



Supplemental Report 1

The original report has been revised to include the Level III deliverables package.



WORK ORDER NUMBER: 17-03-0141

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Andersen Environmental

Client Project Name: Burbank Airport / 9836002041

Attention: Brian Martasin
5261 West Imperial Highway
Los Angeles, CA 90045-6231

A handwritten signature in black ink, appearing to read "S. Nowak".

Approved for release on 04/11/2017 by:
Stephen Nowak
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Contents

Client Project Name: Burbank Airport / 9836002041
 Work Order Number: 17-03-0141

1	Work Order Narrative.	3
2	Sample Summary.	4
3	Detections Summary.	5
4	Client Sample Data.	7
	4.1 ASTM D-2216 (M) Moisture Content (Solid).	7
	4.2 EPA 8015B (M) Diesel and Motor Oil Ranges (Solid).	8
	4.3 EPA 6010B/7471A CAC Title 22 Metals (Solid).	10
	4.4 EPA 7471A Mercury (Solid).	18
	4.5 EPA 8082 PCB Aroclors (Solid).	19
	4.6 EPA 8270C SIM PAHs (Solid).	22
5	Quality Control Sample Data.	28
	5.1 MS/MSD.	28
	5.2 Sample Duplicate.	35
	5.3 LCS/LCSD.	36
6	Sample Analysis Summary.	43
7	Glossary of Terms and Qualifiers.	44
8	Chain-of-Custody/Sample Receipt Form.	45
9	Level III Data Package - Case Narrative.	60
	9.1 ASTM D-2216 (M) Moisture Content (Solid).	66
	9.2 EPA 8015 (M) Diesel and Motor Oil Ranges (Solid).	78
	9.3 EPA 6010B Title 22 Metals (Solid).	155
	9.4 EPA 7471A Mercury (Solid).	299
	9.5 EPA 8082 PCB Aroclors (Solid).	338
	9.6 EPA 8270C SIM PAHs (Solid).	420

Work Order Narrative

Work Order: 17-03-0141

Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/01/17. They were assigned to Work Order 17-03-0141.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Sample Summary

Client: Andersen Environmental	Work Order: 17-03-0141
5261 West Imperial Highway	Project Name: Burbank Airport / 9836002041
Los Angeles, CA 90045-6231	PO Number:
	Date/Time Received: 03/01/17 17:25
	Number of Containers: 36
Attn: Brian Martasin	

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
F-DU1-S-14-8	17-03-0141-1	02/22/17 14:44	1	Solid
F-DU1-S-15-8	17-03-0141-2	02/22/17 14:10	1	Solid
F-DU1-S-16-8	17-03-0141-3	02/22/17 13:26	1	Solid
F-DU1-S-17-8	17-03-0141-4	02/22/17 12:50	1	Solid
F-DU1-S-18-8	17-03-0141-5	02/22/17 11:25	1	Solid
F-DU1-S-19-8	17-03-0141-6	02/22/17 10:17	1	Solid
F-DU1-S-20-8	17-03-0141-7	02/22/17 09:12	1	Solid
F-DU1-S-01-8	17-03-0141-8	02/23/17 11:23	1	Solid
F-DU1-S-02-8	17-03-0141-9	02/23/17 13:10	1	Solid
F-DU1-S-03-8	17-03-0141-10	02/23/17 14:08	1	Solid
F-DU1-S-04-8	17-03-0141-11	02/23/17 15:13	1	Solid
F-DU1-S-11-8	17-03-0141-12	02/23/17 10:12	1	Solid
F-DU1-S-12-8	17-03-0141-13	02/23/17 08:58	1	Solid
F-DU1-S-13-8	17-03-0141-14	02/23/17 07:57	1	Solid
F-DU1-S-05-8	17-03-0141-15	02/24/17 08:30	1	Solid
F-DU1-S-06-8	17-03-0141-16	02/24/17 09:33	1	Solid
F-DU1-S-07-8	17-03-0141-17	02/24/17 10:45	1	Solid
F-DU1-S-08-8	17-03-0141-18	02/28/17 08:20	1	Solid
F-DU1-S-09-8	17-03-0141-19	02/28/17 14:47	1	Solid
F-DU1-S-10-8	17-03-0141-20	03/01/17 08:12	1	Solid
COMPOSITE	17-03-0141-21	02/22/17 00:00	1	Solid
F-DU1-ISM1-8	17-03-0141-22	02/22/17 00:00	1	Solid
F-DU1-ISM2-8	17-03-0141-23	02/22/17 00:00	1	Solid
F-DU1-ISM3-8	17-03-0141-24	02/22/17 00:00	1	Solid
F-DU1-ISM4-8	17-03-0141-25	02/22/17 00:00	1	Solid
F-DU1-ISM5-8	17-03-0141-26	02/22/17 00:00	1	Solid
F-DU1-ISM1-8	17-03-0141-27	02/22/17 00:00	1	Solid
F-DU1-ISM2-8	17-03-0141-28	02/22/17 00:00	1	Solid
F-DU1-ISM3-8	17-03-0141-29	02/22/17 00:00	1	Solid
F-DU1-ISM4-8	17-03-0141-30	02/22/17 00:00	1	Solid
F-DU1-ISM5-8	17-03-0141-31	02/22/17 00:00	1	Solid
F-DU1-ISM1-8	17-03-0141-32	02/22/17 00:00	1	Solid
F-DU1-ISM2-8	17-03-0141-33	02/22/17 00:00	1	Solid
F-DU1-ISM3-8	17-03-0141-34	02/22/17 00:00	1	Solid
F-DU1-ISM4-8	17-03-0141-35	02/22/17 00:00	1	Solid
F-DU1-ISM5-8	17-03-0141-36	02/22/17 00:00	1	Solid

Detections Summary

Client: Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Work Order: 17-03-0141
Project Name: Burbank Airport / 9836002041
Received: 03/01/17

Attn: Brian Martasin

Page 1 of 2

Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
F-DU1-ISM1-8 (17-03-0141-27)						
Moisture	6.1		0.10	%	ASTM D-2216 (M)	N/A
2-Methylnaphthalene	0.014		0.011	mg/kg	EPA 8270C SIM PAHs	EPA 3545
1-Methylnaphthalene	0.011		0.011	mg/kg	EPA 8270C SIM PAHs	EPA 3545
F-DU1-ISM2-8 (17-03-0141-28)						
Moisture	4.9		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM3-8 (17-03-0141-29)						
Moisture	4.9		0.10	%	ASTM D-2216 (M)	N/A
Mercury	0.104		0.0835	mg/kg	EPA 7471A	EPA 7471A Total
F-DU1-ISM4-8 (17-03-0141-30)						
Moisture	5.0		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM5-8 (17-03-0141-31)						
Moisture	4.7		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM1-8 (17-03-0141-32)						
Barium	90.2		0.495	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.40		0.248	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.40		0.248	mg/kg	EPA 6010B	EPA 3050B
Copper	9.93		0.495	mg/kg	EPA 6010B	EPA 3050B
Lead	2.68		0.495	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.66		0.248	mg/kg	EPA 6010B	EPA 3050B
Vanadium	20.2		0.248	mg/kg	EPA 6010B	EPA 3050B
Zinc	40.4	B	0.990	mg/kg	EPA 6010B	EPA 3050B
F-DU1-ISM2-8 (17-03-0141-33)						
Barium	85.6		0.490	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.61		0.245	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.51		0.245	mg/kg	EPA 6010B	EPA 3050B
Copper	9.63		0.490	mg/kg	EPA 6010B	EPA 3050B
Lead	2.28		0.490	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.78		0.245	mg/kg	EPA 6010B	EPA 3050B
Vanadium	20.2		0.245	mg/kg	EPA 6010B	EPA 3050B
Zinc	38.1		0.980	mg/kg	EPA 6010B	EPA 3050B

* MDL is shown

Detections Summary

Client: Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Work Order: 17-03-0141
Project Name: Burbank Airport / 9836002041
Received: 03/01/17

Attn: Brian Martasin

Page 2 of 2

Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
F-DU1-ISM3-8 (17-03-0141-34)						
Arsenic	1.43		0.735	mg/kg	EPA 6010B	EPA 3050B
Barium	80.3		0.490	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.25		0.245	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.33		0.245	mg/kg	EPA 6010B	EPA 3050B
Copper	9.14		0.490	mg/kg	EPA 6010B	EPA 3050B
Lead	2.18		0.490	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.47		0.245	mg/kg	EPA 6010B	EPA 3050B
Vanadium	19.4		0.245	mg/kg	EPA 6010B	EPA 3050B
Zinc	37.0		0.980	mg/kg	EPA 6010B	EPA 3050B
F-DU1-ISM4-8 (17-03-0141-35)						
Barium	81.5		0.488	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.92		0.244	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.20		0.244	mg/kg	EPA 6010B	EPA 3050B
Copper	9.02		0.488	mg/kg	EPA 6010B	EPA 3050B
Lead	2.19		0.488	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.35		0.244	mg/kg	EPA 6010B	EPA 3050B
Vanadium	18.7		0.244	mg/kg	EPA 6010B	EPA 3050B
Zinc	38.2		0.976	mg/kg	EPA 6010B	EPA 3050B
F-DU1-ISM5-8 (17-03-0141-36)						
Barium	77.3		0.485	mg/kg	EPA 6010B	EPA 3050B
Chromium	6.52		0.243	mg/kg	EPA 6010B	EPA 3050B
Cobalt	5.80		0.243	mg/kg	EPA 6010B	EPA 3050B
Copper	8.33		0.485	mg/kg	EPA 6010B	EPA 3050B
Lead	2.05		0.485	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.03		0.243	mg/kg	EPA 6010B	EPA 3050B
Vanadium	17.2		0.243	mg/kg	EPA 6010B	EPA 3050B
Zinc	36.6		0.971	mg/kg	EPA 6010B	EPA 3050B

Subcontracted analyses, if any, are not included in this summary.

* MDL is shown

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Project: Burbank Airport / 9836002041

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-8	17-03-0141-27-A	02/22/17 00:00	Solid	N/A	03/03/17	03/03/17 18:00	H0303MOIB1
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Moisture		6.1		0.10		1.00	
F-DU1-ISM2-8	17-03-0141-28-A	02/22/17 00:00	Solid	N/A	03/03/17	03/03/17 18:00	H0303MOIB1
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Moisture		4.9		0.10		1.00	
F-DU1-ISM3-8	17-03-0141-29-A	02/22/17 00:00	Solid	N/A	03/03/17	03/03/17 18:00	H0303MOIB1
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Moisture		4.9		0.10		1.00	
F-DU1-ISM4-8	17-03-0141-30-A	02/22/17 00:00	Solid	N/A	03/03/17	03/03/17 18:00	H0303MOIB1
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Moisture		5.0		0.10		1.00	
F-DU1-ISM5-8	17-03-0141-31-A	02/22/17 00:00	Solid	N/A	03/03/17	03/03/17 18:00	H0303MOIB1
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Moisture		4.7		0.10		1.00	
Method Blank	099-05-014-6722	N/A	Solid	N/A	03/03/17	03/03/17 18:00	H0303MOIB1
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Moisture		ND		0.10		1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-8	17-03-0141-27-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 15:22	170307B07A

Comment(s):
- Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	5.3	1.00	
TPH as Motor Oil	ND	5.3	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
n-Octacosane	91	61-145		

F-DU1-ISM2-8	17-03-0141-28-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 15:43	170307B07A

Comment(s):
- Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	5.3	1.00	
TPH as Motor Oil	ND	5.3	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
n-Octacosane	94	61-145		

F-DU1-ISM3-8	17-03-0141-29-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 16:23	170307B07A

Comment(s):
- Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	5.2	1.00	
TPH as Motor Oil	ND	5.2	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
n-Octacosane	95	61-145		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM4-8	17-03-0141-30-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 16:44	170307B07A

Comment(s):
- Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	5.3	1.00	
TPH as Motor Oil	ND	5.3	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	90	61-145	

F-DU1-ISM5-8	17-03-0141-31-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 17:05	170307B07A

Comment(s):
- Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	5.2	1.00	
TPH as Motor Oil	ND	5.2	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	92	61-145	

Method Blank	099-14-353-5	N/A	Solid	GC 49	03/07/17	03/08/17 10:52	170307B07A

Comment(s):
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	5.0	1.00	
TPH as Motor Oil	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 1 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-8	17-03-0141-32-A	02/22/17 00:00	Solid	ICP 7300	03/14/17	03/15/17 11:47	170314L03

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.743	0.990	
Arsenic	ND	0.743	0.990	
Barium	90.2	0.495	0.990	
Beryllium	ND	0.248	0.990	
Cadmium	ND	0.495	0.990	
Chromium	7.40	0.248	0.990	
Cobalt	6.40	0.248	0.990	
Copper	9.93	0.495	0.990	
Lead	2.68	0.495	0.990	
Molybdenum	ND	0.248	0.990	
Nickel	5.66	0.248	0.990	
Selenium	ND	0.743	0.990	
Silver	ND	0.248	0.990	
Thallium	ND	0.743	0.990	
Vanadium	20.2	0.248	0.990	
Zinc	40.4	0.990	0.990	B

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 2 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM2-8	17-03-0141-33-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/14/17 12:30	170313L04

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.735	0.980	
Arsenic	ND	0.735	0.980	
Barium	85.6	0.490	0.980	
Beryllium	ND	0.245	0.980	
Cadmium	ND	0.490	0.980	
Chromium	7.61	0.245	0.980	
Cobalt	6.51	0.245	0.980	
Copper	9.63	0.490	0.980	
Molybdenum	ND	0.245	0.980	
Nickel	5.78	0.245	0.980	
Selenium	ND	0.735	0.980	
Silver	ND	0.245	0.980	
Thallium	ND	0.735	0.980	
Vanadium	20.2	0.245	0.980	
Zinc	38.1	0.980	0.980	

F-DU1-ISM2-8	17-03-0141-33-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/15/17 16:06	170313L04
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>		
Lead		2.28	0.490	0.980			

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 3 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM3-8	17-03-0141-34-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/14/17 12:30	170313L04

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.735	0.980	
Arsenic	1.43	0.735	0.980	
Barium	80.3	0.490	0.980	
Beryllium	ND	0.245	0.980	
Cadmium	ND	0.490	0.980	
Chromium	7.25	0.245	0.980	
Cobalt	6.33	0.245	0.980	
Copper	9.14	0.490	0.980	
Molybdenum	ND	0.245	0.980	
Nickel	5.47	0.245	0.980	
Selenium	ND	0.735	0.980	
Silver	ND	0.245	0.980	
Thallium	ND	0.735	0.980	
Vanadium	19.4	0.245	0.980	
Zinc	37.0	0.980	0.980	

F-DU1-ISM3-8	17-03-0141-34-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/15/17 16:07	170313L04
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>		
Lead		2.18	0.490	0.980			

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 4 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM4-8	17-03-0141-35-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/14/17 12:31	170313L04

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.732	0.976	
Arsenic	ND	0.732	0.976	
Barium	81.5	0.488	0.976	
Beryllium	ND	0.244	0.976	
Cadmium	ND	0.488	0.976	
Chromium	6.92	0.244	0.976	
Cobalt	6.20	0.244	0.976	
Copper	9.02	0.488	0.976	
Molybdenum	ND	0.244	0.976	
Nickel	5.35	0.244	0.976	
Selenium	ND	0.732	0.976	
Silver	ND	0.244	0.976	
Thallium	ND	0.732	0.976	
Vanadium	18.7	0.244	0.976	
Zinc	38.2	0.976	0.976	

F-DU1-ISM4-8	17-03-0141-35-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/15/17 16:08	170313L04

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Lead	2.19	0.488	0.976	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: Burbank Airport / 9836002041

Page 5 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM5-8	17-03-0141-36-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/14/17 12:32	170313L05

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.728	0.971	
Arsenic	ND	0.728	0.971	
Barium	77.3	0.485	0.971	
Beryllium	ND	0.243	0.971	
Cadmium	ND	0.485	0.971	
Chromium	6.52	0.243	0.971	
Cobalt	5.80	0.243	0.971	
Copper	8.33	0.485	0.971	
Molybdenum	ND	0.243	0.971	
Nickel	5.03	0.243	0.971	
Selenium	ND	0.728	0.971	
Silver	ND	0.243	0.971	
Thallium	ND	0.728	0.971	
Vanadium	17.2	0.243	0.971	
Zinc	36.6	0.971	0.971	

F-DU1-ISM5-8	17-03-0141-36-A	02/22/17 00:00	Solid	ICP 7300	03/13/17	03/15/17 16:09	170313L05
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>		
Lead		2.05	0.485	0.971			

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: Burbank Airport / 9836002041

Page 6 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-002-24435	N/A	Solid	ICP 7300	03/13/17	03/14/17 12:01	170313L04

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.725	0.966	
Arsenic	ND	0.725	0.966	
Barium	ND	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	ND	0.242	0.966	
Cobalt	ND	0.242	0.966	
Copper	ND	0.483	0.966	
Lead	ND	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	ND	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	ND	0.242	0.966	
Zinc	ND	0.966	0.966	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 7 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-002-24434	N/A	Solid	ICP 7300	03/13/17	03/14/17 12:02	170313L05

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.721	0.962	
Arsenic	ND	0.721	0.962	
Barium	ND	0.481	0.962	
Beryllium	ND	0.240	0.962	
Cadmium	ND	0.481	0.962	
Chromium	ND	0.240	0.962	
Cobalt	ND	0.240	0.962	
Copper	ND	0.481	0.962	
Lead	ND	0.481	0.962	
Molybdenum	ND	0.240	0.962	
Nickel	ND	0.240	0.962	
Selenium	ND	0.721	0.962	
Silver	ND	0.240	0.962	
Thallium	ND	0.721	0.962	
Vanadium	ND	0.240	0.962	
Zinc	ND	0.962	0.962	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 8 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-002-24438	N/A	Solid	ICP 7300	03/14/17	03/15/17 11:22	170314L03

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.725	0.966	
Arsenic	ND	0.725	0.966	
Barium	ND	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	ND	0.242	0.966	
Cobalt	ND	0.242	0.966	
Copper	ND	0.483	0.966	
Lead	ND	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	ND	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	ND	0.242	0.966	
Zinc	1.38	0.966	0.966	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 7471A Total
 Method: EPA 7471A
 Units: mg/kg

Project: Burbank Airport / 9836002041

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-8	17-03-0141-27-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:26	170308L03

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	ND	0.0859	1.00	

F-DU1-ISM2-8	17-03-0141-28-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:28	170308L03

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	ND	0.0862	1.00	

F-DU1-ISM3-8	17-03-0141-29-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:35	170308L03

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	0.104	0.0835	1.00	

F-DU1-ISM4-8	17-03-0141-30-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:37	170308L03

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	ND	0.0877	1.00	

F-DU1-ISM5-8	17-03-0141-31-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:40	170308L03

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	ND	0.0846	1.00	

Method Blank	099-16-272-2864	N/A	Solid	Mercury 08	03/08/17	03/08/17 15:33	170308L03

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Mercury	ND	0.0833	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Burbank Airport / 9836002041

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-8	17-03-0141-32-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 11:40	170308L12

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	85	24-168	
2,4,5,6-Tetrachloro-m-Xylene	61	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM2-8	17-03-0141-33-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 11:58	170308L12

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	78	24-168	
2,4,5,6-Tetrachloro-m-Xylene	59	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Burbank Airport / 9836002041

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM3-8	17-03-0141-34-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 12:16	170308L12

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	76	24-168	
2,4,5,6-Tetrachloro-m-Xylene	57	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM4-8	17-03-0141-35-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 12:34	170308L12

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	88	24-168	
2,4,5,6-Tetrachloro-m-Xylene	65	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 3545
 Method: EPA 8082
 Units: ug/kg

Project: Burbank Airport / 9836002041

Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM5-8	17-03-0141-36-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 12:52	170308L12

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	80	24-168	
2,4,5,6-Tetrachloro-m-Xylene	64	25-145	

Method Blank	099-12-535-4086	N/A	Solid	GC 66	03/08/17	03/13/17 10:47	170308L12

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	81	24-168	
2,4,5,6-Tetrachloro-m-Xylene	77	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

Page 1 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-8	17-03-0141-27-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 13:29	170308L11

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Naphthalene	ND	0.011	1.00	
2-Methylnaphthalene	0.014	0.011	1.00	
1-Methylnaphthalene	0.011	0.011	1.00	
Acenaphthylene	ND	0.011	1.00	
Acenaphthene	ND	0.011	1.00	
Fluorene	ND	0.011	1.00	
Phenanthrene	ND	0.011	1.00	
Anthracene	ND	0.011	1.00	
Fluoranthene	ND	0.011	1.00	
Pyrene	ND	0.011	1.00	
Benzo (a) Anthracene	ND	0.011	1.00	
Chrysene	ND	0.011	1.00	
Benzo (k) Fluoranthene	ND	0.011	1.00	
Benzo (b) Fluoranthene	ND	0.011	1.00	
Benzo (a) Pyrene	ND	0.011	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	0.011	1.00	
Dibenz (a,h) Anthracene	ND	0.011	1.00	
Benzo (g,h,i) Perylene	ND	0.011	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	82	13-127	
Nitrobenzene-d5	93	17-137	
p-Terphenyl-d14	115	4-160	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

Page 2 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM2-8	17-03-0141-28-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 13:49	170308L11

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Naphthalene	ND	0.010	1.00	
2-Methylnaphthalene	ND	0.010	1.00	
1-Methylnaphthalene	ND	0.010	1.00	
Acenaphthylene	ND	0.010	1.00	
Acenaphthene	ND	0.010	1.00	
Fluorene	ND	0.010	1.00	
Phenanthrene	ND	0.010	1.00	
Anthracene	ND	0.010	1.00	
Fluoranthene	ND	0.010	1.00	
Pyrene	ND	0.010	1.00	
Benzo (a) Anthracene	ND	0.010	1.00	
Chrysene	ND	0.010	1.00	
Benzo (k) Fluoranthene	ND	0.010	1.00	
Benzo (b) Fluoranthene	ND	0.010	1.00	
Benzo (a) Pyrene	ND	0.010	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	0.010	1.00	
Dibenz (a,h) Anthracene	ND	0.010	1.00	
Benzo (g,h,i) Perylene	ND	0.010	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	74	13-127	
Nitrobenzene-d5	79	17-137	
p-Terphenyl-d14	116	4-160	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 3 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM3-8	17-03-0141-29-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 14:09	170308L11

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Naphthalene	ND	0.011	1.00	
2-Methylnaphthalene	ND	0.011	1.00	
1-Methylnaphthalene	ND	0.011	1.00	
Acenaphthylene	ND	0.011	1.00	
Acenaphthene	ND	0.011	1.00	
Fluorene	ND	0.011	1.00	
Phenanthrene	ND	0.011	1.00	
Anthracene	ND	0.011	1.00	
Fluoranthene	ND	0.011	1.00	
Pyrene	ND	0.011	1.00	
Benzo (a) Anthracene	ND	0.011	1.00	
Chrysene	ND	0.011	1.00	
Benzo (k) Fluoranthene	ND	0.011	1.00	
Benzo (b) Fluoranthene	ND	0.011	1.00	
Benzo (a) Pyrene	ND	0.011	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	0.011	1.00	
Dibenz (a,h) Anthracene	ND	0.011	1.00	
Benzo (g,h,i) Perylene	ND	0.011	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	67	13-127	
Nitrobenzene-d5	72	17-137	
p-Terphenyl-d14	113	4-160	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

Page 4 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM4-8	17-03-0141-30-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 14:29	170308L11

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Naphthalene	ND	0.011	1.00	
2-Methylnaphthalene	ND	0.011	1.00	
1-Methylnaphthalene	ND	0.011	1.00	
Acenaphthylene	ND	0.011	1.00	
Acenaphthene	ND	0.011	1.00	
Fluorene	ND	0.011	1.00	
Phenanthrene	ND	0.011	1.00	
Anthracene	ND	0.011	1.00	
Fluoranthene	ND	0.011	1.00	
Pyrene	ND	0.011	1.00	
Benzo (a) Anthracene	ND	0.011	1.00	
Chrysene	ND	0.011	1.00	
Benzo (k) Fluoranthene	ND	0.011	1.00	
Benzo (b) Fluoranthene	ND	0.011	1.00	
Benzo (a) Pyrene	ND	0.011	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	0.011	1.00	
Dibenz (a,h) Anthracene	ND	0.011	1.00	
Benzo (g,h,i) Perylene	ND	0.011	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	71	13-127	
Nitrobenzene-d5	73	17-137	
p-Terphenyl-d14	112	4-160	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
 5261 West Imperial Highway
 Los Angeles, CA 90045-6231

Date Received: 03/01/17
 Work Order: 17-03-0141
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

Page 5 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM5-8	17-03-0141-31-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 14:50	170308L11

Comment(s): - Results are reported on a dry weight basis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Naphthalene	ND	0.010	1.00	
2-Methylnaphthalene	ND	0.010	1.00	
1-Methylnaphthalene	ND	0.010	1.00	
Acenaphthylene	ND	0.010	1.00	
Acenaphthene	ND	0.010	1.00	
Fluorene	ND	0.010	1.00	
Phenanthrene	ND	0.010	1.00	
Anthracene	ND	0.010	1.00	
Fluoranthene	ND	0.010	1.00	
Pyrene	ND	0.010	1.00	
Benzo (a) Anthracene	ND	0.010	1.00	
Chrysene	ND	0.010	1.00	
Benzo (k) Fluoranthene	ND	0.010	1.00	
Benzo (b) Fluoranthene	ND	0.010	1.00	
Benzo (a) Pyrene	ND	0.010	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	0.010	1.00	
Dibenz (a,h) Anthracene	ND	0.010	1.00	
Benzo (g,h,i) Perylene	ND	0.010	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	65	13-127	
Nitrobenzene-d5	72	17-137	
p-Terphenyl-d14	105	4-160	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041

Page 6 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-14-035-379	N/A	Solid	GC/MS EEE	03/08/17	03/09/17 10:27	170308L11

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	0.010	1.00	
2-Methylnaphthalene	ND	0.010	1.00	
1-Methylnaphthalene	ND	0.010	1.00	
Acenaphthylene	ND	0.010	1.00	
Acenaphthene	ND	0.010	1.00	
Fluorene	ND	0.010	1.00	
Phenanthrene	ND	0.010	1.00	
Anthracene	ND	0.010	1.00	
Fluoranthene	ND	0.010	1.00	
Pyrene	ND	0.010	1.00	
Benzo (a) Anthracene	ND	0.010	1.00	
Chrysene	ND	0.010	1.00	
Benzo (k) Fluoranthene	ND	0.010	1.00	
Benzo (b) Fluoranthene	ND	0.010	1.00	
Benzo (a) Pyrene	ND	0.010	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	0.010	1.00	
Dibenz (a,h) Anthracene	ND	0.010	1.00	
Benzo (g,h,i) Perylene	ND	0.010	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	58	13-127	
Nitrobenzene-d5	62	17-137	
p-Terphenyl-d14	79	4-160	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Quality Control - Spike/Spike Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: Burbank Airport / 9836002041

Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0433-3	Sample	Solid	GC 49	03/07/17	03/08/17 19:09	170307S07
17-03-0433-3	Matrix Spike	Solid	GC 49	03/07/17	03/08/17 11:34	170307S07
17-03-0433-3	Matrix Spike Duplicate	Solid	GC 49	03/07/17	03/08/17 11:55	170307S07

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	361.8	90	359.2	90	64-130	1	0-15	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

Page 2 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0822-1	Sample	Solid	ICP 7300	03/13/17	03/14/17 12:20	170313S04
17-03-0822-1	Matrix Spike	Solid	ICP 7300	03/13/17	03/14/17 12:21	170313S04
17-03-0822-1	Matrix Spike Duplicate	Solid	ICP 7300	03/13/17	03/14/17 12:22	170313S04

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	30.97	124	31.44	126	50-115	1	0-20	3
Arsenic	ND	25.00	32.86	131	33.03	132	75-125	1	0-20	3
Barium	1.333	25.00	30.89	118	30.21	115	75-125	2	0-20	
Beryllium	ND	25.00	29.17	117	29.17	117	75-125	0	0-20	
Cadmium	ND	25.00	31.68	127	32.00	128	75-125	1	0-20	3
Chromium	4.679	25.00	34.05	117	34.11	118	75-125	0	0-20	
Cobalt	ND	25.00	28.46	114	28.92	116	75-125	2	0-20	
Copper	4.090	25.00	36.91	131	34.00	120	75-125	8	0-20	3
Lead	5.780	25.00	39.27	134	35.51	119	75-125	10	0-20	3
Molybdenum	0.2789	25.00	28.72	114	29.06	115	75-125	1	0-20	
Nickel	2.027	25.00	31.52	118	31.15	116	75-125	1	0-20	
Selenium	0.8555	25.00	34.50	135	33.67	131	75-125	2	0-20	3
Silver	ND	12.50	16.09	129	16.48	132	75-125	2	0-20	3
Thallium	ND	25.00	25.93	104	26.10	104	75-125	1	0-20	
Vanadium	ND	25.00	29.16	117	29.22	117	75-125	0	0-20	
Zinc	62.95	25.00	109.7	187	97.79	139	75-125	11	0-20	3

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0797-1	Sample	Solid	ICP 7300	03/13/17	03/14/17 12:23	170313S05
17-03-0797-1	Matrix Spike	Solid	ICP 7300	03/13/17	03/14/17 12:24	170313S05
17-03-0797-1	Matrix Spike Duplicate	Solid	ICP 7300	03/13/17	03/14/17 12:25	170313S05

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	11.01	44	11.28	45	50-115	2	0-20	3
Arsenic	1.335	25.00	26.99	103	27.60	105	75-125	2	0-20	
Barium	34.28	25.00	57.81	94	53.74	78	75-125	7	0-20	
Beryllium	ND	25.00	25.80	103	25.81	103	75-125	0	0-20	
Cadmium	ND	25.00	25.48	102	25.45	102	75-125	0	0-20	
Chromium	2.276	25.00	27.65	102	27.58	101	75-125	0	0-20	
Cobalt	6.642	25.00	31.55	100	30.88	97	75-125	2	0-20	
Copper	8.639	25.00	30.82	89	29.53	84	75-125	4	0-20	
Lead	1.948	25.00	29.26	109	28.60	107	75-125	2	0-20	
Molybdenum	0.2961	25.00	24.58	97	24.57	97	75-125	0	0-20	
Nickel	2.551	25.00	26.89	97	26.54	96	75-125	1	0-20	
Selenium	ND	25.00	25.84	103	25.54	102	75-125	1	0-20	
Silver	ND	12.50	12.18	97	12.31	98	75-125	1	0-20	
Thallium	ND	25.00	22.86	91	23.77	95	75-125	4	0-20	
Vanadium	27.38	25.00	53.60	105	50.23	91	75-125	6	0-20	
Zinc	59.63	25.00	83.61	96	90.44	123	75-125	8	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0784-1	Sample	Solid	ICP 7300	03/14/17	03/15/17 11:40	170314S03
17-03-0784-1	Matrix Spike	Solid	ICP 7300	03/14/17	03/15/17 11:41	170314S03
17-03-0784-1	Matrix Spike Duplicate	Solid	ICP 7300	03/14/17	03/15/17 11:42	170314S03

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	21.02	84	21.94	88	50-115	4	0-20	
Arsenic	2.807	25.00	26.42	94	27.46	99	75-125	4	0-20	
Barium	76.44	25.00	104.5	112	101.2	99	75-125	3	0-20	
Beryllium	ND	25.00	24.52	98	24.83	99	75-125	1	0-20	
Cadmium	ND	25.00	24.99	100	25.22	101	75-125	1	0-20	
Chromium	2.205	25.00	27.42	101	27.98	103	75-125	2	0-20	
Cobalt	ND	25.00	25.60	102	26.55	106	75-125	4	0-20	
Copper	20.14	25.00	47.19	108	46.41	105	75-125	2	0-20	
Lead	1.072	25.00	26.04	100	26.96	104	75-125	3	0-20	
Molybdenum	0.8341	25.00	24.86	96	25.92	100	75-125	4	0-20	
Nickel	1.247	25.00	26.16	100	27.20	104	75-125	4	0-20	
Selenium	ND	25.00	24.31	97	25.52	102	75-125	5	0-20	
Silver	0.2843	12.50	12.32	96	12.66	99	75-125	3	0-20	
Thallium	ND	25.00	24.53	98	25.36	101	75-125	3	0-20	
Vanadium	4.559	25.00	29.20	99	29.19	99	75-125	0	0-20	
Zinc	97.54	25.00	126.9	118	121.5	96	75-125	4	0-20	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 7471A Total
Method: EPA 7471A

Project: Burbank Airport / 9836002041

Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
17-03-0335-3	Sample	Solid	Mercury 08	03/08/17	03/08/17 15:43	170308S03				
17-03-0335-3	Matrix Spike	Solid	Mercury 08	03/08/17	03/08/17 15:45	170308S03				
17-03-0335-3	Matrix Spike Duplicate	Solid	Mercury 08	03/08/17	03/08/17 15:48	170308S03				
<u>Parameter</u>	<u>Sample Conc.</u>	<u>Spike Added</u>	<u>MS Conc.</u>	<u>MS %Rec.</u>	<u>MSD Conc.</u>	<u>MSD %Rec.</u>	<u>%Rec. CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Mercury	ND	0.8350	0.7637	91	0.6569	79	71-137	15	0-14	4

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8082

Project: Burbank Airport / 9836002041

Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
F-DU1-ISM1-8	Sample	Solid	GC 66	03/08/17	03/13/17 11:40	170308S12
F-DU1-ISM1-8	Matrix Spike	Solid	GC 66	03/08/17	03/13/17 11:05	170308S12
F-DU1-ISM1-8	Matrix Spike Duplicate	Solid	GC 66	03/08/17	03/13/17 11:22	170308S12

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	54.00	54	80.50	80	50-135	39	0-20	4
Aroclor-1260	ND	100.0	60.50	60	92.50	92	50-135	42	0-20	4

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs

Project: Burbank Airport / 9836002041

Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0140-31	Sample	Solid	GC/MS EEE	03/08/17	03/09/17 13:09	170308S11
17-03-0140-31	Matrix Spike	Solid	GC/MS EEE	03/08/17	03/09/17 11:07	170308S11
17-03-0140-31	Matrix Spike Duplicate	Solid	GC/MS EEE	03/08/17	03/09/17 11:28	170308S11

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	ND	0.1000	0.07278	73	0.07507	75	20-150	3	0-33	
2-Methylnaphthalene	ND	0.1000	0.09103	91	0.09470	95	29-137	4	0-31	
1-Methylnaphthalene	ND	0.1000	0.07945	79	0.08269	83	34-136	4	0-29	
Acenaphthylene	ND	0.1000	0.06907	69	0.07181	72	29-131	4	0-32	
Acenaphthene	ND	0.1000	0.07079	71	0.07414	74	29-137	5	0-28	
Fluorene	ND	0.1000	0.07283	73	0.07509	75	36-132	3	0-27	
Phenanthrene	ND	0.1000	0.08281	83	0.08364	84	20-144	1	0-27	
Anthracene	ND	0.1000	0.08557	86	0.08869	89	26-134	4	0-27	
Fluoranthene	ND	0.1000	0.08997	90	0.09122	91	20-151	1	0-26	
Pyrene	ND	0.1000	0.09597	96	0.1003	100	20-150	4	0-32	
Benzo (a) Anthracene	ND	0.1000	0.08458	85	0.08454	85	24-150	0	0-24	
Chrysene	ND	0.1000	0.08915	89	0.08894	89	25-145	0	0-28	
Benzo (k) Fluoranthene	ND	0.1000	0.09119	91	0.08571	86	28-148	6	0-26	
Benzo (b) Fluoranthene	ND	0.1000	0.08771	88	0.08449	84	21-153	4	0-26	
Benzo (a) Pyrene	ND	0.1000	0.08871	89	0.08910	89	29-149	0	0-22	
Indeno (1,2,3-c,d) Pyrene	ND	0.1000	0.08466	85	0.09054	91	20-154	7	0-25	
Dibenz (a,h) Anthracene	ND	0.1000	0.08723	87	0.09351	94	20-132	7	0-26	
Benzo (g,h,i) Perylene	ND	0.1000	0.09663	97	0.1005	100	20-148	4	0-27	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Sample Duplicate

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: N/A
Method: ASTM D-2216 (M)

Project: Burbank Airport / 9836002041

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
17-03-0140-27	Sample	Solid	N/A	03/03/17 00:00	03/03/17 18:00	H0303MOID1
17-03-0140-27	Sample Duplicate	Solid	N/A	03/03/17 00:00	03/03/17 18:00	H0303MOID1

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Moisture	3.900	4.100	5	0-10	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

Quality Control - LCS

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: Burbank Airport / 9836002041

Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-353-5	LCS	Solid	GC 49	03/07/17	03/08/17 11:12	170307B07A

<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
TPH as Diesel	400.0	377.9	94	61-145	

Quality Control - LCS

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

Page 2 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-24435	LCS	Solid	ICP 7300	03/13/17	03/14/17 12:02	170313L04
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	21.51	86	80-120	73-127	
Arsenic	25.00	22.64	91	80-120	73-127	
Barium	25.00	25.70	103	80-120	73-127	
Beryllium	25.00	23.22	93	80-120	73-127	
Cadmium	25.00	24.52	98	80-120	73-127	
Chromium	25.00	25.16	101	80-120	73-127	
Cobalt	25.00	25.62	102	80-120	73-127	
Copper	25.00	25.09	100	80-120	73-127	
Lead	25.00	25.41	102	80-120	73-127	
Molybdenum	25.00	23.99	96	80-120	73-127	
Nickel	25.00	24.92	100	80-120	73-127	
Selenium	25.00	22.97	92	80-120	73-127	
Silver	12.50	11.91	95	80-120	73-127	
Thallium	25.00	24.88	100	80-120	73-127	
Vanadium	25.00	23.98	96	80-120	73-127	
Zinc	25.00	24.36	97	80-120	73-127	

Total number of LCS compounds: 16

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Return to Contents

Quality Control - LCS

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-24434	LCS	Solid	ICP 7300	03/13/17	03/14/17 12:03	170313L05
<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Antimony	25.00	21.09	84	80-120	73-127	
Arsenic	25.00	22.90	92	80-120	73-127	
Barium	25.00	25.63	103	80-120	73-127	
Beryllium	25.00	23.09	92	80-120	73-127	
Cadmium	25.00	24.44	98	80-120	73-127	
Chromium	25.00	25.01	100	80-120	73-127	
Cobalt	25.00	25.57	102	80-120	73-127	
Copper	25.00	25.01	100	80-120	73-127	
Lead	25.00	25.20	101	80-120	73-127	
Molybdenum	25.00	23.79	95	80-120	73-127	
Nickel	25.00	24.58	98	80-120	73-127	
Selenium	25.00	22.79	91	80-120	73-127	
Silver	12.50	11.92	95	80-120	73-127	
Thallium	25.00	24.40	98	80-120	73-127	
Vanadium	25.00	24.00	96	80-120	73-127	
Zinc	25.00	23.94	96	80-120	73-127	

Total number of LCS compounds: 16

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Return to Contents

Quality Control - LCS

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-24438	LCS	Solid	ICP 7300	03/14/17	03/15/17 11:23	170314L03
<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>ME CL</u>	<u>Qualifiers</u>
Antimony	25.00	24.05	96	80-120	73-127	
Arsenic	25.00	23.72	95	80-120	73-127	
Barium	25.00	25.73	103	80-120	73-127	
Beryllium	25.00	23.33	93	80-120	73-127	
Cadmium	25.00	24.36	97	80-120	73-127	
Chromium	25.00	24.92	100	80-120	73-127	
Cobalt	25.00	25.61	102	80-120	73-127	
Copper	25.00	25.04	100	80-120	73-127	
Lead	25.00	25.61	102	80-120	73-127	
Molybdenum	25.00	24.59	98	80-120	73-127	
Nickel	25.00	25.49	102	80-120	73-127	
Selenium	25.00	23.60	94	80-120	73-127	
Silver	12.50	11.87	95	80-120	73-127	
Thallium	25.00	25.21	101	80-120	73-127	
Vanadium	25.00	23.81	95	80-120	73-127	
Zinc	25.00	24.99	100	80-120	73-127	

Total number of LCS compounds: 16

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Return to Contents

Quality Control - LCS

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 7471A Total
Method: EPA 7471A

Project: Burbank Airport / 9836002041

Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2864	LCS	Solid	Mercury 08	03/08/17	03/08/17 15:41	170308L03

<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Mercury	0.8350	0.7976	96	85-121	

Quality Control - LCS

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8082

Project: Burbank Airport / 9836002041

Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-4086	LCS	Solid	GC 66	03/08/17	03/13/17 10:29	170308L12
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Aroclor-1016		100.0	79.50	80	50-135	
Aroclor-1260		100.0	79.00	79	50-135	

Quality Control - LCS

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/01/17
Work Order: 17-03-0141
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs

Project: Burbank Airport / 9836002041

Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-035-379	LCS	Solid	GC/MS EEE	03/08/17	03/09/17 10:47	170308L11
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Naphthalene	0.1000	0.08623	86	51-129	38-142	
2-Methylnaphthalene	0.1000	0.1018	102	50-127	37-140	
1-Methylnaphthalene	0.1000	0.09258	93	54-132	41-145	
Acenaphthylene	0.1000	0.07724	77	50-123	38-135	
Acenaphthene	0.1000	0.07853	79	53-125	41-137	
Fluorene	0.1000	0.07745	77	55-127	43-139	
Phenanthrene	0.1000	0.08323	83	50-122	38-134	
Anthracene	0.1000	0.08564	86	50-132	36-146	
Fluoranthene	0.1000	0.08550	86	55-127	43-139	
Pyrene	0.1000	0.08933	89	50-134	36-148	
Benzo (a) Anthracene	0.1000	0.08200	82	50-133	36-147	
Chrysene	0.1000	0.08699	87	51-129	38-142	
Benzo (k) Fluoranthene	0.1000	0.09291	93	49-150	32-167	
Benzo (b) Fluoranthene	0.1000	0.08522	85	50-142	35-157	
Benzo (a) Pyrene	0.1000	0.08737	87	50-134	36-148	
Indeno (1,2,3-c,d) Pyrene	0.1000	0.07795	78	50-148	34-164	
Dibenz (a,h) Anthracene	0.1000	0.07817	78	50-133	36-147	
Benzo (g,h,i) Perylene	0.1000	0.08669	87	50-130	37-143	

Total number of LCS compounds: 18

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Return to Contents

Sample Analysis Summary Report

Work Order: 17-03-0141

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
ASTM D-2216 (M)	N/A	1050	N/A	1
EPA 6010B	EPA 3050B	935	ICP 7300	1
EPA 7471A	EPA 7471A Total	868	Mercury 08	1
EPA 8015B (M)	EPA 3550B	972	GC 49	1
EPA 8082	EPA 3545	1028	GC 66	1
EPA 8270C SIM PAHs	EPA 3545	907	GC/MS EEE	1

Glossary of Terms and Qualifiers

Work Order: 17-03-0141

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

17-03-0141



EFI Global
5261 West Imperial Highway, Los Angeles CA 90045
Tel: (310) 854-6300 Fax: (310) 854-0199 www.AndersenEnviro.com

Chain-of-Custody Record

Page 1 of 1

Analytical Laboratory:		Calscience		Job # 9836002041											
Project Name:		Burbank Airport		NA											
Project Address:		2627 N. Hollywood Way, Burbank													
Project Manager:		B. Martasin													
Sampled by:		G. Baader													
Phone/Email:		310-854-6300, brian_martasin@efiglobal.com													
Phone/Email:		Robert Cheung, 510-529-5948, RCheung@Geosyntec.com													
Number	Sample ID	Lab ID	Type				Preservative				Sampling Information				
			Grab	Composite	Water	Soil	Vapor	Other	Cold (4° C)	HNO3	NaHSO4	HCl	Date	Time	
1	F-DU1-ISM1-3		X		X					X					
2	F-DU1-ISM2-3		X		X					X					
3	F-DU1-ISM3-3		X		X					X					
4	F-DU1-ISM4-3		X		X					X					
5	F-DU1-ISM5-3		X		X					X					
6	F-DU1-ISM1-8		X		X					X					
7	F-DU1-ISM2-8		X		X					X					
8	F-DU1-ISM3-8		X		X					X					
9	F-DU1-ISM4-8		X		X					X					
10	F-DU1-ISM5-8		X		X					X					
11	F-DU1-ISM1-15		X		X					X					
12	F-DU1-ISM2-15		X		X					X					
13	F-DU1-ISM3-15		X		X					X					
14	F-DU1-ISM4-15		X		X					X					
15	F-DU1-ISM5-15		X		X					X					
16															
17															
18															
19															
20															
Relinquished by		Date	Time	Received by		Date	Remarks								
							Sample condition (circle): Chilled Intact								
							15-footers on hold pending results of shallow samples								

17-03-0141

LAB_SDG	LAB_SAMPLE_NUMBER	FIELD_SAMPLE	SAMPLING_DATE	SAMPLING_TIME	MATRIX	DEPTH	PROJECT_ID
17-02-2060	17-02-2060-2	F-DU1-S-14-8	20170222	14:44:00	Soil	8	Burbank Airport / 9836002041
17-02-2060	17-02-2060-5	F-DU1-S-15-8	20170222	14:10:00	Soil	8	Burbank Airport / 9836002041
17-02-2060	17-02-2060-8	F-DU1-S-16-8	20170222	13:26:00	Soil	8	Burbank Airport / 9836002041
17-02-2060	17-02-2060-11	F-DU1-S-17-8	20170222	12:50:00	Soil	8	Burbank Airport / 9836002041
17-02-2060	17-02-2060-14	F-DU1-S-18-8	20170222	11:25:00	Soil	8	Burbank Airport / 9836002041
17-02-2060	17-02-2060-17	F-DU1-S-19-8	20170222	10:17:00	Soil	8	Burbank Airport / 9836002041
17-02-2060	17-02-2060-20	F-DU1-S-20-8	20170222	09:12:00	Soil	8	Burbank Airport / 9836002041
17-02-2195	17-02-2195-2	F-DU1-S-01-8	20170223	11:23:00	Soil	8	Burbank Airport / 9836002041
17-02-2195	17-02-2195-5	F-DU1-S-02-8	20170223	13:10:00	Soil	8	Burbank Airport / 9836002041
17-02-2195	17-02-2195-8	F-DU1-S-03-8	20170223	14:08:00	Soil	8	Burbank Airport / 9836002041
17-02-2195	17-02-2195-11	F-DU1-S-04-8	20170223	15:13:00	Soil	8	Burbank Airport / 9836002041
17-02-2195	17-02-2195-14	F-DU1-S-11-8	20170223	10:12:00	Soil	8	Burbank Airport / 9836002041
17-02-2195	17-02-2195-17	F-DU1-S-12-8	20170223	08:58:00	Soil	8	Burbank Airport / 9836002041
17-02-2195	17-02-2195-20	F-DU1-S-13-8	20170223	07:57:00	Soil	8	Burbank Airport / 9836002041
17-02-2292	17-02-2292-3	F-DU1-S-05-8	20170224	08:30:00	Soil	8	Burbank Airport / 9836002041
17-02-2292	17-02-2292-6	F-DU1-S-06-8	20170224	09:33:00	Soil	8	Burbank Airport / 9836002041
17-02-2292	17-02-2292-9	F-DU1-S-07-8	20170224	10:45:00	Soil	8	Burbank Airport / 9836002041
17-02-2478	17-02-2478-2	F-DU1-S-08-08	20170228	08:20:00	Soil	8	Burbank Airport / 9836002041
17-02-2478	17-02-2478-5	F-DU1-S-09-08	20170228	14:47:00	Soil	8	Burbank Airport / 9836002041
17-03-0091	17-03-0091-3	F-DU1-S-10-08	20170301	08:12:00	Soil	8	Burbank Airport / 9836002041

Level 3

- Moisture TC 953
- PAHs (MIS) 5600
- Metals (MIS) 2324
- PCBs (MIS) 5159
- TPH (MIS) 5900
- MIS TC 5585

Analytical Laboratory:		Calciance		Job # 9836002041		Container		Method		Turnaround Time																					
Project Name:		Burbank Airport		NA		17-02-2060																									
Project Address:		2627 N. Hollywood Way, Burbank																													
Project Manager:		B. Martasin																													
Sampled by:		G. Baader																													
Phone:		310-854-6300																													
Email:		brian.martasin@efiglobal.com																													
Number	Sample ID	Lab ID	Type	Matrix	Preservative	Sampling Information	Date	Time	VOCs, EPA Method 8260B	PAHs, EPA Method 8270C	Metals, EPA Method 6010B/7470A	Lead, EPA Method 6010B	Arsenic, EPA Method 6010B	STLC Lead EPA Method	TCLP Lead EPA Method	PCBs, EPA Method 8082	TPH full chain, EPA Method 8015M	ERPH, EPA Method 8015M	Composite	Hold	4 or 8-ounce Glass	VOA	EZ Draw (EPA 5035)	Acetate Liner	Amber Bottle	24 hours	Normal	48 Hours			
1	F-DU1-S-14-3	1	Grab	Water			2/22/17	14:40																							
2	" " -8	2	Grab	Soil				14:44																							
3	" " -15	3	Grab	Vapor				15:07																							
4	F-DU1-S-15-3	4	Grab	Water				14:02																							
5	" " -8	5	Grab	Soil				14:10																							
6	" " -15	6	Grab	Vapor				16:20																							
7	F-DU1-S-16-3	7	Grab	Water				13:19																							
8	" " -8	8	Grab	Soil				13:26																							
9	" " -15	9	Grab	Vapor				13:35																							
10	F-DU1-S-17-3	10	Grab	Water				12:45																							
11	" " -8	11	Grab	Soil				12:50																							
12	" " -15	12	Grab	Vapor				13:00																							
13	F-DU1-S-18-3	13	Grab	Water				11:13																							
14	" " -8	14	Grab	Soil				11:25																							
15	" " -15	15	Grab	Vapor				11:35																							
16	F-DU1-S-19-3	16	Grab	Water				10:04																							
17	" " -8	17	Grab	Soil				10:17																							
18	" " -15	18	Grab	Vapor				10:42																							
19	F-DU1-S-20-3	19	Grab	Water				8:56																							
20	" " -8	20	Grab	Soil				9:12																							
Redeveloped by		2/22/17		16/10		Received by		2/22/17		16/10		Time		Remarks		Sample condition (circle): Chilled Intact		14:55 15:14 - hold until 5-01		18:05		18:05		18:05		18:05		18:05		18:05	
Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature	

to be composited

Analytical Laboratory: **CalScience** Job # **9836002041**

Project Name: **Burbank Airport**

Project Address: **2627 N. Hollywood Way, Burbank**

Project Manager: **B. Martasin**

Sampled by: **G. Baader**

Phone: **310-854-6300**

Email: **brian_martasin@efiglobal.com**

Number	Sample ID	Lab ID	Type				Matrix				Preservative				Sampling Information	
			Grab	Composite	Water	Soil	Vapor	Other	Cold (4° C)	HNO3	NaHSO4	HCl	Date	Time	Date	Time
21	F-DU1-S-20-15	71				X							2/22/12	9:28		

Method										Container		Turnaround Time
VOCs, EPA Method 8260B	PAHs, EPA Method 8270C	Metals, EPA Method 6010B/7470A	Lead, EPA Method 6010B	Arsenic, EPA Method 6010B	STLC Lead EPA Method	TCLP Lead EPA Method	PCBs, EPA Method 8082	TPH full chain, EPA Method 8015M	ERPH, EPA Method 8015M	Composite	Hold	
												48 Hours
												Normal
												24 hours
												Amber Bottle
												Acetate Liner
												EZ Draw (EPA 5035)
												VOA
												4 or 8-ounce Glass

Relinquished by: *[Signature]* Date: **2/22/12** Time: **16:10** Received by: *[Signature]* Date: **2/22/12** Time: **16:10**

Remarks: **Sample condition (circle): Chilled Intact**
15M - hold until 5-01 through 3
S-13 received to be composited

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: EPI GLOBAL

DATE: 02 / 22 / 2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 2.4 °C (w/ CF): 2.4 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 803

CUSTODY SEAL:

Cooler ☒ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A

Checked by: 803

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A

Checked by: 1110

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☒	☐	☐
COC document(s) received complete	☒	☐	☐

☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers

☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time

Sampler's name indicated on COC	☒	☐	☐

Sample container label(s) consistent with COC	☒	☐	☐

Sample container(s) intact and in good condition	☒	☐	☐

Proper containers for analyses requested	☒	☐	☐

Sufficient volume/mass for analyses requested	☒	☐	☐

Samples received within holding time	☒	☐	☐

Aqueous samples for certain analyses received within 15-minute holding time

☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☒

Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☒

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals

Container(s) for certain analysis free of headspace	☐	☐	☒

☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)

☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)

Tedlar™ bag(s) free of condensation	☐	☐	☒

(Trip Blank Lot Number: _____)

CONTAINER TYPE:

Aqueous: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 100PJ ☐ 100PJ_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☐ 125PB

☐ 125PB_{znna} ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 250PB ☐ 250PB_n ☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s

☐ 500PB ☐ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s ☒ 1PB ☐ 1PB_{na} ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☒ Sleeve ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____) ☐ _____ ☐ _____

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 1110

s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄.H₂O, znna = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 681

Analytical Laboratory: Calscience Job # 9836002041
Project Name: Burbank Airport
Project Address: 2627 N. Hollywood Way, Burbank
Project Manager: B. Martasin
Sampled by: G. Baeder
Phone: 310-854-6300
Email: brian_martasin@efiglobal.com; Robert Cheung 510-529-5794

Analytical Laboratory:										Calscience		Job # 9836002041		Method										Container	Turnaround Time											
Project Name:										Burbank Airport		NA		17-02-2195																						
Project Address:										2627 N. Hollywood Way, Burbank																										
Project Manager:										B. Martasin																										
Sampled by:										G. Baader																										
Phone:										310-854-6300																										
Email:										brian_martasin@efiglobal.com;		Robert Cheung																								
Number	Sample ID	Lab ID	Type		Matrix			Preservative			Sampling Information		Date	Time	VOCs, EPA Method 8260B	PAHs, EPA Method 8270C	Metals, EPA Method 6010B/7470A	Lead, EPA Method 6010B	Arsenic, EPA Method 6010B	STLC Lead EPA Method	TCLP Lead EPA Method	PCBs, EPA Method 8082	TPH full chain, EPA Method 8015M	ERPH, EPA Method 8015M	Composite	Hold	4- or 8-ounce Glass	VOA	EZ Draw (EPA 5035)	Acetate Liner	Amber Bottle	24 hours	Normal	48 Hours		
			Grab	Composite	Water	Soil	Vapor	Other	Cold (4° C)	HNO3	NaHSO4	HCl																								
1	F-DU1-S-01-3		X		X								2/23	11:14		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	" -8													11:23																						
3	" -15													11:35																						
4	F-DU1-S-02-3		X											12:50																						
5	" -8													13:10																						
6	" -15													13:20																						
7	F-DU1-S-03-3		X											13:50																						
8	" -8													14:08																						
9	" -15													14:15																						
10	F-DU1-S-04-3		X											14:40																						
11	" -8													15:13																						
12	" -15													15:23																						
13	F-DU1-S-11-3													10:08																						
14	" -8													10:12																						
15	" -15													10:28																						
16	F-DU1-S-12-3													8:48																						
17	" -8													8:58																						
18	" -15													9:25																						
19	F-DU1-S-13-3													7:50																						
20	" -8													7:57																						

Relinquished by: [Signature] Date: 2/23/17 Time: 18:25 Received by: [Signature] Date: 2/23/17 Time: 18:40
Sample condition (circle): Chilled Intact
Remarks: F-DU1-S-01 through -20 received

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: EPA GLOBA

DATE: 02 / 23 / 2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 2.9 °C (w/ CF): 2.9 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: SDS
CUSTODY SEAL:

Cooler ☒ Present and Intact

☐ Present but Not Intact

☐ Not Present

☐ N/A

Checked by: SDS

Sample(s) ☐ Present and Intact

☐ Present but Not Intact

☒ Not Present

☐ N/A

Checked by: 1110
SAMPLE CONDITION:

Chain-of-Custody (COC) document(s) received with samples ☒ Yes ☐ No ☐ N/A

COC document(s) received complete ☒ Yes ☐ No ☐ N/A

☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers

☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time

Sampler's name indicated on COC ☒ Yes ☐ No ☐ N/A

Sample container label(s) consistent with COC ☒ Yes ☐ No ☐ N/A

Sample container(s) intact and in good condition ☒ Yes ☐ No ☐ N/A

Proper containers for analyses requested ☒ Yes ☐ No ☐ N/A

Sufficient volume/mass for analyses requested ☒ Yes ☐ No ☐ N/A

Samples received within holding time ☒ Yes ☐ No ☐ N/A

Aqueous samples for certain analyses received within 15-minute holding time

☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen ☐ Yes ☐ No ☒ N/A

Proper preservation chemical(s) noted on COC and/or sample container ☐ Yes ☐ No ☒ N/A

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals

Container(s) for certain analysis free of headspace ☐ Yes ☐ No ☒ N/A

☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)

☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)

Tedlar™ bag(s) free of condensation ☐ Yes ☐ No ☒ N/A

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 100PJ ☐ 100PJ_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☐ 125PB

☐ 125PB_{znna} ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 250PB ☐ 250PB_n ☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s
☐ 500PB ☐ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s ☐ 1PB ☐ 1PB_{na} ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☐ 16ozCGJ ☒ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____) ☐ _____ ☐ _____

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 1110

s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄.H₂O, znna = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 659



EFI Global
5261 West Imperial Highway, Los Angeles CA 90045
Tel: (310) 854-6300 Fax: (310) 854-0199 www.AndersenEnviro.com

Chain-of-Custody Record

Page of 1

Analytical Laboratory:		Calscience		Job # 9836002041	
Project Name:		Burbank Airport		NA	
Project Address:		2627 N. Hollywood Way, Burbank			
Project Manager:		B. Martasin			
Sampled by:		G. Baader			
Phone/Email:		310-854-6300, brian_martasin@efiglobal.com			
Phone/Email:		Robert Cheung, 510-529-5948, RCheung@Geosyntec.com			

Number	Sample ID	Lab ID	Type				Matrix				Preservative				Sampling Information	
			Grab	Composite	Water	Soil	Vapor	Other	Cold (4° C)	HNO3	NaHSO4	HCl	Date	Time	Date	Time
1	EBI-2017-02-24	1	X		X								2/24/17	12:40		
2	F-D41-S-05-3	2												8:10		
3	-8	3												8:30		
4	-15	4												8:39		
5	F-D41-S-06-3	5												9:25		
6	-8	6												9:33		
7	-15	7												9:51		
8	F-D41-S-07-3	8												10:38		
9	-8	9												10:45		
10	-15	10												10:55		
11	F-D41-S-09-3	11												13:10		
12																
13																
14																
15																
16																
17																
18																
19																
20																

Relinquished by	Date	Time	Received by	Date	Time	Remarks
	2/24/17	16:00		2/24/17	16:00	Sample condition (circle): Chilled Intact
	2/24/17	18:30		2/24/17	18:30	15H, composite all 3-foots sent all 8-foots and all 15-foots on hold.

Hold
old Analyze

Hold
15H, composite all 3-foots sent all 8-foots and all 15-foots on hold.
Hold undr! all F-D41-S-01 to -020 received

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: EFI

DATE: 02/24/2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 3.6 °C (w/ CF): 3.6 °C; ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling☐ Sample(s) received at ambient temperature; placed on ice for transport by courierAmbient Temperature: ☐ Air ☐ Filter

Checked by: 804

CUSTODY SEAL:

Cooler ☒ Present and Intact☐ Present but Not Intact☐ Not Present☐ N/A

Checked by: 804

Sample(s) ☐ Present and Intact☐ Present but Not Intact☒ Not Present☐ N/A

Checked by: 1110

SAMPLE CONDITION:

Chain-of-Custody (COC) document(s) received with samples ☒ Yes ☐ No ☐ N/ACOC document(s) received complete ☐ Yes ☒ No ☐ N/A☒ Sampling date ☐ Sampling time ☐ Matrix ☒ Number of containers☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished timeSampler's name indicated on COC ☒ Yes ☐ No ☐ N/ASample container label(s) consistent with COC ☐ Yes ☒ No ☐ N/ASample container(s) intact and in good condition ☒ Yes ☐ No ☐ N/AProper containers for analyses requested ☒ Yes ☐ No ☐ N/ASufficient volume/mass for analyses requested ☒ Yes ☐ No ☐ N/ASamples received within holding time ☒ Yes ☐ No ☐ N/A

Aqueous samples for certain analyses received within 15-minute holding time

☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen ☐ Yes ☐ No ☒ N/AProper preservation chemical(s) noted on COC and/or sample container ☒ Yes ☐ No ☐ N/A

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved MetalsContainer(s) for certain analysis free of headspace ☐ Yes ☐ No ☒ N/A☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)Tedlar™ bag(s) free of condensation ☐ Yes ☐ No ☒ N/A

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 100PJ ☐ 100PJ_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☐ 125PB☐ 125PB_{znna} ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 250PB ☒ 250PB_n ☐ 500AGB ☐ 500AG_J ☐ 500AG_J_s☐ 500PB ☒ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s ☐ 1PB ☐ 1PB_{na} ☐ _____ ☐ _____ ☐ _____Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☐ 16ozCGJ ☒ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ Other Matrix (_____) ☐ _____ ☐ _____

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 1110s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄·H₂O, znna = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 609

*(-2) to (-10) Collection date per label is 2/24/17 / received 1 container- 2016-09-23 Revision

SAMPLE ANOMALY REPORT

DATE: 02 / 24 / 2017

SAMPLES, CONTAINERS, AND LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
- ☐ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☐ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☒ Client sample label(s) do not match COC (comment)
 - ☐ Project information
 - ☐ Client sample ID
 - ☐ Sampling date and/or time
 - ☒ Number of container(s)
 - ☐ Requested analysis
- ☐ Sample container(s) compromised (comment)
 - ☐ Broken
 - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
 - ☐ Flat
 - ☐ Very low in volume
 - ☐ Leaking (not transferred; duplicate bag submitted)
 - ☐ Leaking (transferred into ECI Tedlar™ bags*)
 - ☐ Leaking (transferred into client's Tedlar™ bags*)

* Transferred at client's request.

MISCELLANEOUS: (Describe)

HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

Comments:

** Record the total number of containers (i.e., vials or bottles) for the affected sample.

Comments

(-1) Received 4 containers instead of 5.
(received 3 - 1 liter amber glass bottle instead of 4 per COC)

Comments

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis

Reported by: 1110
Reviewed by: 659

Analytical Laboratory:										CalciScience		Job # 9836002041	
Project Name:										Burbank Airport		NA	
Project Address:										2627 N. Hollywood Way, Burbank			
Project Manager:										B. Martasin			
Sampled by:										G. Baader			
Phone/Email:										310-854-6300, brian_martasin@efiglobal.com			
Phone/Email:										Robert Cheung, 510-529-5948, RCheung@Geosyntec.com			
Number	Sample ID	Lab ID	Type	Matrix	Preservative	Sampling Information		Date		Time			
1	F-DUI-5-08-03	1	Grab	Composite		Discard	Water	2/28/17	8:00	10:08	1745		
2	-08	2	Grab	Soil		Discard	Vapor	"	8:20	10:08	1745		
3	-15	3	Grab	Soil		Discard	Vapor	"	8:26	10:08	1745		
4	F-DUI-5-09-03	4	Grab	Composite		Discard	Water	"	13:55	10:08	1745		
5	-08	5	Grab	Soil		Discard	Vapor	"	14:47	10:08	1745		
6	-15	6	Grab	Soil		Discard	Vapor	"	14:57	10:08	1745		

Relinquished by										Received by		Date		Time		Remarks	
[Signature]										[Signature]		2/28/17		1556		Sample condition (circle): Intact	
[Signature]										[Signature]		2/28/17		1745		Hold until E-DUI-5-10 is received before ISH compound	

Method	Container	Turnaround Time
VOCs, EPA Method 8260B		
PAHs, EPA Method 8270C		
Metals, EPA Method 6010B/7470A		
Lead, EPA Method 6010B		
Arsenic, EPA Method 6010B		
STLC Lead EPA Method		
TCLP Lead EPA Method		
PCBs, EPA Method 8082		
TPH full chain, EPA Method 8015M		
ERPH, EPA Method 8015M		
Composite		
Hold		
4 or 8-ounce Glass		
VOA		
EZ Draw (EPA 5035)		
Acetate Liner		
Amber Bottle		
24 hours		
Normal		
48 Hours		

17-02-2478

17-02-2478

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 02/28/2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 1.8 °C (w/ CF): 1.8 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 1091

CUSTODY SEAL:

Cooler ☒ Present and Intact

☐ Present but Not Intact

☐ Not Present

☐ N/A

Checked by: 1091

Sample(s) ☐ Present and Intact

☐ Present but Not Intact

☒ Not Present

☐ N/A

Checked by: 1053

SAMPLE CONDITION:

Chain-of-Custody (COC) document(s) received with samples ☒ Yes ☐ No ☐ N/A

COC document(s) received complete ☐ Yes ☒ No ☐ N/A

☐ Sampling date ☐ Sampling time ☒ Matrix ☐ Number of containers

☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time

Sampler's name indicated on COC ☒ Yes ☐ No ☐ N/A

Sample container label(s) consistent with COC ☒ Yes ☐ No ☐ N/A

Sample container(s) intact and in good condition ☒ Yes ☐ No ☐ N/A

Proper containers for analyses requested ☒ Yes ☐ No ☐ N/A

Sufficient volume/mass for analyses requested ☒ Yes ☐ No ☐ N/A

Samples received within holding time ☒ Yes ☐ No ☐ N/A

Aqueous samples for certain analyses received within 15-minute holding time

☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen ☐ Yes ☐ No ☒ N/A

Proper preservation chemical(s) noted on COC and/or sample container ☐ Yes ☐ No ☒ N/A

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals

Container(s) for certain analysis free of headspace ☐ Yes ☐ No ☒ N/A

☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)

☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)

Tedlar™ bag(s) free of condensation ☐ Yes ☐ No ☒ N/A

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 100PJ ☐ 100PJ_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☐ 125PB

☐ 125PB_{znna} ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 250PB ☐ 250PB_n ☐ 500AGB ☐ 500AGJ ☐ 500AGJs

☐ 500PB ☐ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s ☐ 1PB ☐ 1PB_{na} ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☐ 16ozCGJ ☒ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ Other Matrix (_____) ☐ _____ ☐ _____

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 1053

s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄·H₂O, znna = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 778

Chain-of-Custody Record

EFT Global

5261 West Imperial Highway, Los Angeles CA 90045
Tel: (310) 854-6300 Fax: (310) 854-0199 www.AndersenEnviro.com

[illegible]

SAMPLE RECEIPT CHECKLIST

COOLER / OF /

CLIENT: Andersen

DATE: 03 / 1 / 2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 1.8 °C (w/ CF): 1.8 °C; ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling☐ Sample(s) received at ambient temperature; placed on ice for transport by courierAmbient Temperature: ☐ Air ☐ Filter

Checked by: 1091

CUSTODY SEAL:

Cooler ☒ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A

Checked by: 1091

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A

Checked by: 1017

SAMPLE CONDITION:

Chain-of-Custody (COC) document(s) received with samples ☒ Yes ☐ No ☐ N/ACOC document(s) received complete ☒ Yes ☐ No ☐ N/A☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished timeSampler's name indicated on COC ☒ Yes ☐ No ☐ N/ASample container label(s) consistent with COC ☒ Yes ☐ No ☐ N/ASample container(s) intact and in good condition ☒ Yes ☐ No ☐ N/AProper containers for analyses requested ☒ Yes ☐ No ☐ N/ASufficient volume/mass for analyses requested ☒ Yes ☐ No ☐ N/ASamples received within holding time ☒ Yes ☐ No ☐ N/A

Aqueous samples for certain analyses received within 15-minute holding time

☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen ☐ Yes ☐ No ☒ N/AProper preservation chemical(s) noted on COC and/or sample container ☒ Yes ☐ No ☐ N/A

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved MetalsContainer(s) for certain analysis free of headspace ☐ Yes ☐ No ☒ N/A☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)Tedlar™ bag(s) free of condensation ☐ Yes ☐ No ☒ N/A

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA_h ☐ VOA_{na2} ☐ 100PJ ☐ 100PJ_{na2} ☐ 125AGB ☐ 125AGB_h ☐ 125AGB_p ☐ 125PB☐ 125PB_{znna} ☐ 250AGB ☐ 250CGB ☐ 250CGB_s ☐ 250PB ☒ 250PB_n ☐ 500AGB ☐ 500AGJ ☐ 500AGJ_s☐ 500PB ☐ 1AGB ☐ 1AGB_{na2} ☐ 1AGB_s ☐ 1PB ☐ 1PB_{na} ☐ _____ ☐ _____ ☐ _____ ☐ _____Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☐ 16ozCGJ ☒ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ Other Matrix (_____) ☐ _____ ☐ _____

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 1017s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄.H₂O, znna = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 681

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0141

CONDITION UPON RECEIPT:

Eurofins Calscience, Inc. received (20) solid samples on February 22–24, 28 and March 1, 2017. A total of (20) containers were received in good condition and at temperatures of 1.8°C, 2.4°C, 2.9°C, and 3.6°C, which were within the recommended temperature of 0°C – 6°C.

Client Sample ID	Lab Sample ID	Date & Time Sampled	Date & Time Received
F-DU1-S-14-8	17-03-0141-1	02/22/17 14:44	03/01/17 17:25
F-DU1-S-15-8	17-03-0141-2	02/22/17 14:10	03/01/17 17:25
F-DU1-S-16-8	17-03-0141-3	02/22/17 13:26	03/01/17 17:25
F-DU1-S-17-8	17-03-0141-4	02/22/17 12:50	03/01/17 17:25
F-DU1-S-18-8	17-03-0141-5	02/22/17 11:25	03/01/17 17:25
F-DU1-S-19-8	17-03-0141-6	02/22/17 10:17	03/01/17 17:25
F-DU1-S-20-8	17-03-0141-7	02/22/17 09:12	03/01/17 17:25
F-DU1-S-01-8	17-03-0141-8	02/23/17 11:23	03/01/17 17:25
F-DU1-S-02-8	17-03-0141-9	02/23/17 13:10	03/01/17 17:25
F-DU1-S-03-8	17-03-0141-10	02/23/17 14:08	03/01/17 17:25
F-DU1-S-04-8	17-03-0141-11	02/23/17 15:13	03/01/17 17:25
F-DU1-S-11-8	17-03-0141-12	02/23/17 10:12	03/01/17 17:25
F-DU1-S-12-8	17-03-0141-13	02/23/17 08:58	03/01/17 17:25
F-DU1-S-13-8	17-03-0141-14	02/23/17 07:57	03/01/17 17:25
F-DU1-S-05-8	17-03-0141-15	02/24/17 08:30	03/01/17 17:25
F-DU1-S-06-8	17-03-0141-16	02/24/17 09:33	03/01/17 17:25
F-DU1-S-07-8	17-03-0141-17	02/24/17 10:45	03/01/17 17:25
F-DU1-S-08-8	17-03-0141-18	02/28/17 08:20	03/01/17 17:25
F-DU1-S-09-8	17-03-0141-19	02/28/17 14:47	03/01/17 17:25
F-DU1-S-10-8	17-03-0141-20	03/01/17 08:12	03/01/17 17:25
COMPOSITE	17-03-0141-21	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM1-8	17-03-0141-22	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM2-8	17-03-0141-23	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM3-8	17-03-0141-24	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM4-8	17-03-0141-25	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM5-8	17-03-0141-26	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM1-8	17-03-0141-27	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM2-8	17-03-0141-28	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM3-8	17-03-0141-29	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM4-8	17-03-0141-30	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM5-8	17-03-0141-31	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM1-8	17-03-0141-32	02/22/17 00:00	03/01/17 17:25

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0141

Client Sample ID	Lab Sample ID	Date & Time Sampled	Date & Time Received
F-DU1-ISM2-8	17-03-0141-33	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM3-8	17-03-0141-34	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM4-8	17-03-0141-35	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM5-8	17-03-0141-36	02/22/17 00:00	03/01/17 17:25

DATA SUMMARY:

As per the chain of custody (COC), the samples were analyzed using one or more of the following methodologies:

- ASTM D-2216 (M) Moisture Content (Solid)
- EPA 6010B Title 22 Metals (Solid)
- EPA 7471A Mercury (Solid)
- EPA 8015B (M) Diesel and Motor Oil Ranges (Solid)
- EPA 8082 PCB Aroclors (Solid)
- EPA 8270C SIM PAHs (Solid)

The samples were analyzed within the suggested EPA holding time for the requested methods unless otherwise noted.

Sample results were reported in the RL format.

The sample data is reported in dry weight. The instrument printouts do not reflect the correction for dry weight.

Any dilutions made to the sample(s) and/or QC will be noted in the following narrative. Reporting limits have been adjusted accordingly.

Manual integrations made to the data will be noted in the following narrative. The before and amended chromatograms have been included in the data package.

All sample and analytical QC are within acceptance criteria unless otherwise noted.

ASTM D-2216 (M) Moisture Content (Solid):

Samples -27 through -31 were analyzed for % Moisture by ASTM D-2216 (M). The samples were prepared and analyzed on 03/03/17 in batch #s H0303MOIB1 / H0303MOID1.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0141

Balance Calibration/Verification:

All values were within acceptance criteria.

Sample and QC:

A sample from a different work order was used as the sample duplicate for quality control. The method blank was non-detect and the duplicate analysis was within acceptance criteria.

EPA 6010B Title 22 Metals (Solid):

Samples -32 through -36 were analyzed for Metals by EPA 6010B. The samples were prepared on 03/13 – 14/17 and analyzed on 03/14 – 15/17 in batch #s 170313L04 / 170313S04, 170313L05 / 170313S05 and 170314L03 / 170314S03 on ICP 7300.

Initial Calibration, Initial Calibration Verification, and Initial Calibration Blank:

All values were within acceptance criteria.

Continuing Calibration Verification and Continuing Calibration Blank:

- CCV/CCB on 03/14/17: All values were within acceptance criteria with the following exceptions: Lead and/or Zinc were detected slightly above the RL in one or more of the CCBs.
- CCV/CCB on 03/15/17: All values were within acceptance criteria.

ICS A/AB:

All values were within acceptance criteria.

Sample and QC:

- QC Batch #s 170313L04 / 170313S04: (Associated with samples -33 through -35)

The method blank was non-detect and the LCS was within acceptance criteria.

A non-client sample was used for the MS/MSD; refer to the MS/MSD summary form for further information.

- QC Batch #s 170313L05 / 170313S05: (Associated with sample -36)

The method blank was non-detect and the LCS was within acceptance criteria.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0141

A non-client sample was used for the MS/MSD; refer to the MS/MSD summary form for further information.

- QC Batch #s 170314L03 / 170314S03: (Associated with sample -32)

Zinc was detected in the method blank above the RL but detected in the associated sample at greater than 10x the method blank level and, therefore, results were reported with no further action required. The associated sample has been flagged with a “B” qualifier for this analyte in the report.

The LCS was within acceptance criteria.

A non-client sample was used for the MS/MSD; refer to the MS/MSD summary form for further information.

EPA 7471A Mercury (Solid):

Samples -27 through -31 were analyzed for Mercury by EPA 7471A. The samples were prepared and analyzed on 03/08/17 in batch #s 170308L03 / 170308S03 on Mercury 08.

Initial Calibration, Initial Calibration Verification, and Initial Calibration Blank:

All values were within acceptance criteria.

Continuing Calibration Verification and Continuing Calibration Blank:

All values were within acceptance criteria.

Sample and QC:

The method blank was non-detect and the LCS was within acceptance criteria.

A sample from a different work order was used for the MS/MSD. The MS/MSD RPD for Mercury was out of range.

EPA 8015B (M) Diesel and Motor Oil Ranges (Solid):

Samples -27 through -31 were analyzed for Diesel and Motor Oil Ranges by EPA 8015B (M). The samples were prepared on 03/07/17 and analyzed on 03/08/17 in batch #s 170307B07A / 170307S07 on GC 49.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0141

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 03/06/17 on GC 49. The ICAL was within the 20% RSD acceptance criteria and the ICV was within the 30% D acceptance criteria.

For the Diesel and Motor Oil Ranges, Diesel is used for the initial calibration and spiking standards. The surrogate recoveries for the samples and QC were calculated from the 5-point surrogate curve analyzed with the Diesel ICAL.

Continuing Calibration Verification:

All values were within the 20% D acceptance criteria.

Sample and QC:

The method blank was non-detect; the LCS and all surrogate recoveries were within acceptance criteria.

A non-client sample was used for the MS/MSD; refer to the MS/MSD summary form for further information.

EPA 8082 PCB Aroclors (Solid):

Samples -32 through -36 were analyzed for Polychlorinated Biphenyls Aroclors by EPA 8082. The samples were prepared on 03/08/17 and analyzed on 03/13/17 in batch #s 170308L12 / 170308S12 on GC 66.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 02/22/17 on GC 66. The ICAL was within the 20% RSD acceptance criteria and the ICV was within the 15% D acceptance criteria for Aroclors 1016 and 1260. Single point response factors were generated for all other Aroclors.

Continuing Calibration Verification:

All values were within the 15% D acceptance criteria.

Sample and QC:

The method blank was non-detect; the LCS and all surrogate recoveries were within acceptance criteria.

Sample -32 was used for the MS/MSD. The MS/MSD RPDs for Aroclors 1016 and 1260 were out of range.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0141

EPA 8270C SIM PAHs (Solid):

Samples -27 through -31 were analyzed for Polynuclear Aromatic Hydrocarbons by EPA 8270C SIM. The samples were prepared on 03/08/17 and analyzed on 03/09/17 in batch #s 170308L11 / 170308S11 on GC/MS EEE.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 02/27/17 on GC/MS EEE. The ICAL was within the 15% RSD acceptance criteria and the ICV was within the 20% D acceptance criteria.

Continuing Calibration Verification:

All values were within the 20% D acceptance criteria.

Tuning Standards:

All instrument tuning standards (DFTPP) were within acceptance criteria.

Sample and QC:

A sample from a different work order was used for the MS/MSD. The method blank was non-detect; the LCS, MS/MSD, all surrogate and internal standard recoveries were within acceptance criteria.

ASTM D-2216 (M)

Moisture Content

(Solid)

RAW DATA

**RAW DATA SHEET
FOR METHOD: ASTM D-2216 (M)**

Page 67 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-03 00:00

ANALYZED BY: 1,050
D/T ANALYZED: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED: 2017-03-07 12:23

DATA FILE: NONE

27 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-8

LCS/MB BATCH:	H0303MOIB1	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0303MOID1	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	6.10	1.00	6.10	0.10	

Return to Contents

**RAW DATA SHEET
FOR METHOD: ASTM D-2216 (M)**

Page 68 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-03 00:00

ANALYZED BY: 1,050
D/T ANALYZED: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED: 2017-03-07 12:23

DATA FILE: NONE

28 **CLIENT SAMPLE NUMBER:** F-DU1-ISM2-8

LCS/MB BATCH:	H0303MOIB1	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0303MOID1	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	4.90	1.00	4.90	0.10	

**RAW DATA SHEET
FOR METHOD: ASTM D-2216 (M)**

Page 69 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-03 00:00

ANALYZED BY: 1,050
D/T ANALYZED: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED: 2017-03-07 12:23

DATA FILE: NONE

29 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-8

LCS/MB BATCH:	H0303MOIB1	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0303MOID1	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Moisture	4.90	1.00	4.90	0.10	

**RAW DATA SHEET
FOR METHOD: ASTM D-2216 (M)**

Page 70 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-03 00:00
DATA FILE: NONE

ANALYZED BY: 1,050
D/T ANALYZED: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED: 2017-03-07 12:23

30 **CLIENT SAMPLE NUMBER:** F-DU1-ISM4-8

LCS/MB BATCH:	H0303MOIB1	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0303MOID1	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	5.00	1.00	5.00	0.10	

Return to Contents

**RAW DATA SHEET
FOR METHOD: ASTM D-2216 (M)**

Page 71 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-03 00:00
DATA FILE: NONE

ANALYZED BY: 1,050
D/T ANALYZED: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED: 2017-03-07 12:23

31 **CLIENT SAMPLE NUMBER:** F-DU1-ISM5-8

LCS/MB BATCH:	H0303MOIB1	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0303MOID1	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	4.70	1.00	4.70	0.10	

METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: ASTM D-2216 (M)

Page 72 of 524

MB SAMPLE ID: 099-05-014-6722
MB BATCH ID: H0303MOIB1
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-03 00:00

ANALYZED BY: 1,050
D/T ANALYZED: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED: 2017-03-07 12:23
MATRIX: Soil

DATA FILE: NONE

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-8		2017-03-03 18:00	NONE
28	F-DU1-ISM2-8		2017-03-03 18:00	NONE
29	F-DU1-ISM3-8		2017-03-03 18:00	NONE
30	F-DU1-ISM4-8		2017-03-03 18:00	NONE
31	F-DU1-ISM5-8		2017-03-03 18:00	NONE

**RAW DATA SHEET
FOR METHOD: ASTM D-2216 (M)**

Page 73 of 524

WORK ORDER: 099-05-014
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-03 00:00

ANALYZED BY: 1,050
D/T ANALYZED: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED: 2017-03-07 12:23

DATA FILE: NONE

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH:	H0303MOIB1	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:		FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	0.000	1.00	ND	0.10	

DUPLICATE REPORT
FOR METHOD: ASTM D-2216 (M)

DUP SAMPLE ID: 17-03-0140-27
DUP BATCH: H0303MOID1
INSTRUMENTS:
SAMPLE: N/A
DUP SAMPLE: N/A

EXTRACTION: N/A
D/T EXTRACTED:
SAMPLE: 2017-03-03 00:00
DUP SAMPLE: 2017-03-03 00:00

ANALYZED BY: 1,050
D/T ANALYZED
SAMPLE: 2017-03-03 18:00
DUP SAMPLE: 2017-03-03 18:00
REVIEWED BY: 1,050
D/T REVIEWED 2017-03-07 12:23

<u>COMPOUND</u>	<u>SAMPLE CONC</u>	<u>DUP CONC</u>	<u>% RPD</u>	<u>CONTROL LIMIT</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Moisture	3.900	4.100	5	0-10	PASS	

Data Files:

<u>TYPE</u>	<u>DATA FILE</u>	<u>DATA FILE PATH</u>
SDP	NONE	

Moisture Content Raw Data Logbook

METHOD	MATRIX	DATE	ANALYST(S)	BATCH NUMBER
ASTM D2216(M)	☒ Solid ☐ Sediment ☐ Other	03/03/17	1009/1050	MB: H0303M01B1
Preparation: 03/03/17		Sample Duplicate: 1009/1050		

CEL ID #	MASS (g)	DRY DISH	DISH	% MOISTURE	RL (%)	COMMENTS	ALUMINUM DISH SUPPLY ID
MB	1.88	1.88	0.00	0.00	0.10		G007-66-15

CEL ID #	% MOISTURE	RPD	CONTROL LIMIT	OVEN ID	THERMOMETER ID / CF (°C)	OVEN TEMP (°C)	BATCH PREP TIME (hh:mm)
Sample 17-03-0140-27A	3.9	5	0 - 10	10 07	CF: -2	Start: 103	Start: 1000
Duplicate	4.1			10 08	CF: TSS 108A	End: 103	End: 1800

Instructions: CEL ID consists of Work Order Number and Container ID

CEL ID #	MASS (g)		DISH + SAMPLE		SAMPLE (as-received)	DISH + SAMPLE (oven-dried)	MOISTURE	% MOISTURE		BALANCE ID #	RL (%)	QUAL	COMMENTS
	DISH	(as-received)	(as-received)	(oven-dried)				WET-BASED	DRY-BASED				
Duplicate 17-03-0140-27A	1.85	12.85	11.00	12.40	0.45	12.40	0.45	4.1		63	0.10		
28 A	1.88	12.83	10.96	12.40	0.43	12.40	0.43	3.9					
29 A	1.88	12.21	10.33	11.77	0.44	11.77	0.44	4.3					
30 A	1.88	12.26	10.38	11.82	0.44	11.82	0.44	4.2					
31 A	1.88	12.21	10.33	11.78	0.43	11.78	0.43	4.2					
17-03-0141-27A	1.87	12.22	10.35	11.80	0.42	11.80	0.42	4.1					
28 A	1.84	12.22	10.38	11.59	0.63	11.59	0.63	6.1					
29 A	1.86	12.26	10.40	11.75	0.51	11.75	0.51	4.9					
30 A	1.85	12.21	10.36	11.70	0.51	11.70	0.51	4.9					
31 A	1.86	12.77	10.91	12.22	0.55	12.22	0.55	5.0					
17-03-0142-27A	1.86	12.33	10.47	11.84	0.49	11.84	0.49	4.7					
28 A	1.88	12.76	10.88	12.32	0.44	12.32	0.44	4.0					
29 A	1.85	12.29	10.44	11.87	0.42	11.87	0.42	4.0					
30 A	1.87	12.33	10.46	11.91	0.42	11.91	0.42	4.0					
31 A	1.88	12.27	10.39	11.87	0.40	11.87	0.40	3.8					
17-03-0131-4A	1.85	12.20	10.35	11.80	0.40	11.80	0.40	3.9					
5 A	1.89	12.40	10.51	11.82	0.58	11.82	0.58	5.5					
6 A	1.86	12.54	10.68	12.14	0.40	12.14	0.40	3.7					
	1.88	12.35	10.47	11.79	0.56	11.79	0.56	5.3					

BATCH TIME
Time (24 Hrs): 1800
Initials: 1009/1050

Drying / Weighing Cycle Raw Data Logbook

Analyte: ☒ Moisture Content, ☐ Solids Content, ☐ Total Dissolved Solids (TDS), ☐ Total Suspended Solids (TSS), ☐ Volatile Solids (VS), ☐ Volatile Suspended Solids (VSS), ☐ Lipid Content, ☐ Mobility Extraction (TCLP/SPLP/STLC), ☐ Other (Specified)

METHOD		MASS CHANGE CONTROL LIMIT		COMMENTS
MATRIX	DATE	ANALYST(S)	BATCH NUMBER	
☒ ASTM D2216(M) ☐ EPA 160.1 ☐ EPA 160.2 ☐ EPA 160.3	☐ EPA 160.4 ☐ EPA 1311 ☐ EPA 1312 ☐ EPA 2540 B	☐ SM 2540 C ☐ SM 2540 D ☐ SM 2540 E ☐ SOP-M489	Moisture/Solids Content: < 0.1% of previous mass TDS/TSS/VSS/VSS: < 4% of previous mass or 0.5 mg, whichever is less TCLP/SPLP/STLC: within ± 1% of previous mass	

Preparation:	Analysis:	DATE	ANALYST(S)	MB:	LCS/LCSD:	COMMENTS
Solid	↓	3/3/17	1009/1050	40303M01B1	NA	NA

ECID #	OVEN ID #	CONTAINER + RESIDUE (OVEN-DRIED)										BALANCE ID #	COMMENTS
		CYCLE 1				CYCLE 2				CYCLE 3			
		MASS (g)	TIME (hh:mm)		MASS (g)	TIME (hh:mm)		MASS (g)	TIME (hh:mm)				
			IN	OUT		IN	OUT		IN	OUT			
MB	10-07	1.88	1100	1500	1.88	1600	1700				63		
LCS													
LCSD													
MS													
MSD/Duplicate													
Duplicate	17-03-0140-27A	12.40	1100	1500	12.40	1600	1700				63		
	17-03-0140-27A	12.40			12.40								
	-28A	11.77			11.77								
	-29A	11.82			11.82								
	-30A	11.78			11.78								
	-31A	11.80			11.80								
	17-03-0141-27A	11.59			11.59								
	-28A	11.75			11.75								
	-29A	11.70			11.70								
	-30A	12.22			12.22								
	-31A	11.84			11.84								
	17-03-0142-27A	12.32			12.32								
	-28A	11.87			11.87								
	-29A	11.91			11.91								
	-30A	11.87			11.87								
	-31A	11.80			11.80								
	17-03-0131-4A	11.82			11.82								
	-5A	12.14			12.14								
	-6A	11.79			11.79								

BATCH TIME

Time 124.44% 1800

Initials: 1009/20

Page 76 of 76

BATCH TIME
 Thermo 734144 1800
 Initiator: 1009/1050



BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 3/3/17 Initials: 1111

ID	Class 2 Weight (g)	Reading (g)	Acceptance Range	Pass? (circle one)	Comment (If not passed, note removal or corrective action)
25	1	1.00	0.98 - 1.02	☒ N	IO Lab
	100	100.00	98.00 - 102.00	☒ N	
	500	500.00	498.00 - 502.00	☒ N	
62	0.002	.0019	0.00180 - 0.00220	☒ N	IO Lab
	1	.9996	0.99900 - 1.00100	☒ N	
	100	99.9966	99.90000 - 100.10000	☒ N	
26	1	1.00	0.98 - 1.02	☒ N	IO Lab
	100	99.97	98.00 - 102.00	☒ N	
55	1	1.00	0.98 - 1.02	☒ N	IO Lab
	100	99.96	98.00 - 102.00	☒ N	
	500	499.81	498.00 - 502.00	☒ N	
11	1	1.00	0.98 - 1.02	☒ N	IO Lab
	100	99.99	98.00 - 102.00	☒ N	
66	0.002	.0019	0.00180 - 0.00220	☒ N	Metals
	1	.9997	0.99900 - 1.00100	☒ N	
	100	100.0004	99.90000 - 100.10000	☒ N	
53	0.1	.10	0.09 - 0.11	☒ N	Extractions
	1	1.00	0.98 - 1.02	☒ N	
	100	99.98	98.00 - 102.00	☒ N	
	500	499.91	498 - 502	☒ N	
2070	1	1.00	0.98 - 1.02	Y N	Extractions
	100	99.83	98.00 - 102.00	☒ N	
	500	499.18	498.00 - 502.00	☒ N	
57	100	100.00	98.0-102.0	☒ N	Extractions
	1000	999.9	998.0-1002.0	☒ N	
	2000	1999.9	1998.0-2002.0	☒ N	
52	0.002	.0020	0.0018 - 0.0022	☒ N	Extractions
	1	.9996	0.9990 - 1.0010	☒ N	
	100	99.9971	99.9000 - 100.1000	☒ N	
71	0.002	.0019	0.0018 - 0.0022	☒ N	BOD Room
	1	.9997	0.9990 - 1.0010	☒ N	
	100	99.9967	99.9000 - 100.1000	☒ N	
63	0.1	.10	0.09 - 0.11	☒ N	BOD Room
	100	99.99	98.00 - 102.00	☒ N	
64	1	1.01	0.98 - 1.02	☒ N	Metals Clean Room
	10	10.01	9.8 - 10.2	☒ N	
	100	100.01	98.00 - 102.00	☒ N	
72	0.002	.0018	0.0018 - 0.0022	☒ N	Oil & Grease Room
	1	.9995	0.9990 - 1.0010	☒ N	
	100	100.0014	99.9000 - 100.1000	☒ N	
30	1	.99	0.98 - 1.02	☒ N	Oil & Grease Room
	100	99.96	98.00 - 102.00	☒ N	

Return to Contents

EPA 8015B (M) Diesel + Motor Oil

RAW DATA

EPA 8015B (M) Diesel + Motor Oil

INITIAL CALIBRATION

INITIAL CALIBRATION QUALITY CONTROL SUMMARY

FOR METHOD: EPA 8015B (M)

ICAL WORK ORDER: 099-14-354-23-5901
 ICAL BATCH ID: 170306I006
 INSTRUMENT: GC 49

ANALYZED BY: 972
 ICAL D/T ANALYZED: 2017-03-06 16:25
 REVIEWED BY: 1,027
 D/T REVIEWED: 2017-03-09 14:39

COMPOUND	COMP. TYPE	CALIB. MODEL	1	2	3	4	5	6	7	8	9	Avg. RF	Min. RF	%RSD CL	%RSD CL	R or R ²	R or R ² CL	STATUS
TPH as Diesel	C	Avg RF	1,245.677	912.737	918.784	901.660	906.221					977.0	0.00	15	0-20			PASS
												16						

Data Files:

Level #	D/T Analyzed	Data File
1	2017-03-06 16:25	T:\GC_49\GC_49_data\2017\170306\17030614.d\Report.txt17030614
2	2017-03-06 16:46	T:\GC_49\GC_49_data\2017\170306\17030615.d\Report.txt17030615
3	2017-03-06 17:06	T:\GC_49\GC_49_data\2017\170306\17030616.d\Report.txt17030616
4	2017-03-06 17:27	T:\GC_49\GC_49_data\2017\170306\17030617.d\Report.txt17030617
5	2017-03-06 17:48	T:\GC_49\GC_49_data\2017\170306\17030618.d\Report.txt17030618

INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8015B (M)

ICV WORK ORDER: 099-14-354-23-5901
INITIAL BATCH: 1703061006
INSTRUMENT: GC 49

ANALYZED BY: 972
D/T ANALYZED: 2017-03-06 16:25
INITIAL: 2017-03-06 18:09
ICV: 1,027
REVIEWED BY: 2017-03-09 14:39
D/T REVIEWED:

DATA FILE: T:\GC_49\data\2017\170306\17030619.d\Report.txt17030619

COMPOUND NAME	COMP CALIB		MIN RF	AVG RF	ICV RF	AMOUNT	ICV CONC	ICV %D	ICV %D CL	STATUS
	TYPE	MODEL								
TPH as Diesel	C	Avg Resp	0.00	977.016	886.920			9	0-30	PASS

MIN RF: Method Specified Minimum Response Factor

Report Date : 06-Mar-2017 19:11

Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 09-NOV-2016 21:15
 End Cal Date : 06-MAR-2017 17:48
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_49.i/170306.b/8015d.m
 Cal Date : 06-Mar-2017 19:09 d2ef
 Curve Type : Average

Calibration File Names:

Level 1: /chem1/SVOA/GC_49.i/170124.b/17012441.d
 Level 2: /chem1/SVOA/GC_49.i/170124.b/17012442.d
 Level 3: /chem1/SVOA/GC_49.i/170124.b/17012443.d
 Level 4: /chem1/SVOA/GC_49.i/170124.b/17012444.d
 Level 5: /chem1/SVOA/GC_49.i/170124.b/17012445.d

	5.000	200.000	400.000	800.000	1600.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
S 1 TPH as Jet A rf	886434	816845	849166	1193052	863474	921794	17
S 4 TPH as JP5 rf	822008	830452	736341	726438	850947	793237	7
S 14 TPH as Diesel rf	1245677	912737	918784	901660	906221	977016	15

Report Date : 06-Mar-2017 19:11

Page 2

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 09-NOV-2016 21:15
 End Cal Date : 06-MAR-2017 17:48
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_49.i/170306.b/8015d.m
 Cal Date : 06-Mar-2017 19:09 d2ef
 Curve Type : Average

	5.000	200.000	400.000	800.000	1600.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
S 26 Diesel Range Organics rf	1109325	837831	843320	828547	840256	891856	14
S 31 Oil Range Organics rf	325793	329796	315888	323023	313064	321513	2
S 35 TPH as Motor Oil rf	386723	335050	318855	325562	315112	336260	9

Report Date : 06-Mar-2017 19:11

Page 8

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 09-NOV-2016 21:15
 End Cal Date : 06-MAR-2017 17:48
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_49.i/170306.b/8015d.m
 Cal Date : 06-Mar-2017 19:09 d2ef
 Curve Type : Average

	5.000	200.000	400.000	800.000	1600.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
S 274 Micro-TPH as Motor Oil rf	531070	608933	689551	700484	707426	647493	12
S 200 NWTPH_Diesel rf	838068	650960	682751	690067	691436	710656	10
S 268 NWTPH_Diesel Range rf	838068	650960	682751	690067	691436	710656	10
S 201 NWTPH_Motor Oil rf	386163	394983	425714	434936	389269	406213	6
=====	=====	=====	=====	=====	=====	=====	=====
\$ 92 n-Octacosane	244278	235628	228262	230419	222709	232259	4
\$ 93 C28 n-Octacosane	340990	511509	511646	496028	456324	463300	16
=====	=====	=====	=====	=====	=====	=====	=====

Data File: /chem1/SVOA/GC_49.i/170306.b/17030619.d
 Report Date: 03/07/2017 10:23

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_49.i Injection Date and Time: 06-MAR-2017 18:09
 Sample Name: ICV D400 C28 50 L102516G Initial Calibration Date(s): 09-NOV-2016 06-MAR-2017
 Sublist used: CCV_D-DRO.sub Initial Calibration Time(s): 21:15 19:52
 Method used: /chem1/SVOA/GC_49.i/170306.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Diesel Range Organics	891855.748	841967.223	0.00	6	15	Averaged
TPH as Diesel	977015.903	886919.945	0.00	9	15	Averaged
Surrogate Standards	Amount	RRF	RRF	%Drift	%Drift	Curve Type
n-Octacosane	232259.309	243037.580	0.00	-5	20	Averaged

page 1

Data File: /chem1/SVOA/GC_49.i/170306.b/17030614.d
 Report Date: 07-Mar-2017 10:16

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170306.b/17030614.d

Lab Smp Id:

Inj Date : 06-MAR-2017 16:25

Operator : 682

Inst ID: GC_49.i

Smp Info : ICAL D5 C28 0.625 L102516B

Misc Info :

Comment :

Method : /chem1/SVOA/GC_49.i/170306.b/8015d.m

Meth Date : 07-Mar-2017 10:13 uj3k

Quant Type: ESTD

Cal Date : 25-JAN-2017 00:58

Cal File: 17012441.d

Als bottle: 14

Calibration Sample, Level: 1

Dil Factor: 1.00000

Integrator: HP Genie

Compound Sublist: ICAL_D-DRO.sub

Target Version: 3.50

Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (ppm)	ON-COL (ppm)
=====	==	=====	=====	=====	=====	=====
S 14 TPH as Diesel	0.697-7.962			6228384	5.00000	6.374
S 26 Diesel Range Organics	2.315-7.962			5546623	5.00000	6.219
\$ 92 n-Octacosane	7.758	7.756	0.002	152674	0.62500	0.657

Page 1

Data File: /chem1/SVDA/GC_49.i/170306.b/17030614.d

Date : 06-MAR-2017 16:25

Client ID:

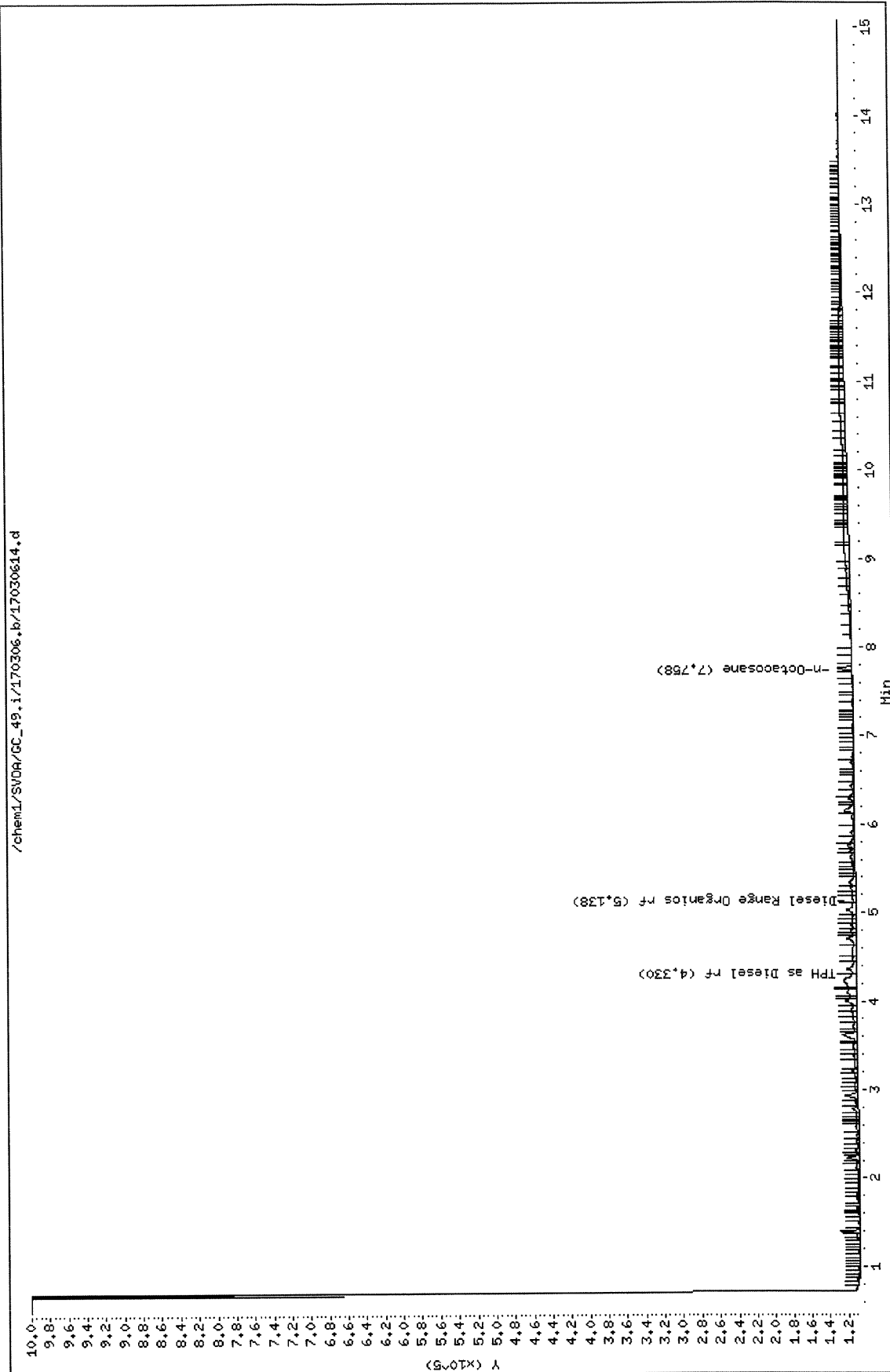
Sample Info: ICAL D5 C28 0.625 L1025168

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_49.i/170306.b/17030615.d
 Report Date: 07-Mar-2017 10:17

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170306.b/17030615.d

Lab Smp Id:

Inj Date : 06-MAR-2017 16:46

Operator : 682

Inst ID: GC_49.i

Smp Info : ICAL D200 C28 25 L102516C

Misc Info :

Comment :

Method : /chem1/SVOA/GC_49.i/170306.b/8015d.m

Meth Date : 07-Mar-2017 10:16 uj3k

Quant Type: ESTD

Cal Date : 25-JAN-2017 01:19

Cal File: 17012442.d

Als bottle: 15

Calibration Sample, Level: 2

Dil Factor: 1.00000

Integrator: HP Genie

Compound Sublist: ICAL_D-DRO.sub

Target Version: 3.50

Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(ppm)	(ppm)
=====	==	=====	=====			=====	=====	=====
S 14 TPH as Diesel	0.697-7.962					182547475	200.000	186.841
S 26 Diesel Range Organics	2.315-7.962					167566270	200.000	187.884
\$ 92 n-Octacosane	7.757	7.758	-0.001			5890705	25.0000	25.362

Page 1

Data File: /chem1/SVDA/CC_49.i/170306.b/17030615.d

Date : 06-MAR-2017 16:46

Client ID:

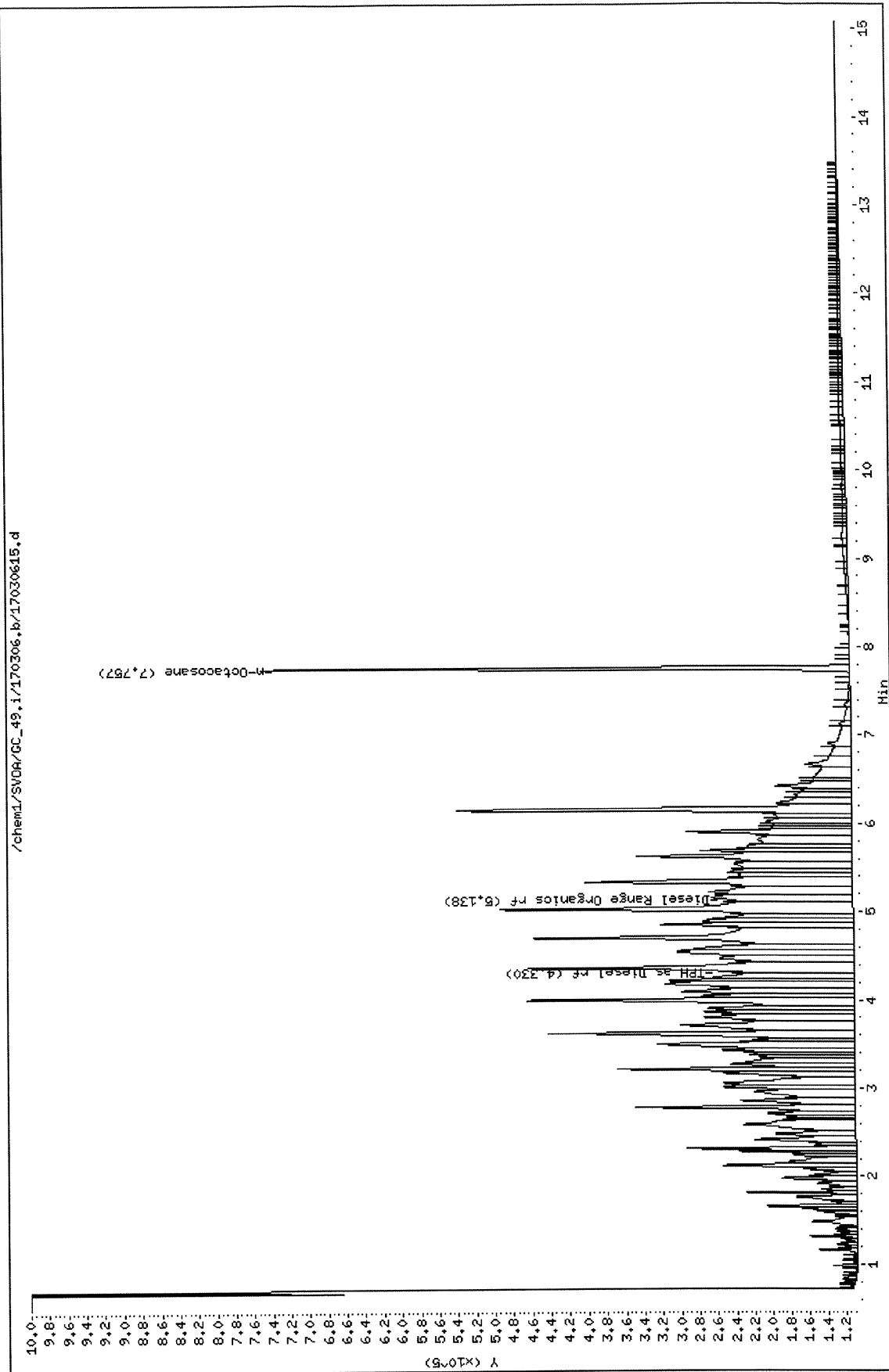
Sample Info: ICAL D200 C28 25 L102516C

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



[Return to Contents](#)

Data File: /chem1/SVOA/GC_49.i/170306.b/17030616.d
 Report Date: 07-Mar-2017 10:17

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170306.b/17030616.d

Lab Smp Id:

Inj Date : 06-MAR-2017 17:06

Operator : 682

Inst ID: GC_49.i

Smp Info : ICAL D400 C28 50 L102516D

Misc Info :

Comment :

Method : /chem1/SVOA/GC_49.i/170306.b/8015d.m

Meth Date : 07-Mar-2017 10:16 uj3k

Quant Type: ESTD

Cal Date : 25-JAN-2017 01:41

Cal File: 17012443.d

Als bottle: 16

Calibration Sample, Level: 3

Dil Factor: 1.00000

Integrator: HP Genie

Compound Sublist: ICAL_D-DRO.sub

Target Version: 3.50

Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (ppm)	ON-COL (ppm)
=====	==	=====	=====	=====	=====	=====
S 14 TPH as Diesel	0.697	7.962		367513694	400.000	376.159
S 26 Diesel Range Organics	2.315	7.962		337327915	400.000	378.231
\$ 92 n-Octacosane	7.757	7.757	0.000	11413099	50.0000	49.139

Page 1

Data File: /chem1/SVDA/GC_49.i/170306.b/17030616.d

Date : 06-MAR-2017 17:06

Client ID:

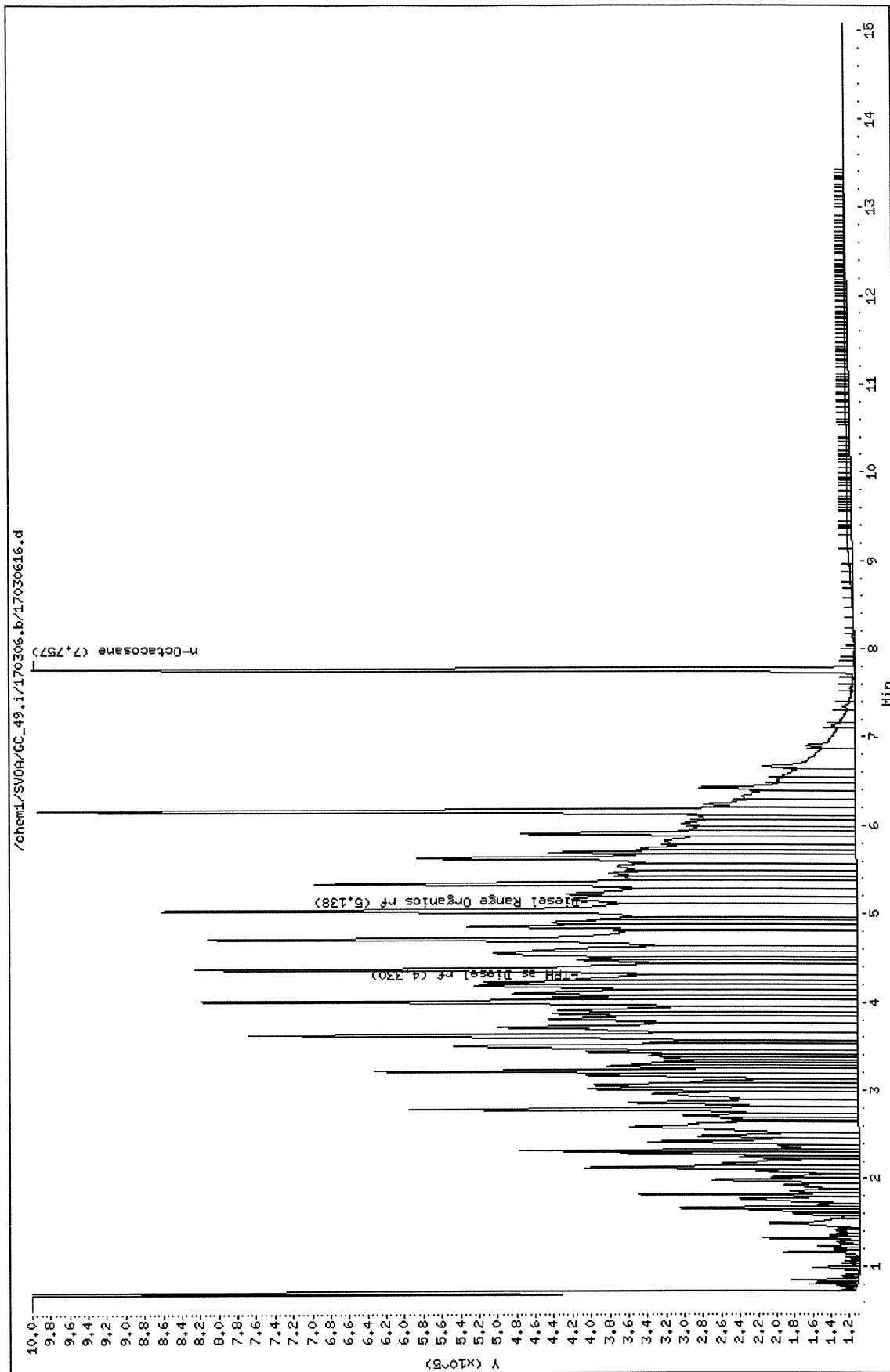
Sample Info: ICAL D400 C28 50 L102516D

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_49.i/170306.b/17030617.d
 Report Date: 07-Mar-2017 10:17

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170306.b/17030617.d

Lab Smp Id:

Inj Date : 06-MAR-2017 17:27

Operator : 682

Inst ID: GC_49.i

Smp Info : ICAL D800 C28 100 L102516E

Misc Info :

Comment :

Method : /chem1/SVOA/GC_49.i/170306.b/8015d.m

Meth Date : 07-Mar-2017 10:17 uj3k

Quant Type: ESTD

Cal Date : 25-JAN-2017 02:02

Cal File: 17012444.d

Als bottle: 17

Calibration Sample, Level: 4

Dil Factor: 1.00000

Integrator: HP Genie

Compound Sublist: ICAL_D-DRO.sub

Target Version: 3.50

Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds					AMOUNTS	
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ppm)	ON-COL (ppm)
=====	==	=====	=====	=====	=====	=====
S 14 TPH as Diesel	0.697-7.962			721328088	800.000	738.297
S 26 Diesel Range Organics	2.315-7.962			662837940	800.000	743.212
\$ 92 n-Octacosane	7.759	7.757	0.002	23041891	100.000	99.207

Page 1

Data File: /chem1/SVDA/GC_49.i/170306.b/17030617.d

Date : 06-MAR-2017 17:27

Client ID:

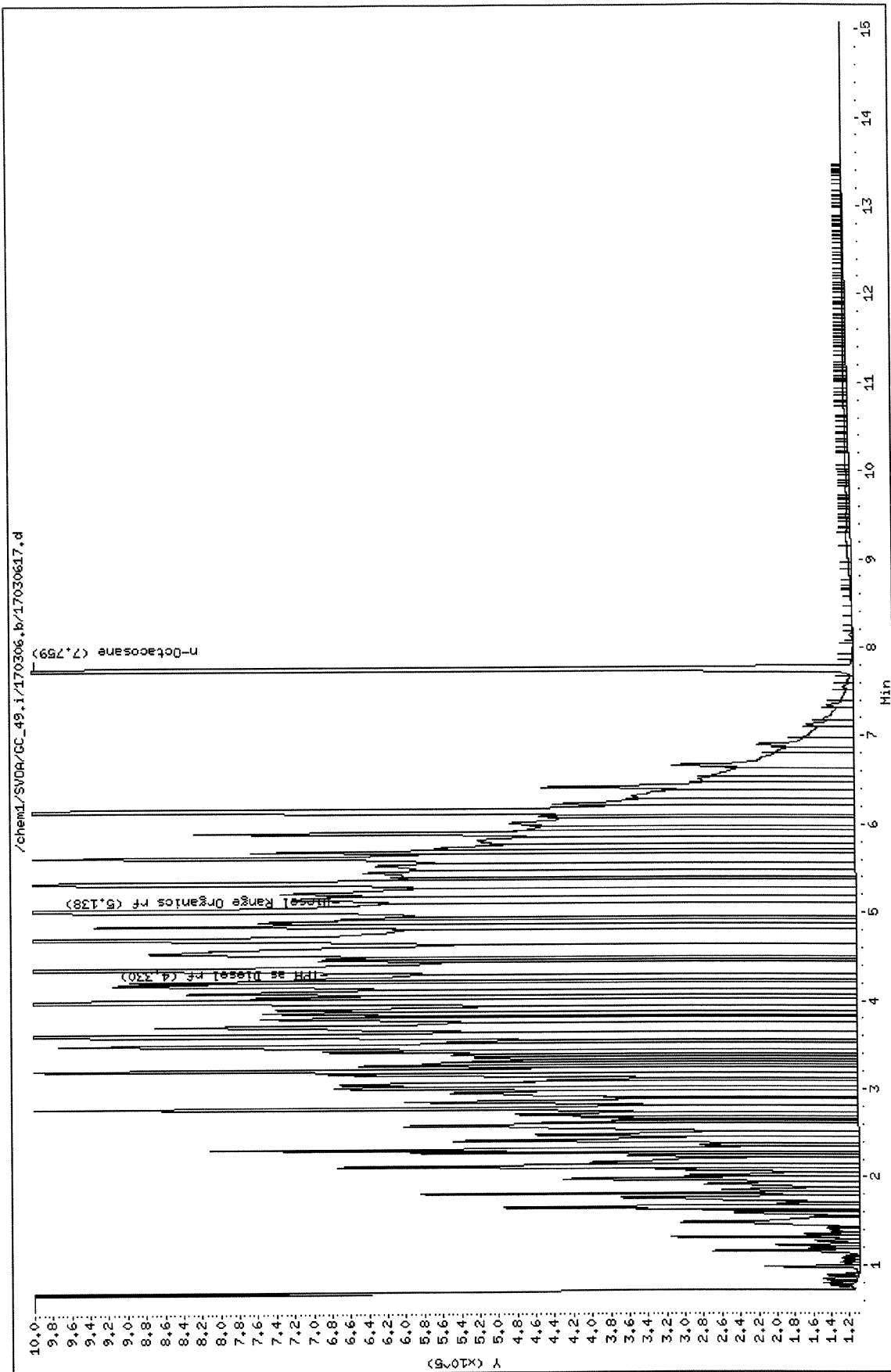
Sample Info: ICAL D800 C28 100 L102516E

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_49.i/170306.b/17030618.d
 Report Date: 07-Mar-2017 10:17

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170306.b/17030618.d
 Lab Smp Id:
 Inj Date : 06-MAR-2017 17:48
 Operator : 682 Inst ID: GC_49.i
 Smp Info : ICAL D1600 C28 200 L102516F
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_49.i/170306.b/8015d.m
 Meth Date : 07-Mar-2017 10:17 uj3k Quant Type: ESTD
 Cal Date : 25-JAN-2017 02:23 Cal File: 17012445.d
 Als bottle: 18 Calibration Sample, Level: 5
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (ppm)	ON-COL (ppm)
=====	==	=====	=====	=====	=====	=====
S 14 TPH as Diesel	0.697-7.962			1449953593	1600.00	1484.063
S 26 Diesel Range Organics	2.315-7.962			1344408923	1600.00	1507.428
\$ 92 n-Octacosane	7.762	7.759	0.003	44541811	200.000	191.776

Page 1

Data File: /chem1/SVDA/GC_49.i/170306.b/17030618.d

Date : 06-MAR-2017 17:48

Client ID:

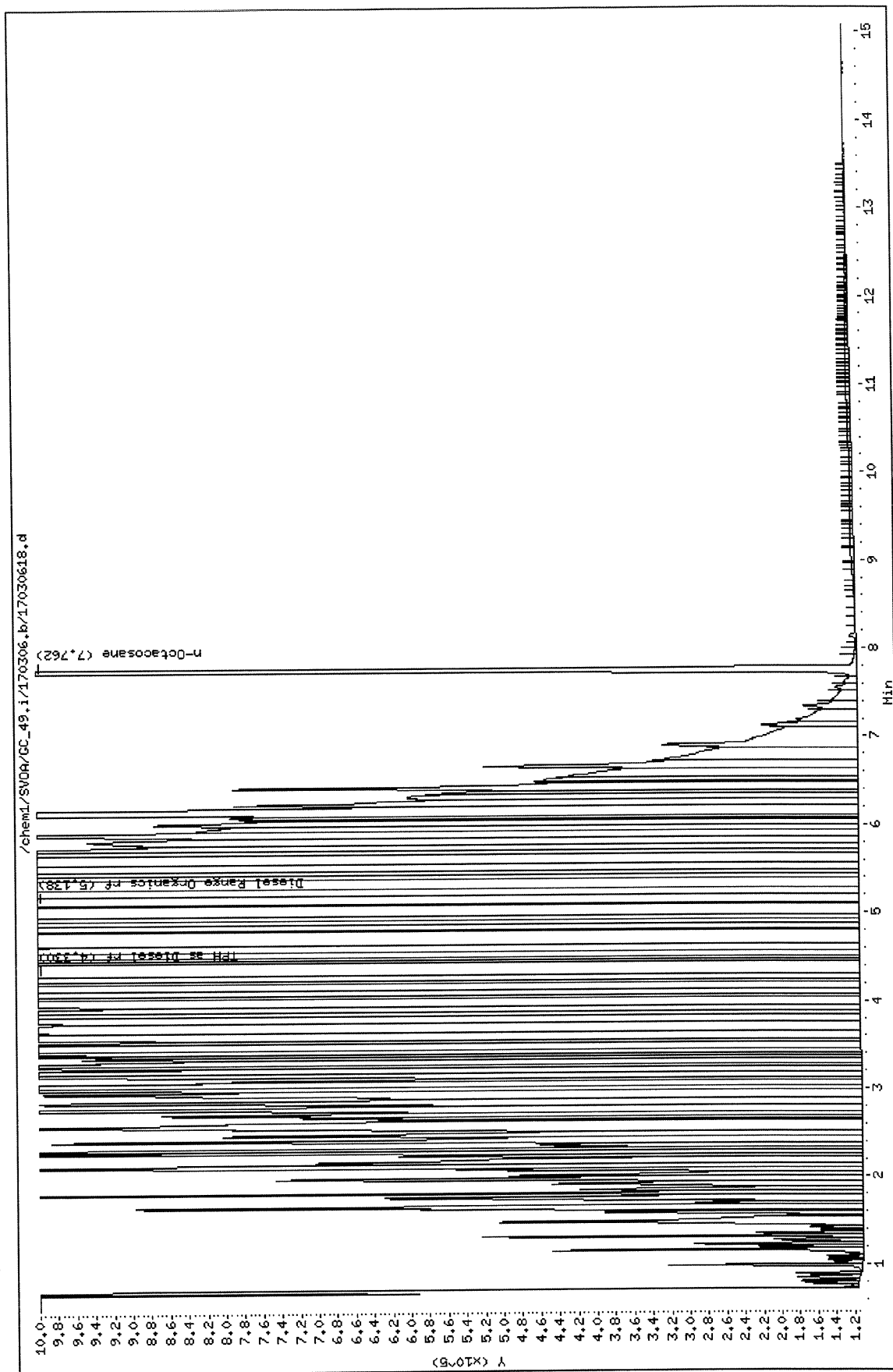
Sample Info: ICAL D1600 C28 200 L102516F

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:

[Return to Contents](#)

Data File: /chem1/SVOA/GC_49.i/170306.b/17030619.d
 Report Date: 07-Mar-2017 10:17

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170306.b/17030619.d

Lab Smp Id:

Inj Date : 06-MAR-2017 18:09

Operator : 682

Inst ID: GC_49.i

Smp Info : ICV D400 C28 50 L102516G

Misc Info :

Comment :

Method : /chem1/SVOA/GC_49.i/170306.b/8015d.m

Meth Date : 07-Mar-2017 10:17 uj3k

Quant Type: ESTD

Cal Date : 25-JAN-2017 02:23

Cal File: 17012445.d

Als bottle: 19

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: HP Genie

Compound Sublist: CCV_D-DRO.sub

Target Version: 3.50

Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (ppm)	ON-COL (ppm)
=====	==	=====	=====	=====	=====	=====
S 14 TPH as Diesel	0.697-7.962			354767978	400.000	363.113
S 26 Diesel Range Organics	2.315-7.962			336786889	400.000	377.624
\$ 92 n-Octacosane	7.756	7.762	-0.006	12151879	50.0000	52.320

Page 1

Data File: /chem1/SVDA/GC_49.i/170306.b/17030619.d

Date : 06-MAR-2017 18:09

Client ID:

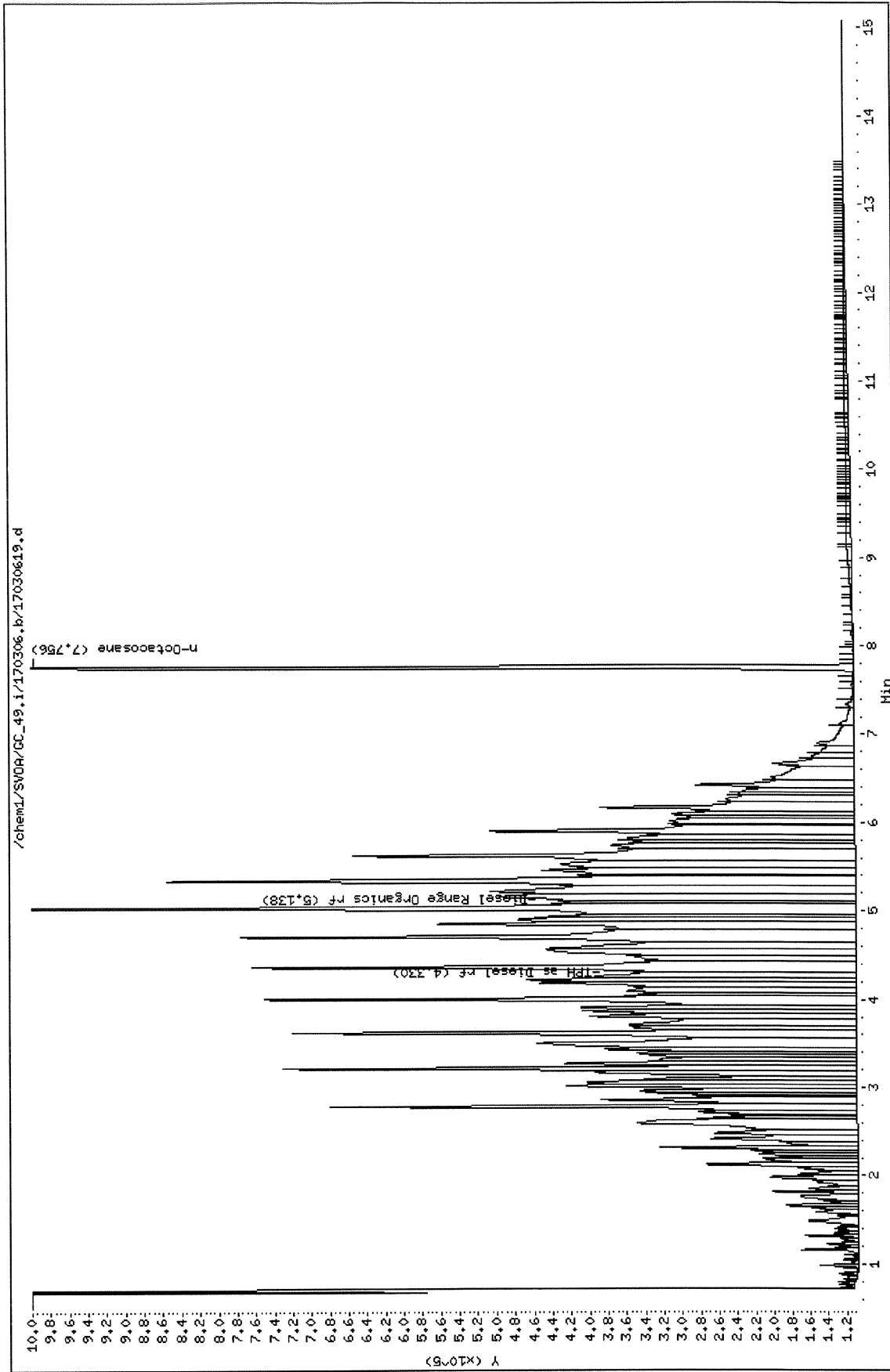
Sample Info: ICV B400 C28 50 L102516C

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170306/17030602.d
 Page Number :
 Operator : 682 Vial Number : Vial 2
 Instrument : GC 49 Injection Number : 2
 Sample Name : C6-C44 L110816A Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 06 MAR 17 12:07
 Report Created on: 07-MAR-17 10:23 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170306.b/17030602.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.697	7.850	7.153	2200075.00	0.00	C6-Hexane
0.882	7.850	6.968	3983348.00	0.00	C7-Heptane
1.317	7.850	6.533	5426841.00	0.00	C8-Octane
1.814	7.850	6.036	5539750.00	0.00	C9-Nonane
2.315	7.850	5.535	5698858.00	0.00	C10-Decane
2.783	7.850	5.067	5780938.00	0.00	C11-Undecane
3.217	7.850	4.633	5762413.00	0.00	C12-Dodecane
3.623	7.850	4.227	5863572.00	0.00	C13-Tridecane
4.004	7.850	3.846	5844937.00	0.00	C14-Tetradecane
4.364	7.850	3.486	5816534.00	0.00	C15-pentadecane
4.704	7.850	3.146	5811167.00	0.00	C16-Hexadecane
5.027	7.850	2.823	5915621.00	0.00	C17-Heptadecane
5.333	7.850	2.517	5944391.00	0.00	C18-Octadecane
5.626	7.850	2.224	6035801.00	0.00	C19-Nonadecane
5.905	7.850	1.945	6159045.00	0.00	C20-Eicosane
6.172	7.850	1.678	6187213.00	0.00	C21-Heneicosane
6.428	7.850	1.422	6163868.00	0.00	C22-Docosane
6.674	7.850	1.176	5942329.00	0.00	C23-Tricosane
6.909	7.850	0.941	5510708.00	0.00	C24-Tetracosane
7.135	7.850	0.715	4799734.00	0.00	C25-Pentacosane
7.353	7.850	0.497	3885114.00	0.00	C26-Hexacosane
7.563	7.850	0.287	2673879.00	0.00	C27-Heptacosane
7.766	7.850	0.084	1744614.00	7.51	n-Octacosane
7.962	7.850	-0.112	979046.00	0.00	C29-Nonacosane
8.152	7.850	-0.302	541331.00	0.00	C30-Triacontane
8.335	7.850	-0.485	292943.00	0.00	C31-Hentriacontane
8.513	7.850	-0.663	187410.00	0.00	C32-Dotriacontane
8.685	7.850	-0.835	153599.00	0.00	C33-Tritriacontane
8.853	7.850	-1.003	120180.00	0.00	C34-Tetratriacontane
9.016	7.850	-1.166	101264.00	0.00	C35-Pentatriacontane
9.176	7.850	-1.326	130921.00	0.00	C36-Hexatriacontane
9.351	7.850	-1.501	69385.00	0.00	C37-Heptatriacontane
9.555	7.850	-1.705	45993.00	0.00	C38-Octatriacontane
9.794	7.850	-1.944	81150.00	0.00	C39-Nonatriacontane
10.062	7.850	-2.212	37339.00	0.00	C40-Tetracontane
11.777	7.850	-3.927	401386.00	0.00	C44-Tetratetracontane

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170306.b/17030602.d

Date : 06-MAR-2017 12:07

Client ID:

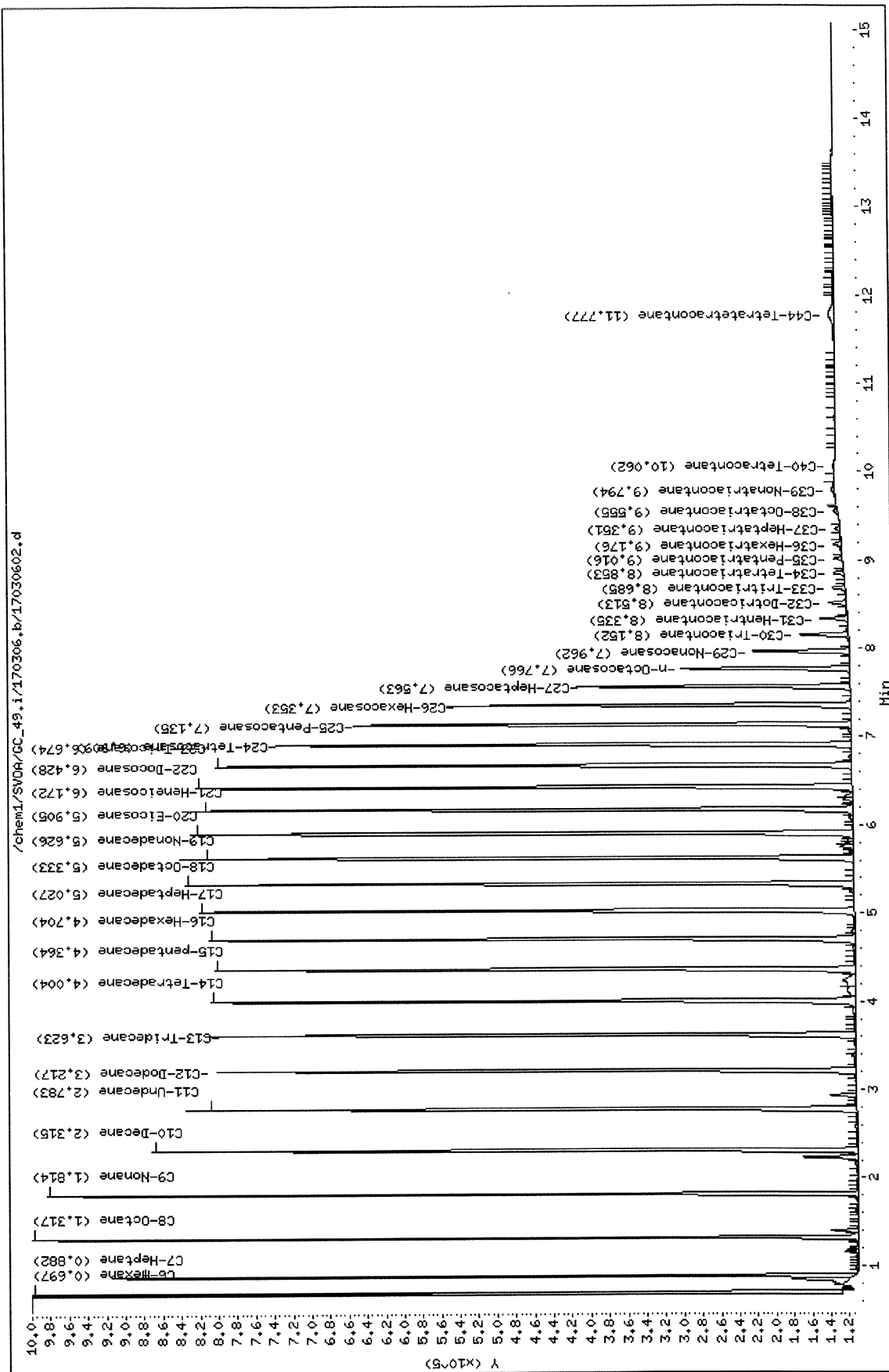
Sample Info: C6-C44 L110816A

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:

[Return to Contents](#)

EPA 8015B (M) Diesel + Motor Oil

SAMPLE DATA

**RAW DATA SHEET
FOR METHOD: EPA 8015B (M)**

Page 101 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 15:22
REVIEWED BY:
D/T REVIEWED: M

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030818.d\Report.txt17030818

27 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-8

LCS/MB BATCH: 170307B07A	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.10 g
MS/MSD BATCH: 170307S07	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.770	1.00	ND	5.0	
TPH as Motor Oil	0.220	1.00	ND	5.0	

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030818.d
Page Number :
Operator : 682 Vial Number : Vial 18
Instrument : GC 49 Injection Number : 18
Sample Name : 17-03-0141-27 Sequence Line : 0
Instrument Method: 8015d.m

Acquired on : 08 MAR 17 15:22
Report Created on: 10-MAR-17 12:03 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030818.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.754	7.850	0.096	10579675.00	45.55	n-Octacosane
2.312- 7.946			754119.44	0.77	TPH as Diesel
5.021-11.760			215894.91	0.22	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SV0A/GC_49.i/170308.b/17030818.d

Date : 08-HAR-2017 15:22

Client ID:

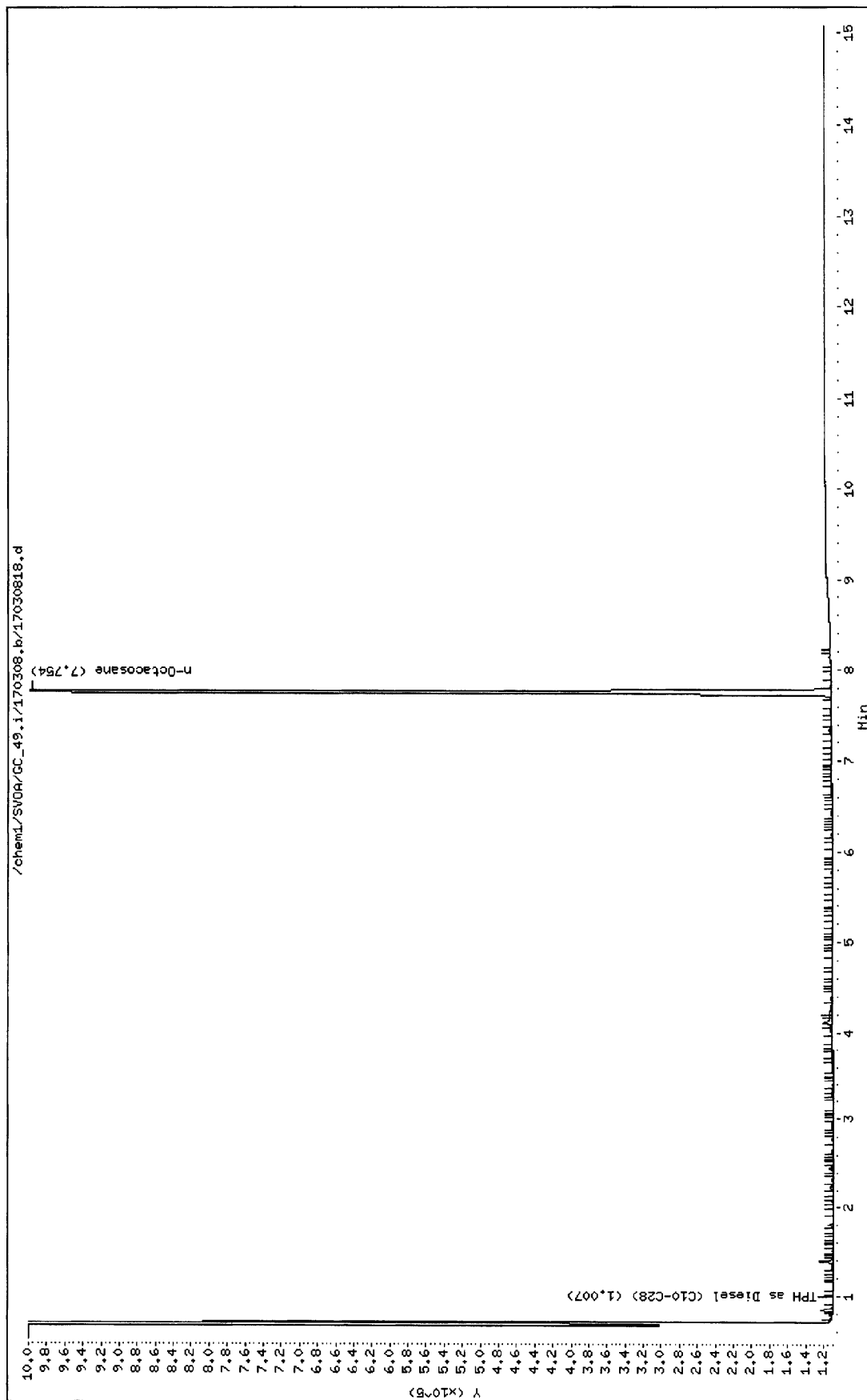
Sample Info: 17-03-0141-27

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8015B (M)**

Page 104 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 15:43
REVIEWED BY:
D/T REVIEWED: 

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030819.d\Report.txt17030819

28 **CLIENT SAMPLE NUMBER:** F-DU1-ISM2-8

LCS/MB BATCH: 170307B07A	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 9.99 g
MS/MSD BATCH: 170307S07	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
TPH as Diesel	0.830	1.00	ND	5.0	
TPH as Motor Oil	0.230	1.00	ND	5.0	

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030819.d
 Page Number :
 Operator : 682 Vial Number : Vial 19
 Instrument : GC 49 Injection Number : 19
 Sample Name : 17-03-0141-28 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 15:43
 Report Created on: 10-MAR-17 12:03 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030819.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.755	7.850	0.095	10864653.00	46.78	n-Octacosane
2.312- 7.946			815292.95	0.83	TPH as Diesel
5.021-11.760			228536.02	0.23	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030819.d

Date : 08-MAR-2017 15:43

Client ID:

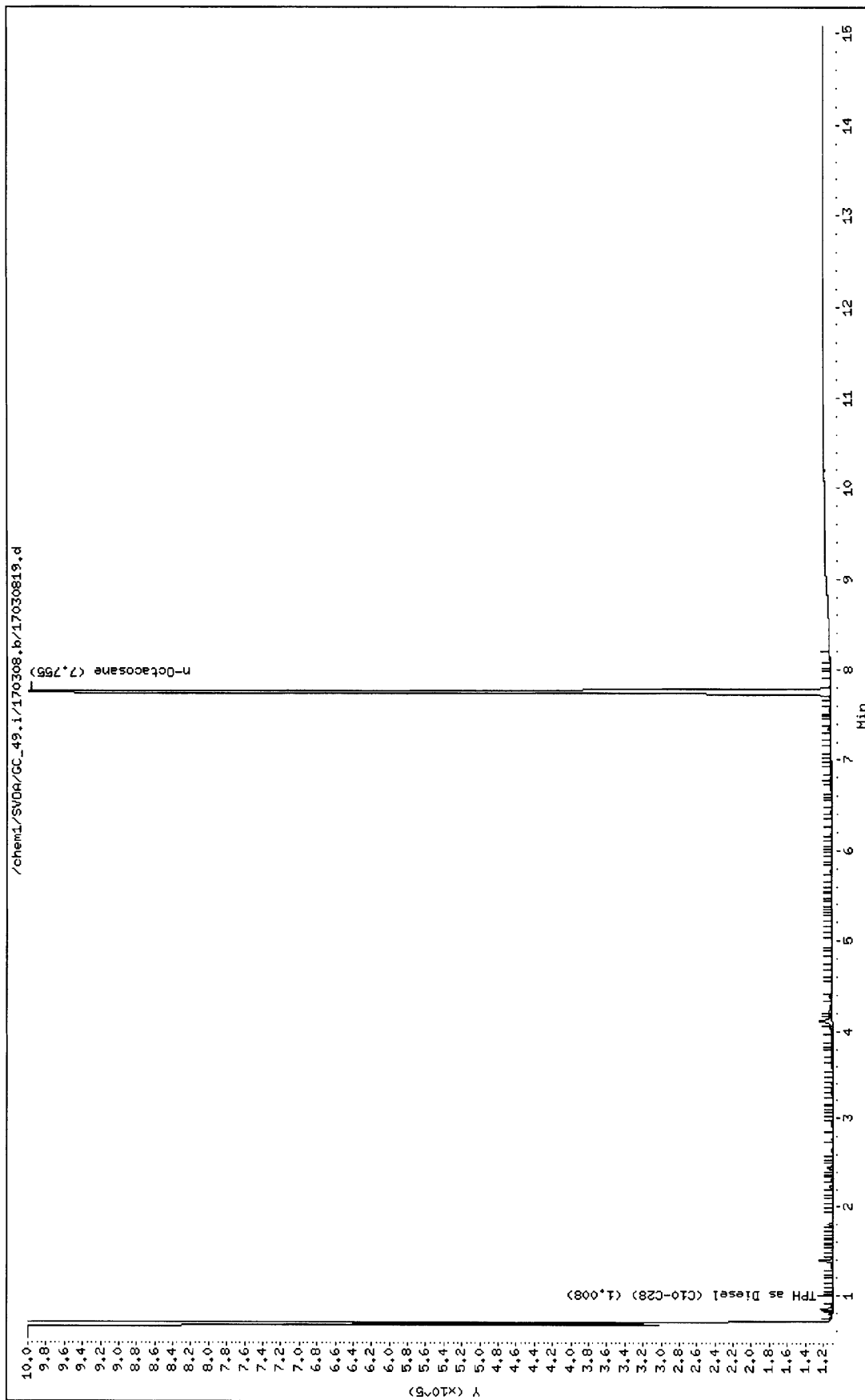
Sample Info: 17-03-0141-28

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8015B (M)**

Page 107 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 16:23
REVIEWED BY:
D/T REVIEWED: ✓

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030821.d\Report.txt17030821

29

CLIENT SAMPLE NUMBER: F-DU1-ISM3-8

LCS/MB BATCH: 170307B07A	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.20 g
MS/MSD BATCH: 170307S07	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 0.98

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.870	1.00	ND	4.9	
TPH as Motor Oil	0.360	1.00	ND	4.9	

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030821.d
 Page Number :
 Operator : 682 Vial Number : Vial 21
 Instrument : GC 49 Injection Number : 21
 Sample Name : 17-03-0141-29 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 16:23
 Report Created on: 10-MAR-17 12:02 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030821.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.754	7.850	0.096	10997531.00	47.35	n-Octacosane
2.312- 7.946			848897.27	0.87	TPH as Diesel
5.021-11.760			351220.79	0.36	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030821.d

Date : 08-HAR-2017 16:23

Client ID:

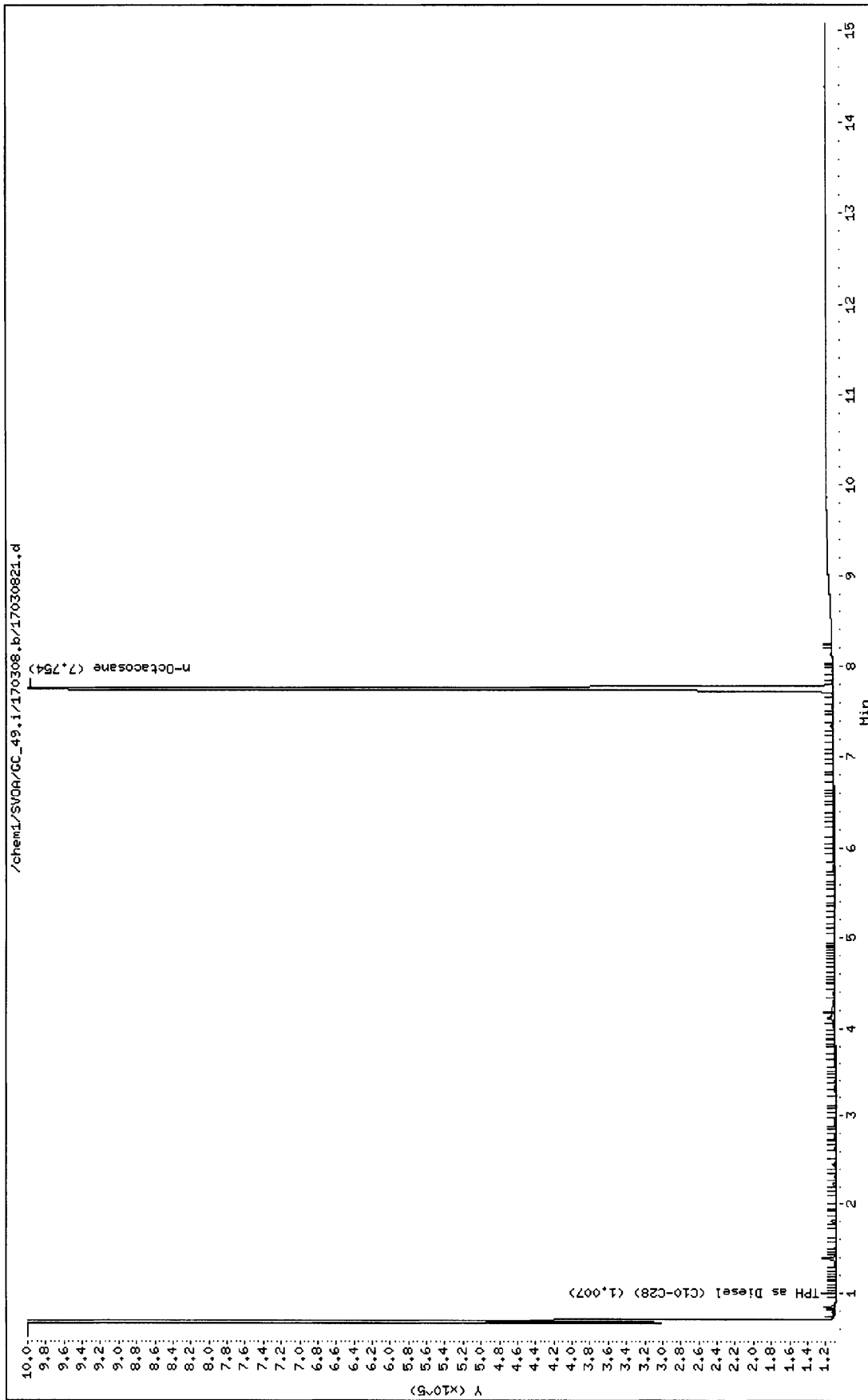
Sample Info: 17-03-0141-29

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8015B (M)**

Page 110 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 16:44
REVIEWED BY: 
D/T REVIEWED:

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030822.d\Report.txt17030822

30

CLIENT SAMPLE NUMBER: F-DU1-ISM4-8

LCS/MB BATCH: 170307B07A
MS/MSD BATCH: 170307S07
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
TPH as Diesel	1.07	1.00	ND	5.0	
TPH as Motor Oil	0.260	1.00	ND	5.0	

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030822.d
 Page Number :
 Operator : 682 Vial Number : Vial 22
 Instrument : GC 49 Injection Number : 22
 Sample Name : 17-03-0141-30 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 16:44
 Report Created on: 10-MAR-17 12:02 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030822.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	10481266.00	45.13	n-Octacosane
2.312- 7.946			1047540.38	1.07	TPH as Diesel
5.021-11.760			255060.66	0.26	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030822.d

Date : 08-HAR-2017 16:44

Client ID:

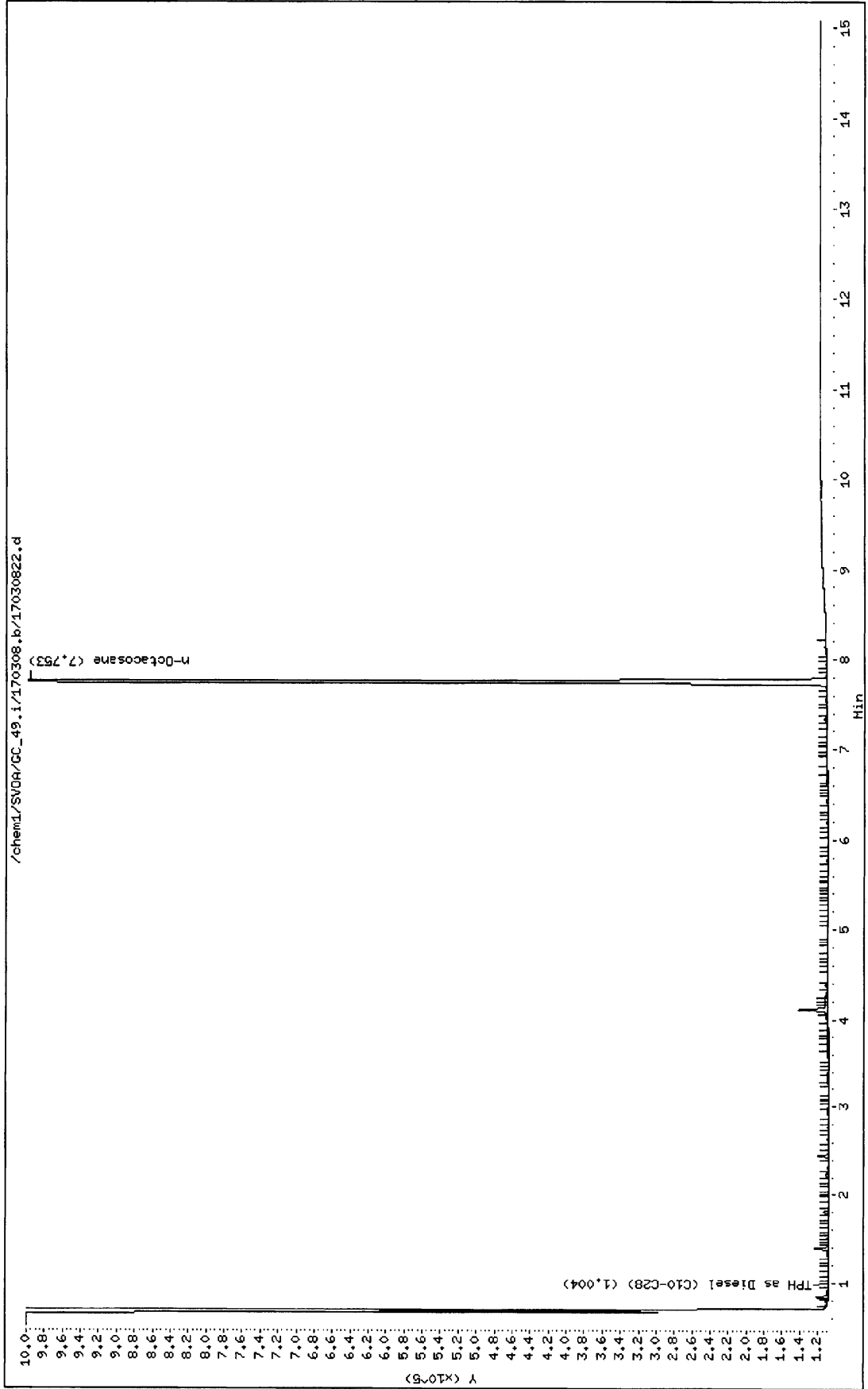
Sample Info: 17-03-0141-30

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8015B (M)**

Page 113 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 17:05
REVIEWED BY:
D/T REVIEWED: ~

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030823.d\Report.txt17030823

31

CLIENT SAMPLE NUMBER: F-DU1-ISM5-8

LCS/MB BATCH: 170307B07A	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.10 g
MS/MSD BATCH: 170307S07	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.870	1.00	ND	5.0	
TPH as Motor Oil	0.240	1.00	ND	5.0	

=====
External Standard Report
=====

Data File Name : /chem1/SVOA/GC_49/170308/17030823.d
Page Number :
Operator : 682 Vial Number : Vial 23
Instrument : GC 49 Injection Number : 23
Sample Name : 17-03-0141-31 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 08 MAR 17 17:05
Report Created on: 10-MAR-17 12:03 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030823.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.755	7.850	0.095	10674201.00	45.96	n-Octacosane
2.312- 7.946			849243.07	0.87	TPH as Diesel
5.021-11.760			234592.23	0.24	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030823.d

Date : 08-MAR-2017 17:05

Client ID:

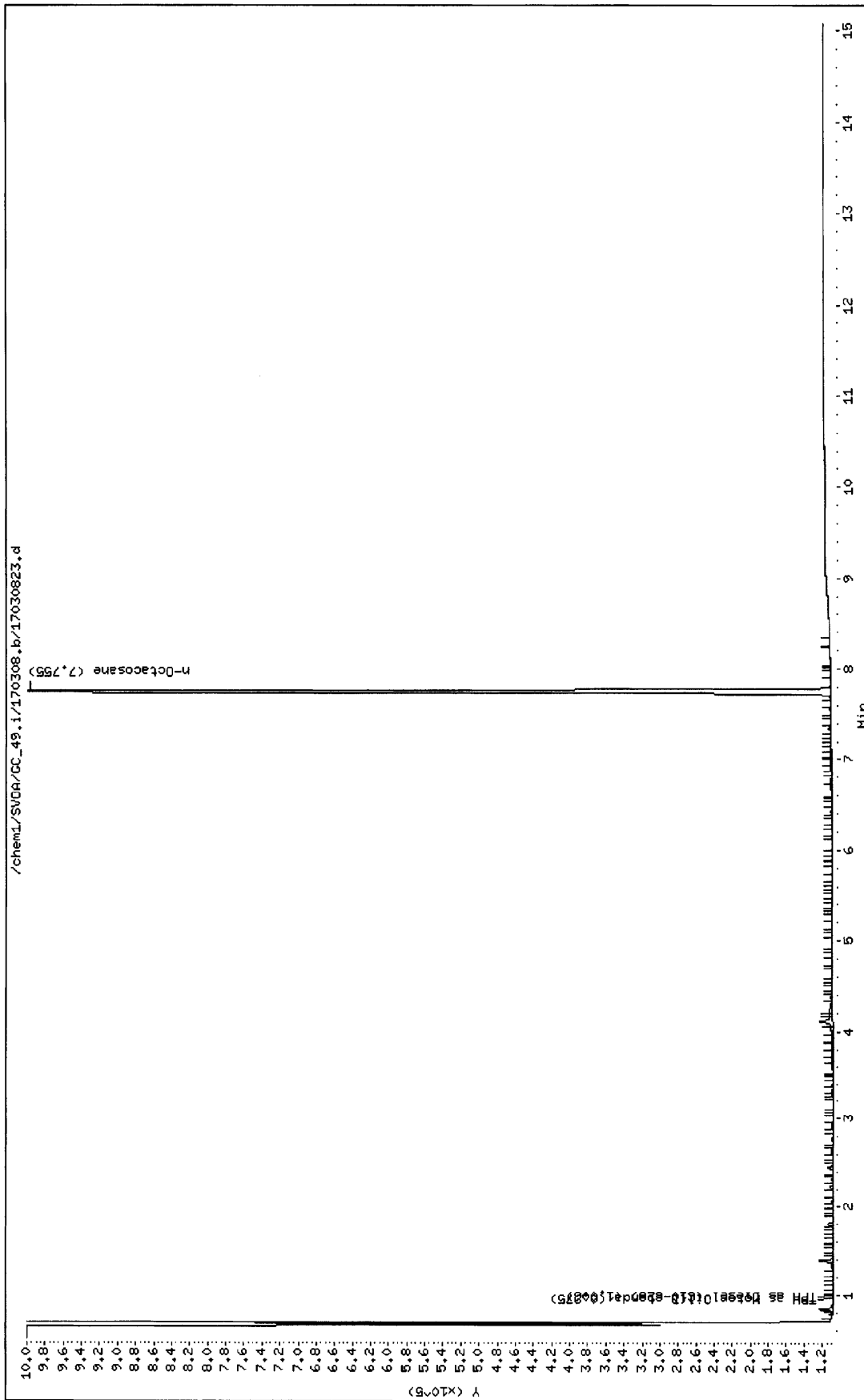
Sample Info: 17-03-0141-31

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



EPA 8015B (M)
Diesel + Motor Oil

QUALITY CONTROL

Method Blank
LCS/LCSD
MS/MSD

METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 8015B (M)

Page 117 of 524

MB SAMPLE ID: 099-14-353-5
MB BATCH ID: 170307B07A
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 10:52
REVIEWED BY: 
D/T REVIEWED:
MATRIX: Soil

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030805.d\Report.txt17030805

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-8		2017-03-08 15:22	T:\GC_49\GC_49_data\2017\170308\17030818.d\Report.txt17030818
28	F-DU1-ISM2-8		2017-03-08 15:43	T:\GC_49\GC_49_data\2017\170308\17030819.d\Report.txt17030819
29	F-DU1-ISM3-8		2017-03-08 16:23	T:\GC_49\GC_49_data\2017\170308\17030821.d\Report.txt17030821
30	F-DU1-ISM4-8		2017-03-08 16:44	T:\GC_49\GC_49_data\2017\170308\17030822.d\Report.txt17030822
31	F-DU1-ISM5-8		2017-03-08 17:05	T:\GC_49\GC_49_data\2017\170308\17030823.d\Report.txt17030823

**RAW DATA SHEET
FOR METHOD: EPA 8015B (M)**

Page 118 of 524

WORK ORDER: 099-14-353
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 10:52
REVIEWED BY:
D/T REVIEWED: m

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030805.d\Report.txt17030805

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170307B07A	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.00 g
MS/MSD BATCH:	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
TPH as Diesel	0.580	1.00	ND	5.0	
TPH as Motor Oil	0.170	1.00	ND	5.0	

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 8015B (M)

LCS SAMPLE ID: 099-14-353- 5
LCS/MB BATCH ID: 170307B07A
INSTRUMENT: GC 49

EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 11:12
REVIEWED BY:
D/T REVIEWED: 7

DATA FILE: T:\GC_49\data\2017\170308\17030806.d\Report.txt17030806

<u>COMPOUND NAME</u>	<u>CONC ADDED</u>	<u>CONC REC</u>	<u>%RECOVERY</u>	<u>%REC CONTROL LIMIT</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
TPH as Diesel	400.0	377.9	94	61-145	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET

FOR METHOD: EPA 8015B (M)

SPIKED SAMPLE ID: 17-03-0433-3
MS/MSD BATCH: 170307S07
INSTRUMENTS:
SAMPLE: GC 49
MS: GC 49
MSD: GC 49

EXTRACTION: EPA 3550B
D/T EXTRACTED:
SAMPLE: 2017-03-07 00:00
MS: 2017-03-07 00:00
MSD: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED:
SAMPLE: 2017-03-08 19:09
MS: 2017-03-08 11:34
MSD: 2017-03-08 11:55
REVIEWED BY: *21*
D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS REC	MSD CONC	% MSD REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
TPH as Diesel	ND	400.0	400.0	361.8	90	359.2	90	64-130	1	0-15	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17030807	T:\GC_49\GC_49_data\2017\170308\17030807.d\Report.txt
MSD	17030808	T:\GC_49\GC_49_data\2017\170308\17030808.d\Report.txt

SURROGATE RECOVERIES FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-0141

BATCH ID:

REVIEWED BY: 

D/T REVIEWED:

LCS/MB: 170307B07AMS: 170307S07EXTRACTION: EPA 3550B**# 27** CLIENT SAMPLE NUMBER: F-DU1-ISM1-8INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 15:22DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030818.d\Report.txt17030818COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	91	61-145	PASS	

28 CLIENT SAMPLE NUMBER: F-DU1-ISM2-8INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 15:43DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030819.d\Report.txt17030819COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	94	61-145	PASS	

29 CLIENT SAMPLE NUMBER: F-DU1-ISM3-8INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 16:23DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030821.d\Report.txt17030821COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	95	61-145	PASS	

30 CLIENT SAMPLE NUMBER: F-DU1-ISM4-8INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 16:44DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030822.d\Report.txt17030822COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	90	61-145	PASS	

SURROGATE RECOVERIES FOR METHOD: EPA 8015B (M)

Page 122 of 524

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB: 170307B07AMS: 170307S07EXTRACTION: EPA 3550BREVIEWED BY:D/T REVIEWED:

31 CLIENT SAMPLE NUMBER : F-DU1-ISM5-8

INSTRUMENT: GC 49D/T EXTRACTED: 2017-03-07 00:00DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030823.d\Report.txt17030823ANALYZED BY: 972D/T ANALYZED 2017-03-08 17:05COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	92	61-145	PASS	

MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 49D/T EXTRACTED: 2017-03-07 00:00DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030805.d\Report.txt17030805ANALYZED BY: 972D/T ANALYZED 2017-03-08 10:52COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	97	61-145	PASS	

LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 49D/T EXTRACTED: 2017-03-07 00:00DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030806.d\Report.txt17030806ANALYZED BY: 972D/T ANALYZED 2017-03-08 11:12COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	103	61-145	PASS	

MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC 49D/T EXTRACTED: 2017-03-07 00:00DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030807.d\Report.txt17030807ANALYZED BY: 972D/T ANALYZED 2017-03-08 11:34COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	110	61-145	PASS	

**SURROGATE RECOVERIES
FOR METHOD: EPA 8015B (M)**

Page 123 of 524

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB:

MS: **170307S07**

EXTRACTION: EPA 3550B

REVIEWED BY:

D/T REVIEWED:

11

MSD

CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC 49

D/T EXTRACTED: 2017-03-07 00:00

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030808.d\Report.txt17030808

ANALYZED BY: 972

D/T ANALYZED 2017-03-08 11:55

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	88	61-145	PASS	

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030805.d
 Page Number :
 Operator : 682 Vial Number : Vial 5
 Instrument : GC 49 Injection Number : 5
 Sample Name : MB 17030707 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 10:52
 Report Created on: 10-MAR-17 12:53 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030805.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
2.312- 7.946			389209.72	0.40	TPH as Diesel
5.021-11.760			168369.90	0.17	TPH as Motor Oil
7.752	7.850	0.098	11296188.00	48.64	n-Octacosane
0.688- 0.873			0.00	0.00	C6
0.873- 1.312			9862.48	0.01	C7
1.312- 1.809			128654.40	0.13	C8
1.809- 2.780			67669.09	0.07	C9-C10
2.780- 3.619			35514.16	0.04	C11-C12
3.619- 4.359			117504.81	0.12	C13-C14
4.359- 5.021			34777.99	0.04	C15-C16
5.021- 5.619			31956.83	0.03	C17-C18
5.619- 6.163			40121.62	0.04	C19-C20
6.163- 6.662			16225.22	0.02	C21-C22
6.662- 7.122			22762.50	0.02	C23-C24
7.122- 7.946			57303.73	0.06	C25-C28
7.946- 8.667			0.00	0.00	C29-C32
8.667- 9.330			0.00	0.00	C33-C36
9.330-10.048			0.00	0.00	C37-C40
10.048-11.760			0.00	0.00	C41-C44
0.688-11.760			562352.83	0.58	TPH as Diesel
0.688-11.760			562352.83	0.58	C6-C44 Total

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030805.d

Date : 08-MAR-2017 10:52

Client ID:

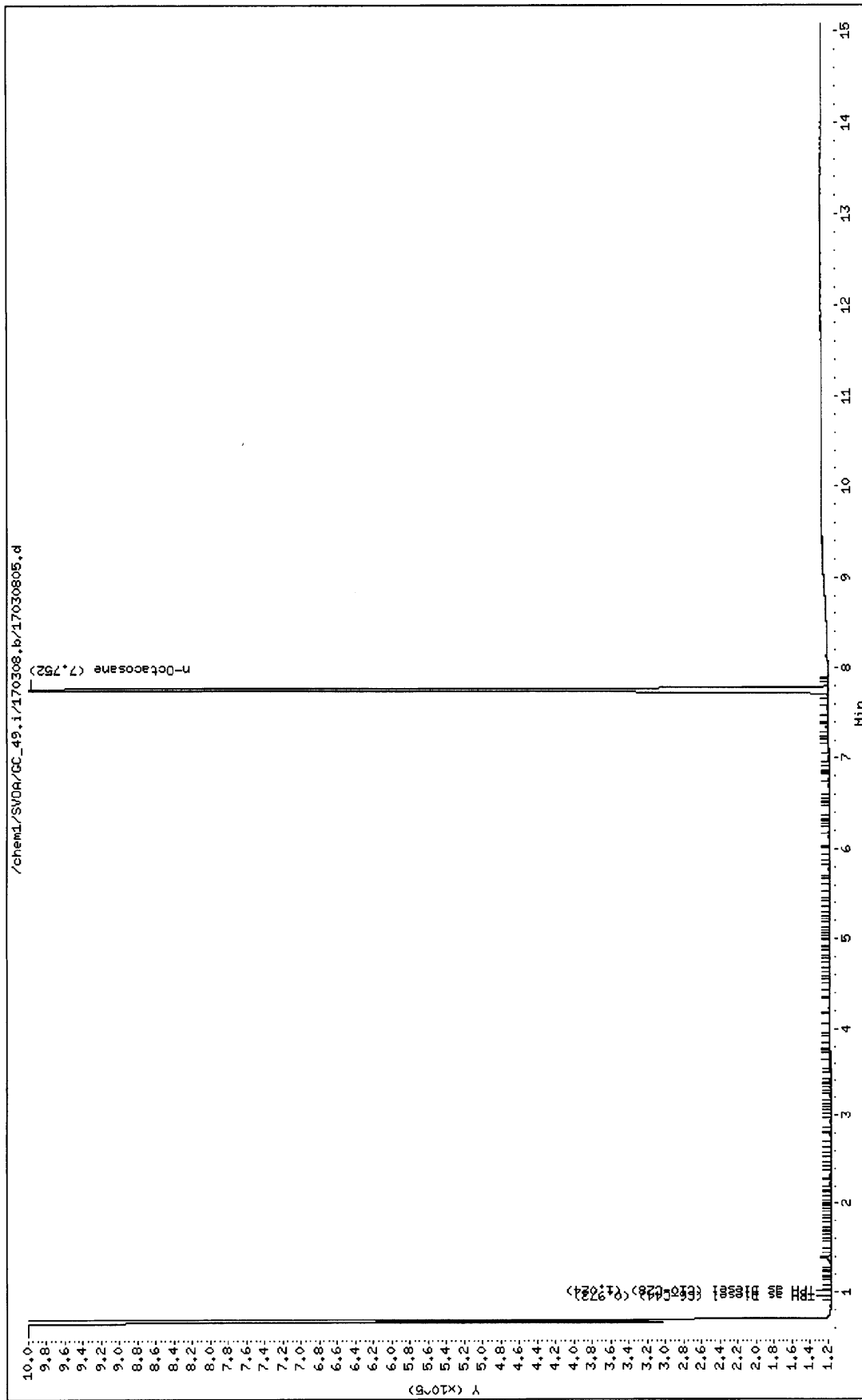
Sample Info: HB 17030707

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030806.d
 Page Number :
 Operator : 682 Vial Number : Vial 6
 Instrument : GC 49 Injection Number : 6
 Sample Name : LCS 17030707 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 11:12
 Report Created on: 09-MAR-17 18:50 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030806.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	11977610.00	51.57	n-Octacosane
0.688- 7.946			369183088.43	377.87	TPH as Diesel
2.312- 7.946			352834478.70	395.62	Diesel Range Organics

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030806.d

Date : 08-MAR-2017 11:12

Client ID:

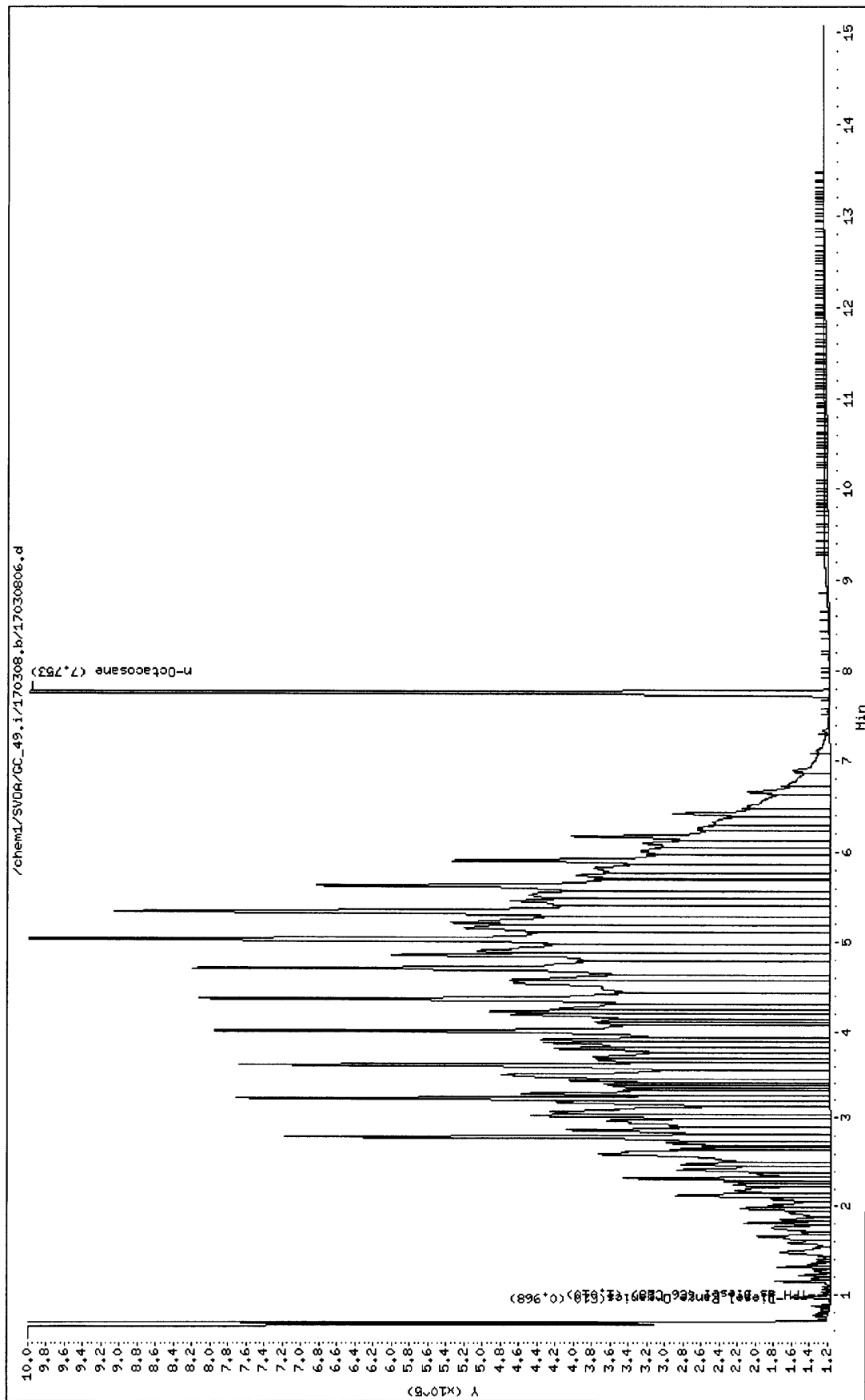
Sample Info: LCS 17030707

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030807.d
 Page Number :
 Operator : 682 Vial Number : Vial 7
 Instrument : GC 49 Injection Number : 7
 Sample Name : MS 17-03-0433-3 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 11:34
 Report Created on: 09-MAR-17 18:50 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030807.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.754	7.850	0.096	12749114.00	54.89	n-Octacosane
0.688- 0.873			358720.39	0.37	C6
0.873- 1.312			1245979.74	1.28	C7
1.312- 1.809			4253271.34	4.35	C8
1.809- 2.780			28326898.13	28.99	C9-C10
2.780- 3.619			71239796.56	72.92	C11-C12
3.619- 4.359			52575975.77	53.81	C13-C14
4.359- 5.021			62260302.99	63.72	C15-C16
5.021- 5.619			68616571.27	70.23	C17-C18
5.619- 6.163			41209456.03	42.18	C19-C20
6.163- 6.662			17984126.53	18.41	C21-C22
6.662- 7.122			4964180.03	5.08	C23-C24
7.122- 7.946			448946.63	0.46	C25-C28
7.946- 8.667			0.00	0.00	C29-C32
8.667- 9.330			0.00	0.00	C33-C36
9.330-10.048			0.00	0.00	C37-C40
10.048-11.760			0.00	0.00	C41-C44
0.688-11.760			353484225.41	361.80	TPH as Diesel
0.688-11.760			353484225.41	361.80	C6-C44 Total

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030807.d

Date : 08-HAR-2017 11:34

Client ID:

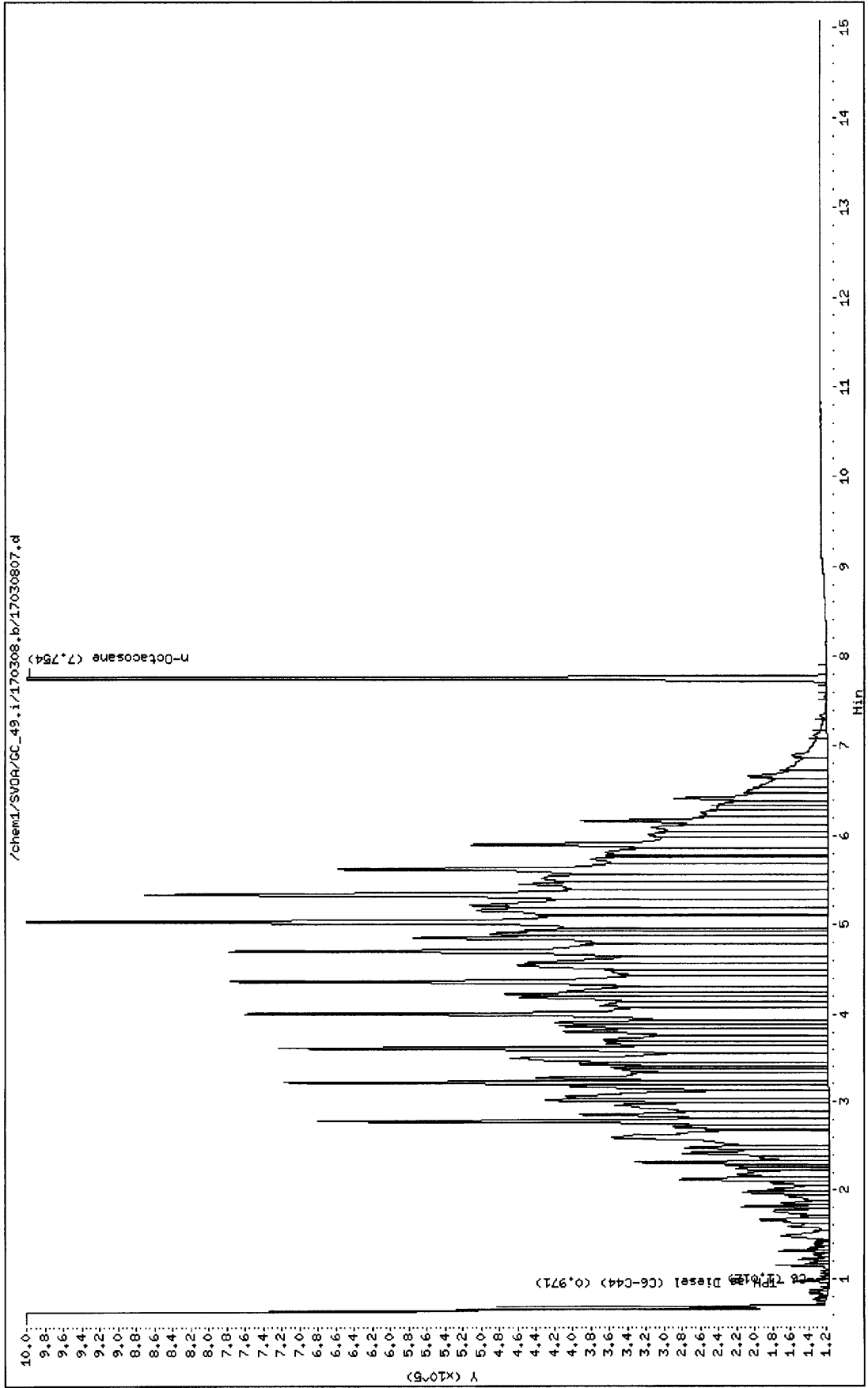
Sample Info: MS 17-03-0433-3

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030808.d
 Page Number :
 Operator : 682 Vial Number : Vial 8
 Instrument : GC 49 Injection Number : 8
 Sample Name : MSD 17-03-0433-3 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 11:55
 Report Created on: 09-MAR-17 18:50 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030808.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	10216422.00	43.99	n-Octacosane
0.688- 0.873			359212.08	0.37	C6
0.873- 1.312			1586845.21	1.62	C7
1.312- 1.809			3865528.67	3.96	C8
1.809- 2.780			28121294.87	28.78	C9-C10
2.780- 3.619			61519251.48	62.97	C11-C12
3.619- 4.359			61746740.92	63.20	C13-C14
4.359- 5.021			63423435.59	64.92	C15-C16
5.021- 5.619			66663086.69	68.23	C17-C18
5.619- 6.163			40858901.11	41.82	C19-C20
6.163- 6.662			17705479.77	18.12	C21-C22
6.662- 7.122			4964204.13	5.08	C23-C24
7.122- 7.946			180529.25	0.18	C25-C28
7.946- 8.667			0.00	0.00	C29-C32
8.667- 9.330			0.00	0.00	C33-C36
9.330-10.048			0.00	0.00	C37-C40
10.048-11.760			0.00	0.00	C41-C44
0.688-11.760			350994509.78	359.25	TPH as Diesel
0.688-11.760			350994509.78	359.25	C6-C44 Total

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030808.d

Date : 08-MAR-2017 11:55

Client ID:

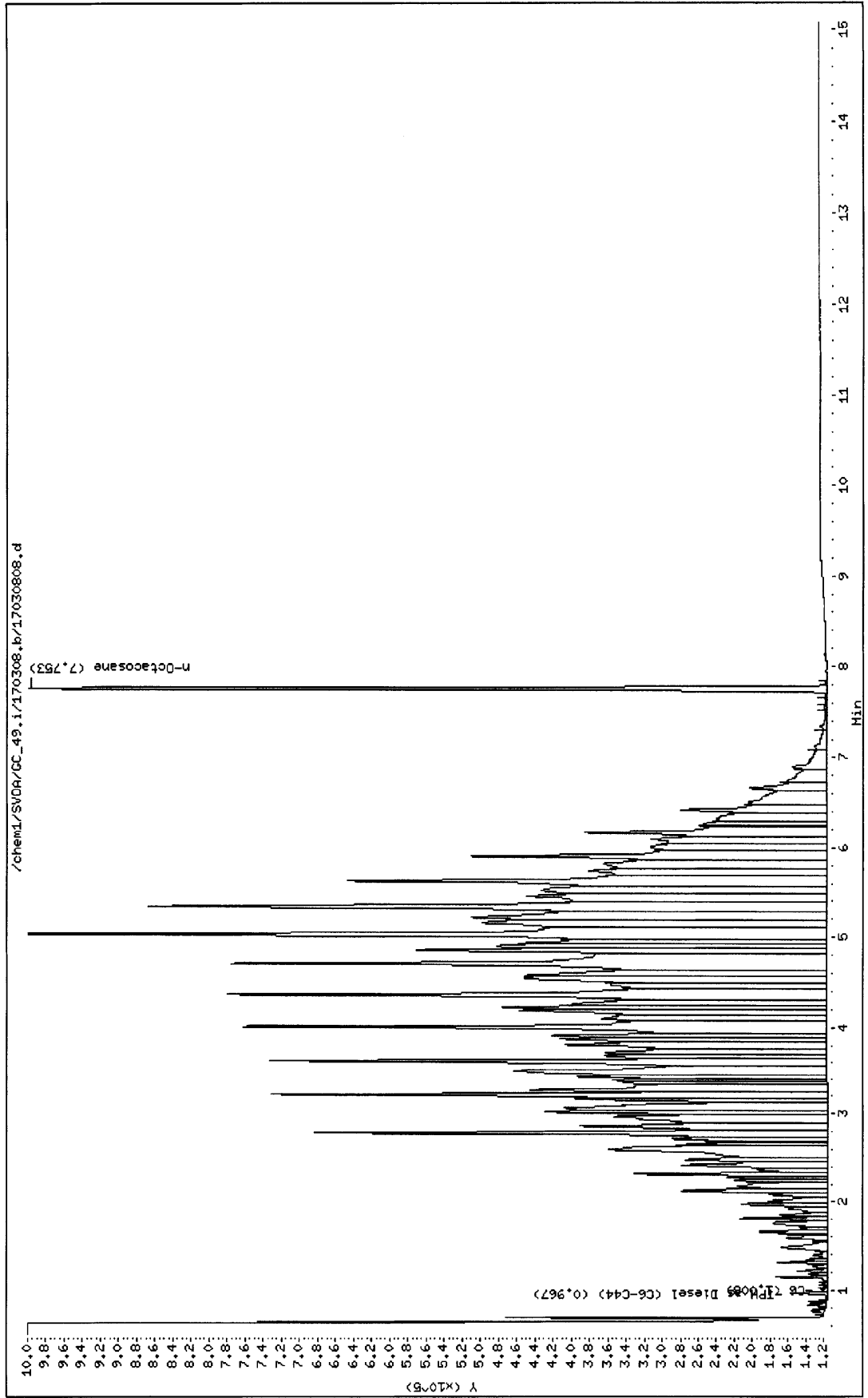
Sample Info: MSD 17-03-0433-3

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030829.d
 Page Number :
 Operator : 682 Vial Number : Vial 29
 Instrument : GC 49 Injection Number : 29
 Sample Name : 17-03-0433-3 Sequence Line : 0
 Instrument Method: 8015d.m

Acquired on : 08 MAR 17 19:09
 Report Created on: 10-MAR-17 12:01 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030829.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.754	7.850	0.096	12390706.00	53.35	n-Octacosane
0.688- 0.873			41809.12	0.04	C6
0.873- 1.312			10156.21	0.01	C7
1.312- 1.809			188999.37	0.19	C8
1.809- 2.780			95501.84	0.10	C9-C10
2.780- 3.619			66270.74	0.07	C11-C12
3.619- 4.359			280831.27	0.29	C13-C14
4.359- 5.021			61213.42	0.06	C15-C16
5.021- 5.619			46814.14	0.05	C17-C18
5.619- 6.163			36715.78	0.04	C19-C20
6.163- 6.662			24030.49	0.02	C21-C22
6.662- 7.122			30784.38	0.03	C23-C24
7.122- 7.946			73018.26	0.07	C25-C28
7.946- 8.667			0.00	0.00	C29-C32
8.667- 9.330			0.00	0.00	C33-C36
9.330-10.048			0.00	0.00	C37-C40
10.048-11.760			0.00	0.00	C41-C44
0.688-11.760			956145.02	0.98	TPH as Diesel
0.688-11.760			956145.02	0.98	C6-C44 Total

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170308.b/17030829.d

Date : 08-MAR-2017 19:09

Client ID:

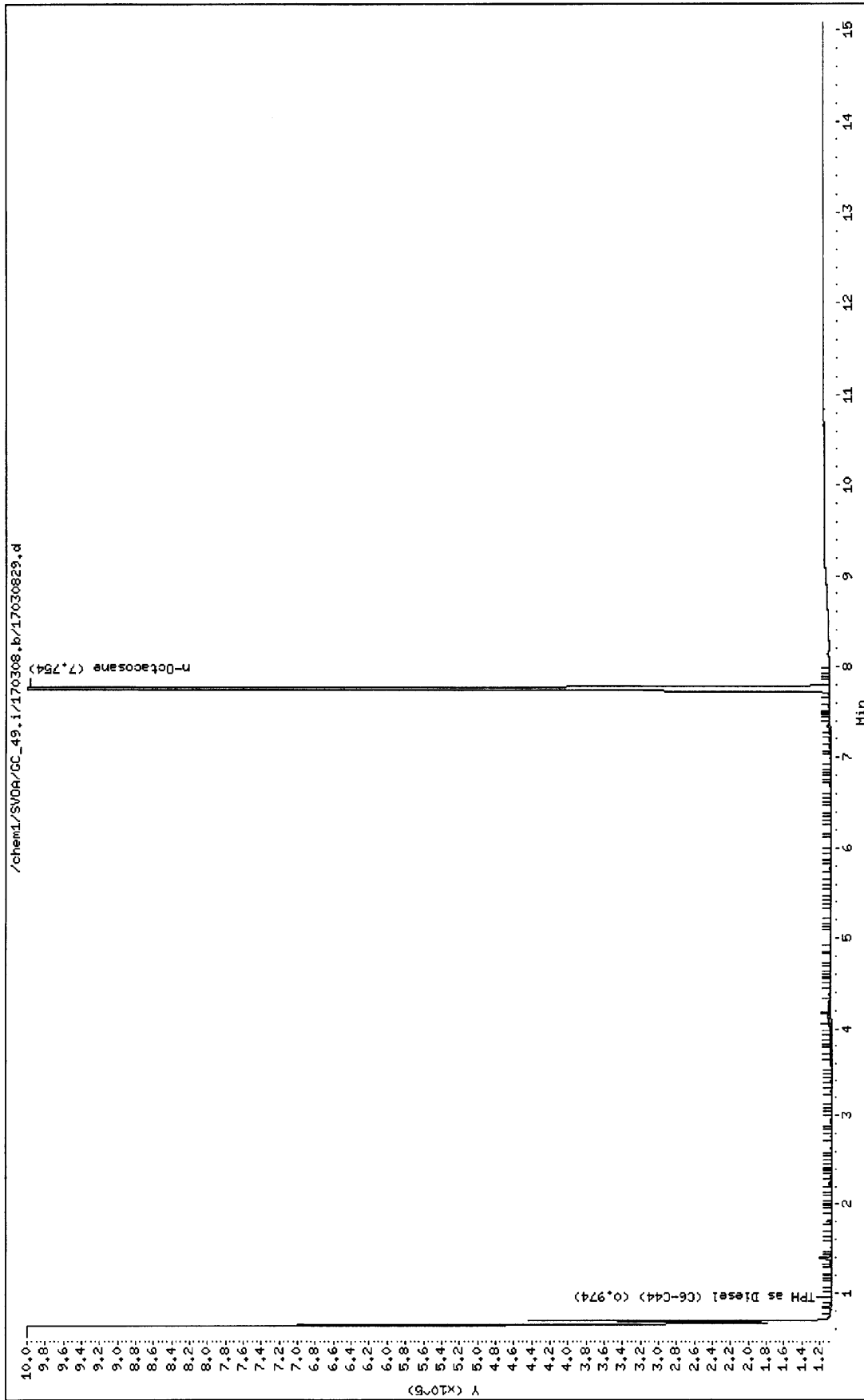
Sample Info: 17-03-0433-3

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



EPA 8015B (M) Diesel + Motor Oil

CONTINUING CALIBRATION

CCV ASSOCIATION SUMMARY FOR METHOD: EPA 8015B (M)

BATCH ID: 170308A078
INSTRUMENT: GC 49

ANALYZED BY: 972

WORK ORDER: 099-14-354
MATRIX: Water

REVIEWED BY: 27
D/T REVIEWED: 2017-03-10 13:03

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
26	Daily Calibration	2017-03-08 10:11	T:\GC_49\GC_49_data\2017\170308\17030804.d\Report.txt17030804

WORK ORDER: 17-03-0141
MATRIX: Soil

REVIEWED BY: 27
D/T REVIEWED: 2017-03-10 13:06

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-8	2017-03-08 15:22	T:\GC_49\GC_49_data\2017\170308\17030818.d\Report.txt17030818
28	F-DU1-ISM2-8	2017-03-08 15:43	T:\GC_49\GC_49_data\2017\170308\17030819.d\Report.txt17030819

CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET

FOR METHOD: EPA 8015B (M)

CCV WORK ORDER: 099-14-354-26-5901

BATCH ID:

170306I006
170308A078
GC 49

2017-03-06 16:25
2017-03-08 10:11

INITIAL:
CCV:

INSTRUMENT:

REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_49\data\2017\170308\17030804.d\Report.txt17030804

COMPOUND NAME	TYPE	CALIB MODEL	MIN RF	AVG RF	CCV RF	AMOUNT	CCV CONC	CCV %D	CCV %D CL	STATUS
TPH as Diesel	C	Avg Resp	0.00	977.016	876.015			10	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_49.i/170308.b/17030804.d
 Report Date: 03/09/2017 18:49

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_49.i Injection Date and Time: 08-MAR-2017 10:11
 Sample Name: CCV D400 C28 50 L102516D Initial Calibration Date(s): 09-NOV-2016 06-MAR-2017
 Sublist used: CCV_D-DRO.sub Initial Calibration Time(s): 21:15 19:52
 Method used: /chem1/SVOA/GC_49.i/170308.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Diesel Range Organics	891855.748	803777.478	0.00	10	15	Averaged
TPH as Diesel	977015.903	876014.960	0.00	10	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	232259.309	228439.820	0.00	2	20	Averaged

page 1

Data File: /chem1/SVOA/GC_49.i/170308.b/17030804.d
 Report Date: 09-Mar-2017 18:21

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170308.b/17030804.d
 Lab Smp Id:
 Inj Date : 08-MAR-2017 10:11
 Operator : 682 Inst ID: GC_49.i
 Smp Info : CCV D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_49.i/170308.b/8015d.m
 Meth Date : 09-Mar-2017 18:13 d2ef Quant Type: ESTD
 Cal Date : 25-JAN-2017 02:23 Cal File: 17012445.d
 Als bottle: 3 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT	ON-COL
					(ppm)	(ppm)
S 14 TPH as Diesel	0.688-7.946			350405984	400.000	358.649
S 26 Diesel Range Organics	2.312-7.946			321510991	400.000	360.496
\$ 92 n-Octacosane	7.752	7.753	-0.001	11421991	50.0000	49.177

Data File: /chem1/SV0A/GC_49.i/170308.b/17030804.d

Date : 08-MAR-2017 10:11

Client ID:

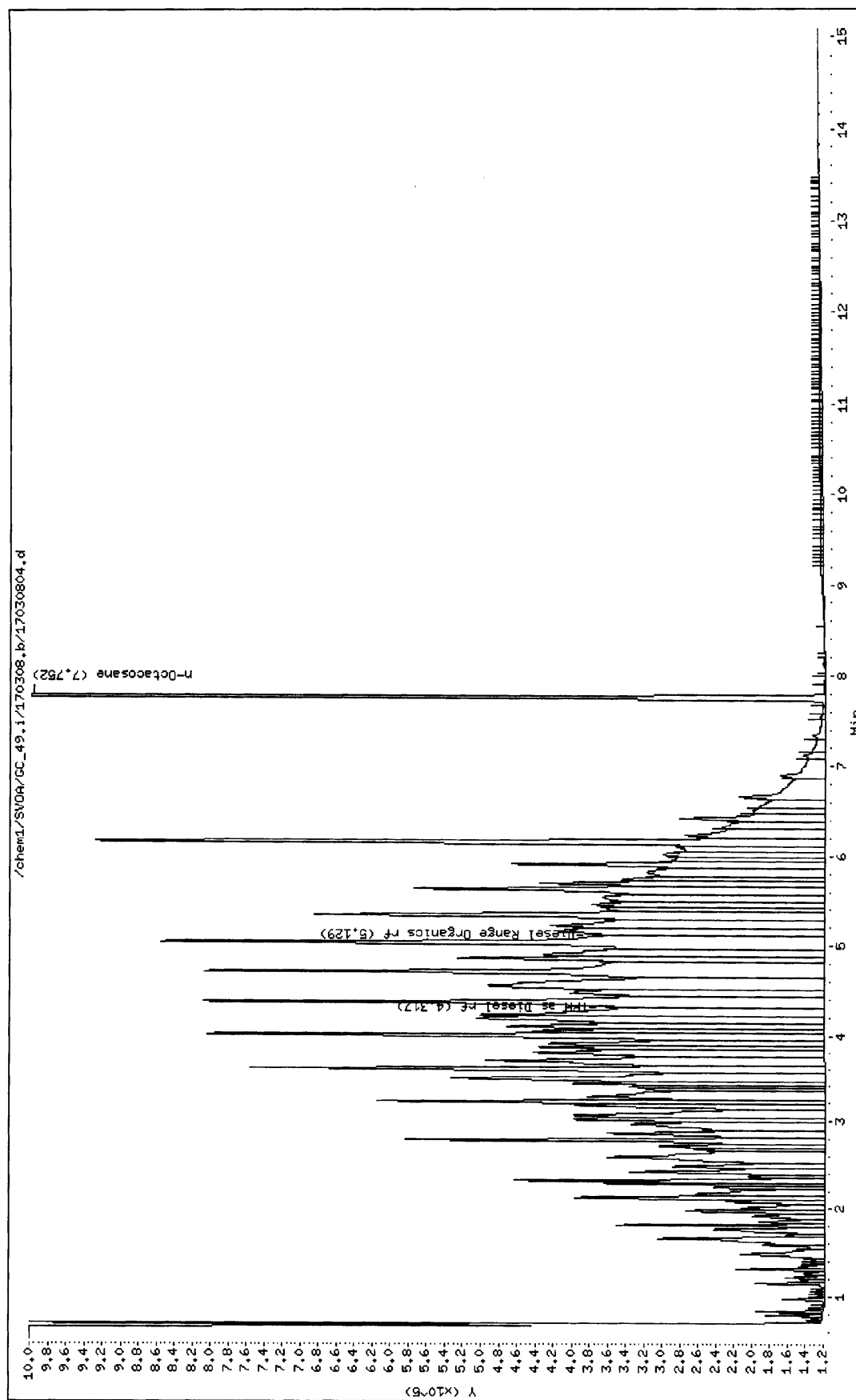
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



CCV ASSOCIATION SUMMARY FOR METHOD: EPA 8015B (M)

BATCH ID: 170308A079
INSTRUMENT: GC 49

ANALYZED BY: 972

WORK ORDER: 099-14-354
MATRIX: Water

REVIEWED BY: 27
D/T REVIEWED: 2017-03-10 13:03

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	Daily Calibration	2017-03-08 16:03	T:\GC_49\GC_49_data\2017\170308\17030820.d\Report.txt17030820

WORK ORDER: 17-03-0141
MATRIX: Soil

REVIEWED BY: 27
D/T REVIEWED: 2017-03-10 13:06

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
29	F-DU1-ISM3-8	2017-03-08 16:23	T:\GC_49\GC_49_data\2017\170308\17030821.d\Report.txt17030821
30	F-DU1-ISM4-8	2017-03-08 16:44	T:\GC_49\GC_49_data\2017\170308\17030822.d\Report.txt17030822
31	F-DU1-ISM5-8	2017-03-08 17:05	T:\GC_49\GC_49_data\2017\170308\17030823.d\Report.txt17030823

CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8015B (M)

CCV WORK ORDER: 099-14-354-27-5901

BATCH ID:

INITIAL: 170306I006
CCV: 170308A079
INSTRUMENT: GC 49

DATA FILE: T:\GC_49\GC_49_data\2017\170308\17030820.d\Report.txt17030820

ANALYZED BY: 972

D/T ANALYZED:

INITIAL: 2017-03-06 16:25
CCV: 2017-03-08 16:03

REVIEWED BY:

D/T REVIEWED: *u*

COMPOUND NAME	TYPE	CALIB MODEL	MIN RF	AVG RF	CCV RF	AMOUNT	CCV CONC	CCV %D	CCV %D CL	STATUS
TPH as Diesel	C	Avg Resp	0.00	977.016	904.416			7	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_49.i/170308.b/17030820.d
Report Date: 03/09/2017 18:51

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_49.i Injection Date and Time: 08-MAR-2017 16:03
Sample Name: CCV D400 C28 50 L102516D Initial Calibration Date(s): 09-NOV-2016 06-MAR-2017
Sublist used: CCV_D-DRO.sub Initial Calibration Time(s): 21:15 19:52
Method used: /chem1/SVOA/GC_49.i/170308.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Diesel Range Organics	891855.748	829373.433	0.00	7	15	Averaged
TPH as Diesel	977015.903	904416.225	0.00	7	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	232259.309	208725.700	0.00	10	20	Averaged

page 1

Data File: /chem1/SVOA/GC_49.i/170308.b/17030820.d
 Report Date: 09-Mar-2017 18:41

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170308.b/17030820.d
 Lab Smp Id:
 Inj Date : 08-MAR-2017 16:03
 Operator : 682 Inst ID: GC_49.i
 Smp Info : CCV D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_49.i/170308.b/8015d.m
 Meth Date : 09-Mar-2017 18:21 d2ef Quant Type: ESTD
 Cal Date : 25-JAN-2017 02:23 Cal File: 17012445.d
 Als bottle: 20 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (ppm)	ON-COL (ppm)
=====	==	=====	=====	=====	=====	=====
S 14 TPH as Diesel	0.688-7.946			361766490	400.000	370.276
S 26 Diesel Range Organics	2.312-7.946			331749373	400.000	371.976
\$ 92 n-Octacosane	7.753	7.752	0.001	10436285	50.0000	44.933

Page 1

Data File: /chem1/SVDA/GC_49.i/17030820.d

Date : 08-MAR-2017 16:03

Client ID:

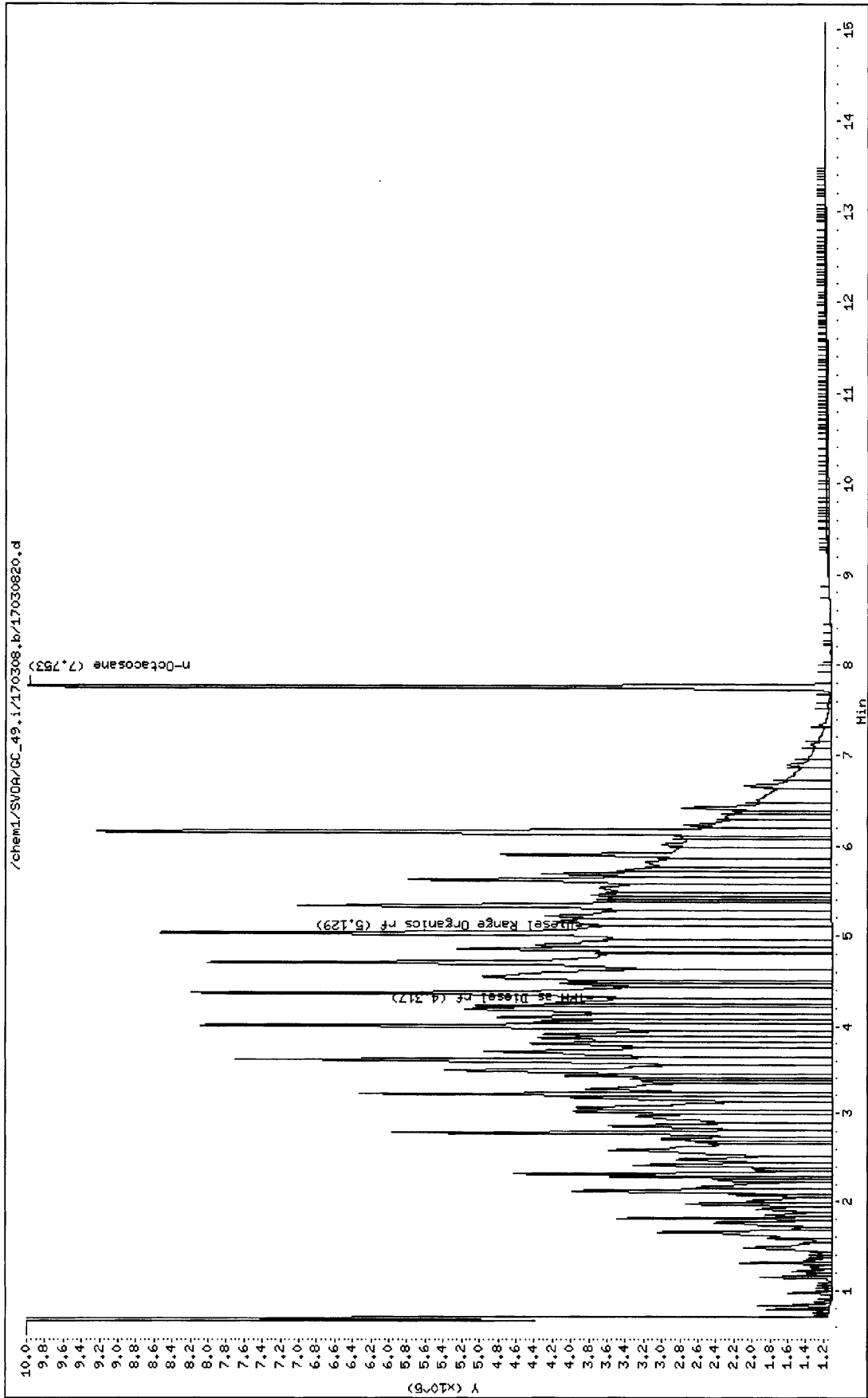
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_49.i/170308.b/17030831.d
 Report Date: 03/10/2017 12:08

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_49.i Injection Date and Time: 08-MAR-2017 20:12
 Sample Name: CCV D400 C28 50 L102516D Initial Calibration Date(s): 09-NOV-2016 06-MAR-2017
 Sublist used: CCV_D-DRO.sub Initial Calibration Time(s): 21:15 19:52
 Method used: /chem1/SVOA/GC_49.i/170308.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Diesel Range Organics	891855.748	831630.650	0.00	7	15	Averaged
TPH as Diesel	977015.903	906117.238	0.00	7	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	232259.309	240393.020	0.00	-4	20	Averaged

page 1

Data File: /chem1/SVOA/GC_49.i/170308.b/17030831.d
 Report Date: 09-Mar-2017 12:10

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170308.b/17030831.d
 Lab Smp Id:
 Inj Date : 08-MAR-2017 20:12
 Operator : 682 Inst ID: GC_49.i
 Smp Info : CCV D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_49.i/170308.b/8015d.m
 Meth Date : 09-Mar-2017 12:10 d2ef Quant Type: ESTD
 Cal Date : 25-JAN-2017 02:23 Cal File: 17012445.d
 Als bottle: 31 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					CAL-AMT (ppm)	ON-COL (ppm)
S 14 TPH as Diesel	0.687-7.948			362446895	400.000	370.973
S 26 Diesel Range Organics	2.312-7.948			332652260	400.000	372.988
\$ 92 n-Octacosane	7.754	7.754	0.000	12019651	50.0000	51.751

Page 1

Data File: /chem1/SV0A/GC_49.i/170308.b/17030831.d

Date : 08-MAR-2017 20:12

Client ID:

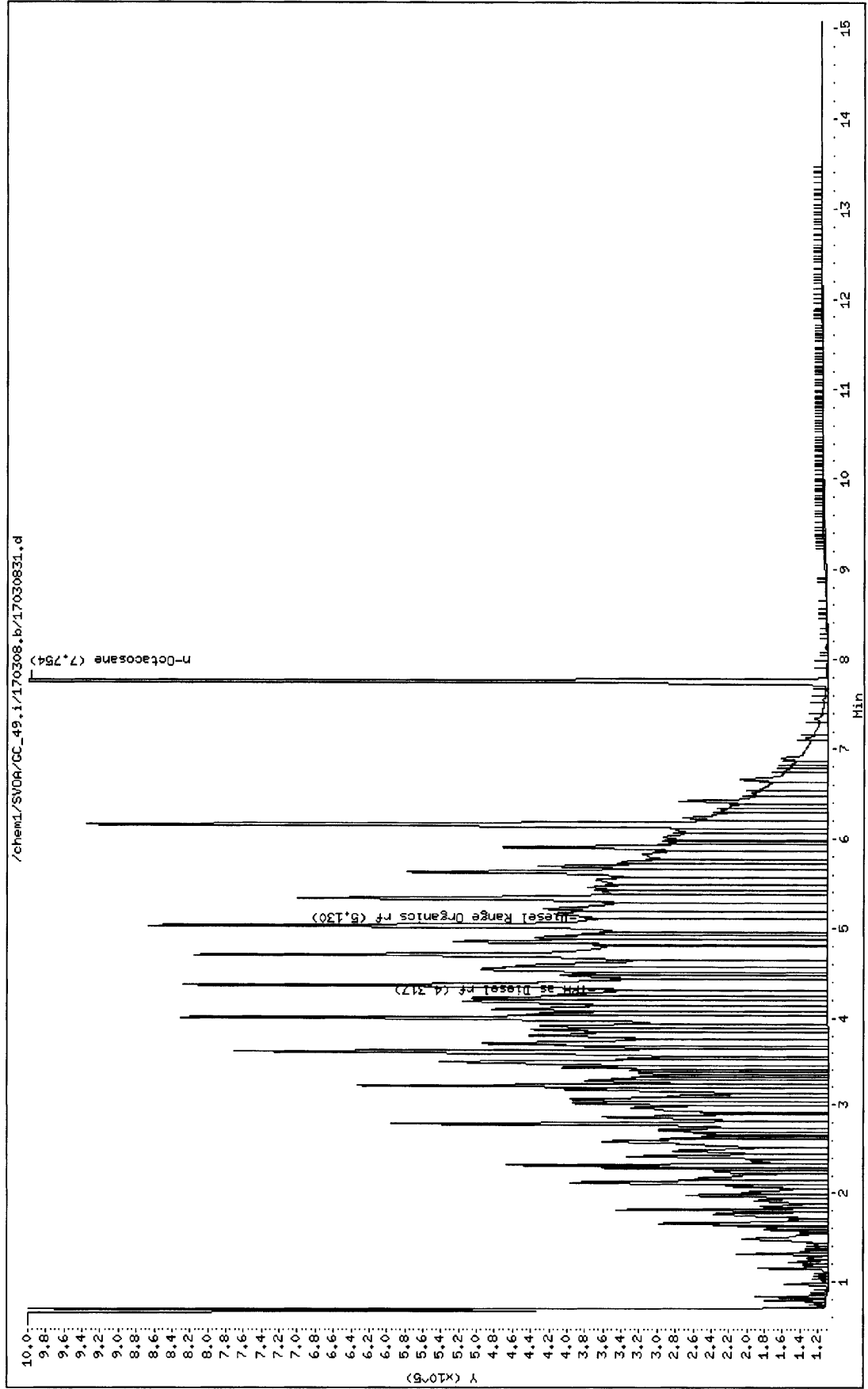
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170308/17030802.d
 Page Number :
 Operator : 682 Vial Number : Vial 1
 Instrument : GC 49 Injection Number : 1
 Sample Name : C6-C44 L110816A Sequence Line : 0
 Instrument Method: 8015d.m

Acquired on : 08 MAR 17 09:50
 Report Created on: 09-MAR-17 18:49 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170308.b/17030802.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.688	7.850	7.162	1935403.00	0.00	C6-Hexane
0.873	7.850	6.977	3993918.00	0.00	C7-Heptane
1.312	7.850	6.538	8032041.00	0.00	C8-Octane
1.809	7.850	6.041	6650009.00	0.00	C9-Nonane
2.312	7.850	5.538	7207160.00	0.00	C10-Decane
2.780	7.850	5.070	7405319.00	0.00	C11-Undecane
3.214	7.850	4.636	7406412.00	0.00	C12-Dodecane
3.619	7.850	4.231	7955099.00	0.00	C13-Tridecane
4.000	7.850	3.850	7407678.00	0.00	C14-Tetradecane
4.359	7.850	3.491	7428917.00	0.00	C15-pentadecane
4.699	7.850	3.151	7458783.00	0.00	C16-Hexadecane
5.021	7.850	2.829	7584667.00	0.00	C17-Heptadecane
5.327	7.850	2.523	7783085.00	0.00	C18-Octadecane
5.619	7.850	2.231	7761019.00	0.00	C19-Nonadecane
5.897	7.850	1.953	7887111.00	0.00	C20-Eicosane
6.163	7.850	1.687	7842716.00	0.00	C21-Heneicosane
6.418	7.850	1.432	7810689.00	0.00	C22-Docosane
6.662	7.850	1.188	7329090.00	0.00	C23-Tricosane
6.896	7.850	0.954	6657730.00	0.00	C24-Tetracosane
7.122	7.850	0.728	5613476.00	0.00	C25-Pentacosane
7.339	7.850	0.511	4427903.00	0.00	C26-Hexacosane
7.549	7.850	0.301	2967329.00	0.00	C27-Heptacosane
7.751	7.850	0.099	1908368.00	8.22	n-Octacosane
7.946	7.850	-0.096	1082845.00	0.00	C29-Nonacosane
8.135	7.850	-0.285	605599.00	0.00	C30-Triacontane
8.318	7.850	-0.468	347687.00	0.00	C31-Hentriacontane
8.495	7.850	-0.645	236450.00	0.00	C32-Dotriacontane
8.667	7.850	-0.817	183690.00	0.00	C33-Tritriacontane
8.834	7.850	-0.984	154208.00	0.00	C34-Tetratriacontane
8.996	7.850	-1.146	128930.00	0.00	C35-Pentatriacontane
9.155	7.850	-1.305	138798.00	0.00	C36-Hexatriacontane
9.330	7.850	-1.480	130553.00	0.00	C37-Heptatriacontane
9.533	7.850	-1.683	107335.00	0.00	C38-Octatriacontane
9.771	7.850	-1.921	85143.00	0.00	C39-Nonatriacontane
10.048	7.850	-2.198	86576.00	0.00	C40-Tetracontane
11.760	7.850	-3.910	506183.00	0.00	C44-Tetratetracontane

End of File

Data File: /chem1/SVDA/GC_49.i/170308.b/17030802.d

Date : 08-MAR-2017 09:50

Client ID:

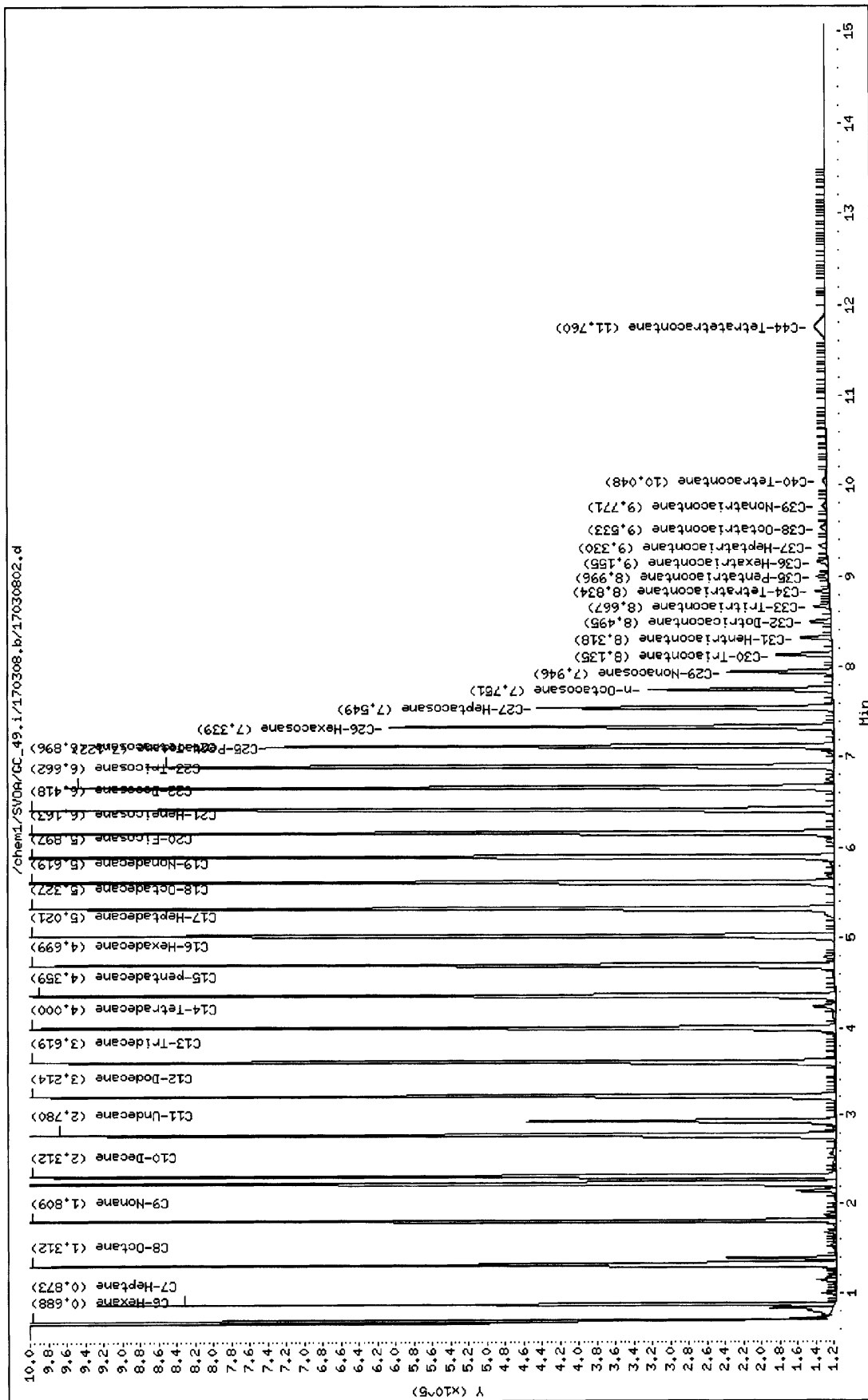
Sample Info: C6-C44 L110816A

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



EPA 8015B (M) Diesel + Motor Oil

RUN LOGS

Line	Vial	File	Name	Method	InjVolume	Acquired
1	1	17030600	BLK	8015D		06-Mar-17, 11:25:13
2	1	17030601	BLK	8015D		06-Mar-17, 11:45:48
3	2	17030602	C6-C44 L110816A	8015D		06-Mar-17, 12:07:03
4	4	17030604	CCV D400 C28 50 L102516D	8015D		06-Mar-17, 12:28:22
5	5	17030605	ICAL MO25 L030317B	8015D		06-Mar-17, 12:48:48
6	6	17030606	ICAL MO200 L030317C	8015D		06-Mar-17, 13:09:50
7	7	17030607	ICAL MO400 L030317D	8015D		06-Mar-17, 13:31:11
8	8	17030608	ICAL MO600 L030317E	8015D		06-Mar-17, 13:51:35
9	9	17030609	ICAL MO800 L030317F	8015D		06-Mar-17, 14:12:38
10	10	17030610	ICV MO400 L030317G	8015D		06-Mar-17, 14:33:58
11	11	17030611	CCV MO400 L030317D	8015D		06-Mar-17, 14:54:20
12	12	17030612	17-03-0253-1 5X RB	8015D		06-Mar-17, 15:35:53
13	13	17030613	17-03-0253-4 5X RB	8015D		06-Mar-17, 15:56:23
14	14	17030614	ICAL D5 C28 0.625 L102516B	8015D		06-Mar-17, 16:25:48
15	15	17030615	ICAL D200 C28 25 L102516C	8015D		06-Mar-17, 16:46:21
16	16	17030616	ICAL D400 C28 50 L102516D	8015D		06-Mar-17, 17:06:57
17	17	17030617	ICAL D800 C28 100 L102516E	8015D		06-Mar-17, 17:27:57
18	18	17030618	ICAL D1600 C28 200 L102516F	8015D	1006	06-Mar-17, 17:48:57
19	19	17030619	ICV D400 C28 50 L102516G	8015D		06-Mar-17, 18:09:15
20	20	17030620	ICAL MO25 L030317B	8015D		06-Mar-17, 18:30:00
21	21	17030621	ICAL MO200 L030317C	8015D		06-Mar-17, 18:50:53
22	22	17030622	ICAL MO400 L030317D	8015D		06-Mar-17, 19:11:14
23	23	17030623	ICAL MO600 L030317E	8015D		06-Mar-17, 19:31:29
24	24	17030624	ICAL MO800 L030317F	8015D		06-Mar-17, 19:52:28
25	25	17030625	ICV MO400 L030317G	8015D		06-Mar-17, 20:12:56
26	26	17030626	CCV D400 C28 50 L102516D	8015D		06-Mar-17, 20:33:14
27	27	17030627	CCV MO400 L030317D	8015D		06-Mar-17, 20:53:54

Sequence: C:\CHEM32\1\SEQUENCE\170308.S

Table: Rear DataPath: W:\GC_49\DATA\GC49\2017\170308\

Line	Vial	File	Name	Method	InjVolume	Acquired
1	1	17030800	BLK	8015D		08-Mar-17, 09:08:18
2	1	17030801	BLK	8015D		08-Mar-17, 09:29:05
3	2	17030802	C6-C44 L110816A	8015D		08-Mar-17, 09:50:10
4	3	17030804	CCV D400 C28 50 L102516D	8015D		08-Mar-17, 10:11:08
5	4	17030803	CCV MO400 L030317D	8015D		08-Mar-17, 10:31:41
6	5	17030805	MB 17030707	8015D		08-Mar-17, 10:52:06
7	6	17030806	LCS 17030707	8015D		08-Mar-17, 11:12:58
8	7	17030807	MS 17-03-0433-3	8015D		08-Mar-17, 11:34:10
9	8	17030808	MSD 17-03-0433-3	8015D		08-Mar-17, 11:55:24
10	9	17030809	17-03-0341-1	8015D		08-Mar-17, 12:16:13
11	10	17030810	17-03-0341-2	8015D		08-Mar-17, 12:36:36
12	11	17030811	17-03-0341-3	8015D		08-Mar-17, 12:56:58
13	12	17030812	17-03-0341-4	8015D		08-Mar-17, 13:39:23
14	14	17030814	17-03-0445-3	8015D		08-Mar-17, 13:59:46
15	15	17030815	17-03-0445-4	8015D		08-Mar-17, 14:20:10
16	16	17030816	17-03-0445-7	8015D		08-Mar-17, 14:40:39
17	17	17030817	17-03-0445-8	8015D		08-Mar-17, 15:01:06
18	18	17030818	17-03-0141-27	8015D		08-Mar-17, 15:22:08
19	19	17030819	17-03-0141-28	8015D		08-Mar-17, 15:43:00
20	20	17030820	CCV D400 C28 50 L102516D	8015D		08-Mar-17, 16:03:24
21	21	17030821	17-03-0141-29	8015D		08-Mar-17, 16:23:47
22	22	17030822	17-03-0141-30	8015D		08-Mar-17, 16:44:43
23	23	17030823	17-03-0141-31	8015D		08-Mar-17, 17:05:55
24	24	17030824	17-03-0420-1	8015D		08-Mar-17, 17:26:30
25	25	17030825	17-03-0420-2	8015D		08-Mar-17, 17:47:06
26	26	17030826	17-03-0420-3	8015D		08-Mar-17, 18:07:50
27	27	17030827	17-03-0433-1	8015D		08-Mar-17, 18:29:00
28	28	17030828	17-03-0433-2	8015D		08-Mar-17, 18:49:37
29	29	17030829	17-03-0433-3	8015D		08-Mar-17, 19:09:56
30	30	17030830	17-03-0433-4	8015D		08-Mar-17, 19:31:00
31	2	1703080201	C6-C44 L110816A	8015D		08-Mar-17, 19:51:47
32	31	17030831	CCV D400 C28 50 L102516D	8015D		08-Mar-17, 20:12:17

3/10/17
 8015
 682
 99
 82

EPA 8015B (M)
Diesel + Motor Oil
PREPARATION LOGS

Analysis Method (EPA Method): ☒ TPH 8015 ☐ NWTPH 8015					
Extraction Method (EPA Method): ☐ 3510 ☐ 3511 ☒ 3550					
Analyst ID#: Measuring Sample- 889		Start Extraction- 1108		Blow Down- Clean Up-	
Matrix: ☒ Solid ☐ Aqueous ☐ Oil ☐ Wipe / Filter		Balance ID#: 15 Sand or Filter ID#: L6-19-20			
Extraction Start Date & Time: 03/07/2017 18:15		Extractions End Date & Time: 03/07/2017 18:15 20:00			
Drying Agent & ID#: Na ₂ SO ₄ L6-23-20		Spike Added to: ☒ LCS ☐ LCSD ☒ MS ☒ MSD			
Surrogate Std ID# & Volume Added (mL): L011717A 0.5					
Spike Std ID# & Volume Added (mL):		D: L102416B 0.2		MO:	
Extraction Solvent & ID#: MeCl ₂ 507-55-01		Elution Solvent ID# & Volume (mL): 10.			
Reverse Surrogate ID# & Volume Added (mL):					
Clean Up Start Date & Time:			Clean Up End Date & Time:		
SGC Clean Up: ☐ 1. CEL 0.5g ☐ 2. 3630 - 2g ☐ 3. 3630 - 10g			SPE Cartridge ID#:		
Clean Up Solvent ID#:			Silica Gel ID#:		
QC Batch #: 17-030707	Test Analyte	Sample W (g) / V (mL)		SCG Clean Up	Comments
Cel ID#:		Initial	Final		
MB	PTM/CC	10.0	10.0	☐ NA ☐ 1 ☐ 2 ☐ 3	
LCS		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
MS17-03-0433-3A		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
MSD -3		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-0141-27A	PTM/CC	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
-28		9.99		☐ NA ☐ 1 ☐ 2 ☐ 3	
-29		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-30		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
-31		10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-0445-3A		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-4		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-7		10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
-8		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-0341-1A	CC	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
-2		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-3		9.99		☐ NA ☐ 1 ☐ 2 ☐ 3	
-4		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-0433-1A		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-2		10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
-3		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
-4		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-0420-1A		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-2		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
-3		10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	

Peer Reviewed by: 972

Peer Reviewed Date: 3/7/17

Revision Date: 10/24/15

EPA 6010B ICP Metals (Solid)

RAW DATA

EPA 6010B ICP Metals (Solid)

Initial Calibration

ICV/ICB
CCV/CCB
ICSA/B

EPA Method 6010B
Initial Calibration Verification

Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control Limit	Comment
		Observed	%D		
Silver	0.500000	0.507838	-2	+/-10	
Arsenic	5.000000	4.854533	3	+/-10	
Barium	1.000000	1.014944	-1	+/-10	
Beryllium	0.500000	0.501908	0	+/-10	
Cadmium	1.500000	1.528721	-2	+/-10	
Cobalt	1.000000	1.056171	-6	+/-10	
Chromium	0.400000	0.407108	-2	+/-10	
Copper	1.000000	1.022731	-2	+/-10	
Molybdenum	2.500000	2.420314	3	+/-10	
Nickel	0.400000	0.409925	-2	+/-10	
Lead	5.000000	5.152130	-3	+/-10	
Antimony	2.000000	1.946067	3	+/-10	
Selenium	2.000000	1.926793	4	+/-10	
Thallium	2.000000	1.951096	2	+/-10	
Vanadium	1.000000	1.017131	-2	+/-10	
Zinc	1.500000	1.554895	-4	+/-10	

Report Time: 3/15/2017 1:22:32 PM

ICV-1 File: ICV-M072816C

Analysis Time: 3/14/2017 10:30:08 AM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Initial Calibration Blank		
	ICB-1	RL	Comment
Silver	0.001361	0.005000	
Arsenic	-0.000629	0.010000	
Barium	0.000062	0.010000	
Beryllium	-0.000043	0.010000	
Cadmium	-0.000110	0.010000	
Cobalt	0.000705	0.010000	
Chromium	-0.000218	0.010000	
Copper	0.001059	0.010000	
Molybdenum	0.001205	0.010000	
Nickel	-0.000131	0.010000	
Lead	0.002520	0.010000	
Antimony	-0.004595	0.015000	
Selenium	0.000752	0.015000	
Thallium	0.001353	0.015000	
Vanadium	-0.000631	0.010000	
Zinc	-0.001631	0.010000	

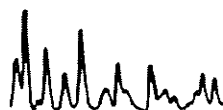
Report Time: 3/15/2017 1:22:32 PM

ICB-1 File: ICB-R12091601

Analysis Time: 3/14/2017 10:34:34 AM

01/22/2014 Revision

Return to Contents



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Interference Check						Comment
	ICS-A-1		ICS-AB-1				
	Observed	Control Limit	True	Observed	%D	Control Limit	
Silver	0.000133	0.005000	0.300000	0.319440	-6	+/-20	
Arsenic	0.001402	0.010000	1.000000	1.022616	-2	+/-20	
Barium	0.002537	0.010000	0.300000	0.315233	-5	+/-20	
Beryllium	-0.000112	0.010000	0.100000	0.106417	-6	+/-20	
Cadmium	0.001852	0.010000	0.300000	0.307955	-3	+/-20	
Cobalt	0.001273	0.010000	0.300000	0.314872	-5	+/-20	
Chromium	-0.001286	0.010000	0.300000	0.315760	-5	+/-20	
Copper	0.001897	0.010000	0.300000	0.322793	-8	+/-20	
Molybdenum	0.001229	0.010000	0.300000	0.308561	-3	+/-20	
Nickel	0.000617	0.010000	0.300000	0.316039	-5	+/-20	
Lead	-0.006907	0.010000	1.000000	1.026884	-3	+/-20	
Antimony	-0.005176	0.015000	1.000000	0.994370	1	+/-20	
Selenium	-0.009849	0.015000	0.500000	0.516692	-3	+/-20	
Thallium	-0.006545	0.015000	1.000000	1.035618	-4	+/-20	
Vanadium	0.000551	0.010000	0.300000	0.314131	-5	+/-20	
Zinc	0.005764	0.010000	0.300000	0.322060	-7	+/-20	

Report Time: 3/15/2017 1:22:32 PM

ICS-A-1 File: ICS_A - M110116B

Analysis Time: 3/14/2017 10:35:35 AM

ICS-AB-1 File: ICS_AB - M110116A

Analysis Time: 3/14/2017 10:36:26 AM

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						
	True	CCV-1		CCV-2		Control Limit	Comment
		Observed	%D	Observed	%D		
Silver	0.375000	0.374956	0	0.375862	0	+/-10	
Arsenic	3.750000	3.754146	0	3.723950	1	+/-10	
Barium	7.500000	7.683661	-2	7.689967	-3	+/-10	
Beryllium	0.562500	0.573255	-2	0.571481	-2	+/-10	
Cadmium	0.750000	0.774959	-3	0.772185	-3	+/-10	
Cobalt	1.875000	1.936371	-3	1.947363	-4	+/-10	
Chromium	0.600000	0.613275	-2	0.616892	-3	+/-10	
Copper	0.937500	0.947778	-1	0.949014	-1	+/-10	
Molybdenum	0.600000	0.609678	-2	0.610296	-2	+/-10	
Nickel	0.600000	0.614039	-2	0.609345	-2	+/-10	
Lead	3.750000	3.882109	-4	3.875097	-3	+/-10	
Antimony	4.500000	4.547644	-1	4.537905	-1	+/-10	
Selenium	1.500000	1.502526	0	1.500759	0	+/-10	
Thallium	1.500000	1.542865	-3	1.551597	-3	+/-10	
Vanadium	1.875000	1.921599	-2	1.928489	-3	+/-10	
Zinc	2.500000	2.555921	-2	2.534251	-1	+/-10	

Report Time: 3/15/2017 1:22:32 PM

CCV-1 File: CCV= STD3x0.5

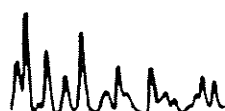
Analysis Time: 3/14/2017 10:48:41 AM

CCV-2 File: CCV= STD3x0.5

Analysis Time: 3/14/2017 12:06:25 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-1	CCB-2	RL	Qualifier
Silver	0.000852	0.001059	0.005000	
Arsenic	-0.004049	-0.004098	0.010000	
Barium	-0.000084	0.000692	0.010000	
Beryllium	-0.000052	-0.000024	0.010000	
Cadmium	0.000029	0.000054	0.010000	
Cobalt	0.000537	0.000693	0.010000	
Chromium	-0.000318	0.000451	0.010000	
Copper	0.000558	0.000285	0.010000	
Molybdenum	0.000688	0.001575	0.010000	
Nickel	0.000225	0.000746	0.010000	
Lead	0.000590	-0.000620	0.010000	
Antimony	0.001522	0.002096	0.015000	
Selenium	0.001946	0.007861	0.015000	
Thallium	0.001331	-0.000853	0.015000	
Vanadium	0.000730	-0.000653	0.010000	
Zinc	-0.005624	-0.010023	0.010000	

Report Time: 3/15/2017 1:22:32 PM

CCB-1 File: CCB-R12091601

Analysis Time: 3/14/2017 10:49:33 AM

CCB-2 File: CCB-R12091601

Analysis Time: 3/14/2017 12:07:17 PM

01/22/2014 Revision

Return to Contents

Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						
	True	CCV-3		CCV-4		Control Limit	Comment
		Observed	%D	Observed	%D		
Silver	0.375000	0.380914	-2	0.382221	-2	+/-10	
Arsenic	3.750000	3.781268	-1	3.892037	-4	+/-10	
Barium	7.500000	7.767474	-4	7.805615	-4	+/-10	
Beryllium	0.562500	0.575993	-2	0.580135	-3	+/-10	
Cadmium	0.750000	0.785344	-5	0.790043	-5	+/-10	
Cobalt	1.875000	1.977644	-5	1.990087	-6	+/-10	
Chromium	0.600000	0.625958	-4	0.627592	-5	+/-10	
Copper	0.937500	0.953734	-2	0.960472	-2	+/-10	
Molybdenum	0.600000	0.617412	-3	0.629604	-5	+/-10	
Nickel	0.600000	0.615978	-3	0.633133	-6	+/-10	
Lead	3.750000	3.963970	-6	3.971411	-6	+/-10	
Antimony	4.500000	4.571967	-2	4.699140	-4	+/-10	
Selenium	1.500000	1.524850	-2	1.569539	-5	+/-10	
Thallium	1.500000	1.568748	-5	1.603221	-7	+/-10	
Vanadium	1.875000	1.953275	-4	1.955899	-4	+/-10	
Zinc	2.500000	2.702331	-8	2.624187	-5	+/-10	

Report Time: 3/15/2017 1:22:32 PM

CCV-3 File: CCV= STD3x0.5

Analysis Time: 3/14/2017 12:15:48 PM

CCV-4 File: CCV= STD3x0.5

Analysis Time: 3/14/2017 12:27:26 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision

Return to Contents



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-3	CCB-4	RL	Qualifier
Silver	-0.000190	0.000911	0.005000	
Arsenic	-0.001379	-0.002416	0.010000	
Barium	0.000573	0.000494	0.010000	
Beryllium	-0.000034	-0.000044	0.010000	
Cadmium	0.000023	0.000055	0.010000	
Cobalt	0.000300	0.000300	0.010000	
Chromium	-0.001134	0.000453	0.010000	
Copper	-0.000138	-0.000803	0.010000	
Molybdenum	0.000226	0.000487	0.010000	
Nickel	0.000464	0.000784	0.010000	
Lead	0.031165	0.020158	0.010000	
Antimony	-0.001590	0.002108	0.015000	
Selenium	0.004761	0.000903	0.015000	
Thallium	0.000116	0.004401	0.015000	
Vanadium	-0.000918	-0.000124	0.010000	
Zinc	0.027776	0.008616	0.010000	

Report Time: 3/15/2017 1:22:32 PM

CCB-3 File: CCB-R12091601

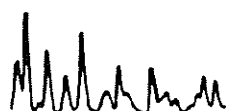
Analysis Time: 3/14/2017 12:18:14 PM

CCB-4 File: CCB-R12091601

Analysis Time: 3/14/2017 12:28:19 PM

01/22/2014 Revision

Return to Contents



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						
	True	CCV-5				Control Limit	Comment
		Observed	%D	Observed	%D		
Silver	0.375000	0.380989	-2			+/-10	
Arsenic	3.750000	3.752707	0			+/-10	
Barium	7.500000	7.768052	-4			+/-10	
Beryllium	0.562500	0.576638	-3			+/-10	
Cadmium	0.750000	0.786178	-5			+/-10	
Cobalt	1.875000	1.982983	-6			+/-10	
Chromium	0.600000	0.626360	-4			+/-10	
Copper	0.937500	0.957131	-2			+/-10	
Molybdenum	0.600000	0.611759	-2			+/-10	
Nickel	0.600000	0.611587	-2			+/-10	
Lead	3.750000	3.953283	-5			+/-10	
Antimony	4.500000	4.545027	-1			+/-10	
Selenium	1.500000	1.519449	-1			+/-10	
Thallium	1.500000	1.555751	-4			+/-10	
Vanadium	1.875000	1.955460	-4			+/-10	
Zinc	2.500000	2.575100	-3			+/-10	

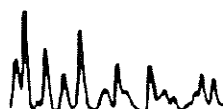
Report Time: 3/15/2017 1:22:32 PM

CCV-5 File: CCV= STD3x0.5

Analysis Time: 3/14/2017 12:37:50 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-5		RL	Qualifier
Silver	0.001897		0.005000	
Arsenic	-0.001688		0.010000	
Barium	0.000686		0.010000	
Beryllium	0.000000		0.010000	
Cadmium	0.000102		0.010000	
Cobalt	0.000483		0.010000	
Chromium	0.000789		0.010000	
Copper	-0.000030		0.010000	
Molybdenum	0.000801		0.010000	
Nickel	0.000955		0.010000	
Lead	0.017333		0.010000	
Antimony	0.002136		0.015000	
Selenium	-0.000027		0.015000	
Thallium	0.001140		0.015000	
Vanadium	-0.000366		0.010000	
Zinc	-0.006080		0.010000	

Report Time: 3/15/2017 1:22:32 PM

CCB-5 File: CCB-R12091601

Analysis Time: 3/14/2017 12:38:43 PM

01/22/2014 Revision

Return to Contents

=====

Reprocessing Begun

Logged In Analyst: Oscar Gomez 935

Technique: ICP Continuous

Results Data Set (original): 170314C1

Results Library (original): W:\pe\7300\Results\results.mdb

Results Data Set (reprocessed): 170314C 1

Results Library (reprocessed): W:\pe\7300\Results\results.mdb

=====

Sequence No.: 1

Autosampler Location: 1

Sample ID: Cal blankR12091601_935

Date Collected: 3/14/2017 10:28:06 AM

Analyst:

Data Type: Reprocessed on 3/14/2017 10:41:50 AM

Logged In Analyst (Original) : Oscar Gomez 935

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Wash Time:

Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Tb 384	77807.3	1283.75	1.65%	100.0 %
Tb 350	124479.6	2803.44	2.25%	100.0 %
Ag 328.068*†	-1225.9	141.73	11.56%	[0.00] mg/L
Al 308.215*†	-2224.0	107.98	4.86%	[0.00] mg/L
As 188.979†	-2.0	5.47	270.63%	[0.00] mg/L
As 193.696*†	5.3	10.33	194.44%	[0.00] mg/L
B 249.677*†	-1037.8	36.31	3.50%	[0.00] mg/L
Ba 233.527*†	-318.4	6.71	2.11%	[0.00] mg/L
Be 313.042*†	-795.0	29.35	3.69%	[0.00] mg/L
Ca 317.933*†	50.9	0.27	0.54%	[0.00] mg/L
Cd 226.502*†	22.9	6.42	28.01%	[0.00] mg/L
Cd 228.802†	9.5	2.25	23.66%	[0.00] mg/L
Co 228.616*†	-97.4	5.16	5.29%	[0.00] mg/L
Cr 267.716*†	448.8	29.37	6.54%	[0.00] mg/L
Cu 324.752*†	2195.5	186.37	8.49%	[0.00] mg/L
Fe 273.955*†	-408.7	12.71	3.11%	[0.00] mg/L
K 766.490*†	971.0	26.12	2.69%	[0.00] mg/L
Mg 279.077*†	-7807.7	248.41	3.18%	[0.00] mg/L
Mn 257.610*†	-334.8	11.35	3.39%	[0.00] mg/L
Mo 202.031*†	-52.6	8.01	15.21%	[0.00] mg/L
Na 589.592*†	1391.9	108.33	7.78%	[0.00] mg/L
Ni 231.604*†	-72.9	12.66	17.36%	[0.00] mg/L
P 213.617*†	-171.7	18.03	10.50%	[0.00] mg/L
P 214.914†	-25.0	3.58	14.30%	[0.00] mg/L
Pb 220.353*†	-26.7	7.38	27.64%	[0.00] mg/L
Sb 206.836†	30.9	4.18	13.55%	[0.00] mg/L
Sb 217.582*†	-5.9	3.66	61.79%	[0.00] mg/L
Se 196.026*†	-1.3	25.93	>999.9%	[0.00] mg/L
Si 251.611*†	1144.2	49.90	4.36%	[0.00] mg/L
Sn 189.927*†	-103.3	16.09	15.58%	[0.00] mg/L
Sn 242.170†	-412.1	3.90	0.95%	[0.00] mg/L
Sr 407.771*†	211.7	0.57	0.27%	[0.00] mg/L
Ti 334.940†	28271.0	141.71	0.50%	[0.00] mg/L
Ti 336.121*†	-1241.7	296.24	23.86%	[0.00] mg/L
Tl 190.801*†	-11.4	14.20	125.08%	[0.00] mg/L
V 292.402*†	239.8	99.86	41.65%	[0.00] mg/L
Zn 206.200*†	701.2	8.01	1.14%	[0.00] mg/L
Zn 213.857*†	1573.7	31.20	1.98%	[0.00] mg/L

Sequence No.: 2

Sample ID: STD3-M111116A_935_ICP7300

Analyst:

Logged In Analyst (Original) : Oscar Gomez 935

Initial Sample Wt:

Dilution:

Wash Time:

Autosampler Location: 2

Date Collected: 3/14/2017 10:29:12 AM

Data Type: Reprocessed on 3/14/2017 10:41:54 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: STD3-M111116A_935_ICP7300

Mean Corrected					Calib
Analyte	Intensity	Std.Dev.	RSD	Conc.	Units
Tb 384	67723.5	852.31	1.26%	87.04	%
Tb 350	111874.0	1802.85	1.61%	89.87	%
Ag 328.068*†	140296.8	1028.07	0.73%	[0.75]	mg/L
Al 308.215*†	465510.3	527.79	0.11%	[27.0]	mg/L
As 188.979†	15622.6	112.55	0.72%	[7.50]	mg/L
As 193.696*†	10917.9	73.56	0.67%	[7.50]	mg/L
B 249.677*†	363297.5	8900.81	2.45%	[7.50]	mg/L
Ba 233.527*†	2252056.5	7864.12	0.35%	[15.0]	mg/L
Be 313.042*†	4194476.2	35904.60	0.86%	[1.125]	mg/L
Ca 317.933*†	118368.3	880.00	0.74%	[60.0]	mg/L
Cd 226.502*†	113371.3	739.50	0.65%	[1.50]	mg/L
Cd 228.802†	56912.8	626.03	1.10%	[1.50]	mg/L
Co 228.616*†	102598.6	613.27	0.60%	[3.75]	mg/L
Cr 267.716*†	133058.5	609.52	0.46%	[1.20]	mg/L
Cu 324.752*†	465672.2	2465.82	0.53%	[1.875]	mg/L
Fe 273.955*†	173098.0	1496.40	0.86%	[7.50]	mg/L
K 766.490*†	164906.9	1028.82	0.62%	[54.0]	mg/L
Mg 279.077*†	279415.4	2408.19	0.86%	[15.0]	mg/L
Mn 257.610*†	960939.7	3220.84	0.34%	[1.50]	mg/L
Mo 202.031*†	11128.1	71.40	0.64%	[1.20]	mg/L
Na 589.592*†	316153.3	3236.52	1.02%	[72.0]	mg/L
Ni 231.604*†	29022.0	377.62	1.30%	[1.20]	mg/L
P 213.617*†	23793.9	200.01	0.84%	[12.0]	mg/L
P 214.914†	14857.6	104.08	0.70%	[12.0]	mg/L
Pb 220.353*†	58677.2	501.19	0.85%	[7.50]	mg/L
Sb 206.836†	16895.2	149.25	0.88%	[9.0]	mg/L
Sb 217.582*†	16813.9	95.69	0.57%	[9.0]	mg/L
Se 196.026*†	6574.7	66.61	1.01%	[3.0]	mg/L
Si 251.611*†	455414.1	5471.91	1.20%	[12.0]	mg/L
Sn 189.927*†	36108.2	244.09	0.68%	[6.0]	mg/L
Sn 242.170†	10453.2	106.16	1.02%	[6.0]	mg/L
Sr 407.771*†	194216.1	2441.06	1.26%	[0.60]	mg/L
Ti 334.940†	996495.2	6845.79	0.69%	[1.20]	mg/L
Ti 336.121*†	695583.1	2148.73	0.31%	[1.20]	mg/L
Tl 190.801*†	5458.4	52.91	0.97%	[3.0]	mg/L
V 292.402*†	498417.3	93.49	0.02%	[3.75]	mg/L
Zn 206.200*†	202010.8	2787.98	1.38%	[5.0]	mg/L
Zn 213.857*†	345704.4	3425.75	0.99%	[5.0]	mg/L

Sequence No.: 3

Sample ID: ICV-M072816C

Analyst: 935 icp 7300

Logged In Analyst (Original) : Oscar Gomez 935

Initial Sample Wt:

Dilution:

Wash Time:

Autosampler Location: 10

Date Collected: 3/14/2017 10:30:08 AM

Data Type: Reprocessed on 3/14/2017 10:41:55 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	71559.5	91.97 %	2.297			2.50%
Tb 350	116883.7	93.90 %	3.184			3.39%
Ag 328.068*†	94997.4	0.5078 mg/L	0.00260	0.5078 mg/L	0.00260	0.51%
QC value within limits for Ag 328.068* Recovery = 101.57%						
Al 308.215*†	72066.6	4.180 mg/L	0.0349	4.180 mg/L	0.0349	0.84%
QC value within limits for Al 308.215* Recovery = 104.50%						
As 188.979†	10152.5	4.874 mg/L	0.1885	4.874 mg/L	0.1885	3.87%
QC value within limits for As 188.979 Recovery = 97.48%						
As 193.696*†	7066.8	4.855 mg/L	0.1939	4.855 mg/L	0.1939	3.99%
QC value within limits for As 193.696* Recovery = 97.09%						
B 249.677*†	126270.2	2.607 mg/L	0.0746	2.607 mg/L	0.0746	2.86%
QC value within limits for B 249.677* Recovery = 104.27%						
Ba 233.527*†	152380.8	1.015 mg/L	0.0141	1.015 mg/L	0.0141	1.39%
QC value within limits for Ba 233.527* Recovery = 101.49%						
Be 313.042*†	1871325.9	0.5019 mg/L	0.03783	0.5019 mg/L	0.03783	7.54%
QC value within limits for Be 313.042* Recovery = 100.38%						
Ca 317.933*†	39769.5	20.16 mg/L	0.728	20.16 mg/L	0.728	3.61%
QC value within limits for Ca 317.933* Recovery = 100.79%						
Cd 226.502*†	115542.0	1.529 mg/L	0.0236	1.529 mg/L	0.0236	1.54%
QC value within limits for Cd 226.502* Recovery = 101.91%						
Cd 228.802†	57228.4	1.508 mg/L	0.0154	1.508 mg/L	0.0154	1.02%
Co 228.616*†	28896.5	1.056 mg/L	0.0192	1.056 mg/L	0.0192	1.82%
QC value within limits for Co 228.616* Recovery = 105.62%						
Cr 267.716*†	45141.0	0.4071 mg/L	0.00216	0.4071 mg/L	0.00216	0.53%
QC value within limits for Cr 267.716* Recovery = 101.78%						
Cu 324.752*†	254003.9	1.023 mg/L	0.0035	1.023 mg/L	0.0035	0.35%
QC value within limits for Cu 324.752* Recovery = 102.27%						
Fe 273.955*†	2373037.0	102.8 mg/L	7.67	102.8 mg/L	7.67	7.46%
QC value within limits for Fe 273.955* Recovery = 102.82%						
K 766.490*†	24621.6	8.063 mg/L	0.3542	8.063 mg/L	0.3542	4.39%
QC value within limits for K 766.490* Recovery = 100.78%						
Mg 279.077*†	189084.7	10.15 mg/L	0.190	10.15 mg/L	0.190	1.87%
QC value within limits for Mg 279.077* Recovery = 101.51%						
Mn 257.610*†	648270.8	1.012 mg/L	0.0132	1.012 mg/L	0.0132	1.31%
QC value within limits for Mn 257.610* Recovery = 101.19%						
Mo 202.031*†	22444.6	2.420 mg/L	0.0963	2.420 mg/L	0.0963	3.98%
QC value within limits for Mo 202.031* Recovery = 96.81%						
Na 589.592*†	244250.2	55.62 mg/L	1.925	55.62 mg/L	1.925	3.46%
QC value within limits for Na 589.592* Recovery = 103.01%						
Ni 231.604*†	9914.0	0.4099 mg/L	0.01509	0.4099 mg/L	0.01509	3.68%
QC value within limits for Ni 231.604* Recovery = 102.48%						
P 213.617*†	9536.4	4.809 mg/L	0.1552	4.809 mg/L	0.1552	3.23%
QC value within limits for P 213.617* Recovery = 96.19%						
P 214.914†	6126.5	4.948 mg/L	0.1847	4.948 mg/L	0.1847	3.73%
Pb 220.353*†	40308.4	5.152 mg/L	0.1154	5.152 mg/L	0.1154	2.24%
QC value within limits for Pb 220.353* Recovery = 103.04%						
Sb 206.836†	3585.6	1.910 mg/L	0.0781	1.910 mg/L	0.0781	4.09%
QC value within limits for Sb 206.836 Recovery = 95.50%						
Sb 217.582*†	3635.7	1.946 mg/L	0.0672	1.946 mg/L	0.0672	3.45%
QC value within limits for Sb 217.582* Recovery = 97.30%						
Se 196.026*†	4222.7	1.927 mg/L	0.0741	1.927 mg/L	0.0741	3.85%
QC value within limits for Se 196.026* Recovery = 96.34%						
Si 251.611*†	371176.7	9.780 mg/L	0.1503	9.780 mg/L	0.1503	1.54%
QC value within limits for Si 251.611* Recovery = 97.80%						
Sn 189.927*†	14944.8	2.483 mg/L	0.0899	2.483 mg/L	0.0899	3.62%
QC value within limits for Sn 189.927* Recovery = 99.33%						
Sn 242.170†	4833.1	2.774 mg/L	0.1084	2.774 mg/L	0.1084	3.91%
Sr 407.771*†	65744.0	0.2031 mg/L	0.00783	0.2031 mg/L	0.00783	3.86%

QC value within limits for Sr 407.771* Recovery = 101.55%

Ti 334.940†	4015966.4	4.836 mg/L	0.3425	4.836 mg/L	0.3425	7.08%
Ti 336.121†	2836518.1	4.893 mg/L	0.3478	4.893 mg/L	0.3478	7.11%
QC value within limits for Ti 336.121* Recovery = 97.87%						
Tl 190.801†	3550.0	1.951 mg/L	0.0665	1.951 mg/L	0.0665	3.41%
QC value within limits for Tl 190.801* Recovery = 97.55%						
V 292.402†	135412.4	1.017 mg/L	0.0078	1.017 mg/L	0.0078	0.77%
QC value within limits for V 292.402* Recovery = 101.71%						
Zn 206.200†	62821.1	1.555 mg/L	0.0410	1.555 mg/L	0.0410	2.63%
QC value within limits for Zn 206.200* Recovery = 103.66%						
Zn 213.857†	107376.8	1.544 mg/L	0.0182	1.544 mg/L	0.0182	1.18%
QC value within limits for Zn 213.857* Recovery = 102.96%						

All analyte(s) passed QC.

Sequence No.: 4

Sample ID: ICB-R12091601

Analyst: 935 icp 7300

Logged In Analyst (Original) : Oscar Gomez 935

Initial Sample Wt:

Dilution:

Wash Time:

Autosampler Location: 1

Date Collected: 3/14/2017 10:34:34 AM

Data Type: Reprocessed on 3/14/2017 10:41:57 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	80169.0	103.0 %	0.20			0.19%
Tb 350	127230.6	102.2 %	0.62			0.61%
Ag 328.068*†	254.7	0.0014 mg/L	0.00179	0.0014 mg/L	0.00179	131.34%
Al 308.215*†	-49.4	-0.0029 mg/L	0.00145	-0.0029 mg/L	0.00145	50.57%
As 188.979†	3.3	0.0016 mg/L	0.00067	0.0016 mg/L	0.00067	41.91%
As 193.696*†	-0.9	-0.0006 mg/L	0.00021	-0.0006 mg/L	0.00021	33.54%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	725.6	0.0150 mg/L	0.00048	0.0150 mg/L	0.00048	3.20%
QC value within limits for B 249.677* Recovery = Not calculated						
Ba 233.527*†	9.4	0.0001 mg/L	0.00022	0.0001 mg/L	0.00022	354.51%
Be 313.042*†	-160.5	-0.0000 mg/L	0.00000	-0.0000 mg/L	0.00000	0.68%
Ca 317.933*†	1.1	0.0005 mg/L	0.00236	0.0005 mg/L	0.00236	431.60%
Cd 226.502*†	-8.3	-0.0001 mg/L	0.00011	-0.0001 mg/L	0.00011	101.89%
Cd 228.802†	-13.2	-0.0003 mg/L	0.00026	-0.0003 mg/L	0.00026	76.05%
Co 228.616*†	19.3	0.0007 mg/L	0.00006	0.0007 mg/L	0.00006	7.86%
Cr 267.716*†	-24.1	-0.0002 mg/L	0.00055	-0.0002 mg/L	0.00055	254.76%
Cu 324.752*†	263.0	0.0011 mg/L	0.00066	0.0011 mg/L	0.00066	62.55%
Fe 273.955*†	10.1	0.0004 mg/L	0.00083	0.0004 mg/L	0.00083	189.94%
K 766.490*†	41.7	0.0137 mg/L	0.14677	0.0137 mg/L	0.14677	>999.9%
Mg 279.077*†	-11.3	-0.0006 mg/L	0.00243	-0.0006 mg/L	0.00243	402.18%
Mn 257.610*†	15.4	0.0000 mg/L	0.00004	0.0000 mg/L	0.00004	147.04%
Mo 202.031*†	11.2	0.0012 mg/L	0.00002	0.0012 mg/L	0.00002	1.39%
Na 589.592*†	-57.2	-0.0130 mg/L	0.03244	-0.0130 mg/L	0.03244	249.17%
Ni 231.604*†	-3.2	-0.0001 mg/L	0.00105	-0.0001 mg/L	0.00105	802.91%
P 213.617*†	34.8	0.0175 mg/L	0.00160	0.0175 mg/L	0.00160	9.12%
P 214.914†	0.6	0.0005 mg/L	0.00409	0.0005 mg/L	0.00409	861.73%
Pb 220.353*†	19.7	0.0025 mg/L	0.00084	0.0025 mg/L	0.00084	33.44%
QC value within limits for Pb 220.353* Recovery = Not calculated						
Sb 206.836†	-7.0	-0.0037 mg/L	0.00023	-0.0037 mg/L	0.00023	6.15%
Sb 217.582*†	-8.6	-0.0046 mg/L	0.00301	-0.0046 mg/L	0.00301	65.60%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	1.6	0.0008 mg/L	0.00719	0.0008 mg/L	0.00719	956.38%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	-48.1	-0.0013 mg/L	0.00007	-0.0013 mg/L	0.00007	5.52%
QC value within limits for Si 251.611* Recovery = Not calculated						
Sn 189.927*†	14.7	0.0024 mg/L	0.00237	0.0024 mg/L	0.00237	96.77%
Sn 242.170†	-5.6	-0.0032 mg/L	0.00200	-0.0032 mg/L	0.00200	62.42%
Sr 407.771*†	-6.1	-0.0000 mg/L	0.00004	-0.0000 mg/L	0.00004	218.83%
Ti 334.940†	247.1	0.0003 mg/L	0.00007	0.0003 mg/L	0.00007	22.44%
Ti 336.121*†	96.3	0.0002 mg/L	0.00016	0.0002 mg/L	0.00016	98.86%
Tl 190.801*†	2.5	0.0014 mg/L	0.00238	0.0014 mg/L	0.00238	175.74%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	-83.9	-0.0006 mg/L	0.00129	-0.0006 mg/L	0.00129	204.75%
Zn 206.200*†	-65.9	-0.0016 mg/L	0.00009	-0.0016 mg/L	0.00009	5.28%
Zn 213.857*†	-200.7	-0.0029 mg/L	0.00000	-0.0029 mg/L	0.00000	0.12%

All analyte(s) passed QC.

Sequence No.: 1
Sample ID: ICS_A - M110116B
Analyst: 935 icp 7300
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 8
Date Collected: 3/14/2017 10:35:35 AM
Data Type: Reprocessed on 3/14/2017 10:42:26 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS_A - M110116B

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	65971.0	84.79	%	0.914			1.08%
Tb 350	108009.9	86.77	%	0.456			0.53%
Ag 328.068*†	24.9	0.0001	mg/L	0.00014	0.0001 mg/L	0.00014	103.01%
Al 308.215*†	436811.1	25.34	mg/L	0.146	25.34 mg/L	0.146	0.57%
As 188.979†	19.5	0.0094	mg/L	0.00460	0.0094 mg/L	0.00460	49.16%
As 193.696*†	2.0	0.0014	mg/L	0.00172	0.0014 mg/L	0.00172	122.61%
B 249.677*†	414.7	0.0086	mg/L	0.00124	0.0086 mg/L	0.00124	14.48%
Ba 233.527*†	380.9	0.0025	mg/L	0.00016	0.0025 mg/L	0.00016	6.21%
Be 313.042*†	-416.2	-0.0001	mg/L	0.00000	-0.0001 mg/L	0.00000	3.74%
Ca 317.933*†	246166.7	124.8	mg/L	2.08	124.8 mg/L	2.08	1.66%
Cd 226.502*†	140.0	0.0019	mg/L	0.00005	0.0019 mg/L	0.00005	2.90%
Cd 228.802†	-2.3	-0.0001	mg/L	0.00032	-0.0001 mg/L	0.00032	523.81%
Co 228.616*†	34.8	0.0013	mg/L	0.00014	0.0013 mg/L	0.00014	11.22%
Cr 267.716*†	-142.6	-0.0013	mg/L	0.00015	-0.0013 mg/L	0.00015	11.57%
Cu 324.752*†	471.1	0.0019	mg/L	0.00052	0.0019 mg/L	0.00052	27.16%
Fe 273.955*†	2270774.0	98.39	mg/L	0.184	98.39 mg/L	0.184	0.19%
K 766.490*†	421.5	0.1380	mg/L	0.01751	0.1380 mg/L	0.01751	12.69%
Mg 279.077*†	1137364.0	61.06	mg/L	0.045	61.06 mg/L	0.045	0.07%
Mn 257.610*†	50.6	0.0001	mg/L	0.00012	0.0001 mg/L	0.00012	157.65%
Mo 202.031*†	11.4	0.0012	mg/L	0.00102	0.0012 mg/L	0.00102	83.26%
Na 589.592*†	97468.4	22.20	mg/L	0.267	22.20 mg/L	0.267	1.20%
Ni 231.604*†	14.9	0.0006	mg/L	0.00045	0.0006 mg/L	0.00045	72.46%
P 213.617*†	-254.3	-0.1282	mg/L	0.01914	-0.1282 mg/L	0.01914	14.93%
P 214.914†	31.1	0.0251	mg/L	0.00144	0.0251 mg/L	0.00144	5.71%
Pb 220.353*†	-54.0	-0.0069	mg/L	0.00003	-0.0069 mg/L	0.00003	0.48%
Sb 206.836†	1.6	0.0009	mg/L	0.00914	0.0009 mg/L	0.00914	>999.9%
Sb 217.582*†	-9.7	-0.0052	mg/L	0.00243	-0.0052 mg/L	0.00243	46.92%
Se 196.026*†	-21.6	-0.0098	mg/L	0.00299	-0.0098 mg/L	0.00299	30.31%
Si 251.611*†	180.9	0.0048	mg/L	0.00123	0.0048 mg/L	0.00123	25.90%
Sn 189.927*†	-25.4	-0.0042	mg/L	0.00075	-0.0042 mg/L	0.00075	17.85%
Sn 242.170†	478.9	0.2749	mg/L	0.01317	0.2749 mg/L	0.01317	4.79%
Sr 407.771*†	1113.4	0.0034	mg/L	0.00024	0.0034 mg/L	0.00024	6.86%
Ti 334.940†	-1725.9	-0.0021	mg/L	0.00003	-0.0021 mg/L	0.00003	1.31%
Ti 336.121*†	-689.4	-0.0012	mg/L	0.00011	-0.0012 mg/L	0.00011	8.93%
Tl 190.801*†	-11.9	-0.0065	mg/L	0.00032	-0.0065 mg/L	0.00032	4.88%
V 292.402*†	287.7	0.0006	mg/L	0.00038	0.0006 mg/L	0.00038	68.52%
Zn 206.200*†	232.9	0.0058	mg/L	0.00095	0.0058 mg/L	0.00095	16.50%
Zn 213.857*†	1158.0	0.0086	mg/L	0.00114	0.0086 mg/L	0.00114	13.35%

Sequence No.: 1
Sample ID: ICS_AB - M110116A
Analyst: 935 icp 7300
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 9
Date Collected: 3/14/2017 10:36:26 AM
Data Type: Reprocessed on 3/14/2017 10:42:40 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS_AB - M110116A

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	65254.7	83.87 %	0.251			0.30%
Tb 350	107347.8	86.24 %	0.268			0.31%
Ag 328.068*†	59755.2	0.3194 mg/L	0.00048	0.3194 mg/L	0.00048	0.15%
Al 308.215*†	435611.1	25.27 mg/L	0.086	25.27 mg/L	0.086	0.34%
As 188.979†	2179.1	1.046 mg/L	0.0066	1.046 mg/L	0.0066	0.63%
As 193.696*†	1488.6	1.023 mg/L	0.0152	1.023 mg/L	0.0152	1.49%
B 249.677*†	24158.3	0.4987 mg/L	0.00564	0.4987 mg/L	0.00564	1.13%
Ba 233.527*†	47328.2	0.3152 mg/L	0.00131	0.3152 mg/L	0.00131	0.42%
Be 313.042*†	396767.9	0.1064 mg/L	0.00111	0.1064 mg/L	0.00111	1.04%
Ca 317.933*†	249320.0	126.4 mg/L	5.26	126.4 mg/L	5.26	4.16%
Cd 226.502*†	23275.5	0.3080 mg/L	0.00347	0.3080 mg/L	0.00347	1.13%
Cd 228.802†	11708.3	0.3086 mg/L	0.00253	0.3086 mg/L	0.00253	0.82%
Co 228.616*†	8614.8	0.3149 mg/L	0.00425	0.3149 mg/L	0.00425	1.35%
Cr 267.716*†	35012.1	0.3158 mg/L	0.00186	0.3158 mg/L	0.00186	0.59%
Cu 324.752*†	80168.4	0.3228 mg/L	0.00229	0.3228 mg/L	0.00229	0.71%
Fe 273.955*†	2262938.9	98.05 mg/L	0.658	98.05 mg/L	0.658	0.67%
K 766.490*†	70079.1	22.95 mg/L	0.748	22.95 mg/L	0.748	3.26%
Mg 279.077*†	1125595.1	60.43 mg/L	0.581	60.43 mg/L	0.581	0.96%
Mn 257.610*†	132182.6	0.2063 mg/L	0.00111	0.2063 mg/L	0.00111	0.54%
Mo 202.031*†	2861.4	0.3086 mg/L	0.00109	0.3086 mg/L	0.00109	0.35%
Na 589.592*†	99213.7	22.59 mg/L	0.798	22.59 mg/L	0.798	3.53%
Ni 231.604*†	7643.4	0.3160 mg/L	0.00462	0.3160 mg/L	0.00462	1.46%
P 213.617*†	-221.2	-0.1115 mg/L	0.00331	-0.1115 mg/L	0.00331	2.97%
P 214.914†	35.9	0.0290 mg/L	0.00020	0.0290 mg/L	0.00020	0.69%
Pb 220.353*†	8034.0	1.027 mg/L	0.0117	1.027 mg/L	0.0117	1.14%
Sb 206.836†	1880.6	1.002 mg/L	0.0214	1.002 mg/L	0.0214	2.14%
Sb 217.582*†	1857.7	0.9944 mg/L	0.01441	0.9944 mg/L	0.01441	1.45%
Se 196.026*†	1132.4	0.5167 mg/L	0.00265	0.5167 mg/L	0.00265	0.51%
Si 251.611*†	8166.9	0.2152 mg/L	0.00048	0.2152 mg/L	0.00048	0.22%
Sn 189.927*†	-49.7	-0.0083 mg/L	0.00412	-0.0083 mg/L	0.00412	49.95%
Sn 242.170†	443.2	0.2544 mg/L	0.00747	0.2544 mg/L	0.00747	2.94%
Sr 407.771*†	788.1	0.0024 mg/L	0.00042	0.0024 mg/L	0.00042	17.13%
Ti 334.940†	848359.4	1.022 mg/L	0.0078	1.022 mg/L	0.0078	0.76%
Ti 336.121*†	597471.9	1.031 mg/L	0.0067	1.031 mg/L	0.0067	0.65%
Tl 190.801*†	1884.3	1.036 mg/L	0.0089	1.036 mg/L	0.0089	0.86%
V 292.402*†	41965.3	0.3141 mg/L	0.00291	0.3141 mg/L	0.00291	0.93%
Zn 206.200*†	13011.9	0.3221 mg/L	0.00489	0.3221 mg/L	0.00489	1.52%
Zn 213.857*†	22786.1	0.3214 mg/L	0.00418	0.3214 mg/L	0.00418	1.30%

Sequence No.: 3

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/14/2017 10:48:41 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	70867.1	91.08 %	0.891			0.98%
Tb 350	116189.4	93.34 %	0.601			0.64%
Ag 328.068*†	70140.1	0.3750 mg/L	0.00226	0.3750 mg/L	0.00226	0.60%
QC value within limits for Ag 328.068* Recovery = 99.99%						
Al 308.215*†	238561.0	13.84 mg/L	0.082	13.84 mg/L	0.082	0.60%
QC value within limits for Al 308.215* Recovery = 102.49%						
As 188.979†	7874.6	3.780 mg/L	0.0384	3.780 mg/L	0.0384	1.02%
QC value within limits for As 188.979 Recovery = 100.81%						
As 193.696*†	5465.0	3.754 mg/L	0.0339	3.754 mg/L	0.0339	0.90%
QC value within limits for As 193.696* Recovery = 100.11%						
B 249.677*†	183918.2	3.797 mg/L	0.0109	3.797 mg/L	0.0109	0.29%
QC value within limits for B 249.677* Recovery = 101.25%						
Ba 233.527*†	1153602.6	7.684 mg/L	0.0691	7.684 mg/L	0.0691	0.90%
QC value within limits for Ba 233.527* Recovery = 102.45%						
Be 313.042*†	2137338.0	0.5733 mg/L	0.00683	0.5733 mg/L	0.00683	1.19%
QC value within limits for Be 313.042* Recovery = 101.91%						
Ca 317.933*†	61751.4	31.30 mg/L	0.812	31.30 mg/L	0.812	2.59%
QC value within limits for Ca 317.933* Recovery = 104.34%						
Cd 226.502*†	58572.1	0.7750 mg/L	0.00729	0.7750 mg/L	0.00729	0.94%
QC value within limits for Cd 226.502* Recovery = 103.33%						
Cd 228.802†	29129.6	0.7677 mg/L	0.00363	0.7677 mg/L	0.00363	0.47%
Co 228.616*†	52978.4	1.936 mg/L	0.0236	1.936 mg/L	0.0236	1.22%
QC value within limits for Co 228.616* Recovery = 103.27%						
Cr 267.716*†	68001.2	0.6133 mg/L	0.00596	0.6133 mg/L	0.00596	0.97%
QC value within limits for Cr 267.716* Recovery = 102.21%						
Cu 324.752*†	235388.7	0.9478 mg/L	0.00826	0.9478 mg/L	0.00826	0.87%
QC value within limits for Cu 324.752* Recovery = 101.10%						
Fe 273.955*†	88812.0	3.848 mg/L	0.0479	3.848 mg/L	0.0479	1.25%
QC value within limits for Fe 273.955* Recovery = 102.61%						
K 766.490*†	84288.9	27.60 mg/L	0.575	27.60 mg/L	0.575	2.08%
QC value within limits for K 766.490* Recovery = 102.23%						
Mg 279.077*†	144072.0	7.734 mg/L	0.0830	7.734 mg/L	0.0830	1.07%
QC value within limits for Mg 279.077* Recovery = 103.12%						
Mn 257.610*†	489565.4	0.7642 mg/L	0.00650	0.7642 mg/L	0.00650	0.85%
QC value within limits for Mn 257.610* Recovery = 101.89%						
Mo 202.031*†	5653.8	0.6097 mg/L	0.00326	0.6097 mg/L	0.00326	0.53%
QC value within limits for Mo 202.031* Recovery = 101.61%						
Na 589.592*†	165583.5	37.71 mg/L	0.855	37.71 mg/L	0.855	2.27%
QC value within limits for Na 589.592* Recovery = 104.75%						
Ni 231.604*†	14850.5	0.6140 mg/L	0.00182	0.6140 mg/L	0.00182	0.30%
QC value within limits for Ni 231.604* Recovery = 102.34%						
P 213.617*†	11712.0	5.907 mg/L	0.0390	5.907 mg/L	0.0390	0.66%
QC value within limits for P 213.617* Recovery = 98.45%						
P 214.914†	7490.2	6.050 mg/L	0.0298	6.050 mg/L	0.0298	0.49%
Pb 220.353*†	30372.2	3.882 mg/L	0.0170	3.882 mg/L	0.0170	0.44%
QC value within limits for Pb 220.353* Recovery = 103.52%						
Sb 206.836†	8509.0	4.533 mg/L	0.0331	4.533 mg/L	0.0331	0.73%
QC value within limits for Sb 206.836 Recovery = 100.73%						
Sb 217.582*†	8495.9	4.548 mg/L	0.0278	4.548 mg/L	0.0278	0.61%
QC value within limits for Sb 217.582* Recovery = 101.06%						
Se 196.026*†	3292.9	1.503 mg/L	0.0116	1.503 mg/L	0.0116	0.77%
QC value within limits for Se 196.026* Recovery = 100.17%						
Si 251.611*†	231216.1	6.092 mg/L	0.0473	6.092 mg/L	0.0473	0.78%
QC value within limits for Si 251.611* Recovery = 101.54%						
Sn 189.927*†	18416.4	3.060 mg/L	0.0134	3.060 mg/L	0.0134	0.44%
QC value within limits for Sn 189.927* Recovery = 102.01%						
Sn 242.170†	5282.8	3.032 mg/L	0.0096	3.032 mg/L	0.0096	0.32%
Sr 407.771*†	100619.4	0.3108 mg/L	0.00798	0.3108 mg/L	0.00798	2.57%
QC value within limits for Sr 407.771* Recovery = 103.62%						

Ti 334.940†	504124.1	0.6071 mg/L	0.00571	0.6071 mg/L	0.00571	0.94%
Ti 336.121*†	353256.2	0.6094 mg/L	0.00478	0.6094 mg/L	0.00478	0.78%
QC value within limits for Ti 336.121* Recovery = 101.57%						
Tl 190.801*†	2807.2	1.543 mg/L	0.0108	1.543 mg/L	0.0108	0.70%
QC value within limits for Tl 190.801* Recovery = 102.86%						
V 292.402*†	255410.6	1.922 mg/L	0.0204	1.922 mg/L	0.0204	1.06%
QC value within limits for V 292.402* Recovery = 102.49%						
Zn 206.200*†	103264.7	2.556 mg/L	0.0229	2.556 mg/L	0.0229	0.90%
QC value within limits for Zn 206.200* Recovery = 102.24%						
Zn 213.857*†	177230.0	2.563 mg/L	0.0276	2.563 mg/L	0.0276	1.08%
QC value within limits for Zn 213.857* Recovery = 102.52%						

All analyte(s) passed QC.

Sequence No.: 4

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/14/2017 10:49:33 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	80006.3	102.8 %		0.94			0.91%
Tb 350	127588.5	102.5 %		1.16			1.13%
Ag 328.068*†	159.3	0.0009 mg/L		0.00050	0.0009 mg/L	0.00050	58.66%
QC value within limits for Ag 328.068* Recovery = Not calculated							
Al 308.215*†	-92.5	-0.0054 mg/L		0.00032	-0.0054 mg/L	0.00032	5.91%
As 188.979†	8.0	0.0039 mg/L		0.00013	0.0039 mg/L	0.00013	3.37%
As 193.696*†	-5.9	-0.0040 mg/L		0.00721	-0.0040 mg/L	0.00721	178.17%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	2186.8	0.0451 mg/L		0.00369	0.0451 mg/L	0.00369	8.17%
Ba 233.527*†	-12.7	-0.0001 mg/L		0.00010	-0.0001 mg/L	0.00010	120.96%
Be 313.042*†	-193.2	-0.0001 mg/L		0.00000	-0.0001 mg/L	0.00000	7.55%
Ca 317.933*†	5.4	0.0027 mg/L		0.00160	0.0027 mg/L	0.00160	58.38%
Cd 226.502*†	2.2	0.0000 mg/L		0.00012	0.0000 mg/L	0.00012	400.75%
Cd 228.802†	-9.7	-0.0003 mg/L		0.00074	-0.0003 mg/L	0.00074	287.58%
Co 228.616*†	14.7	0.0005 mg/L		0.00032	0.0005 mg/L	0.00032	60.25%
Cr 267.716*†	-35.3	-0.0003 mg/L		0.00085	-0.0003 mg/L	0.00085	266.40%
Cu 324.752*†	138.5	0.0006 mg/L		0.00023	0.0006 mg/L	0.00023	41.05%
Fe 273.955*†	18.9	0.0008 mg/L		0.00019	0.0008 mg/L	0.00019	23.17%
K 766.490*†	254.2	0.0832 mg/L		0.05770	0.0832 mg/L	0.05770	69.33%
Mg 279.077*†	-119.6	-0.0064 mg/L		0.00146	-0.0064 mg/L	0.00146	22.75%
Mn 257.610*†	55.8	0.0001 mg/L		0.00002	0.0001 mg/L	0.00002	19.73%
Mo 202.031*†	6.4	0.0007 mg/L		0.00132	0.0007 mg/L	0.00132	192.49%
Na 589.592*†	-108.8	-0.0248 mg/L		0.02214	-0.0248 mg/L	0.02214	89.37%
Ni 231.604*†	5.4	0.0002 mg/L		0.00033	0.0002 mg/L	0.00033	147.10%
P 213.617*†	49.6	0.0250 mg/L		0.00018	0.0250 mg/L	0.00018	0.71%
P 214.914†	-1.7	-0.0014 mg/L		0.00815	-0.0014 mg/L	0.00815	598.79%
Pb 220.353*†	4.6	0.0006 mg/L		0.00053	0.0006 mg/L	0.00053	90.19%
Sb 206.836†	-8.2	-0.0044 mg/L		0.00057	-0.0044 mg/L	0.00057	13.06%
Sb 217.582*†	2.8	0.0015 mg/L		0.00031	0.0015 mg/L	0.00031	20.22%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	4.3	0.0019 mg/L		0.00248	0.0019 mg/L	0.00248	127.38%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	-11.8	-0.0003 mg/L		0.00055	-0.0003 mg/L	0.00055	176.88%
Sn 189.927*†	19.6	0.0033 mg/L		0.00158	0.0033 mg/L	0.00158	48.68%
Sn 242.170†	-5.7	-0.0033 mg/L		0.00974	-0.0033 mg/L	0.00974	299.24%
Sr 407.771*†	-13.6	-0.0000 mg/L		0.00006	-0.0000 mg/L	0.00006	145.80%
Ti 334.940†	233.7	0.0003 mg/L		0.00006	0.0003 mg/L	0.00006	21.18%
Ti 336.121*†	143.2	0.0002 mg/L		0.00008	0.0002 mg/L	0.00008	30.99%
Tl 190.801*†	2.4	0.0013 mg/L		0.00589	0.0013 mg/L	0.00589	442.42%
V 292.402*†	97.0	0.0007 mg/L		0.00111	0.0007 mg/L	0.00111	152.05%
Zn 206.200*†	-227.2	-0.0056 mg/L		0.00033	-0.0056 mg/L	0.00033	5.82%
QC value within limits for Zn 206.200* Recovery = Not calculated							
Zn 213.857*†	-391.2	-0.0057 mg/L		0.00008	-0.0057 mg/L	0.00008	1.42%
QC value within limits for Zn 213.857* Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/14/2017 12:06:25 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	70799.1	90.99 %	0.523			0.58%
Tb 350	116690.0	93.74 %	0.123			0.13%
Ag 328.068*†	70309.7	0.3759 mg/L	0.00243	0.3759 mg/L	0.00243	0.65%
QC value within limits for Ag 328.068* Recovery = 100.23%						
Al 308.215*†	238544.1	13.84 mg/L	0.007	13.84 mg/L	0.007	0.05%
QC value within limits for Al 308.215* Recovery = 102.49%						
As 188.979†	7843.7	3.766 mg/L	0.0096	3.766 mg/L	0.0096	0.26%
QC value within limits for As 188.979 Recovery = 100.42%						
As 193.696*†	5421.0	3.724 mg/L	0.0114	3.724 mg/L	0.0114	0.31%
QC value within limits for As 193.696* Recovery = 99.31%						
B 249.677*†	183832.5	3.795 mg/L	0.0715	3.795 mg/L	0.0715	1.88%
QC value within limits for B 249.677* Recovery = 101.20%						
Ba 233.527*†	1154549.3	7.690 mg/L	0.0050	7.690 mg/L	0.0050	0.06%
QC value within limits for Ba 233.527* Recovery = 102.53%						
Be 313.042*†	2130721.8	0.5715 mg/L	0.00274	0.5715 mg/L	0.00274	0.48%
QC value within limits for Be 313.042* Recovery = 101.60%						
Ca 317.933*†	60804.8	30.82 mg/L	0.304	30.82 mg/L	0.304	0.99%
QC value within limits for Ca 317.933* Recovery = 102.74%						
Cd 226.502*†	58362.4	0.7722 mg/L	0.00494	0.7722 mg/L	0.00494	0.64%
QC value within limits for Cd 226.502* Recovery = 102.96%						
Cd 228.802†	29379.3	0.7743 mg/L	0.00371	0.7743 mg/L	0.00371	0.48%
Co 228.616*†	53279.1	1.947 mg/L	0.0068	1.947 mg/L	0.0068	0.35%
QC value within limits for Co 228.616* Recovery = 103.86%						
Cr 267.716*†	68402.3	0.6169 mg/L	0.00011	0.6169 mg/L	0.00011	0.02%
QC value within limits for Cr 267.716* Recovery = 102.82%						
Cu 324.752*†	235695.6	0.9490 mg/L	0.00384	0.9490 mg/L	0.00384	0.40%
QC value within limits for Cu 324.752* Recovery = 101.23%						
Fe 273.955*†	89062.8	3.859 mg/L	0.0149	3.859 mg/L	0.0149	0.39%
QC value within limits for Fe 273.955* Recovery = 102.90%						
K 766.490*†	83358.7	27.30 mg/L	0.104	27.30 mg/L	0.104	0.38%
QC value within limits for K 766.490* Recovery = 101.10%						
Mg 279.077*†	144209.1	7.742 mg/L	0.0410	7.742 mg/L	0.0410	0.53%
QC value within limits for Mg 279.077* Recovery = 103.22%						
Mn 257.610*†	489235.7	0.7637 mg/L	0.00094	0.7637 mg/L	0.00094	0.12%
QC value within limits for Mn 257.610* Recovery = 101.82%						
Mo 202.031*†	5659.5	0.6103 mg/L	0.00332	0.6103 mg/L	0.00332	0.54%
QC value within limits for Mo 202.031* Recovery = 101.72%						
Na 589.592*†	163611.3	37.26 mg/L	0.358	37.26 mg/L	0.358	0.96%
QC value within limits for Na 589.592* Recovery = 103.50%						
Ni 231.604*†	14737.0	0.6093 mg/L	0.00167	0.6093 mg/L	0.00167	0.27%
QC value within limits for Ni 231.604* Recovery = 101.56%						
P 213.617*†	11506.1	5.803 mg/L	0.0117	5.803 mg/L	0.0117	0.20%
QC value within limits for P 213.617* Recovery = 96.71%						
P 214.914†	7448.7	6.016 mg/L	0.0207	6.016 mg/L	0.0207	0.34%
Pb 220.353*†	30317.3	3.875 mg/L	0.0050	3.875 mg/L	0.0050	0.13%
QC value within limits for Pb 220.353* Recovery = 103.34%						
Sb 206.836†	8479.4	4.517 mg/L	0.0143	4.517 mg/L	0.0143	0.32%
QC value within limits for Sb 206.836 Recovery = 100.38%						
Sb 217.582*†	8477.7	4.538 mg/L	0.0203	4.538 mg/L	0.0203	0.45%
QC value within limits for Sb 217.582* Recovery = 100.84%						
Se 196.026*†	3289.0	1.501 mg/L	0.0004	1.501 mg/L	0.0004	0.03%
QC value within limits for Se 196.026* Recovery = 100.05%						
Si 251.611*†	231495.3	6.100 mg/L	0.0366	6.100 mg/L	0.0366	0.60%
QC value within limits for Si 251.611* Recovery = 101.66%						
Sn 189.927*†	18284.5	3.038 mg/L	0.0052	3.038 mg/L	0.0052	0.17%
QC value within limits for Sn 189.927* Recovery = 101.28%						
Sn 242.170†	5282.3	3.032 mg/L	0.0149	3.032 mg/L	0.0149	0.49%
Sr 407.771*†	100834.3	0.3115 mg/L	0.00323	0.3115 mg/L	0.00323	1.04%
QC value within limits for Sr 407.771* Recovery = 103.84%						

Ti 334.940†	504248.6	0.6072 mg/L	0.00082	0.6072 mg/L	0.00082	0.13%
Ti 336.121*†	355355.1	0.6130 mg/L	0.00018	0.6130 mg/L	0.00018	0.03%
QC value within limits for Ti 336.121* Recovery = 102.17%						
Tl 190.801*†	2823.1	1.552 mg/L	0.0002	1.552 mg/L	0.0002	0.01%
QC value within limits for Tl 190.801* Recovery = 103.44%						
V 292.402*†	256326.4	1.928 mg/L	0.0060	1.928 mg/L	0.0060	0.31%
QC value within limits for V 292.402* Recovery = 102.85%						
Zn 206.200*†	102389.2	2.534 mg/L	0.0028	2.534 mg/L	0.0028	0.11%
QC value within limits for Zn 206.200* Recovery = 101.37%						

All analyte(s) passed QC.

Sequence No.: 12

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/14/2017 12:07:17 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	79414.6	102.1 %	1.18			1.16%
Tb 350	128116.7	102.9 %	1.62			1.57%
Ag 328.068*†	198.0	0.0011 mg/L	0.00040	0.0011 mg/L	0.00040	37.46%
Al 308.215*†	-144.2	-0.0084 mg/L	0.00392	-0.0084 mg/L	0.00392	46.85%
As 188.979†	6.6	0.0032 mg/L	0.00068	0.0032 mg/L	0.00068	21.27%
As 193.696*†	-6.0	-0.0041 mg/L	0.00959	-0.0041 mg/L	0.00959	234.11%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2243.1	0.0463 mg/L	0.00358	0.0463 mg/L	0.00358	7.74%
Ba 233.527*†	103.8	0.0007 mg/L	0.00003	0.0007 mg/L	0.00003	5.03%
Be 313.042*†	-87.8	-0.0000 mg/L	0.00002	-0.0000 mg/L	0.00002	93.66%
Ca 317.933*†	12.2	0.0062 mg/L	0.00209	0.0062 mg/L	0.00209	33.71%
Cd 226.502*†	4.1	0.0001 mg/L	0.00007	0.0001 mg/L	0.00007	138.26%
Cd 228.802†	1.2	0.0000 mg/L	0.00040	0.0000 mg/L	0.00040	>999.9%
Co 228.616*†	19.0	0.0007 mg/L	0.00074	0.0007 mg/L	0.00074	107.18%
Cr 267.716*†	50.0	0.0005 mg/L	0.00007	0.0005 mg/L	0.00007	16.06%
Cu 324.752*†	70.8	0.0003 mg/L	0.00068	0.0003 mg/L	0.00068	240.12%
Fe 273.955*†	-16.8	-0.0007 mg/L	0.00033	-0.0007 mg/L	0.00033	44.77%
K 766.490*†	-98.7	-0.0323 mg/L	0.09012	-0.0323 mg/L	0.09012	278.80%
Mg 279.077*†	96.0	0.0052 mg/L	0.00001	0.0052 mg/L	0.00001	0.10%
Mn 257.610*†	61.1	0.0001 mg/L	0.00004	0.0001 mg/L	0.00004	37.46%
Mo 202.031*†	14.6	0.0016 mg/L	0.00020	0.0016 mg/L	0.00020	12.98%
Na 589.592*†	-447.9	-0.1020 mg/L	0.00527	-0.1020 mg/L	0.00527	5.17%
Ni 231.604*†	18.0	0.0007 mg/L	0.00079	0.0007 mg/L	0.00079	106.08%
P 213.617*†	17.1	0.0086 mg/L	0.00110	0.0086 mg/L	0.00110	12.69%
P 214.914†	-12.2	-0.0099 mg/L	0.00042	-0.0099 mg/L	0.00042	4.27%
Pb 220.353*†	-4.9	-0.0006 mg/L	0.00224	-0.0006 mg/L	0.00224	361.21%
Sb 206.836†	-5.9	-0.0031 mg/L	0.00271	-0.0031 mg/L	0.00271	86.43%
Sb 217.582*†	3.9	0.0021 mg/L	0.00009	0.0021 mg/L	0.00009	4.53%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	17.2	0.0079 mg/L	0.00610	0.0079 mg/L	0.00610	77.61%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	123.4	0.0033 mg/L	0.00057	0.0033 mg/L	0.00057	17.66%
Sn 189.927*†	14.0	0.0023 mg/L	0.00167	0.0023 mg/L	0.00167	71.95%
Sn 242.170†	32.7	0.0188 mg/L	0.02298	0.0188 mg/L	0.02298	122.28%
Sr 407.771*†	13.8	0.0000 mg/L	0.00004	0.0000 mg/L	0.00004	92.33%
Ti 334.940†	143.8	0.0002 mg/L	0.00001	0.0002 mg/L	0.00001	7.91%
Ti 336.121*†	34.2	0.0001 mg/L	0.00027	0.0001 mg/L	0.00027	450.64%
Tl 190.801*†	-1.6	-0.0009 mg/L	0.00069	-0.0009 mg/L	0.00069	80.68%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	-86.8	-0.0007 mg/L	0.00168	-0.0007 mg/L	0.00168	257.31%
Zn 206.200*†	-405.0	-0.0100 mg/L	0.00016	-0.0100 mg/L	0.00016	1.61%
QC value within limits for Zn 206.200* Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 23

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 20

Autosampler Location: 3

Date Collected: 3/14/2017 12:15:48 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	71665.4	92.11 %	0.223			0.24%
Tb 350	118520.9	95.21 %	0.989			1.04%
Ag 328.068*†	71254.7	0.3809 mg/L	0.00236	0.3809 mg/L	0.00236	0.62%
QC value within limits for Ag 328.068* Recovery = 101.58%						
Al 308.215*†	239087.2	13.87 mg/L	0.067	13.87 mg/L	0.067	0.48%
QC value within limits for Al 308.215* Recovery = 102.72%						
As 188.979†	7927.3	3.806 mg/L	0.0402	3.806 mg/L	0.0402	1.06%
QC value within limits for As 188.979 Recovery = 101.48%						
As 193.696*†	5504.4	3.781 mg/L	0.0288	3.781 mg/L	0.0288	0.76%
QC value within limits for As 193.696* Recovery = 100.83%						
B 249.677*†	191199.1	3.947 mg/L	0.0055	3.947 mg/L	0.0055	0.14%
QC value within limits for B 249.677* Recovery = 105.26%						
Ba 233.527*†	1166186.0	7.767 mg/L	0.0510	7.767 mg/L	0.0510	0.66%
QC value within limits for Ba 233.527* Recovery = 103.57%						
Be 313.042*†	2147544.7	0.5760 mg/L	0.00288	0.5760 mg/L	0.00288	0.50%
QC value within limits for Be 313.042* Recovery = 102.40%						
Ca 317.933*†	59694.6	30.26 mg/L	0.952	30.26 mg/L	0.952	3.15%
QC value within limits for Ca 317.933* Recovery = 100.86%						
Cd 226.502*†	59357.0	0.7853 mg/L	0.00892	0.7853 mg/L	0.00892	1.14%
QC value within limits for Cd 226.502* Recovery = 104.71%						
Cd 228.802†	29829.7	0.7862 mg/L	0.00866	0.7862 mg/L	0.00866	1.10%
Co 228.616*†	54107.6	1.978 mg/L	0.0145	1.978 mg/L	0.0145	0.73%
QC value within limits for Co 228.616* Recovery = 105.47%						
Cr 267.716*†	69407.5	0.6260 mg/L	0.00285	0.6260 mg/L	0.00285	0.45%
QC value within limits for Cr 267.716* Recovery = 104.33%						
Cu 324.752*†	236868.1	0.9537 mg/L	0.00634	0.9537 mg/L	0.00634	0.66%
QC value within limits for Cu 324.752* Recovery = 101.73%						
Fe 273.955*†	90361.6	3.915 mg/L	0.0278	3.915 mg/L	0.0278	0.71%
QC value within limits for Fe 273.955* Recovery = 104.41%						
K 766.490*†	81878.3	26.81 mg/L	0.547	26.81 mg/L	0.547	2.04%
QC value within limits for K 766.490* Recovery = 99.30%						
Mg 279.077*†	146384.7	7.858 mg/L	0.0645	7.858 mg/L	0.0645	0.82%
QC value within limits for Mg 279.077* Recovery = 104.78%						
Mn 257.610*†	494020.1	0.7712 mg/L	0.00598	0.7712 mg/L	0.00598	0.78%
QC value within limits for Mn 257.610* Recovery = 102.82%						
Mo 202.031*†	5725.5	0.6174 mg/L	0.00194	0.6174 mg/L	0.00194	0.31%
QC value within limits for Mo 202.031* Recovery = 102.90%						
Na 589.592*†	160877.3	36.64 mg/L	0.921	36.64 mg/L	0.921	2.51%
QC value within limits for Na 589.592* Recovery = 101.77%						
Ni 231.604*†	14897.4	0.6160 mg/L	0.00585	0.6160 mg/L	0.00585	0.95%
QC value within limits for Ni 231.604* Recovery = 102.66%						
P 213.617*†	11639.1	5.870 mg/L	0.0823	5.870 mg/L	0.0823	1.40%
QC value within limits for P 213.617* Recovery = 97.83%						
P 214.914†	7553.6	6.101 mg/L	0.0523	6.101 mg/L	0.0523	0.86%
Pb 220.353*†	31012.6	3.964 mg/L	0.0314	3.964 mg/L	0.0314	0.79%
QC value within limits for Pb 220.353* Recovery = 105.71%						
Sb 206.836†	8561.7	4.561 mg/L	0.0486	4.561 mg/L	0.0486	1.07%
QC value within limits for Sb 206.836 Recovery = 101.35%						
Sb 217.582*†	8541.4	4.572 mg/L	0.0247	4.572 mg/L	0.0247	0.54%
QC value within limits for Sb 217.582* Recovery = 101.60%						
Se 196.026*†	3341.8	1.525 mg/L	0.0200	1.525 mg/L	0.0200	1.31%
QC value within limits for Se 196.026* Recovery = 101.66%						
Si 251.611*†	234047.2	6.167 mg/L	0.0327	6.167 mg/L	0.0327	0.53%
QC value within limits for Si 251.611* Recovery = 102.78%						
Sn 189.927*†	18520.2	3.077 mg/L	0.0375	3.077 mg/L	0.0375	1.22%
QC value within limits for Sn 189.927* Recovery = 102.58%						
Sn 242.170†	5335.7	3.063 mg/L	0.0469	3.063 mg/L	0.0469	1.53%
Sr 407.771*†	98815.6	0.3053 mg/L	0.00646	0.3053 mg/L	0.00646	2.12%
QC value within limits for Sr 407.771* Recovery = 101.76%						

Ti 334.940†	506264.7	0.6097 mg/L	0.00441	0.6097 mg/L	0.00441	0.72%
Ti 336.121*†	357536.7	0.6168 mg/L	0.00218	0.6168 mg/L	0.00218	0.35%
QC value within limits for Ti 336.121* Recovery = 102.80%						
Tl 190.801*†	2854.3	1.569 mg/L	0.0100	1.569 mg/L	0.0100	0.64%
QC value within limits for Tl 190.801* Recovery = 104.58%						
V 292.402*†	259620.8	1.953 mg/L	0.0013	1.953 mg/L	0.0013	0.07%
QC value within limits for V 292.402* Recovery = 104.17%						
Zn 206.200*†	109180.0	2.702 mg/L	0.0400	2.702 mg/L	0.0400	1.48%
QC value within limits for Zn 206.200* Recovery = 108.09%						

All analyte(s) passed QC.

Al 308.215*†	-199.8	-0.0116 mg/L	0.00076	-0.0116 mg/L	0.00076	6.52%
As 188.979†	8.1	0.0039 mg/L	0.00233	0.0039 mg/L	0.00233	59.68%
As 193.696*†	-3.0	-0.0020 mg/L	0.00628	-0.0020 mg/L	0.00628	309.89%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2166.3	0.0447 mg/L	0.00180	0.0447 mg/L	0.00180	4.03%
Ba 233.527*†	89.2	0.0006 mg/L	0.00006	0.0006 mg/L	0.00006	10.83%
Be 313.042*†	-113.5	-0.0000 mg/L	0.00000	-0.0000 mg/L	0.00000	4.36%
Ca 317.933*†	9.5	0.0048 mg/L	0.00176	0.0048 mg/L	0.00176	36.66%
Cd 226.502*†	-2.8	-0.0000 mg/L	0.00007	-0.0000 mg/L	0.00007	198.33%
Cd 228.802†	-5.4	-0.0001 mg/L	0.00050	-0.0001 mg/L	0.00050	348.24%
Co 228.616*†	4.1	0.0002 mg/L	0.00033	0.0002 mg/L	0.00033	217.48%
Cr 267.716*†	51.6	0.0005 mg/L	0.00079	0.0005 mg/L	0.00079	170.69%
Cu 324.752*†	32.9	0.0001 mg/L	0.00038	0.0001 mg/L	0.00038	288.23%
Fe 273.955*†	76.0	0.0033 mg/L	0.00028	0.0033 mg/L	0.00028	8.56%
K 766.490*†	-91.4	-0.0299 mg/L	0.00669	-0.0299 mg/L	0.00669	22.34%
Mg 279.077*†	-191.9	-0.0103 mg/L	0.00409	-0.0103 mg/L	0.00409	39.72%
Mn 257.610*†	49.2	0.0001 mg/L	0.00001	0.0001 mg/L	0.00001	10.36%
Mo 202.031*†	0.9	0.0001 mg/L	0.00034	0.0001 mg/L	0.00034	332.99%
Na 589.592*†	-529.8	-0.1207 mg/L	0.01621	-0.1207 mg/L	0.01621	13.44%
Ni 231.604*†	15.1	0.0006 mg/L	0.00030	0.0006 mg/L	0.00030	48.56%
P 213.617*†	17.1	0.0086 mg/L	0.00862	0.0086 mg/L	0.00862	100.18%
P 214.914†	-14.2	-0.0115 mg/L	0.00495	-0.0115 mg/L	0.00495	42.99%
Pb 220.353*†	257.8	0.0330 mg/L	0.00161	0.0330 mg/L	0.00161	4.88%
Sb 206.836†	-2.9	-0.0016 mg/L	0.00189	-0.0016 mg/L	0.00189	120.56%
Sb 217.582*†	-0.8	-0.0004 mg/L	0.00883	-0.0004 mg/L	0.00883	>999.9%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	1.3	0.0006 mg/L	0.00611	0.0006 mg/L	0.00611	>999.9%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	358.8	0.0095 mg/L	0.00142	0.0095 mg/L	0.00142	15.03%
Sn 189.927*†	3.9	0.0006 mg/L	0.00517	0.0006 mg/L	0.00517	795.17%
Sn 242.170†	2.9	0.0017 mg/L	0.01180	0.0017 mg/L	0.01180	711.50%
Sr 407.771*†	-10.0	-0.0000 mg/L	0.00005	-0.0000 mg/L	0.00005	155.09%
Ti 334.940†	165.4	0.0002 mg/L	0.00015	0.0002 mg/L	0.00015	72.90%
Ti 336.121*†	-28.4	-0.0000 mg/L	0.00033	-0.0000 mg/L	0.00033	666.10%
Tl 190.801*†	-1.9	-0.0010 mg/L	0.00030	-0.0010 mg/L	0.00030	29.03%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	-131.5	-0.0010 mg/L	0.00011	-0.0010 mg/L	0.00011	10.74%
Zn 206.200*†	1566.0	0.0388 mg/L	0.00073	0.0388 mg/L	0.00073	1.88%
QC value greater than the upper limit for Zn 206.200* Recovery = Not calculated						
QC Failed. Retry.						

Sequence No.: 26

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/14/2017 12:18:14 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	79838.5	102.6 %	0.67			0.66%
Tb 350	127631.4	102.5 %	0.83			0.81%
Ag 328.068*†	-35.6	-0.0002 mg/L	0.00059	-0.0002 mg/L	0.00059	307.55%
Al 308.215*†	-217.9	-0.0126 mg/L	0.00255	-0.0126 mg/L	0.00255	20.19%
As 188.979†	11.9	0.0057 mg/L	0.00428	0.0057 mg/L	0.00428	74.59%
As 193.696*†	-2.0	-0.0014 mg/L	0.00316	-0.0014 mg/L	0.00316	229.31%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	1479.9	0.0306 mg/L	0.00169	0.0306 mg/L	0.00169	5.53%
Ba 233.527*†	86.1	0.0006 mg/L	0.00012	0.0006 mg/L	0.00012	20.54%
Be 313.042*†	-125.4	-0.0000 mg/L	0.00002	-0.0000 mg/L	0.00002	64.66%
Ca 317.933*†	11.5	0.0058 mg/L	0.00071	0.0058 mg/L	0.00071	12.20%
Cd 226.502*†	1.8	0.0000 mg/L	0.00001	0.0000 mg/L	0.00001	35.70%
Cd 228.802†	1.4	0.0000 mg/L	0.00029	0.0000 mg/L	0.00029	778.04%
Co 228.616*†	8.2	0.0003 mg/L	0.00015	0.0003 mg/L	0.00015	50.17%
Cr 267.716*†	-125.7	-0.0011 mg/L	0.00052	-0.0011 mg/L	0.00052	46.13%
Cu 324.752*†	-34.3	-0.0001 mg/L	0.00002	-0.0001 mg/L	0.00002	12.80%
Fe 273.955*†	212.1	0.0092 mg/L	0.01007	0.0092 mg/L	0.01007	109.56%
K 766.490*†	75.4	0.0247 mg/L	0.07049	0.0247 mg/L	0.07049	285.40%
Mg 279.077*†	-164.6	-0.0088 mg/L	0.00181	-0.0088 mg/L	0.00181	20.51%

Mn 257.610*†	65.5	0.0001 mg/L	0.00006	0.0001 mg/L	0.00006	58.60%
Mo 202.031*†	2.1	0.0002 mg/L	0.00007	0.0002 mg/L	0.00007	30.96%
Na 589.592*†	-528.1	-0.1203 mg/L	0.01777	-0.1203 mg/L	0.01777	14.78%
Ni 231.604*†	11.2	0.0005 mg/L	0.00039	0.0005 mg/L	0.00039	84.48%
P 213.617*†	-2.3	-0.0012 mg/L	0.00699	-0.0012 mg/L	0.00699	603.16%
P 214.914†	-7.9	-0.0063 mg/L	0.00945	-0.0063 mg/L	0.00945	148.95%
Pb 220.353*†	243.8	0.0312 mg/L	0.00132	0.0312 mg/L	0.00132	4.22%
Sb 206.836†	-12.3	-0.0065 mg/L	0.00154	-0.0065 mg/L	0.00154	23.54%
Sb 217.582*†	-3.0	-0.0016 mg/L	0.00233	-0.0016 mg/L	0.00233	146.57%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	10.4	0.0048 mg/L	0.00552	0.0048 mg/L	0.00552	116.05%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	304.5	0.0080 mg/L	0.00123	0.0080 mg/L	0.00123	15.34%
Sn 189.927*†	-6.2	-0.0010 mg/L	0.00026	-0.0010 mg/L	0.00026	25.18%
Sn 242.170†	1.6	0.0009 mg/L	0.00883	0.0009 mg/L	0.00883	978.72%
Sr 407.771*†	12.8	0.0000 mg/L	0.00001	0.0000 mg/L	0.00001	30.20%
Ti 334.940†	245.4	0.0003 mg/L	0.00041	0.0003 mg/L	0.00041	139.33%
Ti 336.121*†	-203.8	-0.0004 mg/L	0.00031	-0.0004 mg/L	0.00031	89.43%
Tl 190.801*†	0.2	0.0001 mg/L	0.00397	0.0001 mg/L	0.00397	>999.9%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	-122.0	-0.0009 mg/L	0.00048	-0.0009 mg/L	0.00048	52.40%
Zn 206.200*†	1122.2	0.0278 mg/L	0.00093	0.0278 mg/L	0.00093	3.35%
QC value greater than the upper limit for Zn 206.200* Recovery = Not calculated						
QC Failed. Continue with analysis.						

Sequence No.: 37

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/14/2017 12:27:26 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc.	Units	Calib.	Std.Dev.	Conc.	Units	Sample	Std.Dev.	RSD
Tb 384	70934.4	91.17	%		1.057					1.16%
Tb 350	117617.5	94.49	%		0.350					0.37%
Ag 328.068*†	71499.2	0.3822	mg/L		0.00165	0.3822	mg/L		0.00165	0.43%
QC value within limits for Ag 328.068* Recovery = 101.93%										
Al 308.215*†	241054.4	13.98	mg/L		0.037	13.98	mg/L		0.037	0.26%
QC value within limits for Al 308.215* Recovery = 103.57%										
As 188.979†	8184.4	3.929	mg/L		0.0299	3.929	mg/L		0.0299	0.76%
QC value within limits for As 188.979 Recovery = 104.78%										
As 193.696*†	5665.7	3.892	mg/L		0.0325	3.892	mg/L		0.0325	0.84%
QC value within limits for As 193.696* Recovery = 103.79%										
B 249.677*†	188735.7	3.896	mg/L		0.0344	3.896	mg/L		0.0344	0.88%
QC value within limits for B 249.677* Recovery = 103.90%										
Ba 233.527*†	1171912.4	7.806	mg/L		0.0288	7.806	mg/L		0.0288	0.37%
QC value within limits for Ba 233.527* Recovery = 104.07%										
Be 313.042*†	2162990.1	0.5801	mg/L		0.00629	0.5801	mg/L		0.00629	1.08%
QC value within limits for Be 313.042* Recovery = 103.14%										
Ca 317.933*†	61064.5	30.95	mg/L		0.098	30.95	mg/L		0.098	0.32%
QC value within limits for Ca 317.933* Recovery = 103.18%										
Cd 226.502*†	59712.1	0.7900	mg/L		0.00409	0.7900	mg/L		0.00409	0.52%
QC value within limits for Cd 226.502* Recovery = 105.34%										
Cd 228.802†	29901.1	0.7881	mg/L		0.00100	0.7881	mg/L		0.00100	0.13%
Co 228.616*†	54448.0	1.990	mg/L		0.0045	1.990	mg/L		0.0045	0.23%
QC value within limits for Co 228.616* Recovery = 106.14%										
Cr 267.716*†	69588.7	0.6276	mg/L		0.00090	0.6276	mg/L		0.00090	0.14%
QC value within limits for Cr 267.716* Recovery = 104.60%										
Cu 324.752*†	238541.5	0.9605	mg/L		0.00124	0.9605	mg/L		0.00124	0.13%
QC value within limits for Cu 324.752* Recovery = 102.45%										
Fe 273.955*†	90854.4	3.937	mg/L		0.0161	3.937	mg/L		0.0161	0.41%
QC value within limits for Fe 273.955* Recovery = 104.97%										
K 766.490*†	84299.3	27.60	mg/L		0.127	27.60	mg/L		0.127	0.46%
QC value within limits for K 766.490* Recovery = 102.24%										
Mg 279.077*†	147400.0	7.913	mg/L		0.0567	7.913	mg/L		0.0567	0.72%
QC value within limits for Mg 279.077* Recovery = 105.51%										
Mn 257.610*†	497499.9	0.7766	mg/L		0.00185	0.7766	mg/L		0.00185	0.24%
QC value within limits for Mn 257.610* Recovery = 103.54%										
Mo 202.031*†	5838.6	0.6296	mg/L		0.00288	0.6296	mg/L		0.00288	0.46%
QC value within limits for Mo 202.031* Recovery = 104.93%										
Na 589.592*†	166622.6	37.95	mg/L		0.102	37.95	mg/L		0.102	0.27%
QC value within limits for Na 589.592* Recovery = 105.41%										
Ni 231.604*†	15312.3	0.6331	mg/L		0.00564	0.6331	mg/L		0.00564	0.89%
QC value within limits for Ni 231.604* Recovery = 105.52%										
P 213.617*†	12088.5	6.097	mg/L		0.0779	6.097	mg/L		0.0779	1.28%
QC value within limits for P 213.617* Recovery = 101.61%										
P 214.914†	7795.1	6.296	mg/L		0.0262	6.296	mg/L		0.0262	0.42%
Pb 220.353*†	31070.8	3.971	mg/L		0.0198	3.971	mg/L		0.0198	0.50%
QC value within limits for Pb 220.353* Recovery = 105.90%										
Sb 206.836†	8812.4	4.694	mg/L		0.0106	4.694	mg/L		0.0106	0.23%
QC value within limits for Sb 206.836 Recovery = 104.32%										
Sb 217.582*†	8779.0	4.699	mg/L		0.0421	4.699	mg/L		0.0421	0.90%
QC value within limits for Sb 217.582* Recovery = 104.43%										
Se 196.026*†	3439.7	1.570	mg/L		0.0036	1.570	mg/L		0.0036	0.23%
QC value within limits for Se 196.026* Recovery = 104.64%										
Si 251.611*†	234551.6	6.180	mg/L		0.0046	6.180	mg/L		0.0046	0.07%
QC value within limits for Si 251.611* Recovery = 103.01%										
Sn 189.927*†	19095.5	3.173	mg/L		0.0217	3.173	mg/L		0.0217	0.68%
QC value within limits for Sn 189.927* Recovery = 105.77%										
Sn 242.170†	5475.9	3.143	mg/L		0.0201	3.143	mg/L		0.0201	0.64%
Sr 407.771*†	100666.7	0.3110	mg/L		0.00109	0.3110	mg/L		0.00109	0.35%
QC value within limits for Sr 407.771* Recovery = 103.66%										

Ti 334.940†	512832.0	0.6176 mg/L	0.00105	0.6176 mg/L	0.00105	0.17%
Ti 336.121*†	361174.3	0.6231 mg/L	0.00001	0.6231 mg/L	0.00001	0.00%
QC value within limits for Ti 336.121* Recovery = 103.85%						
Tl 190.801*†	2917.0	1.603 mg/L	0.0079	1.603 mg/L	0.0079	0.50%
QC value within limits for Tl 190.801* Recovery = 106.88%						
V 292.402*†	259969.6	1.956 mg/L	0.0126	1.956 mg/L	0.0126	0.65%
QC value within limits for V 292.402* Recovery = 104.31%						
Zn 206.200*†	106022.8	2.624 mg/L	0.0216	2.624 mg/L	0.0216	0.82%
QC value within limits for Zn 206.200* Recovery = 104.97%						

All analyte(s) passed QC.

Sequence No.: 38
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/14/2017 12:28:19 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Units	Calib.	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Tb 384	80009.1	102.8	%		1.50				1.46%
Tb 350	128524.0	103.2	%		2.13				2.06%
Ag 328.068*†	170.5	0.0009	mg/L		0.00028	0.0009	mg/L	0.00028	30.97%
Al 308.215*†	-206.8	-0.0120	mg/L		0.00249	-0.0120	mg/L	0.00249	20.79%
As 188.979†	10.5	0.0050	mg/L		0.00364	0.0050	mg/L	0.00364	72.51%
As 193.696*†	-3.5	-0.0024	mg/L		0.00057	-0.0024	mg/L	0.00057	23.78%
QC value within limits for As 193.696* Recovery = Not calculated									
B 249.677*†	2796.0	0.0577	mg/L		0.00356	0.0577	mg/L	0.00356	6.17%
Ba 233.527*†	74.2	0.0005	mg/L		0.00001	0.0005	mg/L	0.00001	2.60%
Be 313.042*†	-162.4	-0.0000	mg/L		0.00002	-0.0000	mg/L	0.00002	54.09%
Ca 317.933*†	20.8	0.0106	mg/L		0.00576	0.0106	mg/L	0.00576	54.52%
Cd 226.502*†	4.2	0.0001	mg/L		0.00003	0.0001	mg/L	0.00003	51.67%
Cd 228.802†	5.6	0.0001	mg/L		0.00003	0.0001	mg/L	0.00003	23.23%
Co 228.616*†	8.2	0.0003	mg/L		0.00001	0.0003	mg/L	0.00001	4.06%
Cr 267.716*†	50.3	0.0005	mg/L		0.00136	0.0005	mg/L	0.00136	300.63%
Cu 324.752*†	-199.3	-0.0008	mg/L		0.00051	-0.0008	mg/L	0.00051	63.95%
Fe 273.955*†	22.5	0.0010	mg/L		0.00017	0.0010	mg/L	0.00017	17.45%
K 766.490*†	451.2	0.1478	mg/L		0.02296	0.1478	mg/L	0.02296	15.54%
Mg 279.077*†	-147.8	-0.0079	mg/L		0.00462	-0.0079	mg/L	0.00462	58.19%
Mn 257.610*†	74.1	0.0001	mg/L		0.00006	0.0001	mg/L	0.00006	52.30%
Mo 202.031*†	4.5	0.0005	mg/L		0.00015	0.0005	mg/L	0.00015	30.00%
Na 589.592*†	1810.6	0.4123	mg/L		0.04238	0.4123	mg/L	0.04238	10.28%
Ni 231.604*†	19.0	0.0008	mg/L		0.00023	0.0008	mg/L	0.00023	28.98%
P 213.617*†	31.3	0.0158	mg/L		0.00738	0.0158	mg/L	0.00738	46.67%
P 214.914†	-27.8	-0.0225	mg/L		0.00191	-0.0225	mg/L	0.00191	8.50%
Pb 220.353*†	157.7	0.0202	mg/L		0.00037	0.0202	mg/L	0.00037	1.82%
Sb 206.836†	-9.9	-0.0053	mg/L		0.00233	-0.0053	mg/L	0.00233	44.30%
Sb 217.582*†	3.9	0.0021	mg/L		0.00468	0.0021	mg/L	0.00468	221.94%
QC value within limits for Sb 217.582* Recovery = Not calculated									
Se 196.026*†	2.0	0.0009	mg/L		0.00344	0.0009	mg/L	0.00344	381.38%
QC value within limits for Se 196.026* Recovery = Not calculated									
Si 251.611*†	240.6	0.0063	mg/L		0.00038	0.0063	mg/L	0.00038	6.01%
Sn 189.927*†	3.6	0.0006	mg/L		0.00476	0.0006	mg/L	0.00476	789.06%
Sn 242.170†	5.5	0.0031	mg/L		0.00240	0.0031	mg/L	0.00240	76.52%
Sr 407.771*†	6.8	0.0000	mg/L		0.00007	0.0000	mg/L	0.00007	315.22%
Ti 334.940†	382.0	0.0005	mg/L		0.00079	0.0005	mg/L	0.00079	171.08%
Ti 336.121*†	109.3	0.0002	mg/L		0.00002	0.0002	mg/L	0.00002	12.74%
Tl 190.801*†	8.0	0.0044	mg/L		0.00238	0.0044	mg/L	0.00238	54.09%
QC value within limits for Tl 190.801* Recovery = Not calculated									
V 292.402*†	-16.5	-0.0001	mg/L		0.00018	-0.0001	mg/L	0.00018	144.03%
Zn 206.200*†	348.1	0.0086	mg/L		0.00001	0.0086	mg/L	0.00001	0.06%
QC value within limits for Zn 206.200* Recovery = Not calculated									

All analyte(s) passed QC.

Sequence No.: 49

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 20

Autosampler Location: 3

Date Collected: 3/14/2017 12:37:50 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc.	Units	Calib.	Std.Dev.	Conc. Units	Std.Dev.	RSD
Tb 384	72036.3	92.58	%		2.111			2.28%
Tb 350	119547.4	96.04	%		1.789			1.86%
Ag 328.068*†	71268.8	0.3810	mg/L		0.00041	0.3810 mg/L	0.00041	0.11%
QC value within limits for Ag 328.068* Recovery = 101.60%								
Al 308.215*†	239341.7	13.88	mg/L		0.054	13.88 mg/L	0.054	0.39%
QC value within limits for Al 308.215* Recovery = 102.83%								
As 188.979†	7854.9	3.771	mg/L		0.0761	3.771 mg/L	0.0761	2.02%
QC value within limits for As 188.979 Recovery = 100.56%								
As 193.696*†	5462.9	3.753	mg/L		0.0598	3.753 mg/L	0.0598	1.59%
QC value within limits for As 193.696* Recovery = 100.07%								
B 249.677*†	188372.7	3.889	mg/L		0.0016	3.889 mg/L	0.0016	0.04%
QC value within limits for B 249.677* Recovery = 103.70%								
Ba 233.527*†	1166272.8	7.768	mg/L		0.0433	7.768 mg/L	0.0433	0.56%
QC value within limits for Ba 233.527* Recovery = 103.57%								
Be 313.042*†	2149952.4	0.5766	mg/L		0.00622	0.5766 mg/L	0.00622	1.08%
QC value within limits for Be 313.042* Recovery = 102.51%								
Ca 317.933*†	59576.3	30.20	mg/L		1.361	30.20 mg/L	1.361	4.51%
QC value within limits for Ca 317.933* Recovery = 100.66%								
Cd 226.502*†	59420.0	0.7862	mg/L		0.00820	0.7862 mg/L	0.00820	1.04%
QC value within limits for Cd 226.502* Recovery = 104.82%								
Cd 228.802†	29796.9	0.7853	mg/L		0.00973	0.7853 mg/L	0.00973	1.24%
Co 228.616*†	54253.7	1.983	mg/L		0.0157	1.983 mg/L	0.0157	0.79%
QC value within limits for Co 228.616* Recovery = 105.76%								
Cr 267.716*†	69452.1	0.6264	mg/L		0.00610	0.6264 mg/L	0.00610	0.97%
QC value within limits for Cr 267.716* Recovery = 104.39%								
Cu 324.752*†	237711.5	0.9571	mg/L		0.00114	0.9571 mg/L	0.00114	0.12%
QC value within limits for Cu 324.752* Recovery = 102.09%								
Fe 273.955*†	90336.1	3.914	mg/L		0.0291	3.914 mg/L	0.0291	0.74%
QC value within limits for Fe 273.955* Recovery = 104.38%								
K 766.490*†	82232.2	26.93	mg/L		0.831	26.93 mg/L	0.831	3.08%
QC value within limits for K 766.490* Recovery = 99.73%								
Mg 279.077*†	146834.5	7.883	mg/L		0.0810	7.883 mg/L	0.0810	1.03%
QC value within limits for Mg 279.077* Recovery = 105.10%								
Mn 257.610*†	495244.2	0.7731	mg/L		0.00421	0.7731 mg/L	0.00421	0.55%
QC value within limits for Mn 257.610* Recovery = 103.07%								
Mo 202.031*†	5673.1	0.6118	mg/L		0.01012	0.6118 mg/L	0.01012	1.65%
QC value within limits for Mo 202.031* Recovery = 101.96%								
Na 589.592*†	161726.4	36.83	mg/L		1.178	36.83 mg/L	1.178	3.20%
QC value within limits for Na 589.592* Recovery = 102.31%								
Ni 231.604*†	14791.2	0.6116	mg/L		0.00934	0.6116 mg/L	0.00934	1.53%
QC value within limits for Ni 231.604* Recovery = 101.93%								
P 213.617*†	11599.6	5.850	mg/L		0.1185	5.850 mg/L	0.1185	2.03%
QC value within limits for P 213.617* Recovery = 97.50%								
P 214.914†	7506.7	6.063	mg/L		0.1002	6.063 mg/L	0.1002	1.65%
Pb 220.353*†	30929.0	3.953	mg/L		0.0579	3.953 mg/L	0.0579	1.47%
QC value within limits for Pb 220.353* Recovery = 105.42%								
Sb 206.836†	8519.8	4.538	mg/L		0.0895	4.538 mg/L	0.0895	1.97%
QC value within limits for Sb 206.836 Recovery = 100.86%								
Sb 217.582*†	8491.1	4.545	mg/L		0.0735	4.545 mg/L	0.0735	1.62%
QC value within limits for Sb 217.582* Recovery = 101.00%								
Se 196.026*†	3330.0	1.519	mg/L		0.0280	1.519 mg/L	0.0280	1.84%
QC value within limits for Se 196.026* Recovery = 101.30%								
Si 251.611*†	234312.3	6.174	mg/L		0.0252	6.174 mg/L	0.0252	0.41%
QC value within limits for Si 251.611* Recovery = 102.90%								
Sn 189.927*†	18421.9	3.061	mg/L		0.0605	3.061 mg/L	0.0605	1.97%
QC value within limits for Sn 189.927* Recovery = 102.04%								
Sn 242.170†	5302.0	3.043	mg/L		0.0819	3.043 mg/L	0.0819	2.69%
Sr 407.771*†	98400.6	0.3040	mg/L		0.00991	0.3040 mg/L	0.00991	3.26%
QC value within limits for Sr 407.771* Recovery = 101.33%								

Method: 6010 EPA soil

Page 53

Date: 3/14/2017 12:38:27 PM

Ti 334.940†	508559.9	0.6124 mg/L	0.00206	0.6124 mg/L	0.00206	0.34%
Ti 336.121*†	358996.2	0.6193 mg/L	0.00194	0.6193 mg/L	0.00194	0.31%
QC value within limits for Ti 336.121* Recovery = 103.22%						
Tl 190.801*†	2830.6	1.556 mg/L	0.0287	1.556 mg/L	0.0287	1.84%
QC value within limits for Tl 190.801* Recovery = 103.72%						
V 292.402*†	259911.2	1.955 mg/L	0.0200	1.955 mg/L	0.0200	1.02%
QC value within limits for V 292.402* Recovery = 104.29%						
Zn 206.200*†	104039.6	2.575 mg/L	0.0303	2.575 mg/L	0.0303	1.18%
QC value within limits for Zn 206.200* Recovery = 103.00%						

All analyte(s) passed QC.

Sequence No.: 50
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/14/2017 12:38:43 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	78324.2	100.7	%	0.06			0.06%
Tb 350	127439.8	102.4	%	0.01			0.01%
Ag 328.068*†	354.8	0.0019	mg/L	0.00051	0.0019 mg/L	0.00051	27.03%
Al 308.215*†	-230.6	-0.0134	mg/L	0.00052	-0.0134 mg/L	0.00052	3.89%
As 188.979†	9.9	0.0048	mg/L	0.00626	0.0048 mg/L	0.00626	131.60%
As 193.696*†	-2.5	-0.0017	mg/L	0.00175	-0.0017 mg/L	0.00175	103.86%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	2782.3	0.0574	mg/L	0.00243	0.0574 mg/L	0.00243	4.23%
Ba 233.527*†	102.9	0.0007	mg/L	0.00015	0.0007 mg/L	0.00015	22.15%
Be 313.042*†	-0.0	-0.0000	mg/L	0.00003	-0.0000 mg/L	0.00003	>999.9%
Ca 317.933*†	17.8	0.0090	mg/L	0.00225	0.0090 mg/L	0.00225	24.93%
Cd 226.502*†	7.7	0.0001	mg/L	0.00022	0.0001 mg/L	0.00022	215.19%
Cd 228.802†	-1.2	-0.0000	mg/L	0.00021	-0.0000 mg/L	0.00021	669.18%
Co 228.616*†	13.2	0.0005	mg/L	0.00003	0.0005 mg/L	0.00003	6.92%
Cr 267.716*†	87.5	0.0008	mg/L	0.00128	0.0008 mg/L	0.00128	162.76%
Cu 324.752*†	-7.5	-0.0000	mg/L	0.00019	-0.0000 mg/L	0.00019	623.25%
Fe 273.955*†	-2.0	-0.0001	mg/L	0.00068	-0.0001 mg/L	0.00068	788.45%
K 766.490*†	132.3	0.0433	mg/L	0.15069	0.0433 mg/L	0.15069	347.77%
Mg 279.077*†	-145.4	-0.0078	mg/L	0.01379	-0.0078 mg/L	0.01379	176.64%
Mn 257.610*†	91.7	0.0001	mg/L	0.00009	0.0001 mg/L	0.00009	66.27%
Mo 202.031*†	7.4	0.0008	mg/L	0.00104	0.0008 mg/L	0.00104	130.00%
Na 589.592*†	888.0	0.2022	mg/L	0.03950	0.2022 mg/L	0.03950	19.53%
Ni 231.604*†	23.1	0.0010	mg/L	0.00020	0.0010 mg/L	0.00020	20.43%
P 213.617*†	10.0	0.0050	mg/L	0.00225	0.0050 mg/L	0.00225	44.80%
P 214.914†	-9.2	-0.0075	mg/L	0.00189	-0.0075 mg/L	0.00189	25.36%
Pb 220.353*†	135.6	0.0173	mg/L	0.00047	0.0173 mg/L	0.00047	2.70%
Sb 206.836†	-10.0	-0.0053	mg/L	0.00322	-0.0053 mg/L	0.00322	60.47%
Sb 217.582*†	4.0	0.0021	mg/L	0.00618	0.0021 mg/L	0.00618	289.43%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	-0.1	-0.0000	mg/L	0.00397	-0.0000 mg/L	0.00397	>999.9%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	258.2	0.0068	mg/L	0.00110	0.0068 mg/L	0.00110	16.16%
Sn 189.927*†	28.0	0.0047	mg/L	0.00029	0.0047 mg/L	0.00029	6.29%
Sn 242.170†	13.4	0.0077	mg/L	0.01891	0.0077 mg/L	0.01891	246.48%
Sr 407.771*†	10.3	0.0000	mg/L	0.00006	0.0000 mg/L	0.00006	192.44%
Ti 334.940†	387.0	0.0005	mg/L	0.00033	0.0005 mg/L	0.00033	70.29%
Ti 336.121*†	168.2	0.0003	mg/L	0.00013	0.0003 mg/L	0.00013	45.40%
Tl 190.801*†	2.1	0.0011	mg/L	0.00389	0.0011 mg/L	0.00389	340.85%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	-48.7	-0.0004	mg/L	0.00077	-0.0004 mg/L	0.00077	211.00%
Zn 206.200*†	-245.6	-0.0061	mg/L	0.00031	-0.0061 mg/L	0.00031	5.15%
QC value within limits for Zn 206.200* Recovery = Not calculated							
All analyte(s) passed QC.							

Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control Limit	Comment
		Observed	%D		
Silver	0.500000	0.504574	-1	+/-10	
Arsenic	5.000000	4.819739	4	+/-10	
Barium	1.000000	1.001040	0	+/-10	
Beryllium	0.500000	0.478842	4	+/-10	
Cadmium	1.500000	1.495720	0	+/-10	
Cobalt	1.000000	1.031946	-3	+/-10	
Chromium	0.400000	0.401199	0	+/-10	
Copper	1.000000	1.005417	-1	+/-10	
Molybdenum	2.500000	2.398835	4	+/-10	
Nickel	0.400000	0.399060	0	+/-10	
Lead	5.000000	5.048274	-1	+/-10	
Antimony	2.000000	1.928232	4	+/-10	
Selenium	2.000000	1.923570	4	+/-10	
Thallium	2.000000	1.944597	3	+/-10	
Vanadium	1.000000	0.997584	0	+/-10	
Zinc	1.500000	1.515399	-1	+/-10	

Report Time: 3/15/2017 1:16:01 PM

ICV-1 File: ICV-M072816C

Analysis Time: 3/15/2017 10:40:01 AM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Initial Calibration Blank		
	ICB-1	RL	Comment
Silver	0.000588	0.005000	
Arsenic	0.003661	0.010000	
Barium	0.000377	0.010000	
Beryllium	-0.000013	0.010000	
Cadmium	0.000250	0.010000	
Cobalt	-0.000065	0.010000	
Chromium	-0.000514	0.010000	
Copper	0.000153	0.010000	
Molybdenum	-0.000388	0.010000	
Nickel	0.000193	0.010000	
Lead	-0.000280	0.010000	
Antimony	0.004535	0.015000	
Selenium	0.009175	0.015000	
Thallium	0.002072	0.015000	
Vanadium	0.000029	0.010000	
Zinc	0.001426	0.010000	

Report Time: 3/15/2017 1:16:01 PM

ICB-1 File: ICB-R12091601

Analysis Time: 3/15/2017 10:40:58 AM

01/22/2014 Revision

Return to Contents



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Interference Check						Comment
	ICS-A-1		ICS-AB-1				
	Observed	Control Limit	True	Observed	%D	Control Limit	
Silver	0.001621	0.005000	0.300000	0.313315	-4	+/-20	
Arsenic	-0.004546	0.010000	1.000000	1.020616	-2	+/-20	
Barium	0.002472	0.010000	0.300000	0.305645	-2	+/-20	
Beryllium	-0.000053	0.010000	0.100000	0.102525	-3	+/-20	
Cadmium	0.001694	0.010000	0.300000	0.295635	1	+/-20	
Cobalt	0.000120	0.010000	0.300000	0.303200	-1	+/-20	
Chromium	-0.000930	0.010000	0.300000	0.304045	-1	+/-20	
Copper	-0.001954	0.010000	0.300000	0.312793	-4	+/-20	
Molybdenum	0.001059	0.010000	0.300000	0.303885	-1	+/-20	
Nickel	0.000634	0.010000	0.300000	0.306921	-2	+/-20	
Lead	-0.005954	0.010000	1.000000	0.979931	2	+/-20	
Antimony	-0.000771	0.015000	1.000000	0.973366	3	+/-20	
Selenium	0.004401	0.015000	0.500000	0.516502	-3	+/-20	
Thallium	-0.004810	0.015000	1.000000	1.017193	-2	+/-20	
Vanadium	0.000558	0.010000	0.300000	0.299893	0	+/-20	
Zinc	0.002593	0.010000	0.300000	0.302598	-1	+/-20	

Report Time: 3/15/2017 1:16:01 PM

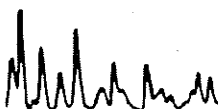
ICS-A-1 File: ICS_A - M110116B

Analysis Time: 3/15/2017 10:46:13 AM

ICS-AB-1 File: ICS_AB - M110116A

Analysis Time: 3/15/2017 10:47:04 AM

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						
	True	CCV-1		CCV-2		Control Limit	Comment
		Observed	%D	Observed	%D		
Silver	0.375000	0.367338	2	0.369193	2	+/-10	
Arsenic	3.750000	3.667701	2	3.736657	0	+/-10	
Barium	7.500000	7.481330	0	7.472418	0	+/-10	
Beryllium	0.562500	0.550066	2	0.552415	2	+/-10	
Cadmium	0.750000	0.739511	1	0.739869	1	+/-10	
Cobalt	1.875000	1.869856	0	1.873326	0	+/-10	
Chromium	0.600000	0.592541	1	0.598460	0	+/-10	
Copper	0.937500	0.926400	1	0.929818	1	+/-10	
Molybdenum	0.600000	0.597672	0	0.604981	-1	+/-10	
Nickel	0.600000	0.596012	1	0.604271	-1	+/-10	
Lead	3.750000	3.694576	1	3.689523	2	+/-10	
Antimony	4.500000	4.442471	1	4.505460	0	+/-10	
Selenium	1.500000	1.485595	1	1.513523	-1	+/-10	
Thallium	1.500000	1.510475	-1	1.533245	-2	+/-10	
Vanadium	1.875000	1.844606	2	1.855943	1	+/-10	
Zinc	2.500000	2.444584	2	2.444922	2	+/-10	

Report Time: 3/15/2017 1:16:01 PM

CCV-1 File: CCV= STD3x0.5

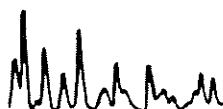
Analysis Time: 3/15/2017 11:17:24 AM

CCV-2 File: CCV= STD3x0.5

Analysis Time: 3/15/2017 11:27:52 AM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-1	CCB-2	RL	Qualifier
Silver	0.001028	0.000333	0.005000	
Arsenic	0.002062	-0.003165	0.010000	
Barium	0.003484	0.004029	0.010000	
Beryllium	0.000235	0.000276	0.010000	
Cadmium	0.000463	0.000495	0.010000	
Cobalt	0.000658	0.000981	0.010000	
Chromium	0.000610	0.001270	0.010000	
Copper	0.000502	0.000867	0.010000	
Molybdenum	-0.000208	0.000341	0.010000	
Nickel	0.000134	0.000010	0.010000	
Lead	0.000990	0.001683	0.010000	
Antimony	0.001427	0.012535	0.015000	
Selenium	0.004437	0.011863	0.015000	
Thallium	0.001118	0.004409	0.015000	
Vanadium	0.001040	0.000824	0.010000	
Zinc	0.001534	0.003711	0.010000	

Report Time: 3/15/2017 1:16:01 PM

CCB-1 File: CCB-R12091601

Analysis Time: 3/15/2017 11:18:16 AM

CCB-2 File: CCB-R12091601

Analysis Time: 3/15/2017 11:28:45 AM

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						Comment
	True	CCV-3		CCV-4		Control Limit	
		Observed	%D	Observed	%D		
Silver	0.375000	0.367602	2	0.367571	2	+/-10	
Arsenic	3.750000	3.654871	3	3.657825	2	+/-10	
Barium	7.500000	7.478883	0	7.472533	0	+/-10	
Beryllium	0.562500	0.550389	2	0.549158	2	+/-10	
Cadmium	0.750000	0.742762	1	0.739199	1	+/-10	
Cobalt	1.875000	1.874502	0	1.876940	0	+/-10	
Chromium	0.600000	0.593288	1	0.596770	1	+/-10	
Copper	0.937500	0.927240	1	0.924335	1	+/-10	
Molybdenum	0.600000	0.594985	1	0.595566	1	+/-10	
Nickel	0.600000	0.591977	1	0.592966	1	+/-10	
Lead	3.750000	3.713039	1	3.707687	1	+/-10	
Antimony	4.500000	4.409489	2	4.420539	2	+/-10	
Selenium	1.500000	1.469142	2	1.480320	1	+/-10	
Thallium	1.500000	1.507893	-1	1.502342	0	+/-10	
Vanadium	1.875000	1.849534	1	1.851576	1	+/-10	
Zinc	2.500000	2.447025	2	2.436615	3	+/-10	

Report Time: 3/15/2017 1:16:01 PM

CCV-3 File: CCV= STD3x0.5

Analysis Time: 3/15/2017 11:38:05 AM

CCV-4 File: CCV= STD3x0.5

Analysis Time: 3/15/2017 11:48:18 AM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-3	CCB-4	RL	Qualifier
Silver	0.001068	0.001416	0.005000	
Arsenic	0.006943	0.009347	0.010000	
Barium	0.004707	0.005666	0.010000	
Beryllium	0.000314	0.000388	0.010000	
Cadmium	0.000521	0.000585	0.010000	
Cobalt	0.000617	0.001056	0.010000	
Chromium	0.000587	-0.000081	0.010000	
Copper	0.000325	0.000440	0.010000	
Molybdenum	0.000668	0.000881	0.010000	
Nickel	0.000637	0.000483	0.010000	
Lead	0.001779	0.003736	0.010000	
Antimony	0.006423	0.007072	0.015000	
Selenium	0.005274	0.005335	0.015000	
Thallium	0.001113	0.008615	0.015000	
Vanadium	0.000574	0.001424	0.010000	
Zinc	0.002611	0.002398	0.010000	

Report Time: 3/15/2017 1:16:01 PM

CCB-3 File: CCB-R12091601

Analysis Time: 3/15/2017 11:38:58 AM

CCB-4 File: CCB-R12091601

Analysis Time: 3/15/2017 11:49:11 AM

01/22/2014 Revision



EPA Method 6010B
Initial Calibration Verification

Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control	Comment
		Observed	%D	Limit	
Lead	5.000000	5.031987	-1	+/-10	

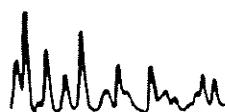
Report Time: 3/15/2017 5:46:02 PM

ICV-1 File: ICV-M072816C

Analysis Time: 3/15/2017 3:30:52 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



EPA Method 6010B
Initial Calibration Blank

Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

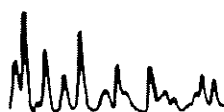
Initial Calibration Blank			
Analyte	ICB-1	RL	Comment
Lead	0.001116	0.010000	

Report Time: 3/15/2017 5:46:02 PM

ICB-1 File: ICB-R12091601

Analysis Time: 3/15/2017 3:31:55 PM

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						
	True	CCV-1		CCV-2		Control Limit	Comment
		Observed	%D	Observed	%D		
Lead	3.750000	3.789339	-1	3.835437	-2	+/-10	

Report Time: 3/15/2017 5:46:02 PM

CCV-1 File: CCV= STD3x0.5 Analysis Time: 3/15/2017 4:01:04 PM

CCV-2 File: CCV= STD3x0.5 Analysis Time: 3/15/2017 4:10:20 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



Work Order No: 17-03-0141

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-1	CCB-2	RL	Qualifier
Lead	0.000200	-0.000360	0.010000	

Report Time: 3/15/2017 5:46:02 PM

CCB-1 File: CCB-R12091601

Analysis Time: 3/15/2017 4:01:58 PM

CCB-2 File: CCB-R12091601

Analysis Time: 3/15/2017 4:11:13 PM

01/22/2014 Revision



=====
Analysis Begun

Start Time: 3/15/2017 10:36:54 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/15/2017 9:16:42 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
17031501.sif

Batch ID:
Results Data Set: 170315C 1
Results Library: W:\pe\7300\Results\results.mdb

=====
Sequence No.: 1
Sample ID: Cal blankR12091601_935
Analyst:
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 3/15/2017 10:37:04 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Tb 384	76537.8	201.35	0.26%	100.0 %
Tb 350	122763.8	308.64	0.25%	100.0 %
Ag 328.068*†	-1195.5	8.97	0.75%	[0.00] mg/L
Al 308.215*†	-2638.4	36.86	1.40%	[0.00] mg/L
As 188.979†	2.3	0.29	12.86%	[0.00] mg/L
As 193.696*†	2.2	5.59	255.82%	[0.00] mg/L
B 249.677*†	-1078.6	23.63	2.19%	[0.00] mg/L
Ba 233.527*†	-347.2	23.31	6.71%	[0.00] mg/L
Be 313.042*†	-990.7	61.85	6.24%	[0.00] mg/L
Ca 317.933*†	15.1	1.73	11.44%	[0.00] mg/L
Cd 226.502*†	5.9	11.75	199.64%	[0.00] mg/L
Cd 228.802†	-7.9	4.61	58.13%	[0.00] mg/L
Co 228.616*†	-80.2	3.62	4.51%	[0.00] mg/L
Cr 267.716*†	419.5	30.02	7.16%	[0.00] mg/L
Cu 324.752*†	2054.9	81.09	3.95%	[0.00] mg/L
Fe 273.955*†	-419.7	13.36	3.18%	[0.00] mg/L
K 766.490*†	1239.2	314.56	25.38%	[0.00] mg/L
Mg 279.077*†	-8119.3	309.82	3.82%	[0.00] mg/L
Mn 257.610*†	-360.1	36.75	10.21%	[0.00] mg/L
Mo 202.031*†	-47.4	2.22	4.68%	[0.00] mg/L
Na 589.592*†	868.4	12.51	1.44%	[0.00] mg/L
Ni 231.604*†	-61.3	24.94	40.69%	[0.00] mg/L
P 213.617*†	-144.9	8.78	6.06%	[0.00] mg/L
P 214.914†	-40.5	2.66	6.57%	[0.00] mg/L
Pb 220.353*†	-34.0	7.78	22.86%	[0.00] mg/L
Sb 206.836†	23.2	2.56	11.02%	[0.00] mg/L
Sb 217.582*†	-13.7	10.12	73.71%	[0.00] mg/L
Se 196.026*†	-4.7	11.22	237.40%	[0.00] mg/L
Si 251.611*†	1178.0	16.91	1.44%	[0.00] mg/L
Sn 189.927*†	-127.9	0.05	0.04%	[0.00] mg/L
Sn 242.170†	-446.9	34.05	7.62%	[0.00] mg/L
Sr 407.771*†	86.5	1.37	1.58%	[0.00] mg/L
Ti 334.940†	27814.1	427.22	1.54%	[0.00] mg/L
Ti 336.121*†	-1154.8	153.95	13.33%	[0.00] mg/L
Tl 190.801*†	-12.4	3.72	30.09%	[0.00] mg/L
V 292.402*†	206.1	34.25	16.62%	[0.00] mg/L
Zn 206.200*†	-177.0	3.35	1.89%	[0.00] mg/L
Zn 213.857*†	112.2	14.18	12.64%	[0.00] mg/L

User canceled analysis.

=====
Analysis BegunStart Time: 3/15/2017 10:39:14 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401Plasma On Time: 3/15/2017 9:16:42 AM
Technique: ICP Continuous
Autosampler: ESISample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
17031501.sifBatch ID:
Results Data Set: 170315C 1
Results Library: W:\pe\7300\Results\results.mdb=====
Sequence No.: 2
Sample ID: STD3-M111116A_935_ICP7300
Analyst:
Initial Sample Wt:
Dilution:
Wash Time:
Autosampler Location: 2
Date Collected: 3/15/2017 10:39:15 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:-----
Mean Data: STD3-M111116A_935_ICP7300

Analyte	Mean Corrected	Std.Dev.	RSD	Conc.	Calib Units
Tb 384	66810.5	125.44	0.19%	87.29	%
Tb 350	111538.2	126.39	0.11%	90.86	%
Ag 328.068*†	145877.0	527.33	0.36%	[0.75]	mg/L
Al 308.215*†	474797.4	199.73	0.04%	[27.0]	mg/L
As 188.979†	16353.5	122.49	0.75%	[7.50]	mg/L
As 193.696*†	11369.5	63.40	0.56%	[7.50]	mg/L
B 249.677*†	392854.8	2103.69	0.54%	[7.50]	mg/L
Ba 233.527*†	2341883.0	3830.39	0.16%	[15.0]	mg/L
Be 313.042*†	4424040.5	29510.60	0.67%	[1.125]	mg/L
Ca 317.933*†	124709.2	254.70	0.20%	[60.0]	mg/L
Cd 226.502*†	121877.2	11.46	0.01%	[1.50]	mg/L
Cd 228.802†	61327.8	197.25	0.32%	[1.50]	mg/L
Co 228.616*†	109839.2	66.79	0.06%	[3.75]	mg/L
Cr 267.716*†	140239.5	394.74	0.28%	[1.20]	mg/L
Cu 324.752*†	484030.8	1829.17	0.38%	[1.875]	mg/L
Fe 273.955*†	182187.3	638.77	0.35%	[7.50]	mg/L
K 766.490*†	169911.8	479.75	0.28%	[54.0]	mg/L
Mg 279.077*†	298148.9	88.37	0.03%	[15.0]	mg/L
Mn 257.610*†	1003653.7	2029.07	0.20%	[1.50]	mg/L
Mo 202.031*†	11491.5	194.05	1.69%	[1.20]	mg/L
Na 589.592*†	325116.8	1925.33	0.59%	[72.0]	mg/L
Ni 231.604*†	30062.8	444.58	1.48%	[1.20]	mg/L
P 213.617*†	24222.3	266.63	1.10%	[12.0]	mg/L
P 214.914†	15630.6	196.13	1.25%	[12.0]	mg/L
Pb 220.353*†	62947.0	41.95	0.07%	[7.50]	mg/L
Sb 206.836†	17600.9	222.24	1.26%	[9.0]	mg/L
Sb 217.582*†	17500.8	180.91	1.03%	[9.0]	mg/L
Se 196.026*†	6903.3	120.13	1.74%	[3.0]	mg/L
Si 251.611*†	480088.6	64.57	0.01%	[12.0]	mg/L
Sn 189.927*†	37886.2	329.66	0.87%	[6.0]	mg/L
Sn 242.170†	10860.9	58.17	0.54%	[6.0]	mg/L
Sr 407.771*†	201180.1	606.50	0.30%	[0.60]	mg/L
Ti 334.940†	1024268.3	2647.15	0.26%	[1.20]	mg/L
Ti 336.121*†	722125.3	982.37	0.14%	[1.20]	mg/L
Tl 190.801*†	5733.9	20.25	0.35%	[3.0]	mg/L
V 292.402*†	526354.8	2411.43	0.46%	[3.75]	mg/L
Zn 206.200*†	216240.4	120.51	0.06%	[5.0]	mg/L
Zn 213.857*†	374332.7	441.77	0.12%	[5.0]	mg/L

Sequence No.: 3
 Sample ID: ICV-M072816C
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 20

Autosampler Location: 10
 Date Collected: 3/15/2017 10:40:01 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	70357.7	91.93 %	1.891			2.06%
Tb 350	116988.5	95.30 %	1.796			1.88%
Ag 328.068*†	98140.9	0.5046 mg/L	0.00290	0.5046 mg/L	0.00290	0.57%
QC value within limits for Ag 328.068* Recovery = 100.91%						
Al 308.215*†	73349.3	4.171 mg/L	0.0179	4.171 mg/L	0.0179	0.43%
QC value within limits for Al 308.215* Recovery = 104.28%						
As 188.979†	10512.1	4.821 mg/L	0.0085	4.821 mg/L	0.0085	0.18%
QC value within limits for As 188.979 Recovery = 96.42%						
As 193.696*†	7306.4	4.820 mg/L	0.0143	4.820 mg/L	0.0143	0.30%
QC value within limits for As 193.696* Recovery = 96.39%						
B 249.677*†	132493.3	2.529 mg/L	0.0073	2.529 mg/L	0.0073	0.29%
QC value within limits for B 249.677* Recovery = 101.18%						
Ba 233.527*†	156287.9	1.001 mg/L	0.0048	1.001 mg/L	0.0048	0.48%
QC value within limits for Ba 233.527* Recovery = 100.10%						
Be 313.042*†	1883034.6	0.4788 mg/L	0.01824	0.4788 mg/L	0.01824	3.81%
QC value within limits for Be 313.042* Recovery = 95.77%						
Ca 317.933*†	40910.8	19.68 mg/L	0.612	19.68 mg/L	0.612	3.11%
QC value within limits for Ca 317.933* Recovery = 98.41%						
Cd 226.502*†	121529.4	1.496 mg/L	0.0071	1.496 mg/L	0.0071	0.47%
QC value within limits for Cd 226.502* Recovery = 99.71%						
Cd 228.802†	60617.4	1.483 mg/L	0.0094	1.483 mg/L	0.0094	0.63%
Co 228.616*†	30226.2	1.032 mg/L	0.0053	1.032 mg/L	0.0053	0.52%
QC value within limits for Co 228.616* Recovery = 103.19%						
Cr 267.716*†	46886.6	0.4012 mg/L	0.00142	0.4012 mg/L	0.00142	0.36%
QC value within limits for Cr 267.716* Recovery = 100.30%						
Cu 324.752*†	259548.0	1.005 mg/L	0.0007	1.005 mg/L	0.0007	0.07%
QC value within limits for Cu 324.752* Recovery = 100.54%						
Fe 273.955*†	2427401.1	99.93 mg/L	3.412	99.93 mg/L	3.412	3.41%
QC value within limits for Fe 273.955* Recovery = 99.93%						
K 766.490*†	24982.6	7.940 mg/L	0.3179	7.940 mg/L	0.3179	4.00%
QC value within limits for K 766.490* Recovery = 99.25%						
Mg 279.077*†	199011.9	10.01 mg/L	0.059	10.01 mg/L	0.059	0.59%
QC value within limits for Mg 279.077* Recovery = 100.12%						
Mn 257.610*†	667462.3	0.9975 mg/L	0.00338	0.9975 mg/L	0.00338	0.34%
QC value within limits for Mn 257.610* Recovery = 99.75%						
Mo 202.031*†	22971.9	2.399 mg/L	0.0173	2.399 mg/L	0.0173	0.72%
QC value within limits for Mo 202.031* Recovery = 95.95%						
Na 589.592*†	250060.8	55.38 mg/L	1.308	55.38 mg/L	1.308	2.36%
QC value within limits for Na 589.592* Recovery = 102.55%						
Ni 231.604*†	9997.4	0.3991 mg/L	0.00192	0.3991 mg/L	0.00192	0.48%
QC value within limits for Ni 231.604* Recovery = 99.77%						
P 213.617*†	9549.8	4.731 mg/L	0.0140	4.731 mg/L	0.0140	0.30%
QC value within limits for P 213.617* Recovery = 94.62%						
P 214.914†	6410.4	4.921 mg/L	0.0327	4.921 mg/L	0.0327	0.66%
Pb 220.353*†	42369.8	5.048 mg/L	0.0472	5.048 mg/L	0.0472	0.93%
QC value within limits for Pb 220.353* Recovery = 100.97%						
Sb 206.836†	3716.7	1.900 mg/L	0.0168	1.900 mg/L	0.0168	0.88%
QC value within limits for Sb 206.836 Recovery = 95.02%						
Sb 217.582*†	3749.5	1.928 mg/L	0.0064	1.928 mg/L	0.0064	0.33%
QC value within limits for Sb 217.582* Recovery = 96.41%						
Se 196.026*†	4426.3	1.924 mg/L	0.0276	1.924 mg/L	0.0276	1.43%
QC value within limits for Se 196.026* Recovery = 96.18%						
Si 251.611*†	384463.1	9.610 mg/L	0.0454	9.610 mg/L	0.0454	0.47%
QC value within limits for Si 251.611* Recovery = 96.10%						
Sn 189.927*†	15459.2	2.448 mg/L	0.0154	2.448 mg/L	0.0154	0.63%
QC value within limits for Sn 189.927* Recovery = 97.93%						
Sn 242.170†	4997.8	2.761 mg/L	0.0214	2.761 mg/L	0.0214	0.77%
Sr 407.771*†	68062.2	0.2030 mg/L	0.00511	0.2030 mg/L	0.00511	2.52%
QC value within limits for Sr 407.771* Recovery = 101.49%						

Ti 334.940†	3995160.1	4.681 mg/L	0.1585	4.681 mg/L	0.1585	3.39%
Ti 336.121*†	2848315.2	4.733 mg/L	0.1585	4.733 mg/L	0.1585	3.35%
QC value within limits for Ti 336.121* Recovery = 94.66%						
Tl 190.801*†	3716.7	1.945 mg/L	0.0170	1.945 mg/L	0.0170	0.87%
QC value within limits for Tl 190.801* Recovery = 97.23%						
V 292.402*†	140252.3	0.9976 mg/L	0.00717	0.9976 mg/L	0.00717	0.72%
QC value within limits for V 292.402* Recovery = 99.76%						
Zn 206.200*†	65538.1	1.515 mg/L	0.0123	1.515 mg/L	0.0123	0.81%
QC value within limits for Zn 206.200* Recovery = 101.03%						
Zn 213.857*†	114002.8	1.514 mg/L	0.0061	1.514 mg/L	0.0061	0.41%
QC value within limits for Zn 213.857* Recovery = 100.96%						

All analyte(s) passed QC.

Sequence No.: 4

Sample ID: ICB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 20

Autosampler Location: 1

Date Collected: 3/15/2017 10:40:58 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	77364.8	101.1 %	0.83			0.82%
Tb 350	125411.8	102.2 %	1.66			1.62%
Ag 328.068*†	114.4	0.0006 mg/L	0.00038	0.0006 mg/L	0.00038	65.05%
Al 308.215*†	30.6	0.0017 mg/L	0.00211	0.0017 mg/L	0.00211	121.08%
As 188.979†	-0.7	-0.0003 mg/L	0.00173	-0.0003 mg/L	0.00173	576.71%
As 193.696*†	5.5	0.0037 mg/L	0.00013	0.0037 mg/L	0.00013	3.52%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2499.8	0.0477 mg/L	0.00165	0.0477 mg/L	0.00165	3.47%
QC value greater than the upper limit for B 249.677* Recovery = Not calculated						
Ba 233.527*†	58.8	0.0004 mg/L	0.00007	0.0004 mg/L	0.00007	19.04%
Be 313.042*†	-50.7	-0.0000 mg/L	0.00001	-0.0000 mg/L	0.00001	40.22%
Ca 317.933*†	3.4	0.0016 mg/L	0.00363	0.0016 mg/L	0.00363	222.84%
Cd 226.502*†	20.3	0.0003 mg/L	0.00009	0.0003 mg/L	0.00009	36.71%
Cd 228.802†	16.8	0.0004 mg/L	0.00008	0.0004 mg/L	0.00008	18.23%
Co 228.616*†	-1.9	-0.0001 mg/L	0.00041	-0.0001 mg/L	0.00041	631.14%
Cr 267.716*†	-60.1	-0.0005 mg/L	0.00049	-0.0005 mg/L	0.00049	96.06%
Cu 324.752*†	39.4	0.0002 mg/L	0.00009	0.0002 mg/L	0.00009	59.18%
Fe 273.955*†	56.4	0.0023 mg/L	0.00114	0.0023 mg/L	0.00114	49.20%
K 766.490*†	-190.7	-0.0606 mg/L	0.09278	-0.0606 mg/L	0.09278	153.11%
Mg 279.077*†	-54.2	-0.0027 mg/L	0.00660	-0.0027 mg/L	0.00660	241.82%
Mn 257.610*†	63.1	0.0001 mg/L	0.00002	0.0001 mg/L	0.00002	20.62%
Mo 202.031*†	-3.7	-0.0004 mg/L	0.00022	-0.0004 mg/L	0.00022	57.23%
Na 589.592*†	125.1	0.0277 mg/L	0.00376	0.0277 mg/L	0.00376	13.57%
Ni 231.604*†	4.8	0.0002 mg/L	0.00012	0.0002 mg/L	0.00012	62.74%
P 213.617*†	7.7	0.0038 mg/L	0.00033	0.0038 mg/L	0.00033	8.63%
P 214.914†	4.9	0.0037 mg/L	0.00026	0.0037 mg/L	0.00026	7.02%
Pb 220.353*†	-2.4	-0.0003 mg/L	0.00090	-0.0003 mg/L	0.00090	319.38%
QC value within limits for Pb 220.353* Recovery = Not calculated						
Sb 206.836†	3.6	0.0018 mg/L	0.00386	0.0018 mg/L	0.00386	210.70%
Sb 217.582*†	8.8	0.0045 mg/L	0.00355	0.0045 mg/L	0.00355	78.36%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	21.1	0.0092 mg/L	0.00611	0.0092 mg/L	0.00611	66.57%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	25.1	0.0006 mg/L	0.00103	0.0006 mg/L	0.00103	163.51%
QC value within limits for Si 251.611* Recovery = Not calculated						
Sn 189.927*†	60.7	0.0096 mg/L	0.00036	0.0096 mg/L	0.00036	3.77%
Sn 242.170†	44.9	0.0248 mg/L	0.03789	0.0248 mg/L	0.03789	152.87%
Sr 407.771*†	6.6	0.0000 mg/L	0.00002	0.0000 mg/L	0.00002	122.28%
Ti 334.940†	462.1	0.0005 mg/L	0.00005	0.0005 mg/L	0.00005	9.38%
Ti 336.121*†	95.3	0.0002 mg/L	0.00035	0.0002 mg/L	0.00035	219.71%
Tl 190.801*†	4.0	0.0021 mg/L	0.00289	0.0021 mg/L	0.00289	139.45%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	4.0	0.0000 mg/L	0.00007	0.0000 mg/L	0.00007	238.41%
Zn 206.200*†	61.7	0.0014 mg/L	0.00034	0.0014 mg/L	0.00034	24.02%
Zn 213.857*†	35.7	0.0005 mg/L	0.00012	0.0005 mg/L	0.00012	24.16%
QC Failed. Retry.						

Sequence No.: 5

Sample ID: ICB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 20

Autosampler Location: 1

Date Collected: 3/15/2017 10:41:44 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD

Sequence No.: 8

Sample ID: ICS_A - M110116B

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 8

Date Collected: 3/15/2017 10:46:13 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICS_A - M110116B

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	63807.9	83.37 %	1.199			1.44%
Tb 350	107133.5	87.27 %	0.819			0.94%
Ag 328.068*†	315.3	0.0016 mg/L	0.00109	0.0016 mg/L	0.00109	67.12%
Al 308.215*†	442938.4	25.19 mg/L	0.009	25.19 mg/L	0.009	0.04%
As 188.979†	8.8	0.0041 mg/L	0.00993	0.0041 mg/L	0.00993	245.01%
As 193.696*†	-6.9	-0.0045 mg/L	0.00440	-0.0045 mg/L	0.00440	96.72%
B 249.677*†	33.4	0.0006 mg/L	0.00124	0.0006 mg/L	0.00124	194.90%
Ba 233.527*†	385.9	0.0025 mg/L	0.00006	0.0025 mg/L	0.00006	2.32%
Be 313.042*†	-208.4	-0.0001 mg/L	0.00000	-0.0001 mg/L	0.00000	3.73%
Ca 317.933*†	255435.6	122.9 mg/L	3.08	122.9 mg/L	3.08	2.50%
Cd 226.502*†	137.6	0.0017 mg/L	0.00002	0.0017 mg/L	0.00002	1.31%
Cd 228.802†	-11.5	-0.0003 mg/L	0.00015	-0.0003 mg/L	0.00015	54.17%
Co 228.616*†	3.5	0.0001 mg/L	0.00002	0.0001 mg/L	0.00002	19.54%
Cr 267.716*†	-108.7	-0.0009 mg/L	0.00037	-0.0009 mg/L	0.00037	39.74%
Cu 324.752*†	-504.4	-0.0020 mg/L	0.00071	-0.0020 mg/L	0.00071	36.19%
Fe 273.955*†	2347306.3	96.63 mg/L	0.870	96.63 mg/L	0.870	0.90%
K 766.490*†	-91.0	-0.0289 mg/L	0.08200	-0.0289 mg/L	0.08200	283.52%
Mg 279.077*†	1184693.7	59.60 mg/L	0.848	59.60 mg/L	0.848	1.42%
Mn 257.610*†	-44.4	-0.0001 mg/L	0.00005	-0.0001 mg/L	0.00005	70.39%
Mo 202.031*†	10.1	0.0011 mg/L	0.00052	0.0011 mg/L	0.00052	49.20%
Na 589.592*†	100923.5	22.35 mg/L	0.519	22.35 mg/L	0.519	2.32%
Ni 231.604*†	15.9	0.0006 mg/L	0.00024	0.0006 mg/L	0.00024	37.77%
P 213.617*†	-288.7	-0.1430 mg/L	0.00098	-0.1430 mg/L	0.00098	0.68%
P 214.914†	45.1	0.0346 mg/L	0.00832	0.0346 mg/L	0.00832	24.04%
Pb 220.353*†	-50.0	-0.0060 mg/L	0.00024	-0.0060 mg/L	0.00024	4.05%
Sb 206.836†	13.6	0.0070 mg/L	0.00046	0.0070 mg/L	0.00046	6.66%
Sb 217.582*†	-1.5	-0.0008 mg/L	0.00413	-0.0008 mg/L	0.00413	536.48%
Se 196.026*†	10.1	0.0044 mg/L	0.00157	0.0044 mg/L	0.00157	35.64%
Si 251.611*†	176.2	0.0044 mg/L	0.00112	0.0044 mg/L	0.00112	25.36%
Sn 189.927*†	15.7	0.0025 mg/L	0.00123	0.0025 mg/L	0.00123	49.26%
Sn 242.170†	464.9	0.2568 mg/L	0.00251	0.2568 mg/L	0.00251	0.98%
Sr 407.771*†	1234.6	0.0037 mg/L	0.00030	0.0037 mg/L	0.00030	8.12%
Ti 334.940†	-1846.5	-0.0022 mg/L	0.00016	-0.0022 mg/L	0.00016	7.28%
Ti 336.121*†	-1004.3	-0.0017 mg/L	0.00026	-0.0017 mg/L	0.00026	15.73%
Tl 190.801*†	-9.2	-0.0048 mg/L	0.00583	-0.0048 mg/L	0.00583	121.28%
V 292.402*†	300.8	0.0006 mg/L	0.00011	0.0006 mg/L	0.00011	19.10%
Zn 206.200*†	112.1	0.0026 mg/L	0.00083	0.0026 mg/L	0.00083	32.14%
Zn 213.857*†	658.8	0.0008 mg/L	0.00044	0.0008 mg/L	0.00044	57.85%

Sequence No.: 9

Sample ID: ICS_AB - M110116A

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 9

Date Collected: 3/15/2017 10:47:04 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICS_AB - M110116A

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	64524.3	84.30	%	0.645			0.76%
Tb 350	107517.5	87.58	%	0.110			0.13%
Ag 328.068*†	60940.6	0.3133	mg/L	0.00105	0.3133 mg/L	0.00105	0.34%
Al 308.215*†	437292.0	24.87	mg/L	0.101	24.87 mg/L	0.101	0.41%
As 188.979†	2226.2	1.021	mg/L	0.0069	1.021 mg/L	0.0069	0.68%
As 193.696*†	1547.2	1.021	mg/L	0.0046	1.021 mg/L	0.0046	0.45%
B 249.677*†	24906.6	0.4755	mg/L	0.00203	0.4755 mg/L	0.00203	0.43%
Ba 233.527*†	47718.9	0.3056	mg/L	0.00068	0.3056 mg/L	0.00068	0.22%
Be 313.042*†	403178.4	0.1025	mg/L	0.00066	0.1025 mg/L	0.00066	0.65%
Ca 317.933*†	252134.9	121.3	mg/L	1.77	121.3 mg/L	1.77	1.46%
Cd 226.502*†	24020.8	0.2956	mg/L	0.00083	0.2956 mg/L	0.00083	0.28%
Cd 228.802†	12200.7	0.2984	mg/L	0.00082	0.2984 mg/L	0.00082	0.27%
Co 228.616*†	8880.9	0.3032	mg/L	0.00058	0.3032 mg/L	0.00058	0.19%
Cr 267.716*†	35532.6	0.3040	mg/L	0.00019	0.3040 mg/L	0.00019	0.06%
Cu 324.752*†	80747.4	0.3128	mg/L	0.00113	0.3128 mg/L	0.00113	0.36%
Fe 273.955*†	2317817.9	95.42	mg/L	0.117	95.42 mg/L	0.117	0.12%
K 766.490*†	69059.4	21.95	mg/L	0.224	21.95 mg/L	0.224	1.02%
Mg 279.077*†	1160931.2	58.41	mg/L	0.009	58.41 mg/L	0.009	0.02%
Mn 257.610*†	134299.2	0.2007	mg/L	0.00015	0.2007 mg/L	0.00015	0.07%
Mo 202.031*†	2910.1	0.3039	mg/L	0.00234	0.3039 mg/L	0.00234	0.77%
Na 589.592*†	98778.3	21.88	mg/L	0.257	21.88 mg/L	0.257	1.18%
Ni 231.604*†	7689.1	0.3069	mg/L	0.00100	0.3069 mg/L	0.00100	0.33%
P 213.617*†	-275.7	-0.1366	mg/L	0.00188	-0.1366 mg/L	0.00188	1.38%
P 214.914†	42.3	0.0325	mg/L	0.01236	0.0325 mg/L	0.01236	38.06%
Pb 220.353*†	8224.5	0.9799	mg/L	0.00126	0.9799 mg/L	0.00126	0.13%
Sb 206.836†	1933.8	0.9888	mg/L	0.00088	0.9888 mg/L	0.00088	0.09%
Sb 217.582*†	1892.7	0.9734	mg/L	0.00539	0.9734 mg/L	0.00539	0.55%
Se 196.026*†	1188.5	0.5165	mg/L	0.00587	0.5165 mg/L	0.00587	1.14%
Si 251.611*†	8236.5	0.2059	mg/L	0.00271	0.2059 mg/L	0.00271	1.31%
Sn 189.927*†	-31.7	-0.0050	mg/L	0.00062	-0.0050 mg/L	0.00062	12.42%
Sn 242.170†	430.0	0.2376	mg/L	0.03166	0.2376 mg/L	0.03166	13.33%
Sr 407.771*†	892.8	0.0027	mg/L	0.00007	0.0027 mg/L	0.00007	2.51%
Ti 334.940†	849662.1	0.9954	mg/L	0.00202	0.9954 mg/L	0.00202	0.20%
Ti 336.121*†	602068.9	1.000	mg/L	0.0011	1.000 mg/L	0.0011	0.11%
Tl 190.801*†	1944.2	1.017	mg/L	0.0024	1.017 mg/L	0.0024	0.23%
V 292.402*†	42313.0	0.2999	mg/L	0.00228	0.2999 mg/L	0.00228	0.76%
Zn 206.200*†	13086.8	0.3026	mg/L	0.00005	0.3026 mg/L	0.00005	0.02%
Zn 213.857*†	23173.2	0.3016	mg/L	0.00123	0.3016 mg/L	0.00123	0.41%

Sequence No.: 30

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/15/2017 11:17:24 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	69797.7	91.19 %	0.453			0.50%
Tb 350	116579.5	94.96 %	0.054			0.06%
Ag 328.068*†	71448.1	0.3673 mg/L	0.00149	0.3673 mg/L	0.00149	0.40%
QC value within limits for Ag 328.068* Recovery = 97.96%						
Al 308.215*†	238472.4	13.56 mg/L	0.030	13.56 mg/L	0.030	0.22%
QC value within limits for Al 308.215* Recovery = 100.45%						
As 188.979†	8018.1	3.677 mg/L	0.0198	3.677 mg/L	0.0198	0.54%
QC value within limits for As 188.979 Recovery = 98.06%						
As 193.696*†	5560.0	3.668 mg/L	0.0267	3.668 mg/L	0.0267	0.73%
QC value within limits for As 193.696* Recovery = 97.81%						
B 249.677*†	191864.1	3.663 mg/L	0.0343	3.663 mg/L	0.0343	0.94%
QC value within limits for B 249.677* Recovery = 97.68%						
Ba 233.527*†	1168026.5	7.481 mg/L	0.0013	7.481 mg/L	0.0013	0.02%
QC value within limits for Ba 233.527* Recovery = 99.75%						
Be 313.042*†	2163125.2	0.5501 mg/L	0.00121	0.5501 mg/L	0.00121	0.22%
QC value within limits for Be 313.042* Recovery = 97.79%						
Ca 317.933*†	63250.4	30.43 mg/L	0.396	30.43 mg/L	0.396	1.30%
QC value within limits for Ca 317.933* Recovery = 101.44%						
Cd 226.502*†	60086.4	0.7395 mg/L	0.00211	0.7395 mg/L	0.00211	0.29%
QC value within limits for Cd 226.502* Recovery = 98.60%						
Cd 228.802†	30215.3	0.7390 mg/L	0.00190	0.7390 mg/L	0.00190	0.26%
Co 228.616*†	54768.9	1.870 mg/L	0.0009	1.870 mg/L	0.0009	0.05%
QC value within limits for Co 228.616* Recovery = 99.73%						
Cr 267.716*†	69248.0	0.5925 mg/L	0.00004	0.5925 mg/L	0.00004	0.01%
QC value within limits for Cr 267.716* Recovery = 98.76%						
Cu 324.752*†	239149.8	0.9264 mg/L	0.00105	0.9264 mg/L	0.00105	0.11%
QC value within limits for Cu 324.752* Recovery = 98.82%						
Fe 273.955*†	90876.7	3.741 mg/L	0.0059	3.741 mg/L	0.0059	0.16%
QC value within limits for Fe 273.955* Recovery = 99.76%						
K 766.490*†	84690.8	26.92 mg/L	0.388	26.92 mg/L	0.388	1.44%
QC value within limits for K 766.490* Recovery = 99.69%						
Mg 279.077*†	148473.1	7.470 mg/L	0.0129	7.470 mg/L	0.0129	0.17%
QC value within limits for Mg 279.077* Recovery = 99.60%						
Mn 257.610*†	496814.4	0.7425 mg/L	0.00014	0.7425 mg/L	0.00014	0.02%
QC value within limits for Mn 257.610* Recovery = 99.00%						
Mo 202.031*†	5723.5	0.5977 mg/L	0.00087	0.5977 mg/L	0.00087	0.15%
QC value within limits for Mo 202.031* Recovery = 99.61%						
Na 589.592*†	167532.7	37.10 mg/L	0.306	37.10 mg/L	0.306	0.82%
QC value within limits for Na 589.592* Recovery = 103.06%						
Ni 231.604*†	14931.5	0.5960 mg/L	0.00203	0.5960 mg/L	0.00203	0.34%
QC value within limits for Ni 231.604* Recovery = 99.34%						
P 213.617*†	11713.1	5.803 mg/L	0.0365	5.803 mg/L	0.0365	0.63%
QC value within limits for P 213.617* Recovery = 96.71%						
P 214.914†	7661.7	5.882 mg/L	0.0563	5.882 mg/L	0.0563	0.96%
Pb 220.353*†	31008.3	3.695 mg/L	0.0047	3.695 mg/L	0.0047	0.13%
QC value within limits for Pb 220.353* Recovery = 98.52%						
Sb 206.836†	8672.1	4.434 mg/L	0.0209	4.434 mg/L	0.0209	0.47%
QC value within limits for Sb 206.836 Recovery = 98.54%						
Sb 217.582*†	8638.5	4.442 mg/L	0.0350	4.442 mg/L	0.0350	0.79%
QC value within limits for Sb 217.582* Recovery = 98.72%						
Se 196.026*†	3418.5	1.486 mg/L	0.0161	1.486 mg/L	0.0161	1.08%
QC value within limits for Se 196.026* Recovery = 99.04%						
Si 251.611*†	234243.5	5.855 mg/L	0.0027	5.855 mg/L	0.0027	0.05%
QC value within limits for Si 251.611* Recovery = 97.58%						
Sn 189.927*†	18799.0	2.977 mg/L	0.0275	2.977 mg/L	0.0275	0.92%
QC value within limits for Sn 189.927* Recovery = 99.24%						
Sn 242.170†	5420.8	2.995 mg/L	0.0204	2.995 mg/L	0.0204	0.68%
Sr 407.771*†	103025.6	0.3073 mg/L	0.00389	0.3073 mg/L	0.00389	1.27%
QC value within limits for Sr 407.771* Recovery = 102.42%						

Ti 334.940†	505109.2	0.5918 mg/L	0.00062	0.5918 mg/L	0.00062	0.11%
Ti 336.121*†	357591.2	0.5942 mg/L	0.00054	0.5942 mg/L	0.00054	0.09%
QC value within limits for Ti 336.121* Recovery = 99.04%						
Tl 190.801*†	2887.0	1.510 mg/L	0.0144	1.510 mg/L	0.0144	0.95%
QC value within limits for Tl 190.801* Recovery = 100.70%						
V 292.402*†	258919.9	1.845 mg/L	0.0036	1.845 mg/L	0.0036	0.20%
QC value within limits for V 292.402* Recovery = 98.38%						
Zn 206.200*†	105723.6	2.445 mg/L	0.0042	2.445 mg/L	0.0042	0.17%
QC value within limits for Zn 206.200* Recovery = 97.78%						
Zn 213.857*†	184024.7	2.458 mg/L	0.0009	2.458 mg/L	0.0009	0.04%
QC value within limits for Zn 213.857* Recovery = 98.31%						

All analyte(s) passed QC.

Sequence No.: 31

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/15/2017 11:18:16 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	78624.4	102.7	%	0.28			0.28%
Tb 350	127685.2	104.0	%	0.72			0.70%
Ag 328.068*†	200.0	0.0010	mg/L	0.00145	0.0010 mg/L	0.00145	140.80%
QC value within limits for Ag 328.068* Recovery = Not calculated							
Al 308.215*†	77.7	0.0044	mg/L	0.00067	0.0044 mg/L	0.00067	15.22%
As 188.979†	4.8	0.0022	mg/L	0.00204	0.0022 mg/L	0.00204	92.03%
As 193.696*†	3.1	0.0021	mg/L	0.00325	0.0021 mg/L	0.00325	157.53%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	2502.7	0.0478	mg/L	0.00122	0.0478 mg/L	0.00122	2.56%
Ba 233.527*†	543.9	0.0035	mg/L	0.00016	0.0035 mg/L	0.00016	4.57%
Be 313.042*†	924.0	0.0002	mg/L	0.00004	0.0002 mg/L	0.00004	16.15%
Ca 317.933*†	28.6	0.0137	mg/L	0.00157	0.0137 mg/L	0.00157	11.42%
Cd 226.502*†	37.6	0.0005	mg/L	0.00006	0.0005 mg/L	0.00006	12.13%
Cd 228.802†	25.6	0.0006	mg/L	0.00028	0.0006 mg/L	0.00028	44.45%
Co 228.616*†	19.3	0.0007	mg/L	0.00099	0.0007 mg/L	0.00099	151.01%
Cr 267.716*†	71.3	0.0006	mg/L	0.00034	0.0006 mg/L	0.00034	55.35%
Cu 324.752*†	129.5	0.0005	mg/L	0.00039	0.0005 mg/L	0.00039	77.73%
Fe 273.955*†	79.4	0.0033	mg/L	0.00036	0.0033 mg/L	0.00036	10.95%
K 766.490*†	-350.7	-0.1114	mg/L	0.00073	-0.1114 mg/L	0.00073	0.66%
Mg 279.077*†	162.3	0.0082	mg/L	0.00329	0.0082 mg/L	0.00329	40.28%
Mn 257.610*†	296.4	0.0004	mg/L	0.00002	0.0004 mg/L	0.00002	4.82%
Mo 202.031*†	-2.0	-0.0002	mg/L	0.00106	-0.0002 mg/L	0.00106	511.57%
Na 589.592*†	165.0	0.0365	mg/L	0.01345	0.0365 mg/L	0.01345	36.79%
Ni 231.604*†	3.4	0.0001	mg/L	0.00018	0.0001 mg/L	0.00018	132.71%
P 213.617*†	13.8	0.0069	mg/L	0.00131	0.0069 mg/L	0.00131	19.05%
P 214.914†	-4.5	-0.0034	mg/L	0.01012	-0.0034 mg/L	0.01012	293.62%
Pb 220.353*†	8.3	0.0010	mg/L	0.00127	0.0010 mg/L	0.00127	128.11%
Sb 206.836†	4.9	0.0025	mg/L	0.00609	0.0025 mg/L	0.00609	241.75%
Sb 217.582*†	2.8	0.0014	mg/L	0.00278	0.0014 mg/L	0.00278	194.64%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	10.2	0.0044	mg/L	0.00139	0.0044 mg/L	0.00139	31.42%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	148.3	0.0037	mg/L	0.00022	0.0037 mg/L	0.00022	5.80%
Sn 189.927*†	59.8	0.0095	mg/L	0.00002	0.0095 mg/L	0.00002	0.26%
Sn 242.170†	62.5	0.0345	mg/L	0.01589	0.0345 mg/L	0.01589	46.00%
Sr 407.771*†	57.7	0.0002	mg/L	0.00002	0.0002 mg/L	0.00002	10.28%
Ti 334.940†	477.8	0.0006	mg/L	0.00006	0.0006 mg/L	0.00006	10.03%
Ti 336.121*†	148.2	0.0002	mg/L	0.00031	0.0002 mg/L	0.00031	127.72%
Tl 190.801*†	2.1	0.0011	mg/L	0.00909	0.0011 mg/L	0.00909	812.62%
V 292.402*†	145.9	0.0010	mg/L	0.00071	0.0010 mg/L	0.00071	68.19%
Zn 206.200*†	66.3	0.0015	mg/L	0.00048	0.0015 mg/L	0.00048	31.49%
QC value within limits for Zn 206.200* Recovery = Not calculated							
Zn 213.857*†	89.5	0.0012	mg/L	0.00009	0.0012 mg/L	0.00009	7.52%
QC value within limits for Zn 213.857* Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 3
Date Collected: 3/15/2017 11:27:52 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	70428.5	92.02 %	1.809			1.97%
Tb 350	116269.1	94.71 %	2.398			2.53%
Ag 328.068*†	71809.1	0.3692 mg/L	0.00067	0.3692 mg/L	0.00067	0.18%
QC value within limits for Ag 328.068* Recovery = 98.45%						
Al 308.215*†	237617.3	13.51 mg/L	0.078	13.51 mg/L	0.078	0.58%
QC value within limits for Al 308.215* Recovery = 100.09%						
As 188.979†	8129.9	3.728 mg/L	0.0886	3.728 mg/L	0.0886	2.38%
QC value within limits for As 188.979 Recovery = 99.43%						
As 193.696*†	5664.5	3.737 mg/L	0.0920	3.737 mg/L	0.0920	2.46%
QC value within limits for As 193.696* Recovery = 99.64%						
B 249.677*†	192542.2	3.676 mg/L	0.0205	3.676 mg/L	0.0205	0.56%
QC value within limits for B 249.677* Recovery = 98.02%						
Ba 233.527*†	1166635.2	7.472 mg/L	0.0200	7.472 mg/L	0.0200	0.27%
QC value within limits for Ba 233.527* Recovery = 99.63%						
Be 313.042*†	2172360.2	0.5524 mg/L	0.00049	0.5524 mg/L	0.00049	0.09%
QC value within limits for Be 313.042* Recovery = 98.21%						
Ca 317.933*†	60663.7	29.19 mg/L	0.353	29.19 mg/L	0.353	1.21%
QC value within limits for Ca 317.933* Recovery = 97.29%						
Cd 226.502*†	60115.4	0.7399 mg/L	0.00180	0.7399 mg/L	0.00180	0.24%
QC value within limits for Cd 226.502* Recovery = 98.65%						
Cd 228.802†	30210.0	0.7389 mg/L	0.00448	0.7389 mg/L	0.00448	0.61%
Co 228.616*†	54870.6	1.873 mg/L	0.0055	1.873 mg/L	0.0055	0.29%
QC value within limits for Co 228.616* Recovery = 99.91%						
Cr 267.716*†	69939.7	0.5985 mg/L	0.00060	0.5985 mg/L	0.00060	0.10%
QC value within limits for Cr 267.716* Recovery = 99.74%						
Cu 324.752*†	240032.2	0.9298 mg/L	0.00104	0.9298 mg/L	0.00104	0.11%
QC value within limits for Cu 324.752* Recovery = 99.18%						
Fe 273.955*†	98930.6	4.073 mg/L	0.0248	4.073 mg/L	0.0248	0.61%
QC value within limits for Fe 273.955* Recovery = 108.60%						
K 766.490*†	81835.6	26.01 mg/L	0.150	26.01 mg/L	0.150	0.58%
QC value within limits for K 766.490* Recovery = 96.33%						
Mg 279.077*†	148603.6	7.476 mg/L	0.0134	7.476 mg/L	0.0134	0.18%
QC value within limits for Mg 279.077* Recovery = 99.68%						
Mn 257.610*†	497170.9	0.7430 mg/L	0.00112	0.7430 mg/L	0.00112	0.15%
QC value within limits for Mn 257.610* Recovery = 99.07%						
Mo 202.031*†	5793.5	0.6050 mg/L	0.01481	0.6050 mg/L	0.01481	2.45%
QC value within limits for Mo 202.031* Recovery = 100.83%						
Na 589.592*†	161662.9	35.80 mg/L	0.439	35.80 mg/L	0.439	1.23%
QC value within limits for Na 589.592* Recovery = 99.45%						
Ni 231.604*†	15138.4	0.6043 mg/L	0.01453	0.6043 mg/L	0.01453	2.40%
QC value within limits for Ni 231.604* Recovery = 100.71%						
P 213.617*†	12105.4	5.997 mg/L	0.1340	5.997 mg/L	0.1340	2.23%
QC value within limits for P 213.617* Recovery = 99.95%						
P 214.914†	7966.4	6.116 mg/L	0.1734	6.116 mg/L	0.1734	2.84%
Pb 220.353*†	30965.9	3.690 mg/L	0.0165	3.690 mg/L	0.0165	0.45%
QC value within limits for Pb 220.353* Recovery = 98.39%						
Sb 206.836†	8771.7	4.485 mg/L	0.1105	4.485 mg/L	0.1105	2.46%
QC value within limits for Sb 206.836 Recovery = 99.67%						
Sb 217.582*†	8761.0	4.505 mg/L	0.1260	4.505 mg/L	0.1260	2.80%
QC value within limits for Sb 217.582* Recovery = 100.12%						
Se 196.026*†	3482.8	1.514 mg/L	0.0375	1.514 mg/L	0.0375	2.48%
QC value within limits for Se 196.026* Recovery = 100.90%						
Si 251.611*†	255690.7	6.391 mg/L	0.1507	6.391 mg/L	0.1507	2.36%
QC value within limits for Si 251.611* Recovery = 106.52%						
Sn 189.927*†	19136.8	3.031 mg/L	0.0760	3.031 mg/L	0.0760	2.51%
QC value within limits for Sn 189.927* Recovery = 101.02%						
Sn 242.170†	5512.7	3.045 mg/L	0.0497	3.045 mg/L	0.0497	1.63%
Sr 407.771*†	100215.9	0.2989 mg/L	0.00482	0.2989 mg/L	0.00482	1.61%
QC value within limits for Sr 407.771* Recovery = 99.63%						

Ti 334.940†	505142.0	0.5918 mg/L	0.00302	0.5918 mg/L	0.00302	0.51%
Ti 336.121*†	357935.5	0.5948 mg/L	0.00137	0.5948 mg/L	0.00137	0.23%
QC value within limits for Ti 336.121* Recovery = 99.13%						
Tl 190.801*†	2930.5	1.533 mg/L	0.0341	1.533 mg/L	0.0341	2.22%
QC value within limits for Tl 190.801* Recovery = 102.22%						
V 292.402*†	260512.0	1.856 mg/L	0.0046	1.856 mg/L	0.0046	0.25%
QC value within limits for V 292.402* Recovery = 98.98%						
Zn 206.200*†	105738.2	2.445 mg/L	0.0070	2.445 mg/L	0.0070	0.29%
QC value within limits for Zn 206.200* Recovery = 97.80%						

All analyte(s) passed QC.

Sequence No.: 12
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/15/2017 11:28:45 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	77417.1	101.1 %	2.32			2.29%
Tb 350	125539.3	102.3 %	1.20			1.17%
Ag 328.068*†	64.7	0.0003 mg/L	0.00065	0.0003 mg/L	0.00065	195.66%
Al 308.215*†	182.9	0.0104 mg/L	0.00012	0.0104 mg/L	0.00012	1.19%
As 188.979†	9.3	0.0042 mg/L	0.00103	0.0042 mg/L	0.00103	24.30%
As 193.696*†	-4.8	-0.0032 mg/L	0.00127	-0.0032 mg/L	0.00127	40.13%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2567.0	0.0490 mg/L	0.00372	0.0490 mg/L	0.00372	7.60%
Ba 233.527*†	629.0	0.0040 mg/L	0.00024	0.0040 mg/L	0.00024	6.05%
Be 313.042*†	1083.4	0.0003 mg/L	0.00003	0.0003 mg/L	0.00003	12.62%
Ca 317.933*†	58.3	0.0281 mg/L	0.00014	0.0281 mg/L	0.00014	0.49%
Cd 226.502*†	40.2	0.0005 mg/L	0.00014	0.0005 mg/L	0.00014	28.00%
Cd 228.802†	25.4	0.0006 mg/L	0.00023	0.0006 mg/L	0.00023	37.41%
Co 228.616*†	28.7	0.0010 mg/L	0.00040	0.0010 mg/L	0.00040	41.27%
Cr 267.716*†	148.5	0.0013 mg/L	0.00034	0.0013 mg/L	0.00034	26.52%
Cu 324.752*†	223.7	0.0009 mg/L	0.00104	0.0009 mg/L	0.00104	120.13%
Fe 273.955*†	819.2	0.0337 mg/L	0.00447	0.0337 mg/L	0.00447	13.26%
K 766.490*†	26.9	0.0086 mg/L	0.04993	0.0086 mg/L	0.04993	583.61%
Mg 279.077*†	131.6	0.0066 mg/L	0.00601	0.0066 mg/L	0.00601	90.79%
Mn 257.610*†	431.7	0.0006 mg/L	0.00001	0.0006 mg/L	0.00001	1.33%
Mo 202.031*†	3.3	0.0003 mg/L	0.00047	0.0003 mg/L	0.00047	137.67%
Na 589.592*†	300.8	0.0666 mg/L	0.02765	0.0666 mg/L	0.02765	41.50%
Ni 231.604*†	0.2	0.0000 mg/L	0.00015	0.0000 mg/L	0.00015	>999.9%
P 213.617*†	44.0	0.0218 mg/L	0.02261	0.0218 mg/L	0.02261	103.76%
P 214.914†	15.3	0.0117 mg/L	0.00145	0.0117 mg/L	0.00145	12.34%
Pb 220.353*†	14.1	0.0017 mg/L	0.00029	0.0017 mg/L	0.00029	17.12%
Sb 206.836†	4.7	0.0024 mg/L	0.00039	0.0024 mg/L	0.00039	16.29%
Sb 217.582*†	24.4	0.0125 mg/L	0.00639	0.0125 mg/L	0.00639	51.01%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	27.3	0.0119 mg/L	0.00218	0.0119 mg/L	0.00218	18.36%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	1401.6	0.0350 mg/L	0.00123	0.0350 mg/L	0.00123	3.51%
Sn 189.927*†	59.2	0.0094 mg/L	0.00047	0.0094 mg/L	0.00047	5.03%
Sn 242.170†	69.7	0.0385 mg/L	0.00336	0.0385 mg/L	0.00336	8.74%
Sr 407.771*†	81.3	0.0002 mg/L	0.00000	0.0002 mg/L	0.00000	0.34%
Ti 334.940†	814.9	0.0010 mg/L	0.00018	0.0010 mg/L	0.00018	18.89%
Ti 336.121*†	-18.7	-0.0000 mg/L	0.00027	-0.0000 mg/L	0.00027	881.32%
Tl 190.801*†	8.4	0.0044 mg/L	0.00851	0.0044 mg/L	0.00851	193.08%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	115.7	0.0008 mg/L	0.00045	0.0008 mg/L	0.00045	54.25%
Zn 206.200*†	160.5	0.0037 mg/L	0.00030	0.0037 mg/L	0.00030	8.21%
QC value within limits for Zn 206.200* Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 23
 Sample ID: CCV= STD3x0.5
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 3
 Date Collected: 3/15/2017 11:38:05 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	69981.1	91.43 %	0.879			0.96%
Tb 350	117263.1	95.52 %	0.861			0.90%
Ag 328.068*†	71499.6	0.3676 mg/L	0.00079	0.3676 mg/L	0.00079	0.22%
QC value within limits for Ag 328.068* Recovery = 98.03%						
Al 308.215*†	238713.5	13.57 mg/L	0.026	13.57 mg/L	0.026	0.19%
QC value within limits for Al 308.215* Recovery = 100.55%						
As 188.979†	7957.6	3.649 mg/L	0.0065	3.649 mg/L	0.0065	0.18%
QC value within limits for As 188.979 Recovery = 97.32%						
As 193.696*†	5540.5	3.655 mg/L	0.0099	3.655 mg/L	0.0099	0.27%
QC value within limits for As 193.696* Recovery = 97.46%						
B 249.677*†	192189.0	3.669 mg/L	0.0350	3.669 mg/L	0.0350	0.95%
QC value within limits for B 249.677* Recovery = 97.84%						
Ba 233.527*†	1167644.6	7.479 mg/L	0.0154	7.479 mg/L	0.0154	0.21%
QC value within limits for Ba 233.527* Recovery = 99.72%						
Be 313.042*†	2164392.4	0.5504 mg/L	0.00126	0.5504 mg/L	0.00126	0.23%
QC value within limits for Be 313.042* Recovery = 97.85%						
Ca 317.933*†	59538.4	28.65 mg/L	0.697	28.65 mg/L	0.697	2.43%
QC value within limits for Ca 317.933* Recovery = 95.48%						
Cd 226.502*†	60350.5	0.7428 mg/L	0.00125	0.7428 mg/L	0.00125	0.17%
QC value within limits for Cd 226.502* Recovery = 99.03%						
Cd 228.802†	30383.8	0.7431 mg/L	0.00072	0.7431 mg/L	0.00072	0.10%
Co 228.616*†	54905.0	1.875 mg/L	0.0035	1.875 mg/L	0.0035	0.19%
QC value within limits for Co 228.616* Recovery = 99.97%						
Cr 267.716*†	69335.3	0.5933 mg/L	0.00157	0.5933 mg/L	0.00157	0.27%
QC value within limits for Cr 267.716* Recovery = 98.88%						
Cu 324.752*†	239366.8	0.9272 mg/L	0.00009	0.9272 mg/L	0.00009	0.01%
QC value within limits for Cu 324.752* Recovery = 98.91%						
Fe 273.955*†	95114.1	3.916 mg/L	0.0238	3.916 mg/L	0.0238	0.61%
QC value within limits for Fe 273.955* Recovery = 104.41%						
K 766.490*†	79991.5	25.42 mg/L	0.542	25.42 mg/L	0.542	2.13%
QC value within limits for K 766.490* Recovery = 94.16%						
Mg 279.077*†	148918.0	7.492 mg/L	0.0259	7.492 mg/L	0.0259	0.35%
QC value within limits for Mg 279.077* Recovery = 99.90%						
Mn 257.610*†	497763.6	0.7439 mg/L	0.00007	0.7439 mg/L	0.00007	0.01%
QC value within limits for Mn 257.610* Recovery = 99.19%						
Mo 202.031*†	5697.7	0.5950 mg/L	0.00050	0.5950 mg/L	0.00050	0.08%
QC value within limits for Mo 202.031* Recovery = 99.16%						
Na 589.592*†	156312.8	34.62 mg/L	0.805	34.62 mg/L	0.805	2.33%
QC value within limits for Na 589.592* Recovery = 96.16%						
Ni 231.604*†	14830.4	0.5920 mg/L	0.00133	0.5920 mg/L	0.00133	0.22%
QC value within limits for Ni 231.604* Recovery = 98.66%						
P 213.617*†	11622.1	5.758 mg/L	0.0137	5.758 mg/L	0.0137	0.24%
QC value within limits for P 213.617* Recovery = 95.96%						
P 214.914†	7684.6	5.900 mg/L	0.0156	5.900 mg/L	0.0156	0.26%
Pb 220.353*†	31163.3	3.713 mg/L	0.0102	3.713 mg/L	0.0102	0.27%
QC value within limits for Pb 220.353* Recovery = 99.01%						
Sb 206.836†	8635.7	4.416 mg/L	0.0169	4.416 mg/L	0.0169	0.38%
QC value within limits for Sb 206.836 Recovery = 98.13%						
Sb 217.582*†	8574.4	4.409 mg/L	0.0108	4.409 mg/L	0.0108	0.24%
QC value within limits for Sb 217.582* Recovery = 97.99%						
Se 196.026*†	3380.7	1.469 mg/L	0.0071	1.469 mg/L	0.0071	0.48%
QC value within limits for Se 196.026* Recovery = 97.94%						
Si 251.611*†	235919.9	5.897 mg/L	0.0342	5.897 mg/L	0.0342	0.58%
QC value within limits for Si 251.611* Recovery = 98.28%						
Sn 189.927*†	18734.0	2.967 mg/L	0.0001	2.967 mg/L	0.0001	0.00%
QC value within limits for Sn 189.927* Recovery = 98.90%						
Sn 242.170†	5443.2	3.007 mg/L	0.0149	3.007 mg/L	0.0149	0.50%
Sr 407.771*†	97913.2	0.2920 mg/L	0.00566	0.2920 mg/L	0.00566	1.94%
QC value within limits for Sr 407.771* Recovery = 97.34%						

Ti 334.940†	512963.3	0.6010 mg/L	0.00347	0.6010 mg/L	0.00347	0.58%
Ti 336.121*†	363360.8	0.6038 mg/L	0.00196	0.6038 mg/L	0.00196	0.32%
QC value within limits for Ti 336.121* Recovery = 100.64%						
Tl 190.801*†	2882.0	1.508 mg/L	0.0124	1.508 mg/L	0.0124	0.82%
QC value within limits for Tl 190.801* Recovery = 100.53%						
V 292.402*†	259611.9	1.850 mg/L	0.0012	1.850 mg/L	0.0012	0.07%
QC value within limits for V 292.402* Recovery = 98.64%						
Zn 206.200*†	105829.1	2.447 mg/L	0.0034	2.447 mg/L	0.0034	0.14%
QC value within limits for Zn 206.200* Recovery = 97.88%						

All analyte(s) passed QC.

Sequence No.: 24
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/15/2017 11:38:58 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Tb 384	78280.6	102.3 %		1.83			1.79%
Tb 350	127463.2	103.8 %		1.21			1.17%
Ag 328.068*†	207.7	0.0011 mg/L		0.00009	0.0011 mg/L	0.00009	8.89%
Al 308.215*†	181.9	0.0103 mg/L		0.00077	0.0103 mg/L	0.00077	7.44%
As 188.979†	0.8	0.0004 mg/L		0.00205	0.0004 mg/L	0.00205	569.74%
As 193.696*†	10.5	0.0069 mg/L		0.00025	0.0069 mg/L	0.00025	3.57%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	2266.4	0.0433 mg/L		0.00327	0.0433 mg/L	0.00327	7.57%
Ba 233.527*†	734.9	0.0047 mg/L		0.00005	0.0047 mg/L	0.00005	1.13%
Be 313.042*†	1235.6	0.0003 mg/L		0.00001	0.0003 mg/L	0.00001	3.88%
Ca 317.933*†	41.1	0.0198 mg/L		0.00811	0.0198 mg/L	0.00811	41.00%
Cd 226.502*†	42.3	0.0005 mg/L		0.00015	0.0005 mg/L	0.00015	27.91%
Cd 228.802†	36.9	0.0009 mg/L		0.00015	0.0009 mg/L	0.00015	16.28%
Co 228.616*†	18.1	0.0006 mg/L		0.00002	0.0006 mg/L	0.00002	2.52%
Cr 267.716*†	68.6	0.0006 mg/L		0.00010	0.0006 mg/L	0.00010	16.34%
Cu 324.752*†	83.8	0.0003 mg/L		0.00056	0.0003 mg/L	0.00056	173.39%
Fe 273.955*†	290.2	0.0119 mg/L		0.00080	0.0119 mg/L	0.00080	6.66%
K 766.490*†	-399.5	-0.1270 mg/L		0.06520	-0.1270 mg/L	0.06520	51.36%
Mg 279.077*†	25.0	0.0013 mg/L		0.00155	0.0013 mg/L	0.00155	122.82%
Mn 257.610*†	414.0	0.0006 mg/L		0.00003	0.0006 mg/L	0.00003	4.86%
Mo 202.031*†	6.4	0.0007 mg/L		0.00007	0.0007 mg/L	0.00007	10.84%
Na 589.592*†	126.5	0.0280 mg/L		0.00988	0.0280 mg/L	0.00988	35.27%
Ni 231.604*†	16.0	0.0006 mg/L		0.00037	0.0006 mg/L	0.00037	58.73%
P 213.617*†	21.2	0.0105 mg/L		0.00186	0.0105 mg/L	0.00186	17.64%
P 214.914†	25.2	0.0194 mg/L		0.00430	0.0194 mg/L	0.00430	22.19%
Pb 220.353*†	14.9	0.0018 mg/L		0.00181	0.0018 mg/L	0.00181	101.68%
Sb 206.836†	-1.8	-0.0009 mg/L		0.00255	-0.0009 mg/L	0.00255	271.24%
Sb 217.582*†	12.5	0.0064 mg/L		0.00126	0.0064 mg/L	0.00126	19.56%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	12.1	0.0053 mg/L		0.00497	0.0053 mg/L	0.00497	94.19%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	729.5	0.0182 mg/L		0.00072	0.0182 mg/L	0.00072	3.94%
Sn 189.927*†	80.6	0.0128 mg/L		0.00515	0.0128 mg/L	0.00515	40.34%
Sn 242.170†	38.4	0.0212 mg/L		0.00486	0.0212 mg/L	0.00486	22.91%
Sr 407.771*†	101.5	0.0003 mg/L		0.00003	0.0003 mg/L	0.00003	10.89%
Ti 334.940†	826.7	0.0010 mg/L		0.00050	0.0010 mg/L	0.00050	51.68%
Ti 336.121*†	250.7	0.0004 mg/L		0.00034	0.0004 mg/L	0.00034	80.41%
Tl 190.801*†	2.1	0.0011 mg/L		0.00107	0.0011 mg/L	0.00107	95.83%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	80.6	0.0006 mg/L		0.00018	0.0006 mg/L	0.00018	31.32%
Zn 206.200*†	112.9	0.0026 mg/L		0.00020	0.0026 mg/L	0.00020	7.71%
QC value within limits for Zn 206.200* Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 35

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/15/2017 11:48:18 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	69806.1	91.20 %		0.328			0.36%
Tb 350	116866.8	95.20 %		1.274			1.34%
Ag 328.068*†	71493.6	0.3676 mg/L		0.00389	0.3676 mg/L	0.00389	1.06%
QC value within limits for Ag 328.068* Recovery = 98.02%							
Al 308.215*†	239834.4	13.64 mg/L		0.085	13.64 mg/L	0.085	0.63%
QC value within limits for Al 308.215* Recovery = 101.03%							
As 188.979†	7944.1	3.643 mg/L		0.0401	3.643 mg/L	0.0401	1.10%
QC value within limits for As 188.979 Recovery = 97.15%							
As 193.696*†	5545.0	3.658 mg/L		0.0366	3.658 mg/L	0.0366	1.00%
QC value within limits for As 193.696* Recovery = 97.54%							
B 249.677*†	191923.9	3.664 mg/L		0.0605	3.664 mg/L	0.0605	1.65%
QC value within limits for B 249.677* Recovery = 97.71%							
Ba 233.527*†	1166653.2	7.473 mg/L		0.0295	7.473 mg/L	0.0295	0.40%
QC value within limits for Ba 233.527* Recovery = 99.63%							
Be 313.042*†	2159552.5	0.5492 mg/L		0.00355	0.5492 mg/L	0.00355	0.65%
QC value within limits for Be 313.042* Recovery = 97.63%							
Ca 317.933*†	61962.1	29.81 mg/L		1.327	29.81 mg/L	1.327	4.45%
QC value within limits for Ca 317.933* Recovery = 99.37%							
Cd 226.502*†	60061.0	0.7392 mg/L		0.00004	0.7392 mg/L	0.00004	0.01%
QC value within limits for Cd 226.502* Recovery = 98.56%							
Cd 228.802†	30369.0	0.7428 mg/L		0.00176	0.7428 mg/L	0.00176	0.24%
Co 228.616*†	54976.4	1.877 mg/L		0.0007	1.877 mg/L	0.0007	0.04%
QC value within limits for Co 228.616* Recovery = 100.10%							
Cr 267.716*†	69742.3	0.5968 mg/L		0.00517	0.5968 mg/L	0.00517	0.87%
QC value within limits for Cr 267.716* Recovery = 99.46%							
Cu 324.752*†	238616.9	0.9243 mg/L		0.00217	0.9243 mg/L	0.00217	0.24%
QC value within limits for Cu 324.752* Recovery = 98.60%							
Fe 273.955*†	93770.5	3.860 mg/L		0.0078	3.860 mg/L	0.0078	0.20%
QC value within limits for Fe 273.955* Recovery = 102.94%							
K 766.490*†	82888.4	26.34 mg/L		1.060	26.34 mg/L	1.060	4.02%
QC value within limits for K 766.490* Recovery = 97.57%							
Mg 279.077*†	149066.0	7.500 mg/L		0.0194	7.500 mg/L	0.0194	0.26%
QC value within limits for Mg 279.077* Recovery = 99.99%							
Mn 257.610*†	497057.8	0.7429 mg/L		0.00172	0.7429 mg/L	0.00172	0.23%
QC value within limits for Mn 257.610* Recovery = 99.05%							
Mo 202.031*†	5703.3	0.5956 mg/L		0.00902	0.5956 mg/L	0.00902	1.51%
QC value within limits for Mo 202.031* Recovery = 99.26%							
Na 589.592*†	162576.7	36.00 mg/L		1.448	36.00 mg/L	1.448	4.02%
QC value within limits for Na 589.592* Recovery = 100.01%							
Ni 231.604*†	14855.2	0.5930 mg/L		0.00367	0.5930 mg/L	0.00367	0.62%
QC value within limits for Ni 231.604* Recovery = 98.83%							
P 213.617*†	11676.4	5.785 mg/L		0.0459	5.785 mg/L	0.0459	0.79%
QC value within limits for P 213.617* Recovery = 96.41%							
P 214.914†	7699.7	5.911 mg/L		0.0628	5.911 mg/L	0.0628	1.06%
Pb 220.353*†	31118.3	3.708 mg/L		0.0206	3.708 mg/L	0.0206	0.55%
QC value within limits for Pb 220.353* Recovery = 98.87%							
Sb 206.836†	8627.4	4.411 mg/L		0.0377	4.411 mg/L	0.0377	0.86%
QC value within limits for Sb 206.836 Recovery = 98.03%							
Sb 217.582*†	8595.9	4.421 mg/L		0.0482	4.421 mg/L	0.0482	1.09%
QC value within limits for Sb 217.582* Recovery = 98.23%							
Se 196.026*†	3406.4	1.480 mg/L		0.0010	1.480 mg/L	0.0010	0.06%
QC value within limits for Se 196.026* Recovery = 98.69%							
Si 251.611*†	235899.6	5.896 mg/L		0.0444	5.896 mg/L	0.0444	0.75%
QC value within limits for Si 251.611* Recovery = 98.27%							
Sn 189.927*†	18750.1	2.969 mg/L		0.0316	2.969 mg/L	0.0316	1.06%
QC value within limits for Sn 189.927* Recovery = 98.98%							
Sn 242.170†	5385.1	2.975 mg/L		0.0148	2.975 mg/L	0.0148	0.50%
Sr 407.771*†	101231.3	0.3019 mg/L		0.01205	0.3019 mg/L	0.01205	3.99%
QC value within limits for Sr 407.771* Recovery = 100.64%							

Ti 334.940†	512106.9	0.6000 mg/L	0.00427	0.6000 mg/L	0.00427	0.71%
Ti 336.121*†	363128.2	0.6034 mg/L	0.00387	0.6034 mg/L	0.00387	0.64%
QC value within limits for Ti 336.121* Recovery = 100.57%						
Tl 190.801*†	2871.4	1.502 mg/L	0.0186	1.502 mg/L	0.0186	1.24%
QC value within limits for Tl 190.801* Recovery = 100.16%						
V 292.402*†	259898.5	1.852 mg/L	0.0189	1.852 mg/L	0.0189	1.02%
QC value within limits for V 292.402* Recovery = 98.75%						
Zn 206.200*†	105378.9	2.437 mg/L	0.0108	2.437 mg/L	0.0108	0.44%
QC value within limits for Zn 206.200* Recovery = 97.46%						

All analyte(s) passed QC.

Sequence No.: 36

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/15/2017 11:49:11 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	78388.5	102.4 %	1.57			1.53%
Tb 350	127373.3	103.8 %	1.98			1.91%
Ag 328.068*†	275.5	0.0014 mg/L	0.00145	0.0014 mg/L	0.00145	102.68%
Al 308.215*†	175.1	0.0100 mg/L	0.00312	0.0100 mg/L	0.00312	31.34%
As 188.979†	7.2	0.0033 mg/L	0.00518	0.0033 mg/L	0.00518	156.11%
As 193.696*†	14.2	0.0093 mg/L	0.00096	0.0093 mg/L	0.00096	10.29%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2211.7	0.0422 mg/L	0.00362	0.0422 mg/L	0.00362	8.57%
Ba 233.527*†	884.6	0.0057 mg/L	0.00022	0.0057 mg/L	0.00022	3.84%
Be 313.042*†	1525.7	0.0004 mg/L	0.00004	0.0004 mg/L	0.00004	10.59%
Ca 317.933*†	47.1	0.0227 mg/L	0.00146	0.0227 mg/L	0.00146	6.42%
Cd 226.502*†	47.6	0.0006 mg/L	0.00007	0.0006 mg/L	0.00007	11.48%
Cd 228.802†	25.9	0.0006 mg/L	0.00012	0.0006 mg/L	0.00012	19.00%
Co 228.616*†	30.9	0.0011 mg/L	0.00001	0.0011 mg/L	0.00001	0.58%
Cr 267.716*†	-9.4	-0.0001 mg/L	0.00043	-0.0001 mg/L	0.00043	537.00%
Cu 324.752*†	113.6	0.0004 mg/L	0.00032	0.0004 mg/L	0.00032	72.12%
Fe 273.955*†	271.5	0.0112 mg/L	0.00135	0.0112 mg/L	0.00135	12.10%
K 766.490*†	288.8	0.0918 mg/L	0.07470	0.0918 mg/L	0.07470	81.39%
Mg 279.077*†	282.1	0.0142 mg/L	0.00204	0.0142 mg/L	0.00204	14.34%
Mn 257.610*†	496.0	0.0007 mg/L	0.00007	0.0007 mg/L	0.00007	9.95%
Mo 202.031*†	8.4	0.0009 mg/L	0.00071	0.0009 mg/L	0.00071	80.30%
Na 589.592*†	-11.2	-0.0025 mg/L	0.00666	-0.0025 mg/L	0.00666	268.09%
Ni 231.604*†	12.1	0.0005 mg/L	0.00045	0.0005 mg/L	0.00045	92.27%
P 213.617*†	34.1	0.0169 mg/L	0.01435	0.0169 mg/L	0.01435	84.80%
P 214.914†	6.9	0.0053 mg/L	0.00424	0.0053 mg/L	0.00424	79.64%
Pb 220.353*†	31.4	0.0037 mg/L	0.00000	0.0037 mg/L	0.00000	0.12%
Sb 206.836†	14.2	0.0072 mg/L	0.00277	0.0072 mg/L	0.00277	38.22%
Sb 217.582*†	13.8	0.0071 mg/L	0.00039	0.0071 mg/L	0.00039	5.45%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	12.3	0.0053 mg/L	0.00139	0.0053 mg/L	0.00139	26.02%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	1072.8	0.0268 mg/L	0.00029	0.0268 mg/L	0.00029	1.10%
Sn 189.927*†	70.4	0.0111 mg/L	0.00141	0.0111 mg/L	0.00141	12.64%
Sn 242.170†	74.6	0.0412 mg/L	0.01090	0.0412 mg/L	0.01090	26.43%
Sr 407.771*†	108.2	0.0003 mg/L	0.00002	0.0003 mg/L	0.00002	5.88%
Ti 334.940†	1229.4	0.0014 mg/L	0.00009	0.0014 mg/L	0.00009	6.56%
Ti 336.121*†	403.2	0.0007 mg/L	0.00016	0.0007 mg/L	0.00016	23.28%
Tl 190.801*†	16.5	0.0086 mg/L	0.00303	0.0086 mg/L	0.00303	35.16%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	199.9	0.0014 mg/L	0.00143	0.0014 mg/L	0.00143	100.54%
Zn 206.200*†	103.7	0.0024 mg/L	0.00023	0.0024 mg/L	0.00023	9.47%
QC value within limits for Zn 206.200* Recovery = Not calculated						
All analyte(s) passed QC.						

=====
Analysis Begun

Start Time: 3/15/2017 3:27:04 PM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/15/2017 2:48:20 PM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
17031501.sif

Batch ID:
Results Data Set: 170315C 1
Results Library: W:\pe\7300\Results\results.mdb

=====
Sequence No.: 1
Sample ID: Cal blankR12091601_935
Analyst:
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 3/15/2017 3:27:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

=====
Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected	Std.Dev.	RSD	Conc.	Units
Tb 384	78802.9	1246.70	1.58%	100.0	%
Tb 350	128412.0	1672.93	1.30%	100.0	%
Ag 328.068*†	-901.4	82.56	9.16%	[0.00]	mg/L
Al 308.215*†	-2536.1	66.61	2.63%	[0.00]	mg/L
As 188.979†	5.6	8.10	143.46%	[0.00]	mg/L
As 193.696*†	8.7	1.35	15.60%	[0.00]	mg/L
B 249.677*†	-743.3	60.86	8.19%	[0.00]	mg/L
Ba 233.527*†	339.5	4.01	1.18%	[0.00]	mg/L
Be 313.042*†	179.8	51.33	28.55%	[0.00]	mg/L
Ca 317.933*†	94.6	4.40	4.65%	[0.00]	mg/L
Cd 226.502*†	42.5	11.20	26.38%	[0.00]	mg/L
Cd 228.802†	19.2	15.06	78.51%	[0.00]	mg/L
Co 228.616*†	-51.2	2.76	5.38%	[0.00]	mg/L
Cr 267.716*†	416.7	7.12	1.71%	[0.00]	mg/L
Cu 324.752*†	2527.6	118.80	4.70%	[0.00]	mg/L
Fe 273.955*†	-121.1	9.83	8.12%	[0.00]	mg/L
K 766.490*†	1621.9	91.66	5.65%	[0.00]	mg/L
Mg 279.077*†	-8033.5	126.24	1.57%	[0.00]	mg/L
Mn 257.610*†	346.6	17.91	5.17%	[0.00]	mg/L
Mo 202.031*†	-51.0	11.73	23.01%	[0.00]	mg/L
Na 589.592*†	4572.5	65.21	1.43%	[0.00]	mg/L
Ni 231.604*†	-47.6	6.56	13.78%	[0.00]	mg/L
P 213.617*†	-130.1	13.23	10.17%	[0.00]	mg/L
P 214.914†	-43.6	3.33	7.64%	[0.00]	mg/L
Pb 220.353*†	-2.9	13.13	445.52%	[0.00]	mg/L
Sb 206.836†	26.5	7.39	27.89%	[0.00]	mg/L
Sb 217.582*†	-5.2	0.71	13.61%	[0.00]	mg/L
Se 196.026*†	3.6	0.16	4.35%	[0.00]	mg/L
Si 251.611*†	1275.1	8.48	0.67%	[0.00]	mg/L
Sn 189.927*†	-84.2	8.62	10.24%	[0.00]	mg/L
Sn 242.170†	-420.3	29.41	7.00%	[0.00]	mg/L
Sr 407.771*†	224.8	33.03	14.69%	[0.00]	mg/L
Ti 334.940†	29623.7	328.26	1.11%	[0.00]	mg/L
Ti 336.121*†	-955.7	197.75	20.69%	[0.00]	mg/L
Tl 190.801*†	-7.9	6.40	81.31%	[0.00]	mg/L
V 292.402*†	277.7	23.23	8.36%	[0.00]	mg/L
Zn 206.200*†	591.5	13.80	2.33%	[0.00]	mg/L
Zn 213.857*†	1393.1	40.41	2.90%	[0.00]	mg/L

Sequence No.: 2

Sample ID: STD3-M111116A_935_ICP7300

Analyst:

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 2

Date Collected: 3/15/2017 3:28:21 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: STD3-M111116A_935_ICP7300

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Tb 384	68350.3	92.08	0.13%	86.74 %
Tb 350	113213.4	587.75	0.52%	88.16 %
Ag 328.068*†	150897.1	301.82	0.20%	[0.75] mg/L
Al 308.215*†	489617.0	943.99	0.19%	[27.0] mg/L
As 188.979†	17341.5	497.59	2.87%	[7.50] mg/L
As 193.696*†	12052.0	239.37	1.99%	[7.50] mg/L
B 249.677*†	401152.6	3681.38	0.92%	[7.50] mg/L
Ba 233.527*†	2425347.8	12060.88	0.50%	[15.0] mg/L
Be 313.042*†	4573973.9	8584.36	0.19%	[1.125] mg/L
Ca 317.933*†	133757.0	1776.52	1.33%	[60.0] mg/L
Cd 226.502*†	126176.3	470.51	0.37%	[1.50] mg/L
Cd 228.802†	63441.3	98.24	0.15%	[1.50] mg/L
Co 228.616*†	113546.3	573.85	0.51%	[3.75] mg/L
Cr 267.716*†	146085.1	295.12	0.20%	[1.20] mg/L
Cu 324.752*†	500073.7	1048.06	0.21%	[1.875] mg/L
Fe 273.955*†	188160.8	960.69	0.51%	[7.50] mg/L
K 766.490*†	182662.5	2983.92	1.63%	[54.0] mg/L
Mg 279.077*†	307608.0	1676.41	0.54%	[15.0] mg/L
Mn 257.610*†	1037116.9	4215.26	0.41%	[1.50] mg/L
Mo 202.031*†	12100.1	312.28	2.58%	[1.20] mg/L
Na 589.592*†	354147.5	3894.87	1.10%	[72.0] mg/L
Ni 231.604*†	31716.4	1017.95	3.21%	[1.20] mg/L
P 213.617*†	25550.9	738.96	2.89%	[12.0] mg/L
P 214.914†	16618.1	503.15	3.03%	[12.0] mg/L
Pb 220.353*†	64696.5	358.86	0.55%	[7.50] mg/L
Sb 206.836†	18593.1	469.75	2.53%	[9.0] mg/L
Sb 217.582*†	18551.2	576.13	3.11%	[9.0] mg/L
Se 196.026*†	7340.4	265.21	3.61%	[3.0] mg/L
Si 251.611*†	490442.0	1879.40	0.38%	[12.0] mg/L
Sn 189.927*†	39876.3	1220.04	3.06%	[6.0] mg/L
Sn 242.170†	11548.7	416.40	3.61%	[6.0] mg/L
Sr 407.771*†	216860.4	2243.13	1.03%	[0.60] mg/L
Ti 334.940†	1063756.4	2384.60	0.22%	[1.20] mg/L
Ti 336.121*†	750369.3	2299.80	0.31%	[1.20] mg/L
Tl 190.801*†	5991.2	106.02	1.77%	[3.0] mg/L
V 292.402*†	548943.6	145.32	0.03%	[3.75] mg/L
Zn 206.200*†	221973.0	2096.46	0.94%	[5.0] mg/L
Zn 213.857*†	386023.7	1498.73	0.39%	[5.0] mg/L

Sequence No.: 4
 Sample ID: ICB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 20
 User canceled analysis.

Autosampler Location: 1
 Date Collected: 3/15/2017 3:30:28 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Analysis Begun

Start Time: 3/15/2017 3:30:51 PM
 Logged In Analyst: Oscar Gomez 935
 Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/15/2017 2:48:20 PM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17031501.sif

Batch ID:
 Results Data Set: 170315C 1
 Results Library: W:\pe\7300\Results\results.mdb

Sequence No.: 3
 Sample ID: ICV-M072816C
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time:

Autosampler Location: 10
 Date Collected: 3/15/2017 3:30:52 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	71062.9	90.18	%	1.098			1.22%
Tb 350	118540.5	92.31	%	0.816			0.88%
Ag 328.068*†	100322.6	0.4986	mg/L	0.00134	0.4986 mg/L	0.00134	0.27%
QC value within limits for Ag 328.068* Recovery = 99.73%							
Al 308.215*†	76097.2	4.196	mg/L	0.0257	4.196 mg/L	0.0257	0.61%
QC value within limits for Al 308.215* Recovery = 104.91%							
As 188.979†	11056.5	4.782	mg/L	0.0378	4.782 mg/L	0.0378	0.79%
QC value within limits for As 188.979 Recovery = 95.64%							
As 193.696*†	7668.9	4.772	mg/L	0.0379	4.772 mg/L	0.0379	0.79%
QC value within limits for As 193.696* Recovery = 95.45%							
B 249.677*†	132561.6	2.478	mg/L	0.0089	2.478 mg/L	0.0089	0.36%
QC value within limits for B 249.677* Recovery = 99.14%							
Ba 233.527*†	161175.5	0.9968	mg/L	0.00346	0.9968 mg/L	0.00346	0.35%
QC value within limits for Ba 233.527* Recovery = 99.68%							
Be 313.042*†	2012729.0	0.4950	mg/L	0.00563	0.4950 mg/L	0.00563	1.14%
QC value within limits for Be 313.042* Recovery = 99.01%							
Ca 317.933*†	41414.8	18.58	mg/L	0.191	18.58 mg/L	0.191	1.03%
QC value within limits for Ca 317.933* Recovery = 92.89%							
Cd 226.502*†	124840.3	1.484	mg/L	0.0022	1.484 mg/L	0.0022	0.15%
QC value within limits for Cd 226.502* Recovery = 98.94%							
Cd 228.802†	62034.2	1.467	mg/L	0.0000	1.467 mg/L	0.0000	0.00%
Co 228.616*†	31036.2	1.025	mg/L	0.0020	1.025 mg/L	0.0020	0.20%
QC value within limits for Co 228.616* Recovery = 102.50%							
Cr 267.716*†	48579.9	0.3991	mg/L	0.00025	0.3991 mg/L	0.00025	0.06%
QC value within limits for Cr 267.716* Recovery = 99.76%							
Cu 324.752*†	266046.9	0.9975	mg/L	0.00052	0.9975 mg/L	0.00052	0.05%
QC value within limits for Cu 324.752* Recovery = 99.75%							
Fe 273.955*†	2593968.7	103.4	mg/L	0.97	103.4 mg/L	0.97	0.94%
QC value within limits for Fe 273.955* Recovery = 103.39%							
K 766.490*†	25864.5	7.646	mg/L	0.1871	7.646 mg/L	0.1871	2.45%
QC value within limits for K 766.490* Recovery = 95.58%							
Mg 279.077*†	204128.2	9.954	mg/L	0.0072	9.954 mg/L	0.0072	0.07%
QC value within limits for Mg 279.077* Recovery = 99.54%							
Mn 257.610*†	686539.3	0.9930	mg/L	0.00197	0.9930 mg/L	0.00197	0.20%
QC value within limits for Mn 257.610* Recovery = 99.30%							
Mo 202.031*†	24315.7	2.411	mg/L	0.0301	2.411 mg/L	0.0301	1.25%
QC value within limits for Mo 202.031* Recovery = 96.46%							

Na 589.592*†	253347.9	51.51 mg/L	0.392	51.51 mg/L	0.392	0.76%
QC value within limits for Na 589.592* Recovery = 95.38%						
Ni 231.604*†	10490.5	0.3969 mg/L	0.00488	0.3969 mg/L	0.00488	1.23%
QC value within limits for Ni 231.604* Recovery = 99.23%						
P 213.617*†	9913.0	4.656 mg/L	0.0588	4.656 mg/L	0.0588	1.26%
QC value within limits for P 213.617* Recovery = 93.11%						
P 214.914†	6733.5	4.862 mg/L	0.0412	4.862 mg/L	0.0412	0.85%
Pb 220.353*†	43406.9	5.032 mg/L	0.0270	5.032 mg/L	0.0270	0.54%
QC value within limits for Pb 220.353* Recovery = 100.64%						
Sb 206.836†	3897.6	1.887 mg/L	0.0230	1.887 mg/L	0.0230	1.22%
QC value within limits for Sb 206.836 Recovery = 94.33%						
Sb 217.582*†	3919.6	1.902 mg/L	0.0279	1.902 mg/L	0.0279	1.47%
QC value within limits for Sb 217.582* Recovery = 95.08%						
Se 196.026*†	4671.1	1.909 mg/L	0.0157	1.909 mg/L	0.0157	0.82%
QC value within limits for Se 196.026* Recovery = 95.45%						
Si 251.611*†	393498.3	9.628 mg/L	0.0347	9.628 mg/L	0.0347	0.36%
QC value within limits for Si 251.611* Recovery = 96.28%						
Sn 189.927*†	16181.2	2.435 mg/L	0.0233	2.435 mg/L	0.0233	0.96%
QC value within limits for Sn 189.927* Recovery = 97.39%						
Sn 242.170†	5177.4	2.690 mg/L	0.0279	2.690 mg/L	0.0279	1.04%
Sr 407.771*†	69416.6	0.1921 mg/L	0.00266	0.1921 mg/L	0.00266	1.38%
QC value within limits for Sr 407.771* Recovery = 96.03%						
Ti 334.940†	4275679.3	4.823 mg/L	0.0300	4.823 mg/L	0.0300	0.62%
Ti 336.121*†	3049713.9	4.877 mg/L	0.0298	4.877 mg/L	0.0298	0.61%
QC value within limits for Ti 336.121* Recovery = 97.54%						
Tl 190.801*†	3910.9	1.958 mg/L	0.0138	1.958 mg/L	0.0138	0.71%
QC value within limits for Tl 190.801* Recovery = 97.92%						
V 292.402*†	144108.6	0.9828 mg/L	0.00327	0.9828 mg/L	0.00327	0.33%
QC value within limits for V 292.402* Recovery = 98.28%						
Zn 206.200*†	66815.0	1.505 mg/L	0.0084	1.505 mg/L	0.0084	0.56%
QC value within limits for Zn 206.200* Recovery = 100.34%						
Zn 213.857*†	115910.8	1.493 mg/L	0.0057	1.493 mg/L	0.0057	0.38%
QC value within limits for Zn 213.857* Recovery = 99.52%						

All analyte(s) passed QC.

Sequence No.: 4
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 1
Date Collected: 3/15/2017 3:31:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	78559.7	99.69 %	0.627			0.63%
Tb 350	126637.1	98.62 %	0.605			0.61%
Ag 328.068*†	187.9	0.0009 mg/L	0.00156	0.0009 mg/L	0.00156	167.47%
Al 308.215*†	-73.7	-0.0041 mg/L	0.00023	-0.0041 mg/L	0.00023	5.67%
As 188.979†	3.6	0.0015 mg/L	0.00140	0.0015 mg/L	0.00140	90.28%
As 193.696*†	-4.1	-0.0025 mg/L	0.00482	-0.0025 mg/L	0.00482	190.21%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2258.3	0.0422 mg/L	0.00172	0.0422 mg/L	0.00172	4.07%
QC value greater than the upper limit for B 249.677* Recovery = Not calculated						
Ba 233.527*†	-339.3	-0.0021 mg/L	0.00013	-0.0021 mg/L	0.00013	6.11%
Be 313.042*†	-465.4	-0.0001 mg/L	0.00000	-0.0001 mg/L	0.00000	2.22%
Ca 317.933*†	-12.0	-0.0054 mg/L	0.00466	-0.0054 mg/L	0.00466	86.81%
Cd 226.502*†	28.6	0.0003 mg/L	0.00004	0.0003 mg/L	0.00004	11.83%
Cd 228.802†	20.2	0.0005 mg/L	0.00013	0.0005 mg/L	0.00013	27.62%
Co 228.616*†	-25.1	-0.0008 mg/L	0.00094	-0.0008 mg/L	0.00094	114.04%
Cr 267.716*†	119.4	0.0010 mg/L	0.00040	0.0010 mg/L	0.00040	40.72%
Cu 324.752*†	282.5	0.0011 mg/L	0.00076	0.0011 mg/L	0.00076	71.45%
Fe 273.955*†	349.8	0.0139 mg/L	0.00339	0.0139 mg/L	0.00339	24.34%
K 766.490*†	253.3	0.0749 mg/L	0.03810	0.0749 mg/L	0.03810	50.89%
Mg 279.077*†	-163.6	-0.0080 mg/L	0.00376	-0.0080 mg/L	0.00376	47.15%
Mn 257.610*†	-78.6	-0.0001 mg/L	0.00006	-0.0001 mg/L	0.00006	55.54%
Mo 202.031*†	20.1	0.0020 mg/L	0.00104	0.0020 mg/L	0.00104	52.40%
Na 589.592*†	-301.3	-0.0612 mg/L	0.03994	-0.0612 mg/L	0.03994	65.21%
Ni 231.604*†	-11.4	-0.0004 mg/L	0.00011	-0.0004 mg/L	0.00011	26.65%
P 213.617*†	-44.7	-0.0210 mg/L	0.00878	-0.0210 mg/L	0.00878	41.84%
P 214.914†	6.0	0.0043 mg/L	0.00886	0.0043 mg/L	0.00886	204.16%
Pb 220.353*†	9.6	0.0011 mg/L	0.00128	0.0011 mg/L	0.00128	114.92%
QC value within limits for Pb 220.353* Recovery = Not calculated						
Sb 206.836†	7.1	0.0034 mg/L	0.00445	0.0034 mg/L	0.00445	130.25%
Sb 217.582*†	3.6	0.0018 mg/L	0.00150	0.0018 mg/L	0.00150	85.73%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	13.5	0.0055 mg/L	0.00056	0.0055 mg/L	0.00056	10.14%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	184.4	0.0045 mg/L	0.00170	0.0045 mg/L	0.00170	37.67%
QC value within limits for Si 251.611* Recovery = Not calculated						
Sn 189.927*†	9.6	0.0014 mg/L	0.00448	0.0014 mg/L	0.00448	309.20%
Sn 242.170†	26.2	0.0136 mg/L	0.02338	0.0136 mg/L	0.02338	171.56%
Sr 407.771*†	-43.9	-0.0001 mg/L	0.00003	-0.0001 mg/L	0.00003	25.65%
Ti 334.940†	1846.0	0.0021 mg/L	0.00035	0.0021 mg/L	0.00035	16.78%
Ti 336.121*†	1150.4	0.0018 mg/L	0.00009	0.0018 mg/L	0.00009	4.98%
Tl 190.801*†	17.4	0.0087 mg/L	0.00331	0.0087 mg/L	0.00331	37.99%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	30.4	0.0002 mg/L	0.00066	0.0002 mg/L	0.00066	318.90%
Zn 206.200*†	-0.7	-0.0000 mg/L	0.00033	-0.0000 mg/L	0.00033	>999.9%
Zn 213.857*†	42.3	0.0005 mg/L	0.00008	0.0005 mg/L	0.00008	15.25%
QC Failed. Retry.						

Sequence No.: 5
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 1
Date Collected: 3/15/2017 3:32:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD

Sequence No.: 26

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 20

Autosampler Location: 3

Date Collected: 3/15/2017 4:01:04 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	70587.3	89.57	%	1.374			1.53%
Tb 350	117311.8	91.36	%	1.206			1.32%
Ag 328.068*†	74528.0	0.3704	mg/L	0.00194	0.3704 mg/L	0.00194	0.52%
QC value within limits for Ag 328.068* Recovery = 98.78%							
Al 308.215*†	250250.0	13.80	mg/L	0.036	13.80 mg/L	0.036	0.26%
QC value within limits for Al 308.215* Recovery = 102.22%							
As 188.979†	8503.8	3.678	mg/L	0.0531	3.678 mg/L	0.0531	1.44%
QC value within limits for As 188.979 Recovery = 98.07%							
As 193.696*†	5896.2	3.669	mg/L	0.0358	3.669 mg/L	0.0358	0.97%
QC value within limits for As 193.696* Recovery = 97.85%							
B 249.677*†	199966.0	3.739	mg/L	0.0969	3.739 mg/L	0.0969	2.59%
QC value within limits for B 249.677* Recovery = 99.70%							
Ba 233.527*†	1231140.2	7.614	mg/L	0.0435	7.614 mg/L	0.0435	0.57%
QC value within limits for Ba 233.527* Recovery = 101.52%							
Be 313.042*†	2285516.1	0.5621	mg/L	0.00526	0.5621 mg/L	0.00526	0.94%
QC value within limits for Be 313.042* Recovery = 99.94%							
Ca 317.933*†	62889.6	28.21	mg/L	0.950	28.21 mg/L	0.950	3.37%
QC value within limits for Ca 317.933* Recovery = 94.04%							
Cd 226.502*†	63531.2	0.7553	mg/L	0.00926	0.7553 mg/L	0.00926	1.23%
QC value within limits for Cd 226.502* Recovery = 100.70%							
Cd 228.802†	31489.0	0.7445	mg/L	0.00493	0.7445 mg/L	0.00493	0.66%
Co 228.616*†	57702.8	1.906	mg/L	0.0179	1.906 mg/L	0.0179	0.94%
QC value within limits for Co 228.616* Recovery = 101.64%							
Cr 267.716*†	73405.5	0.6030	mg/L	0.00464	0.6030 mg/L	0.00464	0.77%
QC value within limits for Cr 267.716* Recovery = 100.50%							
Cu 324.752*†	249087.2	0.9339	mg/L	0.00064	0.9339 mg/L	0.00064	0.07%
QC value within limits for Cu 324.752* Recovery = 99.62%							
Fe 273.955*†	95642.0	3.812	mg/L	0.0307	3.812 mg/L	0.0307	0.81%
QC value within limits for Fe 273.955* Recovery = 101.66%							
K 766.490*†	85800.5	25.36	mg/L	0.465	25.36 mg/L	0.465	1.83%
QC value within limits for K 766.490* Recovery = 93.94%							
Mg 279.077*†	156574.2	7.635	mg/L	0.0952	7.635 mg/L	0.0952	1.25%
QC value within limits for Mg 279.077* Recovery = 101.80%							
Mn 257.610*†	523575.4	0.7573	mg/L	0.00509	0.7573 mg/L	0.00509	0.67%
QC value within limits for Mn 257.610* Recovery = 100.97%							
Mo 202.031*†	6046.1	0.5996	mg/L	0.01238	0.5996 mg/L	0.01238	2.06%
QC value within limits for Mo 202.031* Recovery = 99.93%							
Na 589.592*†	168284.1	34.21	mg/L	0.874	34.21 mg/L	0.874	2.55%
QC value within limits for Na 589.592* Recovery = 95.04%							
Ni 231.604*†	15823.1	0.5987	mg/L	0.00692	0.5987 mg/L	0.00692	1.16%
QC value within limits for Ni 231.604* Recovery = 99.78%							
P 213.617*†	12441.5	5.843	mg/L	0.0636	5.843 mg/L	0.0636	1.09%
QC value within limits for P 213.617* Recovery = 97.39%							
P 214.914†	8133.4	5.873	mg/L	0.0861	5.873 mg/L	0.0861	1.47%
Pb 220.353*†	32687.6	3.789	mg/L	0.0393	3.789 mg/L	0.0393	1.04%
QC value within limits for Pb 220.353* Recovery = 101.05%							
Sb 206.836†	9142.0	4.425	mg/L	0.0686	4.425 mg/L	0.0686	1.55%
QC value within limits for Sb 206.836 Recovery = 98.34%							
Sb 217.582*†	9095.9	4.413	mg/L	0.0656	4.413 mg/L	0.0656	1.49%
QC value within limits for Sb 217.582* Recovery = 98.06%							
Se 196.026*†	3589.0	1.467	mg/L	0.0321	1.467 mg/L	0.0321	2.19%
QC value within limits for Se 196.026* Recovery = 97.79%							
Si 251.611*†	246040.9	6.020	mg/L	0.0673	6.020 mg/L	0.0673	1.12%
QC value within limits for Si 251.611* Recovery = 100.33%							
Sn 189.927*†	19793.6	2.978	mg/L	0.0473	2.978 mg/L	0.0473	1.59%
QC value within limits for Sn 189.927* Recovery = 99.28%							
Sn 242.170†	5648.4	2.935	mg/L	0.0319	2.935 mg/L	0.0319	1.09%
Sr 407.771*†	103913.5	0.2875	mg/L	0.00769	0.2875 mg/L	0.00769	2.67%
QC value within limits for Sr 407.771* Recovery = 95.83%							

Ti 334.940†	531226.6	0.5993 mg/L	0.00224	0.5993 mg/L	0.00224	0.37%
Ti 336.121*†	375883.4	0.6011 mg/L	0.00200	0.6011 mg/L	0.00200	0.33%
QC value within limits for Ti 336.121* Recovery = 100.19%						
Tl 190.801*†	3032.8	1.519 mg/L	0.0379	1.519 mg/L	0.0379	2.50%
QC value within limits for Tl 190.801* Recovery = 101.24%						
V 292.402*†	273516.1	1.868 mg/L	0.0146	1.868 mg/L	0.0146	0.78%
QC value within limits for V 292.402* Recovery = 99.65%						
Zn 206.200*†	111611.8	2.514 mg/L	0.0475	2.514 mg/L	0.0475	1.89%
QC value within limits for Zn 206.200* Recovery = 100.56%						
Zn 213.857*†	192529.0	2.493 mg/L	0.0268	2.493 mg/L	0.0268	1.08%
QC value within limits for Zn 213.857* Recovery = 99.74%						

All analyte(s) passed QC.

Sequence No.: 27

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/15/2017 4:01:58 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	77141.3	97.89 %	0.725			0.74%
Tb 350	126030.7	98.15 %	0.917			0.93%
Ag 328.068*†	-72.9	-0.0004 mg/L	0.00032	-0.0004 mg/L	0.00032	88.69%
QC value within limits for Ag 328.068* Recovery = Not calculated						
Al 308.215*†	42.7	0.0024 mg/L	0.00014	0.0024 mg/L	0.00014	6.15%
As 188.979†	3.5	0.0015 mg/L	0.00174	0.0015 mg/L	0.00174	113.50%
As 193.696*†	-13.5	-0.0084 mg/L	0.00668	-0.0084 mg/L	0.00668	79.53%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2681.3	0.0501 mg/L	0.00518	0.0501 mg/L	0.00518	10.34%
Ba 233.527*†	-153.1	-0.0009 mg/L	0.00032	-0.0009 mg/L	0.00032	34.26%
Be 313.042*†	-342.6	-0.0001 mg/L	0.00001	-0.0001 mg/L	0.00001	9.88%
Ca 317.933*†	6.4	0.0029 mg/L	0.00047	0.0029 mg/L	0.00047	16.40%
Cd 226.502*†	3.3	0.0000 mg/L	0.00013	0.0000 mg/L	0.00013	332.27%
Cd 228.802†	7.4	0.0002 mg/L	0.00014	0.0002 mg/L	0.00014	82.72%
Co 228.616*†	-9.6	-0.0003 mg/L	0.00024	-0.0003 mg/L	0.00024	73.97%
Cr 267.716*†	13.8	0.0001 mg/L	0.00088	0.0001 mg/L	0.00088	778.45%
Cu 324.752*†	-138.1	-0.0005 mg/L	0.00104	-0.0005 mg/L	0.00104	201.25%
Fe 273.955*†	-160.0	-0.0064 mg/L	0.00150	-0.0064 mg/L	0.00150	23.52%
K 766.490*†	-28.8	-0.0085 mg/L	0.03803	-0.0085 mg/L	0.03803	446.45%
Mg 279.077*†	-245.8	-0.0120 mg/L	0.01011	-0.0120 mg/L	0.01011	84.32%
Mn 257.610*†	-116.8	-0.0002 mg/L	0.00006	-0.0002 mg/L	0.00006	34.23%
Mo 202.031*†	7.9	0.0008 mg/L	0.00073	0.0008 mg/L	0.00073	92.58%
Na 589.592*†	-927.0	-0.1885 mg/L	0.00772	-0.1885 mg/L	0.00772	4.10%
Ni 231.604*†	-15.7	-0.0006 mg/L	0.00070	-0.0006 mg/L	0.00070	117.99%
P 213.617*†	-24.8	-0.0117 mg/L	0.00419	-0.0117 mg/L	0.00419	35.89%
P 214.914†	23.9	0.0173 mg/L	0.00392	0.0173 mg/L	0.00392	22.72%
Pb 220.353*†	1.7	0.0002 mg/L	0.00020	0.0002 mg/L	0.00020	101.88%
Sb 206.836†	5.6	0.0027 mg/L	0.00311	0.0027 mg/L	0.00311	115.07%
Sb 217.582*†	4.5	0.0022 mg/L	0.00165	0.0022 mg/L	0.00165	75.00%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	-10.3	-0.0042 mg/L	0.00005	-0.0042 mg/L	0.00005	1.13%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	197.5	0.0048 mg/L	0.00008	0.0048 mg/L	0.00008	1.57%
Sn 189.927*†	2.9	0.0004 mg/L	0.00153	0.0004 mg/L	0.00153	345.54%
Sn 242.170†	-20.7	-0.0108 mg/L	0.01557	-0.0108 mg/L	0.01557	144.56%
Sr 407.771*†	-57.7	-0.0002 mg/L	0.00010	-0.0002 mg/L	0.00010	64.25%
Ti 334.940†	-14.6	-0.0000 mg/L	0.00006	-0.0000 mg/L	0.00006	370.76%
Ti 336.121*†	-251.1	-0.0004 mg/L	0.00020	-0.0004 mg/L	0.00020	50.98%
Tl 190.801*†	4.1	0.0020 mg/L	0.00271	0.0020 mg/L	0.00271	133.68%
V 292.402*†	18.5	0.0001 mg/L	0.00049	0.0001 mg/L	0.00049	389.20%
Zn 206.200*†	-172.5	-0.0039 mg/L	0.00014	-0.0039 mg/L	0.00014	3.72%
QC value within limits for Zn 206.200* Recovery = Not calculated						
Zn 213.857*†	-279.8	-0.0036 mg/L	0.00014	-0.0036 mg/L	0.00014	3.95%
QC value within limits for Zn 213.857* Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/15/2017 4:10:20 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	70924.8	90.00 %	0.181			0.20%
Tb 350	118044.3	91.93 %	0.503			0.55%
Ag 328.068*†	75650.2	0.3760 mg/L	0.00006	0.3760 mg/L	0.00006	0.02%
QC value within limits for Ag 328.068* Recovery = 100.27%						
Al 308.215*†	254914.0	14.06 mg/L	0.047	14.06 mg/L	0.047	0.34%
QC value within limits for Al 308.215* Recovery = 104.13%						
As 188.979†	8519.8	3.685 mg/L	0.0008	3.685 mg/L	0.0008	0.02%
QC value within limits for As 188.979 Recovery = 98.26%						
As 193.696*†	5911.3	3.679 mg/L	0.0033	3.679 mg/L	0.0033	0.09%
QC value within limits for As 193.696* Recovery = 98.10%						
B 249.677*†	200488.2	3.748 mg/L	0.0265	3.748 mg/L	0.0265	0.71%
QC value within limits for B 249.677* Recovery = 99.96%						
Ba 233.527*†	1247868.1	7.718 mg/L	0.0134	7.718 mg/L	0.0134	0.17%
QC value within limits for Ba 233.527* Recovery = 102.90%						
Be 313.042*†	2307582.8	0.5676 mg/L	0.00174	0.5676 mg/L	0.00174	0.31%
QC value within limits for Be 313.042* Recovery = 100.90%						
Ca 317.933*†	63423.5	28.45 mg/L	0.175	28.45 mg/L	0.175	0.61%
QC value within limits for Ca 317.933* Recovery = 94.83%						
Cd 226.502*†	63957.4	0.7603 mg/L	0.00229	0.7603 mg/L	0.00229	0.30%
QC value within limits for Cd 226.502* Recovery = 101.38%						
Cd 228.802†	31922.7	0.7548 mg/L	0.00339	0.7548 mg/L	0.00339	0.45%
Co 228.616*†	58185.9	1.922 mg/L	0.0007	1.922 mg/L	0.0007	0.04%
QC value within limits for Co 228.616* Recovery = 102.49%						
Cr 267.716*†	74116.3	0.6088 mg/L	0.00225	0.6088 mg/L	0.00225	0.37%
QC value within limits for Cr 267.716* Recovery = 101.47%						
Cu 324.752*†	253941.4	0.9521 mg/L	0.00247	0.9521 mg/L	0.00247	0.26%
QC value within limits for Cu 324.752* Recovery = 101.56%						
Fe 273.955*†	97877.7	3.901 mg/L	0.0022	3.901 mg/L	0.0022	0.06%
QC value within limits for Fe 273.955* Recovery = 104.04%						
K 766.490*†	86297.2	25.51 mg/L	0.061	25.51 mg/L	0.061	0.24%
QC value within limits for K 766.490* Recovery = 94.49%						
Mg 279.077*†	158211.4	7.715 mg/L	0.0001	7.715 mg/L	0.0001	0.00%
QC value within limits for Mg 279.077* Recovery = 102.87%						
Mn 257.610*†	530803.0	0.7677 mg/L	0.00098	0.7677 mg/L	0.00098	0.13%
QC value within limits for Mn 257.610* Recovery = 102.36%						
Mo 202.031*†	6097.3	0.6047 mg/L	0.00117	0.6047 mg/L	0.00117	0.19%
QC value within limits for Mo 202.031* Recovery = 100.78%						
Na 589.592*†	169225.7	34.40 mg/L	0.213	34.40 mg/L	0.213	0.62%
QC value within limits for Na 589.592* Recovery = 95.57%						
Ni 231.604*†	15905.8	0.6018 mg/L	0.00178	0.6018 mg/L	0.00178	0.30%
QC value within limits for Ni 231.604* Recovery = 100.30%						
P 213.617*†	12440.7	5.843 mg/L	0.0455	5.843 mg/L	0.0455	0.78%
QC value within limits for P 213.617* Recovery = 97.38%						
P 214.914†	8163.3	5.895 mg/L	0.0173	5.895 mg/L	0.0173	0.29%
Pb 220.353*†	33085.3	3.835 mg/L	0.0278	3.835 mg/L	0.0278	0.73%
QC value within limits for Pb 220.353* Recovery = 102.28%						
Sb 206.836†	9201.8	4.454 mg/L	0.0210	4.454 mg/L	0.0210	0.47%
QC value within limits for Sb 206.836 Recovery = 98.98%						
Sb 217.582*†	9181.5	4.454 mg/L	0.0195	4.454 mg/L	0.0195	0.44%
QC value within limits for Sb 217.582* Recovery = 98.99%						
Se 196.026*†	3611.5	1.476 mg/L	0.0027	1.476 mg/L	0.0027	0.18%
QC value within limits for Se 196.026* Recovery = 98.40%						
Si 251.611*†	250487.5	6.129 mg/L	0.0079	6.129 mg/L	0.0079	0.13%
QC value within limits for Si 251.611* Recovery = 102.15%						
Sn 189.927*†	19863.3	2.989 mg/L	0.0019	2.989 mg/L	0.0019	0.06%
QC value within limits for Sn 189.927* Recovery = 99.62%						
Sn 242.170†	5701.9	2.962 mg/L	0.0039	2.962 mg/L	0.0039	0.13%
Sr 407.771*†	104662.0	0.2896 mg/L	0.00276	0.2896 mg/L	0.00276	0.95%
QC value within limits for Sr 407.771* Recovery = 96.52%						

Ti 334.940†	548427.4	0.6187 mg/L	0.00087	0.6187 mg/L	0.00087	0.14%
Ti 336.121*†	388113.5	0.6207 mg/L	0.00032	0.6207 mg/L	0.00032	0.05%
QC value within limits for Ti 336.121* Recovery = 103.45%						
Tl 190.801*†	3048.1	1.526 mg/L	0.0107	1.526 mg/L	0.0107	0.70%
QC value within limits for Tl 190.801* Recovery = 101.75%						
V 292.402*†	277197.0	1.894 mg/L	0.0048	1.894 mg/L	0.0048	0.26%
QC value within limits for V 292.402* Recovery = 100.99%						
Zn 206.200*†	112610.9	2.537 mg/L	0.0111	2.537 mg/L	0.0111	0.44%
QC value within limits for Zn 206.200* Recovery = 101.46%						

All analyte(s) passed QC.

Sequence No.: 11
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/15/2017 4:11:13 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	77324.8	98.12 %	0.120			0.12%
Tb 350	125116.6	97.43 %	0.280			0.29%
Ag 328.068*†	43.9	0.0002 mg/L	0.00016	0.0002 mg/L	0.00016	74.38%
Al 308.215*†	60.0	0.0033 mg/L	0.00738	0.0033 mg/L	0.00738	223.02%
As 188.979†	-1.8	-0.0008 mg/L	0.00132	-0.0008 mg/L	0.00132	165.54%
As 193.696*†	0.9	0.0005 mg/L	0.00168	0.0005 mg/L	0.00168	308.98%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2099.6	0.0393 mg/L	0.00286	0.0393 mg/L	0.00286	7.28%
Ba 233.527*†	-7.0	-0.0000 mg/L	0.00025	-0.0000 mg/L	0.00025	585.10%
Be 313.042*†	8.1	0.0000 mg/L	0.00002	0.0000 mg/L	0.00002	>999.9%
Ca 317.933*†	128.3	0.0575 mg/L	0.00929	0.0575 mg/L	0.00929	16.14%
Cd 226.502*†	7.3	0.0001 mg/L	0.00003	0.0001 mg/L	0.00003	39.59%
Cd 228.802†	2.7	0.0001 mg/L	0.00000	0.0001 mg/L	0.00000	2.15%
Co 228.616*†	-9.0	-0.0003 mg/L	0.00030	-0.0003 mg/L	0.00030	101.46%
Cr 267.716*†	42.3	0.0003 mg/L	0.00099	0.0003 mg/L	0.00099	286.59%
Cu 324.752*†	-67.0	-0.0003 mg/L	0.00000	-0.0003 mg/L	0.00000	1.78%
Fe 273.955*†	-104.9	-0.0042 mg/L	0.00084	-0.0042 mg/L	0.00084	20.07%
K 766.490*†	352.3	0.1041 mg/L	0.10416	0.1041 mg/L	0.10416	100.02%
Mg 279.077*†	-149.6	-0.0073 mg/L	0.00511	-0.0073 mg/L	0.00511	70.07%
Mn 257.610*†	-37.6	-0.0001 mg/L	0.00003	-0.0001 mg/L	0.00003	48.72%
Mo 202.031*†	9.2	0.0009 mg/L	0.00077	0.0009 mg/L	0.00077	84.88%
Na 589.592*†	-113.9	-0.0232 mg/L	0.05351	-0.0232 mg/L	0.05351	231.14%
Ni 231.604*†	-11.9	-0.0005 mg/L	0.00004	-0.0005 mg/L	0.00004	9.37%
P 213.617*†	-11.1	-0.0052 mg/L	0.00545	-0.0052 mg/L	0.00545	104.34%
P 214.914†	6.2	0.0045 mg/L	0.01129	0.0045 mg/L	0.01129	252.14%
Pb 220.353*†	-3.1	-0.0004 mg/L	0.00167	-0.0004 mg/L	0.00167	463.66%
Sb 206.836†	6.9	0.0033 mg/L	0.00545	0.0033 mg/L	0.00545	163.46%
Sb 217.582*†	1.1	0.0005 mg/L	0.00675	0.0005 mg/L	0.00675	>999.9%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	5.1	0.0021 mg/L	0.00071	0.0021 mg/L	0.00071	34.12%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	500.4	0.0122 mg/L	0.00131	0.0122 mg/L	0.00131	10.67%
Sn 189.927*†	8.5	0.0013 mg/L	0.00070	0.0013 mg/L	0.00070	54.60%
Sn 242.170†	-11.2	-0.0058 mg/L	0.00065	-0.0058 mg/L	0.00065	11.11%
Sr 407.771*†	99.4	0.0003 mg/L	0.00005	0.0003 mg/L	0.00005	18.19%
Ti 334.940†	582.8	0.0007 mg/L	0.00060	0.0007 mg/L	0.00060	90.72%
Ti 336.121*†	213.9	0.0003 mg/L	0.00001	0.0003 mg/L	0.00001	4.29%
Tl 190.801*†	12.6	0.0063 mg/L	0.00019	0.0063 mg/L	0.00019	2.94%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	-4.9	-0.0000 mg/L	0.00105	-0.0000 mg/L	0.00105	>999.9%
Zn 206.200*†	-103.1	-0.0023 mg/L	0.00054	-0.0023 mg/L	0.00054	23.06%
QC value within limits for Zn 206.200* Recovery = Not calculated						

All analyte(s) passed QC.

EPA 6010B ICP Metals (Solid)

Sample Data

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 231 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:47
REVIEWED BY: 309
D/T REVIEWED: 2017-04-07 12:31

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0141-32 MIS.icp

32 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-8

LCS/MB BATCH: 170314L03 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170314S03 **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	0.0136	0.990	ND	0.743	
Arsenic	0.00846	0.990	ND	0.743	
Barium	1.82	0.990	90.2	0.495	
Beryllium	0.00397	0.990	ND	0.248	
Cadmium	0.00544	0.990	ND	0.495	
Chromium	0.150	0.990	7.40	0.248	
Cobalt	0.129	0.990	6.40	0.248	
Copper	0.201	0.990	9.93	0.495	
Lead	0.0540	0.990	2.68	0.495	
Molybdenum	0.00111	0.990	ND	0.248	
Nickel	0.114	0.990	5.66	0.248	
Selenium	0.00152	0.990	ND	0.743	
Silver	-0.00137	0.990	ND	0.248	
Thallium	-0.00968	0.990	ND	0.743	
Vanadium	0.409	0.990	20.2	0.248	
Zinc	0.815	0.990	40.4	0.990	B&

Return to Contents

Sequence No.: 34

Sample ID: 17-03-0141-32 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 2.02 g

Dilution:

Wash Time: 15

Autosampler Location: 151

Date Collected: 3/15/2017 11:47:27 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0141-32 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	55849.2	72.97 %	0.255			0.35%
Tb 350	110252.8	89.81 %	1.030			1.15%
Ag 328.068*†	-266.6	-0.0014 mg/L	0.00249	-0.0679 mg/kg	0.12313	181.46%
Al 308.215*†	2808016.1	159.7 mg/L	0.84	7905 mg/kg	41.63	0.53%
As 188.979†	67.1	0.0308 mg/L	0.00348	1.524 mg/kg	0.1723	11.31%
As 193.696*†	12.8	0.0085 mg/L	0.00133	0.4189 mg/kg	0.06600	15.76%
B 249.677*†	288.3	0.0055 mg/L	0.00090	0.2725 mg/kg	0.04449	16.33%
Ba 233.527*†	284594.4	1.823 mg/L	0.0030	90.24 mg/kg	0.148	0.16%
Be 313.042*†	15619.3	0.0040 mg/L	0.00001	0.1966 mg/kg	0.00070	0.36%
Ca 317.933*†	172187.9	82.84 mg/L	1.267	4101 mg/kg	62.70	1.53%
Cd 226.502*†	442.1	0.0054 mg/L	0.00004	0.2694 mg/kg	0.00213	0.79%
Cd 228.802†	-3.2	-0.0001 mg/L	0.00003	-0.0039 mg/kg	0.00124	32.08%
Co 228.616*†	3786.6	0.1293 mg/L	0.00085	6.400 mg/kg	0.0422	0.66%
Cr 267.716*†	17476.2	0.1495 mg/L	0.00216	7.403 mg/kg	0.1070	1.45%
Cu 324.752*†	51803.6	0.2007 mg/L	0.00127	9.934 mg/kg	0.0629	0.63%
Fe 273.955*†	5071211.5	208.8 mg/L	13.27	10330 mg/kg	656.92	6.36%
K 766.490*†	180065.5	57.23 mg/L	0.657	2833 mg/kg	32.53	1.15%
Mg 279.077*†	1693386.4	85.19 mg/L	0.243	4218 mg/kg	12.02	0.29%
Mn 257.610*†	2817837.2	4.211 mg/L	0.0062	208.5 mg/kg	0.31	0.15%
Mo 202.031*†	10.6	0.0011 mg/L	0.00001	0.0550 mg/kg	0.00064	1.16%
Na 589.592*†	18776.4	4.158 mg/L	0.0291	205.9 mg/kg	1.44	0.70%
Ni 231.604*†	2864.6	0.1143 mg/L	0.00242	5.661 mg/kg	0.1196	2.11%
P 213.617*†	33177.8	16.44 mg/L	0.009	813.7 mg/kg	0.46	0.06%
P 214.914†	21675.9	16.64 mg/L	0.172	823.8 mg/kg	8.52	1.03%
Pb 220.353*†	453.6	0.0540 mg/L	0.00108	2.675 mg/kg	0.0537	2.01%
Sb 206.836†	-9.1	-0.0046 mg/L	0.00113	-0.2294 mg/kg	0.05585	24.35%
Sb 217.582*†	26.4	0.0136 mg/L	0.00033	0.6721 mg/kg	0.01625	2.42%
Se 196.026*†	3.5	0.0015 mg/L	0.00746	0.0753 mg/kg	0.36954	490.58%
Si 251.611*†	542911.3	13.57 mg/L	0.016	671.8 mg/kg	0.77	0.11%
Sn 189.927*†	-447.3	-0.0708 mg/L	0.00197	-3.507 mg/kg	0.0974	2.78%
Sn 242.170†	1034.3	0.5714 mg/L	0.00036	28.29 mg/kg	0.018	0.06%
Sr 407.771*†	285004.2	0.8500 mg/L	0.00955	42.08 mg/kg	0.473	1.12%
Ti 334.940†	13155068.3	15.41 mg/L	0.917	763.0 mg/kg	45.41	5.95%
Ti 336.121*†	9446460.5	15.70 mg/L	0.928	777.1 mg/kg	45.96	5.91%
Tl 190.801*†	-18.5	-0.0097 mg/L	0.00062	-0.4794 mg/kg	0.03074	6.41%
V 292.402*†	57888.8	0.4090 mg/L	0.00052	20.25 mg/kg	0.026	0.13%
Zn 206.200*†	35261.4	0.8153 mg/L	0.00903	40.36 mg/kg	0.447	1.11%

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 233 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:30
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\17-03-0141-33 MIS.icp

33 **CLIENT SAMPLE NUMBER:** F-DU1-ISM2-8

LCS/MB BATCH: 170313L04	SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g	
MS/MSD BATCH: 170313S04	FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml / ACTUAL: 100.00 ml	
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00	

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	0.00175	0.980	ND	0.735	
Arsenic	0.0150	0.980	ND	0.735	
Barium	1.75	0.980	85.6	0.490	
Beryllium	0.00414	0.980	ND	0.245	
Cadmium	0.00541	0.980	ND	0.490	
Chromium	0.155	0.980	7.61	0.245	
Cobalt	0.133	0.980	6.51	0.245	
Copper	0.196	0.980	9.63	0.490	
Lead	0.0749	0.980	3.67	0.490	-
Molybdenum	0.00325	0.980	ND	0.245	
Nickel	0.118	0.980	5.78	0.245	
Selenium	-0.00225	0.980	ND	0.735	
Silver	-0.00235	0.980	ND	0.245	
Thallium	-0.0188	0.980	ND	0.735	
Vanadium	0.412	0.980	20.2	0.245	
Zinc	0.778	0.980	38.1	0.980	

Return to Contents

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 234 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 16:06
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0141-33 MIS.icp

33 **CLIENT SAMPLE NUMBER:** F-DU1-ISM2-8 **Rerun Analyses**

LCS/MB BATCH: 170313L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170313S04 **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	0.0000470	0.980	ND	0.735	-
Arsenic	0.0106	0.980	ND	0.735	-
Barium	1.74	0.980	85.1	0.490	-
Beryllium	0.00379	0.980	ND	0.245	-
Cadmium	0.00488	0.980	ND	0.490	-
Chromium	0.151	0.980	7.38	0.245	-
Cobalt	0.125	0.980	6.11	0.245	-
Copper	0.195	0.980	9.58	0.490	-
Lead	0.0465	0.980	2.28	0.490	-
Molybdenum	0.00259	0.980	ND	0.245	-
Nickel	0.113	0.980	5.56	0.245	-
Selenium	-0.00997	0.980	ND	0.735	-
Silver	-0.00279	0.980	ND	0.245	-
Thallium	-0.0142	0.980	ND	0.735	-
Vanadium	0.406	0.980	19.9	0.245	-
Zinc	0.739	0.980	36.2	0.980	-

Return to Contents

Pb < 10X(CCB)

Sequence No.: 40
 Sample ID: 17-03-0141-33 MIS
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.04 g
 Dilution:
 Wash Time: 15

Autosampler Location: 134
 Date Collected: 3/14/2017 12:30:04 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0141-33 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	58169.4	74.76 %	0.861			1.15%
Tb 350	112889.7	90.69 %	2.154			2.37%
Ag 328.068*†	-439.1	-0.0023 mg/L	0.00076	-0.1151 mg/kg	0.03727	32.39%
Al 308.215*†	2769463.8	160.6 mg/L	0.67	7874 mg/kg	32.71	0.42%
As 188.979†	69.2	0.0332 mg/L	0.00657	1.628 mg/kg	0.3220	19.78%
As 193.696*†	21.8	0.0150 mg/L	0.00281	0.7329 mg/kg	0.13789	18.81%
B 249.677*†	1372.2	0.0283 mg/L	0.00487	1.389 mg/kg	0.2388	17.19%
Ba 233.527*†	262322.3	1.747 mg/L	0.0104	85.65 mg/kg	0.511	0.60%
Be 313.042*†	15430.8	0.0041 mg/L	0.00005	0.2029 mg/kg	0.00242	1.19%
Ca 317.933*†	158448.8	80.32 mg/L	0.185	3937 mg/kg	9.07	0.23%
Cd 226.502*†	409.1	0.0054 mg/L	0.00009	0.2653 mg/kg	0.00438	1.65%
Cd 228.802†	-9.4	-0.0002 mg/L	0.00041	-0.0122 mg/kg	0.02018	165.84%
Co 228.616*†	3635.7	0.1329 mg/L	0.00189	6.514 mg/kg	0.0926	1.42%
Cr 267.716*†	17205.7	0.1552 mg/L	0.00221	7.606 mg/kg	0.1081	1.42%
Cu 324.752*†	48798.9	0.1965 mg/L	0.00022	9.632 mg/kg	0.0108	0.11%
Fe 273.955*†	4926723.9	213.5 mg/L	9.10	10460 mg/kg	445.95	4.26%
K 766.490*†	169681.3	55.56 mg/L	0.118	2724 mg/kg	5.79	0.21%
Mg 279.077*†	1618287.8	86.88 mg/L	0.568	4259 mg/kg	27.84	0.65%
Mn 257.610*†	2681062.8	4.185 mg/L	0.0220	205.2 mg/kg	1.08	0.53%
Mo 202.031*†	30.1	0.0032 mg/L	0.00121	0.1592 mg/kg	0.05921	37.20%
Na 589.592*†	20816.7	4.741 mg/L	0.0081	232.4 mg/kg	0.40	0.17%
Ni 231.604*†	2851.4	0.1179 mg/L	0.00176	5.779 mg/kg	0.0865	1.50%
P 213.617*†	28078.9	14.16 mg/L	0.119	694.2 mg/kg	5.81	0.84%
P 214.914†	18181.8	14.68 mg/L	0.155	719.8 mg/kg	7.60	1.06%
Pb 220.353*†	585.7	0.0749 mg/L	0.00210	3.670 mg/kg	0.1028	2.80%
Sb 206.836†	-13.7	-0.0073 mg/L	0.00123	-0.3571 mg/kg	0.06027	16.88%
Sb 217.582*†	3.3	0.0017 mg/L	0.00069	0.0858 mg/kg	0.03379	39.39%
Se 196.026*†	-4.9	-0.0022 mg/L	0.00479	-0.1103 mg/kg	0.23457	212.68%
Si 251.611*†	470285.6	12.39 mg/L	0.051	607.4 mg/kg	2.50	0.41%
Sn 189.927*†	-528.0	-0.0877 mg/L	0.00014	-4.301 mg/kg	0.0071	0.17%
Sn 242.170†	995.4	0.5713 mg/L	0.01930	28.01 mg/kg	0.946	3.38%
Sr 407.771*†	262339.8	0.8105 mg/L	0.00173	39.73 mg/kg	0.085	0.21%
Ti 334.940†	13161308.4	15.85 mg/L	0.639	776.9 mg/kg	31.33	4.03%
Ti 336.121*†	9392976.6	16.20 mg/L	0.651	794.3 mg/kg	31.89	4.02%
Tl 190.801*†	-34.3	-0.0188 mg/L	0.00138	-0.9235 mg/kg	0.06754	7.31%
V 292.402*†	55193.9	0.4118 mg/L	0.00247	20.18 mg/kg	0.121	0.60%
Zn 206.200*†	31440.6	0.7782 mg/L	0.00849	38.15 mg/kg	0.416	1.09%

for Pb

Sequence No.: 6
 Sample ID: 17-03-0141-33 MIS
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.04 g
 Dilution:
 Wash Time: 15

Autosampler Location: 236
 Date Collected: 3/15/2017 4:06:55 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0141-33 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	57614.4	73.11 %	2.356			3.22%
Tb 350	111573.1	86.89 %	3.063			3.52%
Ag 328.068*†	-560.5	-0.0028 mg/L	0.00083	-0.1366 mg/kg	0.04073	29.83%
Al 308.215*†	2931751.3	161.7 mg/L	5.44	7925 mg/kg	266.90	3.37%
As 188.979†	72.6	0.0314 mg/L	0.00206	1.539 mg/kg	0.1011	6.57%
As 193.696*†	17.0	0.0106 mg/L	0.00495	0.5177 mg/kg	0.24268	46.88%
B 249.677*†	114.2	0.0021 mg/L	0.00093	0.1047 mg/kg	0.04542	43.38%
Ba 233.527*†	280790.2	1.737 mg/L	0.0099	85.13 mg/kg	0.487	0.57%
Be 313.042*†	15425.8	0.0038 mg/L	0.00009	0.1860 mg/kg	0.00456	2.45%
Ca 317.933*†	162547.7	72.91 mg/L	3.862	3574 mg/kg	189.31	5.30%
Cd 226.502*†	410.1	0.0049 mg/L	0.00043	0.2390 mg/kg	0.02110	8.83%
Cd 228.802†	2.8	0.0001 mg/L	0.00009	0.0033 mg/kg	0.00437	132.46%
Co 228.616*†	3774.0	0.1246 mg/L	0.00312	6.110 mg/kg	0.1531	2.51%
Cr 267.716*†	18339.7	0.1506 mg/L	0.00327	7.385 mg/kg	0.1605	2.17%
Cu 324.752*†	52121.3	0.1954 mg/L	0.00041	9.580 mg/kg	0.0202	0.21%
Fe 273.955*†	5311441.6	211.7 mg/L	7.57	10380 mg/kg	371.08	3.58%
K 766.490*†	175465.4	51.87 mg/L	2.273	2543 mg/kg	111.43	4.38%
Mg 279.077*†	1749151.4	85.29 mg/L	1.169	4181 mg/kg	57.31	1.37%
Mn 257.610*†	2881458.5	4.168 mg/L	0.0377	204.3 mg/kg	1.85	0.90%
Mo 202.031*†	26.1	0.0026 mg/L	0.00096	0.1270 mg/kg	0.04693	36.97%
Na 589.592*†	20206.7	4.108 mg/L	0.2418	201.4 mg/kg	11.85	5.89%
Ni 231.604*†	2995.9	0.1133 mg/L	0.00207	5.556 mg/kg	0.1016	1.83%
P 213.617*†	30263.3	14.21 mg/L	0.239	696.7 mg/kg	11.72	1.68%
P 214.914†	19250.8	13.90 mg/L	0.276	681.4 mg/kg	13.52	1.98%
Pb 220.353*†	401.2	0.0465 mg/L	0.00032	2.280 mg/kg	0.0158	0.69%
Sb 206.836†	-11.2	-0.0054 mg/L	0.01196	-0.2660 mg/kg	0.58633	220.45%
Sb 217.582*†	0.1	0.0000 mg/L	0.00212	0.0023 mg/kg	0.10416	>999.9%
Se 196.026*†	-24.4	-0.0100 mg/L	0.01491	-0.4888 mg/kg	0.73082	149.53%
Si 251.611*†	496827.7	12.16 mg/L	0.137	595.9 mg/kg	6.73	1.13%
Sn 189.927*†	-580.4	-0.0873 mg/L	0.00081	-4.281 mg/kg	0.0396	0.93%
Sn 242.170†	1045.5	0.5432 mg/L	0.02093	26.63 mg/kg	1.026	3.85%
Sr 407.771*†	274138.6	0.7585 mg/L	0.03684	37.18 mg/kg	1.806	4.86%
Ti 334.940†	14130918.5	15.94 mg/L	0.527	781.4 mg/kg	25.86	3.31%
Ti 336.121*†	10100386.5	16.15 mg/L	0.546	791.8 mg/kg	26.77	3.38%
Tl 190.801*†	-28.4	-0.0142 mg/L	0.00492	-0.6968 mg/kg	0.24122	34.62%
V 292.402*†	59886.3	0.4056 mg/L	0.00107	19.88 mg/kg	0.053	0.26%
Zn 206.200*†	32825.9	0.7394 mg/L	0.01565	36.25 mg/kg	0.767	2.12%

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 237 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:30
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\17-03-0141-34 MIS.icp

34 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-8

LCS/MB BATCH: 170313L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170313S04 **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	0.00158	0.980	ND	0.735	
Arsenic	0.0292	0.980	1.43	0.735	
Barium	1.64	0.980	80.3	0.490	
Beryllium	0.00381	0.980	ND	0.245	
Cadmium	0.00507	0.980	ND	0.490	
Chromium	0.148	0.980	7.25	0.245	
Cobalt	0.129	0.980	6.33	0.245	
Copper	0.186	0.980	9.14	0.490	
Lead	0.0719	0.980	3.52	0.490	-
Molybdenum	0.00403	0.980	ND	0.245	
Nickel	0.112	0.980	5.47	0.245	
Selenium	0.00157	0.980	ND	0.735	
Silver	-0.00155	0.980	ND	0.245	
Thallium	-0.00922	0.980	ND	0.735	
Vanadium	0.396	0.980	19.4	0.245	
Zinc	0.755	0.980	37.0	0.980	

Return to Contents

**RAW DATA SHEET
FOR METHOD: EPA 6010B**

Page 238 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 16:07
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0141-34 MIS.icp

34

CLIENT SAMPLE NUMBER: F-DU1-ISM3-8

Rerun Analyses

<u>LCS/MB BATCH:</u>	170313L04	<u>SAMPLE VOLUME / WEIGHT:</u>	DEFAULT: 2.00 g / ACTUAL: 2.00 g
<u>MS/MSD BATCH:</u>	170313S04	<u>FINAL VOLUME / WEIGHT:</u>	DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
<u>UNITS:</u>	mg/kg	<u>ADJUSTMENT RATIO TO PF:</u>	1.00

COMMENT:

COMPOUND

	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Lead	0.0445	0.980	2.18	0.490	

Return to Contents

PK10X CEB

Sequence No.: 41
 Sample ID: 17-03-0141-34 MIS
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.04 g
 Dilution:
 Wash Time: 15

Autosampler Location: 135
 Date Collected: 3/14/2017 12:30:55 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0141-34 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	57186.3	73.50 %	0.450			0.61%
Tb 350	111091.6	89.24 %	0.474			0.53%
Ag 328.068*†	-290.4	-0.0016 mg/L	0.00007	-0.0761 mg/kg	0.00351	4.61%
Al 308.215*†	2644349.4	153.4 mg/L	0.03	7518 mg/kg	1.46	0.02%
As 188.979†	69.2	0.0332 mg/L	0.00289	1.627 mg/kg	0.1417	8.71%
As 193.696*†	42.5	0.0292 mg/L	0.01224	1.430 mg/kg	0.5998	41.94%
B 249.677*†	839.5	0.0173 mg/L	0.00530	0.8496 mg/kg	0.25988	30.59%
Ba 233.527*†	246088.8	1.639 mg/L	0.0013	80.35 mg/kg	0.063	0.08%
Be 313.042*†	14209.1	0.0038 mg/L	0.00003	0.1868 mg/kg	0.00130	0.70%
Ca 317.933*†	153655.3	77.89 mg/L	3.088	3818 mg/kg	151.35	3.96%
Cd 226.502*†	382.9	0.0051 mg/L	0.00001	0.2483 mg/kg	0.00041	0.17%
Cd 228.802†	-3.0	-0.0001 mg/L	0.00017	-0.0039 mg/kg	0.00813	207.38%
Co 228.616*†	3532.7	0.1291 mg/L	0.00059	6.329 mg/kg	0.0290	0.46%
Cr 267.716*†	16394.0	0.1479 mg/L	0.00080	7.248 mg/kg	0.0391	0.54%
Cu 324.752*†	46289.3	0.1864 mg/L	0.00078	9.136 mg/kg	0.0382	0.42%
Fe 273.955*†	4734088.9	205.1 mg/L	0.84	10050 mg/kg	40.97	0.41%
K 766.490*†	165121.9	54.07 mg/L	1.861	2651 mg/kg	91.24	3.44%
Mg 279.077*†	1519889.9	81.59 mg/L	0.264	4000 mg/kg	12.94	0.32%
Mn 257.610*†	2521273.0	3.936 mg/L	0.0035	192.9 mg/kg	0.17	0.09%
Mo 202.031*†	37.4	0.0040 mg/L	0.00122	0.1976 mg/kg	0.05963	30.17%
Na 589.592*†	20670.7	4.707 mg/L	0.1641	230.8 mg/kg	8.04	3.49%
Ni 231.604*†	2698.9	0.1116 mg/L	0.00079	5.470 mg/kg	0.0385	0.70%
P 213.617*†	25566.2	12.89 mg/L	0.250	632.0 mg/kg	12.25	1.94%
P 214.914†	16939.3	13.68 mg/L	0.061	670.7 mg/kg	2.97	0.44%
Pb 220.353*†	562.2	0.0719 mg/L	0.00073	3.522 mg/kg	0.0358	1.02%
Sb 206.836†	-20.5	-0.0109 mg/L	0.01171	-0.5359 mg/kg	0.57399	107.10%
Sb 217.582*†	3.0	0.0016 mg/L	0.00049	0.0774 mg/kg	0.02399	30.98%
Se 196.026*†	3.4	0.0016 mg/L	0.00165	0.0771 mg/kg	0.08111	105.24%
Si 251.611*†	439550.9	11.58 mg/L	0.017	567.7 mg/kg	0.83	0.15%
Sn 189.927*†	-510.9	-0.0849 mg/L	0.00130	-4.161 mg/kg	0.0635	1.53%
Sn 242.170†	969.5	0.5565 mg/L	0.02972	27.28 mg/kg	1.457	5.34%
Sr 407.771*†	268681.0	0.8300 mg/L	0.02687	40.69 mg/kg	1.317	3.24%
Ti 334.940†	12882888.8	15.51 mg/L	0.031	760.5 mg/kg	1.53	0.20%
Ti 336.121*†	9193179.2	15.86 mg/L	0.032	777.4 mg/kg	1.59	0.20%
Tl 190.801*†	-16.8	-0.0092 mg/L	0.00279	-0.4519 mg/kg	0.13667	30.24%
V 292.402*†	53051.2	0.3958 mg/L	0.00002	19.40 mg/kg	0.001	0.01%
Zn 206.200*†	30520.7	0.7554 mg/L	0.00422	37.03 mg/kg	0.207	0.56%

for Pb

Sequence No.: 7

Sample ID: 17-03-0141-34 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 2.04 g

Dilution:

Wash Time: 15

Autosampler Location: 237

Date Collected: 3/15/2017 4:07:47 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0141-34 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	56894.4	72.20 %	1.736			2.40%
Tb 350	110831.6	86.31 %	1.470			1.70%
Ag 328.068*†	-822.9	-0.0041 mg/L	0.00071	-0.2005 mg/kg	0.03477	17.34%
Al 308.215*†	2804062.6	154.6 mg/L	2.23	7580 mg/kg	109.10	1.44%
As 188.979†	75.6	0.0327 mg/L	0.00573	1.603 mg/kg	0.2807	17.52%
As 193.696*†	29.1	0.0181 mg/L	0.00532	0.8872 mg/kg	0.26085	29.40%
B 249.677*†	-12.3	-0.0002 mg/L	0.00525	-0.0113 mg/kg	0.25722	>999.9%
Ba 233.527*†	261441.4	1.617 mg/L	0.0184	79.26 mg/kg	0.900	1.14%
Be 313.042*†	14136.8	0.0035 mg/L	0.00002	0.1704 mg/kg	0.00116	0.68%
Ca 317.933*†	158384.0	71.05 mg/L	0.400	3483 mg/kg	19.62	0.56%
Cd 226.502*†	382.1	0.0045 mg/L	0.00002	0.2227 mg/kg	0.00094	0.42%
Cd 228.802†	-9.4	-0.0002 mg/L	0.00092	-0.0109 mg/kg	0.04516	414.26%
Co 228.616*†	3724.8	0.1230 mg/L	0.00396	6.030 mg/kg	0.1939	3.22%
Cr 267.716*†	17543.1	0.1441 mg/L	0.00500	7.064 mg/kg	0.2450	3.47%
Cu 324.752*†	50149.1	0.1880 mg/L	0.00267	9.217 mg/kg	0.1309	1.42%
Fe 273.955*†	5129800.2	204.5 mg/L	6.04	10020 mg/kg	296.04	2.95%
K 766.490*†	170969.4	50.54 mg/L	0.085	2478 mg/kg	4.15	0.17%
Mg 279.077*†	1630394.7	79.50 mg/L	1.027	3897 mg/kg	50.33	1.29%
Mn 257.610*†	2689791.6	3.890 mg/L	0.0458	190.7 mg/kg	2.24	1.18%
Mo 202.031*†	38.9	0.0039 mg/L	0.00016	0.1892 mg/kg	0.00786	4.15%
Na 589.592*†	19732.8	4.012 mg/L	0.0302	196.7 mg/kg	1.48	0.75%
Ni 231.604*†	2875.6	0.1088 mg/L	0.00400	5.333 mg/kg	0.1962	3.68%
P 213.617*†	27410.6	12.87 mg/L	0.017	631.0 mg/kg	0.81	0.13%
P 214.914†	18102.6	13.07 mg/L	0.386	640.8 mg/kg	18.90	2.95%
Pb 220.353*†	383.9	0.0445 mg/L	0.00254	2.182 mg/kg	0.1243	5.70%
Sb 206.836†	-9.9	-0.0048 mg/L	0.00319	-0.2341 mg/kg	0.15644	66.81%
Sb 217.582*†	-7.7	-0.0038 mg/L	0.01507	-0.1839 mg/kg	0.73866	401.69%
Se 196.026*†	-2.8	-0.0011 mg/L	0.00771	-0.0558 mg/kg	0.37786	676.72%
Si 251.611*†	454126.1	11.11 mg/L	0.116	544.7 mg/kg	5.66	1.04%
Sn 189.927*†	-518.5	-0.0780 mg/L	0.00259	-3.824 mg/kg	0.1268	3.32%
Sn 242.170†	1042.3	0.5415 mg/L	0.03128	26.54 mg/kg	1.533	5.78%
Sr 407.771*†	281271.1	0.7782 mg/L	0.00005	38.15 mg/kg	0.002	0.01%
Ti 334.940†	13874877.2	15.65 mg/L	0.477	767.3 mg/kg	23.41	3.05%
Ti 336.121*†	9913839.4	15.85 mg/L	0.467	777.2 mg/kg	22.88	2.94%
Tl 190.801*†	-29.5	-0.0148 mg/L	0.00076	-0.7239 mg/kg	0.03725	5.15%
V 292.402*†	57026.7	0.3862 mg/L	0.00418	18.93 mg/kg	0.205	1.08%
Zn 206.200*†	32092.8	0.7229 mg/L	0.02328	35.44 mg/kg	1.141	3.22%

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 241 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:31
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\17-03-0141-35 MIS.icp

35 **CLIENT SAMPLE NUMBER:** F-DU1-ISM4-8

LCS/MB BATCH: 170313L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170313S04 **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	-0.00334	0.976	ND	0.732	
Arsenic	0.0147	0.976	ND	0.732	
Barium	1.67	0.976	81.5	0.488	
Beryllium	0.00384	0.976	ND	0.244	
Cadmium	0.00504	0.976	ND	0.488	
Chromium	0.142	0.976	6.92	0.244	
Cobalt	0.127	0.976	6.20	0.244	
Copper	0.185	0.976	9.02	0.488	
Lead	0.0704	0.976	3.44	0.488	-
Molybdenum	0.00260	0.976	ND	0.244	
Nickel	0.110	0.976	5.35	0.244	
Selenium	-0.00122	0.976	ND	0.732	
Silver	-0.00167	0.976	ND	0.244	
Thallium	-0.00965	0.976	ND	0.732	
Vanadium	0.383	0.976	18.7	0.244	
Zinc	0.782	0.976	38.2	0.976	

Return to Contents

**RAW DATA SHEET
FOR METHOD: EPA 6010B**

Page 242 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 16:08
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0141-35 MIS.icp

35

CLIENT SAMPLE NUMBER: F-DU1-ISM4-8

Rerun Analyses

LCS/MB BATCH: 170313L04
MS/MSD BATCH: 170313S04
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Lead	0.0450	0.976	2.19	0.488	

Return to Contents

Pb < 100 (C.C.B.)

Sequence No.: 42

Sample ID: 17-03-0141-35 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 2.05 g

Dilution:

Wash Time: 15

Autosampler Location: 136

Date Collected: 3/14/2017 12:31:46 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0141-35 MIS

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	58021.9	74.57 %	0.042			0.06%
Tb 350	110656.9	88.90 %	0.079			0.09%
Ag 328.068*†	-312.8	-0.0017 mg/L	0.00166	-0.0816 mg/kg	0.08108	99.38%
Al 308.215*†	2641927.9	153.2 mg/L	0.42	7475 mg/kg	20.29	0.27%
As 188.979†	67.1	0.0322 mg/L	0.00163	1.571 mg/kg	0.0794	5.05%
As 193.696*†	21.4	0.0147 mg/L	0.00156	0.7158 mg/kg	0.07597	10.61%
B 249.677*†	733.1	0.0151 mg/L	0.00337	0.7383 mg/kg	0.16440	22.27%
Ba 233.527*†	250772.3	1.670 mg/L	0.0114	81.48 mg/kg	0.558	0.68%
Be 313.042*†	14333.0	0.0038 mg/L	0.00003	0.1875 mg/kg	0.00146	0.78%
Ca 317.933*†	151549.3	76.82 mg/L	3.313	3747 mg/kg	161.59	4.31%
Cd 226.502*†	381.1	0.0050 mg/L	0.00021	0.2460 mg/kg	0.01000	4.07%
Cd 228.802†	1.1	0.0000 mg/L	0.00010	0.0014 mg/kg	0.00464	329.61%
Co 228.616*†	3477.3	0.1271 mg/L	0.00044	6.200 mg/kg	0.0212	0.34%
Cr 267.716*†	15736.7	0.1419 mg/L	0.00009	6.923 mg/kg	0.0045	0.07%
Cu 324.752*†	45899.7	0.1848 mg/L	0.00172	9.015 mg/kg	0.0841	0.93%
Fe 273.955*†	4671757.3	202.4 mg/L	0.85	9874 mg/kg	41.57	0.42%
K 766.490*†	161239.2	52.80 mg/L	1.897	2576 mg/kg	92.55	3.59%
Mg 279.077*†	1488643.1	79.92 mg/L	0.724	3898 mg/kg	35.30	0.91%
Mn 257.610*†	2517463.1	3.930 mg/L	0.0240	191.7 mg/kg	1.17	0.61%
Mo 202.031*†	24.1	0.0026 mg/L	0.00042	0.1269 mg/kg	0.02057	16.21%
Na 589.592*†	20889.1	4.757 mg/L	0.1791	232.1 mg/kg	8.74	3.76%
Ni 231.604*†	2650.8	0.1096 mg/L	0.00066	5.347 mg/kg	0.0321	0.60%
P 213.617*†	25806.2	13.01 mg/L	0.213	634.9 mg/kg	10.37	1.63%
P 214.914†	17034.6	13.76 mg/L	0.012	671.1 mg/kg	0.60	0.09%
Pb 220.353*†	550.9	0.0704 mg/L	0.00068	3.435 mg/kg	0.0334	0.97%
Sb 206.836†	-21.3	-0.0113 mg/L	0.00036	-0.5535 mg/kg	0.01741	3.15%
Sb 217.582*†	-6.2	-0.0033 mg/L	0.00126	-0.1631 mg/kg	0.06124	37.54%
Se 196.026*†	-2.7	-0.0012 mg/L	0.00558	-0.0594 mg/kg	0.27232	458.17%
Si 251.611*†	500660.5	13.19 mg/L	0.093	643.5 mg/kg	4.53	0.70%
Sn 189.927*†	-498.0	-0.0827 mg/L	0.00402	-4.036 mg/kg	0.1960	4.85%
Sn 242.170†	910.4	0.5226 mg/L	0.02846	25.49 mg/kg	1.388	5.45%
Sr 407.771*†	265813.9	0.8212 mg/L	0.02983	40.06 mg/kg	1.455	3.63%
Ti 334.940†	12550439.4	15.11 mg/L	0.050	737.2 mg/kg	2.45	0.33%
Ti 336.121*†	8960448.1	15.46 mg/L	0.056	754.1 mg/kg	2.74	0.36%
Tl 190.801*†	-17.6	-0.0096 mg/L	0.00223	-0.4705 mg/kg	0.10869	23.10%
V 292.402*†	51393.1	0.3834 mg/L	0.00098	18.70 mg/kg	0.048	0.26%
Zn 206.200*†	31608.4	0.7823 mg/L	0.00075	38.16 mg/kg	0.037	0.10%

for Pb

Sequence No.: 8
 Sample ID: 17-03-0141-35 MIS
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.05 g
 Dilution:
 Wash Time: 15

Autosampler Location: 238
 Date Collected: 3/15/2017 4:08:38 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0141-35 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	57317.1	72.73 %	0.484			0.66%
Tb 350	110826.9	86.31 %	1.343			1.56%
Ag 328.068*†	-679.8	-0.0034 mg/L	0.00131	-0.1648 mg/kg	0.06413	38.91%
Al 308.215*†	2786200.5	153.6 mg/L	0.06	7495 mg/kg	3.01	0.04%
As 188.979†	73.6	0.0318 mg/L	0.00106	1.553 mg/kg	0.0517	3.33%
As 193.696*†	29.9	0.0186 mg/L	0.00058	0.9063 mg/kg	0.02841	3.14%
B 249.677*†	133.1	0.0025 mg/L	0.00312	0.1214 mg/kg	0.15239	125.51%
Ba 233.527*†	268921.5	1.663 mg/L	0.0048	81.13 mg/kg	0.233	0.29%
Be 313.042*†	14411.0	0.0035 mg/L	0.00001	0.1729 mg/kg	0.00028	0.16%
Ca 317.933*†	155487.9	69.75 mg/L	1.101	3402 mg/kg	53.71	1.58%
Cd 226.502*†	407.1	0.0048 mg/L	0.00020	0.2361 mg/kg	0.00993	4.21%
Cd 228.802†	-9.0	-0.0002 mg/L	0.00034	-0.0104 mg/kg	0.01642	158.42%
Co 228.616*†	3669.2	0.1212 mg/L	0.00132	5.911 mg/kg	0.0642	1.09%
Cr 267.716*†	16984.4	0.1395 mg/L	0.00213	6.806 mg/kg	0.1039	1.53%
Cu 324.752*†	48942.8	0.1835 mg/L	0.00219	8.952 mg/kg	0.1068	1.19%
Fe 273.955*†	4973298.1	198.2 mg/L	5.65	9670 mg/kg	275.59	2.85%
K 766.490*†	166632.3	49.26 mg/L	1.088	2403 mg/kg	53.08	2.21%
Mg 279.077*†	1604473.8	78.24 mg/L	0.153	3817 mg/kg	7.44	0.19%
Mn 257.610*†	2704799.5	3.912 mg/L	0.0037	190.8 mg/kg	0.18	0.10%
Mo 202.031*†	5.3	0.0005 mg/L	0.00036	0.0255 mg/kg	0.01765	69.09%
Na 589.592*†	20233.2	4.114 mg/L	0.1379	200.7 mg/kg	6.73	3.35%
Ni 231.604*†	2786.0	0.1054 mg/L	0.00247	5.142 mg/kg	0.1207	2.35%
P 213.617*†	27323.3	12.83 mg/L	0.179	626.0 mg/kg	8.75	1.40%
P 214.914†	18221.6	13.16 mg/L	0.171	641.8 mg/kg	8.34	1.30%
Pb 220.353*†	388.0	0.0450 mg/L	0.00109	2.194 mg/kg	0.0532	2.42%
Sb 206.836†	-6.4	-0.0031 mg/L	0.00385	-0.1500 mg/kg	0.18779	125.18%
Sb 217.582*†	13.0	0.0063 mg/L	0.00806	0.3065 mg/kg	0.39302	128.23%
Se 196.026*†	-24.9	-0.0102 mg/L	0.00537	-0.4961 mg/kg	0.26203	52.82%
Si 251.611*†	522649.2	12.79 mg/L	0.065	623.8 mg/kg	3.18	0.51%
Sn 189.927*†	-532.9	-0.0802 mg/L	0.00105	-3.911 mg/kg	0.0513	1.31%
Sn 242.170†	962.5	0.5000 mg/L	0.00423	24.39 mg/kg	0.206	0.85%
Sr 407.771*†	278714.1	0.7711 mg/L	0.01567	37.62 mg/kg	0.764	2.03%
Ti 334.940†	13294840.4	15.00 mg/L	0.424	731.6 mg/kg	20.70	2.83%
Ti 336.121*†	9501220.3	15.19 mg/L	0.415	741.2 mg/kg	20.26	2.73%
Tl 190.801*†	-24.9	-0.0125 mg/L	0.00230	-0.6084 mg/kg	0.11240	18.48%
V 292.402*†	55249.3	0.3742 mg/L	0.00130	18.25 mg/kg	0.063	0.35%
Zn 206.200*†	33469.0	0.7539 mg/L	0.01034	36.78 mg/kg	0.504	1.37%

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 245 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:32
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\17-03-0141-36 MIS.icp

36 **CLIENT SAMPLE NUMBER:** F-DU1-ISM5-8

LCS/MB BATCH: 170313L05 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170313S05 **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	-0.00168	0.971	ND	0.728	
Arsenic	0.0149	0.971	ND	0.728	
Barium	1.59	0.971	77.3	0.485	
Beryllium	0.00363	0.971	ND	0.243	
Cadmium	0.00483	0.971	ND	0.485	
Chromium	0.134	0.971	6.52	0.243	
Cobalt	0.119	0.971	5.80	0.243	
Copper	0.172	0.971	8.33	0.485	
Lead	0.0700	0.971	3.40	0.485	-
Molybdenum	0.00145	0.971	ND	0.243	
Nickel	0.104	0.971	5.03	0.243	
Selenium	-0.00931	0.971	ND	0.728	
Silver	-0.00100	0.971	ND	0.243	
Thallium	-0.0149	0.971	ND	0.728	
Vanadium	0.355	0.971	17.2	0.243	
Zinc	0.754	0.971	36.6	0.971	

Return to Contents

**RAW DATA SHEET
FOR METHOD: EPA 6010B**

Page 246 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 16:09
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0141-36 MIS.icp

36 **CLIENT SAMPLE NUMBER:** F-DU1-ISM5-8 **Rerun Analyses**

LCS/MB BATCH: 170313L05	SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170313S05	FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Lead	0.0423	0.971	2.05	0.485	

Return to Contents

Pb < 10X (UB)

Sequence No.: 43
 Sample ID: 17-03-0141-36 MIS
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.06 g
 Dilution:
 Wash Time: 15

Autosampler Location: 137
 Date Collected: 3/14/2017 12:32:37 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0141-36 MIS

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	58120.1	74.70 %	0.837			1.12%
Tb 350	111329.7	89.44 %	1.250			1.40%
Ag 328.068*†	-187.5	-0.0010 mg/L	0.00085	-0.0487 mg/kg	0.04129	84.87%
Al 308.215*†	2417984.9	140.2 mg/L	0.61	6808 mg/kg	29.38	0.43%
As 188.979†	67.9	0.0326 mg/L	0.00445	1.583 mg/kg	0.2158	13.64%
As 193.696*†	21.7	0.0149 mg/L	0.00404	0.7239 mg/kg	0.19606	27.08%
B 249.677*†	266.5	0.0055 mg/L	0.00286	0.2670 mg/kg	0.13895	52.04%
Ba 233.527*†	239038.6	1.592 mg/L	0.0064	77.29 mg/kg	0.313	0.40%
Be 313.042*†	13528.1	0.0036 mg/L	0.00005	0.1761 mg/kg	0.00236	1.34%
Ca 317.933*†	140403.4	71.17 mg/L	0.869	3455 mg/kg	42.19	1.22%
Cd 226.502*†	365.0	0.0048 mg/L	0.00025	0.2344 mg/kg	0.01204	5.14%
Cd 228.802†	-12.2	-0.0003 mg/L	0.00018	-0.0156 mg/kg	0.00884	56.60%
Co 228.616*†	3266.3	0.1194 mg/L	0.00337	5.795 mg/kg	0.1635	2.82%
Cr 267.716*†	14898.9	0.1344 mg/L	0.00304	6.523 mg/kg	0.1478	2.27%
Cu 324.752*†	42620.6	0.1716 mg/L	0.00085	8.331 mg/kg	0.0414	0.50%
Fe 273.955*†	4307628.7	186.6 mg/L	0.12	9060 mg/kg	5.63	0.06%
K 766.490*†	150859.2	49.40 mg/L	0.247	2398 mg/kg	12.01	0.50%
Mg 279.077*†	1422739.0	76.38 mg/L	0.863	3708 mg/kg	41.91	1.13%
Mn 257.610*†	2383485.8	3.721 mg/L	0.0280	180.6 mg/kg	1.36	0.75%
Mo 202.031*†	13.5	0.0015 mg/L	0.00036	0.0706 mg/kg	0.01767	25.02%
Na 589.592*†	19043.2	4.337 mg/L	0.0280	210.5 mg/kg	1.36	0.65%
Ni 231.604*†	2506.5	0.1036 mg/L	0.00137	5.031 mg/kg	0.0664	1.32%
P 213.617*†	25233.6	12.73 mg/L	0.193	617.8 mg/kg	9.37	1.52%
P 214.914†	16993.6	13.73 mg/L	0.339	666.3 mg/kg	16.47	2.47%
Pb 220.353*†	547.6	0.0700 mg/L	0.00047	3.398 mg/kg	0.0231	0.68%
Sb 206.836†	-6.0	-0.0032 mg/L	0.00109	-0.1558 mg/kg	0.05292	33.97%
Sb 217.582*†	-3.1	-0.0017 mg/L	0.00311	-0.0815 mg/kg	0.15096	185.21%
Se 196.026*†	-20.4	-0.0093 mg/L	0.00323	-0.4517 mg/kg	0.15691	34.74%
Si 251.611*†	544712.2	14.35 mg/L	0.060	696.7 mg/kg	2.91	0.42%
Sn 189.927*†	-468.6	-0.0779 mg/L	0.00081	-3.780 mg/kg	0.0394	1.04%
Sn 242.170†	854.1	0.4902 mg/L	0.02686	23.80 mg/kg	1.304	5.48%
Sr 407.771*†	242579.7	0.7494 mg/L	0.00384	36.38 mg/kg	0.186	0.51%
Ti 334.940†	11464728.1	13.81 mg/L	0.001	670.2 mg/kg	0.04	0.01%
Ti 336.121*†	8183241.9	14.12 mg/L	0.020	685.3 mg/kg	0.99	0.14%
Tl 190.801*†	-27.2	-0.0149 mg/L	0.00159	-0.7245 mg/kg	0.07721	10.66%
V 292.402*†	47613.7	0.3552 mg/L	0.00144	17.24 mg/kg	0.070	0.41%
Zn 206.200*†	30448.4	0.7536 mg/L	0.01623	36.58 mg/kg	0.788	2.15%

Sequence No.: 9
Sample ID: 17-03-0141-36 MIS
Analyst: 935 icp 7300
Initial Sample Wt: 2.06 g
Dilution:
Wash Time: 15

Autosampler Location: 239
Date Collected: 3/15/2017 4:09:29 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0141-36 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	56929.0	72.24 %	0.385			0.53%
Tb 350	109395.7	85.19 %	0.088			0.10%
Ag 328.068*†	-845.9	-0.0042 mg/L	0.00067	-0.2041 mg/kg	0.03255	15.95%
Al 308.215*†	2578973.3	142.2 mg/L	0.90	6904 mg/kg	43.45	0.63%
As 188.979†	67.8	0.0293 mg/L	0.00108	1.424 mg/kg	0.0526	3.69%
As 193.696*†	6.0	0.0037 mg/L	0.01194	0.1820 mg/kg	0.57954	318.41%
B 249.677*†	-238.0	-0.0044 mg/L	0.00403	-0.2160 mg/kg	0.19540	90.47%
Ba 233.527*†	255900.9	1.583 mg/L	0.0037	76.83 mg/kg	0.181	0.24%
Be 313.042*†	13536.8	0.0033 mg/L	0.00001	0.1616 mg/kg	0.00044	0.27%
Ca 317.933*†	149534.7	67.08 mg/L	1.321	3256 mg/kg	64.15	1.97%
Cd 226.502*†	382.4	0.0045 mg/L	0.00008	0.2207 mg/kg	0.00389	1.76%
Cd 228.802†	-20.6	-0.0005 mg/L	0.00024	-0.0236 mg/kg	0.01184	50.16%
Co 228.616*†	3474.8	0.1148 mg/L	0.00005	5.571 mg/kg	0.0023	0.04%
Cr 267.716*†	16197.7	0.1331 mg/L	0.00149	6.459 mg/kg	0.0723	1.12%
Cu 324.752*†	45759.2	0.1716 mg/L	0.00125	8.329 mg/kg	0.0607	0.73%
Fe 273.955*†	4649073.5	185.3 mg/L	4.21	8996 mg/kg	204.17	2.27%
K 766.490*†	159998.0	47.30 mg/L	0.808	2296 mg/kg	39.20	1.71%
Mg 279.077*†	1532920.0	74.75 mg/L	0.202	3629 mg/kg	9.83	0.27%
Mn 257.610*†	2561238.3	3.704 mg/L	0.0114	179.8 mg/kg	0.56	0.31%
Mo 202.031*†	20.0	0.0020 mg/L	0.00031	0.0961 mg/kg	0.01503	15.64%
Na 589.592*†	18548.5	3.771 mg/L	0.0841	183.1 mg/kg	4.08	2.23%
Ni 231.604*†	2679.2	0.1014 mg/L	0.00017	4.921 mg/kg	0.0082	0.17%
P 213.617*†	27163.8	12.76 mg/L	0.016	619.3 mg/kg	0.77	0.12%
P 214.914†	18370.3	13.27 mg/L	0.028	643.9 mg/kg	1.36	0.21%
Pb 220.353*†	364.7	0.0423 mg/L	0.00092	2.053 mg/kg	0.0446	2.17%
Sb 206.836†	-8.7	-0.0042 mg/L	0.00014	-0.2056 mg/kg	0.00694	3.38%
Sb 217.582*†	15.3	0.0074 mg/L	0.00776	0.3597 mg/kg	0.37690	104.77%
Se 196.026*†	-27.7	-0.0113 mg/L	0.00645	-0.5494 mg/kg	0.31324	57.01%
Si 251.611*†	572502.2	14.01 mg/L	0.015	680.0 mg/kg	0.71	0.10%
Sn 189.927*†	-512.7	-0.0771 mg/L	0.00087	-3.745 mg/kg	0.0420	1.12%
Sn 242.170†	947.2	0.4921 mg/L	0.01973	23.89 mg/kg	0.958	4.01%
Sr 407.771*†	260447.2	0.7206 mg/L	0.01194	34.98 mg/kg	0.580	1.66%
Ti 334.940†	12340873.4	13.92 mg/L	0.295	675.8 mg/kg	14.31	2.12%
Ti 336.121*†	8805270.6	14.08 mg/L	0.306	683.6 mg/kg	14.85	2.17%
Tl 190.801*†	-17.9	-0.0090 mg/L	0.00619	-0.4363 mg/kg	0.30040	68.86%
V 292.402*†	51201.6	0.3467 mg/L	0.00117	16.83 mg/kg	0.057	0.34%
Zn 206.200*†	32694.2	0.7364 mg/L	0.00240	35.75 mg/kg	0.116	0.33%

EPA 6010B ICP Metals (Solid)

Quality Control

Method Blank
LCS/LCSD
MS/MSD

METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: EPA 6010B

Page 250 of 524

MB SAMPLE ID: 097-01-002-24435
MB BATCH ID: 170313L04
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:01
REVIEWED BY: 309
D/T REVIEWED: 2017-03-15 17:58
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170314C 1\170313-b-04__17.icp

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
33		F-DU1-ISM2-8	2017-03-14 12:30	W:\ICP-DATA\170314C 1\17-03-0141-33 MIS.icp
33	R	F-DU1-ISM2-8	2017-03-15 16:06	W:\ICP-DATA\170315C 1\17-03-0141-33 MIS.icp
34		F-DU1-ISM3-8	2017-03-14 12:30	W:\ICP-DATA\170314C 1\17-03-0141-34 MIS.icp
34	R	F-DU1-ISM3-8	2017-03-15 16:07	W:\ICP-DATA\170315C 1\17-03-0141-34 MIS.icp
35		F-DU1-ISM4-8	2017-03-14 12:31	W:\ICP-DATA\170314C 1\17-03-0141-35 MIS.icp
35	R	F-DU1-ISM4-8	2017-03-15 16:08	W:\ICP-DATA\170315C 1\17-03-0141-35 MIS.icp


Return to Contents

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 251 of 524

WORK ORDER: 097-01-002
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:01
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\170313-b-04__17.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170313L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	-0.00477	0.966	ND	0.725	
Arsenic	-0.00412	0.966	ND	0.725	
Barium	-0.0000348	0.966	ND	0.483	
Beryllium	-0.0000605	0.966	ND	0.242	
Cadmium	-0.000122	0.966	ND	0.483	
Chromium	-0.0000133	0.966	ND	0.242	
Cobalt	0.0000137	0.966	ND	0.242	
Copper	0.00316	0.966	ND	0.483	
Lead	-0.00172	0.966	ND	0.483	
Molybdenum	0.00106	0.966	ND	0.242	
Nickel	0.000740	0.966	ND	0.242	
Selenium	0.00782	0.966	ND	0.725	
Silver	-0.000179	0.966	ND	0.242	
Thallium	-0.00332	0.966	ND	0.725	
Vanadium	-0.00103	0.966	ND	0.242	
Zinc	-0.0157	0.966	ND	0.966	

Return to Contents

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24435
LCSMB BATCH ID: 170313L04
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:02
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\170313-L-04_18.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	21.51	86	80-120	73-127	PASS	
Arsenic	25.00	22.64	91	80-120	73-127	PASS	
Barium	25.00	25.70	103	80-120	73-127	PASS	
Beryllium	25.00	23.22	93	80-120	73-127	PASS	
Cadmium	25.00	24.52	98	80-120	73-127	PASS	
Chromium	25.00	25.16	101	80-120	73-127	PASS	
Cobalt	25.00	25.62	102	80-120	73-127	PASS	
Copper	25.00	25.09	100	80-120	73-127	PASS	
Lead	25.00	25.41	102	80-120	73-127	PASS	
Molybdenum	25.00	23.99	96	80-120	73-127	PASS	
Nickel	25.00	24.92	100	80-120	73-127	PASS	
Phosphorus	25.00	23.66	95	80-120	73-127	PASS	
Selenium	25.00	22.97	92	80-120	73-127	PASS	
Silver	12.50	11.91	95	80-120	73-127	PASS	
Thallium	25.00	24.88	100	80-120	73-127	PASS	
Vanadium	25.00	23.98	96	80-120	73-127	PASS	
Zinc	25.00	24.36	97	80-120	73-127	PASS	
Aluminum	25.00	25.34	101	80-120	73-127	PASS	
Calcium	25.00	24.68	99	80-120	73-127	PASS	
Iron	25.00	24.90	100	80-120	73-127	PASS	
Magnesium	25.00	23.57	94	80-120	73-127	PASS	
Manganese	25.00	24.40	98	80-120	73-127	PASS	
Potassium	250.0	231.4	93	80-120	73-127	PASS	
Sodium	250.0	241.1	96	80-120	73-127	PASS	
Strontium	25.00	24.96	100	80-120	73-127	PASS	
Tin	25.00	24.70	99	80-120	73-127	PASS	
Titanium	25.00	24.24	97	80-120	73-127	PASS	
Boron	25.00	22.77	91	80-120	73-127	PASS	
Silicon	25.00	25.35	101	80-120	73-127	PASS	

LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: **097-01-002-24435**
LCS/MB BATCH ID: 170313L04
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:02
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\170313-1+04__18.icp

<u>COMPOUND</u>	<u>CONC</u>	<u>CONC REC</u>	<u>%REC</u>	<u>%REC CL</u>	<u>ME CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>

Total number of LCS compounds: 29
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET

FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-0822-1
MS/MSD BATCH: 170313S04
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:

SAMPLE: 2017-03-13 00:00
MS: 2017-03-13 00:00
MSD: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-14 12:20
MS: 2017-03-14 12:21
MSD: 2017-03-14 12:22
REVIEWED BY:
D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Antimony	ND	0.5000	25.00	30.97	124	31.44	126	50-115	1	0-20	FAIL	3F
Arsenic	ND	0.5000	25.00	32.86	131	33.03	132	75-125	1	0-20	FAIL	3F
Barium	1.333	0.5000	25.00	30.89	118	30.21	115	75-125	2	0-20	PASS	
Beryllium	ND	0.5000	25.00	29.17	117	29.17	117	75-125	0	0-20	PASS	
Cadmium	ND	0.5000	25.00	31.68	127	32.00	128	75-125	1	0-20	FAIL	3F
Chromium	4.679	0.5000	25.00	34.05	117	34.11	118	75-125	0	0-20	PASS	
Cobalt	ND	0.5000	25.00	28.46	114	28.92	116	75-125	2	0-20	PASS	
Copper	4.090	0.5000	25.00	36.91	131	34.00	120	75-125	8	0-20	FAIL	3F
Lead	5.780	0.5000	25.00	39.27	134	35.51	119	75-125	10	0-20	FAIL	3F
Molybdenum	0.2789	0.5000	25.00	28.72	114	29.06	115	75-125	1	0-20	PASS	
Nickel	2.027	0.5000	25.00	31.52	118	31.15	116	75-125	1	0-20	PASS	
Phosphorus	105.4	0.5000	25.00	142.0	4x	142.2	4x	75-125	4x	0-20	PASS	Q
Selenium	0.8555	0.5000	25.00	34.50	135	33.67	131	75-125	2	0-20	FAIL	3F
Silver	ND	0.2500	12.50	16.09	129	16.48	132	75-125	2	0-20	FAIL	3F
Thallium	ND	0.5000	25.00	25.93	104	26.10	104	75-125	1	0-20	PASS	
Vanadium	ND	0.5000	25.00	29.16	117	29.22	117	75-125	0	0-20	PASS	
Zinc	62.95	0.5000	25.00	109.7	187	97.79	139	75-125	11	0-20	FAIL	3F
Aluminum	20.60	0.5000	25.00	52.07	126	46.40	103	75-125	12	0-20	FAIL	3F
Calcium	89.84	0.5000	25.00	138.9	196	143.7	216	75-125	3	0-20	FAIL	3F
Iron	530.6	0.5000	25.00	759.4	4x	488.6	4x	75-125	4x	0-20	PASS	Q
Magnesium	ND	0.5000	25.00	34.64	139	32.06	128	75-125	8	0-20	FAIL	3F
Manganese	5.151	0.5000	25.00	34.81	119	32.25	108	75-125	8	0-20	PASS	
Potassium	2835	5.000	250.0	3152	4x	3477	4x	75-125	4x	0-20	PASS	Q
Sodium	260100	5.000	250.0	292000	4x	291800	4x	75-125	4x	0-20	PASS	Q
Strontium	ND	0.5000	25.00	32.70	131	34.16	137	75-125	4	0-20	FAIL	3F
Tin	ND	0.5000	25.00	29.41	118	29.42	118	75-125	0	0-20	PASS	
Titanium	ND	0.5000	25.00	29.48	118	29.06	116	75-125	1	0-20	PASS	
Boron	10.07	0.5000	25.00	36.38	105	35.67	102	75-125	2	0-20	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-0822-1
MS/MSD BATCH: 170313S04
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-13 00:00
MS: 2017-03-13 00:00
MSD: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-14 12:20
MS: 2017-03-14 12:21
MSD: 2017-03-14 12:22
REVIEWED BY:
D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Silicon	31.42	0.5000	25.00	80.25	195	77.80	185	75-125	3	0-20	FAIL	3F

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-0822-1 ms.icp	W:\ICP-DATA\170314C 1\
MSD	17-03-0822-1 msd.icp	W:\ICP-DATA\170314C 1\

Sequence No.: 5
 Sample ID: 170313-b-04
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.07 g
 Dilution:
 Wash Time: 15

Autosampler Location: 107
 Date Collected: 3/14/2017 12:01:03 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 170313-b-04

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	79849.2	102.6 %	1.27			1.24%
Tb 350	128616.0	103.3 %	0.81			0.79%
Ag 328.068*†	-33.4	-0.0002 mg/L	0.00038	-0.0086 mg/kg	0.01849	214.00%
Al 308.215*†	-482.1	-0.0280 mg/L	0.00386	-1.351 mg/kg	0.1865	13.81%
As 188.979†	8.7	0.0042 mg/L	0.00109	0.2026 mg/kg	0.05282	26.07%
As 193.696*†	-6.0	-0.0041 mg/L	0.00069	-0.1989 mg/kg	0.03316	16.67%
B 249.677*†	294.8	0.0061 mg/L	0.00083	0.2940 mg/kg	0.04008	13.63%
Ba 233.527*†	-5.2	-0.0000 mg/L	0.00018	-0.0017 mg/kg	0.00871	518.23%
Be 313.042*†	-225.5	-0.0001 mg/L	0.00000	-0.0029 mg/kg	0.00007	2.39%
Ca 317.933*†	-49.1	-0.0249 mg/L	0.00045	-1.203 mg/kg	0.0220	1.83%
Cd 226.502*†	-9.2	-0.0001 mg/L	0.00012	-0.0059 mg/kg	0.00581	98.78%
Cd 228.802†	5.2	0.0001 mg/L	0.00008	0.0067 mg/kg	0.00404	60.70%
Co 228.616*†	0.4	0.0000 mg/L	0.00017	0.0007 mg/kg	0.00822	>999.9%
Cr 267.716*†	-1.5	-0.0000 mg/L	0.00053	-0.0006 mg/kg	0.02575	>999.9%
Cu 324.752*†	783.7	0.0032 mg/L	0.00023	0.1524 mg/kg	0.01134	7.44%
Fe 273.955*†	-8.8	-0.0004 mg/L	0.00070	-0.0184 mg/kg	0.03379	183.22%
K 766.490*†	-39.6	-0.0130 mg/L	0.02754	-0.6266 mg/kg	1.33050	212.32%
Mg 279.077*†	-251.4	-0.0135 mg/L	0.00313	-0.6520 mg/kg	0.15112	23.18%
Mn 257.610*†	221.4	0.0003 mg/L	0.00003	0.0167 mg/kg	0.00145	8.71%
Mo 202.031*†	9.8	0.0011 mg/L	0.00086	0.0512 mg/kg	0.04148	80.95%
Na 589.592*†	-200.7	-0.0457 mg/L	0.00631	-2.208 mg/kg	0.3047	13.80%
Ni 231.604*†	17.9	0.0007 mg/L	0.00124	0.0358 mg/kg	0.05967	166.82%
P 213.617*†	18.7	0.0094 mg/L	0.00750	0.4556 mg/kg	0.36233	79.52%
P 214.914†	-15.7	-0.0127 mg/L	0.00135	-0.6113 mg/kg	0.06516	10.66%
Pb 220.353*†	-13.5	-0.0017 mg/L	0.00057	-0.0832 mg/kg	0.02757	33.14%
Sb 206.836†	-8.7	-0.0046 mg/L	0.00307	-0.2230 mg/kg	0.14810	66.42%
Sb 217.582*†	-8.9	-0.0048 mg/L	0.00395	-0.2305 mg/kg	0.19066	82.73%
Se 196.026*†	17.1	0.0078 mg/L	0.00554	0.3778 mg/kg	0.26777	70.87%
Si 251.611*†	440.2	0.0116 mg/L	0.00048	0.5604 mg/kg	0.02295	4.10%
Sn 189.927*†	4.0	0.0007 mg/L	0.00287	0.0321 mg/kg	0.13841	431.64%
Sn 242.170†	-10.6	-0.0061 mg/L	0.00015	-0.2926 mg/kg	0.00722	2.47%
Sr 407.771*†	-149.5	-0.0005 mg/L	0.00002	-0.0223 mg/kg	0.00112	5.01%
Ti 334.940†	-127.7	-0.0002 mg/L	0.00010	-0.0074 mg/kg	0.00463	62.28%
Ti 336.121*†	-49.5	-0.0001 mg/L	0.00033	-0.0041 mg/kg	0.01617	391.54%
Tl 190.801*†	-6.0	-0.0033 mg/L	0.00097	-0.1603 mg/kg	0.04706	29.35%
V 292.402*†	-136.9	-0.0010 mg/L	0.00001	-0.0498 mg/kg	0.00063	1.27%
Zn 206.200*†	-634.2	-0.0157 mg/L	0.00002	-0.7583 mg/kg	0.00102	0.13%

Sequence No.: 6

Sample ID: 170313-1-04

Analyst: 935 icp 7300

Initial Sample Wt: 2.06 g

Dilution:

Wash Time: 15

Autosampler Location: 108

Date Collected: 3/14/2017 12:02:02 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 170313-1-04

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	74993.8	96.38 %	1.232			1.28%
Tb 350	123197.5	98.97 %	0.717			0.72%
Ag 328.068*†	45884.9	0.2453 mg/L	0.00292	11.91 mg/kg	0.142	1.19%
Al 308.215*†	9000.0	0.5220 mg/L	0.00520	25.34 mg/kg	0.252	1.00%
As 188.979†	991.5	0.4760 mg/L	0.00754	23.11 mg/kg	0.366	1.58%
As 193.696*†	678.9	0.4664 mg/L	0.00732	22.64 mg/kg	0.355	1.57%
B 249.677*†	22721.6	0.4691 mg/L	0.00105	22.77 mg/kg	0.051	0.22%
Ba 233.527*†	79476.9	0.5294 mg/L	0.00213	25.70 mg/kg	0.103	0.40%
Be 313.042*†	1783491.1	0.4783 mg/L	0.00184	23.22 mg/kg	0.089	0.38%
Ca 317.933*†	1003.1	0.5085 mg/L	0.01832	24.68 mg/kg	0.889	3.60%
Cd 226.502*†	38175.4	0.5051 mg/L	0.00743	24.52 mg/kg	0.361	1.47%
Cd 228.802†	18905.1	0.4983 mg/L	0.00239	24.19 mg/kg	0.116	0.48%
Co 228.616*†	14438.3	0.5277 mg/L	0.00203	25.62 mg/kg	0.098	0.38%
Cr 267.716*†	57465.4	0.5183 mg/L	0.00453	25.16 mg/kg	0.220	0.87%
Cu 324.752*†	128368.9	0.5169 mg/L	0.00498	25.09 mg/kg	0.242	0.96%
Fe 273.955*†	11837.8	0.5129 mg/L	0.00465	24.90 mg/kg	0.226	0.91%
K 766.490*†	14554.9	4.766 mg/L	0.0416	231.4 mg/kg	2.02	0.87%
Mg 279.077*†	9044.8	0.4856 mg/L	0.00649	23.57 mg/kg	0.315	1.34%
Mn 257.610*†	322059.5	0.5027 mg/L	0.00349	24.40 mg/kg	0.169	0.69%
Mo 202.031*†	4583.3	0.4942 mg/L	0.00515	23.99 mg/kg	0.250	1.04%
Na 589.592*†	21811.6	4.967 mg/L	0.0740	241.1 mg/kg	3.59	1.49%
Ni 231.604*†	12415.7	0.5134 mg/L	0.00617	24.92 mg/kg	0.300	1.20%
P 213.617*†	966.5	0.4874 mg/L	0.00688	23.66 mg/kg	0.334	1.41%
P 214.914†	556.7	0.4496 mg/L	0.00000	21.83 mg/kg	0.000	0.00%
Pb 220.353*†	4096.0	0.5235 mg/L	0.00863	25.41 mg/kg	0.419	1.65%
Sb 206.836†	822.0	0.4379 mg/L	0.00869	21.26 mg/kg	0.422	1.98%
Sb 217.582*†	827.9	0.4432 mg/L	0.00100	21.51 mg/kg	0.049	0.23%
Se 196.026*†	1037.0	0.4732 mg/L	0.00936	22.97 mg/kg	0.454	1.98%
Si 251.611*†	19815.9	0.5221 mg/L	0.00231	25.35 mg/kg	0.112	0.44%
Sn 189.927*†	3062.3	0.5089 mg/L	0.00687	24.70 mg/kg	0.334	1.35%
Sn 242.170†	876.1	0.5029 mg/L	0.00749	24.41 mg/kg	0.364	1.49%
Sr 407.771*†	166406.2	0.5141 mg/L	0.00836	24.96 mg/kg	0.406	1.63%
Ti 334.940†	412136.8	0.4963 mg/L	0.00424	24.09 mg/kg	0.206	0.85%
Ti 336.121*†	289463.2	0.4994 mg/L	0.00408	24.24 mg/kg	0.198	0.82%
Tl 190.801*†	932.4	0.5124 mg/L	0.00687	24.88 mg/kg	0.334	1.34%
V 292.402*†	65648.8	0.4939 mg/L	0.00673	23.98 mg/kg	0.327	1.36%
Zn 206.200*†	20274.6	0.5018 mg/L	0.00141	24.36 mg/kg	0.068	0.28%

Sequence No.: 30

Sample ID: 17-03-0822-1 ms

Analyst: 935 icp 7300

Initial Sample Wt: 2.01 g

Dilution:

Wash Time: 20

Autosampler Location: 126

Date Collected: 3/14/2017 12:21:52 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0822-1 ms

	Mean Corrected	Calib.		Sample		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Tb 384	52845.1	67.92 %	0.381			0.56%
Tb 350	88087.0	70.76 %	0.165			0.23%
Ag 328.068*†	60515.2	0.3235 mg/L	0.00211	16.09 mg/kg	0.105	0.65%
Al 308.215*†	18044.8	1.047 mg/L	0.0030	52.07 mg/kg	0.148	0.28%
As 188.979†	1369.6	0.6575 mg/L	0.00545	32.71 mg/kg	0.271	0.83%
As 193.696*†	961.6	0.6606 mg/L	0.00141	32.86 mg/kg	0.070	0.21%
B 249.677*†	35417.1	0.7312 mg/L	0.00289	36.38 mg/kg	0.144	0.40%
Ba 233.527*†	93225.0	0.6209 mg/L	0.00084	30.89 mg/kg	0.042	0.14%
Be 313.042*†	2186355.9	0.5864 mg/L	0.00060	29.17 mg/kg	0.030	0.10%
Ca 317.933*†	5509.7	2.793 mg/L	0.0382	138.9 mg/kg	1.90	1.37%
Cd 226.502*†	48132.3	0.6368 mg/L	0.00204	31.68 mg/kg	0.102	0.32%
Cd 228.802†	24757.6	0.6525 mg/L	0.00528	32.46 mg/kg	0.263	0.81%
Co 228.616*†	15653.0	0.5721 mg/L	0.00603	28.46 mg/kg	0.300	1.05%
Cr 267.716*†	75890.1	0.6844 mg/L	0.00082	34.05 mg/kg	0.041	0.12%
Cu 324.752*†	184265.6	0.7419 mg/L	0.00210	36.91 mg/kg	0.104	0.28%
Fe 273.955*†	352286.2	15.26 mg/L	0.074	759.4 mg/kg	3.68	0.48%
K 766.490*†	193500.0	63.36 mg/L	0.705	3152 mg/kg	35.07	1.11%
Mg 279.077*†	12971.4	0.6963 mg/L	0.00372	34.64 mg/kg	0.185	0.53%
Mn 257.610*†	448178.2	0.6996 mg/L	0.00181	34.81 mg/kg	0.090	0.26%
Mo 202.031*†	5353.8	0.5773 mg/L	0.00412	28.72 mg/kg	0.205	0.71%
Na 589.592*†	25768286.0	5868 mg/L	34.90	292000 mg/kg	1736.55	0.59%
Ni 231.604*†	15323.7	0.6336 mg/L	0.00316	31.52 mg/kg	0.157	0.50%
P 213.617*†	5660.6	2.855 mg/L	0.0142	142.0 mg/kg	0.71	0.50%
P 214.914†	3639.1	2.939 mg/L	0.0135	146.2 mg/kg	0.67	0.46%
Pb 220.353*†	6174.9	0.7893 mg/L	0.00464	39.27 mg/kg	0.231	0.59%
Sb 206.836†	1177.4	0.6272 mg/L	0.00562	31.21 mg/kg	0.280	0.90%
Sb 217.582*†	1163.0	0.6225 mg/L	0.01319	30.97 mg/kg	0.656	2.12%
Se 196.026*†	1519.5	0.6934 mg/L	0.01493	34.50 mg/kg	0.743	2.15%
Si 251.611*†	61213.9	1.613 mg/L	0.0048	80.25 mg/kg	0.238	0.30%
Sn 189.927*†	3557.6	0.5912 mg/L	0.00929	29.41 mg/kg	0.462	1.57%
Sn 242.170†	1002.5	0.5754 mg/L	0.00692	28.63 mg/kg	0.344	1.20%
Sr 407.771*†	212756.3	0.6573 mg/L	0.00689	32.70 mg/kg	0.343	1.05%
Ti 334.940†	496805.0	0.5983 mg/L	0.00118	29.76 mg/kg	0.059	0.20%
Ti 336.121*†	343523.1	0.5926 mg/L	0.00016	29.48 mg/kg	0.008	0.03%
Tl 190.801*†	948.2	0.5211 mg/L	0.00566	25.93 mg/kg	0.282	1.09%
V 292.402*†	77939.9	0.5862 mg/L	0.00174	29.16 mg/kg	0.087	0.30%
Zn 206.200*†	89055.2	2.204 mg/L	0.0202	109.7 mg/kg	1.01	0.92%

Sequence No.: 31

Sample ID: 17-03-0822-1 msd

Analyst: 935 icp 7300

Initial Sample Wt: 2 g

Dilution:

Wash Time: 20

Autosampler Location: 127

Date Collected: 3/14/2017 12:22:49 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0822-1 msd

Analyte	Mean Corrected	Calib.	Std.Dev.	Sample		
	Intensity	Conc. Units		Conc. Units	Std.Dev.	RSD
Tb 384	51190.0	65.79 %	0.628			0.95%
Tb 350	86199.6	69.25 %	0.541			0.78%
Ag 328.068*†	61672.9	0.3297 mg/L	0.00060	16.48 mg/kg	0.030	0.18%
Al 308.215*†	15998.5	0.9279 mg/L	0.01183	46.40 mg/kg	0.592	1.27%
As 188.979†	1391.7	0.6681 mg/L	0.01146	33.40 mg/kg	0.573	1.71%
As 193.696*†	961.6	0.6606 mg/L	0.01144	33.03 mg/kg	0.572	1.73%
B 249.677*†	34554.2	0.7133 mg/L	0.00256	35.67 mg/kg	0.128	0.36%
Ba 233.527*†	90705.1	0.6041 mg/L	0.00037	30.21 mg/kg	0.018	0.06%
Be 313.042*†	2175126.9	0.5834 mg/L	0.00035	29.17 mg/kg	0.018	0.06%
Ca 317.933*†	5671.1	2.875 mg/L	0.1538	143.7 mg/kg	7.69	5.35%
Cd 226.502*†	48375.7	0.6401 mg/L	0.00152	32.00 mg/kg	0.076	0.24%
Cd 228.802†	24965.9	0.6580 mg/L	0.00406	32.90 mg/kg	0.203	0.62%
Co 228.616*†	15825.1	0.5784 mg/L	0.00272	28.92 mg/kg	0.136	0.47%
Cr 267.716*†	75639.3	0.6822 mg/L	0.00170	34.11 mg/kg	0.085	0.25%
Cu 324.752*†	168869.4	0.6799 mg/L	0.00088	34.00 mg/kg	0.044	0.13%
Fe 273.955*†	225535.4	9.772 mg/L	0.0344	488.6 mg/kg	1.72	0.35%
K 766.490*†	212393.5	69.55 mg/L	0.352	3477 mg/kg	17.58	0.51%
Mg 279.077*†	11944.5	0.6412 mg/L	0.00023	32.06 mg/kg	0.011	0.04%
Mn 257.610*†	413245.8	0.6451 mg/L	0.00136	32.25 mg/kg	0.068	0.21%
Mo 202.031*†	5389.2	0.5811 mg/L	0.00130	29.06 mg/kg	0.065	0.22%
Na 589.592*†	25622398.2	5835 mg/L	145.03	291800 mg/kg	7251.73	2.49%
Ni 231.604*†	15065.4	0.6229 mg/L	0.00102	31.15 mg/kg	0.051	0.16%
P 213.617*†	5638.7	2.844 mg/L	0.0120	142.2 mg/kg	0.60	0.42%
P 214.914†	3635.6	2.936 mg/L	0.0085	146.8 mg/kg	0.43	0.29%
Pb 220.353*†	5556.6	0.7102 mg/L	0.00198	35.51 mg/kg	0.099	0.28%
Sb 206.836†	1185.7	0.6316 mg/L	0.00241	31.58 mg/kg	0.120	0.38%
Sb 217.582*†	1174.6	0.6287 mg/L	0.00482	31.44 mg/kg	0.241	0.77%
Se 196.026*†	1475.9	0.6735 mg/L	0.00232	33.67 mg/kg	0.116	0.34%
Si 251.611*†	59049.5	1.556 mg/L	0.0080	77.80 mg/kg	0.399	0.51%
Sn 189.927*†	3541.4	0.5885 mg/L	0.00226	29.42 mg/kg	0.113	0.38%
Sn 242.170†	1002.7	0.5755 mg/L	0.00333	28.78 mg/kg	0.166	0.58%
Sr 407.771*†	221141.0	0.6832 mg/L	0.00222	34.16 mg/kg	0.111	0.32%
Ti 334.940†	481802.1	0.5802 mg/L	0.00195	29.01 mg/kg	0.098	0.34%
Ti 336.121*†	336847.5	0.5811 mg/L	0.00261	29.06 mg/kg	0.131	0.45%
Tl 190.801*†	949.7	0.5219 mg/L	0.00337	26.10 mg/kg	0.169	0.65%
V 292.402*†	77685.4	0.5843 mg/L	0.00073	29.22 mg/kg	0.036	0.12%
Zn 206.200*†	79021.1	1.956 mg/L	0.0099	97.79 mg/kg	0.497	0.51%

1610X(CCB)

Sequence No.: 29
 Sample ID: 17-03-0822-1
 Analyst: 935 icp 7300
 Initial Sample Wt: 2 g
 Dilution:
 Wash Time: 20

Autosampler Location: 125
 Date Collected: 3/14/2017 12:20:55 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0822-1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	52197.3	67.09 %		1.449			2.16%
Tb 350	87846.7	70.57 %		0.991			1.40%
Ag 328.068*†	346.1	0.0019 mg/L		0.00003	0.0925 mg/kg	0.00151	1.63%
Al 308.215*†	7104.4	0.4121 mg/L		0.00128	20.60 mg/kg	0.064	0.31%
As 188.979†	19.9	0.0095 mg/L		0.00118	0.4766 mg/kg	0.05880	12.34%
As 193.696*†	-3.7	-0.0026 mg/L		0.00056	-0.1285 mg/kg	0.02797	21.76%
B 249.677*†	9752.0	0.2013 mg/L		0.00534	10.07 mg/kg	0.267	2.65%
Ba 233.527*†	4003.2	0.0267 mg/L		0.00027	1.333 mg/kg	0.0136	1.02%
Be 313.042*†	-435.3	-0.0001 mg/L		0.00001	-0.0058 mg/kg	0.00027	4.55%
Ca 317.933*†	3544.5	1.797 mg/L		0.0284	89.83 mg/kg	1.422	1.58%
Cd 226.502*†	98.0	0.0013 mg/L		0.00001	0.0649 mg/kg	0.00071	1.09%
Cd 228.802†	37.7	0.0010 mg/L		0.00004	0.0497 mg/kg	0.00219	4.40%
Co 228.616*†	19.6	0.0007 mg/L		0.00110	0.0358 mg/kg	0.05506	153.65%
Cr 267.716*†	10375.3	0.0936 mg/L		0.00109	4.679 mg/kg	0.0545	1.16%
Cu 324.752*†	20314.1	0.0818 mg/L		0.00083	4.090 mg/kg	0.0413	1.01%
Fe 273.955*†	244930.6	10.61 mg/L		0.022	530.6 mg/kg	1.11	0.21%
K 766.490*†	173181.7	56.71 mg/L		1.750	2835 mg/kg	87.51	3.09%
Mg 279.077*†	1758.5	0.0944 mg/L		0.01610	4.720 mg/kg	0.8048	17.05%
Mn 257.610*†	66003.3	0.1030 mg/L		0.00050	5.151 mg/kg	0.0251	0.49%
Mo 202.031*†	51.7	0.0056 mg/L		0.00012	0.2789 mg/kg	0.00589	2.11%
Na 589.592*†	24798436.3	5648 mg/L		164.80	282400 mg/kg	8239.82	2.92%
Ni 231.604*†	980.4	0.0405 mg/L		0.00004	2.027 mg/kg	0.0018	0.09%
P 213.617*†	4179.1	2.108 mg/L		0.0083	105.4 mg/kg	0.42	0.40%
P 214.914†	2780.2	2.245 mg/L		0.0181	112.3 mg/kg	0.90	0.81%
Pb 220.353*†	1148.3	0.1468 mg/L		0.00623	7.339 mg/kg	0.3115	4.24%
Sb 206.836†	16.1	0.0086 mg/L		0.00672	0.4277 mg/kg	0.33598	78.55%
Sb 217.582*†	6.6	0.0035 mg/L		0.00702	0.1762 mg/kg	0.35085	199.08%
Se 196.026*†	37.5	0.0171 mg/L		0.00443	0.8555 mg/kg	0.22140	25.88%
Si 251.611*†	23851.8	0.6285 mg/L		0.00666	31.42 mg/kg	0.333	1.06%
Sn 189.927*†	4.9	0.0008 mg/L		0.00535	0.0408 mg/kg	0.26771	655.64%
Sn 242.170†	-57.1	-0.0328 mg/L		0.00147	-1.638 mg/kg	0.0736	4.49%
Sr 407.771*†	3137.1	0.0097 mg/L		0.00057	0.4846 mg/kg	0.02831	5.84%
Ti 334.940†	18736.6	0.0226 mg/L		0.00031	1.128 mg/kg	0.0153	1.36%
Ti 336.121*†	11825.9	0.0204 mg/L		0.00068	1.020 mg/kg	0.0340	3.34%
Tl 190.801*†	-0.9	-0.0005 mg/L		0.00311	-0.0258 mg/kg	0.15550	601.72%
V 292.402*†	473.1	0.0034 mg/L		0.00161	0.1693 mg/kg	0.08038	47.48%
Zn 206.200*†	50869.0	1.259 mg/L		0.0144	62.95 mg/kg	0.718	1.14%

Sequence No.: 1
 Sample ID: 17-03-0822-1
 Analyst: 935 icp 7300
 Initial Sample Wt: 2 g
 Dilution:
 Wash Time:

Autosampler Location: 231
 Date Collected: 3/15/2017 4:02:50 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL

Mean Data: 17-03-0822-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	51504.2	65.36 %	0.474			0.73%
Tb 350	86413.9	67.29 %	0.960			1.43%
Ag 328.068*†	-84.0	-0.0004 mg/L	0.00012	-0.0209 mg/kg	0.00601	28.81%
Al 308.215*†	7752.9	0.4275 mg/L	0.00890	21.38 mg/kg	0.445	2.08%
As 188.979†	10.5	0.0045 mg/L	0.00324	0.2274 mg/kg	0.16190	71.20%
As 193.696*†	9.7	0.0060 mg/L	0.00254	0.3022 mg/kg	0.12697	42.02%
B 249.677*†	3864.0	0.0722 mg/L	0.00217	3.612 mg/kg	0.1085	3.00%
Ba 233.527*†	3651.2	0.0226 mg/L	0.00049	1.129 mg/kg	0.0243	2.15%
Be 313.042*†	-1544.9	-0.0004 mg/L	0.00001	-0.0190 mg/kg	0.00027	1.44%
Ca 317.933*†	3858.4	1.731 mg/L	0.0237	86.54 mg/kg	1.184	1.37%
Cd 226.502*†	66.1	0.0008 mg/L	0.00007	0.0393 mg/kg	0.00344	8.76%
Cd 228.802†	14.0	0.0003 mg/L	0.00011	0.0166 mg/kg	0.00556	33.52%
Co 228.616*†	-44.2	-0.0015 mg/L	0.00078	-0.0729 mg/kg	0.03907	53.56%
Cr 267.716*†	11293.3	0.0928 mg/L	0.00048	4.638 mg/kg	0.0241	0.52%
Cu 324.752*†	21320.2	0.0799 mg/L	0.00011	3.997 mg/kg	0.0054	0.13%
Fe 273.955*†	263009.5	10.48 mg/L	0.071	524.2 mg/kg	3.56	0.68%
K 766.490*†	187227.6	55.35 mg/L	0.054	2767 mg/kg	2.69	0.10%
Mg 279.077*†	1870.1	0.0912 mg/L	0.00949	4.560 mg/kg	0.4745	10.41%
Mn 257.610*†	70059.4	0.1013 mg/L	0.00068	5.066 mg/kg	0.0339	0.67%
Mo 202.031*†	60.1	0.0060 mg/L	0.00319	0.2979 mg/kg	0.15937	53.49%
Na 589.592*†	25588497.7	5202 mg/L	83.71	260100 mg/kg	4185.64	1.61%
Ni 231.604*†	1048.2	0.0397 mg/L	0.00155	1.983 mg/kg	0.0776	3.91%
P 213.617*†	4437.5	2.084 mg/L	0.0380	104.2 mg/kg	1.90	1.82%
P 214.914†	2980.1	2.152 mg/L	0.0188	107.6 mg/kg	0.94	0.87%
Pb 220.353*†	997.2	0.1156 mg/L	0.00029	5.780 mg/kg	0.0143	0.25%
Sb 206.836†	19.2	0.0093 mg/L	0.00170	0.4643 mg/kg	0.08490	18.28%
Sb 217.582*†	0.2	0.0001 mg/L	0.00629	0.0047 mg/kg	0.31452	>999.9%
Se 196.026*†	6.7	0.0028 mg/L	0.01077	0.1375 mg/kg	0.53829	391.34%
Si 251.611*†	25114.5	0.6145 mg/L	0.00876	30.72 mg/kg	0.438	1.43%
Sn 189.927*†	9.9	0.0015 mg/L	0.00165	0.0746 mg/kg	0.08258	110.62%
Sn 242.170†	-106.7	-0.0554 mg/L	0.01601	-2.771 mg/kg	0.8004	28.88%
Sr 407.771*†	3599.2	0.0100 mg/L	0.00026	0.4979 mg/kg	0.01306	2.62%
Ti 334.940†	19285.9	0.0218 mg/L	0.00000	1.088 mg/kg	0.0001	0.01%
Ti 336.121*†	12150.3	0.0194 mg/L	0.00034	0.9715 mg/kg	0.01713	1.76%
Tl 190.801*†	-15.9	-0.0079 mg/L	0.00438	-0.3975 mg/kg	0.21890	55.08%
V 292.402*†	341.5	0.0022 mg/L	0.00243	0.1080 mg/kg	0.12128	112.25%
Zn 206.200*†	48687.0	1.097 mg/L	0.0138	54.83 mg/kg	0.692	1.26%

METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: EPA 6010B

Page 262 of 524

MB SAMPLE ID: 097-01-002-24434
MB BATCH ID: 170313L05
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:02
REVIEWED BY: 771
D/T REVIEWED: 2017-03-14 15:13
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170314C 1\170313-b-05__19.icp

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
36		F-DU1-ISM5-8	2017-03-14 12:32	W:\ICP-DATA\170314C 1\17-03-0141-36 MIS.icp
36	R	F-DU1-ISM5-8	2017-03-15 16:09	W:\ICP-DATA\170315C 1\17-03-0141-36 MIS.icp


Return to Contents

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 263 of 524

WORK ORDER: 097-01-002
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:02
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\170313-b-05__19.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170313L05 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	-0.00372	0.962	ND	0.721	
Arsenic	-0.00534	0.962	ND	0.721	
Barium	-0.000106	0.962	ND	0.481	
Beryllium	-0.0000681	0.962	ND	0.240	
Cadmium	-0.000170	0.962	ND	0.481	
Chromium	0.000921	0.962	ND	0.240	
Cobalt	0.000273	0.962	ND	0.240	
Copper	0.00352	0.962	ND	0.481	
Lead	-0.00274	0.962	ND	0.481	
Molybdenum	0.000488	0.962	ND	0.240	
Nickel	-0.000167	0.962	ND	0.240	
Selenium	0.00396	0.962	ND	0.721	
Silver	0.00115	0.962	ND	0.240	
Thallium	-0.00536	0.962	ND	0.721	
Vanadium	-0.000118	0.962	ND	0.240	
Zinc	-0.0146	0.962	ND	0.962	

Return to Contents

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24434
LCS/MB BATCH ID: 170313L05
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:03
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\170313-L05_20.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	21.09	84	80-120	73-127	PASS	
Arsenic	25.00	22.90	92	80-120	73-127	PASS	
Barium	25.00	25.63	103	80-120	73-127	PASS	
Beryllium	25.00	23.09	92	80-120	73-127	PASS	
Cadmium	25.00	24.44	98	80-120	73-127	PASS	
Chromium	25.00	25.01	100	80-120	73-127	PASS	
Cobalt	25.00	25.57	102	80-120	73-127	PASS	
Copper	25.00	25.01	100	80-120	73-127	PASS	
Lead	25.00	25.20	101	80-120	73-127	PASS	
Molybdenum	25.00	23.79	95	80-120	73-127	PASS	
Nickel	25.00	24.58	98	80-120	73-127	PASS	
Phosphorus	25.00	23.14	93	80-120	73-127	PASS	
Selenium	25.00	22.79	91	80-120	73-127	PASS	
Silver	12.50	11.92	95	80-120	73-127	PASS	
Thallium	25.00	24.40	98	80-120	73-127	PASS	
Vanadium	25.00	24.00	96	80-120	73-127	PASS	
Zinc	25.00	23.94	96	80-120	73-127	PASS	
Aluminum	25.00	25.23	101	80-120	73-127	PASS	
Calcium	25.00	23.14	93	80-120	73-127	PASS	
Iron	25.00	24.66	99	80-120	73-127	PASS	
Magnesium	25.00	24.11	96	80-120	73-127	PASS	
Manganese	25.00	24.27	97	80-120	73-127	PASS	
Potassium	250.0	236.8	95	80-120	73-127	PASS	
Sodium	250.0	240.6	96	80-120	73-127	PASS	
Strontium	25.00	25.14	101	80-120	73-127	PASS	
Tin	25.00	24.39	98	80-120	73-127	PASS	
Titanium	25.00	24.08	96	80-120	73-127	PASS	
Boron	25.00	22.84	91	80-120	73-127	PASS	
Silicon	25.00	25.49	102	80-120	73-127	PASS	

LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: **097-01-002-24434**
LCS/MB BATCH ID: 170313L05
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:03
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170314C 1\170313-I-05__20.icp

<u>COMPOUND</u>	<u>CONC</u>	<u>CONC REC</u>	<u>%REC</u>	<u>%REC CL</u>	<u>ME CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>

Total number of LCS compounds: 29
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-0797-1
MS/MSD BATCH: 170313S05
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-13 00:00
MS: 2017-03-13 00:00
MSD: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-14 12:23
MS: 2017-03-14 12:24
MSD: 2017-03-14 12:25
REVIEWED BY:
D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS REC	MSD CONC	% MSD REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Antimony	ND	0.5000	25.00	11.01	44	11.28	45	50-115	2	0-20	FAIL	3G
Arsenic	1.335	0.5000	25.00	26.99	103	27.60	105	75-125	2	0-20	PASS	
Barium	34.28	0.5000	25.00	57.81	94	53.74	78	75-125	7	0-20	PASS	
Beryllium	ND	0.5000	25.00	25.80	103	25.81	103	75-125	0	0-20	PASS	
Cadmium	ND	0.5000	25.00	25.48	102	25.45	102	75-125	0	0-20	PASS	
Chromium	2.276	0.5000	25.00	27.65	102	27.58	101	75-125	0	0-20	PASS	
Cobalt	6.642	0.5000	25.00	31.55	100	30.88	97	75-125	2	0-20	PASS	
Copper	8.639	0.5000	25.00	30.82	89	29.53	84	75-125	4	0-20	PASS	
Lead	1.948	0.5000	25.00	29.26	109	28.60	107	75-125	2	0-20	PASS	
Molybdenum	0.2961	0.5000	25.00	24.58	97	24.57	97	75-125	0	0-20	PASS	
Nickel	2.551	0.5000	25.00	26.89	97	26.54	96	75-125	1	0-20	PASS	
Phosphorus	514.2	0.5000	25.00	535.6	4x	458.6	4x	75-125	4x	0-20	PASS	Q
Selenium	ND	0.5000	25.00	25.84	103	25.54	102	75-125	1	0-20	PASS	
Silver	ND	0.2500	12.50	12.18	97	12.31	98	75-125	1	0-20	PASS	
Thallium	ND	0.5000	25.00	22.86	91	23.77	95	75-125	4	0-20	PASS	
Vanadium	27.38	0.5000	25.00	53.60	105	50.23	91	75-125	6	0-20	PASS	
Zinc	59.62	0.5000	25.00	83.61	96	90.44	123	75-125	8	0-20	PASS	
Aluminum	6299	0.5000	25.00	6422	4x	5928	4x	75-125	4x	0-20	PASS	Q
Calcium	5023	0.5000	25.00	6191	4x	6101	4x	75-125	4x	0-20	PASS	Q
Iron	16320	0.5000	25.00	17100	4x	15060	4x	75-125	4x	0-20	PASS	Q
Magnesium	7335	0.5000	25.00	8062	4x	7595	4x	75-125	4x	0-20	PASS	Q
Manganese	369.0	0.5000	25.00	412.9	4x	381.9	4x	75-125	4x	0-20	PASS	Q
Potassium	4776	5.000	250.0	4647	4x	4288	4x	75-125	4x	0-20	PASS	Q
Sodium	187.8	5.000	250.0	416.2	91	398.9	84	75-125	4	0-20	PASS	Q
Strontium	4.220	0.5000	25.00	30.10	104	30.41	105	75-125	1	0-20	PASS	
Tin	ND	0.5000	25.00	19.86	79	20.54	82	75-125	3	0-20	PASS	
Titanium	822.4	0.5000	25.00	818.5	4x	722.4	4x	75-125	4x	0-20	PASS	Q
Boron	ND	0.5000	25.00	26.14	105	26.32	105	75-125	1	0-20	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-0797-1
MS/MSD BATCH: 170313S05
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-13 00:00
MS: 2017-03-13 00:00
MSD: 2017-03-13 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-14 12:23
SAMPLE: 2017-03-14 12:24
MS: 2017-03-14 12:25
MSD: 2017-03-14 12:25
REVIEWED BY:
D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD REC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Silicon	407.7	0.5000	25.00	393.6	4x	356.4	4x	75-125	4x	0-20	PASS	Q

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-0797-1 ms.icp	W:\ICP-DATA\170314C 1\
MSD	17-03-0797-1 msd.icp	W:\ICP-DATA\170314C 1\

Sequence No.: 7
 Sample ID: 170313-b-05
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.08 g
 Dilution:
 Wash Time: 15

Autosampler Location: 109
 Date Collected: 3/14/2017 12:02:53 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 170313-b-05

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	77113.4	99.11 %	0.083			0.08%
Tb 350	124428.2	99.96 %	0.048			0.05%
Ag 328.068*†	214.2	0.0011 mg/L	0.00057	0.0551 mg/kg	0.02764	50.19%
Al 308.215*†	-498.3	-0.0289 mg/L	0.00015	-1.390 mg/kg	0.0072	0.51%
As 188.979†	13.0	0.0062 mg/L	0.00136	0.2998 mg/kg	0.06557	21.87%
As 193.696*†	-7.8	-0.0053 mg/L	0.00549	-0.2566 mg/kg	0.26378	102.79%
B 249.677*†	311.8	0.0064 mg/L	0.00112	0.3095 mg/kg	0.05361	17.32%
Ba 233.527*†	-15.9	-0.0001 mg/L	0.00008	-0.0051 mg/kg	0.00368	72.10%
Be 313.042*†	-253.9	-0.0001 mg/L	0.00002	-0.0033 mg/kg	0.00107	32.68%
Ca 317.933*†	-43.4	-0.0220 mg/L	0.00025	-1.058 mg/kg	0.0120	1.13%
Cd 226.502*†	-12.8	-0.0002 mg/L	0.00006	-0.0082 mg/kg	0.00274	33.52%
Cd 228.802†	-3.5	-0.0001 mg/L	0.00028	-0.0044 mg/kg	0.01336	305.15%
Co 228.616*†	7.5	0.0003 mg/L	0.00003	0.0131 mg/kg	0.00145	11.02%
Cr 267.716*†	102.1	0.0009 mg/L	0.00012	0.0443 mg/kg	0.00564	12.73%
Cu 324.752*†	873.8	0.0035 mg/L	0.00030	0.1691 mg/kg	0.01465	8.66%
Fe 273.955*†	-66.3	-0.0029 mg/L	0.00055	-0.1382 mg/kg	0.02658	19.24%
K 766.490*†	12.8	0.0042 mg/L	0.00228	0.2008 mg/kg	0.10941	54.50%
Mg 279.077*†	-443.7	-0.0238 mg/L	0.00173	-1.145 mg/kg	0.0832	7.27%
Mn 257.610*†	106.9	0.0002 mg/L	0.00000	0.0080 mg/kg	0.00012	1.50%
Mo 202.031*†	4.5	0.0005 mg/L	0.00044	0.0235 mg/kg	0.02128	90.62%
Na 589.592*†	-368.0	-0.0838 mg/L	0.03115	-4.029 mg/kg	1.4978	37.17%
Ni 231.604*†	-4.0	-0.0002 mg/L	0.00060	-0.0080 mg/kg	0.02886	360.06%
P 213.617*†	30.1	0.0152 mg/L	0.00120	0.7306 mg/kg	0.05746	7.86%
P 214.914†	-16.3	-0.0131 mg/L	0.00113	-0.6320 mg/kg	0.05441	8.61%
Pb 220.353*†	-21.4	-0.0027 mg/L	0.00130	-0.1318 mg/kg	0.06240	47.34%
Sb 206.836†	0.7	0.0004 mg/L	0.00215	0.0169 mg/kg	0.10353	612.89%
Sb 217.582*†	-7.0	-0.0037 mg/L	0.01087	-0.1791 mg/kg	0.52238	291.72%
Se 196.026*†	8.7	0.0040 mg/L	0.00592	0.1905 mg/kg	0.28473	149.44%
Si 251.611*†	510.2	0.0134 mg/L	0.00123	0.6464 mg/kg	0.05928	9.17%
Sn 189.927*†	-7.9	-0.0013 mg/L	0.00055	-0.0632 mg/kg	0.02630	41.65%
Sn 242.170†	-40.3	-0.0232 mg/L	0.02382	-1.113 mg/kg	1.1453	102.89%
Sr 407.771*†	-143.6	-0.0004 mg/L	0.00008	-0.0213 mg/kg	0.00408	19.13%
Ti 334.940†	-432.2	-0.0005 mg/L	0.00020	-0.0250 mg/kg	0.00966	38.60%
Ti 336.121*†	-255.9	-0.0004 mg/L	0.00016	-0.0212 mg/kg	0.00782	36.83%
Tl 190.801*†	-9.8	-0.0054 mg/L	0.00618	-0.2577 mg/kg	0.29734	115.40%
V 292.402*†	-15.7	-0.0001 mg/L	0.00230	-0.0057 mg/kg	0.11056	>999.9%
Zn 206.200*†	-588.7	-0.0146 mg/L	0.00039	-0.7006 mg/kg	0.01865	2.66%

Sequence No.: 8
 Sample ID: 170313-1-05
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.07 g
 Dilution:
 Wash Time: 15

Autosampler Location: 110
 Date Collected: 3/14/2017 12:03:52 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 170313-1-05

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	76193.3	97.93 %	0.938			0.96%
Tb 350	124225.4	99.80 %	1.498			1.50%
Ag 328.068*†	46141.3	0.2467 mg/L	0.00003	11.92 mg/kg	0.002	0.01%
Al 308.215*†	9003.7	0.5222 mg/L	0.00023	25.23 mg/kg	0.011	0.04%
As 188.979†	981.8	0.4713 mg/L	0.01558	22.77 mg/kg	0.753	3.31%
As 193.696*†	689.9	0.4739 mg/L	0.02146	22.90 mg/kg	1.037	4.53%
B 249.677*†	22906.1	0.4729 mg/L	0.01395	22.84 mg/kg	0.674	2.95%
Ba 233.527*†	79663.4	0.5306 mg/L	0.00108	25.63 mg/kg	0.052	0.20%
Be 313.042*†	1782300.8	0.4780 mg/L	0.00618	23.09 mg/kg	0.298	1.29%
Ca 317.933*†	944.8	0.4789 mg/L	0.00464	23.14 mg/kg	0.224	0.97%
Cd 226.502*†	38242.6	0.5060 mg/L	0.00039	24.44 mg/kg	0.019	0.08%
Cd 228.802†	18802.7	0.4956 mg/L	0.00226	23.94 mg/kg	0.109	0.46%
Co 228.616*†	14481.3	0.5293 mg/L	0.00188	25.57 mg/kg	0.091	0.36%
Cr 267.716*†	57402.3	0.5177 mg/L	0.00073	25.01 mg/kg	0.035	0.14%
Cu 324.752*†	128552.0	0.5176 mg/L	0.00064	25.01 mg/kg	0.031	0.12%
Fe 273.955*†	11779.1	0.5104 mg/L	0.00469	24.66 mg/kg	0.227	0.92%
K 766.490*†	14971.0	4.902 mg/L	0.2312	236.8 mg/kg	11.17	4.72%
Mg 279.077*†	9296.4	0.4991 mg/L	0.00093	24.11 mg/kg	0.045	0.19%
Mn 257.610*†	321870.4	0.5024 mg/L	0.00113	24.27 mg/kg	0.055	0.23%
Mo 202.031*†	4566.5	0.4924 mg/L	0.01555	23.79 mg/kg	0.751	3.16%
Na 589.592*†	21872.7	4.981 mg/L	0.0668	240.6 mg/kg	3.23	1.34%
Ni 231.604*†	12305.9	0.5088 mg/L	0.00040	24.58 mg/kg	0.019	0.08%
P 213.617*†	949.7	0.4789 mg/L	0.01474	23.14 mg/kg	0.712	3.08%
P 214.914†	553.0	0.4466 mg/L	0.00906	21.58 mg/kg	0.438	2.03%
Pb 220.353*†	4080.8	0.5216 mg/L	0.01928	25.20 mg/kg	0.931	3.70%
Sb 206.836†	819.8	0.4367 mg/L	0.01674	21.10 mg/kg	0.808	3.83%
Sb 217.582*†	815.5	0.4365 mg/L	0.01248	21.09 mg/kg	0.603	2.86%
Se 196.026*†	1033.7	0.4717 mg/L	0.01137	22.79 mg/kg	0.549	2.41%
Si 251.611*†	20024.4	0.5276 mg/L	0.00483	25.49 mg/kg	0.233	0.92%
Sn 189.927*†	3038.5	0.5049 mg/L	0.01589	24.39 mg/kg	0.768	3.15%
Sn 242.170†	852.6	0.4894 mg/L	0.02643	23.64 mg/kg	1.277	5.40%
Sr 407.771*†	168421.5	0.5203 mg/L	0.00558	25.14 mg/kg	0.270	1.07%
Ti 334.940†	411549.8	0.4956 mg/L	0.00652	23.94 mg/kg	0.315	1.32%
Ti 336.121*†	288877.4	0.4984 mg/L	0.00144	24.08 mg/kg	0.070	0.29%
Tl 190.801*†	919.0	0.5051 mg/L	0.01371	24.40 mg/kg	0.662	2.71%
V 292.402*†	66041.8	0.4969 mg/L	0.00118	24.00 mg/kg	0.057	0.24%
Zn 206.200*†	20024.6	0.4956 mg/L	0.00118	23.94 mg/kg	0.057	0.24%

Sequence No.: 33
Sample ID: 17-03-0797-1 ms
Analyst: 935 icp 7300
Initial Sample Wt: 2.09 g
Dilution:
Wash Time: 15

Autosampler Location: 129
Date Collected: 3/14/2017 12:24:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0797-1 ms

Analyte	Mean Corrected	Calib.	Std.Dev.	Sample	Std.Dev.	RSD
	Intensity	Conc. Units		Conc. Units		
Tb 384	15781.6	20.28 %	0.530			2.61%
Tb 350	110574.6	88.83 %	2.920			3.29%
Ag 328.068*†	47610.7	0.2545 mg/L	0.00171	12.18 mg/kg	0.082	0.67%
Al 308.215*†	2314023.7	134.2 mg/L	0.60	6422 mg/kg	28.72	0.45%
As 188.979†	1330.6	0.6388 mg/L	0.01147	30.56 mg/kg	0.549	1.79%
As 193.696*†	821.3	0.5642 mg/L	0.01086	26.99 mg/kg	0.519	1.92%
B 249.677*†	26462.1	0.5463 mg/L	0.01733	26.14 mg/kg	0.829	3.17%
Ba 233.527*†	181408.5	1.208 mg/L	0.0099	57.81 mg/kg	0.476	0.82%
Be 313.042*†	2010276.4	0.5392 mg/L	0.00862	25.80 mg/kg	0.412	1.60%
Ca 317.933*†	255255.9	129.4 mg/L	4.21	6191 mg/kg	201.24	3.25%
Cd 226.502*†	40256.7	0.5326 mg/L	0.01278	25.48 mg/kg	0.612	2.40%
Cd 228.802†	20523.3	0.5409 mg/L	0.01322	25.88 mg/kg	0.633	2.44%
Co 228.616*†	18038.8	0.6593 mg/L	0.01106	31.55 mg/kg	0.529	1.68%
Cr 267.716*†	64084.9	0.5780 mg/L	0.01255	27.65 mg/kg	0.601	2.17%
Cu 324.752*†	159983.1	0.6442 mg/L	0.00838	30.82 mg/kg	0.401	1.30%
Fe 273.955*†	8247734.2	357.4 mg/L	13.52	17100 mg/kg	647.05	3.78%
K 766.490*†	296588.4	97.12 mg/L	3.453	4647 mg/kg	165.21	3.56%
Mg 279.077*†	3138760.4	168.5 mg/L	2.76	8062 mg/kg	131.99	1.64%
Mn 257.610*†	5528689.6	8.630 mg/L	0.3273	412.9 mg/kg	15.66	3.79%
Mo 202.031*†	4763.1	0.5136 mg/L	0.00955	24.58 mg/kg	0.457	1.86%
Na 589.592*†	38198.5	8.699 mg/L	0.3026	416.2 mg/kg	14.48	3.48%
Ni 231.604*†	13591.4	0.5620 mg/L	0.01294	26.89 mg/kg	0.619	2.30%
P 213.617*†	22195.8	11.19 mg/L	0.246	535.6 mg/kg	11.79	2.20%
P 214.914†	15227.9	12.30 mg/L	0.248	588.5 mg/kg	11.86	2.02%
Pb 220.353*†	4785.2	0.6116 mg/L	0.00652	29.26 mg/kg	0.312	1.07%
Sb 206.836†	463.0	0.2467 mg/L	0.01355	11.80 mg/kg	0.648	5.49%
Sb 217.582*†	429.7	0.2300 mg/L	0.00330	11.01 mg/kg	0.158	1.43%
Se 196.026*†	1183.8	0.5402 mg/L	0.00963	25.84 mg/kg	0.461	1.78%
Si 251.611*†	312201.7	8.226 mg/L	0.1130	393.6 mg/kg	5.41	1.37%
Sn 189.927*†	2497.5	0.4150 mg/L	0.00958	19.86 mg/kg	0.458	2.31%
Sn 242.170†	2505.2	1.438 mg/L	0.0502	68.80 mg/kg	2.400	3.49%
Sr 407.771*†	203623.4	0.6291 mg/L	0.01731	30.10 mg/kg	0.828	2.75%
Ti 334.940†	13881590.5	16.72 mg/L	0.597	799.8 mg/kg	28.58	3.57%
Ti 336.121*†	9916367.6	17.11 mg/L	0.629	818.5 mg/kg	30.09	3.68%
Tl 190.801*†	869.3	0.4778 mg/L	0.01747	22.86 mg/kg	0.836	3.66%
V 292.402*†	149666.6	1.120 mg/L	0.0076	53.60 mg/kg	0.362	0.67%
Zn 206.200*†	70603.0	1.748 mg/L	0.0377	83.61 mg/kg	1.804	2.16%

Sequence No.: 34

Sample ID: 17-03-0797-1 msd

Analyst: 935 icp 7300

Initial Sample Wt: 2.08 g

Dilution:

Wash Time: 15

Autosampler Location: 130

Date Collected: 3/14/2017 12:25:19 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0797-1 msd

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	30388.0	39.06 %	1.304			3.34%
Tb 350	110232.2	88.55 %	2.497			2.82%
Ag 328.068*†	47885.4	0.2560 mg/L	0.00208	12.31 mg/kg	0.100	0.81%
Al 308.215*†	2125840.1	123.3 mg/L	0.10	5928 mg/kg	4.76	0.08%
As 188.979†	1269.2	0.6093 mg/L	0.02455	29.29 mg/kg	1.180	4.03%
As 193.696*†	835.6	0.5740 mg/L	0.00518	27.60 mg/kg	0.249	0.90%
B 249.677*†	26518.9	0.5475 mg/L	0.01102	26.32 mg/kg	0.530	2.01%
Ba 233.527*†	167829.2	1.118 mg/L	0.0046	53.74 mg/kg	0.222	0.41%
Be 313.042*†	2001481.8	0.5368 mg/L	0.00604	25.81 mg/kg	0.290	1.12%
Ca 317.933*†	250354.2	126.9 mg/L	2.82	6101 mg/kg	135.65	2.22%
Cd 226.502*†	40006.5	0.5293 mg/L	0.01650	25.45 mg/kg	0.793	3.12%
Cd 228.802†	20323.4	0.5356 mg/L	0.02052	25.75 mg/kg	0.986	3.83%
Co 228.616*†	17575.3	0.6424 mg/L	0.02873	30.88 mg/kg	1.381	4.47%
Cr 267.716*†	63599.4	0.5736 mg/L	0.01767	27.58 mg/kg	0.850	3.08%
Cu 324.752*†	152529.7	0.6142 mg/L	0.00396	29.53 mg/kg	0.191	0.65%
Fe 273.955*†	7229057.3	313.2 mg/L	15.82	15060 mg/kg	760.35	5.05%
K 766.490*†	272388.3	89.20 mg/L	2.148	4288 mg/kg	103.26	2.41%
Mg 279.077*†	2942551.5	158.0 mg/L	1.61	7595 mg/kg	77.55	1.02%
Mn 257.610*†	5089151.7	7.944 mg/L	0.4034	381.9 mg/kg	19.40	5.08%
Mo 202.031*†	4738.9	0.5110 mg/L	0.01962	24.57 mg/kg	0.943	3.84%
Na 589.592*†	36430.9	8.297 mg/L	0.2881	398.9 mg/kg	13.85	3.47%
Ni 231.604*†	13349.1	0.5520 mg/L	0.01509	26.54 mg/kg	0.726	2.73%
P 213.617*†	18913.3	9.539 mg/L	0.3502	458.6 mg/kg	16.84	3.67%
P 214.914†	12995.2	10.50 mg/L	0.359	504.6 mg/kg	17.26	3.42%
Pb 220.353*†	4654.5	0.5949 mg/L	0.01923	28.60 mg/kg	0.925	3.23%
Sb 206.836†	493.3	0.2628 mg/L	0.00049	12.63 mg/kg	0.023	0.19%
Sb 217.582*†	438.3	0.2346 mg/L	0.01286	11.28 mg/kg	0.618	5.48%
Se 196.026*†	1164.4	0.5313 mg/L	0.03057	25.54 mg/kg	1.470	5.75%
Si 251.611*†	281321.7	7.413 mg/L	0.0566	356.4 mg/kg	2.72	0.76%
Sn 189.927*†	2570.5	0.4271 mg/L	0.00897	20.54 mg/kg	0.431	2.10%
Sn 242.170†	2312.4	1.327 mg/L	0.0170	63.81 mg/kg	0.815	1.28%
Sr 407.771*†	204733.7	0.6325 mg/L	0.01692	30.41 mg/kg	0.813	2.68%
Ti 334.940†	12201394.6	14.69 mg/L	0.691	706.4 mg/kg	33.22	4.70%
Ti 336.121*†	8710165.8	15.03 mg/L	0.703	722.4 mg/kg	33.82	4.68%
Tl 190.801*†	899.5	0.4944 mg/L	0.00082	23.77 mg/kg	0.039	0.17%
V 292.402*†	139553.7	1.045 mg/L	0.0050	50.23 mg/kg	0.242	0.48%
Zn 206.200*†	76002.3	1.881 mg/L	0.0715	90.44 mg/kg	3.440	3.80%

Pb < 10X (CCH)

Sequence No.: 32
Sample ID: 17-03-0797-1
Analyst: 935 icp 7300
Initial Sample Wt: 2 g
Dilution:
Wash Time: 20

Autosampler Location: 128
Date Collected: 3/14/2017 12:23:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0797-1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	26407.9	33.94 %	0.451			1.33%
Tb 350	110527.9	88.79 %	0.516			0.58%
Ag 328.068*†	-1777.2	-0.0095 mg/L	0.00156	-0.4750 mg/kg	0.07802	16.42%
Al 308.215*†	2172121.0	126.0 mg/L	0.31	6299 mg/kg	15.66	0.25%
As 188.979†	175.5	0.0843 mg/L	0.00149	4.213 mg/kg	0.0744	1.77%
As 193.696*†	38.9	0.0267 mg/L	0.00151	1.335 mg/kg	0.0753	5.64%
B 249.677*†	952.2	0.0197 mg/L	0.00796	0.9829 mg/kg	0.39820	40.51%
Ba 233.527*†	102920.2	0.6855 mg/L	0.00033	34.28 mg/kg	0.016	0.05%
Be 313.042*†	16443.6	0.0044 mg/L	0.00001	0.2205 mg/kg	0.00071	0.32%
Ca 317.933*†	198180.1	100.5 mg/L	1.37	5023 mg/kg	68.32	1.36%
Cd 226.502*†	454.3	0.0060 mg/L	0.00118	0.3005 mg/kg	0.05920	19.70%
Cd 228.802†	-29.5	-0.0008 mg/L	0.00008	-0.0389 mg/kg	0.00400	10.29%
Co 228.616*†	3634.3	0.1328 mg/L	0.00049	6.642 mg/kg	0.0244	0.37%
Cr 267.716*†	5047.9	0.0455 mg/L	0.00099	2.276 mg/kg	0.0495	2.17%
Cu 324.752*†	42911.3	0.1728 mg/L	0.00010	8.639 mg/kg	0.0048	0.06%
Fe 273.955*†	7531908.0	326.3 mg/L	10.26	16320 mg/kg	512.83	3.14%
K 766.490*†	291674.5	95.51 mg/L	1.379	4776 mg/kg	68.94	1.44%
Mg 279.077*†	2732848.3	146.7 mg/L	0.73	7335 mg/kg	36.70	0.50%
Mn 257.610*†	4727915.0	7.380 mg/L	0.2128	369.0 mg/kg	10.64	2.88%
Mo 202.031*†	54.9	0.0059 mg/L	0.00003	0.2961 mg/kg	0.00161	0.54%
Na 589.592*†	16491.3	3.756 mg/L	0.0719	187.8 mg/kg	3.59	1.91%
Ni 231.604*†	1233.9	0.0510 mg/L	0.00041	2.551 mg/kg	0.0207	0.81%
P 213.617*†	20392.2	10.28 mg/L	0.072	514.2 mg/kg	3.59	0.70%
P 214.914†	14032.0	11.33 mg/L	0.119	566.7 mg/kg	5.94	1.05%
Pb 220.353*†	479.0	0.0612 mg/L	0.00192	3.061 mg/kg	0.0962	3.14%
Sb 206.836†	-3.1	-0.0017 mg/L	0.00397	-0.0836 mg/kg	0.19846	237.41%
Sb 217.582*†	-18.0	-0.0096 mg/L	0.00019	-0.4821 mg/kg	0.00945	1.96%
Se 196.026*†	1.1	0.0005 mg/L	0.01121	0.0261 mg/kg	0.56057	>999.9%
Si 251.611*†	309428.0	8.153 mg/L	0.0321	407.7 mg/kg	1.61	0.39%
Sn 189.927*†	-480.6	-0.0799 mg/L	0.00639	-3.993 mg/kg	0.3195	8.00%
Sn 242.170†	1461.9	0.8391 mg/L	0.01018	41.96 mg/kg	0.509	1.21%
Sr 407.771*†	27317.0	0.0844 mg/L	0.00090	4.220 mg/kg	0.0449	1.06%
Ti 334.940†	13348154.4	16.07 mg/L	0.396	803.7 mg/kg	19.80	2.46%
Ti 336.121*†	9533747.4	16.45 mg/L	0.410	822.4 mg/kg	20.52	2.50%
Tl 190.801*†	-32.1	-0.0177 mg/L	0.00575	-0.8825 mg/kg	0.28765	32.59%
V 292.402*†	73491.8	0.5476 mg/L	0.00119	27.38 mg/kg	0.059	0.22%
Zn 206.200*†	48179.7	1.193 mg/L	0.0067	59.63 mg/kg	0.336	0.56%

Sequence No.: 2
Sample ID: 17-03-0797-1
Analyst: 935 icp 7300
Initial Sample Wt: 2 g
Dilution:
Wash Time: 20

Autosampler Location: 232
Date Collected: 3/15/2017 4:03:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0797-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	24835.4	31.52 %	0.600			1.90%
Tb 350	109037.7	84.91 %	0.373			0.44%
Ag 328.068*†	-2274.2	-0.0113 mg/L	0.00274	-0.5652 mg/kg	0.13685	24.21%
Al 308.215*†	2322658.8	128.1 mg/L	0.27	6404 mg/kg	13.67	0.21%
As 188.979†	183.8	0.0795 mg/L	0.00081	3.975 mg/kg	0.0406	1.02%
As 193.696*†	30.7	0.0191 mg/L	0.00392	0.9559 mg/kg	0.19611	20.52%
B 249.677*†	-111.6	-0.0021 mg/L	0.00000	-0.1043 mg/kg	0.00013	0.13%
Ba 233.527*†	109533.5	0.6774 mg/L	0.00022	33.87 mg/kg	0.011	0.03%
Be 313.042*†	16696.4	0.0041 mg/L	0.00003	0.2053 mg/kg	0.00173	0.84%
Ca 317.933*†	203254.5	91.17 mg/L	1.194	4559 mg/kg	59.72	1.31%
Cd 226.502*†	486.4	0.0058 mg/L	0.00029	0.2891 mg/kg	0.01432	4.95%
Cd 228.802†	-36.0	-0.0009 mg/L	0.00009	-0.0426 mg/kg	0.00427	10.04%
Co 228.616*†	3789.9	0.1252 mg/L	0.00017	6.258 mg/kg	0.0085	0.14%
Cr 267.716*†	5407.7	0.0444 mg/L	0.00026	2.221 mg/kg	0.0128	0.58%
Cu 324.752*†	45756.7	0.1716 mg/L	0.00174	8.578 mg/kg	0.0868	1.01%
Fe 273.955*†	7911076.5	315.3 mg/L	4.44	15770 mg/kg	222.13	1.41%
K 766.490*†	299385.2	88.51 mg/L	0.871	4425 mg/kg	43.55	0.98%
Mg 279.077*†	2941057.6	143.4 mg/L	0.51	7171 mg/kg	25.30	0.35%
Mn 257.610*†	4964874.3	7.181 mg/L	0.0970	359.0 mg/kg	4.85	1.35%
Mo 202.031*†	51.7	0.0051 mg/L	0.00024	0.2565 mg/kg	0.01223	4.77%
Na 589.592*†	17456.9	3.549 mg/L	0.0551	177.5 mg/kg	2.75	1.55%
Ni 231.604*†	1272.2	0.0481 mg/L	0.00002	2.407 mg/kg	0.0008	0.03%
P 213.617*†	21433.8	10.07 mg/L	0.135	503.3 mg/kg	6.75	1.34%
P 214.914†	14819.2	10.70 mg/L	0.136	535.0 mg/kg	6.78	1.27%
Pb 220.353*†	336.0	0.0390 mg/L	0.00088	1.948 mg/kg	0.0440	2.26%
Sb 206.836†	-3.2	-0.0015 mg/L	0.00643	-0.0763 mg/kg	0.32164	421.75%
Sb 217.582*†	-17.3	-0.0084 mg/L	0.00444	-0.4207 mg/kg	0.22206	52.78%
Se 196.026*†	-17.7	-0.0072 mg/L	0.00180	-0.3620 mg/kg	0.09001	24.87%
Si 251.611*†	332268.1	8.130 mg/L	0.0214	406.5 mg/kg	1.07	0.26%
Sn 189.927*†	-527.8	-0.0794 mg/L	0.00071	-3.971 mg/kg	0.0355	0.89%
Sn 242.170†	1568.1	0.8147 mg/L	0.01879	40.73 mg/kg	0.940	2.31%
Sr 407.771*†	28413.3	0.0786 mg/L	0.00082	3.931 mg/kg	0.0412	1.05%
Ti 334.940†	14007165.0	15.80 mg/L	0.194	790.1 mg/kg	9.71	1.23%
Ti 336.121*†	10010691.7	16.01 mg/L	0.190	800.5 mg/kg	9.48	1.18%
Tl 190.801*†	-17.9	-0.0089 mg/L	0.00230	-0.4473 mg/kg	0.11476	25.65%
V 292.402*†	78458.9	0.5308 mg/L	0.00095	26.54 mg/kg	0.047	0.18%
Zn 206.200*†	50126.8	1.129 mg/L	0.0068	56.46 mg/kg	0.342	0.61%

METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 6010B

Page 274 of 524

MB SAMPLE ID: 097-01-002-24438
MB BATCH ID: 170314L03
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:22
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170315C 1\170314-b-03__50.icp

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
32	F-DU1-ISM1-8		2017-03-15 11:47	W:\ICP-DATA\170315C 1\17-03-0141-32 MIS.icp


Return to Contents

RAW DATA SHEET FOR METHOD: EPA 6010B

Page 275 of 524

WORK ORDER: 097-01-002
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:22
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\170314-b-03__50.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170314L03 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: **FINAL VOLUME / WEIGHT:** DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Antimony	0.00503	0.966	ND	0.725	
Arsenic	0.000882	0.966	ND	0.725	
Barium	0.00568	0.966	ND	0.483	
Beryllium	0.000198	0.966	ND	0.242	
Cadmium	0.000147	0.966	ND	0.483	
Chromium	0.00240	0.966	ND	0.242	
Cobalt	0.000452	0.966	ND	0.242	
Copper	0.00259	0.966	ND	0.483	
Lead	-0.00117	0.966	ND	0.483	
Molybdenum	0.000541	0.966	ND	0.242	
Nickel	0.000549	0.966	ND	0.242	
Selenium	0.00556	0.966	ND	0.725	
Silver	0.000715	0.966	ND	0.242	
Thallium	0.00116	0.966	ND	0.725	
Vanadium	0.000592	0.966	ND	0.242	
Zinc	0.0286	0.966	1.38	0.966	

Return to Contents

LCS QUALITY CONTROL SHEET

FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24438
LCS/MB BATCH ID: 170314L03
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:23
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\170314-L03_51.icp

COMPOUND	CONC.	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	24.05	96	80-120	73-127	PASS	
Arsenic	25.00	23.72	95	80-120	73-127	PASS	
Barium	25.00	25.73	103	80-120	73-127	PASS	
Beryllium	25.00	23.33	93	80-120	73-127	PASS	
Cadmium	25.00	24.36	97	80-120	73-127	PASS	
Chromium	25.00	24.92	100	80-120	73-127	PASS	
Cobalt	25.00	25.61	102	80-120	73-127	PASS	
Copper	25.00	25.04	100	80-120	73-127	PASS	
Lead	25.00	25.61	102	80-120	73-127	PASS	
Molybdenum	25.00	24.59	98	80-120	73-127	PASS	
Nickel	25.00	25.49	102	80-120	73-127	PASS	
Phosphorus	25.00	23.77	95	80-120	73-127	PASS	
Selenium	25.00	23.60	94	80-120	73-127	PASS	
Silver	12.50	11.87	95	80-120	73-127	PASS	
Thallium	25.00	25.21	101	80-120	73-127	PASS	
Vanadium	25.00	23.81	95	80-120	73-127	PASS	
Zinc	25.00	24.99	100	80-120	73-127	PASS	
Aluminum	25.00	26.30	105	80-120	73-127	PASS	
Calcium	25.00	26.52	106	80-120	73-127	PASS	
Iron	25.00	25.48	102	80-120	73-127	PASS	
Magnesium	25.00	24.07	96	80-120	73-127	PASS	
Manganese	25.00	24.45	98	80-120	73-127	PASS	
Potassium	250.0	237.4	95	80-120	73-127	PASS	
Sodium	250.0	254.3	102	80-120	73-127	PASS	
Strontium	25.00	25.78	103	80-120	73-127	PASS	
Tin	25.00	24.87	99	80-120	73-127	PASS	
Titanium	25.00	24.26	97	80-120	73-127	PASS	
Boron	25.00	23.29	93	80-120	73-127	PASS	
Silicon	25.00	25.70	103	80-120	73-127	PASS	

LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24438
LCS/MB BATCH ID: 170314L03
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:23
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\170314-I-03__51.icp

<u>COMPOUND</u>	<u>CONC</u>	<u>CONC REC</u>	<u>%REC</u>	<u>%REC CL</u>	<u>ME CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Total number of LCS compounds: 29							
Total number of ME compounds: 0							
Total number of ME compounds allowed: 1							
LCS ME CL validation result: Pass							

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET

FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-0784-1
MS/MSD BATCH: 170314S03
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:

SAMPLE: 2017-03-14 00:00
MS: 2017-03-14 00:00
MSD: 2017-03-14 00:00

ANALYZED BY: 935

D/T ANALYZED:

SAMPLE: 2017-03-15 11:40
MS: 2017-03-15 11:41
MSD: 2017-03-15 11:42

REVIEWED BY:

D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Antimony	ND	0.5000	25.00	21.02	84	21.94	88	50-115	4	0-20	PASS	
Arsenic	2.807	0.5000	25.00	26.42	94	27.46	99	75-125	4	0-20	PASS	
Barium	76.44	0.5000	25.00	104.5	112	101.2	99	75-125	3	0-20	PASS	
Beryllium	ND	0.5000	25.00	24.52	98	24.83	99	75-125	1	0-20	PASS	
Cadmium	ND	0.5000	25.00	24.99	100	25.22	101	75-125	1	0-20	PASS	
Chromium	2.205	0.5000	25.00	27.42	101	27.98	103	75-125	2	0-20	PASS	
Cobalt	ND	0.5000	25.00	25.60	102	26.55	106	75-125	4	0-20	PASS	
Copper	20.14	0.5000	25.00	47.19	108	46.41	105	75-125	2	0-20	PASS	
Lead	1.072	0.5000	25.00	26.04	100	26.96	104	75-125	3	0-20	PASS	
Molybdenum	0.8341	0.5000	25.00	24.86	96	25.92	100	75-125	4	0-20	PASS	
Nickel	1.247	0.5000	25.00	26.16	100	27.20	104	75-125	4	0-20	PASS	
Phosphorus	3479	0.5000	25.00	3498	4x	3420	4x	75-125	4x	0-20	PASS	Q
Selenium	ND	0.5000	25.00	24.31	97	25.52	102	75-125	5	0-20	PASS	
Silver	0.2843	0.2500	12.50	12.32	96	12.66	99	75-125	3	0-20	PASS	
Thallium	ND	0.5000	25.00	24.53	98	25.36	101	75-125	3	0-20	PASS	
Vanadium	4.559	0.5000	25.00	29.20	99	29.19	99	75-125	0	0-20	PASS	
Zinc	97.54	0.5000	25.00	126.9	118	121.5	96	75-125	4	0-20	PASS	
Aluminum	2080	0.5000	25.00	2164	4x	2076	4x	75-125	4x	0-20	PASS	Q
Calcium	3047	0.5000	25.00	3264	4x	3107	4x	75-125	4x	0-20	PASS	Q
Iron	1243	0.5000	25.00	1305	4x	1244	4x	75-125	4x	0-20	PASS	Q
Magnesium	867.0	0.5000	25.00	889.1	4x	865.5	4x	75-125	4x	0-20	PASS	Q
Manganese	99.78	0.5000	25.00	125.6	103	122.0	89	75-125	3	0-20	PASS	
Potassium	1038	5.000	250.0	1265	4x	1245	4x	75-125	4x	0-20	PASS	Q
Sodium	356.1	5.000	250.0	647.8	117	629.1	109	75-125	3	0-20	PASS	
Strontium	31.15	0.5000	25.00	59.02	111	57.50	105	75-125	3	0-20	PASS	
Tin	2.801	0.5000	25.00	23.63	83	24.02	85	75-125	2	0-20	PASS	
Titanium	6.968	0.5000	25.00	25.55	74	26.00	76	75-125	2	0-20	FAIL	3G
Boron	11.92	0.5000	25.00	36.86	100	36.27	97	75-125	2	0-20	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-0784-1
MS/MSD BATCH: 170314S03
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-14 00:00
MS: 2017-03-14 00:00
MSD: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-15 11:40
MS: 2017-03-15 11:41
MSD: 2017-03-15 11:42
REVIEWED BY:
D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Silicon	284.5	0.5000	25.00	393.6	4x		345.9	4x	75-125	4x	0-20	PASS	Q

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-0784-1 ms.icp	W:\ICP-DATA\170315C 1\
MSD	17-03-0784-1 msd.icp	W:\ICP-DATA\170315C 1\

Sequence No.: 5

Sample ID: 170314-b-03

Analyst: 935 icp 7300

Initial Sample Wt: 2.07 g

Dilution:

Wash Time: 15

Autosampler Location: 126

Date Collected: 3/15/2017 11:22:58 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 170314-b-03

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	76558.1	100.0 %	0.28			0.28%
Tb 350	123891.9	100.9 %	0.71			0.70%
Ag 328.068*†	139.0	0.0007 mg/L	0.00062	0.0345 mg/kg	0.03007	87.09%
Al 308.215*†	8382.7	0.4767 mg/L	0.00949	23.03 mg/kg	0.458	1.99%
As 188.979†	0.8	0.0003 mg/L	0.00206	0.0168 mg/kg	0.09969	593.76%
As 193.696*†	1.3	0.0009 mg/L	0.00176	0.0426 mg/kg	0.08522	199.93%
B 249.677*†	845.9	0.0161 mg/L	0.00152	0.7801 mg/kg	0.07346	9.42%
Ba 233.527*†	887.2	0.0057 mg/L	0.00005	0.2745 mg/kg	0.00227	0.83%
Be 313.042*†	778.6	0.0002 mg/L	0.00002	0.0096 mg/kg	0.00084	8.76%
Ca 317.933*†	602.7	0.2900 mg/L	0.00047	14.01 mg/kg	0.023	0.16%
Cd 226.502*†	12.0	0.0001 mg/L	0.00006	0.0071 mg/kg	0.00299	42.03%
Cd 228.802†	32.5	0.0008 mg/L	0.00024	0.0384 mg/kg	0.01158	30.15%
Co 228.616*†	13.2	0.0005 mg/L	0.00005	0.0218 mg/kg	0.00238	10.92%
Cr 267.716*†	280.3	0.0024 mg/L	0.00046	0.1159 mg/kg	0.02240	19.33%
Cu 324.752*†	667.6	0.0026 mg/L	0.00099	0.1249 mg/kg	0.04790	38.34%
Fe 273.955*†	15108.3	0.6220 mg/L	0.00857	30.05 mg/kg	0.414	1.38%
K 766.490*†	304.0	0.0966 mg/L	0.02793	4.668 mg/kg	1.3495	28.91%
Mg 279.077*†	4700.7	0.2365 mg/L	0.00146	11.42 mg/kg	0.070	0.62%
Mn 257.610*†	19854.7	0.0297 mg/L	0.00009	1.434 mg/kg	0.0045	0.31%
Mo 202.031*†	5.2	0.0005 mg/L	0.00045	0.0261 mg/kg	0.02177	83.31%
Na 589.592*†	685.3	0.1518 mg/L	0.00415	7.332 mg/kg	0.2005	2.74%
Ni 231.604*†	13.7	0.0005 mg/L	0.00062	0.0265 mg/kg	0.02990	112.80%
P 213.617*†	123.7	0.0613 mg/L	0.00638	2.960 mg/kg	0.3080	10.41%
P 214.914†	68.2	0.0524 mg/L	0.00840	2.531 mg/kg	0.4060	16.04%
Pb 220.353*†	-9.8	-0.0012 mg/L	0.00007	-0.0566 mg/kg	0.00345	6.10%
Sb 206.836†	7.1	0.0036 mg/L	0.00364	0.1750 mg/kg	0.17581	100.48%
Sb 217.582*†	9.8	0.0050 mg/L	0.00216	0.2432 mg/kg	0.10452	42.97%
Se 196.026*†	12.8	0.0056 mg/L	0.00087	0.2687 mg/kg	0.04181	15.56%
Si 251.611*†	2565.9	0.0641 mg/L	0.00068	3.098 mg/kg	0.0327	1.05%
Sn 189.927*†	36.2	0.0057 mg/L	0.00209	0.2767 mg/kg	0.10105	36.52%
Sn 242.170†	18.7	0.0104 mg/L	0.01718	0.5002 mg/kg	0.82983	165.90%
Sr 407.771*†	953.3	0.0028 mg/L	0.00002	0.1373 mg/kg	0.00074	0.54%
Ti 334.940†	38960.5	0.0456 mg/L	0.00063	2.205 mg/kg	0.0303	1.37%
Ti 336.121*†	27253.7	0.0453 mg/L	0.00032	2.188 mg/kg	0.0153	0.70%
Tl 190.801*†	2.2	0.0012 mg/L	0.00397	0.0563 mg/kg	0.19192	341.13%
V 292.402*†	84.5	0.0006 mg/L	0.00014	0.0286 mg/kg	0.00685	23.96%
Zn 206.200*†	1236.7	0.0286 mg/L	0.00050	1.381 mg/kg	0.0240	1.74%

Sequence No.: 6
 Sample ID: 170314-1-03
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.07 g
 Dilution:
 Wash Time: 15

Autosampler Location: 127
 Date Collected: 3/15/2017 11:23:58 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 170314-1-03

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	72915.8	95.27 %	0.517			0.54%
Tb 350	119559.9	97.39 %	2.021			2.08%
Ag 328.068*†	47792.2	0.2457 mg/L	0.00112	11.87 mg/kg	0.054	0.46%
Al 308.215*†	9574.8	0.5445 mg/L	0.00421	26.30 mg/kg	0.203	0.77%
As 188.979†	1071.5	0.4914 mg/L	0.00449	23.74 mg/kg	0.217	0.91%
As 193.696*†	744.2	0.4909 mg/L	0.01097	23.72 mg/kg	0.530	2.23%
B 249.677*†	25257.3	0.4822 mg/L	0.01365	23.29 mg/kg	0.659	2.83%
Ba 233.527*†	83149.6	0.5326 mg/L	0.00340	25.73 mg/kg	0.164	0.64%
Be 313.042*†	1898820.5	0.4829 mg/L	0.00220	23.33 mg/kg	0.106	0.46%
Ca 317.933*†	1140.9	0.5489 mg/L	0.01182	26.52 mg/kg	0.571	2.15%
Cd 226.502*†	40973.3	0.5043 mg/L	0.00370	24.36 mg/kg	0.179	0.73%
Cd 228.802†	20525.4	0.5020 mg/L	0.00827	24.25 mg/kg	0.400	1.65%
Co 228.616*†	15527.8	0.5301 mg/L	0.00960	25.61 mg/kg	0.464	1.81%
Cr 267.716*†	60292.4	0.5159 mg/L	0.00032	24.92 mg/kg	0.015	0.06%
Cu 324.752*†	133792.3	0.5183 mg/L	0.00279	25.04 mg/kg	0.135	0.54%
Fe 273.955*†	12814.5	0.5275 mg/L	0.00838	25.48 mg/kg	0.405	1.59%
K 766.490*†	15463.2	4.914 mg/L	0.0429	237.4 mg/kg	2.07	0.87%
Mg 279.077*†	9904.7	0.4983 mg/L	0.00077	24.07 mg/kg	0.037	0.15%
Mn 257.610*†	338684.6	0.5062 mg/L	0.00457	24.45 mg/kg	0.221	0.90%
Mo 202.031*†	4873.9	0.5090 mg/L	0.00985	24.59 mg/kg	0.476	1.94%
Na 589.592*†	23769.3	5.264 mg/L	0.0692	254.3 mg/kg	3.34	1.31%
Ni 231.604*†	13218.3	0.5276 mg/L	0.00835	25.49 mg/kg	0.403	1.58%
P 213.617*†	993.0	0.4920 mg/L	0.00844	23.77 mg/kg	0.408	1.71%
P 214.914†	621.5	0.4771 mg/L	0.00890	23.05 mg/kg	0.430	1.86%
Pb 220.353*†	4448.5	0.5300 mg/L	0.00668	25.61 mg/kg	0.323	1.26%
Sb 206.836†	962.7	0.4922 mg/L	0.00987	23.78 mg/kg	0.477	2.01%
Sb 217.582*†	968.2	0.4979 mg/L	0.01060	24.05 mg/kg	0.512	2.13%
Se 196.026*†	1124.2	0.4886 mg/L	0.00874	23.60 mg/kg	0.422	1.79%
Si 251.611*†	21286.9	0.5321 mg/L	0.00080	25.70 mg/kg	0.039	0.15%
Sn 189.927*†	3250.4	0.5148 mg/L	0.00788	24.87 mg/kg	0.381	1.53%
Sn 242.170†	930.7	0.5141 mg/L	0.00442	24.84 mg/kg	0.213	0.86%
Sr 407.771*†	178945.3	0.5337 mg/L	0.01216	25.78 mg/kg	0.587	2.28%
Ti 334.940†	425345.9	0.4983 mg/L	0.00294	24.07 mg/kg	0.142	0.59%
Ti 336.121*†	302240.9	0.5023 mg/L	0.00310	24.26 mg/kg	0.150	0.62%
Tl 190.801*†	997.3	0.5218 mg/L	0.01129	25.21 mg/kg	0.545	2.16%
V 292.402*†	69175.9	0.4928 mg/L	0.00115	23.81 mg/kg	0.056	0.23%
Zn 206.200*†	22372.2	0.5173 mg/L	0.00971	24.99 mg/kg	0.469	1.88%

Sequence No.: 27
 Sample ID: 17-03-0784-1 ms
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.01 g
 Dilution:
 Wash Time: 15

Autosampler Location: 144
 Date Collected: 3/15/2017 11:41:32 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0784-1 ms

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	67293.2	87.92 %	0.545			0.62%
Tb 350	114620.0	93.37 %	1.396			1.50%
Ag 328.068*†	48175.8	0.2477 mg/L	0.00067	12.32 mg/kg	0.033	0.27%
Al 308.215*†	765005.0	43.50 mg/L	0.030	2164 mg/kg	1.48	0.07%
As 188.979†	1178.2	0.5403 mg/L	0.00204	26.88 mg/kg	0.102	0.38%
As 193.696*†	804.9	0.5310 mg/L	0.00301	26.42 mg/kg	0.150	0.57%
B 249.677*†	38807.3	0.7409 mg/L	0.00273	36.86 mg/kg	0.136	0.37%
Ba 233.527*†	327802.9	2.100 mg/L	0.0063	104.5 mg/kg	0.32	0.30%
Be 313.042*†	1937881.6	0.4928 mg/L	0.00216	24.52 mg/kg	0.108	0.44%
Ca 317.933*†	136362.1	65.61 mg/L	0.347	3264 mg/kg	17.28	0.53%
Cd 226.502*†	40816.2	0.5023 mg/L	0.00008	24.99 mg/kg	0.004	0.02%
Cd 228.802†	20125.9	0.4923 mg/L	0.00481	24.49 mg/kg	0.239	0.98%
Co 228.616*†	15073.7	0.5146 mg/L	0.00619	25.60 mg/kg	0.308	1.20%
Cr 267.716*†	64421.0	0.5512 mg/L	0.00242	27.42 mg/kg	0.120	0.44%
Cu 324.752*†	244881.3	0.9486 mg/L	0.00068	47.19 mg/kg	0.034	0.07%
Fe 273.955*†	637271.5	26.23 mg/L	0.025	1305 mg/kg	1.26	0.10%
K 766.490*†	79981.0	25.42 mg/L	0.011	1265 mg/kg	0.56	0.04%
Mg 279.077*†	355219.9	17.87 mg/L	0.005	889.1 mg/kg	0.23	0.03%
Mn 257.610*†	1689077.9	2.524 mg/L	0.0003	125.6 mg/kg	0.01	0.01%
Mo 202.031*†	4785.3	0.4997 mg/L	0.00441	24.86 mg/kg	0.219	0.88%
Na 589.592*†	58794.1	13.02 mg/L	0.116	647.8 mg/kg	5.76	0.89%
Ni 231.604*†	13173.5	0.5258 mg/L	0.00534	26.16 mg/kg	0.266	1.02%
P 213.617*†	141922.0	70.31 mg/L	0.201	3498 mg/kg	10.00	0.29%
P 214.914†	94786.5	72.77 mg/L	0.117	3620 mg/kg	5.80	0.16%
Pb 220.353*†	4392.4	0.5233 mg/L	0.00739	26.04 mg/kg	0.368	1.41%
Sb 206.836†	851.9	0.4356 mg/L	0.01306	21.67 mg/kg	0.650	3.00%
Sb 217.582*†	821.8	0.4226 mg/L	0.00375	21.02 mg/kg	0.186	0.89%
Se 196.026*†	1124.2	0.4886 mg/L	0.00117	24.31 mg/kg	0.058	0.24%
Si 251.611*†	316503.6	7.911 mg/L	0.0199	393.6 mg/kg	0.99	0.25%
Sn 189.927*†	2999.4	0.4750 mg/L	0.00324	23.63 mg/kg	0.161	0.68%
Sn 242.170†	1002.6	0.5539 mg/L	0.00282	27.56 mg/kg	0.140	0.51%
Sr 407.771*†	397785.4	1.186 mg/L	0.0117	59.02 mg/kg	0.580	0.98%
Ti 334.940†	434362.6	0.5089 mg/L	0.00008	25.32 mg/kg	0.004	0.02%
Ti 336.121*†	308989.8	0.5135 mg/L	0.00030	25.55 mg/kg	0.015	0.06%
Tl 190.801*†	942.4	0.4931 mg/L	0.00457	24.53 mg/kg	0.227	0.93%
V 292.402*†	82451.7	0.5870 mg/L	0.00180	29.20 mg/kg	0.090	0.31%
Zn 206.200*†	110342.8	2.551 mg/L	0.0031	126.9 mg/kg	0.16	0.12%

Sequence No.: 28
 Sample ID: 17-03-0784-1 msd
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.02 g
 Dilution:
 Wash Time: 15

Autosampler Location: 145
 Date Collected: 3/15/2017 11:42:22 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0784-1 msd

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	67455.8	88.13 %	0.315			0.36%
Tb 350	113046.2	92.08 %	0.867			0.94%
Ag 328.068*†	49747.8	0.2558 mg/L	0.00208	12.66 mg/kg	0.103	0.81%
Al 308.215*†	737385.7	41.93 mg/L	0.112	2076 mg/kg	5.52	0.27%
As 188.979†	1217.9	0.5586 mg/L	0.00036	27.65 mg/kg	0.018	0.06%
As 193.696*†	841.0	0.5547 mg/L	0.00517	27.46 mg/kg	0.256	0.93%
B 249.677*†	38372.7	0.7326 mg/L	0.01066	36.27 mg/kg	0.527	1.45%
Ba 233.527*†	319149.1	2.044 mg/L	0.0125	101.2 mg/kg	0.62	0.61%
Be 313.042*†	1972120.7	0.5015 mg/L	0.00371	24.83 mg/kg	0.183	0.74%
Ca 317.933*†	130444.5	62.76 mg/L	1.565	3107 mg/kg	77.49	2.49%
Cd 226.502*†	41386.6	0.5094 mg/L	0.00494	25.22 mg/kg	0.245	0.97%
Cd 228.802†	20962.5	0.5127 mg/L	0.00016	25.38 mg/kg	0.008	0.03%
Co 228.616*†	15709.3	0.5363 mg/L	0.00209	26.55 mg/kg	0.104	0.39%
Cr 267.716*†	66042.0	0.5651 mg/L	0.00451	27.98 mg/kg	0.223	0.80%
Cu 324.752*†	242007.1	0.9375 mg/L	0.00218	46.41 mg/kg	0.108	0.23%
Fe 273.955*†	610479.8	25.13 mg/L	0.193	1244 mg/kg	9.56	0.77%
K 766.490*†	79138.6	25.15 mg/L	0.410	1245 mg/kg	20.30	1.63%
Mg 279.077*†	347514.2	17.48 mg/L	0.128	865.5 mg/kg	6.32	0.73%
Mn 257.610*†	1648781.3	2.464 mg/L	0.0139	122.0 mg/kg	0.69	0.57%
Mo 202.031*†	5014.0	0.5236 mg/L	0.00222	25.92 mg/kg	0.110	0.42%
Na 589.592*†	57381.5	12.71 mg/L	0.138	629.1 mg/kg	6.82	1.08%
Ni 231.604*†	13765.5	0.5495 mg/L	0.00040	27.20 mg/kg	0.020	0.07%
P 213.617*†	139428.1	69.07 mg/L	0.680	3420 mg/kg	33.66	0.98%
P 214.914†	91794.1	70.47 mg/L	0.424	3489 mg/kg	21.01	0.60%
Pb 220.353*†	4571.0	0.5446 mg/L	0.00149	26.96 mg/kg	0.074	0.27%
Sb 206.836†	868.6	0.4442 mg/L	0.00441	21.99 mg/kg	0.219	0.99%
Sb 217.582*†	861.7	0.4432 mg/L	0.00618	21.94 mg/kg	0.306	1.39%
Se 196.026*†	1186.3	0.5155 mg/L	0.00065	25.52 mg/kg	0.032	0.13%
Si 251.611*†	279574.8	6.988 mg/L	0.0141	345.9 mg/kg	0.70	0.20%
Sn 189.927*†	3064.0	0.4852 mg/L	0.00578	24.02 mg/kg	0.286	1.19%
Sn 242.170†	960.6	0.5307 mg/L	0.02612	26.27 mg/kg	1.293	4.92%
Sr 407.771*†	389429.0	1.161 mg/L	0.0179	57.50 mg/kg	0.886	1.54%
Ti 334.940†	444702.9	0.5210 mg/L	0.00181	25.79 mg/kg	0.090	0.35%
Ti 336.121*†	316089.4	0.5253 mg/L	0.00165	26.00 mg/kg	0.082	0.31%
Tl 190.801*†	978.9	0.5122 mg/L	0.00239	25.36 mg/kg	0.118	0.47%
V 292.402*†	82823.4	0.5897 mg/L	0.00260	29.19 mg/kg	0.129	0.44%
Zn 206.200*†	106158.9	2.455 mg/L	0.0239	121.5 mg/kg	1.19	0.98%

Sequence No.: 26

Sample ID: 17-03-0784-1

Analyst: 935 icp 7300

Initial Sample Wt: 2.06 g

Dilution:

Wash Time: 15

Autosampler Location: 143

Date Collected: 3/15/2017 11:40:43 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0784-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	67629.4	88.36 %	2.326			2.63%
Tb 350	115221.8	93.86 %	2.053			2.19%
Ag 328.068*†	1139.3	0.0059 mg/L	0.00104	0.2843 mg/kg	0.05029	17.69%
Al 308.215*†	753645.8	42.86 mg/L	0.082	2080 mg/kg	3.98	0.19%
As 188.979†	126.3	0.0579 mg/L	0.00051	2.812 mg/kg	0.0247	0.88%
As 193.696*†	87.6	0.0578 mg/L	0.00043	2.807 mg/kg	0.0207	0.74%
B 249.677*†	12864.7	0.2456 mg/L	0.00604	11.92 mg/kg	0.293	2.46%
Ba 233.527*†	245839.0	1.575 mg/L	0.0001	76.44 mg/kg	0.007	0.01%
Be 313.042*†	724.9	0.0002 mg/L	0.00003	0.0089 mg/kg	0.00124	13.85%
Ca 317.933*†	130468.3	62.77 mg/L	1.935	3047 mg/kg	93.93	3.08%
Cd 226.502*†	220.5	0.0027 mg/L	0.00041	0.1317 mg/kg	0.02014	15.29%
Cd 228.802†	93.2	0.0023 mg/L	0.00015	0.1106 mg/kg	0.00742	6.70%
Co 228.616*†	122.8	0.0042 mg/L	0.00052	0.2035 mg/kg	0.02513	12.34%
Cr 267.716*†	5308.1	0.0454 mg/L	0.00083	2.205 mg/kg	0.0405	1.84%
Cu 324.752*†	107082.9	0.4148 mg/L	0.00026	20.14 mg/kg	0.012	0.06%
Fe 273.955*†	621835.1	25.60 mg/L	0.010	1243 mg/kg	0.50	0.04%
K 766.490*†	67260.2	21.38 mg/L	0.578	1038 mg/kg	28.05	2.70%
Mg 279.077*†	355013.8	17.86 mg/L	0.009	867.0 mg/kg	0.42	0.05%
Mn 257.610*†	1375331.8	2.055 mg/L	0.0012	99.78 mg/kg	0.057	0.06%
Mo 202.031*†	164.5	0.0172 mg/L	0.00038	0.8341 mg/kg	0.01852	2.22%
Na 589.592*†	33120.6	7.335 mg/L	0.2236	356.1 mg/kg	10.85	3.05%
Ni 231.604*†	643.5	0.0257 mg/L	0.00010	1.247 mg/kg	0.0050	0.40%
P 213.617*†	144650.4	71.66 mg/L	0.172	3479 mg/kg	8.35	0.24%
P 214.914†	96249.4	73.89 mg/L	0.088	3587 mg/kg	4.26	0.12%
Pb 220.353*†	185.3	0.0221 mg/L	0.00001	1.072 mg/kg	0.0005	0.04%
Sb 206.836†	14.1	0.0072 mg/L	0.00188	0.3503 mg/kg	0.09105	25.99%
Sb 217.582*†	3.4	0.0018 mg/L	0.00689	0.0854 mg/kg	0.33454	391.65%
Se 196.026*†	34.0	0.0148 mg/L	0.00410	0.7169 mg/kg	0.19888	27.74%
Si 251.611*†	234507.0	5.862 mg/L	0.0206	284.5 mg/kg	1.00	0.35%
Sn 189.927*†	364.3	0.0577 mg/L	0.00142	2.801 mg/kg	0.0687	2.45%
Sn 242.170†	220.0	0.1216 mg/L	0.00589	5.901 mg/kg	0.2857	4.84%
Sr 407.771*†	215186.0	0.6418 mg/L	0.01984	31.15 mg/kg	0.963	3.09%
Ti 334.940†	121361.4	0.1422 mg/L	0.00135	6.902 mg/kg	0.0655	0.95%
Ti 336.121*†	86381.4	0.1435 mg/L	0.00168	6.968 mg/kg	0.0817	1.17%
Tl 190.801*†	-1.9	-0.0010 mg/L	0.00215	-0.0490 mg/kg	0.10458	213.44%
V 292.402*†	13241.5	0.0939 mg/L	0.00201	4.559 mg/kg	0.0977	2.14%
Zn 206.200*†	86899.4	2.009 mg/L	0.0028	97.54 mg/kg	0.136	0.14%

EPA 6010B ICP Metals (Solid)

Run Logs

170314C 1

INT STD M120716A

PDS/PDSD

M006-032-05 0.050 ml

10 ml

R.B. R12091602

M006-032-06 0.050 ml

Carrier/wash sol R12091604/R12091603

No.	File Name	Date	Time	Analyst Name	A/S	Location
1	Cal blank R12091601_935	3/14/2017	10:28:06 AM	935 icp 7300		1
2	STD3-M111116A_935_ICP7300	3/14/2017	10:29:12 AM	935 icp 7300		2
3	ICV-M072816C	3/14/2017	10:30:08 AM	935 icp 7300		10
4	ICB-R12091601	3/14/2017	10:34:34 AM	935 icp 7300		1
5	ICS_A - M110116B	3/14/2017	10:35:35 AM	935 icp 7300		8
6	ICS_AB - M110116A	3/14/2017	10:36:26 AM	935 icp 7300		9
7	CCV= STD3x0.5	3/14/2017	10:37:16 AM	935 icp 7300		3
8	CCB-R12091601	3/14/2017	10:38:07 AM	935 icp 7300		1
9	LLCV-M082616A	3/14/2017	10:46:37 AM	935 icp 7300		101
10	LLCV--M082616A	3/14/2017	10:47:42 AM	935 icp 7300		102
11	CCV= STD3x0.5	3/14/2017	10:48:41 AM	935 icp 7300		3
12	CCB-R12091601	3/14/2017	10:49:33 AM	935 icp 7300		1
13	170313-b-01	3/14/2017	11:57:18 AM	935 icp 7300		103
14	170313-l-01	3/14/2017	11:58:23 AM	935 icp 7300		104
15	170313-b-03	3/14/2017	11:59:14 AM	935 icp 7300		105
16	170313-l-03	3/14/2017	12:00:13 PM	935 icp 7300		106
17	170313-b-04	3/14/2017	12:01:03 PM	935 icp 7300		107
18	170313-l-04	3/14/2017	12:02:02 PM	935 icp 7300		108
19	170313-b-05	3/14/2017	12:02:53 PM	935 icp 7300		109
20	170313-l-05	3/14/2017	12:03:52 PM	935 icp 7300		110
21	17-03-0947-1	3/14/2017	12:04:43 PM	935 icp 7300		111
22	17-03-0927-1	3/14/2017	12:05:34 PM	935 icp 7300		112
23	CCV= STD3x0.5	3/14/2017	12:06:25 PM	935 icp 7300		3
24	CCB-R12091601	3/14/2017	12:07:17 PM	935 icp 7300		1

sb out

No.	File Name	Date	Time	Analyst Name	A/S	Location
25	17-03-0967-1	3/14/2017	12:08:17 PM	935 icp 7300		113
26	17-03-0967-2	3/14/2017	12:09:12 PM	935 icp 7300		114
27	17-03-0967-3	3/14/2017	12:09:54 PM	935 icp 7300		115
28	17-03-0967-4	3/14/2017	12:10:37 PM	935 icp 7300		116
29	17-03-0967-5	3/14/2017	12:11:20 PM	935 icp 7300		117
30	17-03-0967-6	3/14/2017	12:12:05 PM	935 icp 7300		118
31	17-03-0967-7	3/14/2017	12:12:45 PM	935 icp 7300		119
32	17-03-0967-8	3/14/2017	12:13:28 PM	935 icp 7300		120
33	17-03-0664-1	3/14/2017	12:14:09 PM	935 icp 7300		121
34	17-03-0821-1	3/14/2017	12:15:00 PM	935 icp 7300		122
35	CCV= STD3x0.5	3/14/2017	12:15:48 PM	935 icp 7300		3
36	CCB-R12091601	3/14/2017	12:16:41 PM	935 icp 7300		1
37	CCB-R12091601	3/14/2017	12:17:26 PM	935 icp 7300		1
38	CCB-R12091601	3/14/2017	12:18:14 PM	935 icp 7300		1
39	17-03-0821-1 ms	3/14/2017	12:19:17 PM	935 icp 7300		123
40	17-03-0821-1 msd	3/14/2017	12:20:07 PM	935 icp 7300		124
41	17-03-0822-1 *	3/14/2017	12:20:55 PM	935 icp 7300		125
42	17-03-0822-1 ms	3/14/2017	12:21:52 PM	935 icp 7300		126
43	17-03-0822-1 msd	3/14/2017	12:22:49 PM	935 icp 7300		127
44	17-03-0797-1 *	3/14/2017	12:23:47 PM	935 icp 7300		128
45	17-03-0797-1 ms	3/14/2017	12:24:38 PM	935 icp 7300		129
46	17-03-0797-1 msd	3/14/2017	12:25:19 PM	935 icp 7300		130
47	17-03-0131-7 MIS	3/14/2017	12:26:00 PM	935 icp 7300		131
48	17-03-0131-8 MIS	3/14/2017	12:26:43 PM	935 icp 7300		132
49	CCV= STD3x0.5	3/14/2017	12:27:26 PM	935 icp 7300		3
50	CCB-R12091601	3/14/2017	12:28:19 PM	935 icp 7300		1
51	17-03-0131-9 MIS	3/14/2017	12:29:19 PM	935 icp 7300		133
52	17-03-0141-33 MIS *	3/14/2017	12:30:04 PM	935 icp 7300		134
53	17-03-0141-34 MIS *	3/14/2017	12:30:55 PM	935 icp 7300		135
54	17-03-0141-35 MIS *	3/14/2017	12:31:46 PM	935 icp 7300		136
55	17-03-0141-36 MIS *	3/14/2017	12:32:37 PM	935 icp 7300		137
56	17-03-0683-1	3/14/2017	12:33:28 PM	935 icp 7300		138

pb, Zn > RL

* Review for 7/5

pb > RL

No.	File Name	Date	Time	Analyst Name	A/S Location
57	17-03-0683-1 ms	3/14/2017	12:34:25 PM	935 icp 7300	139
58	17-03-0683-1 msd	3/14/2017	12:35:11 PM	935 icp 7300	140
59	17-03-0683-2	3/14/2017	12:35:58 PM	935 icp 7300	141
60	17-03-0683-4	3/14/2017	12:36:54 PM	935 icp 7300	142
61	CCV= STD3x0.5	3/14/2017	12:37:50 PM	935 icp 7300	3
62	CCB-R12091601	3/14/2017	12:38:43 PM	935 icp 7300	1
63	17-03-0683-5	3/14/2017	12:39:43 PM	935 icp 7300	143
64	17-03-0683-6	3/14/2017	12:40:42 PM	935 icp 7300	144
65	17-03-0683-7	3/14/2017	12:41:38 PM	935 icp 7300	145
66	17-03-0683-9	3/14/2017	12:42:35 PM	935 icp 7300	146
67	17-03-0683-10	3/14/2017	12:43:34 PM	935 icp 7300	147
68	17-03-0683-11	3/14/2017	12:44:30 PM	935 icp 7300	148
69	17-03-0683-12	3/14/2017	12:45:27 PM	935 icp 7300	149
70	17-03-0683-14	3/14/2017	12:46:23 PM	935 icp 7300	150
71	17-03-0683-15	3/14/2017	12:47:10 PM	935 icp 7300	151
72	17-03-0683-16	3/14/2017	12:48:07 PM	935 icp 7300	152
73	CCV= STD3x0.5	3/14/2017	12:49:54 PM	935 icp 7300	3
74	CCB-R12091601	3/14/2017	12:50:51 PM	935 icp 7300	1
75	17-03-0683-17	3/14/2017	12:51:42 PM	935 icp 7300	153
76	17-03-0967x10-3	3/14/2017	12:52:46 PM	935 icp 7300	115
77	17-03-0967x10-4	3/14/2017	12:53:39 PM	935 icp 7300	116
78	17-03-0967x10-5	3/14/2017	12:54:29 PM	935 icp 7300	117
79	17-03-0967x10-6	3/14/2017	12:55:20 PM	935 icp 7300	118
80	17-03-0967x10-7	3/14/2017	12:56:11 PM	935 icp 7300	119
81	17-03-0967x10-8	3/14/2017	12:57:01 PM	935 icp 7300	120
82	17-03-0821x100-1	3/14/2017	12:57:52 PM	935 icp 7300	122
83	ICS_A - M110116B	3/14/2017	12:58:41 PM	935 icp 7300	8
84	ICS_AB - M110116A	3/14/2017	12:59:33 PM	935 icp 7300	9
85	CCV= STD3x0.5	3/14/2017	1:00:23 PM	935 icp 7300	3
86	CCB-R12091601	3/14/2017	1:01:14 PM	935 icp 7300	1
87	170310-la-6	3/14/2017	1:02:05 PM	935 icp 7300	104
88	CCV= STD3x0.5	3/14/2017	1:03:04 PM	935 icp 7300	3

Reviewed/Assign to Logback Date: 3/14/17
 Analysis: 260.7 / 6010 Chemist ID: 1012
 Logback Page: 46 Logback ID: 1087

170315C 1

M006-032-05 0.050 ml

10 ml

INT STD M120716A

PDS/PDSD

R.B. R12091602

M006-032-06 0.050 ml

Carrier/wash sol R12091604/R12091603

No.	File Name	Date	Time	Analyst	Name	A/S	Location
1	Cal blank R12091601_935	3/15/2017	10:33:26 AM	935	icp 7300	1	
2	Cal blank R12091601_935	3/15/2017	10:34:39 AM	935	icp 7300	1	
3	Cal blank R12091601_935	3/15/2017	10:35:53 AM	935	icp 7300	1	
4	Cal blank R12091601_935	3/15/2017	10:37:04 AM	935	icp 7300	1	
5	STD3-M111116A_935_ICP7300	3/15/2017	10:39:15 AM	935	icp 7300	2	
6	ICV-M072816C	3/15/2017	10:40:01 AM	935	icp 7300	10	
7	ICB-R12091601	3/15/2017	10:40:58 AM	935	icp 7300	1	} $\beta > RL$
8	ICB-R12091601	3/15/2017	10:41:44 AM	935	icp 7300	1	
9	ICB-R12091601	3/15/2017	10:42:32 AM	935	icp 7300	1	
10	ICB-R12091601	3/15/2017	10:45:12 AM	935	icp 7300	1	
11	ICS_A - M110116B	3/15/2017	10:46:13 AM	935	icp 7300	8	
12	ICS_AB - M110116A	3/15/2017	10:47:04 AM	935	icp 7300	9	
13	CCV= STD3x0.5	3/15/2017	10:47:54 AM	935	icp 7300	3	
14	CCB-R12091601	3/15/2017	10:48:46 AM	935	icp 7300	1	
15	LLCV-M082616A	3/15/2017	10:51:17 AM	935	icp 7300	101	
16	LLCV--M082616A	3/15/2017	10:52:23 AM	935	icp 7300	102	
17	170314-ba-8	3/15/2017	10:53:22 AM	935	icp 7300	103	
18	170314-la-8	3/15/2017	10:54:21 AM	935	icp 7300	104	
19	17-03-0862x5-1	3/15/2017	10:55:12 AM	935	icp 7300	105	
20	17-03-0862-1	3/15/2017	10:55:59 AM	935	icp 7300	106	
21	17-03-0862-1 ms	3/15/2017	10:56:49 AM	935	icp 7300	107	
22	17-03-0862-1 msd	3/15/2017	10:57:40 AM	935	icp 7300	108	
23	17-03-0862-1 pds	3/15/2017	10:58:31 AM	935	icp 7300	109	
24	17-03-0862-2	3/15/2017	10:59:22 AM	935	icp 7300	110	

Ag, Al out

No.	File Name	Date	Time	Analyst Name	A/S	Location
25	CCV= STD3x0.5	3/15/2017	11:00:09 AM	935 icp 7300		3
26	CCB-R12091601	3/15/2017	11:01:02 AM	935 icp 7300		1
27	17-03-0862-3	3/15/2017	11:02:03 AM	935 icp 7300		111
28	17-03-0862-4	3/15/2017	11:02:53 AM	935 icp 7300		112
29	17-03-0862-5	3/15/2017	11:03:45 AM	935 icp 7300		113
30	17-03-0858x5-4	3/15/2017	11:04:39 AM	935 icp 7300		114
31	17-03-0858-4	3/15/2017	11:05:26 AM	935 icp 7300		115
32	17-03-0858-4 ms	3/15/2017	11:06:22 AM	935 icp 7300		116
33	17-03-0858-4 msd	3/15/2017	11:07:18 AM	935 icp 7300		117
34	17-03-0858-4 pds	3/15/2017	11:08:14 AM	935 icp 7300		118
35	17-03-0747-1	3/15/2017	11:09:10 AM	935 icp 7300		119
36	17-03-0747-2	3/15/2017	11:10:04 AM	935 icp 7300		120
37	CCV= STD3x0.5	3/15/2017	11:10:58 AM	935 icp 7300		3
38	CCB-R12091601	3/15/2017	11:11:51 AM	935 icp 7300		1
39	17-03-0747-3	3/15/2017	11:12:52 AM	935 icp 7300		121
40	LLCV-M082616A	3/15/2017	11:13:42 AM	935 icp 7300		101
41	LLCV-M082616A	3/15/2017	11:14:44 AM	935 icp 7300		102
42	ICS_A - M110116B	3/15/2017	11:15:43 AM	935 icp 7300		8
43	ICS_AB - M110116A	3/15/2017	11:16:34 AM	935 icp 7300		9
44	CCV= STD3x0.5	3/15/2017	11:17:24 AM	935 icp 7300		3
45	CCB-R12091601	3/15/2017	11:18:16 AM	935 icp 7300		1
46	170314-b-01	3/15/2017	11:19:08 AM	935 icp 7300		122
47	170314-l-01	3/15/2017	11:20:14 AM	935 icp 7300		123
48	170314-b-02	3/15/2017	11:21:06 AM	935 icp 7300		124
49	170314-l-02	3/15/2017	11:22:06 AM	935 icp 7300		125
50	170314-b-03	3/15/2017	11:22:58 AM	935 icp 7300		126
51	170314-l-03	3/15/2017	11:23:58 AM	935 icp 7300		127
52	17-03-0662-1 pds	3/15/2017	11:24:50 AM	935 icp 7300		128
53	17-03-0662-1 pdsd	3/15/2017	11:25:31 AM	935 icp 7300		129
54	17-03-0793-1	3/15/2017	11:26:12 AM	935 icp 7300		130
55	17-03-0793-1 ms	3/15/2017	11:27:03 AM	935 icp 7300		131
56	CCV= STD3x0.5	3/15/2017	11:27:52 AM	935 icp 7300		3

Car, Nla out

No.	File Name	Date	Time	Analyst Name	A/S Location
57	CCB-R12091601	3/15/2017	11:28:45 AM	935 icp 7300	1
58	17-03-0793-1 msd	3/15/2017	11:29:46 AM	935 icp 7300	132
59	17-03-1033-1	3/15/2017	11:30:37 AM	935 icp 7300	133
60	17-03-1002-1	3/15/2017	11:31:28 AM	935 icp 7300	134
61	17-03-0985-1	3/15/2017	11:32:18 AM	935 icp 7300	135
62	17-03-0996-1	3/15/2017	11:33:18 AM	935 icp 7300	136
63	17-03-1054-1	3/15/2017	11:34:09 AM	935 icp 7300	137
64	17-03-1054-2	3/15/2017	11:35:00 AM	935 icp 7300	138
65	17-03-1054-3	3/15/2017	11:35:51 AM	935 icp 7300	139
66	17-03-0838-1	3/15/2017	11:36:42 AM	935 icp 7300	140
67	17-03-0838-1 ms	3/15/2017	11:37:23 AM	935 icp 7300	141
68	CCV= STD3x0.5	3/15/2017	11:38:05 AM	935 icp 7300	3
69	CCB-R12091601	3/15/2017	11:38:58 AM	935 icp 7300	1
70	17-03-0838-1 msd	3/15/2017	11:39:59 AM	935 icp 7300	142
71	17-03-0784-1	3/15/2017	11:40:43 AM	935 icp 7300	143
72	17-03-0784-1 ms	3/15/2017	11:41:32 AM	935 icp 7300	144
73	17-03-0784-1 msd	3/15/2017	11:42:22 AM	935 icp 7300	145
74	17-03-0140-32 MIS	3/15/2017	11:43:12 AM	935 icp 7300	146
75	17-03-0140-33 MIS	3/15/2017	11:44:03 AM	935 icp 7300	147
76	17-03-0140-34 MIS	3/15/2017	11:44:54 AM	935 icp 7300	148
77	17-03-0140-35 MIS	3/15/2017	11:45:45 AM	935 icp 7300	149
78	17-03-0140-36 MIS	3/15/2017	11:46:36 AM	935 icp 7300	150
79	17-03-0141-32 MIS	3/15/2017	11:47:27 AM	935 icp 7300	151
80	CCV= STD3x0.5	3/15/2017	11:48:18 AM	935 icp 7300	3
81	CCB-R12091601	3/15/2017	11:49:11 AM	935 icp 7300	1
82	CCV= STD3x0.5	3/15/2017	11:50:03 AM	935 icp 7300	3
83	CCB-R12091601	3/15/2017	11:51:02 AM	935 icp 7300	1
84	170314-ba-11	3/15/2017	11:53:01 AM	935 icp 7300	152
85	170314-1a-11	3/15/2017	11:54:06 AM	935 icp 7300	153
86	17-03-0701-f-1	3/15/2017	11:54:57 AM	935 icp 7300	154
87	17-03-0701-f-1 ms	3/15/2017	11:55:46 AM	935 icp 7300	155
88	17-03-0701-f-1 msd	3/15/2017	11:56:36 AM	935 icp 7300	156

{ + T2-2 + minerals (6010B Soil)
 { + * T2-2 + minerals (6010B Water)

No.	File Name	Date	Time	Analyst Name	A/S	Location
121	17-03-0850x5-4 msd	3/15/2017	12:28:02 PM	935 icp 7300		323
122	17-03-0850x5-5	3/15/2017	12:28:58 PM	935 icp 7300		324
123	17-03-0850x5-6	3/15/2017	12:29:54 PM	935 icp 7300		325
124	17-03-0850x5-7	3/15/2017	12:30:50 PM	935 icp 7300		326
125	17-03-0775-f-7	3/15/2017	12:31:46 PM	935 icp 7300		333
126	17-03-0775-f-8	3/15/2017	12:32:44 PM	935 icp 7300		334
127	17-03-0775-f-15	3/15/2017	12:33:40 PM	935 icp 7300		335
128	17-03-0775-7	3/15/2017	12:34:36 PM	935 icp 7300		336
129	17-03-0775-8	3/15/2017	12:35:35 PM	935 icp 7300		337
130	CCV= STD3x0.5	3/15/2017	12:36:33 PM	935 icp 7300		3
131	CCB-R12091601	3/15/2017	12:37:25 PM	935 icp 7300		1
132	17-03-0775-15	3/15/2017	12:38:26 PM	935 icp 7300		338
133	17-03-0770-16 EB	3/15/2017	12:39:25 PM	935 icp 7300		339
134	CCV= STD3x0.5	3/15/2017	12:40:24 PM	935 icp 7300		3
135	CCB-R12091601	3/15/2017	12:41:17 PM	935 icp 7300		1
136	17-03-0850-7	3/15/2017	1:11:23 PM	935 icp 7300		332
137	CCV= STD3x0.5	3/15/2017	1:12:26 PM	935 icp 7300		3
138	CCB-R12091601	3/15/2017	1:13:19 PM	935 icp 7300		1
139	17-03-0664-st-1	3/15/2017	1:14:56 PM	935 icp 7300		340
140	CCV= STD3x0.5	3/15/2017	1:15:58 PM	935 icp 7300		3
141	CCB-R12091601	3/15/2017	1:16:51 PM	935 icp 7300		1
142	Cal blankR12091601_935	3/15/2017	2:51:47 PM	935 icp 7300		1
143	Cal blankR12091601_935	3/15/2017	2:53:01 PM	935 icp 7300		1
144	Cal blankR12091601_935	3/15/2017	2:54:13 PM	935 icp 7300		1
145	STD3-M111116A_935_ICP7300	3/15/2017	2:55:20 PM	935 icp 7300		2
146	ICV-M072816C	3/15/2017	2:56:06 PM	935 icp 7300		10
147	ICB-R12091601	3/15/2017	2:57:04 PM	935 icp 7300		1
148	ICB-R12091601	3/15/2017	2:57:50 PM	935 icp 7300		1
149	CCV= STD3x0.5	3/15/2017	2:58:53 PM	935 icp 7300		3
150	CCB-R12091601	3/15/2017	2:59:44 PM	935 icp 7300		1
151	Cal blankR12091601_935	3/15/2017	3:25:57 PM	935 icp 7300		1
152	Cal blankR12091601_935	3/15/2017	3:27:15 PM	935 icp 7300		1

1 B > RL

No.	File Name	Date	Time	Analyst Name	A/S Location
153	STD3-M111116A_935_ICP7300	3/15/2017	3:28:21 PM	935 icp 7300	2
154	ICV-M072816C	3/15/2017	3:29:31 PM	935 icp 7300	10
155	ICV-M072816C	3/15/2017	3:30:52 PM	935 icp 7300	10
156	ICB-R12091601	3/15/2017	3:31:55 PM	935 icp 7300	1
157	ICB-R12091601	3/15/2017	3:32:41 PM	935 icp 7300	1
158	ICB-R12091601	3/15/2017	3:33:29 PM	935 icp 7300	1
159	CCV= STD3x0.5	3/15/2017	3:34:32 PM	935 icp 7300	3
160	CCB-R12091601	3/15/2017	3:35:23 PM	935 icp 7300	1
161	170315-ba-2	3/15/2017	3:37:57 PM	935 icp 7300	201
162	170315-la-2	3/15/2017	3:39:07 PM	935 icp 7300	202
163	17-03-0981-tc-1	3/15/2017	3:40:03 PM	935 icp 7300	203
164	17-03-0981-tc-1 ms	3/15/2017	3:40:57 PM	935 icp 7300	204
165	17-03-0981-tc-1 msd	3/15/2017	3:41:52 PM	935 icp 7300	205
166	17-03-0981-tc-2	3/15/2017	3:42:47 PM	935 icp 7300	206
167	17-03-0982-tc-1	3/15/2017	3:43:41 PM	935 icp 7300	207
168	17-03-0982-tc-2	3/15/2017	3:44:35 PM	935 icp 7300	208
169	17-03-0982-tc-3	3/15/2017	3:45:28 PM	935 icp 7300	209
170	17-03-0982-tc-4	3/15/2017	3:46:22 PM	935 icp 7300	210
171	CCV= STD3x0.5	3/15/2017	3:47:16 PM	935 icp 7300	3
172	CCB-R12091601	3/15/2017	3:48:10 PM	935 icp 7300	1
173	17-03-0982-tc-5	3/15/2017	3:49:11 PM	935 icp 7300	211
174	17-03-0982-tc-6	3/15/2017	3:50:08 PM	935 icp 7300	212
175	17-03-1007-tc-1	3/15/2017	3:51:02 PM	935 icp 7300	213
176	17-03-1007-tc-2	3/15/2017	3:51:56 PM	935 icp 7300	214
177	17-03-1007-tc-3	3/15/2017	3:52:49 PM	935 icp 7300	215
178	17-03-1007-tc-4	3/15/2017	3:53:43 PM	935 icp 7300	216
179	17-03-0490-tc-1	3/15/2017	3:54:37 PM	935 icp 7300	217
180	17-03-0491-tc-1	3/15/2017	3:55:31 PM	935 icp 7300	218
181	17-03-0494-tc-1	3/15/2017	3:56:25 PM	935 icp 7300	219
182	17-03-0893-tc-1	3/15/2017	3:57:18 PM	935 icp 7300	220
183	CCV= STD3x0.5	3/15/2017	3:58:13 PM	935 icp 7300	3
184	CCB-R12091601	3/15/2017	3:59:06 PM	935 icp 7300	1

Cu > RL

B > RL

No.	File Name	Date	Time	Analyst Name	A/S Location
185	17-03-0297-tc-1	3/15/2017	4:00:07 PM	935 icp 7300	221
186	CCV= STD3x0.5	3/15/2017	4:01:04 PM	935 icp 7300	3
187	CCB-R12091601	3/15/2017	4:01:58 PM	935 icp 7300	1
188	17-03-0822-1	3/15/2017	4:02:50 PM	935 icp 7300	231
189	17-03-0797-1	3/15/2017	4:03:54 PM	935 icp 7300	232
190	17-03-0131-7 MIS	3/15/2017	4:04:46 PM	935 icp 7300	233
191	17-03-0131-8 MIS	3/15/2017	4:05:29 PM	935 icp 7300	234
192	17-03-0131-9 MIS	3/15/2017	4:06:12 PM	935 icp 7300	235
193	17-03-0141-33 MIS	3/15/2017	4:06:55 PM	935 icp 7300	236
194	17-03-0141-34 MIS	3/15/2017	4:07:47 PM	935 icp 7300	237
195	17-03-0141-35 MIS	3/15/2017	4:08:38 PM	935 icp 7300	238
196	17-03-0141-36 MIS	3/15/2017	4:09:29 PM	935 icp 7300	239
197	CCV= STD3x0.5	3/15/2017	4:10:20 PM	935 icp 7300	3
198	CCB-R12091601	3/15/2017	4:11:13 PM	935 icp 7300	1
199	170315-b-02	3/15/2017	4:12:49 PM	935 icp 7300	402
200	170315-l-02	3/15/2017	4:13:54 PM	935 icp 7300	403
201	17-03-1088-1	3/15/2017	4:14:46 PM	935 icp 7300	404
202	17-03-0983-1	3/15/2017	4:15:44 PM	935 icp 7300	405
203	17-03-0983-1 ms	3/15/2017	4:16:27 PM	935 icp 7300	406
204	17-03-0983-1 msd	3/15/2017	4:17:10 PM	935 icp 7300	407
205	17-03-0983-2	3/15/2017	4:17:53 PM	935 icp 7300	408
206	17-03-0983-4	3/15/2017	4:18:34 PM	935 icp 7300	409
207	17-03-0983-6	3/15/2017	4:19:16 PM	935 icp 7300	410
208	17-03-0983-9	3/15/2017	4:19:59 PM	935 icp 7300	411
209	CCV= STD3x0.5	3/15/2017	4:20:41 PM	935 icp 7300	3
210	CCB-R12091601	3/15/2017	4:21:35 PM	935 icp 7300	1
211	17-03-0983-11	3/15/2017	4:22:36 PM	935 icp 7300	412
212	17-03-0882-1	3/15/2017	4:23:22 PM	935 icp 7300	413
213	17-03-0883-1	3/15/2017	4:24:13 PM	935 icp 7300	414
214	17-03-1061-4	3/15/2017	4:25:00 PM	935 icp 7300	415
215	17-03-1061-5	3/15/2017	4:25:51 PM	935 icp 7300	416
216	17-03-1061-6	3/15/2017	4:26:42 PM	935 icp 7300	417

Reviewed/Assigned Logbook Date: 3/15/2017
 Analysis: 2007/6010 Chemist ID: 1012
 Logbook Page: 61 Instrument ID: 1027

EPA 6010B ICP Metals (Solid)

Preparation Logs

Metals Sample Preparation Logbook (Solid / Other)

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #						
☒ EPA 3050B	☒ Solid	Thermometer	GT04 (CF -2.0 °C)	HNO ₃	R01311701	20 mL	Spike 1	M022017A						
☐ EPA 200.7	☐ Other (Specify)	Block Digester	3	HCl	R12301602	15 mL	Spike 2	M020617C						
☐ EPA 200.8		Pipettor / Dispenser	P-0721D-027/P-028	H ₂ O ₂	M006-040-13	3.0 mL	Spike 3							
BATCH NUMBER		SUPPLY LOT #		BALANCE ID #		QUALITY SYSTEM MATRIX ID #		SAMPLE HANDLING						
MS/MSD 170313-504		Tube / Container 170104		65		Teflon Chip M006-035-15		1 = Composite 2 = Subsample						
(Specify) 504		Filter				(Specify)		3 = Homogenize 4 = None						
DIGESTION														
DATE	START		PREP TECH ID #	END		SAMPLE HANDLING	ECI ID #	ANALYTE(S)	SAMPLE		SPIKE STANDARD			
	TIME	TEMP W/O CF (°C)		TIME	TEMP W/O CF (°C)				INITIAL (g)	FINAL (mL)	1 (µL)	2 (µL)	3 (µL)	
3/13/17	12:10	95	1080	13:40	95	1080	4	MS 17-03-0822-1B	Metals	2.01	100	500	500	
								MSD		2.00				
								LCS 17-0313-L04		2.06				
								LCSD / MB -B04		2.07				
								17-03-0822-1B		2.00				
								17-03-0141-33A		2.08				
								-33B		2.04				
								-33C		2.04				
								-33D		2.01				
								-33E		2.01				
								34 17-03-0822-33A		2.00				
								34 17-03-0822-33B		2.05				
								34 17-03-0822-33C		2.06				
								34 17-03-0822-33D		2.06				
								34 17-03-0822-33E		2.04				
								-35A		2.03				
								-35B		2.03				
								-35C		2.09				
								-35D		2.07				
								-35E		2.01				

COMMENTS:

Metals Sample Preparation Logbook (Solid / Other)

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #						
☒ EPA 3050B	☒ Solid	Thermometer	HP14 (CF-4.0 °C)	HNO ₃	R01311701	20 mL	Spike 1	MC22017A						
☐ EPA 200.7	☐ Other (Specify)	Block Digester	4	HCl	R12301602	15 mL	Spike 2	MC20617C						
☐ EPA 200.8		Pipetter / Dispenser	P-672/P-027/D-028	H ₂ O ₂	MC06-040-13	20 mL	Spike 3							
BATCH NUMBER		SUPPLY LOT #		BALANCE ID #		QUALITY SYSTEM MATRIX ID #		SAMPLE HANDLING						
MS/MSD 170313-505		Tube / Container 170104		65		Teflon Chip MC06-035-15		1 = Composite 2 = Subsample						
(Specify)		Filter				(Specify)		3 = Homogenize 4 = None						
DIGESTION							SAMPLE HANDLING	ECI ID #	ANALYTE(S)	SAMPLE		SPIKE STANDARD		
DATE	TIME	START		END		INITIAL (g)				FINAL (mL)	1 (μL)	2 (μL)	3 (μL)	
		TEMP W/O CF (°C)	PREP TECH ID #	TEMP W/O CF (°C)	PREP TECH ID #									
03/13/17	13:00	95	1080	14:30	95	1080	4	MS 17-03-0797-1A	metals	2.09	100	500	500	
								MSD		2.08				
								LCS 17-0313-105		2.07				
								LCSD / MB -B05		2.08				
								17-03-0797-1A		2.00				
								17-03-0141-36A		2.07				
								-36B		2.09				
								-36C		2.00				
								-36D		2.07				
								-36E		2.08				
	18:00			19:30				17-03-0967-1A		2.00				
								-2A		2.01				
								-3A		2.03				
								-4A		2.01				
								-5A		2.00				
								-6A		2.02				
								-7A		2.04				
								-8A		2.06				

COMMENTS: 17-03-0967 w/o limited samples

Metals Sample Preparation Logbook (Solid / Other)

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD #						
☒ EPA 3050B	☒ Solid			Thermometer	6704 (CF-2.0 °C)	HNO ₃	R01311701 20 mL	Spike 1	M006-0 M022017A					
☐ EPA 200.7	☐ Other (Specify)			Block Digester	3	HCl	R12301602 15 mL	Spike 2	M020617C					
☐ EPA 200.8				Pipetter / Dispenser	P-012/D-027/D-028	H ₂ O ₂	M006-040-13 30 mL	Spike 3						
BATCH NUMBER		SUPPLY LOT #		BALANCE ID #		QUALITY SYSTEM MATRIX ID #		SAMPLE HANDLING						
MS/MSD 170314-503		Tube / Container 170104		65		Teflon Chip M006-035-15		1 = Composite 2 = Subsample						
(Specify)		Filter				(Specify)		3 = Homogenize 4 = None						
DIGESTION							SAMPLE HANDLING	ECI ID #	ANALYTE(S)	SAMPLE		SPIKE STANDARD		
DATE	TIME	START		END		INITIAL (g)				FINAL (mL)	1 (µL)	2 (µL)	3 (µL)	
		TEMP W/O CF (°C)	PREP TECH ID #	TEMP W/O CF (°C)	PREP TECH ID #									
3/14/17	13:20	95	1080	14:50	95	1080	4	MS 17-03-0784-1A	metals	2.01	100	500	500	
								MSD		2.02				
								LCS 17-0314-L03		2.07				
								LCSD / MB -B03		2.07				
								17-03-0784-1A		2.06				
								17-03-0140-36A		2.01				
								-36B		2.00				
								-36C		2.02				
								-36D		2.00				
								-36E		2.02				
								-35A		2.02				
								-35B		2.00				
								-35C		2.01				
								-35D		2.03				
								-35E		2.02				
								17-03-0141-32A		2.06				
								-32B		2.00				
								-32C		2.00				
								-32D		2.01				
								-32E		2.05				

COMMENTS:

EPA 7471A Mercury (Solid)

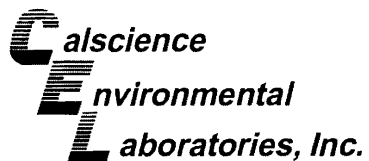
RAW DATA

EPA 7471A Mercury (Solid)

Initial Calibration
ICV/ICB
CCV/CCB

Sample Data

Quality Control
Method Blank
LCS/LCSD
MS/MSD



**EPA Method 7471A
Initial Calibration Verification**



Work Order No.: 17-03-0141

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

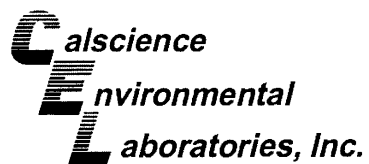
Test Method: EPA 7471A

Analyte	Initial Calibration Verification			
	True	ICV-1		Control Limit
		Observed	%D	
Mercury	5.000000	4.807788	4	0 - 10

03/09/2017 12:33

ICV-1 File: ICV M030617B 03/08/2017 12:12:46 PM

Return to Contents



EPA Method 7471A Continuing Calibration Verification



Work Order No.: 17-03-0141

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

Test Method: EPA 7471A

Analyte	Continuing Calibration Verification									
	True	CCV-1		CCV-2		CCV-3		CCV-4		Control
		Observed	%D	Observed	%D	Observed	%D	Observed	%D	Limit
Mercury	2.000000	1.993902	0	1.974421	1	2.004488	0	2.004381	0	0 - 20

03/09/2017 12:33

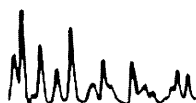
CCV-1 File: CCV 0.2x10ppb 03/08/2017 03:08:38 PM

CCV-2 File: CCV 0.2x10ppb 03/08/2017 03:36:55 PM

CCV-3 File: CCV 0.2x10ppb 03/08/2017 04:03:55 PM

CCV-4 File: CCV 0.2x10ppb 03/08/2017 04:31:07 PM

Return to Contents



EPA Method 7471A
Continuing Calibration Verification

Work Order No.: 17-03-0141

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

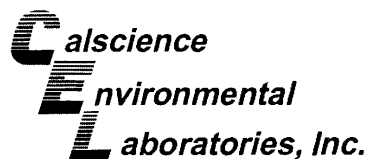
Test Method: EPA 7471A

Analyte	Continuing Calibration Verification			
	True	CCV-1		Control Limit
		Observed	%D	
Mercury	2.000000	1.981489	1	0 – 20

03/09/2017 12:34

CCV-1 File: CCV 0.2x10ppb 03/08/2017 04:42:25 PM





EPA Method 7471A
Initial and Continuing Calibration Blanks



Work Order No.: 17-03-0141

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

Test Method: EPA 7471A

Analyte	Initial and Continuing Calibration Blanks					
	ICB-1	CCB-1	CCB-2	CCB-3	CCB-4	RL (No PF)
Mercury	0.011460	0.016483	-0.004304	-0.005495	-0.000072	0.500000

03/09/2017 12:33

ICB-1 File: ICB 03/08/2017 12:15:00 PM

CCB-1 File: CCB 03/08/2017 03:10:54 PM

CCB-2 File: CCB 03/08/2017 03:39:10 PM

CCB-3 File: CCB 03/08/2017 04:06:11 PM

CCB-4 File: CCB 03/08/2017 04:33:23 PM

Note: Preparation factor (PF) = 167 L/kg



EPA Method 7471A
Initial and Continuing Calibration Blanks

Work Order No.: 17-03-0141

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

Test Method: EPA 7471A

Analyte	Initial and Continuing Calibration Blanks		
	ICB-1	CCB-1	RL (No PF)
Mercury	0.011460	-0.003206	0.500000

03/09/2017 12:34

ICB-1 File: ICB 03/08/2017 12:15:00 PM

CCB-1 File: CCB 03/08/2017 04:44:41 PM

Note: Preparation factor (PF) = 167 L/kg



**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 306 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:26
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:22

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-27.icp

27 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-8

LCS/MB BATCH: 170308L03	SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.62 g
MS/MSD BATCH: 170308S03	FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 0.97

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Mercury	0.0000594	1.00	ND	0.0806	

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 307 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:28
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:22

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-28.icp

28 **CLIENT SAMPLE NUMBER:** F-DU1-ISM2-8

LCS/MB BATCH: 170308L03	SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.61 g
MS/MSD BATCH: 170308S03	FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 0.98

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Mercury	0.000134	1.00	ND	0.0820	

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 308 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:35
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:22

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-29.icp

29

CLIENT SAMPLE NUMBER: F-DU1-ISM3-8

<u>LCS/MB BATCH:</u>	170308L03	<u>SAMPLE VOLUME / WEIGHT:</u>	DEFAULT: 0.60 g / ACTUAL: 0.63 g
<u>MS/MSD BATCH:</u>	170308S03	<u>FINAL VOLUME / WEIGHT:</u>	DEFAULT: 100.00 ml
<u>UNITS:</u>	mg/kg	<u>ADJUSTMENT RATIO TO PF:</u>	0.95

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Mercury	0.000621	1.00	0.0986	0.0794	

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 309 of 524

WORK ORDER: 17-03-0141

INSTRUMENT: Mercury 08

EXTRACTION: EPA 7471A Total

D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868

D/T ANALYZED: 2017-03-08 16:37

REVIEWED BY: 309

D/T REVIEWED: 2017-03-09 12:22

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-30.icp

30

CLIENT SAMPLE NUMBER: F-DU1-ISM4-8

LCS/MB BATCH: 170308L03

MS/MSD BATCH: 170308S03

UNITS: mg/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 0.60 g / ACTUAL: 0.60 g

DEFAULT: 100.00 ml

1.00

COMMENT:

COMPOUND

ON COL CONC

DF

CONC

RL

QUAL

Mercury

0.0000758

1.00

ND

0.0833

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 310 of 524

WORK ORDER: 17-03-0141

INSTRUMENT: Mercury 08

EXTRACTION: EPA 7471A Total

D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868

D/T ANALYZED: 2017-03-08 16:40

REVIEWED BY: 309

D/T REVIEWED: 2017-03-09 12:22

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-31.icp

31

CLIENT SAMPLE NUMBER: F-DU1-ISM5-8

LCS/MB BATCH: 170308L03

MS/MSD BATCH: 170308S03

UNITS: mg/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 0.60 g / ACTUAL: 0.62 g

DEFAULT: 100.00 ml

0.97

COMMENT:

COMPOUND

ON COL CONC

DF

CONC

RL

QUAL

Mercury

0.000145

1.00

ND

0.0806

Return to Contents

METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: EPA 7471A

Page 311 of 524

MB SAMPLE ID: 099-16-272-2864
MB BATCH ID: 170308L03
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 15:33
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:19
MATRIX: Soil

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\170308-B-03.icp

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-8		2017-03-08 16:26	W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-27.icp
28	F-DU1-ISM2-8		2017-03-08 16:28	W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-28.icp
29	F-DU1-ISM3-8		2017-03-08 16:35	W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-29.icp
30	F-DU1-ISM4-8		2017-03-08 16:37	W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-30.icp
31	F-DU1-ISM5-8		2017-03-08 16:40	W:\MERCURY_DATA\FINAL\170308H1\17-03-0141-31.icp

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 312 of 524

WORK ORDER: 099-16-272
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 15:33
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:19

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\170308-B-03.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH:	170308L03	SAMPLE VOLUME / WEIGHT:	DEFAULT: 0.60 g / ACTUAL: 0.60 g
MS/MSD BATCH:		FINAL VOLUME / WEIGHT:	DEFAULT: 100.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Mercury	-0.0000110	1.00	ND	0.0833	

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 7471A

LCS SAMPLE ID: 099-16-272- 2864
LCS/MB BATCH ID: 170308L03
INSTRUMENT: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 15:41
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:19

DATA FILE: W:\MERCURY_DATA\FINAL\170308H\1170308-L-03.icp

<u>COMPOUND NAME</u>	<u>CONC ADDED</u>	<u>CONC REC</u>	<u>%RECOVERY</u>	<u>%REC CONTROL LIMIT</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Mercury	0.8350	0.7976	96	85-121	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 7471A

SPIKED SAMPLE ID: 17-03-0335-3
MS/MSD BATCH: 170308S03
INSTRUMENTS:
SAMPLE: Mercury 08
MS: Mercury 08
MSD: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED:
SAMPLE: 2017-03-08 00:00
MS: 2017-03-08 00:00
MSD: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED:
SAMPLE: 2017-03-08 15:43
MS: 2017-03-08 15:45
MSD: 2017-03-08 15:48
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:20

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Mercury	ND	0.005000	0.8350	0.7637	91	0.6569	79	71-137	15	0-14	FAIL	4

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-0335-3 MS.icp	W:\MERCURY_DATA\FINAL\170308H1\
MSD	17-03-0335-3 MSD.icp	W:\MERCURY_DATA\FINAL\170308H1\

Method: EPA 7470A+7471A-Hg-8

Page 1

Date: 3/8/2017 11:55:22 AM

=====

Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Spectrometer: FIMS-400, S/N B050-9560

Technique: AA FIMS-MHS
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\
170308H1.sifx

Batch ID:

Results Data Set: 170308H1

Results Library: U:\MERCURY_8\Data\Results\results.mdb

=====

Sequence No.: 1	Autosampler Location: 1
Sample ID: Calib blank_868	Date Collected: 3/8/2017 11:48:40 AM
Analyst: 868	Data Type: Original
Initial Sample Wt:	Initial Sample Vol:
Dilution:	Sample Prep Vol:
Wash Time (before sample): 0	Auto Dilution Factor: 1

=====

Replicate Data: Calib blank_868 Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1		[0.00]	0.0001	-0.0103	0.0001	11:49:43 AM	Yes
2		[0.00]	0.0002	-0.0035	0.0002	11:50:28 AM	Yes
Mean:		[0.00]	0.0001				
SD:		0.0000	0.0001				
%RSD:		0.00%	66.80				

Auto-zero performed.

=====

Sequence No.: 2 Autosampler Location: 2

Sample ID: 0.025ppb 0.005x5ppb Date Collected: 3/8/2017 11:50:53 AM

Analyst: 868 Data Type: Original

Initial Sample Wt: Initial Sample Vol:

Dilution: Sample Prep Vol:

Wash Time (before sample): 0 Auto Dilution Factor: 1

=====

Replicate Data: 0.025ppb 0.005x5ppb Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1		[0.025]	0.0002	-0.0014	0.0003	11:51:57 AM	Yes
2		[0.025]	0.0002	-0.0013	0.0003	11:52:41 AM	Yes
Mean:		[0.025]	0.0002				
SD:		0.0000	0.0000				
%RSD:		0.00%	7.40				

Standard number 1 applied. [0.025]

Correlation Coef.: 1.000000 Slope: 0.00648 Intercept: 0.00000

=====

Sequence No.: 3 Autosampler Location: 3

Sample ID: 0.10ppb M030617AX0.0001 Date Collected: 3/8/2017 11:53:07 AM

Analyst: 868 Data Type: Original

Initial Sample Wt: Initial Sample Vol:

Dilution: Sample Prep Vol:

Wash Time (before sample): 0 Auto Dilution Factor: 1

=====

Replicate Data: 0.10ppb M030617AX0.0001 Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1		[0.100]	0.0010	0.0024	0.0012	11:54:11 AM	Yes
2		[0.100]	0.0010	0.0034	0.0012	11:54:56 AM	Yes
Mean:		[0.100]	0.0010				
SD:		0.0000	0.0000				
%RSD:		0.00%	1.82				

Standard number 2 applied. [0.100]

Correlation Coef.: 0.995447 Slope: 0.01057 Intercept: -0.00004

Sequence No.: 4
Sample ID: 1.00ppb M030617AX0.001
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 4
Date Collected: 3/8/2017 11:55:22 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Replicate Data: 1.00ppb M030617AX0.001
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1		[1.000]	0.0118	0.0424	0.0119	11:56:26 AM	Yes
2		[1.000]	0.0111	0.0372	0.0112	11:57:11 AM	Yes
Mean:		[1.000]	0.0114				
SD:		0.00000	0.0005				
%RSD:		0.00%	4.44				

Standard number 3 applied. [1.000]
Correlation Coef.: 0.999943 Slope: 0.01151 Intercept: -0.00008

Sequence No.: 5
Sample ID: 2.00ppb M030617AX0.002
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/8/2017 11:57:37 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Replicate Data: 2.00ppb M030617AX0.002
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1		[2.000]	0.0239	0.0846	0.0241	11:58:42 AM	Yes
2		[2.000]	0.0223	0.0743	0.0225	11:59:27 AM	Yes
Mean:		[2.000]	0.0231				
SD:		0.00000	0.0011				
%RSD:		0.00%	4.87				

Standard number 4 applied. [2.000]
Correlation Coef.: 0.999979 Slope: 0.01160 Intercept: -0.00010

Sequence No.: 6
Sample ID: 5.00ppb M030617AX0.005
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 6
Date Collected: 3/8/2017 11:59:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Replicate Data: 5.00ppb M030617AX0.005
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1		[5.000]	0.0611	0.2166	0.0612	12:00:57 PM	Yes
2		[5.000]	0.0565	0.1893	0.0567	12:01:41 PM	Yes
Mean:		[5.000]	0.0588				
SD:		0.00000	0.0032				
%RSD:		0.00%	5.50				

Standard number 5 applied. [5.000]
Correlation Coef.: 0.999976 Slope: 0.01177 Intercept: -0.00018

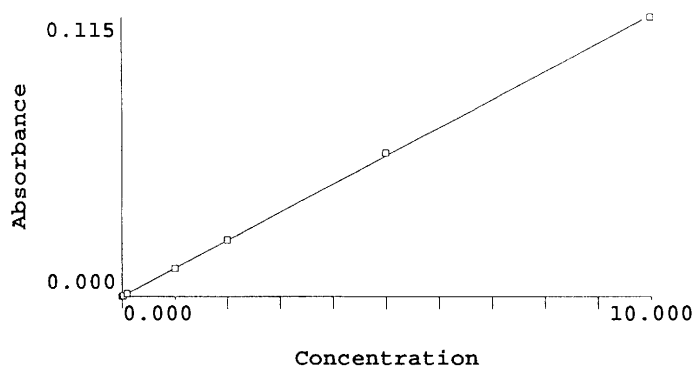
Sequence No.: 7
Sample ID: 10.0ppb M030617AX0.01
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 7
Date Collected: 3/8/2017 12:02:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Replicate Data: 10.0ppb M030617AX0.01
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored

1	[10.00]	0.1179	0.4222	0.1180	12:03:10 PM	Yes
2	[10.00]	0.1113	0.3695	0.1114	12:03:55 PM	Yes
Mean:	[10.00]	0.1146				
SD:	0.0000	0.0047				
%RSD:	0.00%	4.08				
Standard number 6 applied. [10.00]						
Correlation Coef.: 0.999917 Slope: 0.01151 Intercept: 0.00008						



Calibration data for Hg 253.7

Equation: Linear, Calculated Intercept

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Calib blank_868	0.0000	0	-0.006791	0.00	66.80
0.025ppb 0.005x5ppb	0.0002	0.025	0.007280	0.00	7.40
0.10ppb M030617AX0.0001	0.0010	0.100	0.082482	0.00	1.82
1.00ppb M030617AX0.001	0.0114	1.000	0.986952	0.00	4.44
2.00ppb M030617AX0.002	0.0231	2.000	2.003249	0.00	4.87
5.00ppb M030617AX0.005	0.0588	5.000	5.101909	0.00	5.50
10.0ppb M030617AX0.01	0.1146	10.00	9.949920	0.00	4.08
Correlation Coef.: 0.999917 Slope: 0.01151 Intercept: 0.00008					

=====
Analysis BegunLogged In Analyst: US26_SVC_INSTRUMENT
Spectrometer: FIMS-400, S/N B050-9560Technique: AA FIMS-MHS
Autosampler: S10Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\
170308H1.sifx

Batch ID:

Results Data Set: 170308H1

Results Library: U:\MERCURY_8\Data\Results\results.mdb

=====
Sequence No.: 1

Sample ID: ICV M030617B

Analyst: 868 HG-8

Initial Sample Wt:

Dilution:

Wash Time (before sample): 0

Autosampler Location: 8

Date Collected: 3/8/2017 12:10:56 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1.0000

Replicate Data: ICV M030617B

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.00495	4.95	0.0571	0.2066	0.0572	12:12:01 PM	Yes
2	0.00466	4.66	0.0537	0.1790	0.0539	12:12:46 PM	Yes
Mean:	0.00481	4.81	0.0554				
SD:	0.000208	0.208	0.0024				
%RSD:	4.32%	4.32%	4.32				

QC value within limits for Hg 253.7 Recovery = 96.16%
All analyte(s) passed QC.=====
Sequence No.: 2

Sample ID: ICB

Analyst: 868 HG-8

Initial Sample Wt:

Dilution:

Wash Time (before sample): 0

Autosampler Location: 1

Date Collected: 3/8/2017 12:13:12 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1.0000

Replicate Data: ICB

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.000016	0.0161	0.0003	0.0003	0.0004	12:14:15 PM	Yes
2	0.000007	0.00682	0.0002	-0.0010	0.0003	12:15:00 PM	Yes
Mean:	0.000011	0.0115	0.0002				
SD:	0.0000066	0.00656	0.0001				
%RSD:	57.23%	57.23%	35.93				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.=====
Sequence No.: 3

Sample ID: CRQL 0.25

Analyst: 868 HG-8

Initial Sample Wt: 0.6 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 9

Date Collected: 3/8/2017 12:15:25 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Replicate Data: CRQL 0.25

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0433	0.260	0.0031	0.0106	0.0032	12:16:30 PM	Yes
2	0.0405	0.243	0.0029	0.0092	0.0030	12:17:14 PM	Yes
Mean:	0.0419	0.251	0.0030				
SD:	0.00201	0.0121	0.0001				
%RSD:	4.80%	4.80%	4.67				

Dilution: 5X
Wash Time (before sample): 0

309
03/09/17

Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0458-1 5X

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.00473	0.0293	0.0004	0.0021	0.0006	3:00:59 PM	Yes
2	0.00444 X5	0.0275	0.0004	0.0018	0.0005	3:01:44 PM	Yes
Mean:	0.00458	0.0284	0.0004				
SD:	0.000204	0.00126	0.0000				
%RSD:	4.45%	4.45%	3.59				

Sequence No.: 9

Autosampler Location: 135

Sample ID: 17-03-0458-2

Date Collected: 3/8/2017 3:02:11 PM

Analyst: 868 HG-8

Data Type: Original

Initial Sample Wt: 0.6 g

Initial Sample Vol:

Dilution:

Sample Prep Vol: 100 mL

Wash Time (before sample): 0

Auto Dilution Factor: 1

Replicate Data: 17-03-0458-2

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0293	0.176	0.0021	0.0084	0.0022	3:03:16 PM	Yes
2	0.0276	0.166	0.0020	0.0083	0.0021	3:04:01 PM	Yes
Mean:	0.0284	0.171	0.0020				
SD:	0.00117	0.0070	0.0001				
%RSD:	4.12%	4.12%	3.96				

Sequence No.: 10

Autosampler Location: 136

Sample ID: 17-03-0457-1

Date Collected: 3/8/2017 3:04:28 PM

Analyst: 868 HG-8

Data Type: Original

Initial Sample Wt: 0.6 g

Initial Sample Vol:

Dilution:

Sample Prep Vol: 100 mL

Wash Time (before sample): 0

Auto Dilution Factor: 1

Replicate Data: 17-03-0457-1

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0513	0.308	0.0036	0.0140	0.0038	3:05:34 PM	Yes
2	0.0484	0.290	0.0034	0.0123	0.0036	3:06:18 PM	Yes
Mean:	0.0498	0.299	0.0035				
SD:	0.00208	0.0125	0.0001				
%RSD:	4.17%	4.17%	4.08				

Sequence No.: 11

Autosampler Location: 5

Sample ID: CCV 0.2x10ppb

Date Collected: 3/8/2017 3:06:46 PM

Analyst: 868 HG-8

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Wash Time (before sample): 0

Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.00205	2.05	0.0237	0.0852	0.0238	3:07:52 PM	Yes
2	0.00194	1.94	0.0224	0.0765	0.0225	3:08:38 PM	Yes
Mean:	0.00199	1.99	0.0230				
SD:	0.000080	0.080	0.0009				
%RSD:	4.03%	4.03%	4.02				

QC value within limits for Hg 253.7 Recovery = 99.70%

All analyte(s) passed QC.

Sequence No.: 12

Autosampler Location: 1

Sample ID: CCB

Date Collected: 3/8/2017 3:09:05 PM

Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: CCB

Analyte: Hg 253.7

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.000018	0.0176	0.0003	0.0011	0.0004	3:10:09 PM	Yes
2	0.000015	0.0154	0.0003	0.0007	0.0004	3:10:54 PM	Yes
Mean:	0.000016	0.0165	0.0003				
SD:	0.0000015	0.00153	0.0000				
%RSD:	9.30%	9.30%	6.59				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

=====

Sequence No.: 13
Sample ID: 17-03-0457-2
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 137
Date Collected: 3/8/2017 3:11:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0457-2

Analyte: Hg 253.7

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0468	0.290	0.0034	0.0128	0.0036	3:12:25 PM	Yes
2	0.0437	0.271	0.0032	0.0119	0.0033	3:13:09 PM	Yes
Mean:	0.0452	0.280	0.0033				
SD:	0.00218	0.0135	0.0002				
%RSD:	4.83%	4.83%	4.71				

=====

Sequence No.: 14
Sample ID: 17-03-0457-3
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 138
Date Collected: 3/8/2017 3:13:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0457-3

Analyte: Hg 253.7

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0233	0.145	0.0017	0.0076	0.0019	3:14:42 PM	Yes
2	0.0220	0.136	0.0016	0.0068	0.0018	3:15:27 PM	Yes
Mean:	0.0226	0.140	0.0017				
SD:	0.00096	0.0060	0.0001				
%RSD:	4.24%	4.24%	4.04				

=====

Sequence No.: 15
Sample ID: 17-03-0457-4
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 139
Date Collected: 3/8/2017 3:15:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0457-4

Analyte: Hg 253.7

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0314	0.192	0.0023	0.0084	0.0024	3:17:00 PM	Yes
2	0.0307	0.187	0.0022	0.0083	0.0024	3:17:45 PM	Yes
Mean:	0.0310	0.189	0.0023				
SD:	0.00055	0.0034	0.0000				
%RSD:	1.78%	1.78%	1.72				

=====

Sequence No.: 16
Sample ID: 17-03-0457-5
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 140
Date Collected: 3/8/2017 3:18:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0457-5

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0151	0.0905	0.0011	0.0047	0.0013	3:19:19 PM	Yes
2	0.0141	0.0846	0.0011	0.0037	0.0012	3:20:04 PM	Yes
Mean:	0.0146	0.0876	0.0011				
SD:	0.00069	0.00415	0.0000				
%RSD:	4.74%	4.74%	4.40				

Sequence No.: 17
Sample ID: 17-03-0542-1
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 141
Date Collected: 3/8/2017 3:20:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0542-1

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0290	0.180	0.0021	0.0074	0.0023	3:21:37 PM	Yes
2	0.0271	0.168	0.0020	0.0062	0.0021	3:22:23 PM	Yes
Mean:	0.0281	0.174	0.0021				
SD:	0.00136	0.0084	0.0001				
%RSD:	4.85%	4.85%	4.67				

Sequence No.: 18
Sample ID: 17-03-0542-2
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 142
Date Collected: 3/8/2017 3:22:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0542-2

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0466	0.280	0.0033	0.0102	0.0034	3:23:56 PM	Yes
2	0.0438	0.263	0.0031	0.0093	0.0032	3:24:41 PM	Yes
Mean:	0.0452	0.271	0.0032				
SD:	0.00204	0.0122	0.0001				
%RSD:	4.51%	4.51%	4.40				

Sequence No.: 19
Sample ID: 17-03-0542-3
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 143
Date Collected: 3/8/2017 3:25:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0542-3

Analyte: Hg 253.7

Repl	SampleConc	StndConc	Blncorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0210	0.132	0.0016	0.0046	0.0017	3:26:14 PM	Yes
2	0.0210	0.132	0.0016	0.0046	0.0017	3:27:00 PM	Yes
Mean:	0.0210	0.132	0.0016				
SD:	0.00001	0.0001	0.0000				
%RSD:	0.06%	0.06%	0.06				

Sequence No.: 20
Sample ID: 17-03-0542-4
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 144
Date Collected: 3/8/2017 3:27:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0542-4

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0148	0.0916	0.0011	0.0039	0.0013	3:28:34 PM	Yes
2	0.0144	0.0890	0.0011	0.0038	0.0012	3:29:19 PM	Yes
Mean:	0.0146	0.0903	0.0011				
SD:	0.00029	0.00179	0.0000				
%RSD:	1.98%	1.98%	1.85				

Sequence No.: 21
Sample ID: CRQL 0.25
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 9
Date Collected: 3/8/2017 3:29:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: CRQL 0.25

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0444	0.266	0.0031	0.0113	0.0033	3:30:51 PM	Yes
2	0.0415	0.249	0.0029	0.0103	0.0031	3:31:37 PM	Yes
Mean:	0.0430	0.258	0.0030				
SD:	0.00202	0.0121	0.0001				
%RSD:	4.71%	4.71%	4.59				

Sequence No.: 22
Sample ID: 170308-B-03
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 10
Date Collected: 3/8/2017 3:32:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170308-B-03

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	-0.00216	-0.0129	-0.0001	-0.0004	0.0001	3:33:08 PM	Yes
2	-0.00151	-0.00904	-0.0000	0.0004	0.0001	3:33:53 PM	Yes
Mean:	-0.00183	-0.0110	-0.0000				
SD:	0.000461	0.00276	0.0000				
%RSD:	25.14%	25.14%	65.78				

User canceled analysis.

Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Spectrometer: FIMS-400, S/N B050-9560

Technique: AA FIMS-MHS
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\
170308H1.sifx

Batch ID:
Results Data Set: 170308H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 23
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 3/8/2017 3:35:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Wash Time (before sample): 0

Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00204	2.04	0.0235	0.0871	0.0236	3:36:10 PM	Yes
2	0.00191	1.91	0.0221	0.0763	0.0222	3:36:55 PM	Yes
Mean:	0.00197	1.97	0.0228				
SD:	0.000086	0.086	0.0010				
%RSD:	4.37%	4.37%	4.35				

QC value within limits for Hg 253.7 Recovery = 98.72%
All analyte(s) passed QC.

Sequence No.: 24

Autosampler Location: 1

Sample ID: CCB

Date Collected: 3/8/2017 3:37:22 PM

Analyst: 868 HG-8

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Wash Time (before sample): 0

Auto Dilution Factor: 1.0000

Replicate Data: CCB

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.0000004	-0.00367	0.0000	0.0006	0.0002	3:38:25 PM	Yes
2	-0.0000005	-0.00494	0.0000	0.0005	0.0002	3:39:10 PM	Yes
Mean:	-0.0000004	-0.00430	0.0000				
SD:	0.0000009	0.000903	0.0000				
%RSD:	20.98%	20.98%	36.31				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 25

Autosampler Location: 11

Sample ID: 170308-L-03

Date Collected: 3/8/2017 3:39:35 PM

Analyst: 868 HG-8

Data Type: Original

Initial Sample Wt: 0.6 g

Initial Sample Vol:

Dilution:

Sample Prep Vol: 100 mL

Wash Time (before sample): 0

Auto Dilution Factor: 1

Replicate Data: 170308-L-03

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.817	4.90	0.0565	0.2055	0.0566	3:40:40 PM	Yes
2	0.778	4.67	0.0538	0.1876	0.0540	3:41:25 PM	Yes
Mean:	0.798	4.79	0.0552				
SD:	0.0275	0.165	0.0019				
%RSD:	3.45%	3.45%	3.45				

Sequence No.: 26

Autosampler Location: 12

Sample ID: 17-03-0335-3

Date Collected: 3/8/2017 3:41:51 PM

Analyst: 868 HG-8

Data Type: Original

Initial Sample Wt: 0.62 g

Initial Sample Vol:

Dilution:

Sample Prep Vol: 100 mL

Wash Time (before sample): 0

Auto Dilution Factor: 1

Replicate Data: 17-03-0335-3

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0244	0.151	0.0018	0.0072	0.0020	3:42:55 PM	Yes
2	0.0229	0.142	0.0017	0.0066	0.0018	3:43:40 PM	Yes
Mean:	0.0237	0.147	0.0018				
SD:	0.00108	0.0067	0.0001				
%RSD:	4.55%	4.55%	4.35				

Sequence No.: 27

Autosampler Location: 13

Sample ID: 17-03-0335-3 MS
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Date Collected: 3/8/2017 3:44:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-3 MS

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.784	4.70	0.0542	0.1993	0.0544	3:45:12 PM	Yes
2	0.743	4.46	0.0514	0.1806	0.0515	3:45:57 PM	Yes
Mean:	0.764	4.58	0.0528				
SD:	0.0288	0.173	0.0020				
%RSD:	3.77%	3.77%	3.76				

=====

Sequence No.: 28
Sample ID: 17-03-0335-3 MSD
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 14
Date Collected: 3/8/2017 3:46:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-3 MSD

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.674	4.11	0.0474	0.1736	0.0475	3:47:28 PM	Yes
2	0.640	3.91	0.0450	0.1574	0.0452	3:48:13 PM	Yes
Mean:	0.657	4.01	0.0462				
SD:	0.0235	0.143	0.0016				
%RSD:	3.57%	3.57%	3.57				

=====

Sequence No.: 29
Sample ID: 17-03-0335-4
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 15
Date Collected: 3/8/2017 3:48:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-4

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0292	0.184	0.0022	0.0095	0.0023	3:49:42 PM	Yes
2	0.0267	0.168	0.0020	0.0077	0.0021	3:50:27 PM	Yes
Mean:	0.0279	0.176	0.0021				
SD:	0.00180	0.0113	0.0001				
%RSD:	6.45%	6.45%	6.21				

=====

Sequence No.: 30
Sample ID: 17-03-0335-7
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 16
Date Collected: 3/8/2017 3:50:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-7

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0301	0.184	0.0022	0.0085	0.0023	3:51:57 PM	Yes
2	0.0287	0.175	0.0021	0.0082	0.0022	3:52:41 PM	Yes
Mean:	0.0294	0.180	0.0021				
SD:	0.00097	0.0059	0.0001				
%RSD:	3.28%	3.28%	3.16				

=====

Sequence No.: 31
Autosampler Location: 17

Sample ID: 17-03-0335-8
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Date Collected: 3/8/2017 3:53:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-8

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0238	0.147	0.0018	0.0068	0.0019	3:54:10 PM	Yes
2	0.0224	0.139	0.0017	0.0062	0.0018	3:54:55 PM	Yes
Mean:	0.0231	0.143	0.0017				
SD:	0.00095	0.0059	0.0001				
%RSD:	4.11%	4.11%	3.93				

Analyte: Hg 253.7

Sequence No.: 32

Sample ID: 17-03-0335-11
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 18
Date Collected: 3/8/2017 3:55:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-11

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0254	0.155	0.0019	0.0057	0.0020	3:56:24 PM	Yes
2	0.0235	0.144	0.0017	0.0051	0.0019	3:57:09 PM	Yes
Mean:	0.0245	0.149	0.0018				
SD:	0.00132	0.0081	0.0001				
%RSD:	5.40%	5.40%	5.16				

Analyte: Hg 253.7

Sequence No.: 33

Sample ID: 17-03-0335-12
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 19
Date Collected: 3/8/2017 3:57:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-12

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0185	0.117	0.0014	0.0041	0.0016	3:58:38 PM	Yes
2	0.0176	0.111	0.0014	0.0042	0.0015	3:59:23 PM	Yes
Mean:	0.0180	0.114	0.0014				
SD:	0.00066	0.0042	0.0000				
%RSD:	3.69%	3.69%	3.48				

Analyte: Hg 253.7

Sequence No.: 34

Sample ID: 17-03-0335-15
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 20
Date Collected: 3/8/2017 3:59:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0335-15

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0272	0.169	0.0020	0.0071	0.0022	4:00:53 PM	Yes
2	0.0268	0.166	0.0020	0.0078	0.0021	4:01:39 PM	Yes
Mean:	0.0270	0.167	0.0020				
SD:	0.00032	0.0020	0.0000				
%RSD:	1.17%	1.17%	1.12				

Analyte: Hg 253.7

Sequence No.: 35

Autosampler Location: 5

Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Date Collected: 3/8/2017 4:02:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00205	2.05	0.0237	0.0863	0.0239	4:03:10 PM	Yes
2	0.00195	1.95	0.0226	0.0786	0.0227	4:03:55 PM	Yes
Mean:	0.00200	2.00	0.0231				
SD:	0.000071	0.071	0.0008				
%RSD:	3.56%	3.56%	3.55				

QC value within limits for Hg 253.7 Recovery = 100.22%
All analyte(s) passed QC.

=====

Sequence No.: 36
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/8/2017 4:04:22 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000006	-0.00617	0.0000	0.0000	0.0001	4:05:26 PM	Yes
2	-0.000005	-0.00482	0.0000	0.0005	0.0002	4:06:11 PM	Yes
Mean:	-0.000005	-0.00550	0.0000				
SD:	0.0000009	0.000949	0.0000				
%RSD:	17.27%	17.27%	73.25				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

=====

Sequence No.: 37
Sample ID: 17-03-0335-16
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 21
Date Collected: 3/8/2017 4:06:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0148	0.0931	0.0011	0.0043	0.0013	4:07:40 PM	Yes
2	0.0145	0.0912	0.0011	0.0045	0.0013	4:08:26 PM	Yes
Mean:	0.0146	0.0921	0.0011				
SD:	0.00021	0.00130	0.0000				
%RSD:	1.41%	1.41%	1.31				

=====

Sequence No.: 38
Sample ID: 17-03-0336-3
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 22
Date Collected: 3/8/2017 4:08:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0101	0.0615	0.0008	0.0032	0.0009	4:09:57 PM	Yes
2	0.0101	0.0617	0.0008	0.0041	0.0009	4:10:42 PM	Yes
Mean:	0.0101	0.0616	0.0008				
SD:	0.00002	0.00015	0.0000				

%RSD: 0.24% 0.24% 0.22

Sequence No.: 39 Autosampler Location: 23
Sample ID: 17-03-0336-4 Date Collected: 3/8/2017 4:11:08 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: 0.62 g Initial Sample Vol:
Dilution: Sample Prep Vol: 100 mL
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 17-03-0336-4 Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0451	0.280	0.0033	0.0131	0.0034	4:12:13 PM	Yes
2	0.0431	0.267	0.0032	0.0121	0.0033	4:12:58 PM	Yes
Mean:	0.0441	0.273	0.0032				
SD:	0.00147	0.0091	0.0001				
%RSD:	3.33%	3.33%	3.25				

Sequence No.: 40 Autosampler Location: 24
Sample ID: 17-03-0140-27 Date Collected: 3/8/2017 4:13:25 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: 0.61 g Initial Sample Vol:
Dilution: Sample Prep Vol: 100 mL
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 17-03-0140-27 Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0164	0.1000	0.0012	0.0050	0.0014	4:14:30 PM	Yes
2	0.0158	0.0962	0.0012	0.0047	0.0013	4:15:16 PM	Yes
Mean:	0.0161	0.0981	0.0012				
SD:	0.00043	0.00265	0.0000				
%RSD:	2.70%	2.70%	2.53				

Sequence No.: 41 Autosampler Location: 25
Sample ID: 17-03-0140-28 Date Collected: 3/8/2017 4:15:42 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: 0.63 g Initial Sample Vol:
Dilution: Sample Prep Vol: 100 mL
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 17-03-0140-28 Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0192	0.121	0.0015	0.0057	0.0016	4:16:48 PM	Yes
2	0.0184	0.116	0.0014	0.0055	0.0015	4:17:33 PM	Yes
Mean:	0.0188	0.118	0.0014				
SD:	0.00055	0.0035	0.0000				
%RSD:	2.94%	2.94%	2.78				

Sequence No.: 42 Autosampler Location: 26
Sample ID: 17-03-0140-29 Date Collected: 3/8/2017 4:18:00 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: 0.6 g Initial Sample Vol:
Dilution: Sample Prep Vol: 100 mL
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 17-03-0140-29 Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0229	0.137	0.0017	0.0059	0.0018	4:19:04 PM	Yes
2	0.0219	0.131	0.0016	0.0058	0.0017	4:19:50 PM	Yes
Mean:	0.0224	0.134	0.0016				
SD:	0.00071	0.0043	0.0000				

%RSD: 3.17% 3.17% 3.02

```
=====
Sequence No.: 43                      Autosampler Location: 27
Sample ID: 17-03-0140-30             Date Collected: 3/8/2017 4:20:16 PM
Analyst: 868 HG-8                   Data Type: Original
Initial Sample Wt: 0.62 g            Initial Sample Vol:
Dilution:                          Sample Prep Vol: 100 mL
Wash Time (before sample): 0        Auto Dilution Factor: 1
=====
```

```
-----
Replicate Data: 17-03-0140-30        Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/kg      ug/L      Signal   Area    Height
1      0.0238     0.147     0.0018   0.0051  0.0019   4:21:20 PM  Yes
2      0.0228     0.141     0.0017   0.0049  0.0018   4:22:05 PM  Yes
Mean:  0.0233     0.144     0.0017
SD:     0.00070    0.0043    0.0001
%RSD:  3.01%      3.01%      2.88
=====
```

```
=====
Sequence No.: 44                      Autosampler Location: 28
Sample ID: 17-03-0140-31             Date Collected: 3/8/2017 4:22:31 PM
Analyst: 868 HG-8                   Data Type: Original
Initial Sample Wt: 0.61 g            Initial Sample Vol:
Dilution:                          Sample Prep Vol: 100 mL
Wash Time (before sample): 0        Auto Dilution Factor: 1
=====
```

```
-----
Replicate Data: 17-03-0140-31        Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/kg      ug/L      Signal   Area    Height
1      0.0218     0.133     0.0016   0.0067  0.0017   4:23:35 PM  Yes
2      0.0199     0.122     0.0015   0.0044  0.0016   4:24:21 PM  Yes
Mean:  0.0209     0.127     0.0015
SD:     0.00135    0.0082    0.0001
%RSD:  6.44%      6.44%      6.11
=====
```

```
=====
Sequence No.: 45                      Autosampler Location: 29
Sample ID: 17-03-0141-27             Date Collected: 3/8/2017 4:24:46 PM
Analyst: 868 HG-8                   Data Type: Original
Initial Sample Wt: 0.62 g            Initial Sample Vol:
Dilution:                          Sample Prep Vol: 100 mL
Wash Time (before sample): 0        Auto Dilution Factor: 1
=====
```

```
-----
Replicate Data: 17-03-0141-27        Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/kg      ug/L      Signal   Area    Height
1      0.0104     0.0642    0.0008   0.0028  0.0010   4:25:50 PM  Yes
2      0.00881    0.0546    0.0007   0.0026  0.0008   4:26:36 PM  Yes
Mean:  0.00958     0.0594    0.0008
SD:     0.001091    0.00676    0.0001
%RSD:  11.38%      11.38%     10.21
=====
```

```
=====
Sequence No.: 46                      Autosampler Location: 30
Sample ID: 17-03-0141-28             Date Collected: 3/8/2017 4:27:01 PM
Analyst: 868 HG-8                   Data Type: Original
Initial Sample Wt: 0.61 g            Initial Sample Vol:
Dilution:                          Sample Prep Vol: 100 mL
Wash Time (before sample): 0        Auto Dilution Factor: 1
=====
```

```
-----
Replicate Data: 17-03-0141-28        Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/kg      ug/L      Signal   Area    Height
1      0.0237     0.144     0.0017   0.0089  0.0019   4:28:05 PM  Yes
2      0.0202     0.123     0.0015   0.0058  0.0016   4:28:51 PM  Yes
Mean:  0.0219     0.134     0.0016
SD:     0.00245     0.0150    0.0002
=====
```

%RSD: 11.18% 11.18% 10.64

Sequence No.: 47

Sample ID: CCV 0.2x10ppb

Analyst: 868 HG-8

Initial Sample Wt:

Dilution:

Wash Time (before sample): 0

Autosampler Location: 5

Date Collected: 3/8/2017 4:29:17 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.00206	2.06	0.0238	0.0873	0.0239	4:30:22 PM	Yes
2	0.00195	1.95	0.0225	0.0794	0.0226	4:31:07 PM	Yes
Mean:	0.00200	2.00	0.0231				
SD:	0.000081	0.081	0.0009				
%RSD:	4.06%	4.06%	4.05				

QC value within limits for Hg 253.7 Recovery = 100.22%

All analyte(s) passed QC.

Sequence No.: 48

Sample ID: CCB

Analyst: 868 HG-8

Initial Sample Wt:

Dilution:

Wash Time (before sample): 0

Autosampler Location: 1

Date Collected: 3/8/2017 4:31:34 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1.0000

Replicate Data: CCB

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.000001	0.00139	0.0001	0.0017	0.0002	4:32:38 PM	Yes
2	-0.000002	-0.00153	0.0001	0.0013	0.0002	4:33:23 PM	Yes
Mean:	-0.000000	-0.000072	0.0001				
SD:	0.0000021	0.0020660	0.0000				
%RSD:	>999.9%	>999.9%	30.75				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 49

Sample ID: 17-03-0141-29

Analyst: 868 HG-8

Initial Sample Wt: 0.63 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 31

Date Collected: 3/8/2017 4:33:48 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Replicate Data: 17-03-0141-29

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.102	0.640	0.0074	0.0276	0.0076	4:34:52 PM	Yes
2	0.0957	0.603	0.0070	0.0261	0.0072	4:35:37 PM	Yes
Mean:	0.0986	0.621	0.0072				
SD:	0.00414	0.0261	0.0003				
%RSD:	4.19%	4.19%	4.15				

Sequence No.: 50

Sample ID: 17-03-0141-30

Analyst: 868 HG-8

Initial Sample Wt: 0.6 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 32

Date Collected: 3/8/2017 4:36:03 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Replicate Data: 17-03-0141-30

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored

1	0.0131	0.0783	0.0010	0.0043	0.0011	4:37:08 PM	Yes
2	0.0122	0.0732	0.0009	0.0042	0.0011	4:37:53 PM	Yes
Mean:	0.0126	0.0758	0.0010				
SD:	0.00060	0.00361	0.0000				
%RSD:	4.76%	4.76%	4.37				

Sequence No.: 51
Sample ID: 17-03-0141-31
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 33
Date Collected: 3/8/2017 4:38:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0141-31
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0244	0.151	0.0018	0.0074	0.0020	4:39:23 PM	Yes
2	0.0224	0.139	0.0017	0.0067	0.0018	4:40:09 PM	Yes
Mean:	0.0234	0.145	0.0017				
SD:	0.00138	0.0085	0.0001				
%RSD:	5.89%	5.89%	5.62				

Sequence No.: 52
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/8/2017 4:40:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.00204	2.04	0.0236	0.0873	0.0237	4:41:40 PM	Yes
2	0.00192	1.92	0.0222	0.0789	0.0224	4:42:25 PM	Yes
Mean:	0.00198	1.98	0.0229				
SD:	0.000082	0.082	0.0009				
%RSD:	4.14%	4.14%	4.13				

QC value within limits for Hg 253.7 Recovery = 99.07%
All analyte(s) passed QC.

Sequence No.: 53
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/8/2017 4:42:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: CCB
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	-0.000003	-0.00266	0.0000	0.0006	0.0002	4:43:56 PM	Yes
2	-0.000004	-0.00375	0.0000	0.0009	0.0002	4:44:41 PM	Yes
Mean:	-0.000003	-0.00321	0.0000				
SD:	0.0000008	0.000771	0.0000				
%RSD:	24.06%	24.06%	21.51				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

EPA 7471A Mercury (Solid)

Run Logs

170308H1

Carrier solution R07141602

Reducing Agent R07141603

Sample ID	Analyst Name	Initial		Date	Time	Conc		Units		Corr Coef
		Sample Wt	Analyte Name			(Calib)	(Samp)	(Calib)	(Samp)	
Calib blank_868	868 HG-8		Hg 253.7	3/8/2017	11:50:28 AM	ug/L		ug/L		
0.025ppb 0.005x5ppb	868 HG-8		Hg 253.7	3/8/2017	11:52:41 AM	ug/L		ug/L		
0.10ppb M030617AX0.0001	868 HG-8		Hg 253.7	3/8/2017	11:54:56 AM	ug/L		ug/L		
1.00ppb M030617AX0.001	868 HG-8		Hg 253.7	3/8/2017	11:57:11 AM	ug/L		ug/L		
2.00ppb M030617AX0.002	868 HG-8		Hg 253.7	3/8/2017	11:59:27 AM	ug/L		ug/L		
5.00ppb M030617AX0.005	868 HG-8		Hg 253.7	3/8/2017	12:01:41 PM	ug/L		ug/L		
10.0ppb M030617AX0.01	868 HG-8		Hg 253.7	3/8/2017	12:03:55 PM	ug/L		ug/L		
ICV M030617B	868 HG-8		Hg 253.7	3/8/2017	12:12:46 PM	4.807788 ug/L	0.004808 mg/L			0.999917
ICB	868 HG-8		Hg 253.7	3/8/2017	12:15:00 PM	0.01146 ug/L	1.15E-05 mg/L			0.999917
CRQL 0.25	868 HG-8	0.6	Hg 253.7	3/8/2017	12:17:14 PM	0.251262 ug/L	0.041877 mg/kg			0.999917
17-03-0095-1	868 HG-8	0.61	Hg 253.7	3/8/2017	12:19:29 PM	0.135703 ug/L	0.022246 mg/kg			0.999917
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/8/2017	12:21:45 PM	1.963129 ug/L	0.001963 mg/L			0.999917
CCB	868 HG-8		Hg 253.7	3/8/2017	12:23:59 PM	0.011141 ug/L	1.11E-05 mg/L			0.999917
17-03-0187-3 10X	868 HG-8	0.61	Hg 253.7	3/8/2017	1:16:59 PM	1.992736 ug/L	3.26678 mg/kg			0.999917
170308-B-01	868 HG-8	0.6	Hg 253.7	3/8/2017	1:19:16 PM	-0.0082 ug/L	-0.00137 mg/kg			0.999917
170308-L-01	868 HG-8	0.6	Hg 253.7	3/8/2017	1:21:32 PM	4.691487 ug/L	0.781915 mg/kg			0.999917
17-03-0221-1	868 HG-8	0.61	Hg 253.7	3/8/2017	1:23:50 PM	0.037136 ug/L	0.006088 mg/kg			0.999917
17-03-0221-1 MS	868 HG-8	0.62	Hg 253.7	3/8/2017	1:26:07 PM	4.865908 ug/L	0.784824 mg/kg			0.999917
17-03-0221-1 MSD	868 HG-8	0.61	Hg 253.7	3/8/2017	1:28:25 PM	5.566896 ug/L	0.912606 mg/kg			0.999917
17-03-0221-2	868 HG-8	0.6	Hg 253.7	3/8/2017	1:30:42 PM	0.012982 ug/L	0.002164 mg/kg			0.999917
17-03-0221-5	868 HG-8	0.6	Hg 253.7	3/8/2017	1:33:00 PM	-0.00468 ug/L	-0.00078 mg/kg			0.999917
17-03-0221-6	868 HG-8	0.59	Hg 253.7	3/8/2017	1:35:17 PM	-0.01885 ug/L	-0.00319 mg/kg			0.999917
17-03-0221-9	868 HG-8	0.61	Hg 253.7	3/8/2017	1:37:34 PM	0.044651 ug/L	0.00732 mg/kg			0.999917
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/8/2017	1:39:50 PM	2.009831 ug/L	0.00201 mg/L			0.999917
CCB	868 HG-8		Hg 253.7	3/8/2017	1:42:05 PM	0.011703 ug/L	1.17E-05 mg/L			0.999917

Reviewed/Assigned to: Hg Date: 03-09-17
 Analysis: Hg Sample ID: 309
 Logbook Page: 18 Instrument ID: Hg-8

Initial		Sample		Analyte		Date	Time	Conc		Units		Conc	Units		Corr Coef
Analyst	Sample ID	Name	Wt	Name	Wt			(Calib)	(Samp)	(Calib)	(Samp)		(Calib)	(Samp)	
868 HG-8	17-03-0221-10	868 HG-8	0.62	Hg 253.7	3/8/2017	1:44:20 PM	0.007925 ug/L	0.001278 mg/kg	0.999917						0.999917
868 HG-8	17-03-0221-13	868 HG-8	0.6	Hg 253.7	3/8/2017	1:46:37 PM	0.002139 ug/L	0.000357 mg/kg	0.999917						0.999917
868 HG-8	17-03-0221-14	868 HG-8	0.61	Hg 253.7	3/8/2017	1:48:54 PM	0.007794 ug/L	0.001278 mg/kg	0.999917						0.999917
868 HG-8	17-03-0128-1	868 HG-8	0.58	Hg 253.7	3/8/2017	1:51:11 PM	0.485535 ug/L	0.083713 mg/kg	0.999917						0.999917
868 HG-8	17-03-0128-4	868 HG-8	0.61	Hg 253.7	3/8/2017	1:53:28 PM	0.454294 ug/L	0.074474 mg/kg	0.999917						0.999917
CCV 0.2x10ppb	868 HG-8	Hg 253.7	3/8/2017	1:55:44 PM	1.984692 ug/L	0.001985 mg/L	0.999917								0.999917
CCB	868 HG-8	Hg 253.7	3/8/2017	1:57:58 PM	0.016753 ug/L	1.68E-05 mg/L	0.999917								0.999917
170307-B-02	868 HG-8	Hg 253.7	3/8/2017	2:19:49 PM	-0.01237 ug/L	-0.00206 mg/kg	0.999917								0.999917
170307-L-02	868 HG-8	Hg 253.7	3/8/2017	2:22:07 PM	4.542766 ug/L	0.757128 mg/kg	0.999917								0.999917
17-03-0154-1	868 HG-8	Hg 253.7	3/8/2017	2:24:25 PM	6.095209 ug/L	0.999215 mg/kg	0.999917								0.999917
17-03-0154-1 MSD	868 HG-8	Hg 253.7	3/8/2017	2:26:42 PM	9.167473 ug/L	1.478625 mg/kg	0.999917								0.999917
17-03-0154-1 MSD	868 HG-8	Hg 253.7	3/8/2017	2:28:59 PM	8.862963 ug/L	1.452945 mg/kg	0.999917								0.999917
17-03-0518-1	868 HG-8	Hg 253.7	3/8/2017	2:31:16 PM	0.003397 ug/L	0.000566 mg/kg	0.999917								0.999917
CCV 0.2x10ppb	868 HG-8	Hg 253.7	3/8/2017	2:33:33 PM	2.020521 ug/L	0.002021 mg/L	0.999917								0.999917
CCB	868 HG-8	Hg 253.7	3/8/2017	2:35:48 PM	0.017314 ug/L	1.73E-05 mg/L	0.999917								0.999917
17-02-2480-5	868 HG-8	Hg 253.7	3/8/2017	2:45:44 PM	0.585836 ug/L	0.09449 mg/kg	0.999917								0.999917
170308-B-02	868 HG-8	Hg 253.7	3/8/2017	2:48:01 PM	-0.00863 ug/L	-0.00144 mg/kg	0.999917								0.999917
170308-L-02	868 HG-8	Hg 253.7	3/8/2017	2:50:18 PM	4.770499 ug/L	0.795083 mg/kg	0.999917								0.999917
17-03-0458-1	868 HG-8	Hg 253.7	3/8/2017	2:52:35 PM	0.199314 ug/L	0.032147 mg/kg	0.999917								0.999917
17-03-0458-1 MS	868 HG-8	Hg 253.7	3/8/2017	2:54:52 PM	4.444273 ug/L	0.740712 mg/kg	0.999917								0.999917
17-03-0458-1 MSD	868 HG-8	Hg 253.7	3/8/2017	2:57:09 PM	4.45869 ug/L	0.719144 mg/kg	0.999917								0.999917
17-03-0458-1 PDS	868 HG-8	Hg 253.7	3/8/2017	2:59:26 PM	4.480489 ug/L	0.72266 mg/kg	0.999917								0.999917
17-03-0458-1 5X	868 HG-8	Hg 253.7	3/8/2017	3:01:44 PM	0.028423 ug/L	0.022922 mg/kg	0.999917								0.999917
17-03-0458-2	868 HG-8	Hg 253.7	3/8/2017	3:04:01 PM	0.170539 ug/L	0.028423 mg/kg	0.999917								0.999917
17-03-0457-1	868 HG-8	Hg 253.7	3/8/2017	3:06:18 PM	0.299 ug/L	0.049833 mg/kg	0.999917								0.999917
CCV 0.2x10ppb	868 HG-8	Hg 253.7	3/8/2017	3:08:38 PM	1.993902 ug/L	0.001994 mg/L	0.999917								0.999917
CCB	868 HG-8	Hg 253.7	3/8/2017	3:10:54 PM	0.016483 ug/L	1.65E-05 mg/L	0.999917								0.999917
17-03-0457-2	868 HG-8	Hg 253.7	3/8/2017	3:13:09 PM	0.28045 ug/L	0.045234 mg/kg	0.999917								0.999917
17-03-0457-3	868 HG-8	Hg 253.7	3/8/2017	3:15:27 PM	0.140396 ug/L	0.022644 mg/kg	0.999917								0.999917

Reviewed/Assign to Logbook Date: 03-09-17
 Analysis Hg Chemist ID: 309
 Logbook Page: 19 Instrument ID: Hg-8

Sample ID	Analyst Name	Initial Sample		Analyte Name	Date	Time	Conc		Units	Conc		Units	Corr Coef
		Wt					(Calib)	(Calib)		(Samp)	(Samp)		
17-03-0457-4	868 HG-8	0.61	Hg	253.7	3/8/2017	3:17:45 PM	0.189384	ug/L	0.031047	mg/kg		0.999917	
17-03-0457-5	868 HG-8	0.6	Hg	253.7	3/8/2017	3:20:04 PM	0.087569	ug/L	0.014595	mg/kg		0.999917	
17-03-0542-1	868 HG-8	0.62	Hg	253.7	3/8/2017	3:22:23 PM	0.173912	ug/L	0.02805	mg/kg		0.999917	
17-03-0542-2	868 HG-8	0.6	Hg	253.7	3/8/2017	3:24:41 PM	0.271186	ug/L	0.045198	mg/kg		0.999917	
17-03-0542-3	868 HG-8	0.63	Hg	253.7	3/8/2017	3:27:00 PM	0.132441	ug/L	0.021022	mg/kg		0.999917	
17-03-0542-4	868 HG-8	0.62	Hg	253.7	3/8/2017	3:29:19 PM	0.090313	ug/L	0.014567	mg/kg		0.999917	
CRQL 0.25	868 HG-8	0.6	Hg	253.7	3/8/2017	3:31:37 PM	0.257799	ug/L	0.042967	mg/kg		0.999917	
170308-B-03	868 HG-8	0.6	Hg	253.7	3/8/2017	3:33:53 PM	-0.01099	ug/L	-0.00183	mg/kg		0.999917	
CCV 0.2x10ppb	868 HG-8		Hg	253.7	3/8/2017	3:36:55 PM	1.974421	ug/L	0.001974	mg/L		0.999917	
CCB	868 HG-8		Hg	253.7	3/8/2017	3:39:10 PM	-0.0043	ug/L	-4.30E-06	mg/L		0.999917	
170308-L-03	868 HG-8	0.6	Hg	253.7	3/8/2017	3:41:25 PM	4.785791	ug/L	0.797632	mg/kg		0.999917	
17-03-0335-3	868 HG-8	0.62	Hg	253.7	3/8/2017	3:43:40 PM	0.146672	ug/L	0.023657	mg/kg		0.999917	
17-03-0335-3 MS	868 HG-8	0.6	Hg	253.7	3/8/2017	3:45:57 PM	4.582061	ug/L	0.763677	mg/kg		0.999917	
17-03-0335-3 MSD	868 HG-8	0.61	Hg	253.7	3/8/2017	3:48:13 PM	4.007181	ug/L	0.656915	mg/kg		0.999917	
17-03-0335-4	868 HG-8	0.63	Hg	253.7	3/8/2017	3:50:27 PM	0.176047	ug/L	0.027944	mg/kg		0.999917	
17-03-0335-7	868 HG-8	0.61	Hg	253.7	3/8/2017	3:52:41 PM	0.179509	ug/L	0.029428	mg/kg		0.999917	
17-03-0335-8	868 HG-8	0.62	Hg	253.7	3/8/2017	3:54:55 PM	0.143104	ug/L	0.023081	mg/kg		0.999917	
17-03-0335-11	868 HG-8	0.61	Hg	253.7	3/8/2017	3:57:09 PM	0.149329	ug/L	0.02448	mg/kg		0.999917	
17-03-0335-12	868 HG-8	0.63	Hg	253.7	3/8/2017	3:59:23 PM	0.113615	ug/L	0.018034	mg/kg		0.999917	
17-03-0335-15	868 HG-8	0.62	Hg	253.7	3/8/2017	4:01:39 PM	0.167234	ug/L	0.026973	mg/kg		0.999917	
CCV 0.2x10ppb	868 HG-8		Hg	253.7	3/8/2017	4:03:55 PM	2.004488	ug/L	0.002004	mg/L		0.999917	
CCB	868 HG-8		Hg	253.7	3/8/2017	4:06:11 PM	-0.0055	ug/L	-5.50E-06	mg/L		0.999917	
17-03-0335-16	868 HG-8	0.63	Hg	253.7	3/8/2017	4:08:26 PM	0.092148	ug/L	0.014627	mg/kg		0.999917	
17-03-0336-3	868 HG-8	0.61	Hg	253.7	3/8/2017	4:10:42 PM	0.061562	ug/L	0.010092	mg/kg		0.999917	
17-03-0336-4	868 HG-8	0.62	Hg	253.7	3/8/2017	4:12:58 PM	0.273378	ug/L	0.044093	mg/kg		0.999917	
17-03-0140-27	868 HG-8	0.61	Hg	253.7	3/8/2017	4:15:16 PM	0.09808	ug/L	0.016079	mg/kg		0.999917	
17-03-0140-28	868 HG-8	0.63	Hg	253.7	3/8/2017	4:17:33 PM	0.118324	ug/L	0.018782	mg/kg		0.999917	
17-03-0140-29	868 HG-8	0.6	Hg	253.7	3/8/2017	4:19:50 PM	0.134214	ug/L	0.022369	mg/kg		0.999917	
17-03-0140-30	868 HG-8	0.62	Hg	253.7	3/8/2017	4:22:05 PM	0.144241	ug/L	0.023265	mg/kg		0.999917	

Reviewed/Assign to Logbook Date: 03-09-17

Analysis 179 Chemist ID: 309

Logbook Page: 20 Instrument ID: 179-8

Initial														
Sample ID	Analyst Name	Sample		Analyte		Date	Time	Conc		Units		Conc (Samp)	Units (Samp)	Corr Coef
		Wt		Name				(Calib)	(Calib)					
17-03-0140-31	868 HG-8	0.61	Hg	253.7		3/8/2017	4:24:21 PM	0.127391	ug/L	0.020884	mg/kg	0.020884	mg/kg	0.999917
17-03-0141-27	868 HG-8	0.62	Hg	253.7		3/8/2017	4:26:36 PM	0.059416	ug/L	0.009583	mg/kg	0.009583	mg/kg	0.999917
17-03-0141-28	868 HG-8	0.61	Hg	253.7		3/8/2017	4:28:51 PM	0.133866	ug/L	0.021945	mg/kg	0.021945	mg/kg	0.999917
CCV 0.2x10ppb	868 HG-8		Hg	253.7		3/8/2017	4:31:07 PM	2.004381	ug/L	0.002004	mg/L	0.002004	mg/L	0.999917
CCB	868 HG-8		Hg	253.7		3/8/2017	4:33:23 PM	-7.25E-05	ug/L	-7.25E-08	mg/L	-7.25E-08	mg/L	0.999917
17-03-0141-29	868 HG-8	0.63	Hg	253.7		3/8/2017	4:35:37 PM	0.621358	ug/L	0.098628	mg/kg	0.098628	mg/kg	0.999917
17-03-0141-30	868 HG-8	0.6	Hg	253.7		3/8/2017	4:37:53 PM	0.075767	ug/L	0.012628	mg/kg	0.012628	mg/kg	0.999917
17-03-0141-31	868 HG-8	0.62	Hg	253.7		3/8/2017	4:40:09 PM	0.145055	ug/L	0.023396	mg/kg	0.023396	mg/kg	0.999917
CCV 0.2x10ppb	868 HG-8		Hg	253.7		3/8/2017	4:42:25 PM	1.981489	ug/L	0.001981	mg/L	0.001981	mg/L	0.999917
CCB	868 HG-8		Hg	253.7		3/8/2017	4:44:41 PM	-0.00321	ug/L	-3.21E-06	mg/L	-3.21E-06	mg/L	0.999917
17-03-0254-1	868 HG-8	0.61	Hg	253.7		3/8/2017	5:26:02 PM	0.92864	ug/L	0.152236	mg/kg	0.152236	mg/kg	0.999917
17-03-0261-1	868 HG-8	0.63	Hg	253.7		3/8/2017	5:28:19 PM	0.026399	ug/L	0.00419	mg/kg	0.00419	mg/kg	0.999917
17-03-0262-1	868 HG-8	0.62	Hg	253.7		3/8/2017	5:30:35 PM	0.456701	ug/L	0.073661	mg/kg	0.073661	mg/kg	0.999917
17-03-0263-1	868 HG-8	0.63	Hg	253.7		3/8/2017	5:32:53 PM	0.399731	ug/L	0.063449	mg/kg	0.063449	mg/kg	0.999917
17-03-0265-1	868 HG-8	0.61	Hg	253.7		3/8/2017	5:35:08 PM	0.137598	ug/L	0.022557	mg/kg	0.022557	mg/kg	0.999917
17-03-0265-3	868 HG-8	0.62	Hg	253.7		3/8/2017	5:37:22 PM	0.046507	ug/L	0.007501	mg/kg	0.007501	mg/kg	0.999917
17-03-0267-1	868 HG-8	0.61	Hg	253.7		3/8/2017	5:39:38 PM	0.258294	ug/L	0.042343	mg/kg	0.042343	mg/kg	0.999917
17-03-0291-1	868 HG-8	0.63	Hg	253.7		3/8/2017	5:41:53 PM	0.070434	ug/L	0.01118	mg/kg	0.01118	mg/kg	0.999917
17-03-0607-1	868 HG-8	0.6	Hg	253.7		3/8/2017	5:44:09 PM	0.025224	ug/L	0.004204	mg/kg	0.004204	mg/kg	0.999917
CCV 0.2x10ppb	868 HG-8		Hg	253.7		3/8/2017	5:46:23 PM	1.980812	ug/L	0.001981	mg/L	0.001981	mg/L	0.999917
CCB	868 HG-8		Hg	253.7		3/8/2017	5:48:38 PM	0.000409	ug/L	4.09E-07	mg/L	4.09E-07	mg/L	0.999917

Reviewed/Assign to Logbook Date: 03-09-17
 Analysis Hg Chemist ID: 309
 Logbook Page: 21 Instrument ID: Hg-8

EPA 7471A Mercury (Solid)

Preparation Logs

Mercury Sample Preparation Logbook (Solid / Other)

Page 337 of 524

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #				
☒ EPA 7471A	☒ Solid			Thermometer	1711147495 (CF 0.0 °C)	Aqua Regia	R04791661 10 mL	Spike	M0306171			
☐ EPA 7471B	☐ Other (Specify)			Block Digester	5	5% KMnO ₄	R00061661	IC	1 A			
				Pipetter / Dispenser	P071 / X	NaCl-H ₂ NO-HCl	R10261661 6 mL	ICV	1 B			
BATCH NUMBER		SUPPLY LOT #		BALANCE ID #		QUALITY SYSTEM MATRIX ID #		SAMPLE HANDLING				
MS/MSD 170308-503		Tube / Container 160925		36		Teflon Chip M0063518		1 = Composite 2 = Subsample				
(Specify)		Filter				(Specify)		3 = Homogenize 4 = None				
DIGESTION												
DATE	TIME	START		END		SAMPLE HANDLING	ECI ID #	SAMPLE		5% KMNO ₄ V (mL)	SPIKE OR IC/ICV V (μL)	
		TEMP W/O CF (°C)	PREP TECH ID #	TEMP W/O CF (°C)	PREP TECH ID #			INITIAL (g)	FINAL (mL)			
3/8/17	13:00	95	808	13:45	95	868	4	MS 17-03-0335-3A	0.60	100	15	500
								MSD 1	0.61			
								LCS 170308-L03	0.60			
								LCSD / MB 170308-B03	0.60			
								17-03-0335-3A	0.62			
								4	0.63			
								78	0.61			
								8	0.62			
								11	0.61			
								12	0.63			
								15	0.62			
								16	0.63			
								17-03-0336-3A	0.61			
								4A	0.62			
								17-03-0146-27A	0.61			
								28	0.63			
								29	0.40			
								30	0.62			
								31	0.61			
								17-03-0141-27A	0.62			
								28	0.61			
								29	0.63			
								30	0.60			
								31	0.62			
								IC				
								ICV				
								CB				

COMMENTS: * D-003 / M0-043 / D-058

EPA METHOD 8082 PCB

RAW DATA

EPA METHOD 8082 PCB

Initial Calibration

INITIAL CALIBRATION QUALITY CONTROL SUMMARY
FOR METHOD: EPA 8082

ICAL WORK ORDER: 099-12-532-9351-5154
ICAL BATCH ID: 1702221003
INSTRUMENT: GC 66

ANALYZED BY: 669
ICAL D/T ANALYZED: 2017-02-22 17:27
REVIEWED BY: 27
D/T REVIEWED: 2017-02-24 16:33

COMPOUND	COMP. TYPE	CALIB. MODEL 1	2	3	4	5	6	7	8	9	Avg. RF	Min. RF	%RSD CL	%RSD CL	R or R^2	R or R^2 CL	STATUS
Aroclor-1016	C	Avg RF	975,287	941,045	882,730	864,861	802,600				893.3	0.00	8	0-20			PASS
											04						
Aroclor-1260	C	Avg RF	1,012,414	995,847	939,916	914,296	876,433				947.7	0.00	6	0-20			PASS
											81						

Data Files:

Level #	D/T Analyzed	Data File
1	2017-02-22 17:27	/chem1/SVOA/GC_66/170222A/b1702220117022201
2	2017-02-22 17:45	/chem1/SVOA/GC_66/170222A/b1702220217022202
3	2017-02-22 18:03	/chem1/SVOA/GC_66/170222A/b1702220317022203
4	2017-02-22 18:21	/chem1/SVOA/GC_66/170222A/b1702220417022204
5	2017-02-22 18:38	/chem1/SVOA/GC_66/170222A/b1702220517022205

LR - E: Linear Regression (Equal Weight)
Avg RF: Average Response Factor

LR - IC: Linear Regression (Inverse Concentration Weight)
QR - E: Quadratic Regression (Equal Weight)

LR - ISC: Linear Regression (Inverse Square Concentration Weight)

INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

ICV WORK ORDER: 099-12-532-9351-5154
INITIAL BATCH: 1702221003
INSTRUMENT: GC 66
DATA FILE: /chem1/SVOA/GC_66/170222A/b1702220617022206

ANALYZED BY: 669
D/T ANALYZED: 2017-02-22 17:27
INITIAL: 2017-02-22 18:56
ICV: 27
REVIEWED BY: 2017-02-24 16:33
D/T REVIEWED:

COMPOUND NAME	COMP CALIB		MIN RF	AVG RF	ICV RF	AMOUNT	ICV CONC	ICV %D	ICV %D CL	STATUS
	TYPE	MODEL								
Aroclor-1016	C	Avg Resp	0.00	893304.438	1007962.398			-13	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	1078849.128			-14	0-15	PASS

MIN RF: Method Specified Minimum Response Factor



Report Date : 03-Mar-2017 10:49

Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
 End Cal Date : 22-FEB-2017 20:07
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
 Cal Date : 03-Mar-2017 10:49 uhhn
 Curve Type : Average

Calibration File Names:

Level 1: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
 Level 2: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
 Level 3: /chem1/SVOA/GC_66.i/170222A.b/b17022210.d
 Level 4: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
 Level 5: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d

Compound	100.000	250.000	500.000	750.000	2000.000	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5			
M 2 Aroclor-1016	975287	941045	882730	864861	802600	893304	8
3 Aroclor 1016 (1)	101963	96557	88889	85902	76867	90036	11
4 Aroclor 1016 (2)	177940	169399	157230	152953	139805	159465	9
5 Aroclor 1016 (3)	368139	367391	353292	350925	334872	354924	4
6 Aroclor 1016 (4)	185303	173132	158540	153765	139752	162098	11
7 Aroclor 1016 (5)	141942	134567	124778	121316	111304	126781	9
M 8 Aroclor-1260	1012414	995847	939916	914296	876433	947781	6
9 Aroclor 1260 (1)	295733	284622	266899	258701	245467	270285	7
10 Aroclor 1260 (2)	233964	225940	211260	204056	194563	213956	7
11 Aroclor 1260 (3)	244538	243699	232324	225188	219576	233065	5
12 Aroclor 1260 (4)	84774	85815	81119	85251	78652	83122	4
13 Aroclor 1260 (5)	153405	155772	148314	141098	138176	147353	5
M 14 Aroclor-1221	++++	++++	293209	++++	++++	293209	0
15 Aroclor 1221 (1)	++++	++++	43149	++++	++++	43149	0
16 Aroclor 1221 (2)	++++	++++	55578	++++	++++	55578	0
17 Aroclor 1221 (3)	++++	++++	34870	++++	++++	34870	0
18 Aroclor 1221 (4)	++++	++++	138535	++++	++++	138535	0
19 Aroclor 1221 (5)	++++	++++	21077	++++	++++	21077	0
M 20 Aroclor-1232	++++	++++	461201	++++	++++	461201	0
21 Aroclor 1232 (1)	++++	++++	93661	++++	++++	93661	0
22 Aroclor 1232 (2)	++++	++++	75982	++++	++++	75982	0
23 Aroclor 1232 (3)	++++	++++	160461	++++	++++	160461	0

Report Date : 03-Mar-2017 10:49

Page 2

Eurofins Calscience
INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
 End Cal Date : 22-FEB-2017 20:07
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
 Cal Date : 03-Mar-2017 10:49 uhhn
 Curve Type : Average

	100.000	250.000	500.000	750.000	2000.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
24 Aroclor 1232 (4)	++++	++++	74085	++++	++++	74085	0
25 Aroclor 1232 (5)	++++	++++	57013	++++	++++	57013	0
M 26 Aroclor-1242	++++	++++	721392	++++	++++	721392	0
27 Aroclor 1242 (1)	++++	++++	71280	++++	++++	71280	0
28 Aroclor 1242 (2)	++++	++++	129507	++++	++++	129507	0
29 Aroclor 1242 (3)	++++	++++	287006	++++	++++	287006	0
30 Aroclor 1242 (4)	++++	++++	130903	++++	++++	130903	0
31 Aroclor 1242 (5)	++++	++++	102696	++++	++++	102696	0
M 32 Aroclor-1248	++++	++++	698713	++++	++++	698713	0
33 Aroclor 1248 (1)	++++	++++	185195	++++	++++	185195	0
34 Aroclor 1248 (2)	++++	++++	103145	++++	++++	103145	0
35 Aroclor 1248 (3)	++++	++++	76812	++++	++++	76812	0
36 Aroclor 1248 (4)	++++	++++	152023	++++	++++	152023	0
37 Aroclor 1248 (5)	++++	++++	181538	++++	++++	181538	0
M 38 Aroclor-1254	++++	++++	1318858	++++	++++	1318858	0
39 Aroclor 1254 (1)	++++	++++	265379	++++	++++	265379	0
40 Aroclor 1254 (2)	++++	++++	186148	++++	++++	186148	0
41 Aroclor 1254 (3)	++++	++++	350152	++++	++++	350152	0
42 Aroclor 1254 (4)	++++	++++	239737	++++	++++	239737	0
43 Aroclor 1254 (5)	++++	++++	277442	++++	++++	277442	0
M 44 Aroclor-1262	++++	++++	1059164	++++	++++	1059164	0
45 Aroclor 1262 (1)	++++	++++	199559	++++	++++	199559	0
46 Aroclor 1262 (2)	++++	++++	285769	++++	++++	285769	0
47 Aroclor 1262 (3)	++++	++++	264628	++++	++++	264628	0
48 Aroclor 1262 (4)	++++	++++	89771	++++	++++	89771	0
49 Aroclor 1262 (5)	++++	++++	219437	++++	++++	219437	0
M 50 Aroclor-1268	++++	++++	4264652	++++	++++	4264652	0
51 Aroclor 1268 (1)	++++	++++	707347	++++	++++	707347	0
52 Aroclor 1268 (2)	++++	++++	709040	++++	++++	709040	0

Report Date : 03-Mar-2017 10:49

Page 3

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
 End Cal Date : 22-FEB-2017 20:07
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
 Cal Date : 03-Mar-2017 10:49 uhhn
 Curve Type : Average

	100.000	250.000	500.000	750.000	2000.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
53 Aroclor 1268 (3)	+++++	+++++	580421	+++++	+++++	580421	0
54 Aroclor 1268 (4)	+++++	+++++	255277	+++++	+++++	255277	0
55 Aroclor 1268 (5)	+++++	+++++	2012567	+++++	+++++	2012567	0
=====	=====	=====	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	5417720	5823446	5836705	5879203	5752252	5741865	3
\$ 56 Decachlorobiphenyl	5382862	5603807	5539339	5351948	5420179	5459627	2
=====	=====	=====	=====	=====	=====	=====	=====

Report Date : 03-Mar-2017 10:49

Page 4

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
End Cal Date : 22-FEB-2017 20:07
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Cal Date : 03-Mar-2017 10:49 uhhn
Curve Type : Average

Average %RSD Results.	
=====	
Calculated Average %RSD =	6.53024
Maximum Average %RSD =	20.00000
* Passed Average %RSD Test.	

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_66.i Injection Date and Time: 22-FEB-2017 18:56
 Sample Name: PCB ICV P021517H 500PPB Initial Calibration Date(s): 17-OCT-2016 22-FEB-2017
 Sublist used: p1016_1260.sub Initial Calibration Time(s): 20:04 20:07
 Method used: /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type	
Aroclor 1260 (1)	270284.532	318239.382	0.01	-18	15	Averaged	<-Failed
Aroclor 1260 (2)	213956.488	237968.342	0.01	-11	15	Averaged	
Aroclor 1260 (3)	233064.808	267435.304	0.01	-15	15	Averaged	
Aroclor 1260 (4)	83122.167	83559.856	0.01	-1	15	Averaged	
Aroclor-1260	947781.003	1078849.128	0.01	-14	15	Averaged	
Aroclor-1016	893304.438	1007962.398	0.01	-13	15	Averaged	
Aroclor 1016 (1)	90035.625	99898.782	0.01	-11	15	Averaged	
Aroclor 1016 (2)	159465.395	177206.146	0.01	-11	15	Averaged	
Aroclor 1016 (3)	354923.864	406965.954	0.01	-15	15	Averaged	
Aroclor 1016 (4)	162098.269	181154.002	0.01	-12	15	Averaged	
Aroclor 1016 (5)	126781.283	142737.514	0.01	-13	15	Averaged	
Aroclor 1260 (5)	147353.008	171646.244	0.01	-16	15	Averaged	<-Failed
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type	
2,4,5,6-Tetrachloro-m-xylene	5741865.170	5554897.950	0.01	3	15	Averaged	
Decachlorobiphenyl	5459627.040	5505849.720	0.01	-1	15	Averaged	

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
Lab Smp Id:
Inj Date : 22-FEB-2017 17:27
Operator : 944
Smp Info : PCB ICAL1 P021517F 100PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 22-FEB-2017 17:27
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4
Inst ID: GC_66.i
Quant Type: ESTD
Cal File: b17022201.d
Calibration Sample, Level: 1
Compound Sublist: p1016_1260.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.694	4.694	0.000	108354401	20.0000	18.9(a)
M 2 Aroclor-1016				97528686	100.000	109
3 Aroclor 1016 (1)	5.539	5.533	0.006	10196308	100.000	113
4 Aroclor 1016 (2)	6.168	6.165	0.003	17794023	100.000	112
5 Aroclor 1016 (3)	6.852	6.844	0.008	36813879	100.000	104
6 Aroclor 1016 (4)	7.050	7.043	0.007	18530301	100.000	114
7 Aroclor 1016 (5)	7.204	7.194	0.010	14194175	100.000	112
M 8 Aroclor-1260				101241371	100.000	107
9 Aroclor 1260 (1)	9.753	9.749	0.004	29573320	100.000	109
10 Aroclor 1260 (2)	10.352	10.348	0.004	23396360	100.000	109
11 Aroclor 1260 (3)	10.745	10.742	0.003	24453781	100.000	105
12 Aroclor 1260 (4)	12.119	12.115	0.004	8477403	100.000	102
13 Aroclor 1260 (5)	12.340	12.337	0.003	15340507	100.000	104
\$ 56 Decachlorobiphenyl	13.107	13.103	0.004	107657233	20.0000	19.7(a)

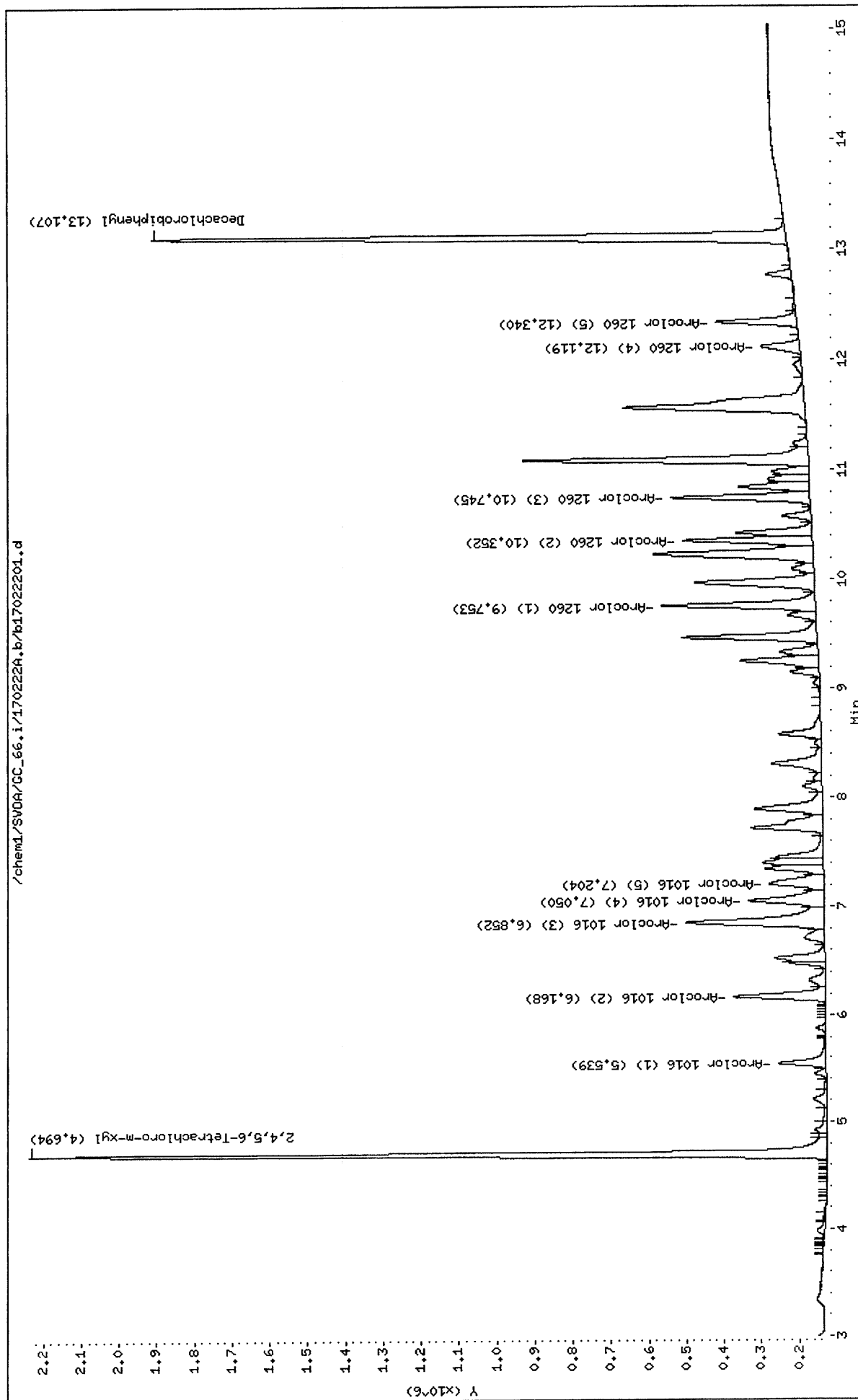
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022201.d
Date : 22-FEB-2017 17:27
Client ID:
Sample Info: PCB ICAL1 P021517F 100PPB

Column phase:

Instrument: GC_66.i
Operator: 944
Column diameter: 2.00



Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
Lab Smp Id:
Inj Date : 22-FEB-2017 17:45
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB ICAL2 P021517E 250PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 22-FEB-2017 17:45 Cal File: b17022202.d
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

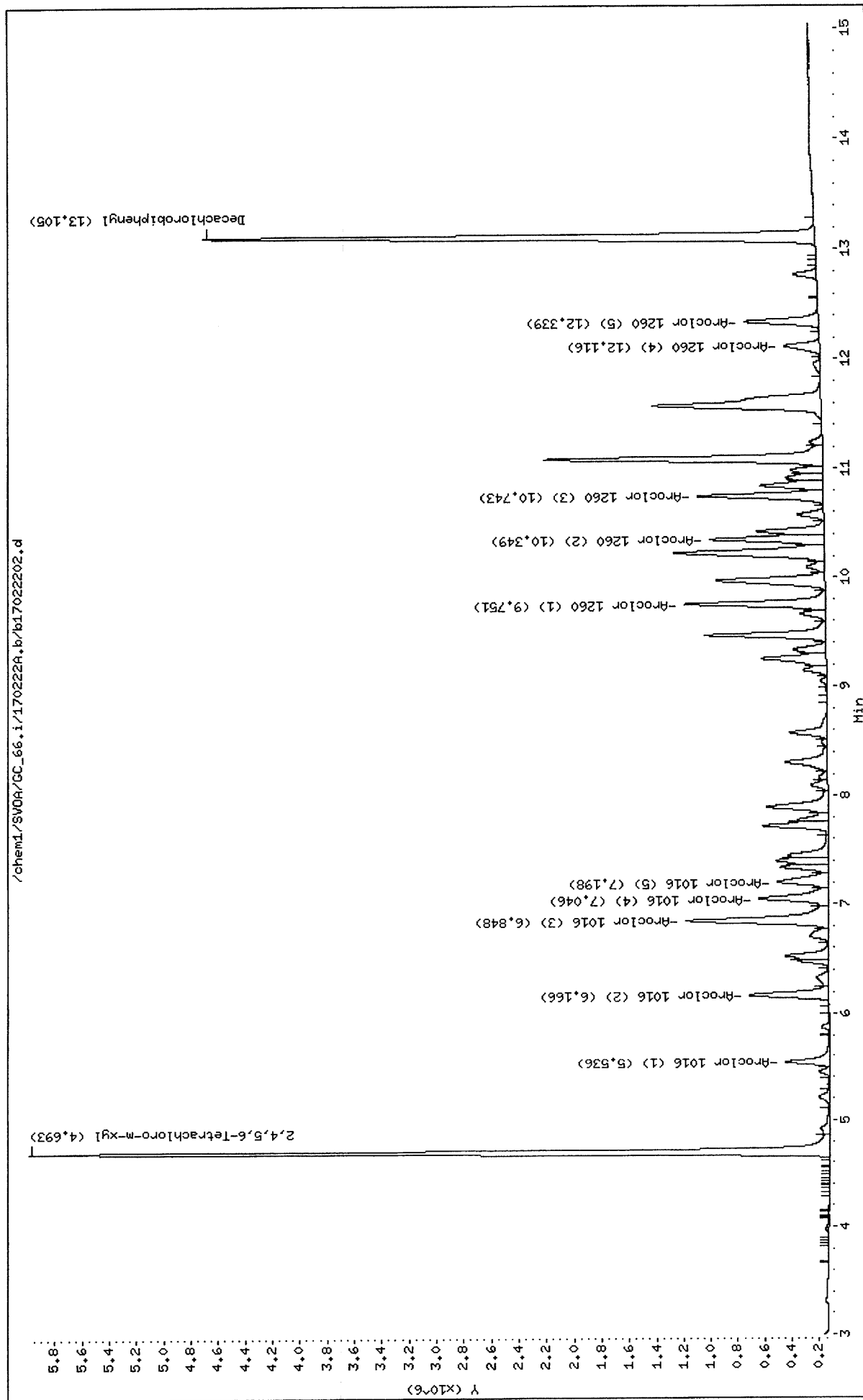
Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.694	-0.001	291172299	50.0000	50.7
M 2 Aroclor-1016				235261233	250.000	263
3 Aroclor 1016 (1)	5.536	5.539	-0.003	24139170	250.000	268
4 Aroclor 1016 (2)	6.166	6.168	-0.002	42349726	250.000	266
5 Aroclor 1016 (3)	6.848	6.852	-0.004	91847697	250.000	259
6 Aroclor 1016 (4)	7.046	7.050	-0.004	43282979	250.000	267
7 Aroclor 1016 (5)	7.198	7.204	-0.006	33641661	250.000	265
M 8 Aroclor-1260				248961695	250.000	263
9 Aroclor 1260 (1)	9.751	9.753	-0.002	71155515	250.000	263
10 Aroclor 1260 (2)	10.349	10.352	-0.003	56484954	250.000	264
11 Aroclor 1260 (3)	10.743	10.745	-0.002	60924633	250.000	261
12 Aroclor 1260 (4)	12.116	12.119	-0.003	21453649	250.000	258
13 Aroclor 1260 (5)	12.339	12.340	-0.001	38942944	250.000	264
\$ 56 Decachlorobiphenyl	13.105	13.107	-0.002	280190360	50.0000	51.3

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022202.d
Date : 22-FEB-2017 17:45
Client ID:
Sample Info: PCB ICAL2 P021517E 250PPB
Column phase:

Instrument: GC_66.i
Operator: 944
Column diameter: 2.00



Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022203.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:03
Operator : 944
Smp Info : PCB ICAL3 P021517D 500PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 27-JAN-2017 13:18
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4
Inst ID: GC_66.i
Quant Type: ESTD
Cal File: b17012710.d
Calibration Sample, Level: 3
Compound Sublist: p1016_1260.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.692	4.693	-0.001	583670480	100.000	102
M 2 Aroclor-1016				441364860	500.000	494
3 Aroclor 1016 (1)	5.533	5.536	-0.003	44444648	500.000	494
4 Aroclor 1016 (2)	6.164	6.166	-0.002	78615211	500.000	493
5 Aroclor 1016 (3)	6.844	6.848	-0.004	176646127	500.000	498
6 Aroclor 1016 (4)	7.043	7.046	-0.003	79269778	500.000	489
7 Aroclor 1016 (5)	7.195	7.198	-0.003	62389096	500.000	492
M 8 Aroclor-1260				469957779	500.000	496
9 Aroclor 1260 (1)	9.749	9.751	-0.002	133449409	500.000	494
10 Aroclor 1260 (2)	10.348	10.349	-0.001	105630017	500.000	494
11 Aroclor 1260 (3)	10.742	10.743	-0.001	116161904	500.000	498
12 Aroclor 1260 (4)	12.115	12.116	-0.001	40559632	500.000	488
13 Aroclor 1260 (5)	12.337	12.339	-0.002	74156817	500.000	503
\$ 56 Decachlorobiphenyl	13.105	13.105	0.000	553933911	100.000	101

Page 1

Data File: /chem1/SVDA/GC_66.i/170222A.b/b17022203.d

Date : 22-FEB-2017 18:03

Client ID:

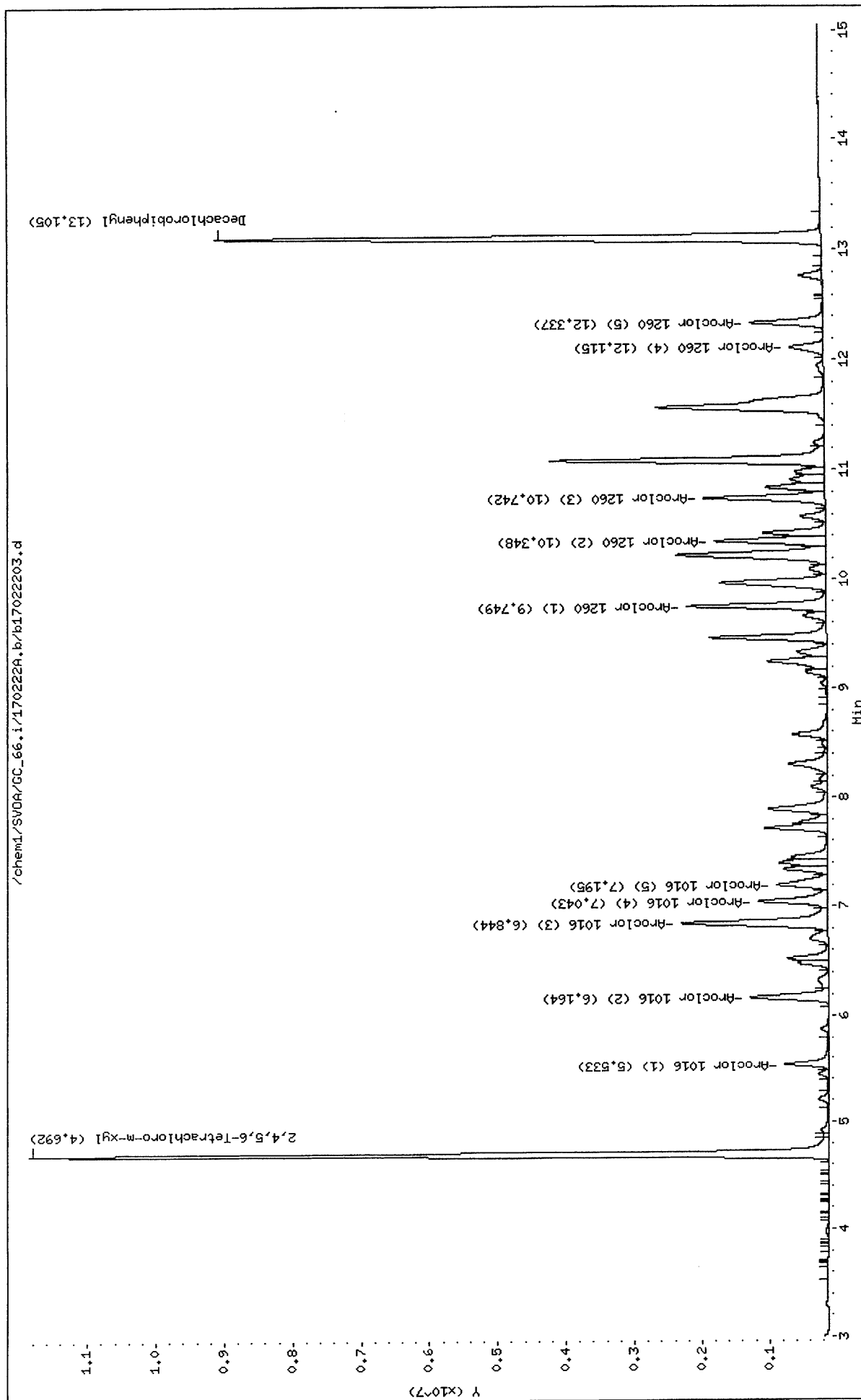
Sample Info: PCB ICAL3 P021517D 500PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:

[Return to Contents](#)

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:21
Operator : 944
Smp Info : PCB ICAL4 P021517C 750PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 22-FEB-2017 18:21
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4
Inst ID: GC_66.i
Quant Type: ESTD
Cal File: b17022204.d
Calibration Sample, Level: 4
Compound Sublist: p1016_1260.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.691	4.692	-0.001	881880457	150.000	154
M 2 Aroclor-1016				648645686	750.000	726
3 Aroclor 1016 (1)	5.530	5.533	-0.003	64426684	750.000	716
4 Aroclor 1016 (2)	6.163	6.164	-0.001	114714592	750.000	719
5 Aroclor 1016 (3)	6.842	6.844	-0.002	263194053	750.000	742
6 Aroclor 1016 (4)	7.041	7.043	-0.002	115323393	750.000	711
7 Aroclor 1016 (5)	7.192	7.195	-0.003	90986964	750.000	718
M 8 Aroclor-1260				685721676	750.000	724
9 Aroclor 1260 (1)	9.748	9.749	-0.001	194025997	750.000	718
10 Aroclor 1260 (2)	10.348	10.348	0.000	153042314	750.000	715
11 Aroclor 1260 (3)	10.742	10.742	0.000	168891068	750.000	725
12 Aroclor 1260 (4)	12.113	12.115	-0.002	63938532	750.000	769
13 Aroclor 1260 (5)	12.336	12.337	-0.001	105823765	750.000	718
\$ 56 Decachlorobiphenyl	13.104	13.105	-0.001	802792169	150.000	147

Page 1

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022204.d

Date : 22-FEB-2017 18:21

Client ID:

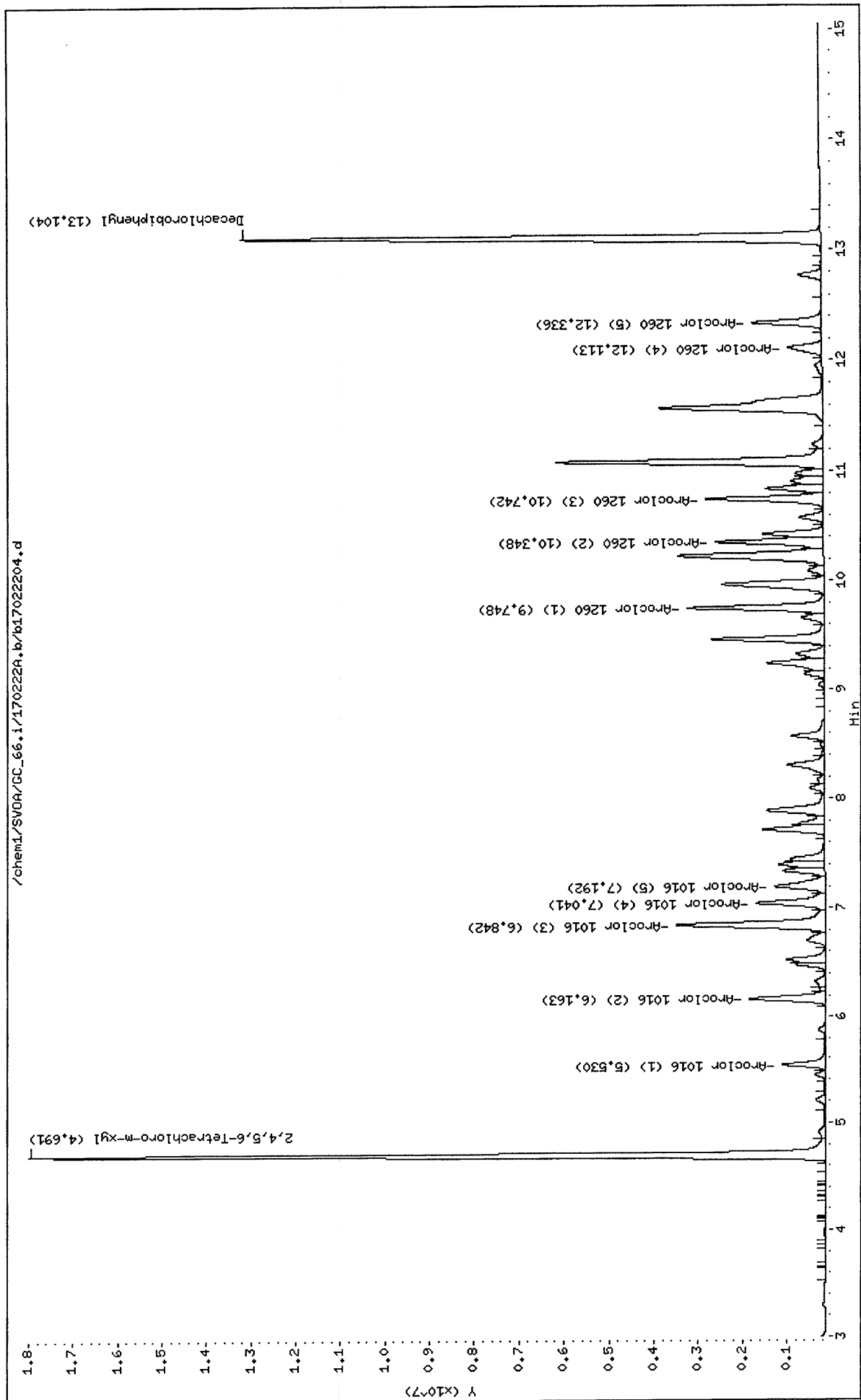
Sample Info: PCB ICAL4 P021517C 750PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:

[Return to Contents](#)

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022205.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:38
Operator : 944
Smp Info : PCB ICAL5 P021517B 2000PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 22-FEB-2017 18:38
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i
Quant Type: ESTD
Cal File: b17022205.d
Calibration Sample, Level: 5
Compound Sublist: p1016_1260.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.691	0.002	2300900796	400.000	401 (A)
M 2 Aroclor-1016				1605199523	2000.00	1800
3 Aroclor 1016 (1)	5.530	5.530	0.000	153733649	2000.00	1710
4 Aroclor 1016 (2)	6.163	6.163	0.000	279609263	2000.00	1750
5 Aroclor 1016 (3)	6.839	6.842	-0.003	669744171	2000.00	1890
6 Aroclor 1016 (4)	7.041	7.041	0.000	279504681	2000.00	1720
7 Aroclor 1016 (5)	7.190	7.192	-0.002	222607759	2000.00	1760
M 8 Aroclor-1260				1752866795	2000.00	1850
9 Aroclor 1260 (1)	9.747	9.748	-0.001	490934501	2000.00	1820
10 Aroclor 1260 (2)	10.347	10.348	-0.001	389125144	2000.00	1820
11 Aroclor 1260 (3)	10.742	10.742	0.000	439151601	2000.00	1880
12 Aroclor 1260 (4)	12.114	12.113	0.001	157303133	2000.00	1890
13 Aroclor 1260 (5)	12.336	12.336	0.000	276352416	2000.00	1880
\$ 56 Decachlorobiphenyl	13.104	13.104	0.000	2168071770	400.000	397

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022205.d

Date : 22-FEB-2017 18:38

Client ID:

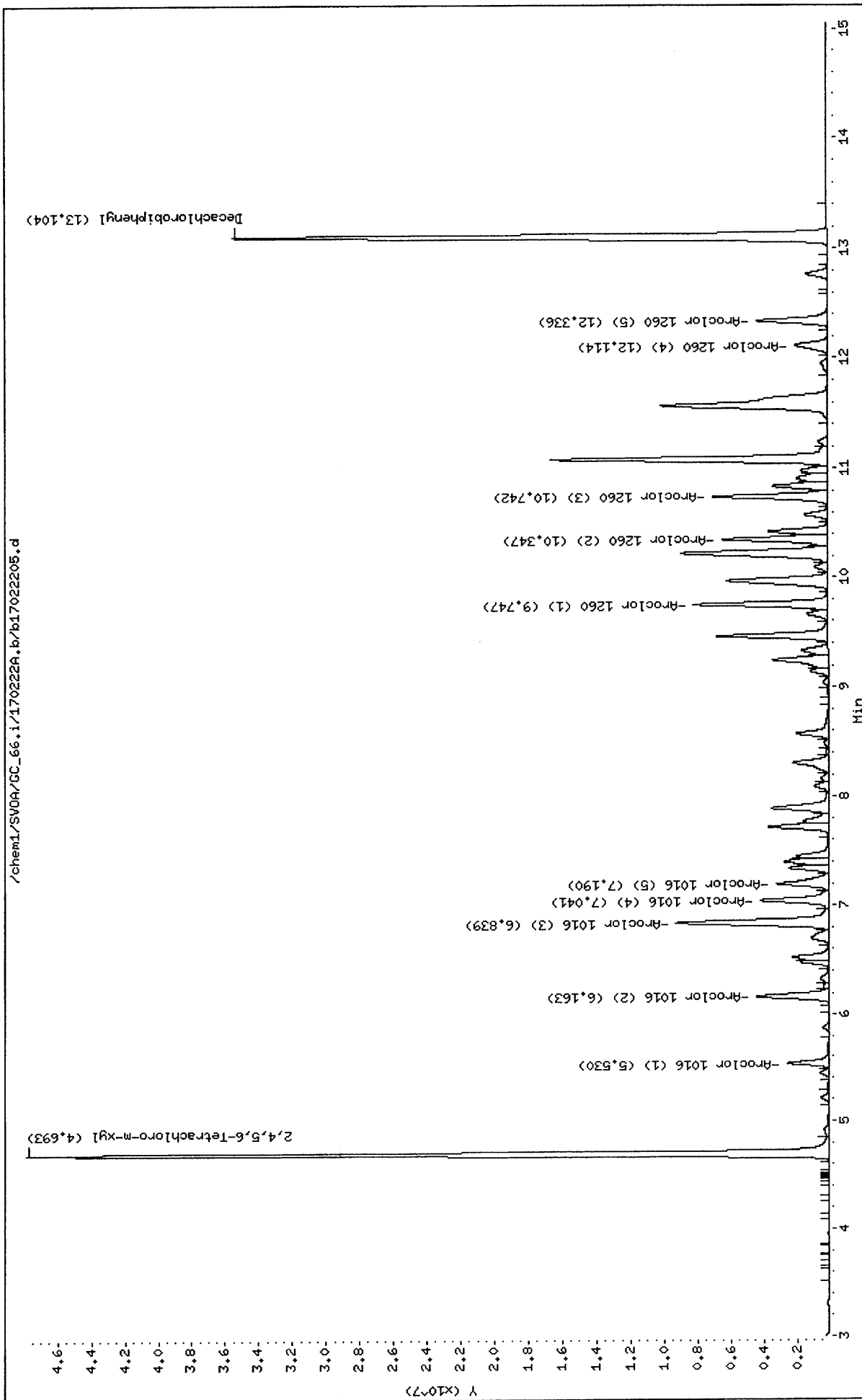
Sample Info: PCB ICAL5 P021517B 2000PPB

Column phase:

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00



Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022206.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:56
Operator : 944
Smp Info : PCB ICV P021517H 500PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 22-FEB-2017 18:38
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i
Quant Type: ESTD
Cal File: b17022205.d
Continuing Calibration Sample
Compound Sublist: p1016_1260.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.694	4.693	0.001	555489795	100.000	96.7
M 2 Aroclor-1016				503981199	500.000	564
3 Aroclor 1016 (1)	5.533	5.530	0.003	49949391	500.000	555
4 Aroclor 1016 (2)	6.165	6.163	0.002	88603073	500.000	556
5 Aroclor 1016 (3)	6.844	6.839	0.005	203482977	500.000	573
6 Aroclor 1016 (4)	7.043	7.041	0.002	90577001	500.000	559
7 Aroclor 1016 (5)	7.194	7.190	0.004	71368757	500.000	563
M 8 Aroclor-1260				539424564	500.000	569
9 Aroclor 1260 (1)	9.749	9.747	0.002	159119691	500.000	589
10 Aroclor 1260 (2)	10.348	10.347	0.001	118984171	500.000	556
11 Aroclor 1260 (3)	10.742	10.742	0.000	133717652	500.000	574
12 Aroclor 1260 (4)	12.115	12.114	0.001	41779928	500.000	503
13 Aroclor 1260 (5)	12.337	12.336	0.001	85823122	500.000	582
\$ 56 Decachlorobiphenyl	13.103	13.104	-0.001	550584972	100.000	101

Page 1

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022206.d

Date : 22-FEB-2017 18:56

Client ID:

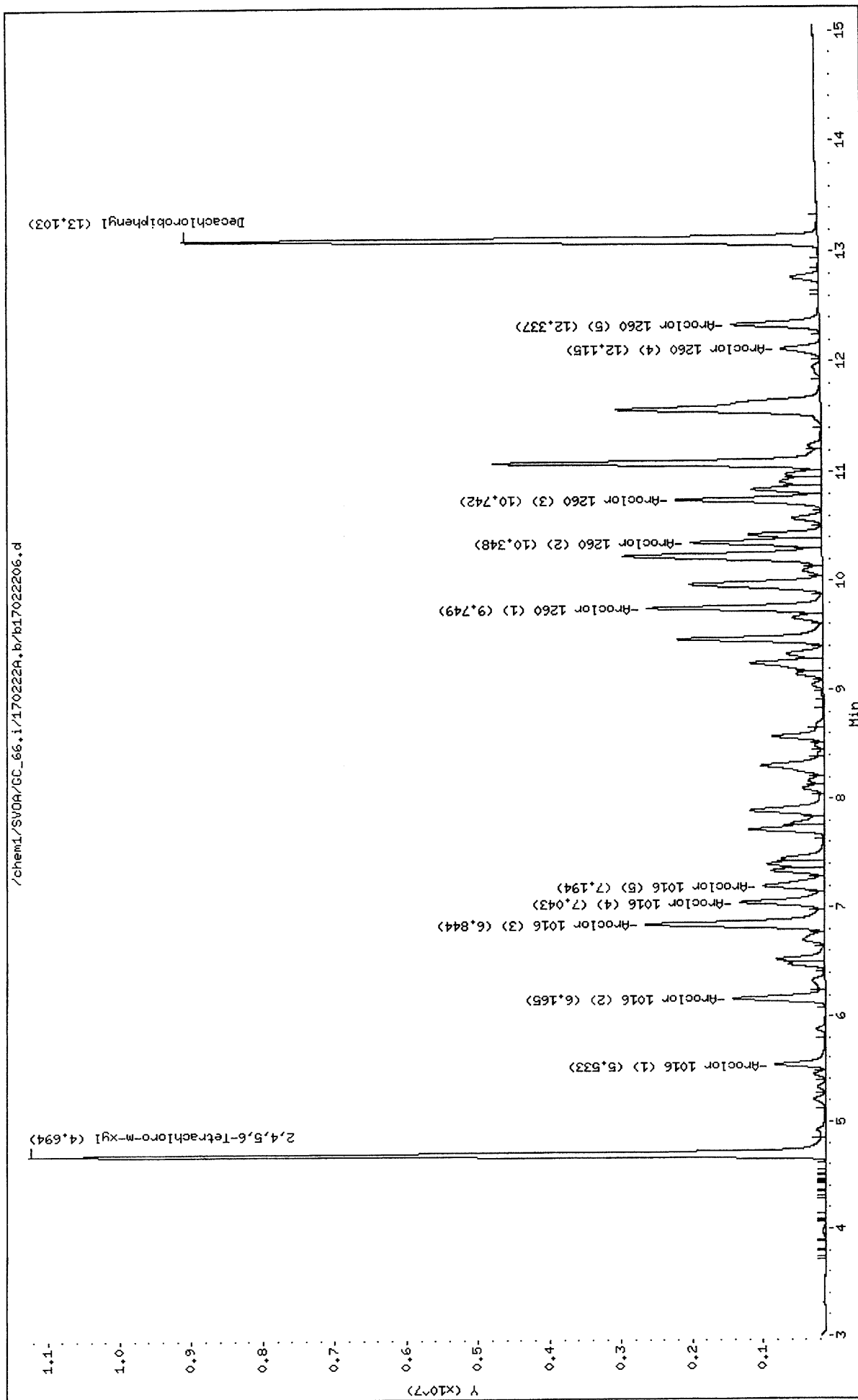
Sample Info: PCB ICV P021517H 500PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:

[Return to Contents](#)

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022207.d
Lab Smp Id:
Inj Date : 22-FEB-2017 19:14
Operator : 944
Smp Info : PCB 1221/54 500PPB P120616I
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 27-JAN-2017 13:18
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i

Quant Type: ESTD

Cal File: b17012710.d

Calibration Sample, Level: 3

Compound Sublist: p1221_1254.sub

Concentration Formula: Amt * DF * CpndVariable

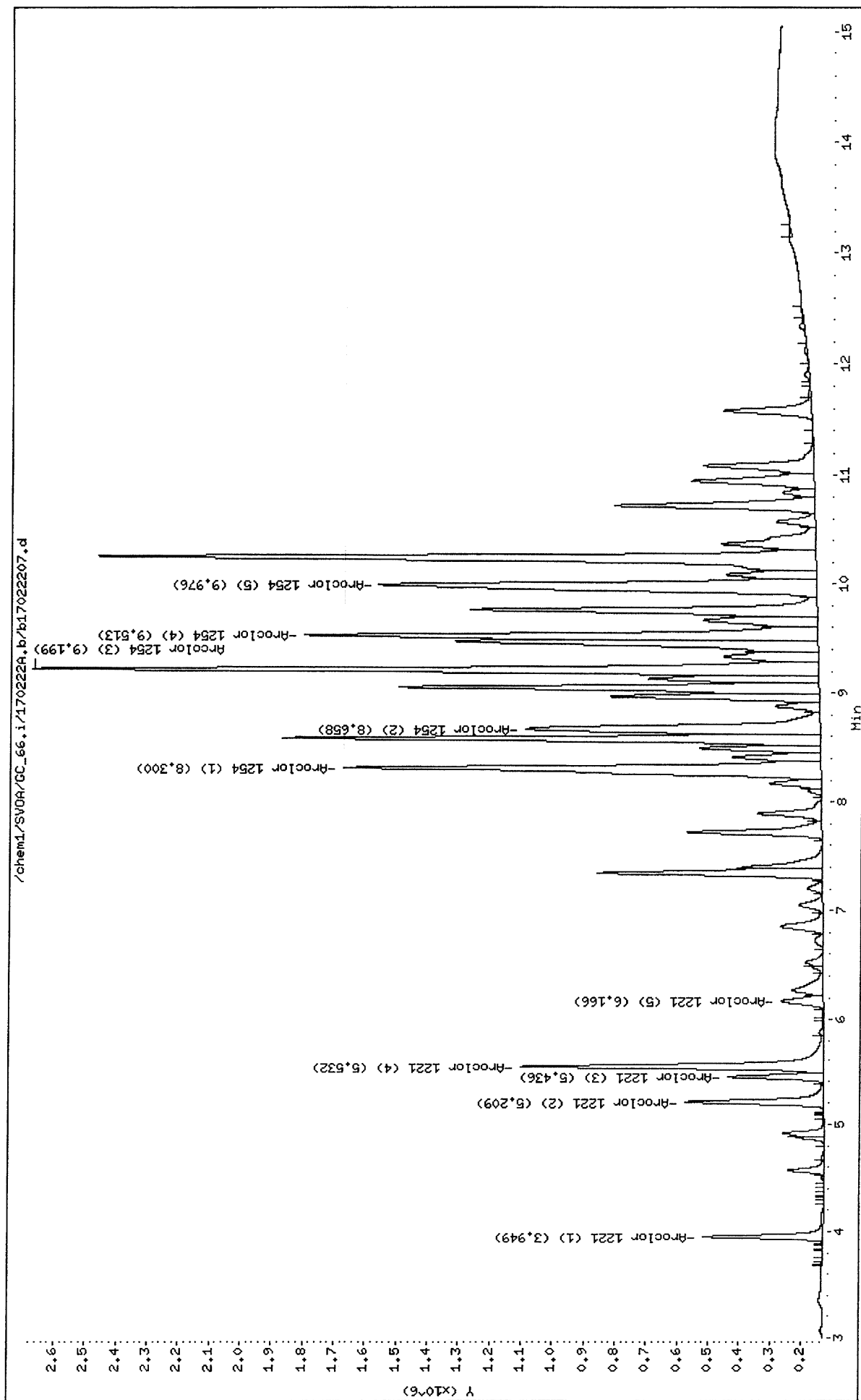
Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
M 14 Aroclor-1221				146604462	500.000	500
15 Aroclor 1221 (1)	3.949	3.949	0.000	21574609	500.000	500
16 Aroclor 1221 (2)	5.209	5.209	0.000	27788962	500.000	500
17 Aroclor 1221 (3)	5.436	5.436	0.000	17435037	500.000	500
18 Aroclor 1221 (4)	5.532	5.532	0.000	69267403	500.000	500
19 Aroclor 1221 (5)	6.166	6.166	0.000	10538451	500.000	500
M 38 Aroclor-1254				659429043	500.000	500
39 Aroclor 1254 (1)	8.300	8.300	0.000	132689273	500.000	500
40 Aroclor 1254 (2)	8.658	8.658	0.000	93074176	500.000	500
41 Arcolor 1254 (3)	9.199	9.199	0.000	175076127	500.000	500
42 Aroclor 1254 (4)	9.513	9.513	0.000	119868437	500.000	500
43 Aroclor 1254 (5)	9.976	9.976	0.000	138721030	500.000	500

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022207.d
Date : 22-FEB-2017 19:14
Client ID:
Sample Info: PCB 1221/54 500PPB P1206161
Column phase:

Instrument: GC_66.i
Operator: 944
Column diameter: 2.00



Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022208.d
Lab Smp Id:
Inj Date : 22-FEB-2017 19:32
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB 1232/62 500PPB P120616J
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 8 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1232_1262.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
M 20 Aroclor-1232				230600593	500.000	500
21 Aroclor 1232 (1)	5.533	5.533	0.000	46830292	500.000	500
22 Aroclor 1232 (2)	6.164	6.164	0.000	37990961	500.000	500
23 Aroclor 1232 (3)	6.846	6.846	0.000	80230398	500.000	500
24 Aroclor 1232 (4)	7.045	7.045	0.000	37042341	500.000	500
25 Aroclor 1232 (5)	7.198	7.198	0.000	28506601	500.000	500
M 44 Aroclor-1262				529581884	500.000	500
45 Aroclor 1262 (1)	9.749	9.749	0.000	99779332	500.000	500
46 Aroclor 1262 (2)	10.347	10.347	0.000	142884711	500.000	500
47 Aroclor 1262 (3)	10.742	10.742	0.000	132313903	500.000	500
48 Aroclor 1262 (4)	12.118	12.118	0.000	44885518	500.000	500
49 Aroclor 1262 (5)	12.337	12.337	0.000	109718420	500.000	500

Data File: /chem1/SV00A/GC_66.i/170222A.b/b17022208.d

Date : 22-FEB-2017 19:32

Client ID:

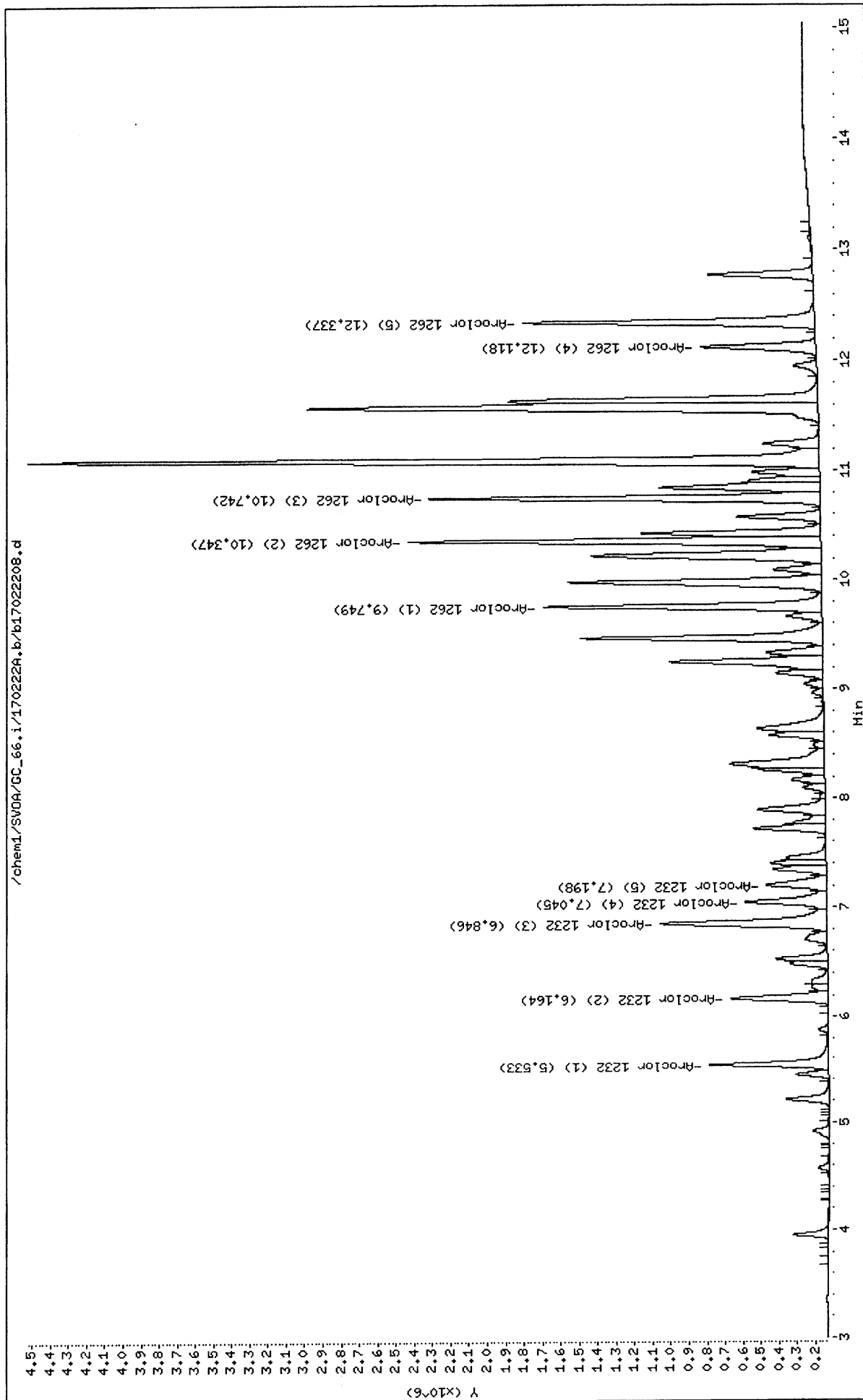
Sample Info: PCB 1232/62 500PPB P120616J

Column phase:

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00



Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022209.d
Lab Smp Id:
Inj Date : 22-FEB-2017 19:50
Operator : 944
Smp Info : PCB 1248/68 500PPB P120616K
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 27-JAN-2017 13:18
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i

Quant Type: ESTD

Cal File: b17012710.d

Calibration Sample, Level: 3

Compound Sublist: p1248_1268.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

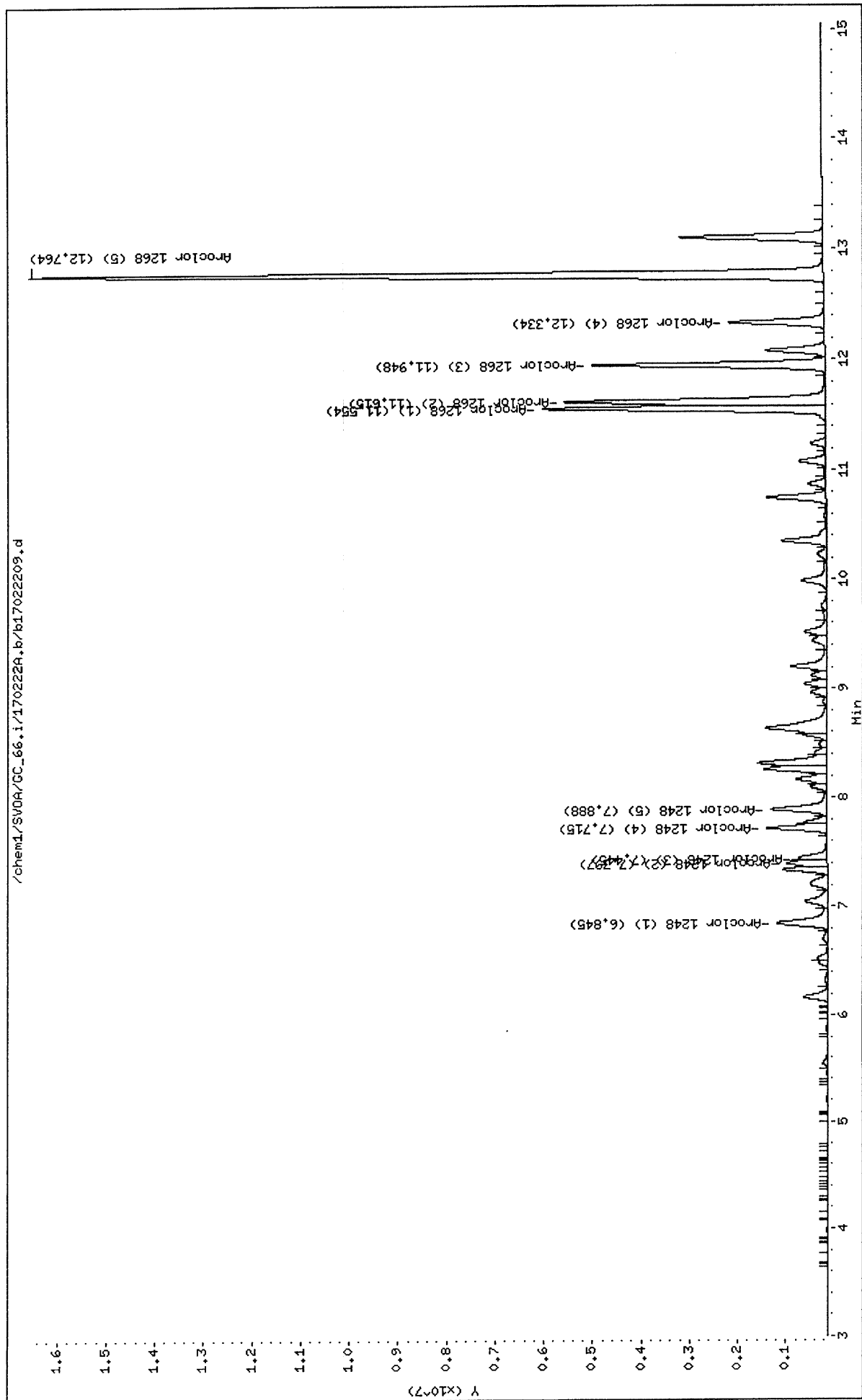
Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
M 32 Aroclor-1248				349356650	500.000	500
33 Aroclor 1248 (1)	6.845	6.164	0.681	92597659	500.000	500
34 Arcolor 1248 (2)	7.397	7.397	0.000	51572554	500.000	500
35 Aroclor 1248 (3)	7.445	7.445	0.000	38405884	500.000	500
36 Aroclor 1248 (4)	7.715	7.715	0.000	76011522	500.000	500
37 Aroclor 1248 (5)	7.888	7.888	0.000	90769029	500.000	500
M 50 Aroclor-1268				2132325871	500.000	500
51 Aroclor 1268 (1)	11.554	11.554	0.000	353673525	500.000	500
52 Aroclor 1268 (2)	11.615	11.615	0.000	354519915	500.000	500
53 Aroclor 1268 (3)	11.948	11.948	0.000	290210573	500.000	500
54 Aroclor 1268 (4)	12.334	12.334	0.000	127638418	500.000	500
55 Aroclor 1268 (5)	12.764	12.764	0.000	1006283437	500.000	500

Page 1

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022209.d
Date : 22-FEB-2017 19:50
Client ID:
Sample Info: PCB 1248/68 500PPB P120616K
Column phase:

Instrument: GC_66.i
Operator: 944
Column diameter: 2.00

[Return to Contents](#)

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022210.d
Lab Smp Id:
Inj Date : 22-FEB-2017 20:07
Operator : 944
Smp Info : PCB 1242 500PPB P120616L
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k
Cal Date : 27-JAN-2017 13:18
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i

Quant Type: ESTD

Cal File: b17012710.d

Calibration Sample, Level: 3

Compound Sublist: p1242-ical.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
M 26 Aroclor-1242				360695998	500.000	500
27 Aroclor 1242 (1)	5.534	5.534	0.000	35639904	500.000	500
28 Aroclor 1242 (2)	6.164	6.164	0.000	64753688	500.000	500
29 Aroclor 1242 (3)	6.844	6.844	0.000	143503184	500.000	500
30 Aroclor 1242 (4)	7.044	7.044	0.000	65451422	500.000	500
31 Aroclor 1242 (5)	7.195	7.195	0.000	51347800	500.000	500

Page 1

Data File: /chem1/SVDA/GC_66.i/170222A.b/b17022210.d

Date : 22-FEB-2017 20:07

Client ID:

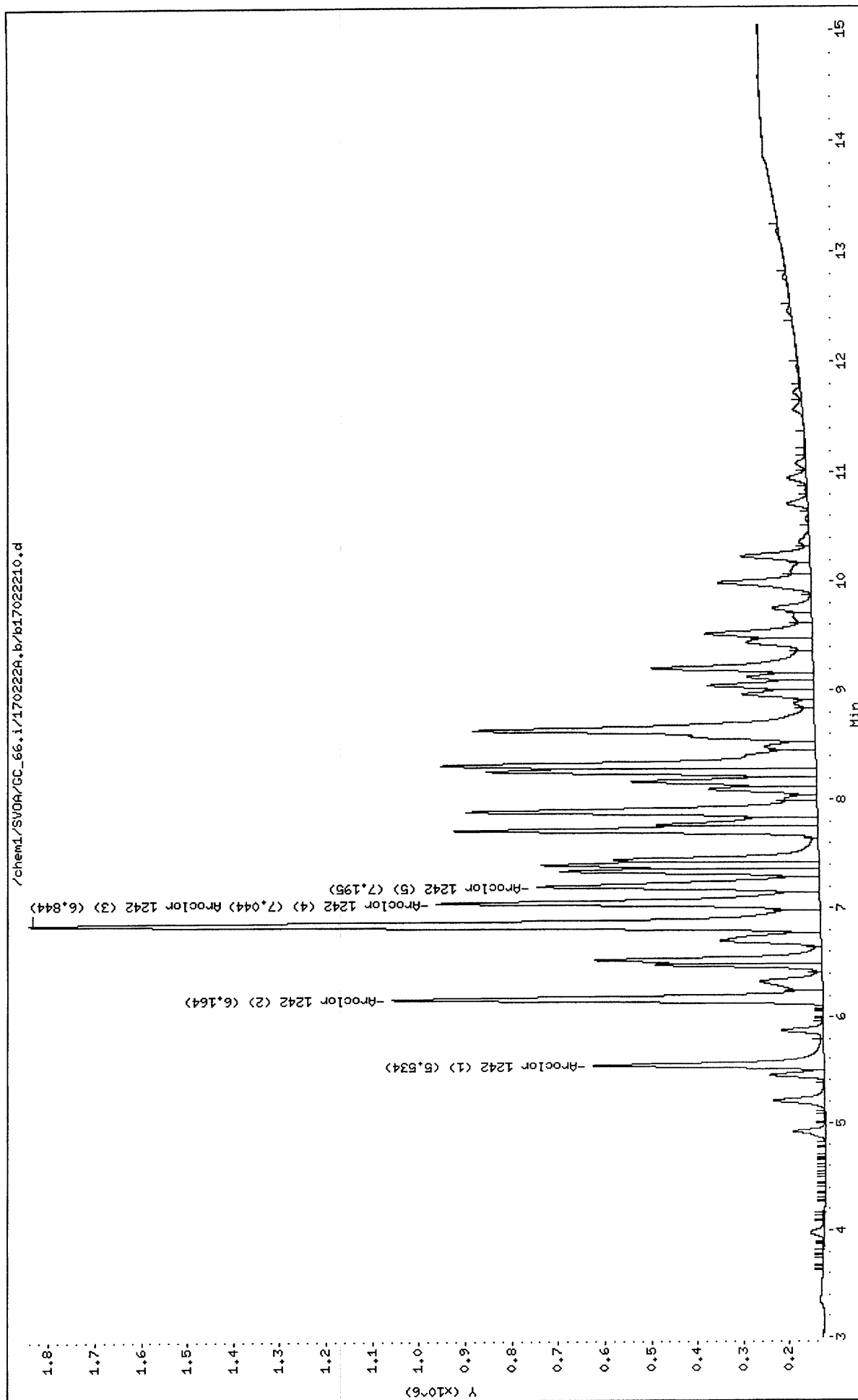
Sample Info: PCB 1242 500PPB P120616L

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:

[Return to Contents](#)

EPA METHOD 8082 PCB

Sample Data

**RAW DATA SHEET
FOR METHOD: EPA 8082**

Page 368 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 11:40
REVIEWED BY: 
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130617031306

32 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-8

LCS/MB BATCH: 170308L12	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170308S12	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

Return to Contents

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031306.d
Lab Smp Id:
Inj Date : 13-MAR-2017 11:40
Operator : 669
Smp Info : 17-03-0141-32
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
Meth Date : 13-Mar-2017 12:03 uhnh
Cal Date : 22-FEB-2017 20:07
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i

Quant Type: ESTD
Cal File: b17022210.d

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
					(ppb)	(ug/Kg)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
-----	--	-----	-----	-----	-----	-----
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	349217945	60.8196	60.8
M 2 Aroclor-1016	Compound Not Detected.					
3 Aroclor 1016 (1)	Compound Not Detected.					
4 Aroclor 1016 (2)	Compound Not Detected.					
5 Aroclor 1016 (3)	Compound Not Detected.					
6 Aroclor 1016 (4)	Compound Not Detected.					
7 Aroclor 1016 (5)	Compound Not Detected.					
M 8 Aroclor-1260	Compound Not Detected.					
9 Aroclor 1260 (1)	Compound Not Detected.					
10 Aroclor 1260 (2)	Compound Not Detected.					
11 Aroclor 1260 (3)	Compound Not Detected.					
12 Aroclor 1260 (4)	Compound Not Detected.					
13 Aroclor 1260 (5)	Compound Not Detected.					
M 14 Aroclor-1221	Compound Not Detected.					
15 Aroclor 1221 (1)	Compound Not Detected.					
16 Aroclor 1221 (2)	Compound Not Detected.					
17 Aroclor 1221 (3)	Compound Not Detected.					
18 Aroclor 1221 (4)	Compound Not Detected.					
19 Aroclor 1221 (5)	Compound Not Detected.					
M 20 Aroclor-1232	Compound Not Detected.					
21 Aroclor 1232 (1)	Compound Not Detected.					

Compounds	CONCENTRATIONS					ON-COLUMN (ppb)	FINAL (ug/Kg)
	RT	EXP RT	DLT RT	RT	RESPONSE		
=====	==	=====	=====		=====	=====	=====
22 Aroclor 1232 (2)					Compound Not Detected.		
23 Aroclor 1232 (3)					Compound Not Detected.		
24 Aroclor 1232 (4)					Compound Not Detected.		
25 Aroclor 1232 (5)					Compound Not Detected.		
M 26 Aroclor-1242					Compound Not Detected.		
27 Aroclor 1242 (1)					Compound Not Detected.		
28 Aroclor 1242 (2)					Compound Not Detected.		
29 Aroclor 1242 (3)					Compound Not Detected.		
30 Aroclor 1242 (4)					Compound Not Detected.		
31 Aroclor 1242 (5)					Compound Not Detected.		
M 32 Aroclor-1248					Compound Not Detected.		
33 Aroclor 1248 (1)					Compound Not Detected.		
34 Aroclor 1248 (2)					Compound Not Detected.		
35 Aroclor 1248 (3)					Compound Not Detected.		
36 Aroclor 1248 (4)					Compound Not Detected.		
37 Aroclor 1248 (5)					Compound Not Detected.		
M 38 Aroclor-1254					Compound Not Detected.		
39 Aroclor 1254 (1)					Compound Not Detected.		
40 Aroclor 1254 (2)					Compound Not Detected.		
41 Aroclor 1254 (3)					Compound Not Detected.		
42 Aroclor 1254 (4)					Compound Not Detected.		
43 Aroclor 1254 (5)					Compound Not Detected.		
M 44 Aroclor-1262					Compound Not Detected.		
45 Aroclor 1262 (1)					Compound Not Detected.		
46 Aroclor 1262 (2)					Compound Not Detected.		
47 Aroclor 1262 (3)					Compound Not Detected.		
48 Aroclor 1262 (4)					Compound Not Detected.		
49 Aroclor 1262 (5)					Compound Not Detected.		
M 50 Aroclor-1268					Compound Not Detected.		
51 Aroclor 1268 (1)					Compound Not Detected.		
52 Aroclor 1268 (2)					Compound Not Detected.		
53 Aroclor 1268 (3)					Compound Not Detected.		
54 Aroclor 1268 (4)					Compound Not Detected.		
55 Aroclor 1268 (5)					Compound Not Detected.		
\$ 56 Decachlorobiphenyl	13.101	13.103	-0.002	463217751	84.8442	84.8	

Page 1

Data File: /chem1/SVDA/GC_66.i/170313.b/b17031306.d

Date : 13-MAR-2017 11:40

Client ID:

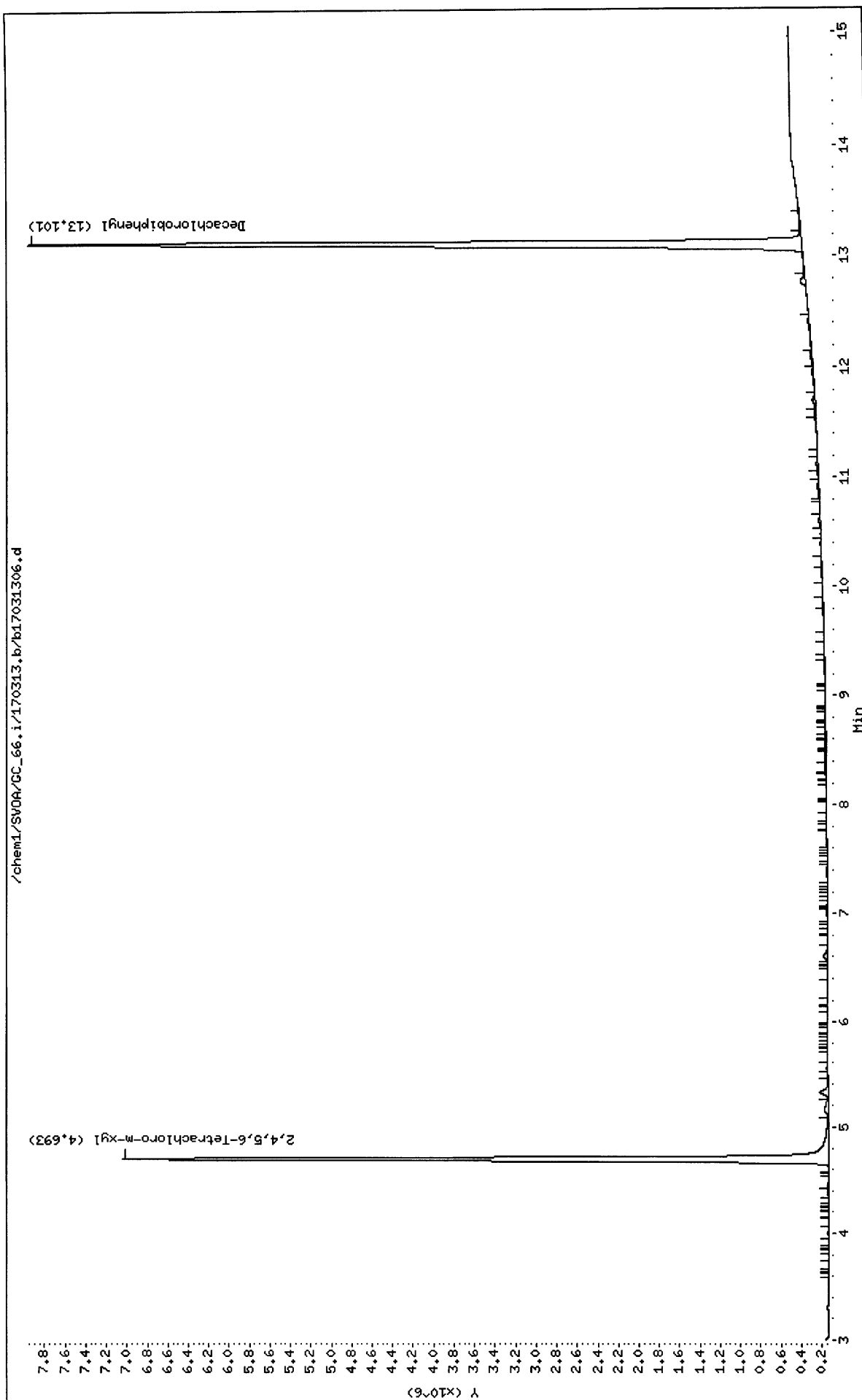
Sample Info: 17-03-0141-32

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

Page 372 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 11:58
REVIEWED BY: *m*
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130717031307

33

CLIENT SAMPLE NUMBER: F-DU1-ISM2-8

LCS/MB BATCH: 170308L12	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170308S12	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

Return to Contents

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031307.d

Lab Smp Id:

Inj Date : 13-MAR-2017 11:58

Operator : 669

Inst ID: GC_66.i

Smp Info : 17-03-0141-33

Misc Info :

Comment : Rtx-CLPesticide II

Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m

Meth Date : 13-Mar-2017 12:03 uhhn

Quant Type: ESTD

Cal Date : 22-FEB-2017 20:07

Cal File: b17022210.d

Als bottle: 7

Dil Factor: 1.00000

Integrator: HP Genie

Compound Sublist: all.sub

Target Version: 3.50

Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

						CONCENTRATIONS				
						ON-COLUMN	FINAL			
Compounds						RT	EXP RT DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====						==	=====	=====	=====	=====
\$	1	2,4,5,6-Tetrachloro-m-xylene	4.692	4.693	-0.001	340290078	59.2647	59.3		
M	2	Aroclor-1016	Compound Not Detected.							
	3	Aroclor 1016 (1)	Compound Not Detected.							
	4	Aroclor 1016 (2)	Compound Not Detected.							
	5	Aroclor 1016 (3)	Compound Not Detected.							
	6	Aroclor 1016 (4)	Compound Not Detected.							
	7	Aroclor 1016 (5)	Compound Not Detected.							
M	8	Aroclor-1260	Compound Not Detected.							
	9	Aroclor 1260 (1)	Compound Not Detected.							
	10	Aroclor 1260 (2)	Compound Not Detected.							
	11	Aroclor 1260 (3)	Compound Not Detected.							
	12	Aroclor 1260 (4)	Compound Not Detected.							
	13	Aroclor 1260 (5)	Compound Not Detected.							
M	14	Aroclor-1221	Compound Not Detected.							
	15	Aroclor 1221 (1)	Compound Not Detected.							
	16	Aroclor 1221 (2)	Compound Not Detected.							
	17	Aroclor 1221 (3)	Compound Not Detected.							
	18	Aroclor 1221 (4)	Compound Not Detected.							
	19	Aroclor 1221 (5)	Compound Not Detected.							
M	20	Aroclor-1232	Compound Not Detected.							
	21	Aroclor 1232 (1)	Compound Not Detected.							

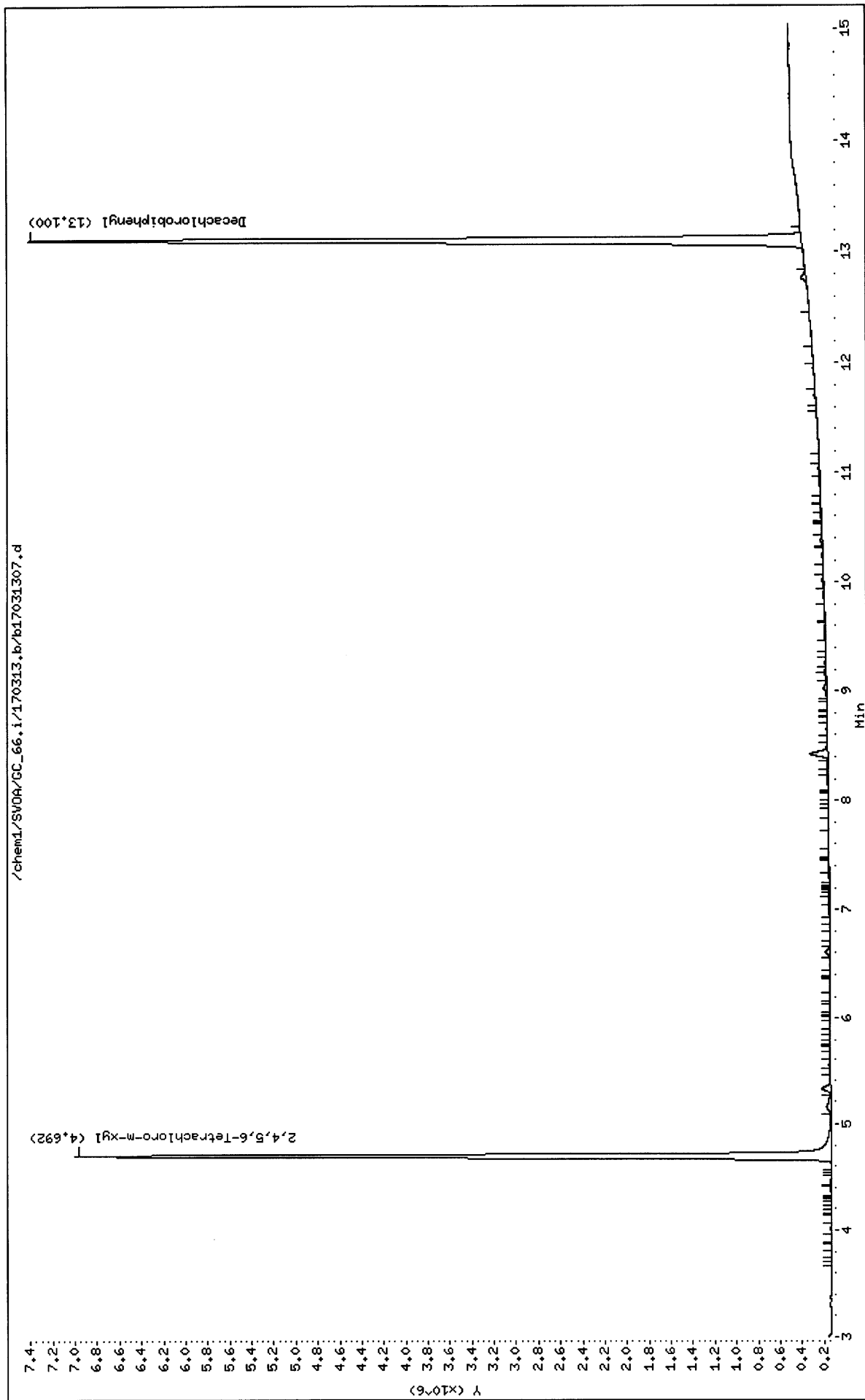
Compounds						CONCENTRATIONS	
	RT	EXP RT	DLT RT	RT	RESPONSE	ON-COLUMN (ppb)	FINAL (ug/Kg)
=====	==	=====	=====	=====	=====	=====	=====
22 Aroclor 1232 (2)					Compound Not Detected.		
23 Aroclor 1232 (3)					Compound Not Detected.		
24 Aroclor 1232 (4)					Compound Not Detected.		
25 Aroclor 1232 (5)					Compound Not Detected.		
M 26 Aroclor-1242					Compound Not Detected.		
27 Aroclor 1242 (1)					Compound Not Detected.		
28 Aroclor 1242 (2)					Compound Not Detected.		
29 Aroclor 1242 (3)					Compound Not Detected.		
30 Aroclor 1242 (4)					Compound Not Detected.		
31 Aroclor 1242 (5)					Compound Not Detected.		
M 32 Aroclor-1248					Compound Not Detected.		
33 Aroclor 1248 (1)					Compound Not Detected.		
34 Aroclor 1248 (2)					Compound Not Detected.		
35 Aroclor 1248 (3)					Compound Not Detected.		
36 Aroclor 1248 (4)					Compound Not Detected.		
37 Aroclor 1248 (5)					Compound Not Detected.		
M 38 Aroclor-1254					Compound Not Detected.		
39 Aroclor 1254 (1)					Compound Not Detected.		
40 Aroclor 1254 (2)					Compound Not Detected.		
41 Aroclor 1254 (3)					Compound Not Detected.		
42 Aroclor 1254 (4)					Compound Not Detected.		
43 Aroclor 1254 (5)					Compound Not Detected.		
M 44 Aroclor-1262					Compound Not Detected.		
45 Aroclor 1262 (1)					Compound Not Detected.		
46 Aroclor 1262 (2)					Compound Not Detected.		
47 Aroclor 1262 (3)					Compound Not Detected.		
48 Aroclor 1262 (4)					Compound Not Detected.		
49 Aroclor 1262 (5)					Compound Not Detected.		
M 50 Aroclor-1268					Compound Not Detected.		
51 Aroclor 1268 (1)					Compound Not Detected.		
52 Aroclor 1268 (2)					Compound Not Detected.		
53 Aroclor 1268 (3)					Compound Not Detected.		
54 Aroclor 1268 (4)					Compound Not Detected.		
55 Aroclor 1268 (5)					Compound Not Detected.		
\$ 56 Decachlorobiphenyl	13.100	13.103	-0.003	426998411	78.2102	78.2	

Page 1

Data File: /chem1/SV00A/GC_66.i/170313.b/b17031307.d
 Date : 13-MAR-2017 11:58
 Client ID:
 Sample Info: 17-03-0141-33

Instrument: GC_66.i
 Operator: 669
 Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

Page 376 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 12:16
REVIEWED BY: 
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130817031308

34 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-8

LCS/MB BATCH: 170308L12	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
MS/MSD BATCH: 170308S12	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	


Return to Contents

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031308.d
Lab Smp Id:
Inj Date : 13-MAR-2017 12:16
Operator : 669
Smp Info : 17-03-0141-34
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
Meth Date : 13-Mar-2017 12:03 uhhn
Cal Date : 22-FEB-2017 20:07
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i
Quant Type: ESTD
Cal File: b17022210.d
Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	326984733	56.9475	56.9
M 2 Aroclor-1016	Compound Not Detected.					
3 Aroclor 1016 (1)	Compound Not Detected.					
4 Aroclor 1016 (2)	Compound Not Detected.					
5 Aroclor 1016 (3)	Compound Not Detected.					
6 Aroclor 1016 (4)	Compound Not Detected.					
7 Aroclor 1016 (5)	Compound Not Detected.					
M 8 Aroclor-1260	Compound Not Detected.					
9 Aroclor 1260 (1)	Compound Not Detected.					
10 Aroclor 1260 (2)	Compound Not Detected.					
11 Aroclor 1260 (3)	Compound Not Detected.					
12 Aroclor 1260 (4)	Compound Not Detected.					
13 Aroclor 1260 (5)	Compound Not Detected.					
M 14 Aroclor-1221	Compound Not Detected.					
15 Aroclor 1221 (1)	Compound Not Detected.					
16 Aroclor 1221 (2)	Compound Not Detected.					
17 Aroclor 1221 (3)	Compound Not Detected.					
18 Aroclor 1221 (4)	Compound Not Detected.					
19 Aroclor 1221 (5)	Compound Not Detected.					
M 20 Aroclor-1232	Compound Not Detected.					
21 Aroclor 1232 (1)	Compound Not Detected.					

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====	=====	=====
22 Aroclor 1232 (2)					Compound Not Detected.			
23 Aroclor 1232 (3)					Compound Not Detected.			
24 Aroclor 1232 (4)					Compound Not Detected.			
25 Aroclor 1232 (5)					Compound Not Detected.			
M 26 Aroclor-1242					Compound Not Detected.			
27 Aroclor 1242 (1)					Compound Not Detected.			
28 Aroclor 1242 (2)					Compound Not Detected.			
29 Aroclor 1242 (3)					Compound Not Detected.			
30 Aroclor 1242 (4)					Compound Not Detected.			
31 Aroclor 1242 (5)					Compound Not Detected.			
M 32 Aroclor-1248					Compound Not Detected.			
33 Aroclor 1248 (1)					Compound Not Detected.			
34 Aroclor 1248 (2)					Compound Not Detected.			
35 Aroclor 1248 (3)					Compound Not Detected.			
36 Aroclor 1248 (4)					Compound Not Detected.			
37 Aroclor 1248 (5)					Compound Not Detected.			
M 38 Aroclor-1254					Compound Not Detected.			
39 Aroclor 1254 (1)					Compound Not Detected.			
40 Aroclor 1254 (2)					Compound Not Detected.			
41 Aroclor 1254 (3)					Compound Not Detected.			
42 Aroclor 1254 (4)					Compound Not Detected.			
43 Aroclor 1254 (5)					Compound Not Detected.			
M 44 Aroclor-1262					Compound Not Detected.			
45 Aroclor 1262 (1)					Compound Not Detected.			
46 Aroclor 1262 (2)					Compound Not Detected.			
47 Aroclor 1262 (3)					Compound Not Detected.			
48 Aroclor 1262 (4)					Compound Not Detected.			
49 Aroclor 1262 (5)					Compound Not Detected.			
M 50 Aroclor-1268					Compound Not Detected.			
51 Aroclor 1268 (1)					Compound Not Detected.			
52 Aroclor 1268 (2)					Compound Not Detected.			
53 Aroclor 1268 (3)					Compound Not Detected.			
54 Aroclor 1268 (4)					Compound Not Detected.			
55 Aroclor 1268 (5)					Compound Not Detected.			
\$ 56 Decachlorobiphenyl	13.100	13.103	-0.003	413361967	75.7125	75.7		

Page 1

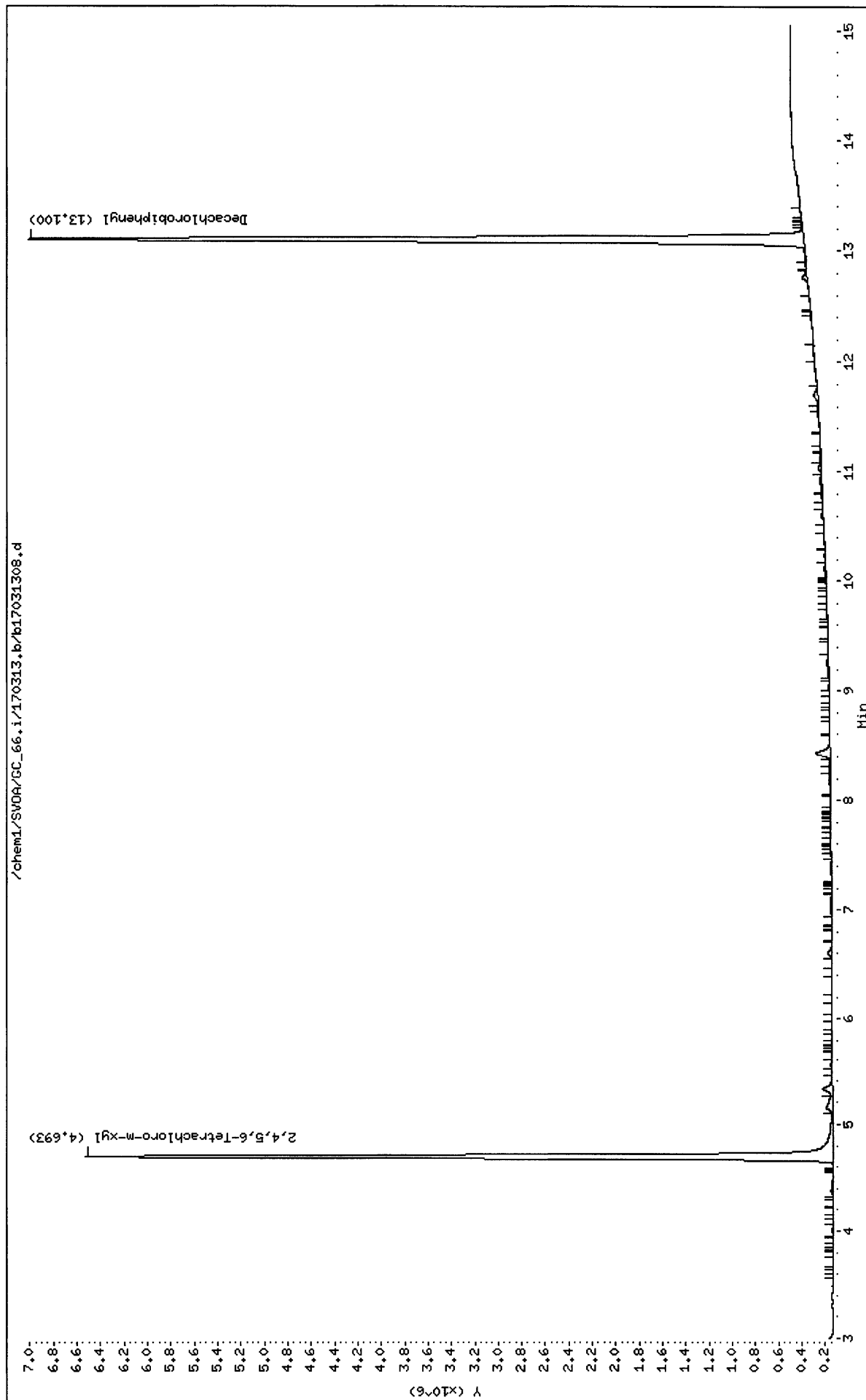
Data File: /chem1/SV0A/GC_66.i/170313.b/b17031308.d
 Date : 13-MAR-2017 12:16
 Client ID:
 Sample Info: 17-03-0141-34

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

Page 380 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 12:34
REVIEWED BY: 
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130917031309

35 **CLIENT SAMPLE NUMBER:** F-DU1-ISM4-8

LCS/MB BATCH: 170308L12	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170308S12	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

Return to Contents

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031309.d

Lab Smp Id:

Inj Date : 13-MAR-2017 12:34

Operator : 669

Inst ID: GC_66.i

Smp Info : 17-03-0141-35

Misc Info :

Comment : Rtx-CLPesticide II

Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m

Meth Date : 13-Mar-2017 12:03 uhhn

Quant Type: ESTD

Cal Date : 22-FEB-2017 20:07

Cal File: b17022210.d

Als bottle: 9

Dil Factor: 1.00000

Integrator: HP Genie

Compound Sublist: all.sub

Target Version: 3.50

Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	370754059	64.5703	64.6
M 2 Aroclor-1016	Compound Not Detected.					
3 Aroclor 1016 (1)	Compound Not Detected.					
4 Aroclor 1016 (2)	Compound Not Detected.					
5 Aroclor 1016 (3)	Compound Not Detected.					
6 Aroclor 1016 (4)	Compound Not Detected.					
7 Aroclor 1016 (5)	Compound Not Detected.					
M 8 Aroclor-1260	Compound Not Detected.					
9 Aroclor 1260 (1)	Compound Not Detected.					
10 Aroclor 1260 (2)	Compound Not Detected.					
11 Aroclor 1260 (3)	Compound Not Detected.					
12 Aroclor 1260 (4)	Compound Not Detected.					
13 Aroclor 1260 (5)	Compound Not Detected.					
M 14 Aroclor-1221	Compound Not Detected.					
15 Aroclor 1221 (1)	Compound Not Detected.					
16 Aroclor 1221 (2)	Compound Not Detected.					
17 Aroclor 1221 (3)	Compound Not Detected.					
18 Aroclor 1221 (4)	Compound Not Detected.					
19 Aroclor 1221 (5)	Compound Not Detected.					
M 20 Aroclor-1232	Compound Not Detected.					
21 Aroclor 1232 (1)	Compound Not Detected.					

Compounds						CONCENTRATIONS	
	RT	EXP RT	DLT RT	RT	RESPONSE	ON-COLUMN (ppb)	FINAL (ug/Kg)
=====	==	=====	=====		=====	=====	=====
22 Aroclor 1232 (2)					Compound Not Detected.		
23 Aroclor 1232 (3)					Compound Not Detected.		
24 Aroclor 1232 (4)					Compound Not Detected.		
25 Aroclor 1232 (5)					Compound Not Detected.		
M 26 Aroclor-1242					Compound Not Detected.		
27 Aroclor 1242 (1)					Compound Not Detected.		
28 Aroclor 1242 (2)					Compound Not Detected.		
29 Aroclor 1242 (3)					Compound Not Detected.		
30 Aroclor 1242 (4)					Compound Not Detected.		
31 Aroclor 1242 (5)					Compound Not Detected.		
M 32 Aroclor-1248					Compound Not Detected.		
33 Aroclor 1248 (1)					Compound Not Detected.		
34 Aroclor 1248 (2)					Compound Not Detected.		
35 Aroclor 1248 (3)					Compound Not Detected.		
36 Aroclor 1248 (4)					Compound Not Detected.		
37 Aroclor 1248 (5)					Compound Not Detected.		
M 38 Aroclor-1254					Compound Not Detected.		
39 Aroclor 1254 (1)					Compound Not Detected.		
40 Aroclor 1254 (2)					Compound Not Detected.		
41 Aroclor 1254 (3)					Compound Not Detected.		
42 Aroclor 1254 (4)					Compound Not Detected.		
43 Aroclor 1254 (5)					Compound Not Detected.		
M 44 Aroclor-1262					Compound Not Detected.		
45 Aroclor 1262 (1)					Compound Not Detected.		
46 Aroclor 1262 (2)					Compound Not Detected.		
47 Aroclor 1262 (3)					Compound Not Detected.		
48 Aroclor 1262 (4)					Compound Not Detected.		
49 Aroclor 1262 (5)					Compound Not Detected.		
M 50 Aroclor-1268					Compound Not Detected.		
51 Aroclor 1268 (1)					Compound Not Detected.		
52 Aroclor 1268 (2)					Compound Not Detected.		
53 Aroclor 1268 (3)					Compound Not Detected.		
54 Aroclor 1268 (4)					Compound Not Detected.		
55 Aroclor 1268 (5)					Compound Not Detected.		
\$ 56 Decachlorobiphenyl	13.099	13.103	-0.004	478852162	87.7079	87.7	

Page 1

Data File: /chem1/SV00A/GC_66.i/170313.b/b17031309.d

Date : 13-MAR-2017 12:34

Client ID:

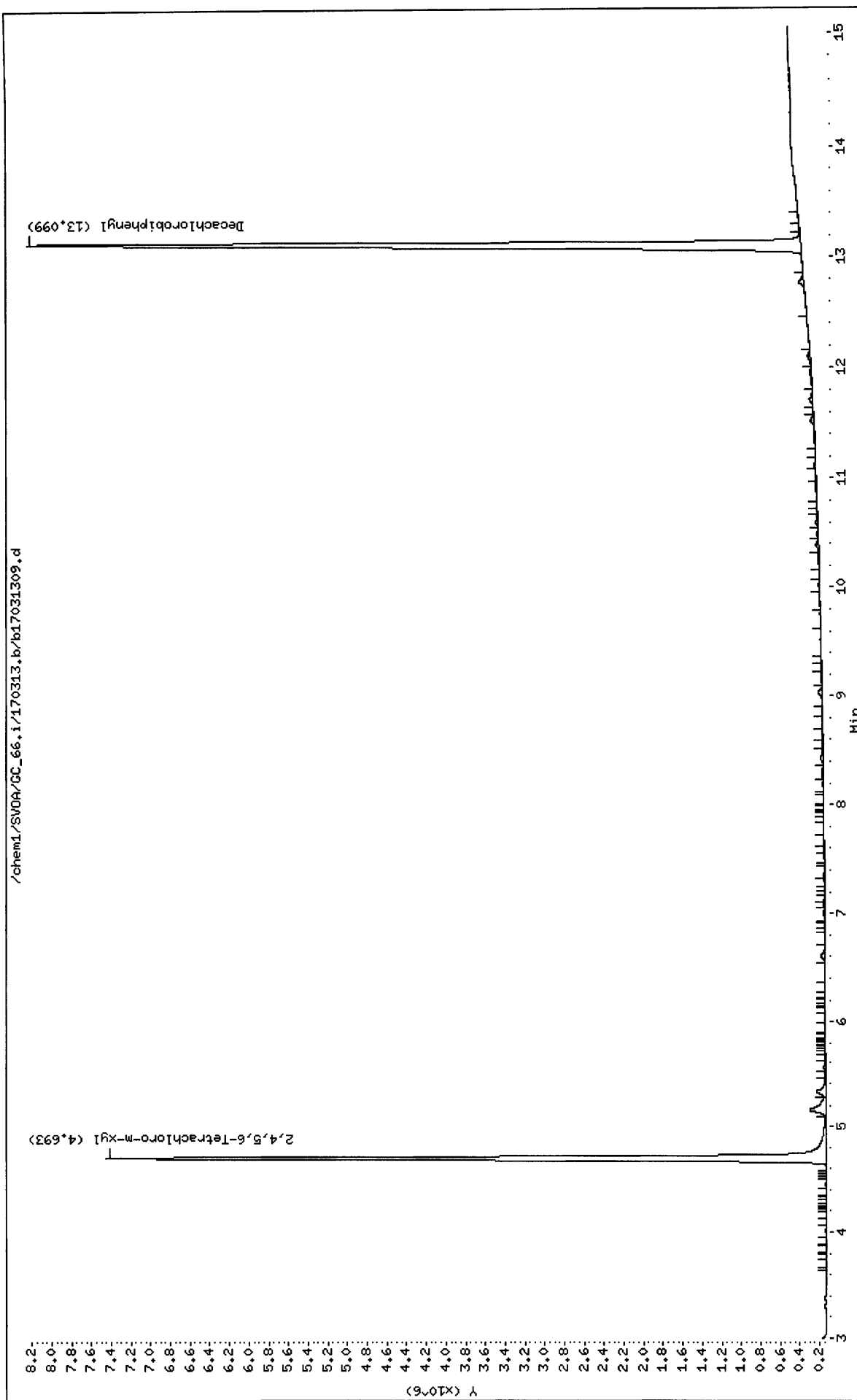
Sample Info: 17-03-0141-35

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

Page 384 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 12:52
REVIEWED BY: M
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131017031310

36 **CLIENT SAMPLE NUMBER:** F-DU1-ISM5-8

LCS/MB BATCH: 170308L12	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170308S12	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

Return to Contents

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031310.d
Lab Smp Id:
Inj Date : 13-MAR-2017 12:52
Operator : 669
Smp Info : 17-03-0141-36
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
Meth Date : 13-Mar-2017 12:03 uhhn
Cal Date : 22-FEB-2017 20:07
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4

Inst ID: GC_66.i

Quant Type: ESTD
Cal File: b17022210.d

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.691	4.693	-0.002	369901526	64.4218	64.4
M 2 Aroclor-1016	Compound Not Detected.					
3 Aroclor 1016 (1)	Compound Not Detected.					
4 Aroclor 1016 (2)	Compound Not Detected.					
5 Aroclor 1016 (3)	Compound Not Detected.					
6 Aroclor 1016 (4)	Compound Not Detected.					
7 Aroclor 1016 (5)	Compound Not Detected.					
M 8 Aroclor-1260	Compound Not Detected.					
9 Aroclor 1260 (1)	Compound Not Detected.					
10 Aroclor 1260 (2)	Compound Not Detected.					
11 Aroclor 1260 (3)	Compound Not Detected.					
12 Aroclor 1260 (4)	Compound Not Detected.					
13 Aroclor 1260 (5)	Compound Not Detected.					
M 14 Aroclor-1221	Compound Not Detected.					
15 Aroclor 1221 (1)	Compound Not Detected.					
16 Aroclor 1221 (2)	Compound Not Detected.					
17 Aroclor 1221 (3)	Compound Not Detected.					
18 Aroclor 1221 (4)	Compound Not Detected.					
19 Aroclor 1221 (5)	Compound Not Detected.					
M 20 Aroclor-1232	Compound Not Detected.					
21 Aroclor 1232 (1)	Compound Not Detected.					

Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ppb)	FINAL (ug/Kg)
=====	==	=====	=====	=====	=====	=====
22 Aroclor 1232 (2)				Compound Not Detected.		
23 Aroclor 1232 (3)				Compound Not Detected.		
24 Aroclor 1232 (4)				Compound Not Detected.		
25 Aroclor 1232 (5)				Compound Not Detected.		
M 26 Aroclor-1242				Compound Not Detected.		
27 Aroclor 1242 (1)				Compound Not Detected.		
28 Aroclor 1242 (2)				Compound Not Detected.		
29 Aroclor 1242 (3)				Compound Not Detected.		
30 Aroclor 1242 (4)				Compound Not Detected.		
31 Aroclor 1242 (5)				Compound Not Detected.		
M 32 Aroclor-1248				Compound Not Detected.		
33 Aroclor 1248 (1)				Compound Not Detected.		
34 Aroclor 1248 (2)				Compound Not Detected.		
35 Aroclor 1248 (3)				Compound Not Detected.		
36 Aroclor 1248 (4)				Compound Not Detected.		
37 Aroclor 1248 (5)				Compound Not Detected.		
M 38 Aroclor-1254				Compound Not Detected.		
39 Aroclor 1254 (1)				Compound Not Detected.		
40 Aroclor 1254 (2)				Compound Not Detected.		
41 Aroclor 1254 (3)				Compound Not Detected.		
42 Aroclor 1254 (4)				Compound Not Detected.		
43 Aroclor 1254 (5)				Compound Not Detected.		
M 44 Aroclor-1262				Compound Not Detected.		
45 Aroclor 1262 (1)				Compound Not Detected.		
46 Aroclor 1262 (2)				Compound Not Detected.		
47 Aroclor 1262 (3)				Compound Not Detected.		
48 Aroclor 1262 (4)				Compound Not Detected.		
49 Aroclor 1262 (5)				Compound Not Detected.		
M 50 Aroclor-1268				Compound Not Detected.		
51 Aroclor 1268 (1)				Compound Not Detected.		
52 Aroclor 1268 (2)				Compound Not Detected.		
53 Aroclor 1268 (3)				Compound Not Detected.		
54 Aroclor 1268 (4)				Compound Not Detected.		
55 Aroclor 1268 (5)				Compound Not Detected.		
\$ 56 Decachlorobiphenyl	13.100	13.103	-0.003	437309694	80.0988	80.1

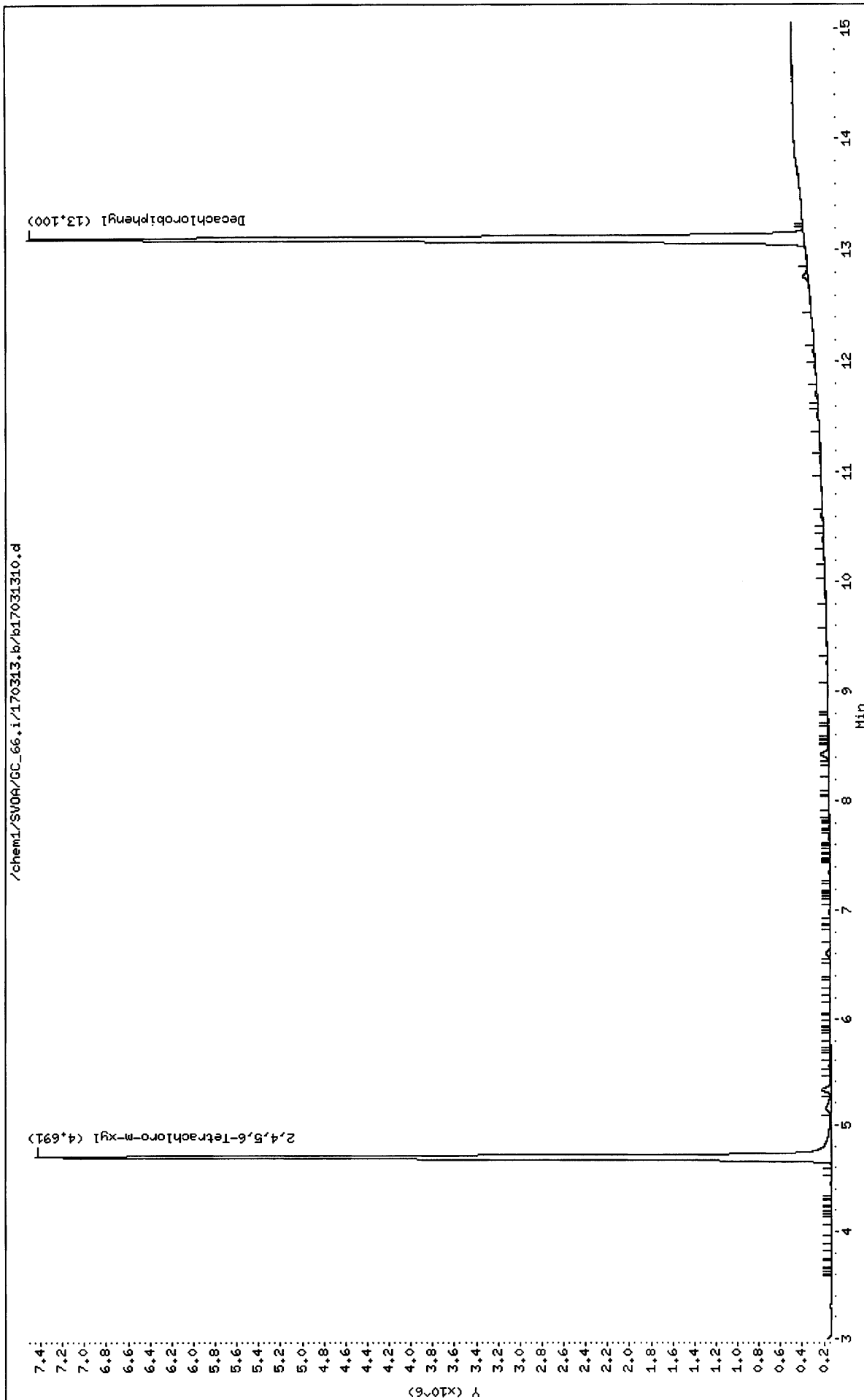
Data File: /chem1/SV0A/GC_66.i/170313.b/b17031310.d
 Date : 13-MAR-2017 12:52
 Client ID:
 Sample Info: 17-03-0141-36

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



EPA METHOD 8082 PCB

Quality Control

Method Blank LCS/LCSD MS/MSD

**METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 8082**

Page 389 of 524

MB SAMPLE ID: 099-12-535-4086
MB BATCH ID: 170308L12
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 10:47
REVIEWED BY: 
D/T REVIEWED:
MATRIX: Soil

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130317031303

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
32	F-DU1-ISM1-8		2017-03-13 11:40	/chem1/SVOA/GC_66/170313/b1703130617031306
33	F-DU1-ISM2-8		2017-03-13 11:58	/chem1/SVOA/GC_66/170313/b1703130717031307
34	F-DU1-ISM3-8		2017-03-13 12:16	/chem1/SVOA/GC_66/170313/b1703130817031308
35	F-DU1-ISM4-8		2017-03-13 12:34	/chem1/SVOA/GC_66/170313/b1703130917031309
36	F-DU1-ISM5-8		2017-03-13 12:52	/chem1/SVOA/GC_66/170313/b1703131017031310

**RAW DATA SHEET
FOR METHOD: EPA 8082**

Page 390 of 524

WORK ORDER: 099-12-535

INSTRUMENT: GC 66

EXTRACTION: EPA 3545

D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028

D/T ANALYZED: 2017-03-13 10:47

REVIEWED BY: 

D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130317031303

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH:	170308L12	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 / ACTUAL: 1.00
MS/MSD BATCH:		FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml / ACTUAL: 1.00 ml
UNITS:	ug/kg	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL. CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 8082

LCS SAMPLE ID: 099-12-535-4086
LCS/MB BATCH ID: 170308L12
INSTRUMENT: GC 66

EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 10:29
REVIEWED BY: *27*
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130217031302

COMPOUND NAME	CONC ADDED	CONC REC	%RECOVERY	%REC CONTROL LIMIT	STATUS	QUALIFIERS
Aroclor-1016	100.0	79.50	80	50-135	PASS	
Aroclor-1260	100.0	79.00	79	50-135	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

SPIKED SAMPLE ID: 17-03-0141-32
MS/MSD BATCH: 170308S12
INSTRUMENTS:
SAMPLE: GC 66
MS: GC 66
MSD: GC 66

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-08 00:00
MS: 2017-03-08 00:00
MSD: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED:
SAMPLE: 2017-03-13 11:40
MS: 2017-03-13 11:05
MSD: 2017-03-13 11:22
REVIEWED BY:
D/T REVIEWED: *27*

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Aroclor-1016	ND	200.0	100.0	54.00	54	80.50	80	50-135	39	0-20	FAIL	4
Aroclor-1260	ND	200.0	100.0	60.50	60	92.50	92	50-135	42	0-20	FAIL	4

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17031304	/chem1/SVOA/GC_66/170313/b17031304
MSD	17031305	/chem1/SVOA/GC_66/170313/b17031305

SURROGATE RECOVERIES FOR METHOD: EPA 8082

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB: 170308L12**MS:** 170308S12

EXTRACTION: EPA 3545

REVIEWED BY: 

D/T REVIEWED:

32 **CLIENT SAMPLE NUMBER : F-DU1-ISM1-8**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130617031306

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 11:40

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	85	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	61	25-145	PASS	

33 **CLIENT SAMPLE NUMBER : F-DU1-ISM2-8**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130717031307

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 11:58

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	78	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	59	25-145	PASS	

34 **CLIENT SAMPLE NUMBER : F-DU1-ISM3-8**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130817031308

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 12:16

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	76	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	57	25-145	PASS	

35 **CLIENT SAMPLE NUMBER : F-DU1-ISM4-8**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130917031309

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 12:34

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	88	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	65	25-145	PASS	

SURROGATE RECOVERIES FOR METHOD: EPA 8082

Page 394 of 524

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB: 170308L12**MS:** 170308S12

EXTRACTION: EPA 3545

REVIEWED BY:

D/T REVIEWED: M

36 CLIENT SAMPLE NUMBER : F-DU1-ISM5-8

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131017031310

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 12:52

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	80	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	64	25-145	PASS	

MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130317031303

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 10:47

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	81	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	77	25-145	PASS	

LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130217031302

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 10:29

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	73	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	65	25-145	PASS	

MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130417031304

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 11:05

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	49	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	34	25-145	PASS	

**SURROGATE RECOVERIES
FOR METHOD: EPA 8082**

Page 395 of 524

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB:

MS: **170308S12**

EXTRACTION: EPA 3545

REVIEWED BY:

D/T REVIEWED: 

MSD **CLIENT SAMPLE NUMBER: Matrix Spike Duplicate**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130517031305

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 11:22

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Decachlorobiphenyl	84	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	63	25-145	PASS	

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031303.d
 Report Date: 13-Mar-2017 12:33

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031303.d
 Lab Smp Id:
 Inj Date : 13-MAR-2017 10:47
 Operator : 669
 Smp Info : MB 170308L12
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
 Meth Date : 13-Mar-2017 12:03 uhhn
 Cal Date : 22-FEB-2017 20:07
 Als bottle: 3
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_66.i

Quant Type: ESTD

Cal File: b17022210.d

QC Sample: BLANK

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

		CONCENTRATIONS				
		ON-COLUMN			FINAL	
Compounds		RT	EXP RT	DLT RT	RESPONSE (ppb)	(ug/Kg)
=====		==	=====	=====	=====	=====
\$ 1	2,4,5,6-Tetrachloro-m-xylene	4.692	4.693	-0.001	441834265	76.9496
M 2	Aroclor-1016					76.9
	3 Aroclor 1016 (1)					
	4 Aroclor 1016 (2)					
	5 Aroclor 1016 (3)					
	6 Aroclor 1016 (4)					
	7 Aroclor 1016 (5)					
M 8	Aroclor-1260					
	9 Aroclor 1260 (1)					
	10 Aroclor 1260 (2)					
	11 Aroclor 1260 (3)					
	12 Aroclor 1260 (4)					
	13 Aroclor 1260 (5)					
M 14	Aroclor-1221					
	15 Aroclor 1221 (1)					
	16 Aroclor 1221 (2)					
	17 Aroclor 1221 (3)					
	18 Aroclor 1221 (4)					
	19 Aroclor 1221 (5)					
M 20	Aroclor-1232					
	21 Aroclor 1232 (1)					

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031303.d
 Report Date: 13-Mar-2017 12:33

Page 2

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(ppb)	(ug/Kg)
=====	==	=====	=====		=====	=====	=====	=====
22 Aroclor 1232 (2)					Compound Not Detected.			
23 Aroclor 1232 (3)					Compound Not Detected.			
24 Aroclor 1232 (4)					Compound Not Detected.			
25 Aroclor 1232 (5)					Compound Not Detected.			
M 26 Aroclor-1242					Compound Not Detected.			
27 Aroclor 1242 (1)					Compound Not Detected.			
28 Aroclor 1242 (2)					Compound Not Detected.			
29 Aroclor 1242 (3)					Compound Not Detected.			
30 Aroclor 1242 (4)					Compound Not Detected.			
31 Aroclor 1242 (5)					Compound Not Detected.			
M 32 Aroclor-1248					Compound Not Detected.			
33 Aroclor 1248 (1)					Compound Not Detected.			
34 Aroclor 1248 (2)					Compound Not Detected.			
35 Aroclor 1248 (3)					Compound Not Detected.			
36 Aroclor 1248 (4)					Compound Not Detected.			
37 Aroclor 1248 (5)					Compound Not Detected.			
M 38 Aroclor-1254					Compound Not Detected.			
39 Aroclor 1254 (1)					Compound Not Detected.			
40 Aroclor 1254 (2)					Compound Not Detected.			
41 Aroclor 1254 (3)					Compound Not Detected.			
42 Aroclor 1254 (4)					Compound Not Detected.			
43 Aroclor 1254 (5)					Compound Not Detected.			
M 44 Aroclor-1262					Compound Not Detected.			
45 Aroclor 1262 (1)					Compound Not Detected.			
46 Aroclor 1262 (2)					Compound Not Detected.			
47 Aroclor 1262 (3)					Compound Not Detected.			
48 Aroclor 1262 (4)					Compound Not Detected.			
49 Aroclor 1262 (5)					Compound Not Detected.			
M 50 Aroclor-1268					Compound Not Detected.			
51 Aroclor 1268 (1)					Compound Not Detected.			
52 Aroclor 1268 (2)					Compound Not Detected.			
53 Aroclor 1268 (3)					Compound Not Detected.			
54 Aroclor 1268 (4)					Compound Not Detected.			
55 Aroclor 1268 (5)					Compound Not Detected.			
S 56 Decachlorobiphenyl	13.101	13.103	-0.002		441058628	80.7855	80.8	

Page 1

Data File: /chem1/SV04/GC_66.i/170313.b/b17031303.d

Date : 13-HAR-2017 10:47

Client ID:

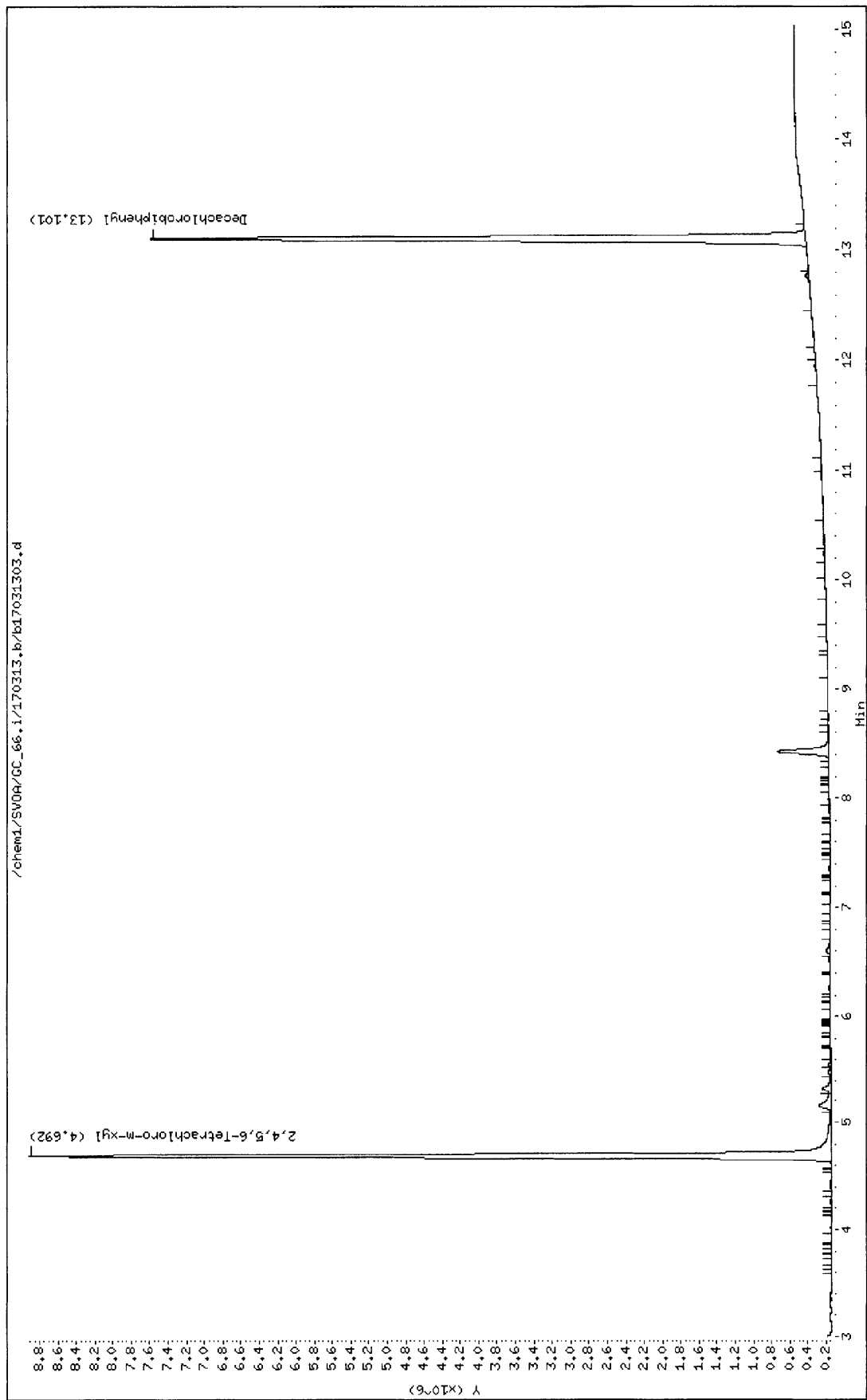
Sample Info: MB 170308L12

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170313.b/b17031302.d
 Report Date: 13-Mar-2017 12:32

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031302.d
 Lab Smp Id:
 Inj Date : 13-MAR-2017 10:29
 Operator : 669 Inst ID: GC_66.i
 Smp Info : LCS 170308L12
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
 Meth Date : 13-Mar-2017 12:03 uhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 2 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

		CONCENTRATIONS				
		ON-COLUMN			FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.690	4.693	-0.003	374190034	65.1687	65.2
M 2 Aroclor-1016				142326537	159.326	159
3 Aroclor 1016 (1)	5.534	5.533	0.001	15756815	175.006	175
4 Aroclor 1016 (2)	6.165	6.165	0.000	25877610	162.277	162
5 Aroclor 1016 (3)	6.846	6.845	0.001	55154248	155.397	155
6 Aroclor 1016 (4)	7.046	7.044	0.002	25885475	159.690	160
7 Aroclor 1016 (5)	7.198	7.194	0.004	19652387	155.010	155
M 8 Aroclor-1260				149999745	158.264	158
9 Aroclor 1260 (1)	9.751	9.748	0.003	43727121	161.782	162
10 Aroclor 1260 (2)	10.349	10.347	0.002	34952921	163.365	163
11 Aroclor 1260 (3)	10.743	10.741	0.002	35478144	152.224	152
12 Aroclor 1260 (4)	12.118	12.116	0.002	10560649	127.050	127
13 Aroclor 1260 (5)	12.337	12.336	0.001	25280908	171.567	172
\$ 56 Decachlorobiphenyl	13.104	13.103	0.001	396233643	72.5752	72.6

Page 1

Data File: /chem1/SV00A/CC_66.1/170313.b/b17031302.d

Date : 13-MAR-2017 10:29

Client ID:

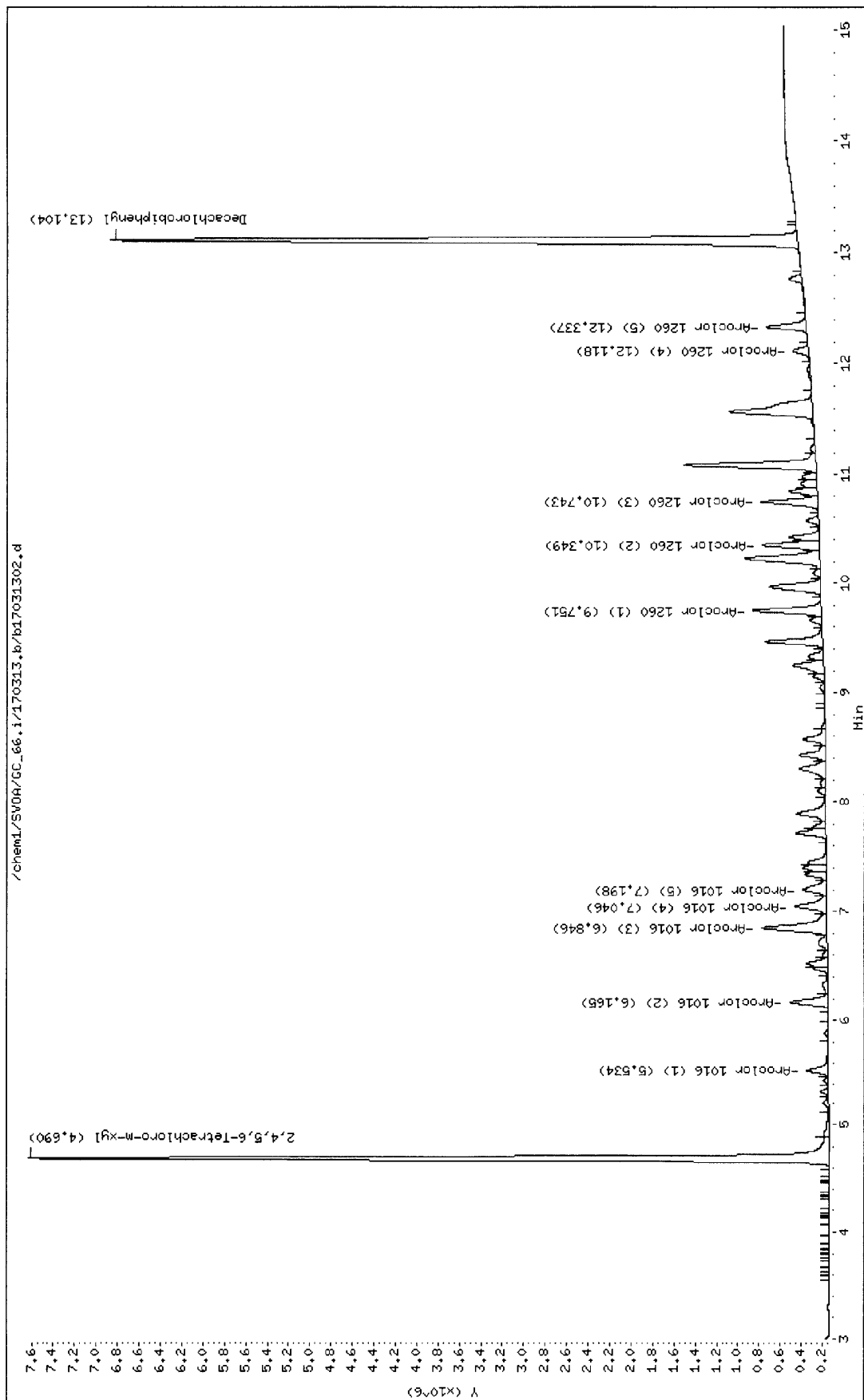
Sample Info: LCS 170308L12

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170313.b/b17031304.d
 Report Date: 13-Mar-2017 12:32

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031304.d
 Lab Smp Id:
 Inj Date : 13-MAR-2017 11:05
 Operator : 669 Inst ID: GC_66.i
 Smp Info : MS 17-03-0141-32 170308S12
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
 Meth Date : 13-Mar-2017 12:03 uhhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 4 QC Sample: MS
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

		CONCENTRATIONS				
		ON-COLUMN			FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	192240517	33.4805	33.5
M 2 Aroclor-1016				96882393	108.454	108
3 Aroclor 1016 (1)	5.535	5.533	0.002	11097467	123.256	123
4 Aroclor 1016 (2)	6.165	6.165	0.000	17316466	108.591	108
5 Aroclor 1016 (3)	6.848	6.845	0.003	37074766	104.458	104
6 Aroclor 1016 (4)	7.047	7.044	0.003	17982049	110.933	111
7 Aroclor 1016 (5)	7.199	7.194	0.005	13411642	105.786	106
M 8 Aroclor-1260				114599153	120.913	121
9 Aroclor 1260 (1)	9.748	9.748	0.000	32987527	122.047	122
10 Aroclor 1260 (2)	10.346	10.347	-0.001	26654786	124.580	124
11 Aroclor 1260 (3)	10.740	10.741	-0.001	27227233	116.823	117
12 Aroclor 1260 (4)	12.114	12.116	-0.002	8484733	102.075	102
13 Aroclor 1260 (5)	12.334	12.336	-0.002	19244872	130.604	131
\$ 56 Decachlorobiphenyl	13.101	13.103	-0.002	267963299	49.0809	49.1

Page 1

Data File: /chem1/SV04/GC_66.i/170313.b/b17031304.d

Date : 13-MAR-2017 11:05

Client ID:

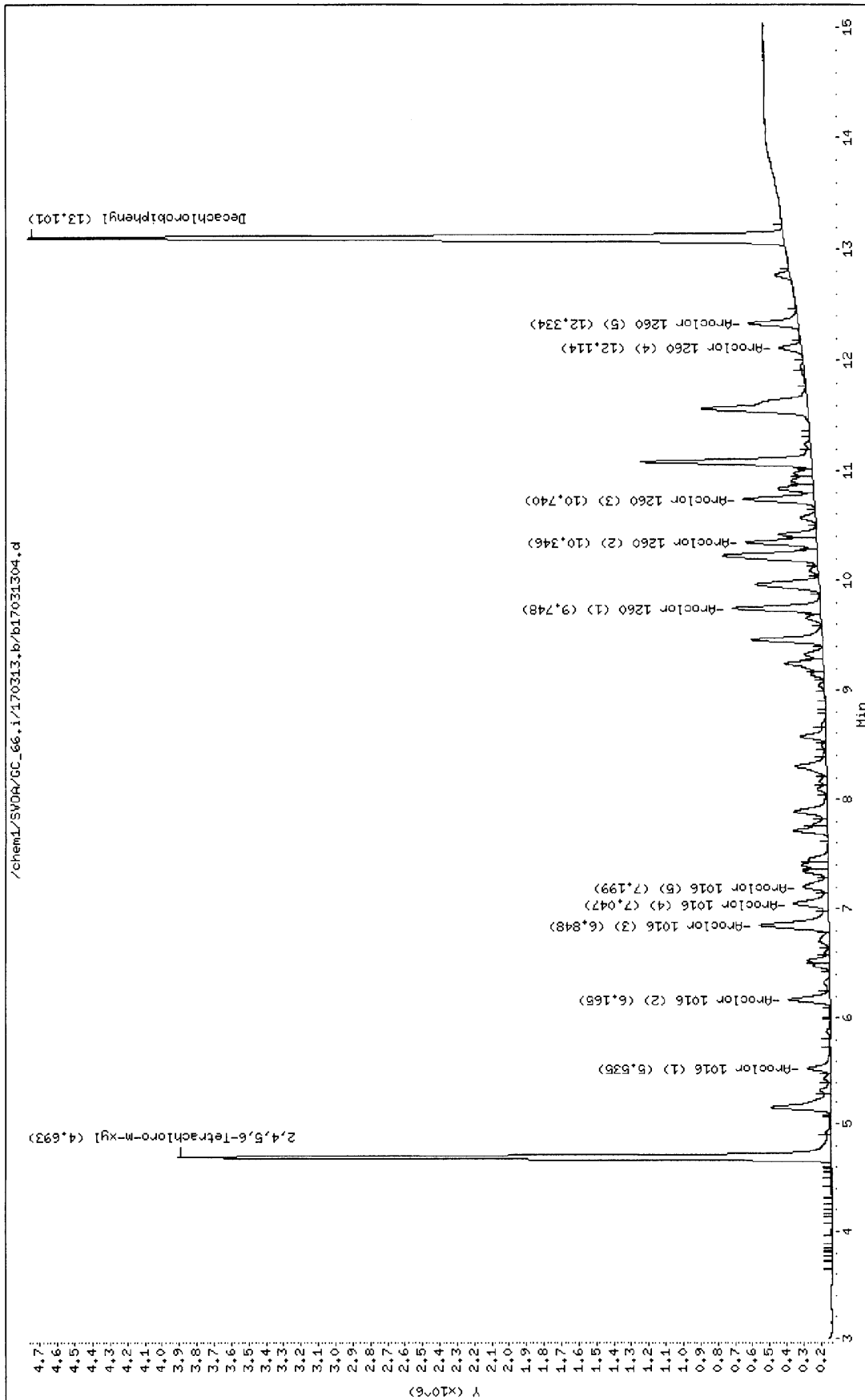
Sample Info: MS 17-03-0141-32 170308S12

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170313.b/b17031305.d
 Report Date: 13-Mar-2017 12:32

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031305.d
 Lab Smp Id:
 Inj Date : 13-MAR-2017 11:22
 Operator : 669 Inst ID: GC_66.i
 Smp Info : MSD 17-03-0141-32 170308S12
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
 Meth Date : 13-Mar-2017 12:03 uhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 5 QC Sample: MSD
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

		CONCENTRATIONS				
		ON-COLUMN			FINAL	
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.692	4.693	-0.001	362750609	63.1764	63.2
M 2 Aroclor-1016				143981428	161.178	161
3 Aroclor 1016 (1)	5.534	5.533	0.001	15088533	167.584	168
4 Aroclor 1016 (2)	6.165	6.165	0.000	25723934	161.314	161
5 Aroclor 1016 (3)	6.846	6.845	0.001	56350504	158.768	159
6 Aroclor 1016 (4)	7.045	7.044	0.001	26650920	164.412	164
7 Aroclor 1016 (5)	7.197	7.194	0.003	20167535	159.073	159
M 8 Aroclor-1260				175236488	184.891	185
9 Aroclor 1260 (1)	9.747	9.748	-0.001	50241854	185.885	186
10 Aroclor 1260 (2)	10.347	10.347	0.000	40649217	189.988	190
11 Aroclor 1260 (3)	10.740	10.741	-0.001	41640892	178.667	179
12 Aroclor 1260 (4)	12.115	12.116	-0.001	13400998	161.221	161
13 Aroclor 1260 (5)	12.334	12.336	-0.002	29303524	198.866	199
\$ 56 Decachlorobiphenyl	13.101	13.103	-0.002	456384849	83.5927	83.6

Page 1

Data File: /chem1/SV00A/GC_66.i/170313.b/b17031305.d

Date : 13-MAR-2017 11:22

Client ID:

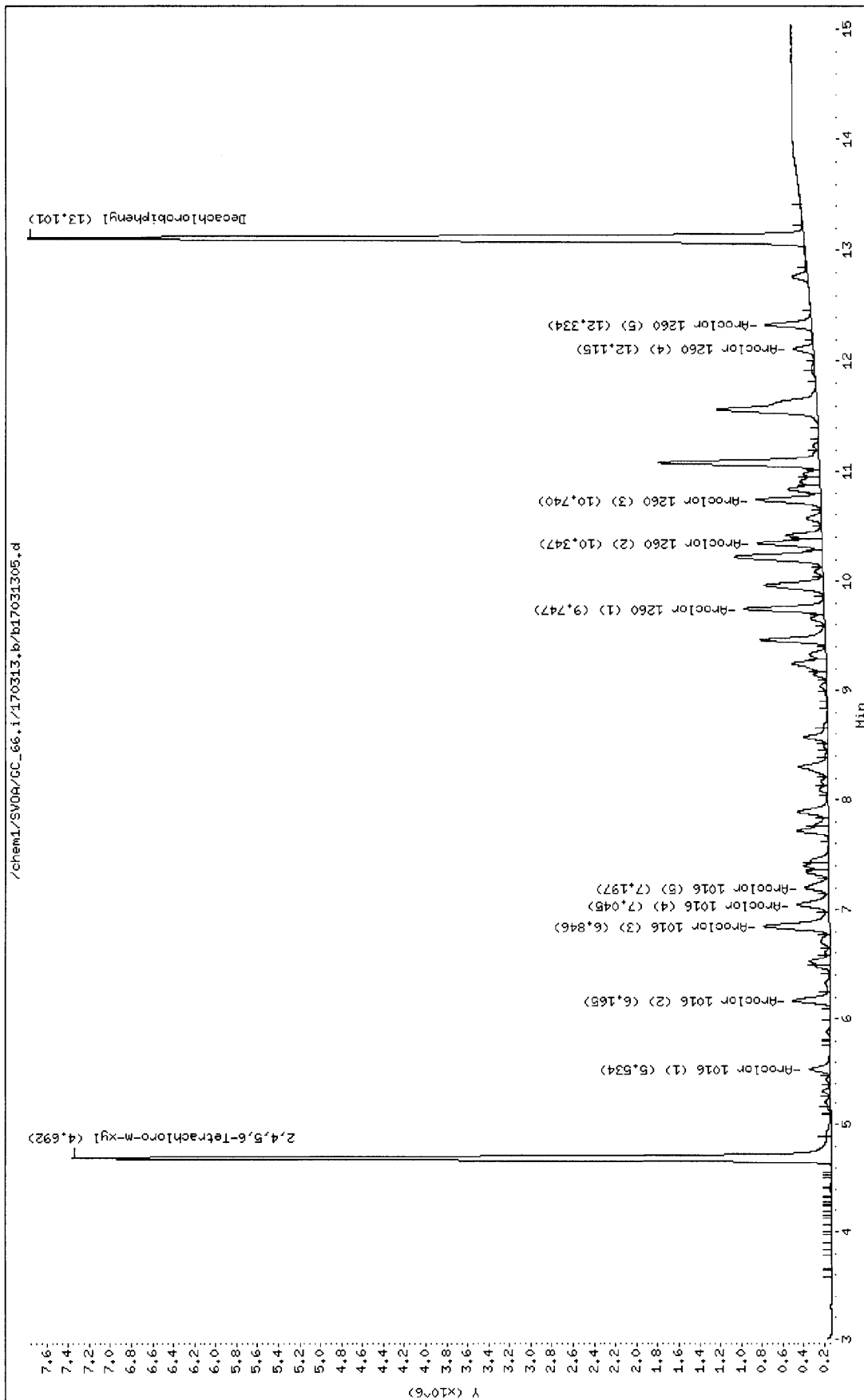
Sample Info: MSD 17-03-0141-32 170308S12

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



EPA METHOD 8082 PCB

Continuing Calibration

CCV ASSOCIATION SUMMARY FOR METHOD: EPA 8082

BATCH ID: 170313A014
INSTRUMENT: GC 66

ANALYZED BY: 1,028

WORK ORDER: 099-12-532
MATRIX: Water

REVIEWED BY: M
D/T REVIEWED:

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
9414	Daily Calibration	2017-03-13 10:06	/chem1/SVOA/GC_66/170313/b1703130117031301

WORK ORDER: 17-03-0141
MATRIX: Soil

REVIEWED BY:
D/T REVIEWED:

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
32	F-DU1-ISM1-8	2017-03-13 11:05	/chem1/SVOA/GC_66/170313/b1703130417031304
32	F-DU1-ISM1-8	2017-03-13 11:22	/chem1/SVOA/GC_66/170313/b1703130517031305
32	F-DU1-ISM1-8	2017-03-13 11:40	/chem1/SVOA/GC_66/170313/b1703130617031306
33	F-DU1-ISM2-8	2017-03-13 11:58	/chem1/SVOA/GC_66/170313/b1703130717031307
34	F-DU1-ISM3-8	2017-03-13 12:16	/chem1/SVOA/GC_66/170313/b1703130817031308
35	F-DU1-ISM4-8	2017-03-13 12:34	/chem1/SVOA/GC_66/170313/b1703130917031309
36	F-DU1-ISM5-8	2017-03-13 12:52	/chem1/SVOA/GC_66/170313/b1703131017031310

CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

CCV WORK ORDER: 099-12-532-9414-5154

BATCH ID:

INITIAL: 170222I003
CCV: 170313A014
INSTRUMENT: GC 66

ANALYZED BY: 1028

D/T ANALYZED:

INITIAL: 2017-02-22 17:27
CCV: 2017-03-13 10:06

REVIEWED BY:

D/T REVIEWED:

7

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130117031301

COMPOUND NAME	TYPE	CALIB MODEL	MIN RF	AVG RF	CCV RF	AMOUNT	CCV CONC	CCV %D	CCV %D CL	STATUS
Aroclor-1016	C	Avg Resp	0.00	893304.438	799572.154			10	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	880187.744			7	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031301.d
 Report Date: 03/13/2017 13:07

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_66.i Injection Date and Time: 13-MAR-2017 10:06
 Sample Name: PCB CCV P021517I 500PPB Initial Calibration Date(s): 22-FEB-2017 22-FEB-2017
 Sublist used: p1016_1260.sub Initial Calibration Time(s): 17:27 20:07
 Method used: /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type
=====						
Aroclor 1260 (1)	270284.532	248623.346	0.01	8	15	Averaged
Aroclor 1260 (2)	213956.488	208062.414	0.01	3	15	Averaged
Aroclor 1260 (3)	233064.808	209247.096	0.01	10	15	Averaged
Aroclor 1260 (4)	83122.167	63433.664	0.01	24	15	Averaged
Aroclor-1260	947781.003	880187.744	0.01	7	15	Averaged
Aroclor-1016	893304.438	799572.154	0.01	10	15	Averaged
Aroclor 1016 (1)	90035.625	80124.852	0.01	11	15	Averaged
Aroclor 1016 (2)	159465.395	142616.952	0.01	11	15	Averaged
Aroclor 1016 (3)	354923.864	324019.542	0.01	9	15	Averaged
Aroclor 1016 (4)	162098.269	141750.732	0.01	13	15	Averaged
Aroclor 1016 (5)	126781.283	111060.076	0.01	12	15	Averaged
Aroclor 1260 (5)	147353.008	150821.224	0.01	-2	15	Averaged
=====						
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type
=====						
2,4,5,6-Tetrachloro-m-xylene	5741865.174	5347712.490	0.01	7	15	Averaged
Decachlorobiphenyl	5459627.036	5282916.370	0.01	3	15	Averaged

<-Failed

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031301.d
 Report Date: 13-Mar-2017 12:03

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031301.d
 Lab Smp Id:
 Inj Date : 13-MAR-2017 10:06
 Operator : 669
 Smp Info : PCB CCV P021517I 500PPB
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
 Meth Date : 13-Mar-2017 12:03 uhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 1 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	534771249	100.000	93.1
M 2 Aroclor-1016				399786077	500.000	448
3 Aroclor 1016 (1)	5.533	5.533	0.000	40062426	500.000	445
4 Aroclor 1016 (2)	6.165	6.165	0.000	71308476	500.000	447
5 Aroclor 1016 (3)	6.845	6.845	0.000	162009771	500.000	456
6 Aroclor 1016 (4)	7.044	7.044	0.000	70875366	500.000	437
7 Aroclor 1016 (5)	7.194	7.194	0.000	55530038	500.000	438
M 8 Aroclor-1260				440093872	500.000	464
9 Aroclor 1260 (1)	9.748	9.748	0.000	124311673	500.000	460
10 Aroclor 1260 (2)	10.347	10.347	0.000	104031207	500.000	486
11 Aroclor 1260 (3)	10.741	10.741	0.000	104623548	500.000	449
12 Aroclor 1260 (4)	12.116	12.116	0.000	31716832	500.000	382
13 Aroclor 1260 (5)	12.336	12.336	0.000	75410612	500.000	512
\$ 56 Decachlorobiphenyl	13.103	13.103	0.000	528291637	100.000	96.8

Page 1

Data File: /chem1/SV04/GC_66.i/170313.b/b17031301.d

Date : 13-MAR-2017 10:06

Client ID:

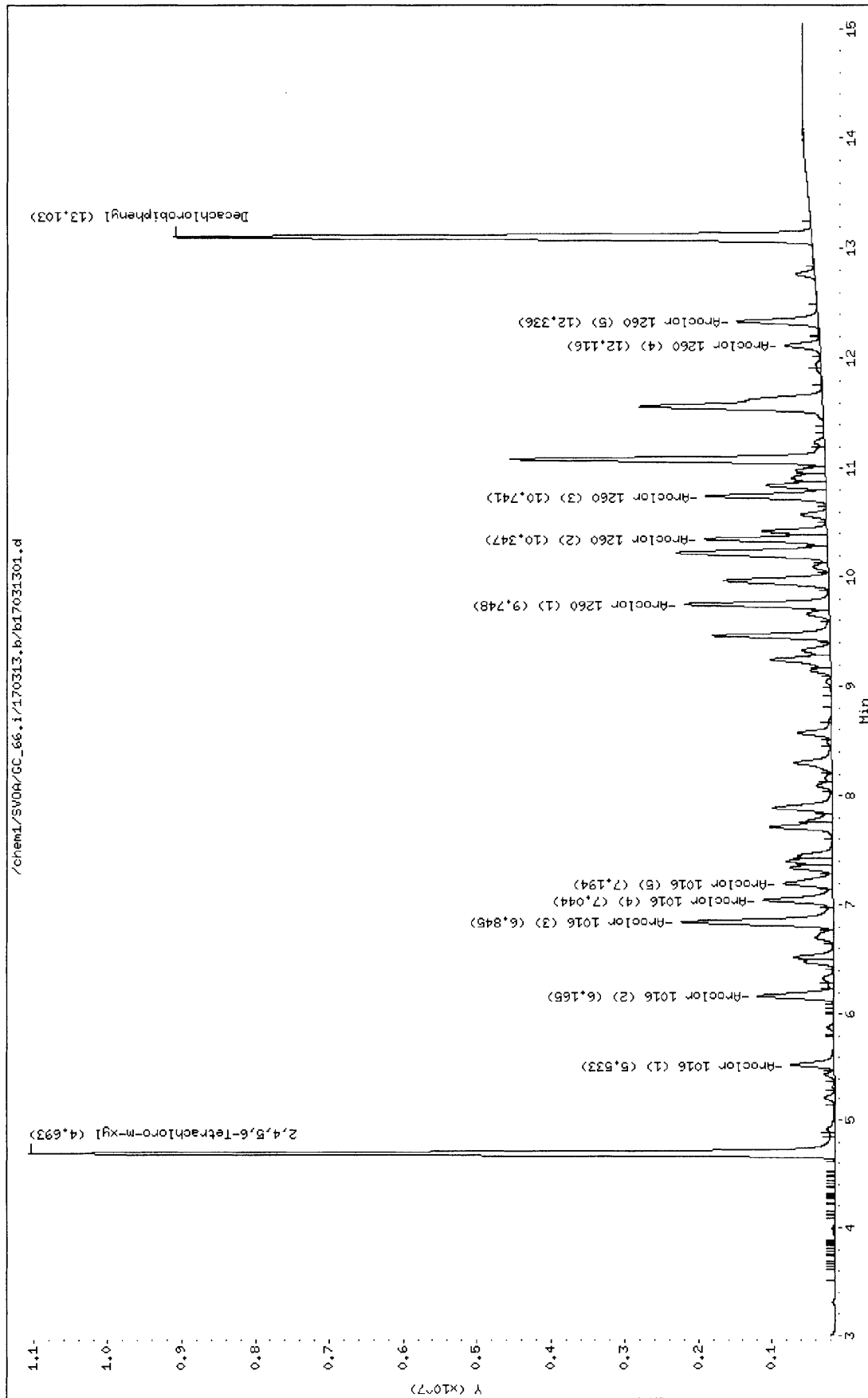
Sample Info: PCB CCV P0215171 500PPB

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

CCV WORK ORDER: 099-12-532-9415-5154

BATCH ID:

170222I003

170313A015

GC 66

INITIAL:

CCV:

INSTRUMENT:

ANALYZED BY: 669

D/T ANALYZED:

INITIAL:

CCV:

REVIEWED BY:

D/T REVIEWED:

2017-02-22 17:27

2017-03-13 16:44

21

DATA FILE: /chem1/SVOA/GC_66/170313/b1703132217031322

COMPOUND NAME	TYPE	CALIB MODEL	MIN RF	AVG RF	CCV RF	AMOUNT	CCV CONC	CCV %D	CCV %D CL	STATUS
Aroclor-1016	C	Avg Resp	0.00	893304.438	782678.018			12	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	870199.088			8	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031322.d
 Report Date: 03/13/2017 17:07

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_66.i Injection Date and Time: 13-MAR-2017 16:44
 Sample Name: PCB CCV P021517I 500PPB Initial Calibration Date(s): 22-FEB-2017 22-FEB-2017
 Sublist used: p1016_1260.sub Initial Calibration Time(s): 17:27 20:07
 Method used: /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift/Drift	Max%D	Curve Type
=====						
Aroclor 1260 (1)	270284.532	241501.006	0.01	11	15	Averaged
Aroclor 1260 (2)	213956.488	203557.608	0.01	5	15	Averaged
Aroclor 1260 (3)	233064.808	206453.958	0.01	11	15	Averaged
Aroclor 1260 (4)	83122.167	65458.852	0.01	21	15	Averaged
Aroclor-1260	947781.003	870199.088	0.01	8	15	Averaged
Aroclor-1016	893304.438	782678.018	0.01	12	15	Averaged
Aroclor 1016 (1)	90035.625	81208.134	0.01	10	15	Averaged
Aroclor 1016 (2)	159465.395	141444.522	0.01	11	15	Averaged
Aroclor 1016 (3)	354923.864	311124.488	0.01	12	15	Averaged
Aroclor 1016 (4)	162098.269	139516.106	0.01	14	15	Averaged
Aroclor 1016 (5)	126781.283	109384.768	0.01	14	15	Averaged
Aroclor 1260 (5)	147353.008	153227.664	0.01	-4	15	Averaged
=====						
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift/Drift	Max%D	Curve Type
=====						
2,4,5,6-Tetrachloro-m-xylene	5741865.174	5295169.210	0.01	8	15	Averaged
Decachlorobiphenyl	5459627.036	5472823.730	0.01	0	15	Averaged

<-Failed

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031322.d
 Report Date: 13-Mar-2017 17:06

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031322.d
 Lab Smp Id:
 Inj Date : 13-MAR-2017 16:44
 Operator : 669 Inst ID: GC_66.i
 Smp Info : PCB CCV P021517I 500PPB
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
 Meth Date : 13-Mar-2017 17:06 uhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 1 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	529516921	100.000	92.2
M 2 Aroclor-1016				391339009	500.000	438
3 Aroclor 1016 (1)	5.533	5.533	0.000	40604067	500.000	451
4 Aroclor 1016 (2)	6.165	6.165	0.000	70722261	500.000	443
5 Aroclor 1016 (3)	6.843	6.843	0.000	155562244	500.000	438
6 Aroclor 1016 (4)	7.043	7.043	0.000	69758053	500.000	430
7 Aroclor 1016 (5)	7.194	7.194	0.000	54692384	500.000	431
M 8 Aroclor-1260				435099544	500.000	459
9 Aroclor 1260 (1)	9.746	9.746	0.000	120750503	500.000	447
10 Aroclor 1260 (2)	10.345	10.345	0.000	101778804	500.000	476
11 Aroclor 1260 (3)	10.739	10.739	0.000	103226979	500.000	443
12 Aroclor 1260 (4)	12.113	12.113	0.000	32729426	500.000	394
13 Aroclor 1260 (5)	12.333	12.333	0.000	76613832	500.000	520
\$ 56 Decachlorobiphenyl	13.101	13.101	0.000	547282373	100.000	100

Page 1

Data File: /chem1/SV00A/GC_66.i/170313.b/b17031322.d

Date : 13-MAR-2017 16:44

Client ID:

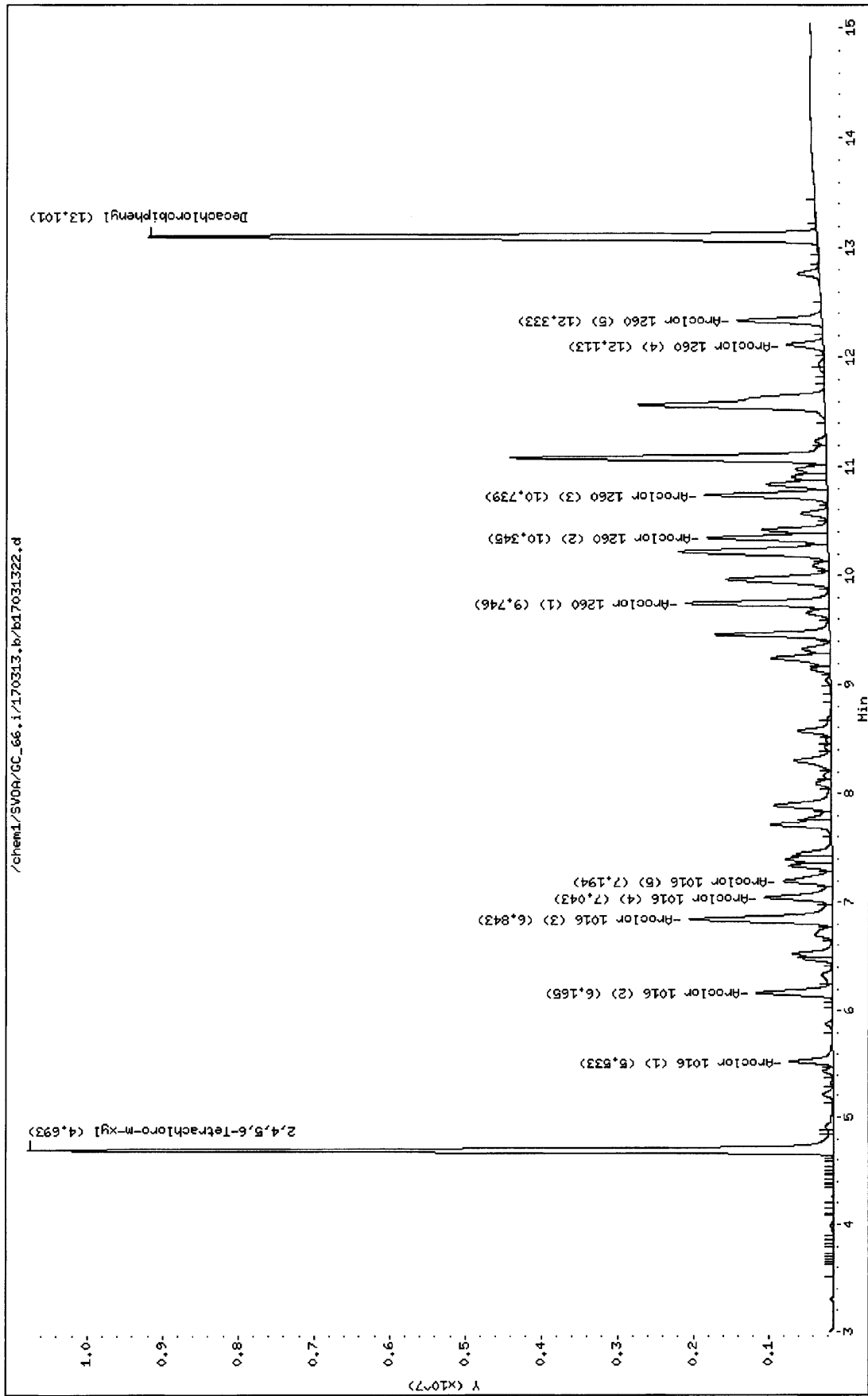
Sample Info: PCB CCV P0215171 500PPB

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



EPA METHOD 8082 PCB

Run Logs

Line	Vial	File	Name	Method	InjVolume	Acquired
1	100	17022200	IB S007-044-07	8082D-N2		22-Feb-17, 17:09:45
2	1	17022201	PCB ICAL1 P021517F 100PPB	8082D-N2		22-Feb-17, 17:27:32
3	2	17022202	PCB ICAL2 P021517E 250PPB	8082D-N2		22-Feb-17, 17:45:20
4	3	17022203	PCB ICAL3 P021517D 500PPB	8082D-N2		22-Feb-17, 18:03:10
5	4	17022204	PCB ICAL4 P021517C 750PPB	8082D-N2		22-Feb-17, 18:21:00
6	5	17022205	PCB ICAL5 P021517B 2000PPB	8082D-N2	1003	22-Feb-17, 18:38:49
7	6	17022206	PCB ICV P021517H 500PPB	8082D-N2		22-Feb-17, 18:56:37
8	7	17022207	PCB 1221/54 500PPB P120616I	8082D-N2		22-Feb-17, 19:14:26
9	8	17022208	PCB 1232/62 500PPB P120616J	8082D-N2		22-Feb-17, 19:32:18
10	9	17022209	PCB 1248/68 500PPB P120616K	8082D-N2		22-Feb-17, 19:50:07
11	10	17022210	PCB 1242 500PPB P120616L	8082D-N2		22-Feb-17, 20:07:55

Line	Vial	File	Name	Method	InjVolume	Acquired
1	150	17031300	IB S007-044-07	8082D-N2	A014	13-Mar-17, 09:48:22
2	1	17031301	PCB CCV P021517I 500PPB	8082D-N2		13-Mar-17, 10:06:13
3	2	17031302	LCS 170308L12	8082D-N2		13-Mar-17, 10:29:29
4	3	17031303	MB 170308L12	8082D-N2		13-Mar-17, 10:47:17
5	4	17031304	MS 17-03-0141-32 170308S12	8082D-N2		13-Mar-17, 11:05:06
6	5	17031305	MSD 17-03-0141-32 170308S12	8082D-N2		13-Mar-17, 11:22:56
7	6	17031306	17-03-0141-32	8082D-N2		13-Mar-17, 11:40:47
8	7	17031307	17-03-0141-33	8082D-N2		13-Mar-17, 11:58:42
9	8	17031308	17-03-0141-34	8082D-N2		13-Mar-17, 12:16:31
10	9	17031309	17-03-0141-35	8082D-N2		13-Mar-17, 12:34:23
11	10	17031310	17-03-0141-36	8082D-N2		13-Mar-17, 12:52:11
12	11	17031311	17-03-0140-32	8082D-N2		13-Mar-17, 13:10:04
13	12	17031312	17-03-0140-33	8082D-N2		13-Mar-17, 13:27:55
14	13	17031313	17-03-0140-34	8082D-N2		13-Mar-17, 13:45:46
15	14	17031314	17-03-0140-35	8082D-N2		13-Mar-17, 14:03:34
16	15	17031315	17-03-0140-36	8082D-N2		13-Mar-17, 14:21:27
17	16	17031316	MB 170313L06	8082D-N2		13-Mar-17, 14:44:12
18	17	17031317	17-03-0893-1	8082D-N2		13-Mar-17, 15:02:01
19	18	17031318	17-03-0771-26	8082D-N2		13-Mar-17, 15:19:49
20	19	17031319	LCS 170313L06	8082D-N2		13-Mar-17, 15:37:42
21	20	17031320	MS 17-03-0771-26 170313S06	8082D-N2	A015	13-Mar-17, 16:09:04
22	21	17031321	MSD 17-03-0771-26 170313S06	8082D-N2		13-Mar-17, 16:26:53
23	1	17031322	PCB CCV P021517I 500PPB	8082D-N2		13-Mar-17, 16:44:46
24	23	17031323	LCS 170310L16	8082D-N2		
25	24	17031324	LCSD 170310L16	8082D-N2		
26	25	17031325	MB 170310L16	8082D-N2		
27	26	17031326	17-03-0828-1	8082D-N2		
28	27	17031327	17-03-0828-2	8082D-N2		
29	28	17031328	LCS 170310L08	8082D-N2		
30	29	17031329	MB 170310L08	8082D-N2		
31	30	17031330	MS 17-03-0662-1 170310S08	8082D-N2		
32	31	17031331	MSD 17-03-0662-1 170310S08	8082D-N2		
33	32	17031332	17-03-0662-1	8082D-N2		
34	33	17031333	17-03-0662-2	8082D-N2		
35	1	17031334	PCB CCV P021517I 500PPB	8082D-N2		

EPA METHOD 8082 PCB

Preparation Logs

Analysis Method (EPA Method): ☐ 608 ☐ 8081 ☒ 8082 ☐ 8141 ☐ 8310 ☐ TO-13 ☐ TO-4				
☐ 8270 (☐ Soil ☐ Soil SIM SUPER ☐ PAH ☐ SIM PAH ☐ SIM Pest ☐ SIM PCB cong. ☐ SIM FL)				
Extraction Method (EPA Method): ☐ 3510 ☐ 3520 ☐ 3540 ☐ 3541 ☒ 3545 ☐ 3550 ☐ 3580				
Analyst ID#: Measuring Sample-1104/1090 Start Extraction-1104/1090 Blow Down-1084/1101 Clean Up-1084/1104				
Matrix: ☒ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air				
Balance ID#: 53 Filter ID#: 507-17-17 ASE ID#: 7 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:				
Ext. Start Date/Time: 03/08/17 16:00 Ext. End Date/Time: 03/08/17 20:00				
Sand or Wipe ID#: 507-19-19		Drying Agent: ☒ Na ₂ SO ₄ ☒ Diatomaceous Earth		
		Drying Agent(s) ID#: 507-44-18 / 507-22-03		
Surrogate Std ID# & Volume Added (mL): S101316A 0.5 mL				
Spike Std ID# & Volume Added (mL): S020317A 0.5 mL		Spike Added to: ☒ LCS ☐ LCSD ☒ MS ☒ MSD		
Extraction Solvent: ☐ MeCl ₂ ☒ 1:1 Hexane-Acetone ☐ 1:1 MeCl ₂ -Acetone ☐ 9:1 Hexane-Diethyl-ether ☐ Acetonitrile				
Extraction Solvent ID#: 507-4407 / 507-44-08 Exchange Solvent (☒ Hexane ☐ Acetonitrile) ID#: 507-42-09				
Clean Up Start Date & Time: 03/08/17 9:00 Clean Up End Date & Time: 03/08/17 9:30				
Clean Up: ☐ 3620 Florisil ☐ 3630 SGC ☐ 3660 Sulfur ☒ 3665 Acid ☐ Other				Cartridge ID#:
Clean Up Reagent ID#: 507-52-12				Cartridge Conditioning Column Pre-Elution Reagent ID#:
MB/LCS/MS Batch #: 170308L12		Sample W (g) / V (mL)		
Cel ID#:	Initial	Final	Clean Up Performed	Comments
MB	20.0	10	☒	
LCS	20.0	10	☒	
LCSD N/A	—	—	☒	
MS 17-03-0141-32 *	20.1	10	☒	
MSD 17-03-0141-32 *	20.0	10	☒	
17-03-0140-32A	20.1	10	☒	
- 33A	20.1	10	☒	
- 34A	20.1	10	☒	
- 35A	20.0	10	☒	
- 36A	20.0	10	☒	
17-03-0141-32A	20.0	10	☒	
- 33A	20.0	10	☒	
- 34A	20.2	10	☒	
- 35A	20.0	10	☒	
- 36A	20.0	10	☒	
17-03-0142-27A	20.0	10	☒	17-03-0142-(27-31)
- 28A	20.0	10	☒	deleted. (mistakenly
- 29A	20.1	10	☒	set up)
- 30A	20.0	10	☒	
- 31A	20.1	10	☒	
- 32A	20.1	10	☒	17-03-0142-(32-36)
- 33A	20.0	10	☒	Extract & hold.
- 34A	20.1	10	☒	
- 35A	20.0	10	☒	
- 36A	20.1	10	☒	

Peer Reviewed by: JKHPeer Reviewed Date: 03/10/17

Revision Date: 10/20/16

EPA METHOD 8270C PAHSIM

RAW DATA



EPA METHOD 8270C PAHSIM

Initial Calibration

INITIAL CALIBRATION QUALITY CONTROL SUMMARY FOR METHOD: EPA 8270C SIM PAHS

ICAL WORK ORDER: 099-06-009-4954-4741
ICAL BATCH ID: 1702271004
INSTRUMENT: GC/MS EEE

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-02-27 13:53
REVIEWED BY: 262
D/T REVIEWED: 2017-02-28 12:33

COMPOUND	COMP. TYPE	CALIB. MODEL	1	2	3	4	5	6	7	8	9	AVG. RF	MIN. RF	%RSD CL	%RSD CL	R or R^2 CL	R or R^2 CL	STATUS
Naphthalene		Avg RF	1.161	1.034	1.156	1.162	1.105					1.124	0.00	5	0-15	4.921		PASS
2-Methylnaphthalene		Avg RF	0.715	0.692	0.768	0.778	0.735					0.737	0.00	5	0-15	4.871		PASS
1-Methylnaphthalene		Avg RF	0.720	0.649	0.713	0.743	0.702					0.706	0.00	5	0-15	4.964		PASS
Acenaphthylene		Avg RF	2.746	2.504	2.738	2.771	2.563					2.664	0.00	5	0-15	4.569		PASS
Acenaphthene	C	Avg RF	1.623	1.467	1.624	1.607	1.496					1.563	0.00	5	0-15	4.843		PASS
Fluorene		Avg RF	1.860	1.709	1.866	1.803	1.640					1.776	0.00	6	0-15	5.557		PASS
Phenanthrene		Avg RF	1.124	1.008	1.113	1.108	1.031					1.077	0.00	5	0-15	4.926		PASS
Anthracene		Avg RF	1.150	1.050	1.040	1.172	1.086					1.099	0.00	5	0-15	5.359		PASS
Fluoranthene	C	Avg RF	1.354	1.267	1.410	1.430	1.308					1.354	0.00	5	0-15	5.036		PASS
Pyrene		Avg RF	1.519	1.415	1.549	1.578	1.476					1.507	0.00	4	0-15	4.250		PASS
Benzo (a) Anthracene		Avg RF	1.425	1.200	1.321	1.356	1.303					1.321	0.00	6	0-15	6.204		PASS
Chrysene		Avg RF	1.307	1.168	1.292	1.295	1.221					1.257	0.00	5	0-15	4.775		PASS
Benzo (k) Fluoranthene		Avg RF	1.503	1.317	1.474	1.428	1.328					1.410	0.00	6	0-15	5.978		PASS
Benzo (b) Fluoranthene		Avg RF	1.197	1.138	1.356	1.314	1.301					1.261	0.00	7	0-15	7.179		PASS
Benzo (a) Pyrene	C	Avg RF	1.274	1.171	1.312	1.331	1.259					1.269	0.00	5	0-15	4.884		PASS
Indeno (1,2,3-c,d) Pyrene		Avg RF	1.321	1.186	1.396	1.373	1.344					1.324	0.00	6	0-15	6.206		PASS
Dibenz (a,h) Anthracene		Avg RF	0.978	0.932	1.086	1.050	0.989					1.007	0.00	6	0-15	6.054		PASS
Benzo (g,h,i) Perylene		Avg RF	1.187	1.018	1.169	1.173	1.111					1.132	0.00	6	0-15	6.192		PASS

Data Files:

LR - E: Linear Regression (Equal Weight)
Avg RF: Average Response Factor

LR - IC: Linear Regression (Inverse Concentration Weight)
QR - E: Quadratic Regression (Equal Weight)

LR - ISC: Linear Regression (Inverse Square Concentration Weight)

INITIAL CALIBRATION QUALITY CONTROL SUMMARY

FOR METHOD: EPA 8270C SIM PAHS

ICAL WORK ORDER: 099-06-009-4954-4741
ICAL BATCH ID: 1702271004
INSTRUMENT: GC/MS EEE

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-02-27 13:53
REVIEWED BY: 262
D/T REVIEWED: 2017-02-28 12:33

LEVEL #	D/T ANALYZED	DATA FILE
1	2017-02-27 13:53	Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb011.d\27feb011.ir
2	2017-02-27 13:33	Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb010.d\27feb010.ir
3	2017-02-27 13:12	Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb009.d\27feb009.ir
4	2017-02-27 12:52	Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb008.d\27feb008.ir
5	2017-02-27 12:32	Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb007.d\27feb007.ir



INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET

FOR METHOD: EPA 8270C SIM PAHS

ICV WORK ORDER: 099-06-009-4954-4741

INITIAL BATCH ID: 170227I004

INSTRUMENT: GC/MS EEE

ANALYZED BY: 907

D/T ANALYZED:

INITIAL: 2017-02-27 13:53

ICV: 2017-02-27 14:13

REVIEWED BY: 262

D/T REVIEWED: 2017-02-28 12:33

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb012.d\27feb012.rr

COMPOUND	COMP TYPE	CALIB MODEL	MIN RF	AVG RF	ICV RF	AMOUNT	ICV	ICV %D	ICV %D CL	STATUS
Naphthalene	Avg Resp		0.00	1.124	1.212			-8	0-20	PASS
2-Methylnaphthalene	Avg Resp		0.00	0.737	0.876			-19	0-20	PASS
1-Methylnaphthalene	Avg Resp		0.00	0.706	0.775			-10	0-20	PASS
Acenaphthylene	Avg Resp		0.00	2.664	2.879			-8	0-20	PASS
Acenaphthene	Avg Resp	C	0.00	1.563	1.734			-11	0-20	PASS
Fluorene	Avg Resp		0.00	1.776	1.956			-10	0-20	PASS
Phenanthrene	Avg Resp		0.00	1.077	1.234			-15	0-20	PASS
Anthracene	Avg Resp		0.00	1.099	1.215			-11	0-20	PASS
Fluoranthene	Avg Resp	C	0.00	1.354	1.509			-11	0-20	PASS
Pyrene	Avg Resp		0.00	1.507	1.627			-8	0-20	PASS
Benzo (a) Anthracene	Avg Resp		0.00	1.321	1.385			-5	0-20	PASS
Chrysene	Avg Resp		0.00	1.257	1.317			-5	0-20	PASS
Benzo (k) Fluoranthene	Avg Resp		0.00	1.410	1.529			-8	0-20	PASS
Benzo (b) Fluoranthene	Avg Resp		0.00	1.261	1.360			-8	0-20	PASS
Benzo (a) Pyrene	Avg Resp	C	0.00	1.269	1.347			-6	0-20	PASS
Indeno (1,2,3-c,d) Pyrene	Avg Resp		0.00	1.324	1.436			-8	0-20	PASS
Dibenz (a,h) Anthracene	Avg Resp		0.00	1.007	1.122			-11	0-20	PASS
Benzo (g,h,i) Perylene	Avg Resp		0.00	1.132	1.264			-12	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Report Date : 27-Feb-2017 16:18

Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
 End Cal Date : 27-FEB-2017 13:53
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m
 Cal Date : 27-Feb-2017 15:02 ev7p
 Curve Type : Average

Calibration File Names:

Level 1: /chem/SVOA/GCMS_EEE.i/170227.b/27feb011.d
 Level 2: /chem/SVOA/GCMS_EEE.i/170227.b/27feb010.d
 Level 3: /chem/SVOA/GCMS_EEE.i/170227.b/27feb009.d
 Level 4: /chem/SVOA/GCMS_EEE.i/170227.b/27feb008.d
 Level 5: /chem/SVOA/GCMS_EEE.i/170227.b/27feb007.d

Compound	0.10000	0.50000	1.000	2.000	5.000	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 5			
4 Naphthalene	1.16060	1.03437	1.15585	1.16235	1.10472	1.12358	5
5 2-Methylnaphthalene	0.71460	0.69156	0.76755	0.77768	0.73512	0.73730	5
6 1-Methylnaphthalene	0.72009	0.64896	0.71287	0.74335	0.70230	0.70551	5
8 Biphenyl	2.51017	2.26941	2.42702	2.28126	2.07295	2.31216	7
9 2,6-Dimethylnaphthalene	1.70500	1.56246	1.69427	1.67041	1.51900	1.63023	5
10 Acenaphthylene	2.74568	2.50416	2.73776	2.77077	2.56295	2.66426	5
12 Acenaphthene	1.62275	1.46707	1.62435	1.60675	1.49606	1.56340	5
13 Dibenzofuran	2.43048	2.19728	2.44209	2.40665	2.23068	2.34144	5
14 1,6,7-Trimethylnaphthalene	1.62611	1.51675	1.65589	1.61472	1.45670	1.57403	5
15 Fluorene	1.86024	1.70856	1.86647	1.80300	1.64039	1.77573	6
16 Dibenzothiophene	5.20555	4.57190	5.11178	4.97228	4.52376	4.87705	6
18 Phenanthrene	1.12374	1.00818	1.11277	1.10821	1.03140	1.07686	5
19 Anthracene	1.14957	1.04991	1.04047	1.17190	1.08562	1.09950	5
20 1-Methylphenanthrene	1.11715	1.02723	1.16454	1.18394	1.11231	1.12103	5
21 Fluoranthene	1.35420	1.26743	1.41012	1.43046	1.30803	1.35405	5
22 Pyrene	1.51861	1.41454	1.54925	1.57756	1.47595	1.50718	4
24 Benzo (a) Anthracene	1.42489	1.20046	1.32145	1.35601	1.30300	1.32116	6
26 Chrysene	1.30735	1.16809	1.29175	1.29509	1.22088	1.25663	5
27 Benzo (b) Fluoranthene	1.19695	1.13765	1.35637	1.31351	1.30123	1.26114	7
28 Benzo (k) Fluoranthene	1.50287	1.31717	1.47447	1.42831	1.32819	1.41020	6
29 Benzo (e) pyrene	1.62836	1.47499	1.67952	1.63693	1.53270	1.59050	5
30 Benzo (a) Pyrene	1.27370	1.17100	1.31200	1.33066	1.25914	1.26930	5

Report Date : 27-Feb-2017 16:18

Page 2

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
 End Cal Date : 27-FEB-2017 13:53
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m
 Cal Date : 27-Feb-2017 15:02 ev7p
 Curve Type : Average

	0.10000	0.50000	1.000	2.000	5.000	RRF	% RSD
Compound	Level 1	Level 2	Level 3	Level 4	Level 5		
32 Perylene	1.64806	1.47245	1.60780	1.58707	1.50527	1.56413	5
33 Indeno (1,2,3-c,d) Pyrene	1.32067	1.18629	1.39631	1.37297	1.34409	1.32407	6
34 Dibenz (a,h) Anthracene	0.97767	0.93206	1.08578	1.04985	0.98851	1.00678	6
35 Benzo (g,h,i) Perylene	1.18741	1.01772	1.16911	1.17286	1.11053	1.13153	6
\$ 2 Nitrobenzene-d5	0.32072	0.32937	0.37763	0.36445	0.37358	0.35315	7
\$ 7 2-Fluorobiphenyl	2.08313	1.78793	1.90483	1.76644	1.55098	1.81866	11
\$ 23 p-Terphenyl-d14	0.78316	0.73887	0.81919	0.83063	0.79133	0.79264	5

Report Date : 27-Feb-2017 16:18

Page 3

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
End Cal Date : 27-FEB-2017 13:53
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m
Cal Date : 27-Feb-2017 15:02 ev7p
Curve Type : Average

Average %RSD Results.	
=====	
Calculated Average %RSD =	5.65492
Maximum Average %RSD =	15.00000
* Passed Average %RSD Test.	

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb012.d
 Report Date: 02/27/2017 15:07

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GCMS_EEE.i Injection Date and Time: 27-FEB-2017 14:13
 Sample Name: ICV S010317I 1PPM Initial Calibration Date(s): 03-JAN-2017 27-FEB-2017
 Sublist used: all.sub Initial Calibration Time(s): 11:59 13:53
 Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
=====						
Naphthalene	1.124	1.212	0.00	-8	20	Averaged
2-Methylnaphthalene	0.737	0.876	0.00	-19	20	Averaged
1-Methylnaphthalene	0.706	0.775	0.00	-10	20	Averaged
Acenaphthylene	2.664	2.879	0.00	-8	20	Averaged
Acenaphthene	1.563	1.734	0.00	-11	20	Averaged
Fluorene	1.776	1.956	0.00	-10	20	Averaged
Phenanthrene	1.077	1.234	0.00	-15	20	Averaged
Anthracene	1.099	1.215	0.00	-11	20	Averaged
Fluoranthene	1.354	1.509	0.00	-11	20	Averaged
Pyrene	1.507	1.627	0.00	-8	20	Averaged
Benzo (a) Anthracene	1.321	1.385	0.00	-5	20	Averaged
Chrysene	1.257	1.317	0.00	-5	20	Averaged
Benzo (b) Fluoranthene	1.261	1.360	0.00	-8	20	Averaged
Benzo (k) Fluoranthene	1.410	1.529	0.00	-8	20	Averaged
Benzo (a) Pyrene	1.269	1.347	0.00	-6	20	Averaged
Indeno (1,2,3-c,d) Pyrene	1.324	1.436	0.00	-8	20	Averaged
Dibenz (a,h) Anthracene	1.007	1.122	0.00	-11	20	Averaged
Benzo (g,h,i) Perylene	1.132	1.264	0.00	-12	20	Averaged
Biphenyl	2.312	2.141	0.00	7	20	Averaged
2,6-Dimethylnaphthalene	1.630	1.510	0.00	7	20	Averaged
1,6,7-Trimethylnaphthalene	1.574	1.412	0.00	10	20	Averaged
Dibenzothiophene	4.877	4.552	0.00	7	20	Averaged
1-Methylphenanthrene	1.121	1.011	0.00	10	20	Averaged
Benzo (e) pyrene	1.590	1.450	0.00	9	20	Averaged
Perylene	1.564	1.396	0.00	11	20	Averaged
Dibenzofuran	2.341	2.597	0.00	-11	20	Averaged
=====						
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
=====						
Nitrobenzene-d5	0.353	0.402	0.00	-14	20	Averaged
2-Fluorobiphenyl	1.819	2.130	0.00	-17	20	Averaged
p-Terphenyl-d14	0.793	0.930	0.00	-17	20	Averaged

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb011.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 13:53 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

Sample Name: ICAL-5 S010317H 0.1PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.418	152	206085	5.000	0.00
3)*Naphthalene-d8	(2)	4.659	136	565141	5.000	0.00
11)*Acenaphthene-d10	(3)	6.544	164	253489	5.000	0.00
17)*Phenanthrene-d10	(4)	8.143	188	874980	5.000	0.00
31)*Perylene-d12	(6)	12.835	264	733530	5.000	0.00
25)*Chrysene-d12	(5)	11.065	240	809920	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.978	82	3625	0.091	-0.01
SpikedAmount 0.100	Recovery =	0.000				
7)\$2-Fluorobiphenyl	(3)	5.839	172	10561	0.115	0.00
SpikedAmount 0.100	Recovery =	0.000				
23)\$p-Terphenyl-d14	(5)	9.941	244	12686	0.099	0.00
SpikedAmount 0.100	Recovery =	0.000				
Target Compounds						QValue
4) Naphthalene	(2)	4.680	128	13118	0.103	99
5) 2-Methylnaphthalene	(2)	5.411	142	8077	0.097	99
6) 1-Methylnaphthalene	(2)	5.523	142	8139	0.102	98
10) Acenaphthylene	(3)	6.377	152	13920	0.103	97
12) Acenaphthene	(3)	6.580	153	8227	0.104	98
15) Fluorene	(3)	7.132	166	9431	0.105	100
18) Phenanthrene	(4)	8.166	178	19665	0.104	98
19) Anthracene	(4)	8.219	178	20117	0.105	97
21) Fluoranthene	(4)	9.479	202	23698	0.100	98
22) Pyrene	(5)	9.719	202	24599	0.101	99
24) Benzo (a) Anthracene	(5)	11.049	228	23081	0.108	97
26) Chrysene	(5)	11.092	228	21177	0.104	99
27) Benzo (b) Fluoranthene	(6)	12.378	252	17560	0.095	72
28) Benzo (k) Fluoranthene	(6)	12.404	252	22048	0.107	89
30) Benzo (a) Pyrene	(6)	12.770	252	18686	0.100	93
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.088	276	19375	0.100	84
34) Dibenzo (a,h) Anthracene	(6)	14.113	278	14343	0.097	100
35) Benzo (g,h,i) Perylene	(6)	14.363	276	17420	0.105	96
8) Biphenyl	(3)	5.928	154	12726	0.109	99
9) 2,6-Dimethylnaphthalene	(3)	6.087	156	8644	0.105	98
14) 1,6,7-Trimethylnaphthalene	(3)	7.009	170	8244	0.103	97
16) Dibenzothiophene	(3)	8.032	184	26391	0.107	99

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb011.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 13:53 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

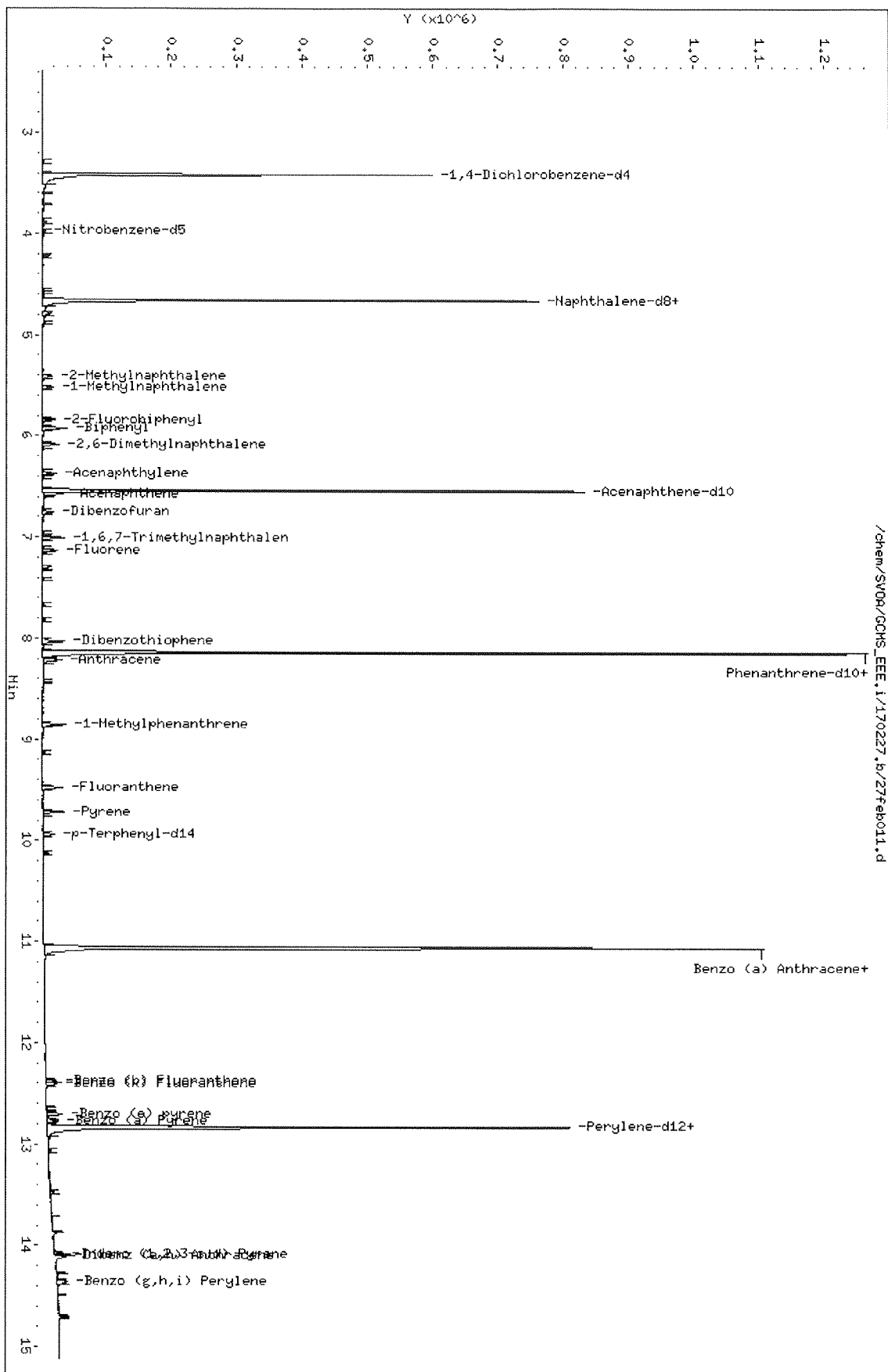
Sample Name: ICAL-5 S010317H 0.1PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.858	192	18096	0.100	100
29) Benzo (e) pyrene	(6)	12.707	252	23889	0.102	98
32) Perylene	(6)	12.865	252	24178	0.105	99
13) Dibenzofuran	(3)	6.758	168	12322	0.104	99

page 2 of 2

Data File: /chem/SV09/GCHS_EEE.i/170227.b/27Feb011.d
 Date : 27-FEB-2017 13:53
 Client ID:
 Sample Info: ICAL-5 S010317H 0.1PPM
 Column Phase: J&W DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb010.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 13:33 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

Sample Name: ICAL-4 S010317G 0.5PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.418	152	216707	5.000	0.00
3)*Naphthalene-d8	(2)	4.660	136	589450	5.000	0.00
11)*Acenaphthene-d10	(3)	6.546	164	263853	5.000	0.00
17)*Phenanthrene-d10	(4)	8.143	188	900989	5.000	0.00
31)*Perylene-d12	(6)	12.838	264	773030	5.000	0.00
25)*Chrysene-d12	(5)	11.065	240	848326	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.972	82	19415	0.485	0.00
SpikedAmount 0.500	Recovery =		0.000			
7)\$2-Fluorobiphenyl	(3)	5.837	172	47175	0.492	0.00
SpikedAmount 0.500	Recovery =		0.000			
23)\$p-Terphenyl-d14	(5)	9.940	244	62680	0.466	0.00
SpikedAmount 0.500	Recovery =		0.000			
Target Compounds						
						QValue
4) Naphthalene	(2)	4.679	128	60971	0.460	99
5) 2-Methylnaphthalene	(2)	5.410	142	40764	0.469	98
6) 1-Methylnaphthalene	(2)	5.523	142	38253	0.460	100
10) Acenaphthylene	(3)	6.377	152	66073	0.470	99
12) Acenaphthene	(3)	6.580	153	38709	0.469	100
15) Fluorene	(3)	7.131	166	45081	0.481	100
18) Phenanthrene	(4)	8.168	178	90836	0.468	99
19) Anthracene	(4)	8.218	178	94596	0.477	100
21) Fluoranthene	(4)	9.479	202	114194	0.468	99
22) Pyrene	(5)	9.718	202	119999	0.469	100
24) Benzo (a) Anthracene	(5)	11.049	228	101838	0.454	99
26) Chrysene	(5)	11.093	228	99092	0.465	99
27) Benzo (b) Fluoranthene	(6)	12.376	252	87944	0.451	99
28) Benzo (k) Fluoranthene	(6)	12.406	252	101821	0.467	98
30) Benzo (a) Pyrene	(6)	12.767	252	90522	0.461	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.083	276	91704	0.448	98
34) Dibenz (a,h) Anthracene	(6)	14.111	278	72051	0.464	98
35) Benzo (g,h,i) Perylene	(6)	14.361	276	78673	0.453	99
8) Biphenyl	(3)	5.925	154	59879	0.491	99
9) 2,6-Dimethylnaphthalene	(3)	6.087	156	41226	0.484	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.009	170	40020	0.482	100
16) Dibenzothiophene	(3)	8.033	184	120631	0.469	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb010.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 13:33 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

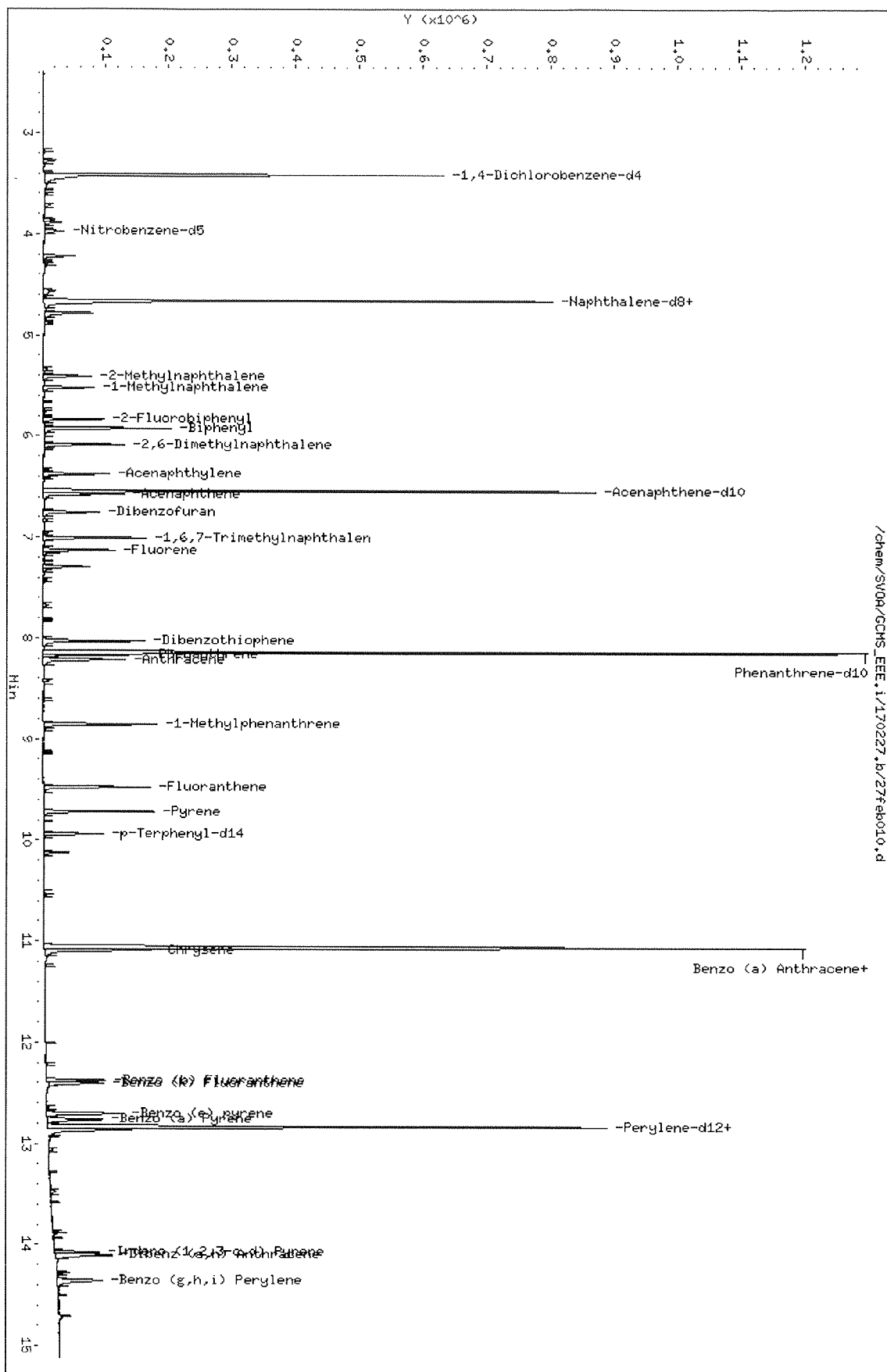
Sample Name: ICAL-4 S010317G 0.5PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.859	192	87143	0.458	99
29) Benzo (e) pyrene	(6)	12.706	252	114021	0.464	100
32) Perylene	(6)	12.868	252	113825	0.471	99
13) Dibenzofuran	(3)	6.755	168	57976	0.469	99

page 2 of 2

Data File: /chem/SV09/GCHS_EEE.i/170227.b/27Feb010.d
 Date : 27-FEB-2017 13:33
 Client ID:
 Sample Info: ICAL-4 S010317G 0.5PPM
 Column Phase: J&M DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb009.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 13:12 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

Sample Name: ICAL-3 S010317F 1PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S.	RT	QIon	Area	On-Column	DEV (Min)
	Ref.				Amount (mg/L)	
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.419	152	230068	5.000	0.00
3)*Naphthalene-d8	(2)	4.660	136	612745	5.000	0.00
11)*Acenaphthene-d10	(3)	6.545	164	273032	5.000	0.00
17)*Phenanthrene-d10	(4)	8.143	188	925068	5.000	0.00
31)*Perylene-d12	(6)	12.838	264	785261	5.000	0.00
25)*Chrysene-d12	(5)	11.067	240	878502	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.972	82	46278	1.147	0.00
SpikedAmount 1.000	Recovery =		0.000			
7)\$2-Fluorobiphenyl	(3)	5.837	172	104016	1.047	0.00
SpikedAmount 1.000	Recovery =		0.000			
23)\$p-Terphenyl-d14	(5)	9.939	244	143932	1.035	0.00
SpikedAmount 1.000	Recovery =		0.000			
Target Compounds						QValue
4) Naphthalene	(2)	4.680	128	141648	1.027	100
5) 2-Methylnaphthalene	(2)	5.408	142	94063	1.040	100
6) 1-Methylnaphthalene	(2)	5.521	142	87362	1.010	100
10) Acenaphthylene	(3)	6.377	152	149499	1.027	100
12) Acenaphthene	(3)	6.578	153	88700	1.039	100
15) Fluorene	(3)	7.129	166	101921	1.051	100
18) Phenanthrene	(4)	8.166	178	205878	1.033	100
19) Anthracene	(4)	8.218	178	192501	0.946	100
21) Fluoranthene	(4)	9.477	202	260892	1.041	100
22) Pyrene	(5)	9.718	202	272203	1.029	100
24) Benzo (a) Anthracene	(5)	11.049	228	232180	1.001	100
26) Chrysene	(5)	11.095	228	226961	1.028	100
27) Benzo (b) Fluoranthene	(6)	12.375	252	213021	1.075	100
28) Benzo (k) Fluoranthene	(6)	12.404	252	231568	1.050	100
30) Benzo (a) Pyrene	(6)	12.769	252	206052	1.033	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.083	276	219293	1.054	100
34) Dibenz (a,h) Anthracene	(6)	14.109	278	170524	1.081	100
35) Benzo (g,h,i) Perylene	(6)	14.361	276	183611	1.039	100
8) Biphenyl	(3)	5.925	154	132531	1.055	100
9) 2,6-Dimethylnaphthalene	(3)	6.087	156	92518	1.049	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.009	170	90422	1.052	100
16) Dibenzothiophene	(3)	8.032	184	279136	1.048	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb009.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-FEB-2017 13:12 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-FEB-2017 15:01
Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

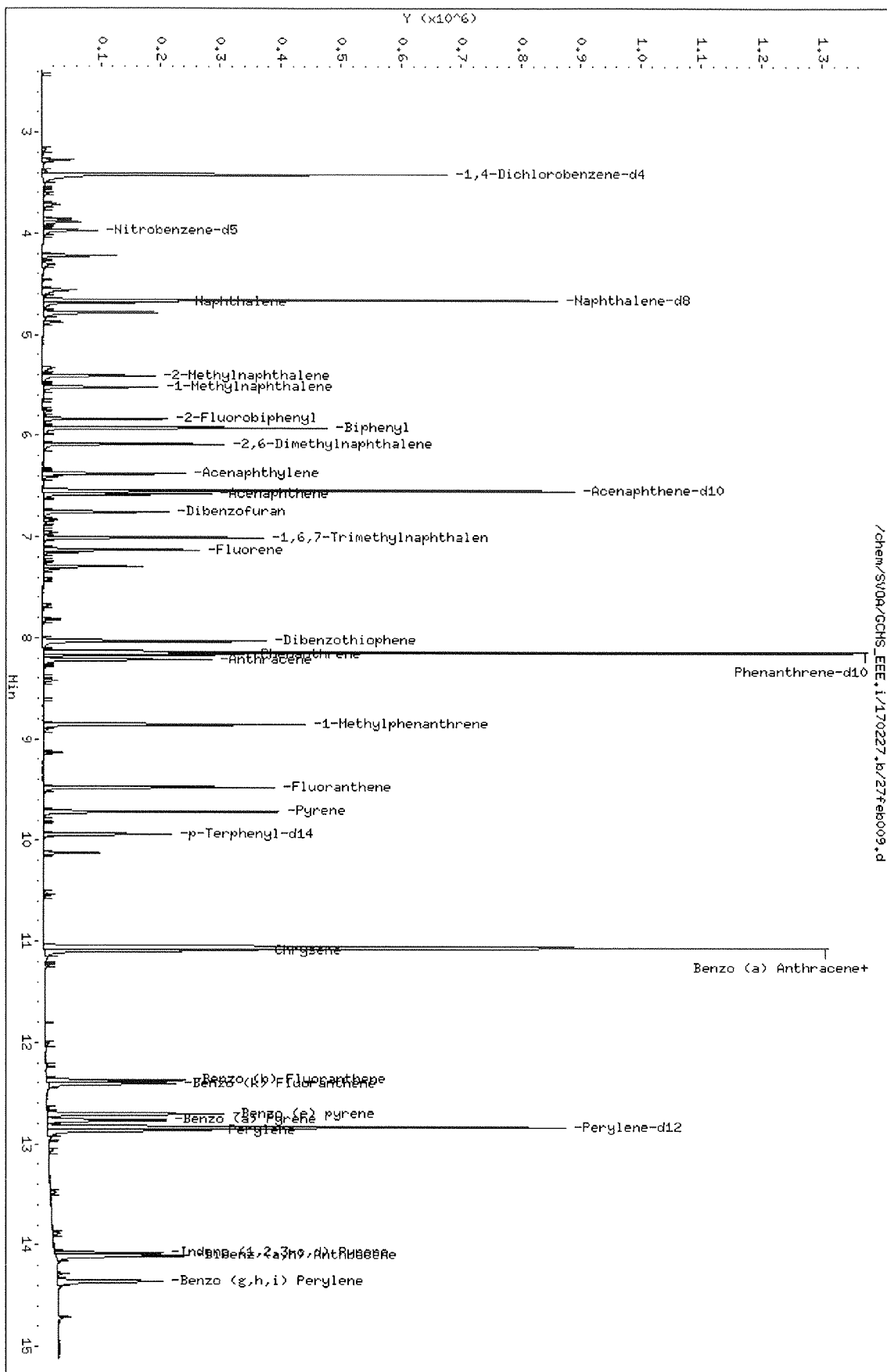
Sample Name: ICAL-3 S010317F 1PPM Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.857	192	204610	1.039	100
29) Benzo (e) pyrene	(6)	12.706	252	263772	1.056	100
32) Perylene	(6)	12.868	252	252508	1.028	100
13) Dibenzofuran	(3)	6.755	168	133354	1.043	100

page 2 of 2

Data File: /chem/SV09/GCHS_EEE.i/170227.b/27feb009.d
 Date : 27-FEB-2017 13:12
 Client ID:
 Sample Info: ICAL-3 S010317F 1PPH
 Column Phase: J&W DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb008.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 12:52 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

Sample Name: ICAL-2 S010317E 2PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.418	152	215700	5.000	0.00
3)*Naphthalene-d8	(2)	4.660	136	561704	5.000	0.00
11)*Acenaphthene-d10	(3)	6.545	164	260827	5.000	0.00
17)*Phenanthrene-d10	(4)	8.143	188	876334	5.000	0.00
31)*Perylene-d12	(6)	12.840	264	754495	5.000	0.00
25)*Chrysene-d12	(5)	11.067	240	821276	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.970	82	81885	2.255	0.00
SpikedAmount 2.000	Recovery =	0.000				
7)\$2-Fluorobiphenyl	(3)	5.837	172	184294	1.941	0.00
SpikedAmount 2.000	Recovery =	0.000				
23)\$p-Terphenyl-d14	(5)	9.939	244	272870	2.096	0.00
SpikedAmount 2.000	Recovery =	0.000				
Target Compounds						QValue
4) Naphthalene	(2)	4.680	128	261158	2.066	99
5) 2-Methylnaphthalene	(2)	5.409	142	174731	2.107	100
6) 1-Methylnaphthalene	(2)	5.521	142	167016	2.106	99
10) Acenaphthylene	(3)	6.377	152	289077	2.079	100
12) Acenaphthene	(3)	6.579	153	167634	2.056	100
15) Fluorene	(3)	7.130	166	188108	2.030	100
18) Phenanthrene	(4)	8.168	178	388466	2.058	100
19) Anthracene	(4)	8.216	178	410792	2.124	99
21) Fluoranthene	(4)	9.477	202	501423	2.111	99
22) Pyrene	(5)	9.717	202	518246	2.095	100
24) Benzo (a) Anthracene	(5)	11.048	228	445464	2.055	100
26) Chrysene	(5)	11.095	228	425452	2.061	100
27) Benzo (b) Fluoranthene	(6)	12.376	252	396414	2.082	100
28) Benzo (k) Fluoranthene	(6)	12.404	252	431062	2.026	99
30) Benzo (a) Pyrene	(6)	12.767	252	401592	2.101	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.081	276	414360	2.073	96
34) Dibenzo (a,h) Anthracene	(6)	14.108	278	316844	2.091	98
35) Benzo (g,h,i) Perylene	(6)	14.359	276	353968	2.086	100
8) Biphenyl	(3)	5.926	154	238006	1.983	99
9) 2,6-Dimethylnaphthalene	(3)	6.086	156	174275	2.067	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.010	170	168465	2.051	100
16) Dibenzothiophene	(3)	8.030	184	518762	2.038	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb008.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 12:52 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

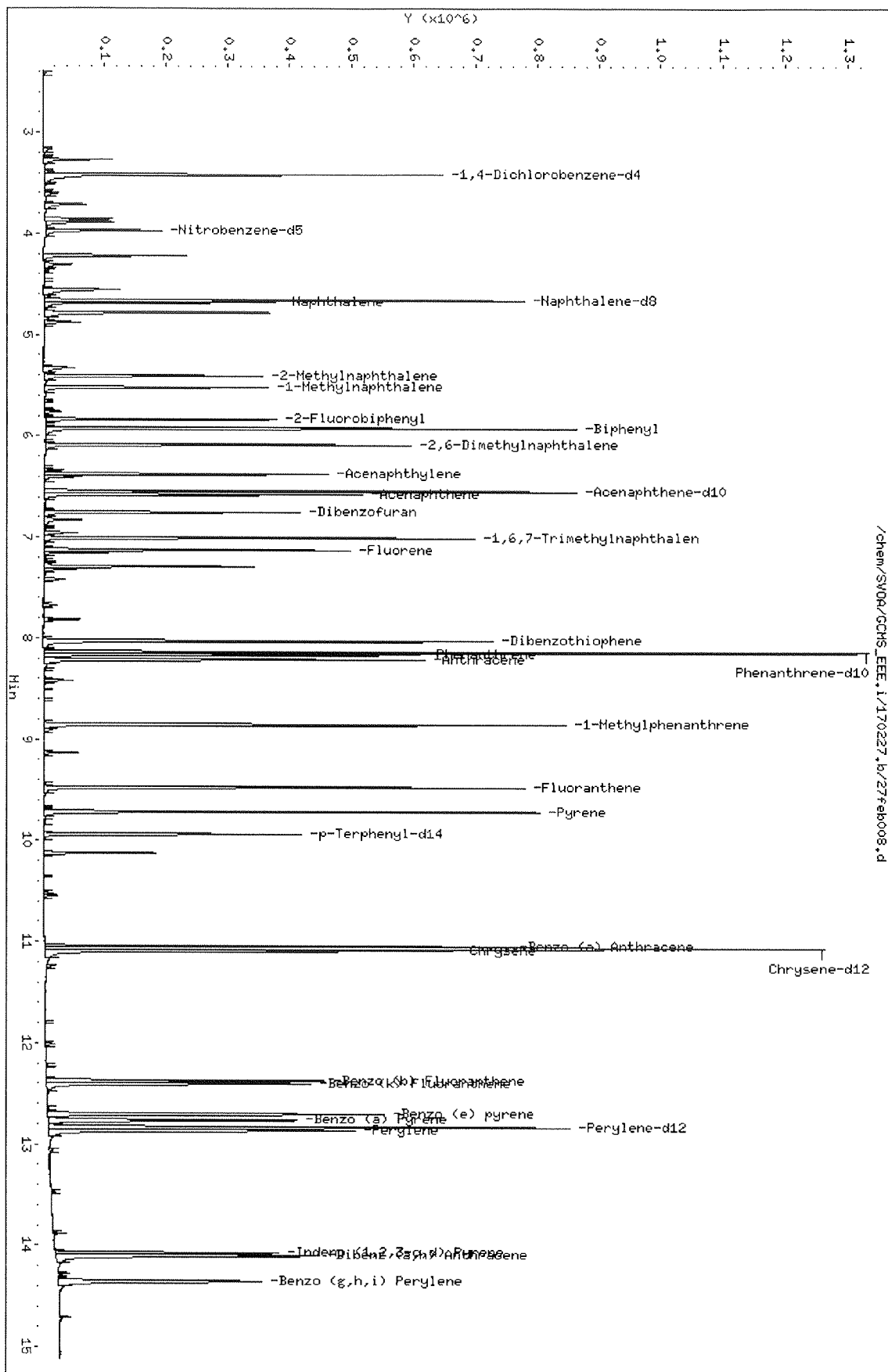
Sample Name: ICAL-2 S010317E 2PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.857	192	388935	2.112	99
29) Benzo (e) pyrene	(6)	12.707	252	494023	2.058	100
32) Perylene	(6)	12.869	252	478974	2.032	99
13) Dibenzofuran	(3)	6.755	168	251088	2.054	99

page 2 of 2

Data File: /chem/SV08/GCHS_EEE.i/170227.b/27Feb008.d
 Date : 27-FEB-2017 12:52
 Client ID:
 Sample Info: ICAL-2 S010317E 2PPH
 Column Phase: J&M DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb007.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 12:32 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:01
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

Sample Name: ICAL-1 S010317D 5PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	On-Column					DEV (Min)
	I.S. Ref.	RT	QIon	Area	Amount (mg/L)	
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.418	152	203304	5.000	0.00
3)*Naphthalene-d8	(2)	4.661	136	512055	5.000	0.00
11)*Acenaphthene-d10	(3)	6.547	164	246018	5.000	0.00
17)*Phenanthrene-d10	(4)	8.146	188	825922	5.000	0.00
31)*Perylene-d12	(6)	12.841	264	717617	5.000	0.00
25)*Chrysene-d12	(5)	11.068	240	757875	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.970	82	191291	5.715	0.00
SpikedAmount 5.000	Recovery =	0.000				
7)\$2-Fluorobiphenyl	(3)	5.838	172	381570	4.260	0.00
SpikedAmount 5.000	Recovery =	0.000				
23)\$p-Terphenyl-d14	(5)	9.941	244	599733	4.992	0.00
SpikedAmount 5.000	Recovery =	0.000				
Target Compounds						QValue
4) Naphthalene	(2)	4.681	128	565679	4.909	99
5) 2-Methylnaphthalene	(2)	5.409	142	376424	4.980	98
6) 1-Methylnaphthalene	(2)	5.523	142	359617	4.976	99
10) Acenaphthylene	(3)	6.378	152	630533	4.806	99
12) Acenaphthene	(3)	6.581	153	368058	4.784	100
15) Fluorene	(3)	7.130	166	403566	4.613	99
18) Phenanthrene	(4)	8.169	178	851856	4.787	99
19) Anthracene	(4)	8.217	178	896640	4.919	99
21) Fluoranthene	(4)	9.479	202	1080334	4.831	100
22) Pyrene	(5)	9.717	202	1118587	4.899	99
24) Benzo (a) Anthracene	(5)	11.050	228	987510	4.935	100
26) Chrysene	(5)	11.096	228	925277	4.856	99
27) Benzo (b) Fluoranthene	(6)	12.379	252	933784	5.158	99
28) Benzo (k) Fluoranthene	(6)	12.409	252	953133	4.686	100
30) Benzo (a) Pyrene	(6)	12.772	252	903580	4.971	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.084	276	964541	5.075	77
34) Dibenz (a,h) Anthracene	(6)	14.113	278	709374	4.923	99
35) Benzo (g,h,i) Perylene	(6)	14.366	276	796935	4.938	100
8) Biphenyl	(3)	5.926	154	509983	4.495	100
9) 2,6-Dimethylnaphthalene	(3)	6.088	156	373702	4.699	98
14) 1,6,7-Trimethylnaphthalene	(3)	7.011	170	358375	4.632	100
16) Dibenzothiophene	(3)	8.032	184	1112926	4.634	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

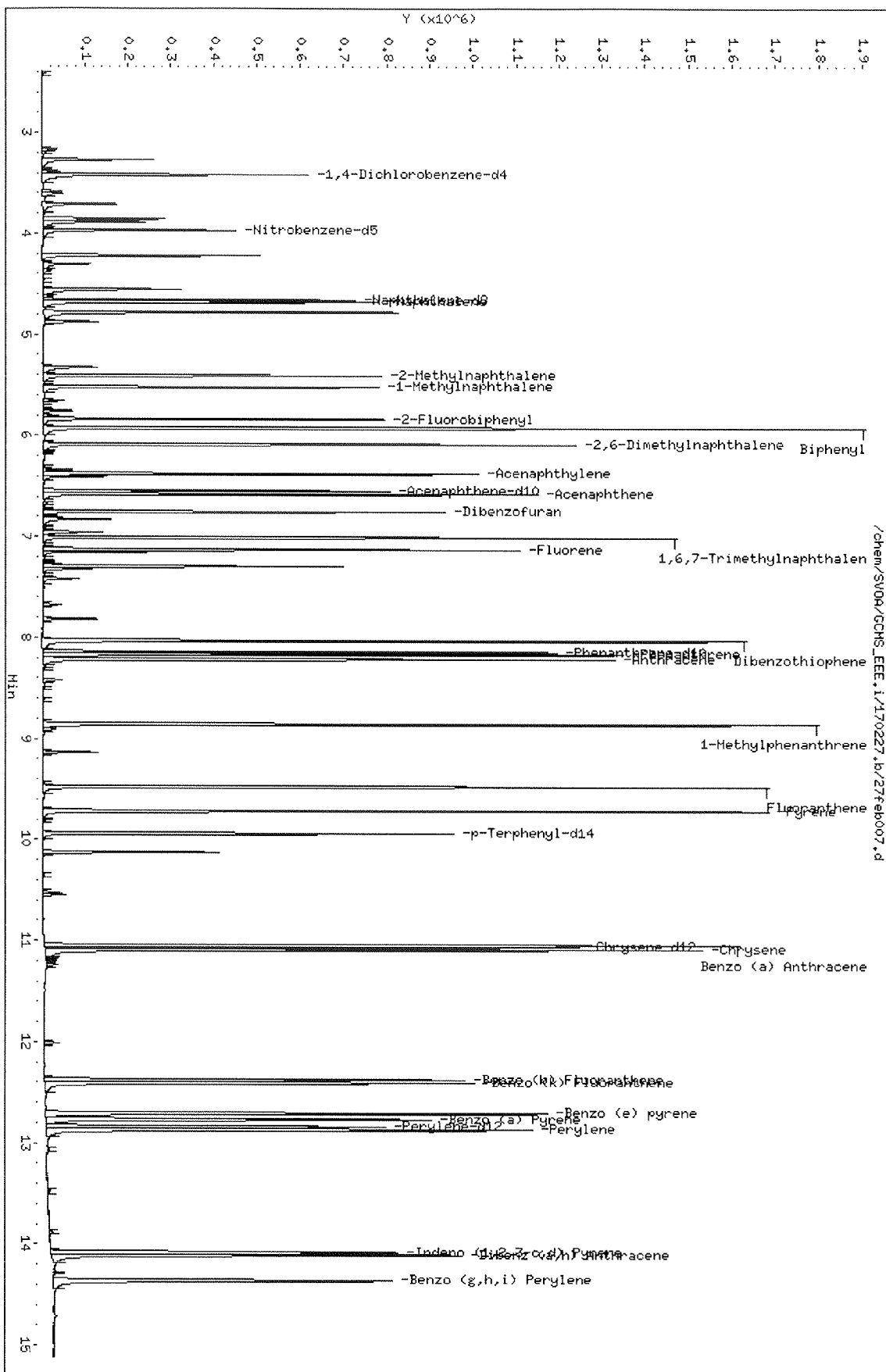
Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb007.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-FEB-2017 12:32 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-FEB-2017 15:01
Date, time and analyst ID of latest file update: 27-Feb-2017 15:01 ev7p

Sample Name: ICAL-1 S010317D 5PPM Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.860	192	842995	4.959	99
29) Benzo (e) pyrene	(6)	12.712	252	1099892	4.817	100
32) Perylene	(6)	12.874	252	1080207	4.816	100
13) Dibenzofuran	(3)	6.755	168	548787	4.760	99

page 2 of 2



Data File: /chem/SV09/GCHS_EEE.i/170227.b/27feb007.d
 Date : 27-FEB-2017 12:32
 Client ID:
 Sample Info: ICAL-1 S010317D SPPH
 Column Phase: J&M DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb012.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 14:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
 Calibration date and time: 27-FEB-2017 15:02
 Date, time and analyst ID of latest file update: 27-Feb-2017 15:02 ev7p

Sample Name: ICV S010317I 1PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
					(mg/L)	
=====		=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4		(1)	3.422	152	189620	5.000 0.00
3)*Naphthalene-d8		(2)	4.657	136	508161	5.000 0.00
11)*Acenaphthene-d10		(3)	6.545	164	231974	5.000 0.00
17)*Phenanthrene-d10		(4)	8.143	188	785443	5.000 0.00
31)*Perylene-d12		(6)	12.838	264	689322	5.000 0.00
25)*Chrysene-d12		(5)	11.067	240	751334	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.969	82	40842	1.138 0.00
SpikedAmount 1.000		Recovery =	0.000			
7)\$2-Fluorobiphenyl		(3)	5.836	172	98833	1.171 0.00
SpikedAmount 1.000		Recovery =	0.000			
23)\$p-Terphenyl-d14		(5)	9.939	244	139680	1.173 0.00
SpikedAmount 1.000		Recovery =	0.000			
Target Compounds						QValue
4) Naphthalene		(2)	4.679	128	123130	1.078 100
5) 2-Methylnaphthalene		(2)	5.408	142	89012	1.188 100
6) 1-Methylnaphthalene		(2)	5.521	142	78793	1.099 100
10) Acenaphthylene		(3)	6.377	152	133592	1.081 100
12) Acenaphthene		(3)	6.578	153	80456	1.109 100
15) Fluorene		(3)	7.129	166	90737	1.101 100
18) Phenanthrene		(4)	8.168	178	193855	1.146 100
19) Anthracene		(4)	8.216	178	190932	1.105 100
21) Fluoranthene		(4)	9.477	202	236998	1.114 100
22) Pyrene		(5)	9.716	202	244518	1.080 100
24) Benzo (a) Anthracene		(5)	11.048	228	208186	1.049 100
26) Chrysene		(5)	11.093	228	197958	1.048 100
27) Benzo (b) Fluoranthene		(6)	12.374	252	187486	1.078 100
28) Benzo (k) Fluoranthene		(6)	12.404	252	210797	1.084 100
30) Benzo (a) Pyrene		(6)	12.768	252	185684	1.061 100
33) Indeno (1,2,3-c,d) Pyrene		(6)	14.080	276	198035	1.085 100
34) Dibenz (a,h) Anthracene		(6)	14.108	278	154658	1.114 100
35) Benzo (g,h,i) Perylene		(6)	14.359	276	174291	1.117 100
8) Biphenyl		(3)	5.925	154	99316	0.926 100
9) 2,6-Dimethylnaphthalene		(3)	6.085	156	70047	0.926 100
14) 1,6,7-Trimethylnaphthalene		(3)	7.009	170	65487	0.897 100
16) Dibenzothiophene		(3)	8.032	184	211188	0.933 100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb012.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-FEB-2017 14:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170227.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-FEB-2017 15:02
Date, time and analyst ID of latest file update: 27-Feb-2017 15:02 ev7p

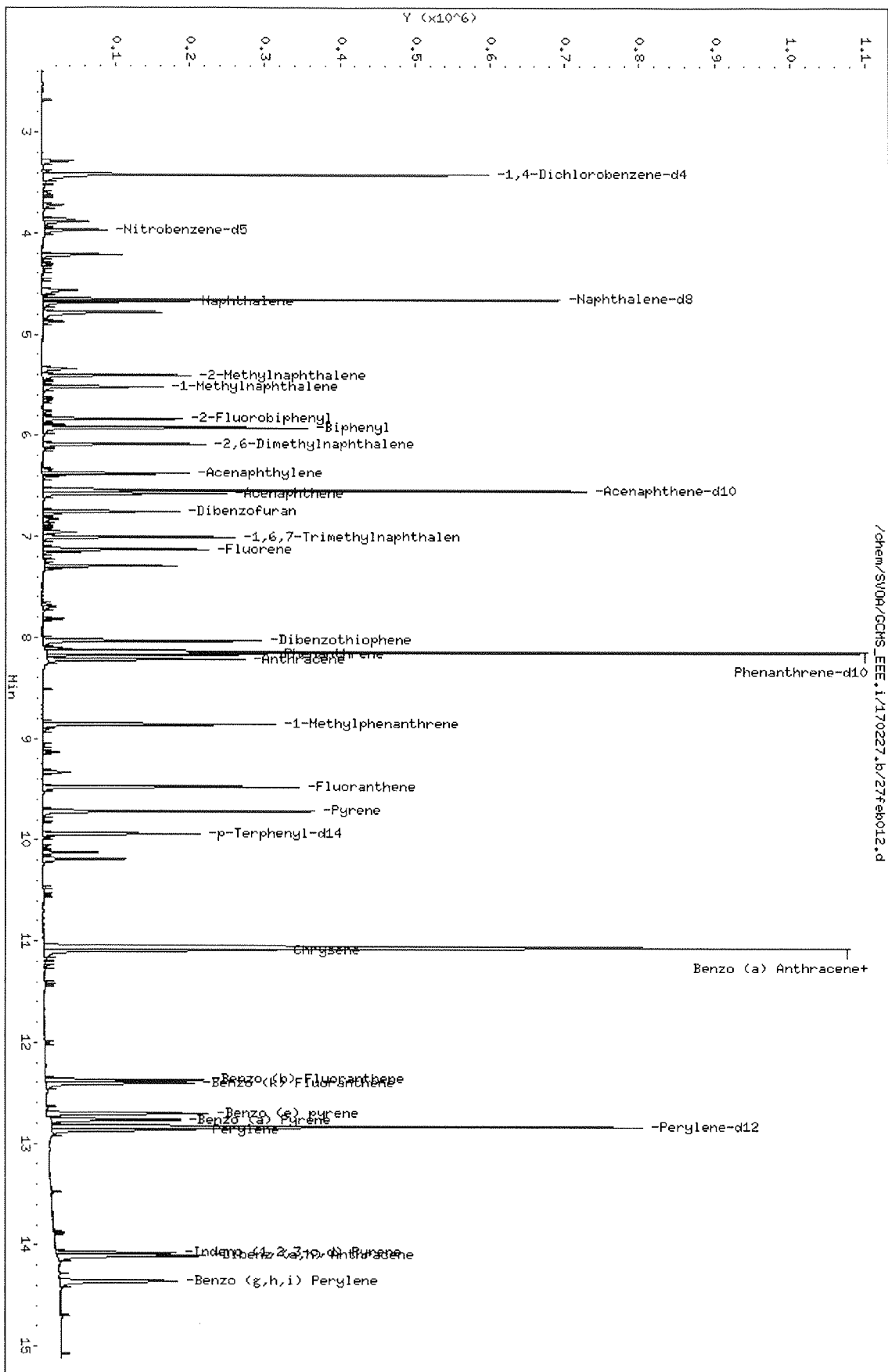
Sample Name: ICV S010317I 1PPM Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.857	192	151961	0.902	100
29) Benzo (e) pyrene	(6)	12.704	252	199865	0.911	100
32) Perylene	(6)	12.868	252	192454	0.892	100
13) Dibenzofuran	(3)	6.755	168	120503	1.109	100

page 2 of 2

Data File: /chem/SV00A/GCHS_EEE.i/170227.b/27feb012.d
 Date : 27-FEB-2017 14:13
 Client ID:
 Sample Info: ICV S0103171 1PPH
 Column phase: J&W DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18



EPA METHOD 8270C PAHSIM

Sample Data

RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

Page 448 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 13:29
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar012.d\09mar012.rr

27 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-8

LCS/MB BATCH: 170308L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
MS/MSD BATCH: 170308S11	FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Naphthalene	0.0672	1.00	ND	0.0099	
2-Methylnaphthalene	0.131	1.00	0.0130	0.0099	
1-Methylnaphthalene	0.106	1.00	0.0105	0.0099	
Acenaphthylene	0.000	1.00	ND	0.0099	
Acenaphthene	0.000	1.00	ND	0.0099	
Fluorene	0.000	1.00	ND	0.0099	
Phenanthrene	0.000	1.00	ND	0.0099	
Anthracene	0.000	1.00	ND	0.0099	
Fluoranthene	0.0161	1.00	ND	0.0099	
Pyrene	0.0183	1.00	ND	0.0099	
Benzo (a) Anthracene	0.000	1.00	ND	0.0099	
Chrysene	0.000	1.00	ND	0.0099	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.0099	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.0099	
Benzo (a) Pyrene	0.000	1.00	ND	0.0099	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.0099	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.0099	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.0099	

Return to Contents

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar012.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 13:29 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-27 Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
=====		=====	=====	=====	(mg/L)	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4		(1)	3.346	152	254603	5.000 0.00
3)*Naphthalene-d8		(2)	4.579	136	729466	5.000 0.00
11)*Acenaphthene-d10		(3)	6.463	164	378121	5.000 0.00
17)*Phenanthrene-d10		(4)	8.059	188	1197137	5.000 0.00
31)*Perylene-d12		(6)	12.729	264	1041384	5.000 0.00
25)*Chrysene-d12		(5)	10.979	240	1104246	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.898	82	47749	0.927 0.00
SpikedAmount 1.000		Recovery =		92.677		
7)\$2-Fluorobiphenyl		(3)	5.758	172	112459	0.818 0.00
SpikedAmount 1.000		Recovery =		81.768		
23)\$p-Terphenyl-d14		(5)	9.858	244	200685	1.146 0.00
SpikedAmount 1.000		Recovery =		114.642		
Target Compounds						QValue
4) Naphthalene		(2)	4.602	128	11018	0.067 63
5) 2-Methylnaphthalene		(2)	5.333	142	14094	0.131 89
6) 1-Methylnaphthalene		(2)	5.443	142	10888	0.106 94
10) Acenaphthylene		(3)	0.000		0	N.D.
12) Acenaphthene		(3)	0.000		0	N.D.
15) Fluorene		(3)	0.000		0	N.D.
18) Phenanthrene		(4)	0.000		0	N.D.
19) Anthracene		(4)	0.000		0	N.D.
21) Fluoranthene		(4)	9.398	202	5234	0.016 99
22) Pyrene		(5)	9.635	202	6097	0.018 91
24) Benzo (a) Anthracene		(5)	0.000		0D	N.D.
26) Chrysene		(5)	0.000		0D	N.D.
27) Benzo (b) Fluoranthene		(6)	0.000		0	N.D.
28) Benzo (k) Fluoranthene		(6)	0.000		0	N.D.
30) Benzo (a) Pyrene		(6)	0.000		0	N.D.
33) Indeno (1,2,3-c,d) Pyrene		(6)	0.000		0	N.D.
34) Dibenz (a,h) Anthracene		(6)	0.000		0	N.D.
35) Benzo (g,h,i) Perylene		(6)	0.000		0	N.D.
8) Biphenyl		(3)	0.000		0	N.D.
9) 2,6-Dimethylnaphthalene		(3)	6.013	156	5809	0.047 91
14) 1,6,7-Trimethylnaphthalene		(3)	6.928	170	1203	0.010 79
16) Dibenzothiophene		(3)	0.000		0	N.D.

D = Compound was deleted.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar012.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 13:29 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-27 Misc Info: S101716B 10UL
Response via Initial Calibration

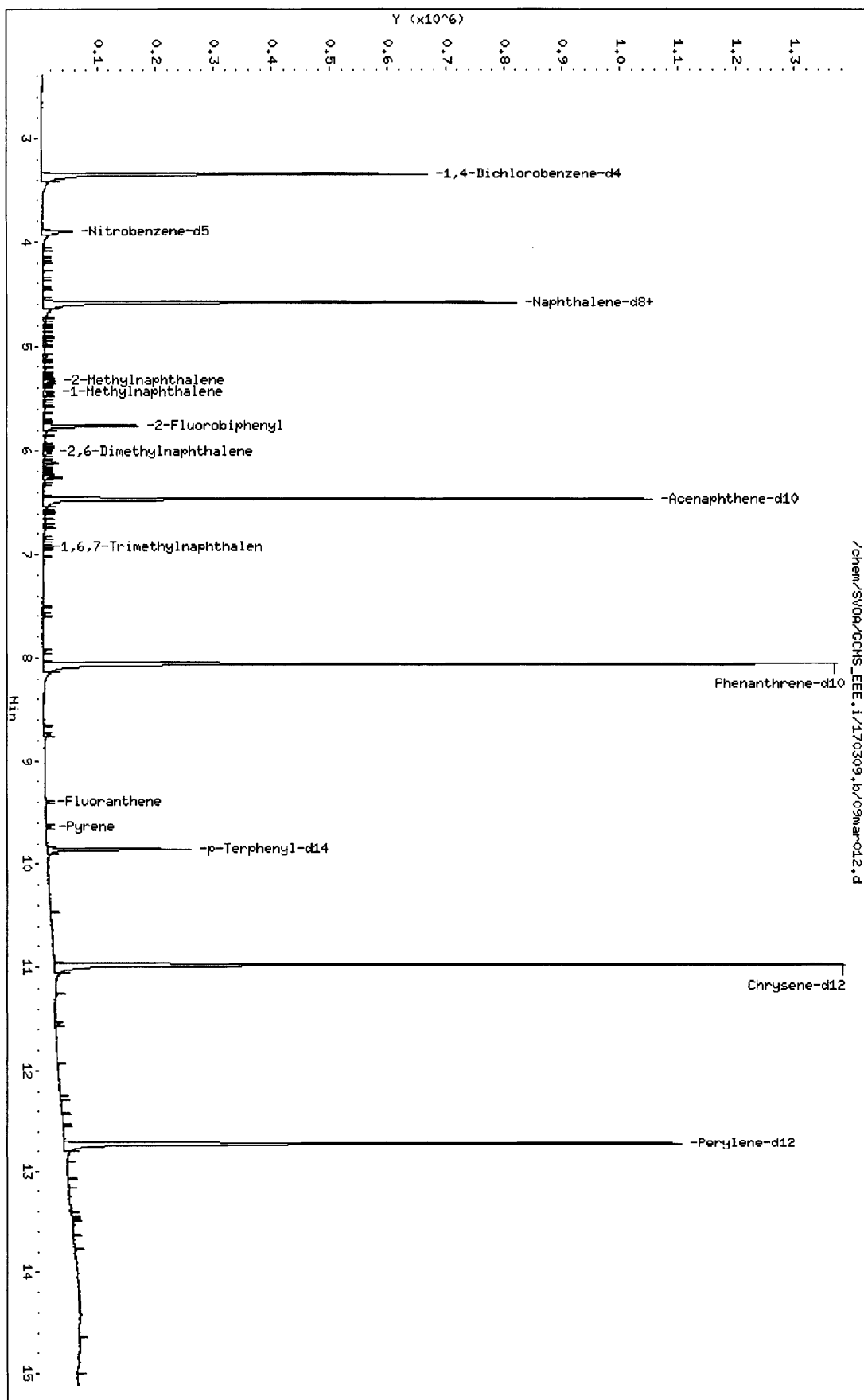
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0D	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

D = Compound was deleted.

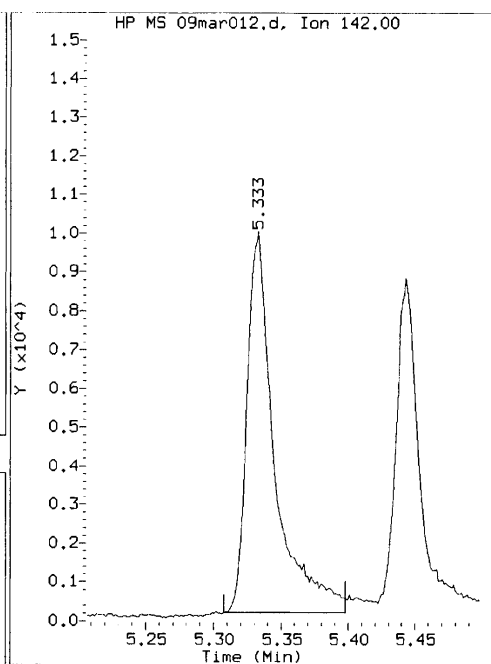
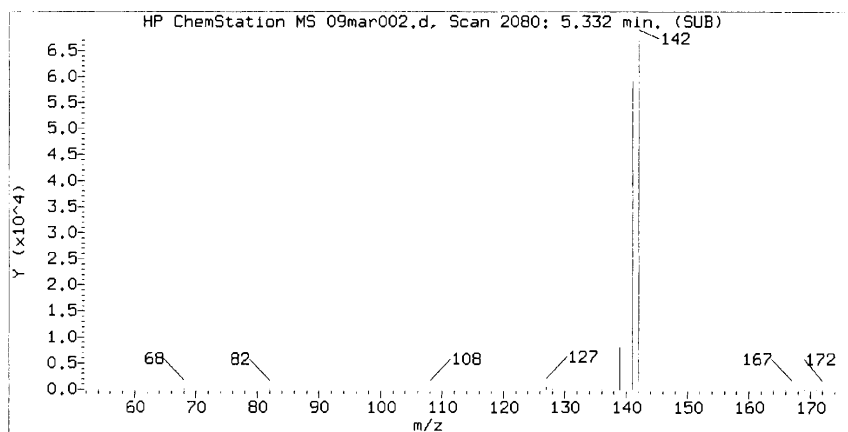
page 2 of 2

Data File: /chem/SV04/CCHS_EEE.i/170309.b/09mar012.d
Date : 09-MAR-2017 13:29
Client ID:
Sample Info: 17-03-0141-27
Column Phase: J&M DB-SMS

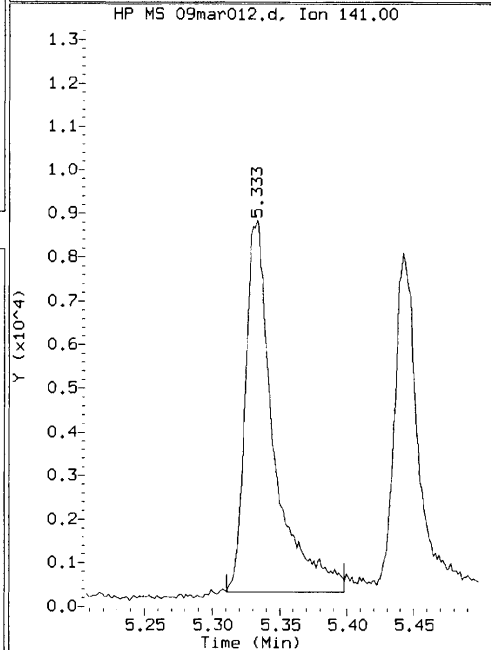
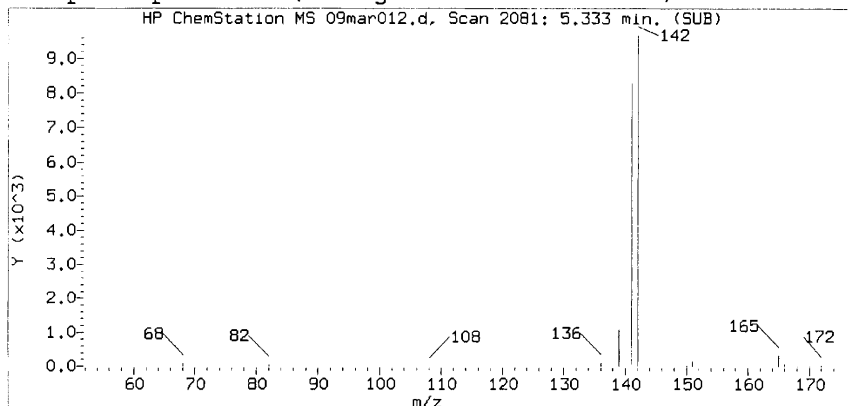
Instrument: CCHS_EEE.i
Operator: 907
Column diameter: 0.18



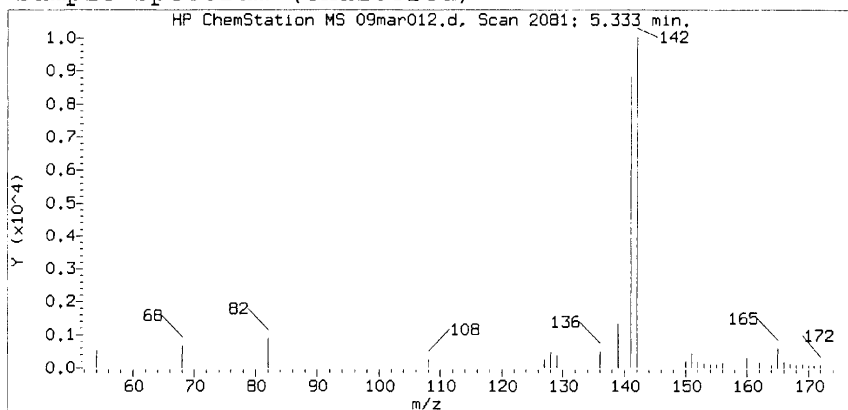
Reference Standard Spectrum for 2-Methylnaphthalene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



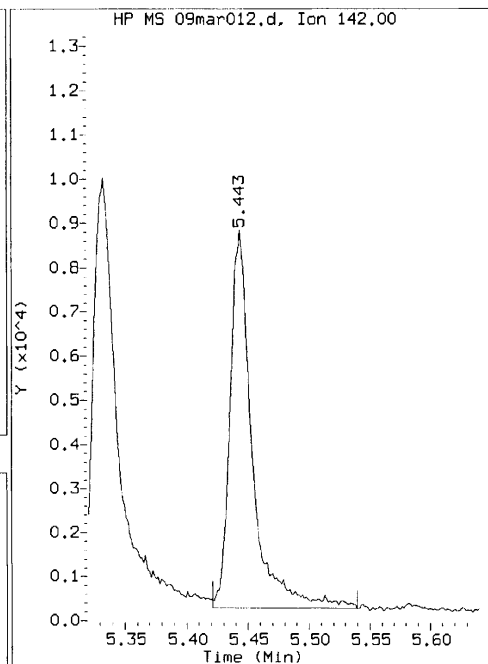
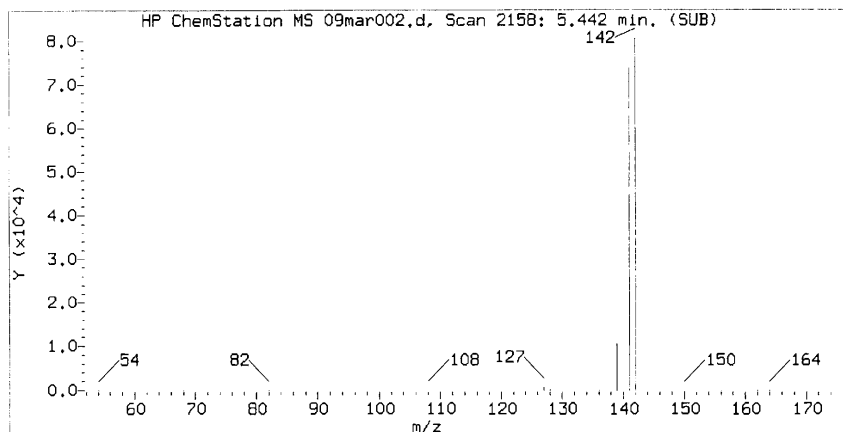
Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar012.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 13:29 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

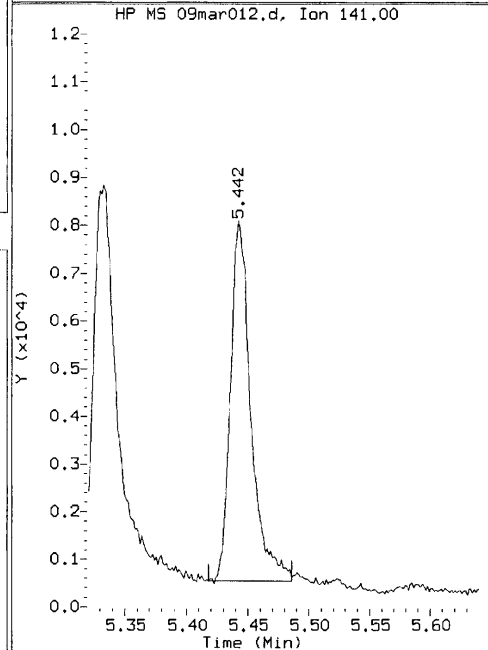
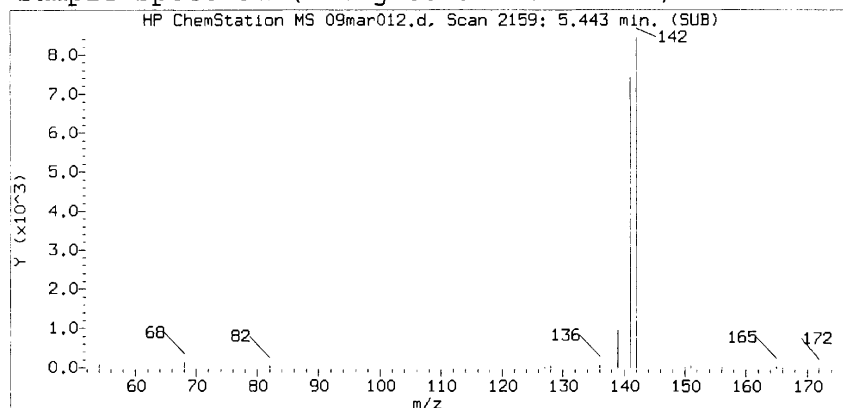
Sample Name: 17-03-0141-27

Compound Number : 5
 Compound Name : 2-Methylnaphthalene
 Scan Number : 2081
 Retention Time (minutes): 5.333
 Relative Retention Time : -0.00066
 Quant Ion : 142.00
 Area (flag) : 14094
 On-Column Amount (mg/L) : 0.1310

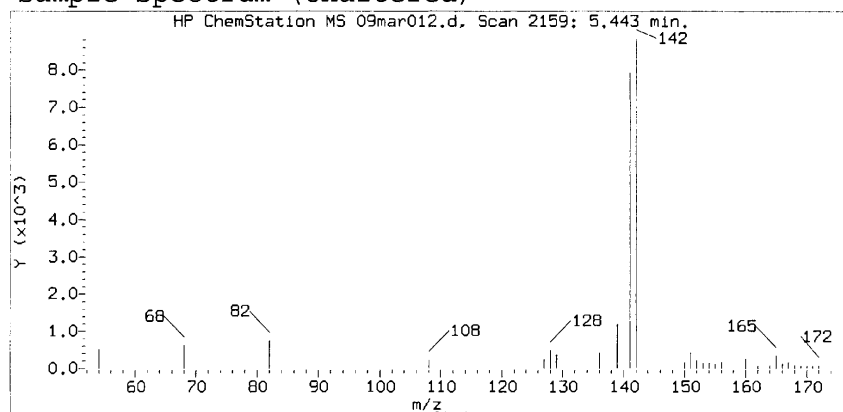
Reference Standard Spectrum for 1-Methylnaphthalene



Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)



Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar012.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 13:29 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-27

Compound Number : 6
 Compound Name : 1-Methylnaphthalene
 Scan Number : 2159
 Retention Time (minutes): 5.443
 Relative Retention Time : -0.00067
 Quant Ion : 142.00
 Area (flag) : 10888
 On-Column Amount (mg/L) : 0.1058

RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0141
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 13:49
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar013.d\09mar013.rr

28 **CLIENT SAMPLE NUMBER:** F-DU1-ISM2-8

LCS/MB BATCH: 170308L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.10 g
MS/MSD BATCH: 170308S11	FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.000	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.000	1.00	ND	0.010	
Pyrene	0.000	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.000	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.000	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar013.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 13:49 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-28 Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.347	152	263002	5.000	0.00
3)*Naphthalene-d8	(2)	4.580	136	725530	5.000	0.00
11)*Acenaphthene-d10	(3)	6.462	164	380602	5.000	0.00
17)*Phenanthrene-d10	(4)	8.059	188	1198570	5.000	0.00
31)*Perylene-d12	(6)	12.727	264	1004227	5.000	0.00
25)*Chrysene-d12	(5)	10.978	240	1042619	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.900	82	40423	0.789	0.00
SpikedAmount 1.000	Recovery = 78.883					
7)\$2-Fluorobiphenyl	(3)	5.758	172	102097	0.737	0.00
SpikedAmount 1.000	Recovery = 73.750					
23)\$p-Terphenyl-d14	(5)	9.857	244	191880	1.161	0.00
SpikedAmount 1.000	Recovery = 116.091					
Target Compounds					QValue	
4) Naphthalene	(2)	0.000		0	N.D.	
5) 2-Methylnaphthalene	(2)	0.000		0	N.D.	
6) 1-Methylnaphthalene	(2)	0.000		0	N.D.	
10) Acenaphthylene	(3)	0.000		0	N.D.	
12) Acenaphthene	(3)	0.000		0	N.D.	
15) Fluorene	(3)	0.000		0	N.D.	
18) Phenanthrene	(4)	0.000		0	N.D.	
19) Anthracene	(4)	0.000		0	N.D.	
21) Fluoranthene	(4)	0.000		0	N.D.	
22) Pyrene	(5)	0.000		0	N.D.	
24) Benzo (a) Anthracene	(5)	0.000		0D	N.D.	
26) Chrysene	(5)	0.000		0D	N.D.	
27) Benzo (b) Fluoranthene	(6)	0.000		0	N.D.	
28) Benzo (k) Fluoranthene	(6)	0.000		0	N.D.	
30) Benzo (a) Pyrene	(6)	0.000		0	N.D.	
33) Indeno (1,2,3-c,d) Pyrene	(6)	0.000		0	N.D.	
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.	
35) Benzo (g,h,i) Perylene	(6)	0.000		0	N.D.	
8) Biphenyl	(3)	0.000		0	N.D.	
9) 2,6-Dimethylnaphthalene	(3)	0.000		0	N.D.	
14) 1,6,7-Trimethylnaphthalene	(3)	0.000		0	N.D.	
16) Dibenzothiophene	(3)	0.000		0	N.D.	

D = Compound was deleted.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 13:49 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-28 Misc Info: S101716B 10UL
Response via Initial Calibration

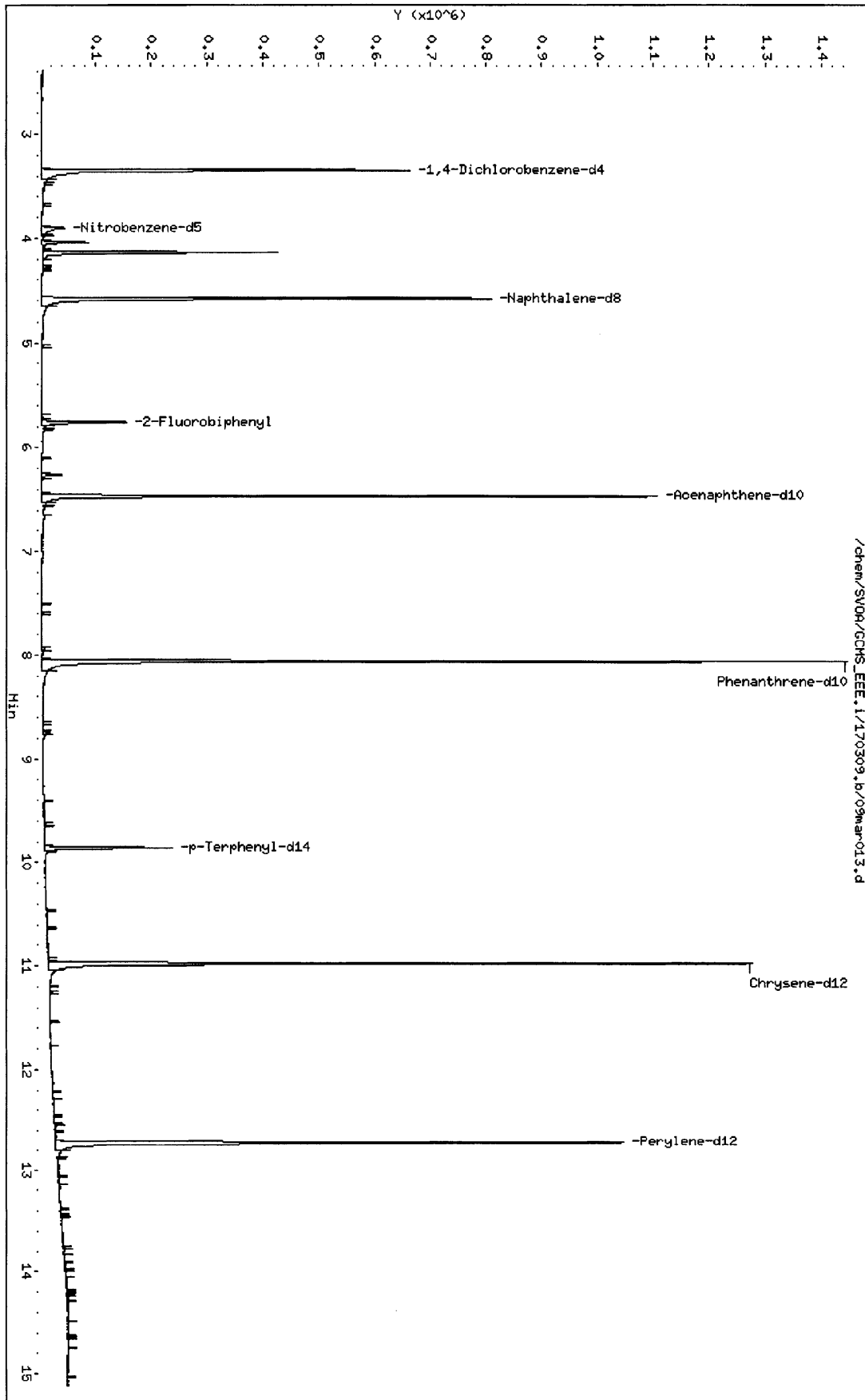
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0D	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

D = Compound was deleted.

page 2 of 2

Data File: /chem/SV06/GCHS_EEE.i/170309.b/09mar013.d
Date : 09-MAR-2017 13:49
Client ID:
Sample Info: 17-03-0141-28
Column phase: J&W DB-6MS

Instrument: GCHS_EEE.i
Operator: 907
Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0141
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 14:09
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar014.d\09mar014.rr

29 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-8

LCS/MB BATCH: 170308L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170308S11	FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.000	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.000	1.00	ND	0.010	
Pyrene	0.000	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.000	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.000	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar014.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 14:09 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-29 Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
=====		=====	=====	=====	(mg/L)	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4		(1)	3.347	152	261320	5.000 0.00
3)*Naphthalene-d8		(2)	4.579	136	736390	5.000 0.00
11)*Acenaphthene-d10		(3)	6.462	164	374399	5.000 0.00
17)*Phenanthrene-d10		(4)	8.060	188	1163664	5.000 0.00
31)*Perylene-d12		(6)	12.727	264	994649	5.000 0.00
25)*Chrysene-d12		(5)	10.979	240	1027534	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.902	82	37655	0.724 0.00
SpikedAmount 1.000		Recovery =		72.400		
7)\$2-Fluorobiphenyl		(3)	5.758	172	91834	0.674 0.00
SpikedAmount 1.000		Recovery =		67.436		
23)\$p-Terphenyl-d14		(5)	9.856	244	183924	1.129 0.00
SpikedAmount 1.000		Recovery =		112.912		
Target Compounds						QValue
4) Naphthalene		(2)	0.000		0	N.D.
5) 2-Methylnaphthalene		(2)	0.000		0	N.D.
6) 1-Methylnaphthalene		(2)	0.000		0	N.D.
10) Acenaphthylene		(3)	0.000		0	N.D.
12) Acenaphthene		(3)	0.000		0	N.D.
15) Fluorene		(3)	0.000		0	N.D.
18) Phenanthrene		(4)	0.000		0	N.D.
19) Anthracene		(4)	0.000		0	N.D.
21) Fluoranthene		(4)	0.000		0	N.D.
22) Pyrene		(5)	0.000		0	N.D.
24) Benzo (a) Anthracene		(5)	0.000		0D	N.D.
26) Chrysene		(5)	0.000		0D	N.D.
27) Benzo (b) Fluoranthene		(6)	0.000		0	N.D.
28) Benzo (k) Fluoranthene		(6)	0.000		0	N.D.
30) Benzo (a) Pyrene		(6)	0.000		0	N.D.
33) Indeno (1,2,3-c,d) Pyrene		(6)	0.000		0	N.D.
34) Dibenz (a,h) Anthracene		(6)	0.000		0	N.D.
35) Benzo (g,h,i) Perylene		(6)	0.000		0	N.D.
8) Biphenyl		(3)	0.000		0	N.D.
9) 2,6-Dimethylnaphthalene		(3)	0.000		0	N.D.
14) 1,6,7-Trimethylnaphthalene		(3)	0.000		0	N.D.
16) Dibenzothiophene		(3)	0.000		0	N.D.

D = Compound was deleted.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar014.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 14:09 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-29 Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0D	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

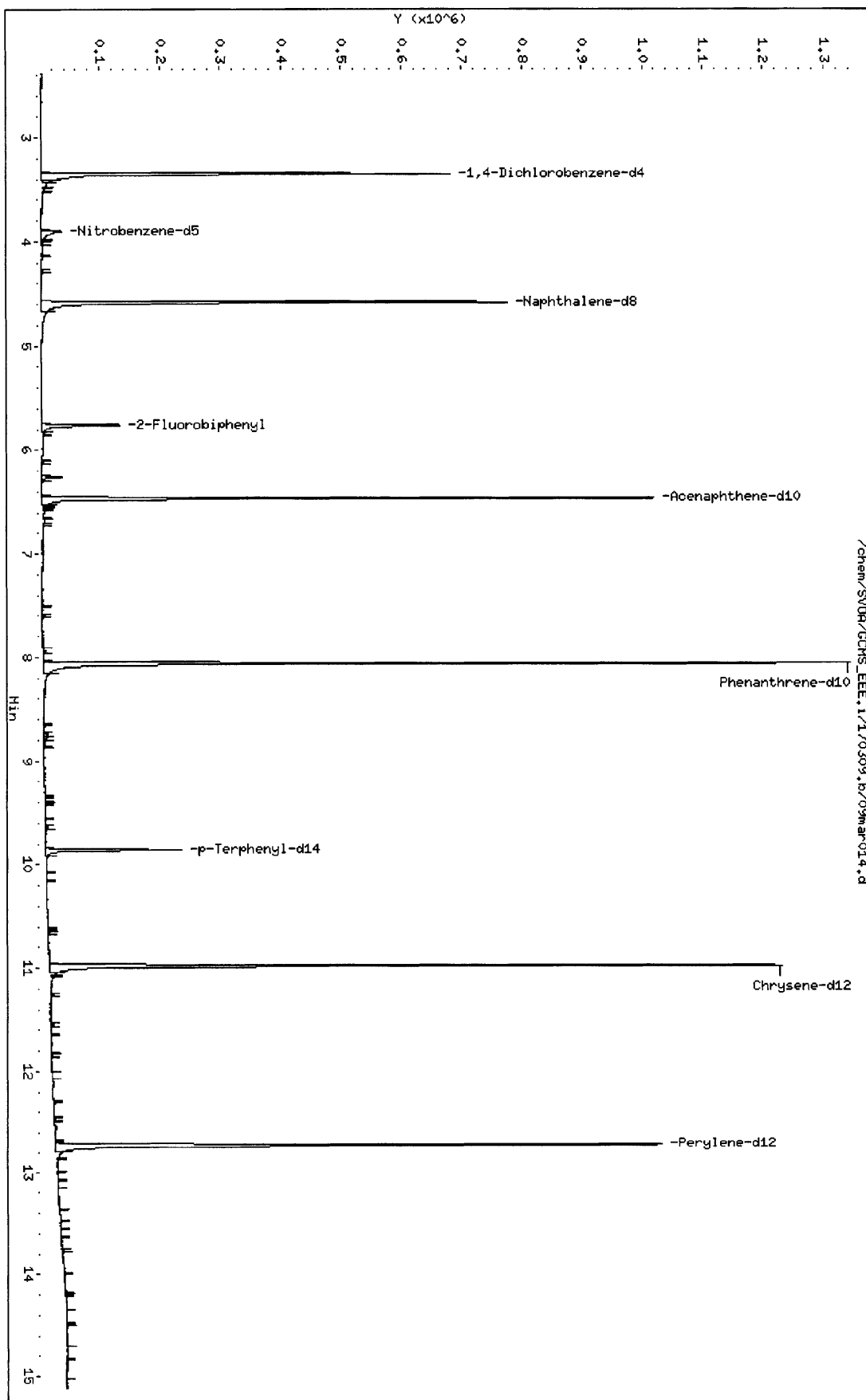
D = Compound was deleted.

page 2 of 2

Data File: /chem/SV08/GCHS_EEE.i/170309.b/09mar04.d
Date : 09-MAR-2017 14:09
Client ID:
Sample Info: 17-03-0141-29
Column Phase: 384 DB-SHS

Instrument: GCHS_EEE.i
Operator: 907
Column diameter: 0.18

/chem/SV08/GCHS_EEE.i/170309.b/09mar04.d



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

Page 462 of 524

WORK ORDER: 17-03-0141
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 14:29
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar015.d\09mar015.rr

30 **CLIENT SAMPLE NUMBER:** F-DU1-ISM4-8

LCS/MB BATCH: 170308L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170308S11	FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.0133	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.0205	1.00	ND	0.010	
Pyrene	0.0233	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.0159	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.0102	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

Return to Contents

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar015.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 14:29 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-30 Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
=====		=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4		(1)	3.347	152	250958	5.000 0.00
3)*Naphthalene-d8		(2)	4.578	136	733475	5.000 0.00
11)*Acenaphthene-d10		(3)	6.462	164	377255	5.000 0.00
17)*Phenanthrene-d10		(4)	8.059	188	1172854	5.000 0.00
31)*Perylene-d12		(6)	12.729	264	983828	5.000 0.00
25)*Chrysene-d12		(5)	10.979	240	1023403	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.901	82	37797	0.730 0.00
SpikedAmount 1.000		Recovery = 72.960				
7)\$2-Fluorobiphenyl		(3)	5.759	172	97603	0.711 0.00
SpikedAmount 1.000		Recovery = 71.129				
23)\$p-Terphenyl-d14		(5)	9.857	244	181033	1.116 0.00
SpikedAmount 1.000		Recovery = 111.586				
Target Compounds						QValue
4) Naphthalene		(2)	0.000		0	N.D.
5) 2-Methylnaphthalene		(2)	0.000		0	N.D.
6) 1-Methylnaphthalene		(2)	0.000		0	N.D.
10) Acenaphthylene		(3)	0.000		0	N.D.
12) Acenaphthene		(3)	0.000		0	N.D.
15) Fluorene		(3)	0.000		0	N.D.
18) Phenanthrene		(4)	8.084	178	3357	0.013 96
19) Anthracene		(4)	0.000		0D	N.D.
21) Fluoranthene		(4)	9.400	202	6511	0.021 97
22) Pyrene		(5)	9.640	202	7172	0.023 96
24) Benzo (a) Anthracene		(5)	0.000		0D	N.D.
26) Chrysene		(5)	11.007	228	4095	0.016 93
27) Benzo (b) Fluoranthene		(6)	0.000		0	N.D.
28) Benzo (k) Fluoranthene		(6)	0.000		0	N.D.
30) Benzo (a) Pyrene		(6)	12.664	252	2538	0.010 86
33) Indeno (1,2,3-c,d) Pyrene		(6)	0.000		0	N.D.
34) Dibenz (a,h) Anthracene		(6)	0.000		0	N.D.
35) Benzo (g,h,i) Perylene		(6)	0.000		0	N.D.
8) Biphenyl		(3)	0.000		0	N.D.
9) 2,6-Dimethylnaphthalene		(3)	0.000		0	N.D.
14) 1,6,7-Trimethylnaphthalene		(3)	0.000		0	N.D.
16) Dibenzothiophene		(3)	0.000		0	N.D.

D = Compound was deleted.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar015.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 14:29 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 14:59 ev7p

Sample Name: 17-03-0141-30 Misc Info: S101716B 10UL
Response via Initial Calibration

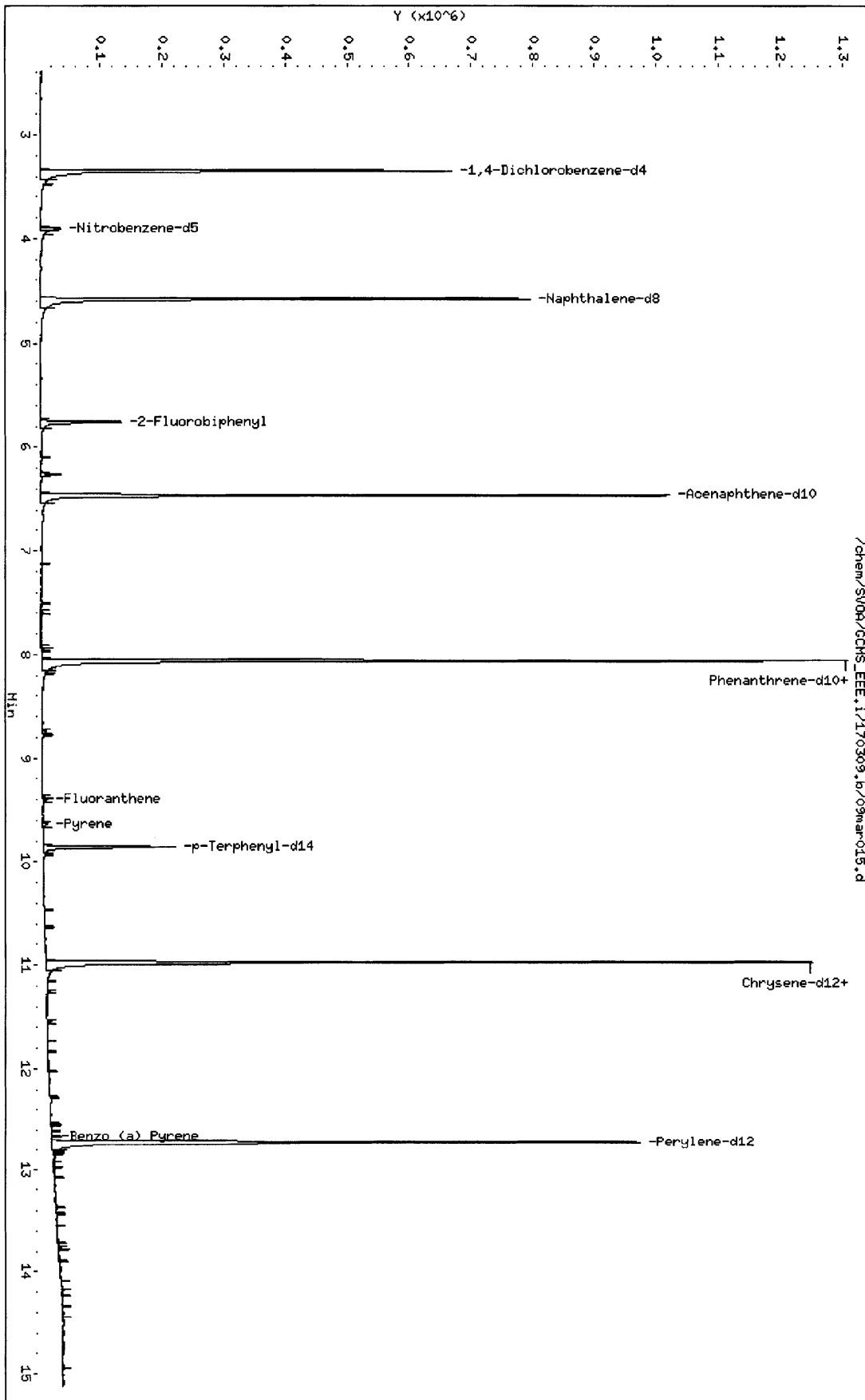
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0D	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

D = Compound was deleted.

page 2 of 2

Data File: /chem/SV09/GCHS_EEE.i/170309.b/09mar015.d
Date : 09-Mar-2017 14:29
Client ID:
Sample Info: 17-03-0141-30
Column Phase: 3M DB-SHS

Instrument: GCHS_EEE.i
Operator: 907
Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

Page 466 of 524

WORK ORDER: 17-03-0141

INSTRUMENT: GC/MS EEE

EXTRACTION: EPA 3545

D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907

D/T ANALYZED: 2017-03-09 14:50

REVIEWED BY:

D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar016.d\09mar016.rr

31

CLIENT SAMPLE NUMBER: F-DU1-ISM5-8

LCS/MB BATCH: 170308L11

MS/MSD BATCH: 170308S11

UNITS: mg/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 20.00 g / ACTUAL: 20.10 g

DEFAULT: 2.00 ml / ACTUAL: 2.00 ml

1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.000	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.0126	1.00	ND	0.010	
Pyrene	0.0137	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.000	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.000	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

Return to Contents

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar016.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 14:50 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 16:14 ev7p

Sample Name: 17-03-0141-31 Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
					(mg/L)	
=====		=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4		(1)	3.346	152	251344	5.000 0.00
3)*Naphthalene-d8		(2)	4.580	136	728655	5.000 0.00
11)*Acenaphthene-d10		(3)	6.464	164	375022	5.000 0.00
17)*Phenanthrene-d10		(4)	8.059	188	1149425	5.000 0.00
31)*Perylene-d12		(6)	12.726	264	943065	5.000 0.00
25)*Chrysene-d12		(5)	10.976	240	1018053	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.901	82	37302	0.725 0.00
SpikedAmount 1.000		Recovery =		72.482		
7)\$2-Fluorobiphenyl		(3)	5.760	172	89096	0.653 0.00
SpikedAmount 1.000		Recovery =		65.316		
23)\$p-Terphenyl-d14		(5)	9.858	244	168805	1.046 0.00
SpikedAmount 1.000		Recovery =		104.595		
Target Compounds						
						QValue
4) Naphthalene		(2)	0.000		0	N.D.
5) 2-Methylnaphthalene		(2)	0.000		0	N.D.
6) 1-Methylnaphthalene		(2)	0.000		0	N.D.
10) Acenaphthylene		(3)	0.000		0	N.D.
12) Acenaphthene		(3)	0.000		0	N.D.
15) Fluorene		(3)	0.000		0	N.D.
18) Phenanthrene		(4)	0.000		0	N.D.
19) Anthracene		(4)	0.000		0	N.D.
21) Fluoranthene		(4)	9.400	202	3924	0.013 95
22) Pyrene		(5)	9.637	202	4190	0.014 91
24) Benzo (a) Anthracene		(5)	0.000		0D	N.D.
26) Chrysene		(5)	0.000		0D	N.D.
27) Benzo (b) Fluoranthene		(6)	0.000		0	N.D.
28) Benzo (k) Fluoranthene		(6)	0.000		0	N.D.
30) Benzo (a) Pyrene		(6)	0.000		0	N.D.
33) Indeno (1,2,3-c,d) Pyrene		(6)	0.000		0	N.D.
34) Dibenz (a,h) Anthracene		(6)	0.000		0	N.D.
35) Benzo (g,h,i) Perylene		(6)	0.000		0	N.D.
8) Biphenyl		(3)	0.000		0	N.D.
9) 2,6-Dimethylnaphthalene		(3)	0.000		0	N.D.
14) 1,6,7-Trimethylnaphthalene		(3)	0.000		0	N.D.
16) Dibenzothiophene		(3)	0.000		0	N.D.

D = Compound was deleted.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar016.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 14:50 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 16:14 ev7p

Sample Name: 17-03-0141-31 Misc Info: S101716B 10UL
Response via Initial Calibration

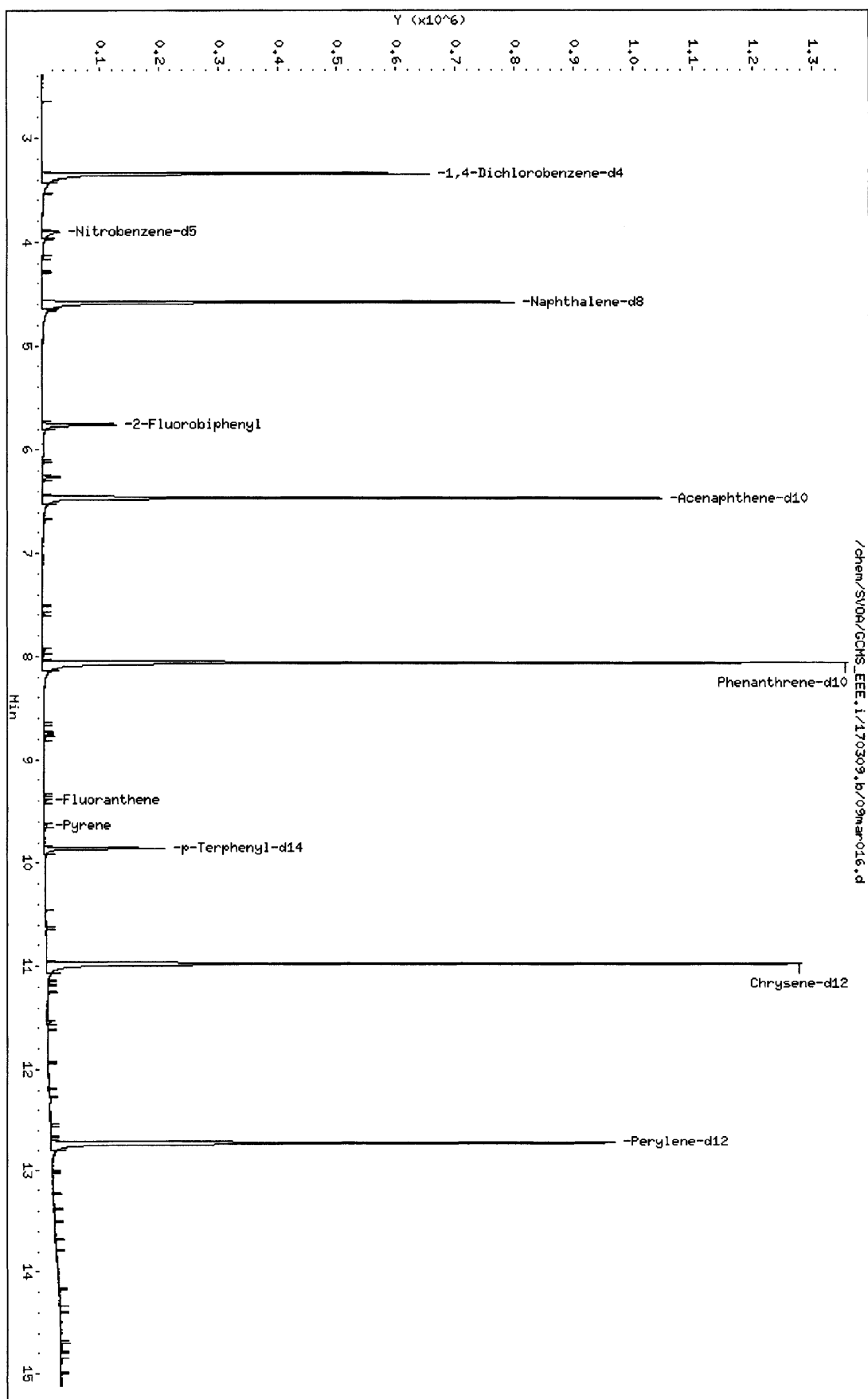
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0D	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

D = Compound was deleted.

page 2 of 2

Data File: /chem/SV09/GCHS_EEE.i/170309.b/09mar016.d
Date : 09-Mar-2017 14:50
Client ID:
Sample Info: 17-03-0141-31
Column Phase: J&W DB-5MS

Instrument: GCHS_EEE.i
Operator: 907
Column diameter: 0.18



EPA METHOD 8270C PAHSIM

Quality Control

Method Blank LCS/LCSD MS/MSD

**METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 8270C SIM PAHs**

Page 471 of 524

MB SAMPLE ID: 099-14-035-379
MB BATCH ID: 170308L11
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 10:27
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar003.d\09mar003.rr

CLIENT WORK ORDER: 17-03-0141

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-8		2017-03-09 13:29	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar012.d\09mar012.rr
28	F-DU1-ISM2-8		2017-03-09 13:49	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar013.d\09mar013.rr
29	F-DU1-ISM3-8		2017-03-09 14:09	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar014.d\09mar014.rr
30	F-DU1-ISM4-8		2017-03-09 14:29	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar015.d\09mar015.rr
31	F-DU1-ISM5-8		2017-03-09 14:50	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar016.d\09mar016.rr

RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

Page 472 of 524

WORK ORDER: 099-14-035
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 10:27
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar003.d\09mar003.rr

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170308L11 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: **FINAL VOLUME / WEIGHT:** DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.000	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.000	1.00	ND	0.010	
Pyrene	0.000	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.000	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.000	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

Return to Contents

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 8270C SIM PAHS

LCS SAMPLE ID: 099-14-035-379
LCS/MB BATCH ID: 170308L11
INSTRUMENT: GC/MS EEE

EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 10:47
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar004.d\09mar004.rr

COMPOUND	CONC.	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Naphthalene	0.1000	0.08623	86	51-129	38-142	PASS	
2-Methylnaphthalene	0.1000	0.1018	102	50-127	37-140	PASS	
1-Methylnaphthalene	0.1000	0.09258	93	54-132	41-145	PASS	
Acenaphthylene	0.1000	0.07724	77	50-123	38-135	PASS	
Acenaphthene	0.1000	0.07853	79	53-125	41-137	PASS	
Fluorene	0.1000	0.07745	77	55-127	43-139	PASS	
Phenanthrene	0.1000	0.08323	83	50-122	38-134	PASS	
Anthracene	0.1000	0.08564	86	50-132	36-146	PASS	
Fluoranthene	0.1000	0.08550	86	55-127	43-139	PASS	
Pyrene	0.1000	0.08933	89	50-134	36-148	PASS	
Benzo (a) Anthracene	0.1000	0.08200	82	50-133	36-147	PASS	
Chrysene	0.1000	0.08699	87	51-129	38-142	PASS	
Benzo (k) Fluoranthene	0.1000	0.09291	93	49-150	32-167	PASS	
Benzo (b) Fluoranthene	0.1000	0.08522	85	50-142	35-157	PASS	
Benzo (a) Pyrene	0.1000	0.08737	87	50-134	36-148	PASS	
Indeno (1,2,3-c,d) Pyrene	0.1000	0.07795	78	50-148	34-164	PASS	
Dibenz (a,h) Anthracene	0.1000	0.07817	78	50-133	36-147	PASS	
Benzo (g,h,i) Perylene	0.1000	0.08669	87	50-130	37-143	PASS	

Total number of LCS compounds: 18
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET

FOR METHOD: EPA 8270C SIM PAHS

SPIKED SAMPLE ID: 17-03-0140-31
MS/MSD BATCH: 170308S11

INSTRUMENTS:

SAMPLE: GC/MS EEE
MS: GC/MS EEE
MSD: GC/MS EEE

EXTRACTION: EPA 3545

D/T EXTRACTED:

SAMPLE: 2017-03-08 00:00
MS: 2017-03-08 00:00
MSD: 2017-03-08 00:00

ANALYZED BY: 907

D/T ANALYZED:

SAMPLE: 2017-03-09 13:09
MS: 2017-03-09 11:07
MSD: 2017-03-09 11:28

REVIEWED BY:

D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Naphthalene	ND	1.000	0.1000	0.07278	73	0.07507	75	20-150	3	0-33	PASS	
2-Methylnaphthalene	ND	1.000	0.1000	0.09103	91	0.09470	95	29-137	4	0-31	PASS	
1-Methylnaphthalene	ND	1.000	0.1000	0.07945	79	0.08269	83	34-136	4	0-29	PASS	
Acenaphthylene	ND	1.000	0.1000	0.06907	69	0.07181	72	29-131	4	0-32	PASS	
Acenaphthene	ND	1.000	0.1000	0.07079	71	0.07414	74	29-137	5	0-28	PASS	
Fluorene	ND	1.000	0.1000	0.07283	73	0.07509	75	36-132	3	0-27	PASS	
Phenanthrene	ND	1.000	0.1000	0.08281	83	0.08364	84	20-144	1	0-27	PASS	
Anthracene	ND	1.000	0.1000	0.08557	86	0.08869	89	26-134	4	0-27	PASS	
Fluoranthene	ND	1.000	0.1000	0.08997	90	0.09122	91	20-151	1	0-26	PASS	
Pyrene	ND	1.000	0.1000	0.09597	96	0.1003	100	20-150	4	0-32	PASS	
Benzo (a) Anthracene	ND	1.000	0.1000	0.08458	85	0.08454	85	24-150	0	0-24	PASS	
Chrysene	ND	1.000	0.1000	0.08915	89	0.08894	89	25-145	0	0-28	PASS	
Benzo (k) Fluoranthene	ND	1.000	0.1000	0.09119	91	0.08571	86	28-148	6	0-26	PASS	
Benzo (b) Fluoranthene	ND	1.000	0.1000	0.08771	88	0.08449	84	21-153	4	0-26	PASS	
Benzo (a) Pyrene	ND	1.000	0.1000	0.08871	89	0.08910	89	29-149	0	0-22	PASS	
Indeno (1,2,3-c,d) Pyrene	ND	1.000	0.1000	0.08466	85	0.09054	91	20-154	7	0-25	PASS	
Dibenz (a,h) Anthracene	ND	1.000	0.1000	0.08723	87	0.09351	94	20-132	7	0-26	PASS	
Benzo (g,h,i) Perylene	ND	1.000	0.1000	0.09663	97	0.1005	100	20-148	4	0-27	PASS	

Data Files:

TYPE DATA FILE DATA FILE PATH

MS 09mar005.rr Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar005.d\

MSD 09mar006.rr Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar006.d\

SURROGATE RECOVERIES FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB: 170308L11MS: 170308S11

EXTRACTION: EPA 3545

REVIEWED BY:D/T REVIEWED:

27

CLIENT SAMPLE NUMBER : F-DU1-ISM1-8INSTRUMENT: GC/MS EEED/T EXTRACTED: 2017-03-08 00:00DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar012.d\09mar012.rrANALYZED BY: 907D/T ANALYZED 2017-03-09 13:29COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	82	13-127	PASS	
Nitrobenzene-d5	93	17-137	PASS	
p-Terphenyl-d14	115	4-160	PASS	

28

CLIENT SAMPLE NUMBER : F-DU1-ISM2-8INSTRUMENT: GC/MS EEED/T EXTRACTED: 2017-03-08 00:00DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar013.d\09mar013.rrANALYZED BY: 907D/T ANALYZED 2017-03-09 13:49COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
p-Terphenyl-d14	116	4-160	PASS	
Nitrobenzene-d5	79	17-137	PASS	
2-Fluorobiphenyl	74	13-127	PASS	

29

CLIENT SAMPLE NUMBER : F-DU1-ISM3-8INSTRUMENT: GC/MS EEED/T EXTRACTED: 2017-03-08 00:00DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar014.d\09mar014.rrANALYZED BY: 907D/T ANALYZED 2017-03-09 14:09COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	67	13-127	PASS	
Nitrobenzene-d5	72	17-137	PASS	
p-Terphenyl-d14	113	4-160	PASS	

**SURROGATE RECOVERIES
FOR METHOD: EPA 8270C SIM PAHs**

Page 476 of 524

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB: **170308L11**

MS: **170308S11**

EXTRACTION: EPA 3545

REVIEWED BY:

D/T REVIEWED:

30 **CLIENT SAMPLE NUMBER : F-DU1-ISM4-8**

INSTRUMENT: GC/MS EEE

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar015.d\09mar015.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-09 14:29

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
p-Terphenyl-d14	112	4-160	PASS	
2-Fluorobiphenyl	71	13-127	PASS	
Nitrobenzene-d5	73	17-137	PASS	

31 **CLIENT SAMPLE NUMBER : F-DU1-ISM5-8**

INSTRUMENT: GC/MS EEE

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar016.d\09mar016.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-09 14:50

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	65	13-127	PASS	
Nitrobenzene-d5	72	17-137	PASS	
p-Terphenyl-d14	105	4-160	PASS	

MB **CLIENT SAMPLE NUMBER : Method Blank**

INSTRUMENT: GC/MS EEE

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar003.d\09mar003.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-09 10:27

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	58	13-127	PASS	
Nitrobenzene-d5	62	17-137	PASS	
p-Terphenyl-d14	79	4-160	PASS	

LCS **CLIENT SAMPLE NUMBER : Lab Control Sample**

INSTRUMENT: GC/MS EEE

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar004.d\09mar004.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-09 10:47

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
p-Terphenyl-d14	90	4-160	PASS	
Nitrobenzene-d5	87	17-137	PASS	
2-Fluorobiphenyl	77	13-127	PASS	

**SURROGATE RECOVERIES
FOR METHOD: EPA 8270C SIM PAHs**

Page 477 of 524

WORK ORDER: 17-03-0141

BATCH ID:

LCS/MB:

MS: 170308S11

EXTRACTION : EPA 3545

REVIEWED BY:

D/T REVIEWED:

MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC/MS EEE

ANALYZED BY: 907

D/T EXTRACTED: 2017-03-08 00:00

D/T ANALYZED 2017-03-09 11:07

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar005.d\09mar005.rr

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	68	13-127	PASS	
p-Terphenyl-d14	94	4-160	PASS	
Nitrobenzene-d5	67	17-137	PASS	

MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC/MS EEE

ANALYZED BY: 907

D/T EXTRACTED: 2017-03-08 00:00

D/T ANALYZED 2017-03-09 11:28

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar006.d\09mar006.rr

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
p-Terphenyl-d14	102	4-160	PASS	
Nitrobenzene-d5	96	17-137	PASS	
2-Fluorobiphenyl	97	13-127	PASS	

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar003.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 10:27 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 11:58 ev7p

Sample Name: MB 170308 L11 Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S.		RT	QIon	Area	On-Column	DEV (Min)
	Ref.					Amount (mg/L)	
=====	=====	=====	=====	=====	=====	=====	=====
Internal Standards							
1)*1,4-Dichlorobenzene-d4	(1)	3.344	152	240183	5.000	0.00	
3)*Naphthalene-d8	(2)	4.579	136	675026	5.000	0.00	
11)*Acenaphthene-d10	(3)	6.463	164	344466	5.000	0.00	
17)*Phenanthrene-d10	(4)	8.059	188	1113687	5.000	0.00	
31)*Perylene-d12	(6)	12.725	264	843862	5.000	0.00	
25)*Chrysene-d12	(5)	10.976	240	997680	5.000	0.00	
System Monitoring Compounds							
2)\$Nitrobenzene-d5	(2)	3.902	82	29702	0.623	0.00	
SpikedAmount 1.000	Recovery =		62.299				
7)\$2-Fluorobiphenyl	(3)	5.759	172	72576	0.579	0.00	
SpikedAmount 1.000	Recovery =		57.925				
23)\$p-Terphenyl-d14	(5)	9.857	244	125152	0.791	0.00	
SpikedAmount 1.000	Recovery =		79.130				
Target Compounds							
						QValue	
4) Naphthalene	(2)	0.000		0	N.D.		
5) 2-Methylnaphthalene	(2)	0.000		0	N.D.		
6) 1-Methylnaphthalene	(2)	0.000		0	N.D.		
10) Acenaphthylene	(3)	0.000		0	N.D.		
12) Acenaphthene	(3)	0.000		0	N.D.		
15) Fluorene	(3)	0.000		0	N.D.		
18) Phenanthrene	(4)	0.000		0	N.D.		
19) Anthracene	(4)	0.000		0	N.D.		
21) Fluoranthene	(4)	0.000		0	N.D.		
22) Pyrene	(5)	0.000		0	N.D.		
24) Benzo (a) Anthracene	(5)	0.000		0D	N.D.		
26) Chrysene	(5)	0.000		0D	N.D.		
27) Benzo (b) Fluoranthene	(6)	0.000		0	N.D.		
28) Benzo (k) Fluoranthene	(6)	0.000		0	N.D.		
30) Benzo (a) Pyrene	(6)	0.000		0	N.D.		
33) Indeno (1,2,3-c,d) Pyrene	(6)	0.000		0	N.D.		
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.		
35) Benzo (g,h,i) Perylene	(6)	0.000		0	N.D.		
8) Biphenyl	(3)	0.000		0	N.D.		
9) 2,6-Dimethylnaphthalene	(3)	0.000		0	N.D.		
14) 1,6,7-Trimethylnaphthalene	(3)	0.000		0	N.D.		
16) Dibenzothiophene	(3)	0.000		0	N.D.		

D = Compound was deleted.

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar003.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 10:27 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 11:58 ev7p

Sample Name: MB 170308 L11 Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0D	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

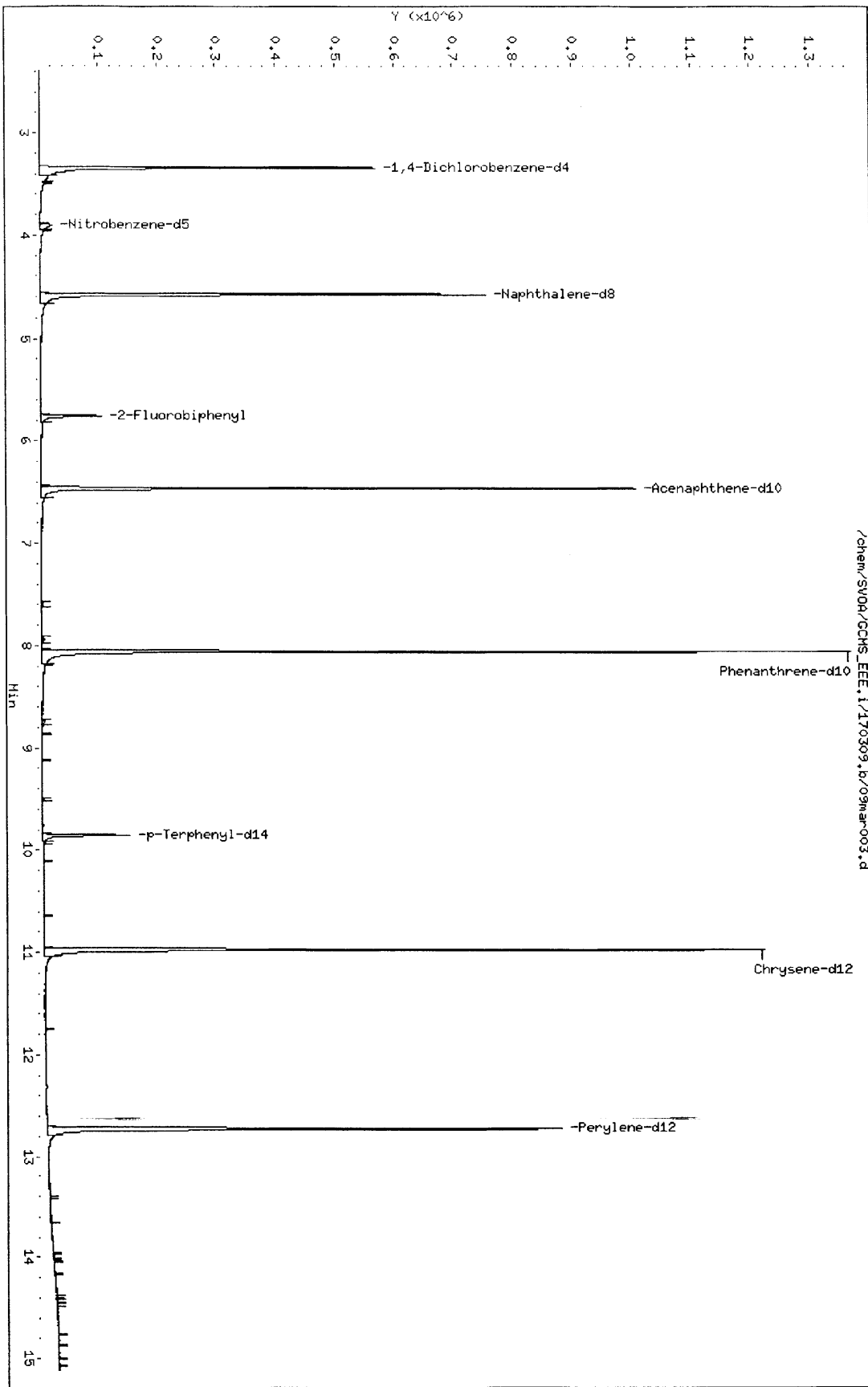
D = Compound was deleted.

page 2 of 2

Data File: /chem/SV09/GCHS_EEE.i/170309.b/09mar003.d
 Date : 09-MAR-2017 10:27
 Client ID:
 Sample Info: MB 170308 L11
 Column Phase: 3M DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18

Page 1



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar004.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 10:47 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 11:09 Unknown

Sample Name: LCS 170308 L11 Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
=====						
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.344	152	255918	5.000	0.00
3)*Naphthalene-d8	(2)	4.579	136	668187	5.000	0.00
11)*Acenaphthene-d10	(3)	6.462	164	340290	5.000	0.00
17)*Phenanthrene-d10	(4)	8.059	188	1029316	5.000	0.00
31)*Perylene-d12	(6)	12.725	264	784783	5.000	0.00
25)*Chrysene-d12	(5)	10.976	240	906525	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.897	82	41175	0.872	0.00
SpikedAmount 1.000	Recovery =	87.247				
7)\$2-Fluorobiphenyl	(3)	5.758	172	95714	0.773	0.00
SpikedAmount 1.000	Recovery =	77.330				
23)\$p-Terphenyl-d14	(5)	9.857	244	129810	0.903	0.00
SpikedAmount 1.000	Recovery =	90.329				
Target Compounds						
						QValue
4) Naphthalene	(2)	4.601	128	129474	0.862	99
5) 2-Methylnaphthalene	(2)	5.330	142	100290	1.018	99
6) 1-Methylnaphthalene	(2)	5.442	142	87288	0.926	98
10) Acenaphthylene	(3)	6.295	152	140061	0.772	100
12) Acenaphthene	(3)	6.496	153	83556	0.785	99
15) Fluorene	(3)	7.047	166	93599	0.774	100
18) Phenanthrene	(4)	8.084	178	184504	0.832	100
19) Anthracene	(4)	8.135	178	193841	0.856	98
21) Fluoranthene	(4)	9.393	202	238321	0.855	100
22) Pyrene	(5)	9.631	202	244113	0.893	99
24) Benzo (a) Anthracene	(5)	10.961	228	196416	0.820	99
26) Chrysene	(5)	11.004	228	198189	0.870	98
27) Benzo (b) Fluoranthene	(6)	12.269	252	168692	0.852	98
28) Benzo (k) Fluoranthene	(6)	12.298	252	205639	0.929	95
30) Benzo (a) Pyrene	(6)	12.659	252	174059	0.874	95
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.970	276	161989	0.779	88
34) Dibenzo (a,h) Anthracene	(6)	13.997	278	123523	0.782	97
35) Benzo (g,h,i) Perylene	(6)	14.242	276	153961	0.867	100
8) Biphenyl	(3)	5.846	154	116668	0.741	99
9) 2,6-Dimethylnaphthalene	(3)	6.007	156	83442	0.752	99
14) 1,6,7-Trimethylnaphthalene	(3)	6.928	170	80830	0.755	99
16) Dibenzothiophene	(3)	7.948	184	234493	0.706	99

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar004.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 10:47 Analyst ID: 907

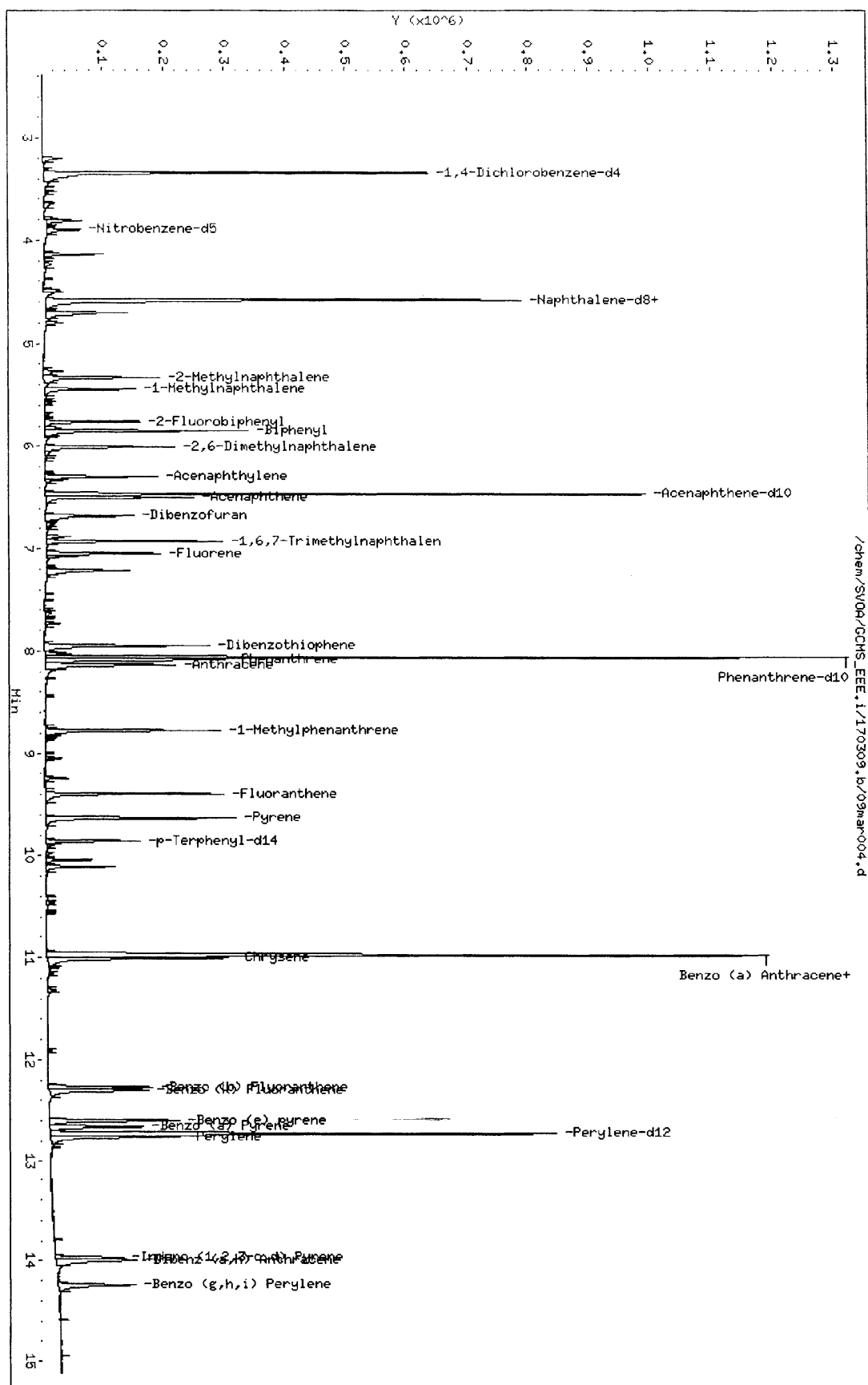
Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 11:09 Unknown

Sample Name: LCS 170308 L11
Response via Initial Calibration

Misc Info: S101716B 10UL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.774	192	169110	0.832	99
29) Benzo (e) pyrene	(6)	12.596	252	218913	0.877	100
32) Perylene	(6)	12.757	252	203291	0.828	100
13) Dibenzofuran	(3)	6.674	168	125082	0.785	97

page 2 of 2



Data File: /chem/SVQA/CHS_EEE.i/170309.b/09mar-004.d
Date : 09-MAR-2017 10:47
Client ID:
Sample Info: LCS 170308 L11
Column phase: J&W DB-5MS

Instrument: GC8S_EEE.1
Operator: 907
Column diameter: 0.18

Page 1

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar005.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 11:07 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 11:29 Unknown

Sample Name: 17-03-0140-31 MS Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.346	152	249125	5.000	0.00
3)*Naphthalene-d8	(2)	4.579	136	666615	5.000	0.00
11)*Acenaphthene-d10	(3)	6.462	164	335997	5.000	0.00
17)*Phenanthrene-d10	(4)	8.059	188	980037	5.000	0.00
31)*Perylene-d12	(6)	12.727	264	789037	5.000	0.00
25)*Chrysene-d12	(5)	10.977	240	835633	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.895	82	31638	0.672	0.00
SpikedAmount 1.000	Recovery =	67.198				
7)\$2-Fluorobiphenyl	(3)	5.758	172	82793	0.677	0.00
SpikedAmount 1.000	Recovery =	67.745				
23)\$p-Terphenyl-d14	(5)	9.858	244	124703	0.941	0.00
SpikedAmount 1.000	Recovery =	94.137				
Target Compounds						
						QValue
4) Naphthalene	(2)	4.599	128	109025	0.728	99
5) 2-Methylnaphthalene	(2)	5.329	142	89482	0.910	97
6) 1-Methylnaphthalene	(2)	5.441	142	74728	0.794	100
10) Acenaphthylene	(3)	6.293	152	123657	0.691	99
12) Acenaphthene	(3)	6.497	153	74369	0.708	99
15) Fluorene	(3)	7.047	166	86909	0.728	100
18) Phenanthrene	(4)	8.082	178	174788	0.828	100
19) Anthracene	(4)	8.135	178	184417	0.856	97
21) Fluoranthene	(4)	9.393	202	238773	0.900	99
22) Pyrene	(5)	9.631	202	241750	0.960	99
24) Benzo (a) Anthracene	(5)	10.962	228	186743	0.846	100
26) Chrysene	(5)	11.007	228	187240	0.892	98
27) Benzo (b) Fluoranthene	(6)	12.270	252	174561	0.877	99
28) Benzo (k) Fluoranthene	(6)	12.300	252	202939	0.912	98
30) Benzo (a) Pyrene	(6)	12.661	252	177700	0.887	95
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.970	276	176895	0.847	92
34) Dibenz (a,h) Anthracene	(6)	13.997	278	138582	0.872	94
35) Benzo (g,h,i) Perylene	(6)	14.244	276	172544	0.966	99
8) Biphenyl	(3)	5.846	154	104888	0.675	99
9) 2,6-Dimethylnaphthalene	(3)	6.006	156	72330	0.660	99
14) 1,6,7-Trimethylnaphthalene	(3)	6.926	170	75859	0.717	97
16) Dibenzothiophene	(3)	7.948	184	217375	0.663	99

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

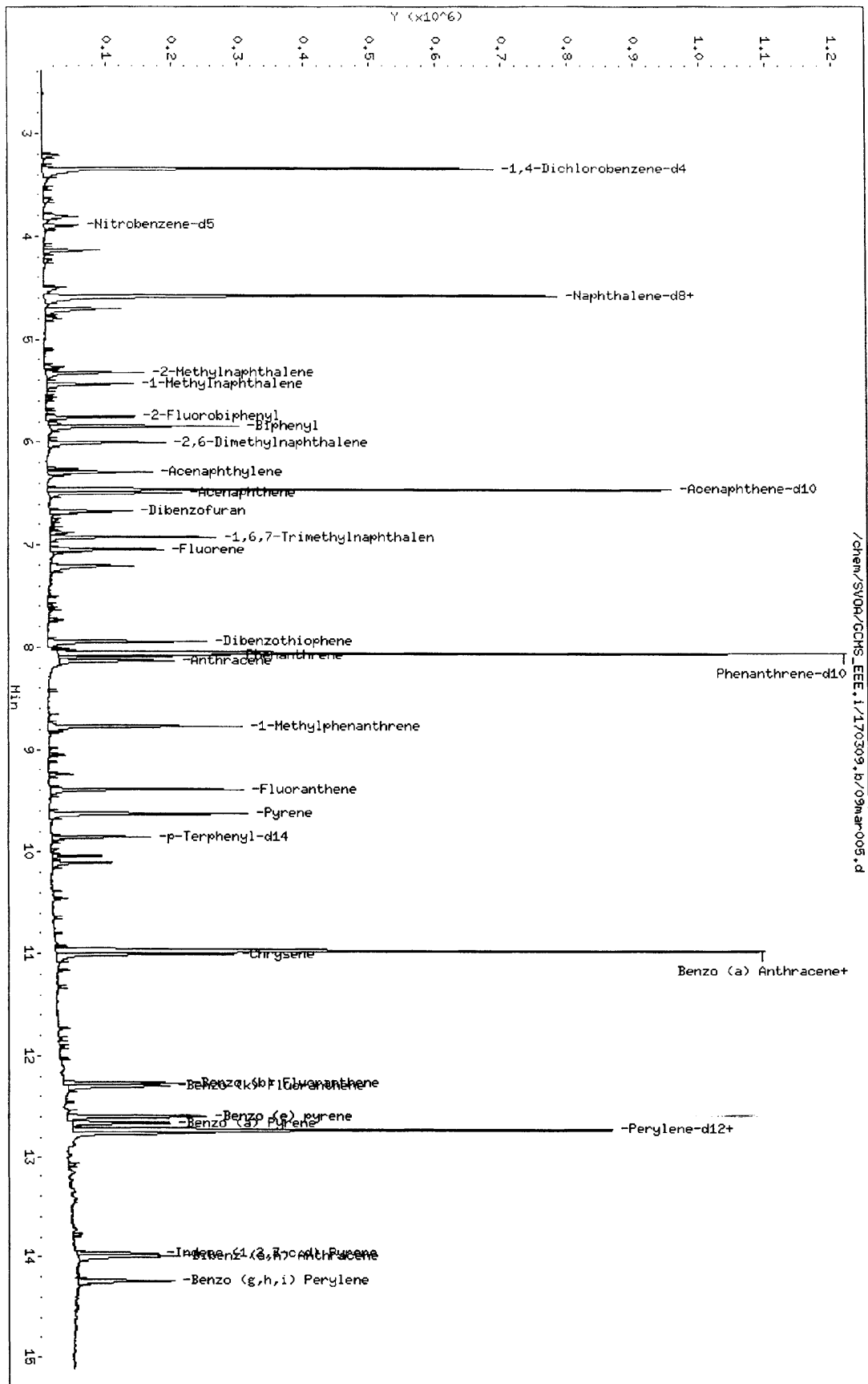
Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar005.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 11:07 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 11:29 Unknown

Sample Name: 17-03-0140-31 MS Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.774	192	170132	0.908	99
29) Benzo (e) pyrene	(6)	12.598	252	219392	0.874	98
32) Perylene	(6)	12.759	252	213881	0.867	100
13) Dibenzofuran	(3)	6.674	168	110224	0.701	97

page 2 of 2



Data File: /chem/SV04/GCHS_EEE.i/170309.b/09mar005.d
 Date: 09-MAR-2017 11:07
 Client ID:
 Sample Info: 17-03-0140-31 MS
 Column phase: J&W DB-5MS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar006.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 11:28 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 11:50 Unknown

Sample Name: 17-03-0140-31 MSD Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S.	RT	QIon	Area	On-Column	DEV (Min)
	Ref.				Amount (mg/L)	
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.346	152	256219	5.000	0.00
3)*Naphthalene-d8	(2)	4.578	136	674507	5.000	0.00
11)*Acenaphthene-d10	(3)	6.462	164	348297	5.000	0.00
17)*Phenanthrene-d10	(4)	8.060	188	1069205	5.000	0.00
31)*Perylene-d12	(6)	12.727	264	886751	5.000	0.00
25)*Chrysene-d12	(5)	10.977	240	900550	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.895	82	45790	0.961	0.00
SpikedAmount 1.000	Recovery = 96.118					
7)\$2-Fluorobiphenyl	(3)	5.758	172	122826	0.970	0.00
SpikedAmount 1.000	Recovery = 96.952					
23)\$p-Terphenyl-d14	(5)	9.857	244	145233	1.017	0.00
SpikedAmount 1.000	Recovery = 101.732					
Target Compounds						QValue
4) Naphthalene	(2)	4.599	128	113782	0.751	99
5) 2-Methylnaphthalene	(2)	5.329	142	94188	0.947	99
6) 1-Methylnaphthalene	(2)	5.441	142	78700	0.827	97
10) Acenaphthylene	(3)	6.295	152	133272	0.718	100
12) Acenaphthene	(3)	6.496	153	80746	0.741	98
15) Fluorene	(3)	7.047	166	92883	0.751	98
18) Phenanthrene	(4)	8.084	178	192595	0.836	100
19) Anthracene	(4)	8.135	178	208529	0.887	99
21) Fluoranthene	(4)	9.395	202	264121	0.912	100
22) Pyrene	(5)	9.630	202	272292	1.003	99
24) Benzo (a) Anthracene	(5)	10.961	228	201173	0.845	99
26) Chrysene	(5)	11.006	228	201308	0.889	100
27) Benzo (b) Fluoranthene	(6)	12.270	252	188973	0.845	97
28) Benzo (k) Fluoranthene	(6)	12.300	252	214353	0.857	99
30) Benzo (a) Pyrene	(6)	12.661	252	200581	0.891	97
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.974	276	212616	0.905	97
34) Dibenz (a,h) Anthracene	(6)	13.999	278	166968	0.935	99
35) Benzo (g,h,i) Perylene	(6)	14.245	276	201630	1.005	99
8) Biphenyl	(3)	5.847	154	108498	0.674	99
9) 2,6-Dimethylnaphthalene	(3)	6.006	156	78012	0.687	99
14) 1,6,7-Trimethylnaphthalene	(3)	6.928	170	81019	0.739	97
16) Dibenzothiophene	(3)	7.948	184	242365	0.713	99

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

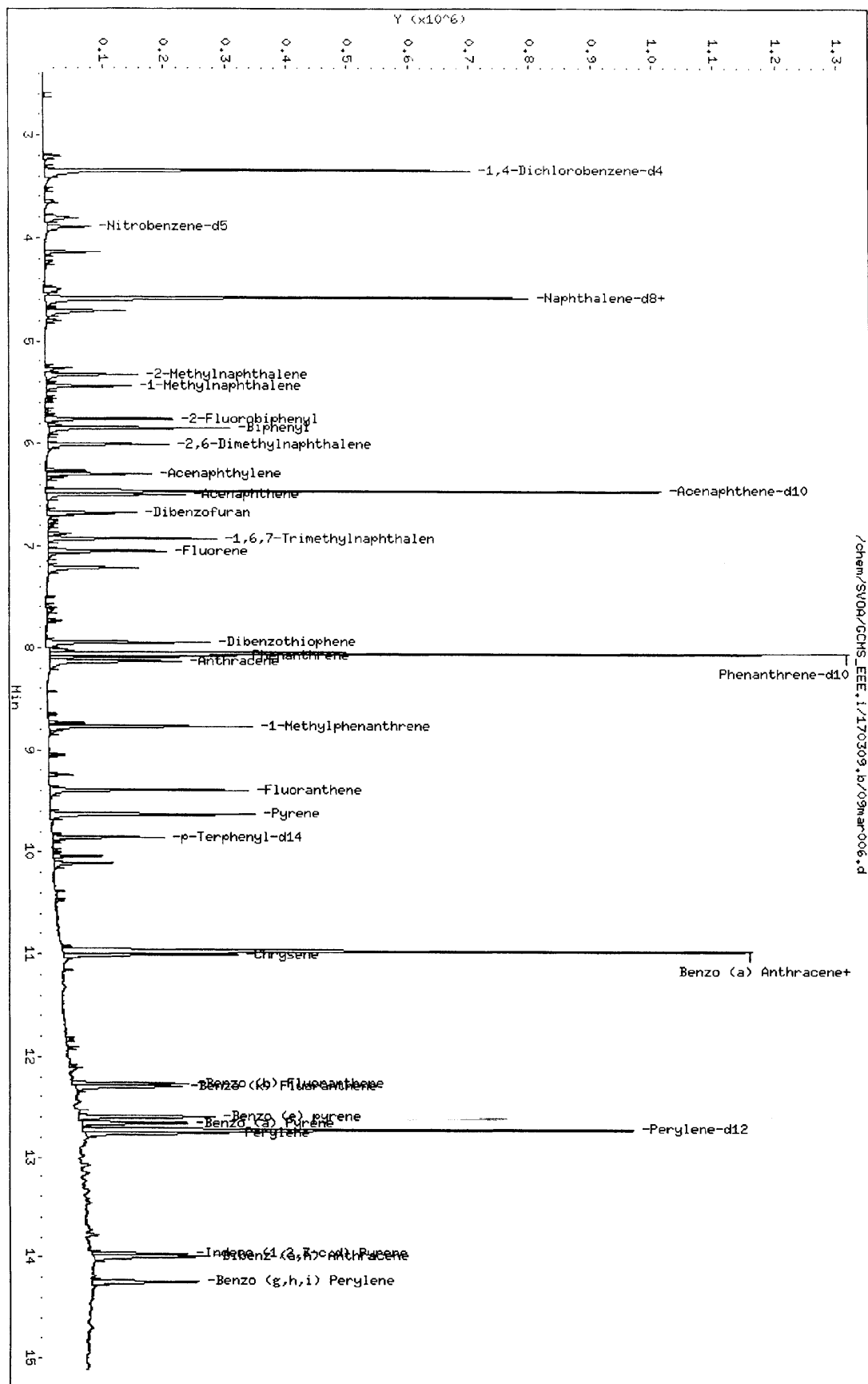
Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar006.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 11:28 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 11:50 Unknown

Sample Name: 17-03-0140-31 MSD Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.774	192	183754	0.910	98
29) Benzo (e) pyrene	(6)	12.598	252	240358	0.852	97
32) Perylene	(6)	12.759	252	221492	0.798	95
13) Dibenzofuran	(3)	6.674	168	121741	0.746	98

page 2 of 2



Data File: /chem/SV09/GCHS_EEE.i/170309.b/09mar006.d
 Date: 09-MAR-2017 11:28
 Client ID:
 Sample Info: 17-03-0140-31 MSD
 Column phase: J&M DB-5MS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar011.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 13:09 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 13:31 Unknown

Sample Name: 17-03-0140-31 Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.347	152	264550	5.000	0.00
3)*Naphthalene-d8	(2)	4.579	136	745934	5.000	0.00
11)*Acenaphthene-d10	(3)	6.463	164	389690	5.000	0.00
17)*Phenanthrene-d10	(4)	8.060	188	1217400	5.000	0.00
31)*Perylene-d12	(6)	12.729	264	1020225	5.000	0.00
25)*Chrysene-d12	(5)	10.979	240	1043812	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.900	82	37124	0.705	0.00
SpikedAmount 1.000	Recovery =	70.464				
7)\$2-Fluorobiphenyl	(3)	5.759	172	102572	0.724	0.00
SpikedAmount 1.000	Recovery =	72.365				
23)\$p-Terphenyl-d14	(5)	9.857	244	158323	0.957	0.00
SpikedAmount 1.000	Recovery =	95.680				
Target Compounds						
					QValue	
4) Naphthalene	(2)	0.000		0	N.D.	
5) 2-Methylnaphthalene	(2)	0.000		0	N.D.	
6) 1-Methylnaphthalene	(2)	0.000		0	N.D.	
10) Acenaphthylene	(3)	0.000		0	N.D.	
12) Acenaphthene	(3)	0.000		0	N.D.	
15) Fluorene	(3)	0.000		0	N.D.	
18) Phenanthrene	(4)	0.000		0	N.D.	
19) Anthracene	(4)	0.000		0	N.D.	
21) Fluoranthene	(4)	9.398	202	4421	0.013	91
22) Pyrene	(5)	9.635	202	5429	0.017	91
24) Benzo (a) Anthracene	(5)	10.962	228	5622	0.020	89
26) Chrysene	(5)	11.005	228	5329	0.020	92
27) Benzo (b) Fluoranthene	(6)	0.000		0	N.D.	
28) Benzo (k) Fluoranthene	(6)	0.000		0	N.D.	
30) Benzo (a) Pyrene	(6)	12.663	252	3726	0.014	1
33) Indeno (1,2,3-c,d) Pyrene	(6)	0.000		0	N.D.	
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.	
35) Benzo (g,h,i) Perylene	(6)	14.252	276	5714	0.025	87
8) Biphenyl	(3)	0.000		0	N.D.	
9) 2,6-Dimethylnaphthalene	(3)	0.000		0	N.D.	
14) 1,6,7-Trimethylnaphthalene	(3)	0.000		0	N.D.	
16) Dibenzothiophene	(3)	0.000		0	N.D.	

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar011.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 13:09 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 13:31 Unknown

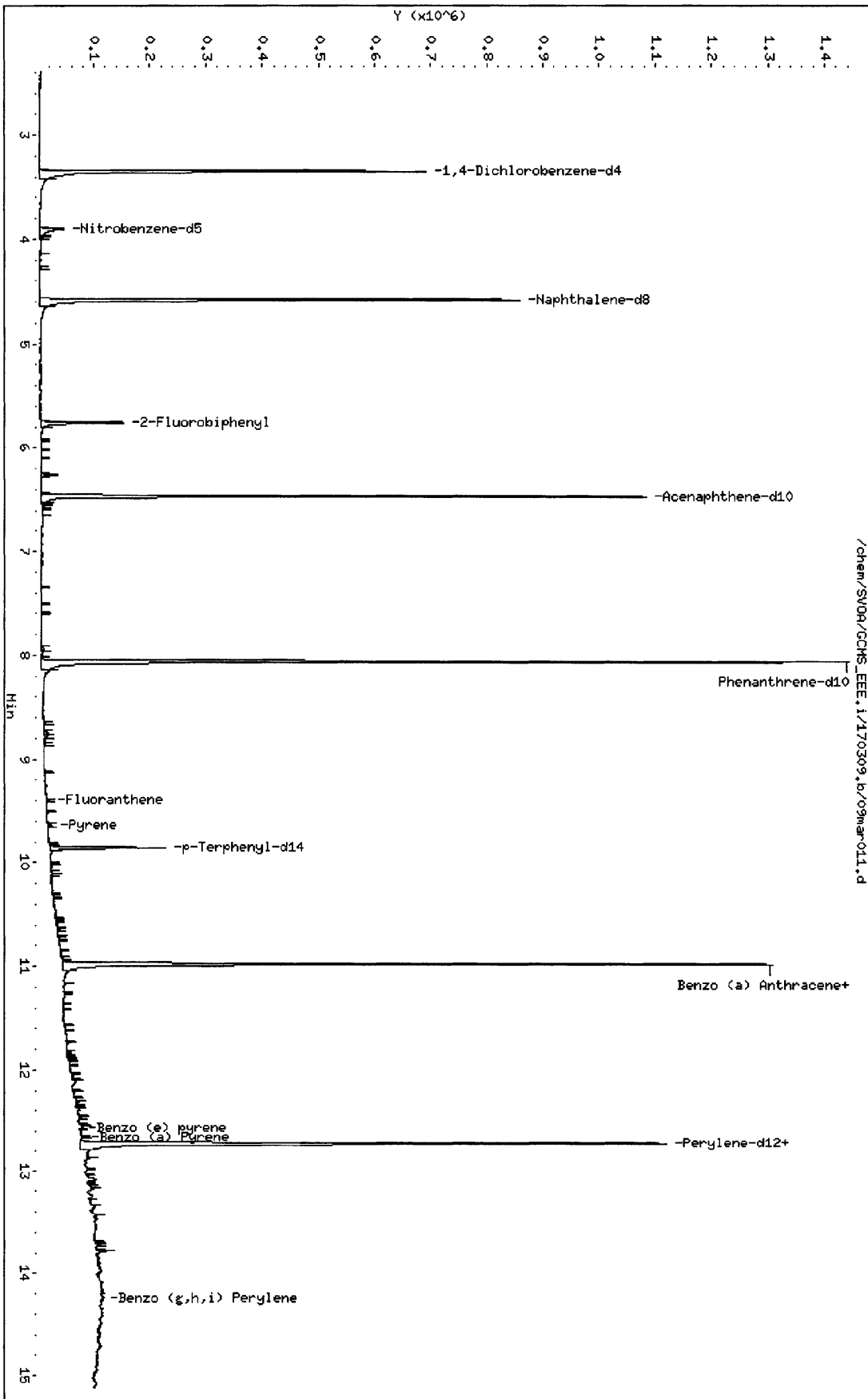
Sample Name: 17-03-0140-31 Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	12.603	252	4395	0.014	58
32) Perylene	(6)	12.757	252	5882	0.018	62
13) Dibenzofuran	(3)	0.000		0	N.D.	

page 2 of 2

Data File: /chem/SV06/CCHS_EEE.i/170309.b/09mar011.d
Date : 09-Mar-2017 13:09
Client ID:
Sample Info: 17-03-0140-31
Column phase: J&M DB-5MS

Instrument: CCHS_EEE.i
Operator: 907
Column diameter: 0.18



EPA METHOD 8270C PAHSIM

Continuing Calibration

CCV ASSOCIATION SUMMARY FOR METHOD: EPA 8270C SIM PAHs

BATCH ID: 170309A009
INSTRUMENT: GC/MS EEE

ANALYZED BY: 907

WORK ORDER: 099-06-009
MATRIX: Water

REVIEWED BY:
D/T REVIEWED:

<u>CEL SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
4975	Daily Calibration	2017-03-09 10:07	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar002.d\09mar002.r

WORK ORDER: 17-03-0141
MATRIX: Soil

REVIEWED BY:
D/T REVIEWED:

<u>CEL SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-8	2017-03-09 13:29	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar012.d\09mar012.r
28	F-DU1-ISM2-8	2017-03-09 13:49	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar013.d\09mar013.r
29	F-DU1-ISM3-8	2017-03-09 14:09	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar014.d\09mar014.r
30	F-DU1-ISM4-8	2017-03-09 14:29	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar015.d\09mar015.r
31	F-DU1-ISM5-8	2017-03-09 14:50	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar016.d\09mar016.r

CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET

FOR METHOD: EPA 8270C SIM PAHs

CCV WORK ORDER: 099-06-009-4975-4741
INSTRUMENT: GC/MS EEE
BATCH ID: 1702271004
INITIAL: 170309A009
CCV:

ANALYZED BY: 907
D/T ANALYZED: 2017-02-27 13:53
INITIAL: 2017-03-09 10:07
CCV:
REVIEWED BY:
D/T REVIEWED:

Data File: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar002.d\09mar002.rr

COMPOUND	TYPE	CALIB MODEL	MIN RF	AVG RF	CCV RF	AMOUNT	CCV CONC	CCV %D	CCV %D CL	STATUS
Naphthalene	Avg Resp		0.00	1.124	1.184			-5	0-20	PASS
2-Methylnaphthalene	Avg Resp		0.00	0.737	0.860			-17	0-20	PASS
1-Methylnaphthalene	Avg Resp		0.00	0.706	0.789			-12	0-20	PASS
Acenaphthylene	Avg Resp		0.00	2.664	2.858			-7	0-20	PASS
Acenaphthene	C Avg Resp		0.00	1.563	1.674			-7	0-20	PASS
Fluorene	Avg Resp		0.00	1.776	1.903			-7	0-20	PASS
Phenanthrene	Avg Resp		0.00	1.077	1.092			-1	0-20	PASS
Anthracene	Avg Resp		0.00	1.099	1.047			5	0-20	PASS
Fluoranthene	C Avg Resp		0.00	1.354	1.428			-5	0-20	PASS
Pyrene	Avg Resp		0.00	1.507	1.689			-12	0-20	PASS
Benzo (a) Anthracene	Avg Resp		0.00	1.321	1.314			1	0-20	PASS
Chrysene	Avg Resp		0.00	1.257	1.405			-12	0-20	PASS
Benzo (k) Fluoranthene	Avg Resp		0.00	1.410	1.673			-19	0-20	PASS
Benzo (b) Fluoranthene	Avg Resp		0.00	1.261	1.324			-5	0-20	PASS
Benzo (a) Pyrene	C Avg Resp		0.00	1.269	1.359			-7	0-20	PASS
Indeno (1,2,3-c,d) Pyrene	Avg Resp		0.00	1.324	1.264			5	0-20	PASS
Dibenz (a,h) Anthracene	Avg Resp		0.00	1.007	0.972			3	0-20	PASS
Benzo (g,h,i) Perylene	Avg Resp		0.00	1.132	1.118			1	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

INTERNAL STANDARD COMPOUNDS AREA REPORT FOR METHOD: EPA 8270C SIM PAHs

ICAL BATCH ID: 1702271004CCV BATCH ID: 170309A009**ICAL MIDPOINT**SAMPLE ID: 099-06-009-4954D/T ANALYZED: 2017-02-27 13:12DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb009.d\27feb009.rr

COMPOUND	AREA	RETENTION TIME
1,4-Dichlorobenzene-d4	230068	3.42
Naphthalene-d8	612745	4.66
Acenaphthene-d10	273032	6.55
Phenanthrene-d10	925068	8.14
Chrysene-d12	878502	11.07
Perylene-d12	785261	12.84

ICVSAMPLE ID 099-06-009-4954D/T ANALYZED: 2017-02-27 14:13DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170227\27feb012.d\27feb012.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	189620	115034	460136	3.42	PASS
Naphthalene-d8	508161	306372	1225490	4.66	PASS
Acenaphthene-d10	231974	136516	546064	6.55	PASS
Phenanthrene-d10	785443	462534	1850136	8.14	PASS
Chrysene-d12	751334	439251	1757004	11.07	PASS
Perylene-d12	689322	392630	1570522	12.84	PASS

CCVSAMPLE ID 099-06-009-4975D/T ANALYZED: 2017-03-09 10:07DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar002.d\09mar002.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	230923	115034	460136	3.34	PASS
Naphthalene-d8	594515	306372	1225490	4.58	PASS
Acenaphthene-d10	265489	136516	546064	6.46	PASS
Phenanthrene-d10	869306	462534	1850136	8.06	PASS
Chrysene-d12	773810	439251	1757004	10.98	PASS
Perylene-d12	651656	392630	1570522	12.73	PASS

MBSAMPLE ID 099-14-035-379D/T ANALYZED: 2017-03-09 10:27DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar003.d\09mar003.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	240183	115462	461846	3.34	PASS
Naphthalene-d8	675026	297258	1189030	4.58	PASS
Acenaphthene-d10	344466	132744	530978	6.46	PASS
Phenanthrene-d10	1113687	434653	1738612	8.06	PASS
Chrysene-d12	997680	386905	1547620	10.98	PASS
Perylene-d12	843862	325828	1303312	12.73	PASS

LCS**SAMPLE ID** 099-14-035-379**D/T ANALYZED:** 2017-03-09 10:47**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar004.d\09mar004.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	255918	115462	461846	3.34	PASS
Naphthalene-d8	668187	297258	1189030	4.58	PASS
Acenaphthene-d10	340290	132744	530978	6.46	PASS
Phenanthrene-d10	1029316	434653	1738612	8.06	PASS
Chrysene-d12	906525	386905	1547620	10.98	PASS
Perylene-d12	784783	325828	1303312	12.73	PASS

MS**SAMPLE ID** 17-03-0140-31**D/T ANALYZED:** 2017-03-09 11:07**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar005.d\09mar005.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	249125	115462	461846	3.35	PASS
Naphthalene-d8	666615	297258	1189030	4.58	PASS
Acenaphthene-d10	335997	132744	530978	6.46	PASS
Phenanthrene-d10	980037	434653	1738612	8.06	PASS
Chrysene-d12	835633	386905	1547620	10.98	PASS
Perylene-d12	789037	325828	1303312	12.73	PASS

MSD**SAMPLE ID** 17-03-0140-31**D/T ANALYZED:** 2017-03-09 11:28**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar006.d\09mar006.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	256219	115462	461846	3.35	PASS
Naphthalene-d8	674507	297258	1189030	4.58	PASS
Acenaphthene-d10	348297	132744	530978	6.46	PASS
Phenanthrene-d10	1069205	434653	1738612	8.06	PASS
Chrysene-d12	900550	386905	1547620	10.98	PASS
Perylene-d12	886751	325828	1303312	12.73	PASS

CS**SAMPLE ID** 17-03-0141-27**D/T ANALYZED:** 2017-03-09 13:29**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar012.d\09mar012.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	254603	115462	461846	3.35	PASS
Naphthalene-d8	729466	297258	1189030	4.58	PASS
Acenaphthene-d10	378121	132744	530978	6.46	PASS
Phenanthrene-d10	1197137	434653	1738612	8.06	PASS
Chrysene-d12	1104246	386905	1547620	10.98	PASS
Perylene-d12	1041384	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0141-28**D/T ANALYZED:** 2017-03-09 13:49**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar013.d\09mar013.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	263002	115462	461846	3.35	PASS
Naphthalene-d8	725530	297258	1189030	4.58	PASS
Acenaphthene-d10	380602	132744	530978	6.46	PASS
Phenanthrene-d10	1198570	434653	1738612	8.06	PASS
Chrysene-d12	1042619	386905	1547620	10.98	PASS
Perylene-d12	1004227	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0141-29**D/T ANALYZED:** 2017-03-09 14:09**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar014.d\09mar014.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	261320	115462	461846	3.35	PASS
Naphthalene-d8	736390	297258	1189030	4.58	PASS
Acenaphthene-d10	374399	132744	530978	6.46	PASS
Phenanthrene-d10	1163664	434653	1738612	8.06	PASS
Chrysene-d12	1027534	386905	1547620	10.98	PASS
Perylene-d12	994649	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0141-30**D/T ANALYZED:** 2017-03-09 14:29**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar015.d\09mar015.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	250958	115462	461846	3.35	PASS
Naphthalene-d8	733475	297258	1189030	4.58	PASS
Acenaphthene-d10	377255	132744	530978	6.46	PASS
Phenanthrene-d10	1172854	434653	1738612	8.06	PASS
Chrysene-d12	1023403	386905	1547620	10.98	PASS
Perylene-d12	983828	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0141-31**D/T ANALYZED:** 2017-03-09 14:50**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar016.d\09mar016.rr

<u>COMPOUND</u>	<u>AREA</u>	<u>LOWER AREA LIMIT</u>	<u>UPPER AREA LIMIT</u>	<u>RETENTION TIME</u>	<u>STATUS</u>
1,4-Dichlorobenzene-d4	251344	115462	461846	3.35	PASS
Naphthalene-d8	728655	297258	1189030	4.58	PASS
Acenaphthene-d10	375022	132744	530978	6.46	PASS
Phenanthrene-d10	1149425	434653	1738612	8.06	PASS
Chrysene-d12	1018053	386905	1547620	10.98	PASS
Perylene-d12	943065	325828	1303312	12.73	PASS

Notes:

For all samples including QC, all internal standard area responses must be within 50% to 200% of the mean area response in the initial calibration.

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar002.d
 Report Date: 03/13/2017 10:45

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GCMS_EEE.i Injection Date and Time: 09-MAR-2017 10:07
 Sample Name: CCV S010317F 1PPM Initial Calibration Date(s): 03-JAN-2017 27-FEB-2017
 Sublist used: all.sub Initial Calibration Time(s): 11:59 13:53
 Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type
=====						
Naphthalene	1.124	1.184	0.00	-5	20	Averaged
2-Methylnaphthalene	0.737	0.860	0.00	-17	20	Averaged
1-Methylnaphthalene	0.706	0.789	0.00	-12	20	Averaged
Acenaphthylene	2.664	2.858	0.00	-7	20	Averaged
Acenaphthene	1.563	1.674	0.00	-7	20	Averaged
Fluorene	1.776	1.903	0.00	-7	20	Averaged
Phenanthrene	1.077	1.092	0.00	-1	20	Averaged
Anthracene	1.099	1.047	0.00	5	20	Averaged
Fluoranthene	1.354	1.428	0.00	-5	20	Averaged
Pyrene	1.507	1.689	0.00	-12	20	Averaged
Benzo (a) Anthracene	1.321	1.314	0.00	1	20	Averaged
Chrysene	1.257	1.405	0.00	-12	20	Averaged
Benzo (b) Fluoranthene	1.261	1.324	0.00	-5	20	Averaged
Benzo (k) Fluoranthene	1.410	1.673	0.00	-19	20	Averaged
Benzo (a) Pyrene	1.269	1.359	0.00	-7	20	Averaged
Indeno (1,2,3-c,d) Pyrene	1.324	1.264	0.00	5	20	Averaged
Dibenz (a,h) Anthracene	1.007	0.972	0.00	3	20	Averaged
Benzo (g,h,i) Perylene	1.132	1.118	0.00	1	20	Averaged
Biphenyl	2.312	2.512	0.00	-9	20	Averaged
2,6-Dimethylnaphthalene	1.630	1.745	0.00	-7	20	Averaged
1,6,7-Trimethylnaphthalene	1.574	1.735	0.00	-10	20	Averaged
Dibenzothiophene	4.877	4.995	0.00	-2	20	Averaged
1-Methylphenanthrene	1.121	1.244	0.00	-11	20	Averaged
Benzo (e) pyrene	1.590	1.816	0.00	-14	20	Averaged
Perylene	1.564	1.647	0.00	-5	20	Averaged
Dibenzofuran	2.341	2.521	0.00	-8	20	Averaged
=====						
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type
=====						
Nitrobenzene-d5	0.353	0.391	0.00	-11	20	Averaged
2-Fluorobiphenyl	1.819	1.996	0.00	-10	20	Averaged
p-Terphenyl-d14	0.793	0.922	0.00	-16	20	Averaged

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar002.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 10:07 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
 Calibration date and time: 09-MAR-2017 10:30
 Date, time and analyst ID of latest file update: 09-Mar-2017 10:30 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170309A009
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
					(mg/L)	
=====		=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4		(1)	3.343	152	230923	5.000 0.00
3)*Naphthalene-d8		(2)	4.581	136	594515	5.000 0.00
11)*Acenaphthene-d10		(3)	6.463	164	265489	5.000 0.00
17)*Phenanthrene-d10		(4)	8.060	188	869306	5.000 0.00
31)*Perylene-d12		(6)	12.726	264	651656	5.000 0.00
25)*Chrysene-d12		(5)	10.977	240	773810	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.898	82	46464	1.107 0.00
SpikedAmount 1.000		Recovery =	0.000			
7)\$2-Fluorobiphenyl		(3)	5.759	172	105963	1.097 0.00
SpikedAmount 1.000		Recovery =	0.000			
23)\$p-Terphenyl-d14		(5)	9.857	244	142724	1.163 0.00
SpikedAmount 1.000		Recovery =	0.000			
Target Compounds						QValue
4) Naphthalene		(2)	4.601	128	140837	1.054 100
5) 2-Methylnaphthalene		(2)	5.332	142	102257	1.166 100
6) 1-Methylnaphthalene		(2)	5.442	142	93798	1.118 100
10) Acenaphthylene		(3)	6.295	152	151731	1.073 100
12) Acenaphthene		(3)	6.497	153	88885	1.071 100
15) Fluorene		(3)	7.048	166	101024	1.071 100
18) Phenanthrene		(4)	8.084	178	189831	1.014 100
19) Anthracene		(4)	8.135	178	182076	0.952 100
21) Fluoranthene		(4)	9.395	202	248269	1.055 100
22) Pyrene		(5)	9.632	202	261440	1.121 100
24) Benzo (a) Anthracene		(5)	10.963	228	203328	0.994 100
26) Chrysene		(5)	11.006	228	217433	1.118 100
27) Benzo (b) Fluoranthene		(6)	12.270	252	172505	1.050 100
28) Benzo (k) Fluoranthene		(6)	12.298	252	218073	1.187 100
30) Benzo (a) Pyrene		(6)	12.661	252	177089	1.070 100
33) Indeno (1,2,3-c,d) Pyrene		(6)	13.970	276	164675	0.954 100
34) Dibenz (a,h) Anthracene		(6)	13.999	278	126670	0.965 100
35) Benzo (g,h,i) Perylene		(6)	14.244	276	145762	0.988 100
8) Biphenyl		(3)	5.849	154	133381	1.086 100
9) 2,6-Dimethylnaphthalene		(3)	6.007	156	92645	1.070 100
14) 1,6,7-Trimethylnaphthalene		(3)	6.928	170	92124	1.102 100
16) Dibenzothiophene		(3)	7.950	184	265246	1.024 100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

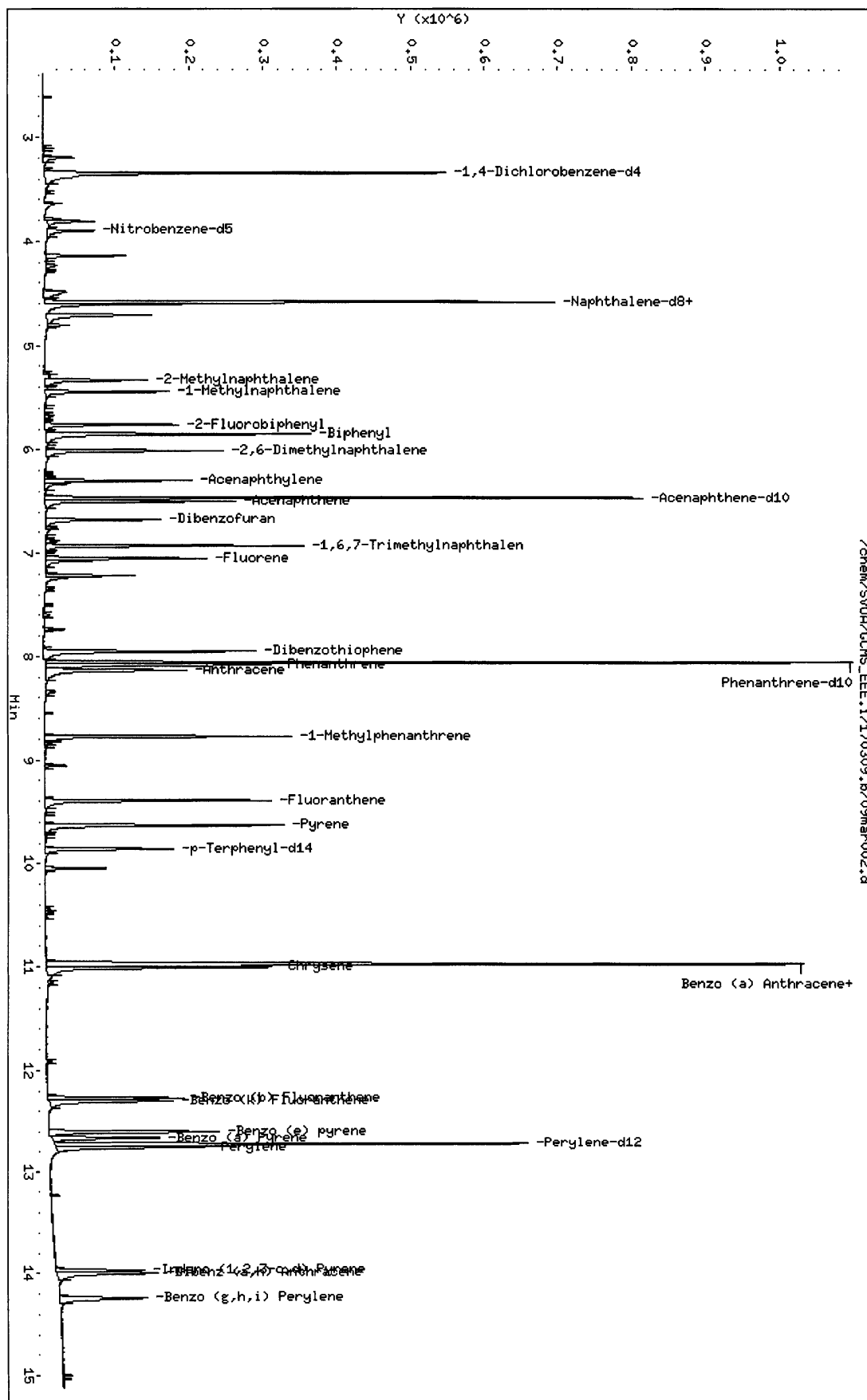
Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar002.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 10:07 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 10:30 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170309A009
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	8.774	192	192543	1.110	100
29) Benzo (e) pyrene	(6)	12.598	252	236709	1.142	100
32) Perylene	(6)	12.759	252	214711	1.053	100
13) Dibenzofuran	(3)	6.676	168	133874	1.077	100

page 2 of 2



Data File: /chem/SV0A/CCHS_EEE.i/170309.b/09mar002.a
Date : 09-MAR-2017 10:07
Client ID:
Sample Info: CCV S010317F 1PPM
Column phase: J&W DB-5MS

Instrument: GCMS_EEE.1
Operator: 907
Column diameter: 0.18

Page 1

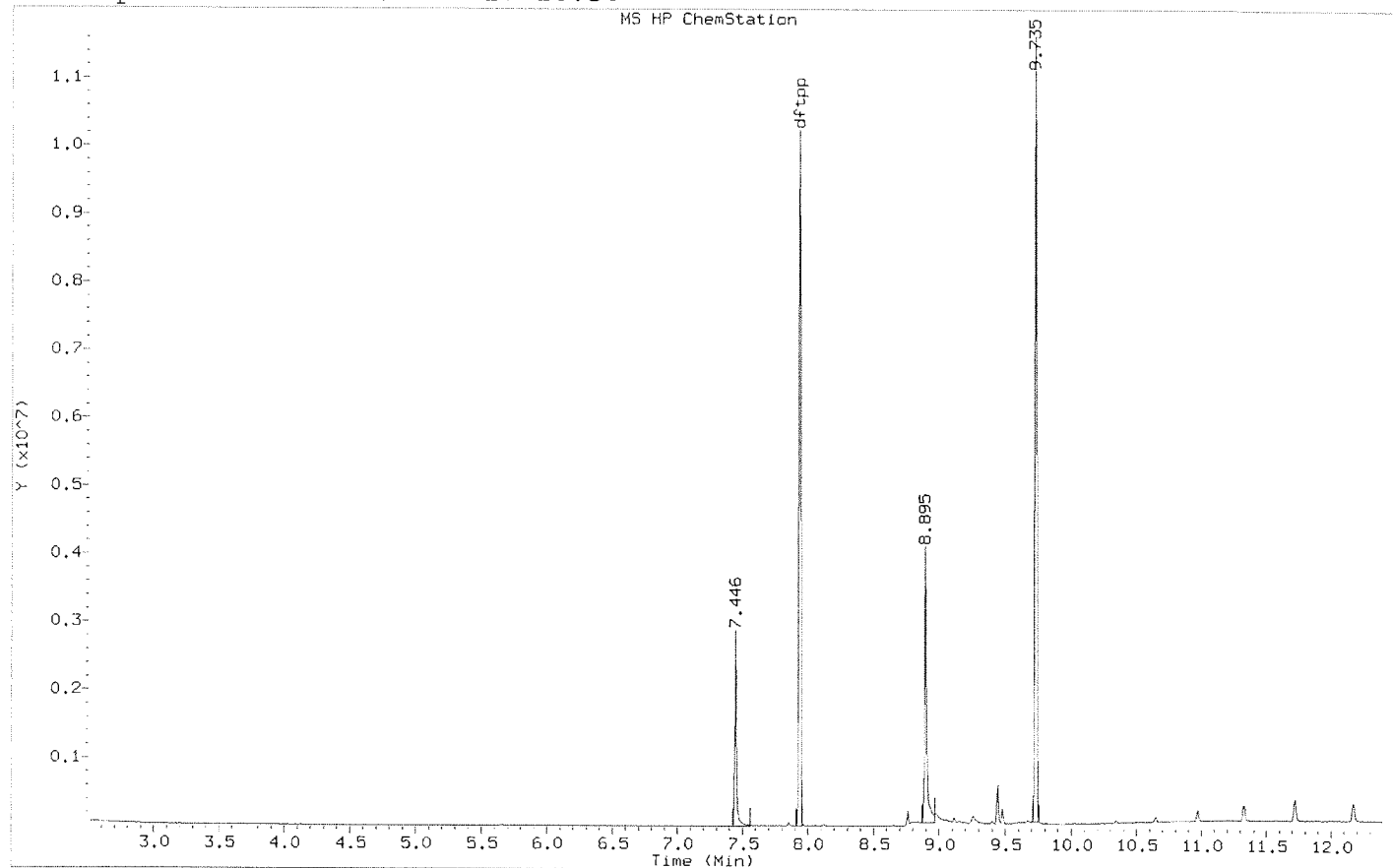
EPA METHOD 8270C PAHSIM

Tuning Reports

DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Mon Feb 27 11:45:38 2017

Data File : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d
ALS Vial : 1
Acq on : 27-FEB-2017 11:26 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Last Update : 26-JAN-2017 10:50

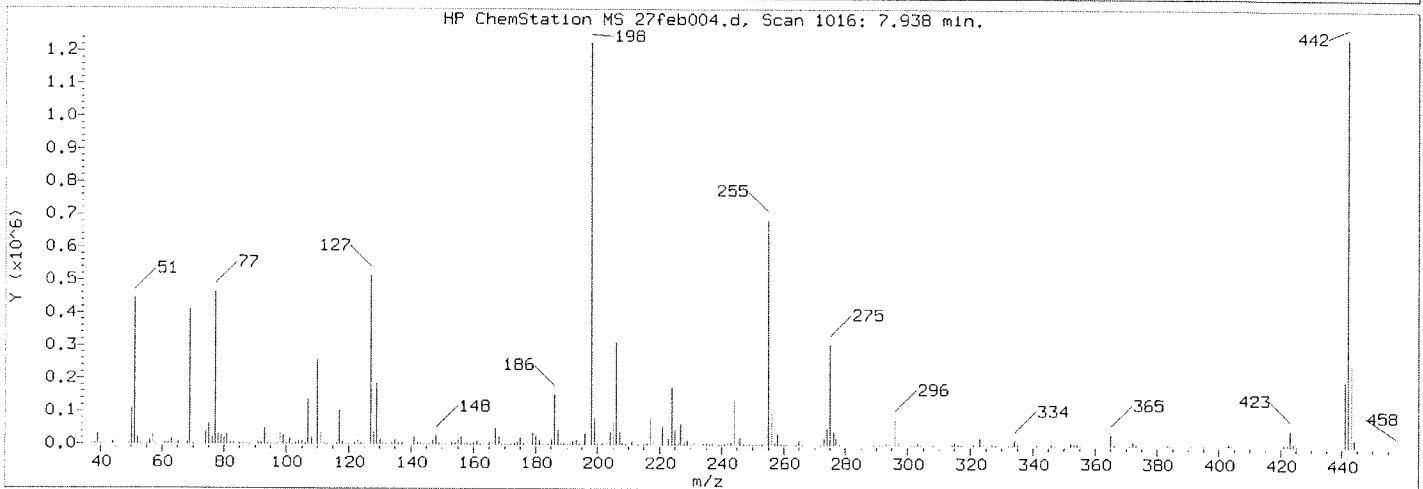
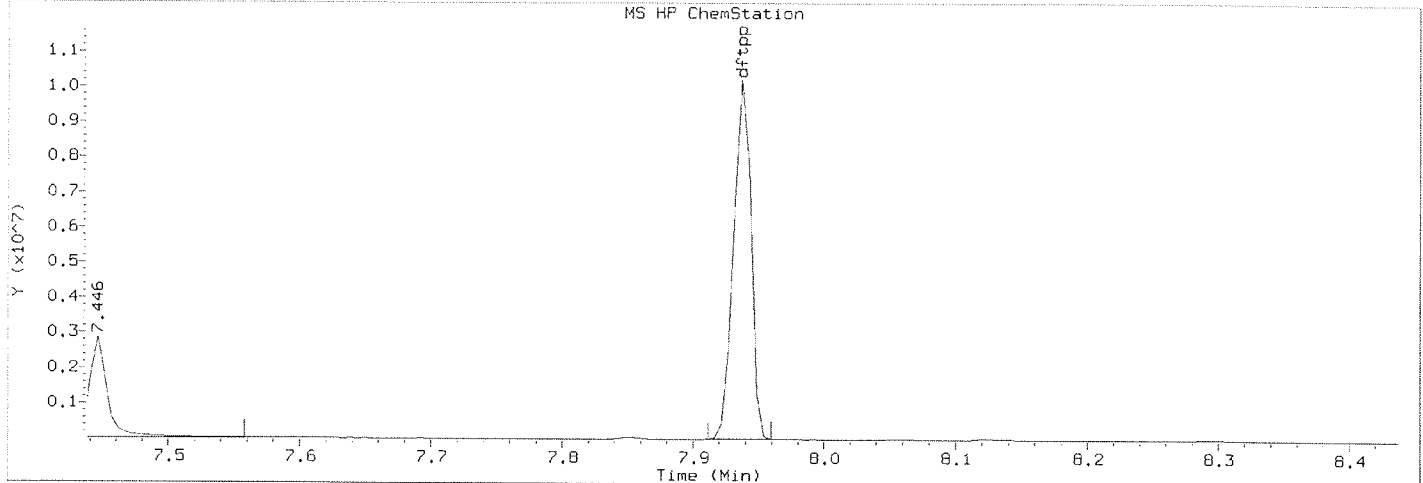


Tune *** PASSED ***
Pentachlorophenol Tailing *** PASSED ***
Benzidine Tailing *** PASSED ***
DDT degradation *** PASSED ***

Tuning Sample, /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d , *** PASSED ***

Report Generated Time Mon Feb 27 11:45:38 2017

Data File : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d
 ALS Vial : 1
 Acq on : 27-FEB-2017 11:26 Operator : 907
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170227.b/dftpptune.m
 Last Update : 26-JAN-2017 10:50



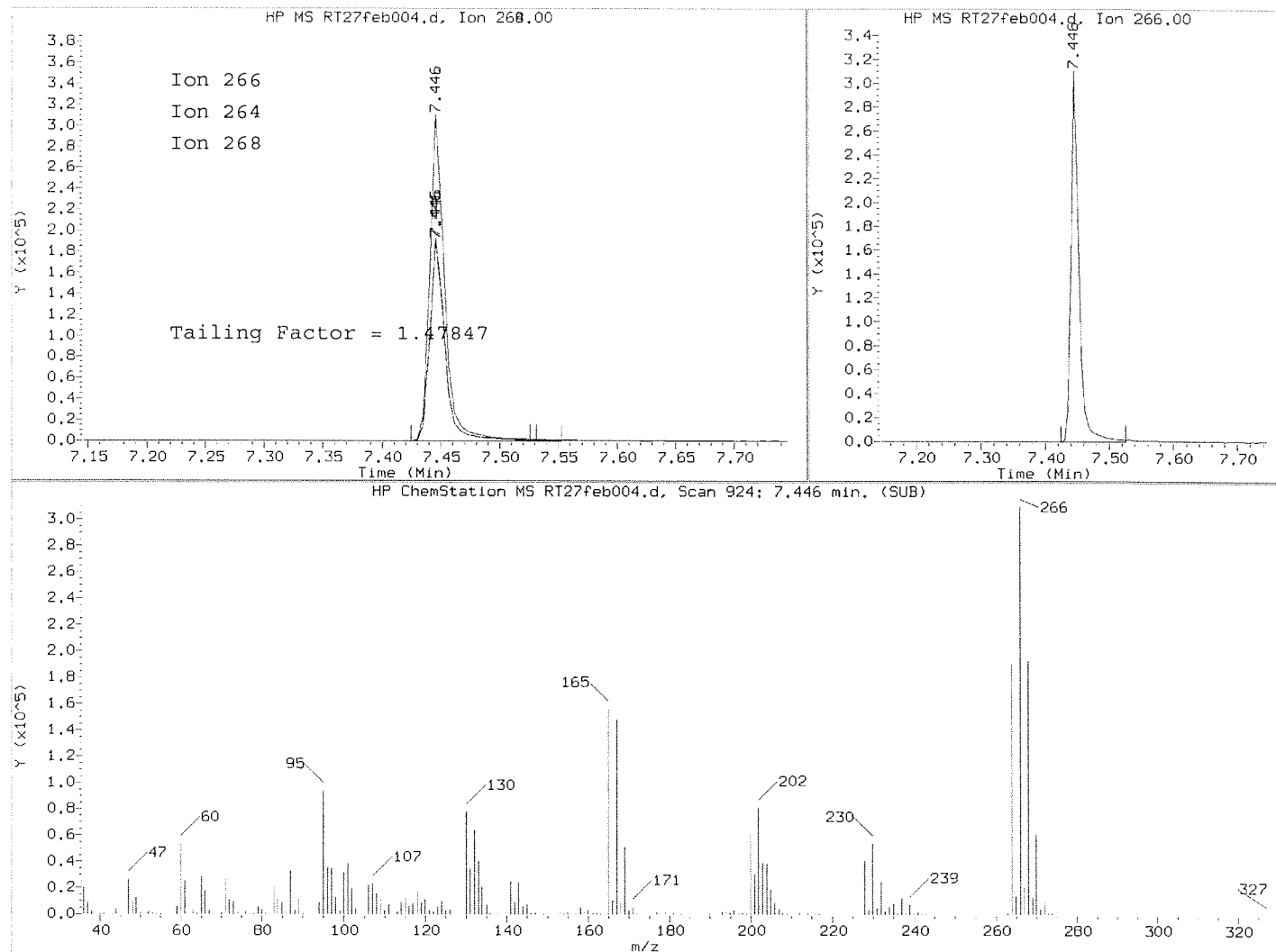
Spectrum: Avg. Scans 1015-1017 (7.94), Background Scan 1010

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Response	Test
198	Base Peak, 100% relative abundance	100.00	966643	PASS
51	30 - 60% of mass 198	38.23	369561	PASS
68	Less than 2% of mass 69	1.63	5375	PASS
69	Less than mass 198	34.19	330533	PASS
70	Less than 2% of mass 69	0.53	1763	PASS
127	40 - 60% of mass 198	42.36	409429	PASS
197	0 - 1% of mass 198	0.15	1450	PASS
199	5 - 9% of mass 198	6.83	66048	PASS
275	10 - 30% of mass 198	24.73	239082	PASS
365	1 - 100% of mass 198	2.85	27549	PASS
441	Present, but less than mass 443	79.77	165266	PASS
442	40 - 200% of mass 198	106.21	1026666	PASS
443	17 - 23% of mass 442	20.18	207189	PASS

Report Generated Time Mon Feb 27 11:45:38 2017

Data File : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d
 ALS Vial : 3
 Acq on : 27-FEB-2017 11:26 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1⁻
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d/resolut.m
 Last Update : 27-FEB-2017 11:45



Pentachlorophenol

=====
 Exp. RT = 7.467
 Found RT = 7.446

Mass	Area	Ratio
266	273410	100.00
264	172232	62.99
268	172455	63.08

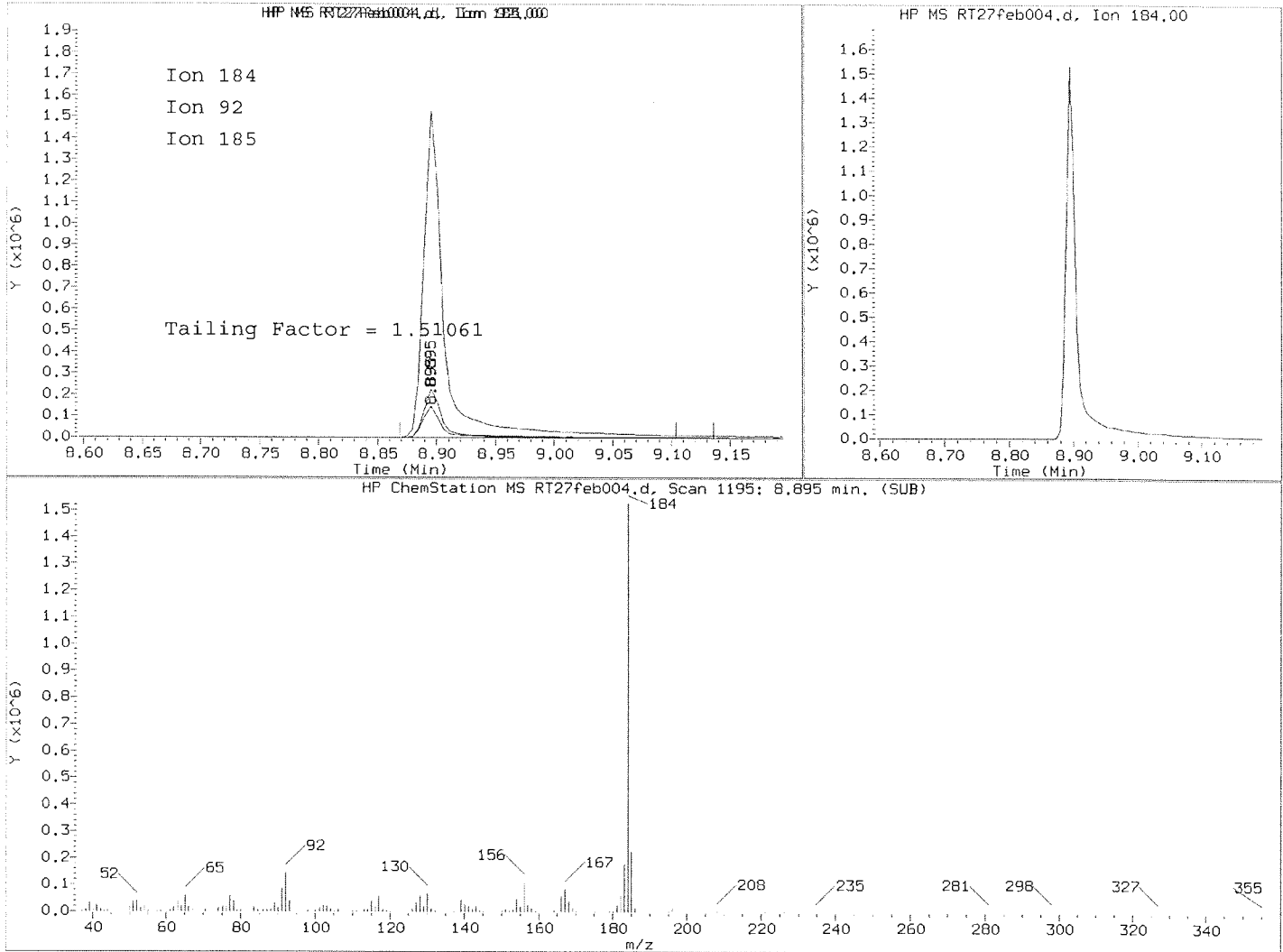
Peak baseline front width (sec) : 0.627
 Peak baseline tail width (sec) : 0.927
 Tail Factor = 0.927 / 0.627

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.478 Maximum Allowed = 3.0

Report Generated Time Mon Feb 27 11:45:38 2017

Data File : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d
 ALS Vial : 3
 Acq on : 27-FEB-2017 11:26 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1⁻
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d/resolut.m
 Last Update : 27-FEB-2017 11:45



Benzidine

=====
 Exp. RT = 8.911
 Found RT = 8.895

Mass	Area	Ratio
184	1948904	100.00
92	181785	9.33
185	273612	14.04

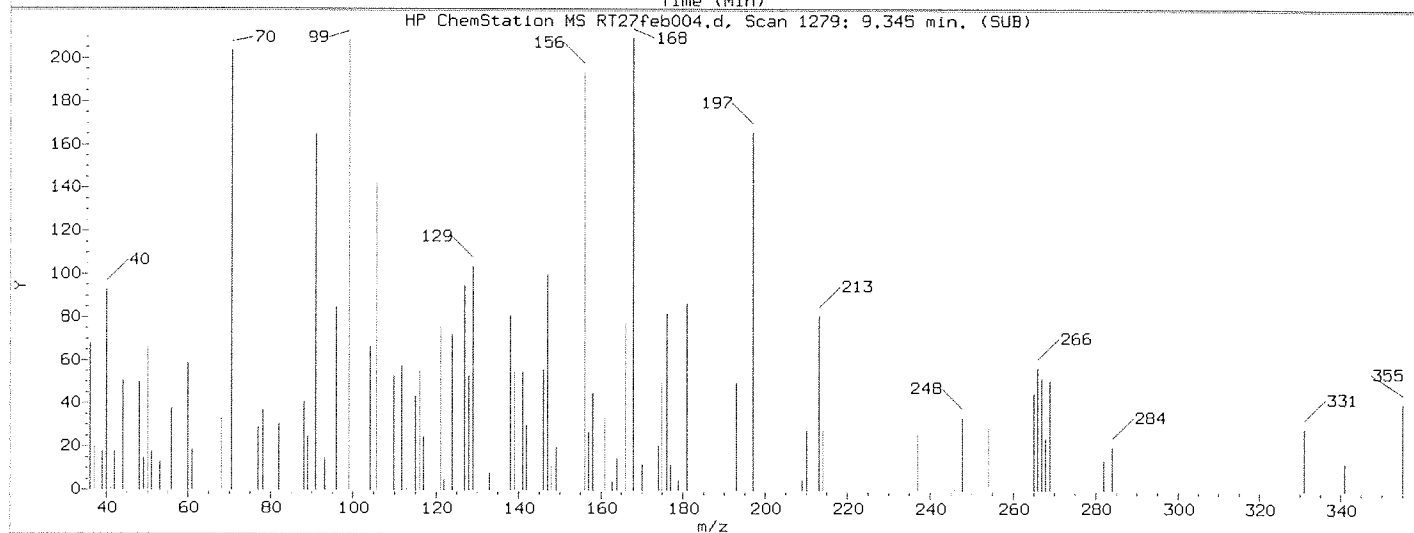
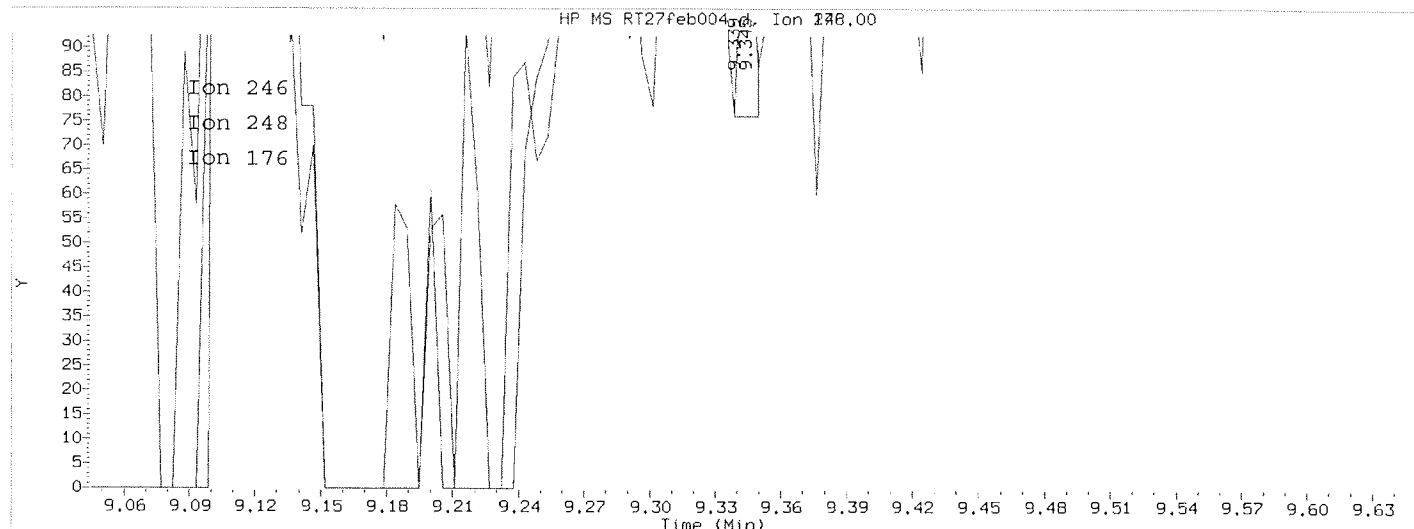
Peak baseline front width (sec) : 0.801
 Peak baseline tail width (sec) : 1.210
 Tail Factor = 1.210 / 0.801

Tailing factor for Benzidine OK

Tail Factor = 1.511 Maximum Allowed = 3.0

Report Generated Time Mon Feb 27 11:45:38 2017

Data File : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d
 ALS Vial : 3
 Acq on : 27-FEB-2017 11:26 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1⁻
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d/resolut.m
 Last Update : 27-FEB-2017 11:45



4,4'-DDE

=====

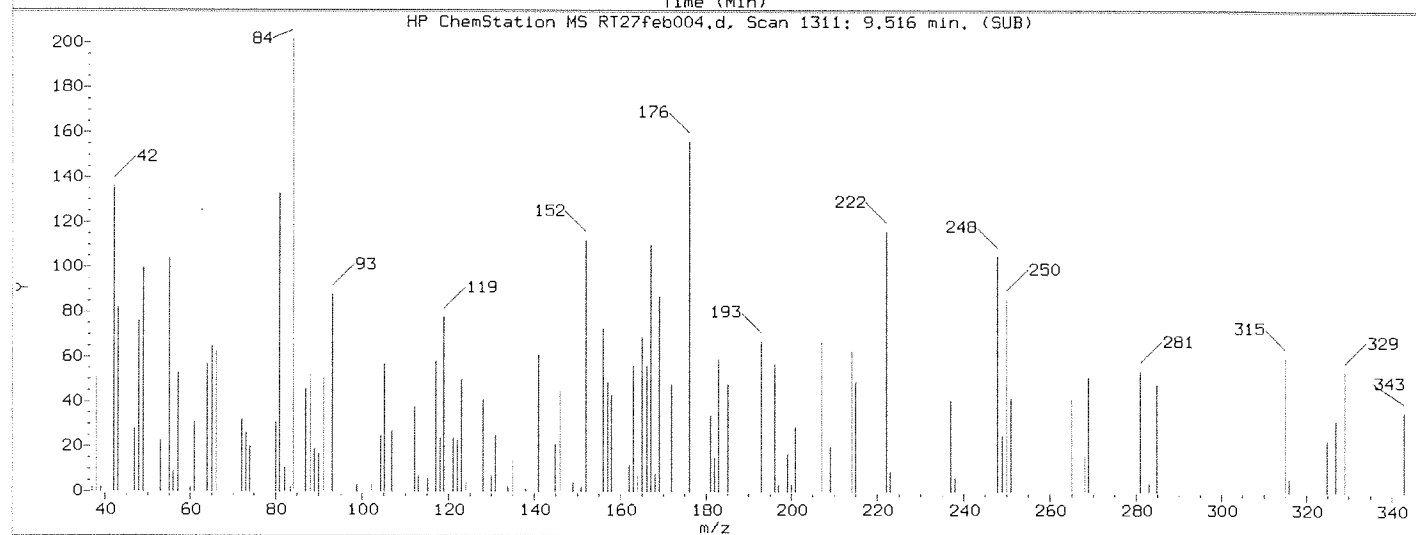
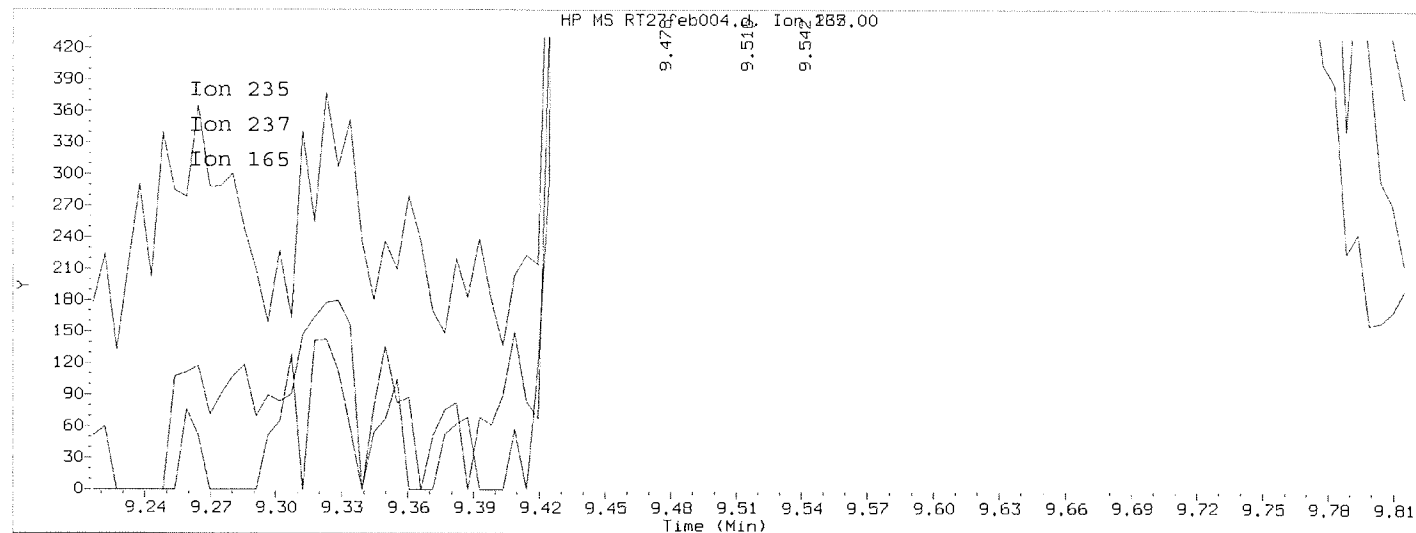
Exp. RT = 9.344

Found RT = 9.345

Mass	Area	Ratio
246	43	100.00
248	25	58.82
176	101	232.35

Report Generated Time Mon Feb 27 11:45:38 2017

Data File : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d
 ALS Vial : 3
 Acq on : 27-FEB-2017 11:26 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d/resolut.m
 Last Update : 27-FEB-2017 11:45



4,4'-DDD

=====

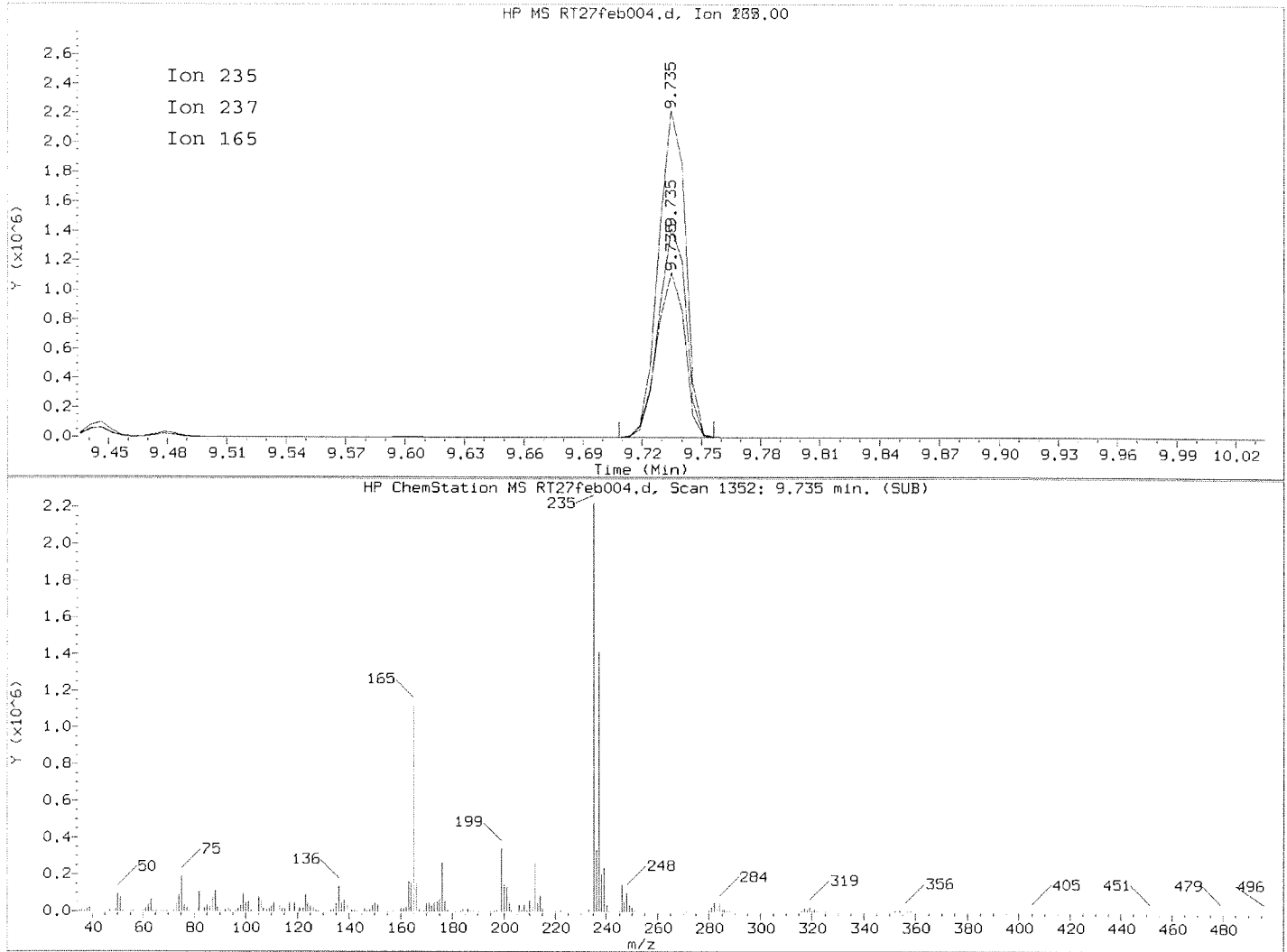
Exp. RT = 9.499

Found RT = 9.516

Mass	Area	Ratio
235	347	100.00
237	17275	4973.85
165	183	52.87

Report Generated Time Mon Feb 27 11:45:38 2017

Data File : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d
 ALS Vial : 3
 Acq on : 27-FEB-2017 11:26 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1⁻
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170227.b/27feb004.d/resolut.m
 Last Update : 27-FEB-2017 11:45



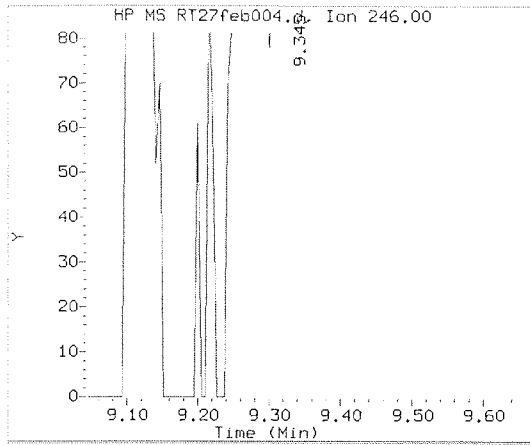
4,4'-DDT

=====

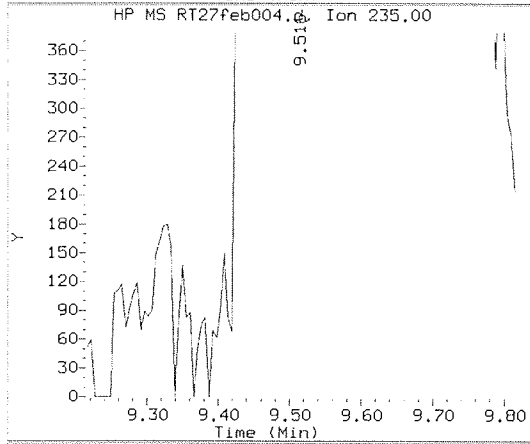
Exp. RT = 9.756

Found RT = 9.735

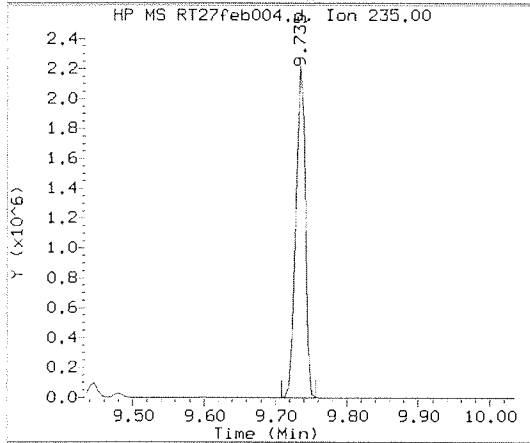
Mass	Area	Ratio
235	2098568	100.00
237	1342252	63.96
165	1084282	51.67



Compound: 4,4'-DDE
 Quant Mass: 246
 RT: 9.345
 Area: 43



Compound: 4,4'-DDD
 Quant Mass: 235
 RT: 9.516
 Area: 347



Compound: 4,4'-DDT
 Quant Mass: 235
 RT: 9.735
 Area: 2098568

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

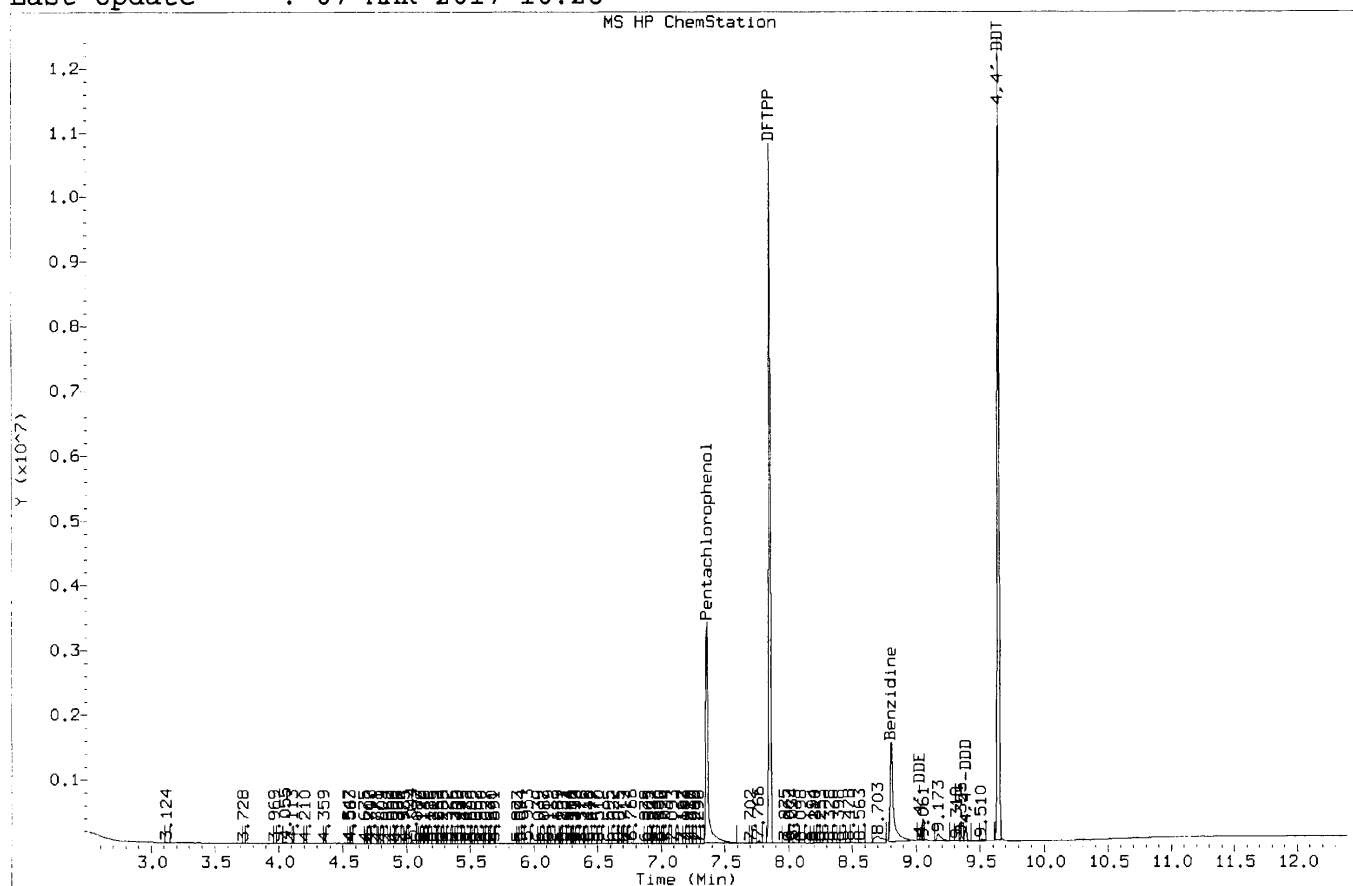
Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2098568			N/A
4,4-DDE	43	0.00	20.0	PASS
4,4-DDD	347	0.02	20.0	PASS
4,4-DDD + DDE	390	0.0	20.0	PASS

TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST

DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Mon Mar 13 16:52:31 2017

Data File : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d
 ALS Vial : 71
 Acq on : 09-MAR-2017 09:47 Operator : 907
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Last Update : 07-MAR-2017 10:28

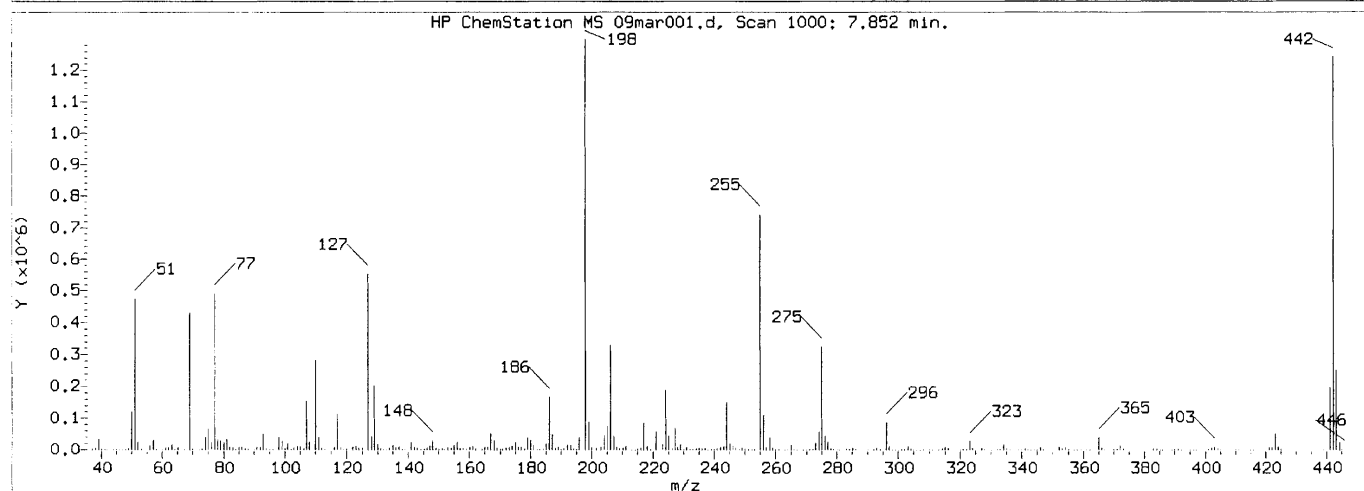
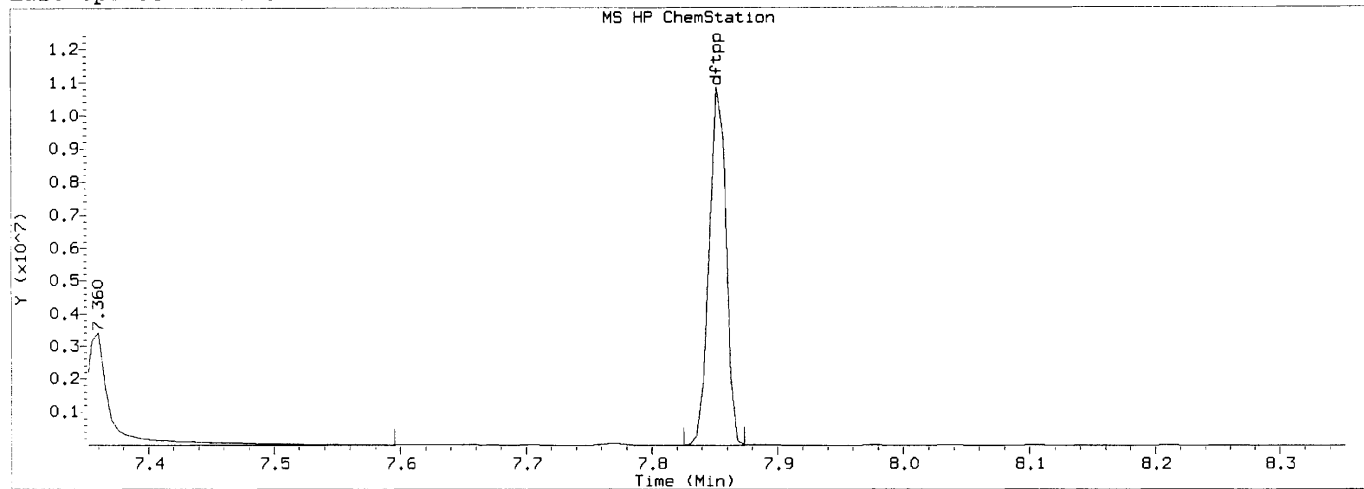


Tune *** PASSED ***
 Pentachlorophenol Tailing *** PASSED ***
 Benzidine Tailing *** PASSED ***
 DDT degradation *** PASSED ***

Tuning Sample, /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d ,*** PASSED ***

Report Generated Time Mon Mar 13 16:52:31 2017

Data File : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d
 ALS Vial : 71
 Acq on : 09-MAR-2017 09:47 Operator : 907
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170309.b/dftpptune.m
 Last Update : 07-MAR-2017 10:28



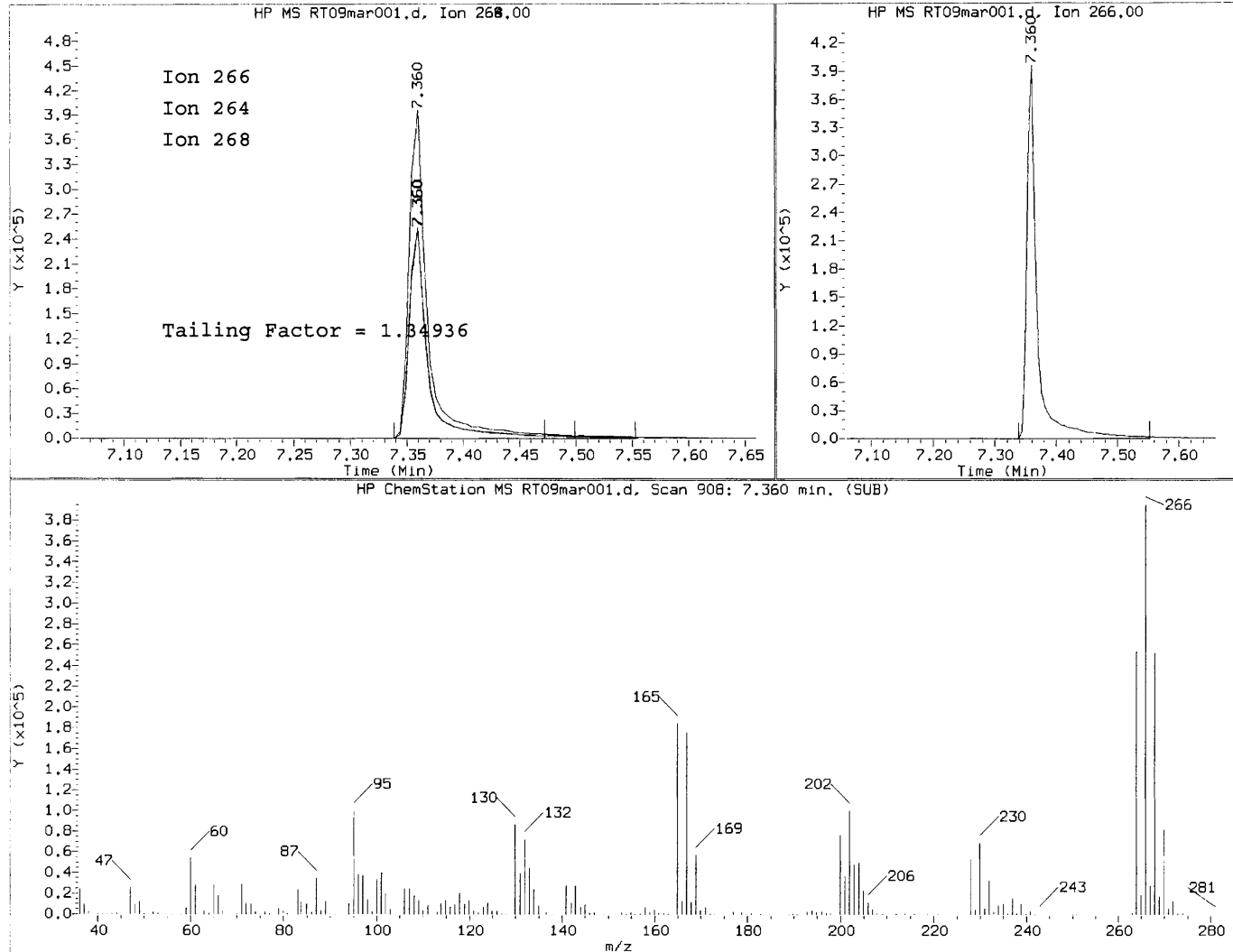
Spectrum: Avg. Scans 999-1001 (7.85), Background Scan 994

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Response	Test
198	Base Peak, 100% relative abundance	100.00	1039447	PASS
51	30 - 60% of mass 198	38.37	398793	PASS
68	Less than 2% of mass 69	0.93	3227	PASS
69	Less than mass 198	33.49	348153	PASS
70	Less than 2% of mass 69	0.53	1839	PASS
127	40 - 60% of mass 198	42.83	445155	PASS
197	0 - 1% of mass 198	0.28	2860	PASS
199	5 - 9% of mass 198	6.84	71096	PASS
275	10 - 30% of mass 198	25.15	261376	PASS
365	1 - 100% of mass 198	3.01	31259	PASS
441	Present, but less than mass 443	79.87	174840	PASS
442	40 - 200% of mass 198	104.57	1086954	PASS
443	17 - 23% of mass 442	20.14	218904	PASS

Report Generated Time Mon Mar 13 16:52:31 2017

Data File : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d
 ALS Vial : 3
 Acq on : 09-MAR-2017 09:47 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d/resolut.m
 Last Update : 13-MAR-2017 16:52



Pentachlorophenol

=====
 Exp. RT = 7.467
 Found RT = 7.360

Mass	Area	Ratio
266	466713	100.00
264	292108	62.59
268	287799	61.67

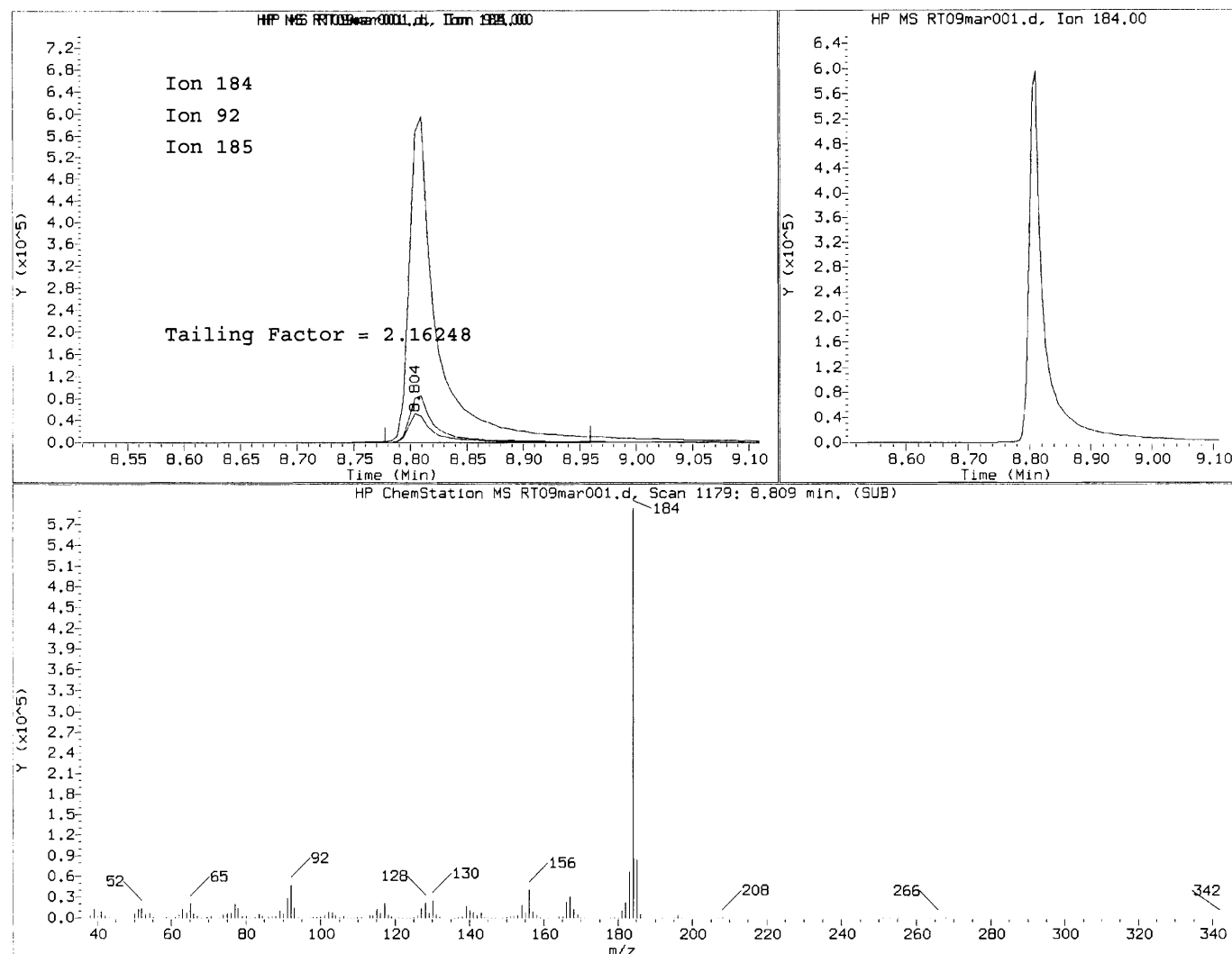
Peak baseline front width (sec) : 0.853
 Peak baseline tail width (sec) : 1.151
 Tail Factor = 1.151/ 0.853

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.349 Maximum Allowed = 3.0

Report Generated Time Mon Mar 13 16:52:31 2017

Data File : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d
 ALS Vial : 3
 Acq on : 09-MAR-2017 09:47 Operator : Tim Matthews
 Sample : TUNE S101716A DFTTP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d/resolut.m
 Last Update : 13-MAR-2017 16:52



Benzidine

=====

Exp. RT = 8.911
 Found RT = 8.809

Mass	Area	Ratio
184	1035462	100.00
92	85755	8.28
185	144363	13.94

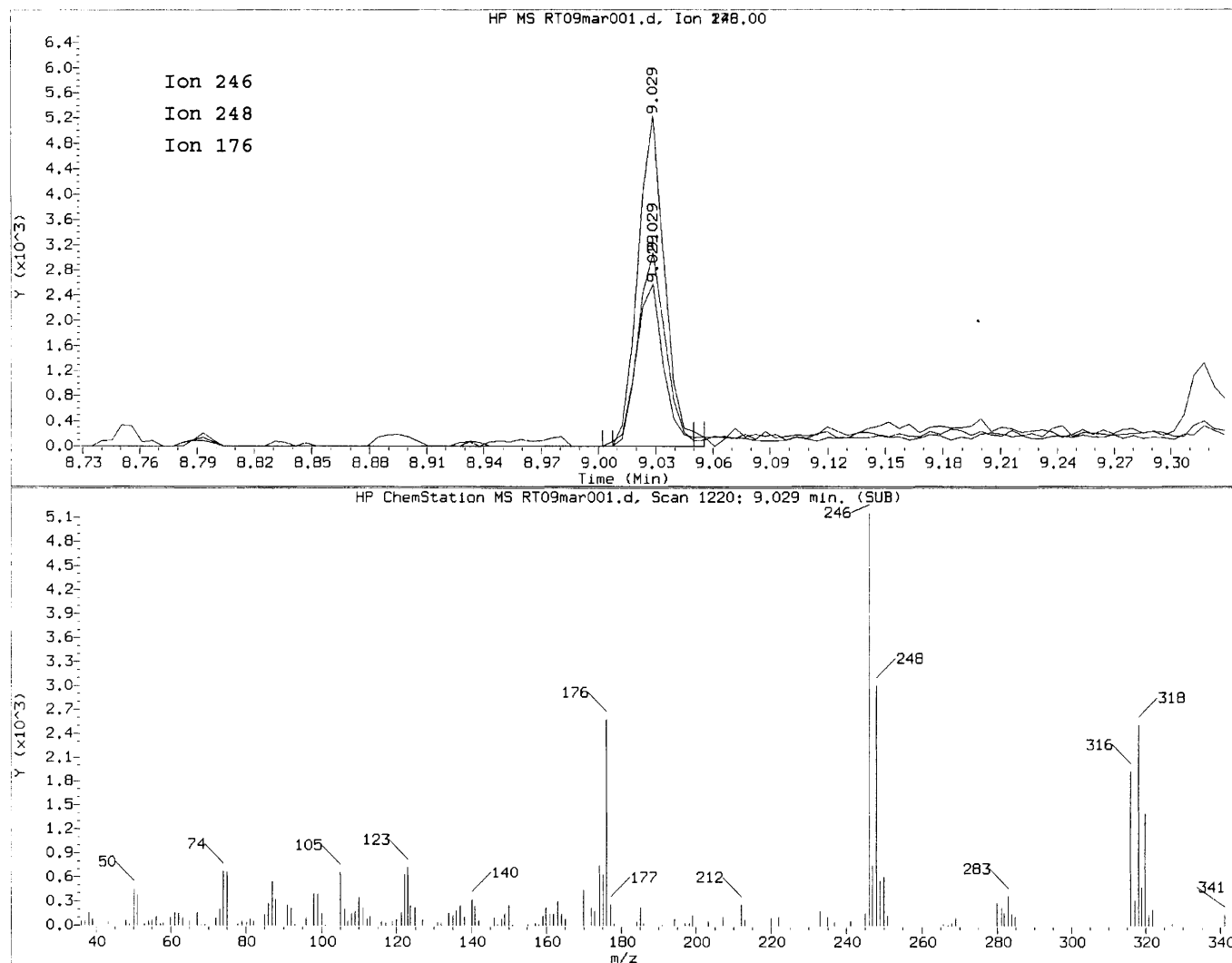
Peak baseline front width (sec) : 1.034
 Peak baseline tail width (sec) : 2.236
 Tail Factor = 2.236 / 1.034

Tailing factor for Benzidine OK

Tail Factor = 2.162 Maximum Allowed = 3.0

Report Generated Time Mon Mar 13 16:52:31 2017

Data File : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d
 ALS Vial : 3
 Acq on : 09-MAR-2017 09:47 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d/resolut.m
 Last Update : 13-MAR-2017 16:52



4,4'-DDE

=====

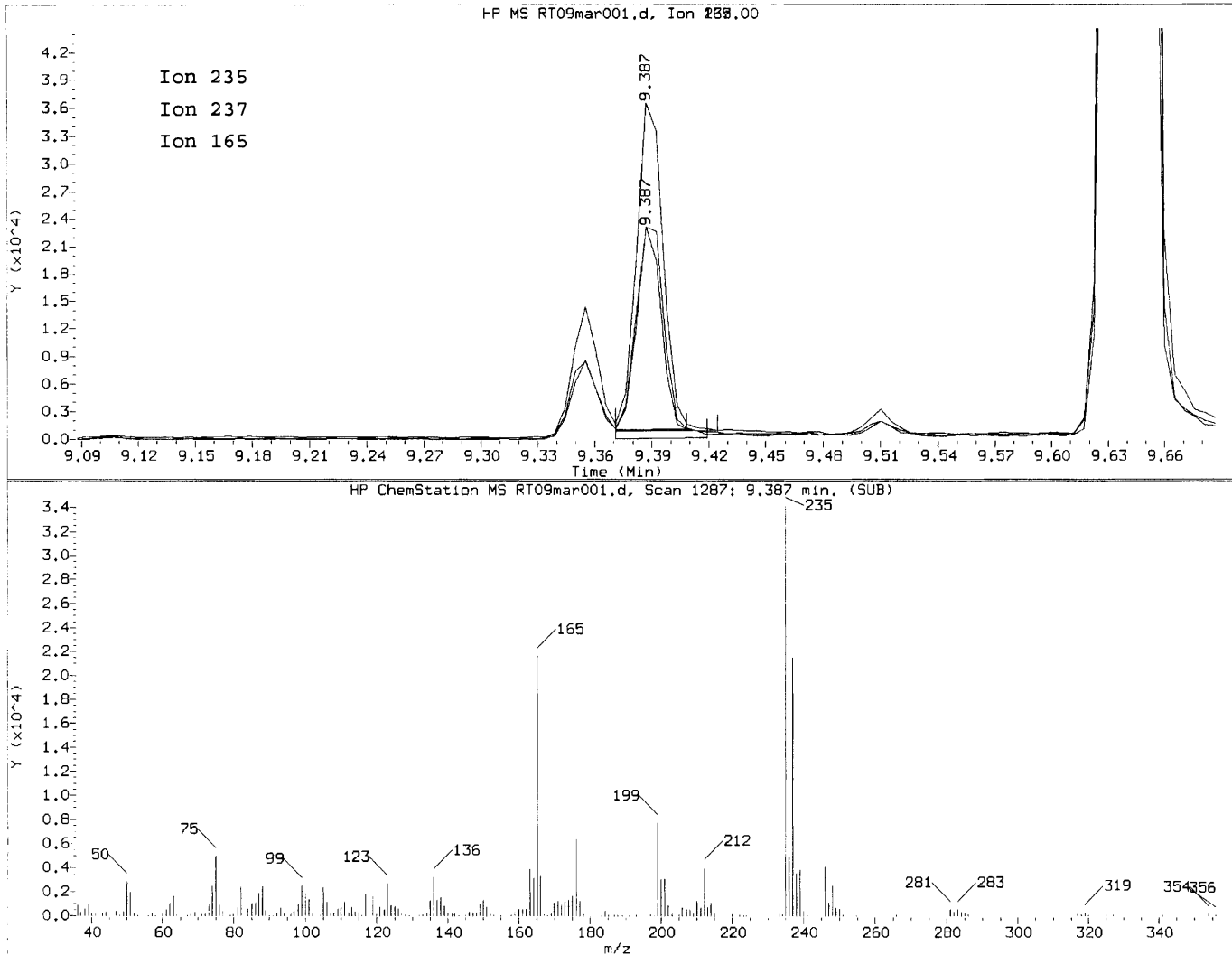
Exp. RT = 9.029

Found RT = 9.029

Mass	Area	Ratio
246	5124	100.00
248	3081	60.14
176	2609	50.91

Report Generated Time Mon Mar 13 16:52:31 2017

Data File : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d
 ALS Vial : 3
 Acq on : 09-MAR-2017 09:47 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d/resolut.m
 Last Update : 13-MAR-2017 16:52



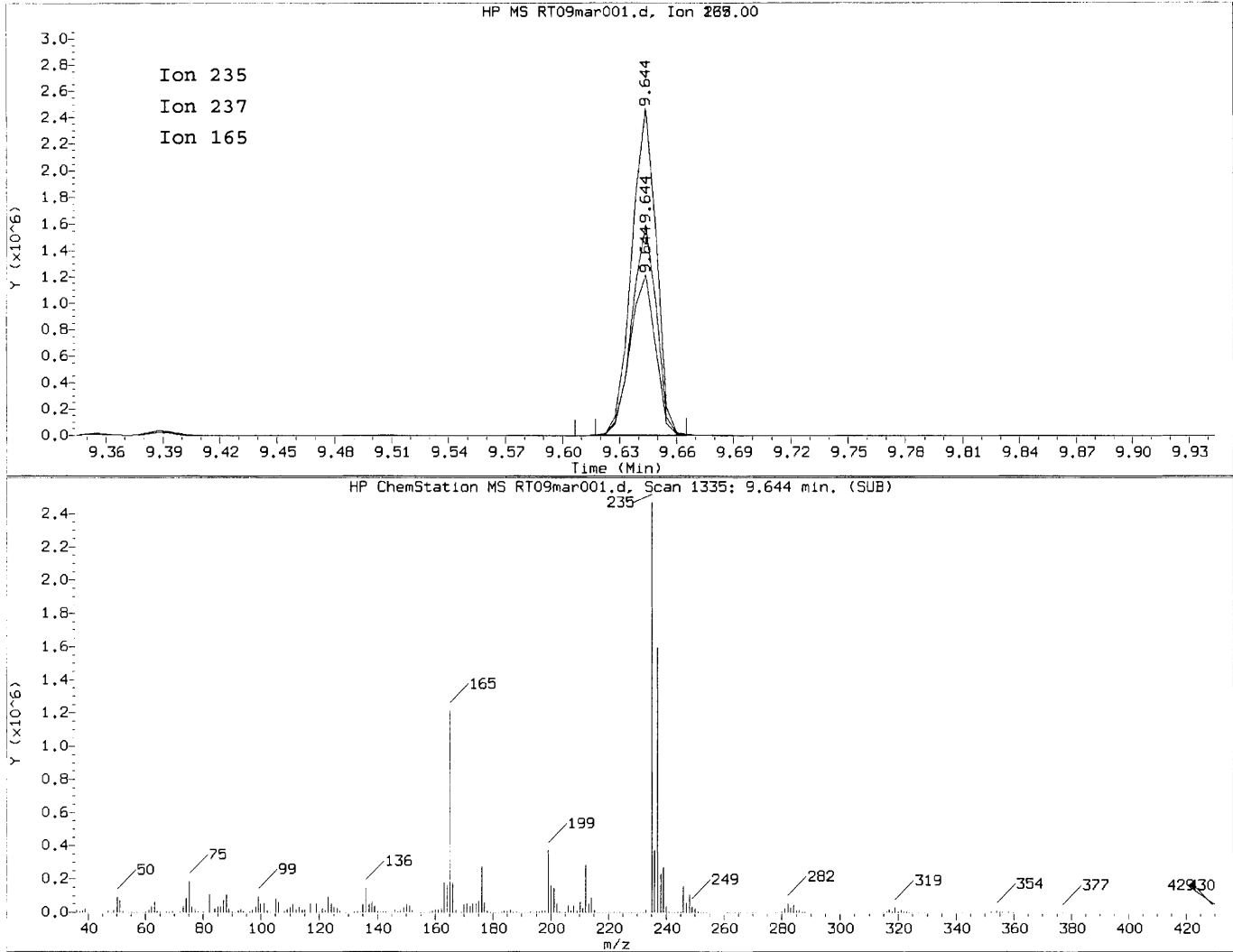
4,4'-DDD

=====
 Exp. RT = 9.380
 Found RT = 9.387

Mass	Area	Ratio
235	34944	100.00
237	24163	69.15
165	19931	57.04

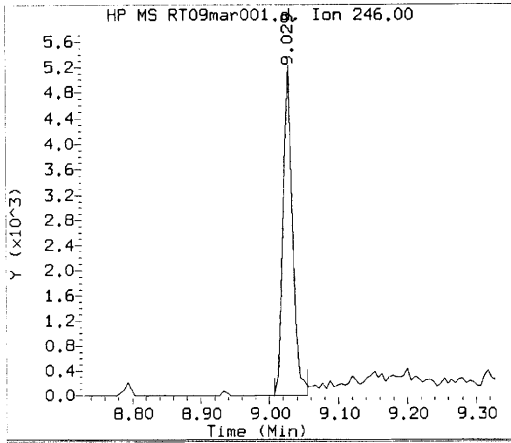
Report Generated Time Mon Mar 13 16:52:31 2017

Data File : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d
 ALS Vial : 3
 Acq on : 09-MAR-2017 09:47 Operator : Tim Matthews
 Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170309.b/09mar001.d/resolut.m
 Last Update : 13-MAR-2017 16:52

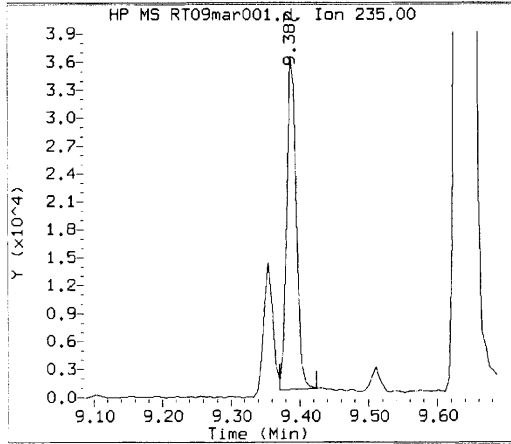


4,4'-DDT
 =====
 Exp. RT = 9.756
 Found RT = 9.644

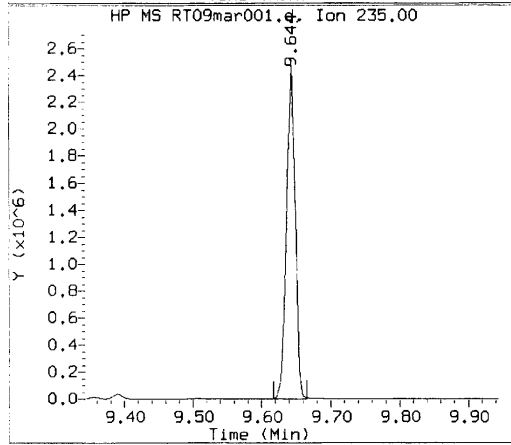
Mass	Area	Ratio
235	2205855	100.00
237	1415837	64.19
165	1126285	51.06



Compound: 4,4'-DDE
 Quant Mass: 246
 RT: 9.029
 Area: 5124



Compound: 4,4'-DDD
 Quant Mass: 235
 RT: 9.387
 Area: 34944



Compound: 4,4'-DDT
 Quant Mass: 235
 RT: 9.644
 Area: 2205855

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2205855			N/A
4,4-DDE	5124	0.23	20.0	PASS
4,4-DDD	34944	1.56	20.0	PASS
4,4-DDD + DDE	40068	1.8	20.0	PASS

 TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST

EPA METHOD 8270C PAHSIM

Run Logs

Injection Log

Directory: W:\GCMS_EEE\GCMS_EEE_DATA\2017\170227

Page 521 of 524

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	27feb001.d	1.	TUNE S101716A DFTPP		27 Feb 2017 09:48
2	2	27feb002.d	1.	CCV S010317F 1PPM	170227A003	27 Feb 2017 10:07
3	2	27feb003.d	1.	CCV S010317F 1PPM	170227A003	27 Feb 2017 10:37
4	1	27feb004.d	1.	TUNE S101716A DFTPP		27 Feb 2017 11:26
5	2	27feb005.d	1.	CCV S010317F 1PPM	170227A003	27 Feb 2017 11:46
6	3	27feb006.d	1.	BLANK	S101716B 10UL	27 Feb 2017 12:12
7	4	27feb007.d	1.	ICAL-1 S010317D 5PPM	170227I004	27 Feb 2017 12:32
8	5	27feb008.d	1.	ICAL-2 S010317E 2PPM		27 Feb 2017 12:52
9	6	27feb009.d	1.	ICAL-3 S010317F 1PPM		27 Feb 2017 13:12
10	7	27feb010.d	1.	ICAL-4 S010317G 0.5PPM		27 Feb 2017 13:33
11	8	27feb011.d	1.	ICAL-5 S010317H 0.1PPM		27 Feb 2017 13:53
12	9	27feb012.d	1.	ICV S010317I 1PPM		27 Feb 2017 14:13
13	10	27feb013.d	1.	CCV S010317F 1PPM	170227A034	27 Feb 2017 14:33
14	11	27feb014.d	1.	MB 170222 L03 RB	S101716B 10UL	27 Feb 2017 14:54
15	12	27feb015.d	1.	17-02-1560-2	S101716B 10UL	27 Feb 2017 15:14
16	13	27feb016.d	1.	17-02-1512-2 100X	S101716B 10UL	27 Feb 2017 15:34
17	14	27feb017.d	1.	17-02-1512-9 100X	S101716B 10UL	27 Feb 2017 15:54

Injection Log

Directory: W:\GCMS_EEE\GCMS_EEE_DATA\2017\170309

Page 522 of 524

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	71	09mar001.d	1.	TUNE S101716A DFTPP		9 Mar 2017 09:47
2	72	09mar002.d	1.	CCV S010317F 1PPM	170309A009	9 Mar 2017 10:07
3	73	09mar003.d	1.	MB 170308 L11	S101716B 10UL	9 Mar 2017 10:27
4	74	09mar004.d	1.	LCS 170308 L11	S101716B 10UL	9 Mar 2017 10:47
5	75	09mar005.d	1.	17-03-0140-31 MS	S101716B 10UL	9 Mar 2017 11:07
6	76	09mar006.d	1.	17-03-0140-31 MSD	S101716B 10UL	9 Mar 2017 11:28
7	77	09mar007.d	1.	17-03-0140-27	S101716B 10UL	9 Mar 2017 11:48
8	78	09mar008.d	1.	17-03-0140-28	S101716B 10UL	9 Mar 2017 12:08
9	79	09mar009.d	1.	17-03-0140-29	S101716B 10UL	9 Mar 2017 12:28
10	80	09mar010.d	1.	17-03-0140-30	S101716B 10UL	9 Mar 2017 12:48
11	81	09mar011.d	1.	17-03-0140-31	S101716B 10UL	9 Mar 2017 13:09
12	82	09mar012.d	1.	17-03-0141-27	S101716B 10UL	9 Mar 2017 13:29
13	83	09mar013.d	1.	17-03-0141-28	S101716B 10UL	9 Mar 2017 13:49
14	84	09mar014.d	1.	17-03-0141-29	S101716B 10UL	9 Mar 2017 14:09
15	85	09mar015.d	1.	17-03-0141-30	S101716B 10UL	9 Mar 2017 14:29
16	86	09mar016.d	1.	17-03-0141-31	S101716B 10UL	9 Mar 2017 14:50
17	87	09mar017.d	1.	MB 170308 L03	S101716B 10UL	9 Mar 2017 15:10
18	88	09mar018.d	1.	LCS 170308 L03	S101716B 10UL	9 Mar 2017 15:30
19	89	09mar019.d	1.	17-03-0323-1 MS 5X	S101716B 10UL	9 Mar 2017 15:50
20	90	09mar020.d	1.	17-03-0323-1 MSD 5X	S101716B 10UL	9 Mar 2017 16:11
21	91	09mar021.d	1.	17-03-0323-1 5X	S101716B 10UL	9 Mar 2017 16:31
22	105	09mar022.d	1.	LEAD CCV 80PPM	S101716B 10UL	9 Mar 2017 17:00
23	103	09mar023.d	1.	LEAD TEST 10X	S101716B 10UL	9 Mar 2017 17:19
24	104	09mar024.d	1.	LEAD TEST 5X	S101716B 10UL	9 Mar 2017 17:39
25	92	09mar025.d	1.	17-03-0323-2 10X - 100X	S101716B 10UL	9 Mar 2017 18:02
26	93	09mar026.d	1.	17-03-0323-3 - 10X, 100X	S101716B 10UL	9 Mar 2017 18:22
27	94	09mar027.d	1.	17-03-0323-4 10X	S101716B 10UL	9 Mar 2017 18:42
28	95	09mar028.d	1.	17-03-0323-5	S101716B 10UL	9 Mar 2017 19:03
29	96	09mar029.d	1.	17-03-0323-6 5X FV=4ML - 50X	S101716B 10UL	9 Mar 2017 19:23
30	97	09mar030.d	1.	17-03-0323-1 50X	S101716B 10UL	9 Mar 2017 19:43
31	98	09mar031.d	1.	17-03-0323-2 100X	S101716B 10UL	9 Mar 2017 20:03
32	99	09mar032.d	1.	17-03-0323-3 10X - 100X	S101716B 10UL	9 Mar 2017 20:23
33	100	09mar033.d	1.	17-03-0323-4 100X	S101716B 10UL	9 Mar 2017 20:44
34	101	09mar034.d	1.	17-03-0323-5 10X	S101716B 10UL	9 Mar 2017 21:04
35	102	09mar035.d	1.	17-03-0323-6 50X FV=4ML	S101716B 10UL	9 Mar 2017 21:24
36	106	09mar036.d	1.	LEAD TEST 100X	S101716B 10UL	9 Mar 2017 21:46
37	107	09mar037.d	1.	LEAD TEST 100X	S101716B 10UL	9 Mar 2017 22:06

Return to Contents

EPA METHOD 8270C PAHSIM

Sample Preparation Logs

Analysis Method (EPA Method): ☐ 608 ☐ 8081 ☐ 8082 ☐ 8141 ☐ 8310 ☐ TO-13 ☐ TO-4				
☒ 8270 (☐ Soil ☐ Soil SIM SUPER ☐ PAH ☒ SIM PAH ☐ SIM Pest ☐ SIM PCB cong. ☐ SIM FL)				
Extraction Method (EPA Method): ☐ 3510 ☐ 3520 ☐ 3540 ☐ 3541 ☒ 3545 ☐ 3550 ☐ 3580				
Analyst ID#: Measuring Sample- 1104 Start Extraction- 6/0/787 Blow Down- 1101/1024 Clean Up-				
Matrix: ☒ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air				
Balance ID#: 53 Filter ID#: 507-17-17 ASE ID#: 10 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:				
Ext. Start Date/Time: 03/08/17 14:15 Ext. End Date/Time: 03/08/17 22:15				
Sand or Wipe ID#: 507-19-19		Drying Agent: ☒ Na ₂ SO ₄ ☒ Diatomaceous Earth		
		Drying Agent(s) ID#: 507-44-18 / 507-22-03		
Surrogate Std ID# & Volume Added (mL): 5020117C 0.5				
Spike Std ID# & Volume Added (mL): S100716A 0.5 Spike Added to: ☒ LCS ☐ LCSD ☒ MS ☒ MSD				
Extraction Solvent: ☐ MeCl ₂ ☐ 1:1 Hexane-Acetone ☒ 1:1 MeCl ₂ -Acetone ☐ 9:1 Hexane-Diethyl-ether ☐ Acetonitrile				
Extraction Solvent ID#: 507-55-01 / 507-44-08 Exchange Solvent (☐ Hexane ☐ Acetonitrile) ID#:				
Clean Up Start Date & Time: Clean Up End Date & Time:				
Clean Up: ☐ 3620 Florisil ☐ 3630 SGC ☐ 3660 Sulfur ☐ 3665 Acid ☐ Other				Cartridge ID#:
Clean Up Reagent ID#:				Cartridge Conditioning Column Pre-Elution Reagent ID#:
MB/LCS/MS Batch #: 170308 L 11		Sample W(g)/V (mL)		Clean Up Performed
Cel ID#:	Initial	Final	Comments	
MB	20.0	2		☐
LCS	20.0	2		☐
LCSD	NA			☐
MS 17-03-0140-31A	20.0	2		☐
MSD	-31A	20.0	2	☐
	-27A	20.0	2	☐
	-28A	20.0	2	☐
	-29A	20.0	2	☐
	-30A	20.1	2	☐
	-31A	20.0	2	☐
17-03-0141-27A	20.2	2		☐
	-28A	20.1	2	☐
	-29A	20.0	2	☐
	-30A	20.0	2	☐
	-31A	20.1	2	☐
17-03-0142-27A	20.0	2		☐
	-28A	20.0	2	☐
	-29A	20.1	2	☐
	-30A	20.2	2	☐
	-31A	20.1	2	☐
	-32A	20.1	2	☐
	-33A	20.0	2	☐
	-34A	20.2	2	☐
	-35A	20.1	2	☐
	-36A	20.0	2	☐

Peer Reviewed by: 787

Peer Reviewed Date: 03/08/17

Revision Date: 10/20/16