I403011601	2 PPB ..	3/1/2016 6:27 pm
3	V4009674.D	I403011602	5 PPB ..	3/1/2016 7:41 pm
4	V4009675.D	I403011603	20 PPB..	3/1/2016 8:56 pm
5	V4009676.D	I403011604	50 PPB..	3/1/2016 10:10 pm
6	V4009677.D	I403011605	100 PP..	3/1/2016 11:25 pm
7	V4009678.D	I403011606	200 PP..	3/2/2016 12:39 am
8	V4009679.D	BLANK		3/2/2016 1:54 am
9	V4009680.D	ICV	20 PPB..	3/2/2016 3:08 am
10	V4009681.D	BLANK		3/2/2016 11:26 am
11	V4009682.D	I403011603	20 PPB..	3/2/2016 12:56 pm
12	V4009683.D	ICV	20 PPB..	3/2/2016 4:27 pm

BFB: VW021216F Conc.: 50ug/ml, amount: 1uL
 IS/SURR: VW021216E Conc.: 250ug/ml, amount: 1uL
 PIANO MIX: VW021216A Conc.: 100-500ug/ml
 PIANO IND. CHECK: VW021216B Conc.: 100-500ug/ml

MR 3/7/16
 AT 3/22/16



Form VI

Initial Calibration Summary

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Case: **N/A** SDG: **N/A**

Lab ID	Date/Time Analyzed
I403011601	03/01/16 18:27
I403011602	03/01/16 19:41
I403011604	03/01/16 22:10
I403011605	03/01/16 23:25
I403011606	03/02/16 00:39
I403011603	03/02/16 12:56

Parameter	Response Factors						Mean	% RSD
	2	5	50	100	200	20		
Isopentane	0.50	0.41	0.38	0.37	0.40	0.39	0.41	11.7
1-Pentene	0.48	0.45	0.48	0.47	0.51	0.47	0.48	3.9
2-Methyl-1-butene	0.77	0.69	0.76	0.73	0.77	0.74	0.74	4.0
Pentane	0.70	0.62	0.66	0.64	0.69	0.66	0.66	4.6
2-Pentene (trans)	0.67	0.65	0.70	0.69	0.74	0.70	0.69	4.4
2-Pentene (cis)	0.71	0.68	0.70	0.69	0.74	0.72	0.71	3.1
Tertiary butanol		0.045	0.055	0.044	0.038	0.059	0.048	18.6
Cyclopentane	0.20	0.20	0.22	0.21	0.23	0.22	0.21	6.3
2,3-Dimethylbutane	0.15	0.15	0.17	0.16	0.18	0.17	0.16	7.0
2-Methylpentane	0.92	0.77	0.84	0.81	0.88	0.83	0.84	6.2
MTBE	0.84	0.82	0.91	0.85	0.90	0.89	0.87	4.0
3-Methylpentane	0.67	0.66	0.70	0.69	0.75	0.70	0.70	4.3
1-Hexene	0.40	0.40	0.44	0.43	0.46	0.43	0.43	5.7
Hexane	0.55	0.57	0.62	0.60	0.65	0.61	0.60	6.1
Diisopropyl Ether (DIPE)	1.15	1.15	1.27	1.20	1.24	1.25	1.21	4.4
Ethyl Tertiary Butyl Ether (ETBE)	1.02	1.03	1.15	1.07	1.10	1.11	1.08	4.6
2,2-Dimethylpentane	0.83	0.81	0.87	0.85	0.93	0.87	0.86	4.9
Methylcyclopentane	0.75	0.75	0.81	0.79	0.85	0.81	0.79	5.1
2,4-Dimethylpentane	0.82	0.75	0.77	0.74	0.80	0.76	0.77	3.8
1,2-Dichloroethane	0.42	0.41	0.45	0.42	0.44	0.44	0.43	3.3
Cyclohexane	0.63	0.64	0.70	0.68	0.74	0.68	0.68	5.7
2-Methylhexane	0.86	0.81	0.86	0.83	0.90	0.84	0.85	3.5
Benzene	1.08	1.07	1.18	1.17	1.23	1.18	1.15	5.5
2,3-Dimethylpentane	0.62	0.61	0.67	0.65	0.70	0.66	0.65	5.2
Thiophene	0.55	0.56	0.62	0.61	0.63	0.62	0.60	5.9
3-Methylhexane	0.79	0.73	0.73	0.72	0.76	0.73	0.74	3.5
TAME	1.16	0.95	0.91	0.89	0.84	0.91	0.94	11.8
1-Heptene/1,2-DMCP (trans) ¹	0.24	0.24	0.26	0.25	0.27	0.26	0.25	5.0
Isooctane	1.58	1.62	1.73	1.70	1.76	1.75	1.69	4.3
Heptane	0.75	0.69	0.70	0.67	0.71	0.70	0.70	3.7
Methylcyclohexane	0.50	0.51	0.56	0.55	0.59	0.54	0.54	6.1
2,5-Dimethylhexane	0.84	0.79	0.85	0.83	0.88	0.84	0.84	3.6

N/A - Not Applicable



Form VI
Initial Calibration Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Case: **N/A** SDG: **N/A**

Lab ID	Date/Time Analyzed
I403011601	03/01/16 18:27
I403011602	03/01/16 19:41
I403011604	03/01/16 22:10
I403011605	03/01/16 23:25
I403011606	03/02/16 00:39
I403011603	03/02/16 12:56

Parameter	Response Factors						Mean	% RSD
	2	5	50	100	200	20		
2,4-Dimethylhexane	0.64	0.62	0.69	0.67	0.70	0.68	0.67	4.7
2,2,3-Trimethylpentane	1.27	1.26	1.35	1.33	1.41	1.35	1.33	4.1
2,3,4-Trimethylpentane	1.06	0.99	1.06	1.02	1.08	1.03	1.04	3.1
2,3,3-Trimethylpentane	0.93	0.86	0.92	0.89	0.93	0.89	0.90	3.0
2,3-Dimethylhexane	0.97	0.91	0.96	0.95	0.99	0.95	0.95	2.9
3-Ethylhexane	1.17	1.10	1.19	1.15	1.20	1.14	1.16	3.3
2-Methylheptane	0.72	0.72	0.79	0.77	0.81	0.77	0.76	5.1
3-Methylheptane	0.85	0.74	0.72	0.71	0.73	0.74	0.75	7.0
Toluene	1.26	1.20	1.35	1.33	1.39	1.35	1.31	5.4
2-Methylthiophene	0.97	0.97	1.08	1.07	1.10	1.07	1.04	5.8
3-Methylthiophene	0.99	0.99	1.10	1.08	1.11	1.09	1.06	4.9
1-Octene	0.38	0.39	0.41	0.40	0.42	0.39	0.40	3.8
Octane	0.90	0.86	0.91	0.88	0.91	0.88	0.89	2.5
1,2-Dibromoethane	0.23	0.25	0.29	0.29	0.29	0.29	0.27	9.3
Ethylbenzene	1.41	1.42	1.58	1.56	1.58	1.57	1.52	5.4
2-Ethylthiophene	1.03	1.03	1.16	1.14	1.14	1.16	1.11	5.8
p/m-Xylene	1.10	1.09	1.22	1.19	1.22	1.21	1.17	5.2
1-Nonene	0.40	0.41	0.47	0.45	0.47	0.45	0.44	7.2
Nonane	0.87	0.85	0.88	0.81	0.83	0.88	0.85	3.2
Styrene	0.87	0.88	1.00	0.96	0.97	1.00	0.95	6.0
o-Xylene	1.12	1.12	1.24	1.19	1.21	1.23	1.18	4.4
Isopropylbenzene	1.46	1.40	1.58	1.53	1.55	1.56	1.51	4.7
n-Propylbenzene	1.69	1.70	1.91	1.83	1.90	1.89	1.82	5.4
1-Methyl-3-ethylbenzene	1.43	1.41	1.58	1.51	1.57	1.59	1.52	5.2
1-Methyl-4-ethylbenzene	1.39	1.39	1.55	1.48	1.52	1.54	1.48	4.8
1,3,5-Trimethylbenzene	1.21	1.19	1.34	1.27	1.33	1.34	1.28	5.3
1-Decene	0.44	0.41	0.45	0.42	0.43	0.43	0.43	3.0
1-Methyl-2-ethylbenzene	1.40	1.44	1.55	1.47	1.52	1.58	1.49	4.6
Decane	1.02	0.87	0.84	0.76	0.76	0.84	0.85	11.2
1,2,4-Trimethylbenzene	1.21	1.25	1.34	1.27	1.34	1.35	1.29	4.3
sec-Butylbenzene	1.61	1.63	1.77	1.66	1.75	1.77	1.70	4.4
1-Methyl-3-isopropylbenzene	1.34	1.36	1.49	1.41	1.50	1.51	1.43	5.4

N/A - Not Applicable



Form VI

Initial Calibration Summary

PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Case: **N/A** SDG: **N/A**

Lab ID	Date/Time Analyzed
I403011601	03/01/16 18:27
I403011602	03/01/16 19:41
I403011604	03/01/16 22:10
I403011605	03/01/16 23:25
I403011606	03/02/16 00:39
I403011603	03/02/16 12:56

Parameter	Response Factors						Mean	% RSD
	2	5	50	100	200	20		
1-Methyl-4-isopropylbenzene	1.37	1.39	1.55	1.44	1.54	1.55	1.47	5.6
1-Methyl-2-isopropylbenzene	1.41	1.42	1.51	1.43	1.53	1.55	1.47	4.3
Indan	1.24	1.25	1.34	1.26	1.33	1.40	1.30	4.8
1-Methyl-3-propylbenzene	1.60	1.61	1.72	1.60	1.73	1.76	1.67	4.5
1-Methyl-4-propylbenzene	1.87	1.87	1.99	1.85	2.01	2.04	1.94	4.3
n-Butylbenzene	1.49	1.47	1.58	1.45	1.58	1.60	1.53	4.2
1,2-Dimethyl-4-ethylbenzene	1.42	1.41	1.52	1.41	1.56	1.54	1.48	4.7
1,2-Diethylbenzene	0.73	0.72	0.76	0.70	0.76	0.78	0.74	3.8
1-Methyl-2-propylbenzene	1.65	1.71	1.81	1.67	1.84	1.85	1.76	5.0
1,4-Dimethyl-2-ethylbenzene	1.32	1.36	1.46	1.35	1.49	1.49	1.41	5.4
Undecane	0.91	0.90	0.89	0.74	0.77	0.93	0.86	9.5
1,3-Dimethyl-4-ethylbenzene	1.61	1.64	1.73	1.61	1.77	1.79	1.69	4.7
1,3-Dimethyl-5-ethylbenzene	1.48	1.50	1.58	1.46	1.63	1.62	1.55	4.7
1,3-Dimethyl-2-ethylbenzene	1.62	1.65	1.74	1.60	1.78	1.79	1.70	5.0
1,2-Dimethyl-3-ethylbenzene	1.45	1.48	1.58	1.46	1.62	1.61	1.53	5.1
1,2,4,5-Tetramethylbenzene	1.52	1.57	1.66	1.53	1.73	1.69	1.62	5.5
Pentylbenzene	1.21	1.25	1.31	1.19	1.35	1.33	1.27	5.2
Dodecane	0.71	0.70	0.61	0.43		0.66	0.62	18.5
Naphthalene	1.30	1.34	1.44	1.26	1.39	1.53	1.38	7.1
Benzothiophene	0.71	0.73	0.80	0.70	0.76	0.88	0.76	9.0
MMT	0.44	0.48	0.54	0.42	0.49	0.56	0.49	11.5
Tridecane	0.69	0.68	0.45	0.30		0.53	0.53	31.2 ^a
2-Methylnaphthalene	0.57	0.67	0.78	0.67	0.79	0.74	0.70	12.0
1-Methylnaphthalene	0.47	0.55	0.66	0.56	0.66	0.65	0.59	13.3
2-Bromo-1-chloropropane	0.34	0.36	0.39	0.38	0.37	0.38	0.37	5.2
1-Chloro-2-fluorobenzene	0.74	0.76	0.85	0.83	0.83	0.85	0.81	5.8
1,4-Dichlorobutane	0.76	0.62	0.77	0.76	0.80	0.76	0.75	8.7
Dibromofluoromethane	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.8
Toluene-d8	1.25	1.24	1.26	1.26	1.31	1.23	1.26	2.2
4-Bromofluorobenzene	0.50	0.50	0.49	0.48	0.47	0.50	0.49	2.6
Average RSD								5.9

^a - Value outside of QC advisory limits.
N/A - Not Applicable

Response Factor Report voa#4

Method Path : O:\Organics\DATA\VOA4\2016\160302\
 Method File : P4030216.M
 Title : PIANO VOLATILES
 Last Update : Sat Mar 19 12:25:34 2016
 Response Via : Initial Calibration

Calibration Files

2 =V4009673.D 5 =V4009674.D 50 =V4009676.D 100 =V4009677.D 200 =V4009678.D 20 =

Compound		2	5	50	100	200	20	Avg	%RSD
-----ISTD-----									
1) I	Chlorobenzene-D5 [IS]								
3)	Isopentane	0.499	0.409	0.376	0.373	0.399	0.385	0.407	11.67
4)	1-Pentene	0.484	0.449	0.477	0.469	0.507	0.475	0.477	3.94
5)	2-Methyl-1-butene	0.769	0.694	0.755	0.727	0.775	0.736	0.743	4.05
6)	Pentane	0.704	0.622	0.663	0.640	0.690	0.658	0.663	4.57
7)	2-Pentene (trans)	0.669	0.646	0.699	0.686	0.736	0.697	0.689	4.41
9)	2-Pentene (cis)	0.710	0.678	0.704	0.688	0.739	0.721	0.707	3.11
10)	Tertiary butanol		0.045	0.055	0.044	0.038	0.059	0.048#	18.56
13)	Cyclopentane	0.196	0.203	0.221	0.214	0.233	0.220	0.214	6.34
14)	2,3-Dimethylbu...	0.149	0.148	0.167	0.162	0.177	0.165	0.161	6.96
15)	2-Methylpentane	0.918	0.769	0.835	0.811	0.879	0.830	0.841	6.21
16)	MTBE	0.840	0.821	0.905	0.851	0.897	0.889	0.867	4.00
17)	3-Methylpentane	0.672	0.660	0.704	0.693	0.745	0.697	0.695	4.27
18)	1-Hexene	0.400	0.398	0.440	0.432	0.461	0.434	0.427	5.69
19)	Hexane	0.546	0.571	0.615	0.601	0.651	0.608	0.599	6.07
20)	Diisopropyl ether	1.147	1.154	1.274	1.203	1.242	1.252	1.212	4.38
24) S	Dibromofluorom...	0.292	0.292	0.293	0.286	0.290	0.291	0.291	0.84
25)	Ethyl tertiary...	1.024	1.026	1.147	1.066	1.100	1.110	1.079	4.55
26)	2,2-Dimethylpe...	0.834	0.809	0.867	0.852	0.934	0.871	0.861	4.92
27)	Methylcyclopen...	0.749	0.746	0.809	0.787	0.851	0.812	0.792	5.07
28)	2,4-Dimethylpe...	0.820	0.751	0.766	0.742	0.797	0.763	0.773	3.82
30)	1,2-Dichloroet...	0.415	0.415	0.446	0.423	0.441	0.441	0.430	3.31
32)	Cyclohexane	0.632	0.642	0.698	0.685	0.740	0.678	0.679	5.74
33)	2-Methyhexane	0.857	0.811	0.855	0.832	0.901	0.841	0.850	3.54
34) M	Benzene	1.078	1.073	1.181	1.167	1.231	1.181	1.152	5.47
35)	2,3-Dimethylpe...	0.620	0.613	0.674	0.645	0.703	0.662	0.653	5.18
36)	Thiophene	0.550	0.556	0.622	0.609	0.629	0.620	0.598	5.89
38)	3-Methylhexane	0.785	0.730	0.729	0.716	0.765	0.732	0.743	3.53
39)	TAME	1.160	0.946	0.912	0.886	0.843	0.913	0.943	11.82
43)	1-Heptene/1,2-...	0.235	0.238	0.258	0.250	0.266	0.261	0.251	5.05
44)	Isooctane	1.584	1.620	1.727	1.699	1.764	1.747	1.690	4.28
46)	Heptane	0.746	0.686	0.701	0.671	0.713	0.696	0.702	3.69
51)	Methycyclohexane	0.497	0.509	0.556	0.546	0.588	0.540	0.539	6.07
52)	2,5-Dimethylhe...	0.840	0.791	0.854	0.833	0.883	0.839	0.840	3.58
53)	2,4-Dimethylhexane	0.638	0.622	0.688	0.671	0.705	0.675	0.666	4.68
55)	2,2,3-Trimethy...	1.272	1.262	1.354	1.333	1.408	1.351	1.330	4.14
57)	2,3,4-Trimethy...	1.057	0.992	1.060	1.025	1.084	1.029	1.041	3.11
58)	2,3,3-Trimethy...	0.928	0.864	0.923	0.889	0.934	0.892	0.905	3.04
59)	2,3-Dimethylhe...	0.971	0.907	0.965	0.946	0.988	0.950	0.954	2.89
60)	2-Methylheptane	0.719	0.717	0.795	0.770	0.811	0.766	0.763	5.06
62) S	Toluene-d8 (surr)	1.250	1.245	1.262	1.264	1.309	1.228	1.260	2.16
63)	3-Methylheptane	0.852	0.736	0.717	0.710	0.734	0.743	0.749	6.97
64) S	2-Bromo-1-chlo...	0.337	0.362	0.388	0.385	0.373	0.380	0.371	5.16
65)	3-Ethylhexane	1.167	1.096	1.193	1.148	1.198	1.137	1.157	3.29
66) M	Toluene	1.261	1.197	1.348	1.335	1.393	1.346	1.313	5.42
67)	2-Methylthiophene	0.965	0.966	1.081	1.070	1.102	1.067	1.042	5.81
69)	3-Methylthiophene	0.995	0.990	1.096	1.079	1.107	1.086	1.059	4.94
70)	1-Octene	0.379	0.387	0.413	0.402	0.418	0.393	0.399	3.84
71)	Octane	0.897	0.856	0.915	0.880	0.914	0.883	0.891	2.53
73)	1,2-Dibromoethane	0.234	0.251	0.290	0.291	0.294	0.286	0.274	9.25
86)	Ethylbenzene	1.405	1.423	1.581	1.556	1.582	1.566	1.519	5.39
87) S	1-Chloro-2-flu...	0.743	0.760	0.851	0.829	0.834	0.850	0.811	5.83
88)	2-Ethylthiophene	1.028	1.026	1.160	1.142	1.139	1.156	1.108	117 of 496 5.75
91)	p/m-Xylene	1.097	1.092	1.223	1.191	1.218	1.212	1.172	5.20

92)	1-Nonene	0.396	0.408	0.472	0.454	0.466	0.453	0.441	7.18
95)	Nonane	0.865	0.852	0.883	0.810	0.834	0.876	0.853	3.21
96)	Styrene	0.873	0.883	0.998	0.964	0.974	1.004	0.949	6.01
97) S	1,4-Dichlorobu...	0.763	0.618	0.771	0.764	0.804	0.758	0.746	8.73
98)	o-Xylene	1.117	1.124	1.235	1.192	1.208	1.232	1.185	4.41
101) S	4-Bromofluorob...	0.499	0.499	0.494	0.477	0.471	0.500	0.490	2.60
102)	Isopropylbenzene	1.457	1.397	1.582	1.525	1.549	1.564	1.512	4.72
104)	n-Propylbenzene	1.693	1.702	1.909	1.833	1.901	1.886	1.821	5.44
107)	1-Methyl-3-eth...	1.427	1.413	1.583	1.514	1.565	1.589	1.515	5.16
108)	1-Methyl-4-eth...	1.394	1.389	1.548	1.479	1.520	1.538	1.478	4.82
109)	1,3,5-Trimethy...	1.209	1.190	1.338	1.270	1.328	1.342	1.280	5.28
110)	1-Decene	0.436	0.409	0.445	0.418	0.426	0.433	0.428	3.02
112)	1-Methyl-2-eth...	1.404	1.435	1.549	1.466	1.516	1.582	1.492	4.60
113)	Decane	1.020	0.872	0.836	0.763	0.760	0.841	0.849	11.24
115)	1,2,4-Trimethy...	1.214	1.252	1.339	1.272	1.337	1.351	1.294	4.34
117)	sec-Butylbenzene	1.610	1.626	1.768	1.656	1.748	1.772	1.697	4.38
118)	1-Methyl-3-iso...	1.338	1.356	1.491	1.406	1.502	1.511	1.434	5.41
119)	1-Methyl-4-iso...	1.375	1.394	1.545	1.437	1.542	1.552	1.474	5.56
121)	1-Methyl-2-iso...	1.408	1.418	1.514	1.429	1.530	1.548	1.475	4.28
122)	Indan	1.238	1.251	1.343	1.261	1.326	1.396	1.302	4.78
124)	1-Methyl-3-pro...	1.603	1.605	1.725	1.596	1.731	1.759	1.670	4.54
126)	1-Methyl-4-pro...	1.870	1.867	1.991	1.850	2.007	2.038	1.937	4.31
127)	n-Butylbenzene	1.493	1.470	1.580	1.452	1.578	1.601	1.529	4.22
128)	1,2-Dimethyl-4...	1.423	1.410	1.523	1.409	1.556	1.538	1.476	4.71
129)	1,2-Diethylben...	0.727	0.721	0.757	0.703	0.759	0.777	0.741	3.77
130)	1-Methyl-2-pro...	1.650	1.711	1.810	1.674	1.840	1.846	1.755	4.96
131)	1,4-Dimethyl-2...	1.320	1.358	1.459	1.351	1.488	1.490	1.411	5.40
132)	Undecane	0.910	0.904	0.892	0.735	0.773	0.928	0.857	9.49
133)	1,3-Dimethyl-4...	1.614	1.643	1.732	1.614	1.773	1.789	1.694	4.73
134)	1,3-Dimethyl-5...	1.477	1.501	1.583	1.463	1.626	1.620	1.545	4.74
135)	1,3-Dimethyl-2...	1.617	1.653	1.742	1.599	1.780	1.792	1.697	5.01
136)	1,2-Dimethyl-3...	1.453	1.479	1.578	1.462	1.621	1.611	1.534	5.06
137)	1,2,4,5-Tetram...	1.520	1.575	1.664	1.534	1.734	1.692	1.620	5.49
139)	Pentylbenzene	1.215	1.251	1.309	1.185	1.353	1.326	1.273	5.22
142)	Dodecane	0.713	0.695	0.605	0.428		0.656	0.620	18.51
144)	Naphthalene	1.300	1.339	1.441	1.265	1.392	1.530	1.378	7.08
145)	Benzothiophene	0.708	0.731	0.802	0.700	0.756	0.880	0.763	8.95
148)	MMT	0.439	0.482	0.537	0.416	0.488	0.563	0.487	11.47
149)	Tridecane	0.691	0.681	0.448	0.298		0.528	0.529	31.22
150)	2-Methylnaphth...	0.569	0.666	0.778	0.667	0.792	0.739	0.702	11.99
151)	1-Methylnaphth...	0.473	0.548	0.663	0.556	0.661	0.653	0.592	13.27

(#) = Out of Range

P4030216.M Mon Mar 21 10:43:28 2016

Compound List Report voa#4

Method Path : O:\Organics\DATA\VOA4\2016\160302\
 Method File : P4030216.M
 Title : PIANO VOLATILES
 Last Update : Sat Mar 19 12:25:34 2016
 Response Via : Initial Calibration

Total Cpnds : 153

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I Chlorobenzene-D5 [IS]	117	38.52	1.000	A	0	A	L
3	Isopentane	43	8.17	0.212	A	3	A	B
4	1-Pentene	42	8.82	0.229	A	2	A	B
5	2-Methyl-1-butene	55	9.12	0.237	A	2	A	B
6	Pentane	43	9.18	0.238	A	2	A	B
7	2-Pentene (trans)	55	9.63	0.250	A	2	A	B
9	2-Pentene (cis)	55	10.00	0.260	A	2	A	B
10	Tertiary butanol	59	10.58	0.275	A	2	A	B
13	Cyclopentane	70	12.80	0.332	A	2	A	B
14	2,3-Dimethylbutane	71	12.80	0.332	A	1	A	B
15	2-Methylpentane	43	13.02	0.338	A	2	A	B
16	MTBE	73	13.29	0.345	A	2	A	B
17	3-Methylpentane	57	13.98	0.363	A	3	A	B
18	1-Hexene	56	14.56	0.378	A	3	A	B
19	Hexane	57	15.16	0.394	A	2	A	B
20	Diisopropyl ether	45	15.44	0.401	A	2	A	B
24	S Dibromofluoromethane (surr)	113	16.83	0.437	A	0	A	B
25	Ethyl tertiary butyl ether	59	16.89	0.438	A	2	A	B
26	2,2-Dimethylpentane	57	17.18	0.446	A	2	A	B
27	Methylcyclopentane	56	17.46	0.453	A	3	A	B
28	2,4-Dimethylpentane	43	17.61	0.457	A	2	A	B
30	1,2-Dichloroethane	62	18.84	0.489	A	1	A	B
32	Cyclohexane	56	20.33	0.528	A	2	A	B
33	2-Methylhexane	43	20.78	0.539	A	2	A	B
34	M Benzene	78	20.90	0.543	A	1	A	B
35	2,3-Dimethylpentane	56	21.06	0.547	A	2	A	B
36	Thiophene	84	21.34	0.554	A	2	A	B
38	3-Methylhexane	43	21.58	0.560	A	2	A	B
39	TAME	73	21.91	0.569	A	2	A	B
43	1-Heptene/1,2-DMCP (trans)	70	22.89	0.594	A	1	A	B
44	Isooctane	57	22.99	0.597	A	2	A	B
46	Heptane	43	23.74	0.616	A	2	A	B
51	Methycyclohexane	83	26.13	0.678	A	2	A	B
52	2,5-Dimethylhexane	57	26.81	0.696	A	2	A	B
53	2,4-Dimethylhexane	57	27.06	0.703	A	1	A	B
55	2,2,3-Trimethylpentane	57	27.32	0.709	A	2	A	B
57	2,3,4-Trimethylpentane	43	28.84	0.749	A	2	A	B
58	2,3,3-Trimethylpentane	43	29.41	0.764	A	3	A	B
59	2,3-Dimethylhexane	43	29.68	0.771	A	2	A	B
60	2-Methylheptane	57	30.11	0.782	A	2	A	B
62	S Toluene-d8 (surr)	98	30.75	0.798	A	0	A	B
63	3-Methylheptane	43	30.85	0.801	A	2	A	B
64	S 2-Bromo-1-chloropropane (H/...	77	30.96	0.804	A	1	A	B
65	3-Ethylhexane	43	30.98	0.804	A	1	A	B
66	M Toluene	91	31.10	0.808	A	1	A	B
67	2-Methylthiophene	97	31.27	0.812	A	1	A	B
69	3-Methylthiophene	97	32.03	0.832	A	1	A	B
70	1-Octene	55	32.52	0.844	A	2	A	B
71	Octane	43	33.36	0.866	A	3	A	B
73	1,2-Dibromoethane	107	33.77	0.877	A	1	A	B
86	Ethylbenzene	91	40.15	1.042	A	1	A	B
87	S 1-Chloro-2-fluorobenzene (H...	130	40.14	1.042	A	2	A	B
88	2-Ethylthiophene	97	40.29	1.046	A	1	A	B
91	p/m-Xylene	91	41.41	1.075	A	1	A	B
92	1-Nonene	56	42.11	1.093	A	2	A	B
95	Nonane	43	42.90	1.114	A	3	A	B

96		Styrene	104	43.24	1.123	A	2	A	B
97	S	1,4-Dichlorobutane (H/surr)	55	43.36	1.126	A	1	A	B
98		o-Xylene	91	43.66	1.133	A	1	A	B
101	S	4-Bromofluorobenzene (surr)	95	45.94	1.193	A	2	A	B
102		Isopropylbenzene	105	46.00	1.194	A	1	A	B
104		n-Propylbenzene	91	48.57	1.261	A	1	A	B
107		1-Methyl-3-ethylbenzene	105	49.20	1.277	A	1	A	B
108		1-Methyl-4-ethylbenzene	105	49.37	1.282	A	1	A	B
109		1,3,5-Trimethylbenzene	105	49.95	1.297	A	1	A	B
110		1-Decene	41	50.13	1.302	A	2	A	B
112		1-Methyl-2-ethylbenzene	105	50.29	1.306	A	1	A	B
113		Decane	43	50.51	1.311	A	2	A	B
115		1,2,4-Trimethylbenzene	105	51.16	1.328	A	1	A	B
117		sec-Butylbenzene	105	51.42	1.335	A	1	A	B
118		1-Methyl-3-isopropylbenzene	119	51.81	1.345	A	2	A	B
119		1-Methyl-4-isopropylbenzene	119	52.01	1.350	A	2	A	B
121		1-Methyl-2-isopropylbenzene	119	52.49	1.363	A	2	A	B
122		Indan	117	52.58	1.365	A	2	A	B
124		1-Methyl-3-propylbenzene	105	52.86	1.372	A	2	A	B
126		1-Methyl-4-propylbenzene	105	53.00	1.376	A	2	A	B
127		n-Butylbenzene	91	53.00	1.376	A	2	A	B
128		1,2-Dimethyl-4-ethylbenzene	119	53.13	1.379	A	2	A	B
129		1,2-Diethylbenzene	119	53.22	1.382	A	2	A	B
130		1-Methyl-2-propylbenzene	105	53.41	1.387	A	1	A	B
131		1,4-Dimethyl-2-ethylbenzene	119	53.72	1.395	A	2	A	B
132		Undecane	57	53.79	1.396	A	3	A	B
133		1,3-Dimethyl-4-ethylbenzene	119	53.81	1.397	A	2	A	B
134		1,3-Dimethyl-5-ethylbenzene	119	53.94	1.400	A	1	A	B
135		1,3-Dimethyl-2-ethylbenzene	119	54.17	1.406	A	2	A	B
136		1,2-Dimethyl-3-ethylbenzene	119	54.53	1.416	A	2	A	B
137		1,2,4,5-Tetramethylbenzene	119	54.93	1.426	A	2	A	B
139		Pentylbenzene	91	55.51	1.441	A	3	A	B
142		Dodecane	43	56.01	1.454	A	3	A	B
144		Naphthalene	128	56.83	1.475	A	1	A	B
145		Benzothiophene	134	56.92	1.478	A	1	A	B
148		MMT	134	58.00	1.506	A	1	A	B
149		Tridecane	57	58.09	1.508	A	3	A	B
150		2-Methylnaphthalene	142	59.56	1.546	A	1	A	B
151		1-Methylnaphthalene	142	60.03	1.559	A	1	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin

#Qual = number of qualifiers

A/H = Area or Height

ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

P4030216.M Mon Mar 21 10:43:41 2016

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009673.D
 Acq On : 1 Mar 2016 6:27 pm
 Operator : VOA4:MR
 Sample : I403011601
 Misc : 2 PPB PIANO
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:29 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	603582	50.000	ug/L	-0.01
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	176046	49.765	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	99.53%		
62) Toluene-d8 (surr)	30.73	98	754764	49.554	ug/L	-0.02
Spiked Amount 50.000	Range 87 - 113		Recovery =	99.11%		
64) 2-Bromo-1-chloropropane (	30.96	77	8127	1.734	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	3.47%#		
87) 1-Chloro-2-fluorobenzene	40.15	130	17946M1	1.748	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	3.50%#		
97) 1,4-Dichlorobutane (H/sur	43.37	55	18425M4	1.130	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	2.26%#		
101) 4-Bromofluorobenzene (sur	45.92	95	301252	50.516	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery =	101.03%		
Target Compounds						
					Qvalue	
3) Isopentane	8.16	43	12059	2.660	ug/L	94
4) 1-Pentene	8.82	42	11690	2.032	ug/L	91
5) 2-Methyl-1-butene	9.12	55	18559	2.035	ug/L	92
6) Pentane	9.18	43	16991M4	2.124	ug/L	
7) 2-Pentene (trans)	9.63	55	16150	1.914	ug/L	97
9) 2-Pentene (cis)	10.00	55	17141	2.016	ug/L	98
13) Cyclopentane	12.80	70	4726	1.770	ug/L	78
14) 2,3-Dimethylbutane	12.80	71	3590	1.780	ug/L	59
15) 2-Methylpentane	13.00	43	22175	2.199	ug/L	89
16) MTBE	13.29	73	20273	1.855	ug/L	96
17) 3-Methylpentane	13.97	57	16216	1.907	ug/L #	98
18) 1-Hexene	14.56	56	9648	1.817	ug/L	94
19) Hexane	15.16	57	13193	1.777	ug/L	93
20) Diisopropyl ether	15.44	45	27689	1.801	ug/L	90
25) Ethyl tertiary butyl ethe	16.89	59	24714	1.785	ug/L	98
26) 2,2-Dimethylpentane	17.17	57	20137	1.924	ug/L	94
27) Methylcyclopentane	17.45	56	18091	1.853	ug/L #	94
28) 2,4-Dimethylpentane	17.61	43	19797	2.141	ug/L	91
30) 1,2-Dichloroethane	18.86	62	10022	1.860	ug/L	97
32) Cyclohexane	20.32	56	15263	1.812	ug/L	94
33) 2-Methyhexane	20.76	43	20692	2.005	ug/L	86

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Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009673.D
 Acq On : 1 Mar 2016 6:27 pm
 Operator : VOA4:MR
 Sample : I403011601
 Misc : 2 PPB PIANO
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:29 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
34) Benzene	20.89	78	26021	1.825	ug/L	92
35) 2,3-Dimethylpentane	21.06	56	14963	1.840	ug/L #	96
36) Thiophene	21.35	84	13270M1	1.768	ug/L	
38) 3-Methylhexane	21.56	43	18952	2.154	ug/L	98
39) TAME	21.90	73	28007	2.544	ug/L	95
43) 1-Heptene/1,2-DMCP (trans	22.88	70	11356M1	3.645	ug/L	
44) Isooctane	22.99	57	38251	1.834	ug/L	90
46) Heptane	23.74	43	18017M1	2.129	ug/L	
51) Methycyclohexane	26.12	83	12009	1.789	ug/L	96
52) 2,5-Dimethylhexane	26.79	57	20287	1.968	ug/L	84
53) 2,4-Dimethylhexane	27.05	57	15394	1.855	ug/L	88
55) 2,2,3-Trimethylpentane	27.31	57	30700	1.878	ug/L	100
57) 2,3,4-Trimethylpentane	28.82	43	25518	1.993	ug/L	84
58) 2,3,3-Trimethylpentane	29.39	43	22395	2.011	ug/L	91
59) 2,3-Dimethylhexane	29.67	43	23440	2.013	ug/L	98
60) 2-Methylheptane	30.10	57	17359	1.809	ug/L	98
63) 3-Methylheptane	30.84	43	20575M4	2.378	ug/L	
65) 3-Ethylhexane	30.96	43	28187	1.957	ug/L	98
66) Toluene	31.09	91	30447	1.872	ug/L	95
67) 2-Methylthiophene	31.27	97	23310	1.786	ug/L	95
69) 3-Methylthiophene	32.02	97	24015	1.815	ug/L	97
70) 1-Octene	32.50	55	9155M1	1.834	ug/L	
71) Octane	33.35	43	21646	1.960	ug/L	90
73) 1,2-Dibromoethane	33.76	107	5643M1	1.613	ug/L	
86) Ethylbenzene	40.15	91	33930	1.778	ug/L	99
88) 2-Ethylthiophene	40.29	97	24813	1.772	ug/L	97
91) p/m-Xylene	41.41	91	52994M1	3.589	ug/L	
92) 1-Nonene	42.10	56	9559	1.678	ug/L	97
95) Nonane	42.90	43	20887M6	1.959	ug/L	
96) Styrene	43.24	104	21087	1.751	ug/L	98
98) o-Xylene	43.65	91	26962	1.808	ug/L	95
102) Isopropylbenzene	46.00	105	35177	1.842	ug/L	97
104) n-Propylbenzene	48.58	91	40878	1.774	ug/L	93
107) 1-Methyl-3-ethylbenzene	49.20	105	34464	1.803	ug/L	99
108) 1-Methyl-4-ethylbenzene	49.37	105	33648	1.801	ug/L	98
109) 1,3,5-Trimethylbenzene	49.95	105	29199	1.808	ug/L	98
110) 1-Decene	50.13	41	10528	1.959	ug/L	94
112) 1-Methyl-2-ethylbenzene	50.29	105	33889	1.813	ug/L	98
113) Decane	50.52	43	24632M4	2.440	ug/L	
115) 1,2,4-Trimethylbenzene	51.16	105	29300	1.813	ug/L	98
117) sec-Butylbenzene	51.42	105	38862	1.821	ug/L	98

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Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009673.D
 Acq On : 1 Mar 2016 6:27 pm
 Operator : VOA4:MR
 Sample : I403011601
 Misc : 2 PPB PIANO
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:29 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	32300	1.794	ug/L	96
119)	1-Methyl-4-isopropylbenze	52.01	119	33188	1.779	ug/L	98
121)	1-Methyl-2-isopropylbenze	52.48	119	33987	1.859	ug/L	98
122)	Indan	52.57	117	29881	1.844	ug/L	97
124)	1-Methyl-3-propylbenzene	52.86	105	38706	1.859	ug/L	98
126)	1-Methyl-4-propylbenzene	53.00	105	45136	1.878	ug/L	98
127)	n-Butylbenzene	53.00	91	36048	1.891	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	34344	1.868	ug/L	100
129)	1,2-Diethylbenzene	53.22	119	17549	1.921	ug/L	95
130)	1-Methyl-2-propylbenzene	53.41	105	39846	1.824	ug/L	96
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	31880	1.810	ug/L	96
132)	Undecane	53.79	57	21979M4	2.041	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	38965	1.864	ug/L	98
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	35654	1.866	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	39028	1.856	ug/L	96
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	35079	1.842	ug/L	97
137)	1,2,4,5-Tetramethylbenzen	54.93	119	36708	1.828	ug/L	99
139)	Pentylbenzene	55.51	91	29324	1.856	ug/L	96
142)	Dodecane	56.01	43	17223	2.358	ug/L	88
144)	Naphthalene	56.83	128	31381	1.805	ug/L	97
145)	Benzothiophene	56.92	134	17092	1.765	ug/L	99
148)	MMT	58.00	134	10600	1.637	ug/L	99
149)	Tridecane	58.09	57	16685	3.088	ug/L	87
150)	2-Methylnaphthalene	59.56	142	13740	1.463	ug/L	96
151)	1-Methylnaphthalene	60.03	142	11427	1.428	ug/L	94

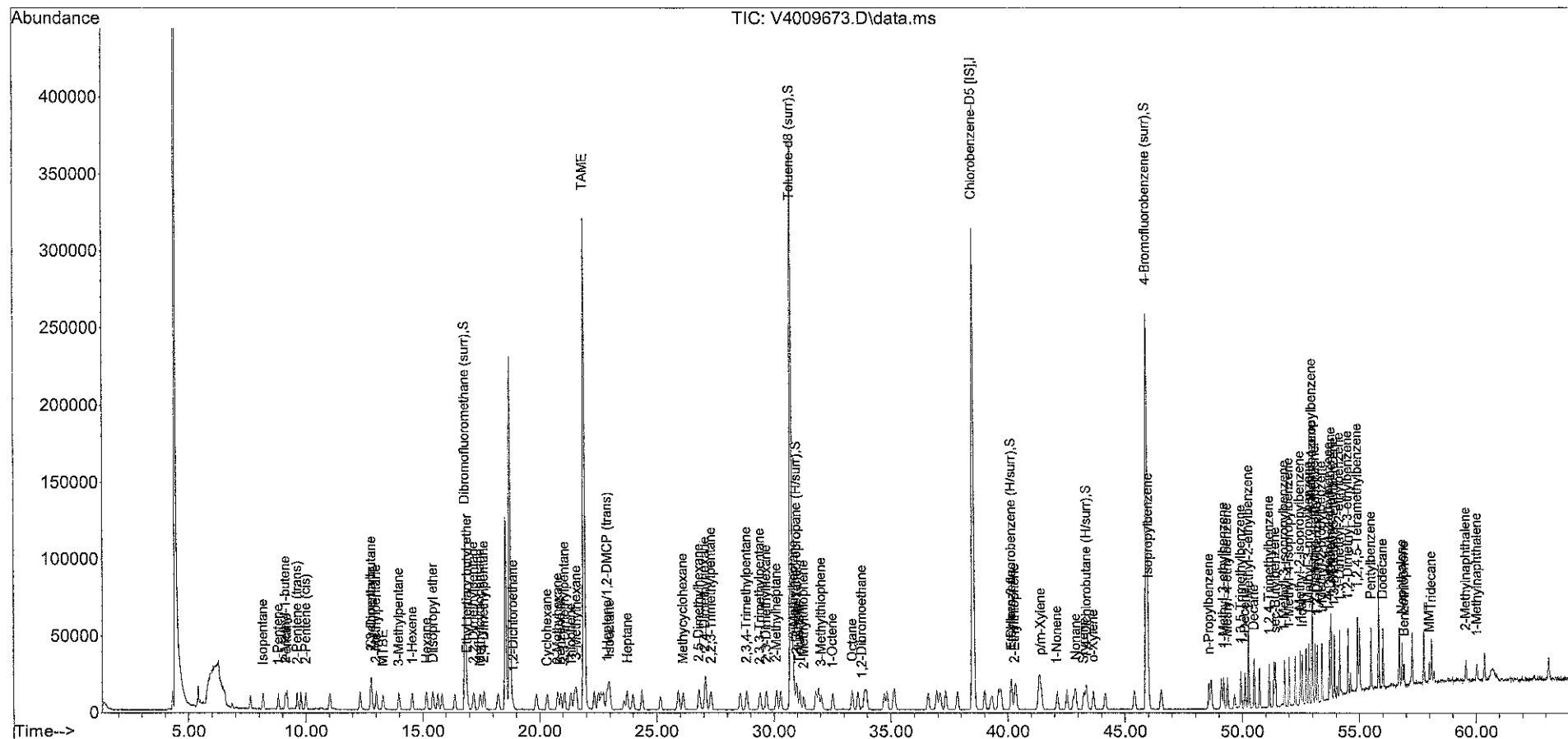
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009673.D
Acq On : 1 Mar 2016 6:27 pm
Operator : VOA4:MR
Sample : I403011601
Misc : 2 PPB PIANO
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:29 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009674.D
 Acq On : 1 Mar 2016 7:41 pm
 Operator : VOA4:MR
 Sample : I403011602
 Misc : 5 PPB PIANO
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	597999	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	174477	49.782	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	99.56%		
62) Toluene-d8 (surr)	30.74	98	744332	49.325	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.65%		
64) 2-Bromo-1-chloropropane (	30.96	77	21651M1	4.663	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	9.33%#		
87) 1-Chloro-2-fluorobenzene	40.14	130	45434	4.466	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	8.93%#		
97) 1,4-Dichlorobutane (H/sur	43.37	55	36944M6	2.287	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	4.57%#		
101) 4-Bromofluorobenzene (sur	45.94	95	298128	50.459	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	100.92%		
Target Compounds						Qvalue
3) Isopentane	8.16	43	24482	5.450	ug/L	97
4) 1-Pentene	8.82	42	26869	4.713	ug/L	98
5) 2-Methyl-1-butene	9.13	55	41503M4	4.594	ug/L	
6) Pentane	9.19	43	37209	4.695	ug/L	97
7) 2-Pentene (trans)	9.62	55	38634	4.620	ug/L	98
9) 2-Pentene (cis)	10.00	55	40559	4.814	ug/L	97
10) Tertiary butanol	10.66	59	13326M1	20.148	ug/L	
13) Cyclopentane	12.80	70	12118M1	4.582	ug/L	
14) 2,3-Dimethylbutane	12.80	71	8838	4.422	ug/L	66
15) 2-Methylpentane	13.02	43	46010	4.606	ug/L	94
16) MTBE	13.30	73	49090	4.533	ug/L	99
17) 3-Methylpentane	13.99	57	39467	4.685	ug/L	# 91
18) 1-Hexene	14.56	56	23826	4.530	ug/L	95
19) Hexane	15.16	57	34165	4.644	ug/L	98
20) Diisopropyl ether	15.44	45	68997	4.529	ug/L	99
25) Ethyl tertiary butyl ethe	16.89	59	61362	4.472	ug/L	97
26) 2,2-Dimethylpentane	17.18	57	48391	4.666	ug/L	98
27) Methylcyclopentane	17.45	56	44611	4.611	ug/L	91
28) 2,4-Dimethylpentane	17.62	43	44912	4.901	ug/L	96
30) 1,2-Dichloroethane	18.85	62	24808	4.648	ug/L	93
32) Cyclohexane	20.32	56	38402	4.602	ug/L	98

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Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009674.D
 Acq On : 1 Mar 2016 7:41 pm
 Operator : VOA4:MR
 Sample : I403011602
 Misc : 5 PPB PIANO
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
33) 2-Methyhexane	20.77	43	48524	4.745	ug/L	99
34) Benzene	20.90	78	64190	4.544	ug/L	91
35) 2,3-Dimethylpentane	21.07	56	36686	4.553	ug/L #	89
36) Thiophene	21.34	84	33273	4.474	ug/L	95
38) 3-Methylhexane	21.58	43	43679	5.011	ug/L	99
39) TAME	21.91	73	56544	5.185	ug/L	90
43) 1-Heptene/1,2-DMCP (trans	22.90	70	28438	9.214	ug/L	95
44) Isooctane	22.99	57	96895M6	4.690	ug/L	
46) Heptane	23.73	43	41040M4	4.894	ug/L	
51) Methycyclohexane	26.13	83	30426	4.576	ug/L	97
52) 2,5-Dimethylhexane	26.80	57	47301	4.631	ug/L	93
53) 2,4-Dimethylhexane	27.07	57	37173	4.521	ug/L	99
55) 2,2,3-Trimethylpentane	27.31	57	75463	4.659	ug/L	99
57) 2,3,4-Trimethylpentane	28.84	43	59334	4.678	ug/L	96
58) 2,3,3-Trimethylpentane	29.40	43	51639	4.680	ug/L	96
59) 2,3-Dimethylhexane	29.67	43	54252	4.703	ug/L	99
60) 2-Methylheptane	30.10	57	42880	4.511	ug/L	98
63) 3-Methylheptane	30.86	43	44006M6	5.133	ug/L	
65) 3-Ethylhexane	30.98	43	65547	4.594	ug/L	98
66) Toluene	31.10	91	71600	4.443	ug/L	95
67) 2-Methylthiophene	31.26	97	57738	4.464	ug/L	100
69) 3-Methylthiophene	32.04	97	59204	4.516	ug/L	96
70) 1-Octene	32.52	55	23123	4.676	ug/L	95
71) Octane	33.35	43	51180	4.677	ug/L	97
73) 1,2-Dibromoethane	33.77	107	15006	4.329	ug/L	95
86) Ethylbenzene	40.15	91	85102	4.500	ug/L	96
88) 2-Ethylthiophene	40.28	97	61331M1	4.421	ug/L	
91) p/m-Xylene	41.41	91	130604M1	8.928	ug/L	
92) 1-Nonene	42.11	56	24395	4.322	ug/L	97
95) Nonane	42.89	43	50920M6	4.821	ug/L	
96) Styrene	43.25	104	52811	4.426	ug/L	97
98) o-Xylene	43.66	91	67239	4.551	ug/L	98
102) Isopropylbenzene	45.99	105	83524	4.414	ug/L	100
104) n-Propylbenzene	48.58	91	101759	4.457	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	84526	4.464	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.37	105	83034	4.486	ug/L	100
109) 1,3,5-Trimethylbenzene	49.95	105	71155	4.447	ug/L	97
110) 1-Decene	50.12	41	24472	4.595	ug/L	95
112) 1-Methyl-2-ethylbenzene	50.29	105	85823	4.634	ug/L	97
113) Decane	50.52	43	52129	5.212	ug/L	96
115) 1,2,4-Trimethylbenzene	51.16	105	74866	4.676	ug/L	96

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009674.D
 Acq On : 1 Mar 2016 7:41 pm
 Operator : VOA4:MR
 Sample : I403011602
 Misc : 5 PPB PIANO
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
117) sec-Butylbenzene	51.42	105	97240	4.599	ug/L	97
118) 1-Methyl-3-isopropylbenze	51.81	119	81060	4.544	ug/L	99
119) 1-Methyl-4-isopropylbenze	52.01	119	83379	4.511	ug/L	98
121) 1-Methyl-2-isopropylbenze	52.48	119	84779	4.681	ug/L	99
122) Indan	52.57	117	74812	4.659	ug/L	97
124) 1-Methyl-3-propylbenzene	52.86	105	95995	4.654	ug/L	98
126) 1-Methyl-4-propylbenzene	53.01	105	111647	4.689	ug/L	96
127) n-Butylbenzene	53.00	91	87934	4.655	ug/L	98
128) 1,2-Dimethyl-4-ethylbenze	53.12	119	84290	4.628	ug/L	98
129) 1,2-Diethylbenzene	53.22	119	43120	4.763	ug/L	99
130) 1-Methyl-2-propylbenzene	53.41	105	102347	4.729	ug/L	99
131) 1,4-Dimethyl-2-ethylbenze	53.72	119	81225	4.655	ug/L	97
132) Undecane	53.79	57	54045M4	5.065	ug/L	
133) 1,3-Dimethyl-4-ethylbenze	53.81	119	98246	4.743	ug/L	99
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	89788	4.743	ug/L	100
135) 1,3-Dimethyl-2-ethylbenze	54.17	119	98830	4.744	ug/L	98
136) 1,2-Dimethyl-3-ethylbenze	54.53	119	88447	4.688	ug/L	98
137) 1,2,4,5-Tetramethylbenzen	54.93	119	94168	4.733	ug/L	98
139) Pentylbenzene	55.51	91	74834	4.782	ug/L	97
142) Dodecane	56.01	43	41576M4	5.745	ug/L	
144) Naphthalene	56.83	128	80074	4.648	ug/L	96
145) Benzothiophene	56.92	134	43722	4.557	ug/L	100
148) MMT	58.00	134	28851	4.496	ug/L	100
149) Tridecane	58.09	57	40729	7.609	ug/L	95
150) 2-Methylnaphthalene	59.56	142	39818	4.280	ug/L	96
151) 1-Methylnaphthalene	60.03	142	32747	4.129	ug/L	95

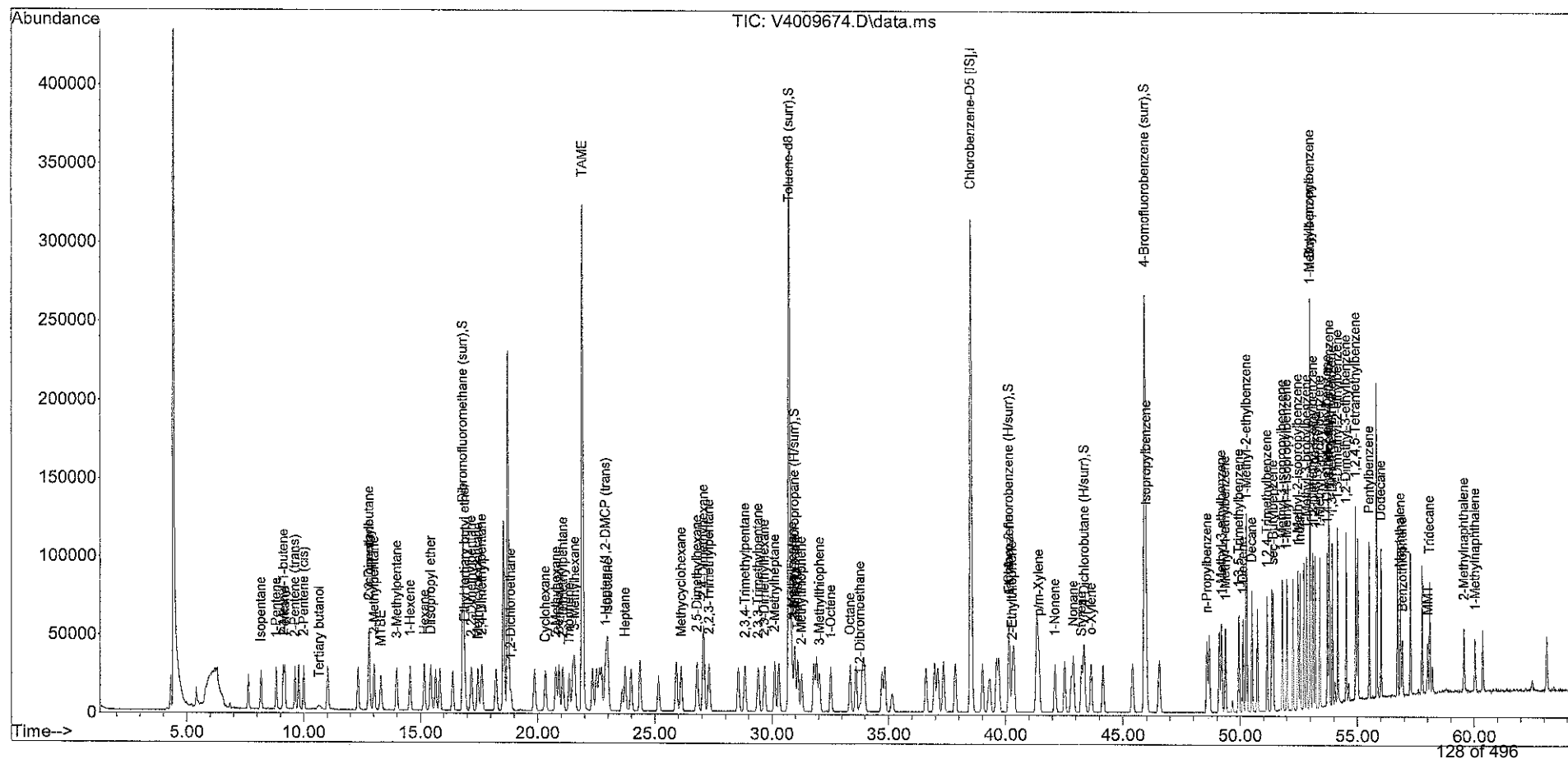
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009674.D
Acq On : 1 Mar 2016 7:41 pm
Operator : VOA4:MR
Sample : I403011602
Misc : 5 PPB PIANO
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO -



Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009682.D
 Acq On : 2 Mar 2016 12:56 pm
 Operator : VOA4:MR
 Sample : I403011603
 Misc : 20 PPB PIANO
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	621553	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	180883	49.654	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	99.31%		
62) Toluene-d8 (surr)	30.74	98	763433	48.674	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	97.35%		
64) 2-Bromo-1-chloropropane (	30.96	77	94492	19.580	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	39.16%#		
87) 1-Chloro-2-fluorobenzene	40.15	130	211391	19.993	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	39.99%#		
97) 1,4-Dichlorobutane (H/sur	43.36	55	188361M6	11.221	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	22.44%#		
101) 4-Bromofluorobenzene (sur	45.93	95	311070	50.654	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	101.31%		
Target Compounds						
					Qvalue	
3) Isopentane	8.16	43	95750	20.509	ug/L	99
4) 1-Pentene	8.82	42	118076	19.927	ug/L	99
5) 2-Methyl-1-butene	9.13	55	182878M6	19.475	ug/L	
6) Pentane	9.19	43	163469	19.847	ug/L	99
7) 2-Pentene (trans)	9.63	55	173259	19.935	ug/L	98
9) 2-Pentene (cis)	10.00	55	179173	20.462	ug/L	98
10) Tertiary butanol	10.60	59	73742M1	107.269	ug/L	
13) Cyclopentane	12.80	70	54605	19.864	ug/L	90
14) 2,3-Dimethylbutane	12.80	71	41084	19.779	ug/L	100
15) 2-Methylpentane	13.01	43	206452	19.885	ug/L	98
16) MTBE	13.28	73	221131	19.646	ug/L	98
17) 3-Methylpentane	13.98	57	173360	19.800	ug/L	99
18) 1-Hexene	14.55	56	107889	19.736	ug/L	96
19) Hexane	15.16	57	151264	19.784	ug/L	96
20) Diisopropyl ether	15.43	45	311388	19.666	ug/L	100
25) Ethyl tertiary butyl ethe	16.89	59	276008	19.355	ug/L	99
26) 2,2-Dimethylpentane	17.19	57	216536	20.090	ug/L	98
27) Methylcyclopentane	17.46	56	201876	20.075	ug/L	100
28) 2,4-Dimethylpentane	17.62	43	189795M4	19.928	ug/L	
30) 1,2-Dichloroethane	18.86	62	109682	19.772	ug/L	98
32) Cyclohexane	20.32	56	168560	19.436	ug/L	98
33) 2-Methylhexane	20.76	43	209004	19.664	ug/L	99

AS 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009682.D
 Acq On : 2 Mar 2016 12:56 pm
 Operator : VOA4:MR
 Sample : I403011603
 Misc : 20 PPB PIANO
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
34) Benzene	20.89	78	293525	19.989	ug/L	99
35) 2,3-Dimethylpentane	21.06	56	164550	19.647	ug/L	98
36) Thiophene	21.34	84	154164	19.943	ug/L	96
38) 3-Methylhexane	21.58	43	181995	20.086	ug/L	97
39) TAME	21.90	73	227007	20.027	ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.89	70	129727	40.441	ug/L	90
44) Isooctane	22.98	57	434334M6	20.227	ug/L	
46) Heptane	23.73	43	172977M4	19.847	ug/L	
51) Methycyclohexane	26.12	83	134224	19.422	ug/L	97
52) 2,5-Dimethylhexane	26.80	57	208644	19.655	ug/L	97
53) 2,4-Dimethylhexane	27.06	57	167927M4	19.649	ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	335764	19.943	ug/L	99
57) 2,3,4-Trimethylpentane	28.83	43	255892	19.411	ug/L	98
58) 2,3,3-Trimethylpentane	29.40	43	221684	19.330	ug/L	98
59) 2,3-Dimethylhexane	29.67	43	236099	19.691	ug/L	100
60) 2-Methylheptane	30.11	57	190321	19.261	ug/L	97
63) 3-Methylheptane	30.85	43	184741M6	20.731	ug/L	
65) 3-Ethylhexane	30.98	43	282562M4	19.055	ug/L	
66) Toluene	31.10	91	334642	19.977	ug/L	98
67) 2-Methylthiophene	31.27	97	265206	19.727	ug/L	98
69) 3-Methylthiophene	32.03	97	270087	19.821	ug/L	98
70) 1-Octene	32.52	55	97751	19.018	ug/L	96
71) Octane	33.35	43	219458	19.296	ug/L	98
73) 1,2-Dibromoethane	33.77	107	70994	19.706	ug/L	100
86) Ethylbenzene	40.15	91	389337	19.808	ug/L	99
88) 2-Ethylthiophene	40.29	97	287318	19.927	ug/L	100
91) p/m-Xylene	41.38	91	602439M1	39.621	ug/L	
92) 1-Nonene	42.11	56	112732	19.218	ug/L	98
95) Nonane	42.90	43	217736M6	19.832	ug/L	
96) Styrene	43.24	104	249532	20.120	ug/L	100
98) o-Xylene	43.65	91	306286	19.944	ug/L	99
102) Isopropylbenzene	45.99	105	388847	19.769	ug/L	99
104) n-Propylbenzene	48.57	91	469015	19.766	ug/L	98
107) 1-Methyl-3-ethylbenzene	49.19	105	394971	20.069	ug/L	97
108) 1-Methyl-4-ethylbenzene	49.36	105	382400	19.878	ug/L	98
109) 1,3,5-Trimethylbenzene	49.95	105	333744	20.067	ug/L	99
110) 1-Decene	50.13	41	107647	19.447	ug/L	98
112) 1-Methyl-2-ethylbenzene	50.29	105	393280	20.428	ug/L	98
113) Decane	50.52	43	209006	20.104	ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	335780	20.178	ug/L	98
117) sec-Butylbenzene	51.42	105	440626	20.049	ug/L	98

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009682.D
 Acq On : 2 Mar 2016 12:56 pm
 Operator : VOA4:MR
 Sample : I403011603
 Misc : 20 PPB PIANO
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	375709	20.264	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	385922	20.088	ug/L	100
121)	1-Methyl-2-isopropylbenze	52.48	119	384966	20.449	ug/L	98
122)	Indan	52.57	117	347010	20.791	ug/L	100
124)	1-Methyl-3-propylbenzene	52.86	105	437371	20.401	ug/L	99
126)	1-Methyl-4-propylbenzene	53.01	105	506632	20.472	ug/L	97
127)	n-Butylbenzene	53.00	91	398047	20.272	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	382408	20.203	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	193105	20.522	ug/L	100
130)	1-Methyl-2-propylbenzene	53.41	105	458881	20.397	ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	370433	20.427	ug/L	99
132)	Undecane	53.79	57	230793M4	20.808	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	444683	20.655	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.95	119	402782	20.470	ug/L	100
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	445652	20.583	ug/L	99
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	400523	20.423	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	420758	20.346	ug/L	99
139)	Pentylbenzene	55.51	91	329784	20.273	ug/L	99
142)	Dodecane	56.01	43	163034	21.673	ug/L	97
144)	Naphthalene	56.83	128	380287	21.236	ug/L	100
145)	Benzothiophene	56.92	134	218815	21.940	ug/L	99
148)	MMT	58.00	134	139918	20.979	ug/L	97
149)	Tridecane	58.09	57	131246	23.589	ug/L	97
150)	2-Methylnaphthalene	59.56	142	183667	18.993	ug/L	95
151)	1-Methylnaphthalene	60.03	142	162241	19.682	ug/L	99

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

Quantitation Report

(QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\

Data File : V4009682.D

Acq On : 2 Mar 2016 12:56 pm

Operator : VOA4:MR

Sample : I403011603

Misc : 20 PPB PIANO

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016

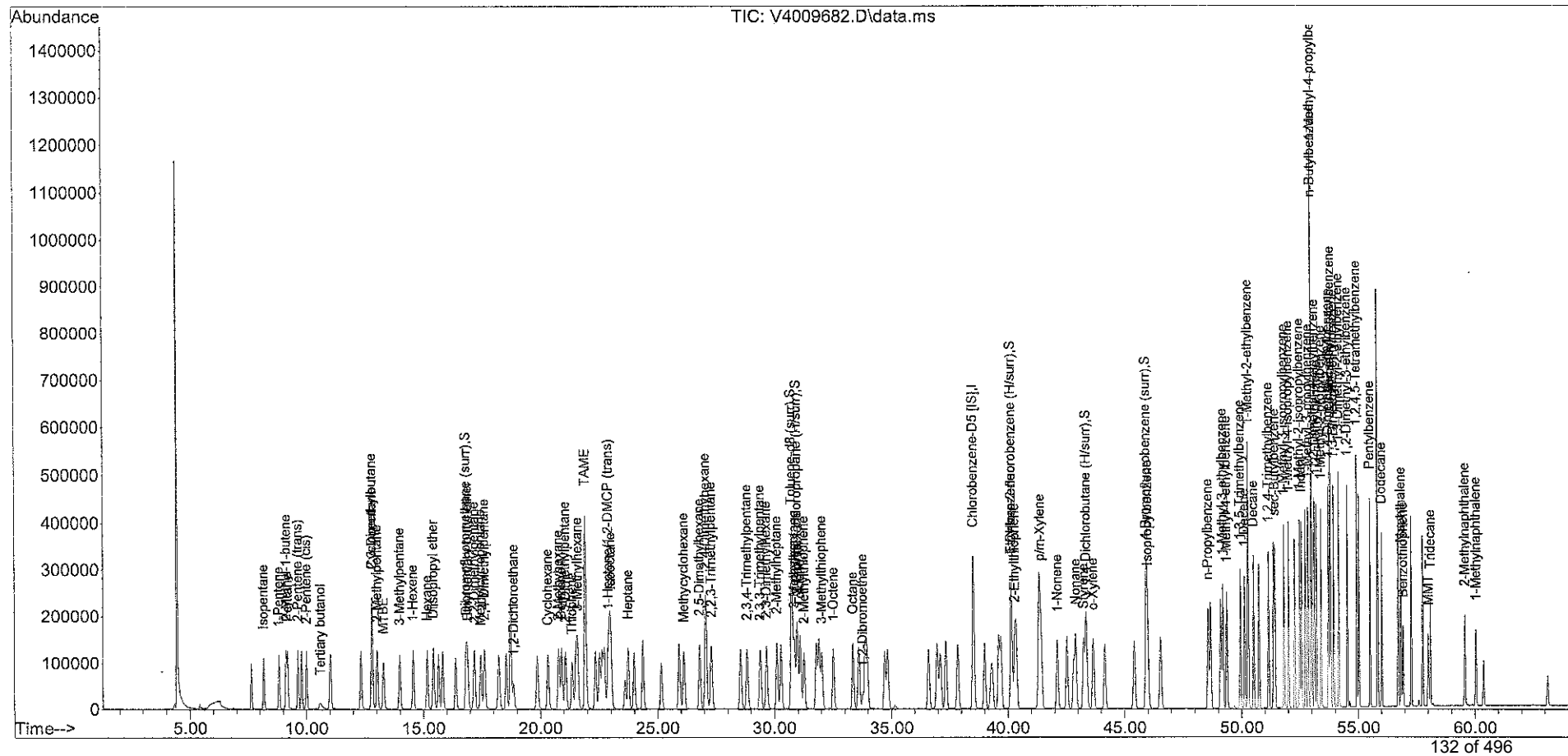
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M

Quant Title : PIANO VOLATILES

QLast Update : Mon Mar 07 10:19:30 2016

Response via : Initial Calibration

Sub List : NFPIANO - .



Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009676.D
 Acq On : 1 Mar 2016 10:10 pm
 Operator : VOA4:MR
 Sample : I403011604
 Misc : 50 PPB PIANO
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:17:09 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	635019	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	186090	50.000	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	100.00%		
62) Toluene-d8 (surr)	30.75	98	801222	50.000	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	100.00%		
64) 2-Bromo-1-chloropropane (	30.96	77	246531	50.000	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	100.00%		
87) 1-Chloro-2-fluorobenzene	40.14	130	540120	50.000	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	100.00%		
97) 1,4-Dichlorobutane (H/sur	43.36	55	489845M6	28.562	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	57.12%#		
101) 4-Bromofluorobenzene (sur	45.94	95	313705	50.000	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	100.00%		
Target Compounds						
					Qvalue	
3) Isopentane	8.17	43	238495	50.000	ug/L	100
4) 1-Pentene	8.82	42	302690	50.000	ug/L	100
5) 2-Methyl-1-butene	9.12	55	479698	50.000	ug/L	100
6) Pentane	9.18	43	420754	50.000	ug/L	100
7) 2-Pentene (trans)	9.63	55	443965	50.000	ug/L	100
9) 2-Pentene (cis)	10.00	55	447299	50.000	ug/L	100
10) Tertiary butanol	10.58	59	175586M1	250.000	ug/L	
13) Cyclopentane	12.80	70	140428	50.000	ug/L	100
14) 2,3-Dimethylbutane	12.80	71	106110	50.000	ug/L	100
15) 2-Methylpentane	13.02	43	530352	50.000	ug/L	100
16) MTBE	13.29	73	574985	50.000	ug/L	100
17) 3-Methylpentane	13.98	57	447251	50.000	ug/L	100
18) 1-Hexene	14.56	56	279253	50.000	ug/L	100
19) Hexane	15.16	57	390578	50.000	ug/L	100
20) Diisopropyl ether	15.44	45	808839	50.000	ug/L	100
25) Ethyl tertiary butyl ethe	16.89	59	728468	50.000	ug/L	100
26) 2,2-Dimethylpentane	17.18	57	550602	50.000	ug/L	100
27) Methylcyclopentane	17.46	56	513687	50.000	ug/L	100
28) 2,4-Dimethylpentane	17.61	43	486519	50.000	ug/L	100
30) 1,2-Dichloroethane	18.84	62	283379	50.000	ug/L	100
32) Cyclohexane	20.33	56	443020	50.000	ug/L	100
33) 2-Methyhexane	20.78	43	542952	50.000	ug/L	100

133 of 496

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009676.D
 Acq On : 1 Mar 2016 10:10 pm
 Operator : VOA4:MR
 Sample : I403011604
 Misc : 50 PPB PIANO
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:17:09 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
34) Benzene	20.90	78	750109	50.000	ug/L	100
35) 2,3-Dimethylpentane	21.06	56	427831	50.000	ug/L	100
36) Thiophene	21.34	84	394889	50.000	ug/L	100
38) 3-Methylhexane	21.58	43	462846	50.000	ug/L	100
39) TAME	21.91	73	579023	50.000	ug/L	100
43) 1-Heptene/1,2-DMCP (trans	22.89	70	327734	100.000	ug/L	100
44) Isooctane	22.99	57	1096895M6	49.064	ug/L	
46) Heptane	23.74	43	445208	50.000	ug/L	100
51) Methycyclohexane	26.13	83	353034	50.000	ug/L	100
52) 2,5-Dimethylhexane	26.81	57	542272	50.000	ug/L	100
53) 2,4-Dimethylhexane	27.06	57	436581M4	52.165	ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	860045	50.000	ug/L	100
57) 2,3,4-Trimethylpentane	28.84	43	673407	50.000	ug/L	100
58) 2,3,3-Trimethylpentane	29.41	43	585837	50.000	ug/L	100
59) 2,3-Dimethylhexane	29.68	43	612487	50.000	ug/L	100
60) 2-Methylheptane	30.11	57	504749	50.000	ug/L	100
63) 3-Methylheptane	30.85	43	455227	50.000	ug/L	100
65) 3-Ethylhexane	30.98	43	757505M6	53.140	ug/L	
66) Toluene	31.10	91	855708	50.000	ug/L	100
67) 2-Methylthiophene	31.27	97	686750	50.000	ug/L	100
69) 3-Methylthiophene	32.03	97	696066	50.000	ug/L	100
70) 1-Octene	32.52	55	262569	50.000	ug/L	100
71) Octane	33.36	43	580973	50.000	ug/L	100
73) 1,2-Dibromoethane	33.77	107	184037	50.000	ug/L	100
86) Ethylbenzene	40.15	91	1004072	50.000	ug/L	100
88) 2-Ethylthiophene	40.29	97	736536	50.000	ug/L	100
91) p/m-Xylene	41.41	91	1553454M1	186.325	ug/L	
92) 1-Nonene	42.11	56	299660	50.000	ug/L	100
95) Nonane	42.90	43	560841M6	45.753	ug/L	
96) Styrene	43.24	104	633556	50.000	ug/L	100
98) o-Xylene	43.66	91	784509	50.000	ug/L	100
102) Isopropylbenzene	46.00	105	1004800	50.000	ug/L	100
104) n-Propylbenzene	48.57	91	1212111	50.000	ug/L	100
107) 1-Methyl-3-ethylbenzene	49.20	105	1005337	50.000	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.37	105	982705	50.000	ug/L	100
109) 1,3,5-Trimethylbenzene	49.95	105	849602	50.000	ug/L	100
110) 1-Decene	50.13	41	282768	50.000	ug/L	100
112) 1-Methyl-2-ethylbenzene	50.29	105	983443	50.000	ug/L	100
113) Decane	50.51	43	531086	50.000	ug/L	100
115) 1,2,4-Trimethylbenzene	51.16	105	850077	50.000	ug/L	100
117) sec-Butylbenzene	51.42	105	1122667	50.000	ug/L	100

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Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009676.D
 Acq On : 1 Mar 2016 10:10 pm
 Operator : VOA4:MR
 Sample : I403011604
 Misc : 50 PPB PIANO
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:17:09 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	947101	50.000	ug/L	100
119)	1-Methyl-4-isopropylbenze	52.01	119	981392	50.000	ug/L	100
121)	1-Methyl-2-isopropylbenze	52.49	119	961695	50.000	ug/L	100
122)	Indan	52.58	117	852582	50.000	ug/L	100
124)	1-Methyl-3-propylbenzene	52.86	105	1095141	50.000	ug/L	100
126)	1-Methyl-4-propylbenzene	53.00	105	1264212	50.000	ug/L	100
127)	n-Butylbenzene	53.00	91	1003019	50.000	ug/L	100
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	966928	50.000	ug/L	100
129)	1,2-Diethylbenzene	53.22	119	480669	50.000	ug/L	100
130)	1-Methyl-2-propylbenzene	53.41	105	1149219	50.000	ug/L	100
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	926374	50.000	ug/L	100
132)	Undecane	53.79	57	566593M4	49.514	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	1099756	50.000	ug/L	100
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	1005156	50.000	ug/L	100
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	1106030	50.000	ug/L	100
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	1001801	50.000	ug/L	100
137)	1,2,4,5-Tetramethylbenzen	54.93	119	1056432	50.000	ug/L	100
139)	Pentylbenzene	55.51	91	830973	50.000	ug/L	100
142)	Dodecane	56.01	43	384267	50.000	ug/L	100
144)	Naphthalene	56.83	128	914794	50.000	ug/L	100
145)	Benzothiophene	56.92	134	509476	50.000	ug/L	100
148)	MMT	58.00	134	340698	50.000	ug/L	100
149)	Tridecane	58.09	57	284219	50.000	ug/L	100
150)	2-Methylnaphthalene	59.56	142	493986	50.000	ug/L	100
151)	1-Methylnaphthalene	60.03	142	421088	50.000	ug/L	100

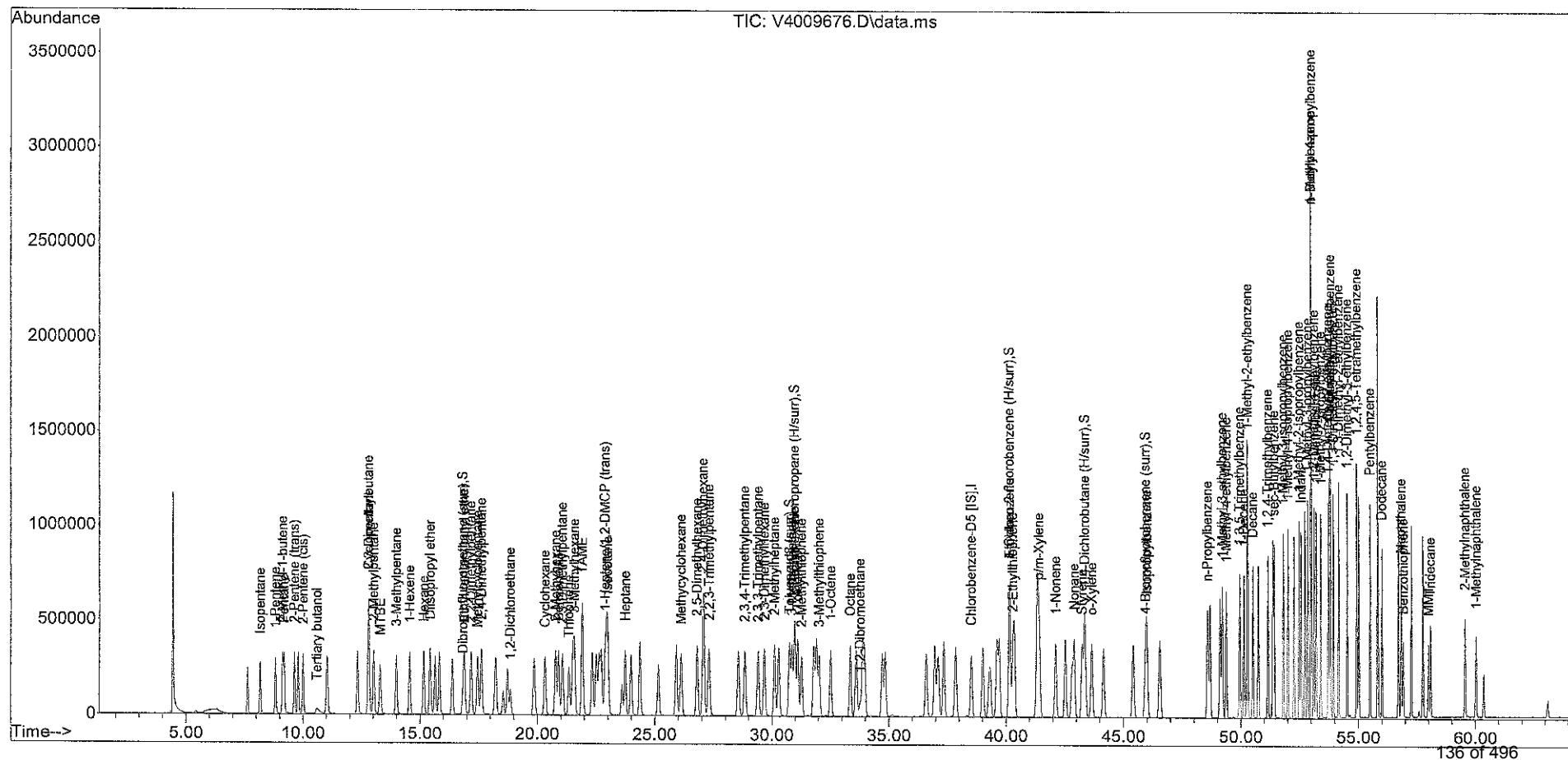
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009676.D
Acq On : 1 Mar 2016 10:10 pm
Operator : VOA4:MR
Sample : I403011604
Misc : 50 PPB PIANO
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:17:09 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009677.D
 Acq On : 1 Mar 2016 11:25 pm
 Operator : VOA4:MR
 Sample : I403011605
 Misc : 100 PPB PIANO
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	627034	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	179352	48.803	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 97.61%			
62) Toluene-d8 (surr)	30.74	98	792299	50.073	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 100.15%			
64) 2-Bromo-1-chloropropane (	30.97	77	482298	99.063	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 198.13%#			
87) 1-Chloro-2-fluorobenzene	40.15	130	1040226	97.522	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 195.04%#			
97) 1,4-Dichlorobutane (H/sur	43.36	55	958571M6	56.604	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 113.21%			
101) 4-Bromofluorobenzene (sur	45.94	95	299032	48.268	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.54%			
Target Compounds						Qvalue
3) Isopentane	8.18	43	467203	99.196	ug/L	98
4) 1-Pentene	8.82	42	588106	98.384	ug/L	100
5) 2-Methyl-1-butene	9.13	55	912028M6	96.273	ug/L	
6) Pentane	9.19	43	803029	96.643	ug/L	98
7) 2-Pentene (trans)	9.63	55	860101	98.099	ug/L	98
9) 2-Pentene (cis)	10.00	55	863335	97.734	ug/L	99
10) Tertiary butanol	10.54	59	274106M6	395.243	ug/L	
13) Cyclopentane	12.80	70	267842	96.581	ug/L	97
14) 2,3-Dimethylbutane	12.80	71	203157	96.949	ug/L	96
15) 2-Methylpentane	13.02	43	1017002	97.101	ug/L	99
16) MTBE	13.28	73	1067416	94.003	ug/L	100
17) 3-Methylpentane	13.99	57	868642	98.346	ug/L	99
18) 1-Hexene	14.56	56	541259	98.146	ug/L	100
19) Hexane	15.16	57	753529	97.692	ug/L	99
20) Diisopropyl ether	15.44	45	1508256	94.423	ug/L	99
25) Ethyl tertiary butyl ethe	16.89	59	1337296	92.957	ug/L	99
26) 2,2-Dimethylpentane	17.19	57	1068174	98.236	ug/L	99
27) Methylcyclopentane	17.46	56	987248	97.318	ug/L	99
28) 2,4-Dimethylpentane	17.63	43	930573	96.854	ug/L	99
30) 1,2-Dichloroethane	18.86	62	530533	94.800	ug/L	98
32) Cyclohexane	20.33	56	858801	98.160	ug/L	98
33) 2-Methyhexane	20.78	43	1043816	97.348	ug/L	99

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Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009677.D
 Acq On : 1 Mar 2016 11:25 pm
 Operator : VOA4:MR
 Sample : I403011605
 Misc : 100 PPB PIANO
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
34) Benzene	20.90	78	1463787	98.814	ug/L	100
35) 2,3-Dimethylpentane	21.07	56	809382	95.796	ug/L	98
36) Thiophene	21.35	84	763529	97.908	ug/L	98
38) 3-Methylhexane	21.58	43	897875	98.230	ug/L	98
39) TAME	21.91	73	1110865	97.147	ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.90	70	626086	193.468	ug/L	99
44) Isooctane	23.00	57	2130836M6	98.367	ug/L	
46) Heptane	23.74	43	841052	95.659	ug/L	99
51) Methycyclohexane	26.13	83	685219	98.283	ug/L	99
52) 2,5-Dimethylhexane	26.81	57	1044888	97.570	ug/L	98
53) 2,4-Dimethylhexane	27.07	57	840938M4	97.536	ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	1671660	98.422	ug/L	99
57) 2,3,4-Trimethylpentane	28.84	43	1285464	96.660	ug/L	99
58) 2,3,3-Trimethylpentane	29.41	43	1115303	96.401	ug/L	99
59) 2,3-Dimethylhexane	29.68	43	1186879	98.124	ug/L	96
60) 2-Methylheptane	30.12	57	965310	96.840	ug/L	98
63) 3-Methylheptane	30.85	43	890456	99.049	ug/L	98
65) 3-Ethylhexane	30.99	43	1440140M6	96.269	ug/L	
66) Toluene	31.11	91	1673555	99.033	ug/L	99
67) 2-Methylthiophene	31.27	97	1342326	98.975	ug/L	100
69) 3-Methylthiophene	32.03	97	1353089	98.433	ug/L	100
70) 1-Octene	32.52	55	504659	97.324	ug/L	99
71) Octane	33.36	43	1103731	96.200	ug/L	99
73) 1,2-Dibromoethane	33.79	107	364775	100.366	ug/L	99
86) Ethylbenzene	40.15	91	1951620	98.423	ug/L	99
88) 2-Ethylthiophene	40.29	97	1432051	98.453	ug/L	99
91) p/m-Xylene	41.40	91	2987563	194.767	ug/L	98
92) 1-Nonene	42.12	56	568915	96.136	ug/L	98
95) Nonane	42.91	43	1016050M6	91.736	ug/L	
96) Styrene	43.25	104	1208822	96.615	ug/L	100
98) o-Xylene	43.66	91	1494880	96.488	ug/L	98
102) Isopropylbenzene	46.00	105	1912835	96.397	ug/L	98
104) n-Propylbenzene	48.58	91	2298885	96.037	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	1898035	95.600	ug/L	99
108) 1-Methyl-4-ethylbenzene	49.37	105	1854455	95.556	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	1592063	94.888	ug/L	100
110) 1-Decene	50.13	41	524810	93.980	ug/L	100
112) 1-Methyl-2-ethylbenzene	50.29	105	1838247	94.650	ug/L	98
113) Decane	50.52	43	956410	91.190	ug/L	99
115) 1,2,4-Trimethylbenzene	51.16	105	1594830	95.000	ug/L	98
117) sec-Butylbenzene	51.42	105	2076779	93.671	ug/L	98

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Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009677.D
 Acq On : 1 Mar 2016 11:25 pm
 Operator : VOA4:MR
 Sample : I403011605
 Misc : 100 PPB PIANO
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	1762929	94.255	ug/L	100
119)	1-Methyl-4-isopropylbenze	52.01	119	1801553	92.954	ug/L	100
121)	1-Methyl-2-isopropylbenze	52.49	119	1791971	94.354	ug/L	99
122)	Indan	52.58	117	1581542	93.931	ug/L	99
124)	1-Methyl-3-propylbenzene	52.86	105	2001243	92.533	ug/L	99
126)	1-Methyl-4-propylbenzene	53.01	105	2320408	92.942	ug/L	97
127)	n-Butylbenzene	53.01	91	1820684	91.916	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	1767490	92.561	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	881495	92.862	ug/L	99
130)	1-Methyl-2-propylbenzene	53.41	105	2099164	92.493	ug/L	100
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	1694621	92.630	ug/L	99
132)	Undecane	53.79	57	922351M4	82.431	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	2023449	93.167	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	1835243	92.454	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	2004966	91.792	ug/L	99
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	1833730	92.687	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	1924356	92.238	ug/L	100
139)	Pentylbenzene	55.51	91	1486232	90.566	ug/L	100
142)	Dodecane	56.01	43	537220	70.792	ug/L	97
144)	Naphthalene	56.83	128	1586012	87.791	ug/L	100
145)	Benzothiophene	56.92	134	877925	87.257	ug/L	100
148)	MMT	58.00	134	521129	77.454	ug/L	100
149)	Tridecane	58.09	57	374288	66.684	ug/L	98
150)	2-Methylnaphthalene	59.56	142	836422	85.739	ug/L	99
151)	1-Methylnaphthalene	60.03	142	697486	83.874	ug/L	100

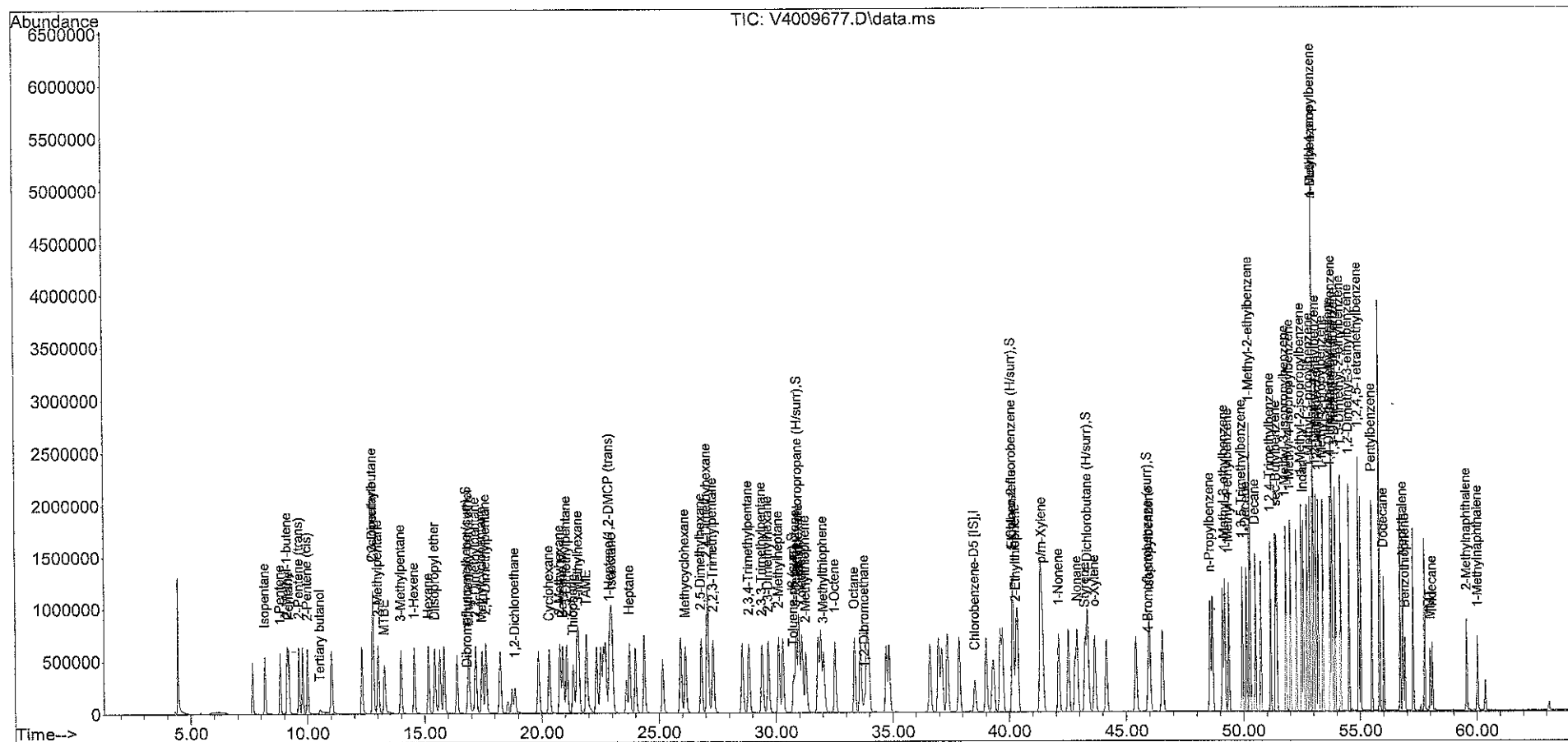
(#) = qualifier out of range (m) = manual integration (+) = signals summed

(QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009677.D
Acq On : 1 Mar 2016 11:25 pm
Operator : VOA4:MR
Sample : I403011605
Misc : 100 PPB PIANO
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009678.D
 Acq On : 2 Mar 2016 12:39 am
 Operator : VOA4:MR
 Sample : I403011606
 Misc : 200 PPB PIANO
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.53	117	580781	50.000	ug/L	0.01
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	168340	49.455	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	98.91%		
62) Toluene-d8 (surr)	30.76	98	759955	51.854	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	103.71%		
64) 2-Bromo-1-chloropropane (	30.98	77	866014	192.043	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	384.09%#		
87) 1-Chloro-2-fluorobenzene	40.15	130	1938415	196.201	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery =	392.40%#		
97) 1,4-Dichlorobutane (H/sur	43.36	55	1867715M6	119.073	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	238.15%#		
101) 4-Bromofluorobenzene (sur	45.94	95	273624	47.684	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	95.37%		
Target Compounds						
					Qvalue	
3) Isopentane	8.19	43	927871	212.693	ug/L	96
4) 1-Pentene	8.83	42	1177006	212.581	ug/L	100
5) 2-Methyl-1-butene	9.14	55	1799521M6	205.085	ug/L	
6) Pentane	9.20	43	1602203	208.177	ug/L	99
7) 2-Pentene (trans)	9.64	55	1709441	210.499	ug/L	99
9) 2-Pentene (cis)	10.01	55	1717536	209.919	ug/L	99
10) Tertiary butanol	10.50	59	437185M1	680.596	ug/L	
13) Cyclopentane	12.81	70	542341	211.136	ug/L	98
14) 2,3-Dimethylbutane	12.81	71	410615	211.555	ug/L	95
15) 2-Methylpentane	13.02	43	2042318	210.525	ug/L	99
16) MTBE	13.28	73	2084004	198.146	ug/L	99
17) 3-Methylpentane	13.99	57	1731536	211.653	ug/L	99
18) 1-Hexene	14.56	56	1071210	209.711	ug/L	98
19) Hexane	15.17	57	1513067	211.785	ug/L	99
20) Diisopropyl ether	15.43	45	2886340	195.088	ug/L	98
25) Ethyl tertiary butyl ethe	16.89	59	2554374	191.698	ug/L	100
26) 2,2-Dimethylpentane	17.19	57	2170378	215.497	ug/L	99
27) Methylcyclopentane	17.47	56	1976041	210.301	ug/L	99
28) 2,4-Dimethylpentane	17.63	43	1851018	207.996	ug/L	99
30) 1,2-Dichloroethane	18.86	62	1024814	197.707	ug/L	99
32) Cyclohexane	20.33	56	1718097	212.016	ug/L	98
33) 2-Methyhexane	20.78	43	2092403	210.682	ug/L	98

AT 3/22/16 MR 3/22/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009678.D
 Acq On : 2 Mar 2016 12:39 am
 Operator : VOA4:MR
 Sample : I403011606
 Misc : 200 PPB PIANO
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
34) Benzene	20.90	78	2859818	208.429	ug/L	99
35) 2,3-Dimethylpentane	21.08	56	1632627	208.621	ug/L	100
36) Thiophene	21.36	84	1460711	202.224	ug/L	96
38) 3-Methylhexane	21.59	43	1776059	209.781	ug/L	98
39) TAME	21.91	73	1958961	184.959	ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.91	70	1236817	412.628	ug/L	97
44) Isooctane	23.01	57	4097058M6	204.198	ug/L	
46) Heptane	23.75	43	1656981	203.469	ug/L	99
51) Methycyclohexane	26.14	83	1365525	211.460	ug/L	98
52) 2,5-Dimethylhexane	26.81	57	2052267	206.900	ug/L	98
53) 2,4-Dimethylhexane	27.07	57	1637278M4	205.023	ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	3271066	207.928	ug/L	99
57) 2,3,4-Trimethylpentane	28.85	43	2518152	204.432	ug/L	99
58) 2,3,3-Trimethylpentane	29.42	43	2168892	202.398	ug/L	99
59) 2,3-Dimethylhexane	29.68	43	2294814	204.831	ug/L	96
60) 2-Methylheptane	30.12	57	1884553	204.116	ug/L	98
63) 3-Methylheptane	30.87	43	1705688	204.841	ug/L	98
65) 3-Ethylhexane	30.99	43	2782520M6	200.815	ug/L	
66) Toluene	31.12	91	3237139	206.814	ug/L	99
67) 2-Methylthiophene	31.28	97	2560788	203.854	ug/L	99
69) 3-Methylthiophene	32.04	97	2571175	201.941	ug/L	98
70) 1-Octene	32.52	55	971686	202.314	ug/L	100
71) Octane	33.37	43	2123084	199.782	ug/L	99
73) 1,2-Dibromoethane	33.78	107	682481	202.735	ug/L	98
86) Ethylbenzene	40.16	91	3674352	200.060	ug/L	98
88) 2-Ethylthiophene	40.30	97	2646700	196.451	ug/L	99
91) p/m-Xylene	41.41	91	5657851	398.224	ug/L	98
92) 1-Nonene	42.12	56	1082833	197.550	ug/L	99
95) Nonane	42.91	43	1938468M6	188.957	ug/L	
96) Styrene	43.25	104	2262818	195.258	ug/L	100
98) o-Xylene	43.67	91	2805700	195.518	ug/L	100
102) Isopropylbenzene	46.00	105	3598336	195.779	ug/L	99
104) n-Propylbenzene	48.58	91	4415703	199.160	ug/L	100
107) 1-Methyl-3-ethylbenzene	49.20	105	3635680	197.705	ug/L	99
108) 1-Methyl-4-ethylbenzene	49.38	105	3531981	196.490	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	3085901	198.569	ug/L	99
110) 1-Decene	50.14	41	989992	191.402	ug/L	99
112) 1-Methyl-2-ethylbenzene	50.29	105	3522502	195.815	ug/L	99
113) Decane	50.52	43	1764597	181.646	ug/L	99
115) 1,2,4-Trimethylbenzene	51.16	105	3106175	199.762	ug/L	99
117) sec-Butylbenzene	51.43	105	4060458	197.728	ug/L	99

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Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009678.D
 Acq On : 2 Mar 2016 12:39 am
 Operator : VOA4:MR
 Sample : I403011606
 Misc : 200 PPB PIANO
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:19:30 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.82	119	3490349	201.473	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	3583214	199.606	ug/L	99
121)	1-Methyl-2-isopropylbenze	52.49	119	3554561	202.066	ug/L	99
122)	Indan	52.58	117	3080343M4	197.518	ug/L	
124)	1-Methyl-3-propylbenzene	52.86	105	4020714	200.714	ug/L	100
126)	1-Methyl-4-propylbenzene	53.01	105	4661812	201.595	ug/L	98
127)	n-Butylbenzene	53.01	91	3666929	199.865	ug/L	99
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	3614945	204.386	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	1763438	200.567	ug/L	99
130)	1-Methyl-2-propylbenzene	53.41	105	4274875	203.360	ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	3457503	204.042	ug/L	99
132)	Undecane	53.79	57	1796915M4	173.381	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	4119224	204.769	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.95	119	3777913	205.477	ug/L	98
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	4134807	204.377	ug/L	100
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	3765595	205.493	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	4029239	208.509	ug/L	100
139)	Pentylbenzene	55.51	91	3142264	206.728	ug/L	99
142)	Dodecane	56.01	43	1206842	171.697	ug/L	96
144)	Naphthalene	56.83	128	3233690	193.250	ug/L	100
145)	Benzothiophene	56.92	134	1755205	188.343	ug/L	100
148)	MMT	58.00	134	1133092	181.819	ug/L	99
149)	Tridecane	58.09	57	1045090	201.023	ug/L	98
150)	2-Methylnaphthalene	59.56	142	1839724	203.602	ug/L	98
151)	1-Methylnaphthalene	60.03	142	1536685	199.506	ug/L	99

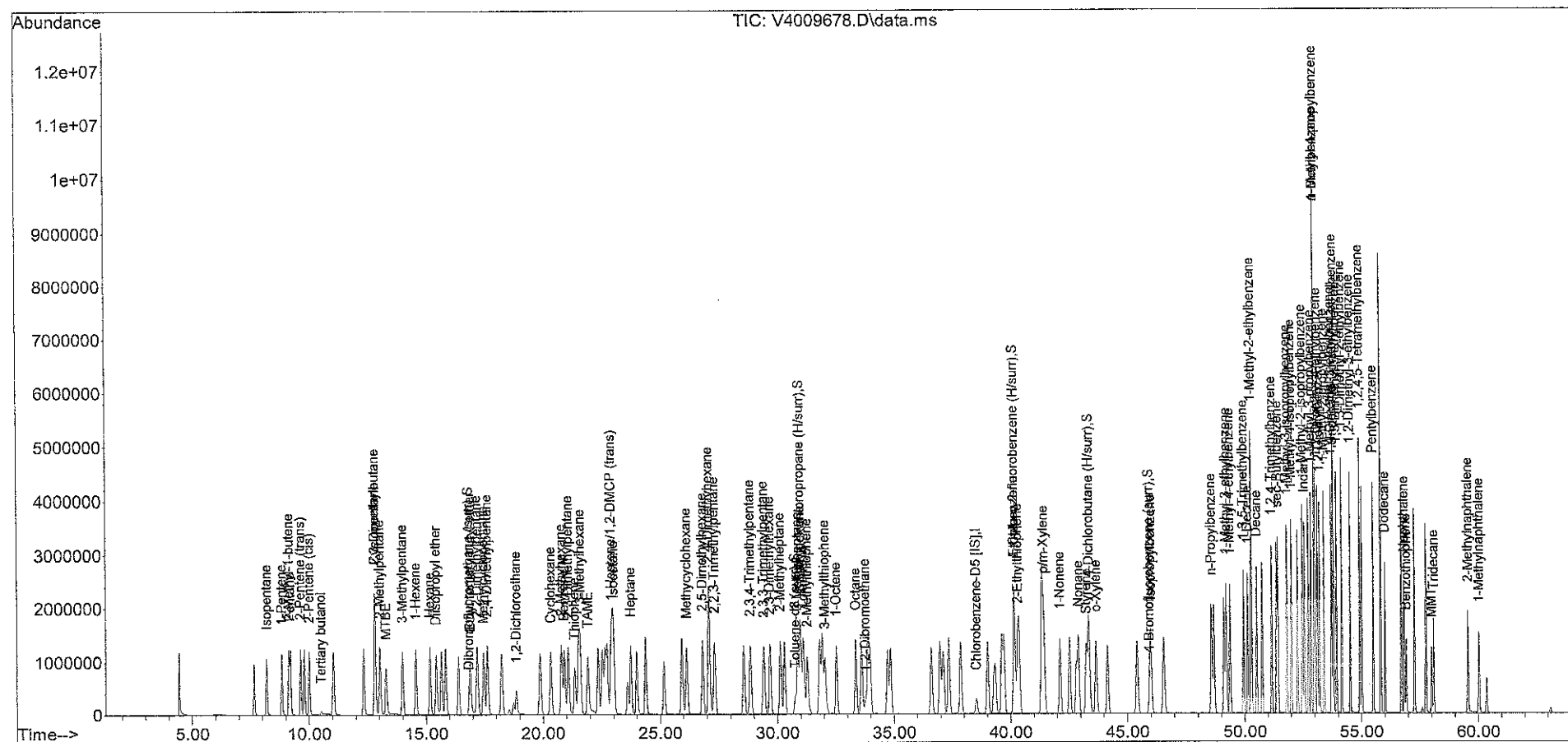
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009678.D
Acq On : 2 Mar 2016 12:39 am
Operator : VOA4:MR
Sample : I403011606
Misc : 200 PPB PIANO
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009683.D
 Acq On : 2 Mar 2016 4:27 pm
 Operator : VOA4:MR
 Sample : ICV
 Misc : 20 PPB PIANO ICV
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:32:20 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	101	0.00
3	Isopentane	0.407	0.000#	100.0#	0#	-8.17#
4	1-Pentene	0.477	0.505	-5.9	107	0.00
5	2-Methyl-1-butene	0.743	0.000#	100.0#	0#	-9.12#
6	Pentane	0.663	0.678	-2.3	104	0.00
7	2-Pentene (trans)	0.689	0.000#	100.0#	0#	-9.63#
9	2-Pentene (cis)	0.707	0.000#	100.0#	0#	-10.00#
10	Tertiary butanol	0.048	0.059#	-22.9	100	0.00
13	Cyclopentane	0.214	0.219	-2.3	101	0.00
14	2,3-Dimethylbutane	0.161	0.000#	100.0#	0#	-12.80#
15	2-Methylpentane	0.841	0.860	-2.3	104	0.00
16	MTBE	0.867	0.901	-3.9	102	-0.01
17	3-Methylpentane	0.695	0.709	-2.0	102	0.00
18	1-Hexene	0.427	0.424	0.7	98	0.00
19	Hexane	0.599	0.607	-1.3	101	0.00
20	Diisopropyl ether	1.212	1.269	-4.7	102	-0.01
24 S	Dibromofluoromethane (surr)	0.291	0.296	-1.7	103	0.00
25	Ethyl tertiary butyl ether	1.079	1.112	-3.1	101	0.00
26	2,2-Dimethylpentane	0.861	0.000#	100.0#	0#	-17.18#
27	Methylcyclopentane	0.792	0.822	-3.8	102	0.00
28	2,4-Dimethylpentane	0.773	0.788	-1.9	104	0.00
30	1,2-Dichloroethane	0.430	0.000#	100.0#	0#	-18.84#
32	Cyclohexane	0.679	0.691	-1.8	103	0.00
33	2-Methylhexane	0.850	0.851	-0.1	102	-0.02
34 M	Benzene	1.152	1.202	-4.3	103	-0.01
35	2,3-Dimethylpentane	0.653	0.660	-1.1	100	0.00
36	Thiophene	0.598	0.000#	100.0#	0#	-21.34#
38	3-Methylhexane	0.743	0.701	5.7	96	-0.02
39	TAME	0.943	0.932	1.2	103	0.00
43	1-Heptene/1,2-DMCP (trans)	0.251	0.000#	100.0#	0#	-22.89#
44	Isooctane	1.690	1.717	-1.6	99	0.00
46	Heptane	0.702	0.707	-0.7	102	-0.02
51	Methylcyclohexane	0.539	0.552	-2.4	103	-0.02
52	2,5-Dimethylhexane	0.840	0.000#	100.0#	0#	-26.81#
53	2,4-Dimethylhexane	0.666	0.000#	100.0#	0#	-27.06#
55	2,2,3-Trimethylpentane	1.330	0.000#	100.0#	0#	-27.32#
57	2,3,4-Trimethylpentane	1.041	0.000#	100.0#	0#	-28.84#
58	2,3,3-Trimethylpentane	0.905	0.000#	100.0#	0#	-29.41#
59	2,3-Dimethylhexane	0.954	0.000#	100.0#	0#	-29.68#

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Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009683.D
 Acq On : 2 Mar 2016 4:27 pm
 Operator : VOA4:MR
 Sample : ICV
 Misc : 20 PPB PIANO ICV
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:32:20 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60	2-Methylheptane	0.763	0.776	-1.7	102	-0.01
62 S	Toluene-d8 (surr)	1.260	1.229	2.5	101	-0.01
63	3-Methylheptane	0.749	0.708	5.5	96	0.00
64 S	2-Bromo-1-chloropropane (H/	0.371	0.000#	100.0#	0#	-30.96#
65	3-Ethylhexane	1.157	0.000#	100.0#	0#	-30.98#
66 M	Toluene	1.313	1.350	-2.8	101	0.00
67	2-Methylthiophene	1.042	0.000#	100.0#	0#	-31.27#
69	3-Methylthiophene	1.059	0.000#	100.0#	0#	-32.03#
70	1-Octene	0.399	0.000#	100.0#	0#	-32.52#
71	Octane	0.891	0.891	0.0	102	-0.01
73	1,2-Dibromoethane	0.274	0.000#	100.0#	0#	-33.77#
86	Ethylbenzene	1.519	1.536	-1.1	99	-0.01
87 S	1-Chloro-2-fluorobenzene (H	0.811	0.000#	100.0#	0#	-40.14#
88	2-Ethylthiophene	1.108	0.000#	100.0#	0#	-40.29#
91	p/m-Xylene	1.172	1.212	-3.4	101	-0.02
92	1-Nonene	0.441	0.000#	100.0#	0#	-42.11#
95	Nonane	0.853	0.832	2.5	96	0.00
96	Styrene	0.949	0.000#	100.0#	0#	-43.24#
97 S	1,4-Dichlorobutane (H/surr)	0.746	0.000#	100.0#	0#	-43.36#
98	o-Xylene	1.185	1.226	-3.5	100	-0.01
101 S	4-Bromofluorobenzene (surr)	0.490	0.498	-1.6	100	0.00
102	Isopropylbenzene	1.512	1.563	-3.4	101	-0.01
104	n-Propylbenzene	1.821	1.873	-2.9	100	0.00
107	1-Methyl-3-ethylbenzene	1.515	1.551	-2.4	98	0.00
108	1-Methyl-4-ethylbenzene	1.478	1.544	-4.5	101	0.00
109	1,3,5-Trimethylbenzene	1.280	1.341	-4.8	101	0.00
110	1-Decene	0.428	0.430	-0.5	100	0.00
112	1-Methyl-2-ethylbenzene	1.492	1.564	-4.8	100	0.00
113	Decane	0.849	0.848	0.1	102	0.00
115	1,2,4-Trimethylbenzene	1.294	1.343	-3.8	100	0.00
117	sec-Butylbenzene	1.697	1.762	-3.8	100	0.00
118	1-Methyl-3-isopropylbenzene	1.434	0.000#	100.0#	0#	-51.81#
119	1-Methyl-4-isopropylbenzene	1.474	0.000#	100.0#	0#	-52.01#
121	1-Methyl-2-isopropylbenzene	1.475	0.000#	100.0#	0#	-52.49#
122	Indan	1.302	0.000#	100.0#	0#	-52.58#
124	1-Methyl-3-propylbenzene	1.670	0.000#	100.0#	0#	-52.86#
126	1-Methyl-4-propylbenzene	1.937	2.015	-4.0	100	0.00
127	n-Butylbenzene	1.529	1.597	-4.4	101	0.00
128	1,2-Dimethyl-4-ethylbenzene	1.476	0.000#	100.0#	0#	-53.13#

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Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009683.D
 Acq On : 2 Mar 2016 4:27 pm
 Operator : VOA4:MR
 Sample : ICV
 Misc : 20 PPB PIANO ICV
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:32:20 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.771	-4.0	100	0.00
130	1-Methyl-2-propylbenzene	1.755	0.000#	100.0#	0#	-53.41#
131	1,4-Dimethyl-2-ethylbenzene	1.411	0.000#	100.0#	0#	-53.72#
132	Undecane	0.857	0.919	-7.2	100	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	0.000#	100.0#	0#	-53.81#
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.641	-6.2	102	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	0.000#	100.0#	0#	-54.17#
136	1,2-Dimethyl-3-ethylbenzene	1.534	0.000#	100.0#	0#	-54.53#
137	1,2,4,5-Tetramethylbenzene	1.620	0.000#	100.0#	0#	-54.93#
139	Pentylbenzene	1.273	1.331	-4.6	101	0.00
142	Dodecane	0.620	0.704	-13.5	108	0.00
144	Naphthalene	1.378	0.000#	100.0#	0#	-56.83#
145	Benzothiophene	0.763	0.000#	100.0#	0#	-56.92#
148	MMT	0.487	0.000#	100.0#	0#	-58.00#
149	Tridecane	0.529	0.000#	100.0#	0#	-58.09#
150	2-Methylnaphthalene	0.702	0.000#	100.0#	0#	-59.56#
151	1-Methylnaphthalene	0.592	0.000#	100.0#	0#	-60.03#

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009683.D
 Acq On : 2 Mar 2016 4:27 pm
 Operator : VOA4:MR
 Sample : ICV
 Misc : 20 PPB PIANO ICV
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:32:20 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	626354	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	185652	51.004	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	102.01%		
62) Toluene-d8 (surr)	30.74	98	770067	48.805	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery =	97.61%		
64) 2-Bromo-1-chloropropane (	0.00	77	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
87) 1-Chloro-2-fluorobenzene	0.00	130	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
97) 1,4-Dichlorobutane (H/sur	0.00	55	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery =	0.00%#		
101) 4-Bromofluorobenzene (sur	45.93	95	311708	50.778	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	101.56%		
Target Compounds						
					Qvalue	
4) 1-Pentene	8.82	42	126411	21.165	ug/L	99
6) Pentane	9.19	43	169800	20.454	ug/L	98
10) Tertiary butanol	10.59	59	73981M1	122.757	ug/L	
13) Cyclopentane	12.80	70	54962	20.467	ug/L	# 29
15) 2-Methylpentane	13.01	43	215380	20.454	ug/L	100
16) MTBE	13.28	73	225697	20.774	ug/L	99
17) 3-Methylpentane	13.98	57	177546	20.387	ug/L	99
18) 1-Hexene	14.55	56	106105	19.817	ug/L	98
19) Hexane	15.16	57	152022	20.263	ug/L	96
20) Diisopropyl ether	15.42	45	317885	20.937	ug/L	97
25) Ethyl tertiary butyl ethe	16.88	59	278545	20.611	ug/L	97
27) Methylcyclopentane	17.45	56	206067	20.761	ug/L	98
28) 2,4-Dimethylpentane	17.61	43	197515	20.391	ug/L	99
32) Cyclohexane	20.32	56	173044	20.342	ug/L	99
33) 2-Methyhexane	20.76	43	213288	20.042	ug/L	100
34) Benzene	20.89	78	301134	20.869	ug/L	98
35) 2,3-Dimethylpentane	21.06	56	165321	20.215	ug/L	98
38) 3-Methylhexane	21.56	43	175568	18.868	ug/L	98
39) TAME	21.90	73	233514	19.762	ug/L	97
44) Isooctane	22.98	57	430105	20.313	ug/L	95
46) Heptane	23.72	43	177018	20.123	ug/L	98
51) Methycyclohexane	26.11	83	138191	20.452	ug/L	98
60) 2-Methylheptane	30.10	57	194315	20.333	ug/L	97

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AT 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009683.D
 Acq On : 2 Mar 2016 4:27 pm
 Operator : VOA4:MR
 Sample : ICV
 Misc : 20 PPB PIANO ICV
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:32:20 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
63) 3-Methylheptane	30.84	43	177448	18.919	ug/L	98
66) Toluene	31.10	91	338199	20.557	ug/L	96
71) Octane	33.35	43	223141	19.999	ug/L	99
86) Ethylbenzene	40.14	91	384724	20.219	ug/L	99
91) p/m-Xylene	41.39	91	607545M1	41.375	ug/L	
95) Nonane	42.89	43	208357	19.490	ug/L	98
98) o-Xylene	43.64	91	307194	20.699	ug/L	99
102) Isopropylbenzene	45.99	105	391512	20.665	ug/L	98
104) n-Propylbenzene	48.57	91	469294	20.576	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.19	105	388498	20.468	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.36	105	386791	20.893	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	336091	20.967	ug/L	99
110) 1-Decene	50.13	41	107704	20.087	ug/L	99
112) 1-Methyl-2-ethylbenzene	50.28	105	391746	20.961	ug/L	99
113) Decane	50.52	43	212384	19.980	ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	336595	20.766	ug/L	97
117) sec-Butylbenzene	51.42	105	441398	20.768	ug/L	99
126) 1-Methyl-4-propylbenzene	53.00	105	504724	20.800	ug/L	100
127) n-Butylbenzene	53.00	91	400134	20.890	ug/L	99
129) 1,2-Diethylbenzene	53.22	119	193127	20.817	ug/L	99
132) Undecane	53.78	57	230354	21.450	ug/L	99
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	411246	21.246	ug/L	98
139) Pentylbenzene	55.51	91	333569	20.915	ug/L	99
142) Dodecane	56.01	43	176321	22.717	ug/L	97

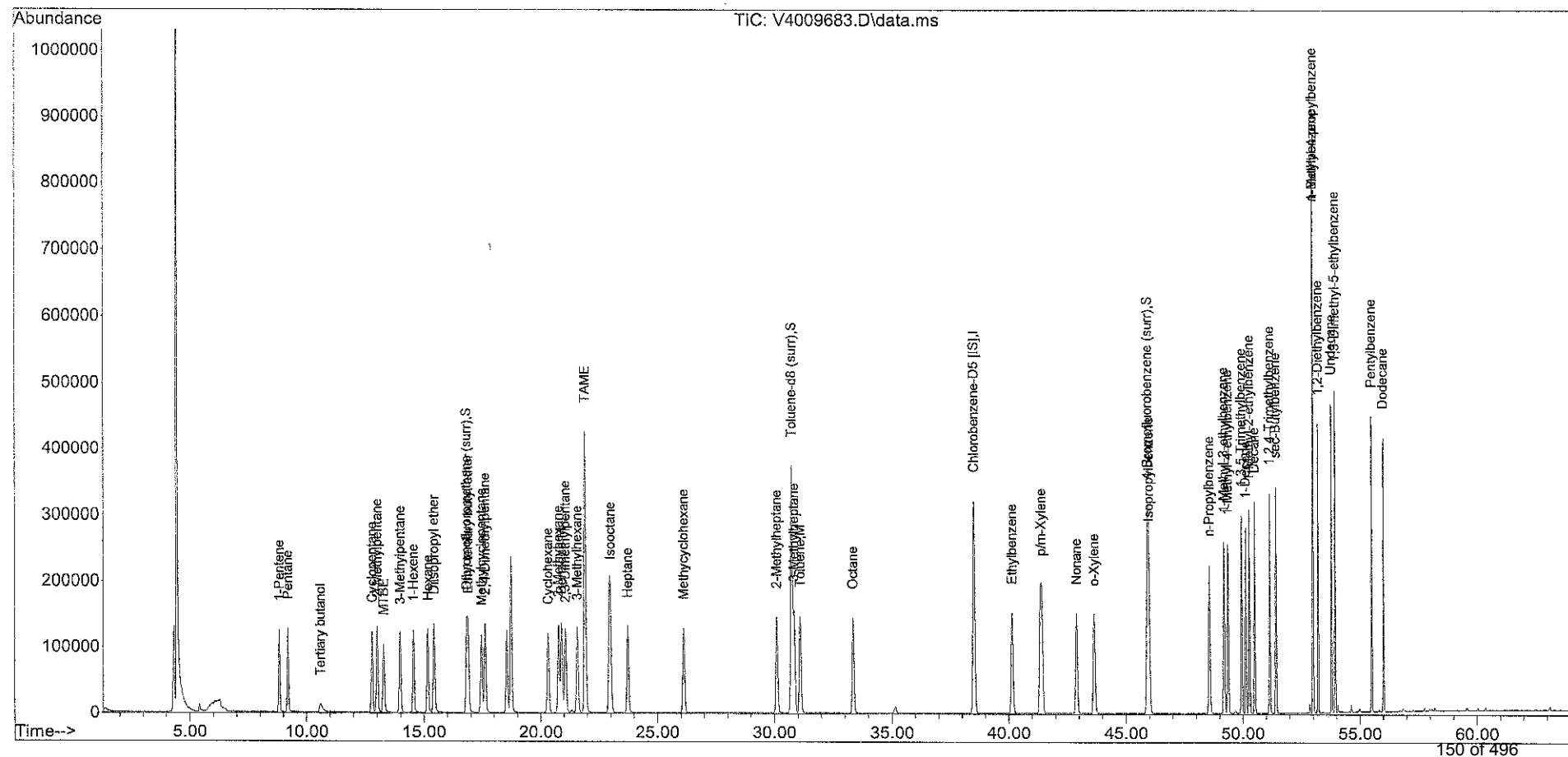
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
 Data File : V4009683.D
 Acq On : 2 Mar 2016 4:27 pm
 Operator : VOA4:MR
 Sample : ICV
 Misc : 20 PPB PIANO ICV
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:32:20 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .



Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009725.D
 Acq On : 18 Mar 2016 12:12 pm
 Operator : VOA4:MR
 Sample : C403181602
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	85	0.00
3	Isopentane	0.407	0.402	1.2	91	0.00
4	1-Pentene	0.477	0.514	-7.8	92	0.01
5	2-Methyl-1-butene	0.743	0.826	-11.2	93	0.00
6	Pentane	0.663	0.704	-6.2	90	0.01
7	2-Pentene (trans)	0.689	0.765	-11.0	93	0.00
9	2-Pentene (cis)	0.707	0.783	-10.7	94	0.00
10	Tertiary butanol	0.048	0.046#	4.2	71	-0.07
13	Cyclopentane	0.214	0.241	-12.6	93	0.00
14	2,3-Dimethylbutane	0.161	0.183	-13.7	93	0.00
15	2-Methylpentane	0.841	0.902	-7.3	92	0.00
16	MTBE	0.867	0.961	-10.8	90	0.00
17	3-Methylpentane	0.695	0.769	-10.6	93	0.00
18	1-Hexene	0.427	0.479	-12.2	93	0.00
19	Hexane	0.599	0.670	-11.9	93	0.00
20	Diisopropyl ether	1.212	1.322	-9.1	88	0.00
24 S	Dibromofluoromethane (surr)	0.291	0.352	-21.0	102	0.00
25	Ethyl tertiary butyl ether	1.079	1.190	-10.3	88	0.00
26	2,2-Dimethylpentane	0.861	0.952	-10.6	93	0.00
27	Methylcyclopentane	0.792	0.895	-13.0	94	0.00
28	2,4-Dimethylpentane	0.773	0.813	-5.2	90	0.00
30	1,2-Dichloroethane	0.430	0.468	-8.8	89	0.00
32	Cyclohexane	0.679	0.758	-11.6	92	0.00
33	2-Methylhexane	0.850	0.919	-8.1	91	0.00
34 M	Benzene	1.152	1.276	-10.8	92	0.00
35	2,3-Dimethylpentane	0.653	0.730	-11.8	92	0.00
36	Thiophene	0.598	0.666	-11.4	91	0.00
38	3-Methylhexane	0.743	0.789	-6.2	92	-0.01
39	TAME	0.943	0.902	4.3	84	0.00
43	1-Heptene/1,2-DMCP (trans)	0.251	0.279	-11.2	92	0.00
44	Isooctane	1.690	1.904	-12.7	94	0.00
46	Heptane	0.702	0.764	-8.8	93	0.00
51	Methycyclohexane	0.539	0.606	-12.4	93	0.00
52	2,5-Dimethylhexane	0.840	0.917	-9.2	91	0.00
53	2,4-Dimethylhexane	0.666	0.736	-10.5	91	0.00
55	2,2,3-Trimethylpentane	1.330	1.468	-10.4	92	-0.01
57	2,3,4-Trimethylpentane	1.041	1.110	-6.6	89	0.00
58	2,3,3-Trimethylpentane	0.905	0.963	-6.4	89	-0.01
59	2,3-Dimethylhexane	0.954	1.028	-7.8	91	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009725.D
 Acq On : 18 Mar 2016 12:12 pm
 Operator : VOA4:MR
 Sample : C403181602
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60	2-Methylheptane	0.763	0.846	-10.9	90	0.00
62 S	Toluene-d8 (surr)	1.260	1.369	-8.7	92	0.00
63	3-Methylheptane	0.749	0.743	0.8	88	0.00
64 S	2-Bromo-1-chloropropane (H/	0.371	0.370	0.3	81	0.00
65	3-Ethylhexane	1.157	1.249	-8.0	89	0.00
66 M	Toluene	1.313	1.382	-5.3	87	0.00
67	2-Methylthiophene	1.042	1.088	-4.4	86	0.00
69	3-Methylthiophene	1.059	1.081	-2.1	84	0.00
70	1-Octene	0.399	0.432	-8.3	89	0.00
71	Octane	0.891	0.947	-6.3	88	0.00
73	1,2-Dibromoethane	0.274	0.266	2.9	78	0.00
86	Ethylbenzene	1.519	1.526	-0.5	82	-0.01
87 S	1-Chloro-2-fluorobenzene (H	0.811	0.765	5.7	76	0.00
88	2-Ethylthiophene	1.108	1.102	0.5	81	0.00
91	p/m-Xylene	1.172	1.161	0.9	81	-0.02
92	1-Nonene	0.441	0.466	-5.7	84	0.00
95	Nonane	0.853	0.878	-2.9	85	0.00
96	Styrene	0.949	0.880	7.3	75	0.00
97 S	1,4-Dichlorobutane (H/surr)	0.746	0.748	-0.3	82	0.00
98	o-Xylene	1.185	1.131	4.6	78	-0.01
101 S	4-Bromofluorobenzene (surr)	0.490	0.459	6.3	79	0.00
102	Isopropylbenzene	1.512	1.489	1.5	80	0.00
104	n-Propylbenzene	1.821	1.784	2.0	79	0.00
107	1-Methyl-3-ethylbenzene	1.515	1.487	1.8	80	0.00
108	1-Methyl-4-ethylbenzene	1.478	1.453	1.7	80	0.00
109	1,3,5-Trimethylbenzene	1.280	1.255	2.0	80	0.00
110	1-Decene	0.428	0.441	-3.0	84	0.00
112	1-Methyl-2-ethylbenzene	1.492	1.442	3.4	79	0.00
113	Decane	0.849	0.837	1.4	85	0.00
115	1,2,4-Trimethylbenzene	1.294	1.254	3.1	80	0.00
117	sec-Butylbenzene	1.697	1.708	-0.6	82	0.00
118	1-Methyl-3-isopropylbenzene	1.434	1.451	-1.2	83	0.00
119	1-Methyl-4-isopropylbenzene	1.474	1.483	-0.6	82	0.00
121	1-Methyl-2-isopropylbenzene	1.475	1.469	0.4	82	0.00
122	Indan	1.302	1.209	7.1	77	0.00
124	1-Methyl-3-propylbenzene	1.670	1.699	-1.7	84	0.00
126	1-Methyl-4-propylbenzene	1.937	1.985	-2.5	85	0.00
127	n-Butylbenzene	1.529	1.555	-1.7	84	0.00
128	1,2-Dimethyl-4-ethylbenzene	1.476	1.542	-4.5	86	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009725.D
 Acq On : 18 Mar 2016 12:12 pm
 Operator : VOA4:MR
 Sample : C403181602
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.742	-0.1	83	0.00
130	1-Methyl-2-propylbenzene	1.755	1.800	-2.6	85	0.00
131	1,4-Dimethyl-2-ethylbenzene	1.411	1.459	-3.4	85	0.00
132	Undecane	0.857	0.971	-13.3	93	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	1.748	-3.2	86	0.00
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.607	-4.0	86	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	1.718	-1.2	84	0.00
136	1,2-Dimethyl-3-ethylbenzene	1.534	1.587	-3.5	86	0.00
137	1,2,4,5-Tetramethylbenzene	1.620	1.747	-7.8	89	0.00
139	Pentylbenzene	1.273	1.406	-10.4	91	0.00
142	Dodecane	0.620	0.648	-4.5	91	0.00
144	Naphthalene	1.378	1.537	-11.5	91	0.00
145	Benzothiophene	0.763	0.817	-7.1	87	0.00
148	MMT	0.487	0.527	-8.2	83	0.00
149	Tridecane	0.529	0.507	4.2	96	0.00
150	2-Methylnaphthalene	0.702	0.839	-19.5	92	0.00
151	1-Methylnaphthalene	0.592	0.741	-25.2#	95	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009725.D
 Acq On : 18 Mar 2016 12:12 pm
 Operator : VOA4:MR
 Sample : C403181602
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	539950	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	189912	60.524	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 121.05%#			
62) Toluene-d8 (surr)	30.74	98	739292	54.353	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 108.71%			
64) 2-Bromo-1-chloropropane (	30.96	77	199826M1	49.914	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.83%			
87) 1-Chloro-2-fluorobenzene	40.13	130	412832	47.121	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.24%			
97) 1,4-Dichlorobutane (H/sur	43.35	55	404015M6	50.125	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.25%			
101) 4-Bromofluorobenzene (sur	45.93	95	247738	46.815	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 93.63%			
Target Compounds						
						Qvalue
3) Isopentane	8.18	43	217206	49.429	ug/L	99
4) 1-Pentene	8.83	42	277484	53.893	ug/L	99
5) 2-Methyl-1-butene	9.13	55	446104	55.629	ug/L	98
6) Pentane	9.19	43	380039	53.106	ug/L	98
7) 2-Pentene (trans)	9.63	55	412836	55.503	ug/L	99
9) 2-Pentene (cis)	10.00	55	422674	55.374	ug/L	99
10) Tertiary butanol	10.52	59	124336	239.327	ug/L	99
13) Cyclopentane	12.80	70	130029	56.170	ug/L	93
14) 2,3-Dimethylbutane	12.80	71	98696	56.673	ug/L	91
15) 2-Methylpentane	13.02	43	486779	53.625	ug/L	99
16) MTBE	13.28	73	518916	55.405	ug/L	99
17) 3-Methylpentane	13.99	57	415376	55.328	ug/L	100
18) 1-Hexene	14.56	56	258450	55.995	ug/L	97
19) Hexane	15.17	57	361794	55.940	ug/L	96
20) Diisopropyl ether	15.43	45	713907	54.545	ug/L	98
25) Ethyl tertiary butyl ethe	16.88	59	642415	55.142	ug/L	99
26) 2,2-Dimethylpentane	17.18	57	513858	55.252	ug/L	99
27) Methylcyclopentane	17.45	56	483085	56.458	ug/L	100
28) 2,4-Dimethylpentane	17.62	43	438887	52.561	ug/L	99
30) 1,2-Dichloroethane	18.84	62	252906M4	54.431	ug/L	
32) Cyclohexane	20.32	56	409044	55.780	ug/L	98

MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009725.D
 Acq On : 18 Mar 2016 12:12 pm
 Operator : VOA4:MR
 Sample : C403181602
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
33) 2-Methyhexane	20.77	43	496247	54.092	ug/L	97
34) Benzene	20.90	78	688716	55.367	ug/L	99
35) 2,3-Dimethylpentane	21.06	56	394005	55.888	ug/L	98
36) Thiophene	21.34	84	359571	55.718	ug/L	97
38) 3-Methylhexane	21.57	43	426125	53.123	ug/L	99
39) TAME	21.90	73	487261	47.835	ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.89	70	300810	110.851	ug/L	98
44) Isooctane	22.99	57	1028303M6	56.335	ug/L	
46) Heptane	23.73	43	412279M4	54.367	ug/L	
51) Methycyclohexane	26.12	83	327158	56.168	ug/L	100
52) 2,5-Dimethylhexane	26.80	57	495023	54.560	ug/L	97
53) 2,4-Dimethylhexane	27.06	57	397525M4	55.251	ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	792503	55.182	ug/L	99
57) 2,3,4-Trimethylpentane	28.84	43	599079	53.275	ug/L	98
58) 2,3,3-Trimethylpentane	29.40	43	520060	53.230	ug/L	99
59) 2,3-Dimethylhexane	29.67	43	555274	53.875	ug/L	94
60) 2-Methylheptane	30.11	57	456690	55.434	ug/L	97
63) 3-Methylheptane	30.85	43	401291	49.632	ug/L	98
65) 3-Ethylhexane	30.98	43	674577M6	54.013	ug/L	
66) Toluene	31.10	91	745995	52.600	ug/L	97
67) 2-Methylthiophene	31.27	97	587649	52.225	ug/L	99
69) 3-Methylthiophene	32.03	97	583619	51.041	ug/L	97
70) 1-Octene	32.52	55	233236	54.148	ug/L	99
71) Octane	33.35	43	511307	53.160	ug/L	99
73) 1,2-Dibromoethane	33.77	107	143484	48.472	ug/L	100
86) Ethylbenzene	40.14	91	824188	50.247	ug/L	98
88) 2-Ethylthiophene	40.28	97	594979	49.710	ug/L	100
91) p/m-Xylene	41.39	91	1253673	99.039	ug/L	97
92) 1-Nonene	42.11	56	251364	52.722	ug/L	98
95) Nonane	42.89	43	474100M6	51.446	ug/L	
96) Styrene	43.24	104	474907	46.325	ug/L	98
98) o-Xylene	43.64	91	610432	47.714	ug/L	100
102) Isopropylbenzene	46.00	105	803910	49.222	ug/L	98
104) n-Propylbenzene	48.57	91	963336	48.997	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.19	105	802904	49.069	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.37	105	784451	49.154	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	677806	49.052	ug/L	99
110) 1-Decene	50.12	41	237992	51.488	ug/L	99
112) 1-Methyl-2-ethylbenzene	50.28	105	778649	48.330	ug/L	99
113) Decane	50.51	43	452031	49.331	ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	676936	48.446	ug/L	98

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009725.D
 Acq On : 18 Mar 2016 12:12 pm
 Operator : VOA4:MR
 Sample : C403181602
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
117)	sec-Butylbenzene	51.42	105	922464	50.347	ug/L	99
118)	1-Methyl-3-isopropylbenze	51.81	119	783215	50.575	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	800833	50.302	ug/L	99
121)	1-Methyl-2-isopropylbenze	52.48	119	793088	49.806	ug/L	99
122)	Indan	52.57	117	653010	46.431	ug/L	100
124)	1-Methyl-3-propylbenzene	52.85	105	917526	50.883	ug/L	99
126)	1-Methyl-4-propylbenzene	53.00	105	1071923	51.244	ug/L	99
127)	n-Butylbenzene	53.00	91	839619	50.848	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	832467	52.214	ug/L	98
129)	1,2-Diethylbenzene	53.22	119	400827	50.118	ug/L	100
130)	1-Methyl-2-propylbenzene	53.41	105	972164	51.289	ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	787969	51.706	ug/L	100
132)	Undecane	53.79	57	524153M4	56.618	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	943751	51.590	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	867627	51.997	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	927792	50.627	ug/L	99
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	857112	51.742	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	943498	53.931	ug/L	100
139)	Pentylbenzene	55.51	91	759086	55.212	ug/L	99
142)	Dodecane	56.01	43	349759	52.275	ug/L	96
144)	Naphthalene	56.83	128	829938	55.788	ug/L	100
145)	Benzothiophene	56.92	134	441036	53.537	ug/L	99
148)	MMT	58.00	134	284315	54.023	ug/L	99
149)	Tridecane	58.09	57	273696	47.890	ug/L	99
150)	2-Methylnaphthalene	59.56	142	453286	59.815	ug/L	98
151)	1-Methylnaphthalene	60.03	142	400002	62.529	ug/L	100

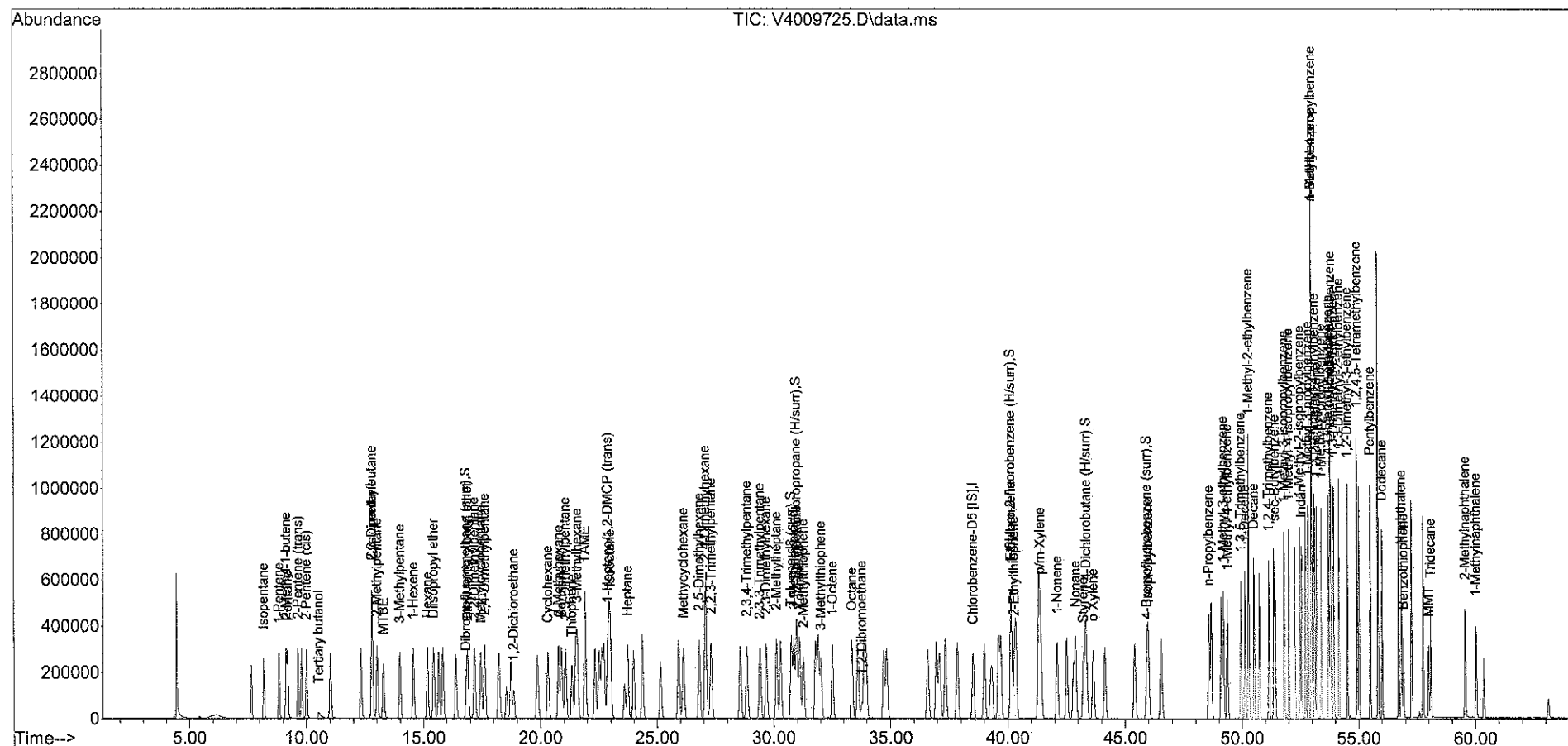
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009725.D
 Acq On : 18 Mar 2016 12:12 pm
 Operator : VOA4:MR
 Sample : C403181602
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Sat Mar 19 12:25:34 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .



Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009743.D
 Acq On : 19 Mar 2016 9:56 am
 Operator : VOA4:MR
 Sample : C403181603
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
1 I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	98	0.00
3	Isopentane	0.407	0.349	14.3	91	0.00
4	1-Pentene	0.477	0.447	6.3	92	0.00
5	2-Methyl-1-butene	0.743	0.727	2.2	95	0.00
6	Pentane	0.663	0.616	7.1	91	0.00
7	2-Pentene (trans)	0.689	0.670	2.8	94	0.00
9	2-Pentene (cis)	0.707	0.679	4.0	95	0.00
10	Tertiary butanol	0.048	0.054#	-12.5	96	-0.01
13	Cyclopentane	0.214	0.216	-0.9	96	0.00
14	2,3-Dimethylbutane	0.161	0.163	-1.2	96	0.00
15	2-Methylpentane	0.841	0.784	6.8	92	0.00
16	MTBE	0.867	0.884	-2.0	96	0.00
17	3-Methylpentane	0.695	0.670	3.6	93	0.00
18	1-Hexene	0.427	0.421	1.4	94	0.00
19	Hexane	0.599	0.593	1.0	95	0.00
20	Diisopropyl ether	1.212	1.201	0.9	93	0.00
24 S	Dibromofluoromethane (surr)	0.291	0.294	-1.0	99	-0.01
25	Ethyl tertiary butyl ether	1.079	1.095	-1.5	94	0.00
26	2,2-Dimethylpentane	0.861	0.832	3.4	94	0.00
27	Methylcyclopentane	0.792	0.774	2.3	94	-0.01
28	2,4-Dimethylpentane	0.773	0.710	8.2	91	0.00
30	1,2-Dichloroethane	0.430	0.430	0.0	95	0.00
32	Cyclohexane	0.679	0.671	1.2	95	-0.01
33	2-Methylhexane	0.850	0.799	6.0	92	-0.01
34 M	Benzene	1.152	1.162	-0.9	97	0.00
35	2,3-Dimethylpentane	0.653	0.643	1.5	94	0.00
36	Thiophene	0.598	0.619	-3.5	98	0.00
38	3-Methylhexane	0.743	0.682	8.2	92	-0.02
39	TAME	0.943	0.882	6.5	95	-0.01
43	1-Heptene/1,2-DMCP (trans)	0.251	0.255	-1.6	97	0.00
44	Isooctane	1.690	1.689	0.1	96	0.00
46	Heptane	0.702	0.655	6.7	92	-0.01
51	Methylcyclohexane	0.539	0.548	-1.7	97	-0.01
52	2,5-Dimethylhexane	0.840	0.815	3.0	94	-0.01
53	2,4-Dimethylhexane	0.666	0.653	2.0	93	0.00
55	2,2,3-Trimethylpentane	1.330	1.315	1.1	95	-0.02
57	2,3,4-Trimethylpentane	1.041	0.986	5.3	91	0.00
58	2,3,3-Trimethylpentane	0.905	0.853	5.7	91	0.00
59	2,3-Dimethylhexane	0.954	0.899	5.8	92	-0.01

me 3/29/16

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009743.D
 Acq On : 19 Mar 2016 9:56 am
 Operator : VOA4:MR
 Sample : C403181603
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60	2-Methylheptane	0.763	0.752	1.4	93	0.00
62 S	Toluene-d8 (surr)	1.260	1.250	0.8	97	-0.01
63	3-Methylheptane	0.749	0.695	7.2	95	0.00
64 S	2-Bromo-1-chloropropane (H/	0.371	0.383	-3.2	97	0.00
65	3-Ethylhexane	1.157	1.075	7.1	89	0.00
66 M	Toluene	1.313	1.328	-1.1	97	0.00
67	2-Methylthiophene	1.042	1.074	-3.1	98	0.00
69	3-Methylthiophene	1.059	1.090	-2.9	98	0.00
70	1-Octene	0.399	0.388	2.8	92	0.00
71	Octane	0.891	0.841	5.6	90	0.00
73	1,2-Dibromoethane	0.274	0.286	-4.4	97	0.00
86	Ethylbenzene	1.519	1.557	-2.5	97	0.00
87 S	1-Chloro-2-fluorobenzene (H	0.811	0.843	-3.9	97	0.00
88	2-Ethylthiophene	1.108	1.144	-3.2	97	0.00
91	p/m-Xylene	1.172	1.199	-2.3	96	0.00
92	1-Nonene	0.441	0.441	0.0	92	0.00
95	Nonane	0.853	0.781	8.4	87	0.00
96	Styrene	0.949	0.973	-2.5	96	-0.01
97 S	1,4-Dichlorobutane (H/surr)	0.746	0.748	-0.3	95	0.00
98	o-Xylene	1.185	1.208	-1.9	96	-0.01
101 S	4-Bromofluorobenzene (surr)	0.490	0.486	0.8	97	0.00
102	Isopropylbenzene	1.512	1.546	-2.2	96	-0.01
104	n-Propylbenzene	1.821	1.868	-2.6	96	0.00
107	1-Methyl-3-ethylbenzene	1.515	1.570	-3.6	97	0.00
108	1-Methyl-4-ethylbenzene	1.478	1.506	-1.9	96	0.00
109	1,3,5-Trimethylbenzene	1.280	1.314	-2.7	97	0.00
110	1-Decene	0.428	0.409	4.4	90	0.00
112	1-Methyl-2-ethylbenzene	1.492	1.554	-4.2	99	0.00
113	Decane	0.849	0.771	9.2	91	0.00
115	1,2,4-Trimethylbenzene	1.294	1.335	-3.2	98	0.00
117	sec-Butylbenzene	1.697	1.766	-4.1	98	0.00
118	1-Methyl-3-isopropylbenzene	1.434	1.504	-4.9	99	0.00
119	1-Methyl-4-isopropylbenzene	1.474	1.545	-4.8	98	0.00
121	1-Methyl-2-isopropylbenzene	1.475	1.526	-3.5	99	0.00
122	Indan	1.302	1.346	-3.4	99	0.00
124	1-Methyl-3-propylbenzene	1.670	1.718	-2.9	98	0.00
126	1-Methyl-4-propylbenzene	1.937	2.006	-3.6	99	0.00
127	n-Butylbenzene	1.529	1.567	-2.5	98	0.00
128	1,2-Dimethyl-4-ethylbenzene	1.476	1.533	-3.9	99	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009743.D
 Acq On : 19 Mar 2016 9:56 am
 Operator : VOA4:MR
 Sample : C403181603
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.760	-2.6	99	0.00
130	1-Methyl-2-propylbenzene	1.755	1.811	-3.2	98	0.00
131	1,4-Dimethyl-2-ethylbenzene	1.411	1.464	-3.8	99	0.00
132	Undecane	0.857	0.817	4.7	90	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	1.757	-3.7	100	0.00
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.584	-2.5	98	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	1.747	-2.9	99	0.00
136	1,2-Dimethyl-3-ethylbenzene	1.534	1.589	-3.6	99	0.00
137	1,2,4,5-Tetramethylbenzene	1.620	1.668	-3.0	99	0.00
139	Pentylbenzene	1.273	1.312	-3.1	99	0.00
142	Dodecane	0.620	0.526	15.2	86	0.00
144	Naphthalene	1.378	1.485	-7.8	101	0.00
145	Benzothiophene	0.763	0.843	-10.5	103	0.00
148	MMT	0.487	0.551	-13.1	101	0.00
149	Tridecane	0.529	0.449	15.1	99	0.00
150	2-Methylnaphthalene	0.702	0.791	-12.7	100	0.00
151	1-Methylnaphthalene	0.592	0.694	-17.2	103	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009743.D
 Acq On : 19 Mar 2016 9:56 am
 Operator : VOA4:MR
 Sample : C403181603
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	624391	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.81	113	183599	50.599	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 118		Recovery = 101.20%			
62) Toluene-d8 (surr)	30.74	98	780436	49.618	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 99.24%			
64) 2-Bromo-1-chloropropane (	30.96	77	239161	51.660	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.32%			
87) 1-Chloro-2-fluorobenzene	40.14	130	526404	51.958	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.92%			
97) 1,4-Dichlorobutane (H/sur	43.36	55	466975M6	50.101	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.20%			
101) 4-Bromofluorobenzene (sur	45.93	95	303480	49.593	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.19%			
Target Compounds						
						Qvalue
3) Isopentane	8.16	43	218115	42.923	ug/L	97
4) 1-Pentene	8.82	42	278920	46.846	ug/L	97
5) 2-Methyl-1-butene	9.11	55	453846	48.941	ug/L	99
6) Pentane	9.18	43	384636	46.479	ug/L	99
7) 2-Pentene (trans)	9.62	55	418226	48.623	ug/L	98
9) 2-Pentene (cis)	9.99	55	423755	48.008	ug/L	98
10) Tertiary butanol	10.57	59	168631	280.691	ug/L	96
13) Cyclopentane	12.80	70	135044	50.447	ug/L	92
14) 2,3-Dimethylbutane	12.80	71	102057	50.678	ug/L	93
15) 2-Methylpentane	13.01	43	489453	46.627	ug/L	97
16) MTBE	13.28	73	552060	50.973	ug/L	99
17) 3-Methylpentane	13.97	57	418149	48.165	ug/L	97
18) 1-Hexene	14.55	56	262744	49.227	ug/L	98
19) Hexane	15.16	57	370165	49.494	ug/L	95
20) Diisopropyl ether	15.43	45	749944	49.550	ug/L	98
25) Ethyl tertiary butyl ethe	16.88	59	684007	50.772	ug/L	97
26) 2,2-Dimethylpentane	17.18	57	519622	48.316	ug/L	97
27) Methylcyclopentane	17.45	56	483052	48.819	ug/L	99
28) 2,4-Dimethylpentane	17.61	43	443407	45.921	ug/L	98
30) 1,2-Dichloroethane	18.84	62	268765	50.021	ug/L	99
32) Cyclohexane	20.31	56	418981	49.408	ug/L	97
33) 2-Methyhexane	20.76	43	498703	47.008	ug/L	95

MR 3/29/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009743.D
 Acq On : 19 Mar 2016 9:56 am
 Operator : VOA4:MR
 Sample : C403181603
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
34) Benzene	20.89	78	725577	50.442	ug/L	98
35) 2,3-Dimethylpentane	21.06	56	401330	49.228	ug/L	97
36) Thiophene	21.34	84	386403	51.778	ug/L	95
38) 3-Methylhexane	21.56	43	425912	45.916	ug/L	97
39) TAME	21.90	73	550979	46.776	ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.89	70	318979	101.650	ug/L	90
44) Isooctane	22.99	57	1054694M6	49.967	ug/L	
46) Heptane	23.73	43	409268M4	46.671	ug/L	
51) Methycyclohexane	26.12	83	342064	50.785	ug/L	98
52) 2,5-Dimethylhexane	26.79	57	509014	48.515	ug/L	97
53) 2,4-Dimethylhexane	27.06	57	407744M4	49.007	ug/L	
55) 2,2,3-Trimethylpentane	27.30	57	820886	49.428	ug/L	100
57) 2,3,4-Trimethylpentane	28.83	43	615933	47.366	ug/L	99
58) 2,3,3-Trimethylpentane	29.40	43	532395	47.123	ug/L	99
59) 2,3-Dimethylhexane	29.67	43	561602	47.120	ug/L	94
60) 2-Methylheptane	30.11	57	469479	49.279	ug/L	94
63) 3-Methylheptane	30.85	43	433779	46.394	ug/L	96
65) 3-Ethylhexane	30.98	43	671211	46.475	ug/L	96
66) Toluene	31.10	91	828987	50.547	ug/L	98
67) 2-Methylthiophene	31.27	97	670842	51.556	ug/L	99
69) 3-Methylthiophene	32.02	97	680687	51.480	ug/L	97
70) 1-Octene	32.51	55	242385	48.662	ug/L	99
71) Octane	33.35	43	525120	47.212	ug/L	99
73) 1,2-Dibromoethane	33.77	107	178731	52.213	ug/L	100
86) Ethylbenzene	40.15	91	971959	51.242	ug/L	98
88) 2-Ethylthiophene	40.28	97	714037	51.589	ug/L	99
91) p/m-Xylene	41.40	91	1497509M1	102.303	ug/L	
92) 1-Nonene	42.11	56	275314	49.936	ug/L	97
95) Nonane	42.90	43	487385M6	45.735	ug/L	
96) Styrene	43.23	104	607587	51.252	ug/L	100
98) o-Xylene	43.64	91	754391	50.992	ug/L	100
102) Isopropylbenzene	45.99	105	965597	51.127	ug/L	99
104) n-Propylbenzene	48.57	91	1166061	51.287	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	980017	51.793	ug/L	99
108) 1-Methyl-4-ethylbenzene	49.37	105	940373	50.956	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	820624	51.356	ug/L	100
110) 1-Decene	50.12	41	255321	47.766	ug/L	99
112) 1-Methyl-2-ethylbenzene	50.28	105	970197	52.075	ug/L	99
113) Decane	50.51	43	481692	45.459	ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	833847	51.605	ug/L	99
117) sec-Butylbenzene	51.42	105	1102909	52.055	ug/L	99

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009743.D
 Acq On : 19 Mar 2016 9:56 am
 Operator : VOA4:MR
 Sample : C403181603
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	939339	52.454	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	964705	52.400	ug/L	100
121)	1-Methyl-2-isopropylbenze	52.48	119	952530	51.729	ug/L	99
122)	Indan	52.57	117	840654	51.689	ug/L	99
124)	1-Methyl-3-propylbenzene	52.85	105	1072932	51.454	ug/L	100
126)	1-Methyl-4-propylbenzene	53.00	105	1252525	51.780	ug/L	98
127)	n-Butylbenzene	53.00	91	978200	51.229	ug/L	99
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	957150	51.915	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	474372	51.292	ug/L	99
130)	1-Methyl-2-propylbenzene	53.40	105	1130796	51.590	ug/L	100
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	914264	51.880	ug/L	99
132)	Undecane	53.78	57	509946M4	47.634	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	1097046	51.860	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	989286	51.271	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	1091092	51.486	ug/L	99
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	992350	51.804	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	1041293	51.472	ug/L	99
139)	Pentylbenzene	55.51	91	819330	51.535	ug/L	99
142)	Dodecane	56.01	43	328587	42.469	ug/L	95
144)	Naphthalene	56.83	128	927435	53.910	ug/L	100
145)	Benzothiophene	56.92	134	526477	55.266	ug/L	99
148)	MMT	58.00	134	343775	56.487	ug/L	97
149)	Tridecane	58.09	57	280306	42.414	ug/L	97
150)	2-Methylnaphthalene	59.56	142	494103	56.383	ug/L	97
151)	1-Methylnaphthalene	60.03	142	433068	58.543	ug/L	97

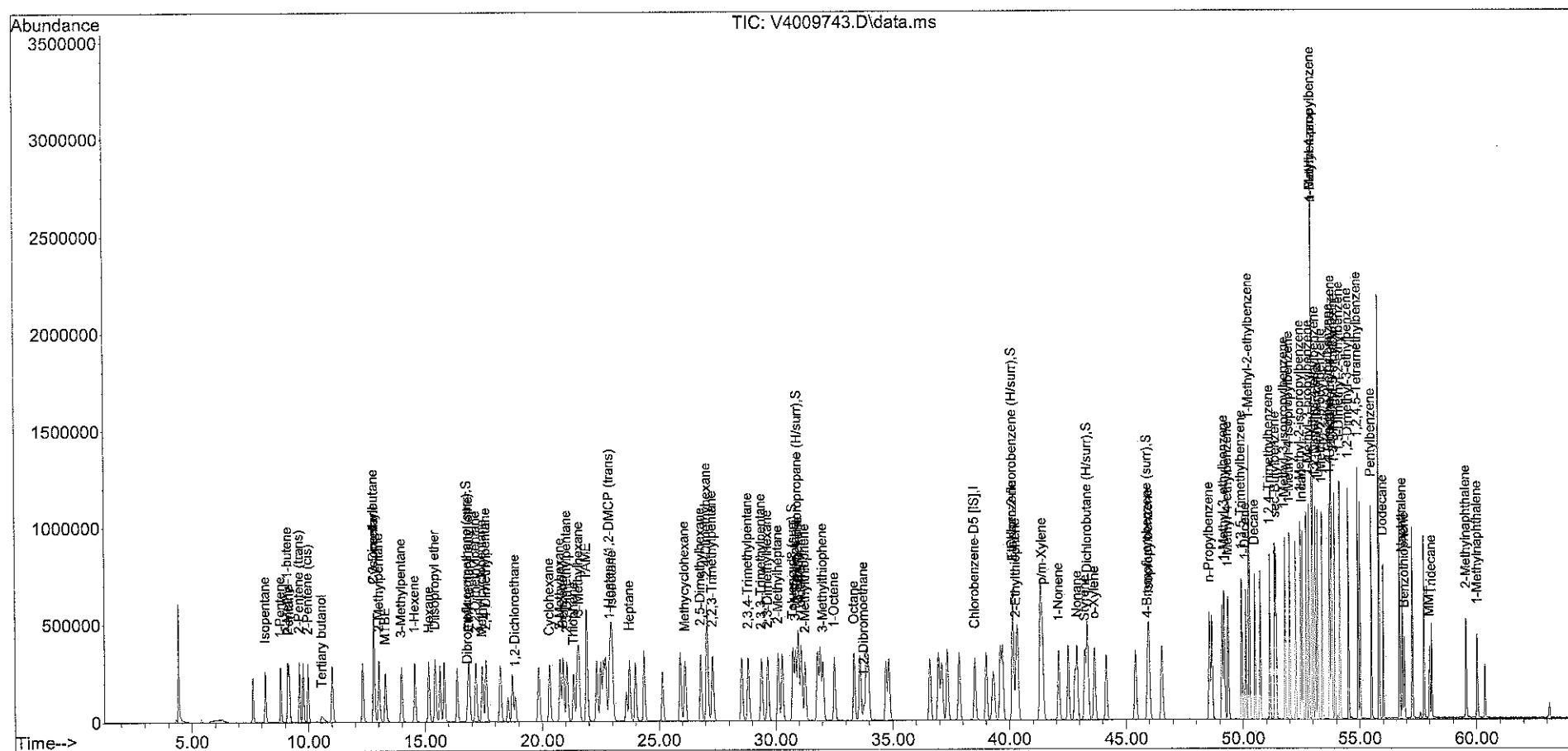
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009754.D
 Acq On : 19 Mar 2016 10:49 pm
 Operator : VOA4:MR
 Sample : C403181604
 Misc :
 ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	90	0.00
3	Isopentane	0.407	0.380	6.6	91	0.00
4	1-Pentene	0.477	0.484	-1.5	91	0.00
5	2-Methyl-1-butene	0.743	0.789	-6.2	94	0.00
6	Pentane	0.663	0.662	0.2	90	0.00
7	2-Pentene (trans)	0.689	0.730	-6.0	94	0.00
9	2-Pentene (cis)	0.707	0.745	-5.4	95	0.00
10	Tertiary butanol	0.048	0.053#	-10.4	86	-0.04
13	Cyclopentane	0.214	0.238	-11.2	97	0.00
14	2,3-Dimethylbutane	0.161	0.179	-11.2	96	0.00
15	2-Methylpentane	0.841	0.847	-0.7	91	0.00
16	MTBE	0.867	0.948	-9.3	94	0.00
17	3-Methylpentane	0.695	0.739	-6.3	94	0.00
18	1-Hexene	0.427	0.458	-7.3	93	0.00
19	Hexane	0.599	0.641	-7.0	93	0.00
20	Diisopropyl ether	1.212	1.301	-7.3	92	0.00
24 S	Dibromofluoromethane (surr)	0.291	0.313	-7.6	96	0.00
25	Ethyl tertiary butyl ether	1.079	1.188	-10.1	93	0.00
26	2,2-Dimethylpentane	0.861	0.914	-6.2	95	0.00
27	Methylcyclopentane	0.792	0.849	-7.2	94	0.00
28	2,4-Dimethylpentane	0.773	0.762	1.4	89	0.00
30	1,2-Dichloroethane	0.430	0.470	-9.3	95	0.00
32	Cyclohexane	0.679	0.728	-7.2	94	0.00
33	2-Methylhexane	0.850	0.866	-1.9	91	0.00
34 M	Benzene	1.152	1.279	-11.0	97	0.00
35	2,3-Dimethylpentane	0.653	0.699	-7.0	93	0.00
36	Thiophene	0.598	0.674	-12.7	97	0.00
38	3-Methylhexane	0.743	0.738	0.7	91	0.00
39	TAME	0.943	0.945	-0.2	93	0.00
43	1-Heptene/1,2-DMCP (trans)	0.251	0.281	-12.0	97	0.00
44	Isooctane	1.690	1.849	-9.4	96	0.00
46	Heptane	0.702	0.709	-1.0	91	0.00
51	Methylcyclohexane	0.539	0.609	-13.0	98	0.00
52	2,5-Dimethylhexane	0.840	0.896	-6.7	94	0.00
53	2,4-Dimethylhexane	0.666	0.717	-7.7	94	0.00
55	2,2,3-Trimethylpentane	1.330	1.448	-8.9	96	0.00
57	2,3,4-Trimethylpentane	1.041	1.072	-3.0	91	0.00
58	2,3,3-Trimethylpentane	0.905	0.923	-2.0	90	0.00
59	2,3-Dimethylhexane	0.954	0.983	-3.0	91	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009754.D
 Acq On : 19 Mar 2016 10:49 pm
 Operator : VOA4:MR
 Sample : C403181604
 Misc :
 ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60	2-Methylheptane	0.763	0.838	-9.8	94	0.00
62 S	Toluene-d8 (surr)	1.260	1.245	1.2	88	0.00
63	3-Methylheptane	0.749	0.720	3.9	90	0.01
64 S	2-Bromo-1-chloropropane (H/	0.371	0.413	-11.3	95	0.00
65	3-Ethylhexane	1.157	1.235	-6.7	93	0.00
66 M	Toluene	1.313	1.481	-12.8	98	0.00
67	2-Methylthiophene	1.042	1.180	-13.2	98	0.00
69	3-Methylthiophene	1.059	1.196	-12.9	98	0.00
70	1-Octene	0.399	0.427	-7.0	92	0.00
71	Octane	0.891	0.924	-3.7	91	0.00
73	1,2-Dibromoethane	0.274	0.309	-12.8	96	0.00
86	Ethylbenzene	1.519	1.726	-13.6	98	0.00
87 S	1-Chloro-2-fluorobenzene (H	0.811	0.928	-14.4	98	0.00
88	2-Ethylthiophene	1.108	1.261	-13.8	97	0.00
91	p/m-Xylene	1.172	1.331	-13.6	98	-0.02
92	1-Nonene	0.441	0.485	-10.0	92	0.00
95	Nonane	0.853	0.869	-1.9	88	0.00
96	Styrene	0.949	1.074	-13.2	97	0.00
97 S	1,4-Dichlorobutane (H/surr)	0.746	0.818	-9.7	95	0.00
98	o-Xylene	1.185	1.330	-12.2	96	0.00
101 S	4-Bromofluorobenzene (surr)	0.490	0.476	2.9	86	-0.01
102	Isopropylbenzene	1.512	1.718	-13.6	97	-0.01
104	n-Propylbenzene	1.821	2.059	-13.1	97	0.00
107	1-Methyl-3-ethylbenzene	1.515	1.724	-13.8	98	0.00
108	1-Methyl-4-ethylbenzene	1.478	1.679	-13.6	97	0.00
109	1,3,5-Trimethylbenzene	1.280	1.450	-13.3	97	0.00
110	1-Decene	0.428	0.446	-4.2	90	0.00
112	1-Methyl-2-ethylbenzene	1.492	1.693	-13.5	98	0.00
113	Decane	0.849	0.846	0.4	91	0.00
115	1,2,4-Trimethylbenzene	1.294	1.462	-13.0	98	0.00
117	sec-Butylbenzene	1.697	1.940	-14.3	98	0.00
118	1-Methyl-3-isopropylbenzene	1.434	1.644	-14.6	99	0.00
119	1-Methyl-4-isopropylbenzene	1.474	1.684	-14.2	98	0.00
121	1-Methyl-2-isopropylbenzene	1.475	1.672	-13.4	99	0.00
122	Indan	1.302	1.472	-13.1	98	0.00
124	1-Methyl-3-propylbenzene	1.670	1.881	-12.6	98	0.00
126	1-Methyl-4-propylbenzene	1.937	2.169	-12.0	98	0.00
127	n-Butylbenzene	1.529	1.703	-11.4	97	0.00
128	1,2-Dimethyl-4-ethylbenzene	1.476	1.681	-13.9	99	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009754.D
 Acq On : 19 Mar 2016 10:49 pm
 Operator : VOA4:MR
 Sample : C403181604
 Misc :
 ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.833	-12.4	99	0.00
130	1-Methyl-2-propylbenzene	1.755	1.986	-13.2	98	0.00
131	1,4-Dimethyl-2-ethylbenzene	1.411	1.598	-13.3	98	0.00
132	Undecane	0.857	0.918	-7.1	92	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	1.916	-13.1	99	0.00
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.729	-11.9	98	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	1.902	-12.1	98	0.00
136	1,2-Dimethyl-3-ethylbenzene	1.534	1.735	-13.1	99	0.00
137	1,2,4,5-Tetramethylbenzene	1.620	1.844	-13.8	99	0.00
139	Pentylbenzene	1.273	1.443	-13.4	99	0.00
142	Dodecane	0.620	0.577	6.9	85	0.00
144	Naphthalene	1.378	1.570	-13.9	98	0.00
145	Benzothiophene	0.763	0.871	-14.2	97	0.00
148	MMT	0.487	0.568	-16.6	95	0.00
149	Tridecane	0.529	0.478	9.6	96	0.00
150	2-Methylnaphthalene	0.702	0.824	-17.4	95	0.00
151	1-Methylnaphthalene	0.592	0.717	-21.1	97	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009754.D
 Acq On : 19 Mar 2016 10:49 pm
 Operator : VOA4:MR
 Sample : C403181604
 Misc :
 ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	569262	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	178192	53.865	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery =	107.73%		
62) Toluene-d8 (surr)	30.75	98	708527	49.409	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery =	98.82%		
64) 2-Bromo-1-chloropropane (	30.96	77	235232	55.732	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	111.46%		
87) 1-Chloro-2-fluorobenzene	40.13	130	528190	57.183	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	114.37%		
97) 1,4-Dichlorobutane (H/sur	43.35	55	465814M6	54.816	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	109.63%		
101) 4-Bromofluorobenzene (sur	45.92	95	271044	48.582	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery =	97.16%		
Target Compounds						
						Qvalue
3) Isopentane	8.17	43	216266	46.681	ug/L	98
4) 1-Pentene	8.82	42	275380	50.730	ug/L	98
5) 2-Methyl-1-butene	9.13	55	449214	53.132	ug/L	97
6) Pentane	9.19	43	376827	49.945	ug/L	98
7) 2-Pentene (trans)	9.63	55	415446	52.978	ug/L	98
9) 2-Pentene (cis)	10.00	55	423987	52.686	ug/L	98
10) Tertiary butanol	10.55	59	151200	276.050	ug/L	100
13) Cyclopentane	12.80	70	135733	55.615	ug/L	88
14) 2,3-Dimethylbutane	12.80	71	101730	55.408	ug/L	87
15) 2-Methylpentane	13.02	43	482423	50.408	ug/L	99
16) MTBE	13.28	73	539461	54.633	ug/L	97
17) 3-Methylpentane	13.99	57	420852	53.171	ug/L	97
18) 1-Hexene	14.56	56	260653	53.564	ug/L	95
19) Hexane	15.17	57	365057	53.538	ug/L	95
20) Diisopropyl ether	15.44	45	740497	53.664	ug/L	97
25) Ethyl tertiary butyl ethe	16.89	59	676174	55.051	ug/L	98
26) 2,2-Dimethylpentane	17.19	57	520456	53.080	ug/L	97
27) Methylcyclopentane	17.46	56	483205	53.564	ug/L	98
28) 2,4-Dimethylpentane	17.62	43	433624	49.256	ug/L	98
30) 1,2-Dichloroethane	18.85	62	267808	54.670	ug/L	97
32) Cyclohexane	20.33	56	414287	53.586	ug/L	96
33) 2-Methyhexane	20.78	43	492710	50.941	ug/L	96

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009754.D
 Acq On : 19 Mar 2016 10:49 pm
 Operator : VOA4:MR
 Sample : C403181604
 Misc :
 ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

34) Benzene	20.90	78	727934	55.506	ug/L	99
35) 2,3-Dimethylpentane	21.07	56	397735	53.512	ug/L	100
36) Thiophene	21.34	84	383735	56.400	ug/L	94
38) 3-Methylhexane	21.58	43	420321	49.702	ug/L	97
39) TAME	21.90	73	537721	50.071	ug/L	97
43) 1-Heptene/1,2-DMCP (trans	22.89	70	319378	111.633	ug/L	90
44) Isooctane	22.99	57	1052801M6	54.707	ug/L	
46) Heptane	23.74	43	403698	50.494	ug/L	97
51) Methycyclohexane	26.12	83	346491	56.424	ug/L	98
52) 2,5-Dimethylhexane	26.81	57	510048	53.321	ug/L	94
53) 2,4-Dimethylhexane	27.07	57	408338M4	53.832	ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	824318	54.442	ug/L	99
57) 2,3,4-Trimethylpentane	28.84	43	610078	51.459	ug/L	98
58) 2,3,3-Trimethylpentane	29.40	43	525336	51.002	ug/L	98
59) 2,3-Dimethylhexane	29.68	43	559367	51.478	ug/L	93
60) 2-Methylheptane	30.10	57	476832	54.898	ug/L	92
63) 3-Methylheptane	30.86	43	409773M6	48.071	ug/L	
65) 3-Ethylhexane	30.98	43	703196M6	53.405	ug/L	
66) Toluene	31.11	91	842844	56.368	ug/L	98
67) 2-Methylthiophene	31.27	97	671452	56.600	ug/L	99
69) 3-Methylthiophene	32.03	97	680944	56.487	ug/L	100
70) 1-Octene	32.52	55	242803	53.467	ug/L	98
71) Octane	33.36	43	525956	51.867	ug/L	98
73) 1,2-Dibromoethane	33.78	107	176173	56.450	ug/L	98
86) Ethylbenzene	40.14	91	982605	56.820	ug/L	98
88) 2-Ethylthiophene	40.29	97	718023	56.901	ug/L	97
91) p/m-Xylene	41.39	91	1515714	113.574	ug/L	100
92) 1-Nonene	42.11	56	276085	54.926	ug/L	98
95) Nonane	42.89	43	494694M6	50.916	ug/L	
96) Styrene	43.24	104	611587	56.586	ug/L	99
98) o-Xylene	43.65	91	757018	56.125	ug/L	98
102) Isopropylbenzene	45.99	105	977819	56.788	ug/L	99
104) n-Propylbenzene	48.57	91	1172345	56.557	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	981663	56.905	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.36	105	955959	56.817	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	825532	56.666	ug/L	99
110) 1-Decene	50.12	41	254096	52.141	ug/L	97
112) 1-Methyl-2-ethylbenzene	50.28	105	963499	56.724	ug/L	99
113) Decane	50.51	43	481540	49.845	ug/L	97
115) 1,2,4-Trimethylbenzene	51.15	105	832419	56.505	ug/L	99
117) sec-Butylbenzene	51.42	105	1104566	57.182	ug/L	98

Data Path : O:\Organics\DATA\VOA4\2016\160318\
 Data File : V4009754.D
 Acq On : 19 Mar 2016 10:49 pm
 Operator : VOA4:MR
 Sample : C403181604
 Misc :
 ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
 Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
 Quant Title : PIANO VOLATILES
 QLast Update : Mon Mar 07 10:40:38 2016
 Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	935928	57.325	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	958760	57.120	ug/L	99
121)	1-Methyl-2-isopropylbenze	52.48	119	951668	56.687	ug/L	99
122)	Indan	52.57	117	838001	56.516	ug/L	99
124)	1-Methyl-3-propylbenzene	52.85	105	1070941	56.333	ug/L	99
126)	1-Methyl-4-propylbenzene	53.00	105	1234961	55.999	ug/L	97
127)	n-Butylbenzene	53.00	91	969532	55.692	ug/L	99
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	957045	56.936	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	474366	56.259	ug/L	98
130)	1-Methyl-2-propylbenzene	53.40	105	1130690	56.581	ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	909799	56.627	ug/L	99
132)	Undecane	53.78	57	522356M4	53.519	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	1090820	56.559	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	984359	55.956	ug/L	100
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	1082576	56.032	ug/L	99
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	987530	56.545	ug/L	100
137)	1,2,4,5-Tetramethylbenzen	54.93	119	1049542	56.904	ug/L	99
139)	Pentylbenzene	55.50	91	821536	56.678	ug/L	99
142)	Dodecane	56.01	43	328450	46.562	ug/L	94
144)	Naphthalene	56.82	128	893941	56.996	ug/L	99
145)	Benzothiophene	56.92	134	495878	57.095	ug/L	99
148)	MMT	58.00	134	323495	58.302	ug/L	100
149)	Tridecane	58.09	57	272099	45.159	ug/L	96
150)	2-Methylnaphthalene	59.56	142	469204	58.727	ug/L	99
151)	1-Methylnaphthalene	60.03	142	408365	60.550	ug/L	96

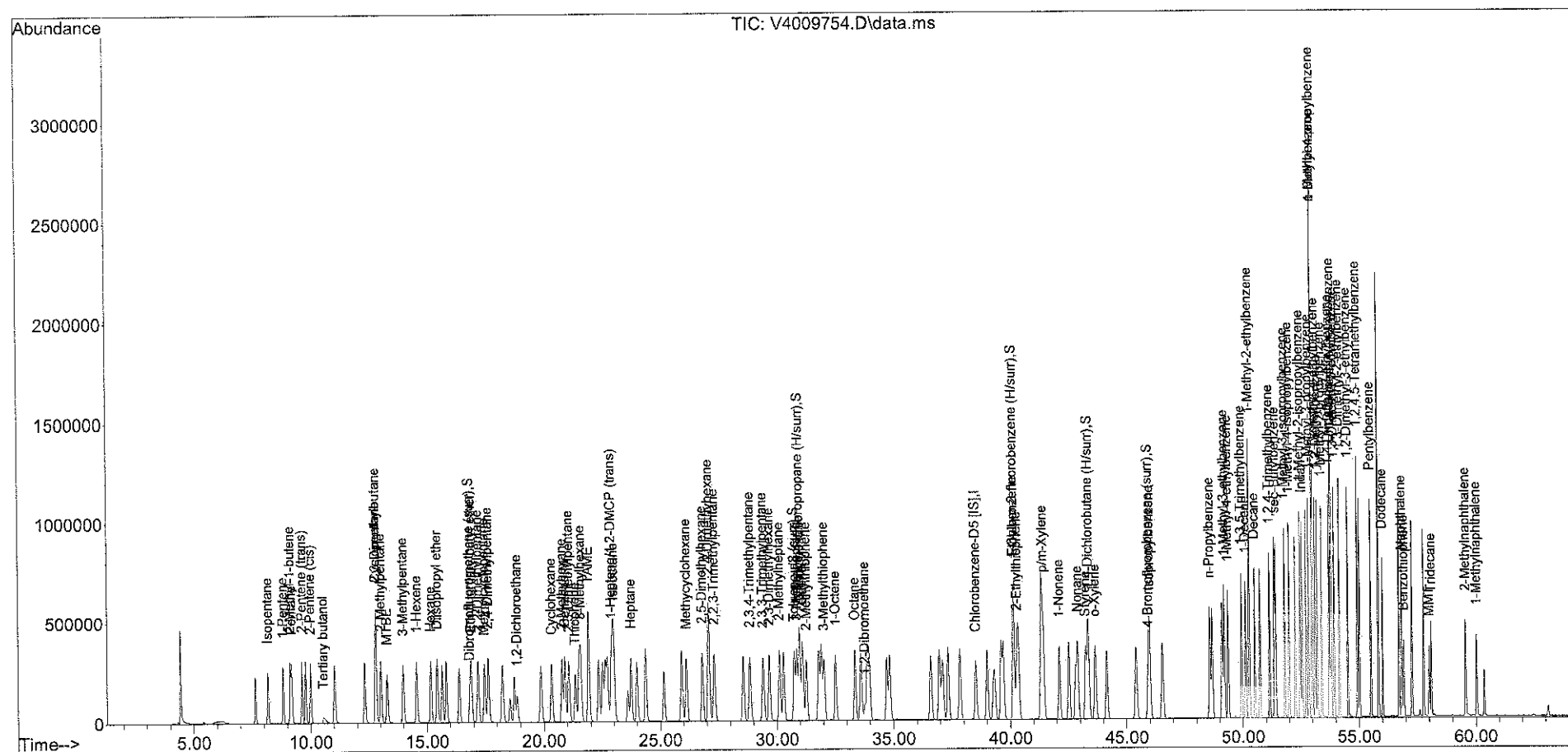
(#) = qualifier out of range (m) = manual integration (+) = signals summed

(QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .





Form VIII
Internal Standard Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C403181602**

Case: **N/A** SDG: **N/A**

		Chlorobenzene-D5	
		Area	RT
Standard:		539950	38.51
Upper Limit:		1079900	39.01
Lower Limit:		269975	38.01
Client ID	Lab ID		
LCS	VS031816LCS01	643757	38.52
LCSD	VS031816LCSD01	635096	38.52
Blank	VS031816B01	607163	38.52
RX-1	1603006-01	630282	38.52
RX-2	1603006-02	523128	38.52
RX-3	1603006-03	510511	38.52
RX-4	1603006-04	486574	38.52
RX-5	1603006-05	460466	38.52
RX-6	1603006-06	620290	38.52
CCV	C403181603	624391	38.51

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.

Area Lower Limit = -50% of internal standard.

RT = Retention Time.

RT Upper Limit = +0.5 minutes of internal standard RT.

RT Lower Limit = -0.5 minutes of internal standard RT.



Form VIII
Internal Standard Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C403181603**

Case: **N/A** SDG: **N/A**

		Chlorobenzene-D5	
		Area	RT
Standard:		624391	38.51
Upper Limit:		1248782	39.01
Lower Limit:		312196	38.01
Client ID	Lab ID		
RX-7	1603006-07	589207	38.51
RX-5	1603006-05 D	405337	38.52
RX-7A	1603006-08	552151	38.52
RX-8	1603006-10	395265	38.52
RX-8A	1603006-11	597020	38.52
RX-8B	1603006-12	611682	38.52
RX-7B	1603006-09E	598826	38.52
RX-7B	1603006-09	426142	38.52
CCV	C403181604	569262	38.51

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

Alpha Woods Hole Lab

Batch Prep Report

03/18/2016 V4031816 - PIANO 5

Lab ID	Prep Method	Analyst	Prep Start Date	Prep Completed	TCLP Date	Initial Amount Split (g or ml)	PIV (ml)	Final Volume (ml)	Preservative Volume (ml)	Extract Volume (ml)
1603006-01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.22		5	10	0.1
1603006-02 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.97		5	10	0.1
1603006-03 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			7.24		5	10	0.1
1603006-04 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.53		5	10	0.1
1603006-05D (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.77		5	10	0.1
1603006-05 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.77		5	10	0.1
1603006-06 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			7.05		5	10	0.1
1603006-07 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.64		5	10	0.1
1603006-08 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.98		5	10	0.1
1603006-09 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.92		5	10	0.1
1603006-10 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.12		5	10	0.1
1603006-11 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.62		5	10	0.1
1603006-12 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			7.01		5	10	0.1
VS031816B01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5		5	10	0.1
VS031816LCS01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5		5	10	0.1
VS031816LCSD01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5		5	10	0.1
VS031816LD701 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			0.1004		5	10	0.1

Alpha Woods Hole Lab
Batch Prep Report

03/18/2016 V4031816 - PIANO 5

Lab ID	Notes
1603006-01 (Soil - 1603006)	1st Prep
1603006-02 (Soil - 1603006)	1st Prep
1603006-03 (Soil - 1603006)	1st Prep
1603006-04 (Soil - 1603006)	1st Prep
1603006-05D (Soil - 1603006)	1st Prep
1603006-05 (Soil - 1603006)	1st Prep
1603006-06 (Soil - 1603006)	1st Prep
1603006-07 (Soil - 1603006)	1st Prep
1603006-08 (Soil - 1603006)	1st Prep
1603006-09 (Soil - 1603006)	1st Prep
1603006-10 (Soil - 1603006)	1st Prep
1603006-11 (Soil - 1603006)	1st Prep
1603006-12 (Soil - 1603006)	1st Prep
VS031816B01 (Soil - 1603006)	1st Prep
VS031816LCS01 (Soil - 1603006)	1st Prep
VS031816LCSD01 (Soil - 1603006)	1st Prep
VS031816LD701 (Soil - 1603006)	1st Prep

VOA Weights for High Level Soils

[illegible]

Sample Preparation

Alpha Woods Hole Lab

Batch Prep Report

03/25/20161603006 - OP NEWFIE

Lab ID	Prep Method	Analyst	Prep Start Date	Prep Completed Date	TCLP	Initial Amount (g or ml)	Split	PIV (ml)	Final Volume (ml)	Solvent Ex Conc. Analyst	Conc. Date	Conc. Method	Transfer Volume (ml)	Vialed By	Vialed Date
1603006-01 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15.83	10	1	10	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.51	10	1	10	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-03 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.3	4	1	4	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-04D (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.88	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-04 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.28	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-05 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.85	8	1	8	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-06 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.7	2	1	2	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-07 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.87	4	1	4	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-08 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15	8	1	8	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-09 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.95	5.71429	1	5.71	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-10 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.72	8	1	8	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-11 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.88	2	1	2	False	EP	3/28/2016	KD Flask	JP	3/29/2016
1603006-12 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.34	2	1	2	False	EP	3/28/2016	KD Flask	JP	3/29/2016
SS032516B02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	JP	3/29/2016
SS032516LCS02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	JP	3/29/2016
SS032516LCSD02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	JP	3/29/2016

Alpha Woods Hole Lab

Batch Prep Report

03/25/2016 1603006 - OP SHC

Lab ID	Prep Method	Analyst	Prep Start Date	Prep Completed Date	TCLP	Initial Amount (g or ml)	Split	PIV (ml)	Final Volume (ml)	Solvent Ex Conc.	Conc. Date	Conc. Analyst	Conc. Method	Transfer Volume (ml)	Vialed By	Vialed Date
1603006-01 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15.83	10	1	10	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.51	10	1	10	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-03 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.3	4	1	4	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-04D (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.88	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-04 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.28	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-05 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.85	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-06 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.7	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-07 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.87	4	1	4	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-08 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-09 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.95	5.71429	1	5.71	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-10 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.72	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-11 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.88	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-12 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.34	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516B02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516LCS02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516LCSD02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016

Alpha Woods Hole Lab

Batch Prep Spike Report

03/25/2016 1603006 - OP NEWFIE

Analyst: BA

Witness: BA

Lab ID	QC Type	OP NEWFIE - surr	Vol OP NEWFIE - surr	Units OP NEWFIE - surr	OP NEWFIE - spk 1	Vol OP NEWFIE - spk 1	Units OP NEWFIE - spk 1	OP NEWFIE - spk 2	Vol OP NEWFIE - spk 2	Units OP NEWFIE - spk 2
1603006-01	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-02	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-03	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-04	D	FRAX03	500	µl	FRAW70	500	µl			
1603006-04	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-05	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-06	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-07	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-08	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-09	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-10	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-11	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-12	SAM	FRAX03	100	µl	FRAW70	100	µl			
SS032516B02	B	FRAX03	100	µl	FRAW70	100	µl			
SS032516LCS02	LCS	FRAX03	100	µl	FRAW70	100	µl	FRAW73	100	µl
SS032516LCSD02	LCSD	FRAX03	100	µl	FRAW70	100	µl	FRAW73	100	µl

STD ID	TITLE	CONTENTS	SOLVENT	LOT
FRAW70	Biomarker Surrogate	5b(H)Cholane = 10 ug/mL		DM254
FRAW73	LCS Solution PAH /SHC	Aromatic Hydrocarbon STD = 10 ug/mL MA EPH Aliphatic Std = 200 ug/mL	DCM	DN 254
FRAX03	Surrogate PAH/SHC	Deuterated PAH Surrogate = 10 ug/mL n-Tetracosane = 500 ug/mL Ortho Ter Phenyl = 500 ug/mL	DCM	DN770

Alpha Woods Hole Lab

Batch Prep Spike Report

03/25/2016 1603006 - OP SHC

Analyst: BA

Witness: BA

Lab ID	QC Type	OP SHC - surr	Vol OP SHC - surr	Units OP SHC - surr	OP SHC - spk 1	Vol OP SHC - spk 1	Units OP SHC - spk 1	OP SHC - spk 2	Vol OP SHC - spk 2	Units OP SHC - spk 2
1603006-01	SAM	FRAX03	500	μl				FRAX05	100	μl
1603006-02	SAM	FRAX03	500	μl				FRAX05	100	μl
1603006-03	SAM	FRAX03	500	μl				FRAX05	100	μl
1603006-04	D	FRAX03	500	μl				FRAX05	100	μl
1603006-04	SAM	FRAX03	500	μl				FRAX05	100	μl
1603006-05	SAM	FRAX03	500	μl				FRAX05	100	μl
1603006-06	SAM	FRAX03	100	μl				FRAX05	100	μl
1603006-07	SAM	FRAX03	500	μl				FRAX05	100	μl
1603006-08	SAM	FRAX03	500	μl				FRAX05	100	μl
1603006-09	SAM	FRAX03	100	μl				FRAX05	100	μl
1603006-10	SAM	FRAX03	100	μl				FRAX05	100	μl
1603006-11	SAM	FRAX03	100	μl				FRAX05	100	μl
1603006-12	SAM	FRAX03	100	μl				FRAX05	100	μl
SS032516B02	B	FRAX03	100	μl				FRAX05	100	μl
SS032516LCS02	LCS	FRAX03	100	μl	FRAW73	100	μl	FRAX05	100	μl
SS032516LCSD02	LCSD	FRAX03	100	μl	FRAW73	100	μl	FRAX05	100	μl

STD ID	TITLE	CONTENTS	SOLVENT	LOT
FRAW73	LCS Solution PAH /SHC	Aromatic Hydrocarbon STD = 10 ug/mL MA EPH Aliphatic Std = 200 ug/mL	DCM	DN 254
FRAX03	Surrogate PAH/SHC	Deuterated PAH Surrogate = 10 ug/mL n-Tetracosane = 500 ug/mL Ortho Ter Phenyl = 500 ug/mL	DCM	DN770
FRAX05	PAH/SHC RIS Spiking Solution	5 Alpha Androstane = 500 ug/mL Acenaphthene D10, Chrysene D12 = 5 ug/mL	DCM	DN770

Alpha Woods Hole Lab

Batch Clean Up Report

03/25/2016

1603006 - OP NEWFIE

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration	Conc. Date	Solvent Ex.	Pre Vol (ml)	Frac Amt (ml)	Frac Split	Frac Fact	Tran Vol (ml)	Active
1603006-01	SAM	3660B	EP	3/28/2016												True
1603006-02	SAM	3660B	EP	3/28/2016												True
1603006-03	SAM	3660B	EP	3/28/2016												True
1603006-04	D	3660B	EP	3/28/2016												True
1603006-04	SAM	3660B	EP	3/28/2016												True
1603006-05	SAM	3660B	EP	3/28/2016												True
1603006-06	SAM	3660B	EP	3/28/2016												True
1603006-07	SAM	3660B	EP	3/28/2016												True
1603006-08	SAM	3660B	EP	3/28/2016												True
1603006-09	SAM	3660B	EP	3/28/2016												True
1603006-10	SAM	3660B	EP	3/28/2016												True
1603006-11	SAM	3660B	EP	3/28/2016												True
1603006-12	SAM	3660B	EP	3/28/2016												True
SS032516B02	B	3660B	EP	3/28/2016												True
SS032516LCS02	LCS	3660B	EP	3/28/2016												True
SS032516LCSD02	LCSD	3660B	EP	3/28/2016												True

Alpha Woods Hole Lab
Batch Clean Up Report
03/25/2016 1603006 - OP NEWFIE

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration	Conc. Date	Solvent Ex.	Pre Vol (ml)	Frac Amt (ml)	Frac Split	Frac Fact	Tran Vol (ml)	Active
								Analyst								
1603006-01	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10		0.1	True
1603006-02	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10		0.1	True
1603006-03	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4		0.1	True
1603006-04	D	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667		0.1	True
1603006-04	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667		0.1	True
1603006-05	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8		0.1	True
1603006-06	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
1603006-07	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4		0.1	True
1603006-08	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8		0.1	True
1603006-09	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.7	5.71429		0.1	True
1603006-10	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8		0.1	True
1603006-11	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
1603006-12	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
SS032516B02	B	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
SS032516LCS02	LCS	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
SS032516LCSD02	LCSD	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True

Alpha Woods Hole Lab
Batch Clean Up Report
03/25/2016 1603006 - OP SHC

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration	Conc. Date	Solvent Ex.	Pre Vol (ml)	Frac Amt (ml)	Frac Split	Frac Fact	Tran Vol (ml)	Active
								Analyst								
1603006-01	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10			True
1603006-02	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10			True
1603006-03	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4			True
1603006-04	D	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667			True
1603006-04	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667			True
1603006-05	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8			True
1603006-06	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
1603006-07	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4			True
1603006-08	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8			True
1603006-09	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.7	5.71429			True
1603006-10	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8			True
1603006-11	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
1603006-12	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
SS032516B02	B	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
SS032516LCS02	LCS	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
SS032516LCSD02	LCSD	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True

1603006

Newfields

flint st

Test(s) Spiked for: Choose from the following: F1B, PO1B, PO1H, PO1HX, PO1AS, TPH+A

Filter • Filter (L) • NAPL • Net • Oil
Product • PUF • Sediment •
Sheen • Soil • Solid • SPMD •
Tissue Pom Pom • 1L
Water • 4L Water • Floc Water

No Cleanup Required		
Alumina Column (3610)	✓	3/29/16 EP
Silica Column (3630)		
Fractionation Column (3630F1)		
GPC (3640)		
Copper (3660B)	✓	3/28/16 EP
Water pH<2 verified		
Date/Initials:		ID & Amount:
RIS Spike Analyst:	3/29/16 JRP	FRAXOS
RIS Spike Witness:	3/29/16 EP	100 ml

3/25/16

	Date:	Initials:
COC/ETR Check:	3/25/16	BT
1st Extraction:	↓	↓
2nd Extraction:	3/26/16	BT
3rd Extraction:	↓	↓

Prep Process Notes

REAGENT	LOT #
DCM	DO 032
SODIUM SULFATE	0000125638
SILICA GEL	NA
ALUMINA	184

REAGENT	LOT #
COPPER	OWR 032816A
GLASS WOOL	11414001

PP

312916

MA

9/4/16

[illegible]

Pre-Qualtrax Document ID: 102-32
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Alpha Woods Hole Lab
Batch Weight Report
03/25/2016

Lab ID	QC Type	PS1603006 - Pan Weight	PS1603006 - Wet Weight	PS1603006 - Dry Weight	PS1603006 - Dry Weight #2	PS1603006 - Dry Weight #3	Percent Solid	RPD
1603006-01	D	1.15	4.88	4.31	4.31		84.72	0.41%
1603006-01	SAM	1.13	5.16	4.53	4.53		84.37	
1603006-02	SAM	1.16	6.97	5.81	5.81		80.03	
1603006-03	SAM	1.15	6.63	6.06	6.06		89.60	
1603006-04	SAM	1.15	6.34	5.21	5.21		78.23	
1603006-05	SAM	1.14	5.92	5.01	5.01		80.96	
1603006-06	SAM	1.16	5.57	5.04	5.04		87.98	
1603006-07	SAM	1.15	6.31	5.23	5.23		79.07	
1603006-08	SAM	1.15	7.91	6.43	6.43		78.11	
1603006-09	SAM	1.16	8.96	7.62	7.62		82.82	
1603006-10	SAM	1.16	5.03	4.31	4.31		81.40	
1603006-11	SAM	1.13	4.94	3.74	3.74		68.50	
1603006-12	SAM	1.13	6.28	5.34	5.34		81.75	
PSS032516B03	B	1.15	1.15	1.15	1.15		100.00	

Initial: 3/25/2016 7:38:55 AM BA
Weight #1: 3/29/2016 6:40:58 AM BA
Weight #2: 3/29/2016 9:44:51 AM BA

**Alkylated Polynuclear
Aromatic Hydrocarbons,
Steranes, Triterpanes, and
Triaromatic Steroids
by GC/MS-SIM**

Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-1**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-01**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	206	C1-Dibenzothiophenes	89.1
C1-Decalins	268	C2-Dibenzothiophenes	171
C2-Decalins	287	C3-Dibenzothiophenes	218
C3-Decalins	239	C4-Dibenzothiophenes	174
C4-Decalins	383	Benzo(b)fluorene	41.9
Benzothiophene	2.38 J	Fluoranthene	224
C1-Benzo(b)thiophenes	12.9	Pyrene	288
C2-Benzo(b)thiophenes	14.3	C1-Fluoranthenes/Pyrenes	422
C3-Benzo(b)thiophenes	48.7	C2-Fluoranthenes/Pyrenes	637
C4-Benzo(b)thiophenes	50.7	C3-Fluoranthenes/Pyrenes	892
Naphthalene	36.3	C4-Fluoranthenes/Pyrenes	1030
C1-Naphthalenes	104	Naphthobenzothiophenes	91.3
C2-Naphthalenes	261	C1-Naphthobenzothiophenes	255
C3-Naphthalenes	392	C2-Naphthobenzothiophenes	528
C4-Naphthalenes	415	C3-Naphthobenzothiophenes	581
Biphenyl	26.3	C4-Naphthobenzothiophenes	490
Dibenzofuran	25.5	Benzo[a]anthracene	206
Acenaphthylene	13.7	Chrysene/Triphenylene	529
Acenaphthene	17.7	C1-Chrysenes	1090
Fluorene	37.9	C2-Chrysenes	1680
C1-Fluorenes	114	C3-Chrysenes	1920
C2-Fluorenes	387	C4-Chrysenes	1200
C3-Fluorenes	601	Benzo[b]fluoranthene	246
Anthracene	52.0	Benzo[j]fluoranthene/Benzo[k]fluoranthene	140
Phenanthrene	273	Benzo[a]fluoranthene	36.2
C1-Phenanthrenes/Anthracenes	594	Benzo[e]pyrene	412
C2-Phenanthrenes/Anthracenes	954	Benzo[a]pyrene	171
C3-Phenanthrenes/Anthracenes	882	Perylene	56.9
C4-Phenanthrenes/Anthracenes	595	Indeno[1,2,3-cd]pyrene	143
Retene	7.49 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	83.0
Dibenzothiophene	27.5	Benzo[g,h,i]perylene	209

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	75	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	72	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter

Result

Carbazole

10.1

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	75	50-130	
Phenanthrene-d10	88	50-130	
Benzo[a]pyrene-d12	72	50-130	

04/04/16 15:44

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Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-1**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-01**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter	Result
4-Methyldibenzothiophene	43.4
2/3-Methyldibenzothiophene	33.0
1-Methyldibenzothiophene	6.94 J
3-Methylphenanthrene	121
2-Methylphenanthrene	158
2-Methylantracene	26.7
9/4-Methylphenanthrene	167
1-Methylphenanthrene	100

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	75	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	72	50-130

J - Estimated value, below quantitation limit.
 N/A - Not Applicable

04/04/16 15:44

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Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-1**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-01**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	45.7	30,31-Trishomohopane-22S	147
C24 Tricyclic Terpane	45.7	30,31-Trishomohopane-22R	106
C25 Tricyclic Terpane	39.4	Tetrakishomohopane-22S	165
C24 Tetracyclic Terpane	21.7	Tetrakishomohopane-22R	84.3
C26 Tricyclic Terpane-22S	27.0	Pentakishomohopane-22S	156
C26 Tricyclic Terpane-22R	27.2	Pentakishomohopane-22R	107
C28 Tricyclic Terpane-22S	26.6	13b(H),17a(H)-20S-Diacholestane	103
C28 Tricyclic Terpane-22R	24.7	13b(H),17a(H)-20R-Diacholestane	48.5
C29 Tricyclic Terpane-22S	34.9	13b,17a-20S-Methyldiacholestane	65.5
C29 Tricyclic Terpane-22R	32.6	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	242
18a-22,29,30-Trisnorhopane-TS	101	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	203
C30 Tricyclic Terpane-22S	29.1	Unknown Sterane (S18)	75.9
C30 Tricyclic Terpane-22R	45.6	13a,17b-20S-Ethyldiacholestane	5.50 J
17a(H)-22,29,30-Trisnorhopane-TM	97.9	14a,17a-20S-Methylcholestane	92.4
17a/b,21b/a 28,30-Bisnorhopane	48.9	14a,17a-20R-Methylcholestane	43.2
17a(H),21b(H)-25-Norhopane	20.5	14a(H),17a(H)-20S-Ethylcholestane	80.4
30-Norhopane	288	14a(H),17a(H)-20R-Ethylcholestane	84.2
18a(H)-30-Norneohopane-C29Ts	66.8	14b(H),17b(H)-20R-Cholestane	53.7
17a(H)-Diahopane	57.8	14b(H),17b(H)-20S-Cholestane	61.4
30-Normoretane	32.1	14b,17b-20R-Methylcholestane	58.8
18a(H)&18b(H)-Oleananes	7.49 U	14b,17b-20S-Methylcholestane	94.6
Hopane	438	14b(H),17b(H)-20R-Ethylcholestane	151
Moretane	38.1	14b(H),17b(H)-20S-Ethylcholestane	94.0
30-Homohopane-22S	231	C26,20R- +C27,20S- triaromatic steroid	350
30-Homohopane-22R	185	C28,20S-triaromatic steroid	370
T22a-Gammacerane/C32-diahopane	83.5	C27,20R-triaromatic steroid	278
30,31-Bishomohopane-22S	198	C28,20R-triaromatic steroid	370
30,31-Bishomohopane-22R	125		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	115	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable

04/04/16 15:44

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Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291609.D
 Acq On : 29 Mar 2016 8:30 pm
 Operator : PAH2:gy
 Sample : 1603006-01
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 9 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:33:09 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.452	164	102913	500.000	ng/mL	-0.01
71) Chrysene-d12	42.937	240	174276	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.482	136	149555	377.105	ng/mL	-0.01
Spiked Amount 1000.000	Range 50 - 130		Recovery =	37.71%#		
40) Phenanthrene-d10	32.323	188	143179	438.106	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.81%#		
80) Benzo[b]fluoranthene-d12	46.852	264	160544	410.081	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	41.01%#		
85) Benzo[a]pyrene-d12	48.012	264	122803	358.592	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	35.86%#		
126) 5B(H)Cholane - Surr	43.570	217	32953	575.407	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	57.54%		
Target Compounds						
2) trans-Decalin	16.155	138	22351	260.689	ng/mL	Qvalue 100
3) cis-Decalin	17.359	138	998M3	14.883	ng/mL	
4) C1-Decalins	17.630	152	30677M5	357.799	ng/mL	
5) C2-Decalins	19.406	166	32873M5	383.412	ng/mL	
6) C3-Decalins	21.875	180	27392M5	319.485	ng/mL	
7) C4-Decalins	25.248	194	43906M5	512.095	ng/mL	
9) Naphthalene	19.557	128	19897	48.437	ng/mL	100
10) C1-Naphthalenes	22.252	142	56854M5	138.405	ng/mL	
11) C2-Naphthalenes	25.097	156	143426M5	349.154	ng/mL	
12) C3-Naphthalenes	27.777	170	214780M5	522.857	ng/mL	
13) C4-Naphthalenes	30.200	184	227917M5	554.838	ng/mL	
14) 2-Methylnaphthalene	22.252	142	30923	112.398	ng/mL	100
15) 1-Methylnaphthalene	22.673	142	26429	98.547	ng/mL	100
16) Benzothiophene	19.783	134	1050M4	3.172	ng/mL	
17) C1-Benzo(b)thiophenes	21.830	148	5717M5	17.273	ng/mL	
18) C2-Benzo(b)thiophenes	25.293	162	6306M5	19.052	ng/mL	
19) C3-Benzo(b)thiophenes	27.265	176	21520M5	65.018	ng/mL	
20) C4-Benzo(b)thiophenes	29.372	190	22431M5	67.770	ng/mL	
21) Biphenyl	24.149	154	11903M4	35.068	ng/mL	
22) 2,6-Dimethylnaphthalene	24.751	156	33035	134.893	ng/mL	100
23) Dibenzofuran	27.220	168	12128M4	34.069	ng/mL	
24) Acenaphthylene	25.835	152	7492M3	18.283	ng/mL	
25) Acenaphthene	26.572	153	6019M4	23.680	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.138	170	17398M3	80.466	ng/mL	
27) Fluorene	28.590	166	15009M4	50.592	ng/mL	
28) C1-Fluorenes	30.968	180	45152M5	152.197	ng/mL	
29) C2-Fluorenes	33.166	194	153483M5	517.356	ng/mL	
30) C3-Fluorenes	35.003	208	238224M5	802.999	ng/mL	
31) Dibenzothiophene	31.916	184	13593M3	36.776	ng/mL	
32) 4-Methyldibenzothiophene(	33.693	198	21420	57.952	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.054	198	16295M3	44.086	ng/mL	
34) 1-Methyldibenzothiophene(	34.461	198	3425	9.266	ng/mL	100
35) OTP	34.115	198	16815M3	45.493	ng/mL	
36) C1-Dibenzothiophenes	33.693	198	60797M5	164.488	ng/mL	
36) C1-Dibenzothiophenes BS	33.693	198	43982M5	118.994	ng/mL	
37) C2-Dibenzothiophenes	35.379	212	84239M5	227.911	ng/mL	
38) C3-Dibenzothiophenes	37.201	226	107421M5	290.630	ng/mL	
39) C4-Dibenzothiophenes	38.887	240	85770M5	232.053	ng/mL	
41) Phenanthrene	32.413	178	152888	364.524	ng/mL	99
42) 3-Methylphenanthrene(3MP)	34.370	192	67747	161.526	ng/mL	96
43) 2-Methylphenanthrene(2MP)	34.491	192	88695M4	211.472	ng/mL	
44) 2-Methylanthracene(2MA)	34.641	192	14973M4	35.699	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.822	192	93505	222.940	ng/mL	98
46) 1-Methylphenanthrene(1MP)	34.928	192	56065M4	133.673	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291609.D
 Acq On : 29 Mar 2016 8:30 pm
 Operator : PAH2:gy
 Sample : 1603006-01
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 04 13:33:09 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) C1-Phenanthrenes/Anthracene	34.491	192	332501M5	792.768	ng/mL	
48) C2-Phenanthrenes/Anthracene	36.659	206	534324M5	1273.965	ng/mL	
48) C2-Phenanthrenes/Anthracene BS	36.659	206	534324M5	1273.965	ng/mL	
50) C3-Phenanthrenes/Anthracene	38.496	220	494300M5	1178.538	ng/mL	
51) C4-Phenanthrenes/Anthracene	40.709	234	333421M5	794.961	ng/mL	
53) Anthracene	32.594	178	26446M4	69.476	ng/mL	
54) Carbazole	33.271	167	5201M3	13.544	ng/mL	
55) 1-Methylphenanthrene	34.928	192	57415M4	193.026	ng/mL	
56) Fluoranthene	37.186	202	127811M4	298.512	ng/mL	
57) Benzo(b)fluorene	39.730	216	15587M3	55.925	ng/mL	
58) Pyrene	38.074	202	181470	384.389	ng/mL	93
59) C1-Fluoranthenes/Pyrenes	39.475	216	266395M5	564.277	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.944	230	401542M5	850.544	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.419	244	562472M5	1191.426	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.895	258	651740M5	1380.513	ng/mL	
63) Naphthobenzothiophene	41.944	234	38601M4	91.501	ng/mL	
64) Naphthobenzothiophene-2,1	41.944	234	38422M4	91.077	ng/mL	
65) Naphthobenzothiophene-1,2	42.275	234	6126M4	14.521	ng/mL	
66) Naphthobenzothiophene-2,3	42.591	234	6906M3	16.370	ng/mL	
67) C1-Naphthobenzothiophenes	43.344	248	143739M5	340.724	ng/mL	
68) C2-Naphthobenzothiophenes	45.362	262	297430M5	705.039	ng/mL	
69) C3-Naphthobenzothiophenes	46.973	276	327365M5	775.998	ng/mL	
70) C4-Naphthobenzothiophenes	48.042	290	276314M5	654.985	ng/mL	
72) Benz[a]anthracene	42.877	228	115354	275.544	ng/mL	91
74) Chrysene/Triphenylene	43.013	228	296949M4	706.883	ng/mL	
75) C1-Chrysenes	44.518	242	611181M5	1454.908	ng/mL	
76) C2-Chrysenes	45.964	256	948604M5	2258.139	ng/mL	
76) C2-Chrysenes BS	45.964	256	941119M5	2240.321	ng/mL	
77) BBF-D12 Surr BKGD	46.852	256	7485	17.818	ng/mL	100
78) C3-Chrysenes	47.816	270	1074650M5	2558.190	ng/mL	
79) C4-Chrysenes	49.383	284	672308M5	1600.420	ng/mL	
81) Benzo[b]fluoranthene	46.928	252	153118	328.380	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	87581M3	186.581	ng/mL	
83) Benzo[a]fluoranthene	47.304	252	22689M3	48.336	ng/mL	
84) Benzo[e]pyrene	47.922	252	250283M4	549.778	ng/mL	
86) Benzo[a]pyrene	48.102	252	104552M4	228.373	ng/mL	
87) Perylene	48.404	252	34578M3	75.943	ng/mL	
88) Indeno[1,2,3-cd]pyrene	52.831	276	97671M4	190.399	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.892	278	56718M3	110.860	ng/mL	
90) Benzo[g,h,i]perylene	54.096	276	152289	278.660	ng/mL	100
91) Hopane (T19)	51.988	191	65004M4	585.401	ng/mL	
93) C23 Tricyclic Terpane (T4)	40.589	191	6782	61.076	ng/mL	100
94) C24 Tricyclic Terpane (T5)	41.326	191	6771M4	60.977	ng/mL	
95) C25 Tricyclic Terpane (T6)	42.862	191	5837M4	52.566	ng/mL	
96) C24 Tetracyclic Terpane (	44.127	191	3216M4	28.962	ng/mL	
97) C26 Tricyclic Terpane-22S	43.871	191	4008M4	36.095	ng/mL	
98) C26 Tricyclic Terpane-22R	43.976	191	4038M4	36.365	ng/mL	
99) C28 Tricyclic Terpane-22S	46.280	191	3942M4	35.500	ng/mL	
100) C28 Tricyclic Terpane-22R	46.431	191	3666M4	33.015	ng/mL	
101) C29 Tricyclic Terpane-22S	46.958	191	5177M4	46.622	ng/mL	
102) C29 Tricyclic Terpane-22R	47.154	191	4833M4	43.524	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.253	191	14949	134.625	ng/mL	100
104) C30 Tricyclic Terpane-22S	48.358	191	4316M4	38.868	ng/mL	
105) C30 Tricyclic Terpane-22R	48.599	191	6768M4	60.950	ng/mL	
106) 17a(H)-22,29,30-Trisnor	48.780	191	14513M4	130.699	ng/mL	
107) 17a/b,21b/a 28,30-Bisnor	49.970	191	7258M4	65.363	ng/mL	
108) 17a(H),21b(H)-25-Norhop	49.789	191	3035M4	27.332	ng/mL	
109) 30-Norhopane (T15)	50.633	191	42732	384.828	ng/mL	100
110) 18a(H)-30-Norneohopane-C	50.738	191	9914M4	89.282	ng/mL	
111) 17a(H)-Diahopane (X)	50.859	191	8577	77.241	ng/mL	100
112) 30-Normoretane (T17)	51.401	191	4761M4	42.876	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291609.D
 Acq On : 29 Mar 2016 8:30 pm
 Operator : PAH2:gy
 Sample : 1603006-01
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 04 13:33:09 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

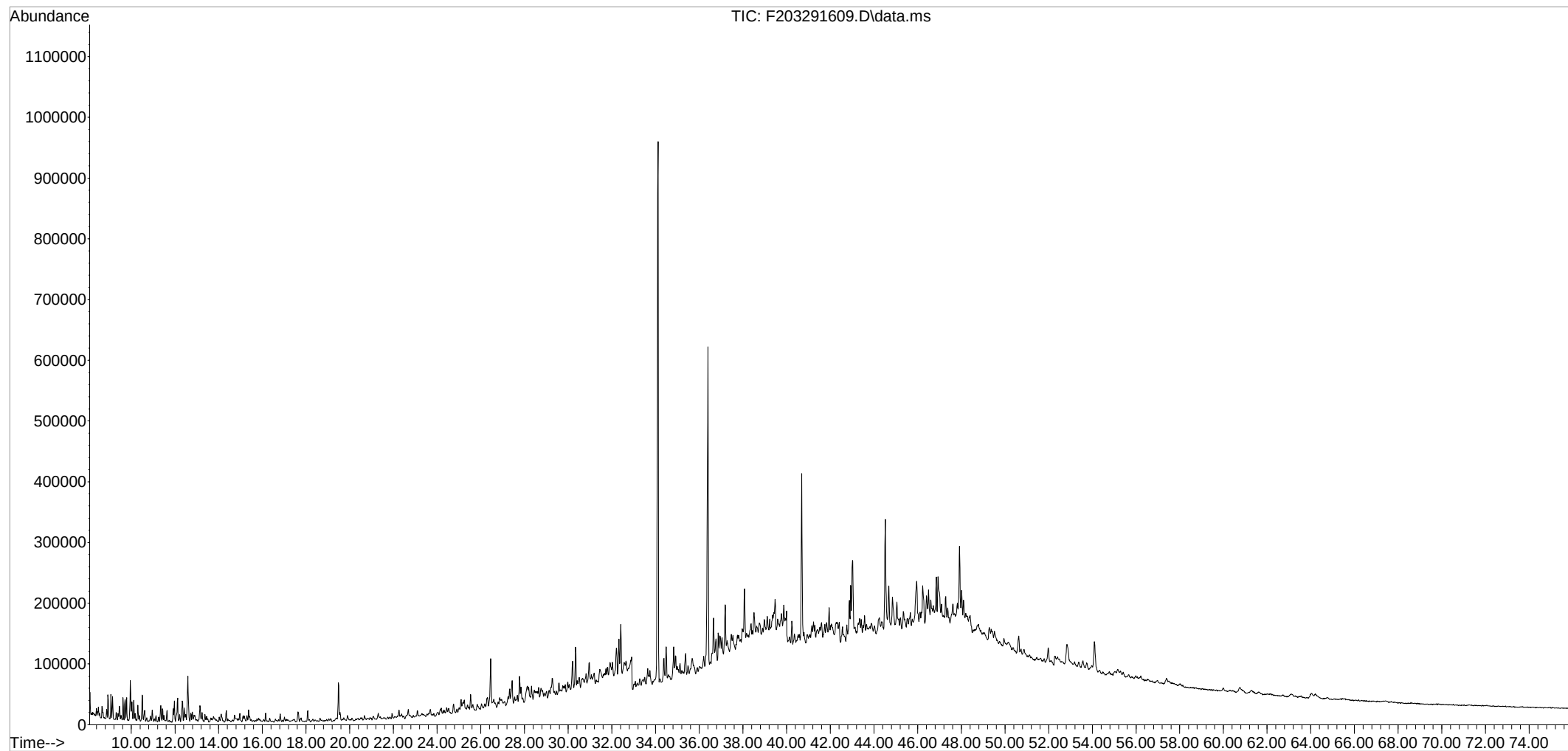
114) Moretane (T20)	52.651	191	5650M4	50.882	ng/ml	
115) 30-Homohopane-22S (T21)	53.750	191	34234	308.298	ng/ml	100
116) 30-Homohopane-22R (T22)	53.976	191	27462	247.312	ng/ml	100
117) Gammacerane/C32-diahopane	54.503	191	12387	111.553	ng/mL	100
118) 30,31-Bishomohopane-22S (	55.286	191	29315	264.000	ng/ml	100
119) 30,31-Bishomohopane-22R (	55.662	191	18577	167.297	ng/ml	100
120) 30,31-Trishomohopane-22S	57.394	191	21843M4	196.710	ng/ml	
121) 30,31-Trishomohopane-22R	57.996	191	15705	141.433	ng/ml	100
122) Tetrakishomohopane-22S (T	59.984	191	24433	220.034	ng/ml	100
123) Tetrakishomohopane-22R (T	60.857	191	12503M4	112.597	ng/ml	
124) Pentakishomohopane-22S (T	63.071	191	23198	208.912	ng/ml	100
125) Pentakishomohopane-22R (T	64.351	191	15853M4	142.766	ng/ml	
127) 13b(H),17a(H)-20S-Diachol	45.090	217	7849	137.055	ng/ml	100
128) 13b(H),17a(H)-20R-Diachol	45.527	217	3707M4	64.730	ng/ml	
129) 13b,17a-20S-Methyldiachol	46.235	217	5012M3	87.517	ng/ml	
130) 14a,17a-20S-Chol/13b,17a-	47.093	217	18532	323.595	ng/ml	100
131) 14a,17a-20R-Chol/13b,17a-	47.605	217	15545M4	271.438	ng/ml	
132) Unknown Sterane (S18)	47.877	217	5805	101.364	ng/ml	100
133) 13a,17b-20S-Ethyladiachole	48.118	217	421	7.351	ng/ml	100
134) 14a,17a-20S-Methylcholest	48.298	217	7069M4	123.435	ng/ml	
135) 14a,17a-20R-Methylcholest	49.006	217	3307M4	57.745	ng/ml	
136) 14a(H),17a(H)-20S-Ethylch	49.352	217	6151M4	107.405	ng/ml	
137) 14a(H),17a(H)-20R-Ethylch	50.256	217	6438M4	112.417	ng/ml	
138) 14b(H),17b(H)-20R-Cholest	47.184	218	4110M4	71.766	ng/ml	
139) 14b(H),17b(H)-20S-Cholest	47.259	218	4693M4	81.947	ng/ml	
140) 14b,17b-20R-Methylcholest	48.464	218	4498M4	78.542	ng/ml	
141) 14b,17b-20S-Methylcholest	48.539	218	7236M4	126.351	ng/ml	
142) 14b(H),17b(H)-20R-Ethylch	49.608	218	11557M3	201.802	ng/ml	
143) 14b(H),17b(H)-20S-Ethylch	49.639	218	7188M3	125.513	ng/ml	
144) C26,20R- +C27,20S- triaro	49.307	231	26769M4	467.425	ng/mL	
145) C28,20S-triaromatic stero	50.166	231	28331M4	494.700	ng/mL	
146) C27,20R-triaromatic stero	50.602	231	21230	370.706	ng/mL	100
147) C28,20R-triaromatic stero	51.792	231	28284M3	493.879	ng/mL	

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291609.D
Acq On : 29 Mar 2016 8:30 pm
Operator : PAH2:gy
Sample : 1603006-01
Misc : 1x,SS032516,etr:1603006
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 04 13:33:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-2**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter	Result
cis/trans-Decalin	38.2
C1-Decalins	1050
C2-Decalins	5660
C3-Decalins	5220
C4-Decalins	7340
Benzothiophene	11.9 U
C1-Benzo(b)thiophenes	70.4
C2-Benzo(b)thiophenes	143
C3-Benzo(b)thiophenes	374
C4-Benzo(b)thiophenes	349
Naphthalene	2.92 J
C1-Naphthalenes	18.1 G
C2-Naphthalenes	74.4
C3-Naphthalenes	285
C4-Naphthalenes	1900
Biphenyl	11.9 U
Dibenzofuran	11.9 U
Acenaphthylene	21.3
Acenaphthene	11.9 U
Fluorene	11.9 U
C1-Fluorenes	355
C2-Fluorenes	1470
C3-Fluorenes	1800
Anthracene	95.3 G
Phenanthrene	11.9 U
C1-Phenanthrenes/Anthracenes	137 G
C2-Phenanthrenes/Anthracenes	430
C3-Phenanthrenes/Anthracenes	1120
C4-Phenanthrenes/Anthracenes	1180
Retene	11.9 U
Dibenzothiophene	20.0

Parameter	Result
C1-Dibenzothiophenes	147
C2-Dibenzothiophenes	395
C3-Dibenzothiophenes	487
C4-Dibenzothiophenes	343
Benzo(b)fluorene	18.1
Fluoranthene	43.6
Pyrene	135
C1-Fluoranthenes/Pyrenes	300
C2-Fluoranthenes/Pyrenes	342
C3-Fluoranthenes/Pyrenes	448
C4-Fluoranthenes/Pyrenes	503
Naphthobenzothiophenes	23.2
C1-Naphthobenzothiophenes	87.8
C2-Naphthobenzothiophenes	153
C3-Naphthobenzothiophenes	132
C4-Naphthobenzothiophenes	168
Benz[a]anthracene	56.0
Chrysene/Triphenylene	138
C1-Chrysenes	365
C2-Chrysenes	500
C3-Chrysenes	679
C4-Chrysenes	451
Benzo[b]fluoranthene	17.8
Benzo[j]fluoranthene/Benzo[k]fluoranthene	9.05 J
Benzo[a]fluoranthene	6.32 J
Benzo[e]pyrene	46.4
Benzo[a]pyrene	18.9
Perylene	13.7
Indeno[1,2,3-cd]pyrene	7.04 J
Dibenz[ah]anthracene/Dibenz[ac]anthracene	5.89 J
Benzo[g,h,i]perylene	10.8 J

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter

Carbazole

Result

11.9 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-2**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter	Result
4-Methyldibenzothiophene	49.3
2/3-Methyldibenzothiophene	37.2
1-Methyldibenzothiophene	10.1 J
3-Methylphenanthrene	11.9 U
2-Methylphenanthrene	2.93 J
2-Methylantracene	23.0
9/4-Methylphenanthrene	40.4 G
1-Methylphenanthrene	16.2

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-2**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	46.5	30,31-Trishomohopane-22S	17.8
C24 Tricyclic Terpane	38.5	30,31-Trishomohopane-22R	16.0
C25 Tricyclic Terpane	36.0	Tetrakishomohopane-22S	38.0
C24 Tetracyclic Terpane	8.41 J	Tetrakishomohopane-22R	11.9 U
C26 Tricyclic Terpane-22S	27.6	Pentakishomohopane-22S	11.9 U
C26 Tricyclic Terpane-22R	16.6	Pentakishomohopane-22R	11.9 U
C28 Tricyclic Terpane-22S	33.7	13b(H),17a(H)-20S-Diacholestane	122
C28 Tricyclic Terpane-22R	31.4	13b(H),17a(H)-20R-Diacholestane	52.4
C29 Tricyclic Terpane-22S	27.6	13b,17a-20S-Methyldiacholestane	54.7
C29 Tricyclic Terpane-22R	29.2	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	175
18a-22,29,30-Trisnorhopane-TS	65.2	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	147
C30 Tricyclic Terpane-22S	27.5	Unknown Sterane (S18)	62.1
C30 Tricyclic Terpane-22R	30.5	13a,17b-20S-Ethyldiacholestane	11.9 U
17a(H)-22,29,30-Trisnorhopane-TM	34.1	14a,17a-20S-Methylcholestane	76.0
17a/b,21b/a 28,30-Bisnorhopane	11.9 U	14a,17a-20R-Methylcholestane	34.8
17a(H),21b(H)-25-Norhopane	30.0	14a(H),17a(H)-20S-Ethylcholestane	50.0
30-Norhopane	75.2	14a(H),17a(H)-20R-Ethylcholestane	52.8
18a(H)-30-Norneohopane-C29Ts	38.9	14b(H),17b(H)-20R-Cholestane	39.5
17a(H)-Diahopane	43.2	14b(H),17b(H)-20S-Cholestane	43.4
30-Normoretane	18.7	14b,17b-20R-Methylcholestane	31.5
18a(H)&18b(H)-Oleananes	19.1	14b,17b-20S-Methylcholestane	44.9
Hopane	154	14b(H),17b(H)-20R-Ethylcholestane	131
Moretane	11.9 U	14b(H),17b(H)-20S-Ethylcholestane	60.7
30-Homohopane-22S	50.6	C26,20R- +C27,20S- triaromatic steroid	75.6
30-Homohopane-22R	64.5	C28,20S-triaromatic steroid	134
T22a-Gammacerane/C32-diahopane	15.6	C27,20R-triaromatic steroid	45.0
30,31-Bishomohopane-22S	49.2 G	C28,20R-triaromatic steroid	101
30,31-Bishomohopane-22R	26.8		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	122	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291610.D
 Acq On : 29 Mar 2016 9:57 pm
 Operator : PAH2:gy
 Sample : 1603006-02
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 10 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:43:35 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	101033	500.000	ng/mL	0.00
71) Chrysene-d12	42.937	240	177809	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	166126	426.683	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	42.67%#		
40) Phenanthrene-d10	32.353	188	145900	454.739	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	45.47%#		
80) Benzo[b]fluoranthene-d12	46.852	264	184842	462.765	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	46.28%#		
85) Benzo[a]pyrene-d12	48.012	264	152320	435.945	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.59%#		
126) 5B(H)Cholane - Surr	43.570	217	35727	611.449	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	61.14%		
Target Compounds						
					Qvalue	
3) cis-Decalin	17.359	138	2115M3	32.128	ng/mL	
4) C1-Decalins	18.081	152	74321M5	882.968	ng/mL	
5) C2-Decalins	19.406	166	400367M5	4756.544	ng/mL	
6) C3-Decalins	21.890	180	369932M5	4394.962	ng/mL	
7) C4-Decalins	25.278	194	519867M5	6176.259	ng/mL	
9) Naphthalene	19.587	128	992	2.460	ng/mL	100
10) C1-Naphthalenes	22.237	142G	6128M5	15.196	ng/mL	
11) C2-Naphthalenes	25.654	156	25235M5	62.575	ng/mL	
12) C3-Naphthalenes	27.445	170	96803M5	240.041	ng/mL	
13) C4-Naphthalenes	29.779	184	646314M5	1602.655	ng/mL	
14) 2-Methylnaphthalene	22.237	142	1526	5.650	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	457M3	1.736	ng/mL	
17) C1-Benzo(b)thiophenes	22.673	148	19235M5	59.196	ng/mL	
18) C2-Benzo(b)thiophenes	25.263	162	39157M5	120.505	ng/mL	
19) C3-Benzo(b)thiophenes	27.626	176	102319M5	314.886	ng/mL	
20) C4-Benzo(b)thiophenes	29.508	190	95264M5	293.174	ng/mL	
22) 2,6-Dimethylnaphthalene	24.766	156	981	4.080	ng/mL	100
24) Acenaphthylene	25.865	152	7196M3	17.888	ng/mL	
28) C1-Fluorenes	30.983	180	86900M5	298.371	ng/mL	
29) C2-Fluorenes	33.181	194	360016M5	1236.113	ng/mL	
30) C3-Fluorenes	35.018	208	439797M5	1510.041	ng/mL	
31) Dibenzothiophene	31.962	184	6091M3	16.786	ng/mL	
32) 4-Methyldibenzothiophene	33.708	198	15059M4	41.501	ng/mL	
33) 2/3-Methyldibenzothiophen	34.099	198	11352M3	31.285	ng/mL	
34) 1-Methyldibenzothiophene	34.476	198	3089M4	8.513	ng/mL	
35) OTP	34.130	198	15470M3	42.633	ng/mL	
36) C1-Dibenzothiophenes	34.130	198	60287M5	166.143	ng/mL	
36) C1-Dibenzothiophenes BS	34.130	198	44817M5	123.510	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	120612M5	332.391	ng/mL	
38) C3-Dibenzothiophenes	37.216	226	148541M5	409.359	ng/mL	
39) C4-Dibenzothiophenes	38.902	240	104811M5	288.845	ng/mL	
43) 2-Methylphenanthrene(2MP)	34.506	192	1015	2.465	ng/mL#	38
44) 2-Methylanthracene(2MA)	34.672	192	7975M3	19.368	ng/mL	
45) 9/4-Methylphenanthrene(9M)	34.867	192G	13982M3	33.957	ng/mL	
46) 1-Methylphenanthrene(1MP)	34.897	192	5592M3	13.581	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192G	47303M5	114.881	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.222	206	165375M5	401.633	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.222	206	148890M5	361.598	ng/mL	
49) 5AA IS BKGD	36.418	206	16485M4	40.036	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.345	220	387137M5	940.209	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.724	234	409907M5	995.509	ng/mL	
53) Anthracene	32.594	178G	29953M4	80.154	ng/mL	
55) 1-Methylphenanthrene	34.897	192	5360M3	18.355	ng/mL	
56) Fluoranthene	37.216	202	15402M4	36.642	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291610.D
 Acq On : 29 Mar 2016 9:57 pm
 Operator : PAH2:gy
 Sample : 1603006-02
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 04 13:43:35 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57)	Benzo(b)fluorene	39.730	216	4161M3	15.207	ng/mL	
58)	Pyrene	38.089	202	52658M4	113.615	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.896	216	117008M5	252.458	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.959	230	133513M5	288.069	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.434	244	174698M5	376.930	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.684	258	196245M5	423.420	ng/mL	
63)	Naphthobenzothiophene	41.944	234	6506M4	15.709	ng/mL	
64)	Naphthobenzothiophene-2,1	41.944	234	6513M4	15.726	ng/mL	
66)	Naphthobenzothiophene-2,3	42.591	234	1560M4	3.767	ng/mL	
67)	C1-Naphthobenzothiophenes	43.344	248	30585M5	73.849	ng/mL	
68)	C2-Naphthobenzothiophenes	44.865	262	53191M5	128.432	ng/mL	
69)	C3-Naphthobenzothiophenes	46.657	276	45929M5	110.898	ng/mL	
70)	C4-Naphthobenzothiophenes	48.027	290	58610M5	141.517	ng/mL	
72)	Benz[a]anthracene	42.877	228	20113M4	47.089	ng/mL	
74)	Chrysene/Triphenylene	43.013	228	49841M4	116.288	ng/mL	
75)	C1-Chrysenes	44.518	242	131724M5	307.337	ng/mL	
76)	C2-Chrysenes	45.964	256	185960M5	433.880	ng/mL	
76)	C2-Chrysenes BS	45.964	256	180129M5	420.275	ng/mL	
77)	BBF-D12 Surr BKGD	46.852	256	5831	13.605	ng/mL	100
78)	C3-Chrysenes	47.274	270	244755M5	571.059	ng/mL	
79)	C4-Chrysenes	49.368	284	162499M5	379.141	ng/mL	
81)	Benzo[b]fluoranthene	46.928	252	7124M4	14.975	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.003	252	3644M3	7.609	ng/mL	
83)	Benzo[a]fluoranthene	47.274	252	2548M4	5.320	ng/mL	
84)	Benzo[e]pyrene	47.907	252	18122M4	39.016	ng/mL	
86)	Benzo[a]pyrene	48.102	252	7416M4	15.877	ng/mL	
87)	Perylene	48.404	252	5345M4	11.506	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.831	276	3101M3	5.925	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.892	278	2586M4	4.954	ng/mL	
90)	Benzo[g,h,i]perylene	54.096	276	5075	9.102	ng/mL#	71
91)	Hopane (T19)	51.973	191	14717	129.902	ng/mL#	79
93)	C23 Tricyclic Terpane (T4	40.604	191	4430	39.102	ng/mL	100
94)	C24 Tricyclic Terpane (T5	41.326	191	3667M4	32.367	ng/mL	
95)	C25 Tricyclic Terpane (T6	42.817	191	3435M4	30.320	ng/mL	
96)	C24 Tetracyclic Terpane (	44.127	191	801M4	7.070	ng/mL	
97)	C26 Tricyclic Terpane-22S	43.886	191	2635M4	23.258	ng/mL	
98)	C26 Tricyclic Terpane-22R	43.976	191	1585M4	13.990	ng/mL	
99)	C28 Tricyclic Terpane-22S	46.280	191	3212	28.351	ng/mL	100
100)	C28 Tricyclic Terpane-22R	46.431	191	2992M4	26.409	ng/mL	
101)	C29 Tricyclic Terpane-22S	46.943	191	2628	23.197	ng/mL	100
102)	C29 Tricyclic Terpane-22R	47.139	191	2782	24.556	ng/mL	100
103)	18a-22,29,30-Trisnorneo	48.238	191	6214	54.849	ng/mL	100
104)	C30 Tricyclic Terpane-22S	48.358	191	2622M4	23.144	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.615	191	2909M4	25.677	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.780	191	3250	28.687	ng/mL	100
108)	17a(H),21b(H)-25-Norhopan	49.789	191	2863M4	25.271	ng/mL	
109)	30-Norhopane (T15)	50.618	191	7161M4	63.208	ng/mL	
110)	18a(H)-30-Norneohopane-C2	50.738	191	3707	32.721	ng/mL	100
111)	17a(H)-Diahopane (X)	50.858	191	4116M4	36.331	ng/mL	
112)	30-Normoretane (T17)	51.401	191	1784	15.747	ng/mL	100
113)	18a(H)&18b(H)-0leananes (	51.822	191	1823M3	16.091	ng/mL	
115)	30-Homohopane-22S (T21)	53.735	191	4822M4	42.562	ng/mL	
116)	30-Homohopane-22R (T22)	53.976	191	6145M4	54.240	ng/mL	
117)	Gammacerane/C32-diahopane	54.488	191	1490	13.152	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.286	191G	4692M4	41.415	ng/mL	
119)	30,31-Bishomohopane-22R (	55.662	191	2551M4	22.517	ng/mL	
120)	30,31-Trishomohopane-22S	57.364	191	1696M4	14.970	ng/mL	
121)	30,31-Trishomohopane-22R	57.996	191	1520M4	13.417	ng/mL	
122)	Tetrakishomohopane-22S (T	59.999	191	3620M4	31.953	ng/mL	
127)	13b(H),17a(H)-20S-Diachol	45.090	217	5975	102.259	ng/mL	100
128)	13b(H),17a(H)-20R-Diachol	45.527	217	2573M4	44.036	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291610.D
 Acq On : 29 Mar 2016 9:57 pm
 Operator : PAH2:gy
 Sample : 1603006-02
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 04 13:43:35 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

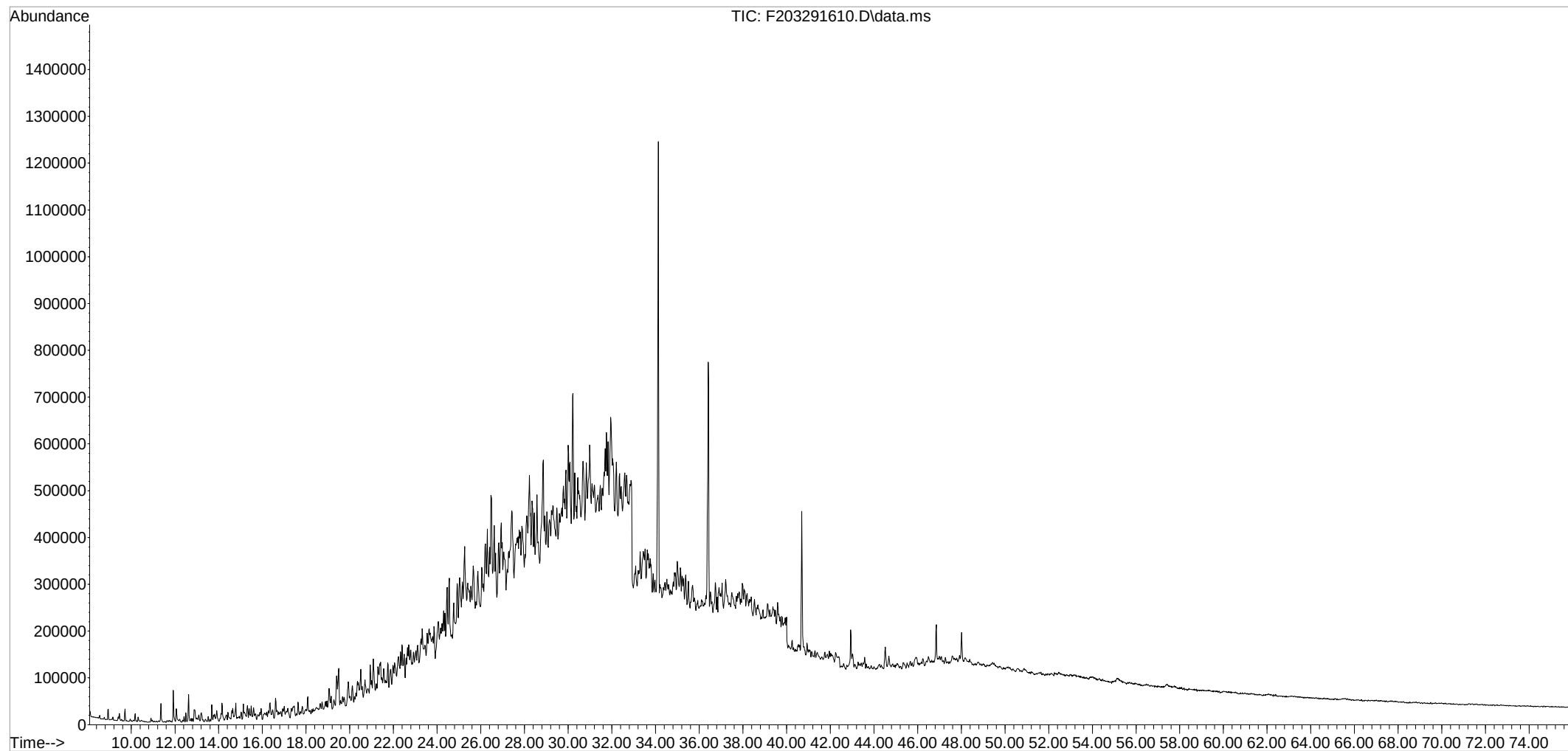
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
129)	13b,17a-20S-Methyldiachol	46.220	217	2688M4	46.004	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.093	217	8608	147.321	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.605	217	7216	123.498	ng/ml	100
132)	Unknown Sterane (S18)	47.877	217	3054	52.268	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.283	217	3734M4	63.905	ng/ml	
135)	14a,17a-20R-Methylcholest	49.006	217	1709M4	29.249	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.337	217	2459M4	42.085	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.256	217	2594M4	44.395	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.169	218	1941M4	33.219	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.259	218	2131M4	36.471	ng/ml	
140)	14b,17b-20R-Methylcholest	48.464	218	1547M4	26.476	ng/ml	
141)	14b,17b-20S-Methylcholest	48.539	218	2206M3	37.755	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.593	218	6417M3	109.824	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.639	218	2983M3	51.053	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.292	231	3715M4	63.580	ng/mL	
145)	C28,20S-triaromatic stero	50.151	231	6577M4	112.562	ng/mL	
146)	C27,20R-triaromatic stero	50.602	231	2213M4	37.874	ng/mL	
147)	C28,20R-triaromatic stero	51.792	231	4990	85.401	ng/mL	100

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

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291610.D
Acq On : 29 Mar 2016 9:57 pm
Operator : PAH2:gy
Sample : 1603006-02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 04 13:43:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-3**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-03**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	463	C1-Dibenzothiophenes	186
C1-Decalins	3390	C2-Dibenzothiophenes	291
C2-Decalins	8380	C3-Dibenzothiophenes	251
C3-Decalins	4600	C4-Dibenzothiophenes	152
C4-Decalins	4480	Benzo(b)fluorene	12.0
Benzothiophene	4.33 U	Fluoranthene	80.7
C1-Benzo(b)thiophenes	228	Pyrene	86.5
C2-Benzo(b)thiophenes	95.7	C1-Fluoranthenes/Pyrenes	117
C3-Benzo(b)thiophenes	182	C2-Fluoranthenes/Pyrenes	146
C4-Benzo(b)thiophenes	112	C3-Fluoranthenes/Pyrenes	166
Naphthalene	22.2	C4-Fluoranthenes/Pyrenes	180
C1-Naphthalenes	53.8 G	Naphthobenzothiophenes	45.6
C2-Naphthalenes	361	C1-Naphthobenzothiophenes	127
C3-Naphthalenes	1430	C2-Naphthobenzothiophenes	216
C4-Naphthalenes	2140	C3-Naphthobenzothiophenes	222
Biphenyl	11.3	C4-Naphthobenzothiophenes	207
Dibenzofuran	42.0	Benzo[a]anthracene	47.7
Acenaphthylene	8.56	Chrysene/Triphenylene	79.3
Acenaphthene	16.9	C1-Chrysenes	146
Fluorene	89.7	C2-Chrysenes	189
C1-Fluorenes	355	C3-Chrysenes	263
C2-Fluorenes	767	C4-Chrysenes	190
C3-Fluorenes	721	Benzo[b]fluoranthene	29.4
Anthracene	39.9 G	Benzo[j]fluoranthene/Benzo[k]fluoranthene	21.6
Phenanthrene	55.6	Benzo[a]fluoranthene	4.32 J
C1-Phenanthrenes/Anthracenes	178	Benzo[e]pyrene	36.7
C2-Phenanthrenes/Anthracenes	569	Benzo[a]pyrene	23.0
C3-Phenanthrenes/Anthracenes	555	Perylene	13.1
C4-Phenanthrenes/Anthracenes	295	Indeno[1,2,3-cd]pyrene	19.1
Retene	4.33 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	7.02
Dibenzothiophene	54.3	Benzo[g,h,i]perylene	45.3

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	98	50-130
Benzo[a]pyrene-d12	81	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter

Result

Carbazole

9.54

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	90	50-130	
Phenanthrene-d10	98	50-130	
Benzo[a]pyrene-d12	81	50-130	

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-3**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-03**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter	Result
4-Methyldibenzothiophene	102
2/3-Methyldibenzothiophene	57.0
1-Methyldibenzothiophene	15.8
3-Methylphenanthrene	34.8
2-Methylphenanthrene	21.0
2-Methylantracene	20.0
9/4-Methylphenanthrene	51.2
1-Methylphenanthrene	31.7

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	90	50-130	
Phenanthrene-d10	98	50-130	
Benzo[a]pyrene-d12	81	50-130	

04/04/16 15:44

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Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-3**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-03**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	33.3	30,31-Trishomohopane-22S	148
C24 Tricyclic Terpane	22.8	30,31-Trishomohopane-22R	104
C25 Tricyclic Terpane	22.9	Tetrakishomohopane-22S	126
C24 Tetracyclic Terpane	13.7	Tetrakishomohopane-22R	91.9
C26 Tricyclic Terpane-22S	12.2	Pentakishomohopane-22S	179
C26 Tricyclic Terpane-22R	13.1	Pentakishomohopane-22R	138
C28 Tricyclic Terpane-22S	18.9	13b(H),17a(H)-20S-Diacholestane	34.3
C28 Tricyclic Terpane-22R	18.4	13b(H),17a(H)-20R-Diacholestane	15.7
C29 Tricyclic Terpane-22S	18.3	13b,17a-20S-Methyldiacholestane	15.7
C29 Tricyclic Terpane-22R	21.9	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	55.1
18a-22,29,30-Trisnorhopane-TS	39.8	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	69.2
C30 Tricyclic Terpane-22S	21.6	Unknown Sterane (S18)	20.1
C30 Tricyclic Terpane-22R	26.0	13a,17b-20S-Ethyldiacholestane	3.24 J
17a(H)-22,29,30-Trisnorhopane-TM	90.5	14a,17a-20S-Methylcholestane	34.0
17a/b,21b/a 28,30-Bisnorhopane	49.1	14a,17a-20R-Methylcholestane	26.1
17a(H),21b(H)-25-Norhopane	13.9	14a(H),17a(H)-20S-Ethylcholestane	61.0
30-Norhopane	276	14a(H),17a(H)-20R-Ethylcholestane	64.8
18a(H)-30-Norneohopane-C29Ts	51.4	14b(H),17b(H)-20R-Cholestane	43.3
17a(H)-Diahopane	20.3	14b(H),17b(H)-20S-Cholestane	42.1
30-Normoretane	30.7	14b,17b-20R-Methylcholestane	42.6
18a(H)&18b(H)-Oleananes	4.33 U	14b,17b-20S-Methylcholestane	56.2
Hopane	435	14b(H),17b(H)-20R-Ethylcholestane	109
Moretane	37.5	14b(H),17b(H)-20S-Ethylcholestane	50.9
30-Homohopane-22S	225	C26,20R- +C27,20S- triaromatic steroid	322
30-Homohopane-22R	180	C28,20S-triaromatic steroid	322
T22a-Gammacerane/C32-diahopane	90.9	C27,20R-triaromatic steroid	257
30,31-Bishomohopane-22S	172	C28,20R-triaromatic steroid	327
30,31-Bishomohopane-22R	128		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	103	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291611.D
 Acq On : 29 Mar 2016 11:24 pm
 Operator : PAH2:gy
 Sample : 1603006-03
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 11 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:45:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.482	164	100582	500.000	ng/mL	0.02
71) Chrysene-d12	42.938	240	182744	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	437637	1129.080	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	112.91%		
40) Phenanthrene-d10	32.353	188	393032	1230.489	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	123.05%		
80) Benzo[b]fluoranthene-d12	46.853	264	485641	1183.002	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	118.30%		
85) Benzo[a]pyrene-d12	48.012	264	361859	1007.685	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	100.77%		
126) 5B(H)Cholane - Surr	43.570	217	77510	1290.720	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	129.07%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.170	138	44207M3	527.554	ng/mL	
3) cis-Decalin	17.374	138	35481	541.386	ng/mL	100
4) C1-Decalins	17.645	152	654754M5	7813.658	ng/mL	
5) C2-Decalins	19.422	166	1620105M5	19333.897	ng/mL	
6) C3-Decalins	21.906	180	889141M5	10610.770	ng/mL	
7) C4-Decalins	25.293	194	865805M5	10332.284	ng/mL	
9) Naphthalene	19.602	128	20543M3	51.169	ng/mL	
10) C1-Naphthalenes	22.387	142G	49799M5	124.039	ng/mL	
11) C2-Naphthalenes	25.654	156	334126M5	832.242	ng/mL	
12) C3-Naphthalenes	27.807	170	1323178M5	3295.776	ng/mL	
13) C4-Naphthalenes	30.231	184	1981570M5	4935.700	ng/mL	
14) 2-Methylnaphthalene	22.282	142	8249M4	30.678	ng/mL	
15) 1-Methylnaphthalene	22.703	142	16045	61.214	ng/mL	100
17) C1-Benzo(b)thiophenes	21.860	148	169870M5	525.118	ng/mL	
18) C2-Benzo(b)thiophenes	25.323	162	71422M5	220.786	ng/mL	
19) C3-Benzo(b)thiophenes	27.295	176	135728M5	419.575	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	83755M5	258.911	ng/mL	
21) Biphenyl	24.164	154	8664M4	26.117	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	24732	103.329	ng/mL	100
23) Dibenzofuran	27.250	168	33732M4	96.954	ng/mL	
24) Acenaphthylene	25.880	152	7905M3	19.738	ng/mL	
25) Acenaphthene	26.603	153	9706M3	39.070	ng/mL	
27) Fluorene	28.620	166	59977	206.854	ng/mL	90
28) C1-Fluorenes	30.983	180	237514M5	819.160	ng/mL	
29) C2-Fluorenes	33.181	194	513073M5	1769.532	ng/mL	
30) C3-Fluorenes	35.018	208	482207M5	1663.079	ng/mL	
31) Dibenzothiophene	31.932	184	45282	125.351	ng/mL#	1
32) 4-Methyldibenzothiophene(	33.708	198	85091	235.551	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.069	198	47552M3	131.635	ng/mL	
34) 1-Methyldibenzothiophene(	34.491	198	13162	36.435	ng/mL	100
35) OTP	34.145	198	40800M3	112.944	ng/mL	
36) C1-Dibenzothiophenes	33.708	198	196075M5	542.779	ng/mL	
36) C1-Dibenzothiophenes BS	33.708	198	155275M5	429.836	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	242690M5	671.820	ng/mL	
38) C3-Dibenzothiophenes	37.216	226	208902M5	578.287	ng/mL	
39) C4-Dibenzothiophenes	38.902	240	126993M5	351.545	ng/mL	
41) Phenanthrene	32.428	178	52611	128.345	ng/mL	91
42) 3-Methylphenanthrene(3MP)	34.401	192	32883	80.218	ng/mL	94
43) 2-Methylphenanthrene(2MP)	34.506	192	19879M4	48.495	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	18956M3	46.243	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.852	192	48381	118.026	ng/mL	83
46) 1-Methylphenanthrene(1MP)	34.943	192	30001M3	73.188	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.852	192	168759M5	411.690	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.674	206	537717M5	1311.767	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291611.D
 Acq On : 29 Mar 2016 11:24 pm
 Operator : PAH2:gy
 Sample : 1603006-03
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 04 13:45:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) C2-Phenanthrenes/Anthr BS	36.674	206	537717M5	1311.767	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.511	220	525025M5	1280.805	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.709	234	279015M5	680.660	ng/mL	
53) Anthracene	32.609	178G	34279M3	92.141	ng/mL	
54) Carbazole	33.287	167	8262M3	22.014	ng/mL	
55) 1-Methylphenanthrene	34.943	192	30152M3	103.718	ng/mL	
56) Fluoranthene	37.201	202	77901	186.160	ng/mL#	88
57) Benzo(b)fluorene	39.731	216	7576M3	27.812	ng/mL	
58) Pyrene	38.089	202	92070M4	199.542	ng/mL	
59) C1-Fluoranthenes/Pyrenes	40.258	216	124978M5	270.863	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.959	230	154860M5	335.626	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.434	244	177149M5	383.932	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.895	258	191356M5	414.723	ng/mL	
63) Naphthobenzothiophene	41.944	234	32079	77.804	ng/mL#	84
64) Naphthobenzothiophene-2,1	41.944	234	32079	77.804	ng/mL#	84
65) Naphthobenzothiophene-1,2	42.290	234	6132M4	14.872	ng/mL	
66) Naphthobenzothiophene-2,3	42.591	234	5181M3	12.566	ng/mL	
67) C1-Naphthobenzothiophenes	43.344	248	121013M5	293.502	ng/mL	
68) C2-Naphthobenzothiophenes	45.362	262	205203M5	497.694	ng/mL	
69) C3-Naphthobenzothiophenes	46.973	276	210738M5	511.118	ng/mL	
70) C4-Naphthobenzothiophenes	48.027	290	197317M5	478.567	ng/mL	
72) Benz[a]anthracene	42.877	228	48340	110.118	ng/mL	100
74) Chrysene/Triphenylene	43.028	228	80625	183.033	ng/mL	98
75) C1-Chrysenes	44.518	242	148747M5	337.682	ng/mL	
76) C2-Chrysenes	46.235	256	207327M5	470.670	ng/mL	
76) C2-Chrysenes BS	46.235	256	191902M5	435.652	ng/mL	
77) BBF-D12 Surr BKGD	46.853	256	15425	35.018	ng/mL	100
78) C3-Chrysenes	49.262	270	267287M5	606.790	ng/mL	
79) C4-Chrysenes	49.368	284	193405M5	439.064	ng/mL	
81) Benzo[b]fluoranthene	46.928	252	33136M4	67.771	ng/mL	
82) Benzo[j]+[k]fluoranthene	47.003	252	24491M3	49.758	ng/mL	
83) Benzo[a]fluoranthene	47.304	252	4909M4	9.973	ng/mL	
84) Benzo[e]pyrene	47.922	252	40446	84.728	ng/mL	89
86) Benzo[a]pyrene	48.103	252	25512M4	53.144	ng/mL	
87) Perylene	48.404	252	14474M3	30.316	ng/mL	
88) Indeno[1,2,3-cd]pyrene	52.816	276	23693M3	44.047	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.877	278	8685M3	16.189	ng/mL	
90) Benzo[g,h,i]perylene	54.096	276	59898	104.523	ng/mL	98
91) Hopane (T19)	51.973	191	116945	1004.361	ng/mL	94
93) C23 Tricyclic Terpane (T4	40.589	191	8951	76.874	ng/mL	100
94) C24 Tricyclic Terpane (T5	41.327	191	6139M4	52.724	ng/mL	
95) C25 Tricyclic Terpane (T6	42.817	191	6150M4	52.818	ng/mL	
96) C24 Tetracyclic Terpane (	44.127	191	3687	31.665	ng/mL	100
97) C26 Tricyclic Terpane-22S	43.871	191	3273M4	28.110	ng/mL	
98) C26 Tricyclic Terpane-22R	43.976	191	3517	30.205	ng/mL	100
99) C28 Tricyclic Terpane-22S	46.265	191	5083M4	43.654	ng/mL	
100) C28 Tricyclic Terpane-22R	46.431	191	4942	42.443	ng/mL	100
101) C29 Tricyclic Terpane-22S	46.958	191	4912	42.186	ng/mL	100
102) C29 Tricyclic Terpane-22R	47.154	191	5897M4	50.645	ng/mL	
103) 18a-22,29,30-Trisnorneoho	48.238	191	10700	91.895	ng/mL	100
104) C30 Tricyclic Terpane-22S	48.359	191	5814M4	49.932	ng/mL	
105) C30 Tricyclic Terpane-22R	48.600	191	6974M4	59.895	ng/mL	
106) 17a(H)-22,29,30-Trisnorho	48.780	191	24316	208.833	ng/mL	100
107) 17a/b,21b/a 28,30-Bisnorh	49.955	191	13193	113.306	ng/mL	100
108) 17a(H),21b(H)-25-Norhopan	49.789	191	3742	32.137	ng/mL	100
109) 30-Norhopane (T15)	50.618	191	74254	637.717	ng/mL	100
110) 18a(H)-30-Norneohopane-C2	50.723	191	13810M6	118.605	ng/mL	
111) 17a(H)-Diahopane (X)	50.844	191	5451M4	46.815	ng/mL	
112) 30-Normoretane (T17)	51.401	191	8244M4	70.802	ng/mL	
114) Moretane (T20)	52.651	191	10072M4	86.502	ng/mL	
115) 30-Homohopane-22S (T21)	53.735	191	60449	519.155	ng/mL	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291611.D
 Acq On : 29 Mar 2016 11:24 pm
 Operator : PAH2:gy
 Sample : 1603006-03
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 04 13:45:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

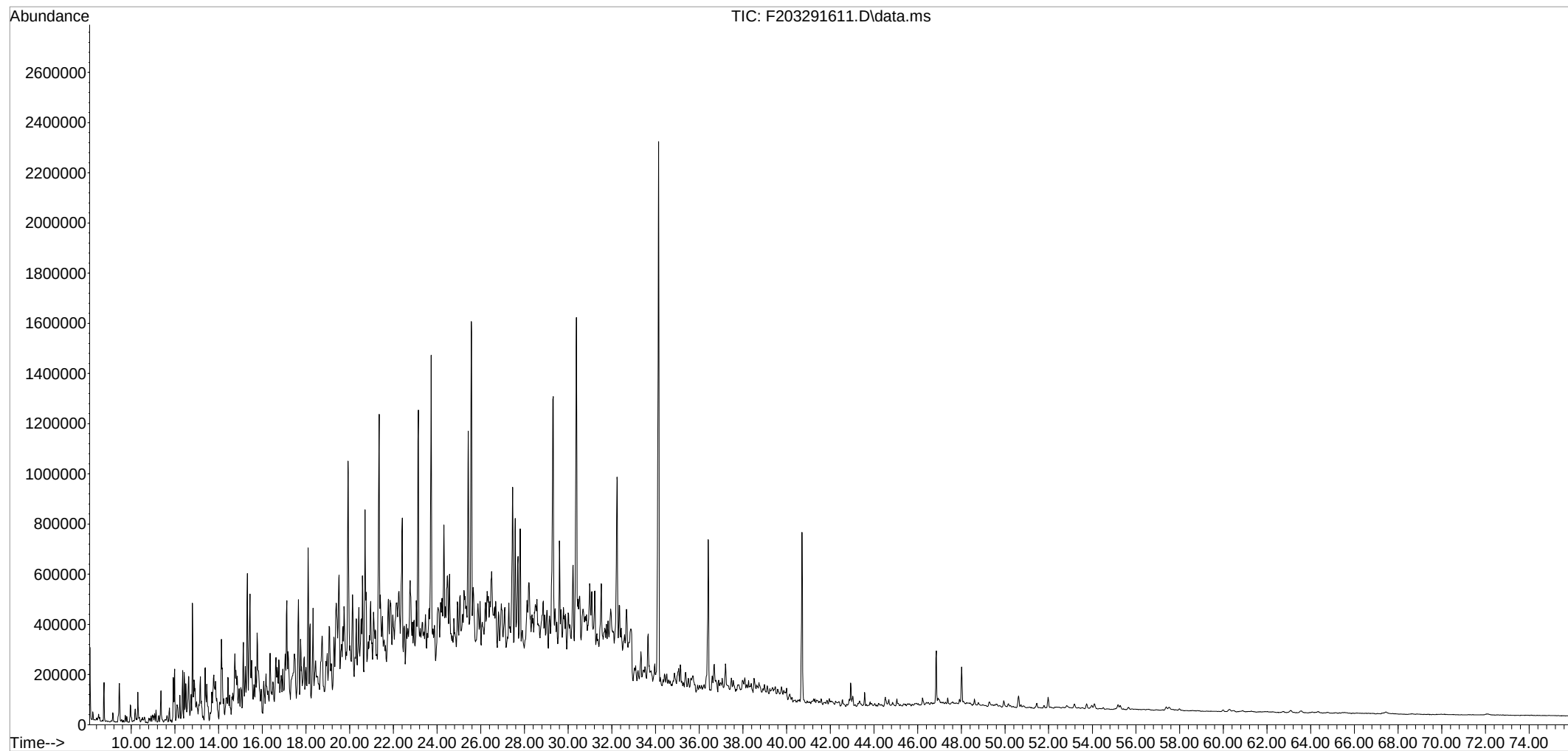
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116)	30-Homohopane-22R (T22)	53.976	191	48314	414.936	ng/ml	100
117)	Gammacerane/C32-diahopane	54.503	191	24405	209.598	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.271	191	46301	397.648	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.647	191	34361	295.103	ng/ml	100
120)	30,31-Trishomohopane-22S	57.379	191	39703M4	340.982	ng/ml	
121)	30,31-Trishomohopane-22R	57.981	191	28069	241.065	ng/ml	100
122)	Tetrakishomohopane-22S (T	59.984	191	33977	291.805	ng/ml	100
123)	Tetrakishomohopane-22R (T	60.873	191	24682	211.977	ng/ml	100
124)	Pentakishomohopane-22S (T	63.071	191	48035	412.540	ng/ml	100
125)	Pentakishomohopane-22R (T	64.351	191	37130	318.884	ng/ml	100
127)	13b(H),17a(H)-20S-Diachol	45.106	217	4755M4	79.182	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.512	217	2171	36.152	ng/ml	100
129)	13b,17a-20S-Methylchole	46.220	217	2179M4	36.285	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.078	217	7636	127.157	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.591	217	9591	159.712	ng/ml	100
132)	Unknown Sterane (S18)	47.877	217	2784	46.360	ng/ml	100
133)	13a,17b-20S-Ethylchole	48.133	217	449	7.477	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.298	217	4715M4	78.516	ng/ml	
135)	14a,17a-20R-Methylcholest	49.006	217	3617M4	60.231	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.353	217	8454M3	140.779	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.256	217	8982M3	149.571	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.169	218	6000M4	99.914	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.259	218	5838M4	97.216	ng/ml	
140)	14b,17b-20R-Methylcholest	48.464	218	5901M6	98.265	ng/ml	
141)	14b,17b-20S-Methylcholest	48.539	218	7786M4	129.655	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.594	218	15050M3	250.617	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.639	218	7057M3	117.515	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.307	231	44657	743.642	ng/mL	100
145)	C28,20S-triaromatic stero	50.151	231	44604	742.759	ng/mL	100
146)	C27,20R-triaromatic stero	50.603	231	35557	592.106	ng/mL	100
147)	C28,20R-triaromatic stero	51.792	231	45306M4	754.449	ng/mL	

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

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291611.D
Acq On : 29 Mar 2016 11:24 pm
Operator : PAH2:gy
Sample : 1603006-03
Misc : 1x,SS032516,etr:1603006
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 04 13:45:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter	Result
cis/trans-Decalin	8820
C1-Decalins	13700
C2-Decalins	14000
C3-Decalins	8000
C4-Decalins	8930
Benzo(b)thiophene	16.2 U
C1-Benzo(b)thiophenes	522
C2-Benzo(b)thiophenes	190
C3-Benzo(b)thiophenes	396
C4-Benzo(b)thiophenes	371
Naphthalene	58.8
C1-Naphthalenes	96.8
C2-Naphthalenes	2280
C3-Naphthalenes	8000
C4-Naphthalenes	7390
Biphenyl	20.9
Dibenzofuran	16.2 U
Acenaphthylene	51.5
Acenaphthene	42.8
Fluorene	49.3 G
C1-Fluorenes	1290
C2-Fluorenes	4660
C3-Fluorenes	6770
Anthracene	92.5 G
Phenanthrene	692
C1-Phenanthrenes/Anthracenes	4950
C2-Phenanthrenes/Anthracenes	10500
C3-Phenanthrenes/Anthracenes	9880
C4-Phenanthrenes/Anthracenes	6380
Retene	16.2 U
Dibenzothiophene	82.3

Parameter	Result
C1-Dibenzothiophenes	897
C2-Dibenzothiophenes	1840
C3-Dibenzothiophenes	2160
C4-Dibenzothiophenes	1540
Benzo(b)fluorene	55.8
Fluoranthene	85.3
Pyrene	322
C1-Fluoranthenes/Pyrenes	1100
C2-Fluoranthenes/Pyrenes	1770
C3-Fluoranthenes/Pyrenes	2460
C4-Fluoranthenes/Pyrenes	2450
Naphthobenzothiophenes	122
C1-Naphthobenzothiophenes	468
C2-Naphthobenzothiophenes	778
C3-Naphthobenzothiophenes	675
C4-Naphthobenzothiophenes	877
Benzo[a]anthracene	173
Chrysene/Triphenylene	643
C1-Chrysenes	1930
C2-Chrysenes	2670
C3-Chrysenes	2870
C4-Chrysenes	1960
Benzo[b]fluoranthene	36.7
Benzo[j]fluoranthene/Benzo[k]fluoranthene	22.2
Benzo[a]fluoranthene	14.8 J
Benzo[e]pyrene	164
Benzo[a]pyrene	46.4
Perylene	19.4
Indeno[1,2,3-cd]pyrene	15.7 J
Dibenz[ah]anthracene/Dibenz[ac]anthracene	21.6
Benzo[g,h,i]perylene	22.3

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	89	50-130
Phenanthrene-d10	92	50-130
Benzo[a]pyrene-d12	88	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter

Carbazole

Result

29.4

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	89	50-130	
Phenanthrene-d10	92	50-130	
Benzo[a]pyrene-d12	88	50-130	

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter	Result
4-Methyldibenzothiophene	486
2/3-Methyldibenzothiophene	276
1-Methyldibenzothiophene	51.0
3-Methylphenanthrene	1050
2-Methylphenanthrene	983
2-Methylantracene	85.6
9/4-Methylphenanthrene	1610
1-Methylphenanthrene	1040

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	89	50-130	
Phenanthrene-d10	92	50-130	
Benzo[a]pyrene-d12	88	50-130	

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter	Result
C23 Tricyclic Terpane	138
C24 Tricyclic Terpane	98.2
C25 Tricyclic Terpane	16.2 U
C24 Tetracyclic Terpane	16.2 U
C26 Tricyclic Terpane-22S	142
C26 Tricyclic Terpane-22R	16.2 U
C28 Tricyclic Terpane-22S	16.2 U
C28 Tricyclic Terpane-22R	73.2
C29 Tricyclic Terpane-22S	16.2 U
C29 Tricyclic Terpane-22R	16.2 U
18a-22,29,30-Trisnorhopane-TS	155
C30 Tricyclic Terpane-22S	16.2 U
C30 Tricyclic Terpane-22R	16.2 U
17a(H)-22,29,30-Trisnorhopane-TM	16.2 U
17a/b,21b/a 28,30-Bisnorhopane	16.2 U
17a(H),21b(H)-25-Norhopane	16.2 U
30-Norhopane	59.0
18a(H)-30-Norneohopane-C29Ts	56.7 G
17a(H)-Diahopane	94.6 G
30-Normoretane	16.2 U
18a(H)&18b(H)-Oleananes	16.2 U
Hopane	94.7
Moretane	16.2 U
30-Homohopane-22S	35.1
30-Homohopane-22R	41.5
T22a-Gammacerane/C32-diahopane	16.2 U
30,31-Bishomohopane-22S	16.2 U
30,31-Bishomohopane-22R	16.2 U

Parameter	Result
30,31-Trishomohopane-22S	16.2 U
30,31-Trishomohopane-22R	16.2 U
Tetrakishomohopane-22S	16.2 U
Tetrakishomohopane-22R	16.2 U
Pentakishomohopane-22S	16.2 U
Pentakishomohopane-22R	16.2 U
13b(H),17a(H)-20S-Diacholestane	486
13b(H),17a(H)-20R-Diacholestane	237
13b,17a-20S-Methyldiacholestane	212
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	659
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	559
Unknown Sterane (S18)	190
13a,17b-20S-Ethyldiacholestane	16.2 U
14a,17a-20S-Methylcholestane	234
14a,17a-20R-Methylcholestane	110
14a(H),17a(H)-20S-Ethylcholestane	108
14a(H),17a(H)-20R-Ethylcholestane	85.0
14b(H),17b(H)-20R-Cholestane	86.3
14b(H),17b(H)-20S-Cholestane	83.1
14b,17b-20R-Methylcholestane	53.5
14b,17b-20S-Methylcholestane	101
14b(H),17b(H)-20R-Ethylcholestane	165
14b(H),17b(H)-20S-Ethylcholestane	115
C26,20R- +C27,20S- triaromatic steroid	73.2
C28,20S-triaromatic steroid	16.2 U
C27,20R-triaromatic steroid	16.2 U
C28,20R-triaromatic steroid	16.2 U

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	115	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291612.D
 Acq On : 30 Mar 2016 12:50 am
 Operator : PAH2:gy
 Sample : 1603006-04
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 12 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 13:48:16 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	98988	500.000	ng/mL	0.00
71) Chrysene-d12	42.983	240	185433	500.000	ng/mL	0.06
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	255608	670.074	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	67.01%		
40) Phenanthrene-d10	32.353	188	217950	693.337	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	69.33%		
80) Benzo[b]fluoranthene-d12	46.883	264	290429	697.214	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	69.72%		
85) Benzo[a]pyrene-d12	48.057	264	239725	657.893	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery =	65.79%		
126) 5B(H)Cholane - Surr	43.615	217	52601	863.226	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	86.32%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.170	138	419557	5087.506	ng/mL	100
3) cis-Decalin	17.374	138	24237	375.775	ng/mL	100
4) C1-Decalins	17.645	152	697876M5	8462.374	ng/mL	
5) C2-Decalins	19.421	166	712465M5	8639.279	ng/mL	
6) C3-Decalins	21.905	180	408496M5	4953.381	ng/mL	
7) C4-Decalins	25.293	194	456096M5	5530.574	ng/mL	
9) Naphthalene	19.602	128	14379M3	36.392	ng/mL	
10) C1-Naphthalenes	22.763	142	23687M5	59.950	ng/mL	
11) C2-Naphthalenes	25.112	156	558972M5	1414.709	ng/mL	
12) C3-Naphthalenes	27.461	170	1957515M5	4954.299	ng/mL	
13) C4-Naphthalenes	30.230	184	1807483M5	4574.581	ng/mL	
14) 2-Methylnaphthalene	22.372	142	9064	34.252	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	11312M4	43.852	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	102873M5	323.131	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	37424M5	117.551	ng/mL	
19) C3-Benzo(b)thiophenes	25.428	176	78027M5	245.088	ng/mL	
20) C4-Benzo(b)thiophenes	29.402	190	73107M5	229.634	ng/mL	
21) Biphenyl	24.164	154	4226M4	12.944	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	9301	39.485	ng/mL	100
24) Acenaphthylene	25.865	152	12573M4	31.900	ng/mL	
25) Acenaphthene	26.587	153	6487M4	26.533	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	132286M3	636.083	ng/mL	
27) Fluorene	28.620	166G	8713M4	30.534	ng/mL	
28) C1-Fluorenes	30.998	180	227417M5	796.966	ng/mL	
29) C2-Fluorenes	33.196	194	823618M5	2886.310	ng/mL	
30) C3-Fluorenes	35.033	208	1196339M5	4192.483	ng/mL	
31) Dibenzothiophene	31.947	184	18123	50.976	ng/mL#	1
32) 4-Methyldibenzothiophene(	33.723	198	106933	300.781	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.084	198	60655	170.610	ng/mL	100
34) 1-Methyldibenzothiophene(	34.491	198	11226	31.576	ng/mL	100
35) OTP	34.145	198	21208M3	59.654	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	218652M5	615.024	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	197444M5	555.371	ng/mL	
37) C2-Dibenzothiophenes	35.424	212	405342M5	1140.146	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	475514M5	1337.526	ng/mL	
39) C4-Dibenzothiophenes	38.932	240	338078M5	950.946	ng/mL	
41) Phenanthrene	32.443	178	172873	428.517	ng/mL	97
42) 3-Methylphenanthrene(3MP)	34.416	192	263048	652.042	ng/mL	97
43) 2-Methylphenanthrene(2MP)	34.521	192	245642M4	608.896	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	21392M3	53.026	ng/mL	
45) 9/4-Methylphenanthrene(9M)	34.867	192	403231	999.527	ng/mL	98
46) 1-Methylphenanthrene(1MP)	34.958	192	259928M4	644.308	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192	1237443M5	3067.368	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.704	206	2620913M5	6496.707	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291612.D
 Acq On : 30 Mar 2016 12:50 am
 Operator : PAH2:gy
 Sample : 1603006-04
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 13:48:16 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) C2-Phenanthrenes/Anthr BS	36.704	206	2620913M5	6496.707	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.541	220	2467600M5	6116.675	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.739	234	1593180M5	3949.167	ng/mL	
53) Anthracene	32.624	178G	20971M3	57.277	ng/mL	
54) Carbazole	33.301	167	6734M3	18.231	ng/mL	
55) 1-Methylphenanthrene	34.958	192	262080M3	916.033	ng/mL	
56) Fluoranthene	37.231	202	21749M4	52.811	ng/mL	
57) Benzo(b)fluorene	39.761	216	9261M3	34.546	ng/mL	
58) Pyrene	38.119	202	90423M4	199.128	ng/mL	
59) C1-Fluoranthenes/Pyrenes	40.288	216	309350M5	681.246	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.989	230	496952M5	1094.380	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.464	244	692404M5	1524.801	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.729	258	688269M5	1515.695	ng/mL	
63) Naphthobenzothiophene	41.989	234	26417M4	65.103	ng/mL	
64) Naphthobenzothiophene-2,1	41.989	234	26051M4	64.201	ng/mL	
66) Naphthobenzothiophene-2,3	42.636	234	4593M4	11.319	ng/mL	
67) C1-Naphthobenzothiophenes	43.389	248	117665M5	289.977	ng/mL	
68) C2-Naphthobenzothiophenes	44.910	262	195581M5	481.995	ng/mL	
69) C3-Naphthobenzothiophenes	46.687	276	169641M5	418.068	ng/mL	
70) C4-Naphthobenzothiophenes	48.072	290	220265M5	542.827	ng/mL	
72) Benz[a]anthracene	42.922	228	47699M3	107.083	ng/mL	
74) Chrysene/Triphenylene	43.058	228	177972M4	398.170	ng/mL	
75) C1-Chrysenes	44.563	242	534996M5	1196.925	ng/mL	
76) C2-Chrysenes	45.994	256	748908M5	1675.502	ng/mL	
76) C2-Chrysenes BS	45.994	256	738595M5	1652.429	ng/mL	
77) BBF-D12 Surr BKGD	46.883	256	10313	23.073	ng/mL	100
78) C3-Chrysenes	47.846	270	794892M5	1778.380	ng/mL	
79) C4-Chrysenes	49.413	284	542042M5	1212.689	ng/mL	
81) Benzo[b]fluoranthene	46.973	252	11267M3	22.710	ng/mL	
82) Benzo[j]+[k]fluoranthene	47.033	252	6850M3	13.715	ng/mL	
83) Benzo[a]fluoranthene	47.319	252	4565M4	9.140	ng/mL	
84) Benzo[e]pyrene	47.952	252	49156M4	101.481	ng/mL	
86) Benzo[a]pyrene	48.148	252	13989M4	28.718	ng/mL	
87) Perylene	48.449	252	5820M3	12.013	ng/mL	
88) Indeno[1,2,3-cd]pyrene	52.892	276	5295M4	9.701	ng/mL	
89) Dibenzo[ah]+[ac]anthracene	52.922	278	7268M4	13.351	ng/mL	
90) Benzo[g,h,i]perylene	54.141	276	8045	13.835	ng/mL#	77
91) Hopane (T19)	52.018	191	6928M4	58.637	ng/mL	
93) C23 Tricyclic Terpane (T4	40.634	191	10060	85.146	ng/mL	100
94) C24 Tricyclic Terpane (T5	41.372	191	7185M3	60.812	ng/mL	
97) C26 Tricyclic Terpane-22S	43.916	191	10372M4	87.786	ng/mL	
100) C28 Tricyclic Terpane-22R	46.476	191	5357M4	45.340	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.283	191	11310	95.725	ng/mL	100
109) 30-Norhopane (T15)	50.663	191	4317M4	36.538	ng/mL	
110) 18a(H)-30-Norneohopane-C2	50.768	191G	4146	35.091	ng/mL	100
111) 17a(H)-Diahopane (X)	50.904	191G	6920M4	58.569	ng/mL	
115) 30-Homohopane-22S (T21)	53.780	191	2570M4	21.752	ng/mL	
116) 30-Homohopane-22R (T22)	54.021	191	3034M4	25.679	ng/mL	
127) 13b(H),17a(H)-20S-Diachol	45.136	217	18325M4	300.728	ng/mL	
128) 13b(H),17a(H)-20R-Diachol	45.557	217	8953M4	146.926	ng/mL	
129) 13b,17a-20S-Methyl	46.265	217	7990M3	131.123	ng/mL	
130) 14a,17a-20S-Chol/13b,17a-	47.139	217	24857M4	407.924	ng/mL	
131) 14a,17a-20R-Chol/13b,17a-	47.636	217	21110M4	346.433	ng/mL	
132) Unknown Sterane (S18)	47.922	217	7168	117.633	ng/mL	100
134) 14a,17a-20S-Methylcholest	48.328	217	8816	144.678	ng/mL	100
135) 14a,17a-20R-Methylcholest	49.051	217	4138M4	67.908	ng/mL	
136) 14a(H),17a(H)-20S-Ethylch	49.383	217	4075M4	66.874	ng/mL	
137) 14a(H),17a(H)-20R-Ethylch	50.271	217	3209M4	52.662	ng/mL	
138) 14b(H),17b(H)-20R-Cholest	47.214	218	3257	53.450	ng/mL	100
139) 14b(H),17b(H)-20S-Cholest	47.304	218	3136M4	51.464	ng/mL	
140) 14b,17b-20R-Methylcholest	48.509	218	2020	33.150	ng/mL	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291612.D
Acq On : 30 Mar 2016 12:50 am
Operator : PAH2:gy
Sample : 1603006-04
Misc : 1x, SS032516, etr:1603006
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 13:48:16 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

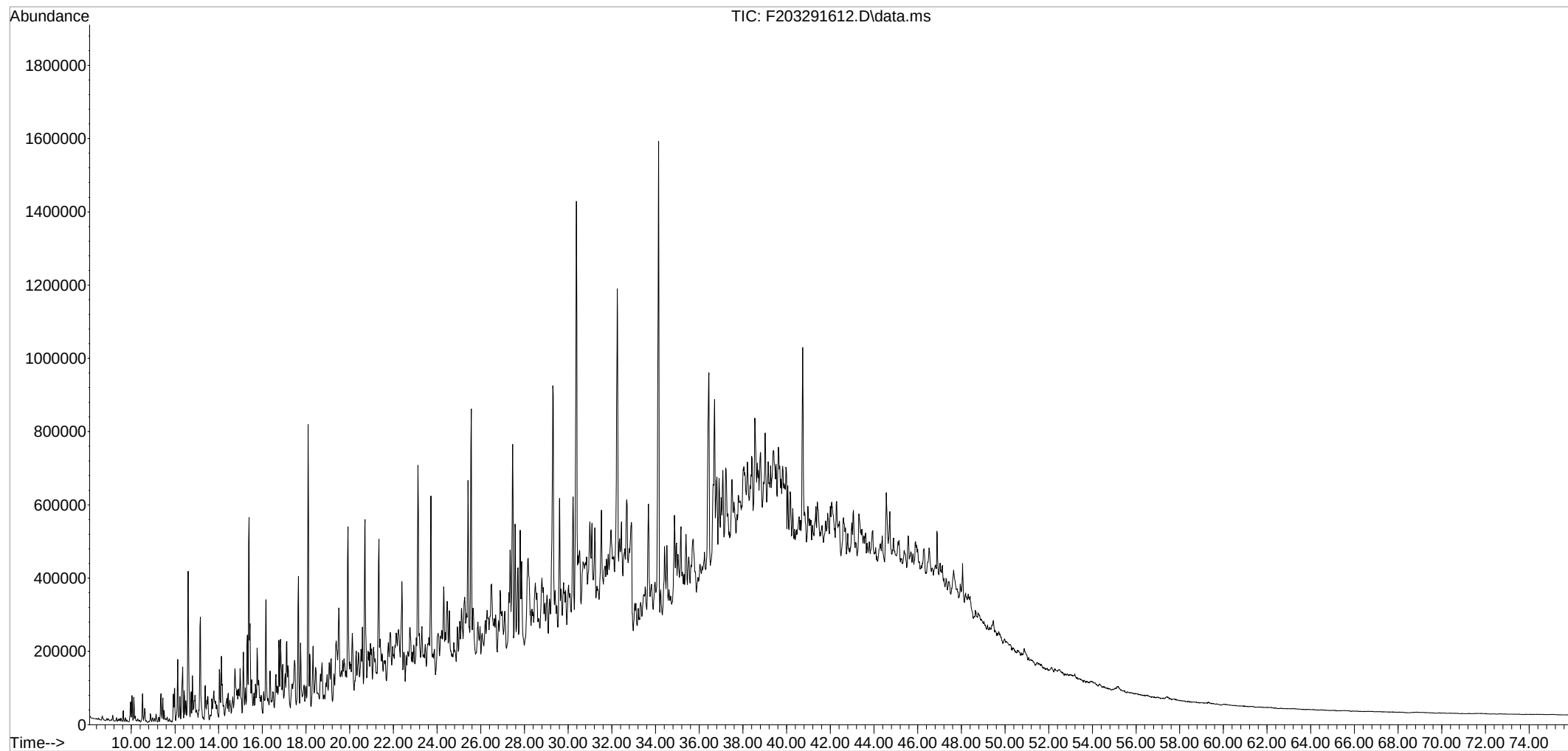
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
141)	14b,17b-20S-Methylcholest	48.584	218	3819	62.673	ng/ml	100
142)	14b(H),17b(H)-20R-Ethylch	49.639	218	6239M4	102.387	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.684	218	4351M4	71.404	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.352	231	2761M4	45.310	ng/mL	

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291612.D
Acq On : 30 Mar 2016 12:50 am
Operator : PAH2:gy
Sample : 1603006-04
Misc : 1x,SS032516,etr:1603006
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 13:48:16 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES





Form I
Duplicate
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04 D**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter	Result
cis/trans-Decalin	7440
C1-Decalins	12400
C2-Decalins	11400
C3-Decalins	6310
C4-Decalins	7020
Benzothiophene	14.5 U
C1-Benzo(b)thiophenes	393
C2-Benzo(b)thiophenes	152
C3-Benzo(b)thiophenes	303
C4-Benzo(b)thiophenes	282
Naphthalene	44.4
C1-Naphthalenes	75.2
C2-Naphthalenes	1690
C3-Naphthalenes	6060
C4-Naphthalenes	5620
Biphenyl	13.2 J
Dibenzofuran	14.5 U
Acenaphthylene	38.2
Acenaphthene	34.4
Fluorene	36.8 G
C1-Fluorenes	997
C2-Fluorenes	3530
C3-Fluorenes	5150
Anthracene	71.1 G
Phenanthrene	525
C1-Phenanthrenes/Anthracenes	3680
C2-Phenanthrenes/Anthracenes	7950
C3-Phenanthrenes/Anthracenes	7360
C4-Phenanthrenes/Anthracenes	4800
Retene	14.5 U
Dibenzothiophene	64.3

Parameter	Result
C1-Dibenzothiophenes	678
C2-Dibenzothiophenes	1400
C3-Dibenzothiophenes	1680
C4-Dibenzothiophenes	1140
Benzo(b)fluorene	46.1
Fluoranthene	64.5
Pyrene	247
C1-Fluoranthenes/Pyrenes	850
C2-Fluoranthenes/Pyrenes	1340
C3-Fluoranthenes/Pyrenes	1870
C4-Fluoranthenes/Pyrenes	1860
Naphthobenzothiophenes	93.2
C1-Naphthobenzothiophenes	360
C2-Naphthobenzothiophenes	592
C3-Naphthobenzothiophenes	501
C4-Naphthobenzothiophenes	668
Benz[a]anthracene	129
Chrysene/Triphenylene	511
C1-Chrysenes	1500
C2-Chrysenes	2090
C3-Chrysenes	2300
C4-Chrysenes	1530
Benzo[b]fluoranthene	30.8
Benzo[j]fluoranthene/Benzo[k]fluoranthene	14.5 J
Benzo[a]fluoranthene	10.9 J
Benzo[e]pyrene	134
Benzo[a]pyrene	37.0
Perylene	14.0 J
Indeno[1,2,3-cd]pyrene	13.3 J
Dibenz[ah]anthracene/Dibenz[ac]anthracene	16.1
Benzo[g,h,i]perylene	17.7

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Duplicate Carbazole



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04 D**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter

Carbazole

Result

23.0

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	85	50-130	
Phenanthrene-d10	88	50-130	
Benzo[a]pyrene-d12	84	50-130	

04/04/16 15:45

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Form I Duplicate

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04 D**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter	Result
4-Methyldibenzothiophene	368
2/3-Methyldibenzothiophene	211
1-Methyldibenzothiophene	39.4
3-Methylphenanthrene	774
2-Methylphenanthrene	713
2-Methylantracene	75.7
9/4-Methylphenanthrene	1140
1-Methylphenanthrene	845

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	85	50-130	
Phenanthrene-d10	88	50-130	
Benzo[a]pyrene-d12	84	50-130	

04/04/16 15:45

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Form I Duplicate Steranes and Triterpanes



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04 D**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter	Result
C23 Tricyclic Terpane	120
C24 Tricyclic Terpane	98.5
C25 Tricyclic Terpane	14.5 U
C24 Tetracyclic Terpane	14.5 U
C26 Tricyclic Terpane-22S	109
C26 Tricyclic Terpane-22R	14.5 U
C28 Tricyclic Terpane-22S	14.5 U
C28 Tricyclic Terpane-22R	47.3
C29 Tricyclic Terpane-22S	14.5 U
C29 Tricyclic Terpane-22R	14.5 U
18a-22,29,30-Trisnorhopane-TS	141
C30 Tricyclic Terpane-22S	14.5 U
C30 Tricyclic Terpane-22R	14.5 U
17a(H)-22,29,30-Trisnorhopane-TM	14.5 U
17a/b,21b/a 28,30-Bisnorhopane	14.5 U
17a(H),21b(H)-25-Norhopane	14.5 U
30-Norhopane	55.3
18a(H)-30-Norneohopane-C29Ts	55.2 G
17a(H)-Diahopane	90.0 G
30-Normoretane	14.5 U
18a(H)&18b(H)-Oleananes	14.5 U
Hopane	76.8
Moretane	14.5 U
30-Homohopane-22S	32.7
30-Homohopane-22R	30.5
T22a-Gammacerane/C32-diahopane	14.5 U
30,31-Bishomohopane-22S	14.5 U
30,31-Bishomohopane-22R	14.5 U

Parameter	Result
30,31-Trishomohopane-22S	14.5 U
30,31-Trishomohopane-22R	14.5 U
Tetrakishomohopane-22S	14.5 U
Tetrakishomohopane-22R	14.5 U
Pentakishomohopane-22S	14.5 U
Pentakishomohopane-22R	14.5 U
13b(H),17a(H)-20S-Diacholestane	366
13b(H),17a(H)-20R-Diacholestane	187
13b,17a-20S-Methyldiacholestane	166
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	568
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	452
Unknown Sterane (S18)	172
13a,17b-20S-Ethyldiacholestane	14.5 U
14a,17a-20S-Methylcholestane	174
14a,17a-20R-Methylcholestane	81.2
14a(H),17a(H)-20S-Ethylcholestane	80.5
14a(H),17a(H)-20R-Ethylcholestane	65.2
14b(H),17b(H)-20R-Cholestane	83.6
14b(H),17b(H)-20S-Cholestane	64.4
14b,17b-20R-Methylcholestane	41.3
14b,17b-20S-Methylcholestane	82.4
14b(H),17b(H)-20R-Ethylcholestane	146
14b(H),17b(H)-20S-Ethylcholestane	84.0
C26,20R- +C27,20S- triaromatic steroid	88.8
C28,20S-triaromatic steroid	14.5 U
C27,20R-triaromatic steroid	14.5 U
C28,20R-triaromatic steroid	14.5 U

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	101	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291613.D
 Acq On : 30 Mar 2016 2:17 am
 Operator : PAH2:gy
 Sample : 1603006-04D
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 13 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 13:49:20 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	98501	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	178681	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	242574	639.050	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	63.91%		
40) Phenanthrene-d10	32.353	188	207230	662.494	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	66.25%		
80) Benzo[b]fluoranthene-d12	46.883	264	266578	664.140	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	66.41%		
85) Benzo[a]pyrene-d12	48.057	264	219880	626.233	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery =	62.62%		
126) 5B(H)Cholane - Surr	43.615	217	44624M4	759.990	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	76.00%		
Target Compounds						
2) trans-Decalin	16.170	138	388709	4736.750	ng/mL	100
3) cis-Decalin	17.374	138	25129	391.531	ng/mL	100
4) C1-Decalins	17.645	152	700016M5	8530.291	ng/mL	
5) C2-Decalins	19.421	166	645018M5	7860.093	ng/mL	
6) C3-Decalins	21.905	180	357164M5	4352.347	ng/mL	
7) C4-Decalins	25.278	194	397328M5	4841.780	ng/mL	
9) Naphthalene	19.602	128	12051M3	30.651	ng/mL	
10) C1-Naphthalenes	22.764	142	20382M5	51.840	ng/mL	
11) C2-Naphthalenes	25.112	156	459115M5	1167.725	ng/mL	
12) C3-Naphthalenes	27.461	170	1642651M5	4177.960	ng/mL	
13) C4-Naphthalenes	30.230	184	1523265M5	3874.311	ng/mL	
14) 2-Methylnaphthalene	22.372	142	7725M4	29.336	ng/mL	
15) 1-Methylnaphthalene	22.764	142	9348M4	36.417	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	85955M5	271.326	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	33215M5	104.846	ng/mL	
19) C3-Benzo(b)thiophenes	25.428	176	66171M5	208.875	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	61498M5	194.125	ng/mL	
21) Biphenyl	24.164	154	2964M4	9.123	ng/mL	
22) 2,6-Dimethylnaphthalene	24.766	156	7710M4	32.893	ng/mL	
24) Acenaphthylene	25.865	152	10341M4	26.367	ng/mL	
25) Acenaphthene	26.587	153	5780M3	23.758	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	109069M3	527.040	ng/mL	
27) Fluorene	28.620	166G	7217	25.416	ng/mL#	4
28) C1-Fluorenes	30.983	180	195182M5	687.383	ng/mL	
29) C2-Fluorenes	33.196	194	690821M5	2432.902	ng/mL	
30) C3-Fluorenes	35.033	208	1008343M5	3551.136	ng/mL	
31) Dibenzothiophene	31.947	184	15696M4	44.368	ng/mL	
32) 4-Methyldibenzothiophene(	33.723	198	89900	254.121	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.069	198	51513	145.612	ng/mL	100
34) 1-Methyldibenzothiophene(	34.491	198	9606M4	27.153	ng/mL	
35) OTP	34.130	198	18481M3	52.240	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	183886M5	519.792	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	165405M5	467.551	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	341660M5	965.773	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	409428M5	1157.333	ng/mL	
39) C4-Dibenzothiophenes	38.932	240	278349M5	786.811	ng/mL	
41) Phenanthrene	32.443	178	145416M4	362.239	ng/mL	
42) 3-Methylphenanthrene(3MP)	34.416	192	214203M4	533.591	ng/mL	
43) 2-Methylphenanthrene(2MP)	34.521	192	197486M4	491.948	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	20964M3	52.222	ng/mL	
45) 9/4-Methylphenanthrene(9M)	34.867	192	315639M4	786.273	ng/mL	
46) 1-Methylphenanthrene(1MP)	34.958	192	233871M4	582.585	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192	1018168M5	2536.308	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.689	206	2199928M5	5480.132	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291613.D
 Acq On : 30 Mar 2016 2:17 am
 Operator : PAH2:gy
 Sample : 1603006-04D
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 04 13:49:20 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) C2-Phenanthrenes/Anthr BS	36.689	206	2199928M5	5480.132	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.541	220	2037880M5	5076.462	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.724	234	1328933M5	3310.439	ng/mL	
53) Anthracene	32.624	178G	17859M3	49.019	ng/mL	
54) Carbazole	33.301	167	5818M3	15.829	ng/mL	
55) 1-Methylphenanthrene	34.958	192	228565M4	802.840	ng/mL	
56) Fluoranthene	37.216	202	18238M4	44.504	ng/mL	
57) Benzo(b)fluorene	39.761	216	8487M3	31.815	ng/mL	
58) Pyrene	38.104	202	76892M3	170.168	ng/mL	
59) C1-Fluoranthenes/Pyrenes	40.288	216	264994M5	586.451	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.989	230	416771M5	922.344	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.464	244	582061M5	1288.143	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.714	258	579330M5	1282.099	ng/mL	
63) Naphthobenzothiophene	41.974	234	21739M3	53.839	ng/mL	
64) Naphthobenzothiophene-2,1	41.974	234	22035M3	54.572	ng/mL	
66) Naphthobenzothiophene-2,3	42.636	234	3920M4	9.708	ng/mL	
67) C1-Naphthobenzothiophenes	43.389	248	100369M5	248.575	ng/mL	
68) C2-Naphthobenzothiophenes	44.895	262	164951M5	408.520	ng/mL	
69) C3-Naphthobenzothiophenes	46.687	276	139478M5	345.433	ng/mL	
70) C4-Naphthobenzothiophenes	48.087	290	185967M5	460.568	ng/mL	
72) Benz[a]anthracene	42.907	228	38171M3	88.931	ng/mL	
74) Chrysene/Triphenylene	43.043	228	151780M4	352.403	ng/mL	
75) C1-Chrysenes	44.563	242	446222M5	1036.039	ng/mL	
76) C2-Chrysenes	45.994	256	631009M5	1465.077	ng/mL	
76) C2-Chrysenes BS	45.994	256	621551M5	1443.118	ng/mL	
77) BBF-D12 Surr BKGD	46.883	256	9458	21.960	ng/mL	100
78) C3-Chrysenes	47.846	270	682234M5	1584.012	ng/mL	
79) C4-Chrysenes	49.398	284	453828M5	1053.698	ng/mL	
81) Benzo[b]fluoranthene	46.973	252	10167M3	21.267	ng/mL	
82) Benzo[j]+[k]fluoranthene	47.018	252	4807M3	9.988	ng/mL	
83) Benzo[a]fluoranthene	47.304	252	3623M4	7.528	ng/mL	
84) Benzo[e]pyrene	47.952	252	43085	92.308	ng/mL#	79
86) Benzo[a]pyrene	48.148	252	11963	25.487	ng/mL#	1
87) Perylene	48.434	252	4492M3	9.622	ng/mL	
88) Indeno[1,2,3-cd]pyrene	52.877	276	4835M4	9.193	ng/mL	
89) Dibenzo[ah]+[ac]anthracene	52.907	278	5824M4	11.103	ng/mL	
90) Benzo[g,h,i]perylene	54.141	276	6846	12.218	ng/mL#	83
91) Hopane (T19)	52.003	191	6029M4	52.956	ng/mL	
93) C23 Tricyclic Terpane (T4	40.634	191	9445	82.961	ng/mL	100
94) C24 Tricyclic Terpane (T5	41.357	191	7732M4	67.915	ng/mL	
97) C26 Tricyclic Terpane-22S	43.916	191	8553M4	75.126	ng/mL	
100) C28 Tricyclic Terpane-22R	46.461	191	3711M4	32.596	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.268	191	11051M4	97.068	ng/mL	
109) 30-Norhopane (T15)	50.663	191	4345M4	38.165	ng/mL	
110) 18a(H)-30-Norneohopane-C2	50.753	191G	4335	38.077	ng/mL	100
111) 17a(H)-Diahopane (X)	50.904	191G	7068M4	62.083	ng/mL	
115) 30-Homohopane-22S (T21)	53.780	191	2567M4	22.548	ng/mL	
116) 30-Homohopane-22R (T22)	54.021	191	2394M4	21.028	ng/mL	
127) 13b(H),17a(H)-20S-Diachol	45.136	217	14821	252.416	ng/mL	100
128) 13b(H),17a(H)-20R-Diachol	45.557	217	7562M4	128.788	ng/mL	
129) 13b,17a-20S-Methyl	46.250	217	6720M3	114.448	ng/mL	
130) 14a,17a-20S-Chol/13b,17a-	47.124	217	22982M4	391.406	ng/mL	
131) 14a,17a-20R-Chol/13b,17a-	47.636	217	18320M4	312.007	ng/mL	
132) Unknown Sterane (S18)	47.907	217	6956	118.467	ng/mL	100
134) 14a,17a-20S-Methylcholest	48.328	217	7042M4	119.932	ng/mL	
135) 14a,17a-20R-Methylcholest	49.051	217	3288M4	55.998	ng/mL	
136) 14a(H),17a(H)-20S-Ethylch	49.368	217	3259M4	55.504	ng/mL	
137) 14a(H),17a(H)-20R-Ethylch	50.256	217	2642	44.996	ng/mL	100
138) 14b(H),17b(H)-20R-Cholest	47.199	218	3385M4	57.650	ng/mL	
139) 14b(H),17b(H)-20S-Cholest	47.289	218	2607M4	44.400	ng/mL	
140) 14b,17b-20R-Methylcholest	48.494	218	1673	28.493	ng/mL	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291613.D
Acq On : 30 Mar 2016 2:17 am
Operator : PAH2:gy
Sample : 1603006-04D
Misc : 1x, SS032516, etr:1603006
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 04 13:49:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

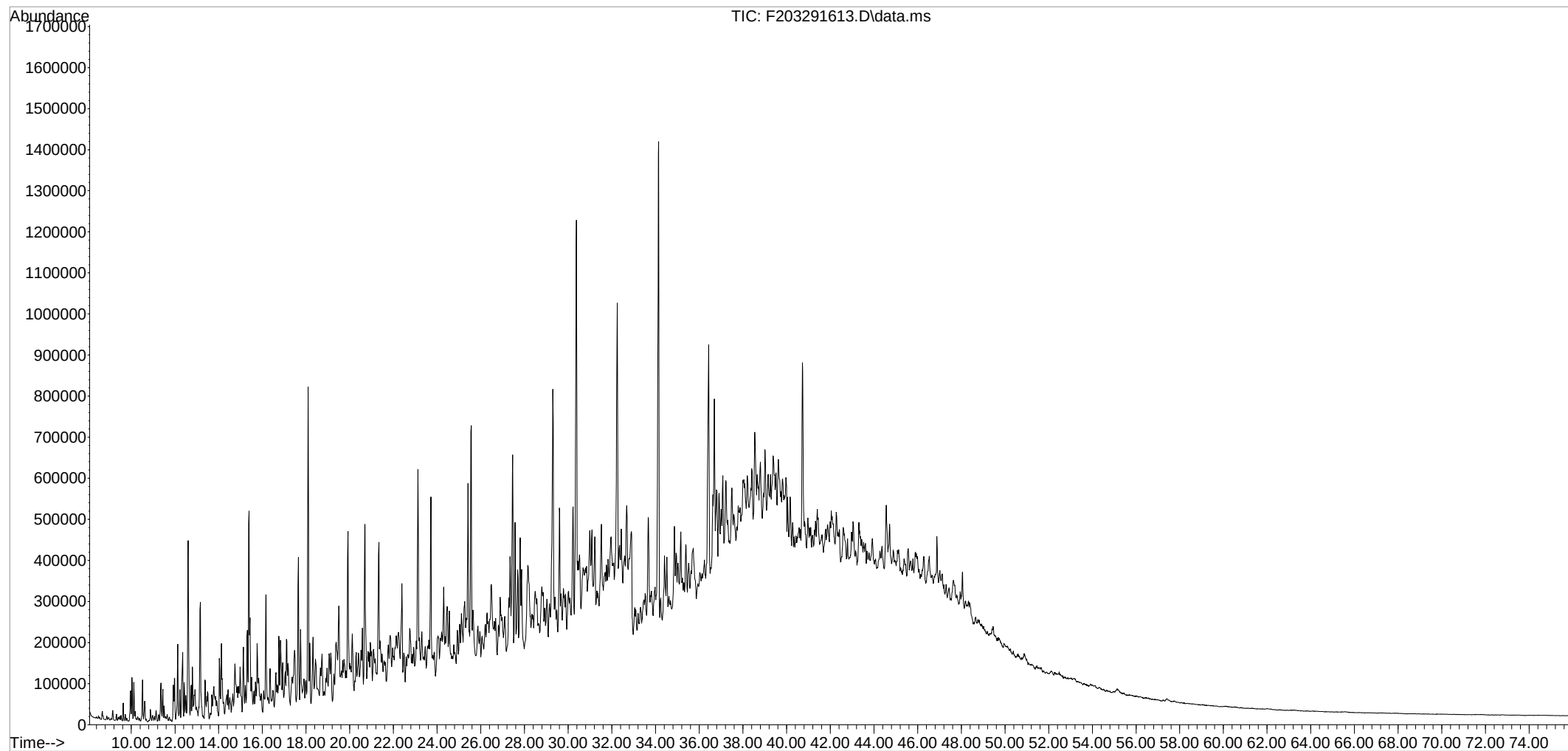
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
141)	14b,17b-20S-Methylcholest	48.584	218	3337M4	56.832	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	5891M3	100.329	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.669	218	3400M4	57.905	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.337	231	3596M4	61.243	ng/mL	

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291613.D
Acq On : 30 Mar 2016 2:17 am
Operator : PAH2:gy
Sample : 1603006-04D
Misc : 1x,SS032516,etr:1603006
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 04 13:49:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Duplicate Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
cis/trans-Decalin	8820	7440	17	30
C1-Decalins	13700	12400	10	30
C2-Decalins	14000	11400	20	30
C3-Decalins	8000	6310	24	30
C4-Decalins	8930	7020	24	30
Benzothiophene	16.2 U	14.5 U	N/A	30
C1-Benzo(b)thiophenes	522	393	28	30
C2-Benzo(b)thiophenes	190	152	22	30
C3-Benzo(b)thiophenes	396	303	27	30
C4-Benzo(b)thiophenes	371	282	27	30
Naphthalene	58.8	44.4	28	30
C1-Naphthalenes	96.8	75.2	25	30
C2-Naphthalenes	2280	1690	30	30
C3-Naphthalenes	8000	6060	28	30
C4-Naphthalenes	7390	5620	27	30
Biphenyl	20.9	13.2 J	45 ^a	30
Dibenzofuran	16.2 U	14.5 U	N/A	30
Acenaphthylene	51.5	38.2	30	30
Acenaphthene	42.8	34.4	22	30
Fluorene	49.3 G	36.8 G	29	30
C1-Fluorenes	1290	997	25	30
C2-Fluorenes	4660	3530	28	30
C3-Fluorenes	6770	5150	27	30
Anthracene	92.5 G	71.1 G	26	30
Phenanthrene	692	525	27	30
C1-Phenanthrenes/Anthracenes	4950	3680	30	30
C2-Phenanthrenes/Anthracenes	10500	7950	28	30
C3-Phenanthrenes/Anthracenes	9880	7360	29	30
C4-Phenanthrenes/Anthracenes	6380	4800	28	30
Retene	16.2 U	14.5 U	N/A	30
Dibenzothiophene	82.3	64.3	25	30
C1-Dibenzothiophenes	897	678	28	30
C2-Dibenzothiophenes	1840	1400	27	30
C3-Dibenzothiophenes	2160	1680	25	30
C4-Dibenzothiophenes	1540	1140	29	30

^a - Value outside of QC Limits.

U - The analyte was analyzed for but not detected at the sample specific level reported.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

G - Matrix Interference

04/04/16 15:47

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Duplicate Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Benzo(b)fluorene	55.8	46.1	19	30
Fluoranthene	85.3	64.5	28	30
Pyrene	322	247	26	30
C1-Fluoranthenes/Pyrenes	1100	850	26	30
C2-Fluoranthenes/Pyrenes	1770	1340	28	30
C3-Fluoranthenes/Pyrenes	2460	1870	27	30
C4-Fluoranthenes/Pyrenes	2450	1860	27	30
Naphthobenzothiophenes	122	93.2	27	30
C1-Naphthobenzothiophenes	468	360	26	30
C2-Naphthobenzothiophenes	778	592	27	30
C3-Naphthobenzothiophenes	675	501	30	30
C4-Naphthobenzothiophenes	877	668	27	30
Benz[a]anthracene	173	129	29	30
Chrysene/Triphenylene	643	511	23	30
C1-Chrysenes	1930	1500	25	30
C2-Chrysenes	2670	2090	24	30
C3-Chrysenes	2870	2300	22	30
C4-Chrysenes	1960	1530	25	30
Benzo[b]fluoranthene	36.7	30.8	17	30
Benzo[j]fluoranthene/Benzo[k]fluoranthene	22.2	14.5 J	42 ^a	30
Benzo[a]fluoranthene	14.8 J	10.9 J	30	30
Benzo[e]pyrene	164	134	20	30
Benzo[a]pyrene	46.4	37.0	23	30
Perylene	19.4	14.0 J	33 ^a	30
Indeno[1,2,3-cd]pyrene	15.7 J	13.3 J	16	30
Dibenz[ah]anthracene/Dibenz[ac]anthracene	21.6	16.1	29	30
Benzo[g,h,i]perylene	22.3	17.7	23	30

Surrogate	% Recovery		Acceptance Range (%)
Naphthalene-d8	89	85	50-130
Phenanthrene-d10	92	88	50-130
Benzo[a]pyrene-d12	88	84	50-130

^a - Value outside of QC Limits.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Duplicate Carbazole



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY
Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Carbazole	29.4	23.0	25	30

Surrogate	% Recovery		Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	89	85	50-130	
Phenanthrene-d10	92	88	50-130	
Benzo[a]pyrene-d12	88	84	50-130	

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Duplicate Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
4-Methyldibenzothiophene	486	368	27	30
2/3-Methyldibenzothiophene	276	211	26	30
1-Methyldibenzothiophene	51.0	39.4	26	30
3-Methylphenanthrene	1050	774	31 ^a	30
2-Methylphenanthrene	983	713	32 ^a	30
2-Methylanthracene	85.6	75.7	12	30
9/4-Methylphenanthrene	1610	1140	34 ^a	30
1-Methylphenanthrene	1040	845	21	30

Surrogate	% Recovery		Acceptance Range (%)
Naphthalene-d8	89	85	50-130
Phenanthrene-d10	92	88	50-130
Benzo[a]pyrene-d12	88	84	50-130

^a - Value outside of QC Limits.
 N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Duplicate Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
C23 Tricyclic Terpane	138	120	13	30
C24 Tricyclic Terpane	98.2	98.5	0	30
C25 Tricyclic Terpane	16.2 U	14.5 U	N/A	30
C24 Tetracyclic Terpane	16.2 U	14.5 U	N/A	30
C26 Tricyclic Terpane-22S	142	109	26	30
C26 Tricyclic Terpane-22R	16.2 U	14.5 U	N/A	30
C28 Tricyclic Terpane-22S	16.2 U	14.5 U	N/A	30
C28 Tricyclic Terpane-22R	73.2	47.3	43 ^a	30
C29 Tricyclic Terpane-22S	16.2 U	14.5 U	N/A	30
C29 Tricyclic Terpane-22R	16.2 U	14.5 U	N/A	30
18a-22,29,30-Trisnorneohopane-TS	155	141	9	30
C30 Tricyclic Terpane-22S	16.2 U	14.5 U	N/A	30
C30 Tricyclic Terpane-22R	16.2 U	14.5 U	N/A	30
17a(H)-22,29,30-Trisnorhopane-TM	16.2 U	14.5 U	N/A	30
17a/b,21b/a 28,30-Bisnorhopane	16.2 U	14.5 U	N/A	30
17a(H),21b(H)-25-Norhopane	16.2 U	14.5 U	N/A	30
30-Norhopane	59.0	55.3	6	30
18a(H)-30-Norneohopane-C29Ts	56.7 G	55.2 G	3	30
17a(H)-Diahopane	94.6 G	90.0 G	5	30
30-Normoretane	16.2 U	14.5 U	N/A	30
18a(H)&18b(H)-Oleananes	16.2 U	14.5 U	N/A	30
Hopane	94.7	76.8	21	30
Moretane	16.2 U	14.5 U	N/A	30
30-Homohopane-22S	35.1	32.7	7	30
30-Homohopane-22R	41.5	30.5	31 ^a	30
T22a-Gammacerane/C32-diahopane	16.2 U	14.5 U	N/A	30
30,31-Bishomohopane-22S	16.2 U	14.5 U	N/A	30
30,31-Bishomohopane-22R	16.2 U	14.5 U	N/A	30
30,31-Trishomohopane-22S	16.2 U	14.5 U	N/A	30
30,31-Trishomohopane-22R	16.2 U	14.5 U	N/A	30
Tetrakishomohopane-22S	16.2 U	14.5 U	N/A	30
Tetrakishomohopane-22R	16.2 U	14.5 U	N/A	30
Pentakishomohopane-22S	16.2 U	14.5 U	N/A	30
Pentakishomohopane-22R	16.2 U	14.5 U	N/A	30
13b(H),17a(H)-20S-Diacholestane	486	366	28	30

^a - Value outside of QC Limits.

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

G - Matrix Interference

04/04/16 15:47

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Duplicate Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-4**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-04**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY
Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
13b(H),17a(H)-20R-Diacholestane	237	187	24	30
13b,17a-20S-Methyldiacholestane	212	166	24	30
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	659	568	15	30
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	559	452	21	30
Unknown Sterane (S18)	190	172	10	30
13a,17b-20S-Ethyldiacholestane	16.2 U	14.5 U	N/A	30
14a,17a-20S-Methylcholestane	234	174	29	30
14a,17a-20R-Methylcholestane	110	81.2	30	30
14a(H),17a(H)-20S-Ethylcholestane	108	80.5	29	30
14a(H),17a(H)-20R-Ethylcholestane	85.0	65.2	26	30
14b(H),17b(H)-20R-Cholestane	86.3	83.6	3	30
14b(H),17b(H)-20S-Cholestane	83.1	64.4	25	30
14b,17b-20R-Methylcholestane	53.5	41.3	26	30
14b,17b-20S-Methylcholestane	101	82.4	20	30
14b(H),17b(H)-20R-Ethylcholestane	165	146	13	30
14b(H),17b(H)-20S-Ethylcholestane	115	84.0	31 ^a	30
C26,20R- +C27,20S- triaromatic steroid	73.2	88.8	19	30
C28,20S-triaromatic steroid	16.2 U	14.5 U	N/A	30
C27,20R-triaromatic steroid	16.2 U	14.5 U	N/A	30
C28,20R-triaromatic steroid	16.2 U	14.5 U	N/A	30

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	115 101	50-130

^a - Value outside of QC Limits.

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

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Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-5**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-05**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter	Result
cis/trans-Decalin	3120
C1-Decalins	6300
C2-Decalins	5930
C3-Decalins	3390
C4-Decalins	3700
Benzothiophene	12.7
C1-Benzo(b)thiophenes	304
C2-Benzo(b)thiophenes	193
C3-Benzo(b)thiophenes	406
C4-Benzo(b)thiophenes	292
Naphthalene	925
C1-Naphthalenes	2720
C2-Naphthalenes	4860
C3-Naphthalenes	4970
C4-Naphthalenes	3520
Biphenyl	17.2
Dibenzofuran	126
Acenaphthylene	36.2
Acenaphthene	134
Fluorene	238
C1-Fluorenes	703
C2-Fluorenes	1720
C3-Fluorenes	2190
Anthracene	133
Phenanthrene	788
C1-Phenanthrenes/Anthracenes	1780
C2-Phenanthrenes/Anthracenes	3250
C3-Phenanthrenes/Anthracenes	2970
C4-Phenanthrenes/Anthracenes	1890
Retene	9.11 U
Dibenzothiophene	239

Parameter	Result
C1-Dibenzothiophenes	878
C2-Dibenzothiophenes	1370
C3-Dibenzothiophenes	1250
C4-Dibenzothiophenes	719
Benzo(b)fluorene	85.3
Fluoranthene	639
Pyrene	603
C1-Fluoranthenes/Pyrenes	700
C2-Fluoranthenes/Pyrenes	901
C3-Fluoranthenes/Pyrenes	1120
C4-Fluoranthenes/Pyrenes	1080
Naphthobenzothiophenes	148
C1-Naphthobenzothiophenes	276
C2-Naphthobenzothiophenes	418
C3-Naphthobenzothiophenes	346
C4-Naphthobenzothiophenes	409
Benz[a]anthracene	386
Chrysene/Triphenylene	540
C1-Chrysenes	890
C2-Chrysenes	1210
C3-Chrysenes	1300
C4-Chrysenes	896
Benzo[b]fluoranthene	295
Benzo[j]fluoranthene/Benzo[k]fluoranthene	263
Benzo[a]fluoranthene	55.6
Benzo[e]pyrene	263
Benzo[a]pyrene	275
Perylene	82.7
Indeno[1,2,3-cd]pyrene	189
Dibenz[ah]anthracene/Dibenz[ac]anthracene	65.1
Benzo[g,h,i]perylene	194

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	79	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter

Result

Carbazole

57.9

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	88	50-130	
Phenanthrene-d10	90	50-130	
Benzo[a]pyrene-d12	79	50-130	

04/04/16 15:45

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Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-5**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-05**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter	Result
4-Methyldibenzothiophene	468
2/3-Methyldibenzothiophene	279
1-Methyldibenzothiophene	96.8
3-Methylphenanthrene	384
2-Methylphenanthrene	388
2-Methylantracene	44.6
9/4-Methylphenanthrene	536
1-Methylphenanthrene	355

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	88	50-130	
Phenanthrene-d10	90	50-130	
Benzo[a]pyrene-d12	79	50-130	

04/04/16 15:45

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Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-5**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-05**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter	Result
C23 Tricyclic Terpane	139
C24 Tricyclic Terpane	123
C25 Tricyclic Terpane	104
C24 Tetracyclic Terpane	28.8
C26 Tricyclic Terpane-22S	73.4
C26 Tricyclic Terpane-22R	59.5
C28 Tricyclic Terpane-22S	34.5
C28 Tricyclic Terpane-22R	44.1
C29 Tricyclic Terpane-22S	48.0
C29 Tricyclic Terpane-22R	37.6
18a-22,29,30-Trisnorhopane-TS	80.5
C30 Tricyclic Terpane-22S	23.3
C30 Tricyclic Terpane-22R	45.7
17a(H)-22,29,30-Trisnorhopane-TM	59.0
17a/b,21b/a 28,30-Bisnorhopane	23.9
17a(H),21b(H)-25-Norhopane	25.8
30-Norhopane	111
18a(H)-30-Norneohopane-C29Ts	35.4
17a(H)-Diahopane	37.3
30-Normoretane	21.3
18a(H)&18b(H)-Oleananes	20.7
Hopane	193
Moretane	17.7
30-Homohopane-22S	79.4
30-Homohopane-22R	65.9
T22a-Gammacerane/C32-diahopane	19.6
30,31-Bishomohopane-22S	57.3
30,31-Bishomohopane-22R	33.4

Parameter	Result
30,31-Trishomohopane-22S	29.5
30,31-Trishomohopane-22R	19.3
Tetrakishomohopane-22S	60.9
Tetrakishomohopane-22R	15.2
Pentakishomohopane-22S	23.7
Pentakishomohopane-22R	12.2
13b(H),17a(H)-20S-Diacholestane	198
13b(H),17a(H)-20R-Diacholestane	86.8
13b,17a-20S-Methyldiacholestane	100
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	319
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	275
Unknown Sterane (S18)	117
13a,17b-20S-Ethyldiacholestane	9.11 U
14a,17a-20S-Methylcholestane	123
14a,17a-20R-Methylcholestane	59.9
14a(H),17a(H)-20S-Ethylcholestane	77.6
14a(H),17a(H)-20R-Ethylcholestane	71.1
14b(H),17b(H)-20R-Cholestane	67.3
14b(H),17b(H)-20S-Cholestane	70.1
14b,17b-20R-Methylcholestane	51.1
14b,17b-20S-Methylcholestane	98.1
14b(H),17b(H)-20R-Ethylcholestane	151
14b(H),17b(H)-20S-Ethylcholestane	103
C26,20R- +C27,20S- triaromatic steroid	138
C28,20S-triaromatic steroid	172
C27,20R-triaromatic steroid	83.1
C28,20R-triaromatic steroid	103

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	105	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291614.D
 Acq On : 30 Mar 2016 3:43 am
 Operator : PAH2:gy
 Sample : 1603006-05
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 14 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:37:44 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	105273	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	183818	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	223996	552.147	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	55.21%		
40) Phenanthrene-d10	32.338	188	189023	565.415	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	56.54%		
80) Benzo[b]fluoranthene-d12	46.883	264	233311	565.016	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	56.50%		
85) Benzo[a]pyrene-d12	48.042	264	177600	491.681	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	49.17%#		
126) 5B(H)Cholane - Surr	43.600	217	39531M4	654.436	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	65.44%		
Target Compounds						
2) trans-Decalin	16.155	138	273818	3122.062	ng/mL	100
3) cis-Decalin	17.374	138	21234	309.561	ng/mL	100
4) C1-Decalins	17.645	152	606893M5	6919.770	ng/mL	
5) C2-Decalins	19.421	166	571197M5	6512.765	ng/mL	
6) C3-Decalins	21.890	180	326432M5	3721.965	ng/mL	
7) C4-Decalins	25.278	194	356774M5	4067.923	ng/mL	
9) Naphthalene	19.572	128	426989	1016.153	ng/mL	100
10) C1-Naphthalenes	22.267	142	1255133M5	2986.980	ng/mL	
11) C2-Naphthalenes	25.112	156	2244354M5	5341.140	ng/mL	
12) C3-Naphthalenes	27.461	170	2293662M5	5458.484	ng/mL	
13) C4-Naphthalenes	30.230	184	1622922M5	3862.249	ng/mL	
14) 2-Methylnaphthalene	22.267	142	821674	2919.641	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	440927	1607.244	ng/mL	100
16) Benzo(b)thiophene	19.798	134	4720M3	13.941	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	112997M5	333.741	ng/mL	
18) C2-Benzo(b)thiophenes	25.308	162	71727M5	211.849	ng/mL	
19) C3-Benzo(b)thiophenes	27.295	176	150781M5	445.338	ng/mL	
20) C4-Benzo(b)thiophenes	29.026	190	108358M5	320.040	ng/mL	
21) Biphenyl	24.149	154	6551M4	18.867	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	557835	2226.759	ng/mL	100
23) Dibenzofuran	27.235	168	50442	138.522	ng/mL#	71
24) Acenaphthylene	25.865	152	16660	39.746	ng/mL	100
25) Acenaphthene	26.587	153	38201M4	146.919	ng/mL	
26) 2,3,5-Trimethylnaphthalene	28.153	170	121450M3	549.115	ng/mL	
27) Fluorene	28.605	166	79338M4	261.435	ng/mL	
28) C1-Fluorenes	30.983	180	234336M5	772.186	ng/mL	
29) C2-Fluorenes	33.181	194	573728M5	1890.552	ng/mL	
30) C3-Fluorenes	35.033	208	730339M5	2406.618	ng/mL	
31) Dibenzothiophene	31.932	184	99059	261.998	ng/mL#	6
32) 4-Methyldibenzothiophene	33.708	198	194250	513.766	ng/mL	100
33) 2/3-Methyldibenzothiophene	34.069	198	115760M3	306.170	ng/mL	
34) 1-Methyldibenzothiophene	34.476	198	40175	106.258	ng/mL	100
35) OTP	34.130	198	14431M3	38.168	ng/mL	
36) C1-Dibenzothiophenes	33.708	198	379140M5	1002.776	ng/mL	
36) C1-Dibenzothiophenes BS	33.708	198	364709M5	964.608	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	567410M5	1500.726	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	517880M5	1369.726	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	298369M5	789.147	ng/mL	
41) Phenanthrene	32.428	178	371011	864.755	ng/mL	98
42) 3-Methylphenanthrene(3MP)	34.401	192	181039	421.967	ng/mL	99
43) 2-Methylphenanthrene(2MP)	34.506	192	182914M4	426.337	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	21010M3	48.970	ng/mL	
45) 9/4-Methylphenanthrene(9M)	34.852	192	252290	588.039	ng/mL	97
46) 1-Methylphenanthrene(1MP)	34.943	192	167100M4	389.478	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291614.D
 Acq On : 30 Mar 2016 3:43 am
 Operator : PAH2:gy
 Sample : 1603006-05
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 04 13:37:44 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) C1-Phenanthrenes/Anthracene	34.852	192	837417M5	1951.857	ng/mL	
48) C2-Phenanthrenes/Anthracene	36.689	206	1531008M5	3568.483	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.689	206	1531008M5	3568.483	ng/mL	
50) C3-Phenanthrenes/Anthracene	38.526	220	1397697M5	3257.761	ng/mL	
51) C4-Phenanthrenes/Anthracene	40.724	234	889940M5	2074.278	ng/mL	
53) Anthracene	32.609	178	56957M3	146.277	ng/mL	
54) Carbazole	33.286	167	24958M3	63.536	ng/mL	
55) 1-Methylphenanthrene	34.943	192	167663M4	551.036	ng/mL	
56) Fluoranthene	37.216	202	307324	701.687	ng/mL	98
57) Benzo(b)fluorene	39.746	216	26695M3	93.633	ng/mL	
58) Pyrene	38.104	202	319940M4	662.503	ng/mL	
59) C1-Fluoranthenes/Pyrenes	39.505	216	371256M5	768.763	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.989	230	477956M5	989.708	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.449	244	593120M5	1228.179	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.714	258	571587M5	1183.591	ng/mL	
63) Naphthobenzothiophene	41.974	234	48242M4	111.791	ng/mL	
64) Naphthobenzothiophene-2,1	41.974	234	48038M4	111.318	ng/mL	
65) Naphthobenzothiophene-1,2	42.320	234	10183M4	23.597	ng/mL	
66) Naphthobenzothiophene-2,3	42.606	234	11944M3	27.678	ng/mL	
67) C1-Naphthobenzothiophenes	43.374	248	130972M5	303.501	ng/mL	
68) C2-Naphthobenzothiophenes	44.895	262	198067M5	458.980	ng/mL	
69) C3-Naphthobenzothiophenes	46.672	276	163950M5	379.921	ng/mL	
70) C4-Naphthobenzothiophenes	48.057	290	193987M5	449.525	ng/mL	
72) Benz[a]anthracene	42.907	228	187328M4	424.240	ng/mL	
74) Chrysene/Triphenylene	43.058	228	262583M4	592.628	ng/mL	
75) C1-Chrysenes	44.548	242	432807M5	976.809	ng/mL	
76) C2-Chrysenes	45.979	256	596981M5	1347.336	ng/mL	
76) C2-Chrysenes BS	45.979	256	587494M5	1325.924	ng/mL	
77) BBF-D12 Surr BKGD	46.868	256	9487	21.411	ng/mL	100
78) C3-Chrysenes	47.304	270	631746M5	1425.798	ng/mL	
79) C4-Chrysenes	49.398	284	435938M5	983.875	ng/mL	
81) Benzo[b]fluoranthene	46.958	252	159314	323.932	ng/mL	100
82) Benzo[j]+[k]fluoranthene	47.033	252	142980M6	288.791	ng/mL	
83) Benzo[a]fluoranthene	47.334	252	30240M4	61.079	ng/mL	
84) Benzo[e]pyrene	47.952	252	138594	288.636	ng/mL	93
86) Benzo[a]pyrene	48.133	252	145790	301.918	ng/mL	91
87) Perylene	48.434	252	43617M3	90.822	ng/mL	
88) Indeno[1,2,3-cd]pyrene	52.861	276	112549M3	208.013	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.907	278	38588M3	71.508	ng/mL	
90) Benzo[g,h,i]perylene	54.126	276	123132	213.612	ng/mL	99
91) Hopane (T19)	52.003	191	24784M4	211.609	ng/mL	
93) C23 Tricyclic Terpane (T4)	40.619	191	17827	152.209	ng/mL	100
94) C24 Tricyclic Terpane (T5)	41.357	191	15874	135.534	ng/mL	100
95) C25 Tricyclic Terpane (T6)	42.847	191	13347M4	113.959	ng/mL	
96) C24 Tetracyclic Terpane (	44.157	191	3705M4	31.634	ng/mL	
97) C26 Tricyclic Terpane-22S	43.901	191	9445M4	80.643	ng/mL	
98) C26 Tricyclic Terpane-22R	43.991	191	7648	65.300	ng/mL	100
99) C28 Tricyclic Terpane-22S	46.295	191	4437M4	37.884	ng/mL	
100) C28 Tricyclic Terpane-22R	46.461	191	5676M4	48.462	ng/mL	
101) C29 Tricyclic Terpane-22S	46.973	191	6174	52.714	ng/mL	100
102) C29 Tricyclic Terpane-22R	47.169	191	4836M3	41.290	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.268	191	10349	88.361	ng/mL	100
104) C30 Tricyclic Terpane-22S	48.389	191	2992	25.546	ng/mL	100
105) C30 Tricyclic Terpane-22R	48.630	191	5871M3	50.127	ng/mL	
106) 17a(H)-22,29,30-Trisnor	48.810	191	7581M4	64.728	ng/mL	
107) 17a/b,21b/a 28,30-Bisnor	50.015	191	3069M4	26.204	ng/mL	
108) 17a(H),21b(H)-25-Norhop	49.819	191	3318	28.330	ng/mL	100
109) 30-Norhopane (T15)	50.648	191	14256M4	121.720	ng/mL	
110) 18a(H)-30-Norneohopane-C	50.753	191	4554M4	38.883	ng/mL	
111) 17a(H)-Diahopane (X)	50.889	191	4797M4	40.957	ng/mL	
112) 30-Normoretane (T17)	51.416	191	2745	23.437	ng/mL	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291614.D
 Acq On : 30 Mar 2016 3:43 am
 Operator : PAH2:gy
 Sample : 1603006-05
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 04 13:37:44 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

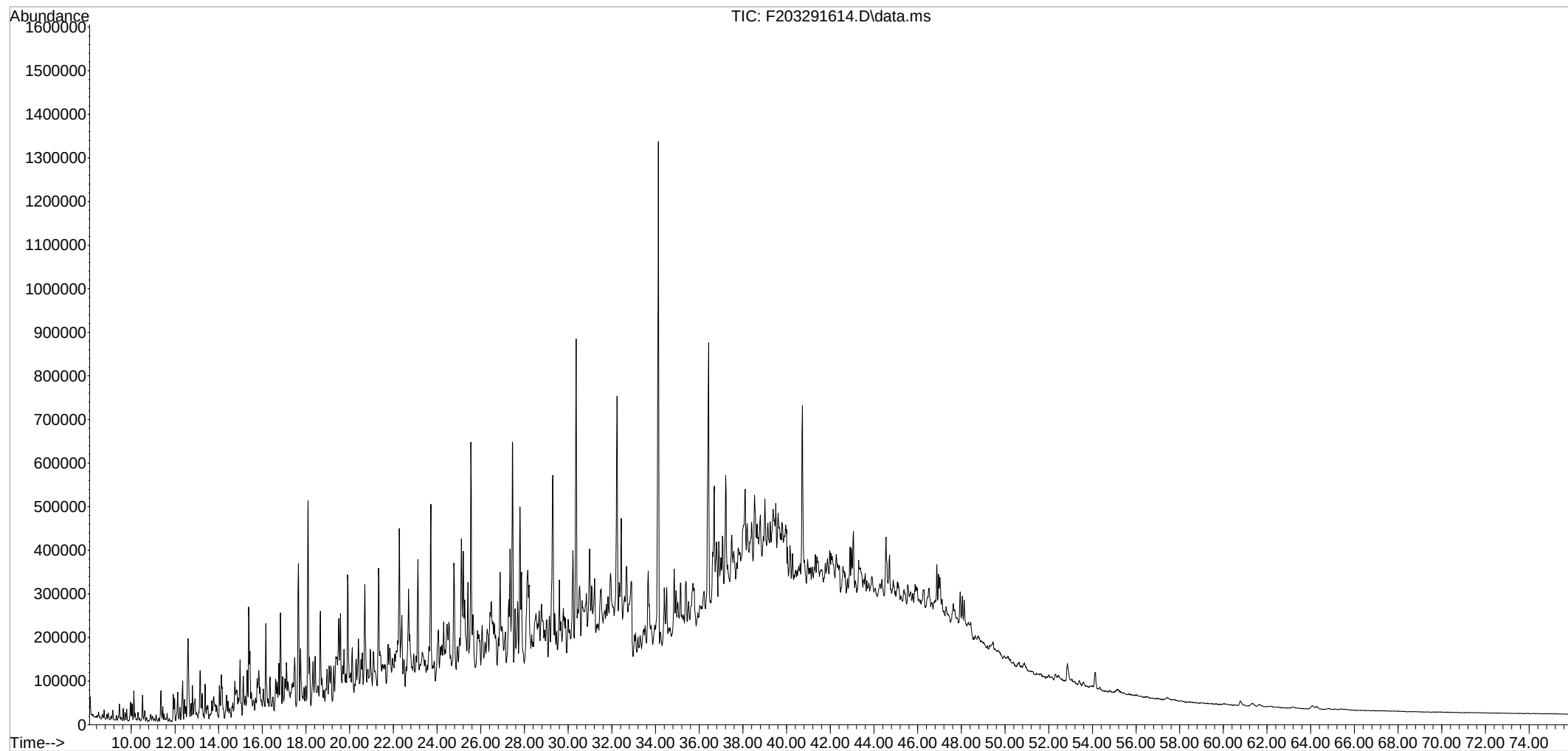
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
113)	18a(H)&18b(H)-Oleananes (	51.822	191	2664M4	22.746	ng/ml	
114)	Moretane (T20)	52.681	191	2279M4	19.458	ng/ml	
115)	30-Homohopane-22S (T21)	53.765	191	10210	87.174	ng/ml	100
116)	30-Homohopane-22R (T22)	54.006	191	8477M4	72.378	ng/ml	
117)	Gammacerane/C32-diahopane	54.518	191	2522	21.533	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.301	191	7368M4	62.909	ng/ml	
119)	30,31-Bishomohopane-22R (	55.692	191	4296	36.680	ng/ml	100
120)	30,31-Trishomohopane-22S	57.409	191	3795M4	32.402	ng/ml	
121)	30,31-Trishomohopane-22R	58.026	191	2484M4	21.209	ng/ml	
122)	Tetrakishomohopane-22S (T	60.014	191	7830M4	66.854	ng/ml	
123)	Tetrakishomohopane-22R (T	60.888	191	1961	16.743	ng/ml	100
124)	Pentakishomohopane-22S (T	63.131	191	3050M4	26.041	ng/ml	
125)	Pentakishomohopane-22R (T	64.366	191	1566M4	13.371	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.121	217	13111M4	217.053	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	5759M4	95.340	ng/ml	
129)	13b,17a-20S-Methylidiachol	46.250	217	6648M3	110.058	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.124	217	21157M4	350.254	ng/ml	
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	18234	301.864	ng/ml	100
132)	Unknown Sterane (S18)	47.907	217	7781	128.815	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.313	217	8175	135.337	ng/ml	100
135)	14a,17a-20R-Methylcholest	49.021	217	3971M4	65.740	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	5148	85.225	ng/ml	100
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	4716M4	78.073	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	4466M4	73.935	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	4651M4	76.997	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	3389	56.105	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	6508M4	107.740	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	10041M3	166.229	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.669	218	6843M3	113.286	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	9122M4	151.015	ng/mL	
145)	C28,20S-triaromatic stero	50.181	231	11426M4	189.158	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	5510	91.218	ng/mL	100
147)	C28,20R-triaromatic stero	51.822	231	6815	112.822	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291614.D
Acq On : 30 Mar 2016 3:43 am
Operator : PAH2:gy
Sample : 1603006-05
Misc : 1x,SS032516,etr:1603006
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 04 13:37:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-6**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-06**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter	Result
cis/trans-Decalin	1.74
C1-Decalins	22.8 G
C2-Decalins	230
C3-Decalins	292
C4-Decalins	323
Benzothiophene	0.740 U
C1-Benzo(b)thiophenes	3.49
C2-Benzo(b)thiophenes	6.71
C3-Benzo(b)thiophenes	13.1
C4-Benzo(b)thiophenes	10.0
Naphthalene	0.775
C1-Naphthalenes	2.87
C2-Naphthalenes	9.24
C3-Naphthalenes	12.7
C4-Naphthalenes	24.6
Biphenyl	0.279 J
Dibenzofuran	0.740 U
Acenaphthylene	0.782
Acenaphthene	0.740 U
Fluorene	0.877 G
C1-Fluorenes	4.29
C2-Fluorenes	25.1
C3-Fluorenes	85.1
Anthracene	0.828
Phenanthrene	3.15
C1-Phenanthrenes/Anthracenes	12.4
C2-Phenanthrenes/Anthracenes	28.7
C3-Phenanthrenes/Anthracenes	39.9
C4-Phenanthrenes/Anthracenes	53.3
Retene	0.740 U
Dibenzothiophene	0.926

Parameter	Result
C1-Dibenzothiophenes	3.62
C2-Dibenzothiophenes	14.2
C3-Dibenzothiophenes	33.0
C4-Dibenzothiophenes	23.2
Benzo(b)fluorene	0.292 J
Fluoranthene	3.64
Pyrene	4.19
C1-Fluoranthenes/Pyrenes	6.82
C2-Fluoranthenes/Pyrenes	10.1
C3-Fluoranthenes/Pyrenes	16.3
C4-Fluoranthenes/Pyrenes	22.2
Naphthobenzothiophenes	2.02
C1-Naphthobenzothiophenes	6.31
C2-Naphthobenzothiophenes	13.2
C3-Naphthobenzothiophenes	11.2
C4-Naphthobenzothiophenes	16.2
Benz[a]anthracene	1.60
Chrysene/Triphenylene	8.71
C1-Chrysenes	16.1
C2-Chrysenes	22.0
C3-Chrysenes	26.2
C4-Chrysenes	17.4
Benzo[b]fluoranthene	1.66
Benzo[j]fluoranthene/Benzo[k]fluoranthene	0.789
Benzo[a]fluoranthene	0.417 J
Benzo[e]pyrene	2.34
Benzo[a]pyrene	0.929
Perylene	5.49
Indeno[1,2,3-cd]pyrene	0.742
Dibenz[ah]anthracene/Dibenz[ac]anthracene	0.264 J
Benzo[g,h,i]perylene	1.30

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	80	50-130
Phenanthrene-d10	83	50-130
Benzo[a]pyrene-d12	75	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter

Carbazole

Result

0.477 J

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	80	50-130
Phenanthrene-d10	83	50-130
Benzo[a]pyrene-d12	75	50-130

J - Estimated value, below quantitation limit.
N/A - Not Applicable

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-6**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-06**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	0.966
2/3-Methyldibenzothiophene	0.629 J
1-Methyldibenzothiophene	0.273 J
3-Methylphenanthrene	1.75
2-Methylphenanthrene	2.11
2-Methylantracene	0.245 J
9/4-Methylphenanthrene	2.07
1-Methylphenanthrene	0.739 J

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	80	50-130
Phenanthrene-d10	83	50-130
Benzo[a]pyrene-d12	75	50-130

J - Estimated value, below quantitation limit.
 N/A - Not Applicable

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-6**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-06**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter	Result
C23 Tricyclic Terpane	5.05
C24 Tricyclic Terpane	4.42
C25 Tricyclic Terpane	5.51
C24 Tetracyclic Terpane	2.08
C26 Tricyclic Terpane-22S	2.97
C26 Tricyclic Terpane-22R	2.97
C28 Tricyclic Terpane-22S	3.11
C28 Tricyclic Terpane-22R	3.61
C29 Tricyclic Terpane-22S	4.02
C29 Tricyclic Terpane-22R	3.40
18a-22,29,30-Trisnorhopane-TS	7.02
C30 Tricyclic Terpane-22S	2.95
C30 Tricyclic Terpane-22R	3.06
17a(H)-22,29,30-Trisnorhopane-TM	4.64
17a/b,21b/a 28,30-Bisnorhopane	5.57
17a(H),21b(H)-25-Norhopane	2.42
30-Norhopane	14.0
18a(H)-30-Norneohopane-C29Ts	6.55
17a(H)-Diahopane	4.42
30-Normoretane	2.52
18a(H)&18b(H)-Oleananes	3.64
Hopane	24.9
Moretane	3.05
30-Homohopane-22S	9.03
30-Homohopane-22R	9.08
T22a-Gammacerane/C32-diahopane	3.48
30,31-Bishomohopane-22S	8.64 G
30,31-Bishomohopane-22R	4.71

Parameter	Result
30,31-Trishomohopane-22S	5.64
30,31-Trishomohopane-22R	4.02
Tetrakishomohopane-22S	6.37
Tetrakishomohopane-22R	3.01
Pentakishomohopane-22S	3.83
Pentakishomohopane-22R	3.91
13b(H),17a(H)-20S-Diacholestane	14.3
13b(H),17a(H)-20R-Diacholestane	8.77
13b,17a-20S-Methyldiacholestane	9.17
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	26.6
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	25.1
Unknown Sterane (S18)	6.11
13a,17b-20S-Ethyldiacholestane	0.916
14a,17a-20S-Methylcholestane	12.6
14a,17a-20R-Methylcholestane	9.06
14a(H),17a(H)-20S-Ethylcholestane	8.15
14a(H),17a(H)-20R-Ethylcholestane	9.05
14b(H),17b(H)-20R-Cholestane	6.42
14b(H),17b(H)-20S-Cholestane	6.76
14b,17b-20R-Methylcholestane	9.27
14b,17b-20S-Methylcholestane	11.1
14b(H),17b(H)-20R-Ethylcholestane	15.4
14b(H),17b(H)-20S-Ethylcholestane	7.96
C26,20R- +C27,20S- triaromatic steroid	14.1
C28,20S-triaromatic steroid	10.4
C27,20R-triaromatic steroid	9.59
C28,20R-triaromatic steroid	9.92

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	95	50-130

N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291616.D
 Acq On : 30 Mar 2016 6:35 am
 Operator : PAH2:gy
 Sample : 1603006-06
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 16 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:37:58 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	102004	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	174227	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	157346	400.285	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	40.03%#		
40) Phenanthrene-d10	32.338	188	134499	415.214	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	41.52%#		
80) Benzo[b]fluoranthene-d12	46.868	264	169154	432.195	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.22%#		
85) Benzo[a]pyrene-d12	48.027	264	128759	376.089	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	37.61%#		
126) 5B(H)Cholane - Surr	43.585	217	27288M4	476.622	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.66%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.155	138	1991M3	23.429	ng/mL	
4) C1-Decalins	17.946	152G	26172M5	307.976	ng/mL	
5) C2-Decalins	19.948	166	263992M5	3106.491	ng/mL	
6) C3-Decalins	21.890	180	335152M5	3943.857	ng/mL	
7) C4-Decalins	25.278	194	371169M5	4367.682	ng/mL	
9) Naphthalene	19.587	128	4260	10.463	ng/mL	100
10) C1-Naphthalenes	22.267	142	15791M5	38.784	ng/mL	
11) C2-Naphthalenes	25.112	156	50831M5	124.845	ng/mL	
12) C3-Naphthalenes	27.461	170	69607M5	170.960	ng/mL	
13) C4-Naphthalenes	30.230	184	135433M5	332.634	ng/mL	
14) 2-Methylnaphthalene	22.267	142	8088M4	29.660	ng/mL	
15) 1-Methylnaphthalene	22.688	142	6161	23.177	ng/mL	100
17) C1-Benzo(b)thiophenes	22.688	148	15450M5	47.095	ng/mL	
18) C2-Benzo(b)thiophenes	25.263	162	29739M5	90.650	ng/mL	
19) C3-Benzo(b)thiophenes	25.835	176	58048M5	176.942	ng/mL	
20) C4-Benzo(b)thiophenes	30.516	190	44371M5	135.252	ng/mL	
21) Biphenyl	24.164	154	1268M4	3.769	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	10187	41.968	ng/mL	100
24) Acenaphthylene	25.865	152	4291M3	10.565	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	2150M3	10.032	ng/mL	
27) Fluorene	28.605	166G	3483M3	11.845	ng/mL	
28) C1-Fluorenes	30.983	180	17037M5	57.940	ng/mL	
29) C2-Fluorenes	33.181	194	99741M5	339.200	ng/mL	
30) C3-Fluorenes	35.018	208	337961M5	1149.341	ng/mL	
31) Dibenzothiophene	31.932	184	4580M4	12.502	ng/mL	
32) 4-Methyldibenzothiophene(	33.708	198	4778M4	13.042	ng/mL	
33) 2/3-Methyldibenzothiophen	34.054	198	3114M3	8.500	ng/mL	
34) 1-Methyldibenzothiophene(	34.476	198	1353	3.693	ng/mL	100
35) OTP	34.130	198	19625M3	53.569	ng/mL	
36) C1-Dibenzothiophenes	34.130	198	37531M5	102.446	ng/mL	
36) C1-Dibenzothiophenes BS	34.130	198	17906M5	48.877	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	70349M5	192.027	ng/mL	
38) C3-Dibenzothiophenes	37.216	226	163118M5	445.252	ng/mL	
39) C4-Dibenzothiophenes	38.902	240	114631M5	312.901	ng/mL	
41) Phenanthrene	32.428	178	17677	42.522	ng/mL#	74
42) 3-Methylphenanthrene(3MP)	34.401	192	9803M3	23.581	ng/mL	
43) 2-Methylphenanthrene(2MP)	34.506	192	11862M4	28.534	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	1373M3	3.303	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.852	192	11644M3	28.010	ng/mL	
46) 1-Methylphenanthrene(1MP)	34.943	192	4151M3	9.985	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.852	192	69631M5	167.498	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.674	206	169461M5	407.639	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.674	206	160916M5	387.084	ng/mL	
49) 5AA IS BKGD	36.418	206	8545M3	20.555	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291616.D
 Acq On : 30 Mar 2016 6:35 am
 Operator : PAH2:gy
 Sample : 1603006-06
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 13:37:58 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50)	C3-Phenanthrenes/Anthracene	39.128	220	223996M5	538.823	ng/mL	
51)	C4-Phenanthrenes/Anthracene	40.739	234	299003M5	719.253	ng/mL	
53)	Anthracene	32.609	178	4220M3	11.185	ng/mL	
54)	Carbazole	33.286	167	2453M3	6.445	ng/mL	
55)	1-Methylphenanthrene	34.943	192	4167M3	14.134	ng/mL	
56)	Fluoranthene	37.216	202	20853	49.138	ng/mL#	52
57)	Benzo(b)fluorene	39.746	216	1089M3	3.942	ng/mL	
58)	Pyrene	38.089	202	26451M4	56.528	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.490	216	43128M5	92.168	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.974	230	63682M5	136.093	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.118	244	102991M5	220.099	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.684	258	140634M5	300.545	ng/mL	
63)	Naphthobenzothiophene	41.959	234	8566M4	20.486	ng/mL	
64)	Naphthobenzothiophene-2,1	41.959	234	8602M4	20.572	ng/mL	
65)	Naphthobenzothiophene-1,2	42.305	234	1593M4	3.810	ng/mL	
66)	Naphthobenzothiophene-2,3	42.606	234	1242M4	2.970	ng/mL	
67)	C1-Naphthobenzothiophenes	43.359	248	35628M5	85.207	ng/mL	
68)	C2-Naphthobenzothiophenes	45.377	262	74439M5	178.025	ng/mL	
69)	C3-Naphthobenzothiophenes	46.672	276	62966M5	150.587	ng/mL	
70)	C4-Naphthobenzothiophenes	48.057	290	91544M5	218.933	ng/mL	
72)	Benz[a]anthracene	42.892	228	9023M3	21.559	ng/mL	
74)	Chrysene/Triphenylene	43.013	228	49385M4	117.593	ng/mL	
75)	C1-Chrysenes	44.533	242	91451M5	217.759	ng/mL	
76)	C2-Chrysenes	45.979	256	129519M5	308.405	ng/mL	
76)	C2-Chrysenes BS	45.979	256	124582M5	296.649	ng/mL	
77)	BBF-D12 Surr BKGD	46.868	256	4937	11.756	ng/mL	100
78)	C3-Chrysenes	47.289	270	148754M5	354.207	ng/mL	
79)	C4-Chrysenes	49.383	284	98412M5	234.334	ng/mL	
81)	Benzo[b]fluoranthene	46.943	252	10477M4	22.475	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.018	252	4998M3	10.651	ng/mL	
83)	Benzo[a]fluoranthene	47.319	252	2644M3	5.634	ng/mL	
84)	Benzo[e]pyrene	47.937	252	14353M4	31.537	ng/mL	
86)	Benzo[a]pyrene	48.118	252	5744M3	12.550	ng/mL	
87)	Perylene	48.434	252	33767	74.183	ng/mL	94
88)	Indeno[1,2,3-cd]pyrene	52.846	276	5141M4	10.025	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.907	278	1821M4	3.560	ng/mL	
90)	Benzo[g,h,i]perylene	54.126	276	9598	17.567	ng/mL	85
91)	Hopane (T19)	52.003	191	37301	336.013	ng/mL	100
93)	C23 Tricyclic Terpane (T4	40.604	191	7575	68.237	ng/mL	100
94)	C24 Tricyclic Terpane (T5	41.341	191	6625M4	59.679	ng/mL	
95)	C25 Tricyclic Terpane (T6	42.817	191	8265M4	74.452	ng/mL	
96)	C24 Tetracyclic Terpane (	44.127	191	3115	28.060	ng/mL	100
97)	C26 Tricyclic Terpane-22S	43.886	191	4446M4	40.050	ng/mL	
98)	C26 Tricyclic Terpane-22R	43.991	191	4449M4	40.077	ng/mL	
99)	C28 Tricyclic Terpane-22S	46.280	191	4661M4	41.987	ng/mL	
100)	C28 Tricyclic Terpane-22R	46.446	191	5406M4	48.698	ng/mL	
101)	C29 Tricyclic Terpane-22S	46.973	191	6026M4	54.283	ng/mL	
102)	C29 Tricyclic Terpane-22R	47.169	191	5097M4	45.915	ng/mL	
103)	18a-22,29,30-Trisnorneo	48.253	191	10532	94.874	ng/mL	100
104)	C30 Tricyclic Terpane-22S	48.374	191	4426M4	39.870	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.615	191	4594M4	41.383	ng/mL	
106)	17a(H)-22,29,30-Trisnor	48.795	191	6962	62.715	ng/mL	100
107)	17a/b,21b/a 28,30-Bisnor	49.985	191	8354	75.254	ng/mL	100
108)	17a(H),21b(H)-25-Norhop	49.804	191	3624M4	32.646	ng/mL	
109)	30-Norhopane (T15)	50.648	191	21034M4	189.477	ng/mL	
110)	18a(H)-30-Norneohopane-C	50.738	191	9823M4	88.487	ng/mL	
111)	17a(H)-Diahopane (X)	50.874	191	6625M4	59.679	ng/mL	
112)	30-Normoretane (T17)	51.416	191	3783M4	34.078	ng/mL	
113)	18a(H)&18b(H)-Oleananes	51.807	191	5451	49.103	ng/mL	100
114)	Moretane (T20)	52.681	191	4575M4	41.212	ng/mL	
115)	30-Homohopane-22S (T21)	53.765	191	13544M4	122.006	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291616.D
 Acq On : 30 Mar 2016 6:35 am
 Operator : PAH2:gy
 Sample : 1603006-06
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 13:37:58 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

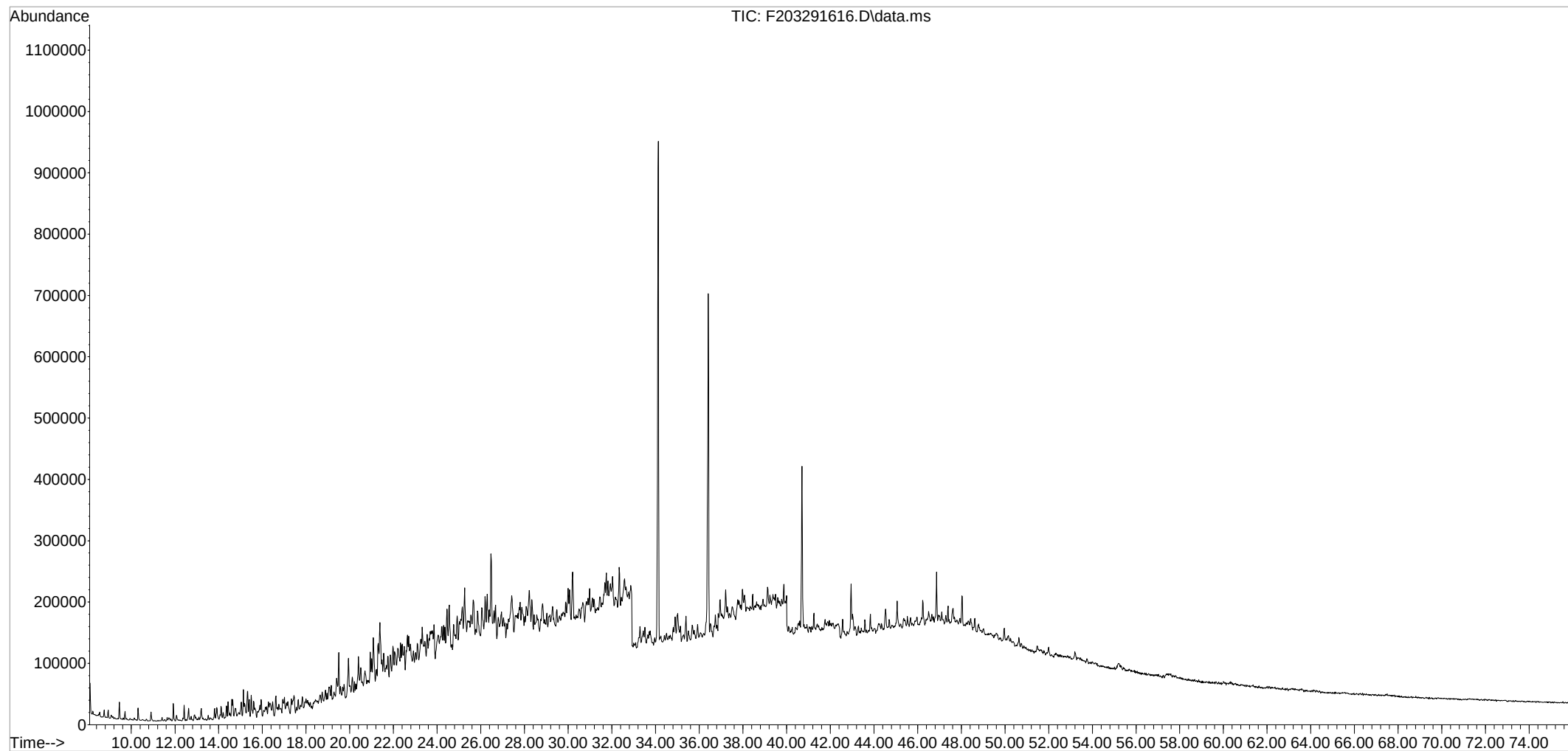
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116)	30-Homohopane-22R (T22)	54.006	191	13618	122.673	ng/ml	100
117)	Gammacerane/C32-diahopane	54.533	191	5220	47.023	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.316	191G	12959M4	116.737	ng/ml	
119)	30,31-Bishomohopane-22R (	55.692	191	7058M4	63.580	ng/ml	
120)	30,31-Trishomohopane-22S	57.409	191	8463M4	76.236	ng/ml	
121)	30,31-Trishomohopane-22R	58.026	191	6029M4	54.310	ng/ml	
122)	Tetrakishomohopane-22S (T	60.014	191	9544M4	85.974	ng/ml	
123)	Tetrakishomohopane-22R (T	60.903	191	4519M3	40.708	ng/ml	
124)	Pentakishomohopane-22S (T	63.101	191	5748M3	51.779	ng/ml	
125)	Pentakishomohopane-22R (T	64.381	191	5863M4	52.815	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.105	217	11046M4	192.933	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	6781M4	118.439	ng/ml	
129)	13b,17a-20S-Methylchol	46.235	217	7090M3	123.836	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.108	217	20551M4	358.951	ng/ml	
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	19442	339.581	ng/ml	100
132)	Unknown Sterane (S18)	47.907	217	4725	82.528	ng/ml	100
133)	13a,17b-20S-Ethylchole	48.148	217	708	12.366	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.313	217	9736M3	170.052	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	7009M4	122.422	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.352	217	6301M4	110.055	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	6999M4	122.247	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.184	218	4968M4	86.773	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.274	218	5226M4	91.279	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	7166	125.164	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	8610M4	150.385	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.608	218	11904M3	207.919	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	6152M3	107.453	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	10923	190.785	ng/mL	100
145)	C28,20S-triaromatic stero	50.166	231	8054M4	140.674	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	7413	129.478	ng/mL	100
147)	C28,20R-triaromatic stero	51.807	231	7671M4	133.984	ng/mL	

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291616.D
Acq On : 30 Mar 2016 6:35 am
Operator : PAH2:gy
Sample : 1603006-06
Misc : 1x,SS032516,etr:1603006
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 13:37:58 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-07**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter	Result
cis/trans-Decalin	1340
C1-Decalins	2020
C2-Decalins	1910
C3-Decalins	1110
C4-Decalins	1090
Benzothiophene	56.9
C1-Benzo(b)thiophenes	93.7
C2-Benzo(b)thiophenes	41.6
C3-Benzo(b)thiophenes	84.7
C4-Benzo(b)thiophenes	87.5
Naphthalene	727
C1-Naphthalenes	298
C2-Naphthalenes	599
C3-Naphthalenes	1350
C4-Naphthalenes	1290
Biphenyl	85.3
Dibenzofuran	677
Acenaphthylene	174
Acenaphthene	469
Fluorene	1130
C1-Fluorenes	387
C2-Fluorenes	873
C3-Fluorenes	1150
Anthracene	3860
Phenanthrene	2260
C1-Phenanthrenes/Anthracenes	1440
C2-Phenanthrenes/Anthracenes	1720
C3-Phenanthrenes/Anthracenes	1500
C4-Phenanthrenes/Anthracenes	1500
Retene	3010
Dibenzothiophene	268

Parameter	Result
C1-Dibenzothiophenes	270
C2-Dibenzothiophenes	408
C3-Dibenzothiophenes	402
C4-Dibenzothiophenes	245
Benzo(b)fluorene	285
Fluoranthene	3060
Pyrene	2300
C1-Fluoranthenes/Pyrenes	1100
C2-Fluoranthenes/Pyrenes	556
C3-Fluoranthenes/Pyrenes	485
C4-Fluoranthenes/Pyrenes	412
Naphthobenzothiophenes	219
C1-Naphthobenzothiophenes	178
C2-Naphthobenzothiophenes	235
C3-Naphthobenzothiophenes	255
C4-Naphthobenzothiophenes	243
Benz[a]anthracene	847
Chrysene/Triphenylene	941
C1-Chrysenes	528
C2-Chrysenes	446
C3-Chrysenes	479
C4-Chrysenes	292
Benzo[b]fluoranthene	682
Benzo[j]fluoranthene/Benzo[k]fluoranthene	564
Benzo[a]fluoranthene	161
Benzo[e]pyrene	498
Benzo[a]pyrene	698
Perylene	224
Indeno[1,2,3-cd]pyrene	491
Dibenz[ah]anthracene/Dibenz[ac]anthracene	116
Benzo[g,h,i]perylene	478

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	91	50-130
Phenanthrene-d10	93	50-130
Benzo[a]pyrene-d12	84	50-130

N/A - Not Applicable

04/04/16 15:45

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Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter

Carbazole

Result

342

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	91	50-130	
Phenanthrene-d10	93	50-130	
Benzo[a]pyrene-d12	84	50-130	

04/04/16 15:45

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Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-07**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter	Result
4-Methyldibenzothiophene	116
2/3-Methyldibenzothiophene	102
1-Methyldibenzothiophene	24.4
3-Methylphenanthrene	279
2-Methylphenanthrene	304
2-Methylantracene	195
9/4-Methylphenanthrene	369
1-Methylphenanthrene	262

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	91	50-130	
Phenanthrene-d10	93	50-130	
Benzo[a]pyrene-d12	84	50-130	

04/04/16 15:45

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Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-07**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter	Result
C23 Tricyclic Terpane	88.4
C24 Tricyclic Terpane	63.3
C25 Tricyclic Terpane	63.9
C24 Tetracyclic Terpane	13.4
C26 Tricyclic Terpane-22S	29.0
C26 Tricyclic Terpane-22R	28.0
C28 Tricyclic Terpane-22S	22.7
C28 Tricyclic Terpane-22R	27.1
C29 Tricyclic Terpane-22S	24.8
C29 Tricyclic Terpane-22R	25.7
18a-22,29,30-Trisnorhopane-TS	40.0
C30 Tricyclic Terpane-22S	19.3
C30 Tricyclic Terpane-22R	27.5
17a(H)-22,29,30-Trisnorhopane-TM	40.2
17a/b,21b/a 28,30-Bisnorhopane	22.2
17a(H),21b(H)-25-Norhopane	11.3
30-Norhopane	85.0
18a(H)-30-Norneohopane-C29Ts	24.5
17a(H)-Diahopane	15.5
30-Normoretane	15.0
18a(H)&18b(H)-Oleananes	15.8
Hopane	137
Moretane	15.8
30-Homohopane-22S	60.8
30-Homohopane-22R	48.2
T22a-Gammacerane/C32-diahopane	13.6
30,31-Bishomohopane-22S	71.1 G
30,31-Bishomohopane-22R	28.2

Parameter	Result
30,31-Trishomohopane-22S	29.3
30,31-Trishomohopane-22R	16.4
Tetrakishomohopane-22S	84.1
Tetrakishomohopane-22R	35.7 G
Pentakishomohopane-22S	17.5
Pentakishomohopane-22R	19.7
13b(H),17a(H)-20S-Diacholestane	74.7
13b(H),17a(H)-20R-Diacholestane	34.1
13b,17a-20S-Methyldiacholestane	38.7
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	131
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	126
Unknown Sterane (S18)	36.9
13a,17b-20S-Ethyldiacholestane	7.42
14a,17a-20S-Methylcholestane	68.7
14a,17a-20R-Methylcholestane	50.0
14a(H),17a(H)-20S-Ethylcholestane	77.3
14a(H),17a(H)-20R-Ethylcholestane	75.6
14b(H),17b(H)-20R-Cholestane	43.7
14b(H),17b(H)-20S-Cholestane	48.0
14b,17b-20R-Methylcholestane	63.9
14b,17b-20S-Methylcholestane	99.9
14b(H),17b(H)-20R-Ethylcholestane	137
14b(H),17b(H)-20S-Ethylcholestane	83.9
C26,20R- +C27,20S- triaromatic steroid	412
C28,20S-triaromatic steroid	316
C27,20R-triaromatic steroid	174
C28,20R-triaromatic steroid	237

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	104	50-130

N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291617.D
 Acq On : 30 Mar 2016 8:01 am
 Operator : PAH2:gy
 Sample : 1603006-07
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 17 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:38:03 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	101584	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	177284	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	447352	1142.760	ng/mL	0.00
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 114.28%		
40) Phenanthrene-d10	32.353	188	376271	1166.394	ng/mL	0.03
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 116.64%		
80) Benzo[b]fluoranthene-d12	46.868	264	467026	1172.695	ng/mL	0.06
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 117.27%		
85) Benzo[a]pyrene-d12	48.042	264	364134	1045.250	ng/mL	0.08
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 104.53%		
126) 5B(H)Cholane - Surr	43.600	217	75583	1297.395	ng/ml	0.06
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 129.74%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.170	138	227413	2687.116	ng/mL	100
3) cis-Decalin	17.374	138	13446	203.142	ng/mL	100
4) C1-Decalins	17.645	152	367562M5	4343.120	ng/mL	
5) C2-Decalins	19.421	166	347054M5	4100.797	ng/mL	
6) C3-Decalins	21.890	180	201718M5	2383.504	ng/mL	
7) C4-Decalins	25.278	194	197909M5	2338.497	ng/mL	
9) Naphthalene	19.572	128	633202	1561.624	ng/mL	100
10) C1-Naphthalenes	22.267	142	259763M5	640.636	ng/mL	
11) C2-Naphthalenes	25.112	156	521871M5	1287.056	ng/mL	
12) C3-Naphthalenes	27.461	170	1177983M5	2905.182	ng/mL	
13) C4-Naphthalenes	30.231	184	1123123M5	2769.884	ng/mL	
14) 2-Methylnaphthalene	22.267	142	156153	575.005	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	93245	352.235	ng/mL	100
16) Benzo(b)thiophene	19.798	134	39952M3	122.285	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	65781M5	201.342	ng/mL	
18) C2-Benzo(b)thiophenes	24.826	162	29179M5	89.311	ng/mL	
19) C3-Benzo(b)thiophenes	27.641	176	59434M5	181.916	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	61407M5	187.954	ng/mL	
21) Biphenyl	24.164	154	61409	183.286	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	95401	394.650	ng/mL	100
23) Dibenzofuran	27.235	168	510998	1454.243	ng/mL	95
24) Acenaphthylene	25.865	152	150964M4	373.233	ng/mL	
25) Acenaphthene	26.587	153	252833	1007.695	ng/mL	96
26) 2,3,5-Trimethylnaphthalen	28.153	170	65900M3	308.775	ng/mL	
27) Fluorene	28.620	166	708643M4	2419.925	ng/mL	
28) C1-Fluorenes	30.983	180	243459M5	831.381	ng/mL	
29) C2-Fluorenes	33.196	194	549426M5	1876.219	ng/mL	
30) C3-Fluorenes	35.033	208	722418M5	2466.964	ng/mL	
31) Dibenzothiophene	31.947	184	210443	576.807	ng/mL#	48
32) 4-Methyldibenzothiophene(	33.723	198	91188	249.939	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.069	198	79917	219.046	ng/mL	100
34) 1-Methyldibenzothiophene(	34.491	198	19104	52.363	ng/mL	100
35) OTP	34.145	198	33569M4	92.010	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	245497M5	672.887	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	211928M5	580.877	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	319619M5	876.050	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	315075M5	863.595	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	191751M5	525.574	ng/mL	
41) Phenanthrene	32.443	178	2008604	4851.681	ng/mL	100
42) 3-Methylphenanthrene(3MP)	34.416	192	248381	599.952	ng/mL	99
43) 2-Methylphenanthrene(2MP)	34.521	192	270353M4	653.024	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	173597	419.315	ng/mL#	35
45) 9/4-Methylphenanthrene(9M	34.867	192	328294	792.977	ng/mL	85
46) 1-Methylphenanthrene(1MP)	34.958	192	232851M3	562.440	ng/mL	

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Quant Time: Apr 04 13:38:03 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47)	C1-Phenanthrenes/Anthracene	34.867	192	1282565M5	3097.970	ng/mL	
48)	C2-Phenanthrenes/Anthracene	36.689	206	1530312M5	3696.391	ng/mL	
48)	C2-Phenanthrenes/Anthracene BS	36.689	206	1530312M5	3696.391	ng/mL	
50)	C3-Phenanthrenes/Anthracene	39.460	220	1333439M5	3220.854	ng/mL	
51)	C4-Phenanthrenes/Anthracene	39.460	234	1337926M5	3231.692	ng/mL	
52)	Retene	39.460	234	782145	6466.796	ng/mL	98
53)	Anthracene	32.624	178	3113011M4	8285.191	ng/mL	
54)	Carbazole	33.287	167	278292	734.183	ng/mL	97
55)	1-Methylphenanthrene	34.958	192	228272M3	777.476	ng/mL	
56)	Fluoranthene	37.231	202	2777838	6572.724	ng/mL	99
57)	Benzo(b)fluorene	39.746	216	168665M3	613.080	ng/mL	
58)	Pyrene	38.104	202	2301084	4937.913	ng/mL	95
59)	C1-Fluoranthenes/Pyrenes	39.505	216	1101568M5	2363.863	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.251	230	556194M5	1193.541	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.449	244	485819M5	1042.523	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.699	258	412633M5	885.472	ng/mL	
63)	Naphthobenzothiophene	41.974	234	127001	304.986	ng/mL#	89
64)	Naphthobenzothiophene-2,1	41.974	234	127001	304.986	ng/mL#	89
65)	Naphthobenzothiophene-1,2	42.305	234	27831M4	66.835	ng/mL	
66)	Naphthobenzothiophene-2,3	42.606	234	40854M3	98.109	ng/mL	
67)	C1-Naphthobenzothiophenes	43.374	248	159345M5	382.659	ng/mL	
68)	C2-Naphthobenzothiophenes	44.880	262	209883M5	504.023	ng/mL	
69)	C3-Naphthobenzothiophenes	46.988	276	227772M5	546.983	ng/mL	
70)	C4-Naphthobenzothiophenes	48.057	290	217182M5	521.551	ng/mL	
72)	Benz[a]anthracene	42.892	228	774997M3	1819.814	ng/mL	
74)	Chrysene/Triphenylene	43.058	228	863809	2021.397	ng/mL	99
75)	C1-Chrysenes	44.548	242	484417M5	1133.583	ng/mL	
76)	C2-Chrysenes	46.250	256	425427M5	995.540	ng/mL	
76)	C2-Chrysenes BS	46.250	256	409062M5	957.245	ng/mL	
77)	BBF-D12 Surr BKGD	46.868	256	16365	38.296	ng/mL	100
78)	C3-Chrysenes	47.304	270	440054M5	1029.769	ng/mL	
79)	C4-Chrysenes	49.398	284	267958M5	627.048	ng/mL	
81)	Benzo[b]fluoranthene	46.958	252	695168	1465.574	ng/mL	100
82)	Benzo[j]+[k]fluoranthene	47.033	252	578181	1210.849	ng/mL	100
83)	Benzo[a]fluoranthene	47.334	252	165521M3	346.640	ng/mL	
84)	Benzo[e]pyrene	47.937	252	495247	1069.414	ng/mL	99
86)	Benzo[a]pyrene	48.133	252	697967	1498.701	ng/mL	100
87)	Perylene	48.434	252	222969	481.393	ng/mL	99
88)	Indeno[1,2,3-cd]pyrene	52.862	276	550359M4	1054.663	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.922	278	129471M3	248.767	ng/mL	
90)	Benzo[g,h,i]perylene	54.142	276	570878	1026.874	ng/mL	99
91)	Hopane (T19)	52.003	191	33301M4	294.808	ng/mL	
93)	C23 Tricyclic Terpane (T4	40.619	191	21463M4	190.008	ng/mL	
94)	C24 Tricyclic Terpane (T5	41.342	191	15370	136.068	ng/mL	100
95)	C25 Tricyclic Terpane (T6	42.832	191	15512M4	137.325	ng/mL	
96)	C24 Tetracyclic Terpane (	44.142	191	3261M4	28.869	ng/mL	
97)	C26 Tricyclic Terpane-22S	43.901	191	7042M4	62.342	ng/mL	
98)	C26 Tricyclic Terpane-22R	43.991	191	6791M4	60.119	ng/mL	
99)	C28 Tricyclic Terpane-22S	46.295	191	5500M4	48.691	ng/mL	
100)	C28 Tricyclic Terpane-22R	46.446	191	6569	58.154	ng/mL	100
101)	C29 Tricyclic Terpane-22S	46.973	191	6008	53.188	ng/mL	100
102)	C29 Tricyclic Terpane-22R	47.169	191	6240M4	55.242	ng/mL	
103)	18a-22,29,30-Trisnorneohopane	48.253	191	9699M4	85.863	ng/mL	
104)	C30 Tricyclic Terpane-22S	48.374	191	4682M4	41.449	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.630	191	6672M4	59.066	ng/mL	
106)	17a(H)-22,29,30-Trisnorhopane	48.810	191	9750M4	86.315	ng/mL	
107)	17a/b,21b/a 28,30-Bisnorhopane	49.970	191	5396M4	47.770	ng/mL	
108)	17a(H),21b(H)-25-Norhopane	49.819	191	2745M4	24.301	ng/mL	
109)	30-Norhopane (T15)	50.648	191	20632M4	182.651	ng/mL	
110)	18a(H)-30-Norneohopane-C2	50.753	191	5947M4	52.648	ng/mL	
111)	17a(H)-Diahopane (X)	50.874	191	3757M4	33.260	ng/mL	

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Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

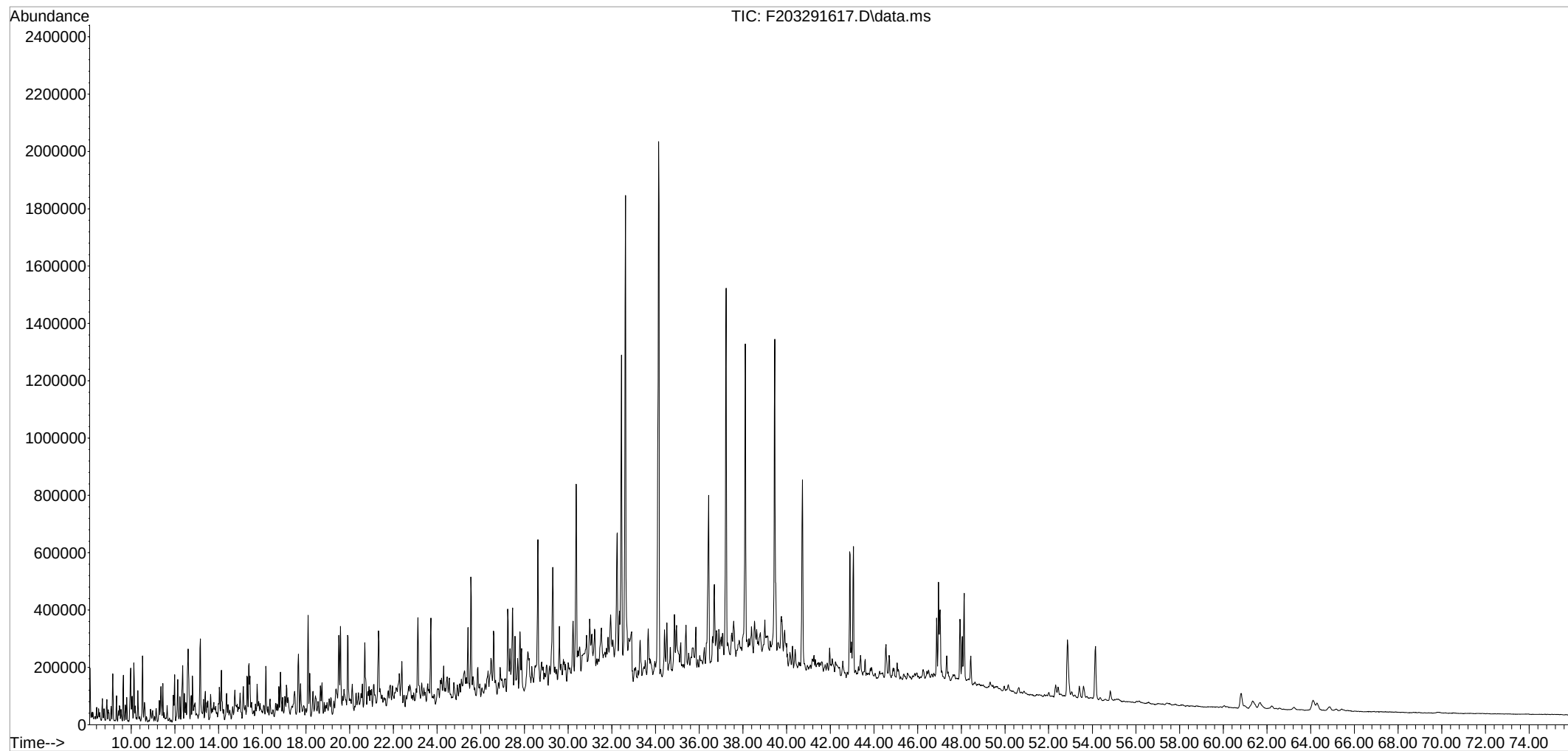
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
112)	30-Normoretane (T17)	51.416	191	3648M4	32.295	ng/ml	
113)	18a(H)&18b(H)-Oleananes (	51.822	191	3840M4	33.995	ng/ml	
114)	Moretane (T20)	52.696	191	3839M3	33.986	ng/ml	
115)	30-Homohopane-22S (T21)	53.765	191	14751	130.588	ng/ml	100
116)	30-Homohopane-22R (T22)	54.006	191	11701M4	103.587	ng/ml	
117)	Gammacerane/C32-diahopane	54.533	191	3307M4	29.276	ng/mL	
118)	30,31-Bishomohopane-22S (	55.301	191G	17264	152.835	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.677	191	6855M4	60.686	ng/ml	
120)	30,31-Trishomohopane-22S	57.424	191	7111M4	62.952	ng/ml	
121)	30,31-Trishomohopane-22R	58.027	191	3986M4	35.287	ng/ml	
122)	Tetrakishomohopane-22S (T	60.014	191	20420	180.775	ng/ml	100
123)	Tetrakishomohopane-22R (T	60.797	191G	8661M4	76.674	ng/ml	
124)	Pentakishomohopane-22S (T	63.101	191	4237M3	37.509	ng/ml	
125)	Pentakishomohopane-22R (T	64.411	191	4775M4	42.272	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.121	217	9356M4	160.597	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	4267M4	73.244	ng/ml	
129)	13b,17a-20S-Methylidiachol	46.235	217	4845M3	83.165	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.109	217	16435	282.109	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	15758	270.489	ng/ml	100
132)	Unknown Sterane (S18)	47.892	217	4617	79.252	ng/ml	100
133)	13a,17b-20S-Ethylidiachole	48.193	217	929M3	15.946	ng/ml	
134)	14a,17a-20S-Methylcholest	48.313	217	8598M4	147.586	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	6259M4	107.437	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	9673M3	166.039	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	9461M4	162.400	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	5470M4	93.893	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.274	218	6013M4	103.214	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	7999	137.304	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	12505M4	214.650	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.609	218	17162M3	294.589	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	10503M3	180.286	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	51596	885.654	ng/mL	100
145)	C28,20S-triaromatic stero	50.181	231	39588	679.535	ng/mL	100
146)	C27,20R-triaromatic stero	50.633	231	21750	373.342	ng/mL	100
147)	C28,20R-triaromatic stero	51.807	231	29681	509.479	ng/mL	100

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

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Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7A**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-08**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter	Result
cis/trans-Decalin	1260
C1-Decalins	2550
C2-Decalins	2920
C3-Decalins	2050
C4-Decalins	2250
Benzo(b)thiophene	216
C1-Benzo(b)thiophenes	162
C2-Benzo(b)thiophenes	94.5
C3-Benzo(b)thiophenes	212
C4-Benzo(b)thiophenes	257
Naphthalene	3080
C1-Naphthalenes	720
C2-Naphthalenes	1020
C3-Naphthalenes	1860
C4-Naphthalenes	2850
Biphenyl	244
Dibenzofuran	1390
Acenaphthylene	919
Acenaphthene	1560
Fluorene	2560
C1-Fluorenes	824
C2-Fluorenes	2180
C3-Fluorenes	3130
Anthracene	4150
Phenanthrene	5000
C1-Phenanthrenes/Anthracenes	3590
C2-Phenanthrenes/Anthracenes	5010
C3-Phenanthrenes/Anthracenes	4190
C4-Phenanthrenes/Anthracenes	2340
Retene	6.83 U
Dibenzothiophene	637

Parameter	Result
C1-Dibenzothiophenes	660
C2-Dibenzothiophenes	1220
C3-Dibenzothiophenes	1340
C4-Dibenzothiophenes	858
Benzo(b)fluorene	1360
Fluoranthene	10700
Pyrene	8750
C1-Fluoranthenes/Pyrenes	4380
C2-Fluoranthenes/Pyrenes	2020
C3-Fluoranthenes/Pyrenes	1740
C4-Fluoranthenes/Pyrenes	1390
Naphthobenzothiophenes	800
C1-Naphthobenzothiophenes	754
C2-Naphthobenzothiophenes	852
C3-Naphthobenzothiophenes	571
C4-Naphthobenzothiophenes	516
Benz[a]anthracene	4000
Chrysene/Triphenylene	3920
C1-Chrysenes	2290
C2-Chrysenes	1770
C3-Chrysenes	1610
C4-Chrysenes	932
Benzo[b]fluoranthene	3630
Benzo[j]fluoranthene/Benzo[k]fluoranthene	2770
Benzo[a]fluoranthene	901
Benzo[e]pyrene	2530
Benzo[a]pyrene	3880
Perylene	1130
Indeno[1,2,3-cd]pyrene	2730
Dibenz[ah]anthracene/Dibenz[ac]anthracene	605
Benzo[g,h,i]perylene	2470

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	87	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	77	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter

Result

Carbazole

519

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	87	50-130	
Phenanthrene-d10	90	50-130	
Benzo[a]pyrene-d12	77	50-130	

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7A**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-08**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter	Result
4-Methyldibenzothiophene	258
2/3-Methyldibenzothiophene	241
1-Methyldibenzothiophene	70.2
3-Methylphenanthrene	798
2-Methylphenanthrene	756
2-Methylanthracene	505
9/4-Methylphenanthrene	943
1-Methylphenanthrene	513

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	87	50-130	
Phenanthrene-d10	90	50-130	
Benzo[a]pyrene-d12	77	50-130	

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7A**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-08**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter	Result
C23 Tricyclic Terpane	350
C24 Tricyclic Terpane	257
C25 Tricyclic Terpane	237
C24 Tetracyclic Terpane	64.9
C26 Tricyclic Terpane-22S	137
C26 Tricyclic Terpane-22R	106
C28 Tricyclic Terpane-22S	102
C28 Tricyclic Terpane-22R	112
C29 Tricyclic Terpane-22S	88.3
C29 Tricyclic Terpane-22R	98.2
18a-22,29,30-Trisnorhopane-TS	109
C30 Tricyclic Terpane-22S	71.5
C30 Tricyclic Terpane-22R	73.8
17a(H)-22,29,30-Trisnorhopane-TM	120
17a/b,21b/a 28,30-Bisnorhopane	40.3
17a(H),21b(H)-25-Norhopane	51.5
30-Norhopane	176
18a(H)-30-Norneohopane-C29Ts	58.0
17a(H)-Diahopane	49.4
30-Normoretane	30.8
18a(H)&18b(H)-Oleananes	19.1
Hopane	306
Moretane	35.5
30-Homohopane-22S	83.6
30-Homohopane-22R	87.6
T22a-Gammacerane/C32-diahopane	21.5
30,31-Bishomohopane-22S	101 G
30,31-Bishomohopane-22R	41.6

Parameter	Result
30,31-Trishomohopane-22S	35.5
30,31-Trishomohopane-22R	18.5
Tetrakishomohopane-22S	124
Tetrakishomohopane-22R	85.1 G
Pentakishomohopane-22S	6.83 U
Pentakishomohopane-22R	6.83 U
13b(H),17a(H)-20S-Diacholestane	300
13b(H),17a(H)-20R-Diacholestane	144
13b,17a-20S-Methyldiacholestane	134
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	457
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	366
Unknown Sterane (S18)	108
13a,17b-20S-Ethyldiacholestane	6.83 U
14a,17a-20S-Methylcholestane	150
14a,17a-20R-Methylcholestane	107
14a(H),17a(H)-20S-Ethylcholestane	150
14a(H),17a(H)-20R-Ethylcholestane	130
14b(H),17b(H)-20R-Cholestane	183
14b(H),17b(H)-20S-Cholestane	167
14b,17b-20R-Methylcholestane	135
14b,17b-20S-Methylcholestane	222
14b(H),17b(H)-20R-Ethylcholestane	330
14b(H),17b(H)-20S-Ethylcholestane	172
C26,20R- +C27,20S- triaromatic steroid	348
C28,20S-triaromatic steroid	261
C27,20R-triaromatic steroid	163
C28,20R-triaromatic steroid	153

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	116	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291618.D
 Acq On : 30 Mar 2016 9:30 am
 Operator : PAH2:gy
 Sample : 1603006-08
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 18 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 14:55:35 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Mar 01 07:09:44 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.482	164	100608	500.000	ng/mL	0.02
71) Chrysene-d12	42.983	240	185291	500.000	ng/mL	0.06
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	210581	543.147	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	54.31%		
40) Phenanthrene-d10	32.368	188	179114	560.618	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	56.06%		
80) Benzo[b]fluoranthene-d12	46.898	264	231570	556.341	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery =	55.63%		
85) Benzo[a]pyrene-d12	48.072	264	176006	483.395	ng/mL	0.11
Spiked Amount 1000.000	Range 50 - 130		Recovery =	48.34%#		
126) 5B(H)Cholane - Surr	43.615	217	44054	723.517	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	72.35%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.170	138	144051	1718.622	ng/mL	100
3) cis-Decalin	17.374	138	8319M4	126.903	ng/mL	
4) C1-Decalins	17.645	152	312933M5	3733.493	ng/mL	
5) C2-Decalins	19.421	166	358072M5	4272.031	ng/mL	
6) C3-Decalins	21.905	180	251521M5	3000.808	ng/mL	
7) C4-Decalins	25.293	194	275684M5	3289.088	ng/mL	
9) Naphthalene	19.587	128	1808747	4504.068	ng/mL	100
10) C1-Naphthalenes	22.282	142	423528M5	1054.652	ng/mL	
11) C2-Naphthalenes	25.127	156	597445M5	1487.733	ng/mL	
12) C3-Naphthalenes	27.807	170	1092883M5	2721.453	ng/mL	
13) C4-Naphthalenes	30.246	184	1674921M5	4170.820	ng/mL	
14) 2-Methylnaphthalene	22.282	142	258509	961.148	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	156907	598.469	ng/mL	100
16) Benzothiophene	19.798	134	102430M4	316.559	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	76596M5	236.719	ng/mL	
18) C2-Benzo(b)thiophenes	24.841	162	44781M5	138.395	ng/mL	
19) C3-Benzo(b)thiophenes	27.641	176	100685M5	311.166	ng/mL	
20) C4-Benzo(b)thiophenes	30.170	190	121648M5	375.952	ng/mL	
21) Biphenyl	24.164	154	118659	357.595	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	122477	511.572	ng/mL	100
23) Dibenzofuran	27.250	168	706350	2029.693	ng/mL	95
24) Acenaphthylene	25.865	152	539320M4	1346.312	ng/mL	
25) Acenaphthene	26.602	153	567143	2282.342	ng/mL	98
26) 2,3,5-Trimethylnaphthalen	28.153	170	51545M3	243.858	ng/mL	
27) Fluorene	28.620	166	1087724	3750.471	ng/mL	95
28) C1-Fluorenes	30.998	180	349945M5	1206.610	ng/mL	
29) C2-Fluorenes	33.211	194	926474M5	3194.481	ng/mL	
30) C3-Fluorenes	35.048	208	1330634M5	4588.025	ng/mL	
31) Dibenzothiophene	31.962	184	337200	933.204	ng/mL#	41
32) 4-Methyldibenzothiophene(	33.738	198	136578	377.981	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.054	198	127624M3	353.200	ng/mL	
34) 1-Methyldibenzothiophene(	34.506	198	37158	102.835	ng/mL	100
35) OTP	34.130	198	17753M3	49.132	ng/mL	
36) C1-Dibenzothiophenes	33.738	198	367138M5	1016.057	ng/mL	
36) C1-Dibenzothiophenes BS	33.738	198	349385M5	966.926	ng/mL	
37) C2-Dibenzothiophenes	35.439	212	647636M5	1792.338	ng/mL	
38) C3-Dibenzothiophenes	37.246	226	709533M5	1963.638	ng/mL	
39) C4-Dibenzothiophenes	38.948	240	453958M5	1256.332	ng/mL	
41) Phenanthrene	32.459	178	3001350	7319.937	ng/mL	100
42) 3-Methylphenanthrene(3MP)	34.431	192	479129	1168.539	ng/mL	98
43) 2-Methylphenanthrene(2MP)	34.536	192	454118M4	1107.540	ng/mL	
44) 2-Methylanthracene(2MA)	34.687	192	303052	739.108	ng/mL#	36
45) 9/4-Methylphenanthrene(9M	34.882	192	566523	1381.682	ng/mL	79
46) 1-Methylphenanthrene(1MP)	34.973	192	308042M4	751.278	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291618.D
 Acq On : 30 Mar 2016 9:30 am
 Operator : PAH2:gy
 Sample : 1603006-08
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 04 14:55:35 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Mar 01 07:09:44 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) C1-Phenanthrenes/Anthracene	34.882	192	2156694M5	5259.921	ng/mL	
48) C2-Phenanthrenes/Anthracene	36.704	206	3007419M5	7334.738	ng/mL	
48) C2-Phenanthrenes/Anthracene BS	36.704	206	3007419M5	7334.738	ng/mL	
50) C3-Phenanthrenes/Anthracene	38.556	220	2517356M5	6139.533	ng/mL	
51) C4-Phenanthrenes/Anthracene	40.739	234	1403609M5	3423.236	ng/mL	
53) Anthracene	32.639	178	2259509M4	6071.958	ng/mL	
54) Carbazole	33.302	167	285530M4	760.585	ng/mL	
55) 1-Methylphenanthrene	34.973	192	308888M4	1062.254	ng/mL	
56) Fluoranthene	37.261	202	6557879M4	15667.317	ng/mL	
57) Benzo(b)fluorene	39.776	216	544858M3	1999.714	ng/mL	
58) Pyrene	38.150	202	5912574	12810.920	ng/mL	95
59) C1-Fluoranthenes/Pyrenes	39.535	216	2960711M5	6415.046	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.266	230	1365584M5	2958.845	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.479	244	1175555M5	2547.104	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.729	258	938864M5	2034.260	ng/mL	
63) Naphthobenzothiophene	41.989	234	317274	769.309	ng/mL#	88
64) Naphthobenzothiophene-2,1	41.989	234	317274	769.309	ng/mL#	88
65) Naphthobenzothiophene-1,2	42.335	234	74270M4	180.086	ng/mL	
66) Naphthobenzothiophene-2,3	42.621	234	91553M3	221.993	ng/mL	
67) C1-Naphthobenzothiophenes	43.389	248	455723M5	1105.012	ng/mL	
68) C2-Naphthobenzothiophenes	44.910	262	514489M5	1247.505	ng/mL	
69) C3-Naphthobenzothiophenes	47.018	276	345060M5	836.683	ng/mL	
70) C4-Naphthobenzothiophenes	48.087	290	311833M5	756.116	ng/mL	
72) Benz[a]anthracene	42.922	228	2606884M3	5856.848	ng/mL	
74) Chrysene/Triphenylene	43.088	228	2562721	5737.866	ng/mL	99
75) C1-Chrysenes	44.564	242	1496627M5	3350.909	ng/mL	
76) C2-Chrysenes	46.280	256	1167111M5	2613.131	ng/mL	
76) C2-Chrysenes BS	46.280	256	1155826M5	2587.864	ng/mL	
77) BBF-D12 Surr BKGD	46.883	256	11285	25.267	ng/mL	100
78) C3-Chrysenes	47.319	270	1050990M5	2353.139	ng/mL	
79) C4-Chrysenes	48.389	284	609408M5	1364.449	ng/mL	
81) Benzo[b]fluoranthene	46.988	252	2638502	5322.194	ng/mL	100
82) Benzo[j]+[k]fluoranthene	47.048	252	2024626	4056.824	ng/mL	99
83) Benzo[a]fluoranthene	47.349	252	658575M4	1319.613	ng/mL	
84) Benzo[e]pyrene	47.967	252	1796098	3710.814	ng/mL	100
86) Benzo[a]pyrene	48.163	252	2768693	5688.136	ng/mL	99
87) Perylene	48.449	252	800831	1654.288	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.892	276	2182095M4	4000.888	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	482013M3	886.123	ng/mL	
90) Benzo[g,h,i]perylene	54.172	276	2100227	3614.560	ng/mL	99
91) Hopane (T19)	52.018	191	52992M4	448.856	ng/mL	
93) C23 Tricyclic Terpane (T4)	40.634	191	60517M4	512.595	ng/mL	
94) C24 Tricyclic Terpane (T5)	41.372	191	44432	376.351	ng/mL	100
95) C25 Tricyclic Terpane (T6)	42.862	191	40971M4	347.035	ng/mL	
96) C24 Tetracyclic Terpane (	44.157	191	11219	95.028	ng/mL	100
97) C26 Tricyclic Terpane-22S	43.916	191	23709M4	200.821	ng/mL	
98) C26 Tricyclic Terpane-22R	44.006	191	18345	155.387	ng/mL	100
99) C28 Tricyclic Terpane-22S	46.310	191	17679M4	149.746	ng/mL	
100) C28 Tricyclic Terpane-22R	46.476	191	19412M3	164.425	ng/mL	
101) C29 Tricyclic Terpane-22S	46.988	191	15269	129.332	ng/mL	100
102) C29 Tricyclic Terpane-22R	47.184	191	16978M4	143.808	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.283	191	18798	159.224	ng/mL	100
104) C30 Tricyclic Terpane-22S	48.389	191	12360M4	104.692	ng/mL	
105) C30 Tricyclic Terpane-22R	48.630	191	12752M4	108.013	ng/mL	
106) 17a(H)-22,29,30-Trisnorho	48.825	191	20689M4	175.241	ng/mL	
107) 17a/b,21b/a 28,30-Bisnorh	50.000	191	6973M4	59.063	ng/mL	
108) 17a(H),21b(H)-25-Norhopan	49.819	191	8905	75.428	ng/mL	100
109) 30-Norhopane (T15)	50.663	191	30458M4	257.987	ng/mL	
110) 18a(H)-30-Norneohopane-C2	50.768	191	10024M4	84.906	ng/mL	
111) 17a(H)-Diahopane (X)	50.904	191	8538	72.319	ng/mL	100
112) 30-Normoretane (T17)	51.431	191	5330M4	45.146	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291618.D
 Acq On : 30 Mar 2016 9:30 am
 Operator : PAH2:gy
 Sample : 1603006-08
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 04 14:55:35 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Mar 01 07:09:44 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

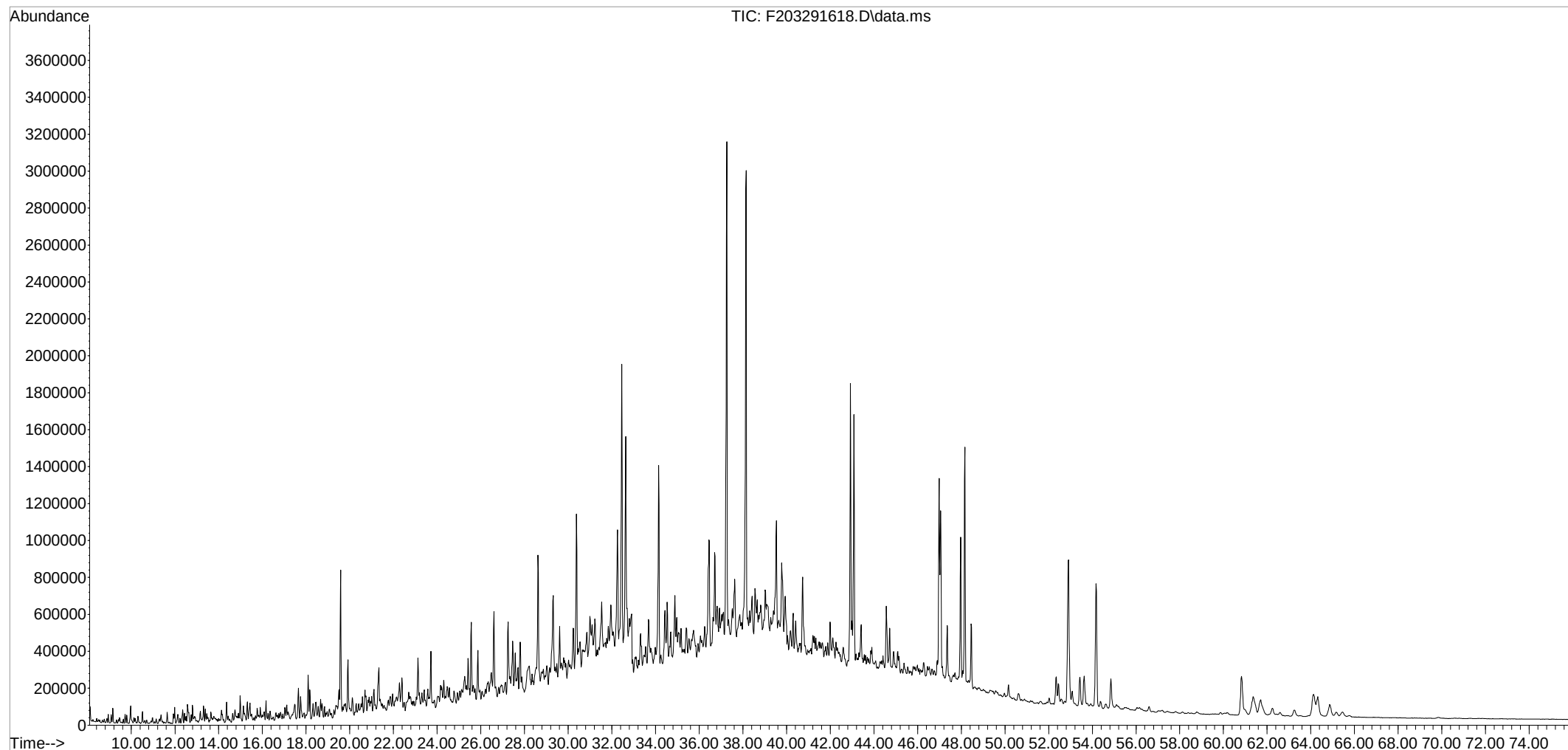
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
113)	18a(H)&18b(H)-Oleananes (	51.838	191	3297M4	27.926	ng/ml	
114)	Moretane (T20)	52.681	191	6135M3	51.965	ng/ml	
115)	30-Homohopane-22S (T21)	53.780	191	14452	122.412	ng/ml	100
116)	30-Homohopane-22R (T22)	54.021	191	15153	128.350	ng/ml	100
117)	Gammacerane/C32-diahopane	54.548	191	3722M4	31.526	ng/mL	
118)	30,31-Bishomohopane-22S (	55.316	191G	17496	148.196	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.708	191	7198	60.969	ng/ml	100
120)	30,31-Trishomohopane-22S	57.439	191	6135	51.965	ng/ml	100
121)	30,31-Trishomohopane-22R	58.042	191	3191M4	27.029	ng/ml	
122)	Tetrakishomohopane-22S (T	60.044	191	21372	181.026	ng/ml	100
123)	Tetrakishomohopane-22R (T	60.812	191G	14719M4	124.674	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.136	217	26727M4	438.948	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.557	217	12869M4	211.353	ng/ml	
129)	13b,17a-20S-Methyl diachol	46.265	217	11953M3	196.309	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.124	217	40781	669.763	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.636	217	32620	535.731	ng/ml	100
132)	Unknown Sterane (S18)	47.922	217	9633	158.207	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.328	217	13375M4	219.663	ng/ml	
135)	14a,17a-20R-Methylcholest	49.036	217	9519M4	156.334	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	13364M4	219.482	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.286	217	11633M4	191.053	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.214	218	16296M4	267.636	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	14863M4	244.101	ng/ml	
140)	14b,17b-20R-Methylcholest	48.494	218	12044	197.803	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	19814M4	325.413	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	29475M3	484.080	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.669	218	15343M3	251.984	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.337	231	31030	509.618	ng/mL	100
145)	C28,20S-triaromatic stero	50.196	231	23257M4	381.959	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	14543M4	238.846	ng/mL	
147)	C28,20R-triaromatic stero	51.822	231	13663M4	224.393	ng/mL	

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

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291618.D
Acq On : 30 Mar 2016 9:30 am
Operator : PAH2:gy
Sample : 1603006-08
Misc : 1x,SS032516,etr:1603006
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 04 14:55:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Mar 01 07:09:44 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7B**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-09**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter	Result
cis/trans-Decalin	2180
C1-Decalins	3110
C2-Decalins	2710
C3-Decalins	1340
C4-Decalins	1390
Benzo(b)fluorene	2.30 U
C1-Benzo(b)thiophenes	91.1
C2-Benzo(b)thiophenes	30.2
C3-Benzo(b)thiophenes	61.8
C4-Benzo(b)thiophenes	57.2
Naphthalene	17.6
C1-Naphthalenes	19.5
C2-Naphthalenes	320
C3-Naphthalenes	1420
C4-Naphthalenes	1030
Biphenyl	2.86
Dibenzofuran	25.3
Acenaphthylene	10.7
Acenaphthene	14.6
Fluorene	60.8
C1-Fluorenes	199
C2-Fluorenes	606
C3-Fluorenes	710
Anthracene	25.3 G
Phenanthrene	157
C1-Phenanthrenes/Anthracenes	564
C2-Phenanthrenes/Anthracenes	866
C3-Phenanthrenes/Anthracenes	669
C4-Phenanthrenes/Anthracenes	393
Retene	2.30 U
Dibenzothiophene	28.5

Parameter	Result
C1-Dibenzothiophenes	107
C2-Dibenzothiophenes	192
C3-Dibenzothiophenes	204
C4-Dibenzothiophenes	129
Benzo(b)fluorene	5.62
Fluoranthene	28.6
Pyrene	32.4
C1-Fluoranthenes/Pyrenes	59.4
C2-Fluoranthenes/Pyrenes	82.0
C3-Fluoranthenes/Pyrenes	107
C4-Fluoranthenes/Pyrenes	119
Naphthobenzothiophenes	10.3
C1-Naphthobenzothiophenes	30.3
C2-Naphthobenzothiophenes	49.1
C3-Naphthobenzothiophenes	38.4
C4-Naphthobenzothiophenes	48.9
Benzo[a]anthracene	14.3
Chrysene/Triphenylene	31.3
C1-Chrysenes	71.5
C2-Chrysenes	98.4
C3-Chrysenes	108
C4-Chrysenes	73.6
Benzo[b]fluoranthene	8.06
Benzo[j]fluoranthene/Benzo[k]fluoranthene	6.82
Benzo[a]fluoranthene	2.31
Benzo[e]pyrene	8.71
Benzo[a]pyrene	8.33
Perylene	4.27
Indeno[1,2,3-cd]pyrene	5.59
Dibenz[ah]anthracene/Dibenz[ac]anthracene	1.48 J
Benzo[g,h,i]perylene	5.54

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	76	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:45

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter

Carbazole

Result

6.96

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	88	50-130	
Phenanthrene-d10	91	50-130	
Benzo[a]pyrene-d12	76	50-130	

04/04/16 15:46

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Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7B**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-09**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter	Result
4-Methyldibenzothiophene	58.5
2/3-Methyldibenzothiophene	33.8
1-Methyldibenzothiophene	7.41
3-Methylphenanthrene	114
2-Methylphenanthrene	128
2-Methylantracene	7.12
9/4-Methylphenanthrene	192
1-Methylphenanthrene	101

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	88	50-130	
Phenanthrene-d10	91	50-130	
Benzo[a]pyrene-d12	76	50-130	

04/04/16 15:46

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Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7B**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-09**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	28.4	30,31-Trishomohopane-22S	2.30 U
C24 Tricyclic Terpane	20.4	30,31-Trishomohopane-22R	2.30 U
C25 Tricyclic Terpane	18.4	Tetrakishomohopane-22S	6.26
C24 Tetracyclic Terpane	4.02	Tetrakishomohopane-22R	15.9 G
C26 Tricyclic Terpane-22S	10.6	Pentakishomohopane-22S	2.30 U
C26 Tricyclic Terpane-22R	8.46	Pentakishomohopane-22R	2.30 U
C28 Tricyclic Terpane-22S	6.41	13b(H),17a(H)-20S-Diacholestane	35.5
C28 Tricyclic Terpane-22R	6.63	13b(H),17a(H)-20R-Diacholestane	15.0
C29 Tricyclic Terpane-22S	6.52	13b,17a-20S-Methyldiacholestane	14.6
C29 Tricyclic Terpane-22R	5.97	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	50.7
18a-22,29,30-Trisnorhopane-TS	11.7	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	39.0
C30 Tricyclic Terpane-22S	4.16	Unknown Sterane (S18)	16.4
C30 Tricyclic Terpane-22R	5.03	13a,17b-20S-Ethyldiacholestane	2.30 U
17a(H)-22,29,30-Trisnorhopane-TM	5.63	14a,17a-20S-Methylcholestane	17.2
17a/b,21b/a 28,30-Bisnorhopane	2.30 U	14a,17a-20R-Methylcholestane	6.82
17a(H),21b(H)-25-Norhopane	2.30 U	14a(H),17a(H)-20S-Ethylcholestane	7.54
30-Norhopane	8.69	14a(H),17a(H)-20R-Ethylcholestane	6.34
18a(H)-30-Norneohopane-C29Ts	7.74	14b(H),17b(H)-20R-Cholestane	7.69
17a(H)-Diahopane	9.20 G	14b(H),17b(H)-20S-Cholestane	9.32
30-Normoretane	2.30 U	14b,17b-20R-Methylcholestane	5.94
18a(H)&18b(H)-Oleananes	2.30 U	14b,17b-20S-Methylcholestane	8.02
Hopane	14.6	14b(H),17b(H)-20R-Ethylcholestane	16.3
Moretane	2.30 U	14b(H),17b(H)-20S-Ethylcholestane	12.0
30-Homohopane-22S	6.45	C26,20R- +C27,20S- triaromatic steroid	34.3
30-Homohopane-22R	7.07	C28,20S-triaromatic steroid	16.0
T22a-Gammacerane/C32-diahopane	2.30 U	C27,20R-triaromatic steroid	16.3
30,31-Bishomohopane-22S	2.30 U	C28,20R-triaromatic steroid	9.64
30,31-Bishomohopane-22R	2.30 U		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	104	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:46

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Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291619.D
 Acq On : 30 Mar 2016 10:58 am
 Operator : PAH2:gy
 Sample : 1603006-09
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 19 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 14:56:56 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.482	164	97765	500.000	ng/mL	0.02
71) Chrysene-d12	42.968	240	183575	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	58316M4	154.787	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	15.48%#		
40) Phenanthrene-d10	32.353	188	49304	158.807	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	15.88%#		
80) Benzo[b]fluoranthene-d12	46.883	264	64530	156.481	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	15.65%#		
85) Benzo[a]pyrene-d12	48.042	264	48291	133.869	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	13.39%#		
126) 5B(H)Cholane - Surr	43.600	217	10994M3	182.247	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	18.22%#		
Target Compounds						
2) trans-Decalin	16.170	138	719416	8832.694	ng/mL	100
3) cis-Decalin	17.389	138	39626	622.055	ng/mL	100
4) C1-Decalins	17.660	152	1101559M5	13524.489	ng/mL	
5) C2-Decalins	19.437	166	958264M5	11765.172	ng/mL	
6) C3-Decalins	21.906	180	475020M5	5832.101	ng/mL	
7) C4-Decalins	25.293	194	491771M5	6037.762	ng/mL	
9) Naphthalene	19.602	128	29747M3	76.229	ng/mL	
10) C1-Naphthalenes	22.764	142	32988M5	84.534	ng/mL	
11) C2-Naphthalenes	25.112	156	541696M5	1388.135	ng/mL	
12) C3-Naphthalenes	27.476	170	2402212M5	6155.843	ng/mL	
13) C4-Naphthalenes	30.246	184	1750358M5	4485.420	ng/mL	
14) 2-Methylnaphthalene	22.387	142	10852M3	41.522	ng/mL	
15) 1-Methylnaphthalene	22.764	142	12230M3	48.004	ng/mL	
17) C1-Benzo(b)thiophenes	21.860	148	124489M5	395.920	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	41211M5	131.066	ng/mL	
19) C3-Benzo(b)thiophenes	27.641	176	84411M5	268.458	ng/mL	
20) C4-Benzo(b)thiophenes	30.170	190	78182M5	248.647	ng/mL	
21) Biphenyl	24.164	154	4000M4	12.405	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	8907	38.285	ng/mL	100
23) Dibenzofuran	27.250	168	37105	109.722	ng/mL#	42
24) Acenaphthylene	25.880	152	18043M3	46.351	ng/mL	
25) Acenaphthene	26.603	153	15261M4	63.200	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.168	170	185780M3	904.478	ng/mL	
27) Fluorene	28.620	166	74502M4	264.353	ng/mL	
28) C1-Fluorenes	30.998	180	243814M5	865.117	ng/mL	
29) C2-Fluorenes	33.196	194	742038M5	2632.949	ng/mL	
30) C3-Fluorenes	35.048	208	869687M5	3085.881	ng/mL	
31) Dibenzothiophene	31.947	184	43494	123.870	ng/mL#	1
32) 4-Methyldibenzothiophene(	33.723	198	89203	254.049	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.085	198	51571M3	146.874	ng/mL	
34) 1-Methyldibenzothiophene(	34.491	198	11297	32.174	ng/mL	100
35) OTP	34.115	198	7229M3	20.588	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	171024M5	487.074	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	163795M5	466.486	ng/mL	
37) C2-Dibenzothiophenes	35.424	212	292522M5	833.099	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	311488M5	887.114	ng/mL	
39) C4-Dibenzothiophenes	38.933	240	197264M5	561.805	ng/mL	
41) Phenanthrene	32.444	178	272343	683.528	ng/mL	96
42) 3-Methylphenanthrene(3MP)	34.416	192	196890	494.155	ng/mL	99
43) 2-Methylphenanthrene(2MP)	34.521	192	221488M4	555.891	ng/mL	
44) 2-Methylantracene(2MA)	34.687	192	12329M3	30.943	ng/mL	
45) 9/4-Methylphenanthrene(9M)	34.867	192	332744	835.122	ng/mL	99
46) 1-Methylphenanthrene(1MP)	34.958	192	175600M4	440.722	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192	976500M5	2450.824	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291619.D
 Acq On : 30 Mar 2016 10:58 am
 Operator : PAH2:gy
 Sample : 1603006-09
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 14:56:56 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) C2-Phenanthrenes/Anthracene	36.689	206	1499083M5	3762.404	ng/mL	
48) C2-Phenanthrenes/Anthracene BS	36.689	206	1499083M5	3762.404	ng/mL	
50) C3-Phenanthrenes/Anthracene	38.541	220	1158440M5	2907.457	ng/mL	
51) C4-Phenanthrenes/Anthracene	40.724	234	680796M5	1708.664	ng/mL	
53) Anthracene	32.624	178G	39790M3	110.037	ng/mL	
54) Carbazole	33.302	167	11022M3	30.214	ng/mL	
55) 1-Methylphenanthrene	34.958	192	182038M4	644.226	ng/mL	
56) Fluoranthene	37.231	202	50617M4	124.445	ng/mL	
57) Benzo(b)fluorene	39.761	216	6467M3	24.425	ng/mL	
58) Pyrene	38.120	202	63097M4	140.689	ng/mL	
59) C1-Fluoranthenes/Pyrenes	40.288	216	115751M5	258.094	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.989	230	159732M5	356.160	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.465	244	207687M5	463.087	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.699	258	231494M5	516.170	ng/mL	
63) Naphthobenzothiophene	41.974	234	12213M4	30.475	ng/mL	
64) Naphthobenzothiophene-2,1	41.974	234	12603M4	31.448	ng/mL	
65) Naphthobenzothiophene-1,2	42.320	234	2062M4	5.145	ng/mL	
66) Naphthobenzothiophene-2,3	42.621	234	3313M4	8.267	ng/mL	
67) C1-Naphthobenzothiophenes	43.374	248	52724M5	131.560	ng/mL	
68) C2-Naphthobenzothiophenes	45.392	262	85554M5	213.479	ng/mL	
69) C3-Naphthobenzothiophenes	46.672	276	66817M5	166.726	ng/mL	
70) C4-Naphthobenzothiophenes	48.072	290	85206M5	212.611	ng/mL	
72) Benz[a]anthracene	42.907	228	27469M3	62.291	ng/mL	
74) Chrysene/Triphenylene	43.043	228	60133M4	135.895	ng/mL	
75) C1-Chrysenes	44.549	242	137456M5	310.637	ng/mL	
76) C2-Chrysenes	45.994	256	191594M5	432.984	ng/mL	
76) C2-Chrysenes BS	45.994	256	189146M5	427.452	ng/mL	
77) BBF-D12 Surr BKGD	46.883	256	2448	5.532	ng/mL	100
78) C3-Chrysenes	47.304	270	206623M5	466.948	ng/mL	
79) C4-Chrysenes	49.413	284	141423M5	319.602	ng/mL	
81) Benzo[b]fluoranthene	46.958	252	17200M3	35.019	ng/mL	
82) Benzo[j]+[k]fluoranthene	47.018	252	14639M6	29.607	ng/mL	
83) Benzo[a]fluoranthene	47.334	252	4950M3	10.011	ng/mL	
84) Benzo[e]pyrene	47.952	252	18151	37.851	ng/mL#	67
86) Benzo[a]pyrene	48.133	252	17443	36.171	ng/mL#	64
87) Perylene	48.434	252	8904M4	18.565	ng/mL	
88) Indeno[1,2,3-cd]pyrene	52.877	276	13131M4	24.301	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.922	278	3468M4	6.435	ng/mL	
90) Benzo[g,h,i]perylene	54.142	276	13867	24.089	ng/mL	93
91) Hopane (T19)	52.018	191	7402M4	63.283	ng/mL	
93) C23 Tricyclic Terpane (T4)	40.619	191	14452M4	123.556	ng/mL	
94) C24 Tricyclic Terpane (T5)	41.357	191	10359M4	88.564	ng/mL	
95) C25 Tricyclic Terpane (T6)	42.847	191	9328M4	79.749	ng/mL	
96) C24 Tetracyclic Terpane (	44.157	191	2043M4	17.467	ng/mL	
97) C26 Tricyclic Terpane-22S	43.901	191	5406M4	46.218	ng/mL	
98) C26 Tricyclic Terpane-22R	43.991	191	4300	36.763	ng/mL	100
99) C28 Tricyclic Terpane-22S	46.295	191	3257M3	27.846	ng/mL	
100) C28 Tricyclic Terpane-22R	46.461	191	3367	28.786	ng/mL	100
101) C29 Tricyclic Terpane-22S	46.973	191	3311	28.307	ng/mL	100
102) C29 Tricyclic Terpane-22R	47.169	191	3035M4	25.948	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.268	191	5941	50.792	ng/mL	100
104) C30 Tricyclic Terpane-22S	48.389	191	2113	18.065	ng/mL	100
105) C30 Tricyclic Terpane-22R	48.630	191	2556M3	21.852	ng/mL	
106) 17a(H)-22,29,30-Trisnor	48.810	191	2861	24.460	ng/mL	100
109) 30-Norhopane (T15)	50.663	191	4414M4	37.737	ng/mL	
110) 18a(H)-30-Norneohopane-C2	50.753	191	3934M4	33.633	ng/mL	
111) 17a(H)-Diahopane (X)	50.904	191G	4677	39.986	ng/mL	100
115) 30-Homohopane-22S (T21)	53.765	191	3278M4	28.025	ng/mL	
116) 30-Homohopane-22R (T22)	54.006	191	3594M4	30.727	ng/mL	
122) Tetrakishomohopane-22S (T	60.029	191	3180M4	27.187	ng/mL	
123) Tetrakishomohopane-22R (T	60.812	191G	8094	69.199	ng/mL	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291619.D
 Acq On : 30 Mar 2016 10:58 am
 Operator : PAH2:gy
 Sample : 1603006-09
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 14:56:56 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

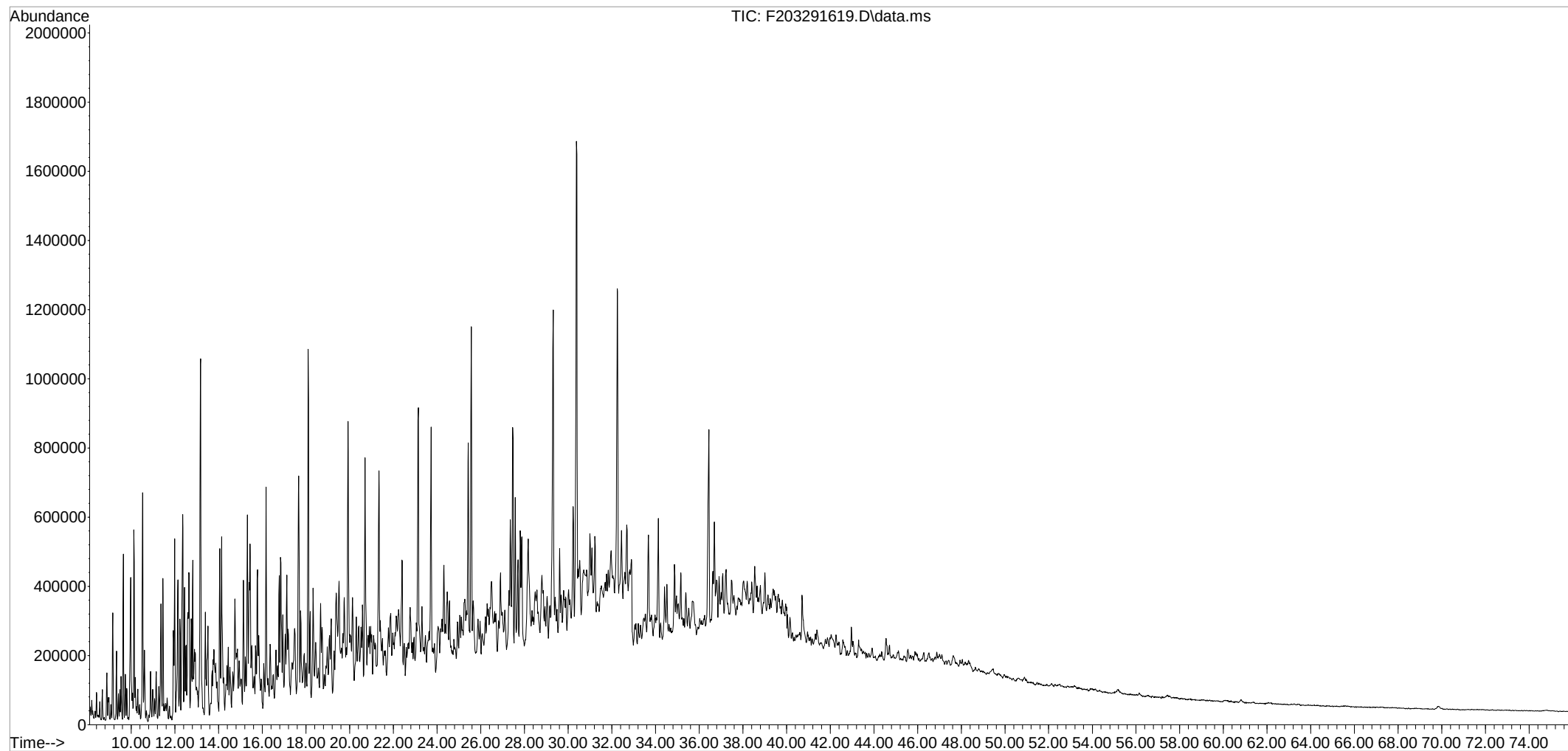
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
127)	13b(H),17a(H)-20S-Diachol	45.121	217	9294	154.066	ng/ml	100
128)	13b(H),17a(H)-20R-Diachol	45.542	217	3918M4	64.948	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.235	217	3817M3	63.274	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.109	217	13288	220.274	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	10207	169.201	ng/ml	100
132)	Unknown Sterane (S18)	47.907	217	4304	71.347	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.313	217	4507M4	74.712	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	1786	29.606	ng/ml	100
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	1977M4	32.773	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	1662M4	27.551	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	2016M4	33.419	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	2443M4	40.497	ng/ml	
140)	14b,17b-20R-Methylcholest	48.494	218	1557	25.810	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	2103M4	34.861	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	4279M3	70.933	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	3134M3	51.952	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	8996M4	149.126	ng/mL	
145)	C28,20S-triaromatic stero	50.181	231	4186M4	69.391	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	4272M4	70.817	ng/mL	
147)	C28,20R-triaromatic stero	51.823	231	2525	41.857	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291619.D
Acq On : 30 Mar 2016 10:58 am
Operator : PAH2:gy
Sample : 1603006-09
Misc : 1x,SS032516,etr:1603006
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 14:56:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-10**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter	Result
cis/trans-Decalin	3850 E
C1-Decalins	5620
C2-Decalins	5060
C3-Decalins	2500
C4-Decalins	2460
Benzothiophene	15.0
C1-Benzo(b)thiophenes	160
C2-Benzo(b)thiophenes	51.8
C3-Benzo(b)thiophenes	89.1
C4-Benzo(b)thiophenes	53.4
Naphthalene	35.2
C1-Naphthalenes	62.2
C2-Naphthalenes	387
C3-Naphthalenes	1230
C4-Naphthalenes	1440
Biphenyl	17.3
Dibenzofuran	55.6
Acenaphthylene	6.50
Acenaphthene	44.5 G
Fluorene	101
C1-Fluorenes	225
C2-Fluorenes	602
C3-Fluorenes	662
Anthracene	15.2 G
Phenanthrene	73.4
C1-Phenanthrenes/Anthracenes	249
C2-Phenanthrenes/Anthracenes	554
C3-Phenanthrenes/Anthracenes	563
C4-Phenanthrenes/Anthracenes	329
Retene	3.20 U
Dibenzothiophene	61.2

Parameter	Result
C1-Dibenzothiophenes	78.1
C2-Dibenzothiophenes	165
C3-Dibenzothiophenes	159
C4-Dibenzothiophenes	96.8
Benzo(b)fluorene	6.14
Fluoranthene	45.7
Pyrene	52.3
C1-Fluoranthenes/Pyrenes	65.5
C2-Fluoranthenes/Pyrenes	84.8
C3-Fluoranthenes/Pyrenes	112
C4-Fluoranthenes/Pyrenes	118
Naphthobenzothiophenes	12.5
C1-Naphthobenzothiophenes	26.3
C2-Naphthobenzothiophenes	38.6
C3-Naphthobenzothiophenes	36.6
C4-Naphthobenzothiophenes	47.1
Benzo[a]anthracene	21.8
Chrysene/Triphenylene	42.7
C1-Chrysenes	74.5
C2-Chrysenes	101
C3-Chrysenes	130
C4-Chrysenes	87.5
Benzo[b]fluoranthene	15.9
Benzo[j]fluoranthene/Benzo[k]fluoranthene	15.8
Benzo[a]fluoranthene	3.76
Benzo[e]pyrene	19.2
Benzo[a]pyrene	19.4
Perylene	5.08
Indeno[1,2,3-cd]pyrene	11.7
Dibenz[ah]anthracene/Dibenz[ac]anthracene	3.39
Benzo[g,h,i]perylene	14.1

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	77	50-130
Phenanthrene-d10	77	50-130
Benzo[a]pyrene-d12	67	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 E - Estimated value, exceeds the upper limit of calibration.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter

Result

Carbazole

5.54

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	77	50-130	
Phenanthrene-d10	77	50-130	
Benzo[a]pyrene-d12	67	50-130	

04/04/16 15:46

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Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-10**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter	Result
4-Methyldibenzothiophene	43.3
2/3-Methyldibenzothiophene	22.2
1-Methyldibenzothiophene	5.00
3-Methylphenanthrene	49.9
2-Methylphenanthrene	51.8
2-Methylantracene	4.36
9/4-Methylphenanthrene	80.0
1-Methylphenanthrene	49.4

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	77	50-130	
Phenanthrene-d10	77	50-130	
Benzo[a]pyrene-d12	67	50-130	

04/04/16 15:46

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Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-10**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter	Result
C23 Tricyclic Terpane	9.00
C24 Tricyclic Terpane	4.59
C25 Tricyclic Terpane	3.20 U
C24 Tetracyclic Terpane	3.20 U
C26 Tricyclic Terpane-22S	3.20 U
C26 Tricyclic Terpane-22R	3.20 U
C28 Tricyclic Terpane-22S	3.20 U
C28 Tricyclic Terpane-22R	3.20 U
C29 Tricyclic Terpane-22S	3.20 U
C29 Tricyclic Terpane-22R	3.20 U
18a-22,29,30-Trisnorhopane-TS	11.7
C30 Tricyclic Terpane-22S	4.14
C30 Tricyclic Terpane-22R	3.20 U
17a(H)-22,29,30-Trisnorhopane-TM	3.20 U
17a/b,21b/a 28,30-Bisnorhopane	3.20 U
17a(H),21b(H)-25-Norhopane	3.20 U
30-Norhopane	3.20 U
18a(H)-30-Norneohopane-C29Ts	3.20 U
17a(H)-Diahopane	10.8 G
30-Normoretane	3.20 U
18a(H)&18b(H)-Oleananes	3.20 U
Hopane	9.54
Moretane	3.20 U
30-Homohopane-22S	3.20 U
30-Homohopane-22R	3.20 U
T22a-Gammacerane/C32-diahopane	3.20 U
30,31-Bishomohopane-22S	35.4 G
30,31-Bishomohopane-22R	3.20 U

Parameter	Result
30,31-Trishomohopane-22S	3.20 U
30,31-Trishomohopane-22R	3.20 U
Tetrakishomohopane-22S	3.20 U
Tetrakishomohopane-22R	23.7 G
Pentakishomohopane-22S	3.20 U
Pentakishomohopane-22R	3.20 U
13b(H),17a(H)-20S-Diacholestane	30.1
13b(H),17a(H)-20R-Diacholestane	14.0
13b,17a-20S-Methyldiacholestane	12.6
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	42.0
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	32.0
Unknown Sterane (S18)	16.1
13a,17b-20S-Ethyldiacholestane	3.20 U
14a,17a-20S-Methylcholestane	12.7
14a,17a-20R-Methylcholestane	3.20 U
14a(H),17a(H)-20S-Ethylcholestane	3.20 U
14a(H),17a(H)-20R-Ethylcholestane	3.20 U
14b(H),17b(H)-20R-Cholestane	5.88
14b(H),17b(H)-20S-Cholestane	7.06
14b,17b-20R-Methylcholestane	3.79
14b,17b-20S-Methylcholestane	7.70 G
14b(H),17b(H)-20R-Ethylcholestane	12.7
14b(H),17b(H)-20S-Ethylcholestane	7.85
C26,20R- +C27,20S- triaromatic steroid	3.20 U
C28,20S-triaromatic steroid	7.73
C27,20R-triaromatic steroid	3.20 U
C28,20R-triaromatic steroid	3.20 U

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	91	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291620.D
 Acq On : 30 Mar 2016 12:25 pm
 Operator : PAH2:gy
 Sample : 1603006-10
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 20 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 14:59:01 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.482	164	98585	500.000	ng/mL	0.02
71) Chrysene-d12	42.967	240	178737	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	36659M3	96.494	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.65%#		
40) Phenanthrene-d10	32.353	188	30259	96.653	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.67%#		
80) Benzo[b]fluoranthene-d12	46.883	264	39176	97.571	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.76%#		
85) Benzo[a]pyrene-d12	48.057	264	29468	83.901	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery =	8.39%#		
126) 5B(H)Cholane - Surr	43.600	217	6675M4	113.646	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	11.36%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.170	138	928366	11303.291	ng/mL	100
3) cis-Decalin	17.374	138	46417M4	722.600	ng/mL	
4) C1-Decalins	17.645	152	1443982M5	17581.157	ng/mL	
5) C2-Decalins	19.436	166	1298961M5	15815.458	ng/mL	
6) C3-Decalins	21.905	180	641733M5	7813.400	ng/mL	
7) C4-Decalins	25.293	194	631435M5	7688.017	ng/mL	
9) Naphthalene	19.602	128	43302M3	110.042	ng/mL	
10) C1-Naphthalenes	22.282	142	76522M5	194.462	ng/mL	
11) C2-Naphthalenes	25.669	156	475696M5	1208.866	ng/mL	
12) C3-Naphthalenes	27.807	170	1514032M5	3847.546	ng/mL	
13) C4-Naphthalenes	30.246	184	1768192M5	4493.432	ng/mL	
14) 2-Methylnaphthalene	22.282	142	29224	110.886	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	32022M3	124.644	ng/mL	
16) Benzo(b)thiophene	19.813	134	14859M3	46.864	ng/mL	
17) C1-Benzo(b)thiophenes	21.860	148	158455M5	499.753	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	51348M5	161.947	ng/mL	
19) C3-Benzo(b)thiophenes	25.850	176	88292M5	278.465	ng/mL	
20) C4-Benzo(b)thiophenes	30.246	190	52924M5	166.918	ng/mL	
21) Biphenyl	24.164	154	17592M4	54.104	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	37061	157.976	ng/mL	100
23) Dibenzofuran	27.250	168	59242M4	173.725	ng/mL	
24) Acenaphthylene	25.880	152	7971M3	20.306	ng/mL	
25) Acenaphthene	26.633	153G	33875M3	139.120	ng/mL	
26) 2,3,5-Trimethylnaphthalene	28.153	170	63172M3	304.998	ng/mL	
27) Fluorene	28.620	166	90136M4	317.166	ng/mL	
28) C1-Fluorenes	30.998	180	199917M5	703.459	ng/mL	
29) C2-Fluorenes	33.196	194	534331M5	1880.179	ng/mL	
30) C3-Fluorenes	35.033	208	588513M5	2070.832	ng/mL	
31) Dibenzothiophene	31.947	184	67672	191.126	ng/mL#	55
32) 4-Methyldibenzothiophene	33.723	198	47916	135.329	ng/mL	100
33) 2/3-Methyldibenzothiophene	34.084	198	24607M3	69.498	ng/mL	
34) 1-Methyldibenzothiophene	34.491	198	5536M4	15.635	ng/mL	
35) OTP	34.114	198	4013M3	11.334	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	90495M5	255.585	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	86482M5	244.251	ng/mL	
37) C2-Dibenzothiophenes	35.424	212	182114M5	514.344	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	175771M5	496.430	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	107094M5	302.465	ng/mL	
41) Phenanthrene	32.443	178	92228	229.549	ng/mL	97
42) 3-Methylphenanthrene(3MP)	34.416	192	62675	155.994	ng/mL	100
43) 2-Methylphenanthrene(2MP)	34.521	192	64994M4	161.765	ng/mL	
44) 2-Methylanthracene(2MA)	34.687	192	5474M3	13.624	ng/mL	
45) 9/4-Methylphenanthrene(9M)	34.867	192	100469	250.060	ng/mL	98
46) 1-Methylphenanthrene(1MP)	34.958	192	62012M4	154.343	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291620.D
 Acq On : 30 Mar 2016 12:25 pm
 Operator : PAH2:gy
 Sample : 1603006-10
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 04 14:59:01 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47)	C1-Phenanthrenes/Anthracene	34.867	192	313135M5	779.371	ng/mL	
48)	C2-Phenanthrenes/Anthracene	36.689	206	695217M5	1730.345	ng/mL	
48)	C2-Phenanthrenes/Anthracene BS	36.689	206	695217M5	1730.345	ng/mL	
50)	C3-Phenanthrenes/Anthracene	38.526	220	706986M5	1759.637	ng/mL	
51)	C4-Phenanthrenes/Anthracene	40.739	234	413637M5	1029.513	ng/mL	
53)	Anthracene	32.639	178G	17360M3	47.609	ng/mL	
54)	Carbazole	33.301	167	6371M3	17.319	ng/mL	
55)	1-Methylphenanthrene	34.958	192	60158M3	211.126	ng/mL	
56)	Fluoranthene	37.231	202	58593M4	142.856	ng/mL	
57)	Benzo(b)fluorene	39.761	216	5123M3	19.188	ng/mL	
58)	Pyrene	38.104	202	73978M4	163.579	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.505	216	92573M5	204.696	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.251	230	119925M5	265.177	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.464	244	157599M5	348.481	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.699	258	167254M5	369.830	ng/mL	
63)	Naphthobenzothiophene	41.974	234	10917M4	27.014	ng/mL	
64)	Naphthobenzothiophene-2,1	41.974	234	10917M4	27.014	ng/mL	
65)	Naphthobenzothiophene-1,2	42.320	234	1763M3	4.363	ng/mL	
66)	Naphthobenzothiophene-2,3	42.621	234	3045M4	7.535	ng/mL	
67)	C1-Naphthobenzothiophenes	43.374	248	33168M5	82.074	ng/mL	
68)	C2-Naphthobenzothiophenes	45.392	262	48809M5	120.778	ng/mL	
69)	C3-Naphthobenzothiophenes	46.672	276	46265M5	114.483	ng/mL	
70)	C4-Naphthobenzothiophenes	48.072	290	59487M5	147.201	ng/mL	
72)	Benz[a]anthracene	42.907	228	29310	68.265	ng/mL	96
74)	Chrysene/Triphenylene	43.058	228	57484M4	133.425	ng/mL	
75)	C1-Chrysenes	44.548	242	100301M5	232.806	ng/mL	
76)	C2-Chrysenes	45.994	256	137794M5	319.830	ng/mL	
76)	C2-Chrysenes BS	45.994	256	136287M5	316.332	ng/mL	
77)	BBF-D12 Surr BKGD	46.883	256	1507	3.498	ng/mL	100
78)	C3-Chrysenes	47.304	270	175348M5	406.996	ng/mL	
79)	C4-Chrysenes	49.413	284	117888M5	273.627	ng/mL	
81)	Benzo[b]fluoranthene	46.958	252	23798M6	49.764	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.033	252	23716M3	49.263	ng/mL	
83)	Benzo[a]fluoranthene	47.334	252	5653M3	11.742	ng/mL	
84)	Benzo[e]pyrene	47.952	252	27949	59.861	ng/mL	87
86)	Benzo[a]pyrene	48.133	252	28471	60.637	ng/mL#	80
87)	Perylene	48.449	252	7419M3	15.887	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.877	276	19184M4	36.464	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.937	278	5563M4	10.602	ng/mL	
90)	Benzo[g,h,i]perylene	54.156	276	24760	44.175	ng/mL	96
91)	Hopane (T19)	52.003	191	3396	29.820	ng/mL#	67
93)	C23 Tricyclic Terpane (T4	40.619	191	3203M4	28.125	ng/mL	
94)	C24 Tricyclic Terpane (T5	41.341	191	1633M3	14.339	ng/mL	
103)	18a-22,29,30-Trisnorheohopane	48.268	191	4176	36.669	ng/mL	100
104)	C30 Tricyclic Terpane-22S	48.389	191	1472M4	12.925	ng/mL	
111)	17a(H)-Diahopane (X)	50.889	191G	3837M4	33.692	ng/mL	
118)	30,31-Bishomohopane-22S (	55.271	191G	12606	110.691	ng/mL	100
123)	Tetrakishomohopane-22R (T	60.812	191G	8434M4	74.058	ng/mL	
127)	13b(H),17a(H)-20S-Diachol	45.121	217	5518M4	93.947	ng/mL	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	2572	43.790	ng/mL	100
129)	13b,17a-20S-Methyl diachol	46.250	217	2312M3	39.363	ng/mL	
130)	14a,17a-20S-Chol/13b,17a-	47.124	217	7716M4	131.370	ng/mL	
131)	14a,17a-20R-Chol/13b,17a-	47.620	217	5868	99.906	ng/mL	100
132)	Unknown Sterane (S18)	47.907	217	2948	50.192	ng/mL	100
134)	14a,17a-20S-Methylcholest	48.328	217	2331M4	39.687	ng/mL	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	1079M4	18.371	ng/mL	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	1297M4	22.082	ng/mL	
140)	14b,17b-20R-Methylcholest	48.494	218	695M4	11.833	ng/mL	
141)	14b,17b-20S-Methylcholest	48.599	218G	1413M4	24.057	ng/mL	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	2326M3	39.602	ng/mL	
143)	14b(H),17b(H)-20S-Ethylch	49.669	218	1442M3	24.551	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291620.D
Acq On : 30 Mar 2016 12:25 pm
Operator : PAH2:gy
Sample : 1603006-10
Misc : 1x,SS032516,etr:1603006
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 04 14:59:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

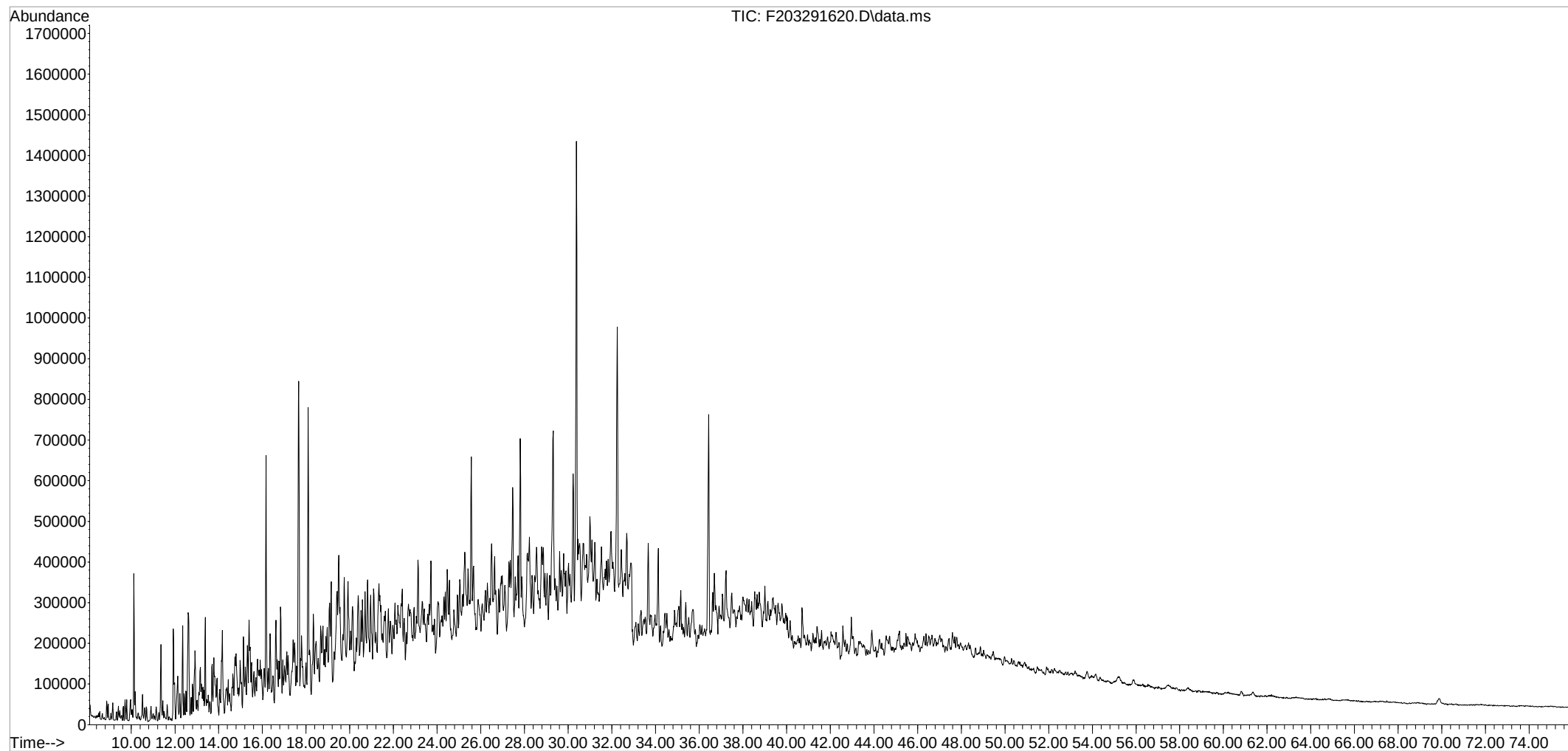
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
145) C28,20S-triaromatic stero	50.196	231	1420M4	24.176	ng/mL	

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291620.D
Acq On : 30 Mar 2016 12:25 pm
Operator : PAH2:gy
Sample : 1603006-10
Misc : 1x,SS032516,etr:1603006
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 04 14:59:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-10E**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	04/01/16	81.4	30.72	8	2	GY

Parameter	Result
cis/trans-Decalin	3200
C1-Decalins	6.40 U
C2-Decalins	6.40 U
C3-Decalins	6.40 U
C4-Decalins	6.40 U
Benzo(b)thiophene	6.40 U
C1-Benzo(b)thiophenes	6.40 U
C2-Benzo(b)thiophenes	6.40 U
C3-Benzo(b)thiophenes	6.40 U
C4-Benzo(b)thiophenes	6.40 U
Naphthalene	6.40 U
C1-Naphthalenes	6.40 U
C2-Naphthalenes	6.40 U
C3-Naphthalenes	6.40 U
C4-Naphthalenes	6.40 U
Biphenyl	6.40 U
Dibenzofuran	6.40 U
Acenaphthylene	6.40 U
Acenaphthene	6.40 U
Fluorene	6.40 U
C1-Fluorenes	6.40 U
C2-Fluorenes	6.40 U
C3-Fluorenes	6.40 U
Anthracene	6.40 U
Phenanthrene	6.40 U
C1-Phenanthrenes/Anthracenes	6.40 U
C2-Phenanthrenes/Anthracenes	6.40 U
C3-Phenanthrenes/Anthracenes	6.40 U
C4-Phenanthrenes/Anthracenes	6.40 U
Retene	6.40 U
Dibenzothiophene	6.40 U

Parameter	Result
C1-Dibenzothiophenes	6.40 U
C2-Dibenzothiophenes	6.40 U
C3-Dibenzothiophenes	6.40 U
C4-Dibenzothiophenes	6.40 U
Benzo(b)fluorene	6.40 U
Fluoranthene	6.40 U
Pyrene	6.40 U
C1-Fluoranthenes/Pyrenes	6.40 U
C2-Fluoranthenes/Pyrenes	6.40 U
C3-Fluoranthenes/Pyrenes	6.40 U
C4-Fluoranthenes/Pyrenes	6.40 U
Naphthobenzothiophenes	6.40 U
C1-Naphthobenzothiophenes	6.40 U
C2-Naphthobenzothiophenes	6.40 U
C3-Naphthobenzothiophenes	6.40 U
C4-Naphthobenzothiophenes	6.40 U
Benz[a]anthracene	6.40 U
Chrysene/Triphenylene	6.40 U
C1-Chrysenes	6.40 U
C2-Chrysenes	6.40 U
C3-Chrysenes	6.40 U
C4-Chrysenes	6.40 U
Benzo[b]fluoranthene	6.40 U
Benzo[j]fluoranthene/Benzo[k]fluoranthene	6.40 U
Benzo[a]fluoranthene	6.40 U
Benzo[e]pyrene	6.40 U
Benzo[a]pyrene	6.40 U
Perylene	6.40 U
Indeno[1,2,3-cd]pyrene	6.40 U
Dibenz[ah]anthracene/Dibenz[ac]anthracene	6.40 U
Benzo[g,h,i]perylene	6.40 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	55	50-130
Phenanthrene-d10	74	50-130
Benzo[a]pyrene-d12	71	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291636.D
 Acq On : 1 Apr 2016 12:14 am
 Operator : PAH2:gy
 Sample : 1603006-10-RE
 Misc : 2X
 ALS Vial : 36 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 13:39:09 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

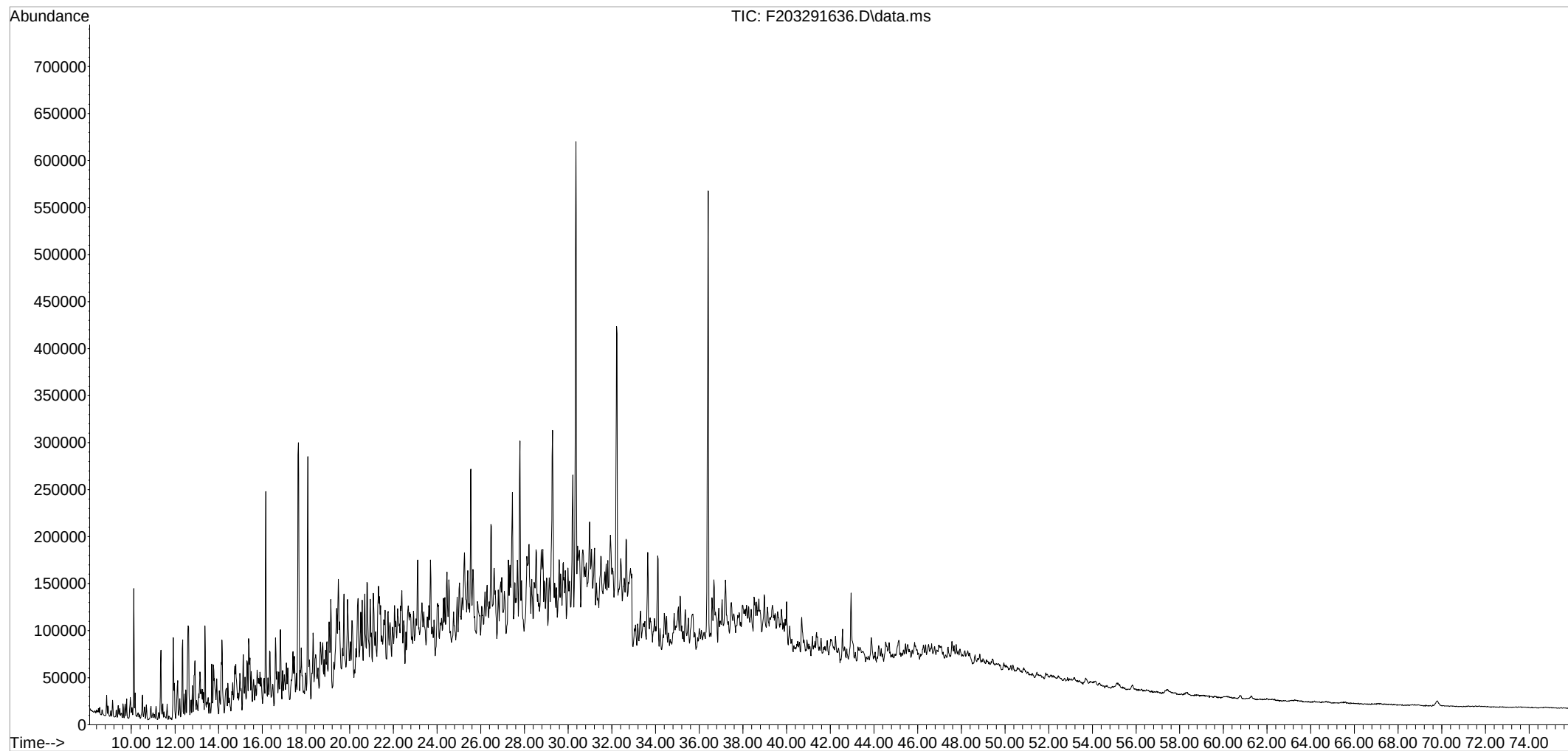
Internal Standards						
1) Acenaphthene-d10	26.467	164	87943	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	154715	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	11628M4	34.311	ng/mL	0.00
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	3.43%#	
40) Phenanthrene-d10	32.338	188	12965	46.424	ng/mL	0.02
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.64%#	
80) Benzo[b]fluoranthene-d12	46.867	264	15814	45.501	ng/mL	0.06
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.55%#	
85) Benzo[a]pyrene-d12	48.042	264	13402	44.082	ng/mL	0.08
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.41%#	
126) 5B(H)Cholane - Surr	43.570	217	2372M3	46.655	ng/mL	0.03
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.67%#	
Target Compounds						
2) trans-Decalin	16.154	138	340977	4653.935	ng/mL	100
3) cis-Decalin	17.374	138	20200	352.518	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291636.D
Acq On : 1 Apr 2016 12:14 am
Operator : PAH2:gy
Sample : 1603006-10-RE
Misc : 2X
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Apr 04 13:39:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8A**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-11**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter	Result
cis/trans-Decalin	106
C1-Decalins	126
C2-Decalins	136
C3-Decalins	70.1
C4-Decalins	101
Benzo(b)fluorene	3.12
C1-Benzo(b)thiophenes	19.7
C2-Benzo(b)thiophenes	16.6
C3-Benzo(b)thiophenes	23.0
C4-Benzo(b)thiophenes	12.8
Naphthalene	329
C1-Naphthalenes	713
C2-Naphthalenes	981
C3-Naphthalenes	824
C4-Naphthalenes	518
Biphenyl	58.3
Dibenzofuran	159
Acenaphthylene	7.98
Acenaphthene	23.5
Fluorene	21.9
C1-Fluorenes	51.4
C2-Fluorenes	275
C3-Fluorenes	325
Anthracene	38.9
Phenanthrene	659
C1-Phenanthrenes/Anthracenes	924
C2-Phenanthrenes/Anthracenes	828
C3-Phenanthrenes/Anthracenes	445
C4-Phenanthrenes/Anthracenes	204
Retene	0.977 U
Dibenzothiophene	37.9

Parameter	Result
C1-Dibenzothiophenes	98.8
C2-Dibenzothiophenes	90.8
C3-Dibenzothiophenes	48.3
C4-Dibenzothiophenes	21.5
Benzo(b)fluorene	29.0
Fluoranthene	263
Pyrene	245
C1-Fluoranthenes/Pyrenes	325
C2-Fluoranthenes/Pyrenes	502
C3-Fluoranthenes/Pyrenes	476
C4-Fluoranthenes/Pyrenes	294
Naphthobenzothiophenes	119
C1-Naphthobenzothiophenes	153
C2-Naphthobenzothiophenes	99.9
C3-Naphthobenzothiophenes	42.0
C4-Naphthobenzothiophenes	23.8
Benzo[a]anthracene	163
Chrysene/Triphenylene	276
C1-Chrysenes	347
C2-Chrysenes	320
C3-Chrysenes	313
C4-Chrysenes	187
Benzo[b]fluoranthene	128
Benzo[j]fluoranthene/Benzo[k]fluoranthene	102
Benzo[a]fluoranthene	17.1
Benzo[e]pyrene	119
Benzo[a]pyrene	116
Perylene	24.2
Indeno[1,2,3-cd]pyrene	67.8
Dibenz[ah]anthracene/Dibenz[ac]anthracene	27.0
Benzo[g,h,i]perylene	73.2

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	68	50-130
Phenanthrene-d10	75	50-130
Benzo[a]pyrene-d12	75	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter

Result

Carbazole

24.4

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	68	50-130	
Phenanthrene-d10	75	50-130	
Benzo[a]pyrene-d12	75	50-130	

04/04/16 15:46

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Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8A**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-11**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	30.2
2/3-Methyldibenzothiophene	35.6
1-Methyldibenzothiophene	12.4
3-Methylphenanthrene	176
2-Methylphenanthrene	295
2-Methylantracene	22.8
9/4-Methylphenanthrene	240
1-Methylphenanthrene	185

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	68	50-130	
Phenanthrene-d10	75	50-130	
Benzo[a]pyrene-d12	75	50-130	

04/04/16 15:46

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Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8A**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-11**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	2.63	30,31-Trishomohopane-22S	8.87
C24 Tricyclic Terpane	1.42	30,31-Trishomohopane-22R	6.98
C25 Tricyclic Terpane	5.62	Tetrakishomohopane-22S	7.80
C24 Tetracyclic Terpane	6.62	Tetrakishomohopane-22R	4.68
C26 Tricyclic Terpane-22S	3.84	Pentakishomohopane-22S	2.18
C26 Tricyclic Terpane-22R	1.87	Pentakishomohopane-22R	1.58
C28 Tricyclic Terpane-22S	0.437 J	13b(H),17a(H)-20S-Diacholestane	3.88
C28 Tricyclic Terpane-22R	1.56	13b(H),17a(H)-20R-Diacholestane	1.64
C29 Tricyclic Terpane-22S	1.50	13b,17a-20S-Methyldiacholestane	4.00
C29 Tricyclic Terpane-22R	0.835 J	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	8.75
18a-22,29,30-Trisnorhopane-TS	3.69	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	8.48
C30 Tricyclic Terpane-22S	0.596 J	Unknown Sterane (S18)	2.74
C30 Tricyclic Terpane-22R	0.977 U	13a,17b-20S-Ethyldiacholestane	0.977 U
17a(H)-22,29,30-Trisnorhopane-TM	24.5	14a,17a-20S-Methylcholestane	5.38
17a/b,21b/a 28,30-Bisnorhopane	0.977 U	14a,17a-20R-Methylcholestane	5.61
17a(H),21b(H)-25-Norhopane	0.977 U	14a(H),17a(H)-20S-Ethylcholestane	7.26
30-Norhopane	46.9	14a(H),17a(H)-20R-Ethylcholestane	4.78
18a(H)-30-Norneohopane-C29Ts	4.23	14b(H),17b(H)-20R-Cholestane	1.45
17a(H)-Diahopane	9.11 G	14b(H),17b(H)-20S-Cholestane	1.60
30-Normoretane	6.13	14b,17b-20R-Methylcholestane	4.71
18a(H)&18b(H)-Oleananes	1.52	14b,17b-20S-Methylcholestane	5.87
Hopane	83.2	14b(H),17b(H)-20R-Ethylcholestane	8.83
Moretane	13.1	14b(H),17b(H)-20S-Ethylcholestane	5.59
30-Homohopane-22S	31.6	C26,20R- +C27,20S- triaromatic steroid	7.36
30-Homohopane-22R	21.9	C28,20S-triaromatic steroid	9.38
T22a-Gammacerane/C32-diahopane	3.68	C27,20R-triaromatic steroid	7.23
30,31-Bishomohopane-22S	25.0	C28,20R-triaromatic steroid	6.32
30,31-Bishomohopane-22R	15.6		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	95	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291621.D
 Acq On : 30 Mar 2016 1:52 pm
 Operator : PAH2:gy
 Sample : 1603006-11
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 21 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 14:59:36 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	120401M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	185159	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	157112	338.618	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	33.86%#		
40) Phenanthrene-d10	32.353	188	142914	373.779	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	37.38%#		
80) Benzo[b]fluoranthene-d12	46.883	264	167432	402.538	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	40.25%#		
85) Benzo[a]pyrene-d12	48.042	264	135668	372.873	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	37.29%#		
126) 5B(H)Cholane - Surr	43.600	217	29030	477.111	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.71%#		
Target Compounds						
2) trans-Decalin	16.170	138	102675	1023.602	ng/mL	Qvalue 100
3) cis-Decalin	17.374	138	4491M3	57.246	ng/mL	
4) C1-Decalins	17.645	152	129190M5	1287.939	ng/mL	
5) C2-Decalins	19.963	166	139478M5	1390.504	ng/mL	
6) C3-Decalins	21.123	180	71933M5	717.125	ng/mL	
7) C4-Decalins	25.278	194	104095M5	1037.758	ng/mL	
9) Naphthalene	19.587	128	1617172	3365.005	ng/mL	100
10) C1-Naphthalenes	22.703	142	3505805M5	7294.865	ng/mL	
11) C2-Naphthalenes	25.127	156	4824805M5	10039.435	ng/mL	
12) C3-Naphthalenes	28.680	170	4050097M5	8427.426	ng/mL	
13) C4-Naphthalenes	31.480	184	2549167M5	5304.297	ng/mL	
14) 2-Methylnaphthalene	22.282	142	1770058	5499.261	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	1762562	5617.542	ng/mL	100
16) Benzo(b)thiophene	19.798	134	12363M4	31.927	ng/mL	
17) C1-Benzo(b)thiophenes	22.673	148	78142M5	201.797	ng/mL	
18) C2-Benzo(b)thiophenes	24.435	162	65574M5	169.341	ng/mL	
19) C3-Benzo(b)thiophenes	27.295	176	91192M5	235.498	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	50772M5	131.116	ng/mL	
21) Biphenyl	24.164	154	237007	596.834	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	874048	3050.631	ng/mL	100
23) Dibenzofuran	27.235	168	675820	1622.721	ng/mL	95
24) Acenaphthylene	25.865	152	39151M4	81.667	ng/mL	
25) Acenaphthene	26.602	153	71511M4	240.471	ng/mL	
26) 2,3,5-Trimethylnaphthalene	28.153	170	329704M3	1303.397	ng/mL	
27) Fluorene	28.620	166	77655M4	223.738	ng/mL	
28) C1-Fluorenes	30.983	180	182711M5	526.422	ng/mL	
29) C2-Fluorenes	33.151	194	976910M5	2814.648	ng/mL	
30) C3-Fluorenes	35.695	208	1153254M5	3322.726	ng/mL	
31) Dibenzothiophene	31.947	184	167587M4	387.554	ng/mL	
32) 4-Methyldibenzothiophene	33.723	198	133467M3	308.649	ng/mL	
33) 2/3-Methyldibenzothiophene	34.069	198	157694M3	364.675	ng/mL	
34) 1-Methyldibenzothiophene	34.491	198	54773	126.665	ng/mL	100
35) OTP	34.130	198	16603M3	38.395	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	453949M5	1049.780	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	437346M5	1011.385	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	401633M5	928.797	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	213681M5	494.148	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	95076M5	219.868	ng/mL	
41) Phenanthrene	32.443	178	3311206	6748.066	ng/mL	100
42) 3-Methylphenanthrene(3MP)	34.401	192	881692	1796.842	ng/mL	97
43) 2-Methylphenanthrene(2MP)	34.521	192	1480021	3016.206	ng/mL	96
44) 2-Methylanthracene(2MA)	34.672	192	114267	232.870	ng/mL#	36
45) 9/4-Methylphenanthrene(9M)	34.867	192	1205880	2457.521	ng/mL	97
46) 1-Methylphenanthrene(1MP)	34.943	192	930470	1896.249	ng/mL	97

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291621.D
 Acq On : 30 Mar 2016 1:52 pm
 Operator : PAH2:gy
 Sample : 1603006-11
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 04 14:59:36 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) C1-Phenanthrenes/Anthracene	34.521	192	4639537M5	9455.135	ng/mL	
48) C2-Phenanthrenes/Anthracene	36.689	206	4156529M5	8470.790	ng/mL	
48) C2-Phenanthrenes/Anthracene BS	36.689	206	4156529M5	8470.790	ng/mL	
50) C3-Phenanthrenes/Anthracene	38.526	220	2234897M5	4554.604	ng/mL	
51) C4-Phenanthrenes/Anthracene	40.348	234	1022700M5	2084.209	ng/mL	
53) Anthracene	32.609	178	177437M4	398.438	ng/mL	
54) Carbazole	33.287	167	112021	249.343	ng/mL#	86
55) 1-Methylphenanthrene	34.943	192	930519	2673.960	ng/mL	98
56) Fluoranthene	37.216	202	1347436	2689.935	ng/mL	100
57) Benzo(b)fluorene	39.746	216	96663M3	296.447	ng/mL	
58) Pyrene	38.104	202	1387181	2511.535	ng/mL	92
59) C1-Fluoranthenes/Pyrenes	39.505	216	1837134M5	3326.190	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.552	230	2839205M5	5140.471	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.449	244	2689918M5	4870.182	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.925	258	1661011M5	3007.313	ng/mL	
63) Naphthobenzothiophene	41.974	234	440337M4	892.183	ng/mL	
64) Naphthobenzothiophene-2,1	41.974	234	440337M4	892.183	ng/mL	
65) Naphthobenzothiophene-1,2	42.305	234	76847M3	155.702	ng/mL	
66) Naphthobenzothiophene-2,3	42.606	234	85241M4	172.710	ng/mL	
67) C1-Naphthobenzothiophenes	43.645	248	774590M5	1569.425	ng/mL	
68) C2-Naphthobenzothiophenes	45.241	262	504741M5	1022.674	ng/mL	
69) C3-Naphthobenzothiophenes	47.003	276	211876M5	429.290	ng/mL	
70) C4-Naphthobenzothiophenes	48.087	290	120408M5	243.963	ng/mL	
72) Benz[a]anthracene	42.907	228	743568M4	1671.754	ng/mL	
74) Chrysene/Triphenylene	43.058	228	1261075	2825.527	ng/mL	99
75) C1-Chrysenes	44.548	242	1586975M5	3555.729	ng/mL	
76) C2-Chrysenes	46.265	256	1479160M5	3314.162	ng/mL	
76) C2-Chrysenes BS	46.265	256	1463153M5	3278.297	ng/mL	
77) BBF-D12 Surr BKGD	46.868	256	16007	35.865	ng/mL	100
78) C3-Chrysenes	49.307	270	1430605M5	3205.371	ng/mL	
79) C4-Chrysenes	49.307	284	853656M5	1912.676	ng/mL	
81) Benzo[b]fluoranthene	46.958	252	648198M6	1308.430	ng/mL	
82) Benzo[j]+[k]fluoranthene	47.033	252	521714M6	1046.124	ng/mL	
83) Benzo[a]fluoranthene	47.334	252	87310M3	175.071	ng/mL	
84) Benzo[e]pyrene	47.952	252	587016	1213.664	ng/mL	99
86) Benzo[a]pyrene	48.133	252	578037	1188.394	ng/mL	100
87) Perylene	48.434	252	119881	247.816	ng/mL	91
88) Indeno[1,2,3-cd]pyrene	52.877	276	378008M4	693.575	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.922	278	150292M3	276.491	ng/mL	
90) Benzo[g,h,i]perylene	54.157	276	435049	749.268	ng/mL	98
91) Hopane (T19)	52.003	191	100493	851.809	ng/mL	96
93) C23 Tricyclic Terpane (T4)	40.604	191	3178	26.938	ng/mL	100
94) C24 Tricyclic Terpane (T5)	41.342	191	1712M4	14.511	ng/mL	
95) C25 Tricyclic Terpane (T6)	42.817	191	6788M4	57.537	ng/mL	
96) C24 Tetracyclic Terpane (	44.142	191	7988	67.709	ng/mL	100
97) C26 Tricyclic Terpane-22S	43.901	191	4634M4	39.279	ng/mL	
98) C26 Tricyclic Terpane-22R	43.961	191	2261	19.165	ng/mL	100
99) C28 Tricyclic Terpane-22S	46.295	191	528M3	4.475	ng/mL	
100) C28 Tricyclic Terpane-22R	46.446	191	1882M4	15.952	ng/mL	
101) C29 Tricyclic Terpane-22S	46.973	191	1810	15.342	ng/mL	100
102) C29 Tricyclic Terpane-22R	47.169	191	1008M3	8.544	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.253	191	4455M4	37.762	ng/mL	
104) C30 Tricyclic Terpane-22S	48.374	191	720	6.103	ng/mL	100
106) 17a(H)-22,29,30-Trisnor	48.810	191	29580M4	250.729	ng/mL	
109) 30-Norhopane (T15)	50.648	191	56594	479.708	ng/mL	100
110) 18a(H)-30-Norneohopane-C2	50.753	191	5108M4	43.297	ng/mL	
111) 17a(H)-Diahopane (X)	50.889	191G	11002	93.256	ng/mL	100
112) 30-Normoretane (T17)	51.431	191	7401	62.733	ng/mL	100
113) 18a(H)&18b(H)-Oleananes (	51.822	191	1837M4	15.571	ng/mL	
114) Moretane (T20)	52.696	191	15803M3	133.951	ng/mL	
115) 30-Homohopane-22S (T21)	53.765	191	38148	323.354	ng/mL	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291621.D
 Acq On : 30 Mar 2016 1:52 pm
 Operator : PAH2:gy
 Sample : 1603006-11
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 04 14:59:36 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

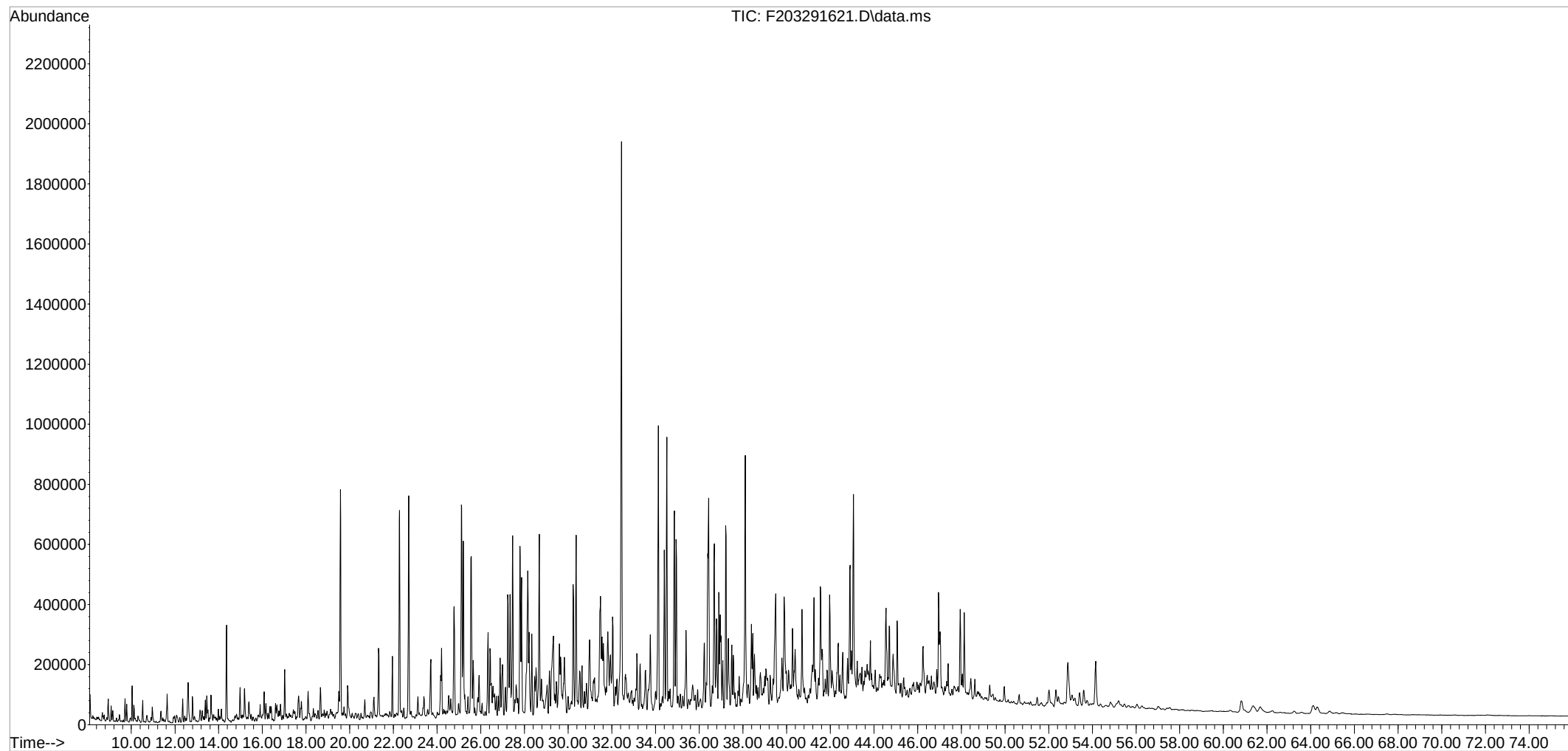
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116)	30-Homohopane-22R (T22)	54.006	191	26420	223.944	ng/ml	100
117)	Gammacerane/C32-diahopane	54.533	191	4446	37.686	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.316	191	30193	255.925	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.677	191	18820	159.524	ng/ml	100
120)	30,31-Trishomohopane-22S	57.409	191	10706M4	90.747	ng/ml	
121)	30,31-Trishomohopane-22R	58.027	191	8425M4	71.413	ng/ml	
122)	Tetrakishomohopane-22S (T	60.029	191	9417M4	79.821	ng/ml	
123)	Tetrakishomohopane-22R (T	60.903	191	5646M4	47.857	ng/ml	
124)	Pentakishomohopane-22S (T	63.131	191	2633M3	22.318	ng/ml	
125)	Pentakishomohopane-22R (T	64.396	191	1914M3	16.224	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.106	217	2414M4	39.674	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	1024	16.830	ng/ml	100
129)	13b,17a-20S-Methylcholest	46.235	217	2491M4	40.940	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.109	217	5447	89.522	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	5278	86.745	ng/ml	100
132)	Unknown Sterane (S18)	47.892	217	1708	28.071	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.328	217	3347M4	55.008	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	3493	57.408	ng/ml	100
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	4522M4	74.320	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	2976M3	48.911	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.184	218	901	14.808	ng/ml	100
139)	14b(H),17b(H)-20S-Cholest	47.274	218	998M4	16.402	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	2932M4	48.188	ng/ml	
141)	14b,17b-20S-Methylcholest	48.569	218	3657M4	60.103	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	5500M3	90.393	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	3480M3	57.194	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	4584M4	75.339	ng/mL	
145)	C28,20S-triaromatic stero	50.181	231	5842M4	96.014	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	4502	73.991	ng/mL	100
147)	C28,20R-triaromatic stero	51.807	231	3935	64.672	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291621.D
Acq On : 30 Mar 2016 1:52 pm
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Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8B**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-12**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	74.3	C1-Dibenzothiophenes	206
C1-Decalins	72.8	C2-Dibenzothiophenes	154
C2-Decalins	81.0	C3-Dibenzothiophenes	85.8
C3-Decalins	49.2	C4-Dibenzothiophenes	30.9
C4-Decalins	70.6	Benzo(b)fluorene	89.4
Benzothiophene	16.8	Fluoranthene	3160 E
C1-Benzo(b)thiophenes	24.2	Pyrene	2510 E
C2-Benzo(b)thiophenes	24.9	C1-Fluoranthenes/Pyrenes	1180
C3-Benzo(b)thiophenes	24.6	C2-Fluoranthenes/Pyrenes	1270
C4-Benzo(b)thiophenes	13.8	C3-Fluoranthenes/Pyrenes	765
Naphthalene	920	C4-Fluoranthenes/Pyrenes	458
C1-Naphthalenes	1100	Naphthobenzothiophenes	343
C2-Naphthalenes	1340	C1-Naphthobenzothiophenes	252
C3-Naphthalenes	1010	C2-Naphthobenzothiophenes	144
C4-Naphthalenes	546	C3-Naphthobenzothiophenes	71.5
Biphenyl	150	C4-Naphthobenzothiophenes	30.4
Dibenzofuran	542	Benzo[a]anthracene	1510
Acenaphthylene	130	Chrysene/Triphenylene	1600
Acenaphthene	416	C1-Chrysenes	961
Fluorene	448	C2-Chrysenes	632
C1-Fluorenes	166	C3-Chrysenes	519
C2-Fluorenes	342	C4-Chrysenes	294
C3-Fluorenes	604 G	Benzo[b]fluoranthene	1320
Anthracene	693	Benzo[j]fluoranthene/Benzo[k]fluoranthene	962
Phenanthrene	4090 E	Benzo[a]fluoranthene	208
C1-Phenanthrenes/Anthracenes	1960	Benzo[e]pyrene	885
C2-Phenanthrenes/Anthracenes	1230	Benzo[a]pyrene	1200
C3-Phenanthrenes/Anthracenes	596	Perylene	298
C4-Phenanthrenes/Anthracenes	238	Indeno[1,2,3-cd]pyrene	784
Retene	0.834 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	255
Dibenzothiophene	287	Benzo[g,h,i]perylene	690

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	73	50-130
Phenanthrene-d10	76	50-130
Benzo[a]pyrene-d12	81	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 E - Estimated value, exceeds the upper limit of calibration.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A**
Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter

Result

Carbazole

502

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	73	50-130	
Phenanthrene-d10	76	50-130	
Benzo[a]pyrene-d12	81	50-130	

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8B**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-12**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	72.3
2/3-Methyldibenzothiophene	78.2
1-Methyldibenzothiophene	22.8
3-Methylphenanthrene	469
2-Methylphenanthrene	596
2-Methylantracene	116
9/4-Methylphenanthrene	434
1-Methylphenanthrene	331

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Naphthalene-d8	73	50-130	
Phenanthrene-d10	76	50-130	
Benzo[a]pyrene-d12	81	50-130	

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8B**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-12**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	4.83	30,31-Trishomohopane-22S	7.99
C24 Tricyclic Terpane	2.76	30,31-Trishomohopane-22R	5.68
C25 Tricyclic Terpane	7.16	Tetrakishomohopane-22S	7.35
C24 Tetracyclic Terpane	7.25	Tetrakishomohopane-22R	3.64
C26 Tricyclic Terpane-22S	9.83	Pentakishomohopane-22S	2.34
C26 Tricyclic Terpane-22R	3.12	Pentakishomohopane-22R	1.74
C28 Tricyclic Terpane-22S	1.04	13b(H),17a(H)-20S-Diacholestane	10.7
C28 Tricyclic Terpane-22R	2.73	13b(H),17a(H)-20R-Diacholestane	2.57
C29 Tricyclic Terpane-22S	3.02	13b,17a-20S-Methyldiacholestane	5.30
C29 Tricyclic Terpane-22R	1.92	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	13.6
18a-22,29,30-Trisnorhopane-TS	6.48	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	12.8
C30 Tricyclic Terpane-22S	1.64	Unknown Sterane (S18)	3.94
C30 Tricyclic Terpane-22R	3.74	13a,17b-20S-Ethyldiacholestane	1.02
17a(H)-22,29,30-Trisnorhopane-TM	19.2	14a,17a-20S-Methylcholestane	7.62
17a/b,21b/a 28,30-Bisnorhopane	1.99	14a,17a-20R-Methylcholestane	5.77
17a(H),21b(H)-25-Norhopane	0.834 U	14a(H),17a(H)-20S-Ethylcholestane	8.28
30-Norhopane	38.1	14a(H),17a(H)-20R-Ethylcholestane	7.45
18a(H)-30-Norneohopane-C29Ts	5.18	14b(H),17b(H)-20R-Cholestane	4.11
17a(H)-Diahopane	8.96 G	14b(H),17b(H)-20S-Cholestane	3.42
30-Normoretane	5.36	14b,17b-20R-Methylcholestane	6.72
18a(H)&18b(H)-Oleananes	2.11	14b,17b-20S-Methylcholestane	10.0
Hopane	63.6	14b(H),17b(H)-20R-Ethylcholestane	14.6
Moretane	8.74	14b(H),17b(H)-20S-Ethylcholestane	9.24
30-Homohopane-22S	25.2	C26,20R- +C27,20S- triaromatic steroid	6.77
30-Homohopane-22R	18.2	C28,20S-triaromatic steroid	8.63
T22a-Gammacerane/C32-diahopane	3.05	C27,20R-triaromatic steroid	4.84
30,31-Bishomohopane-22S	19.1	C28,20R-triaromatic steroid	5.58
30,31-Bishomohopane-22R	11.6		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	110	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable
 G - Matrix Interference

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291622.D
 Acq On : 30 Mar 2016 3:19 pm
 Operator : PAH2:gy
 Sample : 1603006-12
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 22 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 15:00:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.467	164	119477	500.000	ng/mL	0.00
71) Chrysene-d12	42.983	240	179631	500.000	ng/mL	0.06
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	167728	364.294	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	36.43%#		
40) Phenanthrene-d10	32.353	188	144377	380.525	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	38.05%#		
80) Benzo[b]fluoranthene-d12	46.898	264	174819	433.232	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.32%#		
85) Benzo[a]pyrene-d12	48.072	264	142102	402.576	ng/mL	0.11
Spiked Amount 1000.000	Range 50 - 130		Recovery =	40.26%#		
126) 5B(H)Cholane - Surr	43.600	217	32383	548.597	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	54.86%		

Target Compounds					Qvalue
2) trans-Decalin	16.155	138	83801	841.902	ng/mL 100
3) cis-Decalin	17.374	138	3839M3	49.313	ng/mL
4) C1-Decalins	17.645	152	86963M5	873.669	ng/mL
5) C2-Decalins	19.963	166	96729M5	971.782	ng/mL
6) C3-Decalins	21.123	180	58757M5	590.299	ng/mL
7) C4-Decalins	25.278	194	84265M5	846.563	ng/mL
9) Naphthalene	19.587	128	5264056	11038.138	ng/mL 100
10) C1-Naphthalenes	22.282	142	6310707M5	13232.848	ng/mL
11) C2-Naphthalenes	25.127	156	7682660M5	16109.680	ng/mL
12) C3-Naphthalenes	27.461	170	5774997M5	12109.524	ng/mL
13) C4-Naphthalenes	31.480	184	3125752M5	6554.353	ng/mL
14) 2-Methylnaphthalene	22.282	142	3229408	10110.800	ng/mL 100
15) 1-Methylnaphthalene	22.703	142	3097849	9949.654	ng/mL 100
16) Benzothiophene	19.798	134	77240M3	201.010	ng/mL
17) C1-Benzo(b)thiophenes	22.673	148	111594M5	290.413	ng/mL
18) C2-Benzo(b)thiophenes	24.826	162	114755M5	298.640	ng/mL
19) C3-Benzo(b)thiophenes	27.295	176	113202M5	294.598	ng/mL
20) C4-Benzo(b)thiophenes	29.403	190	63605M5	165.526	ng/mL
21) Biphenyl	24.164	154	708077	1796.879	ng/mL 100
22) 2,6-Dimethylnaphthalene	24.781	156	1568947	5518.340	ng/mL 100
23) Dibenzofuran	27.250	168	2688723	6505.861	ng/mL 96
24) Acenaphthylene	25.865	152	742406M4	1560.590	ng/mL
25) Acenaphthene	26.602	153	1472449	4989.726	ng/mL 99
26) 2,3,5-Trimethylnaphthalen	28.153	170	465760M3	1855.498	ng/mL
27) Fluorene	28.620	166	1850403M4	5372.565	ng/mL
28) C1-Fluorenes	30.983	180	686552M5	1993.374	ng/mL
29) C2-Fluorenes	33.151	194	1411993M5	4099.660	ng/mL
30) C3-Fluorenes	35.710	208G	2494861M5	7243.721	ng/mL
31) Dibenzothiophene	31.947	184	1478173	3444.787	ng/mL# 81
32) 4-Methyldibenzothiophene(	33.723	198	371968	866.848	ng/mL 100
33) 2/3-Methyldibenzothiophen	34.039	198	402375M4	937.709	ng/mL
34) 1-Methyldibenzothiophene(	34.491	198	117311	273.386	ng/mL 100
35) OTP	34.115	198	16599M3	38.683	ng/mL
36) C1-Dibenzothiophenes	33.723	198	1077526M5	2511.105	ng/mL
36) C1-Dibenzothiophenes BS	33.723	198	1060927M5	2472.422	ng/mL
37) C2-Dibenzothiophenes	35.409	212	791132M5	1843.682	ng/mL
38) C3-Dibenzothiophenes	37.231	226	441723M5	1029.407	ng/mL
39) C4-Dibenzothiophenes	38.933	240	158938M5	370.395	ng/mL
41) Phenanthrene	32.489	178	23885274	49053.400	ng/mL 95
42) 3-Methylphenanthrene(3MP)	34.416	192	2740674	5628.547	ng/mL 96
43) 2-Methylphenanthrene(2MP)	34.521	192	3479819	7146.535	ng/mL 97
44) 2-Methylanthracene(2MA)	34.672	192	675287	1386.843	ng/mL# 34
45) 9/4-Methylphenanthrene(9M	34.867	192	2534347	5204.811	ng/mL 93
46) 1-Methylphenanthrene(1MP)	34.958	192	1931991	3967.747	ng/mL 97

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291622.D
 Acq On : 30 Mar 2016 3:19 pm
 Operator : PAH2:gy
 Sample : 1603006-12
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 04 15:00:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) C1-Phenanthrenes/Anthracene	34.521	192	11442835M5	23500.252	ng/mL	
48) C2-Phenanthrenes/Anthracene	36.689	206	7198299M5	14783.211	ng/mL	
48) C2-Phenanthrenes/Anthracene BS	36.689	206	7198299M5	14783.211	ng/mL	
50) C3-Phenanthrenes/Anthracene	38.541	220	3478830M5	7144.504	ng/mL	
51) C4-Phenanthrenes/Anthracene	40.348	234	1391206M5	2857.132	ng/mL	
53) Anthracene	32.624	178	3671878M4	8309.045	ng/mL	
54) Carbazole	33.302	167	2685954	6024.804	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	1931991	5594.747	ng/mL	98
56) Fluoranthene	37.276	202	18868623M4	37959.428	ng/mL	
57) Benzo(b)fluorene	39.761	216	346810M3	1071.826	ng/mL	
58) Pyrene	38.150	202	16492622	30091.348	ng/mL	92
59) C1-Fluoranthenes/Pyrenes	39.520	216	7774517M5	14184.870	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.567	230	8367731M5	15267.209	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.103	244	5026787M5	9171.543	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.744	258	3009937M5	5491.732	ng/mL	
63) Naphthobenzothiophene	41.974	234	1373425M3	2804.267	ng/mL	
64) Naphthobenzothiophene-2,1	41.974	234	1365262M3	2787.599	ng/mL	
65) Naphthobenzothiophene-1,2	42.320	234	314361	641.864	ng/mL#	56
66) Naphthobenzothiophene-2,3	42.606	234	335496M3	685.018	ng/mL	
67) C1-Naphthobenzothiophenes	43.645	248	1483052M5	3028.104	ng/mL	
68) C2-Naphthobenzothiophenes	45.241	262	844983M5	1725.291	ng/mL	
69) C3-Naphthobenzothiophenes	47.018	276	420187M5	857.940	ng/mL	
70) C4-Naphthobenzothiophenes	48.087	290	178494M5	364.450	ng/mL	
72) Benz[a]anthracene	42.937	228	7813292	18107.118	ng/mL	94
74) Chrysene/Triphenylene	43.103	228	8302303	19174.351	ng/mL	98
75) C1-Chrysenes	44.563	242	4991402M5	11527.753	ng/mL	
76) C2-Chrysenes	46.265	256	3299664M5	7620.647	ng/mL	
76) C2-Chrysenes BS	46.265	256	3283560M5	7583.454	ng/mL	
77) BBF-D12 Surr BKGD	46.898	256	16104	37.193	ng/mL	100
78) C3-Chrysenes	47.078	270	2692989M5	6219.517	ng/mL	
79) C4-Chrysenes	47.771	284	1528172M5	3529.347	ng/mL	
81) Benzo[b]fluoranthene	47.003	252	7603457	15820.398	ng/mL	97
82) Benzo[j]+[k]fluoranthene	47.078	252	5581139M3	11535.522	ng/mL	
83) Benzo[a]fluoranthene	47.349	252	1207175M3	2495.081	ng/mL	
84) Benzo[e]pyrene	47.982	252	4982380	10618.155	ng/mL	97
86) Benzo[a]pyrene	48.178	252	6784095	14376.731	ng/mL	97
87) Perylene	48.464	252	1677248	3573.885	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.937	276	4971524M3	9402.543	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.952	278	1613054M3	3058.844	ng/mL	
90) Benzo[g,h,i]perylene	54.232	276	4662290	8276.783	ng/mL	97
91) Hopane (T19)	52.003	191	87327M4	762.989	ng/mL	
93) C23 Tricyclic Terpane (T4)	40.604	191	6625	57.884	ng/mL	100
94) C24 Tricyclic Terpane (T5)	41.342	191	3787	33.088	ng/mL	100
95) C25 Tricyclic Terpane (T6)	42.832	191	9821	85.808	ng/mL	100
96) C24 Tetracyclic Terpane (	44.142	191	9950	86.935	ng/mL	100
97) C26 Tricyclic Terpane-22S	43.901	191	13491M4	117.873	ng/mL	
98) C26 Tricyclic Terpane-22R	43.976	191	4290M4	37.482	ng/mL	
99) C28 Tricyclic Terpane-22S	46.295	191	1424M3	12.442	ng/mL	
100) C28 Tricyclic Terpane-22R	46.461	191	3745M4	32.721	ng/mL	
101) C29 Tricyclic Terpane-22S	46.973	191	4149M4	36.250	ng/mL	
102) C29 Tricyclic Terpane-22R	47.184	191	2636M4	23.031	ng/mL	
103) 18a-22,29,30-Trisnorneo	48.268	191	8898	77.743	ng/mL	100
104) C30 Tricyclic Terpane-22S	48.374	191	2251M4	19.667	ng/mL	
105) C30 Tricyclic Terpane-22R	48.615	191	5141M4	44.918	ng/mL	
106) 17a(H)-22,29,30-Trisnorho	48.810	191	26377M4	230.460	ng/mL	
107) 17a/b,21b/a 28,30-Bisnorh	50.000	191	2732M4	23.870	ng/mL	
109) 30-Norhopane (T15)	50.648	191	52283	456.804	ng/mL	100
110) 18a(H)-30-Norneohopane-C2	50.753	191	7116	62.174	ng/mL	100
111) 17a(H)-Diahopane (X)	50.889	191G	12302M4	107.484	ng/mL	
112) 30-Normoretane (T17)	51.431	191	7354	64.253	ng/mL	100
113) 18a(H)&18b(H)-Oleananes (	51.822	191	2892M4	25.268	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291622.D
 Acq On : 30 Mar 2016 3:19 pm
 Operator : PAH2:gy
 Sample : 1603006-12
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 04 15:00:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

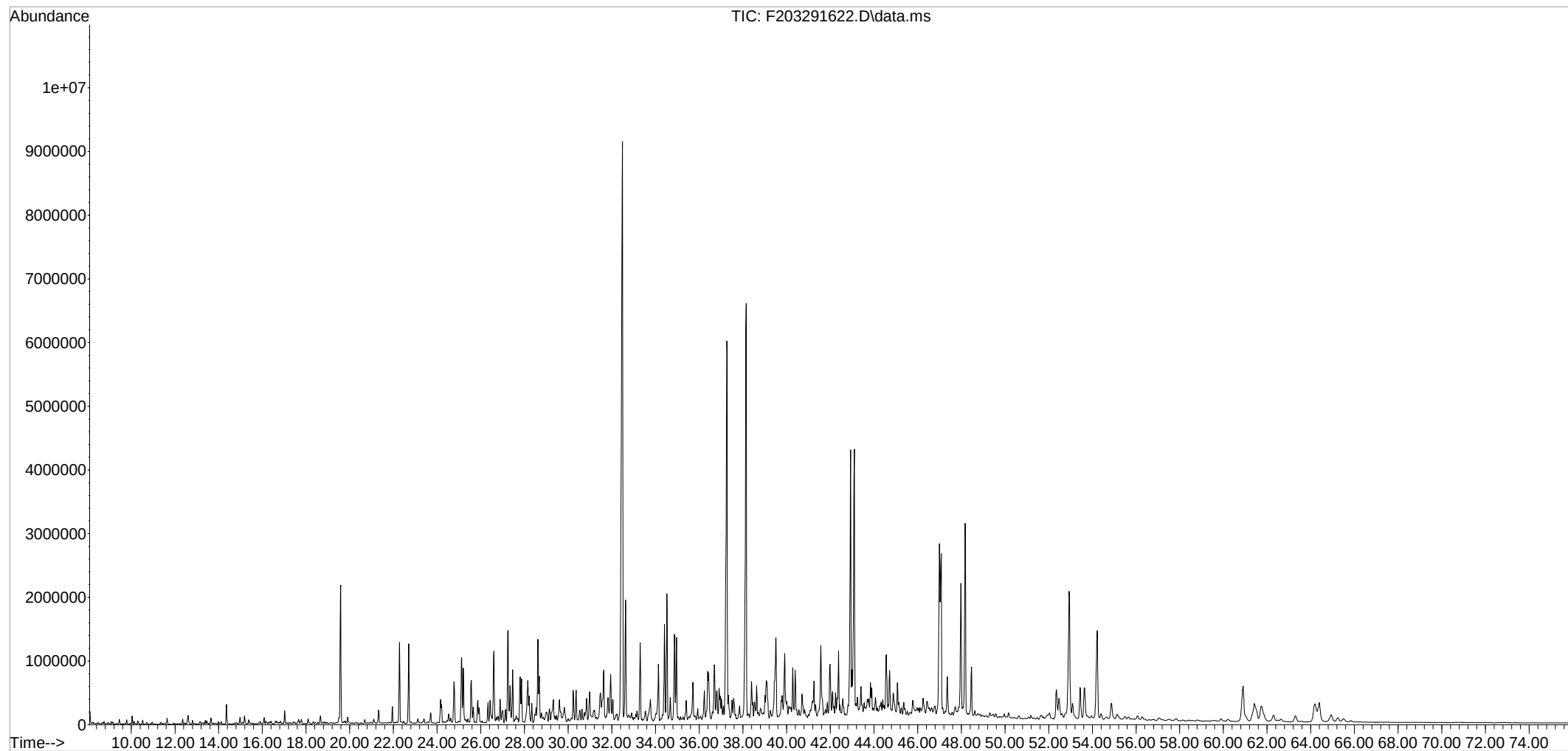
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
114) Moretane (T20)	52.711	191	11998M3	104.828	ng/ml	
115) 30-Homohopane-22S (T21)	53.795	191	34591	302.227	ng/ml	100
116) 30-Homohopane-22R (T22)	54.006	191	25040	218.778	ng/ml	100
117) Gammacerane/C32-diahopane	54.548	191	4184	36.556	ng/mL	100
118) 30,31-Bishomohopane-22S (	55.331	191	26237	229.237	ng/ml	100
119) 30,31-Bishomohopane-22R (	55.693	191	15888	138.816	ng/ml	100
120) 30,31-Trishomohopane-22S	57.439	191	10961M4	95.768	ng/ml	
121) 30,31-Trishomohopane-22R	58.011	191	7794	68.097	ng/ml	100
122) Tetrakishomohopane-22S (T	60.029	191	10088M4	88.140	ng/ml	
123) Tetrakishomohopane-22R (T	60.918	191	4993M4	43.625	ng/ml	
124) Pentakishomohopane-22S (T	63.131	191	3215M4	28.090	ng/ml	
125) Pentakishomohopane-22R (T	64.441	191	2390M4	20.882	ng/ml	
127) 13b(H),17a(H)-20S-Diachol	45.106	217	7566M4	128.175	ng/ml	
128) 13b(H),17a(H)-20R-Diachol	45.542	217	1822M4	30.866	ng/ml	
129) 13b,17a-20S-Methylidiachol	46.250	217	3753	63.579	ng/ml	100
130) 14a,17a-20S-Chol/13b,17a-	47.109	217	9629	163.124	ng/ml	100
131) 14a,17a-20R-Chol/13b,17a-	47.636	217	9087M4	153.942	ng/ml	
132) Unknown Sterane (S18)	47.907	217	2792	47.299	ng/ml	100
133) 13a,17b-20S-Ethylidiachole	48.163	217	721	12.214	ng/ml	100
134) 14a,17a-20S-Methylcholest	48.313	217	5395M4	91.396	ng/ml	
135) 14a,17a-20R-Methylcholest	49.021	217	4083M4	69.170	ng/ml	
136) 14a(H),17a(H)-20S-Ethylch	49.368	217	5862M4	99.307	ng/ml	
137) 14a(H),17a(H)-20R-Ethylch	50.271	217	5276M3	89.380	ng/ml	
138) 14b(H),17b(H)-20R-Cholest	47.199	218	2909M4	49.281	ng/ml	
139) 14b(H),17b(H)-20S-Cholest	47.289	218	2422	41.031	ng/ml	100
140) 14b,17b-20R-Methylcholest	48.479	218	4756	80.571	ng/ml	100
141) 14b,17b-20S-Methylcholest	48.569	218	7108M4	120.416	ng/ml	
142) 14b(H),17b(H)-20R-Ethylch	49.624	218	10363M3	175.558	ng/ml	
143) 14b(H),17b(H)-20S-Ethylch	49.654	218	6544M3	110.861	ng/ml	
144) C26,20R- +C27,20S- triaro	49.337	231	4791M4	81.164	ng/mL	
145) C28,20S-triaromatic stero	50.181	231	6111M4	103.526	ng/mL	
146) C27,20R-triaromatic stero	50.633	231	3427M4	58.056	ng/mL	
147) C28,20R-triaromatic stero	51.838	231	3947	66.866	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291622.D
Acq On : 30 Mar 2016 3:19 pm
Operator : PAH2:gy
Sample : 1603006-12
Misc : 1x,SS032516,etr:1603006
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 04 15:00:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-8B**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-12E**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/31/16	81.8	29.34	2	10	GY

Parameter	Result
cis/trans-Decalin	8.34 U
C1-Decalins	8.34 U
C2-Decalins	8.34 U
C3-Decalins	8.34 U
C4-Decalins	8.34 U
Benzo(b)thiophene	8.34 U
C1-Benzo(b)thiophenes	8.34 U
C2-Benzo(b)thiophenes	8.34 U
C3-Benzo(b)thiophenes	8.34 U
C4-Benzo(b)thiophenes	8.34 U
Naphthalene	8.34 U
C1-Naphthalenes	8.34 U
C2-Naphthalenes	8.34 U
C3-Naphthalenes	8.34 U
C4-Naphthalenes	8.34 U
Biphenyl	8.34 U
Dibenzofuran	8.34 U
Acenaphthylene	8.34 U
Acenaphthene	8.34 U
Fluorene	8.34 U
C1-Fluorenes	8.34 U
C2-Fluorenes	8.34 U
C3-Fluorenes	8.34 U
Anthracene	8.34 U
Phenanthrene	5360
C1-Phenanthrenes/Anthracenes	8.34 U
C2-Phenanthrenes/Anthracenes	8.34 U
C3-Phenanthrenes/Anthracenes	8.34 U
C4-Phenanthrenes/Anthracenes	8.34 U
Retene	8.34 U
Dibenzothiophene	8.34 U

Parameter	Result
C1-Dibenzothiophenes	8.34 U
C2-Dibenzothiophenes	8.34 U
C3-Dibenzothiophenes	8.34 U
C4-Dibenzothiophenes	8.34 U
Benzo(b)fluorene	8.34 U
Fluoranthene	4090
Pyrene	3250
C1-Fluoranthenes/Pyrenes	8.34 U
C2-Fluoranthenes/Pyrenes	8.34 U
C3-Fluoranthenes/Pyrenes	8.34 U
C4-Fluoranthenes/Pyrenes	8.34 U
Naphthobenzothiophenes	8.34 U
C1-Naphthobenzothiophenes	8.34 U
C2-Naphthobenzothiophenes	8.34 U
C3-Naphthobenzothiophenes	8.34 U
C4-Naphthobenzothiophenes	8.34 U
Benz[a]anthracene	8.34 U
Chrysene/Triphenylene	8.34 U
C1-Chrysenes	8.34 U
C2-Chrysenes	8.34 U
C3-Chrysenes	8.34 U
C4-Chrysenes	8.34 U
Benzo[b]fluoranthene	8.34 U
Benzo[j]fluoranthene/Benzo[k]fluoranthene	8.34 U
Benzo[a]fluoranthene	8.34 U
Benzo[e]pyrene	8.34 U
Benzo[a]pyrene	8.34 U
Perylene	8.34 U
Indeno[1,2,3-cd]pyrene	8.34 U
Dibenz[ah]anthracene/Dibenz[ac]anthracene	8.34 U
Benzo[g,h,i]perylene	8.34 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	65	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:46

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291627.D
 Acq On : 31 Mar 2016 11:10 am
 Operator : PAH2:gy
 Sample : 1603006-12-RE
 Misc : 10x
 ALS Vial : 27 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:38:54 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

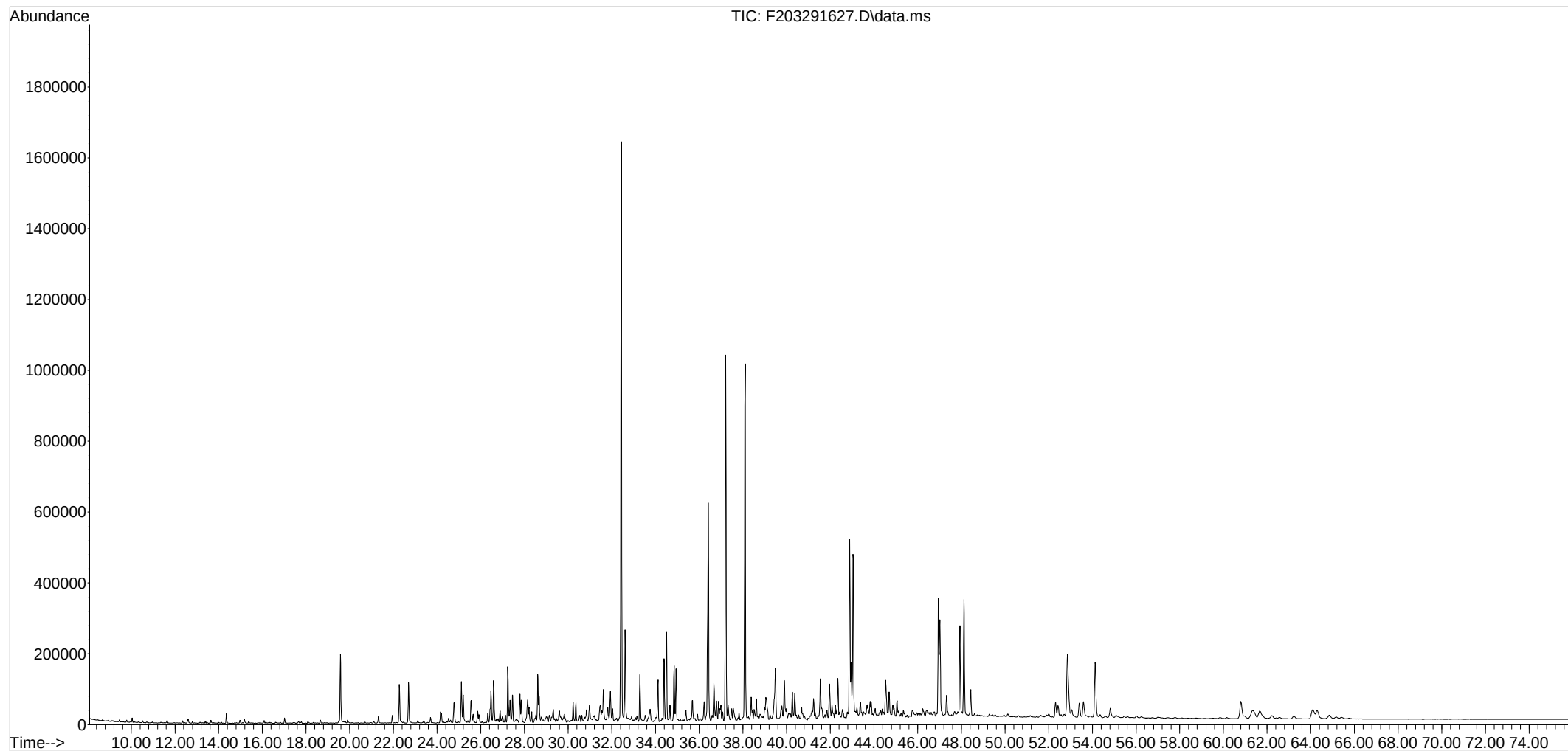
Internal Standards						
1) Acenaphthene-d10	26.467	164	111407	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	179886	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	13972	32.544	ng/mL	0.00
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	3.25%#	
40) Phenanthrene-d10	32.338	188	17668	49.940	ng/mL	0.02
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.99%#	
80) Benzo[b]fluoranthene-d12	46.868	264	18211	45.066	ng/mL	0.06
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.51%#	
85) Benzo[a]pyrene-d12	48.027	264	15367	43.473	ng/mL	0.06
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.35%#	
126) 5B(H)Cholane - Surr	43.585	217	2644	44.728	ng/mL	0.05
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	4.47%#	
Target Compounds						
41) Phenanthrene	32.428	178	2918308	6427.496	ng/mL	99
56) Fluoranthene	37.216	202	2275440	4909.267	ng/mL	99
58) Pyrene	38.104	202	1993329	3900.343	ng/mL	96

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291627.D
Acq On : 31 Mar 2016 11:10 am
Operator : PAH2:gy
Sample : 1603006-12-RE
Misc : 10x
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 04 13:38:54 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Blank**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516B02**
 Associated Blank: **N/A**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	1.05 U	C1-Dibenzothiophenes	1.05 U
C1-Decalins	1.05 U	C2-Dibenzothiophenes	1.05 U
C2-Decalins	1.05 U	C3-Dibenzothiophenes	1.05 U
C3-Decalins	1.05 U	C4-Dibenzothiophenes	1.05 U
C4-Decalins	1.05 U	Benzo(b)fluorene	1.05 U
Benzo(b)thiophene	1.05 U	Fluoranthene	0.117 J
C1-Benzo(b)thiophenes	1.05 U	Pyrene	0.0681 J
C2-Benzo(b)thiophenes	1.05 U	C1-Fluoranthenes/Pyrenes	1.05 U
C3-Benzo(b)thiophenes	1.05 U	C2-Fluoranthenes/Pyrenes	1.05 U
C4-Benzo(b)thiophenes	1.05 U	C3-Fluoranthenes/Pyrenes	1.05 U
Naphthalene	0.0542 J	C4-Fluoranthenes/Pyrenes	1.05 U
C1-Naphthalenes	1.05 U	Naphthobenzothiophenes	0.0372 J
C2-Naphthalenes	1.05 U	C1-Naphthobenzothiophenes	1.05 U
C3-Naphthalenes	1.05 U	C2-Naphthobenzothiophenes	1.05 U
C4-Naphthalenes	1.05 U	C3-Naphthobenzothiophenes	1.05 U
Biphenyl	1.05 U	C4-Naphthobenzothiophenes	1.05 U
Dibenzofuran	1.05 U	Benz[a]anthracene	0.0461 J
Acenaphthylene	1.05 U	Chrysene/Triphenylene	0.0866 J
Acenaphthene	1.05 U	C1-Chrysenes	1.05 U
Fluorene	0.0828 J	C2-Chrysenes	1.05 U
C1-Fluorenes	1.05 U	C3-Chrysenes	1.05 U
C2-Fluorenes	1.05 U	C4-Chrysenes	1.05 U
C3-Fluorenes	1.05 U	Benzo[b]fluoranthene	1.05 U
Anthracene	0.0401 J	Benzo[j]fluoranthene/Benzo[k]fluoranthene	1.05 U
Phenanthrene	0.154 J	Benzo[a]fluoranthene	1.05 U
C1-Phenanthrenes/Anthracenes	1.05 U	Benzo[e]pyrene	1.05 U
C2-Phenanthrenes/Anthracenes	1.05 U	Benzo[a]pyrene	1.05 U
C3-Phenanthrenes/Anthracenes	1.05 U	Perylene	1.05 U
C4-Phenanthrenes/Anthracenes	1.05 U	Indeno[1,2,3-cd]pyrene	1.05 U
Retene	1.05 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	1.05 U
Dibenzothiophene	0.0401 J	Benzo[g,h,i]perylene	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	76	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 J - Estimated value, below quantitation limit.
 N/A - Not Applicable

04/04/16 15:43

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Associated Blank: **N/A**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter

Carbazole

Result

1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	76	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

04/04/16 15:43

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Blank**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516B02**
 Associated Blank: **N/A**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	1.05 U
2/3-Methyldibenzothiophene	1.05 U
1-Methyldibenzothiophene	1.05 U
3-Methylphenanthrene	1.05 U
2-Methylphenanthrene	1.05 U
2-Methylanthracene	1.05 U
9/4-Methylphenanthrene	1.05 U
1-Methylphenanthrene	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	76	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:43

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Blank**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516B02**
 Associated Blank: **N/A**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	1.05 U	30,31-Trishomohopane-22S	1.05 U
C24 Tricyclic Terpane	1.05 U	30,31-Trishomohopane-22R	1.05 U
C25 Tricyclic Terpane	1.05 U	Tetrakishomohopane-22S	1.05 U
C24 Tetracyclic Terpane	1.05 U	Tetrakishomohopane-22R	1.05 U
C26 Tricyclic Terpane-22S	1.05 U	Pentakishomohopane-22S	1.05 U
C26 Tricyclic Terpane-22R	1.05 U	Pentakishomohopane-22R	1.05 U
C28 Tricyclic Terpane-22S	1.05 U	13b(H),17a(H)-20S-Diacholestane	1.05 U
C28 Tricyclic Terpane-22R	1.05 U	13b(H),17a(H)-20R-Diacholestane	1.05 U
C29 Tricyclic Terpane-22S	1.05 U	13b,17a-20S-Methyldiacholestane	1.05 U
C29 Tricyclic Terpane-22R	1.05 U	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	1.05 U
18a-22,29,30-Trisnorhopane-TS	1.05 U	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	1.05 U
C30 Tricyclic Terpane-22S	1.05 U	Unknown Sterane (S18)	1.05 U
C30 Tricyclic Terpane-22R	1.05 U	13a,17b-20S-Ethyldiacholestane	1.05 U
17a(H)-22,29,30-Trisnorhopane-TM	1.05 U	14a,17a-20S-Methylcholestane	1.05 U
17a/b,21b/a 28,30-Bisnorhopane	1.05 U	14a,17a-20R-Methylcholestane	1.05 U
17a(H),21b(H)-25-Norhopane	1.05 U	14a(H),17a(H)-20S-Ethylcholestane	1.05 U
30-Norhopane	1.05 U	14a(H),17a(H)-20R-Ethylcholestane	1.05 U
18a(H)-30-Norneohopane-C29Ts	1.05 U	14b(H),17b(H)-20R-Cholestane	1.05 U
17a(H)-Diahopane	1.05 U	14b(H),17b(H)-20S-Cholestane	1.05 U
30-Normoretane	1.05 U	14b,17b-20R-Methylcholestane	1.05 U
18a(H)&18b(H)-Oleananes	1.05 U	14b,17b-20S-Methylcholestane	1.05 U
Hopane	1.05 U	14b(H),17b(H)-20R-Ethylcholestane	1.05 U
Moretane	1.05 U	14b(H),17b(H)-20S-Ethylcholestane	1.05 U
30-Homohopane-22S	1.05 U	C26,20R- +C27,20S- triaromatic steroid	1.05 U
30-Homohopane-22R	1.05 U	C28,20S-triaromatic steroid	1.05 U
T22a-Gammacerane/C32-diahopane	1.05 U	C27,20R-triaromatic steroid	1.05 U
30,31-Bishomohopane-22S	1.05 U	C28,20R-triaromatic steroid	1.05 U
30,31-Bishomohopane-22R	1.05 U		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	115	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291606.D
 Acq On : 29 Mar 2016 4:07 pm
 Operator : PAH2:gy
 Sample : SS032516B02
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 6 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 13:40:03 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

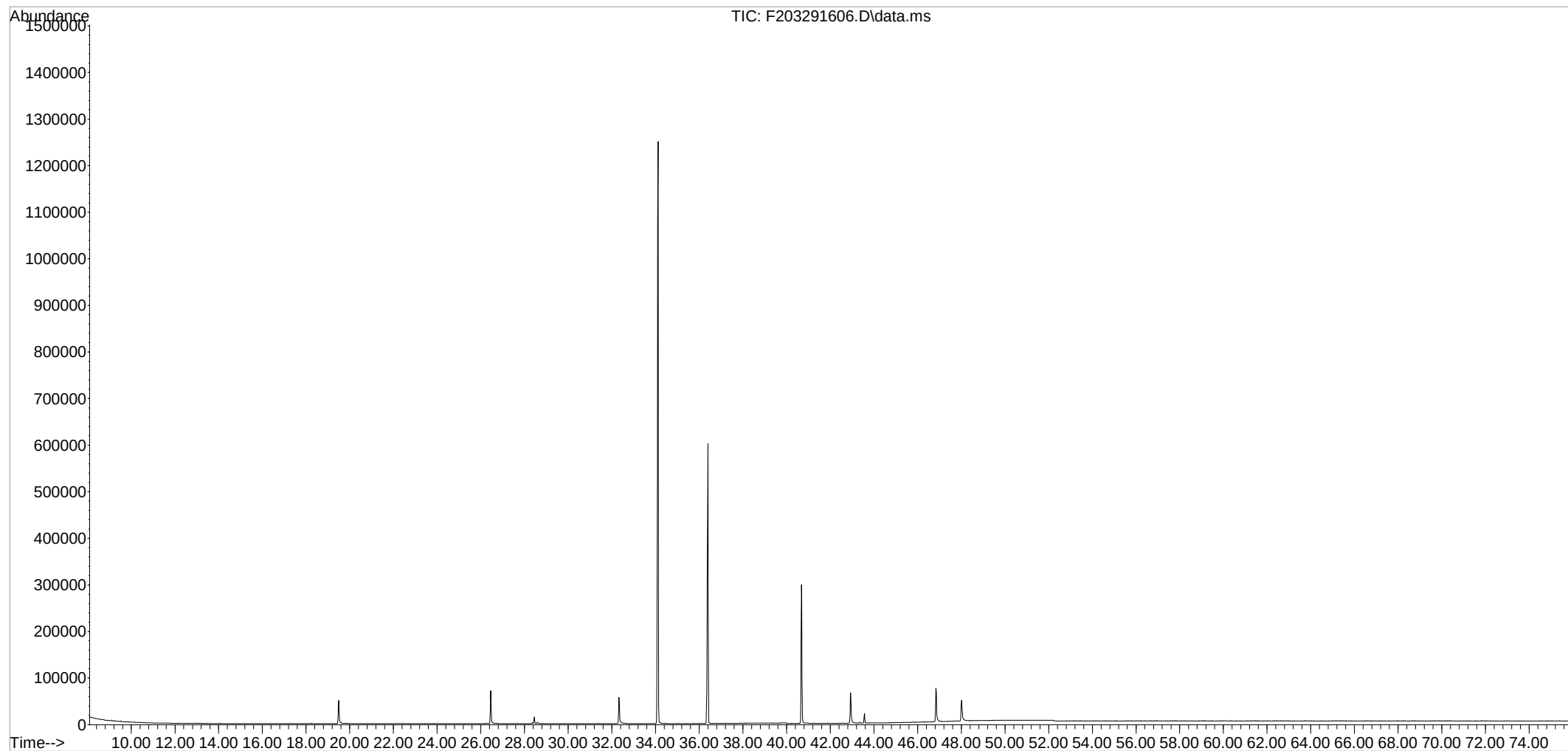
Internal Standards						
1) Acenaphthene-d10	26.452	164	98716	500.000	ng/mL	-0.01
71) Chrysene-d12	42.937	240	167268	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	144020	378.588	ng/mL	0.00
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	37.86%#	
40) Phenanthrene-d10	32.323	188	157513	502.457	ng/mL	0.00
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	50.25%	
80) Benzo[b]fluoranthene-d12	46.837	264	183630	488.702	ng/mL	0.03
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	48.87%#	
85) Benzo[a]pyrene-d12	48.012	264	137986	419.808	ng/mL	0.05
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	41.98%#	
126) 5B(H)Cholane - Surr	43.570	217	31617	575.209	ng/mL	0.03
Spiked Amount 1000.000	Range	50 - 130	Recovery	=	57.52%	
Target Compounds						
9) Naphthalene	19.572	128	203M4	0.515	ng/mL	
27) Fluorene	28.605	166	224	0.787	ng/mL	75
31) Dibenzothiophene	31.917	184	135M4	0.381	ng/mL	
41) Phenanthrene	32.413	178	587M4	1.459	ng/mL	
53) Anthracene	32.594	178	139	0.381	ng/mL#	60
56) Fluoranthene	37.216	202	458M4	1.115	ng/mL	
58) Pyrene	38.089	202	293	0.647	ng/mL#	69
63) Naphthobenzothiophene	41.944	234	143M4	0.353	ng/mL	
64) Naphthobenzothiophene-2,1	41.944	234	143M4	0.353	ng/mL	
72) Benz[a]anthracene	42.862	228	176M3	0.438	ng/mL	
74) Chrysene/Triphenylene	43.028	228	332M3	0.823	ng/mL	

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291606.D
Acq On : 29 Mar 2016 4:07 pm
Operator : PAH2:gy
Sample : SS032516B02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 04 13:40:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES





Form III
Spike Recovery Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **See Below**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	03/25/16	100	GY

Lab ID: SS032516B02 SS032516LCS02 SS032516LCSD02

Parameter	Blank		LCS		LCSD		% RPD	RPD % Recovery	
	Conc.		Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
Naphthalene	0.0542		43.8	83	46.2	88	5	30	50-130
Acenaphthylene	1.05	U	44.2	84	46.8	89	6	30	50-130
Acenaphthene	1.05	U	46.8	89	48.6	92	4	30	50-130
Fluorene	0.0828		48.8	93	50.3	96	3	30	50-130
Anthracene	0.0401		52.7	100	54.5	104	3	30	50-130
Phenanthrene	0.154		49.9	95	52.1	99	4	30	50-130
Fluoranthene	0.117		53.0	101	53.7	102	1	30	50-130
Pyrene	0.0681		49.5	94	51.4	98	4	30	50-130
Benz[a]anthracene	0.0461		50.9	97	51.8	98	2	30	50-130
Chrysene/Triphenylene	0.0866		51.5	98	53.5	102	4	30	50-130
Benzo[b]fluoranthene	1.05	U	51.5	98	51.8	98	0	30	50-130
Benzo[j]fluoranthene/ Benzo[k]fluoranthene	1.05	U	55.9	106	58.0	110	4	30	50-130
Benzo[a]pyrene	1.05	U	48.6	92	50.8	96	4	30	50-130
Indeno[1,2,3-cd]pyrene	1.05	U	46.2	88	48.4	92	5	30	50-130
Dibenz[ah]anthracene/ Dibenz[ac]anthracene	1.05	U	47.3	90	48.2	92	2	30	50-130
Benzo[g,h,i]perylene	1.05	U	46.4	88	47.2	90	2	30	50-130

Surrogate	% Recovery		Acceptance Range (%)
Naphthalene-d8	86	90	50-130
Phenanthrene-d10	102	106	50-130
Benzo[a]pyrene-d12	83	86	50-130
5B(H)Cholane	114	112	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 15:47

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Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCS02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	1.05 U	C1-Dibenzothiophenes	1.05 U
C1-Decalins	1.05 U	C2-Dibenzothiophenes	1.05 U
C2-Decalins	1.05 U	C3-Dibenzothiophenes	1.05 U
C3-Decalins	1.05 U	C4-Dibenzothiophenes	1.05 U
C4-Decalins	1.05 U	Benzo(b)fluorene	1.05 U
Benzo(b)thiophene	1.05 U	Fluoranthene	53.0 S
C1-Benzo(b)thiophenes	1.05 U	Pyrene	49.5 S
C2-Benzo(b)thiophenes	1.05 U	C1-Fluoranthenes/Pyrenes	1.05 U
C3-Benzo(b)thiophenes	1.05 U	C2-Fluoranthenes/Pyrenes	1.05 U
C4-Benzo(b)thiophenes	1.05 U	C3-Fluoranthenes/Pyrenes	1.05 U
Naphthalene	43.8 S	C4-Fluoranthenes/Pyrenes	1.05 U
C1-Naphthalenes	1.05 U	Naphthobenzothiophenes	1.05 U
C2-Naphthalenes	1.05 U	C1-Naphthobenzothiophenes	1.05 U
C3-Naphthalenes	1.05 U	C2-Naphthobenzothiophenes	1.05 U
C4-Naphthalenes	1.05 U	C3-Naphthobenzothiophenes	1.05 U
Biphenyl	1.05 U	C4-Naphthobenzothiophenes	1.05 U
Dibenzofuran	1.05 U	Benzo[a]anthracene	50.9 S
Acenaphthylene	44.2 S	Chrysene/Triphenylene	51.5 S
Acenaphthene	46.8 S	C1-Chrysenes	1.05 U
Fluorene	48.8 S	C2-Chrysenes	1.05 U
C1-Fluorenes	1.05 U	C3-Chrysenes	1.05 U
C2-Fluorenes	1.05 U	C4-Chrysenes	1.05 U
C3-Fluorenes	1.05 U	Benzo[b]fluoranthene	51.5 S
Anthracene	52.7 S	Benzo[j]fluoranthene/Benzo[k]fluoranthene	55.9 S
Phenanthrene	49.9 S	Benzo[a]fluoranthene	1.05 U
C1-Phenanthrenes/Anthracenes	1.05 U	Benzo[e]pyrene	1.05 U
C2-Phenanthrenes/Anthracenes	1.05 U	Benzo[a]pyrene	48.6 S
C3-Phenanthrenes/Anthracenes	1.05 U	Perylene	1.05 U
C4-Phenanthrenes/Anthracenes	1.05 U	Indeno[1,2,3-cd]pyrene	46.2 S
Retene	1.05 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	47.3 S
Dibenzothiophene	1.05 U	Benzo[g,h,i]perylene	46.4 S

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	86	50-130
Phenanthrene-d10	102	50-130
Benzo[a]pyrene-d12	83	50-130

S - Spike compound.
 U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCS02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter

Result

Carbazole

1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	86	50-130
Phenanthrene-d10	102	50-130
Benzo[a]pyrene-d12	83	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCS02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	1.05 U
2/3-Methyldibenzothiophene	1.05 U
1-Methyldibenzothiophene	1.05 U
3-Methylphenanthrene	1.05 U
2-Methylphenanthrene	1.05 U
2-Methylantracene	1.05 U
9/4-Methylphenanthrene	1.05 U
1-Methylphenanthrene	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	86	50-130
Phenanthrene-d10	102	50-130
Benzo[a]pyrene-d12	83	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCS02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	1.05 U	30,31-Trishomohopane-22S	1.05 U
C24 Tricyclic Terpane	1.05 U	30,31-Trishomohopane-22R	1.05 U
C25 Tricyclic Terpane	1.05 U	Tetrakishomohopane-22S	1.05 U
C24 Tetracyclic Terpane	1.05 U	Tetrakishomohopane-22R	1.05 U
C26 Tricyclic Terpane-22S	1.05 U	Pentakishomohopane-22S	1.05 U
C26 Tricyclic Terpane-22R	1.05 U	Pentakishomohopane-22R	1.05 U
C28 Tricyclic Terpane-22S	1.05 U	13b(H),17a(H)-20S-Diacholestane	1.05 U
C28 Tricyclic Terpane-22R	1.05 U	13b(H),17a(H)-20R-Diacholestane	1.05 U
C29 Tricyclic Terpane-22S	1.05 U	13b,17a-20S-Methyldiacholestane	1.05 U
C29 Tricyclic Terpane-22R	1.05 U	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	1.05 U
18a-22,29,30-Trisnorhopane-TS	1.05 U	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	1.05 U
C30 Tricyclic Terpane-22S	1.05 U	Unknown Sterane (S18)	1.05 U
C30 Tricyclic Terpane-22R	1.05 U	13a,17b-20S-Ethyldiacholestane	1.05 U
17a(H)-22,29,30-Trisnorhopane-TM	1.05 U	14a,17a-20S-Methylcholestane	1.05 U
17a/b,21b/a 28,30-Bisnorhopane	1.05 U	14a,17a-20R-Methylcholestane	1.05 U
17a(H),21b(H)-25-Norhopane	1.05 U	14a(H),17a(H)-20S-Ethylcholestane	1.05 U
30-Norhopane	1.05 U	14a(H),17a(H)-20R-Ethylcholestane	1.05 U
18a(H)-30-Norneohopane-C29Ts	1.05 U	14b(H),17b(H)-20R-Cholestane	1.05 U
17a(H)-Diahopane	1.05 U	14b(H),17b(H)-20S-Cholestane	1.05 U
30-Normoretane	1.05 U	14b,17b-20R-Methylcholestane	1.05 U
18a(H)&18b(H)-Oleananes	1.05 U	14b,17b-20S-Methylcholestane	1.05 U
Hopane	1.05 U	14b(H),17b(H)-20R-Ethylcholestane	1.05 U
Moretane	1.05 U	14b(H),17b(H)-20S-Ethylcholestane	1.05 U
30-Homohopane-22S	1.05 U	C26,20R- +C27,20S- triaromatic steroid	1.05 U
30-Homohopane-22R	1.05 U	C28,20S-triaromatic steroid	1.05 U
T22a-Gammacerane/C32-diahopane	1.05 U	C27,20R-triaromatic steroid	1.05 U
30,31-Bishomohopane-22S	1.05 U	C28,20R-triaromatic steroid	1.05 U
30,31-Bishomohopane-22R	1.05 U		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	114	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291607.D
 Acq On : 29 Mar 2016 5:35 pm
 Operator : PAH2:gy
 Sample : SS032516LCS02
 Misc : 1x, SS032516, etr:1603006
 ALS Vial : 7 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 13:32:57 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

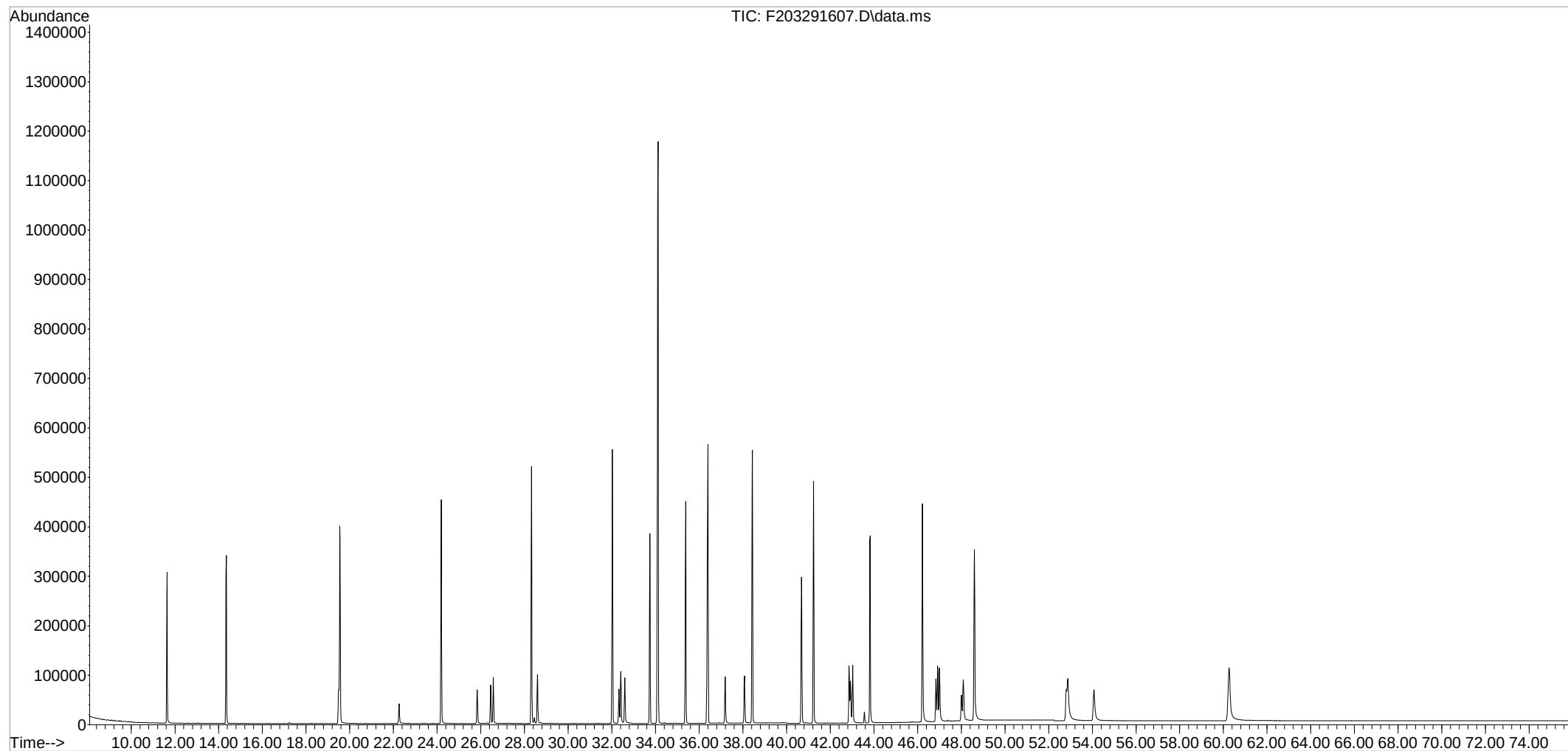
Internal Standards						
1) Acenaphthene-d10	26.452	164	101271	500.000	ng/mL	-0.02
71) Chrysene-d12	42.922	240	178679	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	168771	432.458	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.25%#		
40) Phenanthrene-d10	32.323	188	164566	511.711	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	51.17%		
80) Benzo[b]fluoranthene-d12	46.837	264	191748	477.717	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.77%#		
85) Benzo[a]pyrene-d12	48.012	264	145278	413.766	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	41.38%#		
126) 5B(H)Cholane - Surr	43.555	217	33346	567.921	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	56.79%		
Target Compounds						
					Qvalue	
9) Naphthalene	19.557	128	168205	416.115	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	117984	435.798	ng/mL	100
24) Acenaphthylene	25.835	152	169526M4	420.420	ng/mL	
25) Acenaphthene	26.572	153	111176	444.474	ng/mL	99
27) Fluorene	28.590	166	135443	463.950	ng/mL	99
41) Phenanthrene	32.413	178	195541	473.779	ng/mL	99
53) Anthracene	32.594	178	187663M4	501.003	ng/mL	
56) Fluoranthene	37.186	202	212330M4	503.953	ng/mL	
58) Pyrene	38.074	202	218393	470.100	ng/mL	98
72) Benz[a]anthracene	42.862	228	207491	483.417	ng/mL	100
74) Chrysene/Triphenylene	43.028	228	210686	489.176	ng/mL	99
81) Benzo[b]fluoranthene	46.913	252	233955	489.380	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.003	252	255662	531.237	ng/mL	97
86) Benzo[a]pyrene	48.087	252	216935	462.174	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.801	276	230844M3	438.917	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.876	278	235822	449.573	ng/mL	99
90) Benzo[g,h,i]perylene	54.081	276	246865	440.585	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291607.D
Acq On : 29 Mar 2016 5:35 pm
Operator : PAH2:gy
Sample : SS032516LCS02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 04 13:32:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form I

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample Dup**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCSD02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	1.05 U	C1-Dibenzothiophenes	1.05 U
C1-Decalins	1.05 U	C2-Dibenzothiophenes	1.05 U
C2-Decalins	1.05 U	C3-Dibenzothiophenes	1.05 U
C3-Decalins	1.05 U	C4-Dibenzothiophenes	1.05 U
C4-Decalins	1.05 U	Benzo(b)fluorene	1.05 U
Benzo(b)thiophene	1.05 U	Fluoranthene	53.7 S
C1-Benzo(b)thiophenes	1.05 U	Pyrene	51.4 S
C2-Benzo(b)thiophenes	1.05 U	C1-Fluoranthenes/Pyrenes	1.05 U
C3-Benzo(b)thiophenes	1.05 U	C2-Fluoranthenes/Pyrenes	1.05 U
C4-Benzo(b)thiophenes	1.05 U	C3-Fluoranthenes/Pyrenes	1.05 U
Naphthalene	46.2 S	C4-Fluoranthenes/Pyrenes	1.05 U
C1-Naphthalenes	1.05 U	Naphthobenzothiophenes	1.05 U
C2-Naphthalenes	1.05 U	C1-Naphthobenzothiophenes	1.05 U
C3-Naphthalenes	1.05 U	C2-Naphthobenzothiophenes	1.05 U
C4-Naphthalenes	1.05 U	C3-Naphthobenzothiophenes	1.05 U
Biphenyl	1.05 U	C4-Naphthobenzothiophenes	1.05 U
Dibenzofuran	1.05 U	Benzo[a]anthracene	51.8 S
Acenaphthylene	46.8 S	Chrysene/Triphenylene	53.5 S
Acenaphthene	48.6 S	C1-Chrysenes	1.05 U
Fluorene	50.3 S	C2-Chrysenes	1.05 U
C1-Fluorenes	1.05 U	C3-Chrysenes	1.05 U
C2-Fluorenes	1.05 U	C4-Chrysenes	1.05 U
C3-Fluorenes	1.05 U	Benzo[b]fluoranthene	51.8 S
Anthracene	54.5 S	Benzo[j]fluoranthene/Benzo[k]fluoranthene	58.0 S
Phenanthrene	52.1 S	Benzo[a]fluoranthene	1.05 U
C1-Phenanthrenes/Anthracenes	1.05 U	Benzo[e]pyrene	1.05 U
C2-Phenanthrenes/Anthracenes	1.05 U	Benzo[a]pyrene	50.8 S
C3-Phenanthrenes/Anthracenes	1.05 U	Perylene	1.05 U
C4-Phenanthrenes/Anthracenes	1.05 U	Indeno[1,2,3-cd]pyrene	48.4 S
Retene	1.05 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	48.2 S
Dibenzothiophene	1.05 U	Benzo[g,h,i]perylene	47.2 S

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	106	50-130
Benzo[a]pyrene-d12	86	50-130

S - Spike compound.
 U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCSD02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter

Result

Carbazole

1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	106	50-130
Benzo[a]pyrene-d12	86	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample Dup**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCSD02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	1.05 U
2/3-Methyldibenzothiophene	1.05 U
1-Methyldibenzothiophene	1.05 U
3-Methylphenanthrene	1.05 U
2-Methylphenanthrene	1.05 U
2-Methylantracene	1.05 U
9/4-Methylphenanthrene	1.05 U
1-Methylphenanthrene	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	106	50-130
Benzo[a]pyrene-d12	86	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample Dup**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCSD02**
 Associated Blank: **SS032516B02**
 Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	1.05 U	30,31-Trishomohopane-22S	1.05 U
C24 Tricyclic Terpane	1.05 U	30,31-Trishomohopane-22R	1.05 U
C25 Tricyclic Terpane	1.05 U	Tetrakishomohopane-22S	1.05 U
C24 Tetracyclic Terpane	1.05 U	Tetrakishomohopane-22R	1.05 U
C26 Tricyclic Terpane-22S	1.05 U	Pentakishomohopane-22S	1.05 U
C26 Tricyclic Terpane-22R	1.05 U	Pentakishomohopane-22R	1.05 U
C28 Tricyclic Terpane-22S	1.05 U	13b(H),17a(H)-20S-Diacholestane	1.05 U
C28 Tricyclic Terpane-22R	1.05 U	13b(H),17a(H)-20R-Diacholestane	1.05 U
C29 Tricyclic Terpane-22S	1.05 U	13b,17a-20S-Methyldiacholestane	1.05 U
C29 Tricyclic Terpane-22R	1.05 U	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	1.05 U
18a-22,29,30-Trisnorhopane-TS	1.05 U	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	1.05 U
C30 Tricyclic Terpane-22S	1.05 U	Unknown Sterane (S18)	1.05 U
C30 Tricyclic Terpane-22R	1.05 U	13a,17b-20S-Ethyldiacholestane	1.05 U
17a(H)-22,29,30-Trisnorhopane-TM	1.05 U	14a,17a-20S-Methylcholestane	1.05 U
17a/b,21b/a 28,30-Bisnorhopane	1.05 U	14a,17a-20R-Methylcholestane	1.05 U
17a(H),21b(H)-25-Norhopane	1.05 U	14a(H),17a(H)-20S-Ethylcholestane	1.05 U
30-Norhopane	1.05 U	14a(H),17a(H)-20R-Ethylcholestane	1.05 U
18a(H)-30-Norneohopane-C29Ts	1.05 U	14b(H),17b(H)-20R-Cholestane	1.05 U
17a(H)-Diahopane	1.05 U	14b(H),17b(H)-20S-Cholestane	1.05 U
30-Normoretane	1.05 U	14b,17b-20R-Methylcholestane	1.05 U
18a(H)&18b(H)-Oleananes	1.05 U	14b,17b-20S-Methylcholestane	1.05 U
Hopane	1.05 U	14b(H),17b(H)-20R-Ethylcholestane	1.05 U
Moretane	1.05 U	14b(H),17b(H)-20S-Ethylcholestane	1.05 U
30-Homohopane-22S	1.05 U	C26,20R- +C27,20S- triaromatic steroid	1.05 U
30-Homohopane-22R	1.05 U	C28,20S-triaromatic steroid	1.05 U
T22a-Gammacerane/C32-diahopane	1.05 U	C27,20R-triaromatic steroid	1.05 U
30,31-Bishomohopane-22S	1.05 U	C28,20R-triaromatic steroid	1.05 U
30,31-Bishomohopane-22R	1.05 U		

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	112	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
 N/A - Not Applicable

04/04/16 15:44

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291608.D
 Acq On : 29 Mar 2016 7:03 pm
 Operator : PAH2:gy
 Sample : SS032516LCSD02
 Misc : 1x,SS032516,etr:1603006
 ALS Vial : 8 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:33:05 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

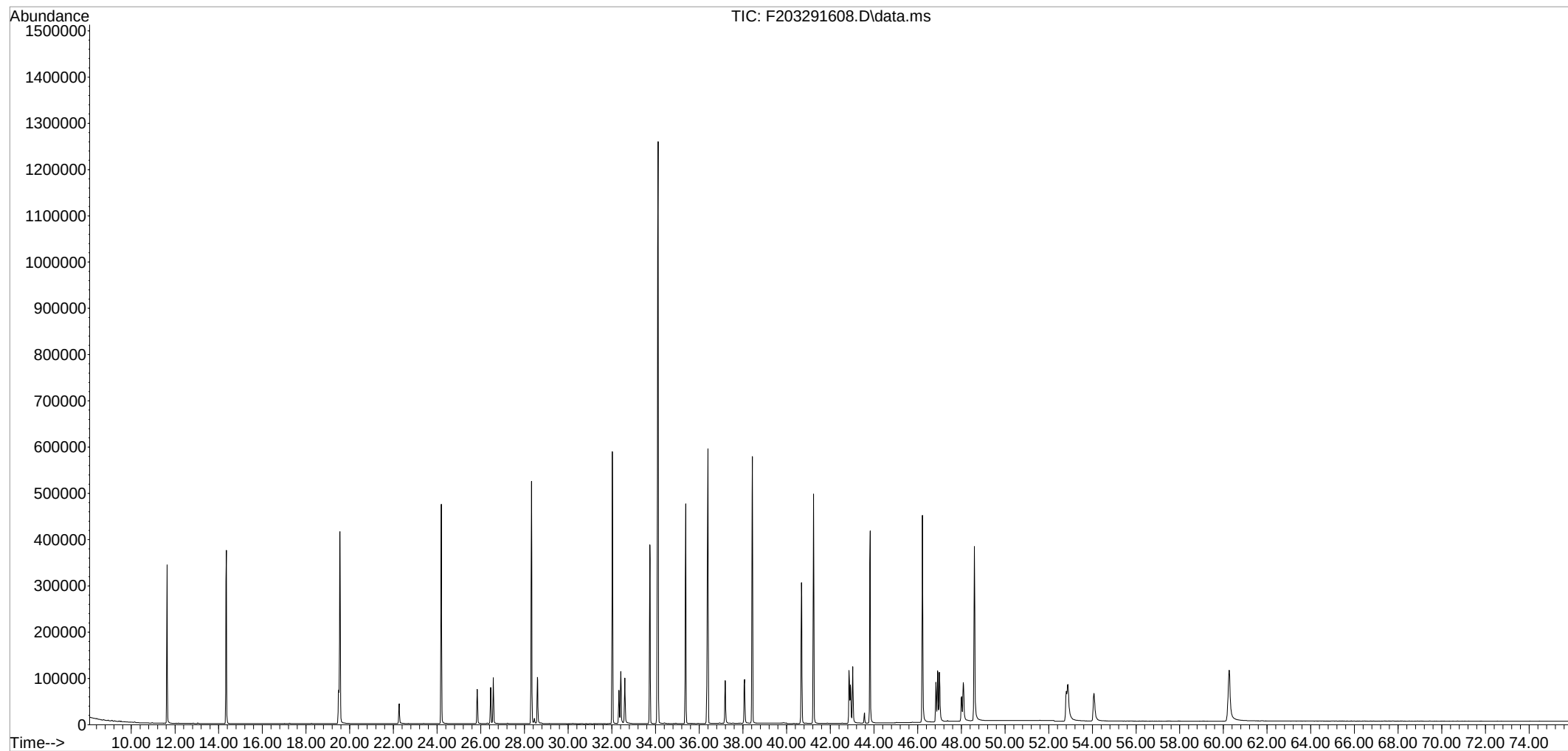
Internal Standards						
1) Acenaphthene-d10	26.452	164	101556	500.000	ng/mL	-0.02
71) Chrysene-d12	42.922	240	178635	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	177017	452.314	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	45.23%#		
40) Phenanthrene-d10	32.323	188	170934	530.021	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	53.00%		
80) Benzo[b]fluoranthene-d12	46.837	264	196387	489.395	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	48.94%#		
85) Benzo[a]pyrene-d12	48.012	264	151548	431.730	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.17%#		
126) 5B(H)Cholane - Surr	43.570	217	32996	562.098	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	56.21%		
Target Compounds						
					Qvalue	
9) Naphthalene	19.572	128	178058	439.254	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	124773	459.581	ng/mL	100
24) Acenaphthylene	25.835	152	179701M4	444.403	ng/mL	
25) Acenaphthene	26.572	153	115780	461.582	ng/mL	100
27) Fluorene	28.590	166	139867	477.759	ng/mL	99
41) Phenanthrene	32.413	178	205027	495.369	ng/mL	98
53) Anthracene	32.594	178	194597M4	518.057	ng/mL	
56) Fluoranthene	37.186	202	215493	510.025	ng/mL	99
58) Pyrene	38.074	202	227419	488.155	ng/mL	97
72) Benz[a]anthracene	42.862	228	211102	491.952	ng/mL	99
74) Chrysene/Triphenylene	43.028	228	218685	507.874	ng/mL	99
81) Benzo[b]fluoranthene	46.928	252	235015	491.719	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	265109	551.003	ng/mL	97
86) Benzo[a]pyrene	48.087	252	226419	482.498	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.801	276	241892M3	460.036	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.876	278	240068	457.781	ng/mL	99
90) Benzo[g,h,i]perylene	54.066	276	251127	448.302	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291608.D
Acq On : 29 Mar 2016 7:03 pm
Operator : PAH2:gy
Sample : SS032516LCSD02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 04 13:33:05 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PI0B_ALTNEW_REV2 - PI0B+5 SURROGATES



Form III

Spike Recovery Summary

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Alaska North Slope Crude**
 Case: **N/A** SDG: **N/A**
 Matrix: **Oil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SO022116ANC01**
 Associated Blank: **N/A**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
cis/trans-Decalin	479.2	526	110	65-135
C1-Decalins	728.9	818	112	65-135
C2-Decalins	635.5	740	117	65-135
C3-Decalins	329.8	387	117	65-135
C4-Decalins	326.5	340	104	65-135
Benzothiophene	5.4	6.18	115	65-135
C1-Benzo(b)thiophenes	28.9	36.1	125	65-135
C2-Benzo(b)thiophenes	49.6	53.2	107	65-135
C3-Benzo(b)thiophenes	99.0	110	111	65-135
C4-Benzo(b)thiophenes	87.1	94.8	109	65-135
Naphthalene	555.8	602	108	65-135
C1-Naphthalenes	1167.3	1310	112	65-135
C2-Naphthalenes	1409.7	1580	112	65-135
C3-Naphthalenes	1035.9	1140	110	65-135
C4-Naphthalenes	561.1	619	110	65-135
Biphenyl	145.7	146	101	65-135
Dibenzofuran	51.2	50.5	99	65-135
Acenaphthylene	6.5	6.56	101	65-135
Acenaphthene	18.7	16.1	86	65-135
Fluorene	74.6	74.2	99	65-135
C1-Fluorenes	170.2	168	98	65-135
C2-Fluorenes	255.4	254	100	65-135
C3-Fluorenes	238.5	234	98	65-135
Phenanthrene	212.2	196	92	65-135
C1-Phenanthrenes/Anthracenes	432.7	410	95	65-135
C2-Phenanthrenes/Anthracenes	465.9	454	98	65-135
C3-Phenanthrenes/Anthracenes	317.4	319	100	65-135
C4-Phenanthrenes/Anthracenes	129	135	104	65-135
Dibenzothiophene	138.9	134	97	65-135
C1-Dibenzothiophenes	278.6	292	105	65-135
C2-Dibenzothiophenes	377.5	399	106	65-135
C3-Dibenzothiophenes	341.4	365	107	65-135
C4-Dibenzothiophenes	183.4	194	106	65-135

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Form III

Spike Recovery Summary

Alkylated Polynuclear Aromatic Hydrocarbons



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Alaska North Slope Crude**
 Case: **N/A** SDG: **N/A**
 Matrix: **Oil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SO022116ANC01**
 Associated Blank: **N/A**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Fluoranthene	4.00	4.00	100	65-135
Pyrene	13.0	11.7	90	65-135
C1-Fluoranthenes/Pyrenes	63.1	54.6	87	65-135
C2-Fluoranthenes/Pyrenes	102.2	91.6	90	65-135
C3-Fluoranthenes/Pyrenes	119.6	114	95	65-135
C4-Fluoranthenes/Pyrenes	104	99.3	95	65-135
Naphthobenzothiophenes	43.8	38.1	87	65-135
C1-Naphthobenzothiophenes	117.2	104	89	65-135
C2-Naphthobenzothiophenes	163.3	153	94	65-135
C3-Naphthobenzothiophenes	128.7	125	97	65-135
C4-Naphthobenzothiophenes	89.0	89.6	101	65-135
Benz[a]anthracene	2.1	2.27	108	65-135
Chrysene/Triphenylene	35.2	38.9	110	65-135
C1-Chrysenes	62.8	71.7	114	65-135
C2-Chrysenes	86.0	95.1	111	65-135
C3-Chrysenes	97.6	115	118	65-135
C4-Chrysenes	59.4	66.8	113	65-135
Benzo[b]fluoranthene	5.2	5.22	100	65-135
Benzo[e]pyrene	9.8	10.3	105	65-135
Benzo[a]pyrene	1.9	1.57	82	65-135
Perylene	2.8	2.82	101	65-135
Benzo[g,h,i]perylene	3.1	3.21	103	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form III
Spike Recovery Summary
Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Carbazole	6.00	5.64	94	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 16:13

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Form III
Spike Recovery Summary
Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
4-Methyldibenzothiophene	131.8	141	107	65-135
2/3-Methyldibenzothiophene	97.5	101	104	65-135
1-Methyldibenzothiophene	44.2	43.5	98	65-135
3-Methylphenanthrene	89.4	84.0	94	65-135
2-Methylphenanthrene	97.7	92.6	95	65-135
2-Methylanthracene	3.2	2.83	89	65-135
9/4-Methylphenanthrene	141.2	134	95	65-135
1-Methylphenanthrene	97.4	94.7	97	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form III

Spike Recovery Summary

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Alaska North Slope Crude**
 Case: **N/A** SDG: **N/A**
 Matrix: **Oil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SO022116ANC01**
 Associated Blank: **N/A**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
C23 Tricyclic Terpane	67.3	72.2	107	65-135
C24 Tricyclic Terpane	43.0	49.6	115	65-135
C25 Tricyclic Terpane	42.0	44.3	106	65-135
C24 Tetracyclic Terpane	14.8	15.7	106	65-135
C26 Tricyclic Terpane-22S	17.7	18.1	102	65-135
C26 Tricyclic Terpane-22R	15.4	16.1	104	65-135
C28 Tricyclic Terpane-22S	16.8	17.2	102	65-135
C28 Tricyclic Terpane-22R	18.1	18.6	103	65-135
C29 Tricyclic Terpane-22S	20.8	21.1	101	65-135
C29 Tricyclic Terpane-22R	22.6	21.8	97	65-135
18a-22,29,30-Trisnorneohopane-TS	31.3	30.7	98	65-135
C30 Tricyclic Terpane-22S	16.2	18.4	113	65-135
C30 Tricyclic Terpane-22R	16.4	17.7	108	65-135
17a(H)-22,29,30-Trisnorhopane-TM	37.8	36.4	96	65-135
17a/b,21b/a 28,30-Bisnorhopane	7.00	7.98	114	65-135
17a(H),21b(H)-25-Norhopane	8.7	8.91	102	65-135
30-Norhopane	99.7	106	106	65-135
18a(H)-30-Norneohopane-C29Ts	25.2	26.0	103	65-135
17a(H)-Diahopane	14.2	15.1	107	65-135
30-Normoretane	11.6	12.0	103	65-135
Hopane	173.6	184	106	65-135
Moretane	17.5	16.6	95	65-135
30-Homohopane-22S	75.1	74.5	99	65-135
30-Homohopane-22R	64.1	63.9	100	65-135
30,31-Bishomohopane-22S	53.6	53.5	100	65-135
30,31-Bishomohopane-22R	39.6	39.0	98	65-135
30,31-Trishomohopane-22S	41.8	42.5	102	65-135
30,31-Trishomohopane-22R	27.2	29.2	107	65-135
Tetrakishomohopane-22S	29.8	29.9	100	65-135
Tetrakishomohopane-22R	21.2	20.6	97	65-135
Pentakishomohopane-22S	30.2	30.9	102	65-135
Pentakishomohopane-22R	23.5	24.6	105	65-135
13b(H),17a(H)-20S-Diacholestane	50.0	55.8	112	65-135

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Form III

Spike Recovery Summary

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Alaska North Slope Crude**
 Case: **N/A** SDG: **N/A**
 Matrix: **Oil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SO022116ANC01**
 Associated Blank: **N/A**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
13b(H),17a(H)-20R-Diacholestane	26.3	26.8	102	65-135
13b,17a-20S-Methyldiacholestane	25.7	23.9	93	65-135
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	65.0	69.2	107	65-135
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	75.8	76.1	100	65-135
Unknown Sterane (S18)	21.3	21.5	101	65-135
13a,17b-20S-Ethyldiacholestane	3.9	5.07	130	65-135
14a,17a-20S-Methylcholestane	37.3	38.6	103	65-135
14a,17a-20R-Methylcholestane	34.5	33.4	97	65-135
14a(H),17a(H)-20S-Ethylcholestane	51.0	43.3	85	65-135
14a(H),17a(H)-20R-Ethylcholestane	39.5	40.7	103	65-135
14b(H),17b(H)-20R-Cholestane	41.5	45.6	110	65-135
14b(H),17b(H)-20S-Cholestane	42.5	46.7	110	65-135
14b,17b-20R-Methylcholestane	44.8	47.1	105	65-135
14b,17b-20S-Methylcholestane	55.4	58.9	106	65-135
14b(H),17b(H)-20R-Ethylcholestane	60.9	67.1	110	65-135
14b(H),17b(H)-20S-Ethylcholestane	40.3	42.5	105	65-135
C26,20R- +C27,20S- triaromatic steroid	293.9	326	111	65-135
C28,20S-triaromatic steroid	187.6	207	110	65-135
C27,20R-triaromatic steroid	180.2	200	111	65-135
C28,20R-triaromatic steroid	150.5	171	113	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288



Form I
Alaska North Slope Crude
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter	Result
cis/trans-Decalin	526
C1-Decalins	818
C2-Decalins	740
C3-Decalins	387
C4-Decalins	340
Benzothiophene	6.18
C1-Benzo(b)thiophenes	36.1
C2-Benzo(b)thiophenes	53.2
C3-Benzo(b)thiophenes	110
C4-Benzo(b)thiophenes	94.8
Naphthalene	602
C1-Naphthalenes	1310
C2-Naphthalenes	1580
C3-Naphthalenes	1140
C4-Naphthalenes	619
Biphenyl	146
Dibenzofuran	50.5
Acenaphthylene	6.56
Acenaphthene	16.1
Fluorene	74.2
C1-Fluorenes	168
C2-Fluorenes	254
C3-Fluorenes	234
Anthracene	1.84 U
Phenanthrene	196
C1-Phenanthrenes/Anthracenes	410
C2-Phenanthrenes/Anthracenes	454
C3-Phenanthrenes/Anthracenes	319
C4-Phenanthrenes/Anthracenes	135
Retene	1.84 U
Dibenzothiophene	134

Parameter	Result
C1-Dibenzothiophenes	292
C2-Dibenzothiophenes	399
C3-Dibenzothiophenes	365
C4-Dibenzothiophenes	194
Benzo(b)fluorene	5.67
Fluoranthene	4.00
Pyrene	11.7
C1-Fluoranthenes/Pyrenes	54.6
C2-Fluoranthenes/Pyrenes	91.6
C3-Fluoranthenes/Pyrenes	114
C4-Fluoranthenes/Pyrenes	99.3
Naphthobenzothiophenes	38.1
C1-Naphthobenzothiophenes	104
C2-Naphthobenzothiophenes	153
C3-Naphthobenzothiophenes	125
C4-Naphthobenzothiophenes	89.6
Benz[a]anthracene	2.27
Chrysene/Triphenylene	38.9
C1-Chrysenes	71.7
C2-Chrysenes	95.1
C3-Chrysenes	115
C4-Chrysenes	66.8
Benzo[b]fluoranthene	5.22
Benzo[j]fluoranthene/Benzo[k]fluoranthene	1.84 U
Benzo[a]fluoranthene	1.84 U
Benzo[e]pyrene	10.3
Benzo[a]pyrene	1.57 J
Perylene	2.82
Indeno[1,2,3-cd]pyrene	0.780 J
Dibenz[ah]anthracene/Dibenz[ac]anthracene	0.749 J
Benzo[g,h,i]perylene	3.21

U - The analyte was analyzed for but not detected at the sample specific level reported.

J - Estimated value, below quantitation limit.

N/A - Not Applicable

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Form I
Alaska North Slope Crude
Carbazole



Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter

Result

Carbazole

5.64

N/A - Not Applicable

Form I
Alaska North Slope Crude
Polynuclear Aromatic Hydrocarbons Isomers



Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter	Result
4-Methyldibenzothiophene	141
2/3-Methyldibenzothiophene	101
1-Methyldibenzothiophene	43.5
3-Methylphenanthrene	84.0
2-Methylphenanthrene	92.6
2-Methylantracene	2.83
9/4-Methylphenanthrene	134
1-Methylphenanthrene	94.7

N/A - Not Applicable

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320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I

Alaska North Slope Crude

Steranes and Triterpanes



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Alaska North Slope Crude**
 Case: **N/A** SDG: **N/A**
 Matrix: **Oil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SO022116ANC01**
 Associated Blank: **N/A**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter	Result	Parameter	Result
C23 Tricyclic Terpane	72.2	30,31-Trishomohopane-22S	42.5
C24 Tricyclic Terpane	49.6	30,31-Trishomohopane-22R	29.2
C25 Tricyclic Terpane	44.3	Tetrakishomohopane-22S	29.9
C24 Tetracyclic Terpane	15.7	Tetrakishomohopane-22R	20.6
C26 Tricyclic Terpane-22S	18.1	Pentakishomohopane-22S	30.9
C26 Tricyclic Terpane-22R	16.1	Pentakishomohopane-22R	24.6
C28 Tricyclic Terpane-22S	17.2	13b(H),17a(H)-20S-Diacholestane	55.8
C28 Tricyclic Terpane-22R	18.6	13b(H),17a(H)-20R-Diacholestane	26.8
C29 Tricyclic Terpane-22S	21.1	13b,17a-20S-Methyldiacholestane	23.9
C29 Tricyclic Terpane-22R	21.8	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	69.2
18a-22,29,30-Trisnorhopane-TS	30.7	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	76.1
C30 Tricyclic Terpane-22S	18.4	Unknown Sterane (S18)	21.5
C30 Tricyclic Terpane-22R	17.7	13a,17b-20S-Ethyldiacholestane	5.07
17a(H)-22,29,30-Trisnorhopane-TM	36.4	14a,17a-20S-Methylcholestane	38.6
17a/b,21b/a 28,30-Bisnorhopane	7.98	14a,17a-20R-Methylcholestane	33.4
17a(H),21b(H)-25-Norhopane	8.91	14a(H),17a(H)-20S-Ethylcholestane	43.3
30-Norhopane	106	14a(H),17a(H)-20R-Ethylcholestane	40.7
18a(H)-30-Norneohopane-C29Ts	26.0	14b(H),17b(H)-20R-Cholestane	45.6
17a(H)-Diahopane	15.1	14b(H),17b(H)-20S-Cholestane	46.7
30-Normoretane	12.0	14b,17b-20R-Methylcholestane	47.1
18a(H)&18b(H)-Oleananes	2.87	14b,17b-20S-Methylcholestane	58.9
Hopane	184	14b(H),17b(H)-20R-Ethylcholestane	67.1
Moretane	16.6	14b(H),17b(H)-20S-Ethylcholestane	42.5
30-Homohopane-22S	74.5	C26,20R- +C27,20S- triaromatic steroid	326
30-Homohopane-22R	63.9	C28,20S-triaromatic steroid	207
T22a-Gammacerane/C32-diahopane	12.9	C27,20R-triaromatic steroid	200
30,31-Bishomohopane-22S	53.5	C28,20R-triaromatic steroid	171
30,31-Bishomohopane-22R	39.0		

N/A - Not Applicable

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071640.D
 Acq On : 17 Jan 2016 2:08 am
 Operator : PAH2:ac
 Sample : S0022116ANC01
 Misc : fraw54 5.436
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 20 17:45:26 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 18:15:49 2016
 Response via : Initial Calibration

MJS
2-21-2016

Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.527	164	105723M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	158684	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	387712	951.636	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	95.16%		
40) Phenanthrene-d10	32.383	188	301728	898.703	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	89.87%		
80) Benzo[b]fluoranthene-d12	46.852	264	326477	915.868	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	91.59%		
85) Benzo[a]pyrene-d12	48.012	264	306192	981.950	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	98.20%		
126) 5B(H)Cholane - Surr	43.585	217	60821	1166.374	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	116.64%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	237657	2698.222	ng/mL	100
3) cis-Decalin	17.449	138	11149	161.845	ng/mL	100
4) C1-Decalins	18.172	152	391588M5	4445.866	ng/mL	
5) C2-Decalins	19.497	166	354512M5	4024.927	ng/mL	
6) C3-Decalins	21.966	180	185273M5	2103.484	ng/mL	
7) C4-Decalins	25.338	194	162879M5	1849.235	ng/mL	
9) Naphthalene	19.647	128	1381575	3273.894	ng/mL	100
10) C1-Naphthalenes	22.342	142	3009444M5	7131.426	ng/mL	
11) C2-Naphthalenes	25.172	156	3624765M5	8589.542	ng/mL	
12) C3-Naphthalenes	27.506	170	2609688M5	6184.132	ng/mL	
13) C4-Naphthalenes	30.276	184	1419114M5	3362.849	ng/mL	
14) 2-Methylnaphthalene	22.342	142	1771669	6268.448	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	1242005	4508.021	ng/mL	100
16) Benzothiophene	19.873	134	11430M4	33.615	ng/mL	
17) C1-Benzo(b)thiophenes	21.905	148	66729M5	196.248	ng/mL	
18) C2-Benzo(b)thiophenes	25.368	162	98333M5	289.194	ng/mL	
19) C3-Benzo(b)thiophenes	27.340	176	202961M5	596.902	ng/mL	
20) C4-Benzo(b)thiophenes	29.086	190	175317M5	515.602	ng/mL	
21) Biphenyl	24.224	154	277742M4	796.517	ng/mL	
22) 2,6-Dimethylnaphthalene	24.841	156	898208	3570.195	ng/mL	100
23) Dibenzofuran	27.295	168	100347	274.396	ng/mL#	76
24) Acenaphthylene	25.925	152	15000M3	35.633	ng/mL	
25) Acenaphthene	26.663	153	22809M4	87.349	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.213	170	198130M3	891.997	ng/mL	
27) Fluorene	28.665	166	122949M4	403.418	ng/mL	
28) C1-Fluorenes	31.028	180	277701M5	911.187	ng/mL	
29) C2-Fluorenes	33.226	194	421149M5	1381.866	ng/mL	
30) C3-Fluorenes	35.048	208	388360M5	1274.279	ng/mL	
31) Dibenzothiophene	31.977	184	277243	730.151	ng/mL#	67
32) 4-Methyldibenzothiophene(	33.753	198	291527	767.769	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.099	198	209337	551.313	ng/mL	100
34) 1-Methyldibenzothiophene(	34.521	198	89704	236.246	ng/mL	100
35) OTP	34.175	198	34074	89.738	ng/mL	100
36) C1-Dibenzothiophenes	33.753	198	636924M5	1677.411	ng/mL	
36) C1-Dibenzothiophenes BS	33.753	198	602850M5	1587.674	ng/mL	
37) C2-Dibenzothiophenes	35.439	212	823248M5	2168.117	ng/mL	
38) C3-Dibenzothiophenes	37.246	226	753663M5	1984.857	ng/mL	
39) C4-Dibenzothiophenes	38.932	240	399550M5	1052.260	ng/mL	
41) Phenanthrene	32.474	178	459061	1065.428	ng/mL	95

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071640.D
 Acq On : 17 Jan 2016 2:08 am
 Operator : PAH2:ac
 Sample : S0022116ANC01
 Misc : fraw54 5.436
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 20 17:45:26 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 18:15:49 2016
 Response via : Initial Calibration

Sub List : Default - All compounds listed

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42)	3-Methylphenanthrene(3MP)	34.431	192	196719	456.562	ng/mL	98
43)	2-Methylphenanthrene(2MP)	34.551	192	216957	503.532	ng/mL	98
44)	2-Methylanthracene(2MA)	34.702	192	6634M3	15.397	ng/mL	
45)	9/4-Methylphenanthrene(9M)	34.882	192	314149	729.104	ng/mL	99
46)	1-Methylphenanthrene(1MP)	34.973	192	221863M4	514.919	ng/mL	
47)	C1-Phenanthrenes/Anthrace	34.882	192	960747M5	2229.784	ng/mL	
48)	C2-Phenanthrenes/Anthrace	36.704	206	1064441M5	2470.446	ng/mL	
48)	C2-Phenanthrenes/Anthr BS	36.704	206	1064441M5	2470.446	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.541	220	746677M5	1732.952	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.709	234	315469M5	732.167	ng/mL	
54)	Carbazole	33.317	167	12099M3	30.670	ng/mL	
55)	1-Methylphenanthrene	34.973	192	221711M4	725.567	ng/mL	
56)	Fluoranthene	37.231	202	9560M4	21.735	ng/mL	
57)	Benzo(b)fluorene	39.761	216	8821M3	30.808	ng/mL	
58)	Pyrene	38.119	202	30759M4	63.422	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.505	216	144039M5	296.993	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.311	230	241495M5	497.938	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.329	244	299106M5	616.725	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.684	258	261838M5	539.883	ng/mL	
63)	Naphthobenzothiophene	41.959	234	66937	154.453	ng/mL#	74
64)	Naphthobenzothiophene-2,1	41.959	234	66937	154.453	ng/mL#	74
65)	Naphthobenzothiophene-1,2	42.305	234	15809M4	36.478	ng/mL	
66)	Naphthobenzothiophene-2,3	42.606	234	7115M4	16.417	ng/mL	
67)	C1-Naphthobenzothiophenes	43.359	248	245973M5	567.566	ng/mL	
68)	C2-Naphthobenzothiophenes	45.362	262	360871M5	832.686	ng/mL	
69)	C3-Naphthobenzothiophenes	46.958	276	293466M5	677.153	ng/mL	
70)	C4-Naphthobenzothiophenes	48.027	290	210984M5	486.832	ng/mL	
72)	Benz[a]anthracene	42.892	228	4707M3	12.348	ng/mL	
73)	Chrysene	43.028	228	80809	211.266	ng/mL	96
74)	Chrysene/Triphenylene	43.028	228	80809	211.266	ng/mL	96
75)	C1-Chrysenes	44.518	242	149162M5	389.968	ng/mL	
76)	C2-Chrysenes	45.964	256	209911M5	548.789	ng/mL	
76)	C2-Chrysenes BS	45.964	256	197668M5	516.781	ng/mL	
77)	BBF-D12 Surr BKGD	46.852	256	12243	32.008	ng/mL	100
78)	C3-Chrysenes	49.262	270	238553M5	623.670	ng/mL	
79)	C4-Chrysenes	48.871	284	139003M5	363.408	ng/mL	
81)	Benzo[b]fluoranthene	46.928	252	12052M4	28.387	ng/mL	
84)	Benzo[e]pyrene	47.907	252	23133	55.807	ng/mL	87
86)	Benzo[a]pyrene	48.102	252	3549M3	8.514	ng/mL	
87)	Perylene	48.404	252	6354M4	15.326	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.801	276	1981M3	4.241	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.846	278	1896M4	4.070	ng/mL	
90)	Benzo[g,h,i]perylene	54.066	276	8676	17.435	ng/mL#	85
91)	Hopane (T19)	51.958	191	100865	997.605	ng/mL	96
92)	17a(H),21B(H)-hopane - C3	51.958	191	100865	997.605	ng/mL	96
93)	C23 Tricyclic Terpane (T4	40.619	191	39685M4	392.504	ng/mL	
94)	C24 Tricyclic Terpane (T5	41.342	191	27278	269.793	ng/mL	100
95)	C25 Tricyclic Terpane (T6	42.832	191	24362M4	240.952	ng/mL	
96)	C24 Tetracyclic Terpane (	44.142	191	8631M4	85.365	ng/mL	
97)	C26 Tricyclic Terpane-22S	43.886	191	9961M4	98.519	ng/mL	
98)	C26 Tricyclic Terpane-22R	43.976	191	8829	87.323	ng/mL	100
99)	C28 Tricyclic Terpane-22S	46.280	191	9428M4	93.248	ng/mL	
100)	C28 Tricyclic Terpane-22R	46.431	191	10252M4	101.397	ng/mL	
101)	C29 Tricyclic Terpane-22S	46.958	191	11595	114.680	ng/mL	100
102)	C29 Tricyclic Terpane-22R	47.154	191	12006M4	118.745	ng/mL	
103)	18a-22,29,30-Trisnorneo	48.238	191	16859	166.744	ng/mL	100

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071640.D
 Acq On : 17 Jan 2016 2:08 am
 Operator : PAH2:ac
 Sample : S0022116ANC01
 Misc : fraw54 5.436
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 20 17:45:26 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 18:15:49 2016
 Response via : Initial Calibration

Sub List : Default - All compounds listed

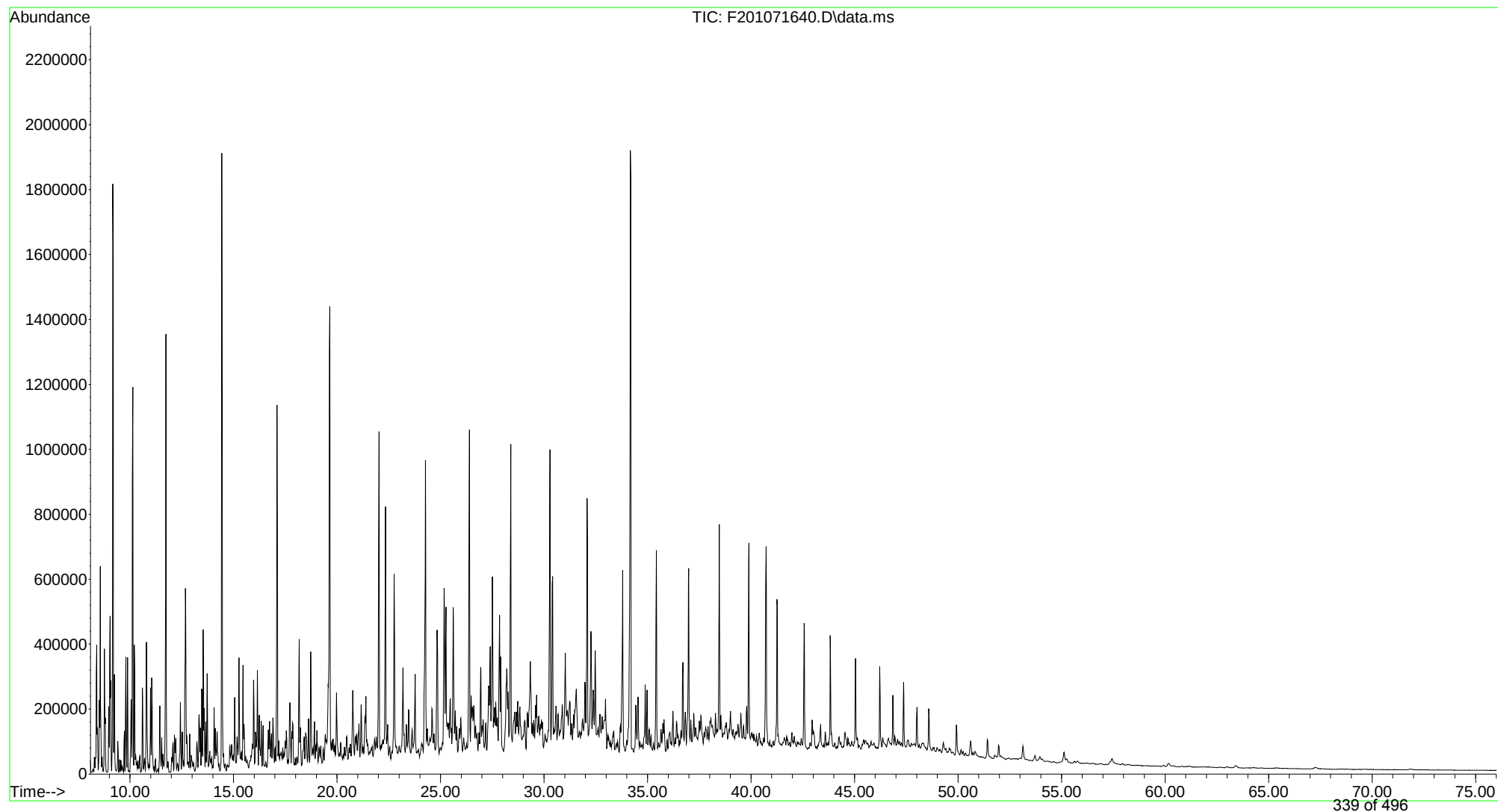
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
104)	C30 Tricyclic Terpane-22S	48.343	191	10088	99.775	ng/mL	100
105)	C30 Tricyclic Terpane-22R	48.584	191	9747M4	96.403	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.780	191	20032	198.126	ng/mL	100
107)	17a/b,21b/a 28,30-Bisnorh	49.955	191	4386M4	43.380	ng/mL	
108)	17a(H),21b(H)-25-Norhopan	49.774	191	4898	48.444	ng/mL	100
109)	30-Norhopane (T15)	50.618	191	58353	577.140	ng/mL	100
110)	18a(H)-30-Norneohopane-C2	50.723	191	14286M4	141.296	ng/mL	
111)	17a(H)-Diahopane (X)	50.843	191	8321M4	82.299	ng/mL	
112)	30-Normoretane (T17)	51.386	191	6574	65.020	ng/mL	100
113)	18a(H)&18b(H)-Oleananes (	51.777	191	1575	15.578	ng/mL	100
114)	Moretane (T20)	52.636	191	9147M4	90.468	ng/mL	
115)	30-Homohopane-22S (T21)	53.720	191	40942	404.937	ng/mL	100
116)	30-Homohopane-22R (T22)	53.946	191	35143	347.582	ng/mL	100
117)	Gammacerane/C32-diahopane	54.488	191	7098	70.203	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.256	191	29420	290.978	ng/mL	100
119)	30,31-Bishomohopane-22R (	55.632	191	21409	211.746	ng/mL	100
120)	30,31-Trishomohopane-22S	57.349	191	23363	231.072	ng/mL	100
121)	30,31-Trishomohopane-22R	57.936	191	16033M4	158.574	ng/mL	
122)	Tetrakishomohopane-22S (T	59.924	191	16457	162.768	ng/mL	100
123)	Tetrakishomohopane-22R (T	60.812	191	11304	111.802	ng/mL	100
124)	Pentakishomohopane-22S (T	62.996	191	16970	167.842	ng/mL	100
125)	Pentakishomohopane-22R (T	64.276	191	13524M4	133.759	ng/mL	
127)	13b(H),17a(H)-20S-Diachol	45.105	217	15816	303.306	ng/mL	100
128)	13b(H),17a(H)-20R-Diachol	45.527	217	7585	145.459	ng/mL	100
129)	13b,17a-20S-Methylcholest	46.220	217	6779M4	130.002	ng/mL	
130)	14a,17a-20S-Chol/13b,17a-	47.093	217	19626	376.371	ng/mL	100
131)	14a,17a-20R-Chol/13b,17a-	47.590	217	21562M4	413.498	ng/mL	
132)	Unknown Sterane (S18)	47.877	217	6103	117.038	ng/mL	100
133)	13a,17b-20S-Ethylchole	48.148	217	1437	27.558	ng/mL	100
134)	14a,17a-20S-Methylcholest	48.298	217	10938M4	209.760	ng/mL	
135)	14a,17a-20R-Methylcholest	48.991	217	9478M4	181.761	ng/mL	
136)	14a(H),17a(H)-20S-Ethylch	49.337	217	12277M4	235.438	ng/mL	
137)	14a(H),17a(H)-20R-Ethylch	50.241	217	11535M4	221.209	ng/mL	
138)	14b(H),17b(H)-20R-Cholest	47.169	218	12926M4	247.884	ng/mL	
139)	14b(H),17b(H)-20S-Cholest	47.259	218	13229M4	253.695	ng/mL	
140)	14b,17b-20R-Methylcholest	48.464	218	13350	256.015	ng/mL	100
141)	14b,17b-20S-Methylcholest	48.539	218	16684M4	319.952	ng/mL	
142)	14b(H),17b(H)-20R-Ethylch	49.578	218	19025M3	364.846	ng/mL	
143)	14b(H),17b(H)-20S-Ethylch	49.624	218	12051M3	231.104	ng/mL	
144)	C26,20R- +C27,20S- triaro	49.292	231	92467M4	1773.255	ng/mL	
145)	C28,20S-triaromatic stero	50.151	231	58694	1125.584	ng/mL	100
146)	C27,20R-triaromatic stero	50.587	231	56773	1088.745	ng/mL	100
147)	C28,20R-triaromatic stero	51.777	231	48380M3	927.791	ng/mL	

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

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071640.D
Acq On : 17 Jan 2016 2:08 am
Operator : PAH2:ac
Sample : S0022116ANC01
Misc : fraw54 5.436
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 20 17:45:26 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:15:49 2016
Response via : Initial Calibration

Sub List : Default - All compounds listed



Analysis log File

Total Files Reported in Log : 37

Log Generated From Directory: 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\

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2	F203291602.D	FRNC2A.M	✓c203291601	FRAW88 500NG/ML	3/29/2016	10:13 am
3	F203291603.D	FRNC2A.M	ans203291601	ans fraw54	3/29/2016	11:42 am
4	F203291604.D	FRNC2A.M	dcm	dcm	3/29/2016	1:11 pm
5	F203291605.D	FRNC2A.M	dcm	dcm	3/29/2016	2:39 pm
6	F203291606.D	FRNC2A.M	✓SS032516B02	1x, SS032516, etr:1603..	3/29/2016	4:07 pm
7	F203291607.D	FRNC2A.M	✓SS032516LCS02	1x, SS032516, etr:1603..	3/29/2016	5:35 pm
8	F203291608.D	FRNC2A.M	✓SS032516LCSD02	1x, SS032516, etr:1603..	3/29/2016	7:03 pm
9	F203291609.D	FRNC2A.M	✓1603006-01	1x, SS032516, etr:1603..	3/29/2016	8:30 pm
10	F203291610.D	FRNC2A.M	✓1603006-02	1x, SS032516, etr:1603..	3/29/2016	9:57 pm
11	F203291611.D	FRNC2A.M	✓1603006-03	1x, SS032516, etr:1603..	3/29/2016	11:24 pm
12	F203291612.D	FRNC2A.M	✓1603006-04	1x, SS032516, etr:1603..	3/30/2016	12:50 am
13	F203291613.D	FRNC2A.M	✓1603006-04D	1x, SS032516, etr:1603..	3/30/2016	2:17 am
14	F203291614.D	FRNC2A.M	✓1603006-05	1x, SS032516, etr:1603..	3/30/2016	3:43 am
15	F203291615.D	FRNC2A.M	✓c203291602	FRAW88 500NG/ML	3/30/2016	5:09 am
16	F203291616.D	FRNC2A.M	✓1603006-06	1x, SS032516, etr:1603..	3/30/2016	6:35 am
17	F203291617.D	FRNC2A.M	✓1603006-07	1x, SS032516, etr:1603..	3/30/2016	8:01 am
18	F203291618.D	FRNC2A.M	✓1603006-08	1x, SS032516, etr:1603..	3/30/2016	9:30 am
19	F203291619.D	FRNC2A.M	✓1603006-09	1x, SS032516, etr:1603..	3/30/2016	10:58 am
20	F203291620.D	FRNC2A.M	✓1603006-10	1x, SS032516, etr:1603..	3/30/2016	12:25 pm
21	F203291621.D	FRNC2A.M	✓1603006-11	1x, SS032516, etr:1603..	3/30/2016	1:52 pm
22	F203291622.D	FRNC2A.M	✓1603006-12	1x, SS032516, etr:1603..	3/30/2016	3:19 pm
23	F203291623.D	FRNC2A.M	ans203291602	ans fraw54	3/30/2016	4:46 pm
24	F203291624.D	FRNC2A.M	✓c203291603	FRAW88 500NG/ML	3/30/2016	6:14 pm
25	F203291625.D	FRNC2A.M	prime	FRAW88 500NG/ML	3/31/2016	8:16 am
26	F203291626.D	FRNC2A.M	surrogate frax16	FRAW88 500NG/ML	3/31/2016	9:43 am
27	F203291627.D	FRNC2A.M	✓1603006-12-RE	10x	3/31/2016	11:10 am
28	F203291628.D	FRNC2A.M	✓c203291604	fraw88 500ng/ml	3/31/2016	12:38 pm
29	F203291629.D	FRNC2A.M	dcm	dcm	3/31/2016	2:05 pm
30	F203291630.D	FRNC2A.M	surroagte st frax16	1x	3/31/2016	3:32 pm
31	F203291631.D	FRNC2A.M	S0033016B03	1x	3/31/2016	4:59 pm
32	F203291632.D	FRNC2A.M	S0033016LCS02	1x	3/31/2016	6:26 pm
33	F203291633.D	FRNC2A.M	S0033016LCSD02	1x	3/31/2016	7:53 pm
34	F203291634.D	FRNC2A.M	1603008-01	1x	3/31/2016	9:20 pm
35	F203291635.D	FRNC2A.M	1603008-01D	1x	3/31/2016	10:47 pm
36	F203291636.D	FRNC2A.M	✓1603006-10-RE	2X	4/1/2016	12:14 am
37	F203291637.D	FRNC2A.M	✓C203291605	FRAW88 500NG/ML	4/1/2016	1:40 am

PAH2011516

MAL
4/4/16

Supporting Quality Control Results



Form IV
Method Blank Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **SS032516B02**

Date Analyzed: **03/29/16 16:07**

Client ID	Lab ID	Date/Time Analyzed
LCS	SS032516LCS02	03/29/16 17:35
LCSD	SS032516LCSD02	03/29/16 19:03
RX-1	1603006-01	03/29/16 20:30
RX-2	1603006-02	03/29/16 21:57
RX-3	1603006-03	03/29/16 23:24
RX-4	1603006-04	03/30/16 00:50
RX-4	1603006-04 D	03/30/16 02:17
RX-5	1603006-05	03/30/16 03:43
RX-6	1603006-06	03/30/16 06:35
RX-7	1603006-07	03/30/16 08:01
RX-7A	1603006-08	03/30/16 09:30
RX-7B	1603006-09	03/30/16 10:58
RX-8	1603006-10	03/30/16 12:25
RX-8A	1603006-11	03/30/16 13:52
RX-8B	1603006-12	03/30/16 15:19
RX-8B	1603006-12E	03/31/16 11:10
RX-8	1603006-10E	04/01/16 00:14

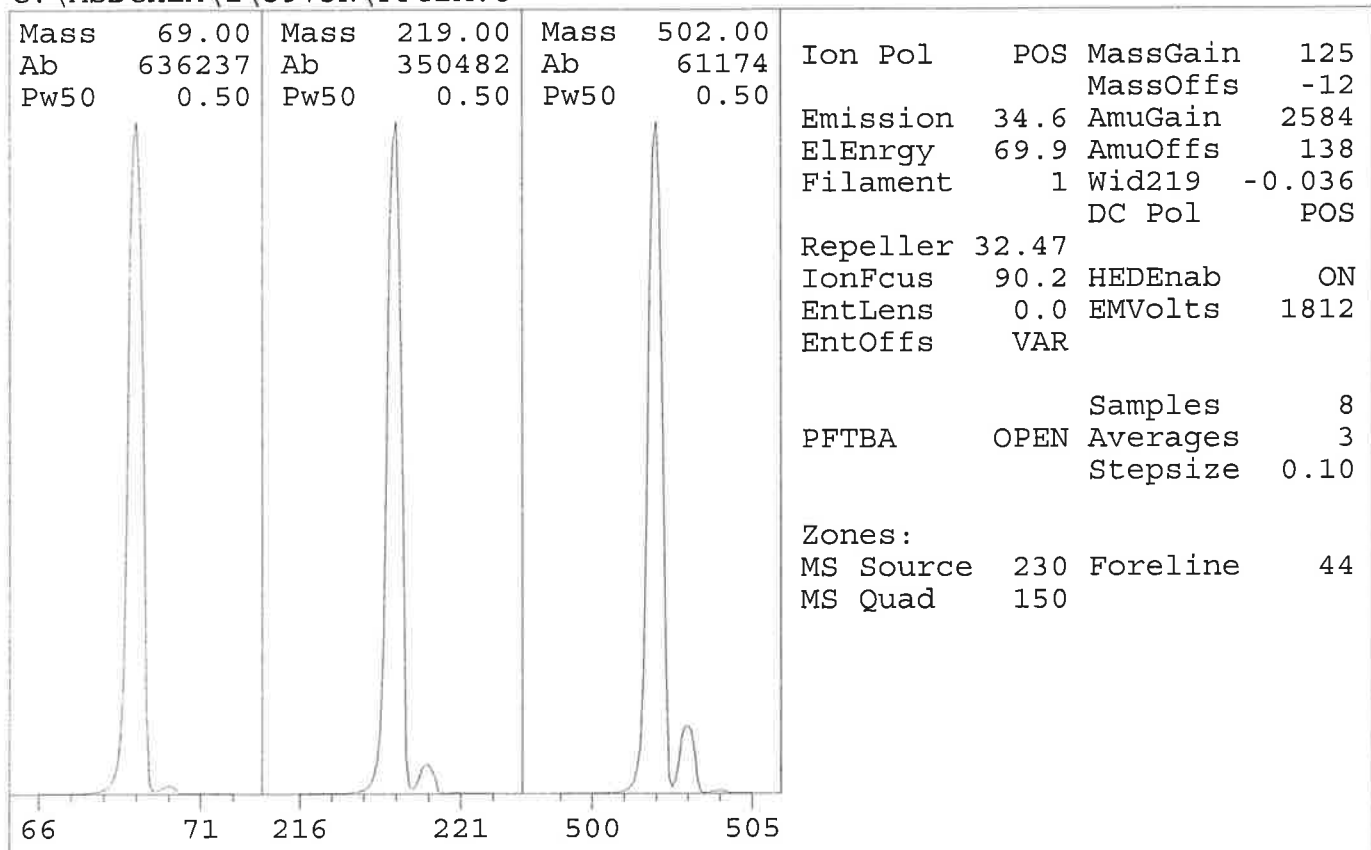
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04/04/16 15:38

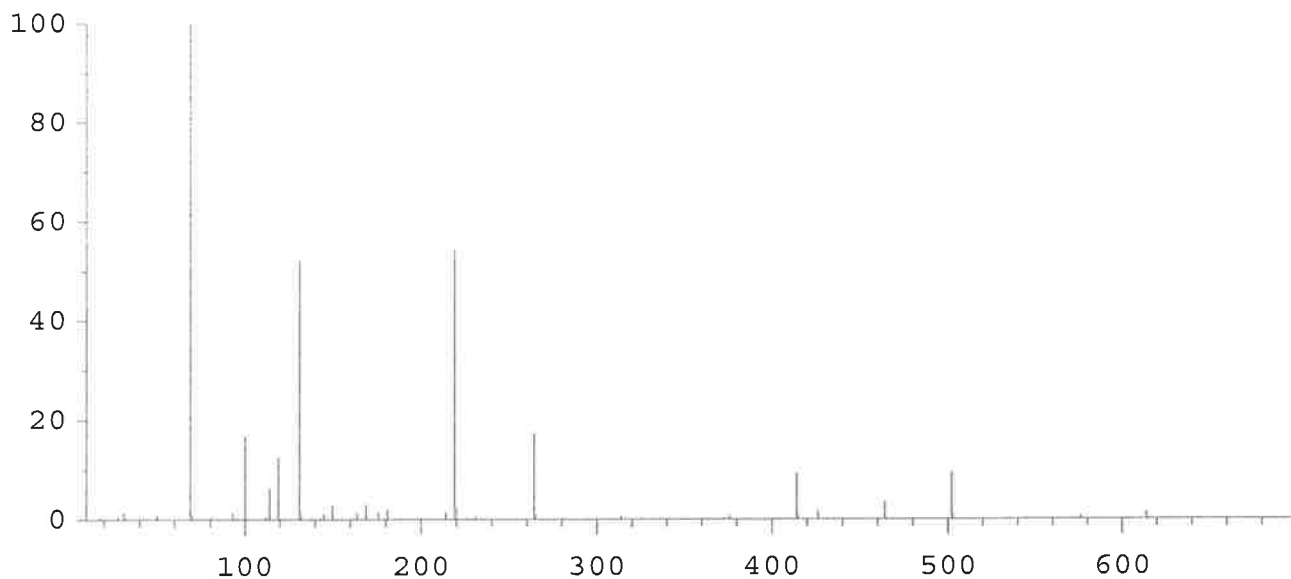
320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Fri Jan 15 09:07:38 2016
C:\MSDCHEM\1\5973N\PFTBA.U

Instrument: PAH2



Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
180 peaks Base: 69.00 Abundance: 560576



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	560576	100.00	70.00	6506	1.16
218.90	303680	54.17	220.00	13880	4.57
502.00	53704	9.58	503.00	5602	10.43

TARGET MASS:	50	69	131	219	414	502
DYNAMIC ENT OFFSET:	17.1	16.8	17.8	16.6	20.8	20.6
TARGET ABUND(%) :	1.0	100.0	50.0	53.0	9.0	9.0
ACTUAL TUNE ABUND(%) :	0.9	100.0	52.3	54.2	9.3	9.6

343 of 496

Analysis log File

Total Files Reported in Log : 41

Log Generated From Directory: 0:\Forensics\Data\PAH2\2016\JAN16\jan14\

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1	F201071601.D	FRNC2A.M	prime	1x	1/14/2016	8:21 am
2	F201071602.D	FRNC2A.M	prime	1x	1/14/2016	9:48 am
3	F201071603.D	FRNC2A.M	prime	1x	1/14/2016	11:15 am
4	F201071604.D	FRNC2A.M	prime	1x	1/14/2016	12:42 pm
5	F201071605.D	FRNC2A.M	prime	1x	1/14/2016	2:09 pm
6	F201071606.D	FRNC2A.M	prime	1x	1/14/2016	3:37 pm
7	F201071607.D	FRNC2A.M	prime	1x	1/14/2016	5:04 pm
8	F201071608.D	FRNC2A.M	prime	1x	1/14/2016	6:32 pm
9	F201071609.D	FRNC2A.M	prime	1x	1/14/2016	7:59 pm
10	F201071610.D	FRNC2A.M	prime	1x	1/14/2016	9:27 pm
11	F201071611.D	FRNC2F.M	cc	1x	1/14/2016	10:54 pm
12	F201071612.D	FRNC2A.M	ll	1x	1/15/2016	12:21 am
13	F201071613.D	FRNC2A.M	dcm	1x	1/15/2016	1:48 am
14	F201071614.D	FRNC2A.M	dcm	1x	1/15/2016	3:16 am
15	F201071615.D	FRNC2A.M	ll	1x	1/15/2016	1:25 pm
16	F201071616.D	FRNC2A.M	dcm	1x	1/15/2016	2:53 pm
17	F201071617.D	FRNC2A.M	dcm	1x	1/15/2016	4:21 pm
18	F201071618.D	FRNC2A.M	i201141601	l1 fraw20	1/15/2016	5:48 pm
19	F201071619.D	FRNC2A.M	i201141602	l2 fraw21	1/15/2016	7:16 pm
20	F201071620.D	FRNC2A.M	i201141603	l3 fraw22	1/15/2016	8:44 pm
21	F201071621.D	FRNC2A.M	i201141604	l4 fraw88	1/15/2016	10:12 pm
22	F201071622.D	FRNC2A.M	i201141605	l5 fraw24	1/15/2016	11:41 pm
23	F201071623.D	FRNC2A.M	i201141606	l6 fraw25	1/16/2016	1:09 am
24	F201071624.D	FRNC2A.M	i201141607	l7 fraw25	1/16/2016	2:37 am
25	F201071625.D	FRNC2A.M	dcm	dcm	1/16/2016	4:05 am
26	F201071626.D	FRNC2A.M	q201141601	fraw33	1/16/2016	5:33 am
27	F201071627.D	FRNC2A.M	dcm	dcm	1/16/2016	7:01 am
28	F201071628.D	FRNC2A.M	ans201141601	fraw54 5.436	1/16/2016	8:30 am
29	F201071629.D	FRNC2A.M	dcm	dcm	1/16/2016	9:59 am
30	F201071630.D	FRNC2A.M	✓ i201151601	l1 fraw20	1/16/2016	11:27 am
31	F201071631.D	FRNC2A.M	✓ i201151602	l2 fraw21	1/16/2016	12:55 pm
32	F201071632.D	FRNC2A.M	✓ i201151603	l3 fraw22	1/16/2016	2:24 pm
33	F201071633.D	FRNC2A.M	✓ i201151604 PAH2011516	l4 fraw88	1/16/2016	3:53 pm
34	F201071634.D	FRNC2A.M	✓ i201151605	l5 fraw24	1/16/2016	5:21 pm
35	F201071635.D	FRNC2A.M	✓ i201151606	l6 fraw25	1/16/2016	6:49 pm
36	F201071636.D	FRNC2A.M	✓ i201151607	l7 fraw25	1/16/2016	8:17 pm
37	F201071637.D	FRNC2A.M	dcm	dcm	1/16/2016	9:45 pm
38	F201071638.D	FRNC2A.M	✓ q201151601	fraw33	1/16/2016	11:13 pm
39	F201071639.D	FRNC2A.M	dcm	dcm	1/17/2016	12:41 am
40	F201071640.D	FRNC2A.M	✓ S0022116ANC01	fraw54 5.436	1/17/2016	2:08 am
41	F201071641.D	FRNC2A.M	dcm	dcm	1/17/2016	3:36 am

MJS
2-21-2016

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Method File : PAH2011516.M
 Title : Decalins & Alkylated PAH's
 Last Update : Tue Jan 19 18:04:12 2016
 Response Via : Initial Calibration

Calibration Files

10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
 2e4 =F201071636.D

Compound		10	25	100	500	5000	1e4	2e4	Avg	%RSD
-----		-----								
1) i	Acenaphthene-d10	-----ISTD-----								
2) A1	trans-Decalin	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
3) t	cis-Decalin	0.365	0.322	0.317	0.316	0.321	0.328	0.311	0.326	5.57
4) A2	C1-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
5) A2	C2-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
6) A2	C3-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
7) A2	C4-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
8) s	Naphthalene-d8	2.030	2.017	1.951	1.901	1.932	1.911	1.746	1.927	4.87
9) A1	Naphthalene	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
10) A2	C1-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
11) A2	C2-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
12) A2	C3-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
13) A2	C4-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
14) t	2-Methylnaphth...	1.375	1.367	1.330	1.358	1.345	1.347	1.234	1.337	3.56
15) t	1-Methylnaphth...	1.359	1.336	1.303	1.309	1.315	1.295	1.204	1.303	3.75
16) A1	Benzothiophene	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
17) A2	C1-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
18) A2	C2-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
19) A2	C3-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
20) A2	C4-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
21) t	Biphenyl	1.715	1.721	1.657	1.681	1.670	1.619	1.480	1.649	4.99
22) t	2,6-Dimethylna...	1.224	1.184	1.176	1.205	1.240	1.208	1.092	1.190	4.05
23) t	Dibenzofuran	1.837	1.811	1.799	1.772	1.735	1.654	1.499	1.730	6.84
24) t	Acenaphthylene	2.027	2.057	1.989	2.031	2.043	2.001	1.788	1.991	4.65
25) t	Acenaphthene	1.299	1.278	1.252	1.254	1.248	1.209	1.104	1.235	5.18
26) t	2,3,5-Trimethy...	1.091	1.063	1.050	1.070	1.083	1.040	0.957	1.050	4.28
27) A1	Fluorene	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
28) A2	C1-Fluorenes	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
29) A2	C2-Fluorenes	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
30) A2	C3-Fluorenes	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
31) A1	Dibenzothiophene	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
32) A2	4-Methyldibenz...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
33) A2	2/3-Methyldibe...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
34) A2	1-Methyldibenz...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
35) A2	OTP	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
36) A2	C1-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
37) A2	C2-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
38) A2	C3-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
39) A2	C4-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
40) s	Phenanthrene-d10	1.665	1.609	1.587	1.642	1.612	1.555	1.444	1.588	4.57
41) A1	Phenanthrene	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
42) A2	3-Methylphenan...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
43) A2	2-Methylphenan...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95

MJS
2-21-2016

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
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 Last Update : Tue Jan 19 18:04:12 2016
 Response Via : Initial Calibration

Calibration Files

10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
 2e4 =F201071636.D

Compound		10	25	100	500	5000	1e4	2e4	Avg	%RSD
44) A2	2-Methylanthra...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
45) A2	9/4-Methylphen...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
46) A2	1-Methylphenan...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
47) A2	C1-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
48) A2	C2-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
49) A2	5AA IS BKGD	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
50) A2	C3-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
51) A2	C4-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
52) t	Retene	0.583	0.569	0.553	0.600	0.630	0.627	0.605	0.595	4.76
53) t	Anthracene	2.052	2.020	1.994	2.020	1.840	1.628	1.392	1.849	13.59
54) t	Carbazole	1.944	1.890	1.898	1.955	1.896	1.814	1.663	1.866	5.38
55) t	1-Methylphenan...	1.493	1.461	1.421	1.485	1.505	1.417	1.335	1.445	4.10
56) A1	Fluoranthene	2.133	2.110	2.091	2.180	2.144	2.026	1.877	2.080	4.89
57) t	Benzo(b)fluorene	1.354	1.335	1.308	1.410	1.419	1.390	1.263	1.354	4.22
58) A1	Pyrene	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
59) A2	C1-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
60) A2	C2-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
61) A2	C3-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
62) A2	C4-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
63) A1	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
64) A2	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
65) A2	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
66) A2	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
67) A2	C1-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
68) A2	C2-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
69) A2	C3-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
70) A2	C4-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
-----ISTD-----										
71) i	Chrysene-d12	1.299	1.193	1.235	1.237	1.247	1.147	1.051	1.201	6.76
72) t	Benz[a]anthracene	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
73) A1	Chrysene	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
74) A2	Chrysene/Triph...	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
75) A2	C1-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
76) A2	C2-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
77) A2	BBF-D12 Surr BKGD	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
78) A2	C3-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
79) A2	C4-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
80) s	Benzo[b]fluora...	1.211	1.131	1.103	1.112	1.171	1.107	1.028	1.123	5.11
81) t	Benzo[b]fluora...	1.420	1.367	1.349	1.359	1.406	1.291	1.172	1.338	6.30
82) A1	Benzo[j]+[k]fl...	1.461	1.430	1.432	1.415	1.368	1.223	1.097	1.347	10.07
83) A2	Benzo[a]fluora...	1.461	1.430	1.432	1.415	1.368	1.223	1.097	1.347	10.07
84) t	Benzo[e]pyrene	1.511	1.383	1.342	1.321	1.307	1.194	1.085	1.306	10.41
85) s	Benzo[a]pyrene...	1.065	0.997	0.977	0.965	1.027	0.961	0.884	0.983	5.80
86) t	Benzo[a]pyrene	1.517	1.384	1.356	1.365	1.335	1.180	1.058	1.313	11.41

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
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Calibration Files

10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
 2e4 =F201071636.D

	Compound	10	25	100	500	5000	1e4	2e4	Avg	%RSD
87) t	Perylene	1.473	1.366	1.386	1.346	1.304	1.179	1.089	1.306	10.01
88) t	Indeno[1,2,3-c...	1.515	1.454	1.393	1.416	1.538	1.531	1.456	1.472	3.90
89) t	Dibenz[ah]+[ac...	1.566	1.448	1.438	1.469	1.530	1.459	1.365	1.468	4.43
90) t	Benzo[g,h,i]pe...	1.792	1.631	1.581	1.547	1.558	1.484	1.383	1.568	8.08
91) A1	Hopane (T19)	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
92) A2	17a(H),21b(H)-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
93) A2	C23 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
94) A2	C24 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
95) A2	C25 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
96) A2	C24 Tetracycli...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
97) A2	C26 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
98) A2	C26 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
99) A2	C28 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
100) A2	C28 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
101) A2	C29 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
102) A2	C29 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
103) A2	18a-22,29,30-T...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
104) A2	C30 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
105) A2	C30 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
106) A2	17a(H)-22,29,3...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
107) A2	17a/b,21b/a 28...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
108) A2	17a(H),21b(H)-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
109) A2	30-Norhopane (...)	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
110) A2	18a(H)-30-Norn...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
111) A2	17a(H)-Diahopa...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
112) A2	30-Normoretane...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
113) A2	18a(H)&18b(H)-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
114) A2	Moretane (T20)	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
115) A2	30-Homohopane-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
116) A2	30-Homohopane-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
117) A2	Gammacerane/C3...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
118) A2	30,31-Bishomoh...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
119) A2	30,31-Bishomoh...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
120) A2	30,31-Trishomo...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
121) A2	30,31-Trishomo...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
122) A2	Tetrakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
123) A2	Tetrakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
124) A2	Pentakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
125) A2	Pentakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
126) SA1	5B(H)Cholane -...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
127) A2	13b(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
128) A2	13b(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
129) A2	13b,17a-20S-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
130) A2	14a,17a-20S-Ch...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Method File : PAH2011516.M
 Title : Decalins & Alkylated PAH's
 Last Update : Tue Jan 19 18:04:12 2016
 Response Via : Initial Calibration

Calibration Files

10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
 2e4 =F201071636.D

Compound			10	25	100	500	5000	1e4	2e4	Avg	%RSD
131)	A2	14a,17a-20R-Ch...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
132)	A2	Unknown Steran...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
133)	A2	13a,17b-20S-Et...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
134)	A2	14a,17a-20S-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
135)	A2	14a,17a-20R-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
136)	A2	14a(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
137)	A2	14a(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
138)	A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
139)	A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
140)	A2	14b,17b-20R-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
141)	A2	14b,17b-20S-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
142)	A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
143)	A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
144)	A2	C26,20R- +C27,...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
145)	A2	C28,20S-triaro...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
146)	A2	C27,20R-triaro...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
147)	A2	C28,20R-triaro...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70

(#) = Out of Range

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071630.D
 Acq On : 16 Jan 2016 11:27 am
 Operator : PAH2:ac
 Sample : i201151601
 Misc : l1 fraw20
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 20 17:44:40 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Mon Nov 23 10:36:31 2015
 Response via : Initial Calibration

MJS
2-21-2016

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.527	164	125979M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	207011	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	5115	12.323	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.23%#		
40) Phenanthrene-d10	32.383	188	4195	9.727	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.97%#		
80) Benzo[b]fluoranthene-d12	46.837	264	5012	11.872	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.19%#		
85) Benzo[a]pyrene-d12	47.997	264	4411	12.272	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.23%#		
126) 5B(H)Cholane - Surr	43.585	217	748M4	11.046	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.10%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	567	5.402	ng/mL	100
3) cis-Decalin	17.449	138	460	5.626	ng/mL	100
9) Naphthalene	19.647	128	5276	12.277	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	3464	11.618	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	3425	11.909	ng/mL	100
16) Benzothiophene	19.873	134	4176	11.809	ng/mL	100
21) Biphenyl	24.224	154	4321	11.308	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	3084	11.200	ng/mL	100
23) Dibenzofuran	27.295	168	4628	11.228	ng/mL	91
24) Acenaphthylene	25.910	152	5108	11.558	ng/mL	100
25) Acenaphthene	26.648	153	3273	11.141	ng/mL	97
26) 2,3,5-Trimethylnaphthalen	28.198	170	2750	10.577	ng/mL	93
27) Fluorene	28.665	166	3794	11.499	ng/mL	99
31) Dibenzothiophene	31.977	184	4627	10.358	ng/mL#	91
41) Phenanthrene	32.474	178	5326	11.819	ng/mL	98
52) Retene	39.444	234	1470	8.341	ng/mL	96
53) Anthracene	32.639	178	5170M4	12.324	ng/mL	
54) Carbazole	33.317	167	4898	12.771	ng/mL	97
55) 1-Methylphenanthrene	34.973	192	3762	10.458	ng/mL	96
56) Fluoranthene	37.231	202	5375	10.194	ng/mL	99
57) Benzo(b)fluorene	39.746	216	3412	9.761	ng/mL	99
58) Pyrene	38.104	202	5998	10.418	ng/mL	98
63) Naphthobenzothiophene	41.959	234	5545	11.034	ng/mL	95
64) Naphthobenzothiophene-2,1	41.959	234	5545	11.034	ng/mL	95
72) Benz[a]anthracene	42.877	228	5377M3	13.671	ng/mL	
73) Chrysene	43.043	228	5422	11.882	ng/mL	99
74) Chrysene/Triphenylene	43.043	228	5422	11.882	ng/mL	99
81) Benzo[b]fluoranthene	46.913	252	5879	14.183	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	6050	12.608	ng/mL	99
84) Benzo[e]pyrene	47.907	252	6257	13.837	ng/mL	94
86) Benzo[a]pyrene	48.087	252	6280	14.486	ng/mL	98
87) Perylene	48.389	252	6099	13.622	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.786	276	6271M3	13.589	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.861	278	6482	14.745	ng/mL	93
90) Benzo[g,h,i]perylene	54.051	276	7420	14.449	ng/mL	97
91) Hopane (T19)	51.958	191	1128M4	10.738	ng/mL	
92) 17a(H),21B(H)-hopane - C3	51.958	191	1113M4	10.595	ng/mL	

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071630.D
Acq On : 16 Jan 2016 11:27 am
Operator : PAH2:ac
Sample : i201151601
Misc : l1 fraw20
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 20 17:44:40 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Mon Nov 23 10:36:31 2015
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

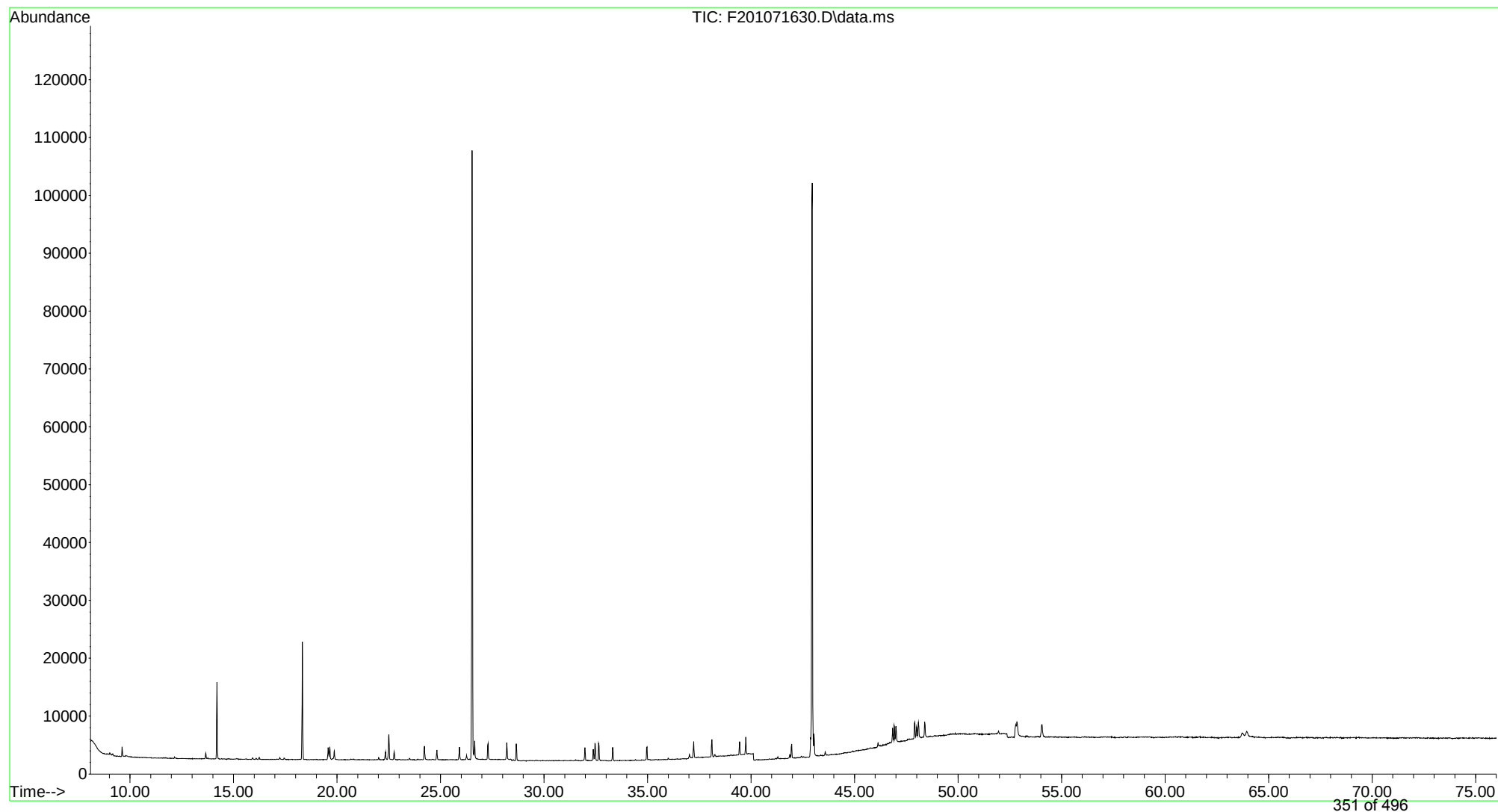
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071630.D
Acq On : 16 Jan 2016 11:27 am
Operator : PAH2:ac
Sample : i201151601
Misc : l1 fraw20
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 20 17:44:40 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Mon Nov 23 10:36:31 2015
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071631.D
 Acq On : 16 Jan 2016 12:55 pm
 Operator : PAH2:ac
 Sample : i201151602
 Misc : l2 fraw21
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 20 17:44:46 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 17:41:31 2016
 Response via : Initial Calibration

MJS
2-21-2016

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.527	164	110644M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	181793	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	11157	30.604	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	3.06%#		
40) Phenanthrene-d10	32.383	188	8902	23.502	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.35%#		
80) Benzo[b]fluoranthene-d12	46.837	264	10281	27.732	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.77%#		
85) Benzo[a]pyrene-d12	47.997	264	9060	28.702	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.87%#		
126) 5B(H)Cholane - Surr	43.585	217	1420	23.879	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.39%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	1196	12.974	ng/mL	100
3) cis-Decalin	17.449	138	890	12.394	ng/mL	100
9) Naphthalene	19.647	128	11545	30.588	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	7565	28.890	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	7389	29.252	ng/mL	100
16) Benzothiophene	19.873	134	9363	30.146	ng/mL	100
21) Biphenyl	24.224	154	9521	28.368	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	6549	27.080	ng/mL	100
23) Dibenzofuran	27.295	168	10018	27.674	ng/mL	94
24) Acenaphthylene	25.910	152	11380	29.320	ng/mL	100
25) Acenaphthene	26.648	153	7071	27.405	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	5880	25.749	ng/mL	96
27) Fluorene	28.665	166	8062M4	27.822	ng/mL	
31) Dibenzothiophene	31.977	184	10377	26.450	ng/mL#	93
41) Phenanthrene	32.459	178	11696	29.553	ng/mL	99
52) Retene	39.444	234	3150	20.351	ng/mL	95
53) Anthracene	32.639	178	11176	30.332	ng/mL	100
54) Carbazole	33.317	167	10457	31.045	ng/mL	100
55) 1-Methylphenanthrene	34.958	192	8081M4	25.579	ng/mL	
56) Fluoranthene	37.231	202	11671M4	25.203	ng/mL	
57) Benzo(b)fluorene	39.746	216	7384	24.052	ng/mL	100
58) Pyrene	38.104	202	12693	25.103	ng/mL	100
63) Naphthobenzothiophene	41.959	234	11452	25.946	ng/mL	95
64) Naphthobenzothiophene-2,1	41.959	234	11452	25.946	ng/mL	95
72) Benz[a]anthracene	42.877	228	10841M3	31.387	ng/mL	
73) Chrysene	43.043	228	11321	28.250	ng/mL	99
74) Chrysene/Triphenylene	43.043	228	11321	28.250	ng/mL	99
81) Benzo[b]fluoranthene	46.913	252	12424	34.130	ng/mL	96
82) Benzo[j]+[k]fluoranthene	47.003	252	13002	30.854	ng/mL	95
84) Benzo[e]pyrene	47.907	252	12568	31.649	ng/mL	93
86) Benzo[a]pyrene	48.087	252	12581	33.047	ng/mL	100
87) Perylene	48.389	252	12415	31.576	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.786	276	13214M3	32.607	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	13166	34.105	ng/mL	97
90) Benzo[g,h,i]perylene	54.051	276	14827	32.877	ng/mL	100
91) Hopane (T19)	51.943	191	3102M4	33.626	ng/mL	
92) 17a(H),21B(H)-hopane - C3	51.943	191	3102M4	33.626	ng/mL	

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071631.D
Acq On : 16 Jan 2016 12:55 pm
Operator : PAH2:ac
Sample : i201151602
Misc : l2 fraw21
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 20 17:44:46 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

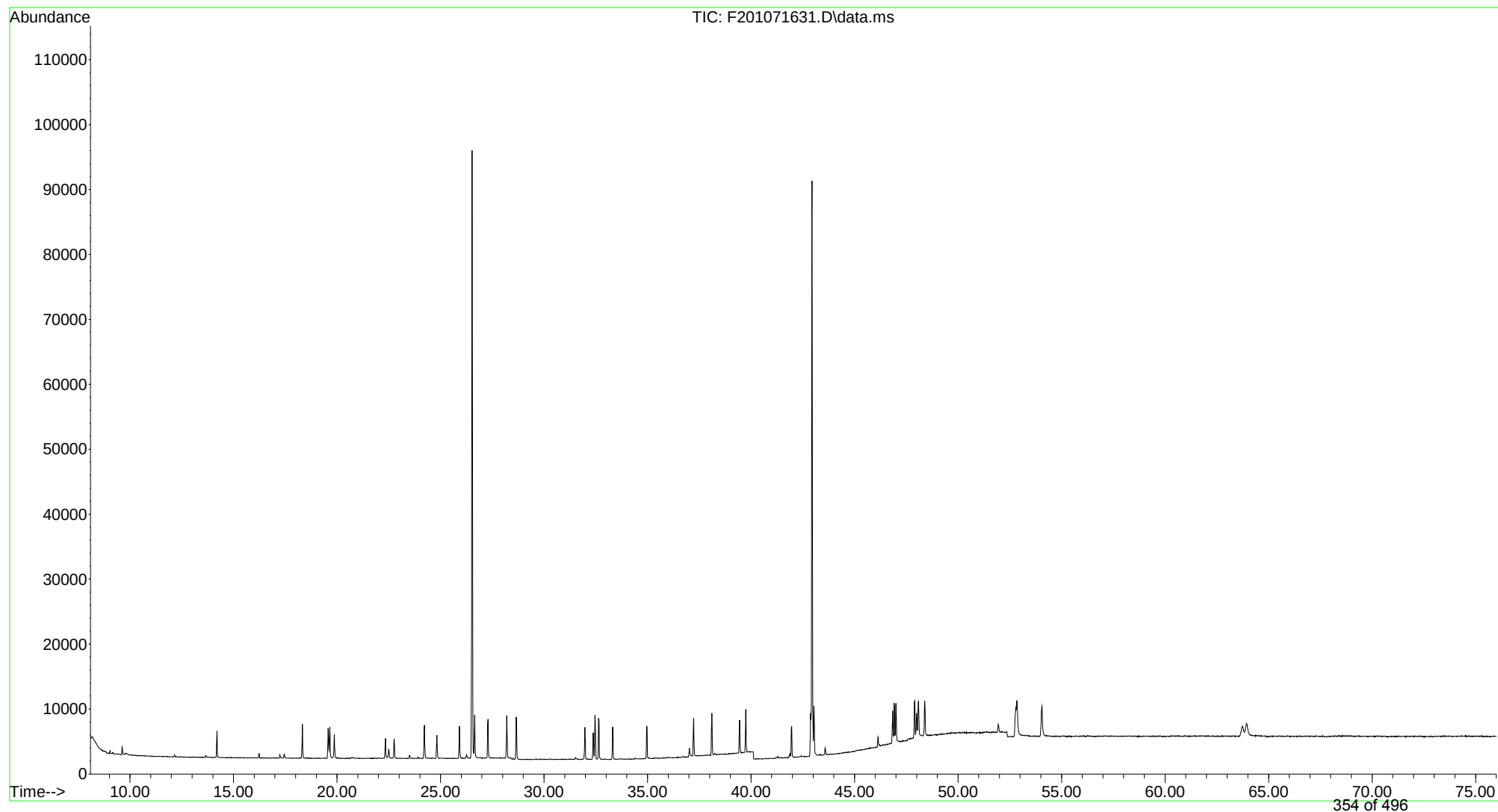
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071631.D
Acq On : 16 Jan 2016 12:55 pm
Operator : PAH2:ac
Sample : i201151602
Misc : l2 fraw21
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 20 17:44:46 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071632.D
 Acq On : 16 Jan 2016 2:24 pm
 Operator : PAH2:ac
 Sample : i201151603
 Misc : l3 fraw22
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 20 17:44:51 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 17:41:31 2016
 Response via : Initial Calibration

MJS
2-21-2016

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.527	164	109229	500.000	ng/mL	0.00
71) Chrysene-d12	42.937	240	176331	500.000	ng/mL	-0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	42623	118.432	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	11.84%#		
40) Phenanthrene-d10	32.383	188	34660	92.691	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.27%#		
80) Benzo[b]fluoranthene-d12	46.837	264	38903	108.186	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	10.82%#		
85) Benzo[a]pyrene-d12	47.997	264	34468	112.578	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	11.26%#		
126) 5B(H)Cholane - Surr	43.585	217	5467	94.783	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.48%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	4412	48.481	ng/mL	100
3) cis-Decalin	17.449	138	3459	48.794	ng/mL	100
9) Naphthalene	19.647	128	44738	120.066	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	29045	112.356	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	28468	114.160	ng/mL	100
16) Benzothiophene	19.873	134	35429	115.549	ng/mL	100
21) Biphenyl	24.224	154	36207	109.279	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	25686	107.588	ng/mL	100
23) Dibenzofuran	27.295	168	39296	109.957	ng/mL	95
24) Acenaphthylene	25.910	152	43461	113.425	ng/mL	100
25) Acenaphthene	26.648	153	27347	107.363	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	22938	101.750	ng/mL	93
27) Fluorene	28.665	166	31721M4	110.886	ng/mL	
31) Dibenzothiophene	31.977	184	40269	103.970	ng/mL	94
41) Phenanthrene	32.458	178	45861	117.382	ng/mL	99
52) Retene	39.444	234	12090	79.123	ng/mL	94
53) Anthracene	32.639	178	43562M4	119.762	ng/mL	
54) Carbazole	33.316	167	41465M4	124.695	ng/mL	
55) 1-Methylphenanthrene	34.973	192	31036M4	99.512	ng/mL	
56) Fluoranthene	37.231	202	45671	99.900	ng/mL	99
57) Benzo(b)fluorene	39.745	216	28567	94.256	ng/mL	100
58) Pyrene	38.104	202	50186	100.538	ng/mL	99
63) Naphthobenzothiophene	41.959	234	45350	104.076	ng/mL	96
64) Naphthobenzothiophene-2,1	41.959	234	45350	104.076	ng/mL	96
72) Benz[a]anthracene	42.877	228	43549	129.989	ng/mL	100
73) Chrysene	43.043	228	45029	115.843	ng/mL	100
74) Chrysene/Triphenylene	43.043	228	45029	115.843	ng/mL	100
81) Benzo[b]fluoranthene	46.913	252	47578	134.749	ng/mL	100
82) Benzo[j]+[k]fluoranthene	47.003	252	50502	123.555	ng/mL	98
84) Benzo[e]pyrene	47.907	252	47324	122.865	ng/mL	98
86) Benzo[a]pyrene	48.087	252	47822	129.508	ng/mL	99
87) Perylene	48.389	252	48884	128.181	ng/mL	100
88) Indeno[1,2,3-cd]pyrene	52.786	276	49128M3	124.984	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	50723	135.460	ng/mL	99
90) Benzo[g,h,i]perylene	54.051	276	55739	127.423	ng/mL	100
91) Hopane (T19)	51.943	191	11504	128.568	ng/mL	100
92) 17a(H),21B(H)-hopane - C3	51.943	191	11504	128.568	ng/mL	100

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071632.D
Acq On : 16 Jan 2016 2:24 pm
Operator : PAH2:ac
Sample : i201151603
Misc : l3 fraw22
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 20 17:44:51 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

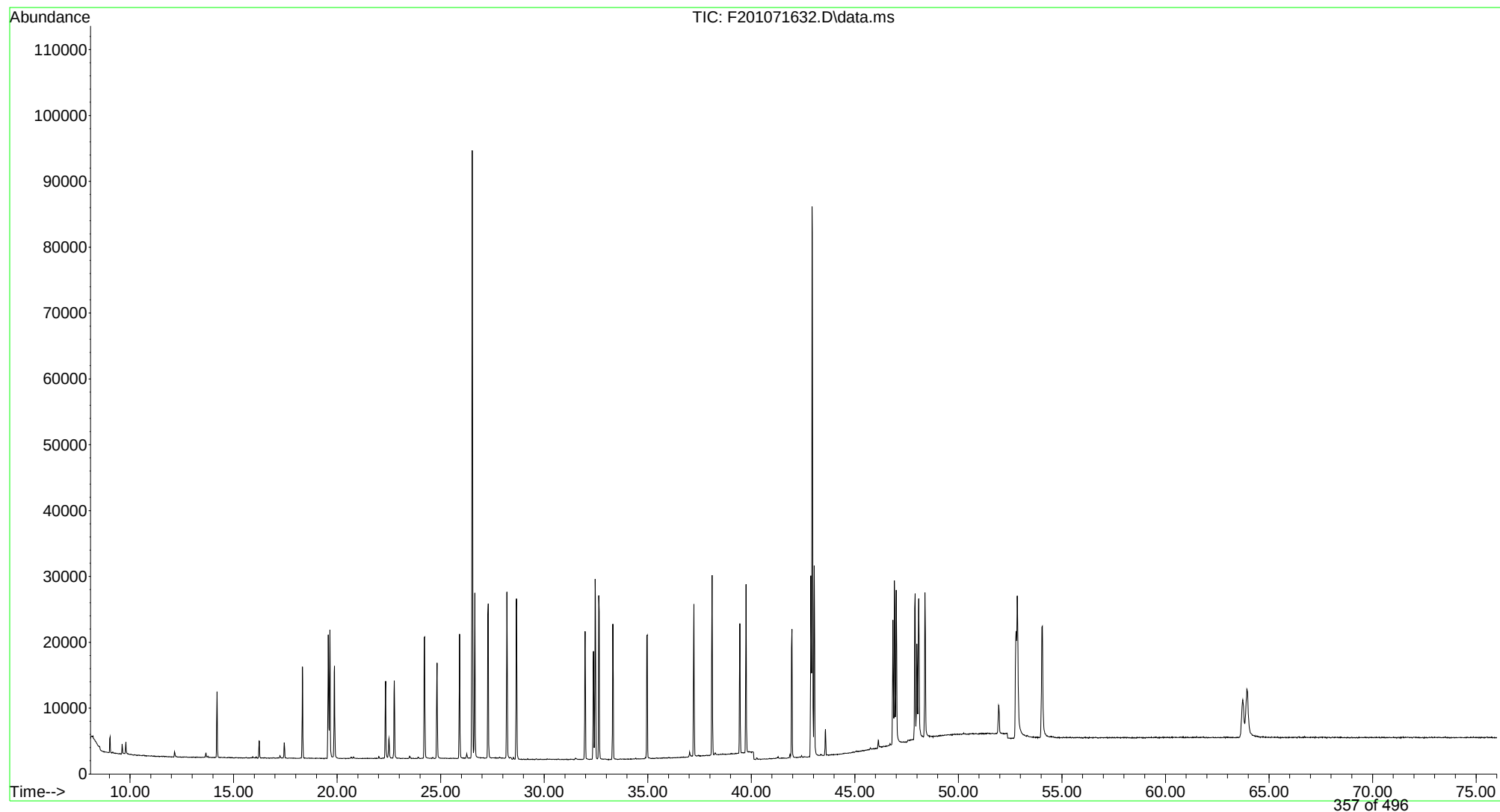
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071632.D
Acq On : 16 Jan 2016 2:24 pm
Operator : PAH2:ac
Sample : i201151603
Misc : l3 fraw22
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 20 17:44:51 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071633.D
 Acq On : 16 Jan 2016 3:53 pm
 Operator : PAH2:ac
 Sample : i201151604
 Misc : l4 fraw88
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 20 17:44:56 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 17:41:31 2016
 Response via : Initial Calibration

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Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.527	164	137615	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	230400	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	261586	576.917	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	57.69%		
40) Phenanthrene-d10	32.383	188	225994	479.711	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.97%#		
80) Benzo[b]fluoranthene-d12	46.837	264	256092	545.042	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	54.50%		
85) Benzo[a]pyrene-d12	47.997	264	222416	555.970	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	55.60%		
126) 5B(H)Cholane - Surr	43.585	217	36047	478.297	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.83%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	27799	242.459	ng/mL	100
3) cis-Decalin	17.449	138	21765	243.696	ng/mL	100
9) Naphthalene	19.647	128	273542	582.693	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	186905	573.876	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	180184	573.517	ng/mL	100
16) Benzothiophene	19.873	134	221469	573.312	ng/mL	100
21) Biphenyl	24.224	154	231324	554.161	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	165893	551.530	ng/mL	100
23) Dibenzofuran	27.295	168	243899	541.699	ng/mL	95
24) Acenaphthylene	25.910	152	279445M4	578.866	ng/mL	
25) Acenaphthene	26.648	153	172598	537.837	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	147195	518.258	ng/mL	94
27) Fluorene	28.665	166	204882	568.468	ng/mL	99
31) Dibenzothiophene	31.977	184	255840	524.296	ng/mL	94
41) Phenanthrene	32.458	178	298094	605.595	ng/mL	99
52) Retene	39.444	234	82560	428.861	ng/mL	95
53) Anthracene	32.639	178	277949M4	606.523	ng/mL	
54) Carbazole	33.316	167	268985	642.050	ng/mL	100
55) 1-Methylphenanthrene	34.973	192	204302M4	519.943	ng/mL	
56) Fluoranthene	37.231	202	300056M4	520.955	ng/mL	
57) Benzo(b)fluorene	39.745	216	194071	508.248	ng/mL	100
58) Pyrene	38.104	202	336705	535.386	ng/mL	99
63) Naphthobenzothiophene	41.959	234	291312	530.646	ng/mL	96
64) Naphthobenzothiophene-2,1	41.959	234	291312	530.646	ng/mL	96
72) Benz[a]anthracene	42.877	228	284922	650.879	ng/mL	100
73) Chrysene	43.043	228	288923	568.862	ng/mL	100
74) Chrysene/Triphenylene	43.043	228	288923	568.862	ng/mL	100
81) Benzo[b]fluoranthene	46.928	252	313113	678.684	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	326080	610.549	ng/mL	99
84) Benzo[e]pyrene	47.907	252	304461	604.959	ng/mL	99
86) Benzo[a]pyrene	48.087	252	314476	651.782	ng/mL	99
87) Perylene	48.388	252	310167	622.440	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.786	276	326132M3	634.989	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	338382	691.609	ng/mL	99
90) Benzo[g,h,i]perylene	54.051	276	356327	623.424	ng/mL	100
91) Hopane (T19)	51.958	191	70569	603.594	ng/mL	95
92) 17a(H),21B(H)-hopane - C3	51.958	191	70569	603.594	ng/mL	95

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071633.D
Acq On : 16 Jan 2016 3:53 pm
Operator : PAH2:ac
Sample : i201151604
Misc : l4 fraw88
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 20 17:44:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

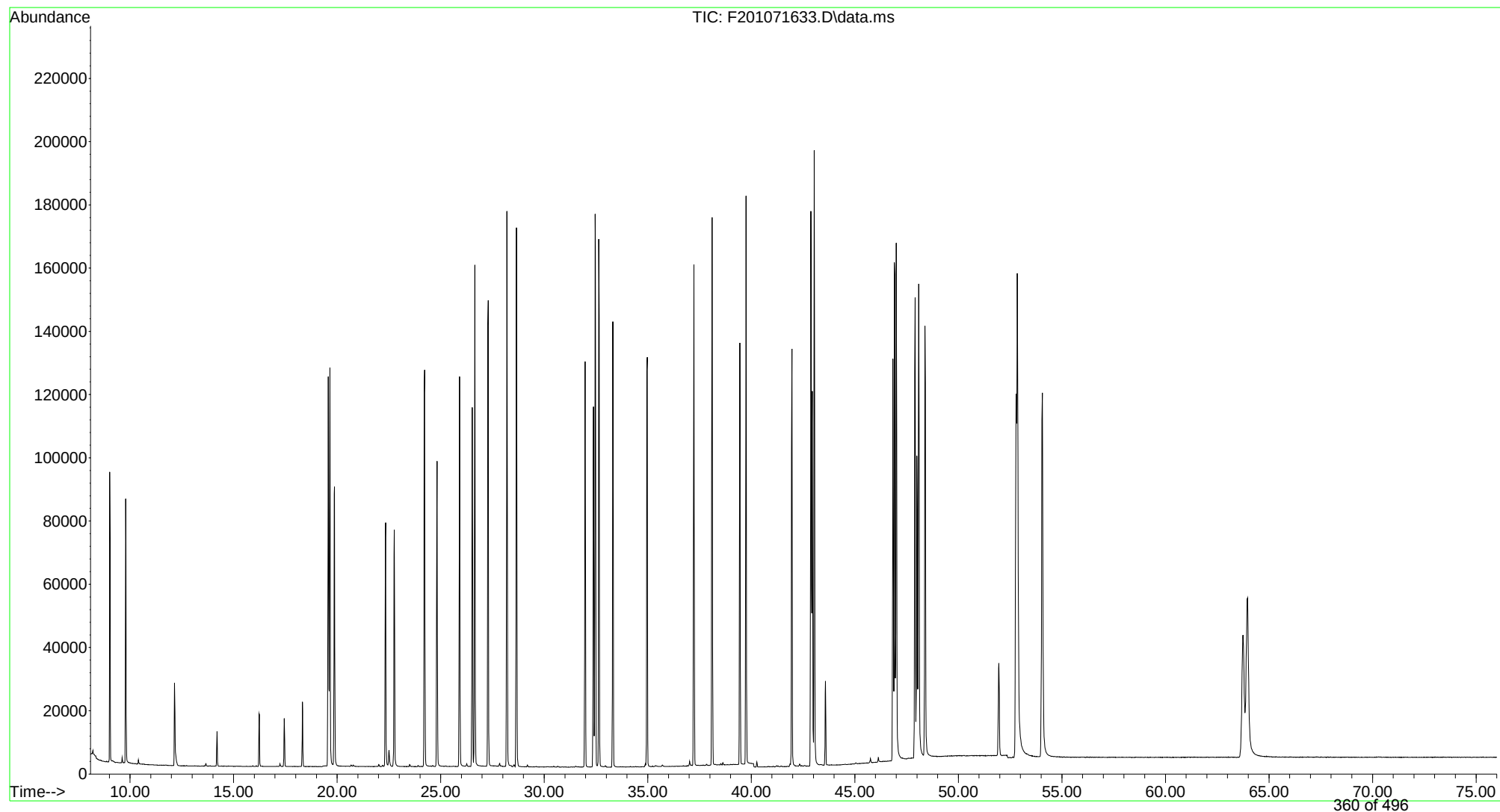
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071633.D
Acq On : 16 Jan 2016 3:53 pm
Operator : PAH2:ac
Sample : i201151604
Misc : l4 fraw88
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 20 17:44:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071634.D
 Acq On : 16 Jan 2016 5:21 pm
 Operator : PAH2:ac
 Sample : i201151605
 Misc : l5 fraw24
 ALS Vial : 9 Sample Multiplier: 1

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Quant Time: Jan 20 17:45:02 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 17:41:31 2016
 Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.527	164	113328M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	185720	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	2189117	5862.679	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	586.27%#		
40) Phenanthrene-d10	32.383	188	1827038	4709.327	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	470.93%#		
80) Benzo[b]fluoranthene-d12	46.852	264	2174755	5742.068	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	574.21%#		
85) Benzo[a]pyrene-d12	48.012	264	1907531	5915.351	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	591.54%#		
126) 5B(H)Cholane - Surr	43.585	217	317177	5221.002	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	522.10%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	231775	2454.731	ng/mL	100
3) cis-Decalin	17.449	138	181794	2471.717	ng/mL	100
9) Naphthalene	19.647	128	2259689	5845.119	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	1524359	5683.465	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	1489977	5758.885	ng/mL	100
16) Benzothiophene	19.873	134	1833168	5762.478	ng/mL	100
21) Biphenyl	24.224	154	1893082	5506.982	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	1405017	5672.191	ng/mL	100
23) Dibenzofuran	27.295	168	1966703	5304.147	ng/mL	94
24) Acenaphthylene	25.910	152	2315367M4	5824.115	ng/mL	
25) Acenaphthene	26.648	153	1414327	5351.722	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.198	170	1226966	5245.826	ng/mL	93
27) Fluorene	28.665	166	1664050	5606.569	ng/mL	99
31) Dibenzothiophene	31.977	184	2074488	5162.355	ng/mL	94
41) Phenanthrene	32.473	178	2333587	5756.805	ng/mL	100
52) Retene	39.459	234	713460	4500.341	ng/mL	92
53) Anthracene	32.654	178	2085154M4	5525.207	ng/mL	
54) Carbazole	33.316	167	2148882	6228.477	ng/mL	99
55) 1-Methylphenanthrene	34.973	192	1705152M4	5269.563	ng/mL	
56) Fluoranthene	37.231	202	2430066M4	5123.242	ng/mL	
57) Benzo(b)fluorene	39.761	216	1608474	5115.146	ng/mL	100
58) Pyrene	38.119	202	2682078	5178.664	ng/mL	100
63) Naphthobenzothiophene	41.959	234	2339886	5175.712	ng/mL	96
64) Naphthobenzothiophene-2,1	41.959	234	2339886	5175.712	ng/mL	96
72) Benz[a]anthracene	42.892	228	2315482	6562.047	ng/mL	99
73) Chrysene	43.058	228	2285523	5582.574	ng/mL	99
74) Chrysene/Triphenylene	43.058	228	2285523	5582.574	ng/mL	99
81) Benzo[b]fluoranthene	46.928	252	2611981	7023.612	ng/mL	100
82) Benzo[j]+[k]fluoranthene	47.018	252	2541307	5903.060	ng/mL	100
84) Benzo[e]pyrene	47.922	252	2426738	5981.926	ng/mL	100
86) Benzo[a]pyrene	48.102	252	2479890	6376.331	ng/mL	100
87) Perylene	48.404	252	2422331	6030.586	ng/mL	100
88) Indeno[1,2,3-cd]pyrene	52.816	276	2856408M3	6899.487	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.876	278	2841092	7203.817	ng/mL	99
90) Benzo[g,h,i]perylene	54.081	276	2894126	6281.685	ng/mL	99
91) Hopane (T19)	51.958	191	626891	6651.917	ng/mL	95
92) 17a(H),21B(H)-hopane - C3	51.958	191	626891	6651.917	ng/mL	95

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071634.D
Acq On : 16 Jan 2016 5:21 pm
Operator : PAH2:ac
Sample : i201151605
Misc : l5 fraw24
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 20 17:45:02 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

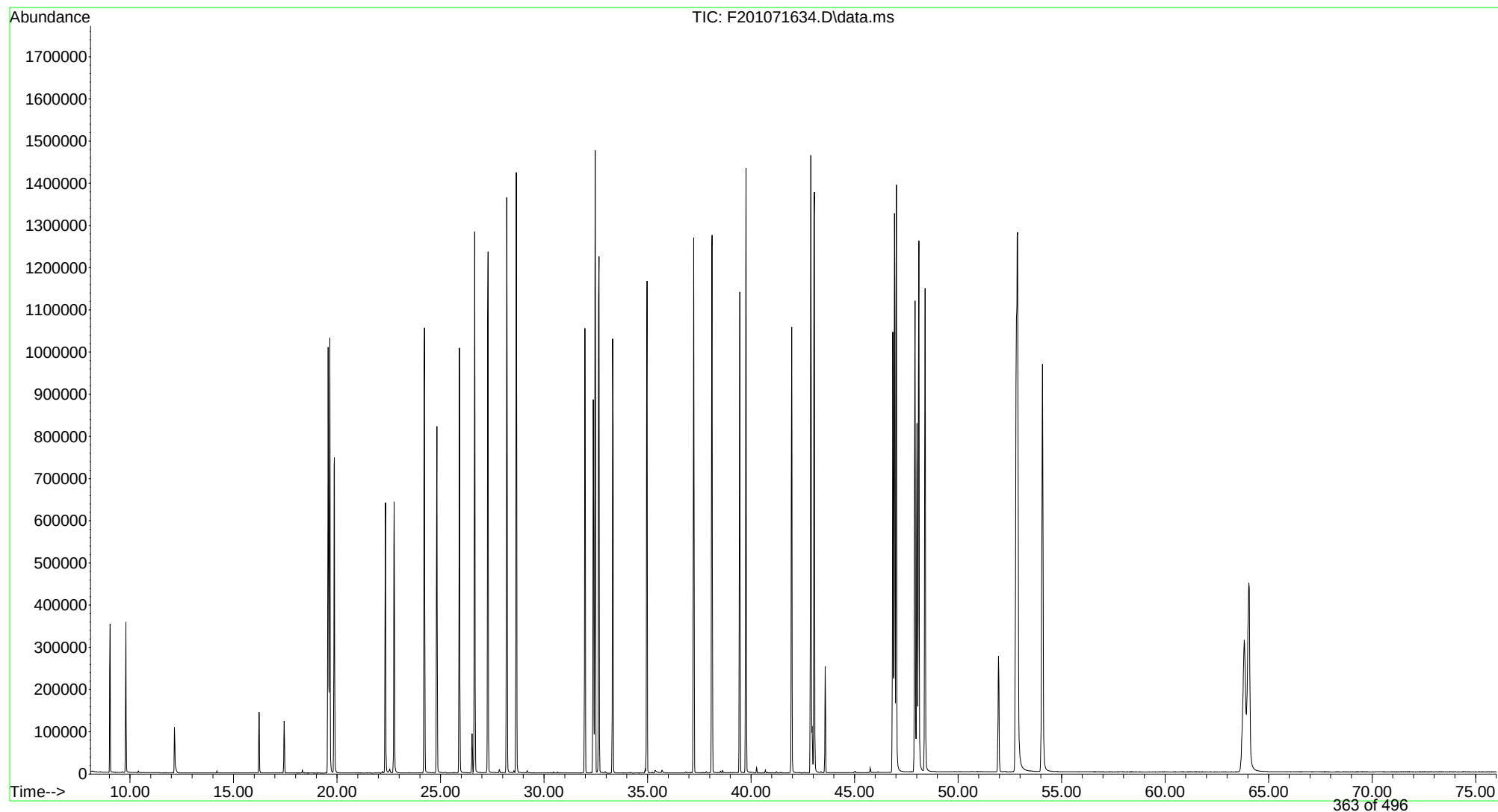
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071634.D
Acq On : 16 Jan 2016 5:21 pm
Operator : PAH2:ac
Sample : i201151605
Misc : l5 fraw24
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 20 17:45:02 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071635.D
 Acq On : 16 Jan 2016 6:49 pm
 Operator : PAH2:ac
 Sample : i201151606
 Misc : l6 fraw25
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 20 17:45:09 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 17:41:31 2016
 Response via : Initial Calibration

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Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Acenaphthene-d10	26.527	164	113374	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	193837	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	4332707	11598.724	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 1159.87%#			
40) Phenanthrene-d10	32.383	188	3526517	9086.173	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 908.62%#			
80) Benzo[b]fluoranthene-d12	46.868	264	4290995	10855.203	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 1085.52%#			
85) Benzo[a]pyrene-d12	48.027	264	3727274	11074.451	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 1107.45%#			
126) 5B(H)Cholane - Surr	43.585	217	642397	10131.592	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 1013.16%#			
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	476904	5048.846	ng/mL	100
3) cis-Decalin	17.449	138	372338	5060.347	ng/mL	100
9) Naphthalene	19.647	128	4477156	11576.323	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	3054978	11385.649	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	2936238	11344.199	ng/mL	100
16) Benzothiophene	19.873	134	3612583	11351.378	ng/mL	100
21) Biphenyl	24.224	154	3671816	10676.991	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	2738011	11049.134	ng/mL	100
23) Dibenzofuran	27.295	168	3750331	10110.442	ng/mL	93
24) Acenaphthylene	25.925	152	4536199M4	11405.805	ng/mL	
25) Acenaphthene	26.648	153	2741489	10369.408	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.213	170	2358412	10079.170	ng/mL	94
27) Fluorene	28.665	166	3225684	10863.665	ng/mL	99
31) Dibenzothiophene	31.977	184	3963950	9860.272	ng/mL#	93
41) Phenanthrene	32.474	178	4444985	10961.035	ng/mL	99
52) Retene	39.459	234	1420625	8957.338	ng/mL	91
53) Anthracene	32.654	178	3691880M4	9778.715	ng/mL	
54) Carbazole	33.332	167	4113555M4	11918.192	ng/mL	
55) 1-Methylphenanthrene	34.973	192	3213019M4	9925.412	ng/mL	
56) Fluoranthene	37.246	202	4594211M4	9681.920	ng/mL	
57) Benzo(b)fluorene	39.761	216	3151903	10019.374	ng/mL	99
58) Pyrene	38.119	202	5072366	9789.955	ng/mL	99
63) Naphthobenzothiophene	41.974	234	4485894	9918.550	ng/mL	95
64) Naphthobenzothiophene-2,1	41.974	234	4485894	9918.550	ng/mL	95
72) Benz[a]anthracene	42.892	228	4445955	12072.160	ng/mL	99
73) Chrysene	43.058	228	4331094	10136.045	ng/mL	99
74) Chrysene/Triphenylene	43.058	228	4331094	10136.045	ng/mL	99
81) Benzo[b]fluoranthene	46.943	252	5006218	12897.996	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.033	252	4741125	10551.725	ng/mL	98
84) Benzo[e]pyrene	47.937	252	4627446	10929.028	ng/mL	99
86) Benzo[a]pyrene	48.133	252	4573137	11266.127	ng/mL	99
87) Perylene	48.434	252	4571585	10904.727	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.846	276	5937142M3	13740.292	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.892	278	5656893	13742.868	ng/mL	99
90) Benzo[g,h,i]perylene	54.111	276	5753613	11965.239	ng/mL	98
91) Hopane (T19)	51.973	191	1270505	12916.748	ng/mL	95
92) 17a(H),21B(H)-hopane - C3	51.973	191	1270505	12916.748	ng/mL	95

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071635.D
Acq On : 16 Jan 2016 6:49 pm
Operator : PAH2:ac
Sample : i201151606
Misc : l6 fraw25
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 20 17:45:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

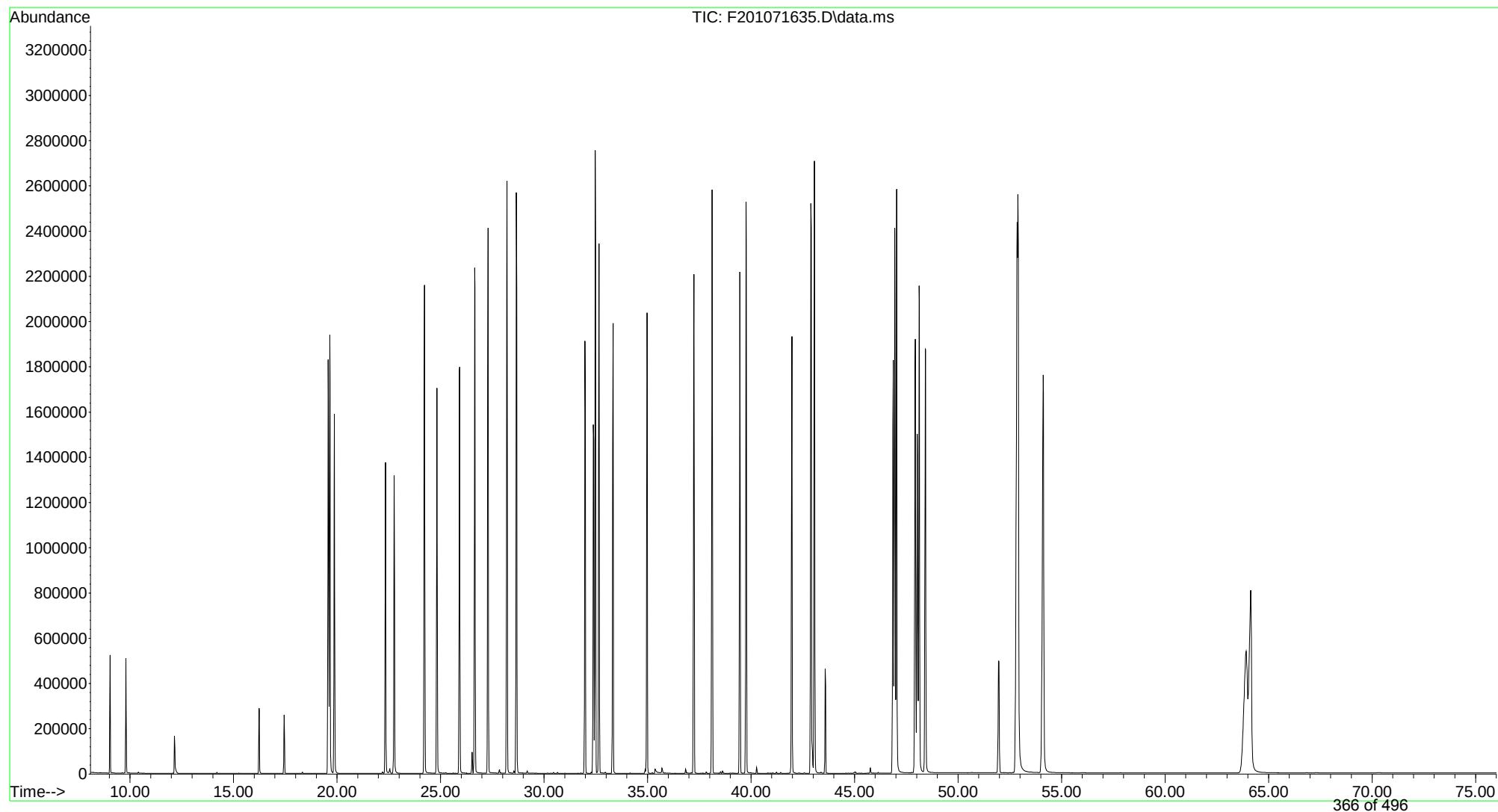
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071635.D
Acq On : 16 Jan 2016 6:49 pm
Operator : PAH2:ac
Sample : i201151606
Misc : l6 fraw25
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 20 17:45:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071636.D
 Acq On : 16 Jan 2016 8:17 pm
 Operator : PAH2:ac
 Sample : i201151607
 Misc : l7 fraw25
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 20 17:45:14 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 17:41:31 2016
 Response via : Initial Calibration

MJS
2-21-2016

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

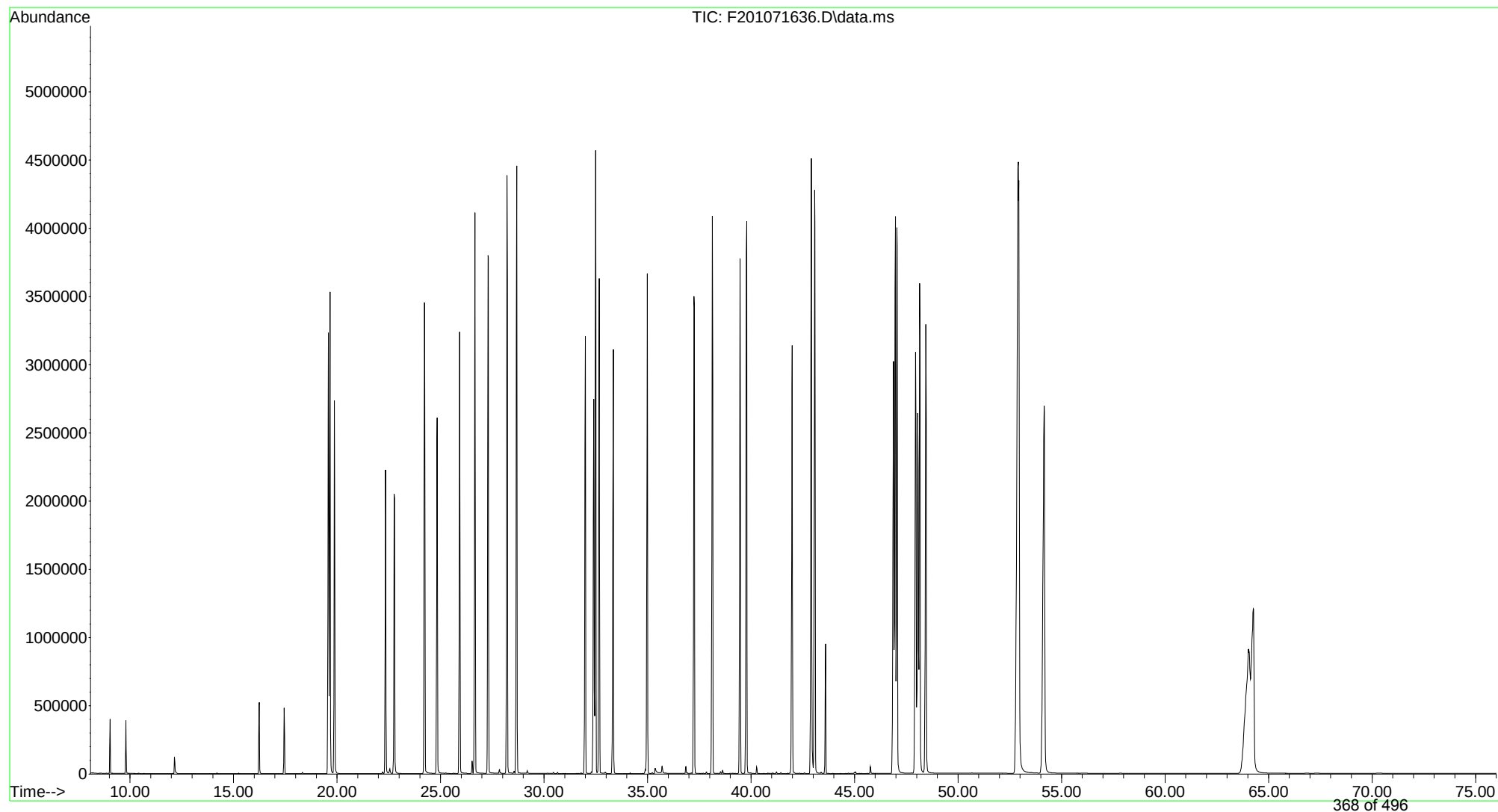
Internal Standards						
1) Acenaphthene-d10	26.527	164	110147	500.000	ng/mL	0.00
71) Chrysene-d12	42.967	240	190991	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.587	136	7694543	21201.887	ng/mL	0.02
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 2120.19%#		
40) Phenanthrene-d10	32.398	188	6363866	16877.062	ng/mL	0.02
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 1687.71%#		
80) Benzo[b]fluoranthene-d12	46.882	264	7855718	20169.244	ng/mL	0.05
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 2016.92%#		
85) Benzo[a]pyrene-d12	48.057	264	6755271	20370.300	ng/mL	0.06
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 2037.03%#		
126) 5B(H)Cholane - Surr	43.600	217	1262744	20212.186	ng/ml	0.02
Spiked Amount	1000.000	Range 50 - 130	Recovery	= 2021.22%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	871981	9501.868	ng/mL	100
3) cis-Decalin	17.449	138	686005	9596.458	ng/mL	100
9) Naphthalene	19.662	128	7866416	20935.634	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	5438084	20861.062	ng/mL	100
15) 1-Methylnaphthalene	22.778	142	5303473	21090.348	ng/mL	100
16) Benzothiophene	19.873	134	6453900	20873.429	ng/mL	100
21) Biphenyl	24.224	154	6518940	19511.279	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.841	156	4813190	19992.488	ng/mL	100
23) Dibenzofuran	27.310	168	6602307	18320.489	ng/mL	91
24) Acenaphthylene	25.925	152	7877216M4	20386.721	ng/mL	
25) Acenaphthene	26.663	153	4865850	18943.794	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.213	170	4214893	18540.970	ng/mL	95
27) Fluorene	28.680	166	5703841	19772.552	ng/mL	99
31) Dibenzothiophene	31.992	184	6948273	17790.100	ng/mL#	92
41) Phenanthrene	32.488	178	7715532	19583.394	ng/mL	98
52) Retene	39.474	234	2665153	17296.668	ng/mL	86
53) Anthracene	32.669	178	6130864M4	16714.627	ng/mL	
54) Carbazole	33.347	167	7325628M4	21846.342	ng/mL	
55) 1-Methylphenanthrene	34.988	192	5883039M4	18705.865	ng/mL	
56) Fluoranthene	37.261	202	8270191M4	17939.358	ng/mL	
57) Benzo(b)fluorene	39.791	216	5562660	18200.823	ng/mL	99
58) Pyrene	38.134	202	8958015	17796.012	ng/mL	97
63) Naphthobenzothiophene	41.989	234	8109498	18455.846	ng/ml	94
64) Naphthobenzothiophene-2,1	41.989	234	8109498	18455.846	ng/mL	94
72) Benz[a]anthracene	42.907	228	8030003	22128.879	ng/mL	98
73) Chrysene	43.073	228	7661067	18196.336	ng/mL	98
74) Chrysene/Triphenylene	43.073	228	7661067	18196.336	ng/mL	98
81) Benzo[b]fluoranthene	46.973	252	8951710	23406.811	ng/mL	97
82) Benzo[j]+[k]fluoranthene	47.048	252	8378092	18923.913	ng/mL	96
84) Benzo[e]pyrene	47.952	252	8289738	19870.315	ng/mL	98
86) Benzo[a]pyrene	48.147	252	8078965	20199.468	ng/mL	98
87) Perylene	48.449	252	8322027	20146.560	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.876	276	11121529M3	26122.023	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	10427483	25710.035	ng/mL	98
90) Benzo[g,h,i]perylene	54.171	276	10562477	22293.091	ng/mL	97

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071636.D
Acq On : 16 Jan 2016 8:17 pm
Operator : PAH2:ac
Sample : i201151607
Misc : l7 fraw25
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 20 17:45:14 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071638.D
 Acq On : 16 Jan 2016 11:13 pm
 Operator : PAH2:ac
 Sample : q201151601
 Misc : fraw33
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 20 17:45:19 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 18:04:12 2016
 Response via : Initial 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)
1 i	Acenaphthene-d10	1.000	1.000	0.0	75	0.00
2 A1	trans-Decalin	0.417	0.402	3.6	75	0.00
3 t	cis-Decalin	0.326	0.315	3.4	75	0.00
8 s	Naphthalene-d8	1.927	0.000#	100.0#	0#	-19.57#
9 A1	Naphthalene	1.996	2.040	-2.2	77	0.00
14 t	2-Methylnaphthalene	1.337	1.379	-3.1	77	0.00
15 t	1-Methylnaphthalene	1.303	1.300	0.2	75	0.00
16 A1	Benzothiophene	1.608	1.627	-1.2	76	0.00
21 t	Biphenyl	1.649	1.712	-3.8	77	0.00
22 t	2,6-Dimethylnaphthalene	1.190	1.200	-0.8	75	0.00
23 t	Dibenzofuran	1.730	1.808	-4.5	77	0.00
24 t	Acenaphthylene	1.991	2.033	-2.1	76	0.00
25 t	Acenaphthene	1.235	1.281	-3.7	77	0.00
26 t	2,3,5-Trimethylnaphthalene	1.050	1.057	-0.7	75	0.00
27 A1	Fluorene	1.441	1.512	-4.9	77	0.00
31 A1	Dibenzothiophene	1.796	1.915	-6.6	78	0.00
40 s	Phenanthrene-d10	1.588	0.000#	100.0#	0#	-32.38#
41 A1	Phenanthrene	2.038	2.155	-5.7	75	0.00
52 t	Retene	0.595	0.568	4.5	71	0.00
53 t	Anthracene	1.849	2.044	-10.5	76	0.00
54 t	Carbazole	1.866	1.969	-5.5	76	0.00
55 t	1-Methylphenanthrene	1.445	1.472	-1.9	75	-0.01
56 A1	Fluoranthene	2.080	2.159	-3.8	75	0.00
57 t	Benzo(b)fluorene	1.354	1.386	-2.4	74	0.00
58 A1	Pyrene	2.294	2.387	-4.1	74	0.00
63 A1	Naphthobenzothiophene	2.050	2.154	-5.1	77	0.00
64 A2	Naphthobenzothiophene-2,1-D	2.050	2.154	-5.1	77	0.00
71 i	Chrysene-d12	1.000	1.000	0.0	73	-0.01
72 t	Benz[a]anthracene	1.201	1.262	-5.1	74	0.00
73 A1	Chrysene	1.205	1.310	-8.7	76	0.00
74 A2	Chrysene/Triphenylene	1.205	1.310	-8.7	76	0.00
80 s	Benzo[b]fluoranthene-d12	1.123	0.000#	100.0#	0#	-46.84#
81 t	Benzo[b]fluoranthene	1.338	1.349	-0.8	72	-0.01
82 A1	Benzo[j]+[k]fluoranthene	1.347	1.485	-10.2	76	0.00
84 t	Benzo[e]pyrene	1.306	1.347	-3.1	74	0.00
85 s	Benzo[a]pyrene-d12	0.983	0.000#	100.0#	0#	-48.00#
86 t	Benzo[a]pyrene	1.313	1.367	-4.1	73	0.00
87 t	Perylene	1.306	1.390	-6.4	75	0.00
88 t	Indeno[1,2,3-cd]pyrene	1.472	1.433	2.6	74	0.00
89 t	Dibenz[ah]+[ac]anthracene	1.468	1.507	-2.7	75	0.00
90 t	Benzo[g,h,i]perylene	1.568	1.540	1.8	72	0.00
91 A1	Hopane (T19)	0.319	0.000#	100.0#	0#	-51.96#
92 A2	17a(H),21B(H)-hopane - C30H	0.319	0.000#	100.0#	0#	-51.96#
126 SA1	5B(H)Cholane - Surr	0.164	0.000#	100.0#	0#	-43.58#

* Evaluation of CC level amount vs concentration.

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.93	0.70 - 1.30

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071638.D
Acq On : 16 Jan 2016 11:13 pm
Operator : PAH2:ac
Sample : q201151601
Misc : fraw33
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 20 17:45:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:04:12 2016
Response via : Initial 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)
Mass Discrimination (Response)			Ratio	Range	Limits
Benzo[g,h,i]perylene to Phenanthrene			1.15	0.70	- 2.00

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
 Data File : F201071638.D
 Acq On : 16 Jan 2016 11:13 pm
 Operator : PAH2:ac
 Sample : q201151601
 Misc : fraw33
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 20 17:45:19 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Tue Jan 19 18:04:12 2016
 Response via : Initial Calibration

MJS
2-21-2016

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

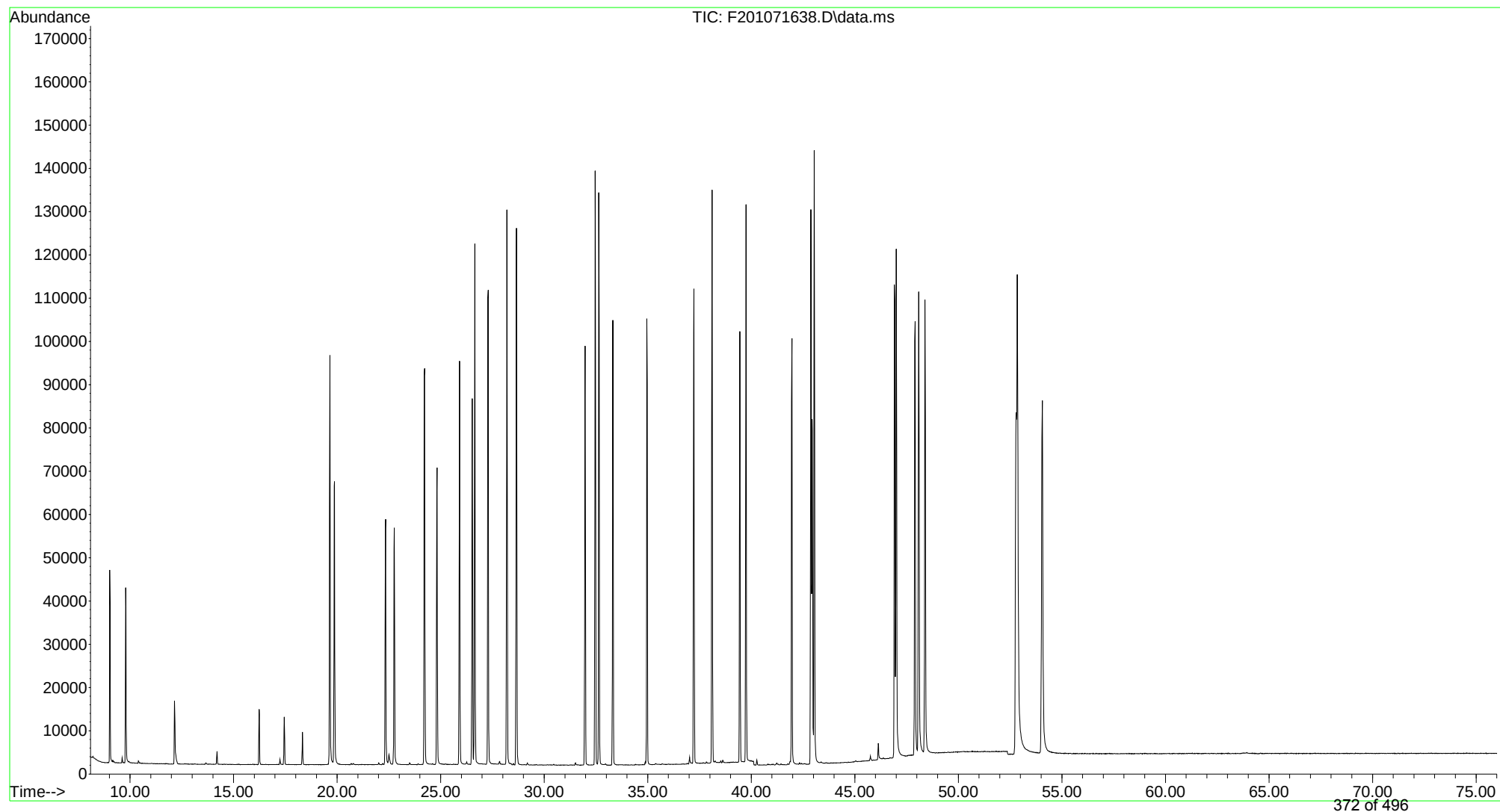
Internal Standards						
1) Acenaphthene-d10	26.527	164	103822	500.000	ng/mL	0.00
71) Chrysene-d12	42.938	240	167289	500.000	ng/mL	-0.01
System Monitoring Compounds						
8) Naphthalene-d8	0.000	136	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%		
40) Phenanthrene-d10	0.000	188	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%		
80) Benzo[b]fluoranthene-d12	0.000	264	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%		
85) Benzo[a]pyrene-d12	0.000	264	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%		
126) 5B(H)Cholane - Surr	0.000	217	0	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.245	138	20861	241.181	ng/mL	100
3) cis-Decalin	17.449	138	16352	241.720	ng/mL	100
9) Naphthalene	19.647	128	211745	510.956	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	143207	515.967	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	134926	498.699	ng/mL	100
16) Benzothiophene	19.873	134	168937	505.936	ng/mL	100
21) Biphenyl	24.224	154	177730	519.032	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	124593	504.300	ng/mL	100
23) Dibenzofuran	27.295	168	187700	522.658	ng/mL	95
24) Acenaphthylene	25.910	152	211114M4	510.692	ng/mL	
25) Acenaphthene	26.648	153	133025	518.758	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	109731	503.063	ng/mL	95
27) Fluorene	28.665	166	156979M4	524.508	ng/mL	
31) Dibenzothiophene	31.977	184	198821	533.205	ng/mL	94
41) Phenanthrene	32.459	178	223752	528.811	ng/mL	99
52) Retene	39.444	234	58975	477.096	ng/mL	96
53) Anthracene	32.639	178	212242M4	552.700	ng/mL	
54) Carbazole	33.317	167	204475	527.812	ng/mL	100
55) 1-Methylphenanthrene	34.958	192	152785M4	509.156	ng/mL	
56) Fluoranthene	37.231	202	224181M4	519.007	ng/mL	
57) Benzo(b)fluorene	39.746	216	143944	511.943	ng/mL	100
58) Pyrene	38.104	202	247811	520.316	ng/mL	99
63) Naphthobenzothiophene	41.959	234	223645	525.495	ng/mL	97
64) Naphthobenzothiophene-2,1	41.959	234	223645	525.495	ng/mL	97
72) Benz[a]anthracene	42.877	228	211053	525.195	ng/mL	100
73) Chrysene	43.043	228	219131	543.425	ng/mL	100
74) Chrysene/Triphenylene	43.043	228	219131	543.425	ng/mL	100
81) Benzo[b]fluoranthene	46.913	252	225723	504.308	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	248471	551.447	ng/mL	98
84) Benzo[e]pyrene	47.907	252	225354	515.693	ng/mL	99
86) Benzo[a]pyrene	48.087	252	228706	520.427	ng/mL	98
87) Perylene	48.389	252	232517	532.000	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.786	276	239768M3	486.924	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	252096	513.320	ng/mL	99
90) Benzo[g,h,i]perylene	54.051	276	257651	491.143	ng/mL	100

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

Data Path : 0:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071638.D
Acq On : 16 Jan 2016 11:13 pm
Operator : PAH2:ac
Sample : q201151601
Misc : fraw33
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 20 17:45:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:04:12 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291602.D
 Acq On : 29 Mar 2016 10:13 am
 Operator : PAH2:gy
 Sample : c203291601
 Misc : FRAW88 500NG/ML
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 04 13:32:44 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 i	Acenaphthene-d10	1.000	1.000	0.0	77	-0.02
2 A1	trans-Decalin	0.417	0.412	1.2	79	0.00
3 t	cis-Decalin	0.326	0.319	2.1	78	-0.02
8 s	Naphthalene-d8	1.927	1.808	6.2	74	0.00
9 A1	Naphthalene	1.996	1.933	3.2	75	0.00
14 t	2-Methylnaphthalene	1.337	1.271	4.9	72	0.00
15 t	1-Methylnaphthalene	1.303	1.252	3.9	74	0.00
16 A1	Benzothiophene	1.608	1.569	2.4	75	0.00
21 t	Biphenyl	1.649	1.608	2.5	74	0.00
22 t	2,6-Dimethylnaphthalene	1.190	1.174	1.3	75	0.00
23 t	Dibenzofuran	1.730	1.729	0.1	75	0.02
24 t	Acenaphthylene	1.991	1.925	3.3	73	0.02
25 t	Acenaphthene	1.235	1.202	2.7	74	0.00
26 t	2,3,5-Trimethylnaphthalene	1.050	1.061	-1.0	77	0.00
27 A1	Fluorene	1.441	1.428	0.9	74	0.02
31 A1	Dibenzothiophene	1.796	1.867	-4.0	78	0.00
40 s	Phenanthrene-d10	1.588	1.635	-3.0	77	0.00
41 A1	Phenanthrene	2.038	2.036	0.1	73	0.02
52 t	Retene	0.595	0.625	-5.0	81	0.02
53 t	Anthracene	1.849	1.996	-8.0	76	0.03
54 t	Carbazole	1.866	1.605	14.0	64	0.03
55 t	1-Methylphenanthrene	1.445	1.495	-3.5	78	0.02
56 A1	Fluoranthene	2.080	2.189	-5.2	78	0.03
57 t	Benzo(b)fluorene	1.354	1.371	-1.3	75	0.03
58 A1	Pyrene	2.294	2.415	-5.3	76	0.02
63 A1	Naphthobenzothiophene	2.050	2.155	-5.1	79	0.03
64 A2	Naphthobenzothiophene-2,1-D	2.050	2.155	-5.1	79	0.03
71 i	Chrysene-d12	1.000	1.000	0.0	80	0.02
72 t	Benz[a]anthracene	1.201	1.175	2.2	76	0.03
73 A1	Chrysene	1.205	1.270	-5.4	81	0.03
74 A2	Chrysene/Triphenylene	1.205	1.270	-5.4	81	0.03
80 s	Benzo[b]fluoranthene-d12	1.123	1.095	2.5	79	0.03
81 t	Benzo[b]fluoranthene	1.338	1.266	5.4	74	0.05
82 A1	Benzo[j]+[k]fluoranthene	1.347	1.433	-6.4	81	0.03
84 t	Benzo[e]pyrene	1.306	1.287	1.5	78	0.03
85 s	Benzo[a]pyrene-d12	0.983	0.943	4.1	78	0.03
86 t	Benzo[a]pyrene	1.313	1.269	3.4	74	0.03
87 t	Perylene	1.306	1.305	0.1	77	0.05
88 t	Indeno[1,2,3-cd]pyrene	1.472	1.249	15.1	70	0.06
89 t	Dibenz[ah]+[ac]anthracene	1.468	1.306	11.0	71	0.08
90 t	Benzo[g,h,i]perylene	1.568	1.490	5.0	77	0.08
91 A1	Hopane (T19)	0.319	0.320	-0.3	83	0.05
92 A2	17a(H),21B(H)-hopane - C30H	0.319	0.320	-0.3	83	0.05
126 SA1	5B(H)Cholane - Surr	0.164	0.162	1.2	83	0.03

* Evaluation of CC level amount vs concentration.

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.95	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.26	0.70 - 2.00

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291602.D
 Acq On : 29 Mar 2016 10:13 am
 Operator : PAH2:gy
 Sample : c203291601
 Misc : FRAW88 500NG/ML
 ALS Vial : 2 Sample Multiplier: 1

MAN
4/4/16

Quant Time: Apr 04 13:32:44 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

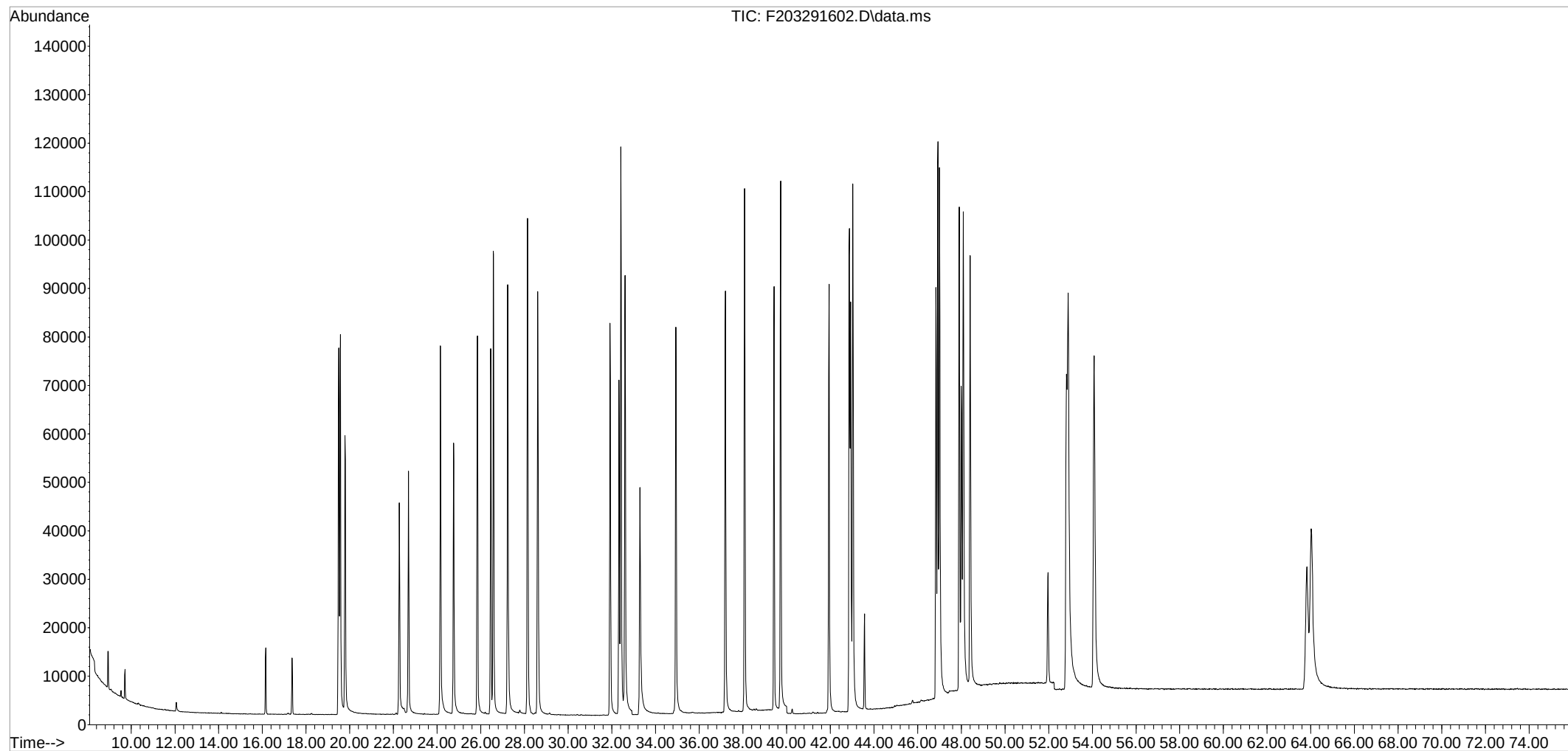
Internal Standards						
1) Acenaphthene-d10	26.452	164	106471M4	500.000	ng/mL	-0.02
71) Chrysene-d12	42.937	240	183918	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	192473	469.104	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	46.91%#		
40) Phenanthrene-d10	32.323	188	174067	514.820	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	51.48%		
80) Benzo[b]fluoranthene-d12	46.837	264	201376	487.413	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	48.74%#		
85) Benzo[a]pyrene-d12	47.997	264	173369	479.707	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.97%#		
126) 5B(H)Cholane - Surr	43.570	217	29790	492.906	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	49.29%#		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.154	138	21933	247.265	ng/mL	100
3) cis-Decalin	17.359	138	16960	244.470	ng/mL	100
9) Naphthalene	19.572	128	205814	484.287	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	135278	475.273	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	133324	480.517	ng/mL	100
16) Benzo[thiophene]	19.783	134	167023	487.759	ng/mL	100
21) Biphenyl	24.148	154	171168	487.432	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.751	156	125003	493.371	ng/mL	100
23) Dibenzofuran	27.235	168	184045	499.730	ng/mL	98
24) Acenaphthylene	25.850	152	204998M4	483.560	ng/mL	
25) Acenaphthene	26.572	153	127940	486.514	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.138	170	112958	504.973	ng/mL	96
27) Fluorene	28.605	166	152035	495.350	ng/mL	98
31) Dibenzothiophene	31.916	184	198744	519.738	ng/mL	95
41) Phenanthrene	32.413	178	216758	499.536	ng/mL	99
52) Retene	39.429	234	66499	524.579	ng/mL	88
53) Anthracene	32.609	178	212489M4	539.576	ng/mL	
54) Carbazole	33.286	167	170848	430.038	ng/mL	99
55) 1-Methylphenanthrene	34.927	192	159200	517.334	ng/mL	100
56) Fluoranthene	37.201	202	233035	526.082	ng/mL	99
57) Benzo(b)fluorene	39.730	216	146008	506.364	ng/mL	99
58) Pyrene	38.074	202	257097	526.383	ng/mL	98
63) Naphthobenzothiophene	41.944	234	229458	525.739	ng/mL	99
64) Naphthobenzothiophene-2,1	41.944	234	229458	525.739	ng/mL	99
72) Benz[a]anthracene	42.877	228	216105	489.144	ng/mL	99
73) Chrysene	43.028	228	233526	526.762	ng/mL	98
74) Chrysene/Triphenylene	43.028	228	233526	526.762	ng/mL	98
81) Benzo[b]fluoranthene	46.928	252	232788	473.068	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.003	252	263478	531.883	ng/mL	97
84) Benzo[e]pyrene	47.907	252	236746	492.779	ng/mL	98
86) Benzo[a]pyrene	48.087	252	233371	483.028	ng/mL	97
87) Perylene	48.404	252	239940	499.348	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.816	276	229732M3	424.360	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.892	278	240180	444.838	ng/mL	99
90) Benzo[g,h,i]perylene	54.081	276	273951	474.998	ng/mL	99
91) Hopane (T19)	51.973	191	58773	501.539	ng/mL	93
92) 17a(H),21B(H)-hopane - C3	51.973	191	58773	501.539	ng/mL	93

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291602.D
Acq On : 29 Mar 2016 10:13 am
Operator : PAH2:gy
Sample : c203291601
Misc : FRAW88 500NG/ML
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 04 13:32:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291615.D
 Acq On : 30 Mar 2016 5:09 am
 Operator : PAH2:gy
 Sample : c203291602
 Misc : FRAW88 500NG/ML
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 04 13:37:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 i	Acenaphthene-d10	1.000	1.000	0.0	92	0.00
2 A1	trans-Decalin	0.417	0.454	-8.9	103	0.00
3 t	cis-Decalin	0.326	0.323	0.9	94	0.00
8 s	Naphthalene-d8	1.927	1.701	11.7	82	0.00
9 A1	Naphthalene	1.996	1.772	11.2	82	0.00
14 t	2-Methylnaphthalene	1.337	1.169	12.6	79	0.00
15 t	1-Methylnaphthalene	1.303	1.170	10.2	82	0.00
16 A1	Benzothiophene	1.608	1.425	11.4	81	0.02
21 t	Biphenyl	1.649	1.467	11.0	80	0.02
22 t	2,6-Dimethylnaphthalene	1.190	1.101	7.5	84	0.02
23 t	Dibenzofuran	1.730	1.600	7.5	83	0.02
24 t	Acenaphthylene	1.991	1.866	6.3	84	0.02
25 t	Acenaphthene	1.235	1.140	7.7	83	0.02
26 t	2,3,5-Trimethylnaphthalene	1.050	1.038	1.1	89	0.02
27 A1	Fluorene	1.441	1.365	5.3	84	0.03
31 A1	Dibenzothiophene	1.796	1.719	4.3	85	0.02
40 s	Phenanthrene-d10	1.588	1.630	-2.6	91	0.02
41 A1	Phenanthrene	2.038	1.913	6.1	81	0.03
52 t	Retene	0.595	0.656	-10.3	100	0.02
53 t	Anthracene	1.849	1.864	-0.8	85	0.03
54 t	Carbazole	1.866	1.593	14.6	75	0.03
55 t	1-Methylphenanthrene	1.445	1.435	0.7	89	0.03
56 A1	Fluoranthene	2.080	2.131	-2.5	90	0.03
57 t	Benzo(b)fluorene	1.354	1.374	-1.5	89	0.03
58 A1	Pyrene	2.294	2.335	-1.8	88	0.03
63 A1	Naphthobenzothiophene	2.050	1.971	3.9	85	0.03
64 A2	Naphthobenzothiophene-2,1-D	2.050	1.971	3.9	85	0.03
71 i	Chrysene-d12	1.000	1.000	0.0	93	0.02
72 t	Benz[a]anthracene	1.201	1.152	4.1	86	0.03
73 A1	Chrysene	1.205	1.155	4.1	85	0.05
74 A2	Chrysene/Triphenylene	1.205	1.155	4.1	85	0.05
80 s	Benzo[b]fluoranthene-d12	1.123	1.040	7.4	87	0.05
81 t	Benzo[b]fluoranthene	1.338	1.159	13.4	79	0.05
82 A1	Benzo[j]+[k]fluoranthene	1.347	1.211	10.1	79	0.05
84 t	Benzo[e]pyrene	1.306	1.121	14.2	79	0.05
85 s	Benzo[a]pyrene-d12	0.983	0.919	6.5	88	0.05
86 t	Benzo[a]pyrene	1.313	1.127	14.2	76	0.05
87 t	Perylene	1.306	1.165	10.8	80	0.06
88 t	Indeno[1,2,3-cd]pyrene	1.472	1.276	13.3	83	0.08
89 t	Dibenz[ah]+[ac]anthracene	1.468	1.272	13.4	80	0.08
90 t	Benzo[g,h,i]perylene	1.568	1.322	15.7	79	0.09
91 A1	Hopane (T19)	0.319	0.285	10.7	86	0.05
92 A2	17a(H),21B(H)-hopane - C30H	0.319	0.285	10.7	86	0.05
126 SA1	5B(H)Cholane - Surr	0.164	0.167	-1.8	99	0.03

* Evaluation of CC level amount vs concentration.

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.90	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.17	0.70 - 2.00

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291615.D
 Acq On : 30 Mar 2016 5:09 am
 Operator : PAH2:gy
 Sample : c203291602
 Misc : FRAW88 500NG/ML
 ALS Vial : 15 Sample Multiplier: 1

ML
4/4/16

Quant Time: Apr 04 13:37:53 2016
 Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

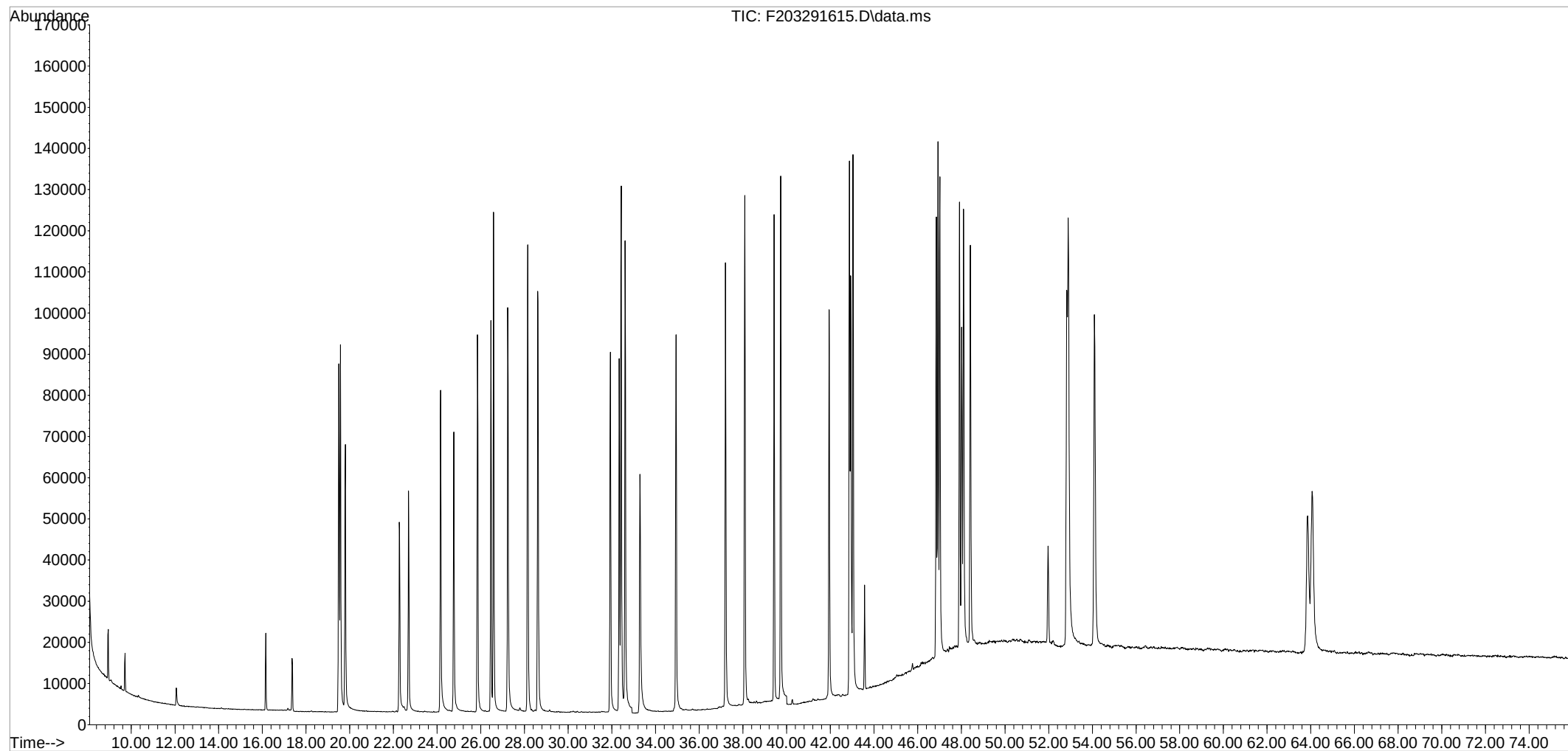
Internal Standards						
1) Acenaphthene-d10	26.467	164	126230	500.000	ng/mL	0.00
71) Chrysene-d12	42.937	240	213292	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	214758	441.487	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	44.15%#		
40) Phenanthrene-d10	32.338	188	205759	513.294	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	51.33%		
80) Benzo[b]fluoranthene-d12	46.852	264	221741	462.791	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	46.28%#		
85) Benzo[a]pyrene-d12	48.012	264	195994	467.624	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	46.76%#		
126) 5B(H)Cholane - Surr	43.570	217	35702	509.372	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	50.94%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.154	138	28630	272.242	ng/mL	100
3) cis-Decalin	17.374	138	20359	247.529	ng/mL	100
9) Naphthalene	19.572	128	223687	443.954	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	147580	437.333	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	147653	448.861	ng/mL	100
16) Benzothiophene	19.798	134	179926	443.192	ng/mL	100
21) Biphenyl	24.164	154	185219	444.883	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.766	156	138959	462.603	ng/mL	100
23) Dibenzofuran	27.235	168	201931	462.470	ng/mL	98
24) Acenaphthylene	25.850	152	235530M4	468.614	ng/mL	
25) Acenaphthene	26.587	153	143885	461.502	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.153	170	131068	494.216	ng/mL	98
27) Fluorene	28.620	166	172283	473.456	ng/mL	100
31) Dibenzothiophene	31.932	184	217046	478.752	ng/mL	95
41) Phenanthrene	32.428	178	241431	469.303	ng/mL	99
52) Retene	39.429	234	82768	550.715	ng/mL	91
53) Anthracene	32.609	178	235233M4	503.829	ng/mL	
54) Carbazole	33.286	167	201090	426.930	ng/mL	99
55) 1-Methylphenanthrene	34.943	192	181163	496.554	ng/mL	100
56) Fluoranthene	37.201	202	269035	512.283	ng/mL	98
57) Benzo(b)fluorene	39.730	216	173477	507.454	ng/mL	99
58) Pyrene	38.089	202	294711	508.944	ng/mL	98
63) Naphthobenzothiophene	41.944	234	248766	480.759	ng/mL	99
64) Naphthobenzothiophene-2,1	41.944	234	248766	480.759	ng/mL	99
72) Benz[a]anthracene	42.877	228	245791	479.720	ng/mL	99
73) Chrysene	43.043	228	246377	479.213	ng/mL	99
74) Chrysene/Triphenylene	43.043	228	246377	479.213	ng/mL	99
81) Benzo[b]fluoranthene	46.928	252	247217	433.203	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.018	252	258271	449.569	ng/mL	97
84) Benzo[e]pyrene	47.922	252	239127	429.188	ng/mL	98
86) Benzo[a]pyrene	48.102	252	240318	428.905	ng/mL	97
87) Perylene	48.419	252	248584	446.091	ng/mL	97
88) Indeno[1,2,3-cd]pyrene	52.831	276	272177M3	433.525	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.892	278	271263	433.217	ng/mL	99
90) Benzo[g,h,i]perylene	54.096	276	281929	421.511	ng/mL	100
91) Hopane (T19)	51.973	191	60720	446.795	ng/mL	91
92) 17a(H),21B(H)-hopane - C3	51.973	191	60720	446.795	ng/mL	91

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

Data Path : 0:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291615.D
Acq On : 30 Mar 2016 5:09 am
Operator : PAH2:gy
Sample : c203291602
Misc : FRAW88 500NG/ML
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 04 13:37:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291624.D
 Acq On : 30 Mar 2016 6:14 pm
 Operator : PAH2:gy
 Sample : c203291603
 Misc : FRAW88 500NG/ML
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 04 13:38:47 2016

Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M

Quant Title : Decalins & Alkylated PAH's

QLast Update : Thu Mar 24 06:59:53 2016

Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 i	Acenaphthene-d10	1.000	1.000	0.0	92	0.02
2 A1	trans-Decalin	0.417	0.435	-4.3	99	0.02
3 t	cis-Decalin	0.326	0.338	-3.7	98	0.00
8 s	Naphthalene-d8	1.927	1.689	12.4	82	0.02
9 A1	Naphthalene	1.996	1.766	11.5	82	0.02
14 t	2-Methylnaphthalene	1.337	1.222	8.6	83	0.02
15 t	1-Methylnaphthalene	1.303	1.183	9.2	83	0.02
16 A1	Benzothiophene	1.608	1.419	11.8	81	0.02
21 t	Biphenyl	1.649	1.488	9.8	82	0.02
22 t	2,6-Dimethylnaphthalene	1.190	1.136	4.5	87	0.03
23 t	Dibenzofuran	1.730	1.611	6.9	84	0.03
24 t	Acenaphthylene	1.991	1.851	7.0	84	0.03
25 t	Acenaphthene	1.235	1.129	8.6	83	0.03
26 t	2,3,5-Trimethylnaphthalene	1.050	1.053	-0.3	91	0.03
27 A1	Fluorene	1.441	1.369	5.0	85	0.03
31 A1	Dibenzothiophene	1.796	1.743	3.0	86	0.03
40 s	Phenanthrene-d10	1.588	1.653	-4.1	93	0.03
41 A1	Phenanthrene	2.038	1.941	4.8	83	0.05
52 t	Retene	0.595	0.674	-13.3	103	0.03
53 t	Anthracene	1.849	1.887	-2.1	86	0.05
54 t	Carbazole	1.866	1.693	9.3	80	0.05
55 t	1-Methylphenanthrene	1.445	1.486	-2.8	92	0.05
56 A1	Fluoranthene	2.080	2.062	0.9	87	0.05
57 t	Benzo(b)fluorene	1.354	1.423	-5.1	93	0.05
58 A1	Pyrene	2.294	2.332	-1.7	88	0.05
63 A1	Naphthobenzothiophene	2.050	1.983	3.3	86	0.05
64 A2	Naphthobenzothiophene-2,1-D	2.050	1.983	3.3	86	0.05
71 i	Chrysene-d12	1.000	1.000	0.0	94	0.05
72 t	Benz[a]anthracene	1.201	1.180	1.7	90	0.05
73 A1	Chrysene	1.205	1.121	7.0	84	0.06
74 A2	Chrysene/Triphenylene	1.205	1.121	7.0	84	0.06
80 s	Benzo[b]fluoranthene-d12	1.123	1.032	8.1	87	0.06
81 t	Benzo[b]fluoranthene	1.338	1.133	15.3	78	0.08
82 A1	Benzo[j]+[k]fluoranthene	1.347	1.174	12.8	78	0.06
84 t	Benzo[e]pyrene	1.306	1.094	16.2	78	0.06
85 s	Benzo[a]pyrene-d12	0.983	0.939	4.5	91	0.08
86 t	Benzo[a]pyrene	1.313	1.114	15.2	77	0.08
87 t	Perylene	1.306	1.120	14.2	78	0.08
88 t	Indeno[1,2,3-cd]pyrene	1.472	1.290	12.4	86	0.11
89 t	Dibenz[ah]+[ac]anthracene	1.468	1.294	11.9	83	0.12
90 t	Benzo[g,h,i]perylene	1.568	1.299	17.2	79	0.14
91 A1	Hopane (T19)	0.319	0.294	7.8	90	0.08
92 A2	17a(H),21B(H)-hopane - C30H	0.319	0.294	7.8	90	0.08
126 SA1	5B(H)Cholane - Surr	0.164	0.176	-7.3	106	0.05

* Evaluation of CC level amount vs concentration.

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.87	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.14	0.70 - 2.00

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291624.D
 Acq On : 30 Mar 2016 6:14 pm
 Operator : PAH2:gy
 Sample : c203291603
 Misc : FRAW88 500NG/ML
 ALS Vial : 24 Sample Multiplier: 1

ML
4/4/16

Quant Time: Apr 04 13:38:47 2016
 Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

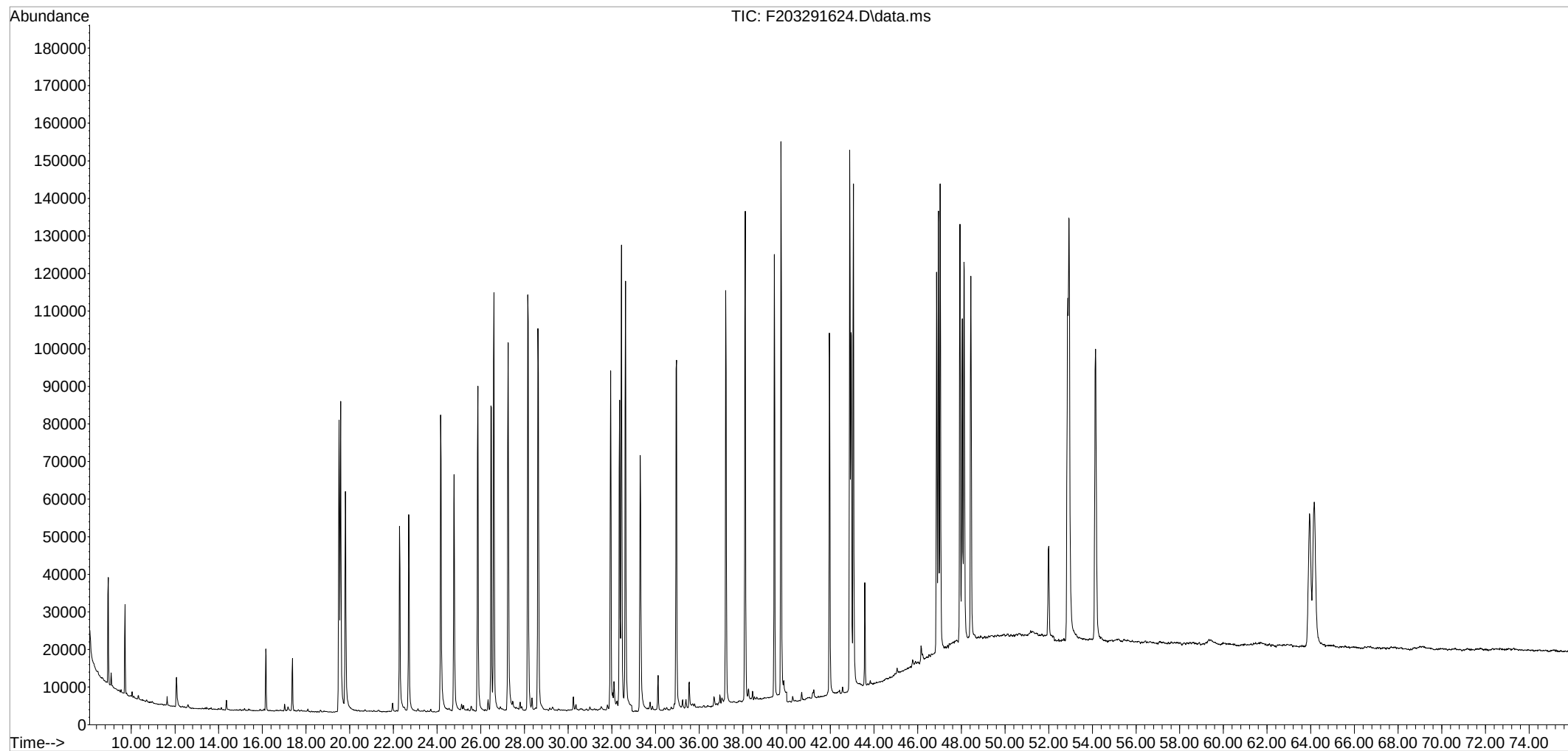
Internal Standards						
1) Acenaphthene-d10	26.482	164	126693	500.000	ng/mL	0.02
71) Chrysene-d12	42.967	240	216498	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	213985	438.290	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.83%#		
40) Phenanthrene-d10	32.353	188	209428	520.538	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	52.05%		
80) Benzo[b]fluoranthene-d12	46.867	264	223489	459.532	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	45.95%#		
85) Benzo[a]pyrene-d12	48.042	264	203284	477.835	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.78%#		
126) 5B(H)Cholane - Surr	43.585	217	38031	534.566	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	53.46%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.170	138	27529	260.816	ng/mL	100
3) cis-Decalin	17.374	138	21390	259.113	ng/mL	100
9) Naphthalene	19.587	128	223717	442.391	ng/mL	100
14) 2-Methylnaphthalene	22.282	142	154876	457.276	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	149877	453.957	ng/mL	100
16) Benzothiophene	19.798	134	179836	441.351	ng/mL	100
21) Biphenyl	24.164	154	188575	451.289	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	143886	477.255	ng/mL	100
23) Dibenzofuran	27.250	168	204160	465.866	ng/mL	99
24) Acenaphthylene	25.865	152	234539M4	464.937	ng/mL	
25) Acenaphthene	26.602	153	142993	456.965	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.168	170	133442	501.329	ng/mL	99
27) Fluorene	28.620	166	173475	474.989	ng/mL	98
31) Dibenzothiophene	31.947	184	220889	485.448	ng/mL	95
41) Phenanthrene	32.443	178	245932	476.306	ng/mL	99
52) Retene	39.444	234	85416	566.257	ng/mL	94
53) Anthracene	32.624	178	239105M4	510.250	ng/mL	
54) Carbazole	33.301	167	214455	453.641	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	188285	514.189	ng/mL	100
56) Fluoranthene	37.216	202	261251	495.643	ng/mL	98
57) Benzo(b)fluorene	39.745	216	180265	525.383	ng/mL	100
58) Pyrene	38.104	202	295423	508.309	ng/mL	99
63) Naphthobenzothiophene	41.959	234	251262	483.808	ng/mL	99
64) Naphthobenzothiophene-2,1	41.959	234	251262	483.808	ng/mL	99
72) Benz[a]anthracene	42.892	228	255365	491.026	ng/mL	100
73) Chrysene	43.058	228	242720	465.109	ng/mL	98
74) Chrysene/Triphenylene	43.058	228	242720	465.109	ng/mL	98
81) Benzo[b]fluoranthene	46.958	252	245214	423.330	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.033	252	254214	435.955	ng/mL	98
84) Benzo[e]pyrene	47.937	252	236790	418.700	ng/mL	98
86) Benzo[a]pyrene	48.133	252	241115	423.955	ng/mL	98
87) Perylene	48.434	252	242577	428.865	ng/mL	97
88) Indeno[1,2,3-cd]pyrene	52.861	276	279251M4	438.206	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	280090	440.690	ng/mL	99
90) Benzo[g,h,i]perylene	54.141	276	281178	414.163	ng/mL	100
91) Hopane (T19)	52.003	191	63577	460.890	ng/mL	94
92) 17a(H),21B(H)-hopane - C3	52.003	191	63577	460.890	ng/mL	94

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

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291624.D
Acq On : 30 Mar 2016 6:14 pm
Operator : PAH2:gy
Sample : c203291603
Misc : FRAW88 500NG/ML
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 04 13:38:47 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291628.D
 Acq On : 31 Mar 2016 12:38 pm
 Operator : PAH2:gy
 Sample : c203291604
 Misc : fraw88 500ng/ml
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 04 13:39:02 2016

Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M

Quant Title : Decalins & Alkylated PAH's

QLast Update : Thu Mar 24 06:59:53 2016

Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 i	Acenaphthene-d10	1.000	1.000	0.0	96	0.02
2 A1	trans-Decalin	0.417	0.402	3.6	96	0.00
3 t	cis-Decalin	0.326	0.307	5.8	93	0.00
8 s	Naphthalene-d8	1.927	1.727	10.4	87	0.02
9 A1	Naphthalene	1.996	1.836	8.0	89	0.02
14 t	2-Methylnaphthalene	1.337	1.218	8.9	86	0.03
15 t	1-Methylnaphthalene	1.303	1.219	6.4	89	0.02
16 A1	Benzothiophene	1.608	1.508	6.2	90	0.02
21 t	Biphenyl	1.649	1.540	6.6	88	0.02
22 t	2,6-Dimethylnaphthalene	1.190	1.158	2.7	92	0.03
23 t	Dibenzofuran	1.730	1.646	4.9	89	0.03
24 t	Acenaphthylene	1.991	1.875	5.8	89	0.03
25 t	Acenaphthene	1.235	1.153	6.6	88	0.03
26 t	2,3,5-Trimethylnaphthalene	1.050	1.051	-0.1	94	0.03
27 A1	Fluorene	1.441	1.396	3.1	90	0.05
31 A1	Dibenzothiophene	1.796	1.822	-1.4	94	0.03
40 s	Phenanthrene-d10	1.588	1.649	-3.8	96	0.03
41 A1	Phenanthrene	2.038	1.998	2.0	89	0.05
52 t	Retene	0.595	0.660	-10.9	106	0.03
53 t	Anthracene	1.849	1.897	-2.6	90	0.05
54 t	Carbazole	1.866	1.694	9.2	83	0.05
55 t	1-Methylphenanthrene	1.445	1.494	-3.4	97	0.05
56 A1	Fluoranthene	2.080	2.203	-5.9	97	0.05
57 t	Benzo(b)fluorene	1.354	1.438	-6.2	98	0.05
58 A1	Pyrene	2.294	2.417	-5.4	95	0.05
63 A1	Naphthobenzothiophene	2.050	2.131	-4.0	97	0.05
64 A2	Naphthobenzothiophene-2,1-D	2.050	2.131	-4.0	97	0.05
71 i	Chrysene-d12	1.000	1.000	0.0	101	0.03
72 t	Benz[a]anthracene	1.201	1.195	0.5	97	0.05
73 A1	Chrysene	1.205	1.175	2.5	94	0.06
74 A2	Chrysene/Triphenylene	1.205	1.175	2.5	94	0.06
80 s	Benzo[b]fluoranthene-d12	1.123	1.114	0.8	101	0.06
81 t	Benzo[b]fluoranthene	1.338	1.280	4.3	95	0.06
82 A1	Benzo[j]+[k]fluoranthene	1.347	1.323	1.8	94	0.06
84 t	Benzo[e]pyrene	1.306	1.221	6.5	93	0.06
85 s	Benzo[a]pyrene-d12	0.983	0.968	1.5	101	0.08
86 t	Benzo[a]pyrene	1.313	1.239	5.6	91	0.08
87 t	Perylene	1.306	1.259	3.6	94	0.08
88 t	Indeno[1,2,3-cd]pyrene	1.472	1.430	2.9	102	0.11
89 t	Dibenz[ah]+[ac]anthracene	1.468	1.366	6.9	94	0.12
90 t	Benzo[g,h,i]perylene	1.568	1.398	10.8	91	0.14
91 A1	Hopane (T19)	0.319	0.302	5.3	99	0.06
92 A2	17a(H),21B(H)-hopane - C30H	0.319	0.302	5.3	99	0.06
126 SA1	5B(H)Cholane - Surr	0.164	0.168	-2.4	108	0.05

* Evaluation of CC level amount vs concentration.

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.91	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.23	0.70 - 2.00

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291628.D
 Acq On : 31 Mar 2016 12:38 pm
 Operator : PAH2:gy
 Sample : c203291604
 Misc : fraw88 500ng/ml
 ALS Vial : 28 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 13:39:02 2016
 Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

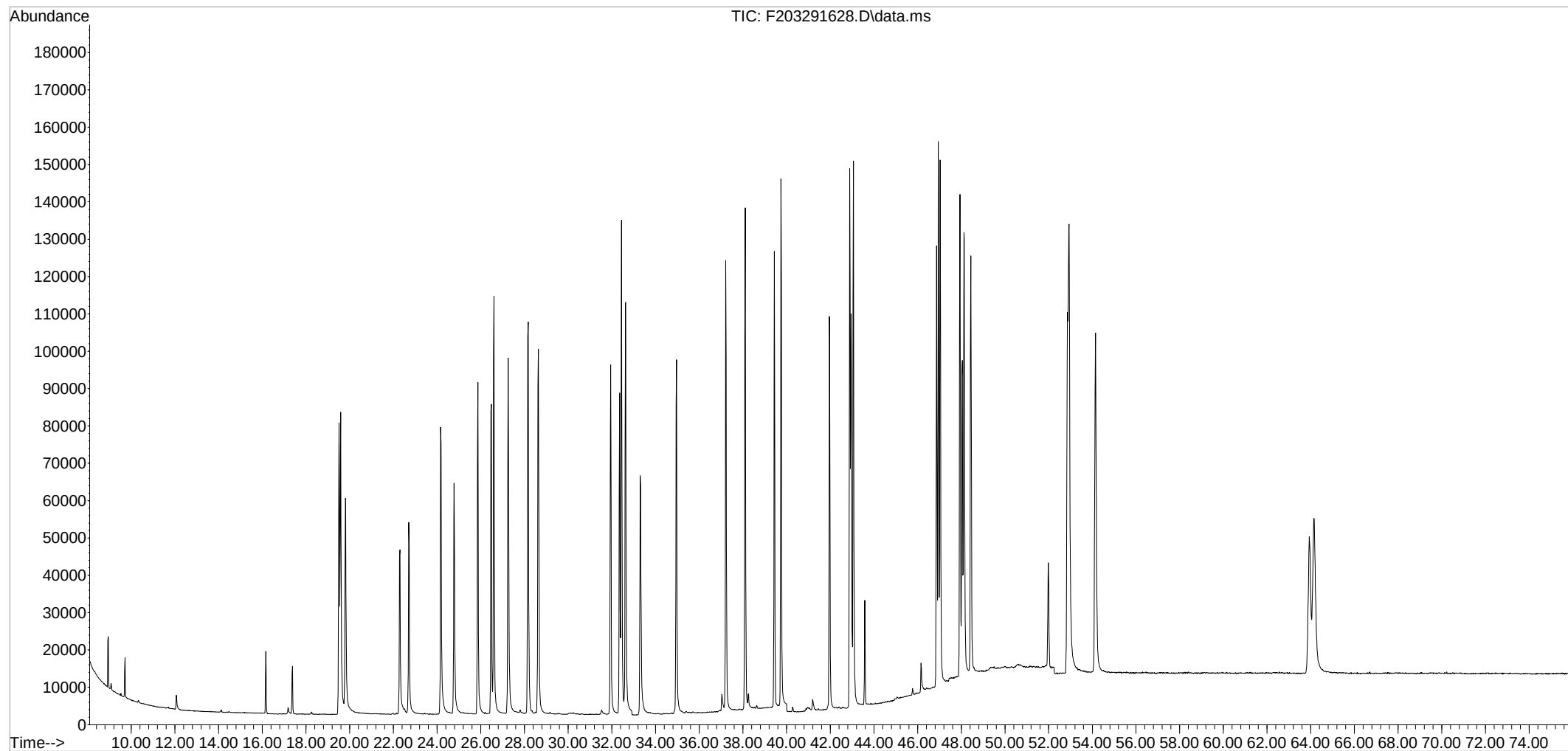
Internal Standards						
1) Acenaphthene-d10	26.482	164	132216	500.000	ng/mL	0.02
71) Chrysene-d12	42.953	240	232113	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	228358	448.191	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	44.82%#		
40) Phenanthrene-d10	32.353	188	218040	519.305	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	51.93%		
80) Benzo[b]fluoranthene-d12	46.868	264	258653	496.057	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	49.61%#		
85) Benzo[a]pyrene-d12	48.042	264	224584	492.389	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	49.24%#		
126) 5B(H)Cholane - Surr	43.585	217	38915	510.194	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	51.02%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.155	138	26570	241.215	ng/mL	100
3) cis-Decalin	17.374	138	20304	235.684	ng/mL	100
9) Naphthalene	19.587	128	242767	460.008	ng/mL	100
14) 2-Methylnaphthalene	22.297	142	161054	455.653	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	161173	467.779	ng/mL	100
16) Benzothiophene	19.798	134	199327	468.751	ng/mL	100
21) Biphenyl	24.164	154	203661	467.032	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	153132	486.706	ng/mL	100
23) Dibenzofuran	27.250	168	217579	475.747	ng/mL	99
24) Acenaphthylene	25.865	152	247901M4	470.897	ng/mL	
25) Acenaphthene	26.603	153	152425	466.759	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.168	170	138966	500.273	ng/mL	99
27) Fluorene	28.635	166	184610	484.363	ng/mL	98
31) Dibenzothiophene	31.947	184	240928	507.370	ng/mL	96
41) Phenanthrene	32.444	178	264109	490.143	ng/mL	99
52) Retene	39.445	234	87286	554.482	ng/mL	90
53) Anthracene	32.624	178	250798M4	512.846	ng/mL	
54) Carbazole	33.302	167	224012	454.063	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	197494	516.808	ng/mL	99
56) Fluoranthene	37.216	202	291285	529.539	ng/mL	98
57) Benzo(b)fluorene	39.746	216	190081	530.850	ng/mL	99
58) Pyrene	38.104	202	319608	526.951	ng/mL	100
63) Naphthobenzothiophene	41.959	234	281794	519.932	ng/mL	100
64) Naphthobenzothiophene-2,1	41.959	234	281794	519.932	ng/mL	100
72) Benz[a]anthracene	42.892	228	277276	497.290	ng/mL	100
73) Chrysene	43.058	228	272695	487.395	ng/mL	99
74) Chrysene/Triphenylene	43.058	228	272695	487.395	ng/mL	99
81) Benzo[b]fluoranthene	46.943	252	297190	478.545	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.033	252	307020	491.092	ng/mL	97
84) Benzo[e]pyrene	47.937	252	283357	467.335	ng/mL	98
86) Benzo[a]pyrene	48.133	252	287631	471.722	ng/mL	97
87) Perylene	48.434	252	292120	481.711	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.862	276	331972M4	485.891	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	317044	465.275	ng/mL	99
90) Benzo[g,h,i]perylene	54.142	276	324420	445.709	ng/mL	100
91) Hopane (T19)	51.988	191	70189	474.592	ng/mL	91
92) 17a(H),21B(H)-hopane - C3	51.988	191	70189	474.592	ng/mL	91

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

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291628.D
Acq On : 31 Mar 2016 12:38 pm
Operator : PAH2:gy
Sample : c203291604
Misc : fraw88 500ng/ml
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 04 13:39:02 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291637.D
 Acq On : 1 Apr 2016 1:40 am
 Operator : PAH2:gy
 Sample : C203291605
 Misc : FRAW88 500NG/ML
 ALS Vial : 37 Sample Multiplier: 1

Quant Time: Apr 04 13:39:16 2016

Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M

Quant Title : Decalins & Alkylated PAH's

QLast Update : Thu Mar 24 06:59:53 2016

Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 i	Acenaphthene-d10	1.000	1.000	0.0	84	0.00
2 A1	trans-Decalin	0.417	0.396	5.0	82	0.00
3 t	cis-Decalin	0.326	0.302	7.4	80	0.00
8 s	Naphthalene-d8	1.927	1.662	13.8	74	0.02
9 A1	Naphthalene	1.996	1.765	11.6	75	0.02
14 t	2-Methylnaphthalene	1.337	1.171	12.4	73	0.03
15 t	1-Methylnaphthalene	1.303	1.170	10.2	75	0.03
16 A1	Benzothiophene	1.608	1.456	9.5	76	0.03
21 t	Biphenyl	1.649	1.494	9.4	75	0.03
22 t	2,6-Dimethylnaphthalene	1.190	1.121	5.8	78	0.03
23 t	Dibenzofuran	1.730	1.638	5.3	78	0.03
24 t	Acenaphthylene	1.991	1.873	5.9	78	0.03
25 t	Acenaphthene	1.235	1.157	6.3	78	0.02
26 t	2,3,5-Trimethylnaphthalene	1.050	1.065	-1.4	84	0.03
27 A1	Fluorene	1.441	1.383	4.0	78	0.05
31 A1	Dibenzothiophene	1.796	1.782	0.8	81	0.03
40 s	Phenanthrene-d10	1.588	1.654	-4.2	85	0.03
41 A1	Phenanthrene	2.038	1.946	4.5	76	0.05
52 t	Retene	0.595	0.684	-15.0	96	0.03
53 t	Anthracene	1.849	1.924	-4.1	80	0.06
54 t	Carbazole	1.866	1.610	13.7	69	0.06
55 t	1-Methylphenanthrene	1.445	1.481	-2.5	84	0.05
56 A1	Fluoranthene	2.080	2.176	-4.6	84	0.05
57 t	Benzo(b)fluorene	1.354	1.409	-4.1	84	0.06
58 A1	Pyrene	2.294	2.407	-4.9	83	0.05
63 A1	Naphthobenzothiophene	2.050	2.114	-3.1	84	0.05
64 A2	Naphthobenzothiophene-2,1-D	2.050	2.114	-3.1	84	0.05
71 i	Chrysene-d12	1.000	1.000	0.0	90	0.03
72 t	Benz[a]anthracene	1.201	1.145	4.7	83	0.06
73 A1	Chrysene	1.205	1.168	3.1	84	0.06
74 A2	Chrysene/Triphenylene	1.205	1.168	3.1	84	0.06
80 s	Benzo[b]fluoranthene-d12	1.123	1.089	3.0	88	0.06
81 t	Benzo[b]fluoranthene	1.338	1.207	9.8	80	0.06
82 A1	Benzo[j]+[k]fluoranthene	1.347	1.287	4.5	82	0.06
84 t	Benzo[e]pyrene	1.306	1.179	9.7	80	0.06
85 s	Benzo[a]pyrene-d12	0.983	0.938	4.6	87	0.08
86 t	Benzo[a]pyrene	1.313	1.156	12.0	76	0.08
87 t	Perylene	1.306	1.215	7.0	81	0.08
88 t	Indeno[1,2,3-cd]pyrene	1.472	1.273	13.5	81	0.11
89 t	Dibenz[ah]+[ac]anthracene	1.468	1.293	11.9	79	0.12
90 t	Benzo[g,h,i]perylene	1.568	1.378	12.1	80	0.14
91 A1	Hopane (T19)	0.319	0.298	6.6	87	0.05
92 A2	17a(H),21B(H)-hopane - C30H	0.319	0.298	6.6	87	0.05
126 SA1	5B(H)Cholane - Surr	0.164	0.171	-4.3	98	0.03

* Evaluation of CC level amount vs concentration.

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.92	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.26	0.70 - 2.00

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
 Data File : F203291637.D
 Acq On : 1 Apr 2016 1:40 am
 Operator : PAH2:gy
 Sample : C203291605
 Misc : FRAW88 500NG/ML
 ALS Vial : 37 Sample Multiplier: 1

ML
4/4/16

Quant Time: Apr 04 13:39:16 2016
 Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
 Quant Title : Decalins & Alkylated PAH's
 QLast Update : Thu Mar 24 06:59:53 2016
 Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

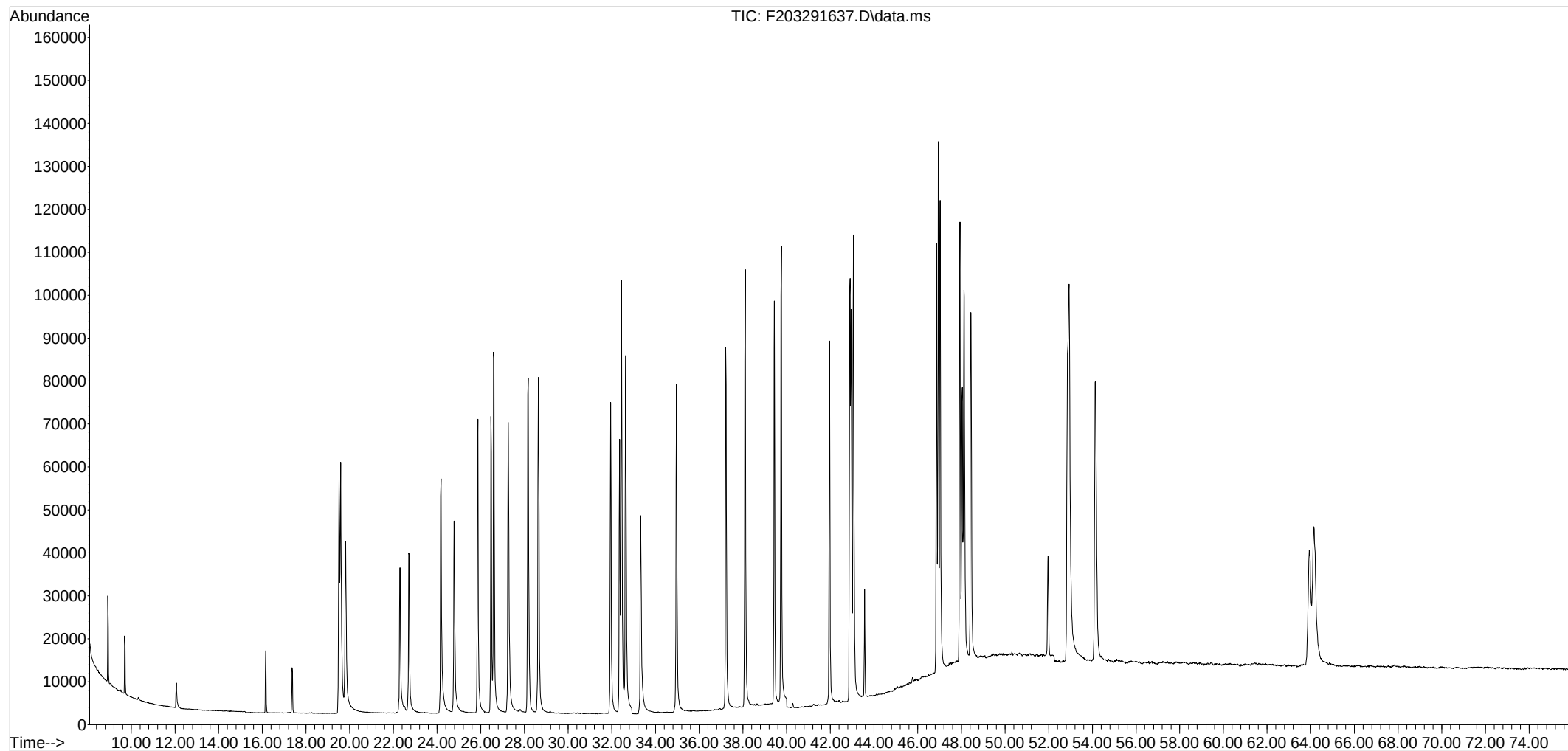
Internal Standards						
1) Acenaphthene-d10	26.467	164	115794	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	206893	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	192449	431.281	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	43.13%#		
40) Phenanthrene-d10	32.353	188	191576	520.985	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	52.10%		
80) Benzo[b]fluoranthene-d12	46.868	264	225378	484.930	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	48.49%#		
85) Benzo[a]pyrene-d12	48.042	264	193974	477.119	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	47.71%#		
126) 5B(H)Cholane - Surr	43.570	217	35349	519.935	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	51.99%		
Target Compounds						
					Qvalue	
2) trans-Decalin	16.155	138	22916	237.547	ng/mL	100
3) cis-Decalin	17.374	138	17506	232.024	ng/mL	100
9) Naphthalene	19.587	128	204398	442.232	ng/mL	100
14) 2-Methylnaphthalene	22.297	142	135606	438.066	ng/mL	100
15) 1-Methylnaphthalene	22.718	142	135428	448.802	ng/mL	100
16) Benzo[thiophene]	19.813	134	168572	452.647	ng/mL	100
21) Biphenyl	24.179	154	173038	453.083	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	129767	470.937	ng/mL	100
23) Dibenzofuran	27.250	168	189711	473.641	ng/mL	98
24) Acenaphthylene	25.865	152	216892M4	470.424	ng/mL	
25) Acenaphthene	26.587	153	133932	468.294	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.168	170	123264	506.679	ng/mL	98
27) Fluorene	28.635	166	160175	479.853	ng/mL	99
31) Dibenzothiophene	31.947	184	206372	496.234	ng/mL	95
41) Phenanthrene	32.443	178	225354	477.532	ng/mL	98
52) Retene	39.444	234	79257	574.882	ng/mL	94
53) Anthracene	32.639	178	222802M4	520.212	ng/mL	
54) Carbazole	33.317	167	186398	431.404	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	171517	512.485	ng/mL	100
56) Fluoranthene	37.216	202	251965	523.020	ng/mL	98
57) Benzo(b)fluorene	39.761	216	163120	520.162	ng/mL	99
58) Pyrene	38.104	202	278722	524.713	ng/mL	99
63) Naphthobenzothiophene	41.959	234	244760	515.648	ng/mL	99
64) Naphthobenzothiophene-2,1	41.959	234	244760	515.648	ng/mL	99
72) Benz[a]anthracene	42.907	228	236962	476.793	ng/mL	100
73) Chrysene	43.058	228	241753	484.763	ng/mL	98
74) Chrysene/Triphenylene	43.058	228	241753	484.763	ng/mL	98
81) Benzo[b]fluoranthene	46.943	252	249823	451.309	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.033	252	266319	477.917	ng/mL	97
84) Benzo[e]pyrene	47.937	252	243861	451.222	ng/mL	98
86) Benzo[a]pyrene	48.133	252	239112	439.952	ng/mL	97
87) Perylene	48.434	252	251455	465.199	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.862	276	263276M4	432.317	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	267465	440.363	ng/mL	98
90) Benzo[g,h,i]perylene	54.141	276	285012	439.300	ng/mL	100
91) Hopane (T19)	51.973	191	61663	467.767	ng/mL	92
92) 17a(H),21B(H)-hopane - C3	51.973	191	61663	467.767	ng/mL	92

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

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291637.D
Acq On : 1 Apr 2016 1:40 am
Operator : PAH2:gy
Sample : C203291605
Misc : FRAW88 500NG/ML
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Apr 04 13:39:16 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates





Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: NewFields
Project: Flint Street

Lab Code: MA00030
ETR: 1603006
Lab ID: C203291601

Case: N/A SDG: N/A

		Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
Standard:		183918	42.94	106471	26.45
Upper Limit:		367836	43.44	212942	26.95
Lower Limit:		91959	42.44	53236	25.95
Client ID	Lab ID				
Blank	SS032516B02	167268	42.94	98716	26.45
LCS	SS032516LCS02	178679	42.92	101271	26.45
LCSD	SS032516LCSD02	178635	42.92	101556	26.45
RX-1	1603006-01	174276	42.94	102913	26.45
RX-2	1603006-02	177809	42.94	101033	26.47
RX-3	1603006-03	182744	42.94	100582	26.48
RX-4	1603006-04	185433	42.98	98988	26.47
RX-4	1603006-04 D	178681	42.97	98501	26.47
RX-5	1603006-05	183818	42.97	105273	26.47
CCV	C203291602	213292	42.94	126230	26.47

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.



Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: NewFields
Project: Flint Street

Lab Code: MA00030
ETR: 1603006
Lab ID: C203291602

Case: N/A SDG: N/A

Standard: Upper Limit: Lower Limit: Client ID	Lab ID	Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
		213292	42.94	126230	26.47
		426584	43.44	252460	26.97
		106646	42.44	63115	25.97
RX-6	1603006-06	174227	42.95	102004	26.47
RX-7	1603006-07	177284	42.97	101584	26.47
RX-7A	1603006-08	185291	42.98	100608	26.48
RX-7B	1603006-09	183575	42.97	97765	26.48
RX-8	1603006-10	178737	42.97	98585	26.48
RX-8A	1603006-11	185159	42.97	120401	26.47
RX-8B	1603006-12	179631	42.98	119477	26.47
CCV	C203291603	216498	42.97	126693	26.48

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.



Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: NewFields
Project: Flint Street

Lab Code: MA00030
ETR: 1603006
Lab ID: C203291603

Case: N/A SDG: N/A

		Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
Standard:		216498	42.97	126693	26.48
Upper Limit:		432996	43.47	253386	26.98
Lower Limit:		108249	42.47	63346	25.98
Client ID	Lab ID				
RX-8B	1603006-12E	179886	42.95	111407	26.47
CCV	C203291604	232113	42.95	132216	26.48

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.



Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: NewFields
Project: Flint Street

Lab Code: MA00030
ETR: 1603006
Lab ID: C203291604

Case: N/A SDG: N/A

		Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
Standard:		232113	42.95	132216	26.48
Upper Limit:		464226	43.45	264432	26.98
Lower Limit:		116056	42.45	66108	25.98
Client ID	Lab ID				
RX-8	1603006-10E	154715	42.95	87943	26.47
CCV	C203291605	206893	42.95	115794	26.47

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

Total Petroleum Hydrocarbons By GC/FID

Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-1**

Case: **N/A**

Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-01**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

2610

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	85	50-130
d50-Tetracosane	82	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916017.D
 Signal(s) : FID2B.CH
 Acq On : 29 Mar 2016 11:35 pm
 Operator : FID9:DP
 Sample : 1603006-01
 Misc : 1X
 ALS Vial : 59 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:31:27 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:31:20 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.105	55090153	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.081	24994942	21.240 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	42.48%#
24) s d50-Tetracosane	35.723	20023510	20.430 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	40.86%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	4364719580	4236.968 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	3593060372	3487.894 ug/mLm
46) h Total Resolved Hydroc...	39.662	188714577	183.191 ug/mL m

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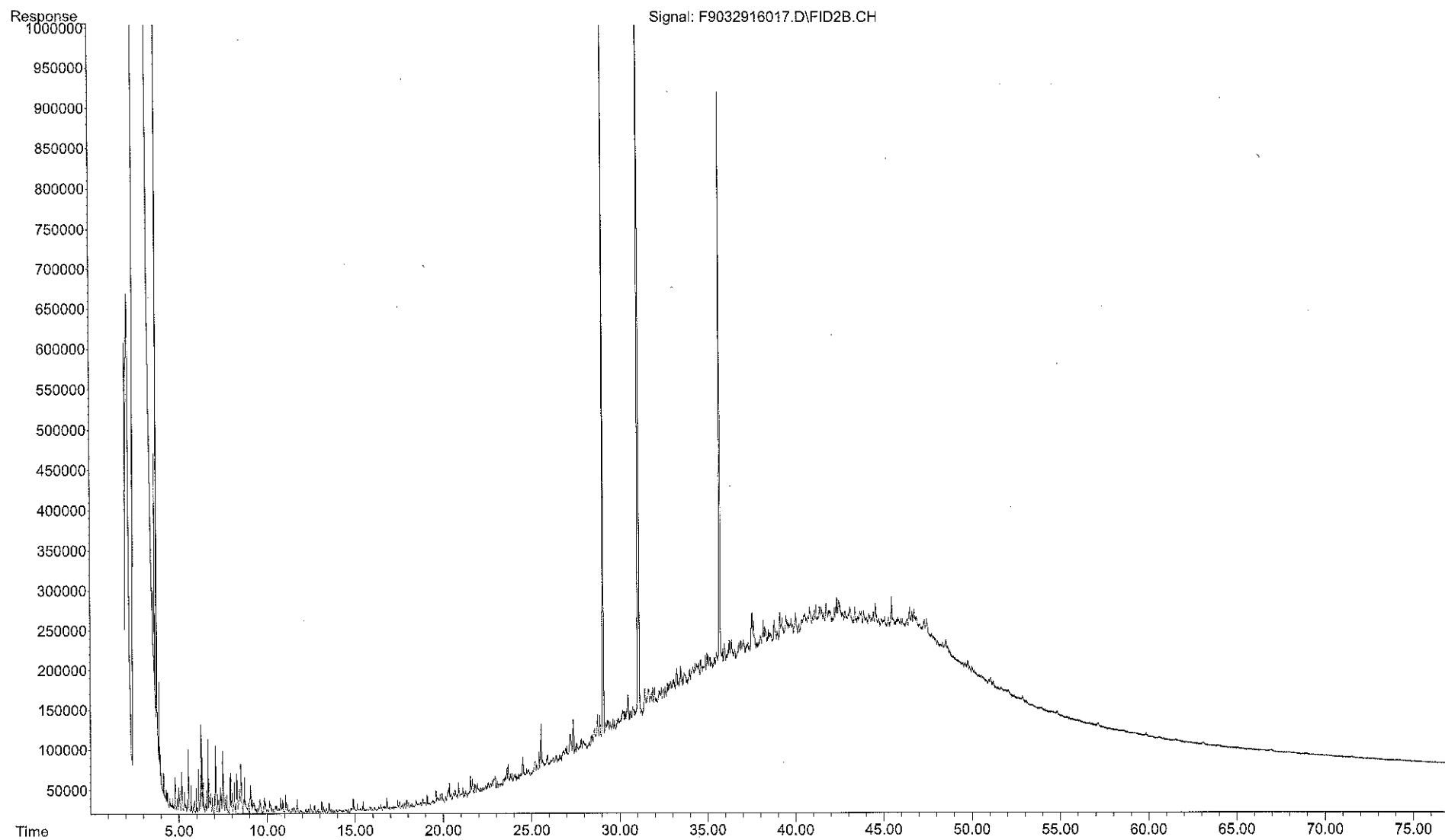
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916017.D
Operator : FID9:DP
Acquired : 29 Mar 2016 11:35 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-01
Misc Info : 1X
ALS Vial : 59



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-2**

Case: **N/A**

Matrix: **Soil**

SDG:

N/A

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-02**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	80.0	10.51	10	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

7290

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	94	50-130
d50-Tetracosane	85	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916019.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 1:02 am
 Operator : FID9:DP
 Sample : 1603006-02
 Misc : 1X
 ALS Vial : 60 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:31:37 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:31:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.122	59228057	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.093	29661136	23.444 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	46.89%#
24) s d50-Tetracosane	35.729	22458494	21.314 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	42.63%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	7566755505	6832.113 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	6795096297	6135.372 ug/mLm
46) h Total Resolved Hydroc...	39.662	624141644	563.545 ug/mL m

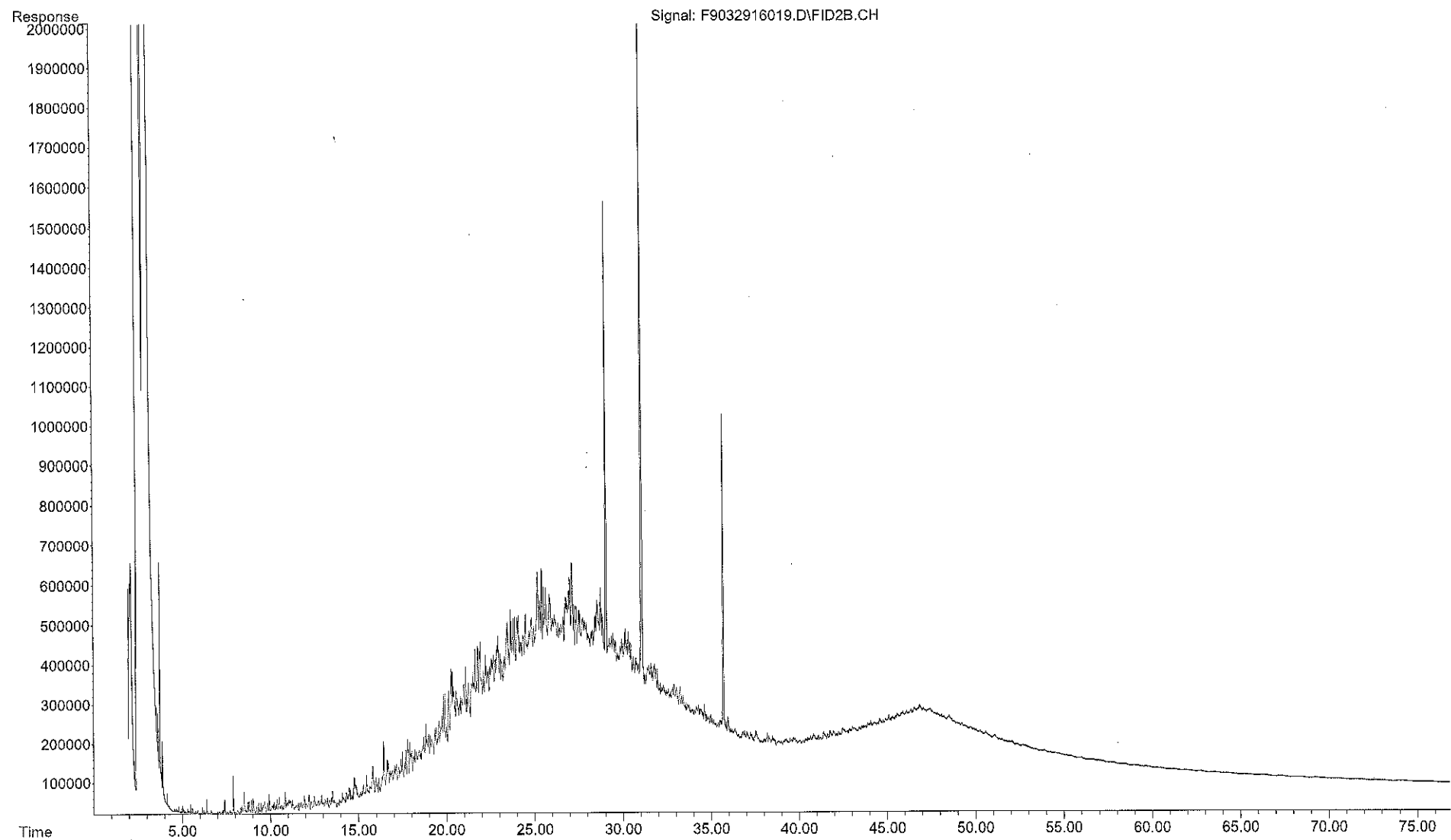
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916019.D
Operator : FID9:DP
Acquired : 30 Mar 2016 1:02 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-02
Misc Info : 1X
ALS Vial : 60



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-3**

Case: **N/A**

Matrix: **Soil**

SDG:

N/A

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-03**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	89.6	10.30	4	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

2690

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	93	50-130
d50-Tetracosane	85	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916021.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 2:30 am
 Operator : FID9:DP
 Sample : 1603006-03
 Misc : 1X
 ALS Vial : 61 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:31:47 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:31:40 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.119	59371371	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.106	73473635	57.934 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 115.87%	
24) s d50-Tetracosane	35.740	56392071	53.389 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 106.78%	
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	7654276342	6894.454 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	6882617134	6199.395 ug/mLm
46) h Total Resolved Hydroc...	39.662	1895325081	1707.180 ug/mL m

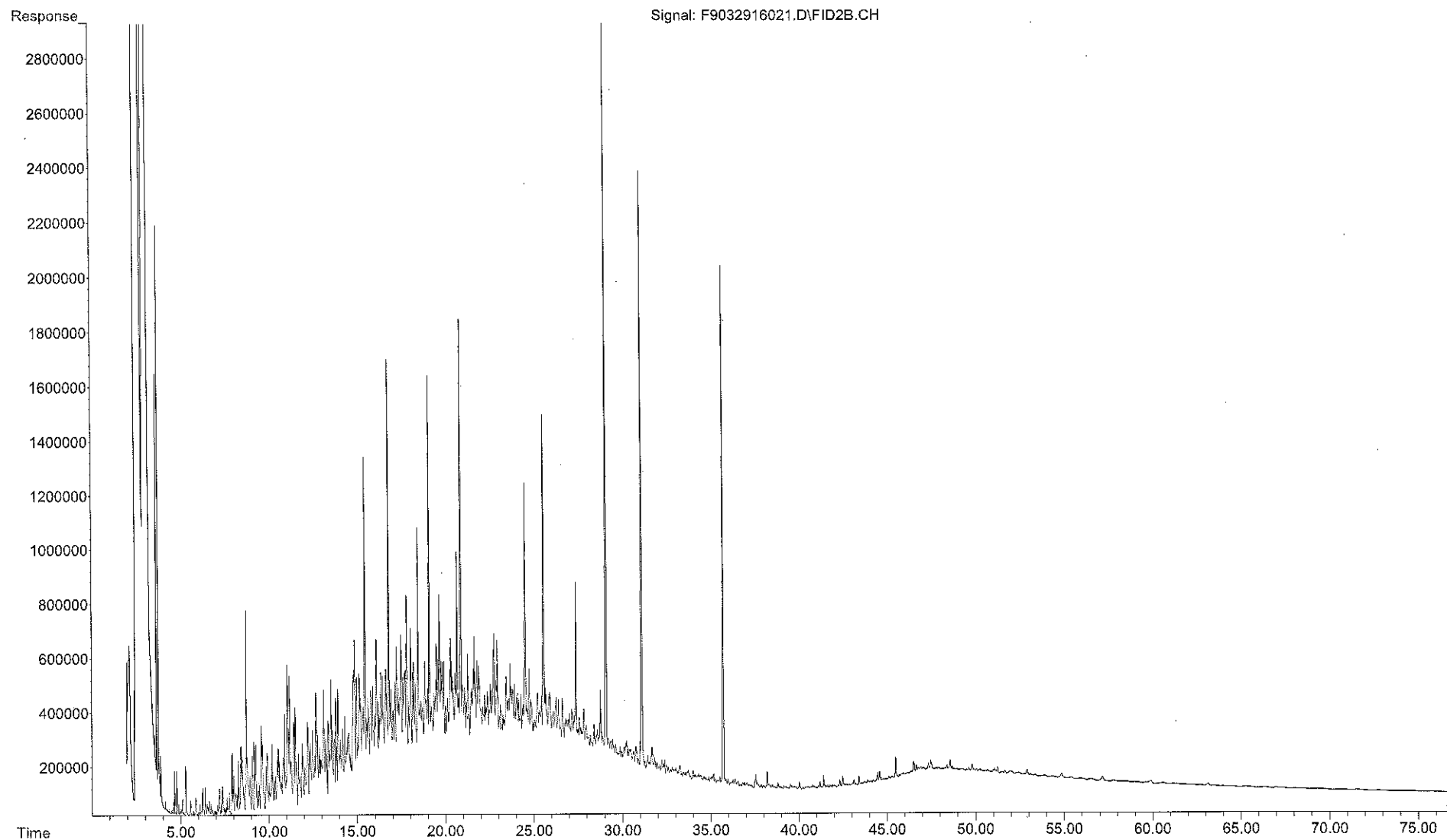
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916021.D
Operator : FID9:DP
Acquired : 30 Mar 2016 2:30 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-03
Misc Info : 1X
ALS Vial : 61



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-4**

Case: **N/A**

Matrix: **Soil**

SDG:

N/A

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-04**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

13800

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	92	50-130
d50-Tetracosane	92	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916023.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 3:57 am
 Operator : FID9:DP
 Sample : 1603006-04
 Misc : 1X
 ALS Vial : 62 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:31:57 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:31:50 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.132	62822468	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.102	46213479	34.437 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	68.87%
24) s d50-Tetracosane	35.755	38435899	34.390 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	68.78%
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	10794123188	9188.512 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	10022463980	8531.636 ug/mLm
46) h Total Resolved Hydroc...	39.662	1390038421	1183.272 ug/mL m

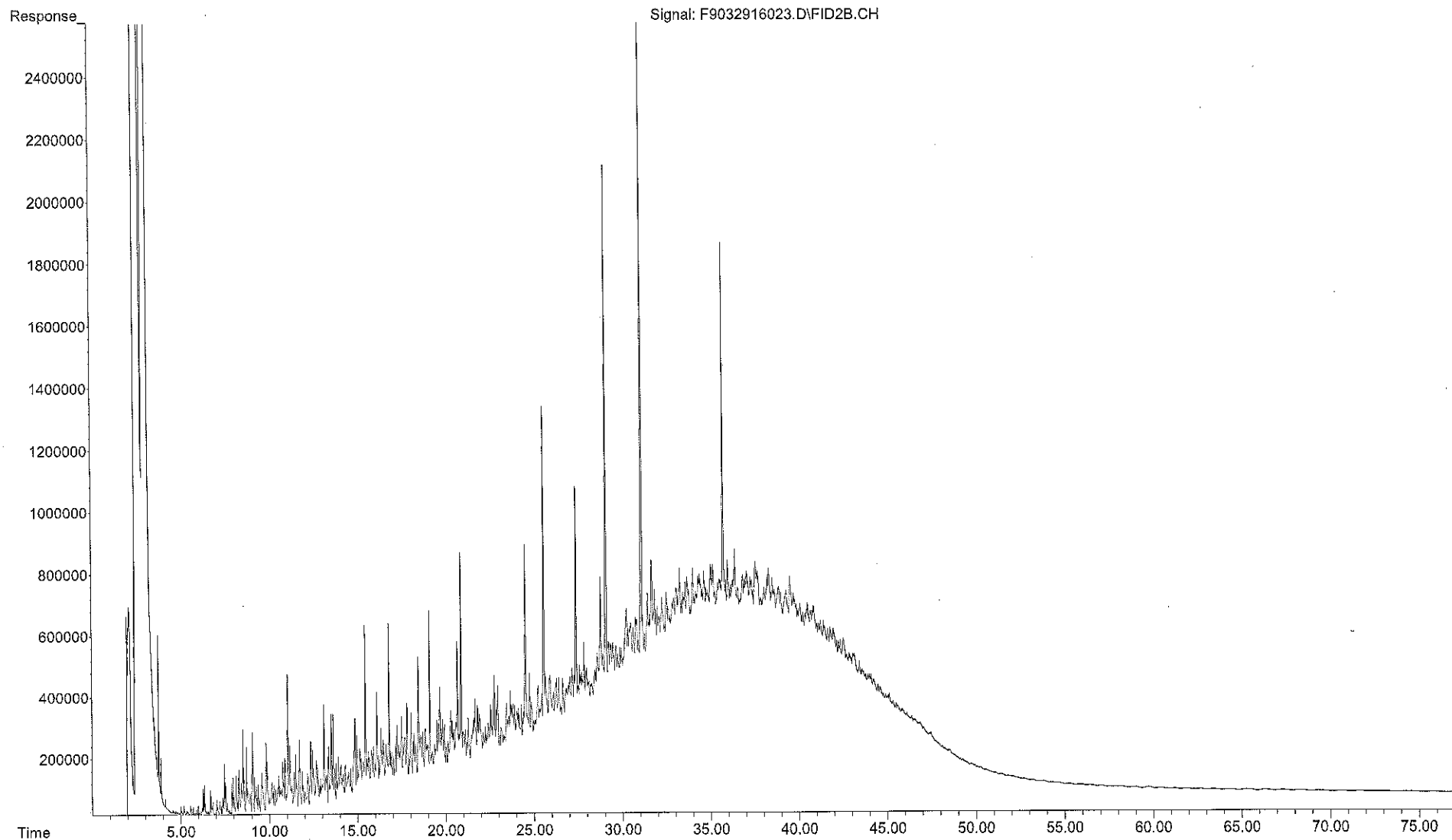
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916023.D
Operator : FID9:DP
Acquired : 30 Mar 2016 3:57 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-04
Misc Info : 1X
ALS Vial : 62



Form I Duplicate

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-4**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-04 D**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

10800

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	87	50-130
d50-Tetracosane	85	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916025.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 5:24 am
 Operator : FID9:DP
 Sample : 1603006-04D
 Misc : 1X
 ALS Vial : 63 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:32:07 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:32:00 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.127	62049245	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.096	43217470	32.606 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 65.21%	
24) s d50-Tetracosane	35.749	35041730	31.744 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 63.49%	
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	9418507756	8117.427 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	8646848548	7452.366 ug/mLm
46) h Total Resolved Hydroc...	39.662	1221311515	1052.598 ug/mL m

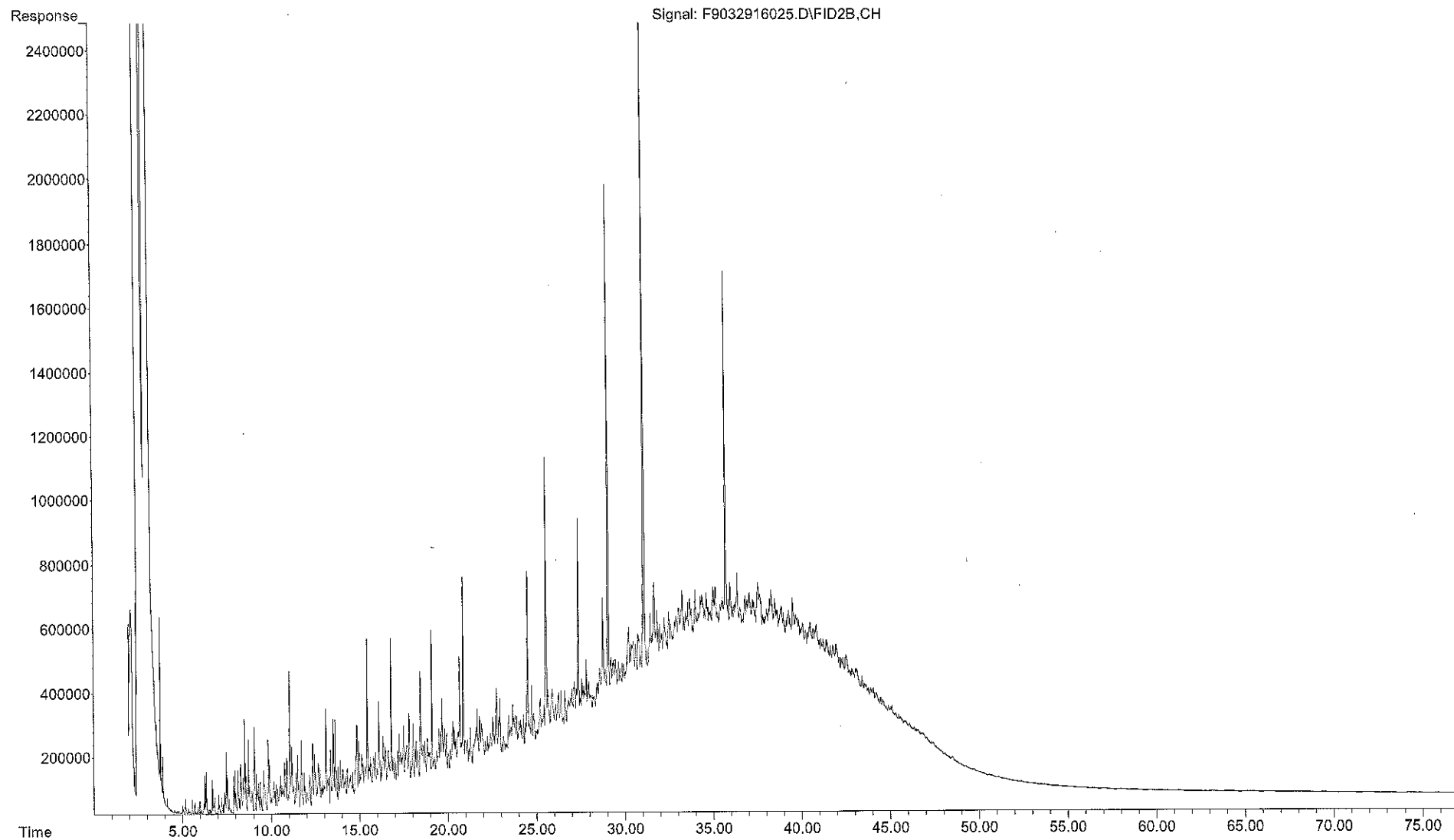
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916025.D
Operator : FID9:DP
Acquired : 30 Mar 2016 5:24 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-04D
Misc Info : 1X
ALS Vial : 63



Duplicate Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-4**

Case: **N/A**

Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-04**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	NLJr

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Total Petroleum Hydrocarbons (C9-C44)	13800	10800	24	30

N/A - Not Applicable

Surrogate	% Recovery		Acceptance Range (%)
ortho-Terphenyl	92	87	50-130
d50-Tetracosane	92	85	50-130

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-5**

Case: **N/A**

Matrix: **Soil**

SDG:

N/A

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-05**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

5240

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	90	50-130
d50-Tetracosane	89	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916033.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 11:15 am
 Operator : FID9:DP
 Sample : 1603006-05
 Misc : 1X
 ALS Vial : 67 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:32:40 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:32:32 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.123	60637267	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.094	36607070	28.262 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	56.52%
24) s d50-Tetracosane	35.743	30046049	27.852 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	55.70%
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	7359465564	6490.520 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	6518580096	5748.919 ug/mLm
46) h Total Resolved Hydroc...	39.662	859538901	758.052 ug/mL m

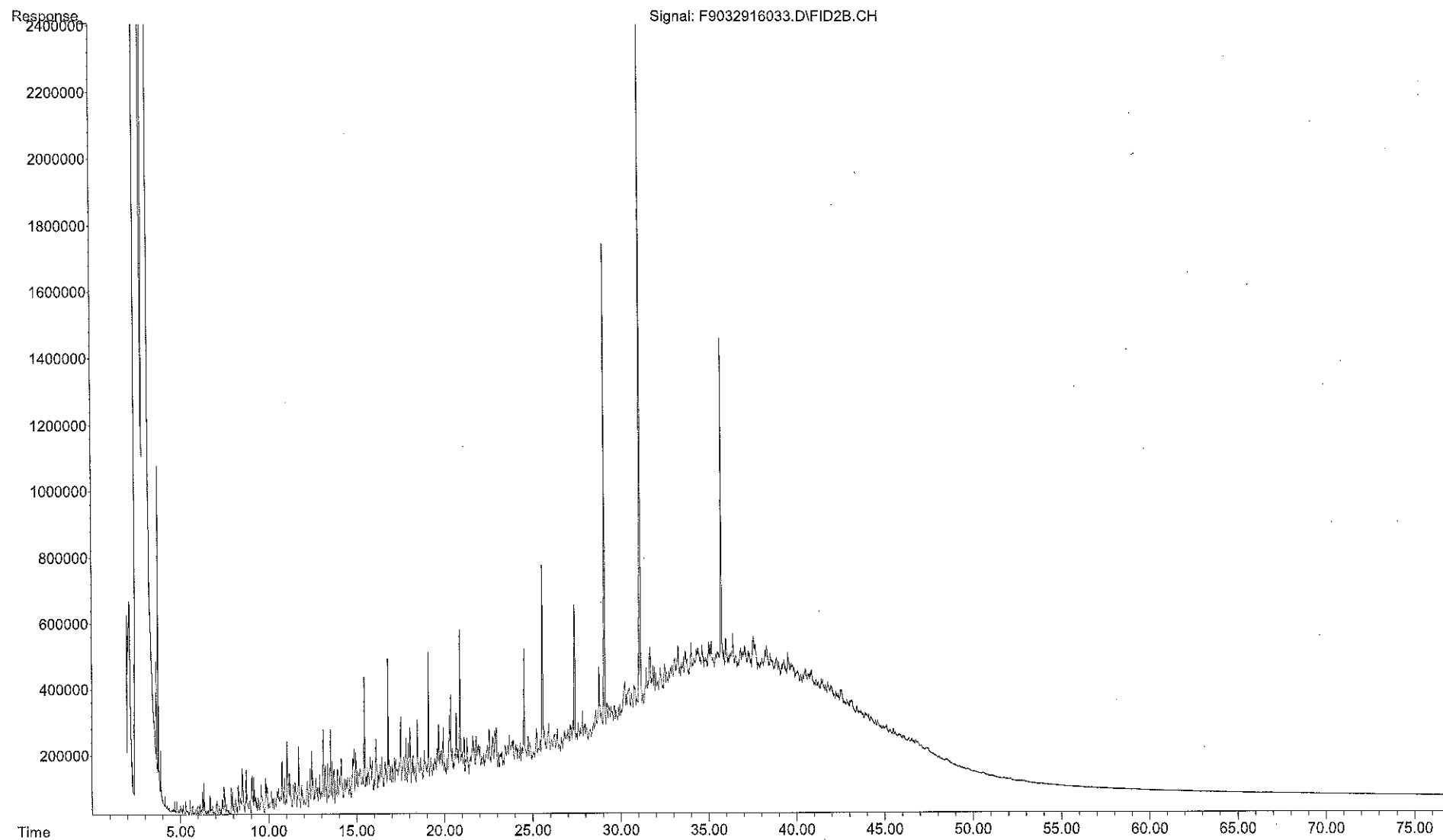
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916033.D
Operator : FID9:DP
Acquired : 30 Mar 2016 11:15 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-05
Misc Info : 1X
ALS Vial : 67



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-6**

Case: **N/A**

Matrix: **Soil**

SDG:

N/A

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-06**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

362

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	81	50-130
d50-Tetracosane	79	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916035.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 12:43 pm
 Operator : FID9:DP
 Sample : 1603006-06
 Misc : 1X
 ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:32:50 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:32:42 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.118	55656980	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.088	24058592	20.236 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	40.47%#
24) s d50-Tetracosane	35.730	19667700	19.863 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	39.73%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	5928781595	5696.638 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	5087896127	4888.678 ug/mLm
46) h Total Resolved Hydroc...	39.662	360945630	346.813 ug/mL m

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 4/4/16

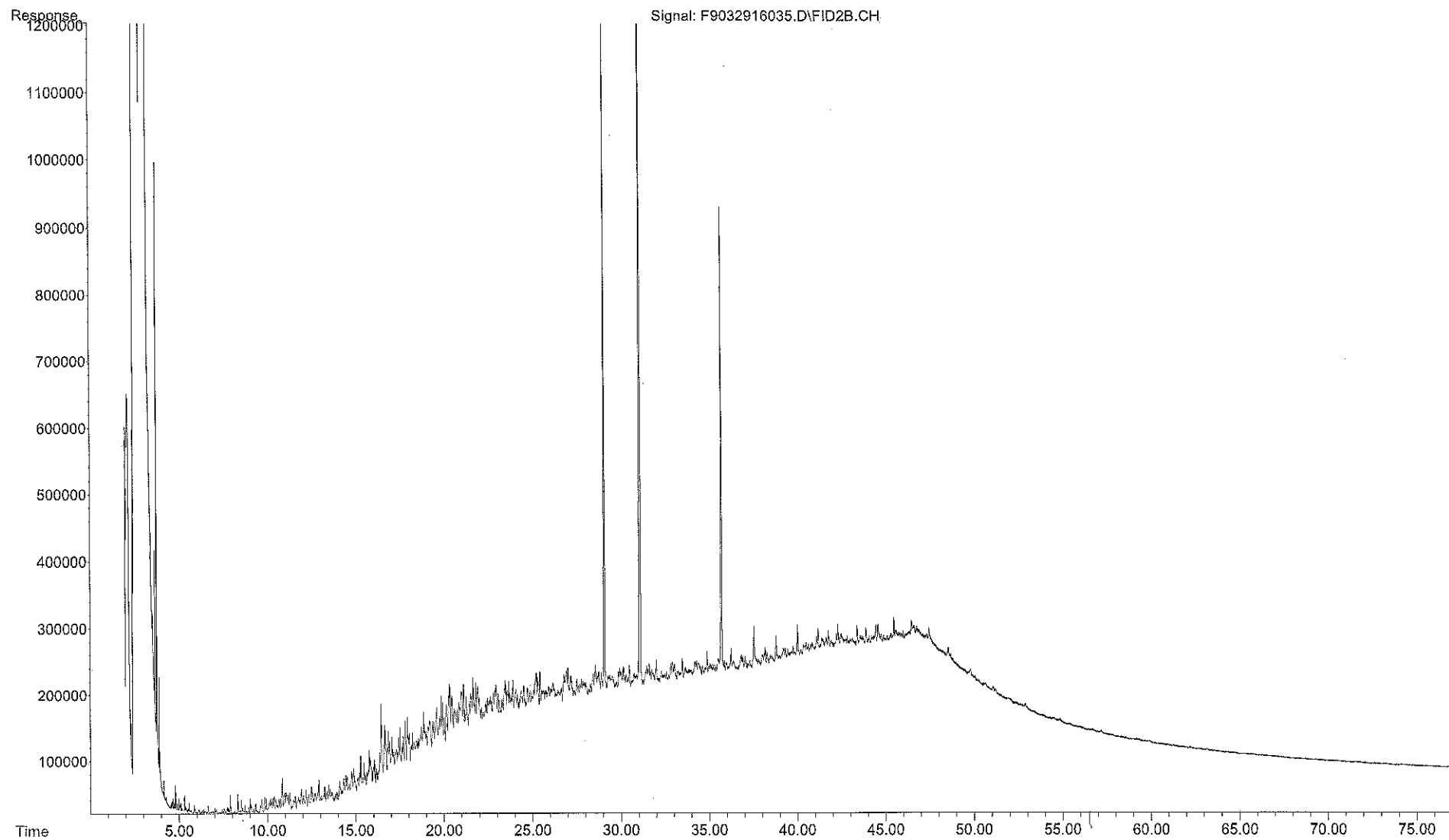
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916035.D
Operator : FID9:DP
Acquired : 30 Mar 2016 12:43 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-06
Misc Info : 1X
ALS Vial : 68



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **RX-7**
 Case: **N/A**
 Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **1603006-07**
 Associated Blank: **SS032516B02**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	2310

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	89	50-130
d50-Tetracosane	84	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916037.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 2:11 pm
 Operator : FID9:DP
 Sample : 1603006-07
 Misc : 1X
 ALS Vial : 69 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:33:01 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:32:53 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.122	56746679	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.106	67376097	55.583 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 111.17%	
24) s d50-Tetracosane	35.745	52880167	52.379 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 104.76%	
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	6104681355	5753.013 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	5263795887	4960.568 ug/mLm
46) h Total Resolved Hydroc...	39.662	824180439	776.702 ug/mL m

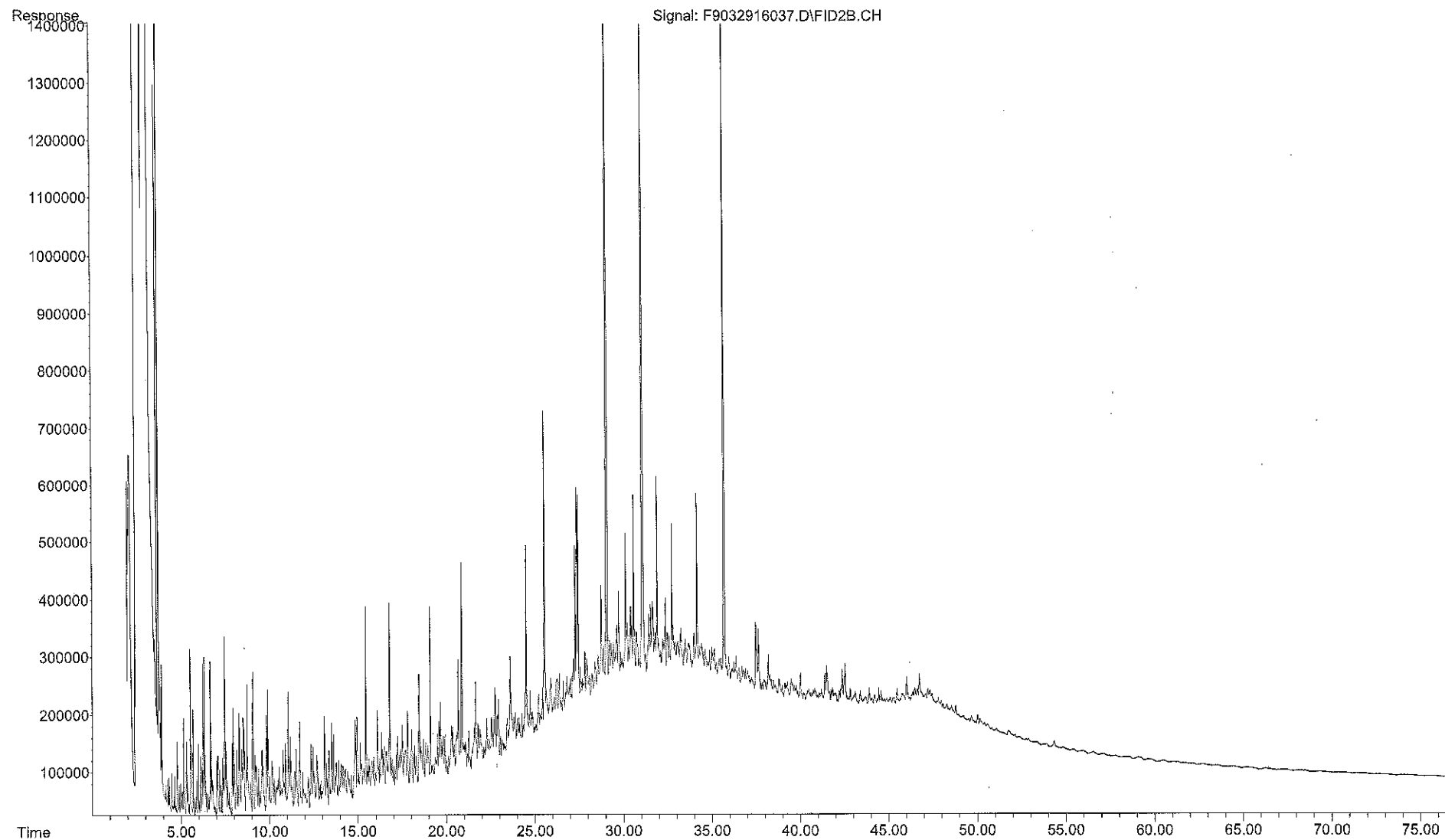
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916037.D
Operator : FID9:DP
Acquired : 30 Mar 2016 2:11 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-07
Misc Info : 1X
ALS Vial : 69



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-7A**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-08**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

4650

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	85	50-130
d50-Tetracosane	80	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916039.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 3:39 pm
 Operator : FID9:DP
 Sample : 1603006-08
 Misc : 1X
 ALS Vial : 70 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 17:24:44 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:33:03 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.137	63540635	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.103	36173507	26.651 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	53.30%
24) s d50-Tetracosane	35.749	28143115	24.896 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	49.79%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	8931459231	7516.985 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	8090573763	6809.270 ug/mLm
46) h Total Resolved Hydroc...	39.662	1025689355	863.251 ug/mL m

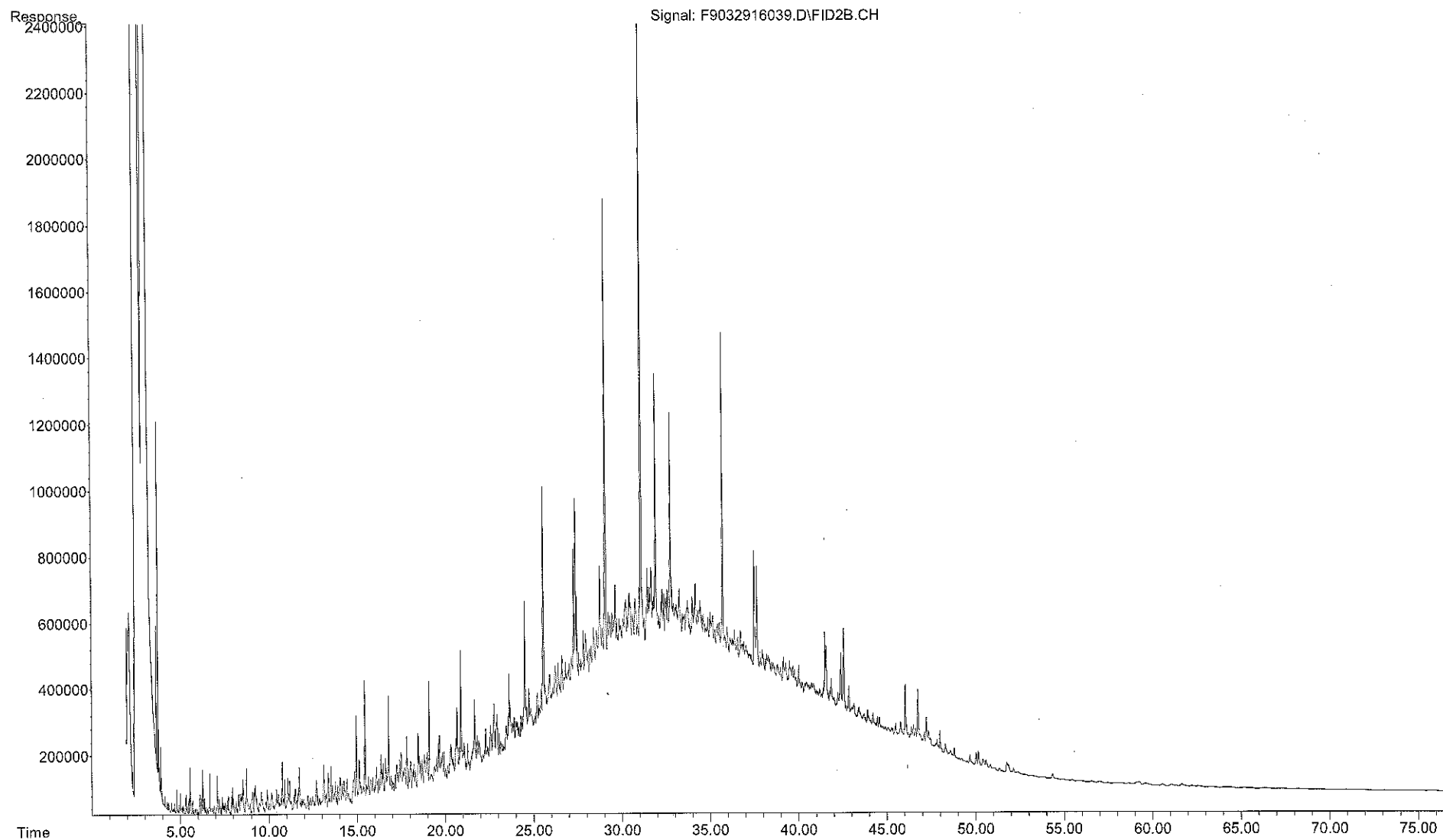
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916039.D
Operator : FID9:DP
Acquired : 30 Mar 2016 3:39 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-08
Misc Info : 1X
ALS Vial : 70



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-7B**

Case: **N/A**

SDG: **N/A**

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-09**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

1660

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	113	50-130
d50-Tetracosane	106	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916041.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 5:06 pm
 Operator : FID9:DP
 Sample : 1603006-09
 Misc : 1X
 ALS Vial : 71 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 17:25:35 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:33:13 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.131	59948104	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.090	12720375	9.933 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	19.87%#
24) s d50-Tetracosane	35.732	9918724	9.300 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	18.60%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	8901961684	7941.144 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	8061076216	7191.018 ug/mLm
46) h Total Resolved Hydroc...	39.662	1761592231	1571.458 ug/mL m

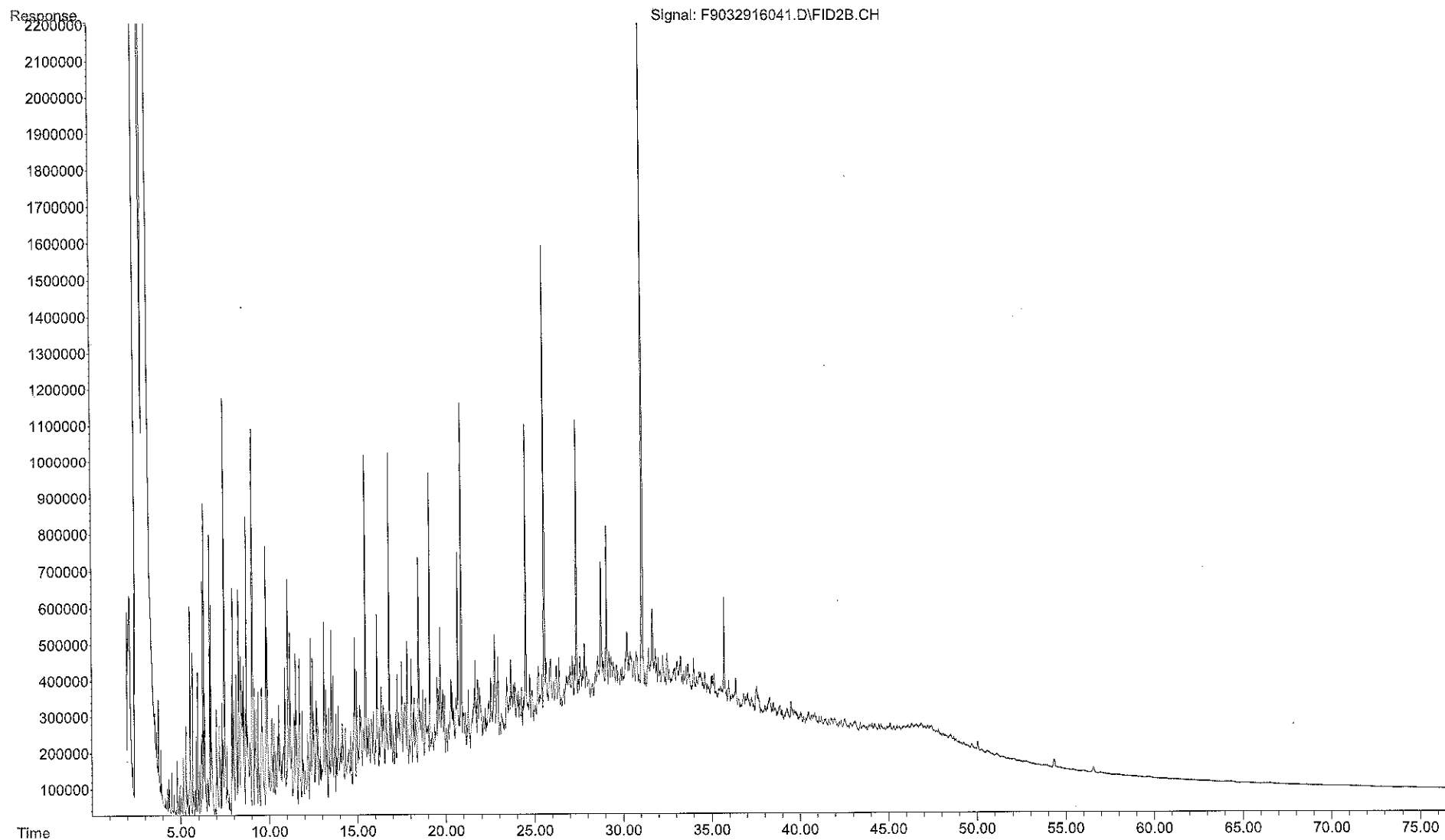
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916041.D
Operator : FID9:DP
Acquired : 30 Mar 2016 5:06 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-09
Misc Info : 1X
ALS Vial : 71



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-8**

Case: **N/A**

Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-10**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	NLJr

Parameter	Result

Total Petroleum Hydrocarbons (C9-C44)	2070

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	88	50-130
d50-Tetracosane	101	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916043.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 6:34 pm
 Operator : FID9:DP
 Sample : 1603006-10
 Misc : 1X
 ALS Vial : 72 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 17:26:24 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:33:23 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.124	53201739	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.086	6269489	5.517 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	11.03%#
24) s d50-Tetracosane	35.728	5992440	6.331 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	12.66%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	7279300565	7317.060 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	6438415097	6471.813 ug/mLm
46) h Total Resolved Hydroc...	39.662	1181696284	1187.826 ug/mL m

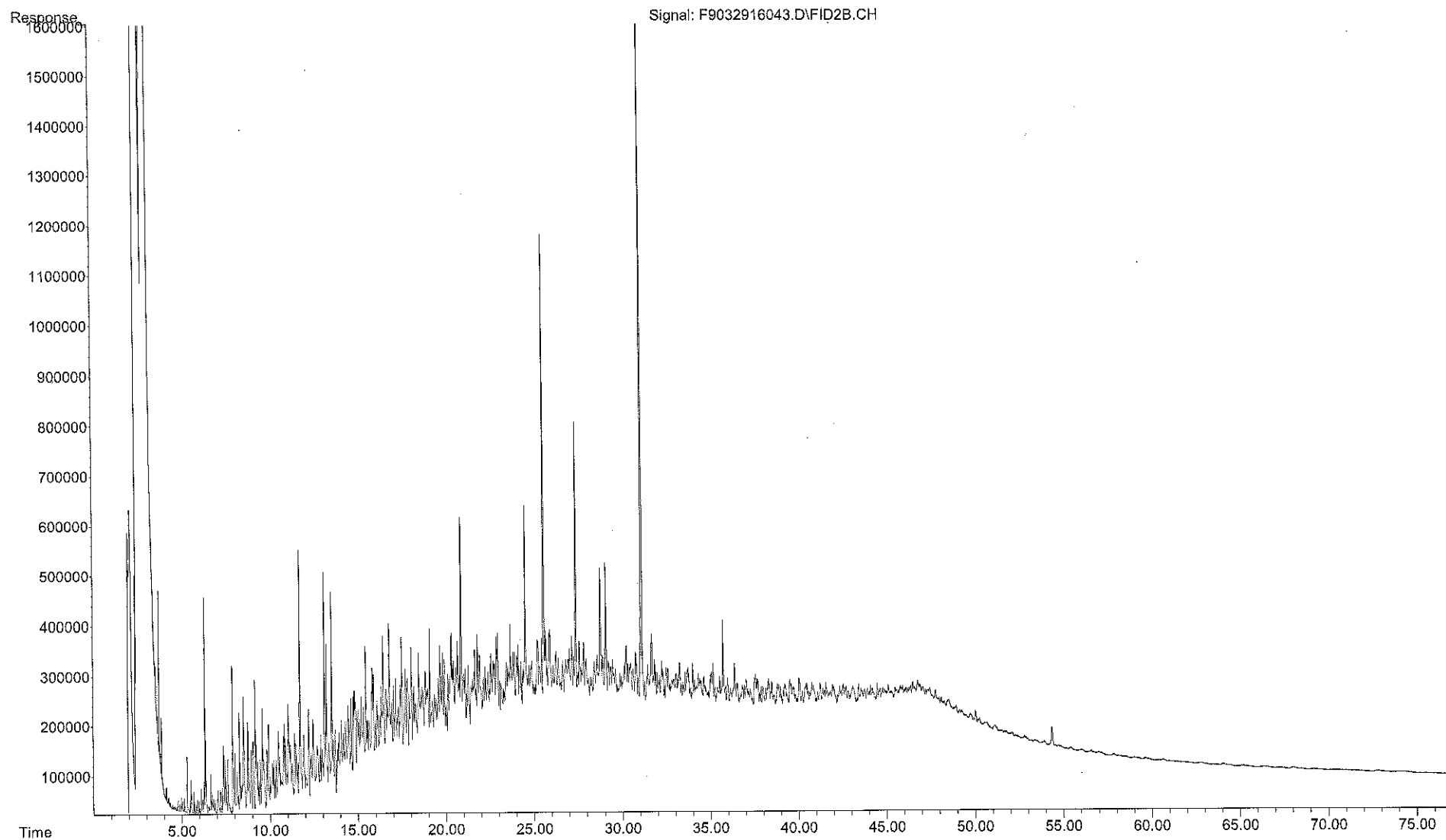
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916043.D
Operator : FID9:DP
Acquired : 30 Mar 2016 6:34 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-10
Misc Info : 1X
ALS Vial : 72



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-8A**

Case: **N/A**

Matrix: **Soil**

SDG:

N/A

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-11**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

185

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	81	50-130
d50-Tetracosane	81	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916045.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 8:02 pm
 Operator : FID9:DP
 Sample : 1603006-11
 Misc : 1X
 ALS Vial : 73 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:33:40 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:33:33 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.122	54932545	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.092	23619458	20.129 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 40.26%#	
24) s d50-Tetracosane	35.731	19786731	20.247 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 40.49%#	
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	2784712251	2710.962 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	1943826783	1892.346 ug/mLm
46) h Total Resolved Hydroc...	39.662	621784641	605.317 ug/mL m

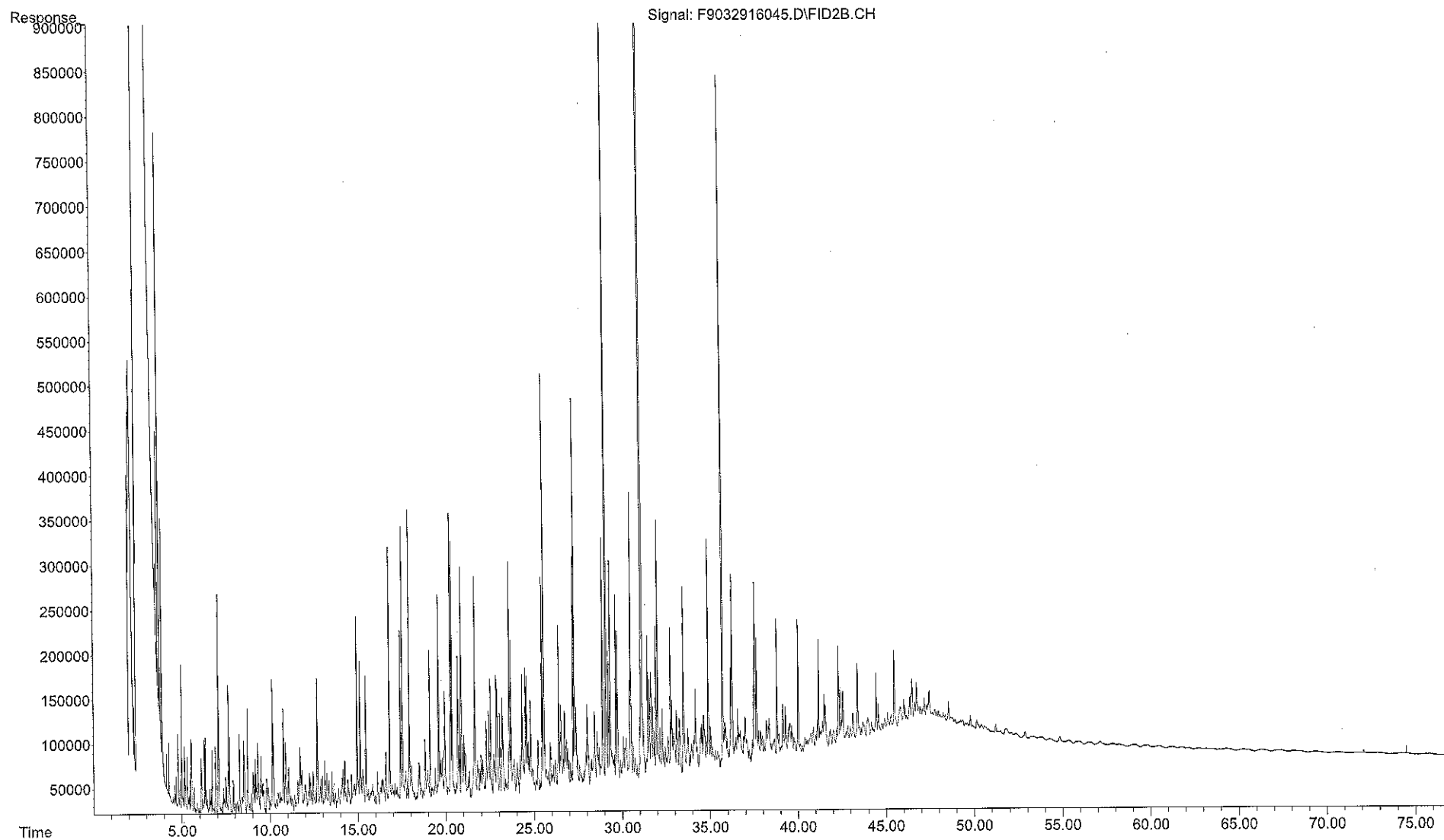
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916045.D
Operator : FID9:DP
Acquired : 30 Mar 2016 8:02 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-11
Misc Info : 1X
ALS Vial : 73



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **RX-8B**

Case: **N/A**

SDG:

N/A

Matrix: **Soil**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **1603006-12**

Associated Blank: **SS032516B02**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

258

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	82	50-130
d50-Tetracosane	82	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916047.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 9:30 pm
 Operator : FID9:DP
 Sample : 1603006-12
 Misc : 1X
 ALS Vial : 74 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:33:50 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:33:43 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291602R
 Blank File : F9032916031.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.123	58619080	50.000 ug/mL M3
System Monitoring Compounds			
19) s ortho-terphenyl	29.095	25544516	20.400 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	40.80%#
24) s d50-Tetracosane	35.735	21484977	20.602 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery =	41.20%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	4228739074	3857.844 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	3387853606	3090.711 ug/mLm
46) h Total Resolved Hydroc...	39.662	1297531395	1183.727 ug/mL m

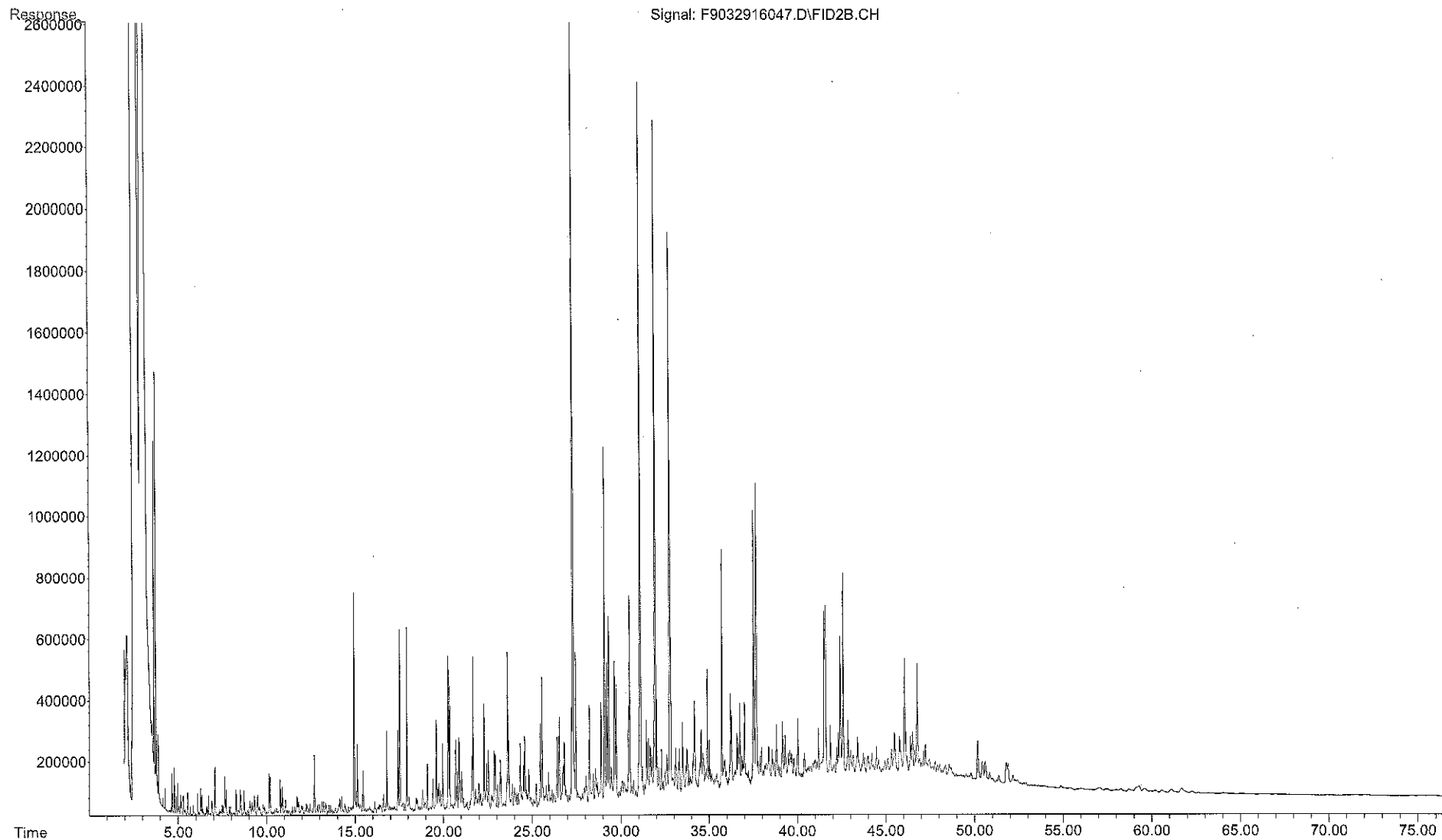
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916047.D
Operator : FID9:DP
Acquired : 30 Mar 2016 9:30 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-12
Misc Info : 1X
ALS Vial : 74



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**

Project: **Flint Street**

Client ID: **Blank**

Case: **N/A**

Matrix: **Soil**

SDG: **N/A**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **SS032516B02**

Associated Blank: **N/A**

Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	NLJr

Parameter

Result

Total Petroleum Hydrocarbons (C9-C44)

3.47 U

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	96	50-130
d50-Tetracosane	91	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916011.D
 Signal(s) : FID2B.CH
 Acq On : 29 Mar 2016 7:13 pm
 Operator : FID9:DP
 Sample : SS032516B02
 Misc : 1X ETR 1603006
 ALS Vial : 56 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 17:16:25 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:30:42 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.115	56213689	50,000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.090	28672836	23.878 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	47.76%#
24) s d50-Tetracosane	35.727	22751112	22.749 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	45.50%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	757856607	720.971 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	-13802601	N.D. ug/mLm
46) h Total Resolved Hydroc...	39.662	11727140	11.156 ug/mL m

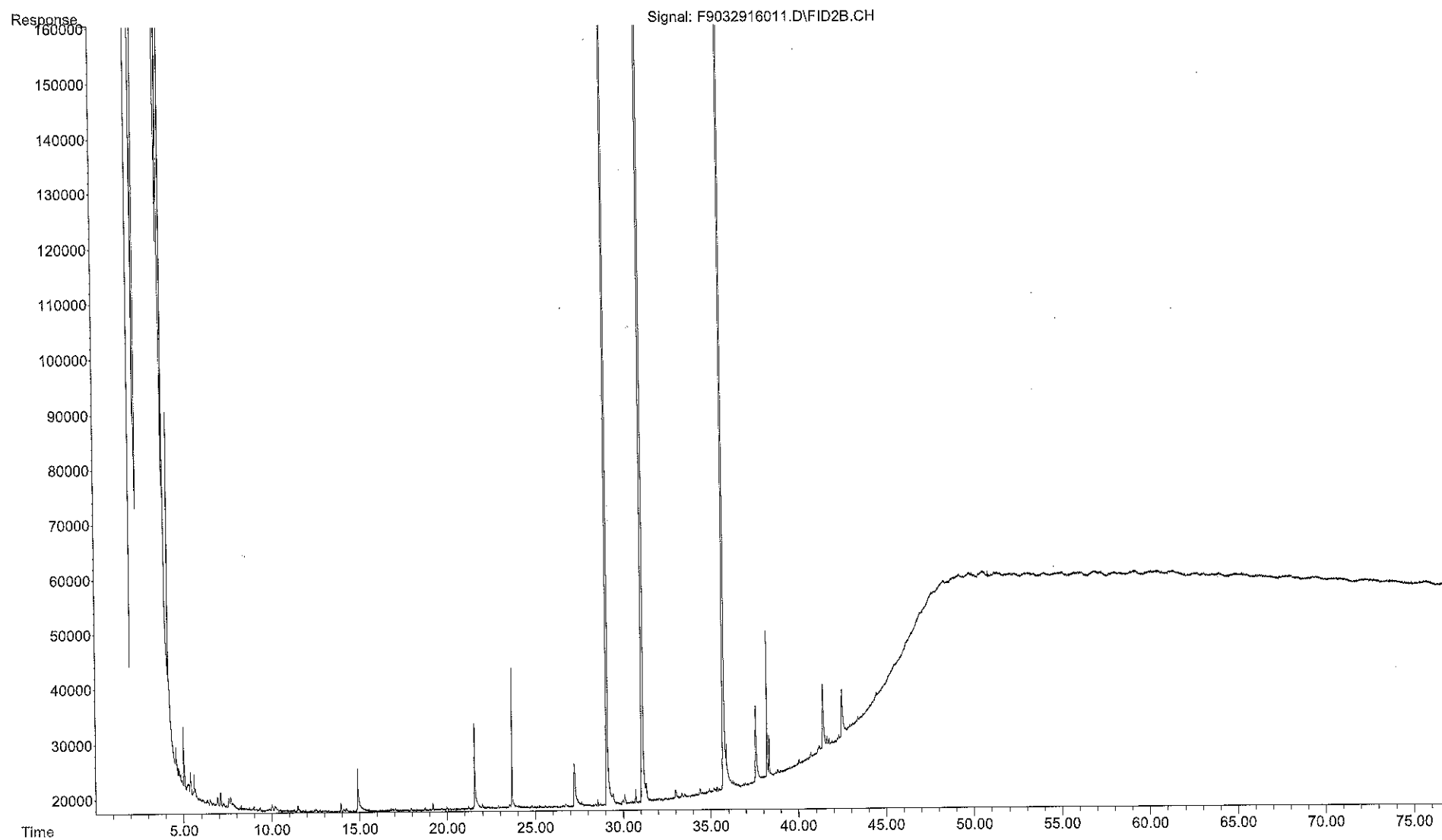
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916011.D
Operator : FID9:DP
Acquired : 29 Mar 2016 7:13 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : SS032516B02
Misc Info : 1X ETR 1603006
ALS Vial : 56





Form III

Spike Recovery Summary

Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **See Below**
 Associated Blank: **SS032516B02**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	03/25/16	100	NLJr

Lab ID: SS032516B02 SS032516LCS02 SS032516LCSD02

Parameter	Blank Conc.	U	LCS		LCSD		% RPD	RPD % Recovery	
			Conc.	% Recovery	Conc.	% Recovery		Limit	Limits
n-Nonane (C9)	0.105	U	0.732	70	0.755	72	3	30	50-130
n-Decane (C10)	0.105	U	0.819	78	0.856	81	4	30	50-130
n-Dodecane (C12)	0.105	U	0.880	84	0.930	88	6	30	50-130
n-Tetradecane (C14)	0.105	U	0.934	89	0.971	92	4	30	50-130
n-Hexadecane (C16)	0.105	U	1.08	103	1.12	106	3	30	50-130
n-Octadecane (C18)	0.105	U	1.10	104	1.13	108	3	30	50-130
n-Nonadecane (C19)	0.105	U	1.02	97	1.04	99	3	30	50-130
n-Eicosane (C20)	0.105	U	1.03	98	1.06	101	3	30	50-130
n-Docosane (C22)	0.105	U	1.06	100	1.08	103	2	30	50-130
n-Tetracosane (C24)	0.105	U	1.06	100	1.09	103	3	30	50-130
n-Hexacosane (C26)	0.105	U	1.04	99	1.08	103	4	30	50-130
n-Octacosane (C28)	0.105	U	1.07	101	1.10	105	3	30	50-130
n-Triacontane (C30)	0.105	U	1.07	102	1.10	105	3	30	50-130
n-Hexatriacontane (C36)	0.105	U	1.05	100	1.10	105	5	30	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

Surrogate	% Recovery		Acceptance Range (%)
ortho-Terphenyl	95	97	50-130
d50-Tetracosane	93	95	50-130

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 11:29
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Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCS02**
 Associated Blank: **SS032516B02**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	12.8

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	95	50-130
d50-Tetracosane	93	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916013.D
 Signal(s) : FID2B.CH
 Acq On : 29 Mar 2016 8:40 pm
 Operator : FID9:DP
 Sample : SS032516LCS02
 Misc : 1X ETR 1603006
 ALS Vial : 57 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 17:17:25 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:30:53 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH_QC_Samples - TPH_QC_Samples

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.113	59180546	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.087	30124328	23.830 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	47.66%#
24) s d50-Tetracosane	35.725	24508104	23.278 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	46.56%#
Target Compounds			
3) t n-Nonane (C9)	7.722	7058585	6.957 ug/mL M4
4) t n-Decane (C10)	10.192	8233719	7.782 ug/mL M4
6) t n-Dodecane (C12)	15.117	9016402	8.358 ug/mL M4
9) t n-Tetradecane (C14)	19.593	9703347	8.875 ug/mL M4
12) t n-Hexadecane (C16)	23.603	11332499	10.264 ug/mL M4
16) t n-Octadecane (C18)	27.218	11710888	10.409 ug/mL M4
18) t n-Nonadecane (C19)	28.897	10775153	9.662 ug/mL M4
20) t n-Eicosane (C20)	30.500	10906085	9.814 ug/mL M4
22) t n-Docosane (C22)	33.500	11324504	10.048 ug/mL M4
25) t n-Tetracosane (C24)	36.263	11385267	10.030 ug/mL M4
27) t n-Hexacosane (C26)	38.816	11366095	9.909 ug/mL M4
29) t n-Octacosane (C28)	41.192	11471963	10.135 ug/mL M4
31) t n-Triacontane (C30)	43.410	11490370	10.165 ug/mL M4
37) t n-Hexatriacontane (C36)	49.797	11377922	9.971 ug/mL M4
42) h C9-C44 Total Petroleu...	39.662	906067253	818.756 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	134408045	121.456 ug/mLm
46) h Total Resolved Hydroc...	39.662	164768170	148.891 ug/mL m

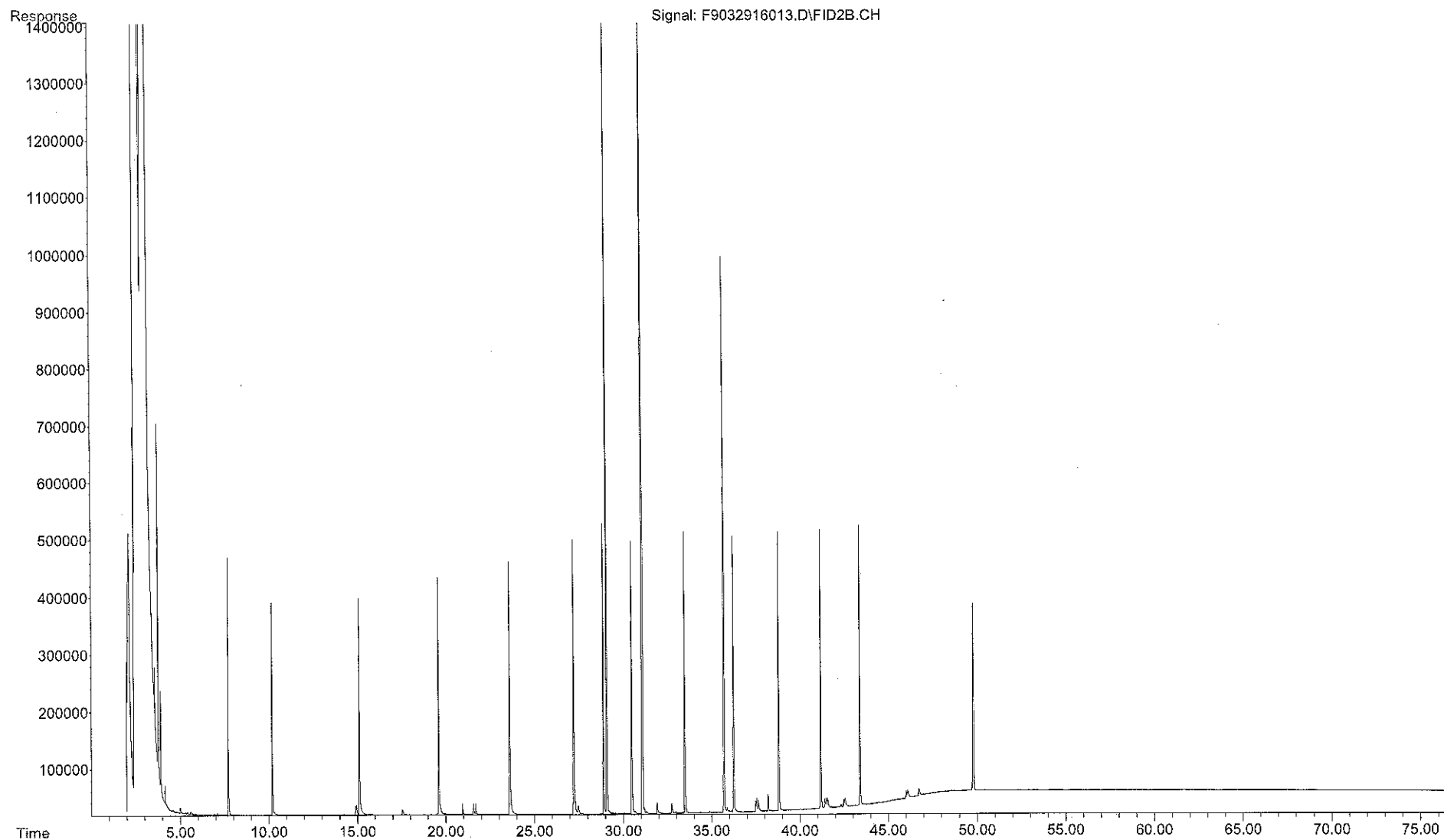
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916013.D
Operator : FID9:DP
Acquired : 29 Mar 2016 8:40 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : SS032516LCS02
Misc Info : 1X ETR 1603006
ALS Vial : 57



Form I

Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**
 Project: **Flint Street**
 Client ID: **Laboratory Control Sample Dup**
 Case: **N/A** SDG: **N/A**
 Matrix: **Soil**

Lab Code: **MA00030**
 ETR: **1603006**
 Lab ID: **SS032516LCSD02**
 Associated Blank: **SS032516B02**
 Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	NLJr

Parameter	Result

Total Petroleum Hydrocarbons (C9-C44)	12.3

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	97	50-130
d50-Tetracosane	95	50-130

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916015.D
 Signal(s) : FID2B.CH
 Acq On : 29 Mar 2016 10:08 pm
 Operator : FID9:DP
 Sample : SS032516LCSD02
 Misc : 1X ETR 1603006
 ALS Vial : 58 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 17:18:25 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:31:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB903291601R
 Blank File : F9032916009.D

Sub List : TPH_QC_Samples - TPH_QC_Samples

Compound		R.T.	Response	Conc Units
Internal Standards				
1) I	5-alpha-androstane	31.110	57909107	50.000 ug/mL M4
System Monitoring Compounds				
19) s	ortho-terphenyl	29.084	30045997	24.289 ug/mL M4
Spiked Amount	50.000	Range 50 - 130	Recovery =	48.58%#
24) s	d50-Tetracosane	35.720	24348758	23.634 ug/mL M4
Spiked Amount	50.000	Range 50 - 130	Recovery =	47.27%#
Target Compounds				
3) t	n-Nonane (C9)	7.720	7116952	7.169 ug/mL M4
4) t	n-Decane (C10)	10.192	8419404	8.132 ug/mL M4
6) t	n-Dodecane (C12)	15.115	9328152	8.837 ug/mL M4
9) t	n-Tetradecane (C14)	19.591	9873105	9.229 ug/mL M4
12) t	n-Hexadecane (C16)	23.601	11467085	10.614 ug/mL M4
16) t	n-Octadecane (C18)	27.214	11838890	10.753 ug/mL M4
18) t	n-Nonadecane (C19)	28.895	10812734	9.908 ug/mL M4
20) t	n-Eicosane (C20)	30.496	10968686	10.087 ug/mL M4
22) t	n-Docosane (C22)	33.496	11342983	10.286 ug/mL M4
25) t	n-Tetracosane (C24)	36.257	11474465	10.330 ug/mL M4
27) t	n-Hexacosane (C26)	38.814	11527160	10.270 ug/mL M4
29) t	n-Octacosane (C28)	41.187	11624006	10.495 ug/mL M4
31) t	n-Triacontane (C30)	43.405	11603736	10.491 ug/mL M4
37) t	n-Hexatriacontane (C36)	49.794	11704297	10.482 ug/mL M4
42) h	C9-C44 Total Petroleu...	39.662	898048605	829.327 ug/mL m
42) h	C9-C44 Total Petroleu BS	39.662	126389397	116.718 ug/mLm
46) h	Total Resolved Hydroc...	39.662	168076252	155.214 ug/mL m

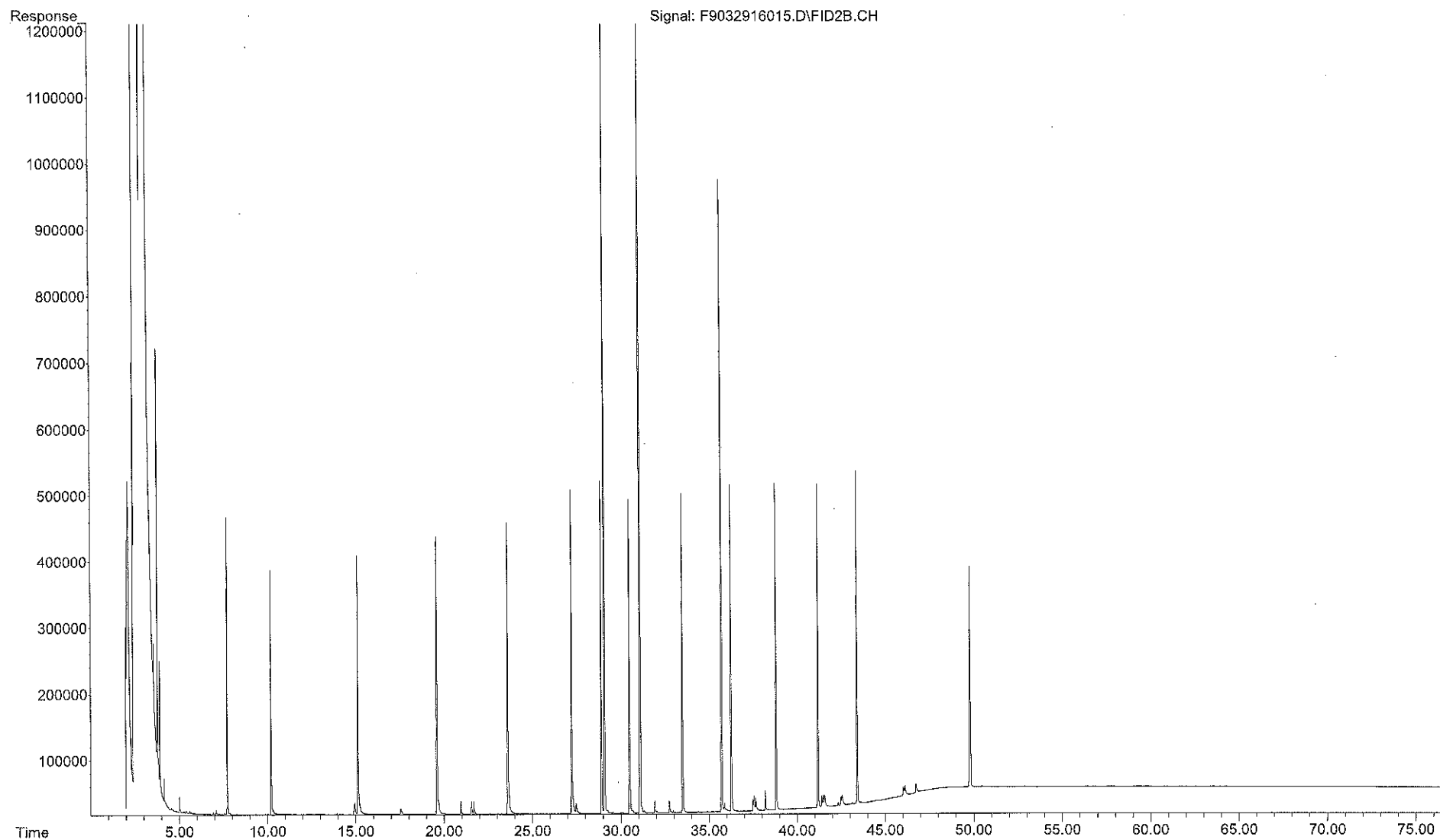
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916015.D
Operator : FID9:DP
Acquired : 29 Mar 2016 10:08 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : SS032516LCSD02
Misc Info : 1X ETR 1603006
ALS Vial : 58



Form III
Spike Recovery Summary
Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **TO102815ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	NLJr

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Total Petroleum Hydrocarbons (C9-C44)	554993	597000	108	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form I
Alaska North Slope Crude
Total Saturated Hydrocarbons by GC/FID



Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **TO102815ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	10/21/15	100	0.10382	10	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	597000

N/A - Not Applicable

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015035.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 2:27 pm
 Operator : FID9:NL
 Sample : T0102815ANC01
 Misc : 1X FRAW36 10.382 mg/mL
 ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Oct 28 10:06:15 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Wed Oct 28 09:52:33 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB910201502R
 Blank File : F9102015031.D

Sub List : Default - All compounds listed

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.243	63931472	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.231	67607048	49.506 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	99.01%
24) s d50-Tetracosane	35.850	57431253	50.494 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	100.99%
Target Compounds			
2) t n-Octane (C8)	5.628	100822103	97.657 ug/mL M3
3) t n-Nonane (C9)	7.840	76994888	70.248 ug/mL M4
4) t n-Decane (C10)	10.322	64854232	56.743 ug/mL M4
5) t n-Undecane (C11)	12.828	58677352	50.983 ug/mL M4
6) t n-Dodecane (C12)	15.247	53744136	46.119 ug/mL M4
7) t n-Tridecane (C13)	17.547	49403602	42.202 ug/mL M4
8) t 1380	19.215	11788323	9.981 ug/mL M4
9) t n-Tetradecane (C14)	19.723	47225125	39.984 ug/mL M4
10) t 1470	21.000	16906271	14.103 ug/mL M4
11) t n-Pentadecane (C15)	21.781	54410857	45.388 ug/mL M4
12) t n-Hexadecane (C16)	23.730	43899994	36.806 ug/mL M4
13) t 1650	24.630	14957075	12.458 ug/mL M4
14) t n-Heptadecane (C17)	25.582	37183545	30.971 ug/mL M4
15) t Pristane	25.675	28688108	23.859 ug/mL M4
16) t n-Octadecane (C18)	27.342	32736926	26.934 ug/mL M4
17) t Phytane	27.498	16330415	15.332 ug/mL M4
18) t n-Nonadecane (C19)	29.022	31910850	26.486 ug/mL M4
20) t n-Eicosane (C20)	30.622	31006273	25.829 ug/mL M4
21) t n-Heneicosane (C21)	32.153	28205966	23.337 ug/mL M4
22) t n-Docosane (C22)	33.620	26647270	21.887 ug/mL M4
23) t n-Tricosane (C23)	35.027	23780808	19.437 ug/mL M4
25) t n-Tetracosane (C24)	36.379	22480503	18.332 ug/mL M4
26) t n-Pentacosane (C25)	37.680	22674680	18.631 ug/mL M4
27) t n-Hexacosane (C26)	38.931	18634876	15.038 ug/mL M4
28) t n-Heptacosane (C27)	40.137	14772575	12.080 ug/mL M4
29) t n-Octacosane (C28)	41.303	10549746	8.628 ug/mL M4
30) t n-Nonacosane (C29)	42.430	10522393	8.604 ug/mL M4
31) t n-Triacontane (C30)	43.519	8076798	6.614 ug/mL M4
32) t n-Hentriacontane (C31)	44.574	6862804	5.631 ug/mL M4
33) t n-Dotriacontane (C32)	45.598	7529122	6.144 ug/mL M4
34) t n-Tritriacontane (C33)	46.586	4022470	3.484 ug/mL M4
35) t n-tetratriacontane (C34)	47.580	4064597	3.376 ug/mL M4
36) t n-Pentatriacontane (C35)	48.686	3583212	2.964 ug/mL M4
37) t n-Hexatriacontane (C36)	49.942	2221602	1.802 ug/mL M4
38) t n-Heptatriacontane (C37)	51.401	2086360	1.734 ug/mL M4
39) t n-Octatriacontane (C38)	53.090	1883017	1.588 ug/mL M4
40) t n-Nonatriacontane (C39)	55.088	1194977	0.989 ug/mL M4
41) t n-Tetracontane (C40)	57.426	1083788	0.897 ug/mL M4
42) h C9-C44 Total Petroleu...	39.957	7713051877	6451.851 ug/mL m
42) h C9-C44 Total Petroleu BS	39.957	7411423536	6199.544 ug/mLm
44) h C10-C28 DRO	25.826	5126179322	4287.971 ug/mL m

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 2:27 pm
Operator : FID9:NL
Sample : T0102815ANC01
Misc : 1X FRAW36 10.382 mg/mL
ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 10:06:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB910201502R
Blank File : F9102015031.D

Sub List : Default - All compounds listed

	Compound	R.T.	Response	Conc Units
44) h	C10-C28 DRO BS	25.826	5093672206	4260.780 ug/mLm
45) h	Total Resolved Hydroc...	39.957	2368625132	1981.319 ug/mL m

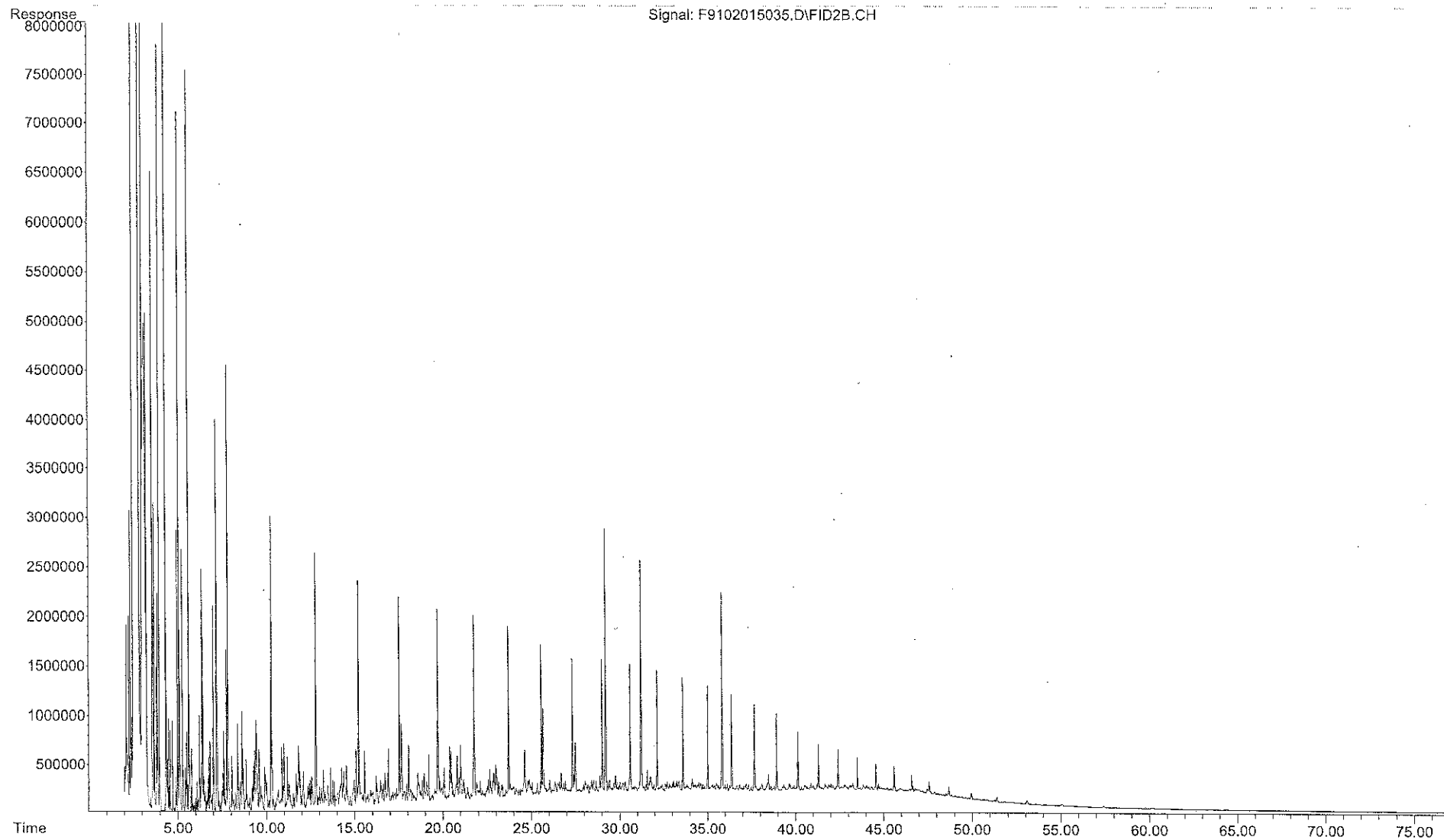
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Operator : FID9:NL
Acquired : 21 Oct 2015 2:27 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : TO102815ANC01
Misc Info : 1X FRAW36 10.382 mg/mL
ALS Vial : 68



Instrument Blank Raw Data

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015031.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 11:31 am
Operator : FID9:NL
Sample : IB910201502R
Misc : DCM
ALS Vial : 66 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:54:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:13 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : Default - All compounds listed

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.418f	149	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	0.000	0	N.D. ug/mL d
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
24) s d50-Tetracosane	0.000	0	N.D. ug/mL d
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.957	301628341	108178755.697 ug/mL M5
44) h C10-C28 DRO	25.826	32507116	11658650.378 ug/mL M5

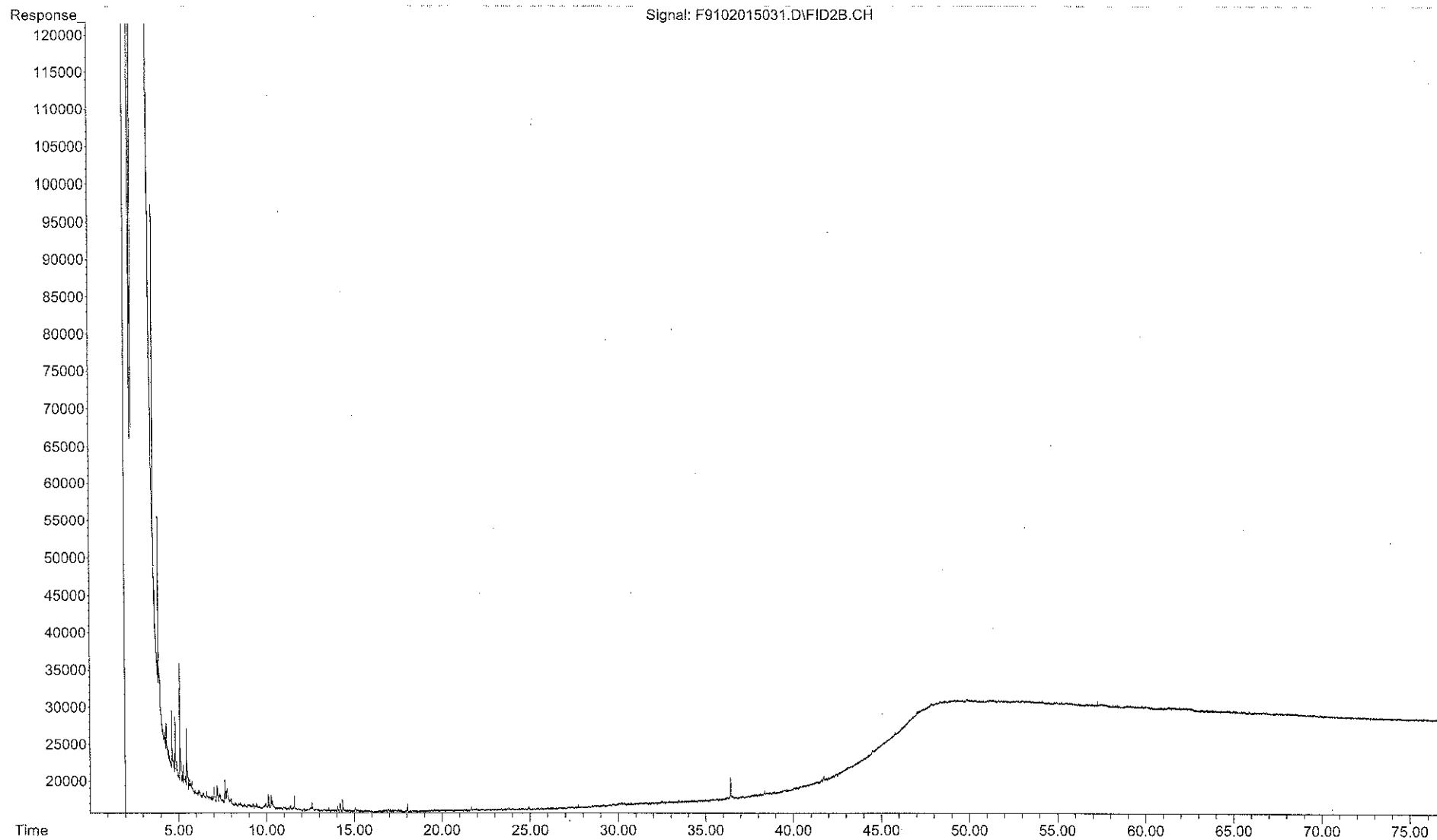
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015031.D
Operator : FID9:NL
Acquired : 21 Oct 2015 11:31 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : IB910201502R
Misc Info : DCM
ALS Vial : 66



Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916009.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 5:44 pm
Operator : FID9:DP
Sample : IB903291601R
Misc : DCM
ALS Vial : 55 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:13:04 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:30:31 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.096	850	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
24) s d50-Tetracosane	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	771659208	48559071.299 ug/mL M5

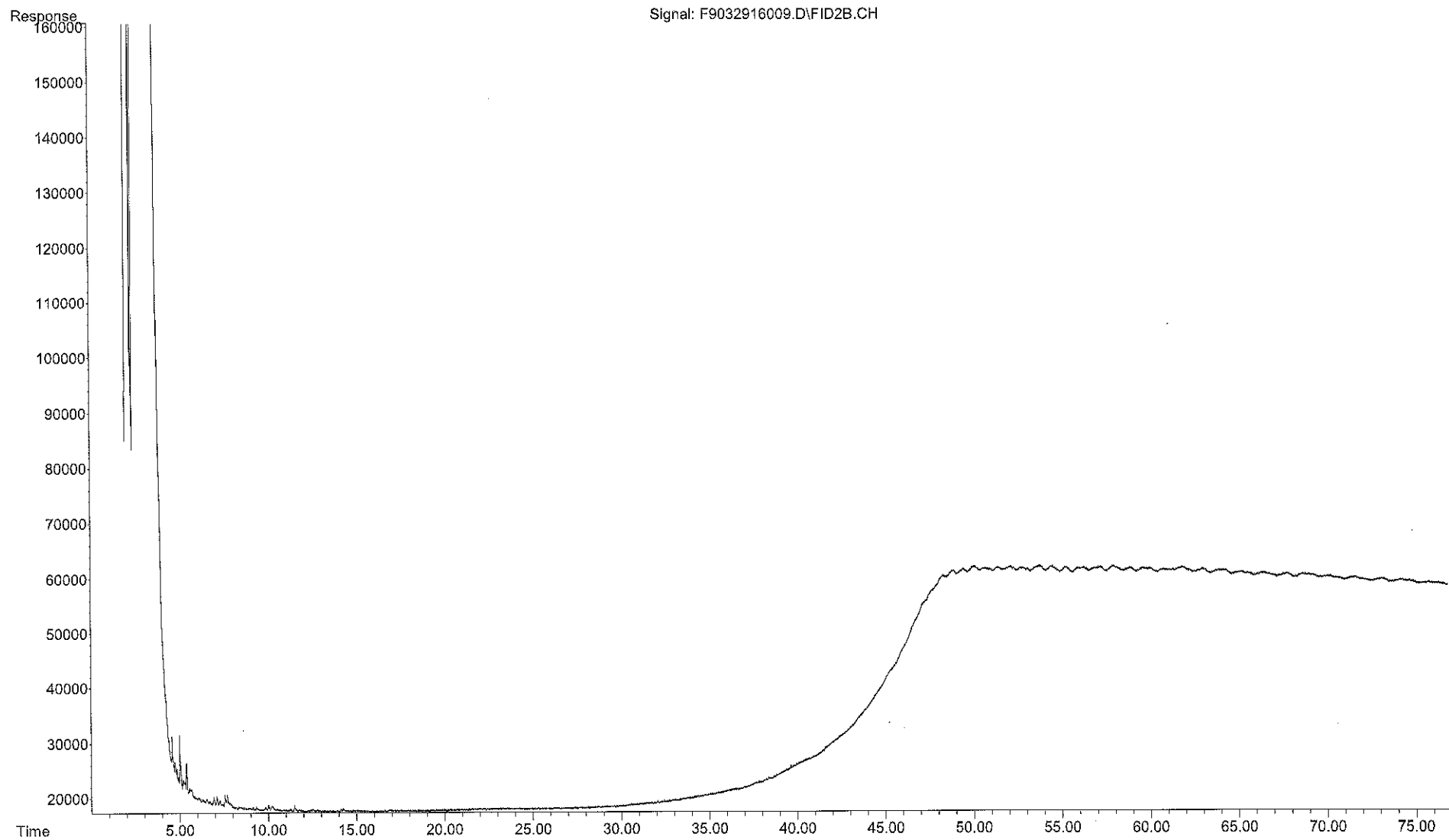
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916009.D
Operator : FID9:DP
Acquired : 29 Mar 2016 5:44 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : IB903291601R
Misc Info : DCM
ALS Vial : 55



Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916031.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 9:47 am
 Operator : FID9:DP
 Sample : IB903291602R
 Misc : DCM
 ALS Vial : 66 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 17:14:37 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:32:23 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : RTX-5MS
 Signal Info : 0.25mm

Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.129	708	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
24) s d50-Tetracosane	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	840885468	63535293.665 ug/mL M5

SemiQuant Compounds - Not Calibrated on this Instrument

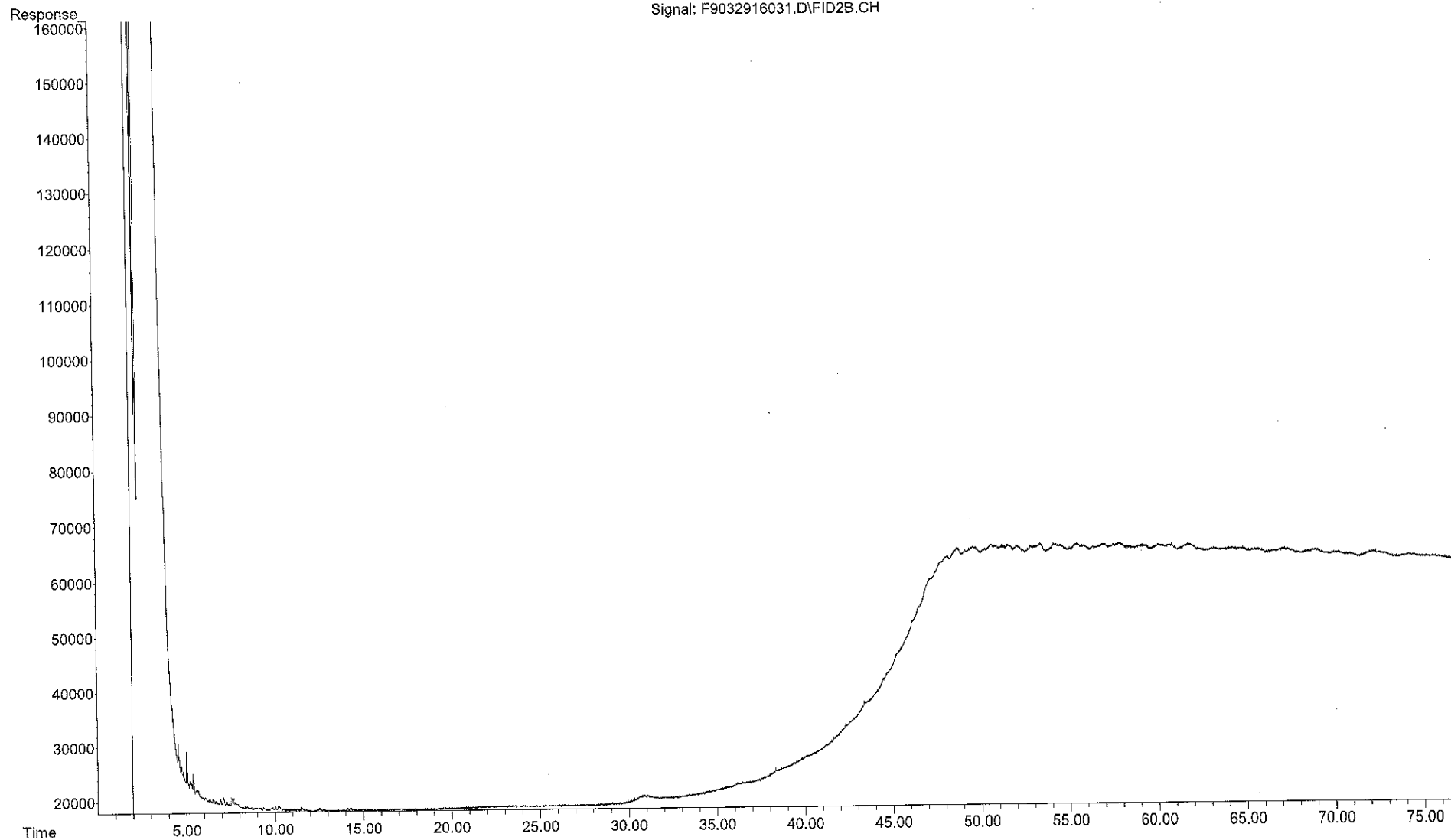
(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916031.D
Operator : FID9:DP
Acquired : 30 Mar 2016 9:47 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : IB903291602R
Misc Info : DCM
ALS Vial : 66

Signal: F9032916031.D\FID2B.CH



Analysis log File

Total Files Reported in Log : 20

Log Generated From Directory: O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\

8/17/15

No.	DATA FILE	INJ METH	SAMPLE NAME	MISC	DATE	INJ'D
1	F9102015001.D	FID9A.M	Primer	Primer	10/20/2015	12:11 pm
2	F9102015003.D	FID9A.M	Primer	Primer	10/20/2015	3:04 pm
3	F9102015005.D	FID9A.M	Primer	Primer	10/20/2015	4:31 pm
4	F9102015007.D	FID9A.M	ANS	1X FRAW36 10.382 mg/..	10/20/2015	5:59 pm
5	F9102015009.D	FID9A.M	Alkane Standard	Alkane Standard	10/20/2015	7:27 pm
6	F9102015011.D	FID9A.M	DCM	DCM	10/20/2015	8:55 pm
7	F9102015013.D	FID9A.M	IB910201501R	DCM	10/20/2015	10:23 pm
8	F9102015015.D	FID9A.M	L1 Primer	,FRAW60 1ug/mL	10/20/2015	11:51 pm
9	F9102015017.D	FID9A.M	I910201501R	,FRAW60 1ug/mL	10/21/2015	1:19 am
10	F9102015019.D	FID9A.M	I910201502R	,FRAW61 10ug/mL	10/21/2015	2:46 am
11	F9102015021.D	FID9A.M	I910201503R	,FRAW35 50ug/mL	10/21/2015	4:13 am
12	F9102015023.D	FID9A.M	I910201504R	,FRAW62 100ug/mL	10/21/2015	5:41 am
13	F9102015025.D	FID9A.M	I910201505R	,FRAW63 200ug/mL	10/21/2015	7:08 am
14	F9102015027.D	FID9A.M	I910201506R	,FRAW64 500ug/mL	10/21/2015	8:36 am
15	F9102015029.D	FID9A.M	DCM	DCM	10/21/2015	10:03 am
16	F9102015031.D	FID9A.M	IB910201502R	DCM	10/21/2015	11:31 am
17	F9102015033.D	FID9A.M	CQ910201501R ✓ PASS	,FRAW65 50ug/mL	10/21/2015	12:59 pm
18	F9102015035.D	FID9A.M	TO102815ANC01 ✓ PASS	1X FRAW36 10.382 mg/..	10/21/2015	2:27 pm
19	F9102015037.D	FID9A.M	DCM	DCM	10/21/2015	3:55 pm
20	F9102015039.D	FID9A.M	IB910201503R	DCM	10/21/2015	5:22 pm

ICAL Files

Processing Method: HC9.1020152.M

Printed: 10/28/15

Page: 1

Analysis log File

Total Files Reported in Log : 27

Log Generated From Directory: O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\

8/4/16

No.	DATA FILE	INJ METH	SAMPLE NAME	MISC	DATE	INJ'D
1	F9032916001.D	FID9A.M	Primer	Primer	3/29/2016	11:52 am
2	F9032916003.D	FID9A.M	ANS903291601R	FRAW36 10.382	3/29/2016	1:20 pm
3	F9032916005.D	FID9A.M	C903291601R - <i>✓ Pass</i>	FRAW85 50ug/mL	3/29/2016	2:49 pm
4	F9032916007.D	FID9A.M	DCM	DCM	3/29/2016	4:17 pm
5	F9032916009.D	FID9A.M	IB903291601R	DCM	3/29/2016	5:44 pm
6	F9032916011.D	FID9A.M	SS032516B02	1X ETR 1603006	3/29/2016	7:13 pm
7	F9032916013.D	FID9A.M	SS032516LCS02	1X ETR 1603006	3/29/2016	8:40 pm
8	F9032916015.D	FID9A.M	SS032516LCSD02	1X ETR 1603006	3/29/2016	10:08 pm
9	F9032916017.D	FID9A.M	1603006-01	1X	3/29/2016	11:35 pm
10	F9032916019.D	FID9A.M	1603006-02	1X	3/30/2016	1:02 am
11	F9032916021.D	FID9A.M	1603006-03	1X	3/30/2016	2:30 am
12	F9032916023.D	FID9A.M	1603006-04	1X	3/30/2016	3:57 am
13	F9032916025.D	FID9A.M	1603006-04D	1X	3/30/2016	5:24 am
14	F9032916027.D	FID9A.M	C903291602R - <i>✓ Pass</i>	FRAW85 50ug/mL	3/30/2016	6:52 am
15	F9032916029.D	FID9A.M	DCM	DCM	3/30/2016	8:19 am
16	F9032916031.D	FID9A.M	IB903291602R	DCM	3/30/2016	9:47 am
17	F9032916033.D	FID9A.M	1603006-05	1X	3/30/2016	11:15 am
18	F9032916035.D	FID9A.M	1603006-06	1X	3/30/2016	12:43 pm
19	F9032916037.D	FID9A.M	1603006-07	1X	3/30/2016	2:11 pm
20	F9032916039.D	FID9A.M	1603006-08	1X	3/30/2016	3:39 pm
21	F9032916041.D	FID9A.M	1603006-09	1X	3/30/2016	5:06 pm
22	F9032916043.D	FID9A.M	1603006-10	1X	3/30/2016	6:34 pm
23	F9032916045.D	FID9A.M	1603006-11	1X	3/30/2016	8:02 pm
24	F9032916047.D	FID9A.M	1603006-12	1X	3/30/2016	9:30 pm
25	F9032916049.D	FID9A.M	C903291603R - <i>✓ Pass</i>	FRAW85 50ug/mL	3/30/2016	10:57 pm
26	F9032916051.D	FID9A.M	DCM	DCM	3/31/2016	12:25 am
27	F9032916053.D	FID9A.M	IB903291603R	DCM	3/31/2016	1:53 am

Processing Method: HC9102015R.M

CCV - FRAW85 - 50ug/mL

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Supporting Quality Control Results



Form IV
Method Blank Summary
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**

ETR: **1603006**

Lab ID: **SS032516B02**

Date Analyzed: **03/29/16 19:13**

Client ID	Lab ID	Date/Time Analyzed
LCS	SS032516LCS02	03/29/16 20:40
LCSD	SS032516LCSD02	03/29/16 22:08
RX-1	1603006-01	03/29/16 23:35
RX-2	1603006-02	03/30/16 01:02
RX-3	1603006-03	03/30/16 02:30
RX-4	1603006-04	03/30/16 03:57
RX-4	1603006-04 D	03/30/16 05:24
RX-5	1603006-05	03/30/16 11:15
RX-6	1603006-06	03/30/16 12:43
RX-7	1603006-07	03/30/16 14:11
RX-7A	1603006-08	03/30/16 15:39
RX-7B	1603006-09	03/30/16 17:06
RX-8	1603006-10	03/30/16 18:34
RX-8A	1603006-11	03/30/16 20:02
RX-8B	1603006-12	03/30/16 21:30

N/A - Not Applicable

Analysis log File

Total Files Reported in Log : 20

Log Generated From Directory: O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\

No.	DATA FILE	INJ METH	SAMPLE NAME	MISC	DATE	INJ'D
1	F9102015001.D	FID9A.M	Primer	Primer	10/20/2015	12:11 pm
2	F9102015003.D	FID9A.M	Primer	Primer	10/20/2015	3:04 pm
3	F9102015005.D	FID9A.M	Primer	Primer	10/20/2015	4:31 pm
4	F9102015007.D	FID9A.M	ANS	1X FRAW36 10.382 mg/..	10/20/2015	5:59 pm
5	F9102015009.D	FID9A.M	Alkane Standard	Alkane Standard	10/20/2015	7:27 pm
6	F9102015011.D	FID9A.M	DCM	DCM	10/20/2015	8:55 pm
7	F9102015013.D	FID9A.M	IB910201501R	DCM	10/20/2015	10:23 pm
8	F9102015015.D	FID9A.M	L1 Primer	,FRAW60 1ug/mL	10/20/2015	11:51 pm
9	F9102015017.D	FID9A.M	I910201501R	,FRAW60 1ug/mL	10/21/2015	1:19 am
10	F9102015019.D	FID9A.M	I910201502R	,FRAW61 10ug/mL	10/21/2015	2:46 am
11	F9102015021.D	FID9A.M	I910201503R	,FRAW35 50ug/mL	10/21/2015	4:13 am
12	F9102015023.D	FID9A.M	I910201504R	,FRAW62 100ug/mL	10/21/2015	5:41 am
13	F9102015025.D	FID9A.M	I910201505R	,FRAW63 200ug/mL	10/21/2015	7:08 am
14	F9102015027.D	FID9A.M	I910201506R	,FRAW64 500ug/mL	10/21/2015	8:36 am
15	F9102015029.D	FID9A.M	DCM	DCM	10/21/2015	10:03 am
16	F9102015031.D	FID9A.M	IB910201502R	DCM	10/21/2015	11:31 am
17	F9102015033.D	FID9A.M	CQ910201501R ✓ PASS	,FRAW65 50ug/mL	10/21/2015	12:59 pm
18	F9102015035.D	FID9A.M	TO102815ANC01 ✓ PASS	1X FRAW36 10.382 mg/..	10/21/2015	2:27 pm
19	F9102015037.D	FID9A.M	DCM	DCM	10/21/2015	3:55 pm
20	F9102015039.D	FID9A.M	IB910201503R	DCM	10/21/2015	5:22 pm

ICAC
F:10

Processing Method: HC9102052.M

Printed: 10/28/15

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Response Factor Report FID 9

Method Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Method File : HC9102015R.M
 Title : FID Forensics
 Last Update : Wed Oct 28 09:51:42 2015
 Response Via : Initial Calibration

Calibration Files

1 =F9102015017.D 10 =F9102015019.D 50 =F9102015021.D 100 =F9102015023.D 200 =F9102015025.D 500 =F9102015027.D

Compound		1	10	50	100	200	500	Avg	%RSD
-----		-----							
1) I	5-alpha-androstane	-----ISTD-----							
2) t	n-Octane (C8)	0.776	0.808	0.816	0.821	0.816		0.807	2.25
3) t	n-Nonane (C9)	0.847	0.849	0.869	0.871	0.851		0.857	1.34
4) t	n-Decane (C10)	0.876	0.879	0.908	0.913	0.893		0.894	1.87
5) t	n-Undecane (C11)	0.852	0.892	0.921	0.928	0.908		0.900	3.37
6) t	n-Dodecane (C12)	0.858	0.903	0.934	0.941	0.921		0.911	3.65
7) t	n-Tridecane (...)	0.868	0.907	0.936	0.943	0.924		0.916	3.25
8) t	1380	0.874	0.917	0.946	0.950	0.931		0.924	3.31
9) t	n-Tetradecane...	0.874	0.917	0.946	0.950	0.931		0.924	3.31
10) t	1470	0.890	0.931	0.959	0.963	0.945		0.938	3.14
11) t	n-Pentadecane...	0.890	0.931	0.959	0.963	0.945		0.938	3.14
12) t	n-Hexadecane ...	0.885	0.927	0.955	0.958	0.940		0.933	3.19
13) t	1650	0.882	0.930	0.960	0.966	0.957		0.939	3.68
14) t	n-Heptadecane...	0.882	0.930	0.960	0.966	0.957		0.939	3.68
15) t	Pristane	0.901	0.944	0.967	0.962	0.929		0.940	2.85
16) t	n-Octadecane ...	0.901	0.948	0.974	0.974	0.955		0.951	3.12
17) t	Phytane	0.797	0.830	0.851	0.852	0.835		0.833	2.70
18) t	n-Nonadecane ...	0.896	0.941	0.965	0.964	0.945		0.942	2.99
19) s	ortho-terphenyl	1.046	1.106	1.076	1.051	1.049	1.081	1.068	2.20
20) t	n-Eicosane (C20)	0.895	0.938	0.961	0.959	0.941		0.939	2.86
21) t	n-Heneicosane...	0.896	0.951	0.968	0.965	0.946		0.945	3.07
22) t	n-Docosane (C22)	0.915	0.951	0.973	0.969	0.952		0.952	2.44
23) t	n-Tricosane (...)	0.918	0.958	0.980	0.974	0.955		0.957	2.50
24) s	d50-Tetracosane	0.876	0.925	0.897	0.869	0.870	0.900	0.890	2.47
25) t	n-Tetracosane...	0.924	0.959	0.982	0.975	0.956		0.959	2.34
26) t	n-Pentacosane...	0.924	0.951	0.974	0.965	0.945		0.952	2.00
27) t	n-Hexacosane ...	0.934	0.973	0.993	0.983	0.963		0.969	2.35
28) t	n-Heptacosane...	0.919	0.962	0.982	0.970	0.950		0.956	2.53
29) t	n-Octacosane ...	0.936	0.959	0.977	0.967	0.943		0.956	1.75
30) t	n-Nonacosane ...	0.923	0.964	0.982	0.968	0.945		0.956	2.38
31) t	n-Triacontane...	0.923	0.963	0.981	0.965	0.943		0.955	2.34
32) t	n-Hentriacont...	0.919	0.963	0.981	0.962	0.941		0.953	2.49
33) t	n-Dotriaconta...	0.925	0.968	0.985	0.966	0.947		0.958	2.39
34) t	n-Tritriacont...	0.869	0.916	0.928	0.910	0.892		0.903	2.54
35) t	n-tetratriaco...	0.912	0.949	0.966	0.949	0.933		0.942	2.19
36) t	n-Pentatriaco...	0.913	0.951	0.970	0.954	0.940		0.945	2.24
37) t	n-Hexatriacon...	0.918	0.971	0.993	0.978	0.960		0.964	2.95
38) t	n-Heptatriaco...	0.900	0.948	0.968	0.955	0.935		0.941	2.75
39) t	n-Octatriacon...	0.918	0.923	0.947	0.936	0.914		0.927	1.45
40) t	n-Nonatriacon...	0.890	0.947	0.976	0.968	0.942		0.945	3.56
41) t	n-Tetracontan...	0.890	0.947	0.976	0.968	0.942		0.945	3.56
42) h	C9-C44 Total ...	0.897	0.935	0.958	0.952	0.933		0.935	2.55

Response Factor Report FID 9

Method Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Method File : HC9102015R.M
Title : FID Forensics
Last Update : Wed Oct 28 09:51:42 2015
Response Via : Initial Calibration

Calibration Files

1 =F9102015017.D 10 =F9102015019.D 50 =F9102015021.D 100 =F9102015023.D 200 =F9102015025.D 500 =F9102015027.D

	Compound	1	10	50	100	200	500	Avg	%RSD
43) h	C9-C40 Total ...	0.897	0.935	0.958	0.952	0.933		0.935	2.55
44) h	C10-C28 DRO	0.897	0.935	0.958	0.952	0.933		0.935	2.55
45) h	Total Resolve...	0.897	0.935	0.958	0.952	0.933		0.935	2.55

(#) = Out of Range

rfupdate

RSF Update Summary Report

Method Path.....: O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Method File.....: HC9102015R.M
Method Title.....: FID Forensics
Last Update.....: Wed Oct 28 09:44:29 2015

Generating Average Response Factor For: C9-C44 Total Petroleum Hydrocarbons

No	Compound	Level	Conc	Response

1	n-Nonane (C9)	1	1.00000	1053303.537 ✓
2	n-Decane (C10)	1	1.00000	1088786.719
3	n-Undecane (C11)	1	1.00000	1059423.211
4	n-Dodecane (C12)	1	1.00000	1066648.004
5	n-Tridecane (C13)	1	1.00000	1079552.628
6	n-Tetradecane (C14)	1	1.00000	1087087.542
7	n-Pentadecane (C15)	1	1.00000	1106599.704
8	n-Hexadecane (C16)	1	1.00000	1100149.964
9	n-Heptadecane (C17)	1	1.00000	1097084.076
10	Pristane	1	1.00000	1120160.417
11	n-Octadecane (C18)	1	1.00000	1120894.813
12	Phytane	1	1.00000	990857.288
13	n-Nonadecane (C19)	1	1.00000	1113777.866
14	n-Eicosane (C20)	1	1.00000	1112549.776
15	n-Heneicosane (C21)	1	1.00000	1114154.099
16	n-Docosane (C22)	1	1.00000	1137343.817
17	n-Tricosane (C23)	1	1.00000	1141967.658
18	n-Tetracosane (C24)	1	1.00000	1148692.298
19	n-Pentacosane (C25)	1	1.00000	1149414.027
20	n-Hexacosane (C26)	1	1.00000	1160917.364
21	n-Heptacosane (C27)	1	1.00000	1142149.314
22	n-Octacosane (C28)	1	1.00000	1164151.749 ✓
23	n-Nonacosane (C29)	1	1.00000	1148200.075
24	n-Triacontane (C30)	1	1.00000	1148041.621
25	n-Hentriacontane (C31)	1	1.00000	1142920.237
26	n-Dotriacontane (C32)	1	1.00000	1150546.350
27	n-Tritriacontane (C33)	1	1.00000	1080931.315
28	n-tetratriacontane (C34)	1	1.00000	1133463.213
29	n-Pentatriacontane (C35)	1	1.00000	1135127.035
30	n-Hexatriacontane (C36)	1	1.00000	1141706.327
31	n-Heptatriacontane (C37)	1	1.00000	1119103.422
32	n-Octatriacontane (C38)	1	1.00000	1141124.716
33	n-Tetracontane (C40)	1	1.00000	1106538.382 ✓

Avg RSF For: C9-C44 Total Petroleum			1.00000	1115253.593

1	n-Nonane (C9)	2	10.00000	10219986.120
2	n-Decane (C10)	2	10.00000	10587602.536
3	n-Undecane (C11)	2	10.00000	10734901.000
4	n-Dodecane (C12)	2	10.00000	10871942.378 ✓
5	n-Tridecane (C13)	2	10.00000	10921223.688
6	n-Tetradecane (C14)	2	10.00000	11039964.331
7	n-Pentadecane (C15)	2	10.00000	11211333.442
8	n-Hexadecane (C16)	2	10.00000	11156127.071
9	n-Heptadecane (C17)	2	10.00000	11200159.704
10	Pristane	2	10.00000	11360628.344
11	n-Octadecane (C18)	2	10.00000	11420096.106 ✓
12	Phytane	2	10.00000	9995409.121 ✓
13	n-Nonadecane (C19)	2	10.00000	11331017.856
14	n-Eicosane (C20)	2	10.00000	11297466.524

		rfupdate	
15	n-Heneicosane (C21)	2	10.00000 11452740.367
16	n-Docosane (C22)	2	10.00000 11454588.864
17	n-Tricosane (C23)	2	10.00000 11531092.930
18	n-Tetracosane (C24)	2	10.00000 11552394.829
19	n-Pentacosane (C25)	2	10.00000 11454277.800
20	n-Hexacosane (C26)	2	10.00000 11711654.226✓
21	n-Heptacosane (C27)	2	10.00000 11582542.366
22	n-Octacosane (C28)	2	10.00000 11545116.094
23	n-Nonacosane (C29)	2	10.00000 11601935.188
24	n-Triacontane (C30)	2	10.00000 11595725.320
25	n-Hentriacontane (C31)	2	10.00000 11592706.867
26	n-Dotriacontane (C32)	2	10.00000 11655276.920
27	n-Tritriacontane (C33)	2	10.00000 11024557.257
28	n-tetratriacontane (C34)	2	10.00000 11424133.141
29	n-Pentatriacontane (C35)	2	10.00000 11447364.418✓
30	n-Hexatriacontane (C36)	2	10.00000 11694302.001
31	n-Heptatriacontane (C37)	2	10.00000 11411328.521
32	n-Octatriacontane (C38)	2	10.00000 11108706.122
33	n-Tetracontane (C40)	2	10.00000 11406545.377
Avg RSF For: C9-C44 Total Petroleum		10.00000	11260449.904

1	n-Nonane (C9)	3	50.00000 53605155.752
2	n-Decane (C10)	3	50.00000 56058924.788
3	n-Undecane (C11)	3	50.00000 56832411.808
4	n-Dodecane (C12)	3	50.00000 57614132.234
5	n-Tridecane (C13)	3	50.00000 57779806.698
6	n-Tetradecane (C14)	3	50.00000 58365305.693
7	n-Pentadecane (C15)	3	50.00000 59174894.614✓
8	n-Hexadecane (C16)	3	50.00000 58959076.379
9	n-Heptadecane (C17)	3	50.00000 59253580.514
10	Pristane	3	50.00000 59662638.464
11	n-Octadecane (C18)	3	50.00000 60087606.982
12	Phytane	3	50.00000 52543295.507
13	n-Nonadecane (C19)	3	50.00000 59554358.901
14	n-Eicosane (C20)	3	50.00000 59336969.418
15	n-Heneicosane (C21)	3	50.00000 59762886.196
16	n-Docosane (C22)	3	50.00000 60066220.651
17	n-Tricosane (C23)	3	50.00000 60468136.477
18	n-Tetracosane (C24)	3	50.00000 60585208.987✓
19	n-Pentacosane (C25)	3	50.00000 60104507.988
20	n-Hexacosane (C26)	3	50.00000 61283424.120
21	n-Heptacosane (C27)	3	50.00000 60575429.812
22	n-Octacosane (C28)	3	50.00000 60295719.960
23	n-Nonacosane (C29)	3	50.00000 60632934.338
24	n-Triacontane (C30)	3	50.00000 60552577.430
25	n-Hentriacontane (C31)	3	50.00000 60522712.082
26	n-Dotriacontane (C32)	3	50.00000 60798279.267
27	n-Tritriacontane (C33)	3	50.00000 57289758.414
28	n-tetratriacontane (C34)	3	50.00000 59638278.607
29	n-Pentatriacontane (C35)	3	50.00000 59857975.897✓
30	n-Hexatriacontane (C36)	3	50.00000 61308721.376
31	n-Heptatriacontane (C37)	3	50.00000 59745488.496
32	n-Octatriacontane (C38)	3	50.00000 58420391.827
33	n-Tetracontane (C40)	3	50.00000 60225273.062
Avg RSF For: C9-C44 Total Petroleum		50.00000	59120063.113

1	n-Nonane (C9)	4	100.00000 110313063.502
2	n-Decane (C10)	4	100.00000 115671895.150
3	n-Undecane (C11)	4	100.00000 117614824.736
4	n-Dodecane (C12)	4	100.00000 119243603.968
5	n-Tridecane (C13)	4	100.00000 119429483.617
6	n-Tetradecane (C14)	4	100.00000 120390617.602
7	n-Pentadecane (C15)	4	100.00000 122034106.422✓
8	n-Hexadecane (C16)	4	100.00000 121360511.344

	rfupdate		
9 n-Heptadecane (C17)	4	100.00000	122338026.644
10 Pristane	4	100.00000	121866911.124
11 n-Octadecane (C18)	4	100.00000	123386789.570
12 Phytane	4	100.00000	107981210.047✓
13 n-Nonadecane (C19)	4	100.00000	122147392.990
14 n-Eicosane (C20)	4	100.00000	121526778.989
15 n-Heneicosane (C21)	4	100.00000	122227388.820
16 n-Docosane (C22)	4	100.00000	122809713.728
17 n-Tricosane (C23)	4	100.00000	123342192.238
18 n-Tetracosane (C24)	4	100.00000	123500012.452
19 n-Pentacosane (C25)	4	100.00000	122197938.144
20 n-Hexacosane (C26)	4	100.00000	124548605.803
21 n-Heptacosane (C27)	4	100.00000	122912406.419
22 n-Octacosane (C28)	4	100.00000	122449219.163
23 n-Nonacosane (C29)	4	100.00000	122592796.914
24 n-Triacontane (C30)	4	100.00000	122222858.864
25 n-Hentriacontane (C31)	4	100.00000	121903483.017
26 n-Dotriacontane (C32)	4	100.00000	122440623.802✓
27 n-Tritriacontane (C33)	4	100.00000	115272588.194
28 n-tetratriacontane (C34)	4	100.00000	120231113.002
29 n-Pentatriacontane (C35)	4	100.00000	120866302.891
30 n-Hexatriacontane (C36)	4	100.00000	123884853.863
31 n-Heptatriacontane (C37)	4	100.00000	120931096.054
32 n-Octatriacontane (C38)	4	100.00000	118529524.858
33 n-Tetracontane (C40)	4	100.00000	122618018.394

Avg RSF For: C9-C44 Total Petroleum		100.00000	120629877.343
1 n-Nonane (C9)	5	200.00000	212545740.230
2 n-Decane (C10)	5	200.00000	223117739.222
3 n-Undecane (C11)	5	200.00000	226780807.218
4 n-Dodecane (C12)	5	200.00000	230190425.217
5 n-Tridecane (C13)	5	200.00000	230742116.998✓
6 n-Tetradecane (C14)	5	200.00000	232691826.180
7 n-Pentadecane (C15)	5	200.00000	235981123.897
8 n-Hexadecane (C16)	5	200.00000	234731788.178
9 n-Heptadecane (C17)	5	200.00000	238972310.286
10 Pristane	5	200.00000	232068356.240
11 n-Octadecane (C18)	5	200.00000	238677289.310
12 Phytane	5	200.00000	208472194.136
13 n-Nonadecane (C19)	5	200.00000	236170686.253
14 n-Eicosane (C20)	5	200.00000	234976096.747
15 n-Heneicosane (C21)	5	200.00000	236308513.024
16 n-Docosane (C22)	5	200.00000	237898692.786✓
17 n-Tricosane (C23)	5	200.00000	238577751.133
18 n-Tetracosane (C24)	5	200.00000	238714759.296
19 n-Pentacosane (C25)	5	200.00000	236090589.627
20 n-Hexacosane (C26)	5	200.00000	240645922.840
21 n-Heptacosane (C27)	5	200.00000	237248482.312
22 n-Octacosane (C28)	5	200.00000	235579669.024
23 n-Nonacosane (C29)	5	200.00000	236111387.562
24 n-Triacontane (C30)	5	200.00000	235560084.606
25 n-Hentriacontane (C31)	5	200.00000	235014299.176✓
26 n-Dotriacontane (C32)	5	200.00000	236597874.865
27 n-Tritriacontane (C33)	5	200.00000	222919387.683
28 n-tetratriacontane (C34)	5	200.00000	232983431.814
29 n-Pentatriacontane (C35)	5	200.00000	234799739.603
30 n-Hexatriacontane (C36)	5	200.00000	239786982.840
31 n-Heptatriacontane (C37)	5	200.00000	233688111.294
32 n-Octatriacontane (C38)	5	200.00000	228449192.914✓
33 n-Tetracontane (C40)	5	200.00000	235412453.433

Avg RSF For: C9-C44 Total Petroleum		200.00000	232985025.029

Generating Reference Response Factors

No	Compound	rfupdate	
		No	Reference Compound
8	1380	9	n-Tetradecane (C14)
10	1470	11	n-Pentadecane (C15)
13	1650	14	n-Heptadecane (C17)
40	n-Nonatriacontane (C39)	41	n-Tetracontane (C40)
43	C9-C40 Total Petroleum Hydrocarbons	42	C9-C44 Total Petroleum Hydrocarbons
44	C10-C28 DRO Hydrocarbons	42	C9-C44 Total Petroleum Hydrocarbons
45	Total Resolved Hydrocarbons	42	C9-C44 Total Petroleum Hydrocarbons

Abacus Response Factor Update Macro Ver. 1.0			

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015017.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 1:19 am
 Operator : FID9:NL
 Sample : I910201501R
 Misc : ,FRAW60 ug/mL
 ALS Vial : 59 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Oct 28 09:27:57 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Wed Oct 28 09:27:49 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-SMS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.240	62174354	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.202	1301278	0.980 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	1.96%#
24) s d50-Tetracosane	35.822	1089771	0.985 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	1.97%#
Target Compounds			
2) t n-Octane (C8)	5.622	965091	0.961 ug/mL M4
3) t n-Nonane (C9)	7.827	1053304	0.988 ug/mL M4
4) t n-Decane (C10)	10.307	1088787	0.978 ug/mL M4
5) t n-Undecane (C11)	12.813	1059423	0.947 ug/mL M4
6) t n-Dodecane (C12)	15.233	1066648	0.941 ug/mL M4
7) t n-Tridecane (C13)	17.532	1079553	0.948 ug/mL M4
9) t n-Tetradecane (C14)	19.706	1087088	0.946 ug/mL M4
11) t n-Pentadecane (C15)	21.764	1106600	0.949 ug/mL M4
12) t n-Hexadecane (C16)	23.713	1100150	0.948 ug/mL M4
14) t n-Heptadecane (C17)	25.564	1097084	0.940 ug/mL M4
15) t Pristane	25.672	1120160	0.958 ug/mL M4
16) t n-Octadecane (C18)	27.325	1120895	0.948 ug/mL M4
17) t Phytane	27.487	990857	0.957 ug/mL M4
18) t n-Nonadecane (C19)	29.005	1113778	0.951 ug/mL M4
20) t n-Eicosane (C20)	30.605	1112550	0.953 ug/mL M4
21) t n-Heneicosane (C21)	32.137	1114154	0.948 ug/mL M4
22) t n-Docosane (C22)	33.605	1137344	0.960 ug/mL M4
23) t n-Tricosane (C23)	35.012	1141968	0.960 ug/mL M4
25) t n-Tetracosane (C24)	36.365	1148692	0.963 ug/mL M4
26) t n-Pentacosane (C25)	37.665	1149414	0.971 ug/mL M4
27) t n-Hexacosane (C26)	38.918	1160917	0.963 ug/mL M4
28) t n-Heptacosane (C27)	40.126	1142149	0.960 ug/mL M4
29) t n-Octacosane (C28)	41.293	1164152	0.979 ug/mL M4
30) t n-Nonacosane (C29)	42.419	1148200	0.965 ug/mL M4
31) t n-Triacontane (C30)	43.511	1148042	0.966 ug/mL M4
32) t n-Hentriacontane (C31)	44.566	1142920	0.963 ug/mL M4
33) t n-Dotriacontane (C32)	45.590	1150546	0.965 ug/mL M4
34) t n-Tritriacontane (C33)	46.582	1080931	0.963 ug/mL M4
35) t n-tetratriacontane (C34)	47.575	1133463	0.967 ug/mL M4
36) t n-Pentatriacontane (C35)	48.682	1135127	0.965 ug/mL M4
37) t n-Hexatriacontane (C36)	49.942	1141706	0.952 ug/mL M4
38) t n-Heptatriacontane (C37)	51.394	1119103	0.955 ug/mL M4
39) t n-Octatriacontane (C38)	53.091	1141125	0.989 ug/mL M4
41) t n-Tetracontane (C40)	57.425	1106538	0.941 ug/mL M4

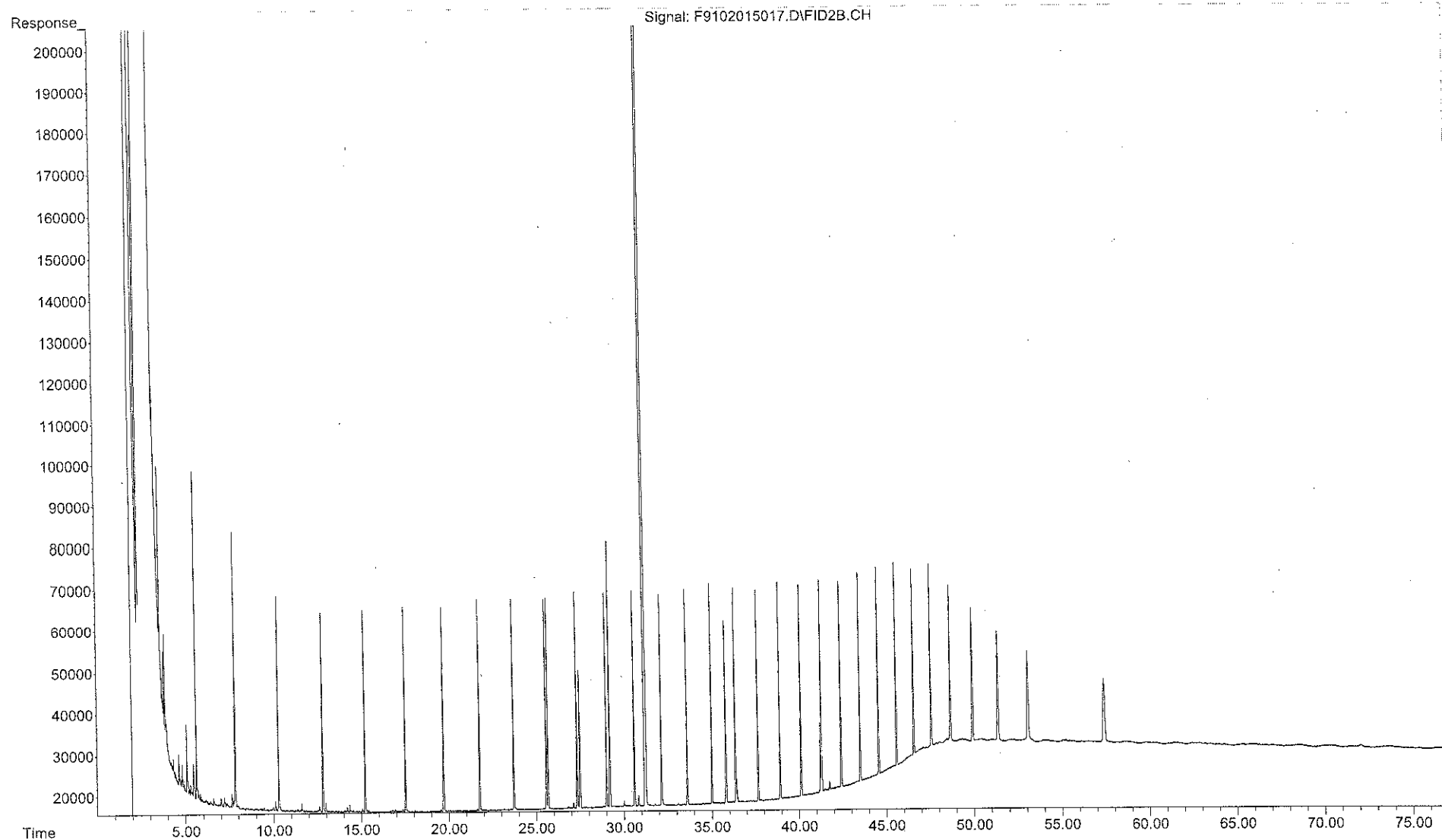
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015017.D
Operator : FID9:NL
Acquired : 21 Oct 2015 1:19 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201501R
Misc Info : ,FRAW60 ug/mL
ALS Vial : 59



Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015019.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 2:46 am
 Operator : FID9:NL
 Sample : I910201502R
 Misc : ,FRAW61 10ug/mL
 ALS Vial : 60 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Oct 28 09:32:58 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Wed Oct 28 09:28:03 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.238	60203653	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.206	13311493	10.351 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	20.70%#
24) s d50-Tetracosane	35.824	11136608	10.398 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	20.80%#
Target Compounds			
2) t n-Octane (C8)	5.628	9724978	10.002 ug/mL M4
3) t n-Nonane (C9)	7.829	10219986	9.902 ug/mL M4
4) t n-Decane (C10)	10.308	10587603	9.826 ug/mL M4
5) t n-Undecane (C11)	12.813	10734901	9.905 ug/mL M4
6) t n-Dodecane (C12)	15.233	10871942	9.906 ug/mL M4
7) t n-Tridecane (C13)	17.532	10921224	9.907 ug/mL M4
9) t n-Tetradecane (C14)	19.707	11039964	9.926 ug/mL M4
11) t n-Pentadecane (C15)	21.766	11211333	9.929 ug/mL M4
12) t n-Hexadecane (C16)	23.715	11156127	9.932 ug/mL M4
14) t n-Heptadecane (C17)	25.568	11200160	9.907 ug/mL M4
15) t Pristane	25.675	11360628	10.033 ug/mL M4
16) t n-Octadecane (C18)	27.328	11420096	9.978 ug/mL M4
17) t Phytane	27.489	9995409	9.965 ug/mL M4
18) t n-Nonadecane (C19)	29.008	11331018	9.987 ug/mL M4
20) t n-Eicosane (C20)	30.608	11297467	9.991 ug/mL M4
21) t n-Heneicosane (C21)	32.138	11452740	10.060 ug/mL M4
22) t n-Docosane (C22)	33.605	11454589	9.988 ug/mL M4
23) t n-Tricosane (C23)	35.015	11531093	10.006 ug/mL M4
25) t n-Tetracosane (C24)	36.367	11552395	9.997 ug/mL M4
26) t n-Pentacosane (C25)	37.667	11454278	9.991 ug/mL M4
27) t n-Hexacosane (C26)	38.921	11711654	10.030 ug/mL M4
28) t n-Heptacosane (C27)	40.129	11582542	10.052 ug/mL M4
29) t n-Octacosane (C28)	41.296	11545116	10.024 ug/mL M4
30) t n-Nonacosane (C29)	42.425	11601935	10.066 ug/mL M4
31) t n-Triacontane (C30)	43.515	11595725	10.076 ug/mL M4
32) t n-Hentriacontane (C31)	44.571	11592707	10.089 ug/mL M4
33) t n-Dotriacontane (C32)	45.594	11655277	10.095 ug/mL M4
34) t n-Tritriacontane (C33)	46.588	11024557	10.139 ug/mL M4
35) t n-tetratriacontane (C34)	47.581	11424133	10.067 ug/mL M4
36) t n-Pentatriacontane (C35)	48.688	11447364	10.049 ug/mL M4
37) t n-Hexatriacontane (C36)	49.951	11694302	10.067 ug/mL M4
38) t n-Heptatriacontane (C37)	51.409	11411329	10.053 ug/mL M4
39) t n-Octatriacontane (C38)	53.105	11108706	9.947 ug/mL M4
41) t n-Tetracontane (C40)	57.444	11406545	10.014 ug/mL M4

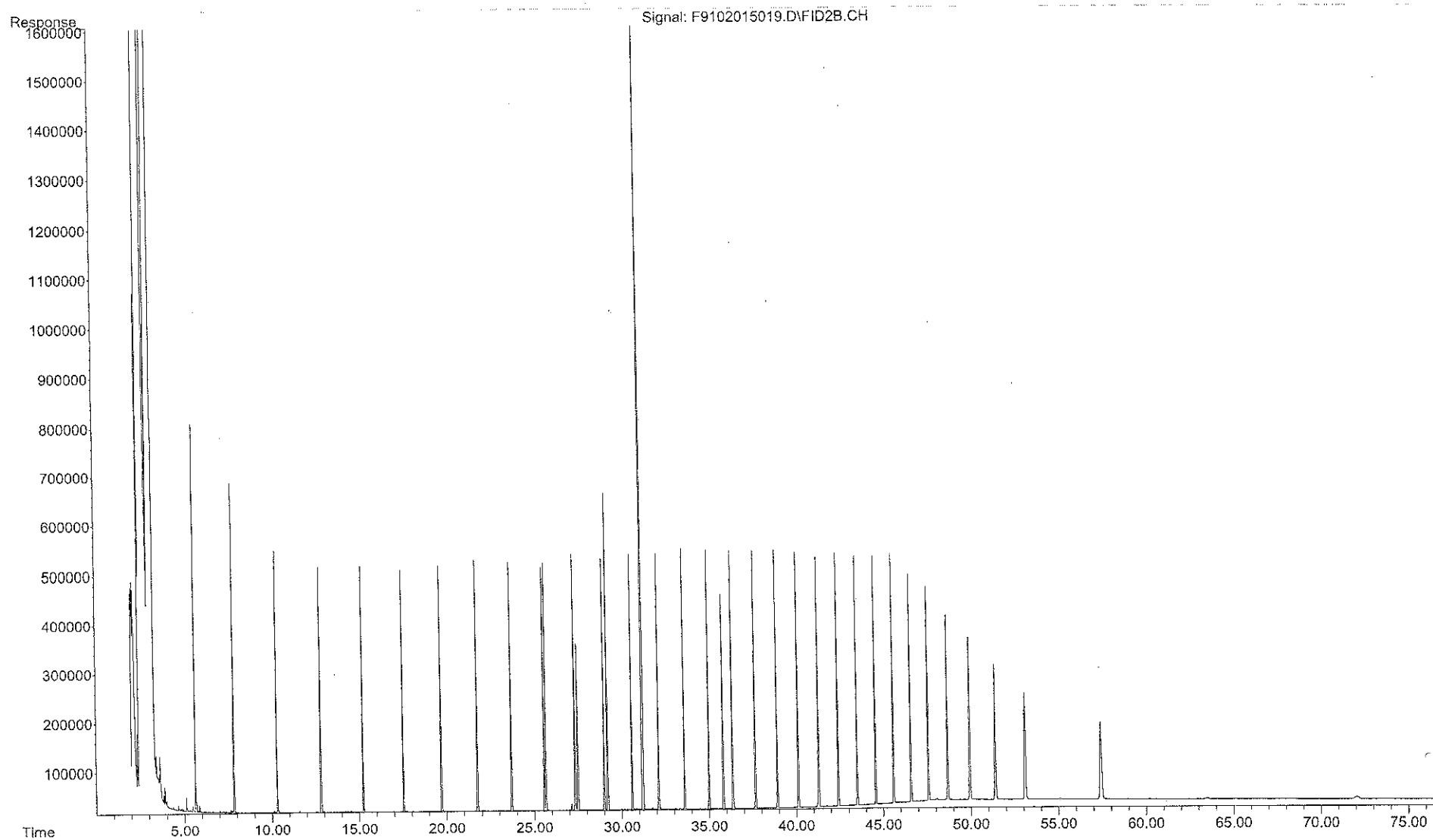
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015019.D
Operator : FID9:NL
Acquired : 21 Oct 2015 2:46 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201502R
Misc Info : ,FRAW61 10ug/mL
ALS Vial : 60



Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015021.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 4:13 am
 Operator : FID9:NL
 Sample : I910201503R
 Misc : ,FRAW35 50ug/mL
 ALS Vial : 61 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Oct 28 09:36:46 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Wed Oct 28 09:28:16 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.244	61714287	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.232	66377897	50.352 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 100.70%	
24) s d50-Tetracosane	35.848	55375908	50.437 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 100.87%	
Target Compounds			
2) t n-Octane (C8)	5.655	50378737	50.544 ug/mL M4
3) t n-Nonane (C9)	7.852	53605156	50.665 ug/mL M4
4) t n-Decane (C10)	10.326	56058925	50.751 ug/mL M4
5) t n-Undecane (C11)	12.828	56832412	51.154 ug/mL M4
6) t n-Dodecane (C12)	15.247	57614132	51.211 ug/mL M4
7) t n-Tridecane (C13)	17.548	57779807	51.130 ug/mL M4
9) t n-Tetradecane (C14)	19.724	58365306	51.192 ug/mL M4
11) t n-Pentadecane (C15)	21.783	59174895	51.122 ug/mL M4
12) t n-Hexadecane (C16)	23.735	58959076	51.207 ug/mL M4
14) t n-Heptadecane (C17)	25.588	59253581	51.127 ug/mL M4
15) t Pristane	25.698	59662638	51.401 ug/mL M4
16) t n-Octadecane (C18)	27.350	60087607	51.213 ug/mL M4
17) t Phytane	27.512	52543296	51.102 ug/mL M4
18) t n-Nonadecane (C19)	29.031	59554359	51.207 ug/mL M4
20) t n-Eicosane (C20)	30.631	59336969	51.189 ug/mL M4
21) t n-Heneicosane (C21)	32.164	59762886	51.212 ug/mL M4
22) t n-Docosane (C22)	33.633	60066221	51.095 ug/mL M4
23) t n-Tricosane (C23)	35.041	60468136	51.188 ug/mL M4
25) t n-Tetracosane (C24)	36.396	60585209	51.147 ug/mL M4
26) t n-Pentacosane (C25)	37.696	60104508	51.145 ug/mL M4
27) t n-Hexacosane (C26)	38.949	61283424	51.200 ug/mL M4
28) t n-Heptacosane (C27)	40.159	60575430	51.285 ug/mL M4
29) t n-Octacosane (C28)	41.326	60295720	51.068 ug/mL M4
30) t n-Nonacosane (C29)	42.454	60632934	51.318 ug/mL M4
31) t n-Triacontane (C30)	43.545	60552577	51.331 ug/mL M4
32) t n-Hentriacontane (C31)	44.600	60522712	51.382 ug/mL M4
33) t n-Dotriacontane (C32)	45.625	60798279	51.370 ug/mL M4
34) t n-Tritriacontane (C33)	46.614	57289758	51.397 ug/mL M4
35) t n-tetratriacontane (C34)	47.615	59638279	51.266 ug/mL M4
36) t n-Pentatriacontane (C35)	48.726	59857976	51.258 ug/mL M4
37) t n-Hexatriacontane (C36)	49.995	61308721	51.485 ug/mL M4
38) t n-Heptatriacontane (C37)	51.456	59745488	51.344 ug/mL M4
39) t n-Octatriacontane (C38)	53.164	58420392	51.029 ug/mL M4
41) t n-Tetracontane (C40)	57.530	60225273	51.580 ug/mL M4

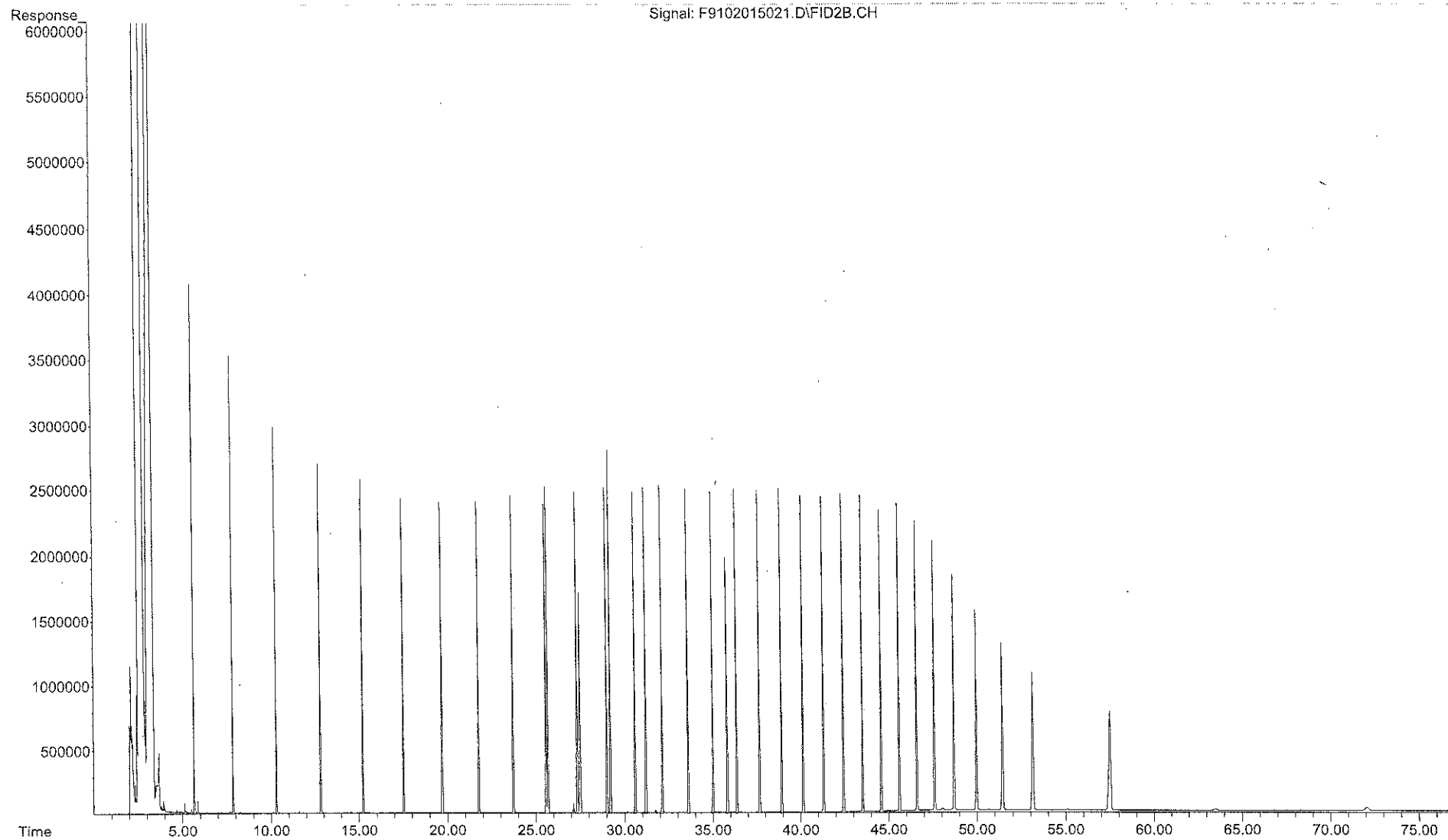
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015021.D
Operator : FID9:NL
Acquired : 21 Oct 2015 4:13 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201503R
Misc Info : ,FRAW35 50ug/mL
ALS Vial : 61



Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015023.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 5:41 am
 Operator : FID9:NL
 Sample : I910201504R
 Misc : ,FRAW62 100ug/mL
 ALS Vial : 62 Sample Multiplier: 1

Integration File: SHCINT2.E

Quant Time: Oct 28 09:40:09 2015

Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M

Quant Title : FID Forensics

QLast Update : Wed Oct 28 09:28:27 2015

Response via : Initial Calibration

Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0

Signal Phase : Rtx-5MS

Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.247	63345455	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.255	133088985	98.357 ug/mL M4
Spiked Amount 50.000 Range	50 - 130	Recovery =	196.71%#
24) s d50-Tetracosane	35.870	110047849	97.651 ug/mL M4
Spiked Amount 50.000 Range	50 - 130	Recovery =	195.30%#
Target Compounds			
2) t n-Octane (C8)	5.697	104050313	101.704 ug/mL M4
3) t n-Nonane (C9)	7.881	110313064	101.578 ug/mL M4
4) t n-Decane (C10)	10.347	115671895	102.024 ug/mL M4
5) t n-Undecane (C11)	12.846	117614825	103.137 ug/mL M4
6) t n-Dodecane (C12)	15.263	119243604	103.262 ug/mL M4
7) t n-Tridecane (C13)	17.562	119429484	102.963 ug/mL M4
9) t n-Tetradecane (C14)	19.740	120390618	102.875 ug/mL M4
11) t n-Pentadecane (C15)	21.802	122034106	102.712 ug/mL M4
12) t n-Hexadecane (C16)	23.753	121360511	102.690 ug/mL M4
14) t n-Heptadecane (C17)	25.609	122338027	102.841 ug/mL M6
15) t Pristane	25.720	121866911	102.289 ug/mL M6
16) t n-Octadecane (C18)	27.372	123386790	102.456 ug/mL M4
17) t Phytane	27.533	107981210	102.314 ug/mL M4
18) t n-Nonadecane (C19)	29.053	122147393	102.322 ug/mL M4
20) t n-Eicosane (C20)	30.653	121526779	102.139 ug/mL M4
21) t n-Heneicosane (C21)	32.186	122227389	102.042 ug/mL M4
22) t n-Docosane (C22)	33.654	122809714	101.778 ug/mL M4
23) t n-Tricosane (C23)	35.064	123342192	101.724 ug/mL M4
25) t n-Tetracosane (C24)	36.419	123500012	101.576 ug/mL M4
26) t n-Pentacosane (C25)	37.719	122197938	101.304 ug/mL M4
27) t n-Hexacosane (C26)	38.973	124548606	101.377 ug/mL M3
28) t n-Heptacosane (C27)	40.181	122912406	101.382 ug/mL M4
29) t n-Octacosane (C28)	41.348	122449219	101.038 ug/mL M4
30) t n-Nonacosane (C29)	42.477	122592797	101.087 ug/mL M4
31) t n-Triacontane (C30)	43.569	122222859	100.941 ug/mL M4
32) t n-Hentriacontane (C31)	44.625	121903483	100.827 ug/mL M4
33) t n-Dotriacontane (C32)	45.648	122440624	100.790 ug/mL M4
34) t n-Tritriacontane (C33)	46.639	115272588	100.752 ug/mL M4
35) t n-tetratriacontane (C34)	47.638	120231113	100.691 ug/mL M4
36) t n-Pentatriacontane (C35)	48.755	120866303	100.836 ug/mL M4
37) t n-Hexatriacontane (C36)	50.032	123884854	101.355 ug/mL M4
38) t n-Heptatriacontane (C37)	51.502	120931096	101.250 ug/mL M4
39) t n-Octatriacontane (C38)	53.219	118529525	100.868 ug/mL M4
41) t n-Tetracontane (C40)	57.602	122618018	102.313 ug/mL M4

Handwritten signature/initials

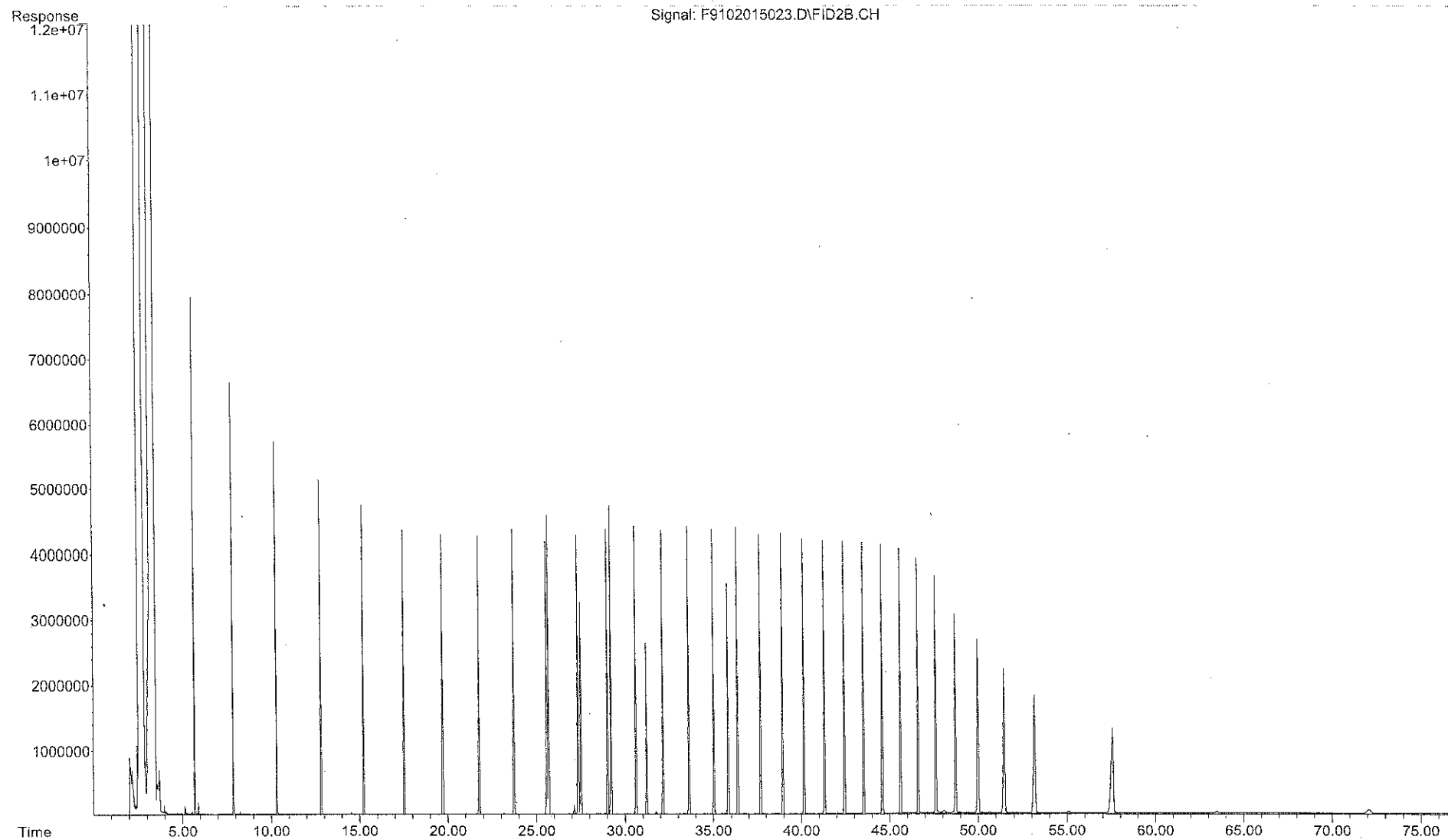
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015023.D
Operator : FID9:NL
Acquired : 21 Oct 2015 5:41 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201504R
Misc Info : ,FRAW62 100ug/mL
ALS Vial : 62



Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015025.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 7:08 am
 Operator : FID9:NL
 Sample : I910201505R
 Misc : ,FRAW63 200ug/mL
 ALS Vial : 63 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Oct 28 09:43:32 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Wed Oct 28 09:28:39 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-SMS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.251	62452454	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.284	262093146	196.464 ug/mL M4
Spiked Amount 50.000 Range	50 - 130	Recovery = 392.93%#	
24) s d50-Tetracosane	35.896	217343518	195.618 ug/mL M4
Spiked Amount 50.000 Range	50 - 130	Recovery = 391.24%#	
Target Compounds			
2) t n-Octane (C8)	5.759f	203789927	202.043 ug/mL M3
3) t n-Nonane (C9)	7.926	212545740	198.514 ug/mL M3
4) t n-Decane (C10)	10.376	223117739	199.606 ug/mL M3
5) t n-Undecane (C11)	12.869	226780807	201.710 ug/mL M4
6) t n-Dodecane (C12)	15.284	230190425	202.189 ug/mL M4
7) t n-Tridecane (C13)	17.584	230742117	201.772 ug/mL M4
9) t n-Tetradecane (C14)	19.760	232691826	201.680 ug/mL M4
11) t n-Pentadecane (C15)	21.821	235981124	201.458 ug/mL M4
12) t n-Hexadecane (C16)	23.774	234731788	201.459 ug/mL M4
14) t n-Heptadecane (C17)	25.635	238972310	203.759 ug/mL M6
15) t Pristane	25.747	232068356	197.571 ug/mL M6
16) t n-Octadecane (C18)	27.398	238677289	201.023 ug/mL M4
17) t Phytane	27.560	208472194	200.356 ug/mL M4
18) t n-Nonadecane (C19)	29.079	236170686	200.667 ug/mL M4
20) t n-Eicosane (C20)	30.679	234976097	200.313 ug/mL M4
21) t n-Heneicosane (C21)	32.211	236308513	200.103 ug/mL M4
22) t n-Docosane (C22)	33.682	237898693	199.976 ug/mL M4
23) t n-Tricosane (C23)	35.090	238577751	199.575 ug/mL M4
25) t n-Tetracosane (C24)	36.449	238714759	199.146 ug/mL M4
26) t n-Pentacosane (C25)	37.749	236090590	198.522 ug/mL M4
27) t n-Hexacosane (C26)	39.003	240645923	198.675 ug/mL M4
28) t n-Heptacosane (C27)	40.211	237248482	198.488 ug/mL M4
29) t n-Octacosane (C28)	41.378	235579669	197.167 ug/mL M4
30) t n-Nonacosane (C29)	42.507	236111388	197.475 ug/mL M4
31) t n-Triacontane (C30)	43.598	235560085	197.325 ug/mL M4
32) t n-Hentriacontane (C31)	44.655	235014299	197.162 ug/mL M4
33) t n-Dotriacontane (C32)	45.680	236597875	197.546 ug/mL M4
34) t n-Tritriacontane (C33)	46.670	222919388	197.624 ug/mL M4
35) t n-tettratriacontane (C34)	47.677	232983432	197.909 ug/mL M4
36) t n-Pentatriacontane (C35)	48.800	234799740	198.689 ug/mL M4
37) t n-Hexatriacontane (C36)	50.083	239786983	198.983 ug/mL M4
38) t n-Heptatriacontane (C37)	51.563	233688111	198.453 ug/mL M4
39) t n-Octatriacontane (C38)	53.291	228449193	197.188 ug/mL M4
41) t n-Tetracontane (C40)	57.704	235412453	199.238 ug/mL M4

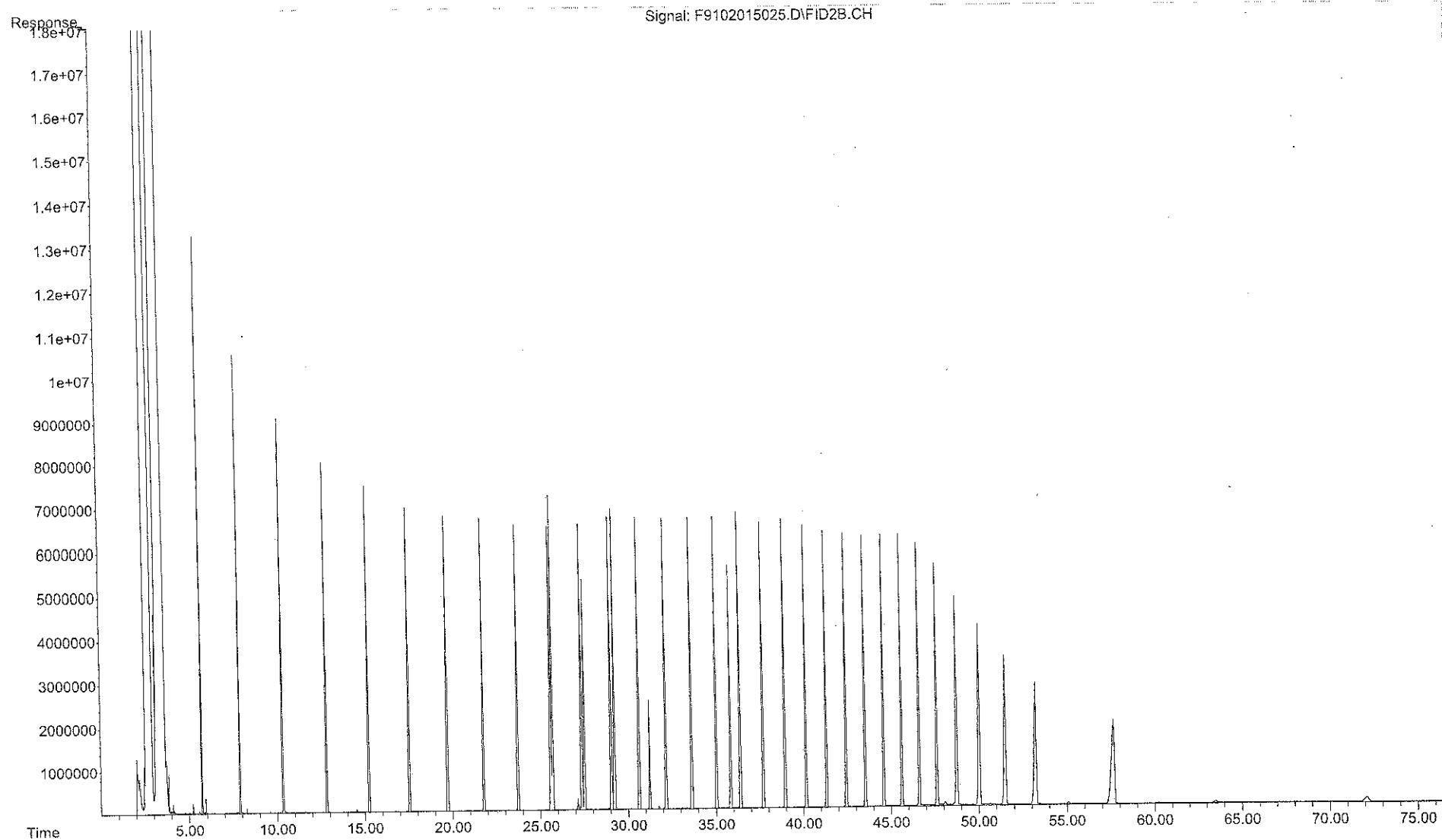
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015025.D
 Operator : FID9:NL
 Acquired : 21 Oct 2015 7:08 am using AcqMethod FID9A.M
 Instrument: FID 9
 Sample : I910201505R
 Misc Info : ,FRAW63 200ug/mL
 ALS Vial : 63



Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015027.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 8:36 am
Operator : FID9:NL
Sample : I910201506R
Misc : ,FRAW64 500ug/mL
ALS Vial : 64 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:28:55 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:28:49 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units

Internal Standards			
1) I 5-alpha-androstane	31.243	59399003	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.331	642139048	506.090 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 1012.18%#	
24) s d50-Tetracosane	35.944	534554665	505.853 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 1011.71%#	

Target Compounds

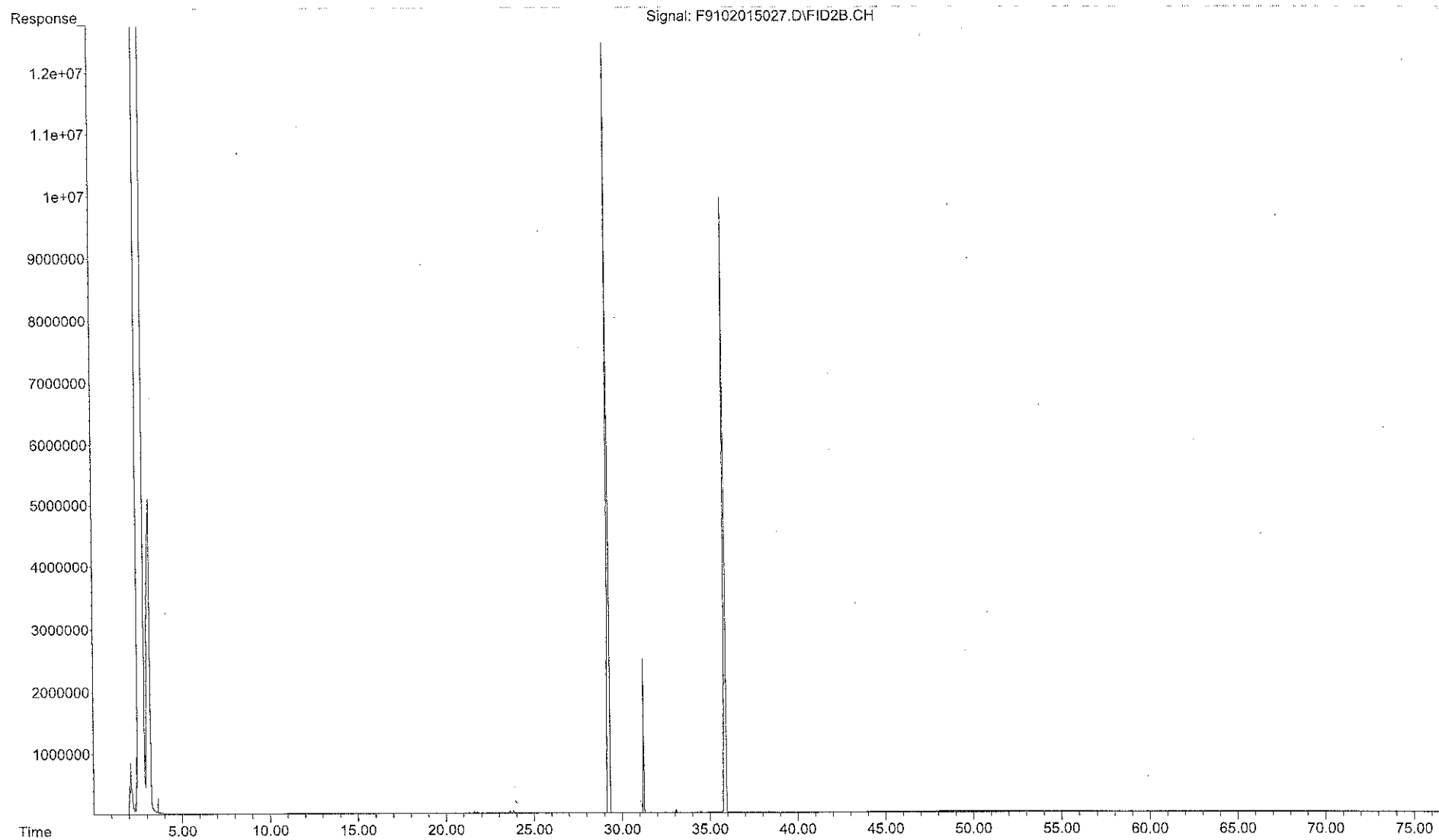
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015027.D
Operator : FID9:NL
Acquired : 21 Oct 2015 8:36 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201506R
Misc Info : ,FRAW64 500ug/mL
ALS Vial : 64



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015033.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 12:59 pm
 Operator : FID9:NL
 Sample : CQ910201501R
 Misc : WG835119, FRAW65 50ug/mL
 ALS Vial : 67 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Nov 07 12:04:50 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Sat Nov 07 12:04:42 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 I	5-alpha-androstane	50.000	50.000	0.0	117	0.00
2 t	n-Octane (C8)	50.000	43.894	12.2	101	0.00
3 t	n-Nonane (C9)	50.000	44.510	11.0	103	0.00
4 t	n-Decane (C10)	50.000	46.081	7.8	106	0.00
5 t	n-Undecane (C11)	50.000	45.094	9.8	103	0.00
6 t	n-Dodecane (C12)	50.000	44.984	10.0	103	0.00
7 t	n-Tridecane (C13)	50.000	44.748	10.5	102	0.00
9 t	n-Tetradecane (C14)	50.000	46.065	7.9	105	0.00
11 t	n-Pentadecane (C15)	50.000	44.773	10.5	102	0.00
12 t	n-Hexadecane (C16)	50.000	45.234	9.5	103	0.00
14 t	n-Heptadecane (C17)	50.000	45.178	9.6	103	0.00
15 t	Pristane	50.000	45.206	9.6	103	0.00
16 t	n-Octadecane (C18)	50.000	44.386	11.2	101	0.00
17 t	Phytane	50.000	51.362	-2.7	117	0.00
18 t	n-Nonadecane (C19)	50.000	44.407	11.2	101	0.00
19 s	ortho-terphenyl	50.000	45.218	9.6	105	0.00
20 t	n-Eicosane (C20)	50.000	44.669	10.7	102	0.00
21 t	n-Heneicosane (C21)	50.000	44.788	10.4	102	0.00
22 t	n-Docosane (C22)	50.000	44.645	10.7	102	0.00
23 t	n-Tricosane (C23)	50.000	44.551	10.9	102	0.00
24 s	d50-Tetracosane	50.000	45.132	9.7	104	0.00
25 t	n-Tetracosane (C24)	50.000	44.406	11.2	101	0.00
26 t	n-Pentacosane (C25)	50.000	44.732	10.5	102	0.00
27 t	n-Hexacosane (C26)	50.000	44.656	10.7	102	0.00
28 t	n-Heptacosane (C27)	50.000	44.655	10.7	102	0.00
29 t	n-Octacosane (C28)	50.000	44.677	10.6	102	0.00
30 t	n-Nonacosane (C29)	50.000	44.807	10.4	102	0.00
31 t	n-Triacontane (C30)	50.000	44.707	10.6	102	0.00
32 t	n-Hentriacontane (C31)	50.000	44.765	10.5	102	0.00
33 t	n-Dotriacontane (C32)	50.000	43.978	12.0	100	0.00
34 t	n-Tritriacontane (C33)	50.000	44.919	10.2	102	0.00
35 t	n-tetratriacontane (C34)	50.000	45.272	9.5	103	0.00
36 t	n-Pentatriacontane (C35)	50.000	44.934	10.1	102	0.00
37 t	n-Hexatriacontane (C36)	50.000	47.068	5.9	107	0.00
38 t	n-Heptatriacontane (C37)	50.000	44.923	10.2	102	0.00
39 t	n-Octatriacontane (C38)	50.000	45.314	9.4	104	-0.01
41 t	n-Tetracontane (C40)	50.000	42.211	15.6	95	-0.02

Evaluate Continuing Calibration Report - Not Found

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.08	0.85 - 1.15

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015033.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 12:59 pm
 Operator : FID9:NL
 Sample : CQ910201501R
 Misc : ,FRAW65 50ug/mL
 ALS Vial : 67 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Oct 28 09:58:00 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Wed Oct 28 09:52:22 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-SMS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.241	72058294	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.227	69601435	45.218 ug/mL M4
Spiked Amount 50.000 Range	50 - 130	Recovery =	90.44%
24) s d50-Tetracosane	35.844	57857096	45.132 ug/mL M4
Spiked Amount 50.000 Range	50 - 130	Recovery =	90.26%
Target Compounds			
2) t n-Octane (C8)	5.658	51077279	43.894 ug/mL M4
3) t n-Nonane (C9)	7.853	54985928	44.510 ug/mL M4
4) t n-Decane (C10)	10.325	59363840	46.081 ug/mL M4
5) t n-Undecane (C11)	12.827	58496763	45.094 ug/mL M4
6) t n-Dodecane (C12)	15.245	59085341	44.984 ug/mL M4
7) t n-Tridecane (C13)	17.543	59043883	44.748 ug/mL M4
9) t n-Tetradecane (C14)	19.720	61323293	46.065 ug/mL M4
11) t n-Pentadecane (C15)	21.779	60495784	44.773 ug/mL M4
12) t n-Hexadecane (C16)	23.730	60811583	45.234 ug/mL M4
14) t n-Heptadecane (C17)	25.583	61134602	45.178 ug/mL M6
15) t Pristane	25.692	61266454	45.206 ug/mL M4
16) t n-Octadecane (C18)	27.346	60805886	44.386 ug/mL M4
17) t Phytane	27.510	61662827	51.362 ug/mL M4
18) t n-Nonadecane (C19)	29.026	60302728	44.407 ug/mL M4
20) t n-Eicosane (C20)	30.628	60439853	44.669 ug/mL M4
21) t n-Heneicosane (C21)	32.159	61013616	44.788 ug/mL M4
22) t n-Docosane (C22)	33.627	61264394	44.645 ug/mL M4
23) t n-Tricosane (C23)	35.036	61437513	44.551 ug/mL M4
25) t n-Tetracosane (C24)	36.390	61376787	44.406 ug/mL M4
26) t n-Pentacosane (C25)	37.691	61361703	44.732 ug/mL M4
27) t n-Hexacosane (C26)	38.944	62370101	44.656 ug/mL M4
28) t n-Heptacosane (C27)	40.152	61547548	44.655 ug/mL M4
29) t n-Octacosane (C28)	41.318	61574366	44.677 ug/mL M4
30) t n-Nonacosane (C29)	42.447	61762158	44.807 ug/mL M4
31) t n-Triacontane (C30)	43.537	61533290	44.707 ug/mL M4
32) t n-Hentriacontane (C31)	44.594	61489853	44.765 ug/mL M4
33) t n-Dotriacontane (C32)	45.617	60743139	43.978 ug/mL M4
34) t n-Tritriacontane (C33)	46.608	58462136	44.919 ug/mL M4
35) t n-tetratriacontane (C34)	47.606	61439086	45.272 ug/mL M4
36) t n-Pentatriacontane (C35)	48.717	61226865	44.934 ug/mL M4
37) t n-Hexatriacontane (C36)	49.986	65398286	47.068 ug/mL M4
38) t n-Heptatriacontane (C37)	51.448	60932417	44.923 ug/mL M4
39) t n-Octatriacontane (C38)	53.153	60564016	45.314 ug/mL M4
41) t n-Tetracontane (C40)	57.509	57466083	42.211 ug/mL M4

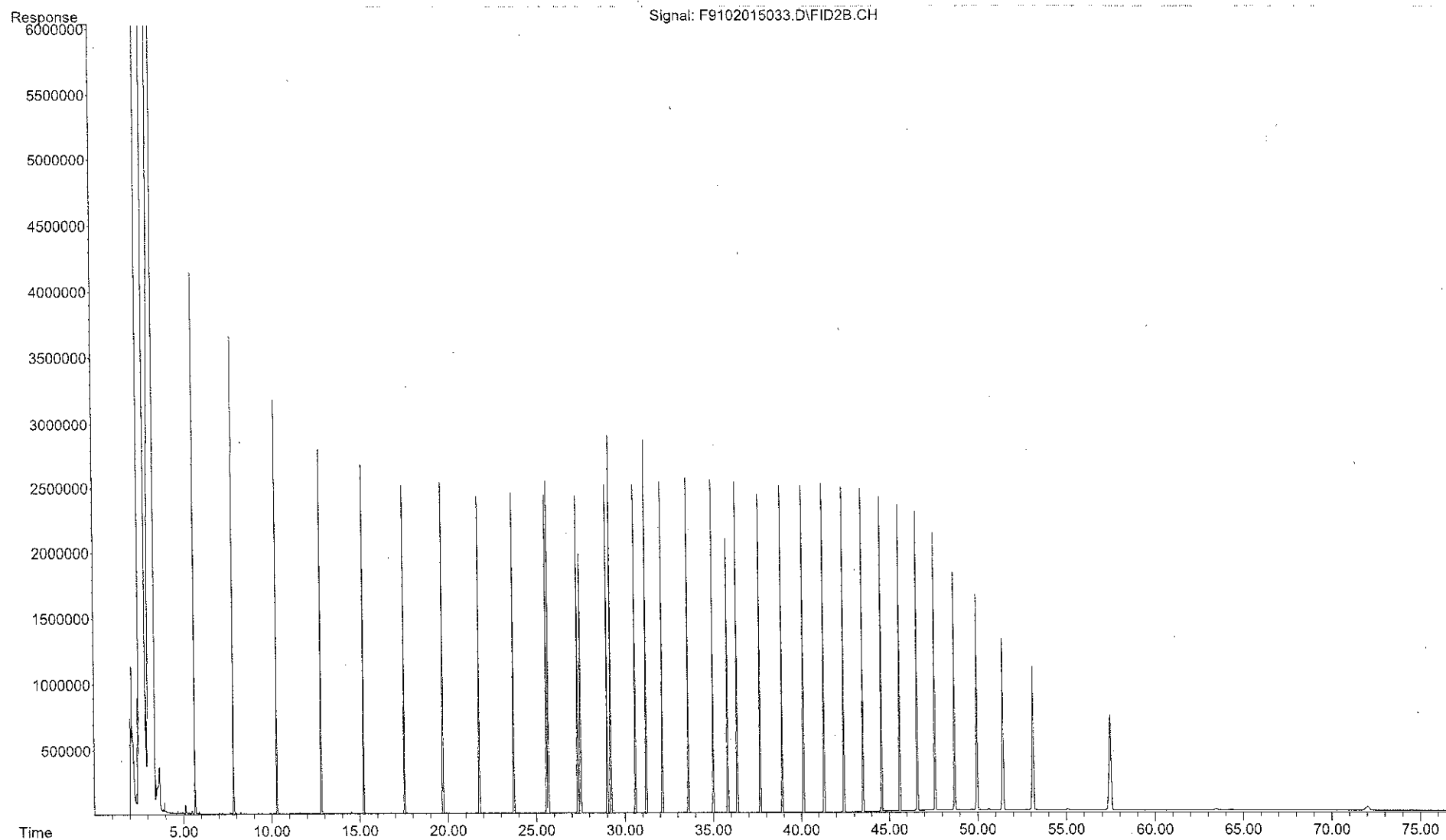
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015033.D
Operator : FID9:NL
Acquired : 21 Oct 2015 12:59 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : CQ910201501R
Misc Info : ,FRAW65 50ug/mL
ALS Vial : 67



Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
 Data File : F9102015035.D
 Signal(s) : FID2B.CH
 Acq On : 21 Oct 2015 2:27 pm
 Operator : FID9:NL
 Sample : TO102815ANC01
 Misc : 1X FRAW36 10.382 mg/mL
 ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Oct 28 10:06:15 2015
 Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Wed Oct 28 09:52:33 2015
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Blank Name : IB910201502R
 Blank File : F9102015031.D

Sub List : Default - All compounds listed

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.243	63931472	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.231	67607048	49.506 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 99.01%	
24) s d50-Tetracosane	35.850	57431253	50.494 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 100.99%	
Target Compounds			
2) t n-Octane (C8)	5.628	100822103	97.657 ug/mL M3
3) t n-Nonane (C9)	7.840	76994888	70.248 ug/mL M4
4) t n-Decane (C10)	10.322	64854232	56.743 ug/mL M4
5) t n-Undecane (C11)	12.828	58677352	50.983 ug/mL M4
6) t n-Dodecane (C12)	15.247	53744136	46.119 ug/mL M4
7) t n-Tridecane (C13)	17.547	49403602	42.202 ug/mL M4
8) t 1380	19.215	11788323	9.981 ug/mL M4
9) t n-Tetradecane (C14)	19.723	47225125	39.984 ug/mL M4
10) t 1470	21.000	16906271	14.103 ug/mL M4
11) t n-Pentadecane (C15)	21.781	54410857	45.388 ug/mL M4
12) t n-Hexadecane (C16)	23.730	43899994	36.806 ug/mL M4
13) t 1650	24.630	14957075	12.458 ug/mL M4
14) t n-Heptadecane (C17)	25.582	37183545	30.971 ug/mL M4
15) t Pristane	25.675	28688108	23.859 ug/mL M4
16) t n-Octadecane (C18)	27.342	32736926	26.934 ug/mL M4
17) t Phytane	27.498	16330415	15.332 ug/mL M4
18) t n-Nonadecane (C19)	29.022	31910850	26.486 ug/mL M4
20) t n-Eicosane (C20)	30.622	31006273	25.829 ug/mL M4
21) t n-Heneicosane (C21)	32.153	28205966	23.337 ug/mL M4
22) t n-Docosane (C22)	33.620	26647270	21.887 ug/mL M4
23) t n-Tricosane (C23)	35.027	23780808	19.437 ug/mL M4
25) t n-Tetracosane (C24)	36.379	22480503	18.332 ug/mL M4
26) t n-Pentacosane (C25)	37.680	22674680	18.631 ug/mL M4
27) t n-Hexacosane (C26)	38.931	18634876	15.038 ug/mL M4
28) t n-Heptacosane (C27)	40.137	14772575	12.080 ug/mL M4
29) t n-Octacosane (C28)	41.303	10549746	8.628 ug/mL M4
30) t n-Nonacosane (C29)	42.430	10522393	8.604 ug/mL M4
31) t n-Triacontane (C30)	43.519	8076798	6.614 ug/mL M4
32) t n-Hentriacontane (C31)	44.574	6862804	5.631 ug/mL M4
33) t n-Dotriacontane (C32)	45.598	7529122	6.144 ug/mL M4
34) t n-Tritriacontane (C33)	46.586	4022470	3.484 ug/mL M4
35) t n-tetratriacontane (C34)	47.580	4064597	3.376 ug/mL M4
36) t n-Pentatriacontane (C35)	48.686	3583212	2.964 ug/mL M4
37) t n-Hexatriacontane (C36)	49.942	2221602	1.802 ug/mL M4
38) t n-Heptatriacontane (C37)	51.401	2086360	1.734 ug/mL M4
39) t n-Octatriacontane (C38)	53.090	1883017	1.588 ug/mL M4
40) t n-Nonatriacontane (C39)	55.088	1194977	0.989 ug/mL M4
41) t n-Tetracontane (C40)	57.426	1083788	0.897 ug/mL M4
42) h C9-C44 Total Petroleu...	39.957	7713051877	6451.851 ug/mL m
42) h C9-C44 Total Petroleu BS	39.957	7411423536	6199.544 ug/mLm
44) h C10-C28 DRO	25.826	5126179322	4287.971 ug/mL m

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 2:27 pm
Operator : FID9:NL
Sample : TO102815ANC01
Misc : 1X FRAW36 10.382 mg/mL
ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 10:06:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB910201502R
Blank File : F9102015031.D

Sub List : Default - All compounds listed

	Compound	R.T.	Response	Conc Units
44) h	C10-C28 DRO BS	25.826	5093672206	4260.780 ug/mLm
45) h	Total Resolved Hydroc...	39.957	2368625132	1981.319 ug/mL m

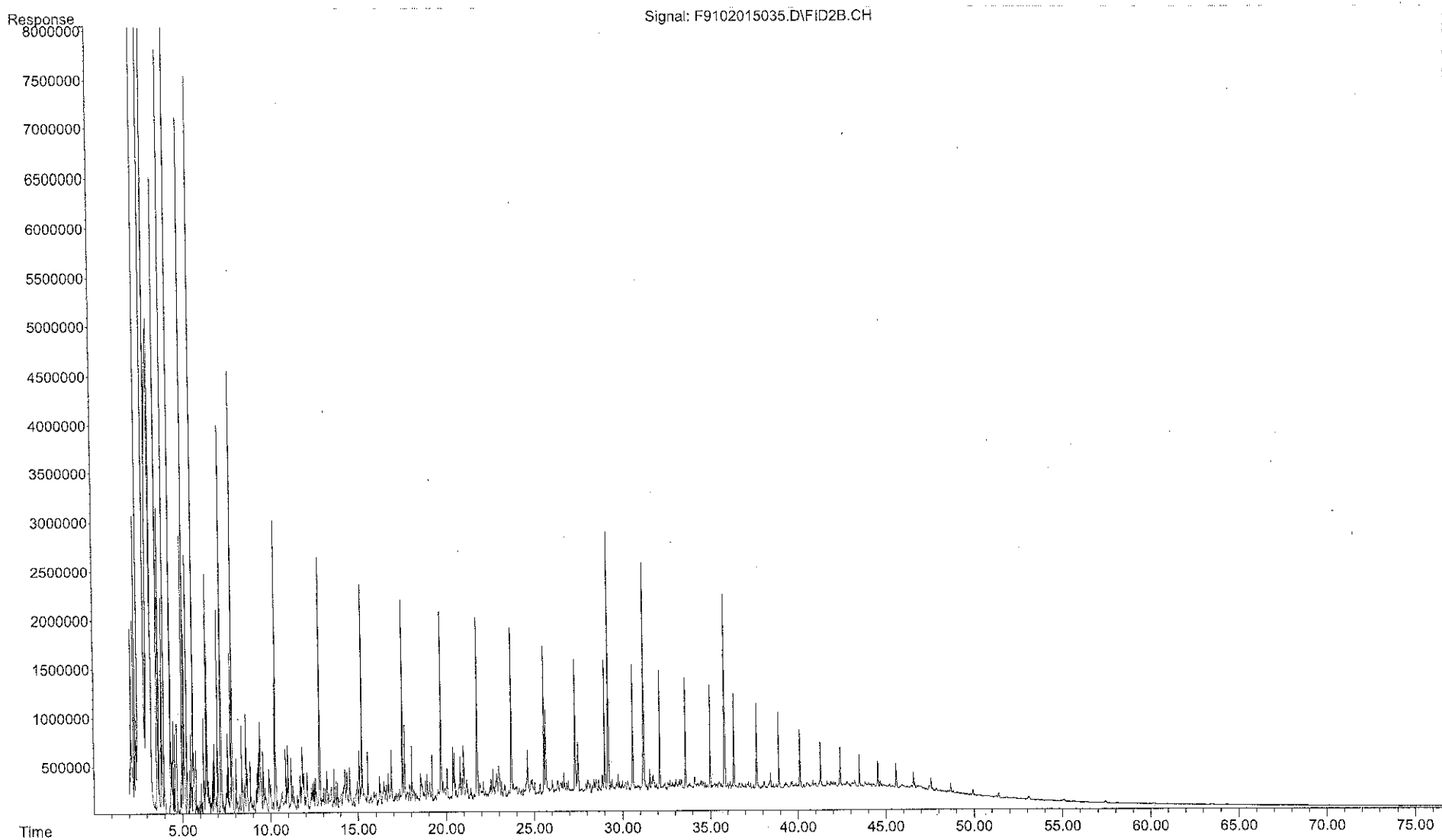
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Operator : FID9:NL
Acquired : 21 Oct 2015 2:27 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : TO102815ANC01
Misc Info : 1X FRAW36 10.382 mg/mL
ALS Vial : 68



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916005.D
 Signal(s) : FID2B.CH
 Acq On : 29 Mar 2016 2:49 pm
 Operator : FID9:DP
 Sample : C903291601R
 Misc : FRAW85 50ug/mL
 ALS Vial : 53 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:57:11 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:30:17 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-SMS
 Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 I	5-alpha-androstane	50.000	50.000	0.0	95	0.00
2 t	n-Octane (C8)	50.000	50.424	-0.8	94	0.00
3 t	n-Nonane (C9)	50.000	48.604	2.8	91	0.00
4 t	n-Decane (C10)	50.000	48.561	2.9	90	0.00
5 t	n-Undecane (C11)	50.000	49.064	1.9	91	0.00
6 t	n-Dodecane (C12)	50.000	49.319	1.4	91	0.00
7 t	n-Tridecane (C13)	50.000	49.340	1.3	91	0.00
9 t	n-Tetradecane (C14)	50.000	49.426	1.1	91	0.00
11 t	n-Pentadecane (C15)	50.000	49.886	0.2	92	0.00
12 t	n-Hexadecane (C16)	50.000	49.954	0.1	92	0.00
14 t	n-Heptadecane (C17)	50.000	49.096	1.8	91	0.00
15 t	Pristane	50.000	50.526	-1.1	93	0.00
16 t	n-Octadecane (C18)	50.000	49.887	0.2	92	0.00
17 t	Phytane	50.000	50.010	-0.0	93	0.00
18 t	n-Nonadecane (C19)	50.000	49.960	0.1	92	0.00
19 s	ortho-terphenyl	50.000	49.041	1.9	92	0.00
20 t	n-Eicosane (C20)	50.000	50.164	-0.3	93	0.00
21 t	n-Heneicosane (C21)	50.000	50.232	-0.5	93	0.00
22 t	n-Docosane (C22)	50.000	50.080	-0.2	93	0.00
23 t	n-Tricosane (C23)	50.000	50.180	-0.4	93	0.00
24 s	d50-Tetracosane	50.000	49.676	0.6	93	0.00
25 t	n-Tetracosane (C24)	50.000	50.109	-0.2	93	0.00
26 t	n-Pentacosane (C25)	50.000	50.122	-0.2	93	0.00
27 t	n-Hexacosane (C26)	50.000	50.208	-0.4	93	0.00
28 t	n-Heptacosane (C27)	50.000	50.248	-0.5	93	0.00
29 t	n-Octacosane (C28)	50.000	50.185	-0.4	93	0.00
30 t	n-Nonacosane (C29)	50.000	50.313	-0.6	93	0.00
31 t	n-Triacontane (C30)	50.000	50.532	-1.1	93	0.00
32 t	n-Hentriacontane (C31)	50.000	50.656	-1.3	93	0.00
33 t	n-Dotriacontane (C32)	50.000	50.827	-1.7	94	0.00
34 t	n-Tritriacontane (C33)	50.000	50.977	-2.0	94	0.00
35 t	n-tetratriacontane (C34)	50.000	51.208	-2.4	94	0.00
36 t	n-Pentatriacontane (C35)	50.000	51.393	-2.8	95	0.00
37 t	n-Hexatriacontane (C36)	50.000	51.958	-3.9	95	0.00
38 t	n-Heptatriacontane (C37)	50.000	52.023	-4.0	96	0.00
39 t	n-Octatriacontane (C38)	50.000	51.760	-3.5	96	0.00
41 t	n-Tetracontane (C40)	50.000	52.969	-5.9	97	0.00

Evaluate Continuing Calibration Report - Not Found

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.06	0.85 - 1.15

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916005.D
 Signal(s) : FID2B.CH
 Acq On : 29 Mar 2016 2:49 pm
 Operator : FID9:DP
 Sample : C903291601R
 Misc : FRAW85 50ug/mL
 ALS Vial : 53 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:57:11 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:30:17 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.123	58432269	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.108	61211714	49.041 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	98.08%
24) s d50-Tetracosane	35.746	51640934	49.676 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	99.35%
Target Compounds			
2) t n-Octane (C8)	5.567	47580344	50.424 ug/mL M4
3) t n-Nonane (C9)	7.748	48689285	48.604 ug/mL M4
4) t n-Decane (C10)	10.212	50728999	48.561 ug/mL M4
5) t n-Undecane (C11)	12.715	51611644	49.064 ug/mL M4
6) t n-Dodecane (C12)	15.136	52529751	49.319 ug/mL M4
7) t n-Tridecane (C13)	17.436	52792342	49.340 ug/mL M4
9) t n-Tetradecane (C14)	19.613	53354932	49.426 ug/mL M4
11) t n-Pentadecane (C15)	21.674	54658196	49.886 ug/mL M4
12) t n-Hexadecane (C16)	23.626	54457771	49.954 ug/mL M4
14) t n-Heptadecane (C17)	25.480	53873539	49.096 ug/mL M4
15) t Pristane	25.589	55527617	50.526 ug/mL M4
16) t n-Octadecane (C18)	27.243	55418191	49.887 ug/mL M4
17) t Phytane	27.403	48686686	50.010 ug/mL M4
18) t n-Nonadecane (C19)	28.924	55013831	49.960 ug/mL M4
20) t n-Eicosane (C20)	30.526	55039998	50.164 ug/mL M4
21) t n-Heneicosane (C21)	32.058	55489001	50.232 ug/mL M4
22) t n-Docosane (C22)	33.528	55728045	50.080 ug/mL M4
23) t n-Tricosane (C23)	34.937	56114722	50.180 ug/mL M4
25) t n-Tetracosane (C24)	36.293	56162529	50.109 ug/mL M4
26) t n-Pentacosane (C25)	37.594	55753814	50.122 ug/mL M4
27) t n-Hexacosane (C26)	38.848	56864150	50.208 ug/mL M4
28) t n-Heptacosane (C27)	40.057	56160631	50.248 ug/mL M4
29) t n-Octacosane (C28)	41.225	56086714	50.185 ug/mL M4
30) t n-Nonacosane (C29)	42.352	56237394	50.313 ug/mL M4
31) t n-Triacontane (C30)	43.443	56398055	50.532 ug/mL M4
32) t n-Hentriacontane (C31)	44.501	56423358	50.656 ug/mL M4
33) t n-Dotriacontane (C32)	45.526	56927743	50.827 ug/mL M4
34) t n-Tritriacontane (C33)	46.518	53800761	50.977 ug/mL M4
35) t n-tetratriacontane (C34)	47.507	56353360	51.208 ug/mL M4
36) t n-Pentatriacontane (C35)	48.605	56785877	51.393 ug/mL M4
37) t n-Hexatriacontane (C36)	49.854	58540698	51.958 ug/mL M4
38) t n-Heptatriacontane (C37)	51.294	57218948	52.023 ug/mL M4
39) t n-Octatriacontane (C38)	52.972	56096747	51.760 ug/mL M4
41) t n-Tetracontane (C40)	57.264	58476055	52.969 ug/mL M4

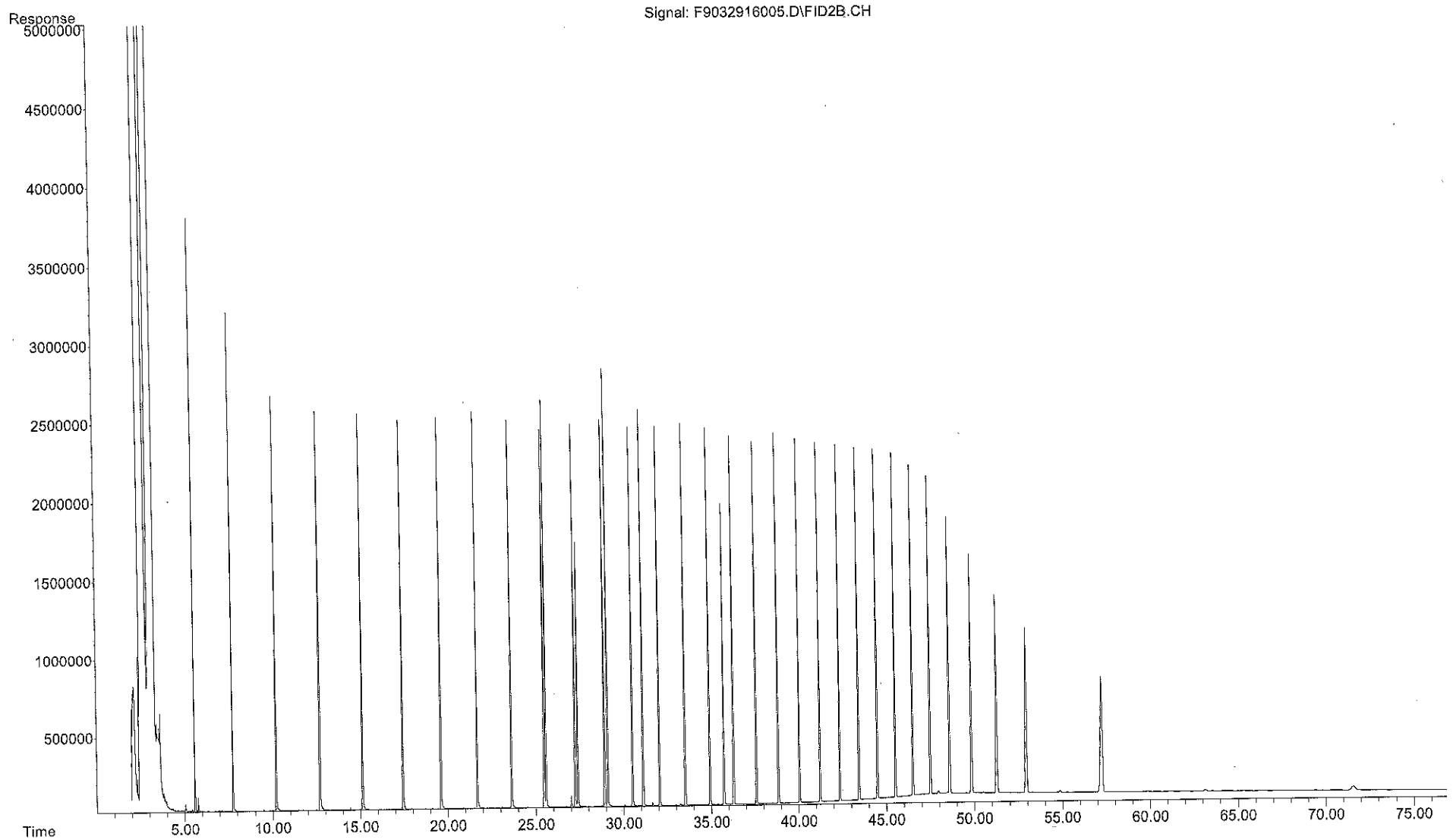
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916005.D
Operator : FID9:DP
Acquired : 29 Mar 2016 2:49 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : C903291601R
Misc Info : FRAW85 50ug/mL
ALS Vial : 53



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916027.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 6:52 am
 Operator : FID9:DP
 Sample : C903291602R
 Misc : FRAW85 50ug/mL
 ALS Vial : 64 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:32:21 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:32:10 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 I	5-alpha-androstane	50.000	50.000	0.0	92	-0.01
2 t	n-Octane (C8)	50.000	49.545	0.9	90	0.00
3 t	n-Nonane (C9)	50.000	47.998	4.0	87	0.00
4 t	n-Decane (C10)	50.000	48.036	3.9	87	0.00
5 t	n-Undecane (C11)	50.000	48.633	2.7	88	0.00
6 t	n-Dodecane (C12)	50.000	48.821	2.4	88	0.00
7 t	n-Tridecane (C13)	50.000	48.779	2.4	88	0.00
9 t	n-Tetradecane (C14)	50.000	48.834	2.3	88	0.00
11 t	n-Pentadecane (C15)	50.000	49.160	1.7	89	0.00
12 t	n-Hexadecane (C16)	50.000	49.365	1.3	89	0.00
14 t	n-Heptadecane (C17)	50.000	48.386	3.2	87	0.00
15 t	Pristane	50.000	50.186	-0.4	90	0.00
16 t	n-Octadecane (C18)	50.000	49.314	1.4	89	0.00
17 t	Phytane	50.000	49.824	0.4	90	0.00
18 t	n-Nonadecane (C19)	50.000	49.379	1.2	89	0.00
19 s	ortho-terphenyl	50.000	48.555	2.9	89	0.00
20 t	n-Eicosane (C20)	50.000	49.849	0.3	90	0.00
21 t	n-Heneicosane (C21)	50.000	49.888	0.2	90	0.00
22 t	n-Docosane (C22)	50.000	49.812	0.4	90	-0.01
23 t	n-Tricosane (C23)	50.000	49.995	0.0	90	-0.01
24 s	d50-Tetracosane	50.000	49.479	1.0	90	-0.01
25 t	n-Tetracosane (C24)	50.000	49.993	0.0	90	-0.01
26 t	n-Pentacosane (C25)	50.000	49.979	0.0	90	-0.01
27 t	n-Hexacosane (C26)	50.000	50.121	-0.2	90	-0.01
28 t	n-Heptacosane (C27)	50.000	50.250	-0.5	90	-0.01
29 t	n-Octacosane (C28)	50.000	50.031	-0.1	90	-0.01
30 t	n-Nonacosane (C29)	50.000	50.363	-0.7	90	-0.01
31 t	n-Triacontane (C30)	50.000	50.639	-1.3	91	-0.01
32 t	n-Hentriacontane (C31)	50.000	50.818	-1.6	91	-0.01
33 t	n-Dotriacontane (C32)	50.000	51.077	-2.2	92	-0.01
34 t	n-Tritriacontane (C33)	50.000	51.330	-2.7	92	-0.01
35 t	n-tetratriacontane (C34)	50.000	51.369	-2.7	92	-0.02
36 t	n-Pentatriacontane (C35)	50.000	51.666	-3.3	93	-0.02
37 t	n-Hexatriacontane (C36)	50.000	52.165	-4.3	93	-0.02
38 t	n-Heptatriacontane (C37)	50.000	52.260	-4.5	94	-0.02
39 t	n-Octatriacontane (C38)	50.000	51.998	-4.0	94	-0.03
41 t	n-Tetracontane (C40)	50.000	53.217	-6.4	95	-0.03

Evaluate Continuing Calibration Report - Not Found

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.07	0.85 - 1.15

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916027.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 6:52 am
 Operator : FID9:DP
 Sample : C903291602R
 Misc : FRAW85 50ug/mL
 ALS Vial : 64 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:32:21 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:32:10 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-SMS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.113	56881055	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.098	58996202	48.555 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 97.11%	
24) s d50-Tetracosane	35.736	50070450	49.479 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 98.96%	
Target Compounds			
2) t n-Octane (C8)	5.562	45510386	49.545 ug/mL M4
3) t n-Nonane (C9)	7.743	46806409	47.998 ug/mL M4
4) t n-Decane (C10)	10.208	48848220	48.036 ug/mL M4
5) t n-Undecane (C11)	12.709	49800127	48.633 ug/mL M4
6) t n-Dodecane (C12)	15.130	50618345	48.821 ug/mL M4
7) t n-Tridecane (C13)	17.429	50806184	48.779 ug/mL M4
9) t n-Tetradecane (C14)	19.607	51316299	48.834 ug/mL M4
11) t n-Pentadecane (C15)	21.667	52433158	49.160 ug/mL M4
12) t n-Hexadecane (C16)	23.617	52386427	49.365 ug/mL M4
14) t n-Heptadecane (C17)	25.472	51685310	48.386 ug/mL M4
15) t Pristane	25.580	53689542	50.186 ug/mL M4
16) t n-Octadecane (C18)	27.234	53327483	49.314 ug/mL M4
17) t Phytane	27.394	47217714	49.824 ug/mL M4
18) t n-Nonadecane (C19)	28.915	52931320	49.379 ug/mL M4
20) t n-Eicosane (C20)	30.516	53242543	49.849 ug/mL M4
21) t n-Heneicosane (C21)	32.049	53646911	49.888 ug/mL M4
22) t n-Docosane (C22)	33.517	53958251	49.812 ug/mL M4
23) t n-Tricosane (C23)	34.927	54423731	49.995 ug/mL M4
25) t n-Tetracosane (C24)	36.281	54544870	49.993 ug/mL M4
26) t n-Pentacosane (C25)	37.582	54118563	49.979 ug/mL M4
27) t n-Hexacosane (C26)	38.837	55259027	50.121 ug/mL M4
28) t n-Heptacosane (C27)	40.045	54672129	50.250 ug/mL M4
29) t n-Octacosane (C28)	41.213	54430537	50.031 ug/mL M4
30) t n-Nonacosane (C29)	42.340	54799081	50.363 ug/mL M4
31) t n-Triacontane (C30)	43.430	55017147	50.639 ug/mL M4
32) t n-Hentriacontane (C31)	44.488	55101188	50.818 ug/mL M4
33) t n-Dotriacontane (C32)	45.512	55688883	51.077 ug/mL M4
34) t n-Tritriacontane (C33)	46.504	52735144	51.330 ug/mL M4
35) t n-tetratriacontane (C34)	47.492	55029209	51.369 ug/mL M4
36) t n-Pentatriacontane (C35)	48.585	55572624	51.666 ug/mL M4
37) t n-Hexatriacontane (C36)	49.834	57213744	52.165 ug/mL M4
38) t n-Heptatriacontane (C37)	51.269	55954332	52.260 ug/mL M4
39) t n-Octatriacontane (C38)	52.944	54859304	51.998 ug/mL M4
41) t n-Tetracontane (C40)	57.232	57190394	53.217 ug/mL M4

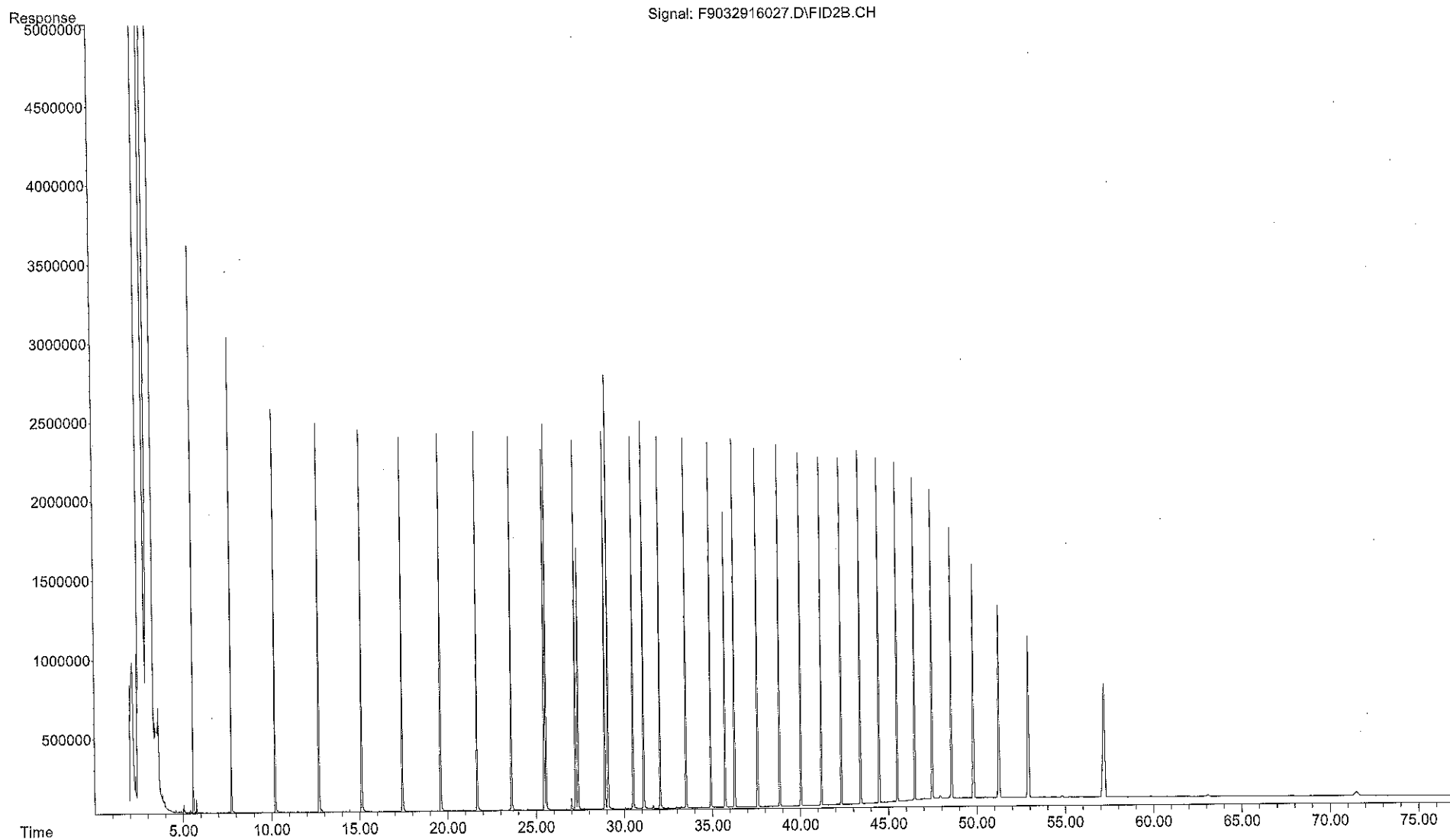
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916027.D
Operator : FID9:DP
Acquired : 30 Mar 2016 6:52 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : C903291602R
Misc Info : FRAW85 50ug/mL
ALS Vial : 64



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916049.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 10:57 pm
 Operator : FID9:DP
 Sample : C903291603R
 Misc : FRAW85 50ug/mL
 ALS Vial : 75 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:34:03 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:33:53 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 I	5-alpha-androstane	50.000	50.000	0.0	91	0.00
2 t	n-Octane (C8)	50.000	47.644	4.7	86	0.00
3 t	n-Nonane (C9)	50.000	46.694	6.6	84	0.00
4 t	n-Decane (C10)	50.000	47.184	5.6	84	0.00
5 t	n-Undecane (C11)	50.000	48.004	4.0	85	0.00
6 t	n-Dodecane (C12)	50.000	48.477	3.0	86	0.00
7 t	n-Tridecane (C13)	50.000	48.869	2.3	87	0.00
9 t	n-Tetradecane (C14)	50.000	49.128	1.7	87	0.00
11 t	n-Pentadecane (C15)	50.000	49.294	1.4	87	0.00
12 t	n-Hexadecane (C16)	50.000	49.590	0.8	88	0.00
14 t	n-Heptadecane (C17)	50.000	48.935	2.1	87	0.00
15 t	Pristane	50.000	50.482	-1.0	89	0.00
16 t	n-Octadecane (C18)	50.000	50.003	-0.0	89	0.00
17 t	Phytane	50.000	50.222	-0.4	89	0.00
18 t	n-Nonadecane (C19)	50.000	49.859	0.3	88	0.00
19 s	ortho-terphenyl	50.000	48.954	2.1	88	0.00
20 t	n-Eicosane (C20)	50.000	49.942	0.1	89	0.00
21 t	n-Heneicosane (C21)	50.000	50.184	-0.4	89	0.00
22 t	n-Docosane (C22)	50.000	50.051	-0.1	89	0.00
23 t	n-Tricosane (C23)	50.000	50.224	-0.4	89	0.00
24 s	d50-Tetracosane	50.000	49.431	1.1	89	0.00
25 t	n-Tetracosane (C24)	50.000	50.100	-0.2	89	0.00
26 t	n-Pentacosane (C25)	50.000	50.101	-0.2	89	0.00
27 t	n-Hexacosane (C26)	50.000	50.200	-0.4	89	0.00
28 t	n-Heptacosane (C27)	50.000	50.286	-0.6	89	0.00
29 t	n-Octacosane (C28)	50.000	50.076	-0.2	89	0.00
30 t	n-Nonacosane (C29)	50.000	50.163	-0.3	89	0.00
31 t	n-Triacontane (C30)	50.000	50.354	-0.7	89	0.00
32 t	n-Hentriacontane (C31)	50.000	50.448	-0.9	89	0.00
33 t	n-Dotriacontane (C32)	50.000	50.548	-1.1	89	0.00
34 t	n-Tritriacontane (C33)	50.000	50.703	-1.4	90	0.00
35 t	n-tetratriacontane (C34)	50.000	50.911	-1.8	90	0.00
36 t	n-Pentatriacontane (C35)	50.000	51.195	-2.4	91	0.00
37 t	n-Hexatriacontane (C36)	50.000	51.629	-3.3	91	0.01
38 t	n-Heptatriacontane (C37)	50.000	51.651	-3.3	91	0.01
39 t	n-Octatriacontane (C38)	50.000	51.526	-3.1	92	0.02
41 t	n-Tetracontane (C40)	50.000	52.519	-5.0	92	0.02

Evaluate Continuing Calibration Report - Not Found

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.06	0.85 - 1.15

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
 Data File : F9032916049.D
 Signal(s) : FID2B.CH
 Acq On : 30 Mar 2016 10:57 pm
 Operator : FID9:DP
 Sample : C903291603R
 Misc : FRAW85 50ug/mL
 ALS Vial : 75 Sample Multiplier: 1

Integration File: SHCINT2.E
 Quant Time: Mar 31 16:34:03 2016
 Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
 Quant Title : FID Forensics
 QLast Update : Thu Mar 31 16:33:53 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
 Signal Phase : Rtx-5MS
 Signal Info : 0.25mm

Sub List : CCAL - CCAL

Compound		R.T.	Response	Conc Units
Internal Standards				
1) I	5-alpha-androstane	31.120	56014623	50.000 ug/mL M4
System Monitoring Compounds				
19) s	ortho-terphenyl	29.103	58574849	48.954 ug/mL M4
Spiked Amount	50.000	Range 50 - 130	Recovery =	97.91%
24) s	d50-Tetracosane	35.740	49260138	49.431 ug/mL M4
Spiked Amount	50.000	Range 50 - 130	Recovery =	98.86%
Target Compounds				
2) t	n-Octane (C8)	5.556	43096788	47.644 ug/mL M4
3) t	n-Nonane (C9)	7.741	44840920	46.694 ug/mL M4
4) t	n-Decane (C10)	10.210	47250398	47.184 ug/mL M4
5) t	n-Undecane (C11)	12.712	48407423	48.004 ug/mL M4
6) t	n-Dodecane (C12)	15.133	49496480	48.477 ug/mL M4
7) t	n-Tridecane (C13)	17.433	50124474	48.869 ug/mL M4
9) t	n-Tetradecane (C14)	19.611	50839586	49.128 ug/mL M4
11) t	n-Pentadecane (C15)	21.670	51775150	49.294 ug/mL M4
12) t	n-Hexadecane (C16)	23.622	51824398	49.590 ug/mL M4
14) t	n-Heptadecane (C17)	25.476	51476058	48.935 ug/mL M4
15) t	Pristane	25.584	53184101	50.482 ug/mL M4
16) t	n-Octadecane (C18)	27.238	53249121	50.003 ug/mL M4
17) t	Phytane	27.400	46870156	50.222 ug/mL M4
18) t	n-Nonadecane (C19)	28.919	52631020	49.859 ug/mL M4
20) t	n-Eicosane (C20)	30.521	52529252	49.942 ug/mL M4
21) t	n-Heneicosane (C21)	32.055	53142513	50.184 ug/mL M4
22) t	n-Docosane (C22)	33.523	53390492	50.051 ug/mL M4
23) t	n-Tricosane (C23)	34.932	53839771	50.224 ug/mL M4
25) t	n-Tetracosane (C24)	36.287	53829261	50.100 ug/mL M4
26) t	n-Pentacosane (C25)	37.589	53424136	50.101 ug/mL M4
27) t	n-Hexacosane (C26)	38.842	54503537	50.200 ug/mL M4
28) t	n-Heptacosane (C27)	40.052	53878055	50.286 ug/mL M4
29) t	n-Octacosane (C28)	41.219	53649314	50.076 ug/mL M4
30) t	n-Nonacosane (C29)	42.345	53749958	50.163 ug/mL M4
31) t	n-Triacontane (C30)	43.440	53874383	50.354 ug/mL M4
32) t	n-Hentriacontane (C31)	44.494	53867347	50.448 ug/mL M4
33) t	n-Dotriacontane (C32)	45.520	54272471	50.548 ug/mL M4
34) t	n-Tritriacontane (C33)	46.511	51296841	50.703 ug/mL M4
35) t	n-tetratriacontane (C34)	47.501	53708437	50.911 ug/mL M4
36) t	n-Pentatriacontane (C35)	48.594	54226699	51.195 ug/mL M3
37) t	n-Hexatriacontane (C36)	49.845	55763881	51.629 ug/mL M4
38) t	n-Heptatriacontane (C37)	51.282	54459257	51.651 ug/mL M4
39) t	n-Octatriacontane (C38)	52.962	53533268	51.526 ug/mL M4
41) t	n-Tetracontane (C40)	57.253	55580397	52.519 ug/mL M4

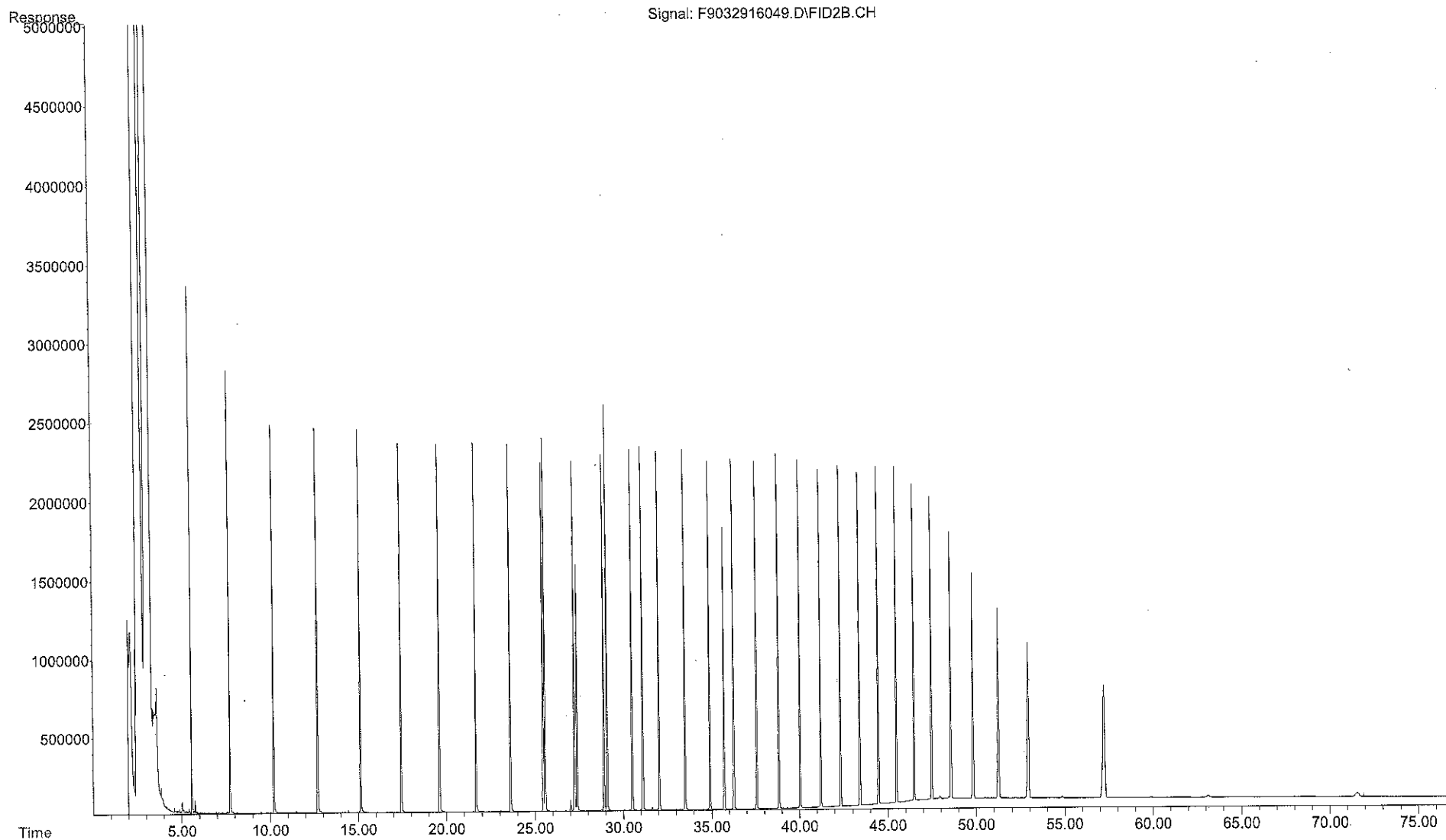
SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

(m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916049.D
Operator : FID9:DP
Acquired : 30 Mar 2016 10:57 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : C903291603R
Misc Info : FRAW85 50ug/mL
ALS Vial : 75



Chain of Custody Records



CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: 1603006

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Rochester Vacuum Oil Refining Terminal
Project Location: Rochester, NY
Project #: 0172.0180MO08
Project Manager: Matt Casey
ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEX ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

Client: Roux Associates
Address: 12 Gill St #4700
Woburn, MA 01801
Phone: 781-569-4032
Email: mcasey@rouxinc.com

Additional Project Information:

Newfields Forensic Analysis

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	EPH: ☐ RCRA5 ☐ RCRA8 ☐ PPI3	VPH: ☐ Ranges & Targets ☐ Ranges Only	PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	SAMPLE INFO	TOTAL # BOTTLES
								Filtration ☐ Field ☐ Lab to do	
								Preservation ☐ Lab to do	
								Sample Comments	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Time	Sample Matrix	Sampler Initials
1603006-01	RX-1	3.11.16	0950	SO	MC
02	RX-2	3.11.16	1030		MC
03	RX-3	3.11.16	1100		MC
04	RX-4	3.11.16	11:20		MC
05	RX-5	3.11.16	1230		MC
06	RX-6	3.11.16	110		MC
07	RX-7	3.11.16	300		MC
08	RX-7A	3.11.16	300		MC
09	RX-7B	3.11.16	300		MC
10	RX-8	3.11.16	340		MC

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-0994 of 2106-2012



CHAIN OF CUSTODY

PAGE 2 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-8300

Client Information

Client: Roux Associates

Address: 12 Gill St #4700

Woburn, MA 01801

Phone: 781-569-4032

Email: mcasey@rouxinc.com

Additional Project Information:

Newfields Forensic Analysis

Project Information

Project Name: Rochester, Vacuum Oil Terminal

Project Location: Rochester, NY

Project #: 0172-0180 M008

Project Manager: Matt Casey

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Date Rec'd in Lab:

ALPHA Job #: 1603006
41607393

Report Information - Data Deliverables

☐ ADEX ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program Criteria

ANALYSIS	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	SAMPLE INFO
									Filtration
									☐ Field
									☐ Lab to do
									Preservation
									☐ Lab to do
									Sample Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Time	Sample Matrix	Sampler Initials
1603006-11	RX-8A	3.11.16	3:40	SO	MC
↓ 12	RX-8B	3.11.16	3:40	SO	MC
41607393-01	RX GW 1	3.11.16	1200	h ₂ O	MC
↓ 02	RX GW 2	3.11.16	2:10	h ₂ O	MC
↓ 03	RX GW 3	3.11.16	4:15	h ₂ O	MC
	TRIP	3.11.16	0900	SO h ₂ O	MC

Container Type

P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative

A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

<u>Matthew Casey</u>	<u>3.14.16 1PM</u>	<u>[Signature]</u>	<u>3.14.16 1PM</u>
<u>[Signature]</u>	<u>3/14/16 1400</u>	<u>[Signature]</u>	<u>3/14/16 1410</u>
<u>[Signature]</u>	<u>3/14/16 1700</u>	<u>[Signature]</u>	<u>3/14/16 1700</u>
<u>[Signature]</u>	<u>3/15/16 03:25</u>	<u>[Signature]</u>	<u>3/15/16 03:25</u>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 Rev. 12-Mar-2012



Sample Delivery Group Form

Laboratory Job No: 1603006
Receipt Date/Time: 3-14-16 2:00pm

Client: Newfield
SDG Reviewer: kd

Samples Delivered By:

☒ Alpha Courier ☐ Client ☐ UPS ☐ FedEx ☐ Other _____
Bill of Laden: ☐ Yes ☐ Unavailable Tracking #: NA

Chain of Custody: ☒ Present ☐ Absent:

Custody Seals: ☒ Absent ☐ Present/Intact ☐ Present/Broken

Cooler/Sample Temperature:

Is Ice/Blue Ice present? ☒ Yes ☐ No ☐ N/A

Temp taken from: Temp Blank: (a) _____ (b) _____ (c) _____ (d) _____ (e) _____

IR Gun: (a) 4.6°C (b) _____ (c) _____ (d) _____ (e) _____

IR Gun SN (circle one): 090512810 100311468 146609849

Was Temp: ☒ 2-6 Celsius

☐ <2 Celsius ... were samples frozen upon receipt? ☐ Yes ☐ No

☐ >6 Celsius ... were samples delivered direct from site? ☐ Yes ☐ No

Containers Received:

☒ Intact

☐ Broken/Leaking

Sample IDs: _____

Sample IDs: _____

All Containers Accounted For? ☒ Yes

☐ No: _____

Extra Samples Received? ☒ No

☐ Yes: _____

Do Sample Labels and COC agree? ☒ Yes

☐ No: _____

Are Samples in Appropriate Containers? ☐ Yes

☒ No: RxGW2 → 500mL plastic

Are samples rec'd within holding time? ☒ Yes

☐ No: _____

* Please note: the analysis of pH will always be performed beyond the regulatory-required holding time of 15 min. from the time of collection.

pH of samples upon receipt: ☒ N/A ☐ <2 ☐ >12 and/or ☐ _____

Are samples properly preserved? ☐ Yes ☐ No If No then.....

Initial pH= _____ preserved In-House with ☐ HCL ☐ H₂SO₄ ☐ HNO₃ ☐ NaOH <<Final pH = _____>>

Other Issues: _____

Chlorine Check: ☐ N/A ☐ Present ☐ Absent

VOA/VPH vials: ☒ Yes ☐ No Preserved? ☐ Yes ☐ No

If yes: ☒ HCL, ☐ _____

Aqueous: vials contain head space? ☒ No ☐ Yes: _____

Soils: MeOH covering soil? ☒ Yes ☐ No: _____

Reagent H₂O Preserved vials Frozen @ date/time: _____

Frozen by Client? ☐ No ☐ Yes @ date/time: _____

Was Client notified of any discrepancies listed above? ☒ Yes ☐ No ☐ N/A

If Yes: Call Tracker # _____

Alpha Analytical
Mansfield, MA