



Supplemental Report 1

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



WORK ORDER NUMBER: 17-03-0140

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 ▶

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 Work Order Number: 17-03-0140

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Work Order Narrative

Work Order: 17-03-0140Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/01/17. They were assigned to Work Order 17-03-0140.

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: 17-03-0140
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-14-3	17-03-0140-1	02/22/17 14:40	1	Solid
F-DU1-S-15-3	17-03-0140-2	02/22/17 14:02	1	Solid
F-DU1-S-16-3	17-03-0140-3	02/22/17 13:19	1	Solid
F-DU1-S-17-3	17-03-0140-4	02/22/17 12:45	1	Solid
F-DU1-S-18-3	17-03-0140-5	02/22/17 11:13	1	Solid
F-DU1-S-19-3	17-03-0140-6	02/22/17 10:04	1	Solid
F-DU1-S-20-3	17-03-0140-7	02/22/17 08:56	1	Solid
F-DU1-S-01-3	17-03-0140-8	02/23/17 11:14	1	Solid
F-DU1-S-02-3	17-03-0140-9	02/23/17 12:50	1	Solid
F-DU1-S-03-3	17-03-0140-10	02/23/17 13:50	1	Solid
F-DU1-S-04-3	17-03-0140-11	02/23/17 14:40	1	Solid
F-DU1-S-11-3	17-03-0140-12	02/23/17 10:08	1	Solid
F-DU1-S-12-3	17-03-0140-13	02/23/17 08:48	1	Solid
F-DU1-S-13-3	17-03-0140-14	02/23/17 07:50	1	Solid
F-DU1-S-05-3	17-03-0140-15	02/24/17 08:10	1	Solid
F-DU1-S-06-3	17-03-0140-16	02/24/17 09:25	1	Solid
F-DU1-S-07-3	17-03-0140-17	02/24/17 10:38	1	Solid
F-DU1-S-08-03	17-03-0140-18	02/28/17 08:01	1	Solid
F-DU1-S-09-03	17-03-0140-19	02/28/17 13:55	1	Solid
F-DU1-S-10-03	17-03-0140-20	03/01/17 07:56	1	Solid
COMPOSITE	17-03-0140-21	02/22/17 00:00	1	Solid
F-DU1-ISM1-3	17-03-0140-22	02/22/17 00:00	1	Solid
F-DU1-ISM2-3	17-03-0140-23	02/22/17 00:00	1	Solid
F-DU1-ISM3-3	17-03-0140-24	02/22/17 00:00	1	Solid
F-DU1-ISM4-3	17-03-0140-25	02/22/17 00:00	1	Solid
F-DU1-ISM5-3	17-03-0140-26	02/22/17 00:00	1	Solid
F-DU1-ISM1-3	17-03-0140-27	02/22/17 00:00	1	Solid
F-DU1-ISM2-3	17-03-0140-28	02/22/17 00:00	1	Solid
F-DU1-ISM3-3	17-03-0140-29	02/22/17 00:00	1	Solid
F-DU1-ISM4-3	17-03-0140-30	02/22/17 00:00	1	Solid
F-DU1-ISM5-3	17-03-0140-31	02/22/17 00:00	1	Solid
F-DU1-ISM1-3	17-03-0140-32	02/22/17 00:00	1	Solid
F-DU1-ISM2-3	17-03-0140-33	02/22/17 00:00	1	Solid
F-DU1-ISM3-3	17-03-0140-34	02/22/17 00:00	1	Solid
F-DU1-ISM4-3	17-03-0140-35	02/22/17 00:00	1	Solid
F-DU1-ISM5-3	17-03-0140-36	02/22/17 00:00	1	Solid

Detections Summary

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

Work Order: 17-03-0140
Project Name: Burbank Airport / 9836002041
Received: 03/01/17

Attn: Brian Martasin

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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-ISM1-3 (17-03-0140-27)						
Moisture	3.9		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM2-3 (17-03-0140-28)						
Moisture	4.3		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM3-3 (17-03-0140-29)						
Moisture	4.2		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM4-3 (17-03-0140-30)						
Moisture	4.2		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM5-3 (17-03-0140-31)						
Moisture	4.1		0.10	%	ASTM D-2216 (M)	N/A
F-DU1-ISM1-3 (17-03-0140-32)						
Barium	59.0		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.33		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.20		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	6.08		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	3.10		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.53		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	12.8		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	30.6		1.00	mg/kg	EPA 6010B	EPA 3050B
F-DU1-ISM2-3 (17-03-0140-33)						
Barium	59.2		0.495	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.70		0.248	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.61		0.248	mg/kg	EPA 6010B	EPA 3050B
Copper	6.51		0.495	mg/kg	EPA 6010B	EPA 3050B
Lead	3.33		0.495	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.82		0.248	mg/kg	EPA 6010B	EPA 3050B
Vanadium	14.1		0.248	mg/kg	EPA 6010B	EPA 3050B
Zinc	34.7		0.990	mg/kg	EPA 6010B	EPA 3050B
F-DU1-ISM3-3 (17-03-0140-34)						
Barium	57.5		0.498	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.47		0.249	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.19		0.249	mg/kg	EPA 6010B	EPA 3050B
Copper	6.06		0.498	mg/kg	EPA 6010B	EPA 3050B
Lead	3.15		0.498	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.61		0.249	mg/kg	EPA 6010B	EPA 3050B
Vanadium	12.9		0.249	mg/kg	EPA 6010B	EPA 3050B
Zinc	34.0		0.995	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: 17-03-0140
Project Name: Burbank Airport / 9836002041
Received: 03/01/17

Attn: Brian Martasin

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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-ISM4-3 (17-03-0140-35)						
Arsenic	1.06		0.743	mg/kg	EPA 6010B	EPA 3050B
Barium	66.0		0.495	mg/kg	EPA 6010B	EPA 3050B
Chromium	5.12		0.248	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.61		0.248	mg/kg	EPA 6010B	EPA 3050B
Copper	7.15		0.495	mg/kg	EPA 6010B	EPA 3050B
Lead	4.23		0.495	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.02		0.248	mg/kg	EPA 6010B	EPA 3050B
Vanadium	14.4		0.248	mg/kg	EPA 6010B	EPA 3050B
Zinc	35.2	B	0.990	mg/kg	EPA 6010B	EPA 3050B
F-DU1-ISM5-3 (17-03-0140-36)						
Barium	62.9		0.498	mg/kg	EPA 6010B	EPA 3050B
Chromium	5.00		0.249	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.79		0.249	mg/kg	EPA 6010B	EPA 3050B
Copper	7.19		0.498	mg/kg	EPA 6010B	EPA 3050B
Lead	3.29		0.498	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.99		0.249	mg/kg	EPA 6010B	EPA 3050B
Vanadium	14.7		0.249	mg/kg	EPA 6010B	EPA 3050B
Zinc	33.9	B	0.995	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: 17-03-0140
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-3	17-03-0140-27-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		3.9		0.10		1.00	
F-DU1-ISM2-3	17-03-0140-28-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		4.3		0.10		1.00	
F-DU1-ISM3-3	17-03-0140-29-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		4.2		0.10		1.00	
F-DU1-ISM4-3	17-03-0140-30-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		4.2		0.10		1.00	
F-DU1-ISM5-3	17-03-0140-31-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		4.1		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	

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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: 17-03-0140
 Preparation: EPA 3550B
 Method: EPA 8015B (M)
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-3	17-03-0140-27-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 05:16	170307B06

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	5.1	1.00	
TPH as Motor Oil	ND	5.1	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	123	61-145	

F-DU1-ISM2-3	17-03-0140-28-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 05:37	170307B06
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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	108	61-145	

F-DU1-ISM3-3	17-03-0140-29-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 05:58	170307B06
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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	108	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: 17-03-0140
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM4-3	17-03-0140-30-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 06:19	170307B06

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	5.1	1.00	
TPH as Motor Oil	ND	5.1	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	99	61-145	

F-DU1-ISM5-3	17-03-0140-31-A	02/22/17 00:00	Solid	GC 49	03/07/17	03/08/17 06:40	170307B06
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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	5.1	1.00	
TPH as Motor Oil	ND	5.1	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	105	61-145	

Method Blank	099-14-353-4	N/A	Solid	GC 49	03/07/17	03/07/17 22:19	170307B06
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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	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	117	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: 17-03-0140
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-3	17-03-0140-32-A	02/22/17 00:00	Solid	ICP 7300	03/14/17	03/15/17 11:43	170314L02

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.750	1.00	
Arsenic	ND	0.750	1.00	
Barium	59.0	0.500	1.00	
Beryllium	ND	0.250	1.00	
Cadmium	ND	0.500	1.00	
Chromium	4.33	0.250	1.00	
Cobalt	4.20	0.250	1.00	
Copper	6.08	0.500	1.00	
Lead	3.10	0.500	1.00	
Molybdenum	ND	0.250	1.00	
Nickel	3.53	0.250	1.00	
Selenium	ND	0.750	1.00	
Silver	ND	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	12.8	0.250	1.00	
Zinc	30.6	1.00	1.00	

Return to Contents

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Analytical Report

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

Date Received: 03/01/17
 Work Order: 17-03-0140
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM2-3	17-03-0140-33-A	02/22/17 00:00	Solid	ICP 7300	03/14/17	03/15/17 11:44	170314L02

<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	59.2	0.495	0.990	
Beryllium	ND	0.248	0.990	
Cadmium	ND	0.495	0.990	
Chromium	4.70	0.248	0.990	
Cobalt	4.61	0.248	0.990	
Copper	6.51	0.495	0.990	
Lead	3.33	0.495	0.990	
Molybdenum	ND	0.248	0.990	
Nickel	3.82	0.248	0.990	
Selenium	ND	0.743	0.990	
Silver	ND	0.248	0.990	
Thallium	ND	0.743	0.990	
Vanadium	14.1	0.248	0.990	
Zinc	34.7	0.990	0.990	

Return to Contents

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Analytical Report

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

Date Received: 03/01/17
 Work Order: 17-03-0140
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM3-3	17-03-0140-34-A	02/22/17 00:00	Solid	ICP 7300	03/14/17	03/15/17 11:44	170314L02

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.746	0.995	
Arsenic	ND	0.746	0.995	
Barium	57.5	0.498	0.995	
Beryllium	ND	0.249	0.995	
Cadmium	ND	0.498	0.995	
Chromium	4.47	0.249	0.995	
Cobalt	4.19	0.249	0.995	
Copper	6.06	0.498	0.995	
Lead	3.15	0.498	0.995	
Molybdenum	ND	0.249	0.995	
Nickel	3.61	0.249	0.995	
Selenium	ND	0.746	0.995	
Silver	ND	0.249	0.995	
Thallium	ND	0.746	0.995	
Vanadium	12.9	0.249	0.995	
Zinc	34.0	0.995	0.995	

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: 17-03-0140
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM4-3	17-03-0140-35-A	02/22/17 00:00	Solid	ICP 7300	03/14/17	03/15/17 11:45	170314L03

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.743	0.990	
Arsenic	1.06	0.743	0.990	
Barium	66.0	0.495	0.990	
Beryllium	ND	0.248	0.990	
Cadmium	ND	0.495	0.990	
Chromium	5.12	0.248	0.990	
Cobalt	4.61	0.248	0.990	
Copper	7.15	0.495	0.990	
Lead	4.23	0.495	0.990	
Molybdenum	ND	0.248	0.990	
Nickel	4.02	0.248	0.990	
Selenium	ND	0.743	0.990	
Silver	ND	0.248	0.990	
Thallium	ND	0.743	0.990	
Vanadium	14.4	0.248	0.990	
Zinc	35.2	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: 17-03-0140
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM5-3	17-03-0140-36-A	02/22/17 00:00	Solid	ICP 7300	03/14/17	03/15/17 11:46	170314L03

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.746	0.995	
Arsenic	ND	0.746	0.995	
Barium	62.9	0.498	0.995	
Beryllium	ND	0.249	0.995	
Cadmium	ND	0.498	0.995	
Chromium	5.00	0.249	0.995	
Cobalt	4.79	0.249	0.995	
Copper	7.19	0.498	0.995	
Lead	3.29	0.498	0.995	
Molybdenum	ND	0.249	0.995	
Nickel	3.99	0.249	0.995	
Selenium	ND	0.746	0.995	
Silver	ND	0.249	0.995	
Thallium	ND	0.746	0.995	
Vanadium	14.7	0.249	0.995	
Zinc	33.9	0.995	0.995	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: 17-03-0140
 Preparation: EPA 3050B
 Method: EPA 6010B
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-01-002-24439	N/A	Solid	ICP 7300	03/14/17	03/15/17 11:21	170314L02

<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: 17-03-0140
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

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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: 17-03-0140
 Preparation: EPA 7471A Total
 Method: EPA 7471A
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-3	17-03-0140-27-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:15	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	0.0853	1.00	

F-DU1-ISM2-3	17-03-0140-28-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:17	170308L03
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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	0.0829	1.00	

F-DU1-ISM3-3	17-03-0140-29-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:19	170308L03
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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	0.0870	1.00	

F-DU1-ISM4-3	17-03-0140-30-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:22	170308L03
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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	0.0842	1.00	

F-DU1-ISM5-3	17-03-0140-31-A	02/22/17 00:00	Solid	Mercury 08	03/08/17	03/08/17 16:24	170308L03
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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	0.0855	1.00	

Method Blank	099-16-272-2864	N/A	Solid	Mercury 08	03/08/17	03/08/17 15:33	170308L03
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<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: 17-03-0140
 Preparation: EPA 3545
 Method: EPA 8082
 Units: ug/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-3	17-03-0140-32-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 13:10	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	88	24-168	
2,4,5,6-Tetrachloro-m-Xylene	68	25-145	

F-DU1-ISM2-3	17-03-0140-33-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 13:27	170308L12
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<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	85	24-168	
2,4,5,6-Tetrachloro-m-Xylene	68	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: 17-03-0140
 Preparation: EPA 3545
 Method: EPA 8082
 Units: ug/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM3-3	17-03-0140-34-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 13:45	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	85	24-168	
2,4,5,6-Tetrachloro-m-Xylene	67	25-145	

F-DU1-ISM4-3	17-03-0140-35-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 14:03	170308L12
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<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	79	24-168	
2,4,5,6-Tetrachloro-m-Xylene	63	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: 17-03-0140
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM5-3	17-03-0140-36-A	02/22/17 00:00	Solid	GC 66	03/08/17	03/13/17 14:21	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	74	24-168	
2,4,5,6-Tetrachloro-m-Xylene	57	25-145	

Method Blank	099-12-535-4086	N/A	Solid	GC 66	03/08/17	03/13/17 10:47	170308L12
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<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: 17-03-0140
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM1-3	17-03-0140-27-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 11:48	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	84	13-127	
Nitrobenzene-d5	86	17-137	
p-Terphenyl-d14	127	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: 17-03-0140
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM2-3	17-03-0140-28-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 12:08	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	94	13-127	
Nitrobenzene-d5	89	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: 17-03-0140
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM3-3	17-03-0140-29-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 12:28	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	82	13-127	
Nitrobenzene-d5	94	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: 17-03-0140
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM4-3	17-03-0140-30-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 12:48	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	81	13-127	
Nitrobenzene-d5	89	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: 17-03-0140
 Preparation: EPA 3545
 Method: EPA 8270C SIM PAHs
 Units: mg/kg

Project: Burbank Airport / 9836002041

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
F-DU1-ISM5-3	17-03-0140-31-A	02/22/17 00:00	Solid	GC/MS EEE	03/08/17	03/09/17 13:09	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	0.010	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	72	13-127	
Nitrobenzene-d5	70	17-137	
p-Terphenyl-d14	96	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: 17-03-0140
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041

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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: 17-03-0140
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: Burbank Airport / 9836002041

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0335-11	Sample	Solid	GC 49	03/07/17	03/08/17 01:06	170307S06
17-03-0335-11	Matrix Spike	Solid	GC 49	03/07/17	03/07/17 23:01	170307S06
17-03-0335-11	Matrix Spike Duplicate	Solid	GC 49	03/07/17	03/07/17 23:22	170307S06

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	315.9	79	343.9	86	61-145	8	0-25	

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: 17-03-0140
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0838-1	Sample	Solid	ICP 7300	03/14/17	03/16/17 12:22	170314S02
17-03-0838-1	Matrix Spike	Solid	ICP 7300	03/14/17	03/16/17 12:23	170314S02
17-03-0838-1	Matrix Spike Duplicate	Solid	ICP 7300	03/14/17	03/16/17 12:24	170314S02

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	0.7493	25.00	7.759	28	8.671	32	50-115	11	0-20	3
Arsenic	5.032	25.00	30.03	100	31.28	105	75-125	4	0-20	
Barium	139.1	25.00	175.0	4X	170.0	4X	75-125	4X	0-20	Q
Beryllium	0.2461	25.00	27.80	110	27.94	111	75-125	1	0-20	
Cadmium	1.237	25.00	27.91	107	27.95	107	75-125	0	0-20	
Chromium	33.08	25.00	59.39	105	62.46	118	75-125	5	0-20	
Cobalt	10.82	25.00	37.08	105	37.07	105	75-125	0	0-20	
Copper	36.80	25.00	65.76	116	65.28	114	75-125	1	0-20	
Lead	103.7	25.00	123.1	4X	135.7	4X	75-125	4X	0-20	Q
Molybdenum	4.034	25.00	29.30	101	29.79	103	75-125	2	0-20	
Nickel	14.35	25.00	40.09	103	40.14	103	75-125	0	0-20	
Selenium	ND	25.00	25.89	104	25.76	103	75-125	1	0-20	
Silver	ND	12.50	13.95	112	13.75	110	75-125	1	0-20	
Thallium	ND	25.00	24.02	96	24.31	97	75-125	1	0-20	
Vanadium	29.58	25.00	57.38	111	56.25	107	75-125	2	0-20	
Zinc	123.6	25.00	278.4	4X	150.3	4X	75-125	4X	0-20	Q

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: 17-03-0140
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

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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	

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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: 17-03-0140
Preparation: EPA 7471A Total
Method: EPA 7471A

Project: Burbank Airport / 9836002041

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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

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
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: 17-03-0140
Preparation: EPA 3545
Method: EPA 8082

Project: Burbank Airport / 9836002041

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-0141-32	Sample	Solid	GC 66	03/08/17	03/13/17 11:40	170308S12
17-03-0141-32	Matrix Spike	Solid	GC 66	03/08/17	03/13/17 11:05	170308S12
17-03-0141-32	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

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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: 17-03-0140
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs

Project: Burbank Airport / 9836002041

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
F-DU1-ISM5-3	Sample	Solid	GC/MS EEE	03/08/17	03/09/17 13:09	170308S11
F-DU1-ISM5-3	Matrix Spike	Solid	GC/MS EEE	03/08/17	03/09/17 11:07	170308S11
F-DU1-ISM5-3	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

Quality Control - Sample Duplicate

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

Date Received: 03/01/17
Work Order: 17-03-0140
Preparation: N/A
Method: ASTM D-2216 (M)

Project: Burbank Airport / 9836002041

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
F-DU1-ISM1-3	Sample	Solid	N/A	03/03/17 00:00	03/03/17 18:00	H0303MOID1
F-DU1-ISM1-3	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	

Quality Control - LCS

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

Date Received: 03/01/17
Work Order: 17-03-0140
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: Burbank Airport / 9836002041

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-353-4	LCS	Solid	GC 49	03/07/17	03/07/17 22:40	170307B06

<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	360.5	90	61-145	

Quality Control - LCS

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

Date Received: 03/01/17
Work Order: 17-03-0140
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-24439	LCS	Solid	ICP 7300	03/14/17	03/15/17 11:22	170314L02
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	24.52	98	80-120	73-127	
Arsenic	25.00	24.10	96	80-120	73-127	
Barium	25.00	26.10	104	80-120	73-127	
Beryllium	25.00	23.68	95	80-120	73-127	
Cadmium	25.00	24.67	99	80-120	73-127	
Chromium	25.00	25.23	101	80-120	73-127	
Cobalt	25.00	26.10	104	80-120	73-127	
Copper	25.00	25.42	102	80-120	73-127	
Lead	25.00	26.04	104	80-120	73-127	
Molybdenum	25.00	25.04	100	80-120	73-127	
Nickel	25.00	25.95	104	80-120	73-127	
Selenium	25.00	24.39	98	80-120	73-127	
Silver	12.50	12.06	96	80-120	73-127	
Thallium	25.00	25.63	103	80-120	73-127	
Vanadium	25.00	24.19	97	80-120	73-127	
Zinc	25.00	25.52	102	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

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Quality Control - LCS

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

Date Received: 03/01/17
Work Order: 17-03-0140
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

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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
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
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: 17-03-0140
Preparation: EPA 7471A Total
Method: EPA 7471A

Project: Burbank Airport / 9836002041

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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: 17-03-0140
Preparation: EPA 3545
Method: EPA 8082

Project: Burbank Airport / 9836002041

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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: 17-03-0140
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs

Project: Burbank Airport / 9836002041

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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: 17-03-0140

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: 17-03-0140

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.

17-03-0140

Chain-of-Custody Record

Page 1 of 1

EFI Global

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



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, R.Cheung@Geosyntec.com																																	
Number	Sample ID	Lab ID	Type	Matrix	Preservative	Sampling Information		Method										Container		Turnaround Time															
			Grab	Composite	Water	Soil	Vapor	Other	Cold (4° C)	HNO3	NaHSO4	HCl	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-ISM1-3		X		X				X							X	X				X												X		
2	F-DU1-ISM2-3		X		X				X							X	X				X												X		
3	F-DU1-ISM3-3		X		X				X							X	X				X												X		
4	F-DU1-ISM4-3		X		X				X							X	X				X												X		
5	F-DU1-ISM5-3		X		X				X							X	X				X												X		
6	F-DU1-ISM1-8		X		X				X							X	X				X												X		
7	F-DU1-ISM2-8		X		X				X							X	X				X												X		
8	F-DU1-ISM3-8		X		X				X							X	X				X												X		
9	F-DU1-ISM4-8		X		X				X							X	X				X												X		
10	F-DU1-ISM5-8		X		X				X							X	X				X												X		
11	F-DU1-ISM1-15		X		X				X																	X									
12	F-DU1-ISM2-15		X		X				X																X										
13	F-DU1-ISM3-15		X		X				X																X										
14	F-DU1-ISM4-15		X		X				X																X										
15	F-DU1-ISM5-15		X		X				X																										
16																																			
17																																			
18																																			
19																																			
20																																			
Relinquished by			Date	Time	Received by		Date	Time	Remarks										Time																
									Sample condition (circle): Chilled Intact																										
									15-footers on hold pending results of shallow samples																										

17-03-0146

LAB_SDG	LAB_SAMPLE_NUMBER	FIELD_SAMPLE	SAMPLING_DATE	SAMPLING_TIME	MATRIX	DEPTH	PROJECT_ID
17-02-2060	17-02-2060-1	F-DU1-S-14-3	20170222	14:40:00	Soil	3	Burbank Airport / 9836002041
17-02-2060	17-02-2060-4	F-DU1-S-15-3	20170222	14:02:00	Soil	3	Burbank Airport / 9836002041
17-02-2060	17-02-2060-7	F-DU1-S-16-3	20170222	13:19:00	Soil	3	Burbank Airport / 9836002041
17-02-2060	17-02-2060-10	F-DU1-S-17-3	20170222	12:45:00	Soil	3	Burbank Airport / 9836002041
17-02-2060	17-02-2060-13	F-DU1-S-18-3	20170222	11:13:00	Soil	3	Burbank Airport / 9836002041
17-02-2060	17-02-2060-16	F-DU1-S-19-3	20170222	10:04:00	Soil	3	Burbank Airport / 9836002041
17-02-2060	17-02-2060-19	F-DU1-S-20-3	20170222	08:56:00	Soil	3	Burbank Airport / 9836002041
17-02-2195	17-02-2195-1	F-DU1-S-01-3	20170223	11:14:00	Soil	3	Burbank Airport / 9836002041
17-02-2195	17-02-2195-4	F-DU1-S-02-3	20170223	12:50:00	Soil	3	Burbank Airport / 9836002041
17-02-2195	17-02-2195-7	F-DU1-S-03-3	20170223	13:50:00	Soil	3	Burbank Airport / 9836002041
17-02-2195	17-02-2195-10	F-DU1-S-04-3	20170223	14:40:00	Soil	3	Burbank Airport / 9836002041
17-02-2195	17-02-2195-13	F-DU1-S-11-3	20170223	10:08:00	Soil	3	Burbank Airport / 9836002041
17-02-2195	17-02-2195-16	F-DU1-S-12-3	20170223	08:48:00	Soil	3	Burbank Airport / 9836002041
17-02-2195	17-02-2195-19	F-DU1-S-13-3	20170223	07:50:00	Soil	3	Burbank Airport / 9836002041
17-02-2292	17-02-2292-2	F-DU1-S-05-3	20170224	08:10:00	Soil	3	Burbank Airport / 9836002041
17-02-2292	17-02-2292-5	F-DU1-S-06-3	20170224	09:25:00	Soil	3	Burbank Airport / 9836002041
17-02-2292	17-02-2292-8	F-DU1-S-07-3	20170224	10:38:00	Soil	3	Burbank Airport / 9836002041
17-02-2478	17-02-2478-1	F-DU1-S-08-03	20170228	08:01:00	Soil	3	Burbank Airport / 9836002041
17-02-2478	17-02-2478-4	F-DU1-S-09-03	20170228	13:55:00	Soil	3	Burbank Airport / 9836002041
17-03-0091	17-03-0091-2	F-DU1-S-10-03	20170301	07:56:00	Soil	3	Burbank Airport / 9836002041

Level III /

- Moisture TC 953
- 9 Atts (mis) 5600
- Metals (mis) 2324
- PCBs (mis) 5759
- TPH (mis) 5900
- MIS TC 5585

Analytical Laboratory:		Calciance		Job # 9836002041	
Project Name:		Burbank Airport		NA	
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
1	F-DU1-S-14-3	1											2/22/17	14:40
2	" " -8	2												14:44
3	" " -15	3												15:07
4	F-DU1-S-15-3	4												14:02
5	" " -8	5												14:10
6	" " -15	6												16:20
7	F-DU1-S-16-3	7												13:19
8	" " -8	8												13:26
9	" " -15	9												13:35
10	F-DU1-S-17-3	10												12:45
11	" " -8	11												12:50
12	" " -15	12												13:00
13	F-DU1-S-18-3	13												11:13
14	" " -8	14												11:25
15	" " -15	15												11:35
16	F-DU1-S-19-3	16												10:04
17	" " -8	17												10:17
18	" " -15	18												10:42
19	F-DU1-S-20-3	19												8:56
20	" " -8	20												9:12

Redelivered by	Date	Time	Received by	Date	Time	Remarks
<i>[Signature]</i>	2/22/17	16:10	<i>[Signature]</i>	2/22/17	16:10	Sample condition (circle): Chilled Intact
<i>[Signature]</i>	2/22/17	18:05	<i>[Signature]</i>	2/22/17	18:05	4/5 15H - hold until 5-01
						through 5-13 to be composted

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
												24 hours
												Normal
												Amber Bottle
												Acetate Liner
												EZ Draw (EPA 5035)
												VOA
												4 or 8-ounce Glass

17-02-2060

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 ☐ 500AG_J ☐ 500AG_J_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

Chain-of-Custody Record

Page 2 of 2

[illegible]

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:

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 ☐ ☐ ☒

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: 1110

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

Reviewed by: 659



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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 and all 8-foots and all 15-foots on hold.

Hold undr! all F-D41-S-01 to -020 received

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 ☐ VOAh ☐ VOAna₂ ☐ 100PJ ☐ 100PJna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB☐ 125PBz₂na ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 250PB ☒ 250PBn ☐ 500AGB ☐ 500AGJ ☐ 500AGJs☐ 500PB ☒ 1AGB ☐ 1AGBna₂ ☐ 1AGBs ☐ 1PB ☐ 1PBna ☐ _____ ☐ _____ ☐ _____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, z₂na = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 619

* (-2) to (-11) 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: Calscience										Job # 9836002041		Method		Container		Turnaround Time																
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		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-08-03	1	X	Composite	Water	Disc 15				2/28/17	8:01	X	X	X							X											
2	-08	2		Composite	Water					"	8:20																					
3	-15	3		Composite	Water					"	8:26																					
4	F-DU1-S-09-03	4	X	Composite	Water					"	13:55																					
5	-08	5		Composite	Water					"	12:47																					
6	-15	6		Composite	Water					"	14:57																					

Relinquished by		Date	Time	Received by	Date	Time	Remarks
[Signature]		2/28/17	1556	[Signature]	2/28/17	1556	Sample condition (circle): Chilled Intact
[Signature]		2/28/17	1745	[Signature]	2/28/17	1745	Hold until E-DUT-S-10 is received before 1st Corrosion

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 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: 1053

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 ^{(f-2) to (b-6)} ☐ 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 ☐ 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: 1053s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄·H₂O, znna = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 778

EFT Global

5261 West Imperial Highway, Los Angeles CA 90045

Tel: (310) 854-6300 Fax: (310) 854-0199 www.AndersenEnviro.com

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	

[illegible]

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	1	
WVA 250 mL Poly		
EZ Draw (EPA 5035)		
Acetate Liner		
Amber Bottle	2	
24 hours		
Normal		
48 Hours		

Retinued by	Date	Time	Received by	Date
<i>[Signature]</i>	3/1/17	1530	<i>[Signature]</i>	3/1/17
<i>[Signature]</i>	3/1/17	1725	<i>[Signature]</i>	3/1/17

$D = \text{DISCRETE}$

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 ☐ VOAh ☐ VOAna₂ ☐ 100PJ ☐ 100PJna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB☐ 125PBznna ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 250PB ☒ 250PBn ☐ 500AGB ☐ 500AGJ ☐ 500AGJs☐ 500PB ☐ 1AGB ☐ 1AGBna₂ ☐ 1AGBs ☐ 1PB ☐ 1PBna ☐ _____ ☐ _____ ☐ _____ ☐ _____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: 17-03-0140

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-14-3	17-03-0140-1	02/22/17 14:40	03/01/17 17:25
F-DU1-S-15-3	17-03-0140-2	02/22/17 14:02	03/01/17 17:25
F-DU1-S-16-3	17-03-0140-3	02/22/17 13:19	03/01/17 17:25
F-DU1-S-17-3	17-03-0140-4	02/22/17 12:45	03/01/17 17:25
F-DU1-S-18-3	17-03-0140-5	02/22/17 11:13	03/01/17 17:25
F-DU1-S-19-3	17-03-0140-6	02/22/17 10:04	03/01/17 17:25
F-DU1-S-20-3	17-03-0140-7	02/22/17 08:56	03/01/17 17:25
F-DU1-S-01-3	17-03-0140-8	02/23/17 11:14	03/01/17 17:25
F-DU1-S-02-3	17-03-0140-9	02/23/17 12:50	03/01/17 17:25
F-DU1-S-03-3	17-03-0140-10	02/23/17 13:50	03/01/17 17:25
F-DU1-S-04-3	17-03-0140-11	02/23/17 14:40	03/01/17 17:25
F-DU1-S-11-3	17-03-0140-12	02/23/17 10:08	03/01/17 17:25
F-DU1-S-12-3	17-03-0140-13	02/23/17 08:48	03/01/17 17:25
F-DU1-S-13-3	17-03-0140-14	02/23/17 07:50	03/01/17 17:25
F-DU1-S-05-3	17-03-0140-15	02/24/17 08:10	03/01/17 17:25
F-DU1-S-06-3	17-03-0140-16	02/24/17 09:25	03/01/17 17:25
F-DU1-S-07-3	17-03-0140-17	02/24/17 10:38	03/01/17 17:25
F-DU1-S-08-03	17-03-0140-18	02/28/17 08:01	03/01/17 17:25
F-DU1-S-09-03	17-03-0140-19	02/28/17 13:55	03/01/17 17:25
F-DU1-S-10-03	17-03-0140-20	03/01/17 07:56	03/01/17 17:25
COMPOSITE	17-03-0140-21	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM1-3	17-03-0140-22	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM2-3	17-03-0140-23	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM3-3	17-03-0140-24	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM4-3	17-03-0140-25	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM5-3	17-03-0140-26	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM1-3	17-03-0140-27	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM2-3	17-03-0140-28	02/22/17 00:00	03/01/17 17:25

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0140

Client Sample ID	Lab Sample ID	Date & Time Sampled	Date & Time Received
F-DU1-ISM3-3	17-03-0140-29	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM4-3	17-03-0140-30	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM5-3	17-03-0140-31	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM1-3	17-03-0140-32	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM2-3	17-03-0140-33	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM3-3	17-03-0140-34	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM4-3	17-03-0140-35	02/22/17 00:00	03/01/17 17:25
F-DU1-ISM5-3	17-03-0140-36	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.

Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0140

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.

Balance Calibration/Verification:

All values were within acceptance criteria.

Sample and QC:

Sample -27 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 03/14/17 and analyzed on 03/15/17 in batch #s 170314L02 / 170314S02 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:

All values were within acceptance criteria.

ICS A/AB:

All values were within acceptance criteria.

Sample and QC:

- QC Batch #s 170314L02 / 170314S02: (Associated with samples -32 through -34)

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.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0140

- QC Batch #s 170314L03 / 170314S03: (Associated with samples -35 and -36)

Zinc was detected in the method blank above the RL but detected in the associated samples at greater than 10x the method blank level and, therefore, results were reported with no further action required. All associated samples have 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 170307B06 / 170307S06 on GC 49.

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.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0140

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:

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

Manual integration was performed on one or more of the samples to correct the peak and/or baseline integration.

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.

A sample from a different work order 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: 17-03-0140

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:

Sample -31 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)**

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WORK ORDER: 17-03-0140
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

27 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-3

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	3.90	1.00	3.90	0.10	

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

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WORK ORDER: 17-03-0140
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-ISM2-3

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

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Moisture	4.30	1.00	4.30	0.10	

Return to Contents

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

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WORK ORDER: 17-03-0140
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-ISM3-3

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	4.20	1.00	4.20	0.10	

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

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WORK ORDER: 17-03-0140
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-ISM4-3

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

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Moisture	4.20	1.00	4.20	0.10	

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

Page 68 of 471

WORK ORDER: 17-03-0140
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

31 **CLIENT SAMPLE NUMBER:** F-DU1-ISM5-3

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	4.10	1.00	4.10	0.10	


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METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: ASTM D-2216 (M)

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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: 17-03-0140

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
27	F-DU1-ISM1-3		2017-03-03 18:00	NONE
28	F-DU1-ISM2-3		2017-03-03 18:00	NONE
29	F-DU1-ISM3-3		2017-03-03 18:00	NONE
30	F-DU1-ISM4-3		2017-03-03 18:00	NONE
31	F-DU1-ISM5-3		2017-03-03 18:00	NONE

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

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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	

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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

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

Data Files:

TYPE	DATA FILE	DATA FILE PATH
SDP	NONE	

Moisture Content Raw Data Logbook

METHOD	MATRIX	DATE	ANALYST(S)	BATCH NUMBER
ASTM D2216(M)	☒ Solid ☐ Sediment ☐ Other	Preparation: 03/03/17	1009/1050	MB: H0303401B1
		Analysis: ↓	↓	Sample Duplicate: ↓

CEL ID #	MASS (g)	DRY DISH	MOISTURE	RL (%)	COMMENTS	ALUMINUM DISH SUPPLY ID
	1.88	1.88	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	10 07	103	Start: 1000
Duplicate ↓ -27A	4.1			10 08	10 08	103	End: 1800

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

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

BATCH TIME
Time 04 Nov 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/SP/LP/STLC), ☐ Other (Specified) _____

[illegible]

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	99.94	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	
2970	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	

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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:
D/T REVIEWED:

COMPOUND	COMP. CALIB. TYPE	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
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:
REVIEWED BY:
D/T REVIEWED:

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

COMPOUND NAME	COMP TYPE	CALIB MODEL	MIN RF	AVG RF	ICV RF	AMOUNT	ICV CONC	ICV %D	ICV %D CL	STATUS
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

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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

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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	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /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:

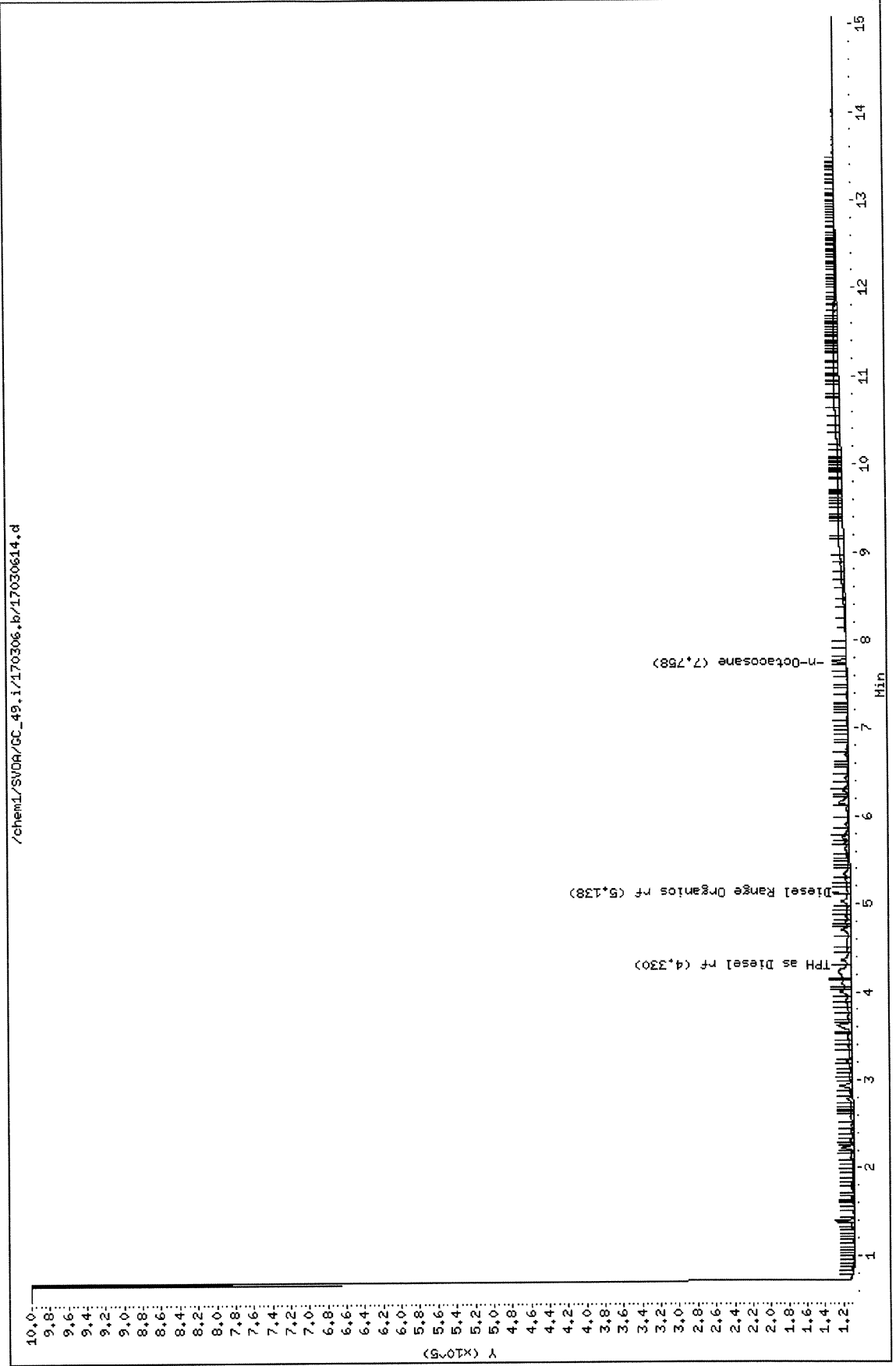
Sample Info: ICAL D5 C28 0.625 L1025168

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 (ppm)	ON-COL (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:

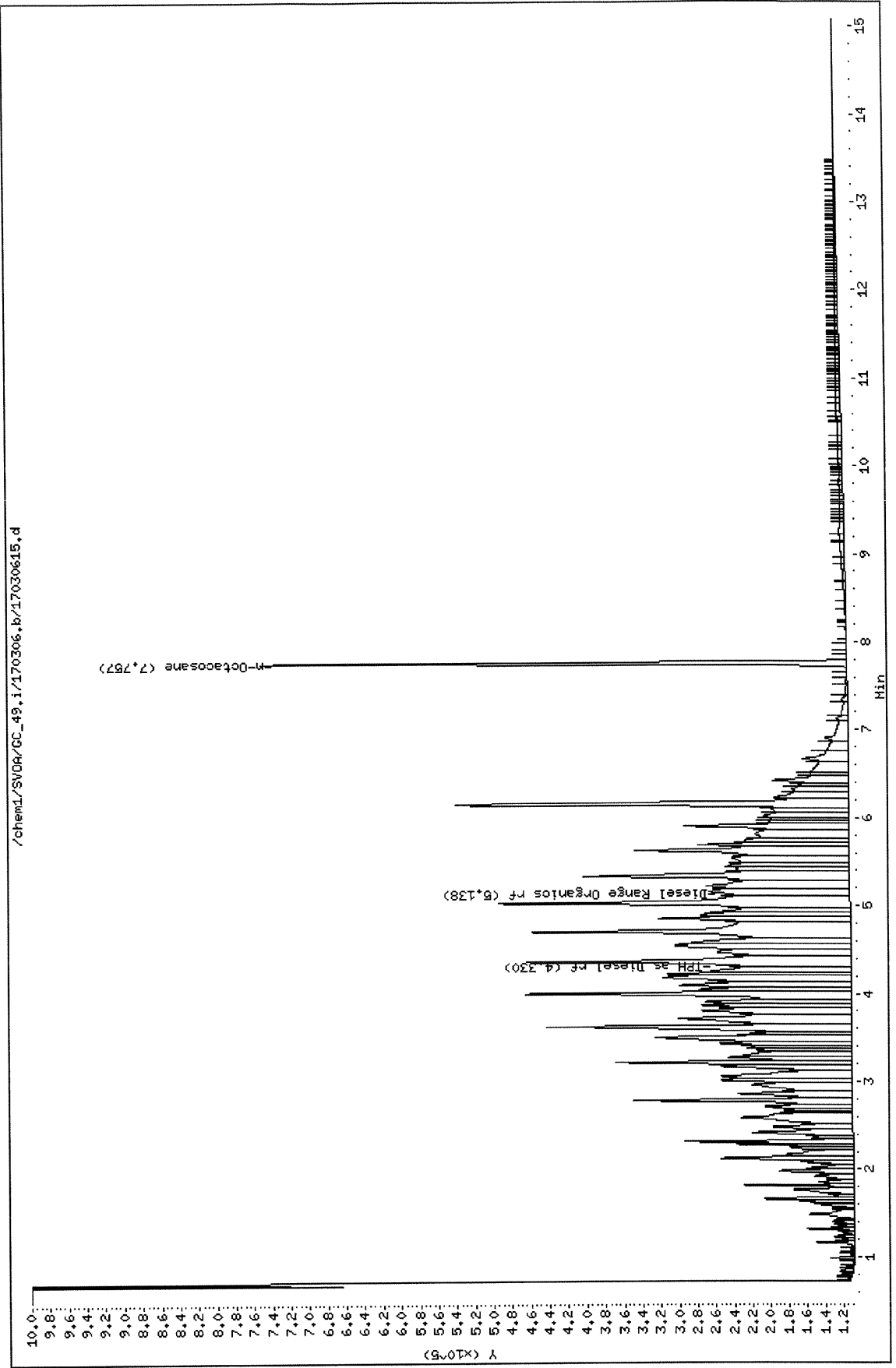
Sample Info: ICAL D200 C28 25 L102516C

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:

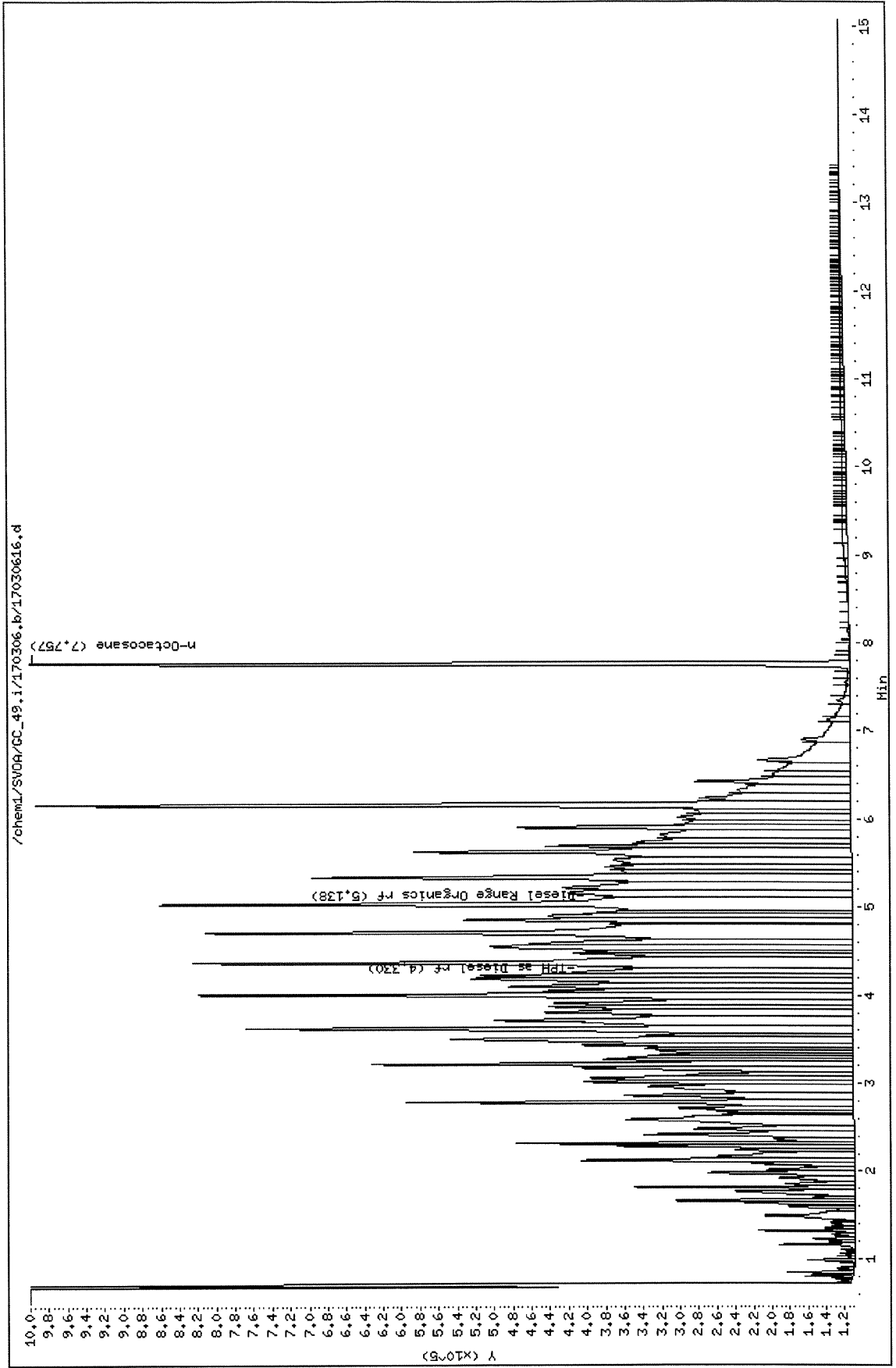
Sample Info: ICAL D400 C28 50 L102516D

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	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS	
					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:

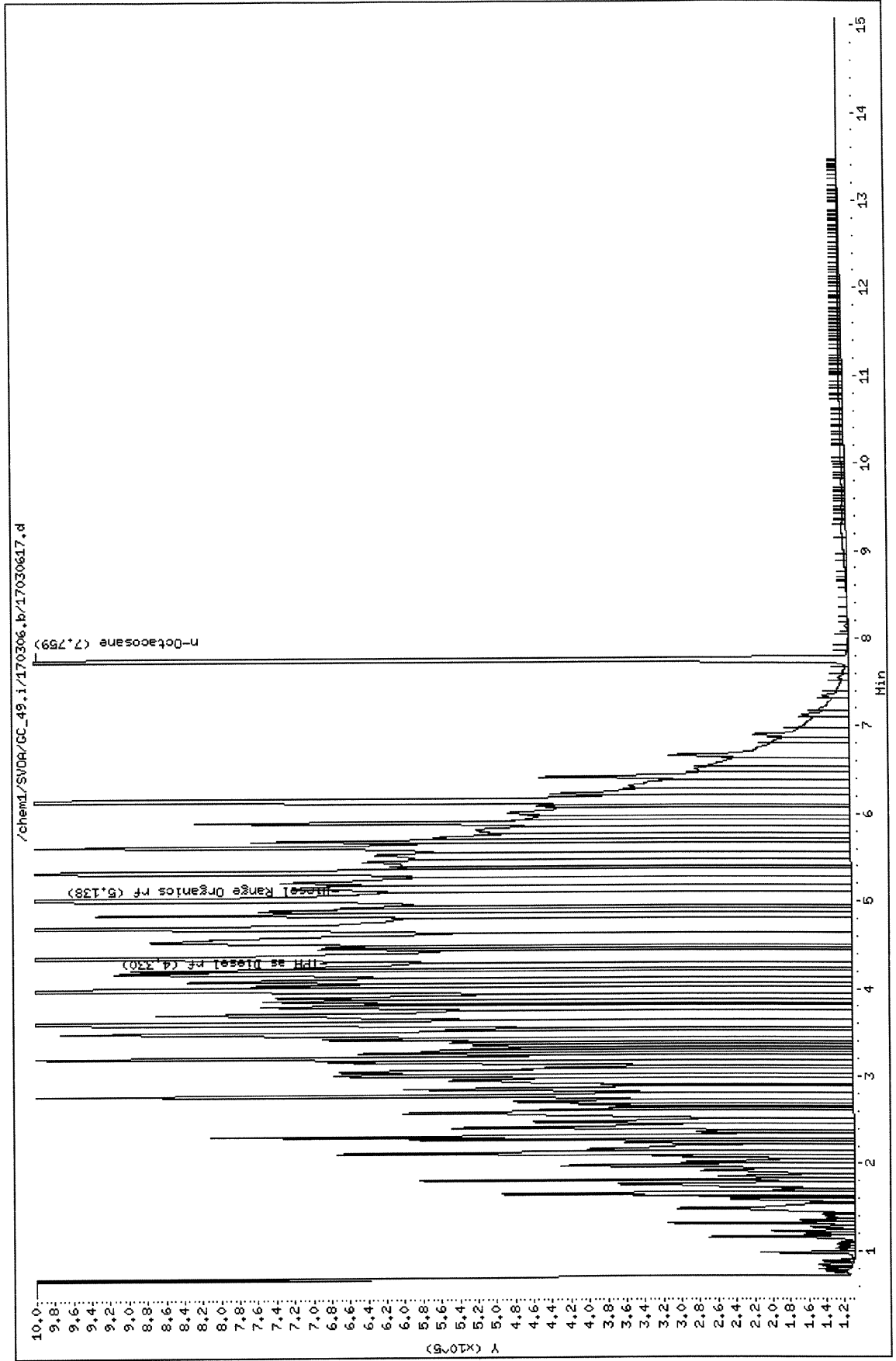
Sample Info: ICAL D800 C28 100 L102516E

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					AMOUNTS	
	RT	EXP RT	DLT RT	RESPONSE	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:

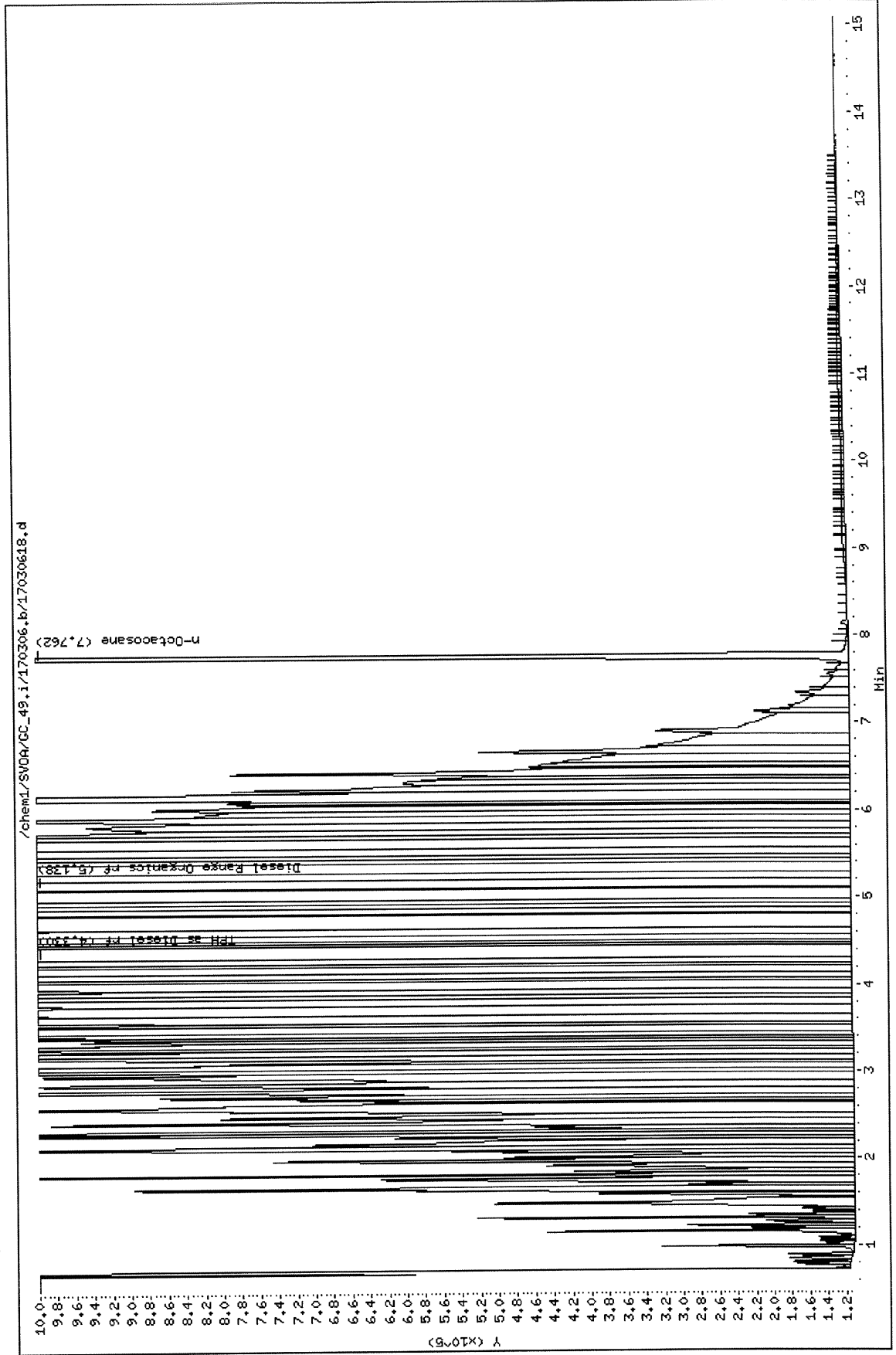
Sample Info: ICAH D1600 C28 200 L102516F

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:

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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:

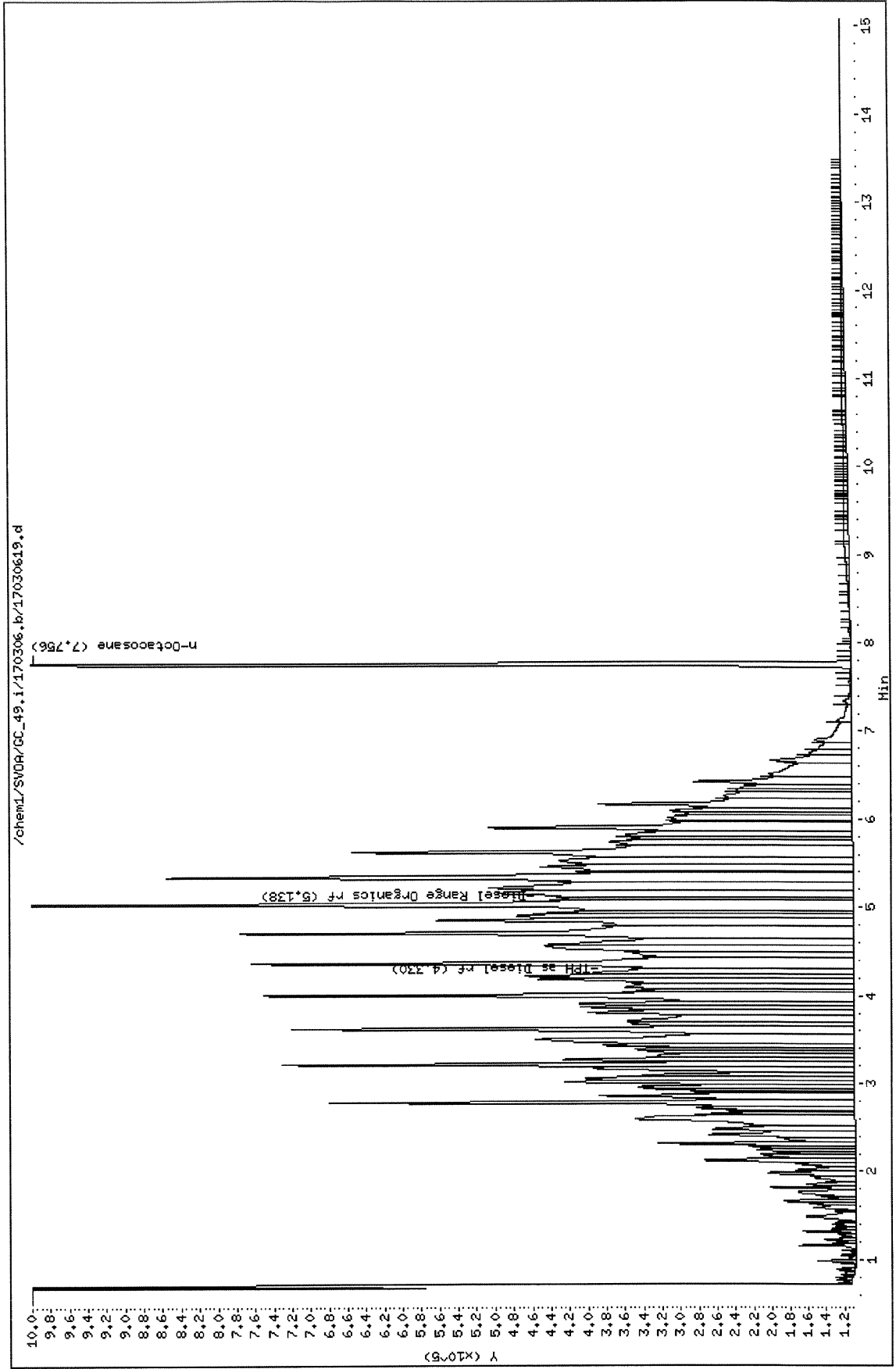
Sample Info: ICV B400 C28 50 L102516C

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:

[Return to Contents](#)

=====

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:

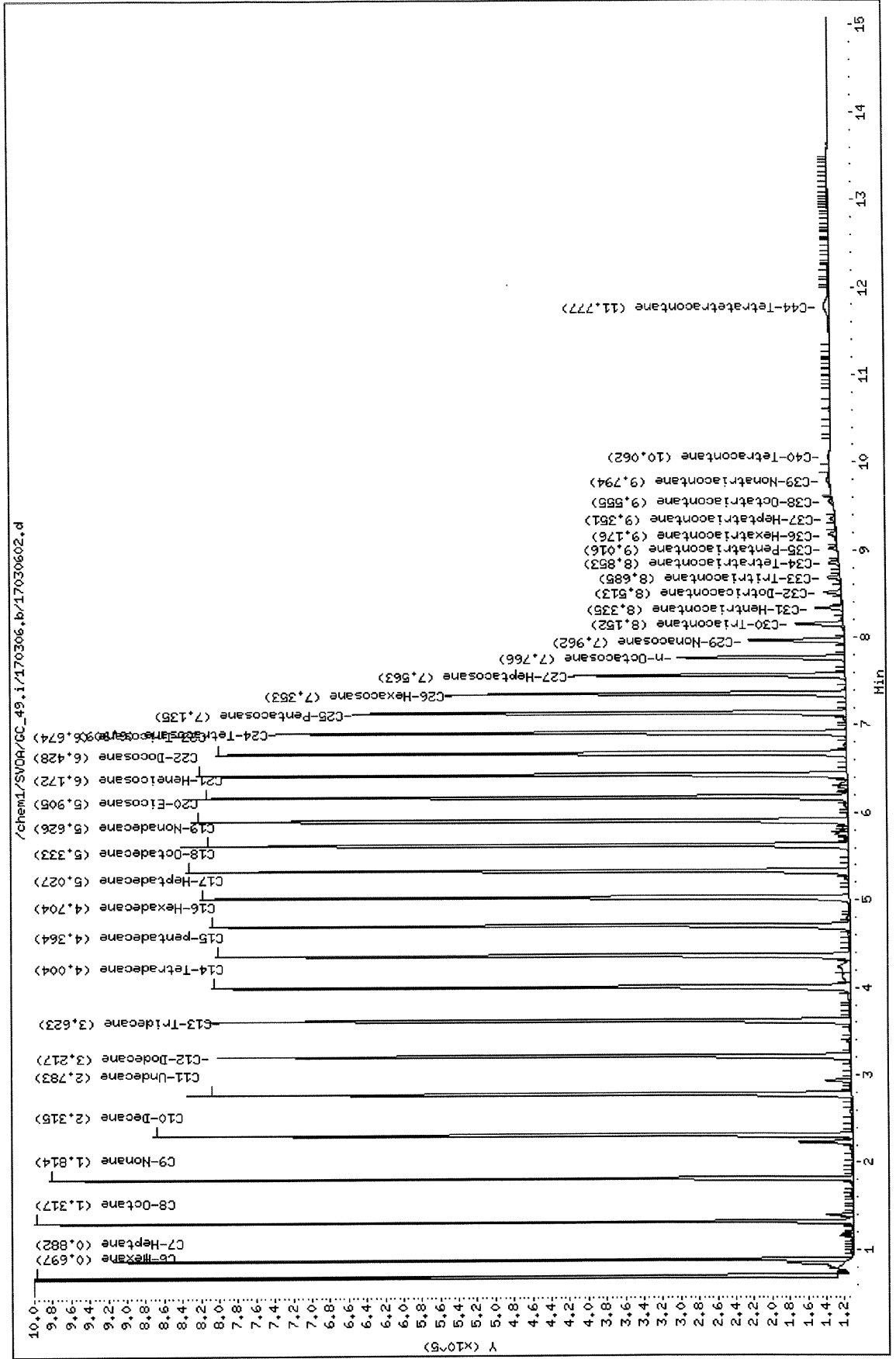
Instrument: GC_49.i

Sample Info: C6-C44 L110816A

Operator: 682

Column diameter: 2.00

Column phase:

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EPA 8015B (M)

Diesel + Motor Oil

SAMPLE DATA

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

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WORK ORDER: 17-03-0140
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 05:16
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030756.d\Report.txt17030756

27 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-3

LCS/MB BATCH: 170307B06	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.20 g
MS/MSD BATCH: 170307S06	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 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>
TPH as Diesel	2.47	1.00	ND	4.9	
TPH as Motor Oil	4.16	1.00	ND	4.9	

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

Data File Name : /chem1/SVOA/GC_49/170307/17030756.d
Page Number :
Operator : 682 Vial Number : Vial 1
Instrument : GC 49 Injection Number : 1
Sample Name : 17-03-0140-27 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 08 MAR 17 05:16
Report Created on: 08-MAR-17 14:09 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030756.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	14259189.00	61.39	n-Octacosane
2.313- 7.945			2408589.84	2.47	TPH as Diesel
5.022-11.750			4064336.61	4.16	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170307.b/17030756.d

Date : 08-MAR-2017 05:16

Client ID:

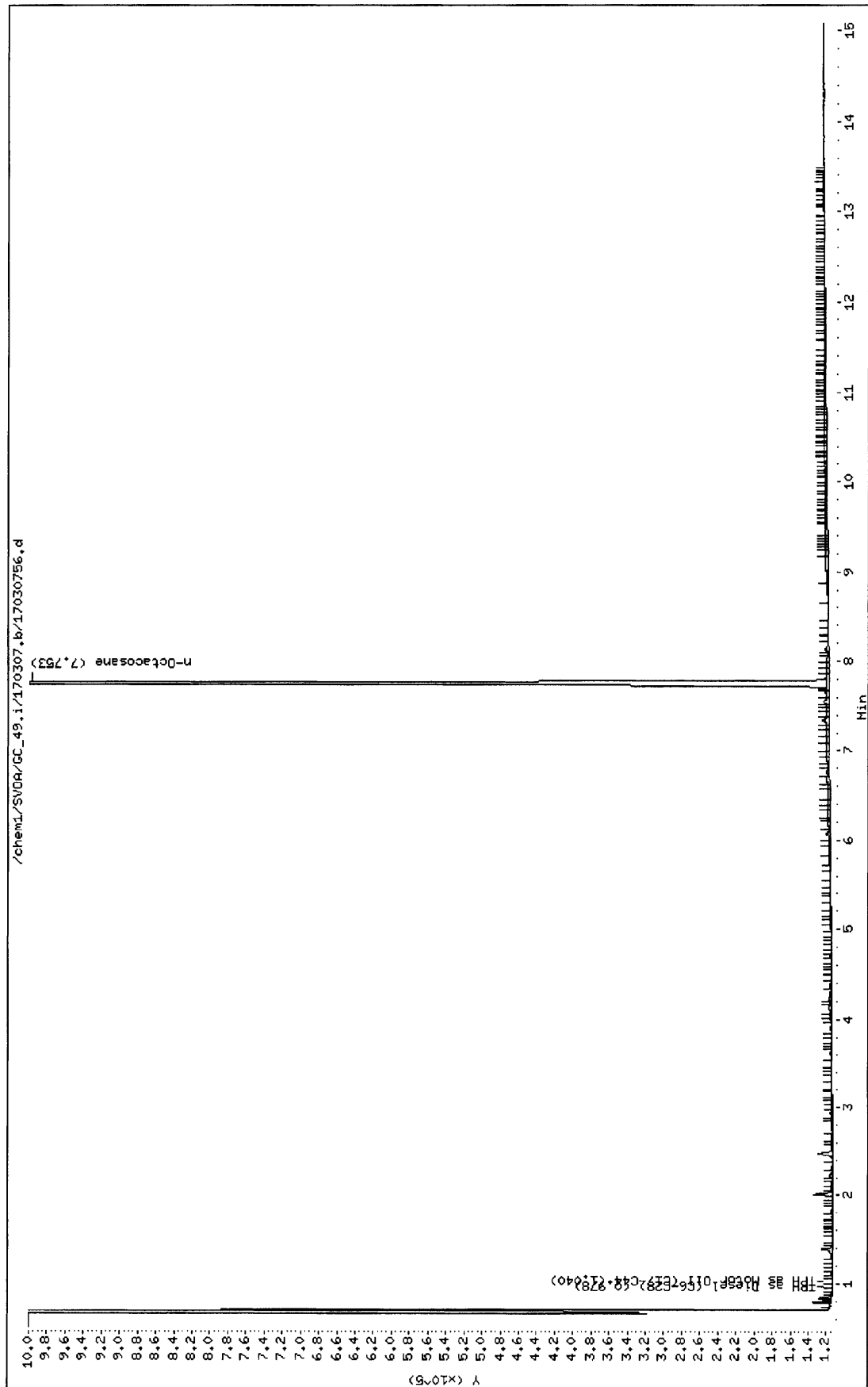
Sample Info: 17-03-0140-27

Instrument: GC_49.i

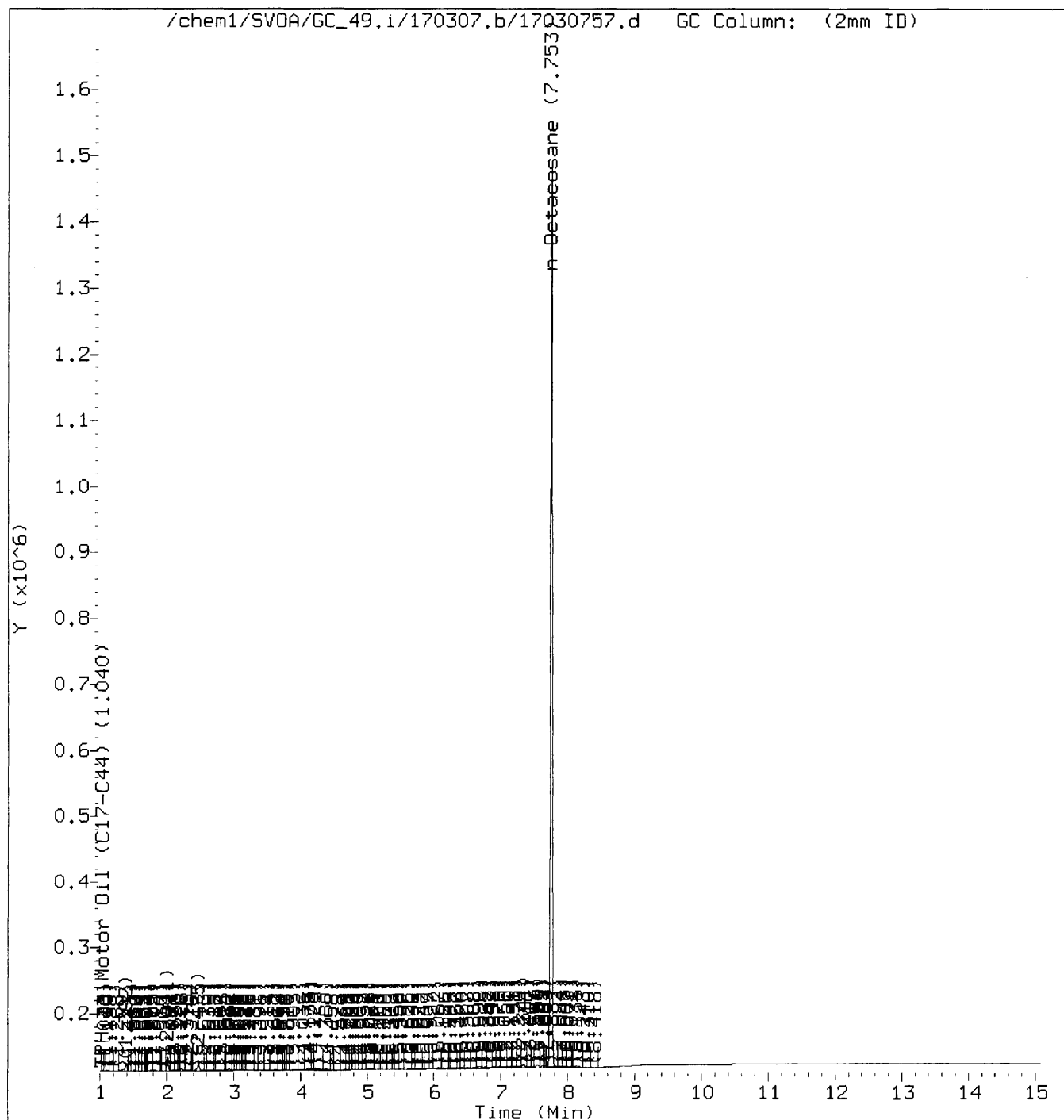
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File

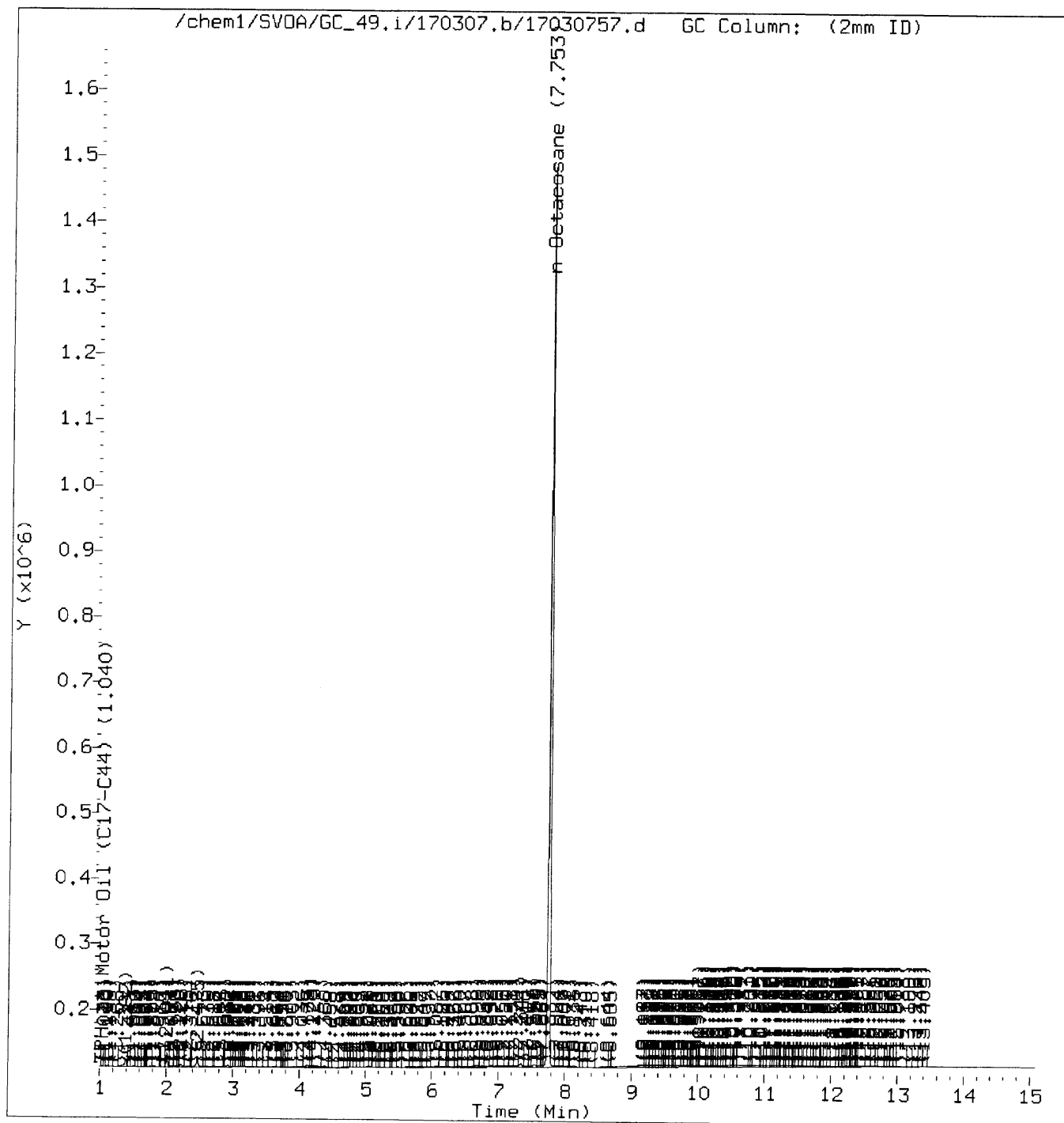


Reason for manual integration: Signal not integrated by automation

Digitally signed by Minhchi Doan
Analyst responsible for change: on 03/08/2017 at 14:09.
Target 3.5 esignature user ID: umd6

Audit/management approval: 1027

Original Data File



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

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WORK ORDER: 17-03-0140
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 05:37
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030757.d\Report.txt17030757

28 **CLIENT SAMPLE NUMBER:** F-DU1-ISM2-3

LCS/MB BATCH: 170307B06	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 9.99 g
MS/MSD BATCH: 170307S06	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	1.75	1.00	ND	5.0	
TPH as Motor Oil	1.32	1.00	ND	5.0	

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

Data File Name : /chem1/SVOA/GC_49/170307/17030757.d
Page Number :
Operator : 682 Vial Number : Vial 1
Instrument : GC 49 Injection Number : 1
Sample Name : 17-03-0140-28 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 08 MAR 17 05:37
Report Created on: 08-MAR-17 14:09 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030757.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	12538013.00	53.98	n-Octacosane
2.313- 7.945			1710760.37	1.75	TPH as Diesel
5.022-11.750			1292671.88	1.32	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVOR/GC_49.i/170307.b/17030757.d

Date : 08-MAR-2017 05:37

Client ID:

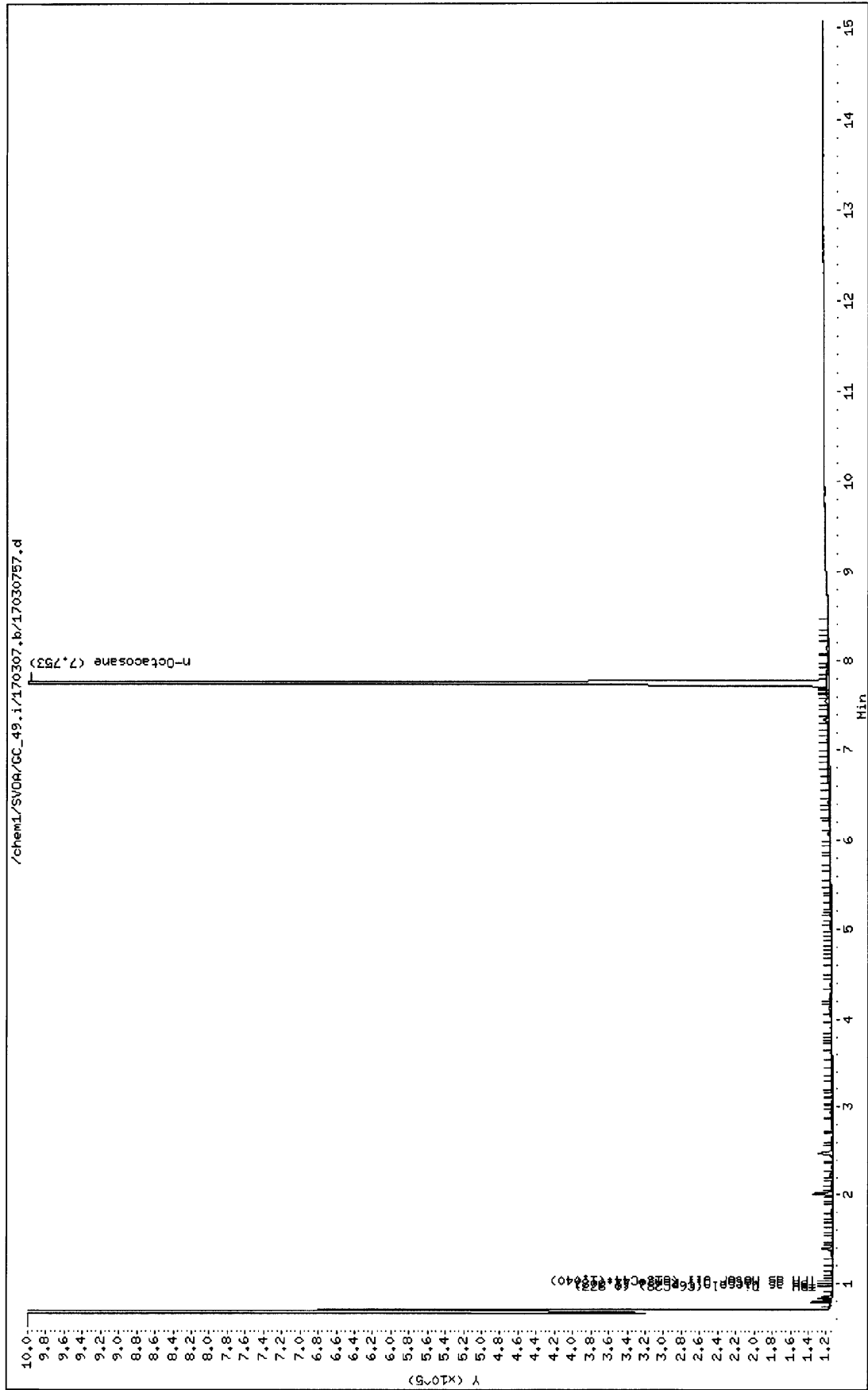
Sample Info: 17-03-0140-28

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

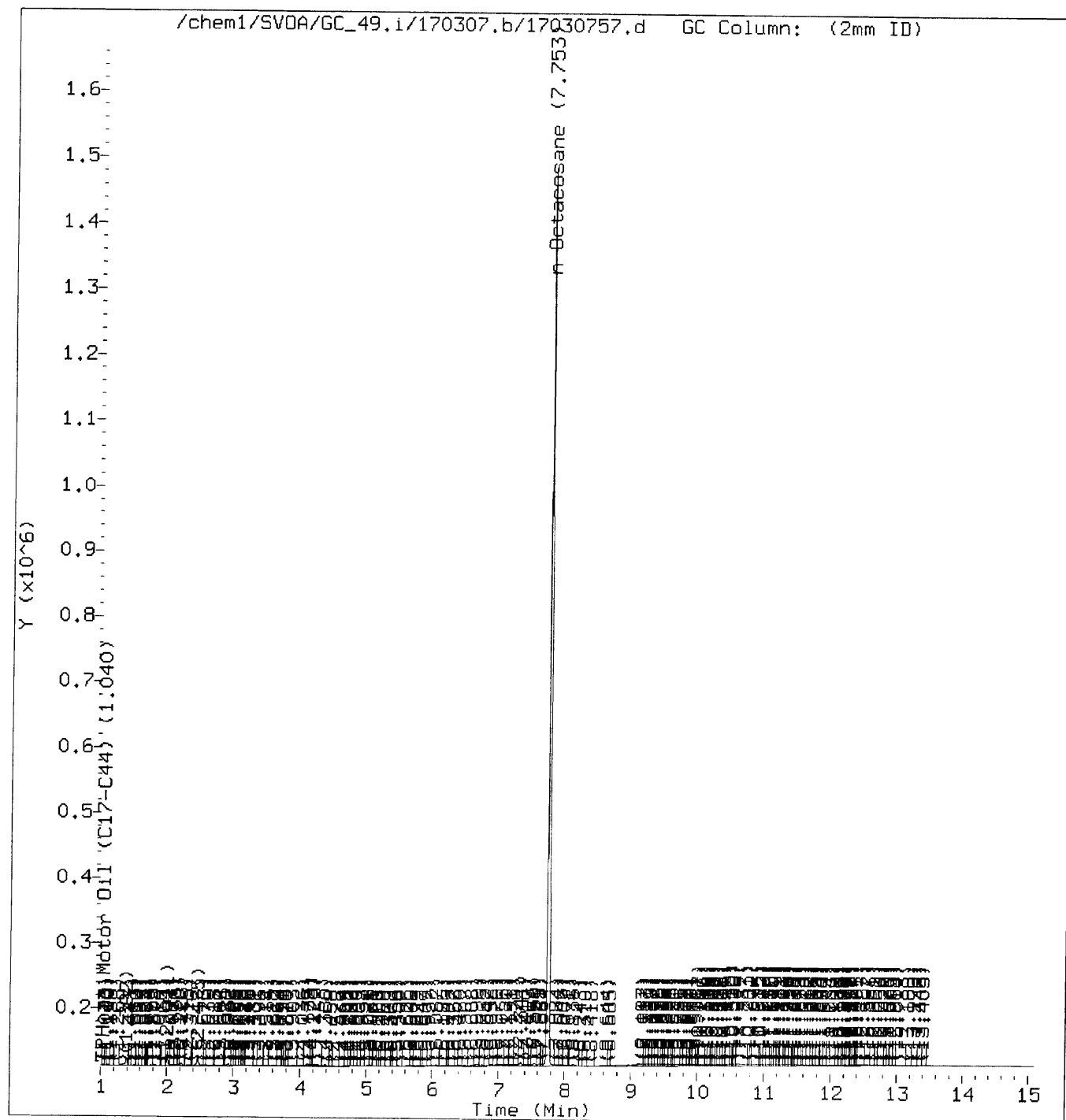
Column phase:





Audit/management approval: _____

Original Data File



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

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WORK ORDER: 17-03-0140
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 05:58
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030758.d\Report.txt17030758

29

CLIENT SAMPLE NUMBER: F-DU1-ISM3-3

LCS/MB BATCH: 170307B06	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.10 g
MS/MSD BATCH: 170307S06	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 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>
TPH as Diesel	1.94	1.00	ND	5.0	
TPH as Motor Oil	1.51	1.00	ND	5.0	

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

Data File Name : /chem1/SVOA/GC_49/170307/17030758.d
Page Number :
Operator : 682 Vial Number : Vial 1
Instrument : GC 49 Injection Number : 1
Sample Name : 17-03-0140-29 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 08 MAR 17 05:58
Report Created on: 08-MAR-17 14:10 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030758.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	12545126.00	54.01	n-Octacosane
2.313- 7.945			1898132.86	1.94	TPH as Diesel
5.022-11.750			1477908.61	1.51	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SV00A/GC_49.i/170307.b/17030758.d

Date : 08-MAR-2017 05:58

Client ID:

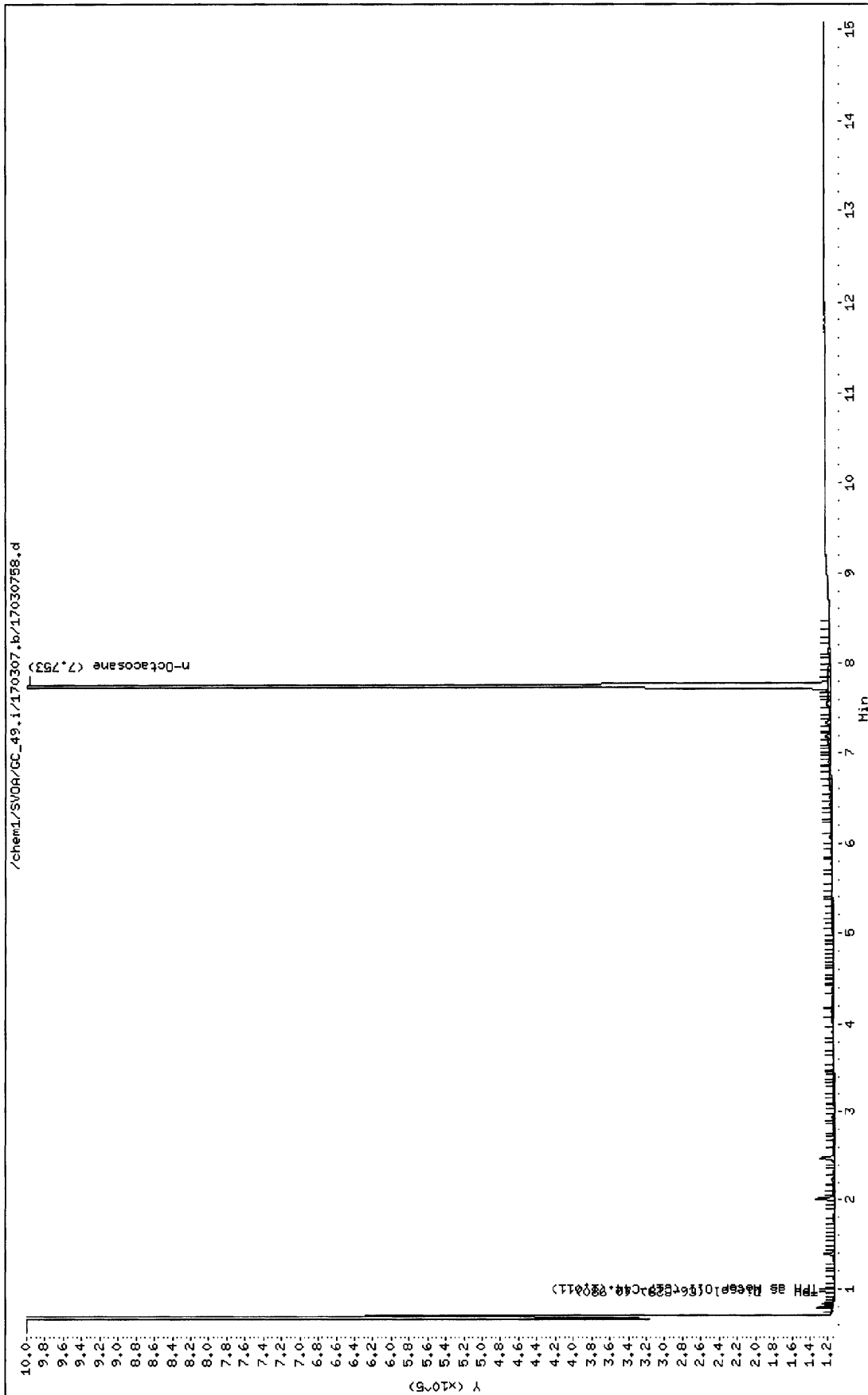
Sample Info: 17-03-0140-29

Instrument: GC_49.i

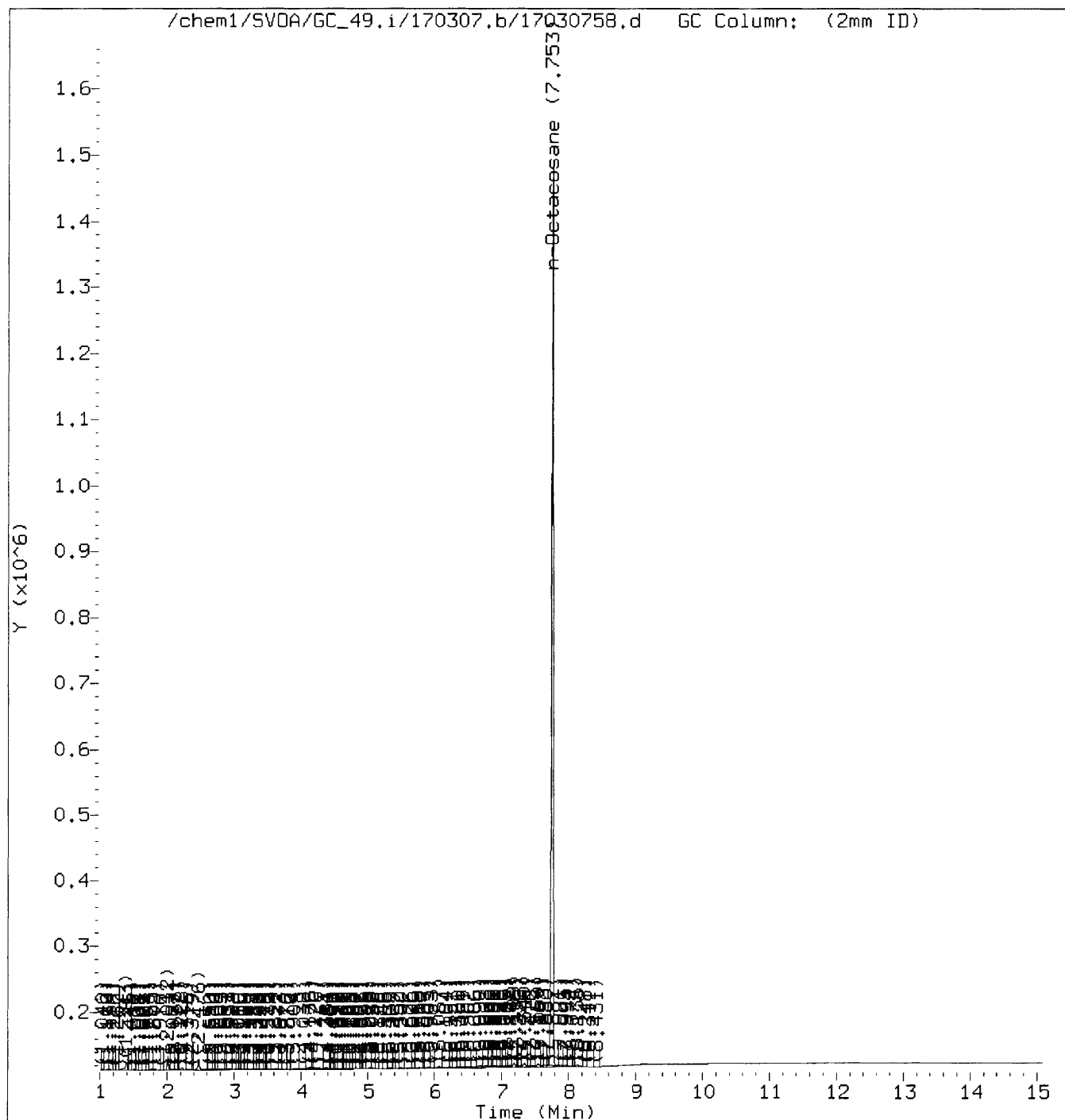
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File

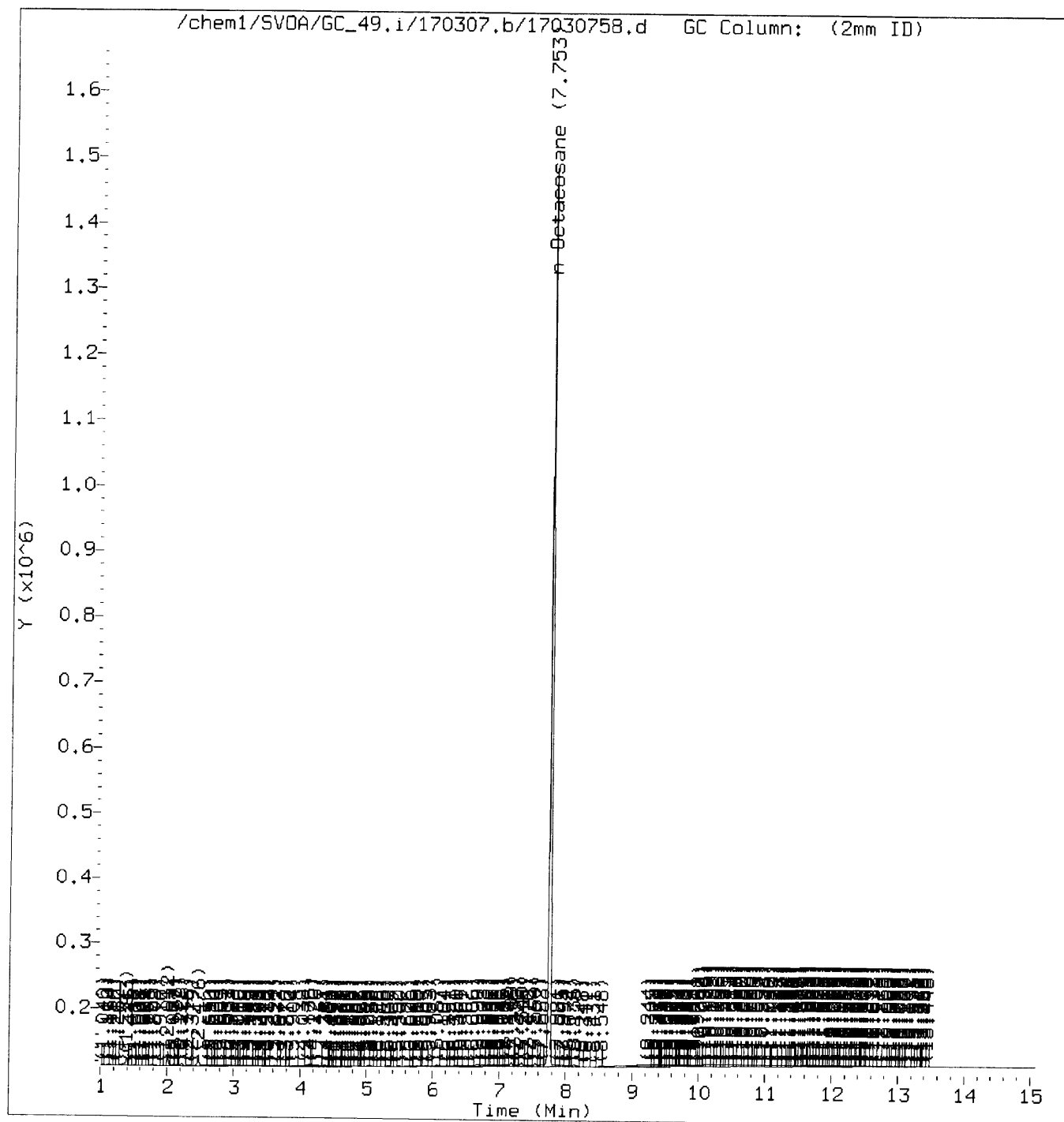


Reason for manual integration: Signal not integrated by automation

Digitally signed by Minhchi Doan
Analyst responsible for change: on 03/08/2017 at 14:10.
Target 3.5 esignature user ID: umd6

Audit/management approval: _____ 1027

Original Data File



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

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WORK ORDER: 17-03-0140

INSTRUMENT: GC 49

EXTRACTION: EPA 3550B

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

ANALYZED BY: 972

D/T ANALYZED: 2017-03-08 06:19

REVIEWED BY:

D/T REVIEWED:

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030759.d\Report.txt17030759

30

CLIENT SAMPLE NUMBER: F-DU1-ISM4-3

LCS/MB BATCH: 170307B06

MS/MSD BATCH: 170307S06

UNITS: mg/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 10.00 g / ACTUAL: 10.20 g

DEFAULT: 10.00 ml / ACTUAL: 10.00 ml

0.98

COMMENT:

COMPOUND

ON COL CONC

DF

CONC

RL

QUAL

TPH as Diesel

1.82

1.00

ND

4.9

TPH as Motor Oil

1.40

1.00

ND

4.9

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170307/17030759.d
Page Number :
Operator : 682 Vial Number : Vial 1
Instrument : GC 49 Injection Number : 1
Sample Name : 17-03-0140-30 Sequence Line : 0
Instrument Method: 8015d.m

Acquired on : 08 MAR 17 06:19
Report Created on: 08-MAR-17 14:11 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030759.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	11537390.00	49.67	n-Octacosane
2.313- 7.945			1781728.83	1.82	TPH as Diesel
5.022-11.750			1366169.35	1.40	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDR/GC_49.i/170307.b/17030759.d

Date : 08-MAR-2017 06:19

Client ID:

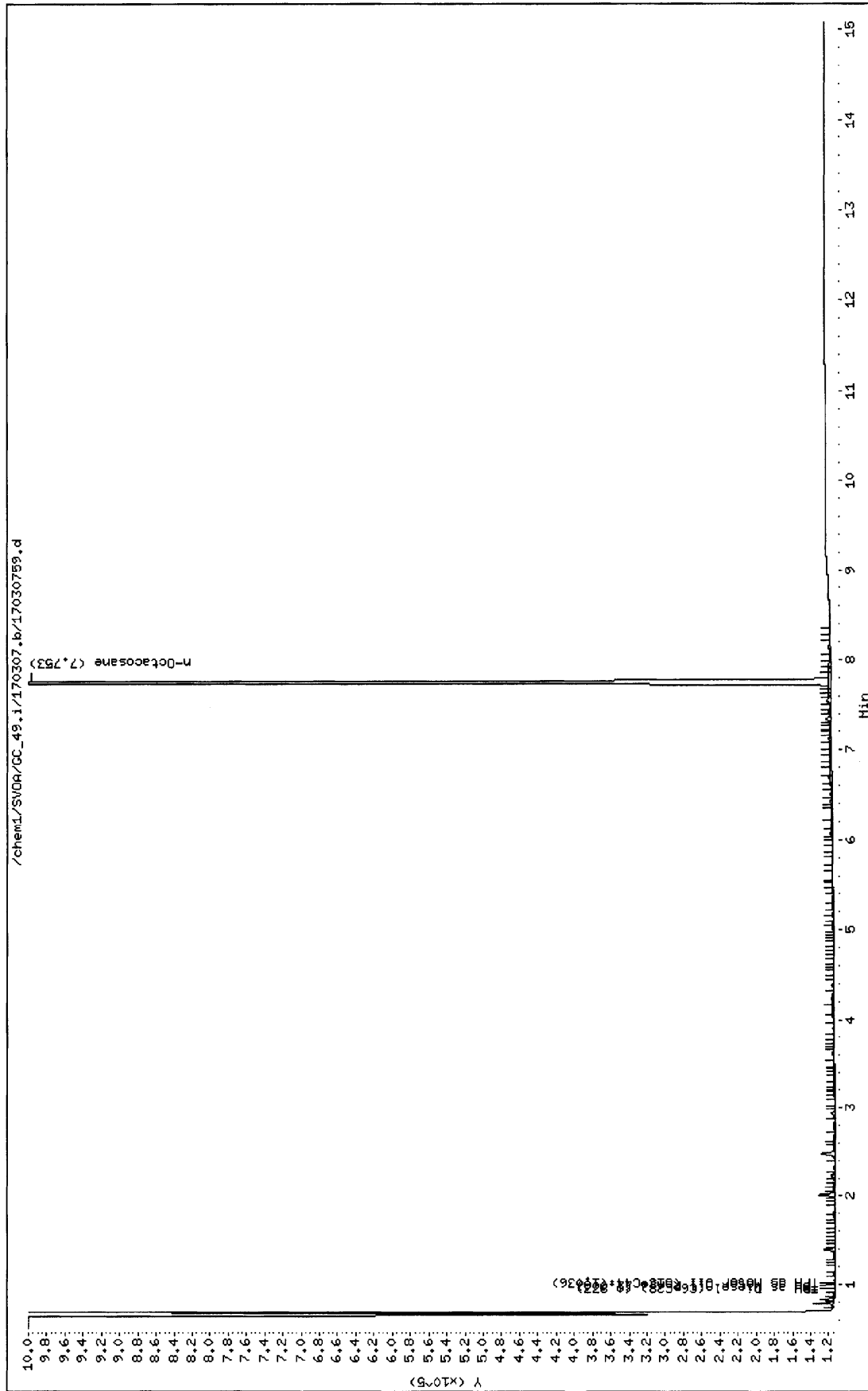
Sample Info: 17-03-0140-30

Instrument: GC_49.i

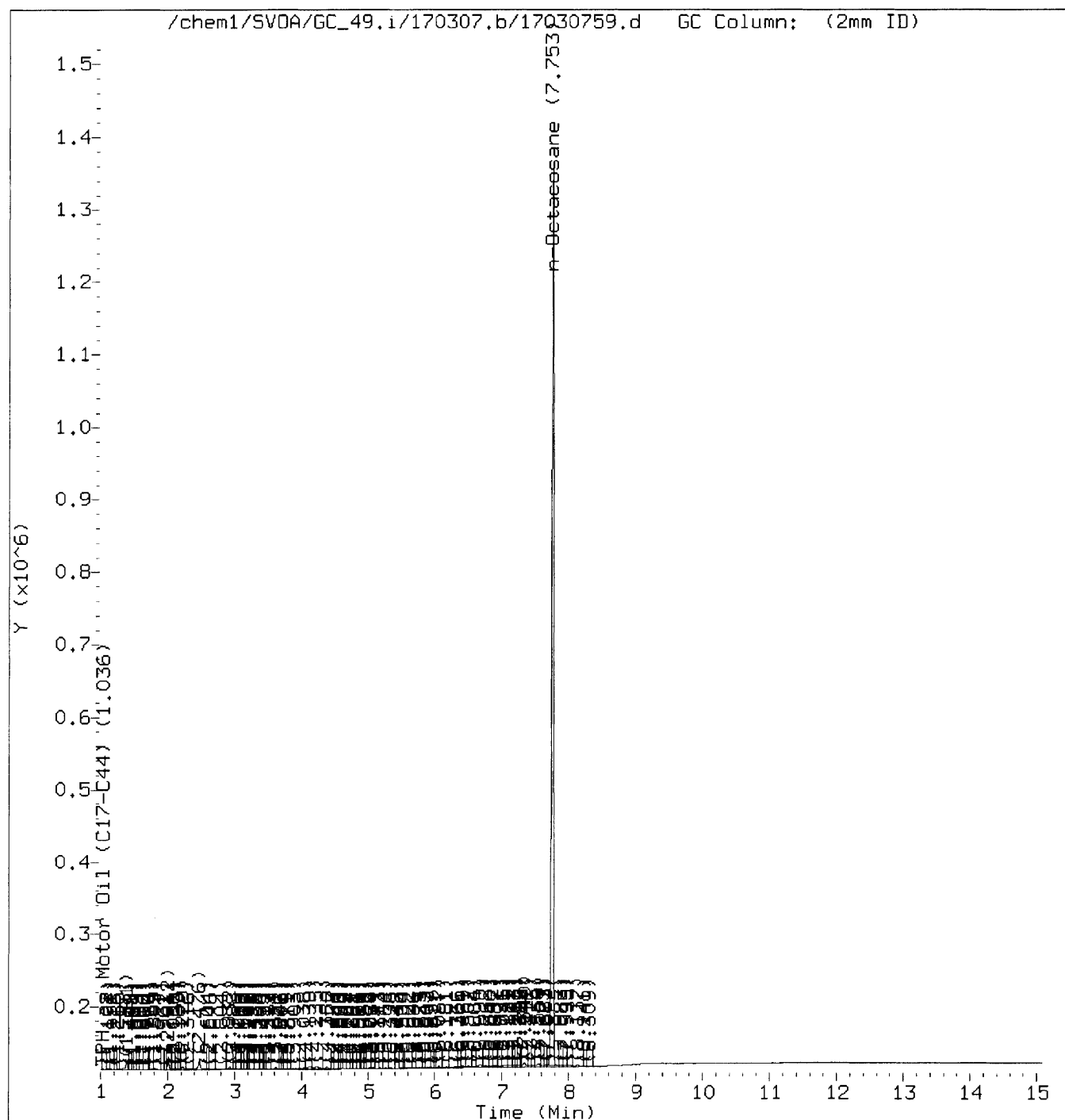
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File

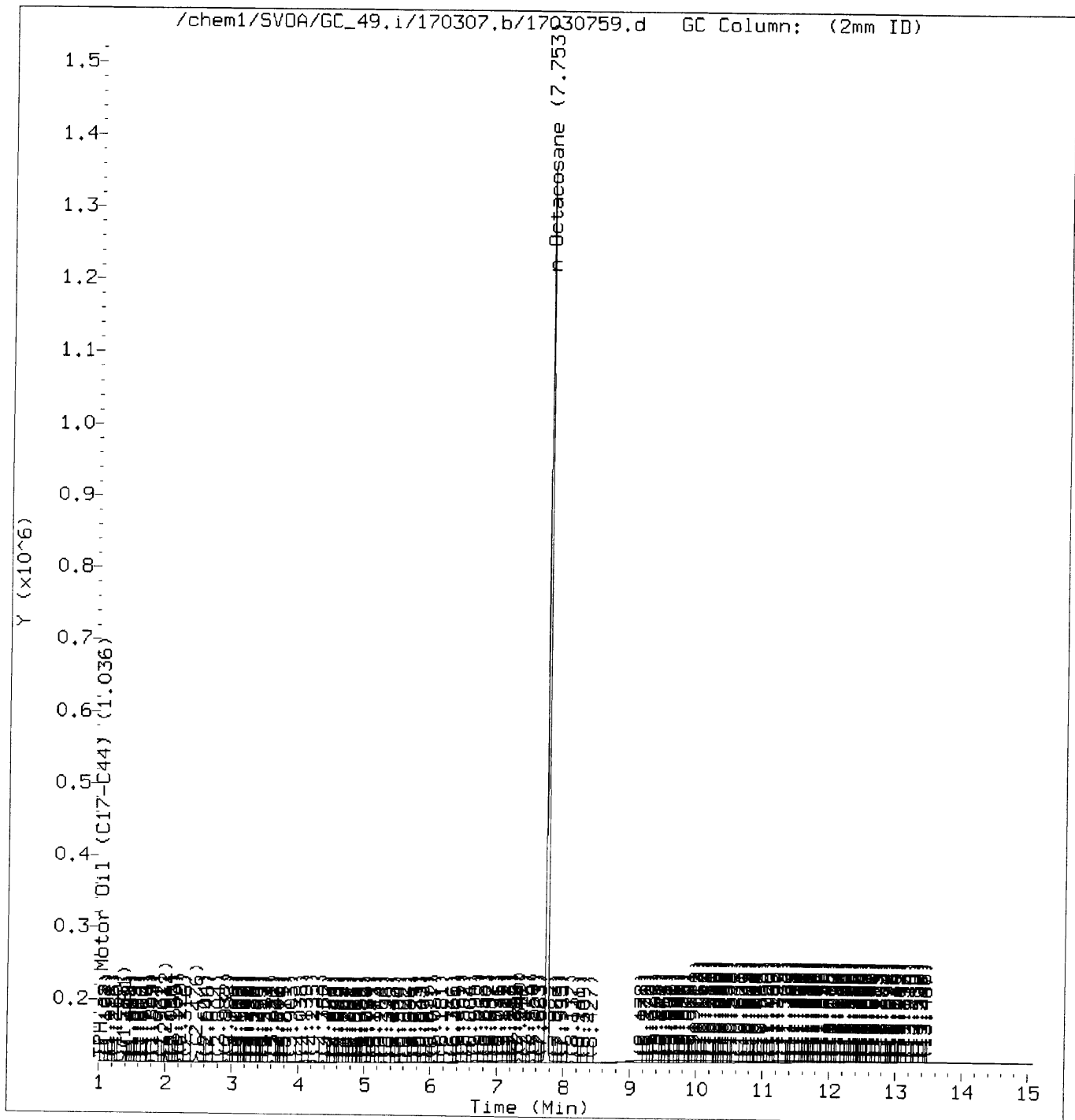


Reason for manual integration: Signal not integrated by automation

Digitally signed by Minhchi Doan
Analyst responsible for change: on 03/08/2017 at 14:11.
Target 3.5 esignature user ID: umd6

Audit/management approval: 1027

Original Data File



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

Page 118 of 471

WORK ORDER: 17-03-0140
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-08 06:40
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030760.d\Report.txt17030760

31 **CLIENT SAMPLE NUMBER:** F-DU1-ISM5-3

LCS/MB BATCH: 170307B06	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.20 g
MS/MSD BATCH: 170307S06	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 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>
TPH as Diesel	2.47	1.00	ND	4.9	
TPH as Motor Oil	2.02	1.00	ND	4.9	

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

Data File Name : /chem1/SVOA/GC_49/170307/17030760.d
Page Number :
Operator : 682 Vial Number : Vial 1
Instrument : GC 49 Injection Number : 1
Sample Name : 17-03-0140-31 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 08 MAR 17 06:40
Report Created on: 08-MAR-17 14:11 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030760.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.753	7.850	0.097	12162426.00	52.37	n-Octacosane
2.313- 7.945			2409501.92	2.47	TPH as Diesel
5.022-11.750			1975856.55	2.02	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVQA/GC_49.i/170307.b/17030760.d

Date : 08-MAR-2017 06:40

Client ID:

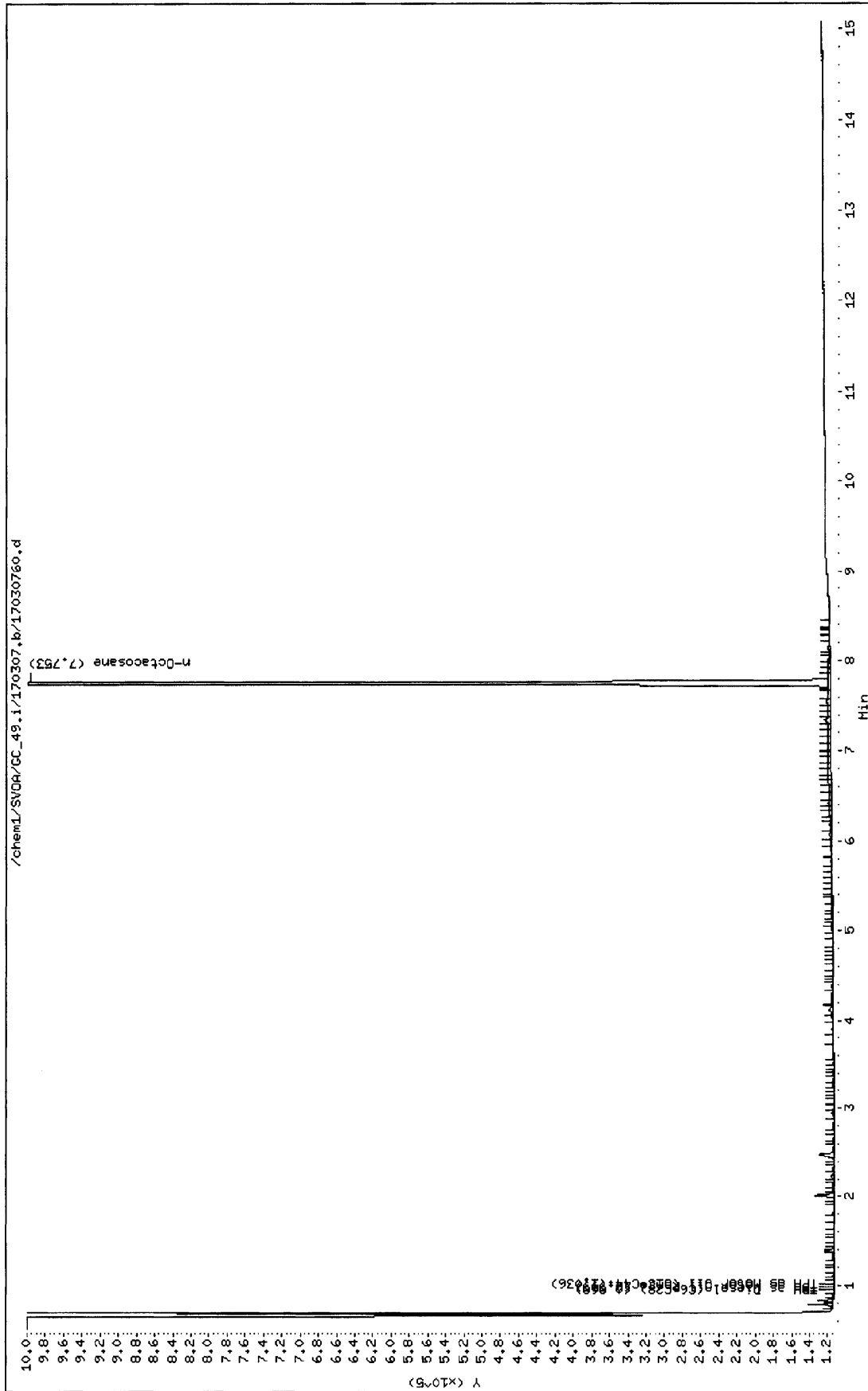
Sample Info: 17-03-0140-31

Instrument: GC_49.i

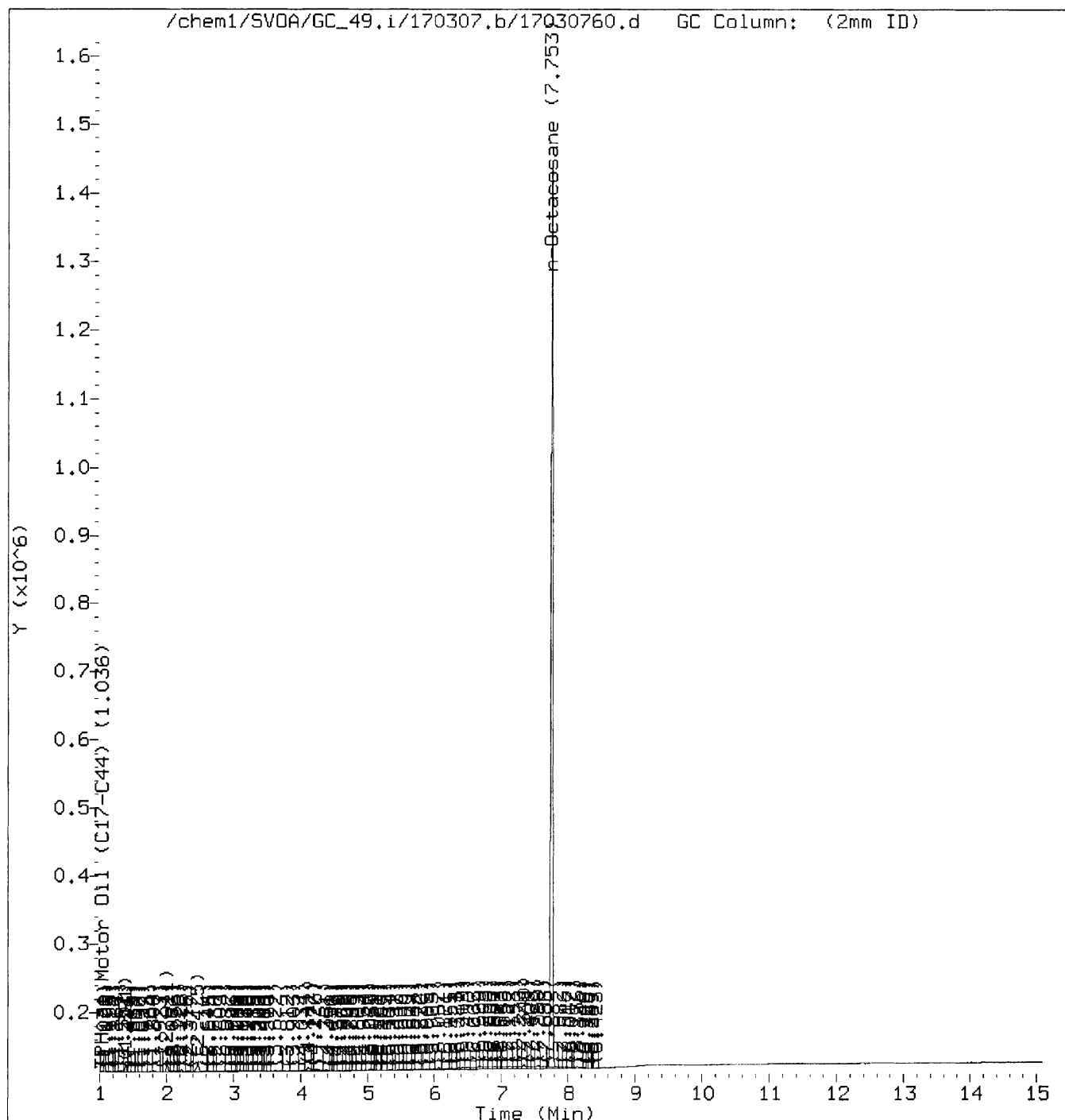
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File

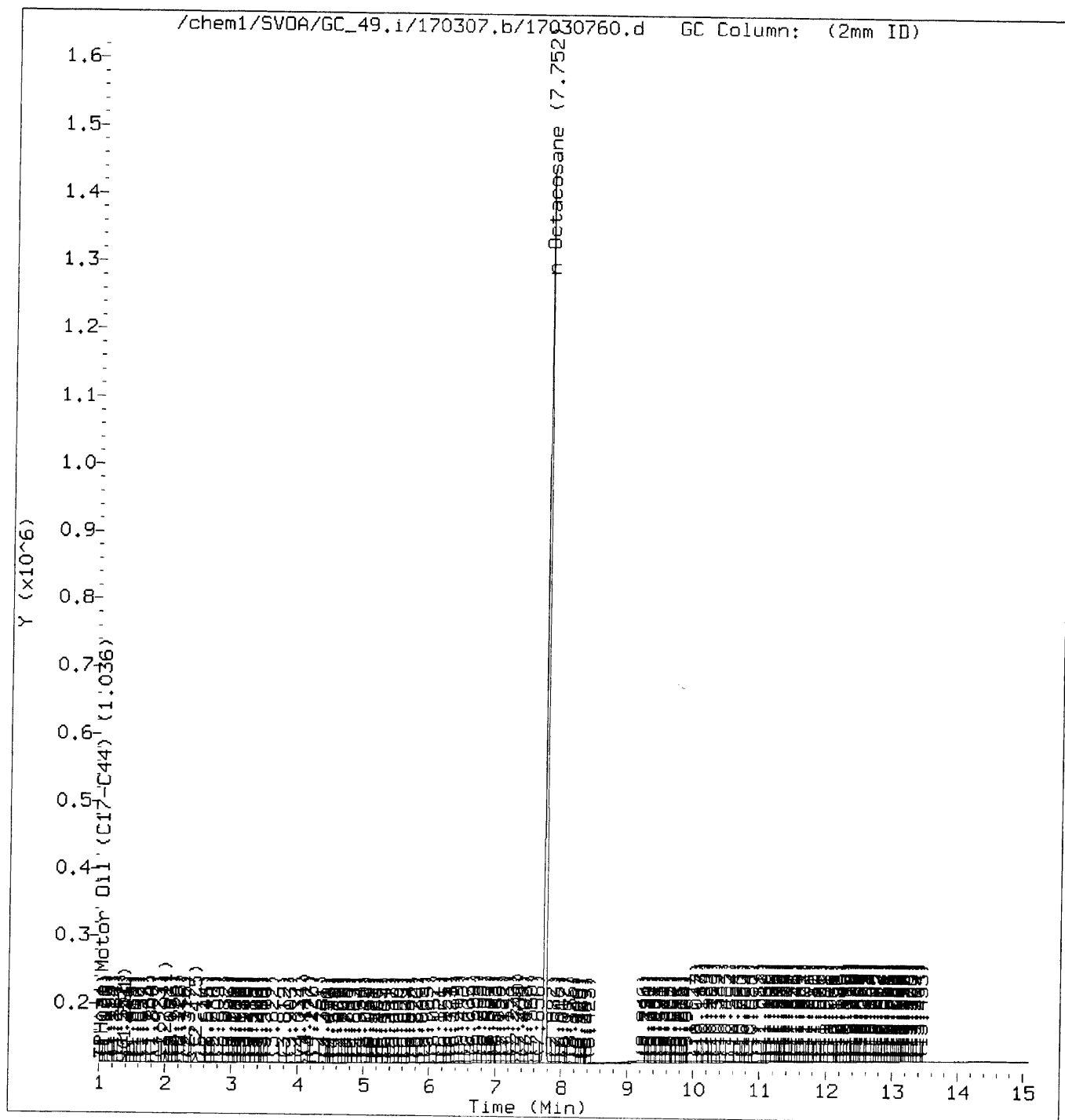


Reason for manual integration: Signal not integrated by automation

Digitally signed by Minhchi Doan
Analyst responsible for change: on 03/08/2017 at 14:11.
Target 3.5 esignature user ID: umd6

Audit/management approval: 1027

Original Data File



EPA 8015B (M)
Diesel + Motor Oil

QUALITY CONTROL

Method Blank
LCS/LCSD
MS/MSD

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

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MB SAMPLE ID: 099-14-353-4
MB BATCH ID: 170307B06
INSTRUMENT: GC 49
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-07 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-07 22:19
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030736.d\Report.txt17030736

CLIENT WORK ORDER: 17-03-0140

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-3		2017-03-08 05:16	T:\GC_49\GC_49_data\2017\170307\17030756.d\Report.txt17030756
28	F-DU1-ISM2-3		2017-03-08 05:37	T:\GC_49\GC_49_data\2017\170307\17030757.d\Report.txt17030757
29	F-DU1-ISM3-3		2017-03-08 05:58	T:\GC_49\GC_49_data\2017\170307\17030758.d\Report.txt17030758
30	F-DU1-ISM4-3		2017-03-08 06:19	T:\GC_49\GC_49_data\2017\170307\17030759.d\Report.txt17030759
31	F-DU1-ISM5-3		2017-03-08 06:40	T:\GC_49\GC_49_data\2017\170307\17030760.d\Report.txt17030760

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

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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: 2017-03-07 22:19
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030736.d\Report.txt17030736

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH:	170307B06	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	0.450	1.00	ND	5.0	
TPH as Motor Oil	0.260	1.00	ND	5.0	

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

LCS SAMPLE ID: 099-14-353- 4
LCS/MB BATCH ID: 170307B06
INSTRUMENT: GC 49

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

ANALYZED BY: 972
D/T ANALYZED: 2017-03-07 22:40
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_49_data\2017\170307\17030737.d\Report.txt17030737

<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	360.5	90	61-145	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 8015B (M)

SPIKED SAMPLE ID: 17-03-0335-11
MS/MSD BATCH: 170307S06

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 01:06
MS: 2017-03-07 23:01
MSD: 2017-03-07 23:22

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
TPH as Diesel	ND	400.0	400.0	315.9	79	343.9	86	61-145	8	0-25	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17030738	T:\GC_49\GC_49_data\2017\170307\17030738.d\Report.txt
MSD	17030739	T:\GC_49\GC_49_data\2017\170307\17030739.d\Report.txt

SURROGATE RECOVERIES FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-0140

BATCH ID:

LCS/MB: 170307B06MS: 170307S06EXTRACTION: EPA 3550BREVIEWED BY:D/T REVIEWED:**# 27** **CLIENT SAMPLE NUMBER : F-DU1-ISM1-3**INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 05:16DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030756.d\Report.txt17030756COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	123	61-145	PASS	

28 **CLIENT SAMPLE NUMBER : F-DU1-ISM2-3**INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 05:37DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030757.d\Report.txt17030757COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	108	61-145	PASS	

29 **CLIENT SAMPLE NUMBER : F-DU1-ISM3-3**INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 05:58DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030758.d\Report.txt17030758COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	108	61-145	PASS	

30 **CLIENT SAMPLE NUMBER : F-DU1-ISM4-3**INSTRUMENT: GC 49ANALYZED BY: 972D/T EXTRACTED: 2017-03-07 00:00D/T ANALYZED 2017-03-08 06:19DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030759.d\Report.txt17030759COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	99	61-145	PASS	

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

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WORK ORDER: 17-03-0140

BATCH ID:

LCS/MB: 170307B06

MS: 170307S06

EXTRACTION: EPA 3550B

REVIEWED BY:

D/T REVIEWED:

31 **CLIENT SAMPLE NUMBER : F-DU1-ISM5-3**

INSTRUMENT: GC 49

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

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030760.d\Report.txt17030760

ANALYZED BY: 972

D/T ANALYZED 2017-03-08 06:40

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	105	61-145	PASS	

MB **CLIENT SAMPLE NUMBER : Method Blank**

INSTRUMENT: GC 49

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

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030736.d\Report.txt17030736

ANALYZED BY: 972

D/T ANALYZED 2017-03-07 22:19

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	117	61-145	PASS	

LCS **CLIENT SAMPLE NUMBER : Lab Control Sample**

INSTRUMENT: GC 49

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

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030737.d\Report.txt17030737

ANALYZED BY: 972

D/T ANALYZED 2017-03-07 22:40

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	124	61-145	PASS	

MS **CLIENT SAMPLE NUMBER : Matrix Spike**

INSTRUMENT: GC 49

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

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030738.d\Report.txt17030738

ANALYZED BY: 972

D/T ANALYZED 2017-03-07 23:01

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	119	61-145	PASS	

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

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WORK ORDER: 17-03-0140

BATCH ID:

LCS/MB:

MS: **170307S06**

EXTRACTION: EPA 3550B

REVIEWED BY:

D/T REVIEWED:

MSD **CLIENT SAMPLE NUMBER : Matrix Spike Duplicate**

INSTRUMENT: GC 49

ANALYZED BY: 972

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

D/T ANALYZED 2017-03-07 23:22

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030739.d\Report.txt17030739

COMMENT:

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

Return to Contents

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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170307/17030736.d
Page Number :
Operator : 682 Vial Number : Vial 36
Instrument : GC 49 Injection Number : 36
Sample Name : MB 17030706 Sequence Line : 0
Instrument Method: 8015d.m

Acquired on : 07 MAR 17 22:19
Report Created on: 08-MAR-17 13:54 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030736.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.752	7.850	0.098	13587785.00	58.50	n-Octacosane
2.313- 7.945			439837.37	0.45	TPH as Diesel
5.022-11.750			253529.63	0.26	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170307.b/17030736.d

Date : 07-MAR-2017 22:19

Client ID:

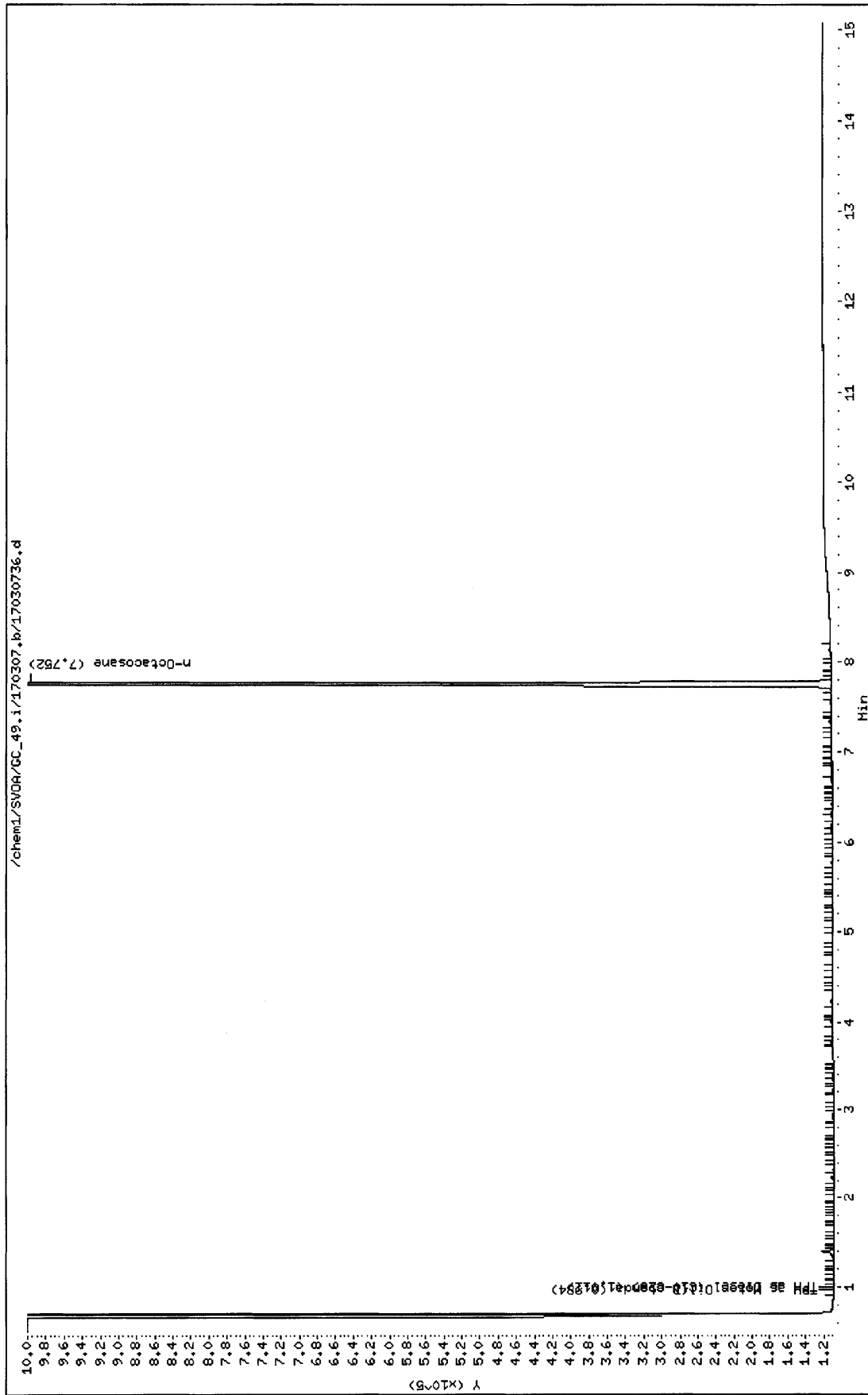
Sample Info: MB 17030706

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170307/17030737.d
 Page Number :
 Operator : 682 Vial Number : Vial 37
 Instrument : GC 49 Injection Number : 37
 Sample Name : LCS 17030706 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 07 MAR 17 22:40
 Report Created on: 08-MAR-17 13:54 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030737.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.752	7.850	0.098	14358575.00	61.82	n-Octacosane
0.698- 7.945			352250625.47	360.54	TPH as Diesel
2.313- 7.945			334504844.23	375.07	Diesel Range Organics

End of File

Page 1

Data File: /chem1/SV00/CC_49.i/170307.b/17030737.d

Date : 07-MAR-2017 22:40

Client ID:

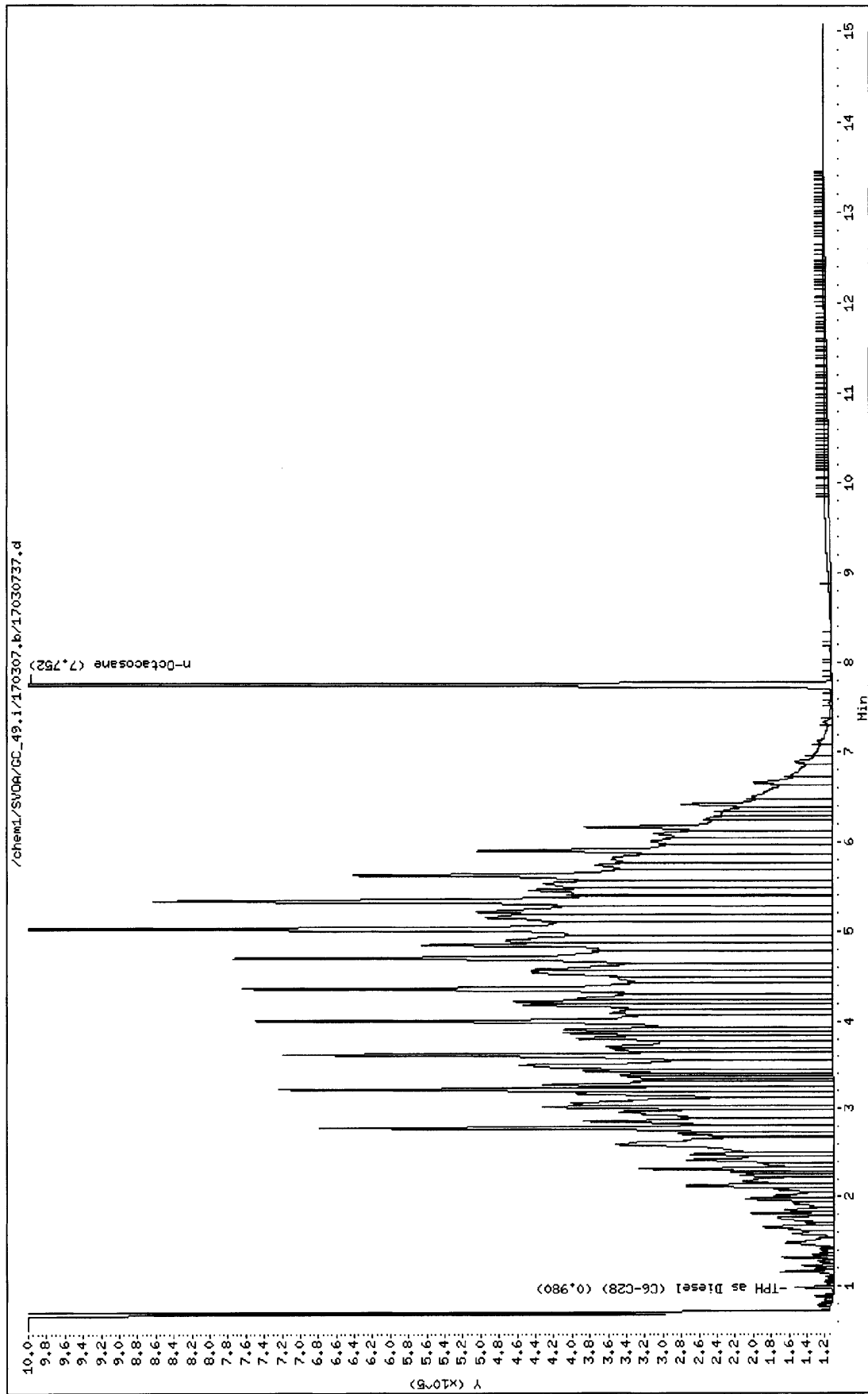
Sample Info: LCS 17030706

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170307/17030738.d
 Page Number :
 Operator : 682 Vial Number : Vial 38
 Instrument : GC 49 Injection Number : 38
 Sample Name : MS 17-03-0335-11 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 07 MAR 17 23:01
 Report Created on: 08-MAR-17 13:55 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030738.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.750	7.850	0.100	13778536.00	59.32	n-Octacosane
2.313- 7.945			308677974.69	315.94	TPH as Diesel
5.022-11.750			125252160.79	128.20	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SV04/GC_49.i/170307.b/17030738.d

Date : 07-MAR-2017 23:01

Client ID:

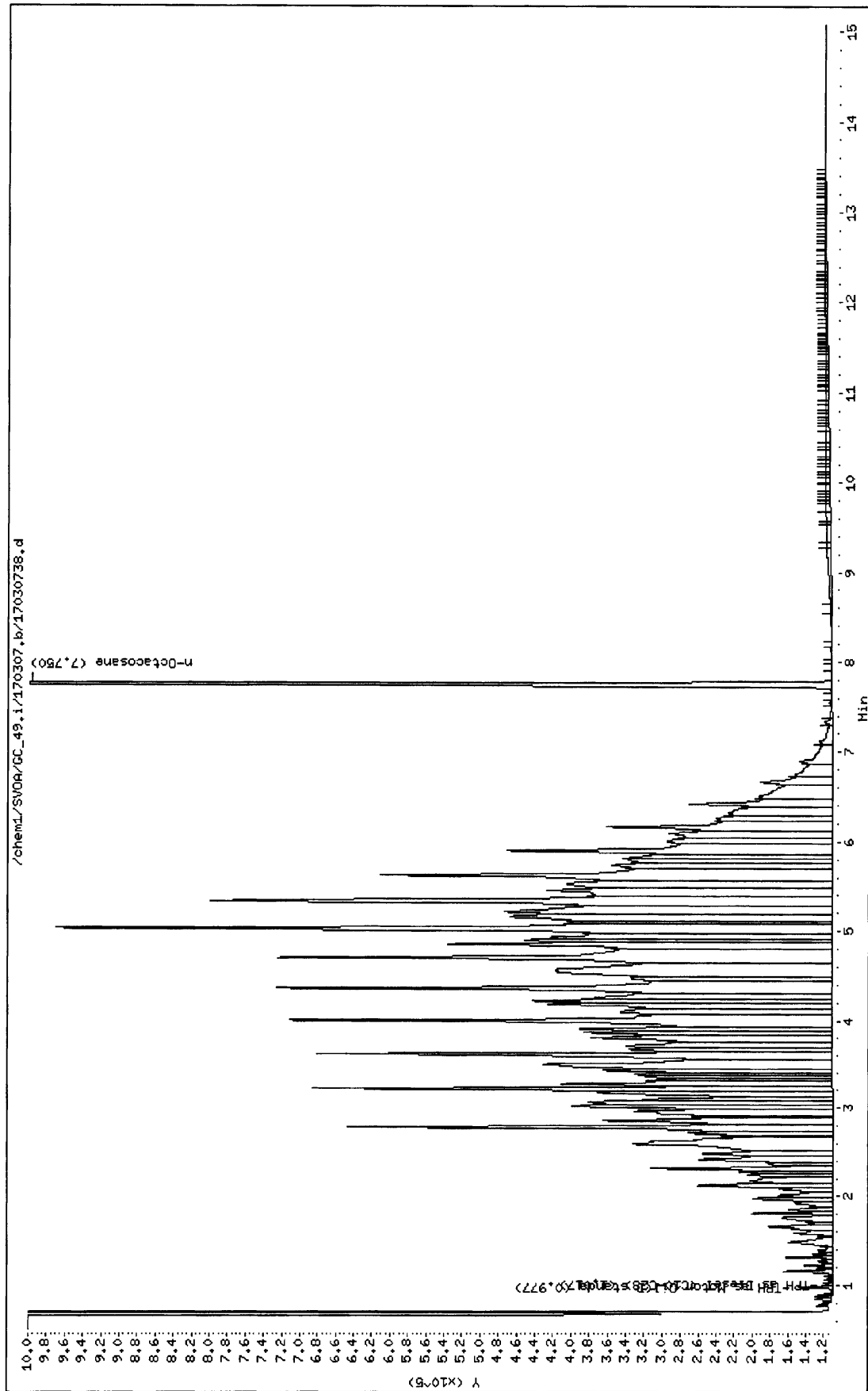
Sample Info: MS 17-03-0335-11

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170307/17030739.d
 Page Number :
 Operator : 682 Vial Number : Vial 39
 Instrument : GC 49 Injection Number : 39
 Sample Name : MSD 17-03-0335-11 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 07 MAR 17 23:22
 Report Created on: 08-MAR-17 13:55 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030739.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.750	7.850	0.100	12817666.00	55.19	n-Octacosane
2.313- 7.945			336015929.94	343.92	TPH as Diesel
5.022-11.750			136318122.19	139.52	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SV0A/GC_49.i/170307.b/17030739.d

Date : 07-MAR-2017 23:22

Client ID:

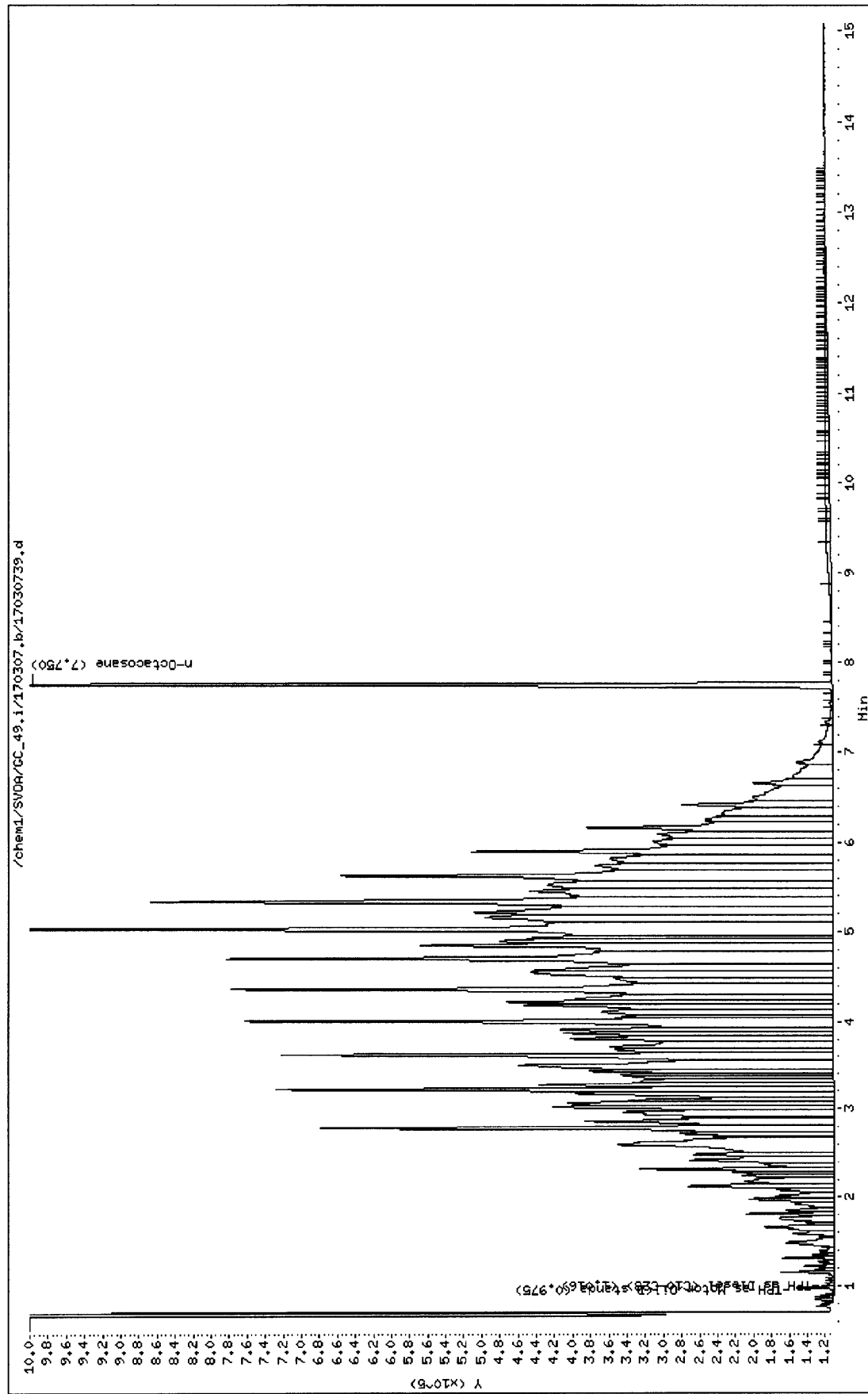
Sample Info: MSD 17-03-0335-11

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_49/170307/17030744.d
 Page Number :
 Operator : 682 Vial Number : Vial 44
 Instrument : GC 49 Injection Number : 44
 Sample Name : 17-03-0335-11 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 08 MAR 17 01:06
 Report Created on: 08-MAR-17 13:57 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/17030744.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.752	7.850	0.098	13983688.00	60.21	n-Octacosane
2.313- 7.945			895953.89	0.92	TPH as Diesel
5.022-11.750			241569.04	0.25	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170307.b/17030744.d

Date : 08-HAR-2017 01:06

Client ID:

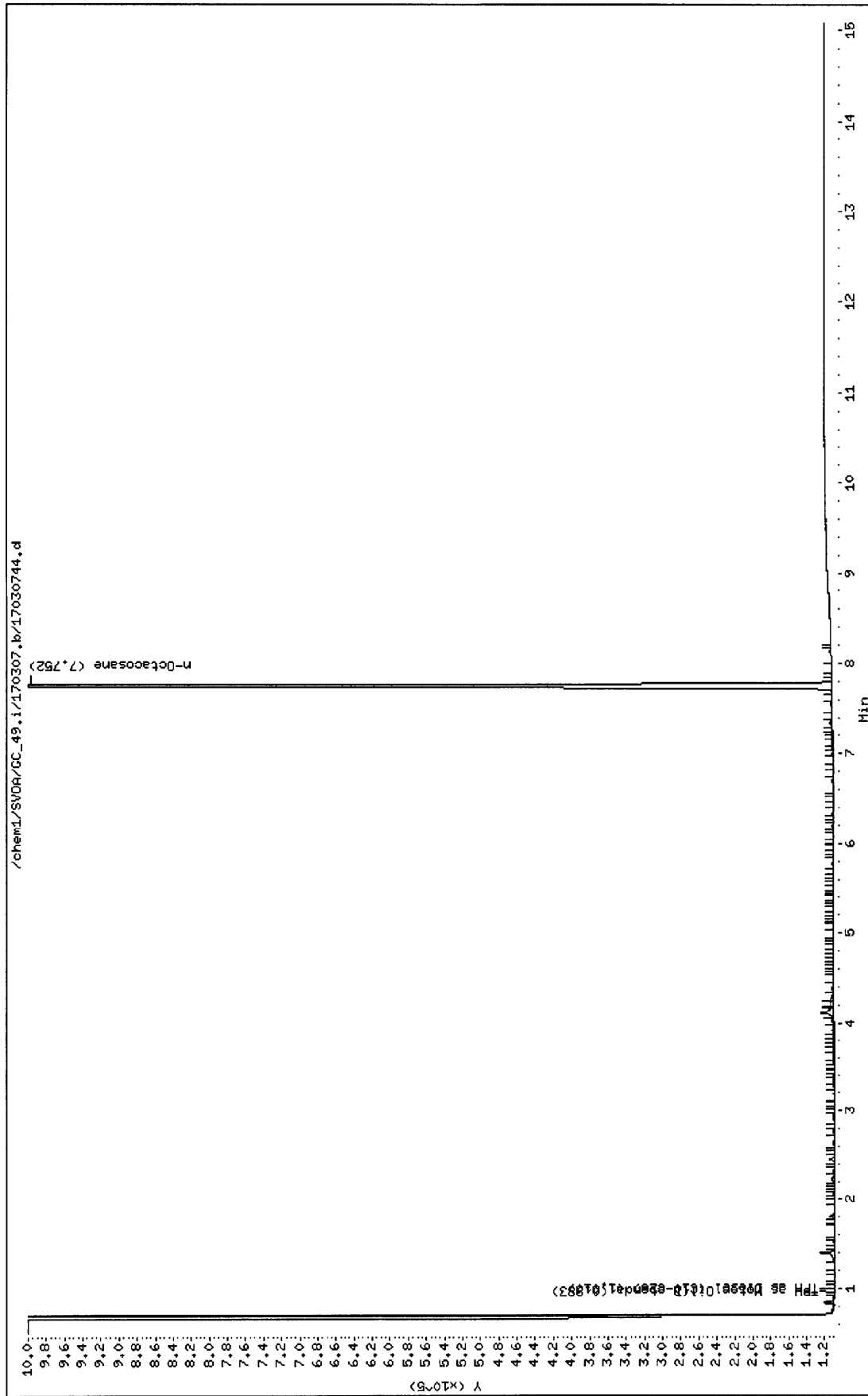
Sample Info: 17-03-0335-11

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



EPA 8015B (M) Diesel + Motor Oil

CONTINUING CALIBRATION

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

CCV WORK ORDER: 099-14-354-24-5901

BATCH ID:

INITIAL: 170306I006

CCV: 170307A070

INSTRUMENT: GC 49

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030734.d\Report.txt17030734

ANALYZED BY: 972

D/T ANALYZED:

INITIAL:

CCV:

REVIEWED BY:

D/T REVIEWED:

2017-03-06 16:25

2017-03-07 21:39

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	919.283			6	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_49.i/170307.b/17030734.d
 Report Date: 03/08/2017 13:52

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_49.i Injection Date and Time: 07-MAR-2017 21:39
 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/170307.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	844213.558	0.00	5	15	Averaged
TPH as Diesel	977015.903	919283.173	0.00	6	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	232259.309	250374.400	0.00	-8	20	Averaged

page 1

Data File: /chem1/SVOA/GC_49.i/170307.b/17030734.d
 Report Date: 08-Mar-2017 13:52

Page 1

Eurofins Calscience

EPA 8015B (M)

Data file : /chem1/SVOA/GC_49.i/170307.b/17030734.d
 Lab Smp Id:
 Inj Date : 07-MAR-2017 21:39
 Operator : 682 Inst ID: GC_49.i
 Smp Info : CCV D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_49.i/170307.b/8015d.m
 Meth Date : 08-Mar-2017 13:52 umd6 Quant Type: ESTD
 Cal Date : 25-JAN-2017 02:23 Cal File: 17012445.d
 Als bottle: 34 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	0.698-7.945			367713269	400.000	376.363
S 26 Diesel Range Organics	2.313-7.945			337685423	400.000	378.632
\$ 92 n-Octacosane	7.752	7.752	0.000	12518720	50.0000	53.899

Page 1

Data File: /chem1/SVDA/GC_49.i/170307.b/17030734.d

Date : 07-MAR-2017 21:39

Client ID:

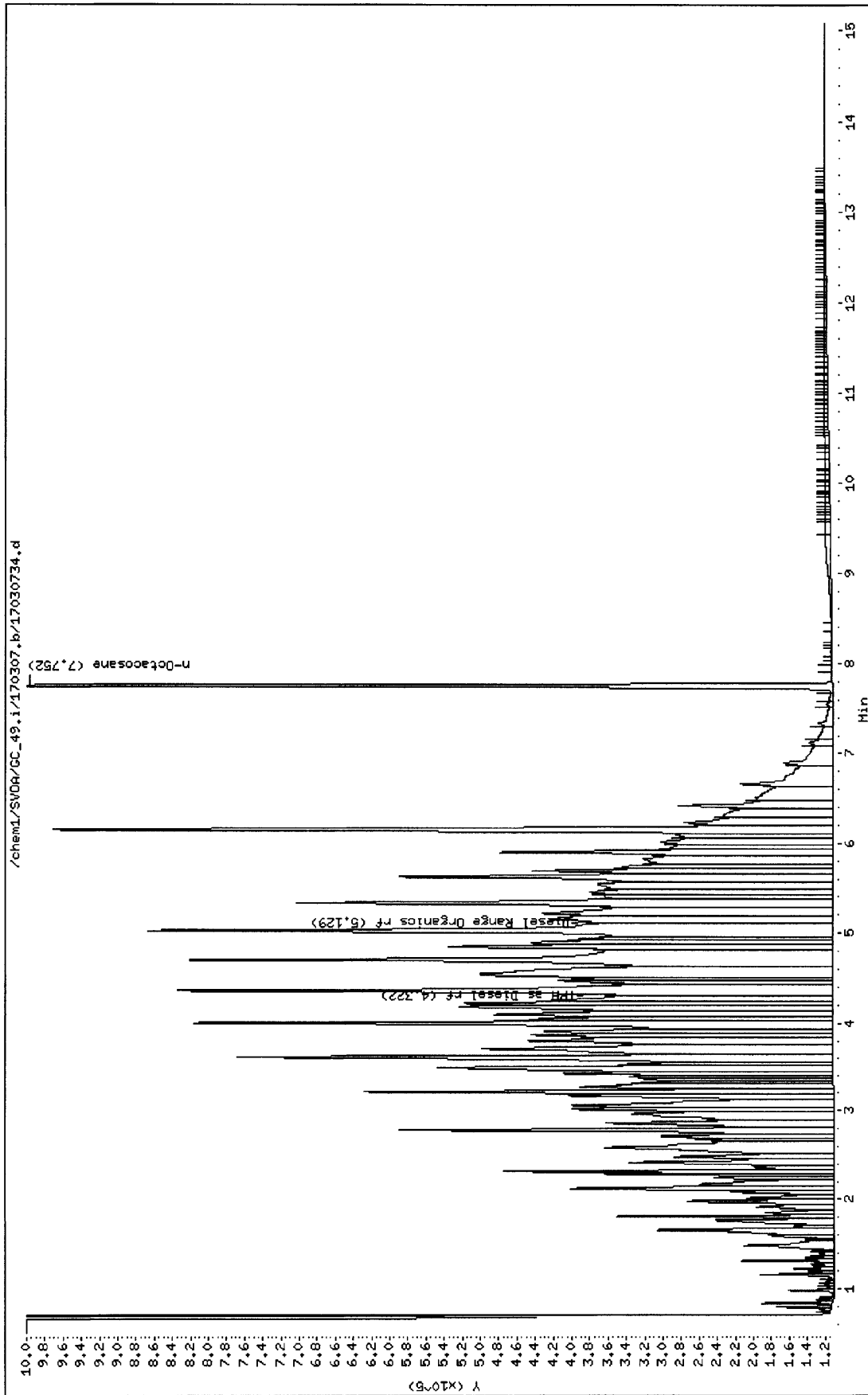
Sample Info: GCV D400 C28 50 L102516D

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



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

BATCH ID: 170307A071
INSTRUMENT: GC 49

ANALYZED BY: 972

WORK ORDER: 099-14-354
MATRIX: Water

REVIEWED BY: 1,027
D/T REVIEWED: 2017-03-09 14:39

<u>CEL SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
25	Daily Calibration	2017-03-08 03:11	T:\GC_49\GC_49_data\2017\170307\17030750.d\Report.txt17030750

WORK ORDER: 17-03-0140
MATRIX: Soil

REVIEWED BY: 1,027
D/T REVIEWED: 2017-03-09 14:44

<u>CEL SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-3	2017-03-08 05:16	T:\GC_49\GC_49_data\2017\170307\17030756.d\Report.txt17030756
28	F-DU1-ISM2-3	2017-03-08 05:37	T:\GC_49\GC_49_data\2017\170307\17030757.d\Report.txt17030757
29	F-DU1-ISM3-3	2017-03-08 05:58	T:\GC_49\GC_49_data\2017\170307\17030758.d\Report.txt17030758
30	F-DU1-ISM4-3	2017-03-08 06:19	T:\GC_49\GC_49_data\2017\170307\17030759.d\Report.txt17030759
31	F-DU1-ISM5-3	2017-03-08 06:40	T:\GC_49\GC_49_data\2017\170307\17030760.d\Report.txt17030760

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

CCV WORK ORDER: 099-14-354-25-5901

BATCH ID:

INITIAL: 170306I006

CCV: 170307A071

INSTRUMENT: GC 49

DATA FILE: T:\GC_49\GC_49_data\2017\170307\17030750.d\Report.txt17030750

ANALYZED BY: 972

D/T ANALYZED:

INITIAL:

CCV:

REVIEWED BY:

D/T REVIEWED:

2017-03-06 16:25

2017-03-08 03:11

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	924.700			5	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_49.i/170307.b/17030750.d
 Report Date: 03/08/2017 13:59

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_49.i Injection Date and Time: 08-MAR-2017 03:11
 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/170307.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	848534.623	0.00	5	15	Averaged
TPH as Diesel	977015.903	924700.295	0.00	5	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	232259.309	277904.420	0.00	-20	20	Averaged

page 1

Data File: /chem1/SVOA/GC_49.i/170307.b/17030750.d
 Report Date: 08-Mar-2017 13:57

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170307.b/17030750.d
 Lab Smp Id:
 Inj Date : 08-MAR-2017 03:11
 Operator : 682
 Smp Info : CCV D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_49.i/170307.b/8015d.m
 Meth Date : 08-Mar-2017 13:57 umd6
 Cal Date : 25-JAN-2017 02:23
 Als bottle: 50
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_49.i

Quant Type: ESTD

Cal File: 17012445.d

Continuing Calibration Sample

Compound Sublist: CCV_D-DRO.sub

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	0.698-7.945			369880118	400.000	378.581
S 26 Diesel Range Organics	2.313-7.945			339413849	400.000	380.570
\$ 92 n-Octacosane	7.753	7.753	0.000	13895221	50.0000	59.826

Page 1

Data File: /chem1/SV0A/GC_49.i/170307.b/17030750.d

Date : 08-MAR-2017 03:11

Client ID:

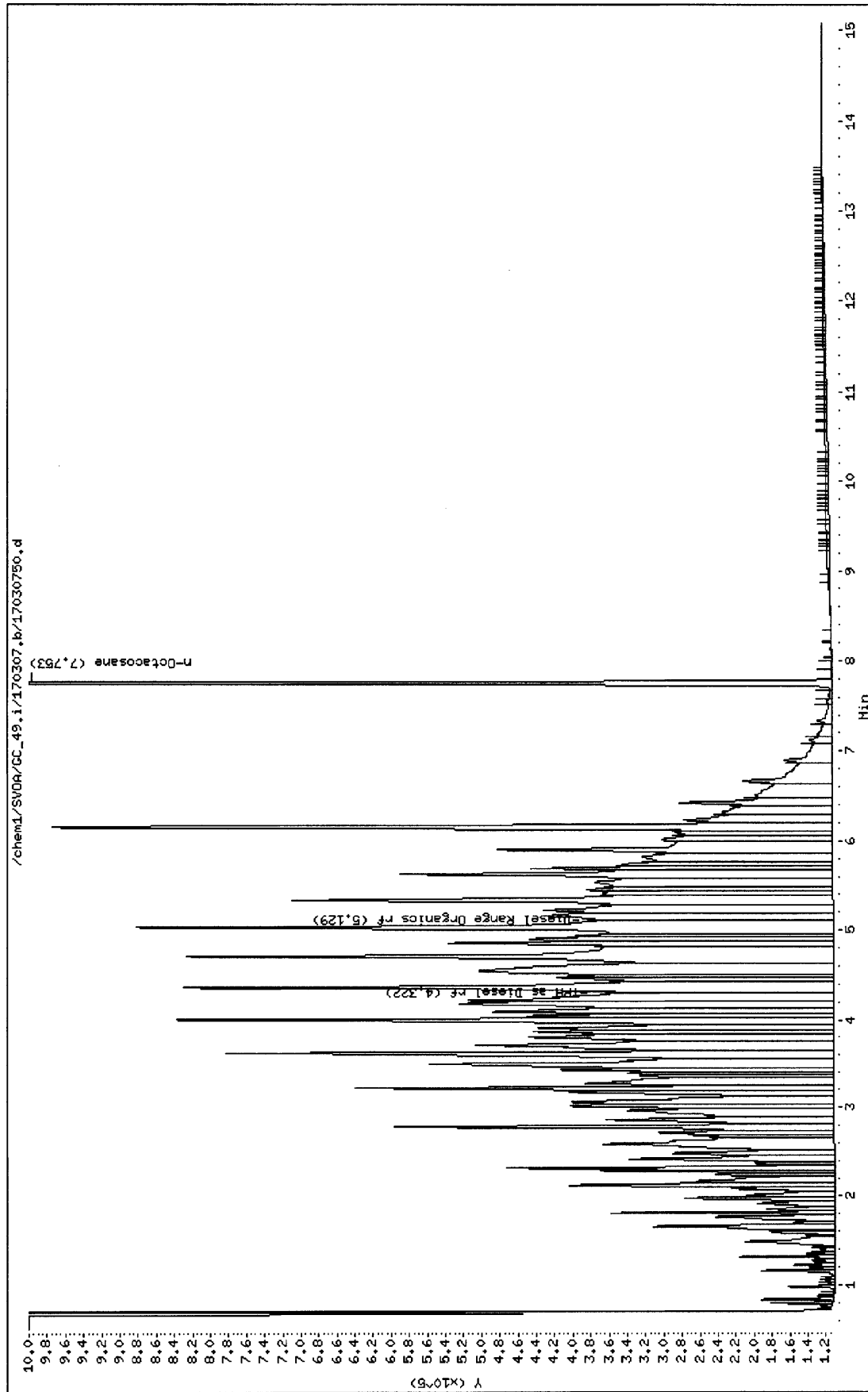
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_49.i/170307.b/17030761.d
 Report Date: 03/08/2017 14:11

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_49.i Injection Date and Time: 08-MAR-2017 07:01
 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/170307.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	828483.083	0.00	7	15	Averaged
TPH as Diesel	977015.903	901858.895	0.00	8	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	232259.309	245028.580	0.00	-5	20	Averaged

page 1

Data File: /chem1/SVOA/GC_49.i/170307.b/17030761.d
 Report Date: 08-Mar-2017 14:05

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_49.i/170307.b/17030761.d
 Lab Smp Id:
 Inj Date : 08-MAR-2017 07:01
 Operator : 682
 Smp Info : CCV D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_49.i/170307.b/8015d.m
 Meth Date : 08-Mar-2017 14:05 umd6
 Cal Date : 25-JAN-2017 02:23
 Als bottle: 61
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_49.i

Quant Type: ESTD

Cal File: 17012445.d

Continuing Calibration Sample

Compound Sublist: CCV_D-DRO.sub

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	0.698	7.945		360743558	400.000	369.229
S 26 Diesel Range Organics	2.313	7.945		331393233	400.000	371.577
\$ 92 n-Octacosane	7.754	7.754	0.000	12251429	50.0000	52.748

Page 1

Data File: /chem1/SVOR/GC_49.i/170307.b/17030761.d

Date : 08-MAR-2017 07:01

Client ID:

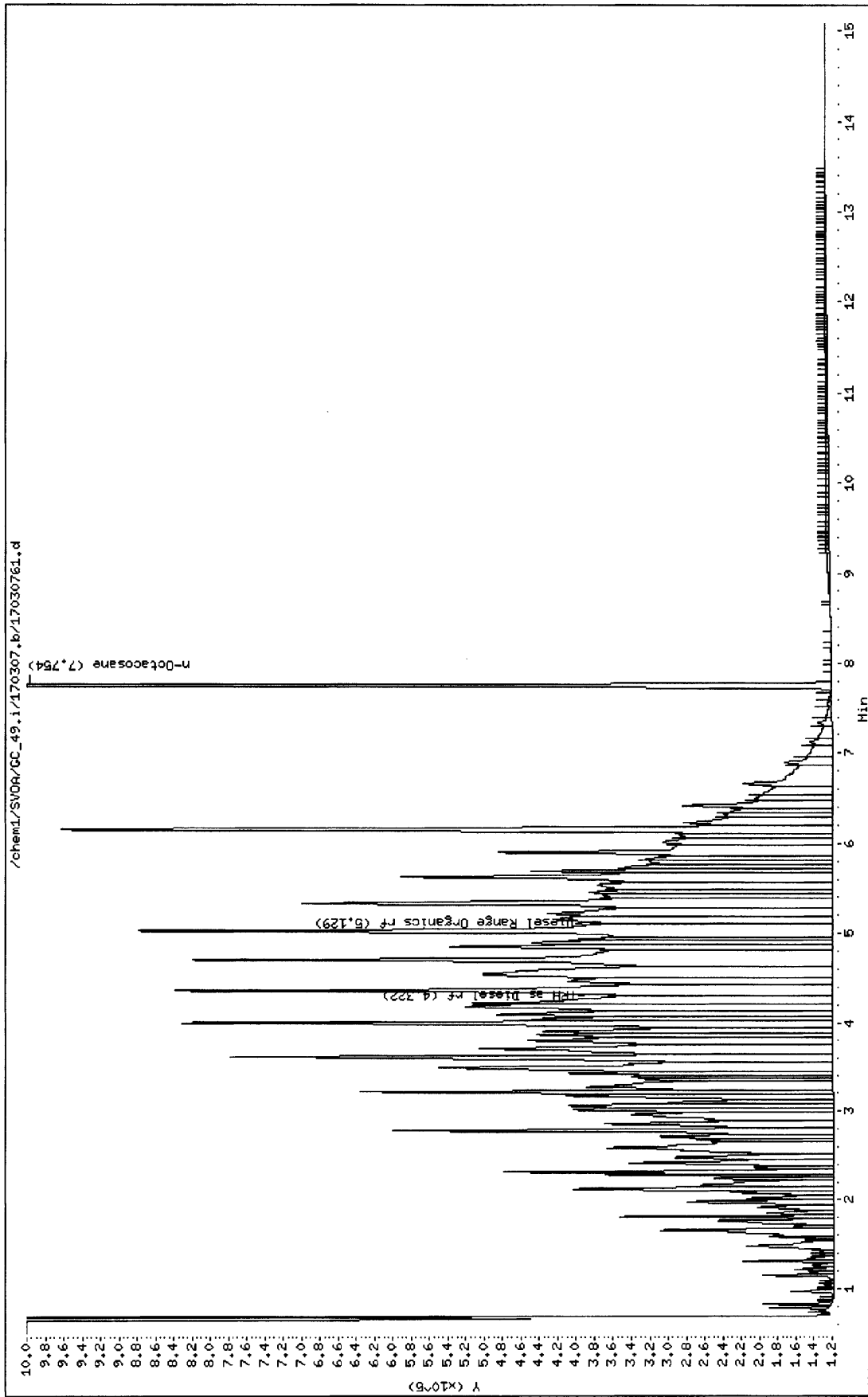
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

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Data File Name : /chem1/SVOA/GC_49/170307/1703070201.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 : 07 MAR 17 21:18
 Report Created on: 08-MAR-17 13:45 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_49.i/170307.b/1703070201.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.698	7.850	7.152	1878342.00	0.00	C6-Hexane
0.882	7.850	6.968	3992764.00	0.00	C7-Heptane
1.317	7.850	6.533	6722542.00	0.00	C8-Octane
1.812	7.850	6.038	6284867.00	0.00	C9-Nonane
2.313	7.850	5.537	6684334.00	0.00	C10-Decane
2.781	7.850	5.069	6825184.00	0.00	C11-Undecane
3.215	7.850	4.635	6808515.00	0.00	C12-Dodecane
3.620	7.850	4.230	7172389.00	0.00	C13-Tridecane
4.001	7.850	3.849	6804465.00	0.00	C14-Tetradecane
4.360	7.850	3.490	6825321.00	0.00	C15-pentadecane
4.700	7.850	3.150	6856853.00	0.00	C16-Hexadecane
5.022	7.850	2.828	6982119.00	0.00	C17-Heptadecane
5.328	7.850	2.522	7150278.00	0.00	C18-Octadecane
5.619	7.850	2.231	7155603.00	0.00	C19-Nonadecane
5.898	7.850	1.952	7292098.00	0.00	C20-Eicosane
6.164	7.850	1.686	7286645.00	0.00	C21-Heneicosane
6.419	7.850	1.431	7290830.00	0.00	C22-Docosane
6.663	7.850	1.187	6946679.00	0.00	C23-Tricosane
6.897	7.850	0.953	6429963.00	0.00	C24-Tetracosane
7.122	7.850	0.728	5568125.00	0.00	C25-Pentacosane
7.339	7.850	0.511	4531942.00	0.00	C26-Hexacosane
7.548	7.850	0.302	3120521.00	0.00	C27-Heptacosane
7.750	7.850	0.100	2035240.00	8.76	n-Octacosane
7.945	7.850	-0.095	1148415.00	0.00	C29-Nonacosane
8.133	7.850	-0.283	624966.00	0.00	C30-Triacontane
8.316	7.850	-0.466	352701.00	0.00	C31-Hentriacontane
8.494	7.850	-0.644	251449.00	0.00	C32-Dotriacontane
8.666	7.850	-0.816	211163.00	0.00	C33-Tritriacontane
8.833	7.850	-0.983	200449.00	0.00	C34-Tetratriacontane
8.995	7.850	-1.145	225186.00	0.00	C35-Pentatriacontane
9.154	7.850	-1.304	264278.00	0.00	C36-Hexatriacontane
9.328	7.850	-1.478	302023.00	0.00	C37-Heptatriacontane
9.529	7.850	-1.679	328381.00	0.00	C38-Octatriacontane
9.766	7.850	-1.916	193002.00	0.00	C39-Nonatriacontane
10.042	7.850	-2.192	117639.00	0.00	C40-Tetracontane
11.750	7.850	-3.900	437419.00	0.00	C44-Tetratetracontane

End of File

Page 1

Data File: /chem1/SVDA/GC_49.i/170307.b/1703070201.d

Date : 07-Mar-2017 21:18

Client ID:

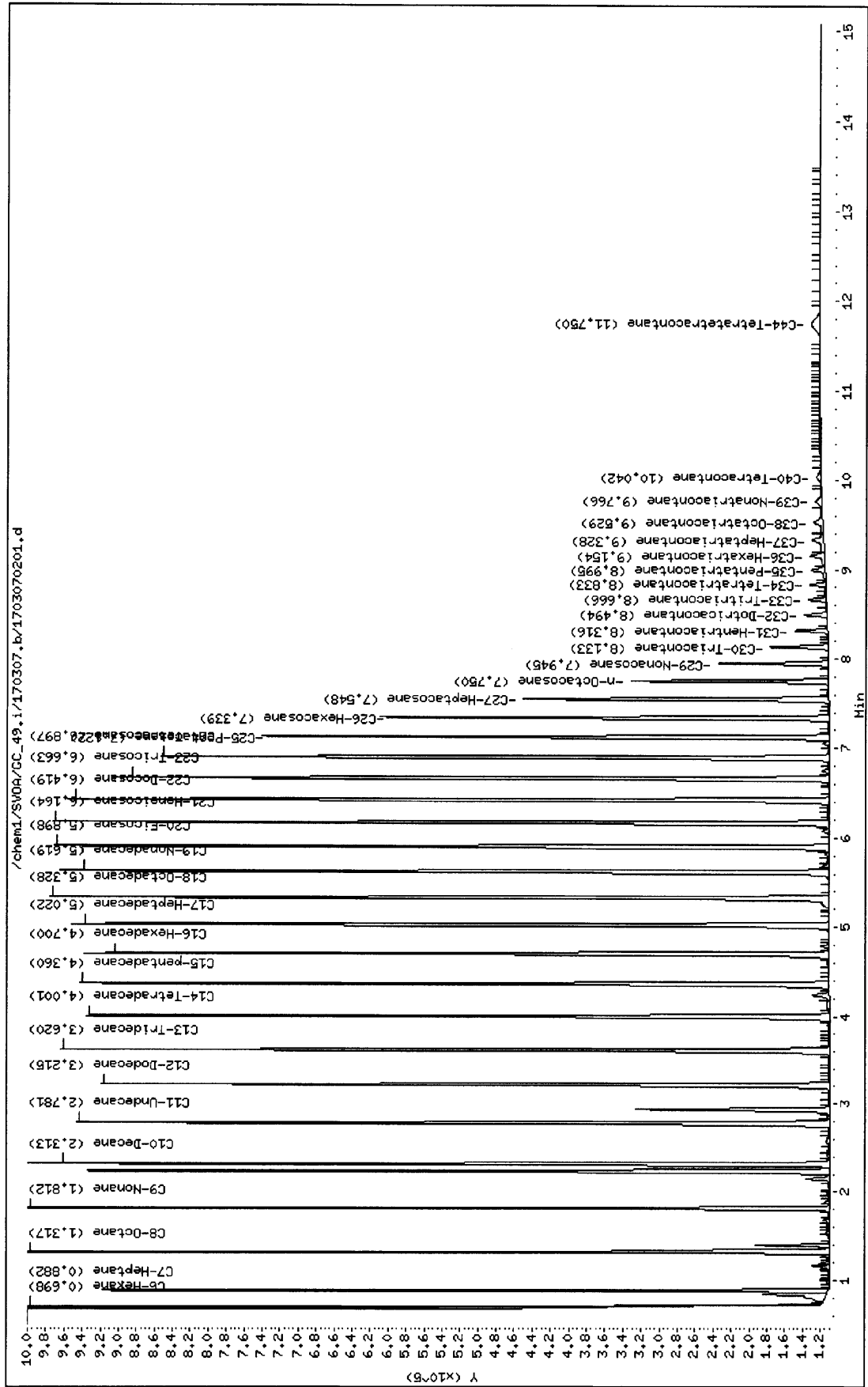
Sample Info: C6-C44 L110816A

Instrument: GC_49.i

Operator: 682

Column diameter: 2.00

Column phase:



EPA 8015B (M) Diesel + Motor Oil

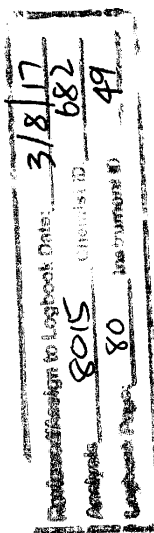
RUN LOGS

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

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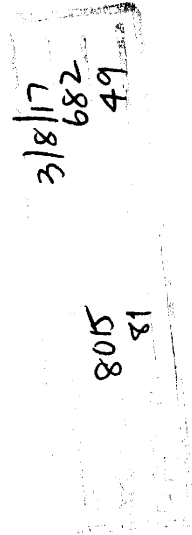
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2	2	17030702	C6-C44 L110816A	8015D		07-Mar-17, 09:56:15
3	3	17030704	CCV D400 C28 50 L102516D A039	8015D		07-Mar-17, 10:16:57
4	4	17030705	CCV MO400 L030317D	8015D		07-Mar-17, 10:37:51
5	5	17030703	MB 17030701/02	8015D		07-Mar-17, 11:12:12
6	6	17030706	LCS 17030701	8015D		07-Mar-17, 11:32:49
7	7	17030707	MOLCS 17030702	8015D		07-Mar-17, 11:53:06
8	8	17030708	MS 17-03-0278-1	8015D		07-Mar-17, 12:13:20
9	9	17030709	MSD 17-03-0278-1	8015D		07-Mar-17, 12:34:11
10	10	17030710	MOMS 17-03-0278-1	8015D		07-Mar-17, 12:55:15
11	11	17030711	MOMSD 17-03-0278-1	8015D		07-Mar-17, 13:16:39
12	12	17030712	17-03-0278-1	8015D		07-Mar-17, 13:37:18
13	13	17030713	17-03-0472-1	8015D		07-Mar-17, 13:57:37
14	14	17030714	17-03-0278-3 25X	8015D		07-Mar-17, 14:18:44
15	15	17030715	17-03-0278-4 50X	8015D		07-Mar-17, 14:39:31
16	16	17030716	17-03-0278-5 5X	8015D		07-Mar-17, 14:59:48
17	17	17030717	17-03-0278-6	8015D		07-Mar-17, 15:20:40
18	18	17030718	17-03-0278-7 10X	8015D		07-Mar-17, 15:42:04
19	19	17030719	17-03-0278-8	8015D		07-Mar-17, 16:02:53
20	20	17030720	17-03-0278-9 5X	8015D		07-Mar-17, 16:23:20
21	21	17030721	17-03-0278-10 25X	8015D		07-Mar-17, 16:46:23
22	22	17030722	CCV D400 C28 50 L102516D A069	8015D		07-Mar-17, 17:07:24
23	23	17030723	CCV MO400 L030317D	8015D		07-Mar-17, 17:27:45
24	24	17030724	17-03-0278-2 10X	8015D		07-Mar-17, 17:48:10
25	25	17030725	17-02-0506-5 CONF	8015D		07-Mar-17, 18:09:05
26	26	17030726	17-02-0506-6 CONF	8015D		07-Mar-17, 18:30:01
27	27	17030727	17-02-0506-7 CONF	8015D		07-Mar-17, 18:50:34
28	28	17030728	17-03-0323-1 5X	8015D		07-Mar-17, 19:10:50
29	29	17030729	17-03-0323-2 25X	8015D		07-Mar-17, 19:31:12
30	30	17030730	17-03-0323-3 5X	8015D		07-Mar-17, 19:55:32
31	31	17030731	17-03-0323-4 5X	8015D		07-Mar-17, 20:16:08
32	32	17030732	17-03-0323-5	8015D		07-Mar-17, 20:36:22
33	33	17030733	17-03-0323-6 50X	8015D		07-Mar-17, 20:57:10
34	2	1703070201	C6-C44 L110816A	8015D		07-Mar-17, 21:18:23
35	34	17030734	CCV D400 C28 50 L102516D A070	8015D		07-Mar-17, 21:39:03
36	35	17030735	CCV MO400 L030317D	8015D		07-Mar-17, 21:59:26
37	36	17030736	MB 17030706	8015D		07-Mar-17, 22:19:42
38	37	17030737	LCS 17030706	8015D		07-Mar-17, 22:40:35
39	38	17030738	MS 17-03-0335-11	8015D		07-Mar-17, 23:01:40
40	39	17030739	MSD 17-03-0335-11	8015D		07-Mar-17, 23:22:34
41	40	17030740	17-03-0335-3	8015D		07-Mar-17, 23:43:41
42	41	17030741	17-03-0335-4	8015D		08-Mar-17, 00:04:46
43	42	17030742	17-03-0335-7	8015D		08-Mar-17, 00:25:23
44	43	17030743	17-03-0335-8	8015D		08-Mar-17, 00:45:57
45	44	17030744	17-03-0335-11	8015D		08-Mar-17, 01:06:31
46	45	17030745	17-03-0335-12	8015D		08-Mar-17, 01:26:51
47	46	17030746	17-03-0335-15	8015D		08-Mar-17, 01:47:20
48	47	17030747	17-03-0335-16	8015D		08-Mar-17, 02:08:10
49	48	17030748	17-03-0444-3	8015D		08-Mar-17, 02:29:19
50	49	17030749	17-03-0444-4	8015D		08-Mar-17, 02:50:24
51	50	17030750	CCV D400 C28 50 L102516D A071	8015D		08-Mar-17, 03:11:34
52	51	17030751	CCV MO400 L030317D	8015D		08-Mar-17, 03:32:37
53	52	17030752	17-03-0444-7	8015D		08-Mar-17, 03:53:37
54	53	17030753	17-03-0444-8	8015D		08-Mar-17, 04:14:33
55	54	17030754	17-03-0336-3	8015D		08-Mar-17, 04:35:06
56	55	17030755	17-03-0336-4	8015D		08-Mar-17, 04:55:34
57	56	17030756	17-03-0140-27	8015D		08-Mar-17, 05:16:49
58	57	17030757	17-03-0140-28	8015D		08-Mar-17, 05:37:47
59	58	17030758	17-03-0140-29	8015D		08-Mar-17, 05:58:33
60	59	17030759	17-03-0140-30	8015D		08-Mar-17, 06:19:13



61 60 17030760 17-03-0140-31
62 61 17030761 CCV D400 C28 50 L102516D
63 62 17030762 CCV MO400 L030317D

8015D
8015D
8015D

08-Mar-17, 06:40:24
08-Mar-17, 07:01:30
08-Mar-17, 07:22:01



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

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: 17-03-0140
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 1:17:35 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: 17-03-0140

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	

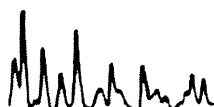
Report Time: 3/15/2017 1:17:35 PM

ICB-1 File: ICB-R12091601

Analysis Time: 3/15/2017 10:40:58 AM

01/22/2014 Revision

Return to Contents



Work Order No: 17-03-0140

Instrument ID: ICP 7300

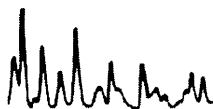
Concentration Unit: mg/L

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 1:17:35 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: 17-03-0140

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 1:17:35 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: 17-03-0140

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 1:17:35 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: 17-03-0140

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	0.367602	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 1:17:35 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: 17-03-0140

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 1:17:35 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



=====
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 Begun

Start Time: 3/15/2017 10:39:14 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.: 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	Calib
	Intensity			Conc. 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	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	Conc. Units	Calib.	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

3/15/17

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	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
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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	Calib. Conc. Units	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	Conc.	Calib. 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. Units	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	Conc. Units	Calib. 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%						

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Date: 3/15/2017 11:28:29 AM

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	Conc. Units	Calib. 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.	Sample 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.

EPA Method 6010B
Initial Calibration Verification

Work Order No: 17-03-0140

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control	Comment
		Observed	%D	Limit	
Silver	0.500000	0.507012	-1	+/-10	
Arsenic	5.000000	4.952363	1	+/-10	
Barium	1.000000	1.040427	-4	+/-10	
Beryllium	0.500000	0.513856	-3	+/-10	
Cadmium	1.500000	1.536297	-2	+/-10	
Cobalt	1.000000	1.056773	-6	+/-10	
Chromium	0.400000	0.408304	-2	+/-10	
Copper	1.000000	1.025860	-3	+/-10	
Molybdenum	2.500000	2.457031	2	+/-10	
Nickel	0.400000	0.417349	-4	+/-10	
Lead	5.000000	5.187815	-4	+/-10	
Antimony	2.000000	1.971856	1	+/-10	
Selenium	2.000000	1.987553	1	+/-10	
Thallium	2.000000	1.995877	0	+/-10	
Vanadium	1.000000	1.015190	-2	+/-10	
Zinc	1.500000	1.567556	-4	+/-10	

Report Time: 3/16/2017 1:11:52 PM

ICV-1 File: ICV-M072816C

Analysis Time: 3/16/2017 11:05:49 AM

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

01/22/2014 Revision

EPA Method 6010B
Initial Calibration Blank

Work Order No: 17-03-0140

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Initial Calibration Blank		
	ICB-1	RL	Comment
Silver	0.000651	0.005000	
Arsenic	0.004187	0.010000	
Barium	0.000260	0.010000	
Beryllium	0.000011	0.010000	
Cadmium	0.000235	0.010000	
Cobalt	-0.000040	0.010000	
Chromium	-0.000159	0.010000	
Copper	-0.000515	0.010000	
Molybdenum	0.000150	0.010000	
Nickel	-0.000238	0.010000	
Lead	-0.000298	0.010000	
Antimony	0.002336	0.015000	
Selenium	-0.003406	0.015000	
Thallium	-0.008258	0.015000	
Vanadium	0.000115	0.010000	
Zinc	-0.000610	0.010000	

Report Time: 3/16/2017 1:11:52 PM

ICB-1 File: ICB-R12091601

Analysis Time: 3/16/2017 11:09:59 AM

01/22/2014 Revision

Return to Contents

Work Order No: 17-03-0140

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Interference Check						Comments
	ICS-A-1		ICS-AB-1				
	Observed	Control Limit	True	Observed	%D	Control Limit	
Silver	0.001414	0.005000	0.300000	0.313458	-4	+/-20	
Arsenic	0.003096	0.010000	1.000000	1.004041	0	+/-20	
Barium	0.002866	0.010000	0.300000	0.312858	-4	+/-20	
Beryllium	-0.000030	0.010000	0.100000	0.105864	-6	+/-20	
Cadmium	0.002706	0.010000	0.300000	0.300287	0	+/-20	
Cobalt	0.000091	0.010000	0.300000	0.310220	-3	+/-20	
Chromium	-0.002225	0.010000	0.300000	0.309995	-3	+/-20	
Copper	0.000319	0.010000	0.300000	0.320027	-7	+/-20	
Molybdenum	0.002531	0.010000	0.300000	0.303197	-1	+/-20	
Nickel	0.000860	0.010000	0.300000	0.308035	-3	+/-20	
Lead	-0.006131	0.010000	1.000000	1.003858	0	+/-20	
Antimony	0.002883	0.015000	1.000000	0.981937	2	+/-20	
Selenium	-0.004271	0.015000	0.500000	0.496368	1	+/-20	
Thallium	0.001307	0.015000	1.000000	1.000393	0	+/-20	
Vanadium	0.002317	0.010000	0.300000	0.307496	-2	+/-20	
Zinc	0.007926	0.010000	0.300000	0.308801	-3	+/-20	

Report Time: 3/16/2017 1:11:52 PM

ICS-A-1 File: ICS_A - M110116B

Analysis Time: 3/16/2017 11:11:16 AM

ICS-AB-1 File: ICS_AB - M110116A

Analysis Time: 3/16/2017 11:13:34 AM

01/22/2014 Revision

Work Order No: 17-03-0140

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	0.391269	-4	0.387667	-3	+/-10	
Arsenic	3.750000	3.941919	-5	3.894115	-4	+/-10	
Barium	7.500000	8.210134	-9	8.067202	-8	+/-10	
Beryllium	0.562500	0.609300	-8	0.600148	-7	+/-10	
Cadmium	0.750000	0.811309	-8	0.792311	-6	+/-10	
Cobalt	1.875000	2.050309	-9	2.005414	-7	+/-10	
Chromium	0.600000	0.643232	-7	0.632251	-5	+/-10	
Copper	0.937500	0.992126	-6	0.978297	-4	+/-10	
Molybdenum	0.600000	0.630027	-5	0.631278	-5	+/-10	
Nickel	0.600000	0.644778	-7	0.639964	-7	+/-10	
Lead	3.750000	4.080750	-9	3.991460	-6	+/-10	
Antimony	4.500000	4.713280	-5	4.701083	-4	+/-10	
Selenium	1.500000	1.593488	-6	1.570883	-5	+/-10	
Thallium	1.500000	1.609282	-7	1.601840	-7	+/-10	
Vanadium	1.875000	1.998046	-7	1.978771	-6	+/-10	
Zinc	2.500000	2.713661	-9	2.613064	-5	+/-10	

Report Time: 3/16/2017 1:11:52 PM

CCV-1 File: CCV= STD3x0.5

Analysis Time: 3/16/2017 12:13:21 PM

CCV-2 File: CCV= STD3x0.5

Analysis Time: 3/16/2017 12:26:42 PM

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

01/22/2014 Revision

Work Order No: 17-03-0140

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-1	CCB-2	RL	Qualifier
Silver	0.000372	0.000263	0.005000	
Arsenic	-0.000230	-0.006466	0.010000	
Barium	0.000387	0.002154	0.010000	
Beryllium	-0.000072	0.000138	0.010000	
Cadmium	0.000166	0.000276	0.010000	
Cobalt	-0.000130	0.000552	0.010000	
Chromium	0.000140	0.000015	0.010000	
Copper	-0.000333	0.000394	0.010000	
Molybdenum	-0.000877	0.001360	0.010000	
Nickel	-0.000303	0.000008	0.010000	
Lead	-0.003448	0.000629	0.010000	
Antimony	0.004746	0.003510	0.015000	
Selenium	-0.000115	0.004044	0.015000	
Thallium	-0.007612	0.001520	0.015000	
Vanadium	-0.000378	0.000235	0.010000	
Zinc	-0.001710	-0.001600	0.010000	

Report Time: 3/16/2017 1:11:52 PM

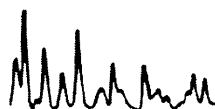
CCB-1 File: CCB-R12091601

Analysis Time: 3/16/2017 12:14:28 PM

CCB-2 File: CCB-R12091601

Analysis Time: 3/16/2017 12:27:48 PM

01/22/2014 Revision



Sequence No.: 1

Sample ID: Cal blankR12091601_935

Analyst:

Logged In Analyst (Original) : Oscar Gomez 935

Initial Sample Wt:

Dilution:

Wash Time:

Autosampler Location: 1

Date Collected: 3/16/2017 11:03:21 AM

Data Type: Reprocessed on 3/16/2017 11:35:22 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Tb 384	63622.5	146.53	0.23%	100.0	%
Tb 350	100186.0	308.86	0.31%	100.0	%
Ag 328.068*†	-780.7	375.27	48.07%	[0.00]	mg/L
Al 308.215*†	-2027.7	100.72	4.97%	[0.00]	mg/L
As 188.979†	1.2	2.38	204.31%	[0.00]	mg/L
As 193.696*†	6.3	3.94	62.45%	[0.00]	mg/L
B 249.677*†	-882.6	33.25	3.77%	[0.00]	mg/L
Ba 233.527*†	-320.2	34.77	10.86%	[0.00]	mg/L
Be 313.042*†	-721.5	17.59	2.44%	[0.00]	mg/L
Ca 317.933*†	0.9	0.37	38.77%	[0.00]	mg/L
Cd 226.502*†	-7.8	4.48	57.26%	[0.00]	mg/L
Cd 228.802†	16.4	7.24	44.02%	[0.00]	mg/L
Co 228.616*†	-79.3	2.56	3.23%	[0.00]	mg/L
Cr 267.716*†	368.1	10.17	2.76%	[0.00]	mg/L
Cu 324.752*†	2086.4	48.26	2.31%	[0.00]	mg/L
Fe 273.955*†	-363.6	5.37	1.48%	[0.00]	mg/L
K 766.490*†	1337.7	209.33	15.65%	[0.00]	mg/L
Mg 279.077*†	-6767.5	53.86	0.80%	[0.00]	mg/L
Mn 257.610*†	-269.8	41.07	15.22%	[0.00]	mg/L
Mo 202.031*†	-40.8	4.14	10.15%	[0.00]	mg/L
Na 589.592*†	1022.9	30.31	2.96%	[0.00]	mg/L
Ni 231.604*†	-55.9	1.74	3.11%	[0.00]	mg/L
P 213.617*†	-121.0	1.86	1.54%	[0.00]	mg/L
P 214.914†	-32.3	0.43	1.33%	[0.00]	mg/L
Pb 220.353*†	-13.2	5.81	43.95%	[0.00]	mg/L
Sb 206.836†	33.6	12.46	37.09%	[0.00]	mg/L
Sb 217.582*†	-12.2	1.98	16.18%	[0.00]	mg/L
Se 196.026*†	3.7	27.16	732.77%	[0.00]	mg/L
Si 251.611*†	1041.1	19.31	1.86%	[0.00]	mg/L
Sn 189.927*†	-75.5	10.81	14.31%	[0.00]	mg/L
Sn 242.170†	-310.4	53.17	17.13%	[0.00]	mg/L
Sr 407.771*†	81.9	36.38	44.42%	[0.00]	mg/L
Ti 334.940†	22222.0	21.52	0.10%	[0.00]	mg/L
Ti 336.121*†	-1216.4	122.71	10.09%	[0.00]	mg/L
Tl 190.801*†	-5.2	15.94	308.73%	[0.00]	mg/L
V 292.402*†	149.6	51.67	34.54%	[0.00]	mg/L
Zn 206.200*†	208.3	6.76	3.25%	[0.00]	mg/L
Zn 213.857*†	679.9	22.06	3.24%	[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: 3/16/2017 11:04:40 AM

Data Type: Reprocessed on 3/16/2017 11:35:26 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: STD3-M111116A_935_ICP7300

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Tb 384	55696.2	1211.16	2.17%	87.54 %
Tb 350	90745.5	2403.52	2.65%	90.58 %
Ag 328.068*†	116410.0	438.25	0.38%	[0.75] mg/L
Al 308.215*†	383715.6	3370.04	0.88%	[27.0] mg/L
As 188.979†	11954.6	287.51	2.41%	[7.50] mg/L
As 193.696*†	8333.9	177.77	2.13%	[7.50] mg/L
B 249.677*†	283606.7	2646.65	0.93%	[7.50] mg/L
Ba 233.527*†	1799490.8	35690.24	1.98%	[15.0] mg/L
Be 313.042*†	3336667.3	75476.10	2.26%	[1.125] mg/L
Ca 317.933*†	93960.9	5308.48	5.65%	[60.0] mg/L
Cd 226.502*†	88998.5	611.46	0.69%	[1.50] mg/L
Cd 228.802†	46263.1	425.00	0.92%	[1.50] mg/L
Co 228.616*†	82105.2	699.70	0.85%	[3.75] mg/L
Cr 267.716*†	109323.9	788.97	0.72%	[1.20] mg/L
Cu 324.752*†	383162.1	2993.32	0.78%	[1.875] mg/L
Fe 273.955*†	138785.2	928.34	0.67%	[7.50] mg/L
K 766.490*†	134981.3	6101.50	4.52%	[54.0] mg/L
Mg 279.077*†	218744.7	1025.18	0.47%	[15.0] mg/L
Mn 257.610*†	771220.4	5605.33	0.73%	[1.50] mg/L
Mo 202.031*†	9040.1	207.41	2.29%	[1.20] mg/L
Na 589.592*†	262719.8	12739.64	4.85%	[72.0] mg/L
Ni 231.604*†	22646.2	163.71	0.72%	[1.20] mg/L
P 213.617*†	17527.6	351.81	2.01%	[12.0] mg/L
P 214.914†	11354.5	287.23	2.53%	[12.0] mg/L
Pb 220.353*†	45587.8	330.45	0.72%	[7.50] mg/L
Sb 206.836†	13421.7	355.26	2.65%	[9.0] mg/L
Sb 217.582*†	13514.1	347.43	2.57%	[9.0] mg/L
Se 196.026*†	4932.0	128.61	2.61%	[3.0] mg/L
Si 251.611*†	362939.6	261.25	0.07%	[12.0] mg/L
Sn 189.927*†	27511.2	596.22	2.17%	[6.0] mg/L
Sn 242.170†	8295.4	204.74	2.47%	[6.0] mg/L
Sr 407.771*†	167885.3	8718.31	5.19%	[0.60] mg/L
Ti 334.940†	807349.8	17851.32	2.21%	[1.20] mg/L
Ti 336.121*†	575912.5	5943.72	1.03%	[1.20] mg/L
Tl 190.801*†	4329.8	88.56	2.05%	[3.0] mg/L
V 292.402*†	417465.6	3582.89	0.86%	[3.75] mg/L
Zn 206.200*†	152370.6	238.08	0.16%	[5.0] mg/L
Zn 213.857*†	277235.1	1370.62	0.49%	[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: 3/16/2017 11:05:49 AM
 Data Type: Reprocessed on 3/16/2017 11:35:28 AM
 Initial Sample Vol:
 Sample Prep Vol:

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	57885.8	90.98 %	0.724			0.80%
Tb 350	93262.0	93.09 %	1.260			1.35%
Ag 328.068*†	78695.0	0.5070 mg/L	0.00029	0.5070 mg/L	0.00029	0.06%
QC value within limits for Ag 328.068* Recovery = 101.40%						
Al 308.215*†	60110.4	4.230 mg/L	0.0114	4.230 mg/L	0.0114	0.27%
QC value within limits for Al 308.215* Recovery = 105.74%						
As 188.979†	7880.1	4.944 mg/L	0.1099	4.944 mg/L	0.1099	2.22%
QC value within limits for As 188.979 Recovery = 98.88%						
As 193.696*†	5503.0	4.952 mg/L	0.0980	4.952 mg/L	0.0980	1.98%
QC value within limits for As 193.696* Recovery = 99.05%						
B 249.677*†	99914.1	2.642 mg/L	0.0039	2.642 mg/L	0.0039	0.15%
QC value within limits for B 249.677* Recovery = 105.69%						
Ba 233.527*†	124815.9	1.040 mg/L	0.0015	1.040 mg/L	0.0015	0.14%
QC value within limits for Ba 233.527* Recovery = 104.04%						
Be 313.042*†	1524058.2	0.5139 mg/L	0.00110	0.5139 mg/L	0.00110	0.21%
QC value within limits for Be 313.042* Recovery = 102.77%						
Ca 317.933*†	31796.6	20.30 mg/L	0.656	20.30 mg/L	0.656	3.23%
QC value within limits for Ca 317.933* Recovery = 101.52%						
Cd 226.502*†	91152.1	1.536 mg/L	0.0086	1.536 mg/L	0.0086	0.56%
QC value within limits for Cd 226.502* Recovery = 102.42%						
Cd 228.802†	46954.3	1.522 mg/L	0.0048	1.522 mg/L	0.0048	0.32%
Co 228.616*†	23137.8	1.057 mg/L	0.0213	1.057 mg/L	0.0213	2.01%
QC value within limits for Co 228.616* Recovery = 105.68%						
Cr 267.716*†	37197.8	0.4083 mg/L	0.00226	0.4083 mg/L	0.00226	0.55%
QC value within limits for Cr 267.716* Recovery = 102.08%						
Cu 324.752*†	209637.7	1.026 mg/L	0.0003	1.026 mg/L	0.0003	0.03%
QC value within limits for Cu 324.752* Recovery = 102.59%						
Fe 273.955*†	1938600.1	104.8 mg/L	0.24	104.8 mg/L	0.24	0.23%
QC value within limits for Fe 273.955* Recovery = 104.76%						
K 766.490*†	20486.3	8.196 mg/L	0.2461	8.196 mg/L	0.2461	3.00%
QC value within limits for K 766.490* Recovery = 102.45%						
Mg 279.077*†	148874.9	10.21 mg/L	0.040	10.21 mg/L	0.040	0.39%
QC value within limits for Mg 279.077* Recovery = 102.09%						
Mn 257.610*†	527361.1	1.026 mg/L	0.0014	1.026 mg/L	0.0014	0.14%
QC value within limits for Mn 257.610* Recovery = 102.57%						
Mo 202.031*†	18509.8	2.457 mg/L	0.0492	2.457 mg/L	0.0492	2.00%
QC value within limits for Mo 202.031* Recovery = 98.28%						
Na 589.592*†	206971.2	56.72 mg/L	1.597	56.72 mg/L	1.597	2.82%
QC value within limits for Na 589.592* Recovery = 105.04%						
Ni 231.604*†	7876.2	0.4173 mg/L	0.00850	0.4173 mg/L	0.00850	2.04%
QC value within limits for Ni 231.604* Recovery = 104.34%						
P 213.617*†	7130.0	4.881 mg/L	0.0906	4.881 mg/L	0.0906	1.86%
QC value within limits for P 213.617* Recovery = 97.63%						
P 214.914†	4770.1	5.041 mg/L	0.0896	5.041 mg/L	0.0896	1.78%
Pb 220.353*†	31533.5	5.188 mg/L	0.0048	5.188 mg/L	0.0048	0.09%
QC value within limits for Pb 220.353* Recovery = 103.76%						
Sb 206.836†	2888.5	1.937 mg/L	0.0403	1.937 mg/L	0.0403	2.08%
QC value within limits for Sb 206.836 Recovery = 96.84%						
Sb 217.582*†	2960.9	1.972 mg/L	0.0364	1.972 mg/L	0.0364	1.85%
QC value within limits for Sb 217.582* Recovery = 98.59%						
Se 196.026*†	3267.6	1.988 mg/L	0.0449	1.988 mg/L	0.0449	2.26%
QC value within limits for Se 196.026* Recovery = 99.38%						
Si 251.611*†	298705.5	9.876 mg/L	0.0018	9.876 mg/L	0.0018	0.02%
QC value within limits for Si 251.611* Recovery = 98.76%						
Sn 189.927*†	11710.7	2.554 mg/L	0.0634	2.554 mg/L	0.0634	2.48%
QC value within limits for Sn 189.927* Recovery = 102.16%						
Sn 242.170†	3911.9	2.829 mg/L	0.0642	2.829 mg/L	0.0642	2.27%
Sr 407.771*†	57397.4	0.2051 mg/L	0.00646	0.2051 mg/L	0.00646	3.15%

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: 3/16/2017 11:09:59 AM

Data Type: Reprocessed on 3/16/2017 11:35:29 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Std.Dev.	RSD
Tb 384	63998.8	100.6	%	0.22			0.21%
Tb 350	100963.6	100.8	%	0.62			0.62%
Ag 328.068*†	101.1	0.0007	mg/L	0.00044	0.0007	0.00044	67.44%
Al 308.215*†	-18.1	-0.0013	mg/L	0.00331	-0.0013	0.00331	259.29%
As 188.979†	1.0	0.0006	mg/L	0.00386	0.0006	0.00386	604.82%
As 193.696*†	4.7	0.0042	mg/L	0.00244	0.0042	0.00244	58.27%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	1046.2	0.0277	mg/L	0.00051	0.0277	0.00051	1.86%
QC value greater than the upper limit for B 249.677* Recovery = Not calculated							
Ba 233.527*†	31.2	0.0003	mg/L	0.00018	0.0003	0.00018	70.69%
Be 313.042*†	32.0	0.0000	mg/L	0.00001	0.0000	0.00001	113.68%
Ca 317.933*†	5.6	0.0036	mg/L	0.00418	0.0036	0.00418	117.28%
Cd 226.502*†	14.0	0.0002	mg/L	0.00029	0.0002	0.00029	123.11%
Cd 228.802†	-6.1	-0.0002	mg/L	0.00088	-0.0002	0.00088	446.67%
Co 228.616*†	-0.9	-0.0000	mg/L	0.00017	-0.0000	0.00017	424.09%
Cr 267.716*†	-14.5	-0.0002	mg/L	0.00019	-0.0002	0.00019	118.26%
Cu 324.752*†	-105.2	-0.0005	mg/L	0.00054	-0.0005	0.00054	105.31%
Fe 273.955*†	16.5	0.0009	mg/L	0.00107	0.0009	0.00107	119.58%
K 766.490*†	-559.1	-0.2237	mg/L	0.15314	-0.2237	0.15314	68.47%
Mg 279.077*†	-24.4	-0.0017	mg/L	0.00631	-0.0017	0.00631	377.63%
Mn 257.610*†	-10.3	-0.0000	mg/L	0.00002	-0.0000	0.00002	101.12%
Mo 202.031*†	1.1	0.0002	mg/L	0.00051	0.0002	0.00051	336.51%
Na 589.592*†	-58.0	-0.0159	mg/L	0.02228	-0.0159	0.02228	140.09%
Ni 231.604*†	-4.5	-0.0002	mg/L	0.00057	-0.0002	0.00057	237.89%
P 213.617*†	-8.1	-0.0056	mg/L	0.01780	-0.0056	0.01780	320.62%
P 214.914†	-1.2	-0.0012	mg/L	0.01314	-0.0012	0.01314	>999.9%
Pb 220.353*†	-1.8	-0.0003	mg/L	0.00023	-0.0003	0.00023	78.15%
QC value within limits for Pb 220.353* Recovery = Not calculated							
Sb 206.836†	-13.7	-0.0092	mg/L	0.00396	-0.0092	0.00396	43.16%
Sb 217.582*†	3.5	0.0023	mg/L	0.00096	0.0023	0.00096	41.16%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	-5.6	-0.0034	mg/L	0.00029	-0.0034	0.00029	8.49%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	70.3	0.0023	mg/L	0.00044	0.0023	0.00044	18.94%
QC value within limits for Si 251.611* Recovery = Not calculated							
Sn 189.927*†	0.8	0.0002	mg/L	0.00305	0.0002	0.00305	>999.9%
Sn 242.170†	-33.1	-0.0240	mg/L	0.00472	-0.0240	0.00472	19.72%
Sr 407.771*†	-9.0	-0.0000	mg/L	0.00002	-0.0000	0.00002	58.55%
Ti 334.940†	242.9	0.0004	mg/L	0.00062	0.0004	0.00062	171.51%
Ti 336.121*†	133.3	0.0003	mg/L	0.00006	0.0003	0.00006	20.89%
Tl 190.801*†	-11.9	-0.0083	mg/L	0.00354	-0.0083	0.00354	42.92%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	12.8	0.0001	mg/L	0.00128	0.0001	0.00128	>999.9%
Zn 206.200*†	-18.6	-0.0006	mg/L	0.00082	-0.0006	0.00082	134.25%
Zn 213.857*†	-36.8	-0.0007	mg/L	0.00026	-0.0007	0.00026	38.45%
QC Failed. Continue with analysis.							

QC value within limits for Sr 407.771* Recovery = 102.57%			
Ti 334.940†	3362355.3	4.998 mg/L	0.0059
Ti 336.121*†	2385180.3	4.970 mg/L	0.0024
QC value within limits for Ti 336.121* Recovery = 99.40%			
Tl 190.801*†	2880.6	1.996 mg/L	0.0425
QC value within limits for Tl 190.801* Recovery = 99.79%			
V 292.402*†	113206.4	1.015 mg/L	0.0011
QC value within limits for V 292.402* Recovery = 101.52%			
Zn 206.200*†	47769.9	1.568 mg/L	0.0156
QC value within limits for Zn 206.200* Recovery = 104.50%			
Zn 213.857*†	86589.5	1.553 mg/L	0.0039
QC value within limits for Zn 213.857* Recovery = 103.53%			

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: 3/16/2017 11:11:16 AM

Data Type: Reprocessed on 3/16/2017 11:36:08 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: ICS_A - M110116B

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	55104.2	86.61 %	0.022			0.02%
Tb 350	89928.1	89.76 %	0.384			0.43%
Ag 328.068*†	219.4	0.0014 mg/L	0.00155	0.0014 mg/L	0.00155	109.76%
Al 308.215*†	355962.0	25.05 mg/L	0.673	25.05 mg/L	0.673	2.69%
As 188.979†	22.9	0.0144 mg/L	0.00003	0.0144 mg/L	0.00003	0.19%
As 193.696*†	3.4	0.0031 mg/L	0.00446	0.0031 mg/L	0.00446	144.10%
B 249.677*†	819.4	0.0217 mg/L	0.00548	0.0217 mg/L	0.00548	25.31%
Ba 233.527*†	343.8	0.0029 mg/L	0.00019	0.0029 mg/L	0.00019	6.65%
Be 313.042*†	-89.5	-0.0000 mg/L	0.00001	-0.0000 mg/L	0.00001	48.45%
Ca 317.933*†	184738.7	118.0 mg/L	0.48	118.0 mg/L	0.48	0.41%
Cd 226.502*†	160.6	0.0027 mg/L	0.00008	0.0027 mg/L	0.00008	2.97%
Cd 228.802†	-14.1	-0.0005 mg/L	0.00014	-0.0005 mg/L	0.00014	29.67%
Co 228.616*†	2.0	0.0001 mg/L	0.00045	0.0001 mg/L	0.00045	501.51%
Cr 267.716*†	-202.7	-0.0022 mg/L	0.00054	-0.0022 mg/L	0.00054	24.10%
Cu 324.752*†	65.2	0.0003 mg/L	0.00043	0.0003 mg/L	0.00043	134.13%
Fe 273.955*†	1798915.0	97.21 mg/L	3.191	97.21 mg/L	3.191	3.28%
K 766.490*†	185.9	0.0744 mg/L	0.08804	0.0744 mg/L	0.08804	118.40%
Mg 279.077*†	873743.8	59.92 mg/L	2.230	59.92 mg/L	2.230	3.72%
Mn 257.610*†	72.2	0.0001 mg/L	0.00006	0.0001 mg/L	0.00006	42.91%
Mo 202.031*†	19.1	0.0025 mg/L	0.00018	0.0025 mg/L	0.00018	7.11%
Na 589.592*†	78043.5	21.39 mg/L	0.036	21.39 mg/L	0.036	0.17%
Ni 231.604*†	16.2	0.0009 mg/L	0.00055	0.0009 mg/L	0.00055	64.34%
P 213.617*†	-238.4	-0.1632 mg/L	0.01819	-0.1632 mg/L	0.01819	11.15%
P 214.914†	36.8	0.0389 mg/L	0.00084	0.0389 mg/L	0.00084	2.16%
Pb 220.353*†	-37.3	-0.0061 mg/L	0.00220	-0.0061 mg/L	0.00220	35.90%
Sb 206.836†	-8.9	-0.0060 mg/L	0.00456	-0.0060 mg/L	0.00456	76.28%
Sb 217.582*†	4.3	0.0029 mg/L	0.00682	0.0029 mg/L	0.00682	236.69%
Se 196.026*†	-7.0	-0.0043 mg/L	0.01578	-0.0043 mg/L	0.01578	369.40%
Si 251.611*†	283.9	0.0094 mg/L	0.00152	0.0094 mg/L	0.00152	16.22%
Sn 189.927*†	45.1	0.0098 mg/L	0.00191	0.0098 mg/L	0.00191	19.40%
Sn 242.170†	319.9	0.2314 mg/L	0.02924	0.2314 mg/L	0.02924	12.64%
Sr 407.771*†	925.7	0.0033 mg/L	0.00012	0.0033 mg/L	0.00012	3.49%
Ti 334.940†	-1588.3	-0.0024 mg/L	0.00022	-0.0024 mg/L	0.00022	9.22%
Ti 336.121*†	-591.3	-0.0012 mg/L	0.00032	-0.0012 mg/L	0.00032	25.84%
Tl 190.801*†	1.9	0.0013 mg/L	0.01075	0.0013 mg/L	0.01075	822.37%
V 292.402*†	435.4	0.0023 mg/L	0.00028	0.0023 mg/L	0.00028	12.02%
Zn 206.200*†	241.5	0.0079 mg/L	0.00054	0.0079 mg/L	0.00054	6.82%
Zn 213.857*†	754.8	0.0055 mg/L	0.00016	0.0055 mg/L	0.00016	2.95%

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: 3/16/2017 11:13:34 AM

Data Type: Reprocessed on 3/16/2017 11:36:19 AM

Initial Sample Vol:

Sample Prep Vol:

Mean Data: ICS_AB - M110116A

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	53459.1	84.03 %	0.338			0.40%
Tb 350	87331.6	87.17 %	0.876			1.00%
Ag 328.068*†	48652.9	0.3135 mg/L	0.00030	0.3135 mg/L	0.00030	0.10%
Al 308.215*†	356145.7	25.06 mg/L	0.043	25.06 mg/L	0.043	0.17%
As 188.979†	1609.3	1.010 mg/L	0.0152	1.010 mg/L	0.0152	1.51%
As 193.696*†	1115.7	1.004 mg/L	0.0083	1.004 mg/L	0.0083	0.82%
B 249.677*†	18646.9	0.4931 mg/L	0.00676	0.4931 mg/L	0.00676	1.37%
Ba 233.527*†	37532.4	0.3129 mg/L	0.00445	0.3129 mg/L	0.00445	1.42%
Be 313.042*†	313984.9	0.1059 mg/L	0.00010	0.1059 mg/L	0.00010	0.09%
Ca 317.933*†	182919.6	116.8 mg/L	7.49	116.8 mg/L	7.49	6.41%
Cd 226.502*†	17816.7	0.3003 mg/L	0.00381	0.3003 mg/L	0.00381	1.27%
Cd 228.802†	9352.8	0.3032 mg/L	0.00486	0.3032 mg/L	0.00486	1.60%
Co 228.616*†	6792.2	0.3102 mg/L	0.00448	0.3102 mg/L	0.00448	1.44%
Cr 267.716*†	28241.5	0.3100 mg/L	0.00431	0.3100 mg/L	0.00431	1.39%
Cu 324.752*†	65398.5	0.3200 mg/L	0.00174	0.3200 mg/L	0.00174	0.54%
Fe 273.955*†	1796274.4	97.07 mg/L	0.264	97.07 mg/L	0.264	0.27%
K 766.490*†	53063.3	21.23 mg/L	1.094	21.23 mg/L	1.094	5.15%
Mg 279.077*†	865161.8	59.33 mg/L	0.034	59.33 mg/L	0.034	0.06%
Mn 257.610*†	104991.1	0.2042 mg/L	0.00076	0.2042 mg/L	0.00076	0.37%
Mo 202.031*†	2284.1	0.3032 mg/L	0.00720	0.3032 mg/L	0.00720	2.37%
Na 589.592*†	77186.3	21.15 mg/L	1.105	21.15 mg/L	1.105	5.22%
Ni 231.604*†	5813.2	0.3080 mg/L	0.00298	0.3080 mg/L	0.00298	0.97%
P 213.617*†	-192.5	-0.1318 mg/L	0.00117	-0.1318 mg/L	0.00117	0.89%
P 214.914†	33.9	0.0359 mg/L	0.01458	0.0359 mg/L	0.01458	40.64%
Pb 220.353*†	6101.8	1.004 mg/L	0.0138	1.004 mg/L	0.0138	1.37%
Sb 206.836†	1443.6	0.9680 mg/L	0.01819	0.9680 mg/L	0.01819	1.88%
Sb 217.582*†	1474.4	0.9819 mg/L	0.00324	0.9819 mg/L	0.00324	0.33%
Se 196.026*†	816.0	0.4964 mg/L	0.00378	0.4964 mg/L	0.00378	0.76%
Si 251.611*†	6645.6	0.2197 mg/L	0.00007	0.2197 mg/L	0.00007	0.03%
Sn 189.927*†	4.6	0.0010 mg/L	0.00018	0.0010 mg/L	0.00018	17.61%
Sn 242.170†	332.0	0.2401 mg/L	0.03122	0.2401 mg/L	0.03122	13.00%
Sr 407.771*†	708.2	0.0025 mg/L	0.00036	0.0025 mg/L	0.00036	14.16%
Ti 334.940†	691677.5	1.028 mg/L	0.0023	1.028 mg/L	0.0023	0.22%
Ti 336.121*†	491725.6	1.025 mg/L	0.0036	1.025 mg/L	0.0036	0.35%
Tl 190.801*†	1443.8	1.000 mg/L	0.0196	1.000 mg/L	0.0196	1.96%
V 292.402*†	34409.0	0.3075 mg/L	0.00088	0.3075 mg/L	0.00088	0.29%
Zn 206.200*†	9410.4	0.3088 mg/L	0.00387	0.3088 mg/L	0.00387	1.25%
Zn 213.857*†	17639.0	0.3101 mg/L	0.00467	0.3101 mg/L	0.00467	1.51%

Sequence No.: 23

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/16/2017 12:13:21 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	59257.6	93.14 %	0.721			0.77%
Tb 350	96591.8	96.41 %	1.288			1.34%
Ag 328.068*†	60730.1	0.3913 mg/L	0.00013	0.3913 mg/L	0.00013	0.03%
QC value within limits for Ag 328.068* Recovery = 104.34%						
Al 308.215*†	206753.9	14.55 mg/L	0.013	14.55 mg/L	0.013	0.09%
QC value within limits for Al 308.215* Recovery = 107.76%						
As 188.979†	6287.7	3.945 mg/L	0.0344	3.945 mg/L	0.0344	0.87%
QC value within limits for As 188.979 Recovery = 105.19%						
As 193.696*†	4380.2	3.942 mg/L	0.0163	3.942 mg/L	0.0163	0.41%
QC value within limits for As 193.696* Recovery = 105.12%						
B 249.677*†	151830.9	4.015 mg/L	0.0201	4.015 mg/L	0.0201	0.50%
QC value within limits for B 249.677* Recovery = 107.07%						
Ba 233.527*†	984937.4	8.210 mg/L	0.0192	8.210 mg/L	0.0192	0.23%
QC value within limits for Ba 233.527* Recovery = 109.47%						
Be 313.042*†	1807138.8	0.6093 mg/L	0.00189	0.6093 mg/L	0.00189	0.31%
QC value within limits for Be 313.042* Recovery = 108.32%						
Ca 317.933*†	51821.7	33.09 mg/L	0.296	33.09 mg/L	0.296	0.90%
QC value greater than the upper limit for Ca 317.933* Recovery = 110.30%						
Cd 226.502*†	48136.9	0.8113 mg/L	0.00404	0.8113 mg/L	0.00404	0.50%
QC value within limits for Cd 226.502* Recovery = 108.17%						
Cd 228.802†	24814.6	0.8046 mg/L	0.00287	0.8046 mg/L	0.00287	0.36%
Co 228.616*†	44891.0	2.050 mg/L	0.0156	2.050 mg/L	0.0156	0.76%
QC value within limits for Co 228.616* Recovery = 109.35%						
Cr 267.716*†	58600.6	0.6432 mg/L	0.00093	0.6432 mg/L	0.00093	0.15%
QC value within limits for Cr 267.716* Recovery = 107.21%						
Cu 324.752*†	202744.0	0.9921 mg/L	0.00191	0.9921 mg/L	0.00191	0.19%
QC value within limits for Cu 324.752* Recovery = 105.83%						
Fe 273.955*†	77355.4	4.180 mg/L	0.0133	4.180 mg/L	0.0133	0.32%
QC value greater than the upper limit for Fe 273.955* Recovery = 111.48%						
K 766.490*†	71854.8	28.75 mg/L	0.243	28.75 mg/L	0.243	0.85%
QC value within limits for K 766.490* Recovery = 106.47%						
Mg 279.077*†	119863.4	8.219 mg/L	0.0436	8.219 mg/L	0.0436	0.53%
QC value within limits for Mg 279.077* Recovery = 109.59%						
Mn 257.610*†	416411.3	0.8099 mg/L	0.00152	0.8099 mg/L	0.00152	0.19%
QC value within limits for Mn 257.610* Recovery = 107.99%						
Mo 202.031*†	4746.3	0.6300 mg/L	0.00561	0.6300 mg/L	0.00561	0.89%
QC value within limits for Mo 202.031* Recovery = 105.00%						
Na 589.592*†	142893.3	39.16 mg/L	0.519	39.16 mg/L	0.519	1.32%
QC value within limits for Na 589.592* Recovery = 108.78%						
Ni 231.604*†	12168.2	0.6448 mg/L	0.00412	0.6448 mg/L	0.00412	0.64%
QC value within limits for Ni 231.604* Recovery = 107.46%						
P 213.617*†	9147.9	6.263 mg/L	0.0581	6.263 mg/L	0.0581	0.93%
QC value within limits for P 213.617* Recovery = 104.38%						
P 214.914†	6009.7	6.351 mg/L	0.0464	6.351 mg/L	0.0464	0.73%
Pb 220.353*†	24804.3	4.081 mg/L	0.0206	4.081 mg/L	0.0206	0.51%
QC value within limits for Pb 220.353* Recovery = 108.82%						
Sb 206.836†	7044.5	4.724 mg/L	0.0264	4.724 mg/L	0.0264	0.56%
QC value within limits for Sb 206.836 Recovery = 104.97%						
Sb 217.582*†	7077.3	4.713 mg/L	0.0384	4.713 mg/L	0.0384	0.82%
QC value within limits for Sb 217.582* Recovery = 104.74%						
Se 196.026*†	2619.7	1.593 mg/L	0.0020	1.593 mg/L	0.0020	0.13%
QC value within limits for Se 196.026* Recovery = 106.23%						
Si 251.611*†	197892.7	6.543 mg/L	0.0320	6.543 mg/L	0.0320	0.49%
QC value within limits for Si 251.611* Recovery = 109.05%						
Sn 189.927*†	14729.5	3.212 mg/L	0.0274	3.212 mg/L	0.0274	0.85%
QC value within limits for Sn 189.927* Recovery = 107.08%						
Sn 242.170†	4357.1	3.151 mg/L	0.0464	3.151 mg/L	0.0464	1.47%
Sr 407.771*†	89989.3	0.3216 mg/L	0.00390	0.3216 mg/L	0.00390	1.21%
QC value within limits for Sr 407.771* Recovery = 107.20%						

Tl 334.940†	440258.9	0.6544 mg/L	0.00145	0.6544 mg/L	0.00145	0.22%
Tl 336.121*†	311300.5	0.6486 mg/L	0.00055	0.6486 mg/L	0.00055	0.08%
QC value within limits for Tl 336.121* Recovery = 108.11%						
Tl 190.801*†	2322.6	1.609 mg/L	0.0120	1.609 mg/L	0.0120	0.75%
QC value within limits for Tl 190.801* Recovery = 107.29%						
V 292.402*†	222438.4	1.998 mg/L	0.0007	1.998 mg/L	0.0007	0.04%
QC value within limits for V 292.402* Recovery = 106.56%						
Zn 206.200*†	82696.5	2.714 mg/L	0.0138	2.714 mg/L	0.0138	0.51%
QC value within limits for Zn 206.200* Recovery = 108.55%						

QC Failed. Continue with analysis.

Sequence No.: 24

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/16/2017 12:14:28 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	65872.1	103.5 %		0.26			0.26%
Tb 350	104747.2	104.6 %		1.16			1.11%
Ag 328.068*†	57.8	0.0004 mg/L		0.00029	0.0004 mg/L	0.00029	79.14%
Al 308.215*†	15.1	0.0011 mg/L		0.00535	0.0011 mg/L	0.00535	503.28%
As 188.979†	2.3	0.0014 mg/L		0.00359	0.0014 mg/L	0.00359	249.34%
As 193.696*†	-0.3	-0.0002 mg/L		0.00851	-0.0002 mg/L	0.00851	>999.9%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	2337.0	0.0618 mg/L		0.00268	0.0618 mg/L	0.00268	4.33%
Ba 233.527*†	46.4	0.0004 mg/L		0.00033	0.0004 mg/L	0.00033	84.88%
Bc 313.042*†	-212.0	-0.0001 mg/L		0.00002	-0.0001 mg/L	0.00002	23.83%
Ca 317.933*†	8.5	0.0054 mg/L		0.00551	0.0054 mg/L	0.00551	101.48%
Cd 226.502*†	9.8	0.0002 mg/L		0.00001	0.0002 mg/L	0.00001	4.41%
Cd 228.802†	-10.9	-0.0004 mg/L		0.00020	-0.0004 mg/L	0.00020	56.87%
Co 228.616*†	-2.8	-0.0001 mg/L		0.00006	-0.0001 mg/L	0.00006	48.15%
Cr 267.716*†	12.7	0.0001 mg/L		0.00013	0.0001 mg/L	0.00013	94.26%
Cu 324.752*†	-68.1	-0.0003 mg/L		0.00065	-0.0003 mg/L	0.00065	193.71%
Fe 273.955*†	57.8	0.0031 mg/L		0.00011	0.0031 mg/L	0.00011	3.68%
K 766.490*†	-319.9	-0.1280 mg/L		0.10458	-0.1280 mg/L	0.10458	81.73%
Mg 279.077*†	4.8	0.0003 mg/L		0.01207	0.0003 mg/L	0.01207	>999.9%
Mn 257.610*†	73.4	0.0001 mg/L		0.00001	0.0001 mg/L	0.00001	3.72%
Mo 202.031*†	-6.6	-0.0009 mg/L		0.00087	-0.0009 mg/L	0.00087	99.50%
Na 589.592*†	-302.2	-0.0828 mg/L		0.03599	-0.0828 mg/L	0.03599	43.46%
Ni 231.604*†	-5.7	-0.0003 mg/L		0.00125	-0.0003 mg/L	0.00125	411.12%
P 213.617*†	13.2	0.0090 mg/L		0.01834	0.0090 mg/L	0.01834	203.26%
P 214.914†	-3.6	-0.0038 mg/L		0.00299	-0.0038 mg/L	0.00299	78.46%
Pb 220.353*†	-21.0	-0.0034 mg/L		0.00229	-0.0034 mg/L	0.00229	66.33%
Sb 206.836†	-16.4	-0.0110 mg/L		0.00527	-0.0110 mg/L	0.00527	48.04%
Sb 217.582*†	7.1	0.0047 mg/L		0.00827	0.0047 mg/L	0.00827	174.36%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	-0.2	-0.0001 mg/L		0.00242	-0.0001 mg/L	0.00242	>999.9%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	156.8	0.0052 mg/L		0.00029	0.0052 mg/L	0.00029	5.55%
Sn 189.927*†	7.7	0.0017 mg/L		0.00185	0.0017 mg/L	0.00185	110.35%
Sn 242.170†	-27.3	-0.0197 mg/L		0.01437	-0.0197 mg/L	0.01437	72.86%
Sr 407.771*†	3.1	0.0000 mg/L		0.00001	0.0000 mg/L	0.00001	51.72%
Ti 334.940†	378.7	0.0006 mg/L		0.00020	0.0006 mg/L	0.00020	36.28%
Ti 336.121*†	188.2	0.0004 mg/L		0.00033	0.0004 mg/L	0.00033	83.66%
Tl 190.801*†	-11.0	-0.0076 mg/L		0.00614	-0.0076 mg/L	0.00614	80.70%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	-42.1	-0.0004 mg/L		0.00097	-0.0004 mg/L	0.00097	257.31%
Zn 206.200*†	-52.1	-0.0017 mg/L		0.00072	-0.0017 mg/L	0.00072	41.87%
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: 3/16/2017 12:26:42 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	56790.7	89.26 %	1.738			1.95%
Tb 350	92228.7	92.06 %	2.972			3.23%
Ag 328.068*†	60171.1	0.3877 mg/L	0.00379	0.3877 mg/L	0.00379	0.98%
QC value within limits for Ag 328.068* Recovery = 103.38%						
Al 308.215*†	205017.3	14.43 mg/L	0.123	14.43 mg/L	0.123	0.85%
QC value within limits for Al 308.215* Recovery = 106.86%						
As 188.979†	6217.7	3.901 mg/L	0.0984	3.901 mg/L	0.0984	2.52%
QC value within limits for As 188.979 Recovery = 104.02%						
As 193.696*†	4327.1	3.894 mg/L	0.0831	3.894 mg/L	0.0831	2.13%
QC value within limits for As 193.696* Recovery = 103.84%						
B 249.677*†	147316.7	3.896 mg/L	0.0146	3.896 mg/L	0.0146	0.38%
QC value within limits for B 249.677* Recovery = 103.89%						
Ba 233.527*†	967790.4	8.067 mg/L	0.0630	8.067 mg/L	0.0630	0.78%
QC value within limits for Ba 233.527* Recovery = 107.56%						
Be 313.042*†	1779995.1	0.6001 mg/L	0.00791	0.6001 mg/L	0.00791	1.32%
QC value within limits for Be 313.042* Recovery = 106.69%						
Ca 317.933*†	50470.6	32.23 mg/L	0.063	32.23 mg/L	0.063	0.20%
QC value within limits for Ca 317.933* Recovery = 107.43%						
Cd 226.502*†	47009.7	0.7923 mg/L	0.00284	0.7923 mg/L	0.00284	0.36%
QC value within limits for Cd 226.502* Recovery = 105.64%						
Cd 228.802†	24413.7	0.7916 mg/L	0.00753	0.7916 mg/L	0.00753	0.95%
Co 228.616*†	43908.0	2.005 mg/L	0.0164	2.005 mg/L	0.0164	0.82%
QC value within limits for Co 228.616* Recovery = 106.96%						
Cr 267.716*†	57600.1	0.6323 mg/L	0.00803	0.6323 mg/L	0.00803	1.27%
QC value within limits for Cr 267.716* Recovery = 105.38%						
Cu 324.752*†	199918.1	0.9783 mg/L	0.00941	0.9783 mg/L	0.00941	0.96%
QC value within limits for Cu 324.752* Recovery = 104.35%						
Fe 273.955*†	75629.4	4.087 mg/L	0.0204	4.087 mg/L	0.0204	0.50%
QC value within limits for Fe 273.955* Recovery = 108.99%						
K 766.490*†	73236.8	29.30 mg/L	0.139	29.30 mg/L	0.139	0.47%
QC value within limits for K 766.490* Recovery = 108.51%						
Mg 279.077*†	116335.4	7.977 mg/L	0.0270	7.977 mg/L	0.0270	0.34%
QC value within limits for Mg 279.077* Recovery = 106.37%						
Mn 257.610*†	408464.5	0.7945 mg/L	0.00609	0.7945 mg/L	0.00609	0.77%
QC value within limits for Mn 257.610* Recovery = 105.93%						
Mo 202.031*†	4755.7	0.6313 mg/L	0.01568	0.6313 mg/L	0.01568	2.48%
QC value within limits for Mo 202.031* Recovery = 105.21%						
Na 589.592*†	144892.5	39.71 mg/L	0.191	39.71 mg/L	0.191	0.48%
QC value greater than the upper limit for Na 589.592* Recovery = 110.30%						
Ni 231.604*†	12077.3	0.6400 mg/L	0.01805	0.6400 mg/L	0.01805	2.82%
QC value within limits for Ni 231.604* Recovery = 106.66%						
P 213.617*†	9003.1	6.164 mg/L	0.1502	6.164 mg/L	0.1502	2.44%
QC value within limits for P 213.617* Recovery = 102.73%						
P 214.914†	5942.7	6.281 mg/L	0.1538	6.281 mg/L	0.1538	2.45%
Pb 220.353*†	24261.6	3.991 mg/L	0.1054	3.991 mg/L	0.1054	2.64%
QC value within limits for Pb 220.353* Recovery = 106.44%						
Sb 206.836†	6999.5	4.694 mg/L	0.1190	4.694 mg/L	0.1190	2.53%
QC value within limits for Sb 206.836 Recovery = 104.30%						
Sb 217.582*†	7059.0	4.701 mg/L	0.1306	4.701 mg/L	0.1306	2.78%
QC value within limits for Sb 217.582* Recovery = 104.47%						
Se 196.026*†	2582.5	1.571 mg/L	0.0385	1.571 mg/L	0.0385	2.45%
QC value within limits for Se 196.026* Recovery = 104.73%						
Si 251.611*†	193240.5	6.389 mg/L	0.0120	6.389 mg/L	0.0120	0.19%
QC value within limits for Si 251.611* Recovery = 106.49%						
Sn 189.927*†	14587.4	3.181 mg/L	0.0921	3.181 mg/L	0.0921	2.90%
QC value within limits for Sn 189.927* Recovery = 106.05%						
Sn 242.170†	4319.7	3.124 mg/L	0.0535	3.124 mg/L	0.0535	1.71%
Sr 407.771*†	91534.1	0.3271 mg/L	0.00156	0.3271 mg/L	0.00156	0.48%
QC value within limits for Sr 407.771* Recovery = 109.04%						

Ti 334.940†	434483.8	0.6458 mg/L	0.00607	0.6458 mg/L	0.00607	0.94%
Ti 336.121*†	307186.8	0.6401 mg/L	0.00607	0.6401 mg/L	0.00607	0.95%
QC value within limits for Ti 336.121* Recovery = 106.68%						
Tl 190.801*†	2311.9	1.602 mg/L	0.0461	1.602 mg/L	0.0461	2.88%
QC value within limits for Tl 190.801* Recovery = 106.79%						
V 292.402*†	220292.5	1.979 mg/L	0.0326	1.979 mg/L	0.0326	1.65%
QC value within limits for V 292.402* Recovery = 105.53%						
Zn 206.200*†	79630.8	2.613 mg/L	0.0110	2.613 mg/L	0.0110	0.42%
QC value within limits for Zn 206.200* Recovery = 104.52%						
QC Failed. Continue with analysis.						

Sequence No.: 36

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/16/2017 12:27:48 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	63283.1	99.47 %	0.280			0.28%
Tb 350	99964.4	99.78 %	1.255			1.26%
Ag 328.068*†	40.8	0.0003 mg/L	0.00098	0.0003 mg/L	0.00098	371.84%
Al 308.215*†	55.9	0.0039 mg/L	0.00076	0.0039 mg/L	0.00076	19.40%
As 188.979†	1.9	0.0012 mg/L	0.00100	0.0012 mg/L	0.00100	82.35%
As 193.696*†	-7.2	-0.0065 mg/L	0.00165	-0.0065 mg/L	0.00165	25.56%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2408.7	0.0637 mg/L	0.00371	0.0637 mg/L	0.00371	5.82%
Ba 233.527*†	258.4	0.0022 mg/L	0.00022	0.0022 mg/L	0.00022	10.25%
Bc 313.042*†	409.2	0.0001 mg/L	0.00004	0.0001 mg/L	0.00004	29.14%
Ca 317.933*†	21.8	0.0139 mg/L	0.00290	0.0139 mg/L	0.00290	20.81%
Cd 226.502*†	16.3	0.0003 mg/L	0.00003	0.0003 mg/L	0.00003	10.08%
Cd 228.802†	-5.7	-0.0002 mg/L	0.00041	-0.0002 mg/L	0.00041	222.94%
Co 228.616*†	12.1	0.0006 mg/L	0.00072	0.0006 mg/L	0.00072	129.61%
Cr 267.716*†	1.4	0.0000 mg/L	0.00046	0.0000 mg/L	0.00046	>999.9%
Cu 324.752*†	80.5	0.0004 mg/L	0.00039	0.0004 mg/L	0.00039	99.03%
Fe 273.955*†	50.3	0.0027 mg/L	0.00019	0.0027 mg/L	0.00019	7.14%
K 766.490*†	-217.4	-0.0870 mg/L	0.08708	-0.0870 mg/L	0.08708	100.13%
Mg 279.077*†	-96.8	-0.0066 mg/L	0.00152	-0.0066 mg/L	0.00152	22.84%
Mn 257.610*†	139.8	0.0003 mg/L	0.00012	0.0003 mg/L	0.00012	42.84%
Mo 202.031*†	10.2	0.0014 mg/L	0.00083	0.0014 mg/L	0.00083	61.06%
Na 589.592*†	-325.4	-0.0892 mg/L	0.02621	-0.0892 mg/L	0.02621	29.39%
Ni 231.604*†	0.1	0.0000 mg/L	0.00044	0.0000 mg/L	0.00044	>999.9%
P 213.617*†	-15.4	-0.0105 mg/L	0.00784	-0.0105 mg/L	0.00784	74.42%
P 214.914†	0.5	0.0005 mg/L	0.00373	0.0005 mg/L	0.00373	690.26%
Pb 220.353*†	3.8	0.0006 mg/L	0.00289	0.0006 mg/L	0.00289	458.86%
Sb 206.836†	-8.1	-0.0054 mg/L	0.00006	-0.0054 mg/L	0.00006	1.18%
Sb 217.582*†	5.3	0.0035 mg/L	0.00507	0.0035 mg/L	0.00507	144.38%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	6.6	0.0040 mg/L	0.00533	0.0040 mg/L	0.00533	131.89%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	626.1	0.0207 mg/L	0.00343	0.0207 mg/L	0.00343	16.59%
Sn 189.927*†	22.9	0.0050 mg/L	0.00346	0.0050 mg/L	0.00346	69.21%
Sn 242.170†	-61.8	-0.0447 mg/L	0.00641	-0.0447 mg/L	0.00641	14.34%
Sr 407.771*†	12.8	0.0000 mg/L	0.00001	0.0000 mg/L	0.00001	21.55%
Ti 334.940†	405.2	0.0006 mg/L	0.00015	0.0006 mg/L	0.00015	25.60%
Ti 336.121*†	368.8	0.0008 mg/L	0.00005	0.0008 mg/L	0.00005	6.85%
Tl 190.801*†	2.2	0.0015 mg/L	0.00613	0.0015 mg/L	0.00613	403.45%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	26.2	0.0002 mg/L	0.00061	0.0002 mg/L	0.00061	260.67%
Zn 206.200*†	-48.7	-0.0016 mg/L	0.00095	-0.0016 mg/L	0.00095	59.70%
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

WORK ORDER: 17-03-0140
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:43
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0140-32 MIS.icp

32

CLIENT SAMPLE NUMBER: F-DU1-ISM1-3

LCS/MB BATCH: 170314L02 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170314S02 **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	0.00253	1.00	ND	0.750	
Arsenic	0.0148	1.00	ND	0.750	
Barium	1.18	1.00	59.0	0.500	
Beryllium	0.00276	1.00	ND	0.250	
Cadmium	0.00444	1.00	ND	0.500	
Chromium	0.0865	1.00	4.33	0.250	
Cobalt	0.0839	1.00	4.20	0.250	
Copper	0.122	1.00	6.08	0.500	
Lead	0.0621	1.00	3.10	0.500	
Molybdenum	0.000654	1.00	ND	0.250	
Nickel	0.0707	1.00	3.53	0.250	
Selenium	0.00194	1.00	ND	0.750	
Silver	-0.000702	1.00	ND	0.250	
Thallium	-0.00864	1.00	ND	0.750	
Vanadium	0.255	1.00	12.8	0.250	
Zinc	0.613	1.00	30.6	1.00	

Sequence No.: 29
Sample ID: 17-03-0140-32 MIS
Analyst: 935 icp 7300
Initial Sample Wt: 2 g
Dilution:
Wash Time: 15

Autosampler Location: 146
Date Collected: 3/15/2017 11:43:12 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0140-32 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	60099.5	78.52 %	1.098			1.40%
Tb 350	111385.8	90.73 %	0.867			0.96%
Ag 328.068*†	-136.5	-0.0007 mg/L	0.00038	-0.0351 mg/kg	0.01895	54.01%
Al 308.215*†	1831615.1	104.2 mg/L	0.46	5208 mg/kg	22.84	0.44%
As 188.979†	43.2	0.0198 mg/L	0.00093	0.9898 mg/kg	0.04659	4.71%
As 193.696*†	22.5	0.0148 mg/L	0.00056	0.7416 mg/kg	0.02802	3.78%
B 249.677*†	1217.3	0.0232 mg/L	0.00156	1.162 mg/kg	0.0781	6.73%
Ba 233.527*†	184181.1	1.180 mg/L	0.0054	58.98 mg/kg	0.271	0.46%
Be 313.042*†	10852.4	0.0028 mg/L	0.00002	0.1380 mg/kg	0.00106	0.77%
Ca 317.933*†	110372.4	53.10 mg/L	1.736	2655 mg/kg	86.81	3.27%
Cd 226.502*†	360.4	0.0044 mg/L	0.00004	0.2218 mg/kg	0.00206	0.93%
Cd 228.802†	46.8	0.0011 mg/L	0.00021	0.0572 mg/kg	0.01038	18.13%
Co 228.616*†	2458.4	0.0839 mg/L	0.00064	4.197 mg/kg	0.0320	0.76%
Cr 267.716*†	10110.1	0.0865 mg/L	0.00018	4.326 mg/kg	0.0088	0.20%
Cu 324.752*†	31392.9	0.1216 mg/L	0.00115	6.080 mg/kg	0.0575	0.95%
Fe 273.955*†	3266600.2	134.5 mg/L	1.14	6724 mg/kg	56.98	0.85%
K 766.490*†	108522.5	34.49 mg/L	0.929	1724 mg/kg	46.47	2.69%
Mg 279.077*†	1033015.8	51.97 mg/L	0.327	2599 mg/kg	16.36	0.63%
Mn 257.610*†	1693748.4	2.531 mg/L	0.0191	126.6 mg/kg	0.96	0.75%
Mo 202.031*†	6.3	0.0007 mg/L	0.00097	0.0327 mg/kg	0.04853	148.50%
Na 589.592*†	17471.7	3.869 mg/L	0.1521	193.5 mg/kg	7.60	3.93%
Ni 231.604*†	1770.8	0.0707 mg/L	0.00043	3.534 mg/kg	0.0214	0.61%
P 213.617*†	18316.8	9.074 mg/L	0.0241	453.7 mg/kg	1.20	0.27%
P 214.914†	12531.7	9.621 mg/L	0.0034	481.0 mg/kg	0.17	0.04%
Pb 220.353*†	521.1	0.0621 mg/L	0.00016	3.105 mg/kg	0.0079	0.26%
Sb 206.836†	0.2	0.0001 mg/L	0.00083	0.0059 mg/kg	0.04146	702.47%
Sb 217.582*†	4.9	0.0025 mg/L	0.00612	0.1264 mg/kg	0.30594	242.11%
Se 196.026*†	4.5	0.0019 mg/L	0.00795	0.0972 mg/kg	0.39749	408.92%
Si 251.611*†	384728.1	9.616 mg/L	0.0514	480.8 mg/kg	2.57	0.53%
Sn 189.927*†	-328.7	-0.0521 mg/L	0.00411	-2.603 mg/kg	0.2056	7.90%
Sn 242.170†	708.6	0.3915 mg/L	0.00228	19.57 mg/kg	0.114	0.58%
Sr 407.771*†	225289.1	0.6719 mg/L	0.01881	33.60 mg/kg	0.940	2.80%
Ti 334.940†	8459468.7	9.911 mg/L	0.0465	495.5 mg/kg	2.33	0.47%
Ti 336.121*†	6058849.6	10.07 mg/L	0.058	503.4 mg/kg	2.90	0.58%
Tl 190.801*†	-16.5	-0.0086 mg/L	0.00097	-0.4320 mg/kg	0.04834	11.19%
V 292.402*†	36140.0	0.2553 mg/L	0.00193	12.76 mg/kg	0.097	0.76%
Zn 206.200*†	26511.0	0.6130 mg/L	0.00077	30.65 mg/kg	0.038	0.13%

RAW DATA SHEET FOR METHOD: EPA 6010B

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WORK ORDER: 17-03-0140
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:44
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0140-33 MIS.icp

33

CLIENT SAMPLE NUMBER: F-DU1-ISM2-3

LCS/MB BATCH: 170314L02	SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g	
MS/MSD BATCH: 170314S02	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	-0.000861	0.990	ND	0.743	
Arsenic	0.0145	0.990	ND	0.743	
Barium	1.20	0.990	59.2	0.495	
Beryllium	0.00269	0.990	ND	0.248	
Cadmium	0.00466	0.990	ND	0.495	
Chromium	0.0949	0.990	4.70	0.248	
Cobalt	0.0932	0.990	4.61	0.248	
Copper	0.132	0.990	6.51	0.495	
Lead	0.0673	0.990	3.33	0.495	
Molybdenum	0.000653	0.990	ND	0.248	
Nickel	0.0771	0.990	3.82	0.248	
Selenium	0.00446	0.990	ND	0.743	
Silver	0.000549	0.990	ND	0.248	
Thallium	-0.00532	0.990	ND	0.743	
Vanadium	0.285	0.990	14.1	0.248	
Zinc	0.700	0.990	34.7	0.990	

Return to Contents

Sequence No.: 30

Sample ID: 17-03-0140-33 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 2.02 g

Dilution:

Wash Time: 15

Autosampler Location: 147

Date Collected: 3/15/2017 11:44:03 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0140-33 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	60038.3	78.44 %	1.970			2.51%
Tb 350	111295.9	90.66 %	2.613			2.88%
Ag 328.068*†	106.9	0.0005 mg/L	0.00096	0.0272 mg/kg	0.04772	175.46%
Al 308.215*†	1989165.2	113.1 mg/L	0.71	5600 mg/kg	35.30	0.63%
As 188.979†	51.7	0.0237 mg/L	0.00512	1.173 mg/kg	0.2534	21.60%
As 193.696*†	22.0	0.0145 mg/L	0.00880	0.7200 mg/kg	0.43586	60.54%
B 249.677*†	517.3	0.0099 mg/L	0.00215	0.4889 mg/kg	0.10628	21.74%
Ba 233.527*†	186730.1	1.196 mg/L	0.0068	59.21 mg/kg	0.337	0.57%
Be 313.042*†	10560.3	0.0027 mg/L	0.00004	0.1329 mg/kg	0.00204	1.54%
Ca 317.933*†	121817.8	58.61 mg/L	3.331	2901 mg/kg	164.89	5.68%
Cd 226.502*†	379.0	0.0047 mg/L	0.00005	0.2309 mg/kg	0.00238	1.03%
Cd 228.802†	25.3	0.0006 mg/L	0.00046	0.0306 mg/kg	0.02288	74.83%
Co 228.616*†	2729.6	0.0932 mg/L	0.00213	4.613 mg/kg	0.1055	2.29%
Cr 267.716*†	11085.3	0.0949 mg/L	0.00230	4.696 mg/kg	0.1139	2.43%
Cu 324.752*†	33961.3	0.1316 mg/L	0.00122	6.513 mg/kg	0.0606	0.93%
Fe 273.955*†	3599939.4	148.2 mg/L	0.09	7336 mg/kg	4.55	0.06%
K 766.490*†	111905.4	35.56 mg/L	1.848	1761 mg/kg	91.47	5.20%
Mg 279.077*†	1122743.9	56.49 mg/L	0.615	2796 mg/kg	30.47	1.09%
Mn 257.610*†	1850478.9	2.766 mg/L	0.0237	136.9 mg/kg	1.17	0.86%
Mo 202.031*†	6.3	0.0007 mg/L	0.00098	0.0323 mg/kg	0.04835	149.47%
Na 589.592*†	17216.7	3.813 mg/L	0.2069	188.8 mg/kg	10.24	5.43%
Ni 231.604*†	1930.6	0.0771 mg/L	0.00132	3.815 mg/kg	0.0655	1.72%
P 213.617*†	23685.7	11.73 mg/L	0.108	580.9 mg/kg	5.37	0.92%
P 214.914†	16091.4	12.35 mg/L	0.360	611.6 mg/kg	17.82	2.91%
Pb 220.353*†	564.9	0.0673 mg/L	0.00002	3.332 mg/kg	0.0010	0.03%
Sb 206.836†	-0.4	-0.0002 mg/L	0.01168	-0.0092 mg/kg	0.57799	>999.9%
Sb 217.582*†	-1.7	-0.0009 mg/L	0.00335	-0.0426 mg/kg	0.16568	388.80%
Se 196.026*†	10.3	0.0045 mg/L	0.00726	0.2210 mg/kg	0.35958	162.71%
Si 251.611*†	384785.4	9.618 mg/L	0.0840	476.1 mg/kg	4.16	0.87%
Sn 189.927*†	-311.5	-0.0493 mg/L	0.00113	-2.442 mg/kg	0.0561	2.30%
Sn 242.170†	769.5	0.4251 mg/L	0.02782	21.04 mg/kg	1.377	6.54%
Sr 407.771*†	209047.6	0.6235 mg/L	0.02862	30.86 mg/kg	1.417	4.59%
Ti 334.940†	9014554.6	10.56 mg/L	0.057	522.8 mg/kg	2.84	0.54%
Ti 336.121*†	6478745.1	10.77 mg/L	0.044	533.0 mg/kg	2.16	0.40%
Tl 190.801*†	-10.2	-0.0053 mg/L	0.00512	-0.2632 mg/kg	0.25340	96.26%
V 292.402*†	40348.2	0.2850 mg/L	0.00261	14.11 mg/kg	0.129	0.92%
Zn 206.200*†	30284.9	0.7003 mg/L	0.02020	34.67 mg/kg	1.000	2.88%

RAW DATA SHEET FOR METHOD: EPA 6010B

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WORK ORDER: 17-03-0140
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:44
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0140-34 MIS.icp

34 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-3

LCS/MB BATCH: 170314L02	SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g	
MS/MSD BATCH: 170314S02	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	0.00722	0.995	ND	0.746	
Arsenic	0.00788	0.995	ND	0.746	
Barium	1.16	0.995	57.5	0.498	
Beryllium	0.00267	0.995	ND	0.249	
Cadmium	0.00438	0.995	ND	0.498	
Chromium	0.0898	0.995	4.47	0.249	
Cobalt	0.0842	0.995	4.19	0.249	
Copper	0.122	0.995	6.06	0.498	
Lead	0.0633	0.995	3.15	0.498	
Molybdenum	-0.000841	0.995	ND	0.249	
Nickel	0.0725	0.995	3.61	0.249	
Selenium	-0.00474	0.995	ND	0.746	
Silver	-0.000415	0.995	ND	0.249	
Thallium	-0.00717	0.995	ND	0.746	
Vanadium	0.260	0.995	12.9	0.249	
Zinc	0.683	0.995	34.0	0.995	

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Sequence No.: 31

Sample ID: 17-03-0140-34 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 2.01 g

Dilution:

Wash Time: 15

Autosampler Location: 148

Date Collected: 3/15/2017 11:44:54 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0140-34 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	61033.6	79.74 %	0.843			1.06%
Tb 350	111857.1	91.12 %	1.116			1.22%
Ag 328.068*†	-80.7	-0.0004 mg/L	0.00139	-0.0206 mg/kg	0.06912	334.89%
Al 308.215*†	1934035.9	110.0 mg/L	0.11	5472 mg/kg	5.53	0.10%
As 188.979†	48.5	0.0223 mg/L	0.00026	1.107 mg/kg	0.0127	1.15%
As 193.696*†	11.9	0.0079 mg/L	0.00017	0.3920 mg/kg	0.00845	2.16%
B 249.677*†	369.4	0.0071 mg/L	0.00078	0.3509 mg/kg	0.03897	11.11%
Ba 233.527*†	180365.4	1.155 mg/L	0.0010	57.48 mg/kg	0.050	0.09%
Be 313.042*†	10491.6	0.0027 mg/L	0.00002	0.1327 mg/kg	0.00080	0.60%
Ca 317.933*†	122902.2	59.13 mg/L	0.798	2942 mg/kg	39.72	1.35%
Cd 226.502*†	355.8	0.0044 mg/L	0.00012	0.2178 mg/kg	0.00614	2.82%
Cd 228.802†	30.4	0.0007 mg/L	0.00007	0.0370 mg/kg	0.00366	9.91%
Co 228.616*†	2465.9	0.0842 mg/L	0.00043	4.188 mg/kg	0.0216	0.51%
Cr 267.716*†	10494.6	0.0898 mg/L	0.00148	4.468 mg/kg	0.0738	1.65%
Cu 324.752*†	31422.3	0.1217 mg/L	0.00078	6.056 mg/kg	0.0390	0.64%
Fe 273.955*†	3358898.2	138.3 mg/L	3.26	6879 mg/kg	162.33	2.36%
K 766.490*†	112319.8	35.70 mg/L	0.332	1776 mg/kg	16.49	0.93%
Mg 279.077*†	1072084.8	53.94 mg/L	0.076	2683 mg/kg	3.78	0.14%
Mn 257.610*†	1763248.4	2.635 mg/L	0.0023	131.1 mg/kg	0.11	0.09%
Mo 202.031*†	-8.1	-0.0008 mg/L	0.00074	-0.0418 mg/kg	0.03683	88.07%
Na 589.592*†	17827.9	3.948 mg/L	0.0178	196.4 mg/kg	0.88	0.45%
Ni 231.604*†	1815.4	0.0725 mg/L	0.00034	3.605 mg/kg	0.0167	0.46%
P 213.617*†	19655.4	9.738 mg/L	0.1022	484.5 mg/kg	5.08	1.05%
P 214.914†	13313.8	10.22 mg/L	0.127	508.5 mg/kg	6.30	1.24%
Pb 220.353*†	531.6	0.0633 mg/L	0.00075	3.151 mg/kg	0.0372	1.18%
Sb 206.836†	-0.7	-0.0004 mg/L	0.00005	-0.0187 mg/kg	0.00226	12.08%
Sb 217.582*†	14.0	0.0072 mg/L	0.00016	0.3591 mg/kg	0.00791	2.20%
Se 196.026*†	-10.9	-0.0047 mg/L	0.00170	-0.2357 mg/kg	0.08460	35.88%
Si 251.611*†	370149.5	9.252 mg/L	0.0343	460.3 mg/kg	1.70	0.37%
Sn 189.927*†	-307.9	-0.0488 mg/L	0.00347	-2.426 mg/kg	0.1725	7.11%
Sn 242.170†	695.2	0.3841 mg/L	0.01861	19.11 mg/kg	0.926	4.85%
Sr 407.771*†	233994.8	0.6979 mg/L	0.00927	34.72 mg/kg	0.461	1.33%
Ti 334.940†	8501192.0	9.960 mg/L	0.2382	495.5 mg/kg	11.85	2.39%
Ti 336.121*†	6083127.3	10.11 mg/L	0.242	502.9 mg/kg	12.05	2.40%
Tl 190.801*†	-13.7	-0.0072 mg/L	0.00243	-0.3567 mg/kg	0.12112	33.96%
V 292.402*†	36803.7	0.2599 mg/L	0.00047	12.93 mg/kg	0.023	0.18%
Zn 206.200*†	29551.8	0.6833 mg/L	0.01071	34.00 mg/kg	0.533	1.57%

RAW DATA SHEET FOR METHOD: EPA 6010B

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WORK ORDER: 17-03-0140
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:45
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0140-35 MIS.icp

35 **CLIENT SAMPLE NUMBER:** F-DU1-ISM4-3

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	-0.00156	0.990	ND	0.743	
Arsenic	0.0214	0.990	1.06	0.743	
Barium	1.33	0.990	66.0	0.495	
Beryllium	0.00306	0.990	ND	0.248	
Cadmium	0.00493	0.990	ND	0.495	
Chromium	0.103	0.990	5.12	0.248	
Cobalt	0.0931	0.990	4.61	0.248	
Copper	0.144	0.990	7.15	0.495	
Lead	0.0854	0.990	4.23	0.495	
Molybdenum	-0.000553	0.990	ND	0.248	
Nickel	0.0813	0.990	4.02	0.248	
Selenium	0.00268	0.990	ND	0.743	
Silver	-0.000353	0.990	ND	0.248	
Thallium	-0.00773	0.990	ND	0.743	
Vanadium	0.292	0.990	14.4	0.248	
Zinc	0.711	0.990	35.2	0.990	B&

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Sequence No.: 32

Sample ID: 17-03-0140-35 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 2.02 g

Dilution:

Wash Time: 15

Autosampler Location: 149

Date Collected: 3/15/2017 11:45:45 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0140-35 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	60227.2	78.69 %	1.624			2.06%
Tb 350	112329.1	91.50 %	1.311			1.43%
Ag 328.068*†	-68.7	-0.0004 mg/L	0.00356	-0.0175 mg/kg	0.17620	>999.9%
Al 308.215*†	2144375.7	121.9 mg/L	0.84	6037 mg/kg	41.41	0.69%
As 188.979†	73.7	0.0338 mg/L	0.00170	1.673 mg/kg	0.0842	5.04%
As 193.696*†	32.4	0.0214 mg/L	0.00944	1.059 mg/kg	0.4675	44.17%
B 249.677*†	222.8	0.0043 mg/L	0.00543	0.2105 mg/kg	0.26898	127.76%
Ba 233.527*†	208063.4	1.333 mg/L	0.0120	65.97 mg/kg	0.595	0.90%
Be 313.042*†	12042.6	0.0031 mg/L	0.00005	0.1516 mg/kg	0.00226	1.49%
Ca 317.933*†	138740.2	66.75 mg/L	0.656	3304 mg/kg	32.49	0.98%
Cd 226.502*†	400.3	0.0049 mg/L	0.00025	0.2439 mg/kg	0.01252	5.13%
Cd 228.802†	28.4	0.0007 mg/L	0.00002	0.0344 mg/kg	0.00088	2.56%
Co 228.616*†	2727.4	0.0931 mg/L	0.00143	4.610 mg/kg	0.0706	1.53%
Cr 267.716*†	12081.2	0.1034 mg/L	0.00214	5.118 mg/kg	0.1060	2.07%
Cu 324.752*†	37267.8	0.1444 mg/L	0.00150	7.147 mg/kg	0.0741	1.04%
Fe 273.955*†	3737278.9	153.9 mg/L	1.81	7616 mg/kg	89.76	1.18%
K 766.490*†	126869.8	40.32 mg/L	0.120	1996 mg/kg	5.95	0.30%
Mg 279.077*†	1250334.3	62.90 mg/L	0.938	3114 mg/kg	46.44	1.49%
Mn 257.610*†	2045966.2	3.058 mg/L	0.0345	151.4 mg/kg	1.71	1.13%
Mo 202.031*†	-5.3	-0.0006 mg/L	0.00054	-0.0274 mg/kg	0.02668	97.39%
Na 589.592*†	18625.7	4.125 mg/L	0.0006	204.2 mg/kg	0.03	0.01%
Ni 231.604*†	2035.7	0.0813 mg/L	0.00106	4.023 mg/kg	0.0525	1.30%
P 213.617*†	27022.1	13.39 mg/L	0.398	662.7 mg/kg	19.72	2.98%
P 214.914†	17359.6	13.33 mg/L	0.305	659.8 mg/kg	15.12	2.29%
Pb 220.353*†	716.9	0.0854 mg/L	0.00279	4.228 mg/kg	0.1380	3.26%
Sb 206.836†	7.2	0.0037 mg/L	0.00059	0.1835 mg/kg	0.02904	15.83%
Sb 217.582*†	-3.0	-0.0016 mg/L	0.01198	-0.0772 mg/kg	0.59316	768.24%
Se 196.026*†	6.2	0.0027 mg/L	0.00080	0.1327 mg/kg	0.03964	29.86%
Si 251.611*†	390506.0	9.761 mg/L	0.1197	483.2 mg/kg	5.93	1.23%
Sn 189.927*†	-348.7	-0.0552 mg/L	0.00130	-2.734 mg/kg	0.0646	2.36%
Sn 242.170†	772.5	0.4267 mg/L	0.00589	21.13 mg/kg	0.292	1.38%
Sr 407.771*†	246481.0	0.7351 mg/L	0.00091	36.39 mg/kg	0.045	0.12%
Ti 334.940†	9455799.0	11.08 mg/L	0.127	548.4 mg/kg	6.28	1.15%
Ti 336.121*†	6775207.8	11.26 mg/L	0.121	557.4 mg/kg	5.97	1.07%
Tl 190.801*†	-14.8	-0.0077 mg/L	0.00406	-0.3829 mg/kg	0.20084	52.46%
V 292.402*†	41290.8	0.2917 mg/L	0.00379	14.44 mg/kg	0.188	1.30%
Zn 206.200*†	30764.5	0.7113 mg/L	0.01590	35.22 mg/kg	0.787	2.24%

RAW DATA SHEET FOR METHOD: EPA 6010B

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WORK ORDER: 17-03-0140
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:46
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\17-03-0140-36 MIS.icp

36

CLIENT SAMPLE NUMBER: F-DU1-ISM5-3

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	-0.000663	0.995	ND	0.746	
Arsenic	0.0119	0.995	ND	0.746	
Barium	1.26	0.995	62.9	0.498	
Beryllium	0.00270	0.995	ND	0.249	
Cadmium	0.00464	0.995	ND	0.498	
Chromium	0.100	0.995	5.00	0.249	
Cobalt	0.0963	0.995	4.79	0.249	
Copper	0.145	0.995	7.19	0.498	
Lead	0.0662	0.995	3.29	0.498	
Molybdenum	0.00118	0.995	ND	0.249	
Nickel	0.0802	0.995	3.99	0.249	
Selenium	0.00905	0.995	ND	0.746	
Silver	-0.000531	0.995	ND	0.249	
Thallium	-0.0129	0.995	ND	0.746	
Vanadium	0.295	0.995	14.7	0.249	
Zinc	0.682	0.995	33.9	0.995	B&

Sequence No.: 33

Sample ID: 17-03-0140-36 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 2.01 g

Dilution:

Wash Time: 15

Autosampler Location: 150

Date Collected: 3/15/2017 11:46:36 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0140-36 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	59157.7	77.29 %	0.888			1.15%
Tb 350	108718.9	88.56 %	2.141			2.42%
Ag 328.068*†	-103.3	-0.0005 mg/L	0.00019	-0.0264 mg/kg	0.00952	36.01%
Al 308.215*†	2024500.8	115.1 mg/L	0.23	5728 mg/kg	11.64	0.20%
As 188.979†	58.8	0.0270 mg/L	0.00234	1.341 mg/kg	0.1163	8.67%
As 193.696*†	18.1	0.0119 mg/L	0.00337	0.5926 mg/kg	0.16753	28.27%
B 249.677*†	333.6	0.0064 mg/L	0.00477	0.3168 mg/kg	0.23753	74.97%
Ba 233.527*†	197254.3	1.263 mg/L	0.0057	62.86 mg/kg	0.282	0.45%
Be 313.042*†	10620.5	0.0027 mg/L	0.00011	0.1344 mg/kg	0.00564	4.20%
Ca 317.933*†	140114.5	67.41 mg/L	0.281	3354 mg/kg	13.97	0.42%
Cd 226.502*†	377.4	0.0046 mg/L	0.00024	0.2311 mg/kg	0.01170	5.06%
Cd 228.802†	26.5	0.0006 mg/L	0.00022	0.0323 mg/kg	0.01119	34.68%
Co 228.616*†	2819.8	0.0963 mg/L	0.00240	4.790 mg/kg	0.1192	2.49%
Cr 267.716*†	11738.9	0.1004 mg/L	0.00333	4.997 mg/kg	0.1658	3.32%
Cu 324.752*†	37322.5	0.1446 mg/L	0.00103	7.193 mg/kg	0.0513	0.71%
Fe 273.955*†	3757543.3	154.7 mg/L	0.65	7696 mg/kg	32.37	0.42%
K 766.490*†	125829.7	39.99 mg/L	0.177	1990 mg/kg	8.81	0.44%
Mg 279.077*†	1111567.9	55.92 mg/L	0.730	2782 mg/kg	36.32	1.31%
Mn 257.610*†	1840903.3	2.751 mg/L	0.0216	136.9 mg/kg	1.08	0.79%
Mo 202.031*†	11.3	0.0012 mg/L	0.00020	0.0587 mg/kg	0.01011	17.22%
Na 589.592*†	21624.1	4.789 mg/L	0.0229	238.3 mg/kg	1.14	0.48%
Ni 231.604*†	2008.6	0.0802 mg/L	0.00342	3.989 mg/kg	0.1703	4.27%
P 213.617*†	22960.0	11.37 mg/L	0.347	565.9 mg/kg	17.26	3.05%
P 214.914†	15680.0	12.04 mg/L	0.404	598.9 mg/kg	20.08	3.35%
Pb 220.353*†	555.4	0.0662 mg/L	0.00232	3.292 mg/kg	0.1156	3.51%
Sb 206.836†	-3.3	-0.0017 mg/L	0.00051	-0.0830 mg/kg	0.02552	30.73%
Sb 217.582*†	-1.3	-0.0007 mg/L	0.00619	-0.0330 mg/kg	0.30794	933.35%
Se 196.026*†	20.8	0.0090 mg/L	0.00378	0.4501 mg/kg	0.18785	41.74%
Si 251.611*†	426433.4	10.66 mg/L	0.112	530.3 mg/kg	5.60	1.06%
Sn 189.927*†	-330.9	-0.0524 mg/L	0.00139	-2.607 mg/kg	0.0691	2.65%
Sn 242.170†	755.5	0.4174 mg/L	0.00801	20.76 mg/kg	0.398	1.92%
Sr 407.771*†	285751.0	0.8522 mg/L	0.00543	42.40 mg/kg	0.270	0.64%
Ti 334.940†	9288910.9	10.88 mg/L	0.084	541.4 mg/kg	4.19	0.77%
Ti 336.121*†	6653689.0	11.06 mg/L	0.089	550.1 mg/kg	4.43	0.81%
Tl 190.801*†	-24.6	-0.0129 mg/L	0.00206	-0.6403 mg/kg	0.10269	16.04%
V 292.402*†	41827.0	0.2955 mg/L	0.00073	14.70 mg/kg	0.037	0.25%
Zn 206.200*†	29493.9	0.6820 mg/L	0.02273	33.93 mg/kg	1.131	3.33%

EPA 6010B ICP Metals (Solid)

Quality Control

Method Blank
LCS/LCSD
MS/MSD

METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: EPA 6010B

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MB SAMPLE ID: 097-01-002-24439
MB BATCH ID: 170314L02
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-15 11:21
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170315C 1\170314-b-02__48.icp

CLIENT WORK ORDER: 17-03-0140

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
32	F-DU1-ISM1-3		2017-03-15 11:43	W:\ICP-DATA\170315C 1\17-03-0140-32 MIS.icp
33	F-DU1-ISM2-3		2017-03-15 11:44	W:\ICP-DATA\170315C 1\17-03-0140-33 MIS.icp
34	F-DU1-ISM3-3		2017-03-15 11:44	W:\ICP-DATA\170315C 1\17-03-0140-34 MIS.icp

RAW DATA SHEET FOR METHOD: EPA 6010B

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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 11:21
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170315C 1\170314-b-02__48.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170314L02 **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	0.00649	0.966	ND	0.725	
Arsenic	0.00369	0.966	ND	0.725	
Barium	0.00122	0.966	ND	0.483	
Beryllium	0.000737	0.966	ND	0.242	
Cadmium	0.000815	0.966	ND	0.483	
Chromium	0.00187	0.966	ND	0.242	
Cobalt	0.000543	0.966	ND	0.242	
Copper	0.00142	0.966	ND	0.483	
Lead	0.000825	0.966	ND	0.483	
Molybdenum	0.000732	0.966	ND	0.242	
Nickel	0.000743	0.966	ND	0.242	
Selenium	0.00638	0.966	ND	0.725	
Silver	0.000799	0.966	ND	0.242	
Thallium	0.00375	0.966	ND	0.725	
Vanadium	0.000384	0.966	ND	0.242	
Zinc	0.00546	0.966	ND	0.966	

Return to Contents

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24439
LCS/MB BATCH ID: 170314L02
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 11\170314-L02_49.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	24.52	98	80-120	73-127	PASS	
Arsenic	25.00	24.10	96	80-120	73-127	PASS	
Barium	25.00	26.10	104	80-120	73-127	PASS	
Beryllium	25.00	23.68	95	80-120	73-127	PASS	
Cadmium	25.00	24.67	99	80-120	73-127	PASS	
Chromium	25.00	25.23	101	80-120	73-127	PASS	
Cobalt	25.00	26.10	104	80-120	73-127	PASS	
Copper	25.00	25.42	102	80-120	73-127	PASS	
Lead	25.00	26.04	104	80-120	73-127	PASS	
Molybdenum	25.00	25.04	100	80-120	73-127	PASS	
Nickel	25.00	25.95	104	80-120	73-127	PASS	
Phosphorus	25.00	24.68	99	80-120	73-127	PASS	
Selenium	25.00	24.39	98	80-120	73-127	PASS	
Silver	12.50	12.06	96	80-120	73-127	PASS	
Thallium	25.00	25.63	103	80-120	73-127	PASS	
Vanadium	25.00	24.19	97	80-120	73-127	PASS	
Zinc	25.00	25.52	102	80-120	73-127	PASS	
Aluminum	25.00	26.86	107	80-120	73-127	PASS	
Calcium	25.00	27.00	108	80-120	73-127	PASS	
Iron	25.00	25.97	104	80-120	73-127	PASS	
Magnesium	25.00	24.41	98	80-120	73-127	PASS	
Manganese	25.00	24.73	99	80-120	73-127	PASS	
Potassium	250.0	244.1	98	80-120	73-127	PASS	
Sodium	250.0	262.2	105	80-120	73-127	PASS	
Strontium	25.00	26.57	106	80-120	73-127	PASS	
Tin	25.00	25.36	101	80-120	73-127	PASS	
Titanium	25.00	24.61	98	80-120	73-127	PASS	
Boron	25.00	23.60	94	80-120	73-127	PASS	
Silicon	25.00	26.57	106	80-120	73-127	PASS	

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24439
LCS/MB BATCH ID: 170314L02
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-I-02__49.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: 17-03-0838-1
MS/MSD BATCH: 170314S02
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: 2017-03-16 12:22
MS: 2017-03-16 12:23
MSD: 2017-03-16 12:24
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	0.7493	0.5000	25.00	7.759	28	8.671	32	50-115	11	0-20	FAIL	3G
Arsenic	5.032	0.5000	25.00	30.03	100	31.28	105	75-125	4x	0-20	PASS	
Barium	139.1	0.5000	25.00	175.0	4x	170.0	4x	75-125	4x	0-20	PASS	Q
Beryllium	0.2461	0.5000	25.00	27.80	110	27.94	111	75-125	1	0-20	PASS	
Cadmium	1.237	0.5000	25.00	27.91	107	27.95	107	75-125	0	0-20	PASS	
Chromium	33.08	0.5000	25.00	59.39	105	62.46	118	75-125	5	0-20	PASS	
Cobalt	10.82	0.5000	25.00	37.08	105	37.07	105	75-125	0	0-20	PASS	
Copper	36.80	0.5000	25.00	65.76	116	65.28	114	75-125	1	0-20	PASS	
Lead	103.7	0.5000	25.00	123.1	4x	135.7	4x	75-125	4x	0-20	PASS	Q
Molybdenum	4.034	0.5000	25.00	29.30	101	29.79	103	75-125	2	0-20	PASS	
Nickel	14.35	0.5000	25.00	40.09	103	40.14	103	75-125	0	0-20	PASS	
Phosphorus	727.1	0.5000	25.00	792.6	4x	732.5	4x	75-125	4x	0-20	PASS	Q
Selenium	ND	0.5000	25.00	25.89	104	25.76	103	75-125	1	0-20	PASS	
Silver	ND	0.2500	12.50	13.95	112	13.75	110	75-125	1	0-20	PASS	
Thallium	ND	0.5000	25.00	24.02	96	24.31	97	75-125	1	0-20	PASS	
Vanadium	29.58	0.5000	25.00	57.38	111	56.25	107	75-125	2	0-20	PASS	
Zinc	123.6	0.5000	25.00	278.4	4x	150.3	4x	75-125	4x	0-20	PASS	Q
Aluminum	9251	0.5000	25.00	9729	4x	9206	4x	75-125	4x	0-20	PASS	Q
Calcium	11470	0.5000	25.00	11720	4x	11200	4x	75-125	4x	0-20	PASS	Q
Iron	18600	0.5000	25.00	18490	4x	18250	4x	75-125	4x	0-20	PASS	Q
Magnesium	5860	0.5000	25.00	6117	4x	5875	4x	75-125	4x	0-20	PASS	Q
Manganese	326.2	0.5000	25.00	360.2	4x	353.9	4x	75-125	4x	0-20	PASS	Q
Potassium	2948	5.000	250.0	3319	4x	3130	4x	75-125	4x	0-20	PASS	Q
Sodium	247.6	5.000	250.0	558.6	124	531.2	113	75-125	5	0-20	PASS	
Strontium	50.81	0.5000	25.00	84.83	136	77.67	107	75-125	9	0-20	FAIL	3F
Tin	ND	0.5000	25.00	25.44	102	25.83	103	75-125	2	0-20	PASS	
Titanium	807.1	0.5000	25.00	870.4	4x	825.1	4x	75-125	4x	0-20	PASS	Q
Boron	2.372	0.5000	25.00	29.81	110	29.78	110	75-125	0	0-20	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-0838-1
MS/MSD BATCH: 170314S02
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: 2017-03-16 12:22
MS: 2017-03-16 12:23
MSD: 2017-03-16 12:24
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	624.8	0.5000	25.00	620.0	4x	656.8	4x	75-125	4x	0-20	PASS	Q

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-0838-1 ms.icp	W:\ICP-DATA\170316 C1\
MSD	17-03-0838-1 msd.icp	W:\ICP-DATA\170316 C1\

Sequence No.: 3
Sample ID: 170314-b-02
Analyst: 935 icp 7300
Initial Sample Wt: 2.07 g
Dilution:
Wash Time: 15

Autosampler Location: 124
Date Collected: 3/15/2017 11:21:06 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170314-b-02

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	75601.3	98.78 %	4.925			4.99%
Tb 350	121629.7	99.08 %	4.269			4.31%
Ag 328.068*†	155.4	0.0008 mg/L	0.00001	0.0386 mg/kg	0.00048	1.24%
Al 308.215*†	-6.8	-0.0004 mg/L	0.00273	-0.0186 mg/kg	0.13170	707.54%
As 188.979†	-1.2	-0.0006 mg/L	0.00405	-0.0268 mg/kg	0.19579	729.86%
As 193.696*†	5.6	0.0037 mg/L	0.00886	0.1781 mg/kg	0.42802	240.31%
B 249.677*†	1025.3	0.0196 mg/L	0.00121	0.9456 mg/kg	0.05847	6.18%
Ba 233.527*†	190.3	0.0012 mg/L	0.00016	0.0589 mg/kg	0.00778	13.20%
Be 313.042*†	2900.1	0.0007 mg/L	0.00020	0.0356 mg/kg	0.00968	27.18%
Ca 317.933*†	49.0	0.0236 mg/L	0.00589	1.138 mg/kg	0.2844	25.00%
Cd 226.502*†	66.2	0.0008 mg/L	0.00035	0.0393 mg/kg	0.01688	42.89%
Cd 228.802†	47.6	0.0012 mg/L	0.00021	0.0562 mg/kg	0.01015	18.05%
Co 228.616*†	15.9	0.0005 mg/L	0.00013	0.0262 mg/kg	0.00648	24.69%
Cr 267.716*†	218.9	0.0019 mg/L	0.00084	0.0905 mg/kg	0.04074	45.03%
Cu 324.752*†	365.8	0.0014 mg/L	0.00039	0.0684 mg/kg	0.01897	27.72%
Fe 273.955*†	223.0	0.0092 mg/L	0.00066	0.4435 mg/kg	0.03182	7.18%
K 766.490*†	-218.1	-0.0693 mg/L	0.08046	-3.349 mg/kg	3.8869	116.08%
Mg 279.077*†	-240.9	-0.0121 mg/L	0.00872	-0.5856 mg/kg	0.42115	71.92%
Mn 257.610*†	1721.4	0.0026 mg/L	0.00020	0.1243 mg/kg	0.00955	7.69%
Mo 202.031*†	7.0	0.0007 mg/L	0.00029	0.0353 mg/kg	0.01385	39.20%
Na 589.592*†	412.6	0.0914 mg/L	0.01862	4.414 mg/kg	0.8997	20.38%
Ni 231.604*†	18.6	0.0007 mg/L	0.00081	0.0359 mg/kg	0.03937	109.73%
P 213.617*†	6.5	0.0032 mg/L	0.00066	0.1553 mg/kg	0.03187	20.52%
P 214.914†	-9.1	-0.0069 mg/L	0.00395	-0.3357 mg/kg	0.19066	56.80%
Pb 220.353*†	6.9	0.0008 mg/L	0.00011	0.0399 mg/kg	0.00555	13.92%
Sb 206.836†	4.1	0.0021 mg/L	0.00218	0.1024 mg/kg	0.10525	102.77%
Sb 217.582*†	12.6	0.0065 mg/L	0.00327	0.3135 mg/kg	0.15782	50.34%
Se 196.026*†	14.7	0.0064 mg/L	0.00001	0.3081 mg/kg	0.00026	0.08%
Si 251.611*†	1238.1	0.0309 mg/L	0.00589	1.495 mg/kg	0.2847	19.04%
Sn 189.927*†	27.7	0.0044 mg/L	0.00034	0.2119 mg/kg	0.01640	7.74%
Sn 242.170†	31.0	0.0171 mg/L	0.01593	0.8284 mg/kg	0.76946	92.89%
Sr 407.771*†	131.9	0.0004 mg/L	0.00014	0.0190 mg/kg	0.00658	34.64%
Ti 334.940†	905.2	0.0011 mg/L	0.00028	0.0512 mg/kg	0.01342	26.19%
Ti 336.121*†	275.0	0.0005 mg/L	0.00033	0.0221 mg/kg	0.01573	71.25%
Tl 190.801*†	7.2	0.0038 mg/L	0.00116	0.1813 mg/kg	0.05595	30.85%
V 292.402*†	53.9	0.0004 mg/L	0.00122	0.0185 mg/kg	0.05916	318.93%
Zn 206.200*†	236.1	0.0055 mg/L	0.00015	0.2637 mg/kg	0.00742	2.81%

Sequence No.: 4

Sample ID: 170314-1-02

Analyst: 935 icp 7300

Initial Sample Wt: 2.06 g

Dilution:

Wash Time: 15

Autosampler Location: 125

Date Collected: 3/15/2017 11:22:06 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 170314-1-02

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	73087.8	95.49 %	0.229			0.24%
Tb 350	118550.9	96.57 %	1.143			1.18%
Ag 328.068*†	48307.7	0.2484 mg/L	0.00159	12.06 mg/kg	0.077	0.64%
Al 308.215*†	9729.9	0.5533 mg/L	0.00679	26.86 mg/kg	0.329	1.23%
As 188.979†	1087.0	0.4985 mg/L	0.00373	24.20 mg/kg	0.181	0.75%
As 193.696*†	752.6	0.4965 mg/L	0.00086	24.10 mg/kg	0.042	0.17%
B 249.677*†	25462.7	0.4861 mg/L	0.01040	23.60 mg/kg	0.505	2.14%
Ba 233.527*†	83927.6	0.5376 mg/L	0.00081	26.10 mg/kg	0.039	0.15%
Be 313.042*†	1918114.5	0.4878 mg/L	0.00236	23.68 mg/kg	0.114	0.48%
Ca 317.933*†	1156.1	0.5562 mg/L	0.00680	27.00 mg/kg	0.330	1.22%
Cd 226.502*†	41299.9	0.5083 mg/L	0.00253	24.67 mg/kg	0.123	0.50%
Cd 228.802†	20822.4	0.5093 mg/L	0.00247	24.72 mg/kg	0.120	0.49%
Co 228.616*†	15745.8	0.5376 mg/L	0.00269	26.10 mg/kg	0.131	0.50%
Cr 267.716*†	60749.3	0.5198 mg/L	0.00129	25.23 mg/kg	0.063	0.25%
Cu 324.752*†	135182.0	0.5237 mg/L	0.00190	25.42 mg/kg	0.092	0.36%
Fe 273.955*†	12994.6	0.5349 mg/L	0.00020	25.97 mg/kg	0.010	0.04%
K 766.490*†	15822.0	5.028 mg/L	0.0443	244.1 mg/kg	2.15	0.88%
Mg 279.077*†	9994.4	0.5028 mg/L	0.00136	24.41 mg/kg	0.066	0.27%
Mn 257.610*†	340922.7	0.5095 mg/L	0.00054	24.73 mg/kg	0.026	0.11%
Mo 202.031*†	4940.0	0.5159 mg/L	0.00305	25.04 mg/kg	0.148	0.59%
Na 589.592*†	24390.8	5.402 mg/L	0.0444	262.2 mg/kg	2.16	0.82%
Ni 231.604*†	13393.5	0.5346 mg/L	0.00244	25.95 mg/kg	0.118	0.46%
P 213.617*†	1026.3	0.5085 mg/L	0.00883	24.68 mg/kg	0.429	1.74%
P 214.914†	631.6	0.4849 mg/L	0.00416	23.54 mg/kg	0.202	0.86%
Pb 220.353*†	4501.4	0.5363 mg/L	0.00215	26.04 mg/kg	0.104	0.40%
Sb 206.836†	980.6	0.5014 mg/L	0.00468	24.34 mg/kg	0.227	0.93%
Sb 217.582*†	982.3	0.5052 mg/L	0.00299	24.52 mg/kg	0.145	0.59%
Se 196.026*†	1156.2	0.5024 mg/L	0.00152	24.39 mg/kg	0.074	0.30%
Si 251.611*†	21893.8	0.5472 mg/L	0.00129	26.57 mg/kg	0.063	0.24%
Sn 189.927*†	3298.3	0.5223 mg/L	0.00037	25.36 mg/kg	0.018	0.07%
Sn 242.170†	921.9	0.5093 mg/L	0.00416	24.72 mg/kg	0.202	0.82%
Sr 407.771*†	183532.2	0.5474 mg/L	0.00262	26.57 mg/kg	0.127	0.48%
Ti 334.940†	428333.5	0.5018 mg/L	0.00099	24.36 mg/kg	0.048	0.20%
Ti 336.121*†	305037.3	0.5069 mg/L	0.00054	24.61 mg/kg	0.026	0.11%
Tl 190.801*†	1009.3	0.5281 mg/L	0.00645	25.63 mg/kg	0.313	1.22%
V 292.402*†	69933.8	0.4982 mg/L	0.00326	24.19 mg/kg	0.158	0.65%
Zn 206.200*†	22732.0	0.5256 mg/L	0.00234	25.52 mg/kg	0.114	0.45%

Sequence No.: 32

Sample ID: 17-03-0838-1 ms

Analyst: 935 icp 7300

Initial Sample Wt: 2.01 g

Dilution:

Wash Time: 15

Autosampler Location: 130

Date Collected: 3/16/2017 12:23:19 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0838-1 ms

Analyte	Mean Corrected	Calib.	Std.Dev.	Sample	Std.Dev.	RSD
	Intensity	Conc. Units		Conc. Units		
Tb 384	47336.2	74.40 %	0.524			0.70%
Tb 350	85682.4	85.52 %	0.584			0.68%
Ag 328.068*†	43515.8	0.2804 mg/L	0.00069	13.95 mg/kg	0.035	0.25%
Al 308.215*†	2779091.0	195.5 mg/L	0.78	9729 mg/kg	39.00	0.40%
As 188.979†	1006.8	0.6316 mg/L	0.01077	31.42 mg/kg	0.536	1.71%
As 193.696*†	670.7	0.6036 mg/L	0.01276	30.03 mg/kg	0.635	2.11%
B 249.677*†	22660.9	0.5993 mg/L	0.00171	29.81 mg/kg	0.085	0.28%
Ba 233.527*†	421920.9	3.517 mg/L	0.0096	175.0 mg/kg	0.48	0.27%
Be 313.042*†	1657190.8	0.5587 mg/L	0.00542	27.80 mg/kg	0.270	0.97%
Ca 317.933*†	369024.3	235.6 mg/L	1.56	11720 mg/kg	77.67	0.66%
Cd 226.502*†	33282.0	0.5609 mg/L	0.00119	27.91 mg/kg	0.059	0.21%
Cd 228.802†	17307.6	0.5612 mg/L	0.00443	27.92 mg/kg	0.220	0.79%
Co 228.616*†	16320.0	0.7454 mg/L	0.00668	37.08 mg/kg	0.332	0.90%
Cr 267.716*†	108744.4	1.194 mg/L	0.0089	59.39 mg/kg	0.443	0.75%
Cu 324.752*†	270104.4	1.322 mg/L	0.0088	65.76 mg/kg	0.438	0.67%
Fe 273.955*†	6877010.3	371.6 mg/L	10.08	18490 mg/kg	501.45	2.71%
K 766.490*†	166761.2	66.71 mg/L	0.169	3319 mg/kg	8.40	0.25%
Mg 279.077*†	1793100.7	123.0 mg/L	0.65	6117 mg/kg	32.20	0.53%
Mn 257.610*†	3722624.0	7.240 mg/L	0.0371	360.2 mg/kg	1.85	0.51%
Mo 202.031*†	4436.3	0.5889 mg/L	0.00248	29.30 mg/kg	0.123	0.42%
Na 589.592*†	40972.6	11.23 mg/L	0.045	558.6 mg/kg	2.22	0.40%
Ni 231.604*†	15205.5	0.8057 mg/L	0.00423	40.09 mg/kg	0.210	0.53%
P 213.617*†	23270.0	15.93 mg/L	0.105	792.6 mg/kg	5.21	0.66%
P 214.914†	16035.7	16.95 mg/L	0.173	843.2 mg/kg	8.58	1.02%
Pb 220.353*†	15039.8	2.474 mg/L	0.0217	123.1 mg/kg	1.08	0.88%
Sb 206.836†	262.4	0.1759 mg/L	0.00108	8.753 mg/kg	0.0539	0.62%
Sb 217.582*†	234.2	0.1560 mg/L	0.00689	7.759 mg/kg	0.3428	4.42%
Se 196.026*†	855.6	0.5204 mg/L	0.02053	25.89 mg/kg	1.021	3.94%
Si 251.611*†	376895.0	12.46 mg/L	0.029	620.0 mg/kg	1.43	0.23%
Sn 189.927*†	2344.3	0.5113 mg/L	0.01206	25.44 mg/kg	0.600	2.36%
Sn 242.170†	2170.0	1.570 mg/L	0.0214	78.09 mg/kg	1.065	1.36%
Sr 407.771*†	477077.9	1.705 mg/L	0.0050	84.83 mg/kg	0.247	0.29%
Ti 334.940†	11748787.8	17.46 mg/L	0.445	868.8 mg/kg	22.12	2.55%
Ti 336.121*†	8396773.7	17.50 mg/L	0.432	870.4 mg/kg	21.47	2.47%
Tl 190.801*†	696.8	0.4828 mg/L	0.00273	24.02 mg/kg	0.136	0.57%
V 292.402*†	129069.0	1.153 mg/L	0.0105	57.38 mg/kg	0.521	0.91%
Zn 206.200*†	170515.1	5.595 mg/L	0.0298	278.4 mg/kg	1.48	0.53%

Sequence No.: 33

Sample ID: 17-03-0838-1 msd

Analyst: 935 icp 7300

Initial Sample Wt: 2.02 g

Dilution:

Wash Time: 15

Autosampler Location: 131

Date Collected: 3/16/2017 12:24:24 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0838-1 msd

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	47504.3	74.67 %	2.010			2.69%
Tb 350	85995.0	85.84 %	2.287			2.66%
Ag 328.068*†	43104.9	0.2777 mg/L	0.00329	13.75 mg/kg	0.163	1.18%
Al 308.215*†	2642916.1	186.0 mg/L	0.19	9206 mg/kg	9.24	0.10%
As 188.979†	1021.7	0.6410 mg/L	0.01200	31.73 mg/kg	0.594	1.87%
As 193.696*†	702.1	0.6318 mg/L	0.02123	31.28 mg/kg	1.051	3.36%
B 249.677*†	22749.7	0.6016 mg/L	0.01041	29.78 mg/kg	0.515	1.73%
Ba 233.527*†	411922.9	3.434 mg/L	0.0174	170.0 mg/kg	0.86	0.51%
Be 313.042*†	1673798.9	0.5643 mg/L	0.00332	27.94 mg/kg	0.164	0.59%
Ca 317.933*†	354356.2	226.3 mg/L	7.93	11200 mg/kg	392.43	3.50%
Cd 226.502*†	33499.7	0.5646 mg/L	0.00587	27.95 mg/kg	0.290	1.04%
Cd 228.802†	17517.6	0.5680 mg/L	0.01800	28.12 mg/kg	0.891	3.17%
Co 228.616*†	16394.5	0.7488 mg/L	0.02322	37.07 mg/kg	1.149	3.10%
Cr 267.716*†	114943.0	1.262 mg/L	0.0049	62.46 mg/kg	0.241	0.39%
Cu 324.752*†	269488.7	1.319 mg/L	0.0024	65.28 mg/kg	0.118	0.18%
Fe 273.955*†	6820721.6	368.6 mg/L	10.90	18250 mg/kg	539.63	2.96%
K 766.490*†	158022.4	63.22 mg/L	2.118	3130 mg/kg	104.84	3.35%
Mg 279.077*†	1730660.4	118.7 mg/L	0.82	5875 mg/kg	40.72	0.69%
Mn 257.610*†	3675783.7	7.149 mg/L	0.0226	353.9 mg/kg	1.12	0.32%
Mo 202.031*†	4533.1	0.6017 mg/L	0.01443	29.79 mg/kg	0.714	2.40%
Na 589.592*†	39149.9	10.73 mg/L	0.411	531.2 mg/kg	20.33	3.83%
Ni 231.604*†	15302.6	0.8109 mg/L	0.02600	40.14 mg/kg	1.287	3.21%
P 213.617*†	21610.9	14.80 mg/L	0.524	732.5 mg/kg	25.95	3.54%
P 214.914†	14982.3	15.83 mg/L	0.489	783.9 mg/kg	24.23	3.09%
Pb 220.353*†	16659.4	2.741 mg/L	0.0901	135.7 mg/kg	4.46	3.29%
Sb 206.836†	301.3	0.2020 mg/L	0.01357	10.00 mg/kg	0.672	6.71%
Sb 217.582*†	263.0	0.1752 mg/L	0.00535	8.671 mg/kg	0.2648	3.05%
Se 196.026*†	855.5	0.5204 mg/L	0.01737	25.76 mg/kg	0.860	3.34%
Si 251.611*†	401259.8	13.27 mg/L	0.068	656.8 mg/kg	3.39	0.52%
Sn 189.927*†	2392.3	0.5218 mg/L	0.01466	25.83 mg/kg	0.726	2.81%
Sn 242.170†	2117.6	1.532 mg/L	0.0663	75.82 mg/kg	3.283	4.33%
Sr 407.771*†	439004.7	1.569 mg/L	0.0540	77.67 mg/kg	2.673	3.44%
Ti 334.940†	11208906.4	16.66 mg/L	0.530	824.8 mg/kg	26.24	3.18%
Ti 336.121*†	7998921.0	16.67 mg/L	0.522	825.1 mg/kg	25.83	3.13%
Tl 190.801*†	708.7	0.4910 mg/L	0.00177	24.31 mg/kg	0.088	0.36%
V 292.402*†	127162.2	1.136 mg/L	0.0026	56.25 mg/kg	0.127	0.23%
Zn 206.200*†	92525.0	3.036 mg/L	0.0111	150.3 mg/kg	0.55	0.37%

Sequence No.: 31

Sample ID: 17-03-0838-1

Analyst: 935 icp 7300

Initial Sample Wt: 2.04 g

Dilution:

Wash Time: 15

Autosampler Location: 129

Date Collected: 3/16/2017 12:22:14 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0838-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	47534.8	74.71 %	0.490			0.66%
Tb 350	86266.8	86.11 %	1.021			1.19%
Ag 328.068*†	191.5	0.0012 mg/L	0.00142	0.0605 mg/kg	0.06942	114.81%
Al 308.215*†	2681929.8	188.7 mg/L	0.53	9251 mg/kg	26.03	0.28%
As 188.979†	164.6	0.1032 mg/L	0.00153	5.061 mg/kg	0.0751	1.48%
As 193.696*†	114.1	0.1027 mg/L	0.00857	5.032 mg/kg	0.4199	8.34%
B 249.677*†	1829.9	0.0484 mg/L	0.00738	2.372 mg/kg	0.3618	15.25%
Ba 233.527*†	340542.1	2.839 mg/L	0.0071	139.1 mg/kg	0.35	0.25%
Be 313.042*†	14891.1	0.0050 mg/L	0.00003	0.2461 mg/kg	0.00155	0.63%
Ca 317.933*†	366514.7	234.0 mg/L	0.58	11470 mg/kg	28.58	0.25%
Cd 226.502*†	1497.3	0.0252 mg/L	0.00023	1.237 mg/kg	0.0115	0.93%
Cd 228.802†	462.4	0.0150 mg/L	0.00119	0.7350 mg/kg	0.05831	7.93%
Co 228.616*†	4834.7	0.2208 mg/L	0.00266	10.82 mg/kg	0.130	1.20%
Cr 267.716*†	61476.7	0.6748 mg/L	0.00019	33.08 mg/kg	0.009	0.03%
Cu 324.752*†	153405.2	0.7507 mg/L	0.00012	36.80 mg/kg	0.006	0.02%
Fe 273.955*†	7023006.4	379.5 mg/L	0.84	18600 mg/kg	40.99	0.22%
K 766.490*†	150314.3	60.13 mg/L	0.109	2948 mg/kg	5.36	0.18%
Mg 279.077*†	1743453.7	119.6 mg/L	0.18	5860 mg/kg	8.78	0.15%
Mn 257.610*†	3421860.7	6.655 mg/L	0.0114	326.2 mg/kg	0.56	0.17%
Mo 202.031*†	620.0	0.0823 mg/L	0.00093	4.034 mg/kg	0.0456	1.13%
Na 589.592*†	18434.0	5.052 mg/L	0.0444	247.6 mg/kg	2.18	0.88%
Ni 231.604*†	5526.2	0.2928 mg/L	0.00524	14.35 mg/kg	0.257	1.79%
P 213.617*†	21666.5	14.83 mg/L	0.229	727.1 mg/kg	11.21	1.54%
P 214.914†	15043.5	15.90 mg/L	0.227	779.4 mg/kg	11.13	1.43%
Pb 220.353*†	12857.0	2.115 mg/L	0.0295	103.7 mg/kg	1.44	1.39%
Sb 206.836†	34.6	0.0232 mg/L	0.00257	1.136 mg/kg	0.1257	11.07%
Sb 217.582*†	23.0	0.0153 mg/L	0.00410	0.7493 mg/kg	0.20099	26.82%
Se 196.026*†	17.9	0.0109 mg/L	0.01110	0.5336 mg/kg	0.54422	101.99%
Si 251.611*†	385506.3	12.75 mg/L	0.022	624.8 mg/kg	1.08	0.17%
Sn 189.927*†	142.9	0.0312 mg/L	0.00229	1.527 mg/kg	0.1123	7.35%
Sn 242.170†	1504.5	1.088 mg/L	0.0242	53.34 mg/kg	1.188	2.23%
Sr 407.771*†	290024.5	1.037 mg/L	0.0024	50.81 mg/kg	0.118	0.23%
Ti 334.940†	11045846.4	16.42 mg/L	0.054	804.8 mg/kg	2.66	0.33%
Ti 336.121*†	7901924.1	16.46 mg/L	0.035	807.1 mg/kg	1.70	0.21%
Tl 190.801*†	-23.8	-0.0165 mg/L	0.01266	-0.8083 mg/kg	0.62068	76.78%
V 292.402*†	67874.0	0.6035 mg/L	0.00382	29.58 mg/kg	0.187	0.63%
Zn 206.200*†	76830.4	2.521 mg/L	0.0076	123.6 mg/kg	0.37	0.30%

METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: EPA 6010B

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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: 17-03-0140

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
35	F-DU1-ISM4-3		2017-03-15 11:45	W:\ICP-DATA\170315C 1\17-03-0140-35 MIS.icp
36	F-DU1-ISM5-3		2017-03-15 11:46	W:\ICP-DATA\170315C 1\17-03-0140-36 MIS.icp

RAW DATA SHEET FOR METHOD: EPA 6010B

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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 11170314-I-03_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							

Compounds listed in bold are required to be reported.

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 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	Conc. Units	Calib. 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		Calib.	Std.Dev.	Sample		RSD
	Intensity	Conc. Units			Conc. Units	Std.Dev.	
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

170315C 1

INT STD M120716A M006-032-05 0.050 ml
R.B. R12091602 PDS/PDSD 10 ml
M006-032-06 0.050 ml

Carrier/wash sol R12091604/R12091603

No.	File Name	Date	Time	Analyst Name	A/S	Location
1	Cal blankR12091601_935	3/15/2017	10:33:26 AM	935 icp 7300	1	1
2	Cal blankR12091601_935	3/15/2017	10:34:39 AM	935 icp 7300	1	1
3	Cal blankR12091601_935	3/15/2017	10:35:53 AM	935 icp 7300	1	1
4	Cal blankR12091601_935	3/15/2017	10:37:04 AM	935 icp 7300	1	1
5	STD3-M111116A_935_ICP7300	3/15/2017	10:39:15 AM	935 icp 7300	2	2
6	ICV-M072816C	3/15/2017	10:40:01 AM	935 icp 7300	10	10
7	ICB-R12091601	3/15/2017	10:40:58 AM	935 icp 7300	1	1
8	ICB-R12091601	3/15/2017	10:41:44 AM	935 icp 7300	1	1
9	ICB-R12091601	3/15/2017	10:42:32 AM	935 icp 7300	1	1
10	ICB-R12091601	3/15/2017	10:45:12 AM	935 icp 7300	1	1
11	ICS_A - M110116B	3/15/2017	10:46:13 AM	935 icp 7300	8	8
12	ICS_AB - M110116A	3/15/2017	10:47:04 AM	935 icp 7300	9	9
13	CCV= STD3x0.5	3/15/2017	10:47:54 AM	935 icp 7300	3	3
14	CCB-R12091601	3/15/2017	10:48:46 AM	935 icp 7300	1	1
15	LLCV-M082616A	3/15/2017	10:51:17 AM	935 icp 7300	101	101
16	LLCV--M082616A	3/15/2017	10:52:23 AM	935 icp 7300	102	102
17	170314-ba-8	3/15/2017	10:53:22 AM	935 icp 7300	103	103
18	170314-la-8	3/15/2017	10:54:21 AM	935 icp 7300	104	104
19	17-03-0862x5-1	3/15/2017	10:55:12 AM	935 icp 7300	105	105
20	17-03-0862-1	3/15/2017	10:55:59 AM	935 icp 7300	106	106
21	17-03-0862-1 ms	3/15/2017	10:56:49 AM	935 icp 7300	107	107
22	17-03-0862-1 msd	3/15/2017	10:57:40 AM	935 icp 7300	108	108
23	17-03-0862-1 pds	3/15/2017	10:58:31 AM	935 icp 7300	109	109
24	17-03-0862-2	3/15/2017	10:59:22 AM	935 icp 7300	110	110

B > RL

Ag, Al out

Reviewed/Assign to Logbook Date: 3/15/17
Analysis: 200716010 Character ID: 1012
Logbook Page: 50 Instrument ID: 1027

Reviewed/Assigned to Logbook: 3/15/17
 Analysis: 200.716010 Original ID: 1012
 Logbook Page: 56 Instrument ID: 287

Ca, Na int

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	LCV-M082616A	3/15/2017	11:13:42 AM	935 icp 7300	101
41	LCV--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

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-la-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

*** wrong samples

3 { * T22 + minerals (600B Soil)
 1 { * T22 + minerals (600B Water)

Reviewed/Assign to Logbook Date: 3/15/17
 Analysis: 2007/600 Chemist ID: 1012
 Logbook Page: 57 Instrument ID: 1017

170316 C1

INT STD M120716A

R.B. R12091602

M006-032-05 0.050 ml

PDS/PDSD

10 ml

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	3/16/2017	11:03:21 AM		935 icp 7300		1
2	STD3-M111116A_935_ICP7300	3/16/2017	11:04:40 AM		935 icp 7300		2
3	ICV-M072816C	3/16/2017	11:05:49 AM		935 icp 7300		10
4	ICB-R12091601	3/16/2017	11:09:59 AM		935 icp 7300		1
5	ICS_A - M110116B	3/16/2017	11:11:16 AM		935 icp 7300		8
6	ICS_AB - M110116A	3/16/2017	11:13:34 AM		935 icp 7300		9
7	LLCV-M082616A	3/16/2017	11:14:38 AM		935 icp 7300		101
8	LLCV--M082616A	3/16/2017	11:15:52 AM		935 icp 7300		102
9	CCV= STD3x0.5	3/16/2017	11:17:05 AM		935 icp 7300		3
10	CCB-R12091601	3/16/2017	11:18:10 AM		935 icp 7300		1
11	170315-BA-4	3/16/2017	11:40:49 AM		935 icp 7300		201
12	170315-LA-4	3/16/2017	11:42:08 AM		935 icp 7300		202
13	17-03-0983-12	3/16/2017	11:43:22 AM		935 icp 7300		203
14	17-03-0983-13	3/16/2017	11:44:23 AM		935 icp 7300		204
15	17-03-0983-14	3/16/2017	11:45:25 AM		935 icp 7300		205
16	CCV= STD3x0.5	3/16/2017	11:46:27 AM		935 icp 7300		3
17	CCB-R12091601	3/16/2017	11:47:34 AM		935 icp 7300		1
18	170315-b-01	3/16/2017	11:48:33 AM		935 icp 7300		103
19	170315-l-01	3/16/2017	11:50:13 AM		935 icp 7300		104
20	17-03-0969x5-1	3/16/2017	11:51:32 AM		935 icp 7300		105
21	17-03-0969-1	3/16/2017	11:52:36 AM		935 icp 7300		106
22	17-03-0969-1 msd	3/16/2017	11:53:43 AM		935 icp 7300		107
23	17-03-0969-1 msd	3/16/2017	11:54:48 AM		935 icp 7300		108
24	17-03-0969-1 pds	3/16/2017	11:55:51 AM		935 icp 7300		109

B out

Reviewed/Assign to Logbook Date: 3/16/17
 Analysis: 200.7/4010 Chemist ID: 1012
 Logbook Page: 65 Instrument ID: 1017

As, B out

No.	File Name	Date	Time	Analyst Name	A/S	Location
25	17-03-0968-1	3/16/2017	11:56:56 AM	935 icp 7300		110
26	17-03-0968-2	3/16/2017	11:58:01 AM	935 icp 7300		111
27	17-03-0968-3	3/16/2017	11:59:06 AM	935 icp 7300		112
28	CCV= STD3x0.5	3/16/2017	12:00:11 PM	935 icp 7300	3	
29	CCB-R12091601	3/16/2017	12:01:16 PM	935 icp 7300	1	
30	17-03-0968-4	3/16/2017	12:02:30 PM	935 icp 7300		113
31	17-03-0968-5	3/16/2017	12:03:36 PM	935 icp 7300		114
32	17-03-0968-6	3/16/2017	12:04:41 PM	935 icp 7300		115
33	17-03-0968-7	3/16/2017	12:05:46 PM	935 icp 7300		116
34	17-03-0968-8	3/16/2017	12:06:51 PM	935 icp 7300		117
35	17-03-0968-9	3/16/2017	12:07:56 PM	935 icp 7300		118
36	17-03-0968-10	3/16/2017	12:09:01 PM	935 icp 7300		119
37	17-03-0968-11	3/16/2017	12:10:06 PM	935 icp 7300		120
38	17-03-0968-12	3/16/2017	12:11:11 PM	935 icp 7300		121
39	17-03-0968-13	3/16/2017	12:12:16 PM	935 icp 7300		122
40	CCV= STD3x0.5	3/16/2017	12:13:21 PM	935 icp 7300	3	
41	CCB-R12091601	3/16/2017	12:14:28 PM	935 icp 7300	1	
42	17-03-0968-14	3/16/2017	12:15:42 PM	935 icp 7300		123
43	17-03-0968-15	3/16/2017	12:16:49 PM	935 icp 7300		124
44	17-03-0968-16	3/16/2017	12:17:54 PM	935 icp 7300		125
45	17-03-0968-17	3/16/2017	12:18:59 PM	935 icp 7300		126
46	17-03-0968-18	3/16/2017	12:20:04 PM	935 icp 7300		127
47	17-03-0968-19	3/16/2017	12:21:09 PM	935 icp 7300		128
48	17-03-0838-1	3/16/2017	12:22:14 PM	935 icp 7300		129
49	17-03-0838-1 ms	3/16/2017	12:23:19 PM	935 icp 7300		130
50	17-03-0838-1 msd	3/16/2017	12:24:24 PM	935 icp 7300		131
51	blk	3/16/2017	12:25:29 PM	935 icp 7300		132
52	CCV= STD3x0.5	3/16/2017	12:26:42 PM	935 icp 7300	3	
53	CCB-R12091601	3/16/2017	12:27:48 PM	935 icp 7300	1	
54	LLCV-M082616A	3/16/2017	12:28:47 PM	935 icp 7300		101
55	LLCV-M082616A	3/16/2017	12:31:19 PM	935 icp 7300		101
56	ICS_A - M110116B	3/16/2017	12:32:38 PM	935 icp 7300	8	

EPA 6010B ICP Metals (Solid)

Preparation Logs

Metals Sample Preparation Logbook (Solid / Other)

Page 249 of 471

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #						
☒ EPA 3050B	☒ Solid	Thermometer	1711142945 (CF 0.0 °C)	HNO ₃	R01311701	20 mL	Spike 1	MO2017A						
☐ EPA 200.7	☐ Other (Specify)	Block Digester	5	HCl	R12301602	15 mL	Spike 2	MO20617C						
☐ EPA 200.8		Pipetter / Dispenser	P-072/0-027/D-028	H ₂ O ₂	MO06-040-13	3.0 mL	Spike 3							
BATCH NUMBER		SUPPLY LOT #		BALANCE ID #		QUALITY SYSTEM MATRIX ID #		SAMPLE HANDLING						
MS/MSD 170304-502		Tube / Container 170104		65		Teflon Chip MO06-035-15		1 = Composite 2 = Subsample						
(Specify) 170314		Filter				(Specify)		3 = Homogenize 4 = None						
DIGESTION							SAMPLE HANDLING	ECI ID #	ANALYTE(S)	SAMPLE		SPIKE STANDARD		
DATE	TIME	TEMP W/O CF (°C)	PREP TECH ID #	TIME	TEMP W/O CF (°C)	PREP TECH ID #				INITIAL (g)	FINAL (mL)	1 (µL)	2 (µL)	3 (µL)
3/14/17	13:10	95	1080	14:40	95	1080	4	MS 17-03-0838-1A	metals	2.01	100	500	500	
								MSD		2.02				
								LCS 17-0314-L02		2.06				
								LCSD / MB 1-802		2.07				
								17-03-0838-1A		2.04				
								17-03-0140-32A		2.01				
								-32B		2.00				
								-32C		2.01				
								-32D		2.00				
								-32E		2.01				
								-33A		2.03				
								-33B		2.01				
								-33C		2.02				
								-33D		2.01				
								-33E		2.02				
								-34A		2.03				
								-34B		2.01				
								-34C		2.02				
								-34D		2.01				
								-34E		2.00				

COMMENTS:

Metals Sample Preparation Logbook (Solid / Other)

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #						
☒ EPA 3050B	☒ Solid	Thermometer	6704 (CF-210 °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/P-027/P-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 170164		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)

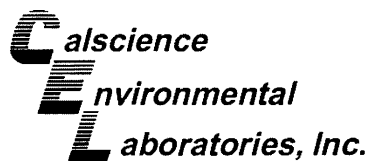
RAW DATA

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.: 17-03-0140

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

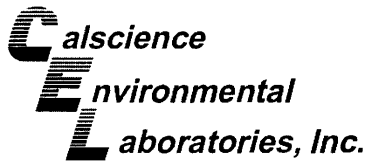
Test Method: EPA 7471A

Analyte	Initial Calibration Verification			
	True	ICV-1		Control
		Observed	%D	Limit
Mercury	5.000000	4.807788	4	0 - 10

03/09/2017 12:32

ICV-1 File: ICV M030617B 03/08/2017 12:12:46 PM





EPA Method 7471A **Continuing Calibration Verification**



Work Order No.: 17-03-0140

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 Limit
		Observed	%D	Observed	%D	Observed	%D	Observed	%D	
Mercury	2.000000	1.993902	0	1.974421	1	2.004488	0	2.004381	0	0 – 20

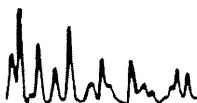
03/09/2017 12:32

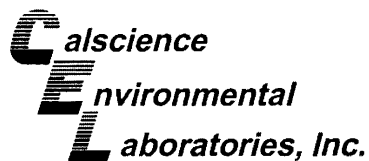
CCV-1 File: CCV 0.2x10ppb 03/08/2017 03:08:38 PM

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





EPA Method 7471A
Initial and Continuing Calibration Blanks

Work Order No.: 17-03-0140

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 12:32

ICB-1 File: ICB 03/08/2017 12:15:00 PM

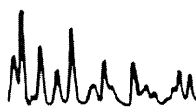
CCB-1 File: CCB 03/08/2017 03:10:54 PM

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



**RAW DATA SHEET
FOR METHOD: EPA 7471A**

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WORK ORDER: 17-03-0140
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:15
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:21

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-27.icp

27

CLIENT SAMPLE NUMBER: F-DU1-ISM1-3

<u>LCS/MB BATCH:</u>	170308L03	<u>SAMPLE VOLUME / WEIGHT:</u>	DEFAULT: 0.60 g / ACTUAL: 0.61 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>	0.98

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Mercury	0.0000981	1.00	ND	0.0820	

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

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WORK ORDER: 17-03-0140
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:17
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:21

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-28.icp

28

CLIENT SAMPLE NUMBER: F-DU1-ISM2-3

<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	0.000118	1.00	ND	0.0794	

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 258 of 471

WORK ORDER: 17-03-0140
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:19
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:21

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-29.icp

29 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-3

LCS/MB BATCH: 170308L03	SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.60 g
MS/MSD BATCH: 170308S03	FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	0.000134	1.00	ND	0.0833	

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

Page 259 of 471

WORK ORDER: 17-03-0140
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:22
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:21

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-30.icp

30

CLIENT SAMPLE NUMBER: F-DU1-ISM4-3

<u>LCS/MB BATCH:</u>	170308L03	<u>SAMPLE VOLUME / WEIGHT:</u>	DEFAULT: 0.60 g / ACTUAL: 0.62 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>	0.97

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Mercury	0.000144	1.00	ND	0.0806	

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

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WORK ORDER: 17-03-0140
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-08 16:24
REVIEWED BY: 309
D/T REVIEWED: 2017-03-09 12:21

DATA FILE: W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-31.icp

31

CLIENT SAMPLE NUMBER: F-DU1-ISM5-3

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	0.000127	1.00	ND	0.0820	

METHOD BLANK ASSOCIATION SUMMARY FOR METHOD: EPA 7471A

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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: 17-03-0140

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-3		2017-03-08 16:15	W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-27.icp
28	F-DU1-ISM2-3		2017-03-08 16:17	W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-28.icp
29	F-DU1-ISM3-3		2017-03-08 16:19	W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-29.icp
30	F-DU1-ISM4-3		2017-03-08 16:22	W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-30.icp
31	F-DU1-ISM5-3		2017-03-08 16:24	W:\MERCURY_DATA\FINAL\170308H1\17-03-0140-31.icp

**RAW DATA SHEET
FOR METHOD: EPA 7471A**

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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:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
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\170308H1\170308-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\

=====
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.sifxBatch ID:
Results Data Set: 170308H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb=====
Sequence No.: 1
Sample ID: Calib blank_868
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0
Autosampler Location: 1
Date Collected: 3/8/2017 11:48:40 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1-----
Replicate Data: Calib blank_868
Analyte: Hg 253.7
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak
mg/L ug/L Signal Area Height 11:49:43 AM Yes
1 [0.00] 0.0001 -0.0103 0.0001 11:50:28 AM Yes
2 [0.00] 0.0002 -0.0035 0.0002
Mean: [0.00] 0.0001
SD: 0.0000 0.0001
%RSD: 0.00% 66.80
Auto-zero performed.=====
Sequence No.: 2
Sample ID: 0.025ppb 0.005x5ppb
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0
Autosampler Location: 2
Date Collected: 3/8/2017 11:50:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1-----
Replicate Data: 0.025ppb 0.005x5ppb
Analyte: Hg 253.7
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak
mg/L ug/L Signal Area Height 11:51:57 AM Yes
1 [0.025] 0.0002 -0.0014 0.0003 11:52:41 AM Yes
2 [0.025] 0.0002 -0.0013 0.0003
Mean: [0.025] 0.0002
SD: 0.00000 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
Sample ID: 0.10ppb M030617AX0.0001
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0
Autosampler Location: 3
Date Collected: 3/8/2017 11:53:07 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1-----
Replicate Data: 0.10ppb M030617AX0.0001
Analyte: Hg 253.7
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak
mg/L ug/L Signal Area Height 11:54:11 AM Yes
1 [0.100] 0.0010 0.0024 0.0012 11:54:56 AM Yes
2 [0.100] 0.0010 0.0034 0.0012
Mean: [0.100] 0.0010
SD: 0.00000 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

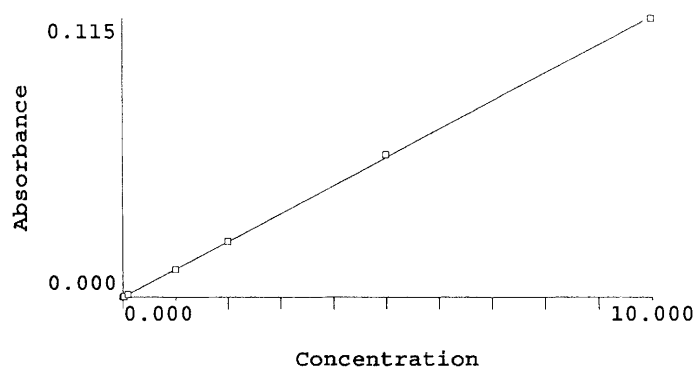
Autosampler Location: 7
Date Collected: 3/8/2017 12:02:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

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

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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	StdConc	BlkCorr	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	0.00444X5	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	StdConc	BlkCorr	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	StdConc	BlkCorr	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	StdConc	BlkCorr	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	StdConc	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

Repl	SampleConc	StdConc	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

Repl	SampleConc	StdConc	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

Repl	SampleConc	StdConc	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	StdConc	BlkCorr	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	StdConc	BlkCorr	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	StdConc	BlkCorr	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	StdConc	BlkCorr	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	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		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	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	-0.000004	-0.00367	0.0000	0.0006	0.0002	3:38:25 PM	Yes
2	-0.000005	-0.00494	0.0000	0.0005	0.0002	3:39:10 PM	Yes
Mean:	-0.000004	-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	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		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	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		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	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		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

Autosampler Location: 14

Sample ID: 17-03-0335-3 MSD

Date Collected: 3/8/2017 3:46:24 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: 17-03-0335-3 MSD

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		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

Autosampler Location: 15

Sample ID: 17-03-0335-4

Date Collected: 3/8/2017 3:48:38 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: 17-03-0335-4

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		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

Autosampler Location: 16

Sample ID: 17-03-0335-7

Date Collected: 3/8/2017 3:50:53 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: 17-03-0335-7

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		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

Analyte: Hg 253.7

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				

Sequence No.: 32

Autosampler Location: 18

Sample ID: 17-03-0335-11

Date Collected: 3/8/2017 3:55:20 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: 17-03-0335-11

Analyte: Hg 253.7

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				

Sequence No.: 33

Autosampler Location: 19

Sample ID: 17-03-0335-12

Date Collected: 3/8/2017 3:57:34 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: 17-03-0335-12

Analyte: Hg 253.7

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				

Sequence No.: 34

Autosampler Location: 20

Sample ID: 17-03-0335-15

Date Collected: 3/8/2017 3:59:49 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: 17-03-0335-15

Analyte: Hg 253.7

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				

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	StdConc ug/L	BlkCorr 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

Autosampler Location: 1

Sample ID: CCB

Date Collected: 3/8/2017 4:04:22 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	-0.000006	-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

Autosampler Location: 21

Sample ID: 17-03-0335-16

Date Collected: 3/8/2017 4:06:36 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: 17-03-0335-16

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	BlkCorr 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

Autosampler Location: 22

Sample ID: 17-03-0336-3

Date Collected: 3/8/2017 4:08:52 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: 17-03-0336-3

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	BlkCorr 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

Sample ID: 17-03-0336-4

Analyst: 868 HG-8

Initial Sample Wt: 0.62 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 23

Date Collected: 3/8/2017 4:11:08 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

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

Sample ID: 17-03-0140-27

Analyst: 868 HG-8

Initial Sample Wt: 0.61 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 24

Date Collected: 3/8/2017 4:13:25 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

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

Sample ID: 17-03-0140-28

Analyst: 868 HG-8

Initial Sample Wt: 0.63 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 25

Date Collected: 3/8/2017 4:15:42 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

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

Sample ID: 17-03-0140-29

Analyst: 868 HG-8

Initial Sample Wt: 0.6 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 26

Date Collected: 3/8/2017 4:18:00 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

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
Sample ID: 17-03-0140-30
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 27
Date Collected: 3/8/2017 4:20:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0140-30
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
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
Sample ID: 17-03-0140-31
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 28
Date Collected: 3/8/2017 4:22:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0140-31
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
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
Sample ID: 17-03-0141-27
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 29
Date Collected: 3/8/2017 4:24:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0141-27
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
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
Sample ID: 17-03-0141-28
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 30
Date Collected: 3/8/2017 4:27:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0141-28
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
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	StdndConc	BlndCorr	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	StdndConc	BlndCorr	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	StdndConc	BlndCorr	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	StdndConc	BlndCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored

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	0.01141 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 Logbook: Hg 03-09-17
 Analysis: Hg 309
 Logbook Page: 18 Instrument ID: Hg-8

Initial												
Sample ID	Analyst Name	Sample Wt	Sample Analyte		Date	Time	Conc		Units		Corr Coef	
			Name	Analyte			(Calib)	(Samp)	(Calib)	(Samp)		
17-03-0221-10	868 HG-8	0.62	Hg	253.7	3/8/2017	1:44:20 PM	0.007925	0.001278	ug/L	mg/kg	0.999917	
17-03-0221-13	868 HG-8	0.6	Hg	253.7	3/8/2017	1:46:37 PM	0.002139	0.000357	ug/L	mg/kg	0.999917	
17-03-0221-14	868 HG-8	0.61	Hg	253.7	3/8/2017	1:48:54 PM	0.007794	0.001278	ug/L	mg/kg	0.999917	
17-03-0128-1	868 HG-8	0.58	Hg	253.7	3/8/2017	1:51:11 PM	0.485535	0.083713	ug/L	mg/kg	0.999917	
17-03-0128-4	868 HG-8	0.61	Hg	253.7	3/8/2017	1:53:28 PM	0.454294	0.074474	ug/L	mg/kg	0.999917	
CCV 0.2x10ppb	868 HG-8		Hg	253.7	3/8/2017	1:55:44 PM	1.984692	0.001985	ug/L	mg/L	0.999917	
CCB	868 HG-8		Hg	253.7	3/8/2017	1:57:58 PM	0.016753	1.68E-05	ug/L	mg/L	0.999917	
170307-B-02	868 HG-8	0.6	Hg	253.7	3/8/2017	2:19:49 PM	-0.01237	-0.00206	ug/L	mg/kg	0.999917	
170307-L-02	868 HG-8	0.6	Hg	253.7	3/8/2017	2:22:07 PM	4.542766	0.757128	ug/L	mg/kg	0.999917	
17-03-0154-1	868 HG-8	0.61	Hg	253.7	3/8/2017	2:24:25 PM	6.095209	0.999215	ug/L	mg/kg	0.999917	
17-03-0154-1 MS	868 HG-8	0.62	Hg	253.7	3/8/2017	2:26:42 PM	9.167473	1.478625	ug/L	mg/kg	0.999917	
17-03-0154-1 MSD	868 HG-8	0.61	Hg	253.7	3/8/2017	2:28:59 PM	8.862963	1.452945	ug/L	mg/kg	0.999917	
17-03-0518-1	868 HG-8	0.6	Hg	253.7	3/8/2017	2:31:16 PM	0.003397	0.000566	ug/L	mg/kg	0.999917	
CCV 0.2x10ppb	868 HG-8		Hg	253.7	3/8/2017	2:33:33 PM	2.020521	0.002021	ug/L	mg/L	0.999917	
CCB	868 HG-8		Hg	253.7	3/8/2017	2:35:48 PM	0.017314	1.73E-05	ug/L	mg/L	0.999917	
17-02-2480-5	868 HG-8	0.62	Hg	253.7	3/8/2017	2:45:44 PM	0.585836	0.09449	ug/L	mg/kg	0.999917	
170308-B-02	868 HG-8	0.6	Hg	253.7	3/8/2017	2:48:01 PM	-0.00863	-0.00144	ug/L	mg/kg	0.999917	
170308-L-02	868 HG-8	0.6	Hg	253.7	3/8/2017	2:50:18 PM	4.770499	0.795083	ug/L	mg/kg	0.999917	
17-03-0458-1	868 HG-8	0.62	Hg	253.7	3/8/2017	2:52:35 PM	0.199314	0.032147	ug/L	mg/kg	0.999917	
17-03-0458-1 MS	868 HG-8	0.6	Hg	253.7	3/8/2017	2:54:52 PM	4.444273	0.740712	ug/L	mg/kg	0.999917	
17-03-0458-1 MSD	868 HG-8	0.62	Hg	253.7	3/8/2017	2:57:09 PM	4.45869	0.719144	ug/L	mg/kg	0.999917	
17-03-0458-1 PDS	868 HG-8	0.62	Hg	253.7	3/8/2017	2:59:26 PM	4.480489	0.72266	ug/L	mg/kg	0.999917	
17-03-0458-1 5X	868 HG-8	0.62	Hg	253.7	3/8/2017	3:01:44 PM	0.028423	0.022922	ug/L	mg/kg	0.999917	
17-03-0458-2	868 HG-8	0.6	Hg	253.7	3/8/2017	3:04:01 PM	0.170539	0.028423	ug/L	mg/kg	0.999917	
17-03-0457-1	868 HG-8	0.6	Hg	253.7	3/8/2017	3:06:18 PM	0.299	0.049833	ug/L	mg/kg	0.999917	
CCV 0.2x10ppb	868 HG-8		Hg	253.7	3/8/2017	3:08:38 PM	1.993902	0.001994	ug/L	mg/L	0.999917	
CCB	868 HG-8		Hg	253.7	3/8/2017	3:10:54 PM	0.016483	1.65E-05	ug/L	mg/L	0.999917	
17-03-0457-2	868 HG-8	0.62	Hg	253.7	3/8/2017	3:13:09 PM	0.28045	0.045234	ug/L	mg/kg	0.999917	
17-03-0457-3	868 HG-8	0.62	Hg	253.7	3/8/2017	3:15:27 PM	0.140396	0.022644	ug/L	mg/kg	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		Date	Time	Conc		Conc		Units	Corr Coef
		Wt	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 109 Chemist ID: 309
 Logbook Page: 20 Instrument ID: 109-8

Sample ID	Analyst Name	Initial Sample		Analyte Name	Date	Time	Conc (Calib)		Units (Calib)		Conc (Samp)		Units (Samp)		Corr Coef
		Wt					Conc		Conc		Conc		Conc		
17-03-0140-31	868 HG-8	0.61	Hg	253.7	3/8/2017	4:24:21 PM	0.127391	ug/L	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	0.059416	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	0.133866	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	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-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	0.621358	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	0.075767	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	0.145055	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	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	-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	0.92864	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	0.026399	ug/L	0.004419	mg/kg	0.004419	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	0.456701	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	0.399731	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	0.137598	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	0.046507	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	0.258294	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	0.070434	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	0.025224	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	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	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)

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #				
☐ EPA 7471A	☒ Solid			Thermometer	171114795 (CF 0.0 °C)	Aqua Regia	R04791661 10 mL	Spike	M0306171			
☐ EPA 7471B	☐ Other (Specify)			Block Digester	5	5% KMnO ₄	R00661661	IC	1 A			
				Pipetter / Dispenser	P071 / X	NaCl-H ₃ 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 M006-3518		1 = Composite 2 = Subsample				
(Specify)		Filter				(Specify)		3 = Homogenize 4 = None				
DIGESTION												
DATE	TIME	START		END		SAMPLE HANDLING	ECL 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	808	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			
								17-03-0140-27A	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 / MD-043 / 0058

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 CL	R or R ² CL	STATUS
Aroclor-1016	C	Avg RF	975,287	941,045	882,730	864,861	802,600					893,304	0.00	8	0-20			PASS
Aroclor-1260	C	Avg RF	1,012,414	995,847	939,916	914,296	876,433					947,781	0.00	6	0-20			PASS

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: 170222I003

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

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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 uhn
 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

		100.000	250.000	500.000	750.000	2000.000		
Compound		Level 1	Level 2	Level 3	Level 4	Level 5	RRP	% RSD
=====		=====	=====	=====	=====	=====	=====	=====
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

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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

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	750.000 Level 4	2000.000 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 uhn
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	<-Failed
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	<-Failed
Aroclor 1260 (5)	147353.008	171646.244	0.01	-16	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	5741865.170	5554897.950	0.01	3	15	Averaged	
Decachlorobiphenyl	5459627.040	5505849.720	0.01	-1	15	Averaged	

page 1

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
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 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).

Page 1

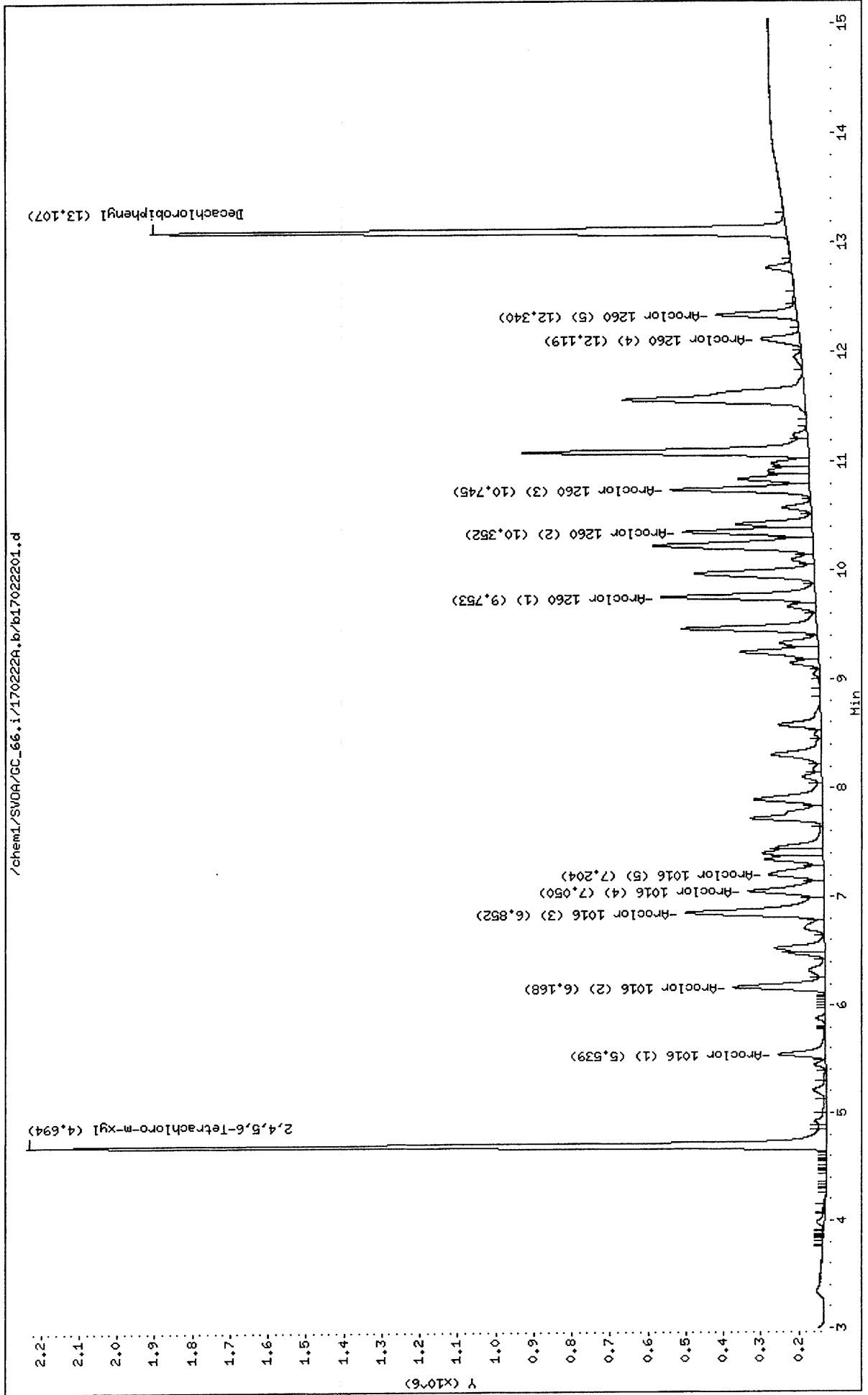
Data File: /chem1/SVDA/GC_66.i/170222A.b/b17022201.d
Date : 22-FEB-2017 17:27
Client ID:
Sample Info: PCB ICAL1 P021517F 100PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



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
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
Cal Date : 22-FEB-2017 17:45
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie
Target Version: 3.50
Processing Host: US26TAR4
Inst ID: GC_66.i
Quant Type: ESTD
Cal File: b17022202.d
Calibration Sample, Level: 2
Compound Sublist: p1016_1260.sub

Concentration Formula: Amt * DF * CpndVariable

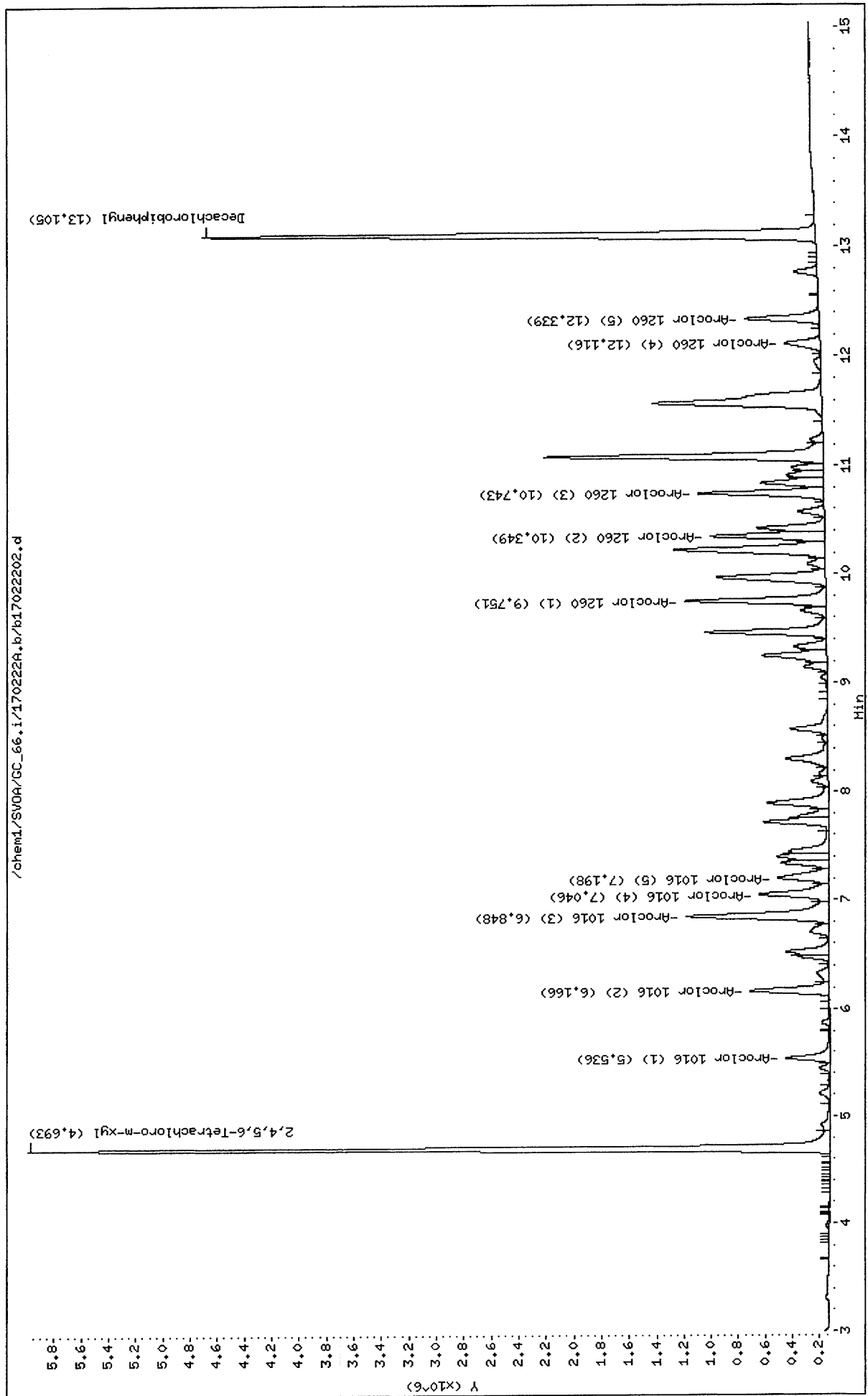
Cpnd Variable

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	4.694	-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

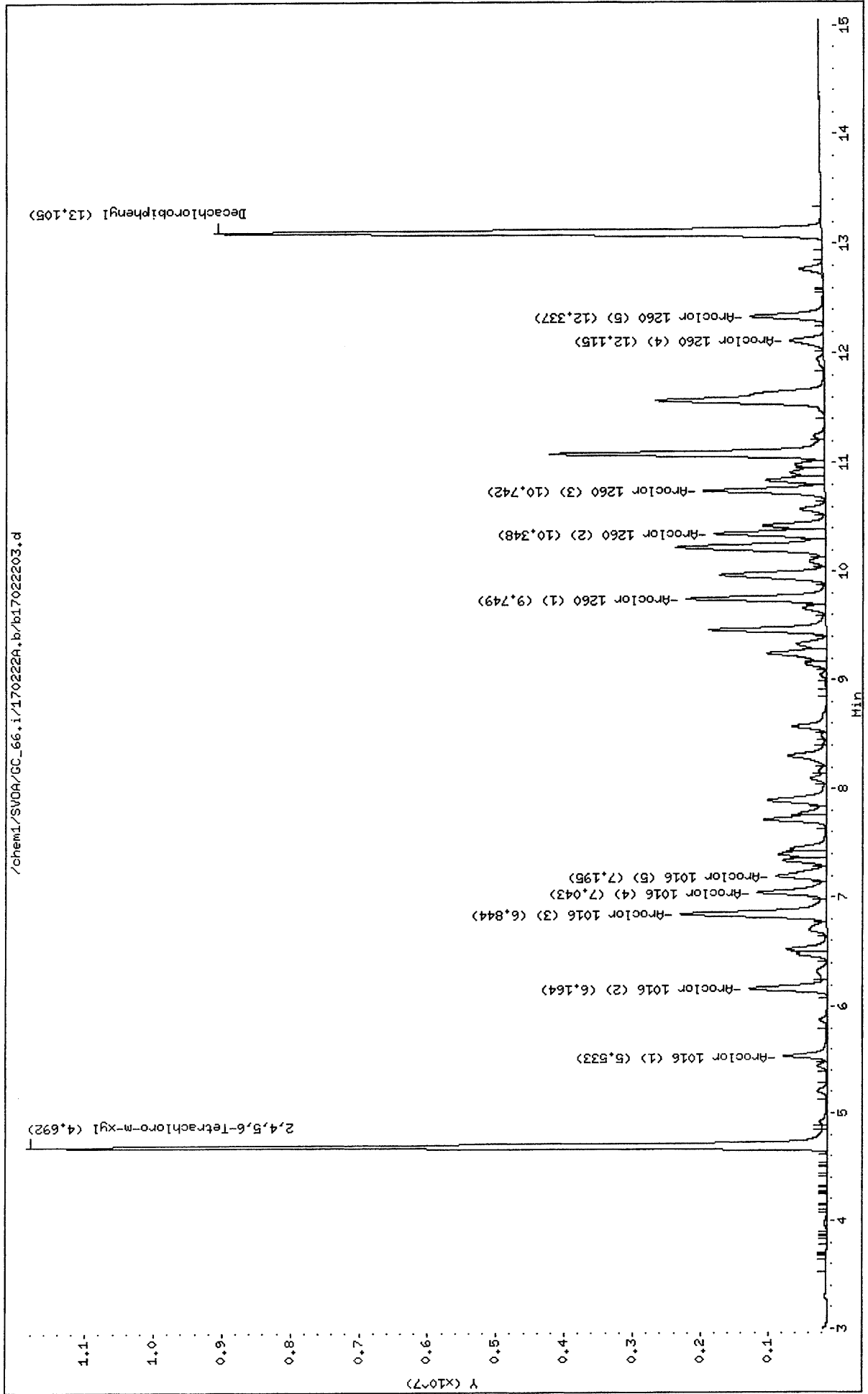
Cpnd Variable

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

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022203.d
Date : 22-FEB-2017 18:03
Client ID:
Sample Info: PCB ICAL3 P021517D 500PPB
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/b17022204.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:21
Operator : 944 Inst ID: GC_66.i
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 Quant Type: ESTD
Cal Date : 22-FEB-2017 18:21 Cal File: b17022204.d
Als bottle: 4 Calibration Sample, Level: 4
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

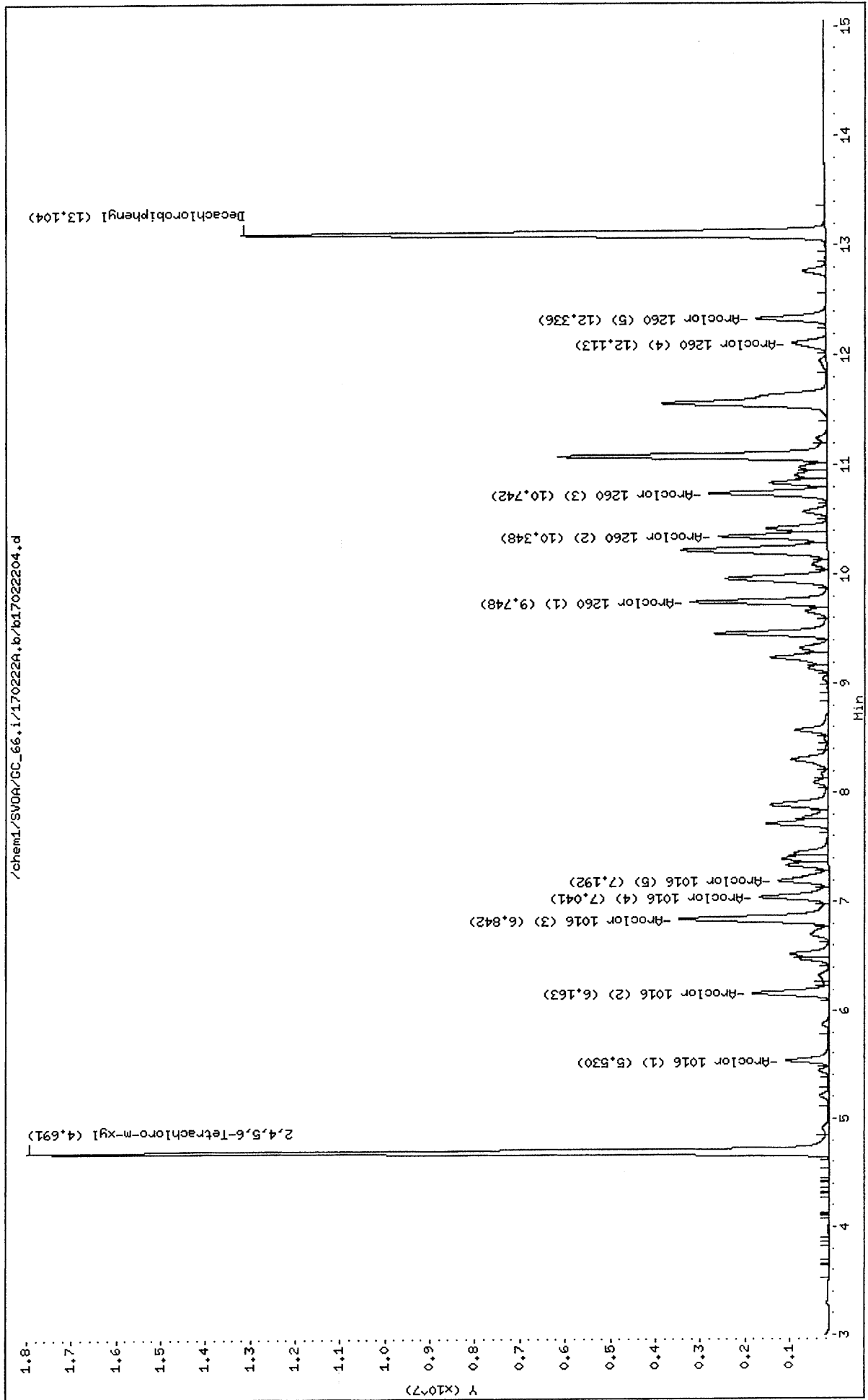
Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.691	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

Data File: /chem1/SVDA/GC_66.i/170222A.b/b17022204.d
Date : 22-FEB-2017 18:21
Client ID:
Sample Info: PCB ICAL4 P021517C 750PPB

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/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

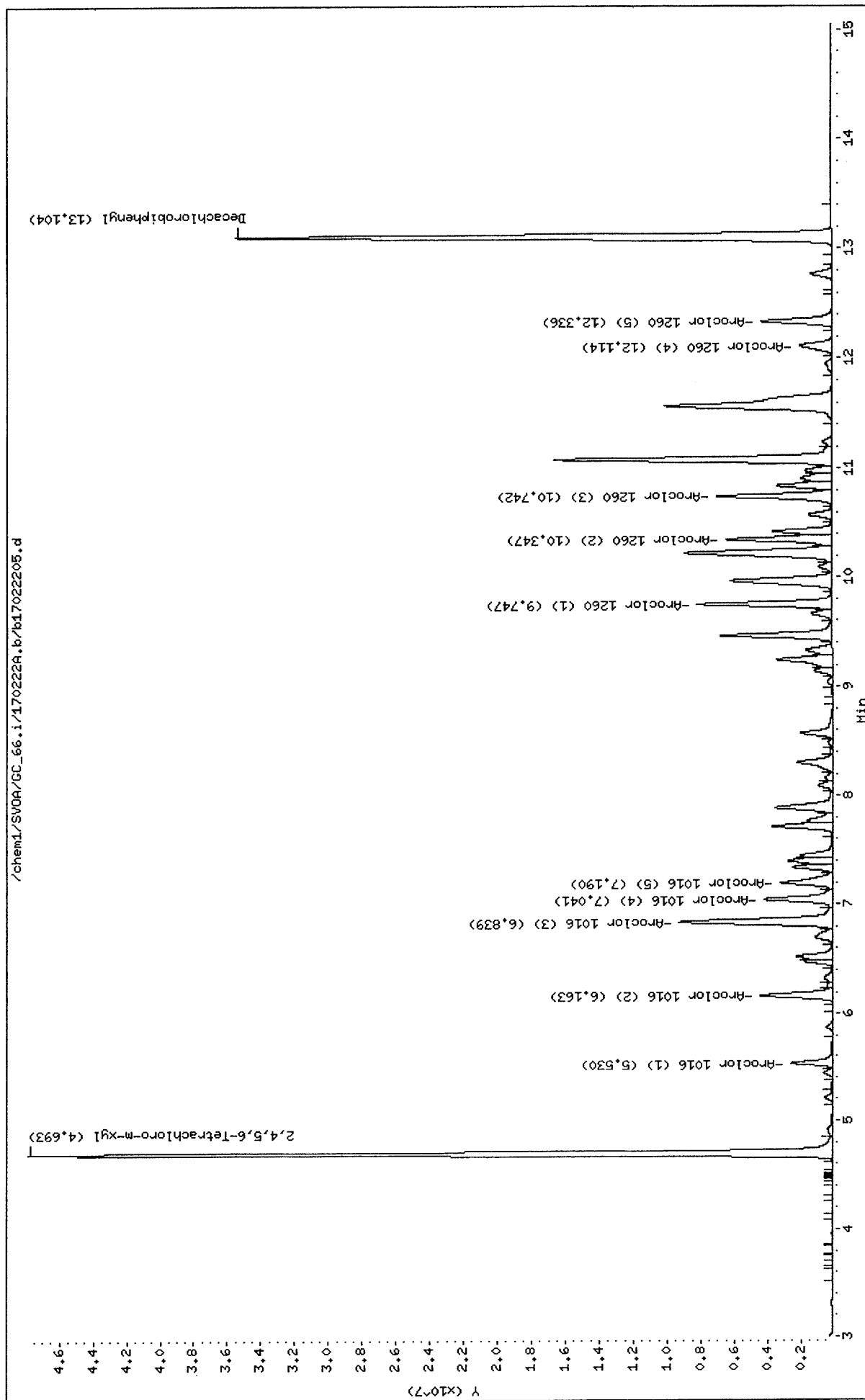
					AMOUNTS	
Compounds					CAL-AMT	ON-COL
					(ppb)	(ppb)
=====					=====	=====
\$	1	2,4,5,6-Tetrachloro-m-xylene	4.693	4.691 0.002	2300900796	400.000 401 (A)
M	2	Aroclor-1016			1605199523	2000.00 1800
	3	Aroclor 1016 (1)	5.530	5.530 0.000	153733649	2000.00 1710
	4	Aroclor 1016 (2)	6.163	6.163 0.000	279609263	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 Inst ID: GC_66.i
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 Quant Type: ESTD
Cal Date : 22-FEB-2017 18:38 Cal File: b17022205.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

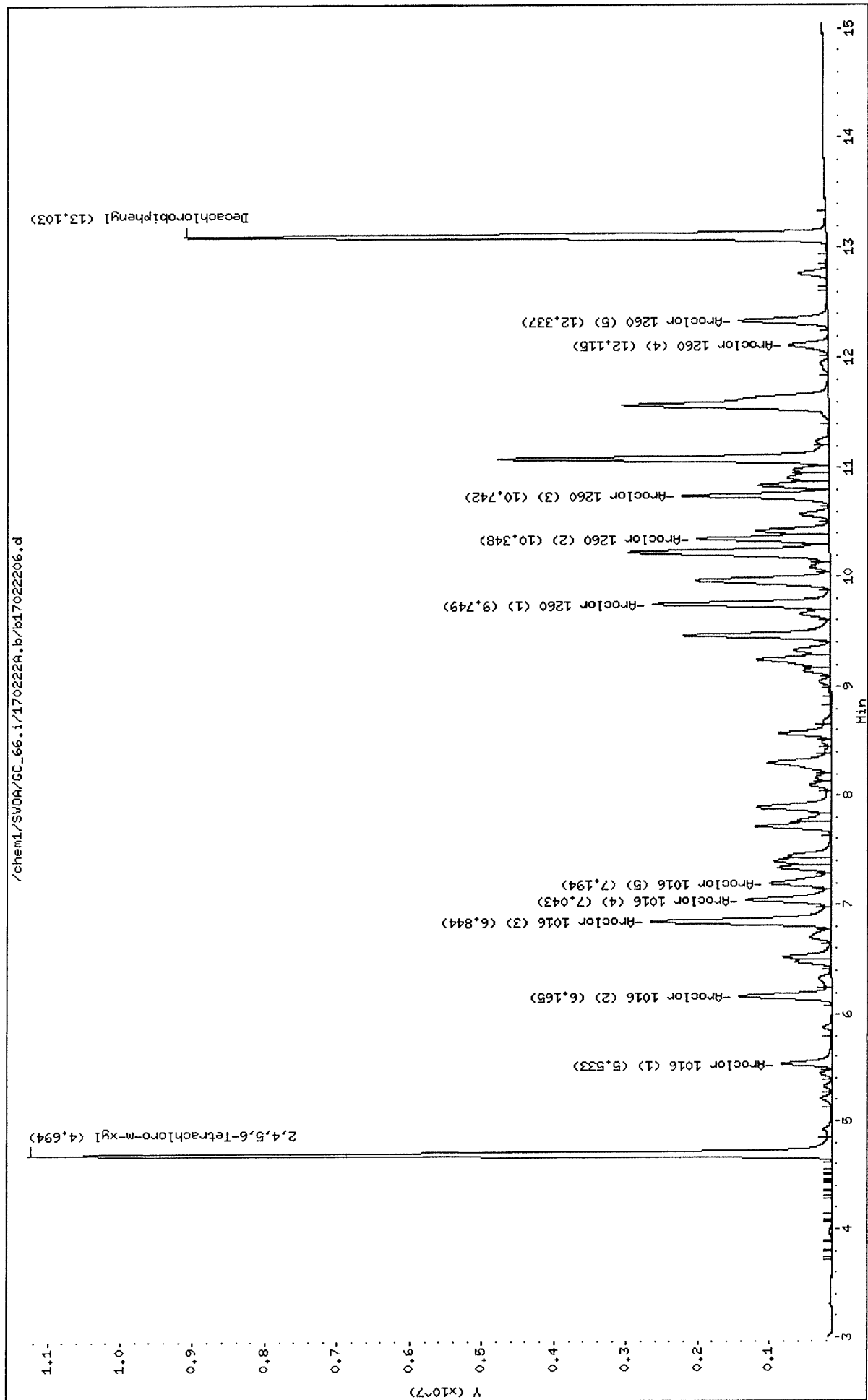
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
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

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
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/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

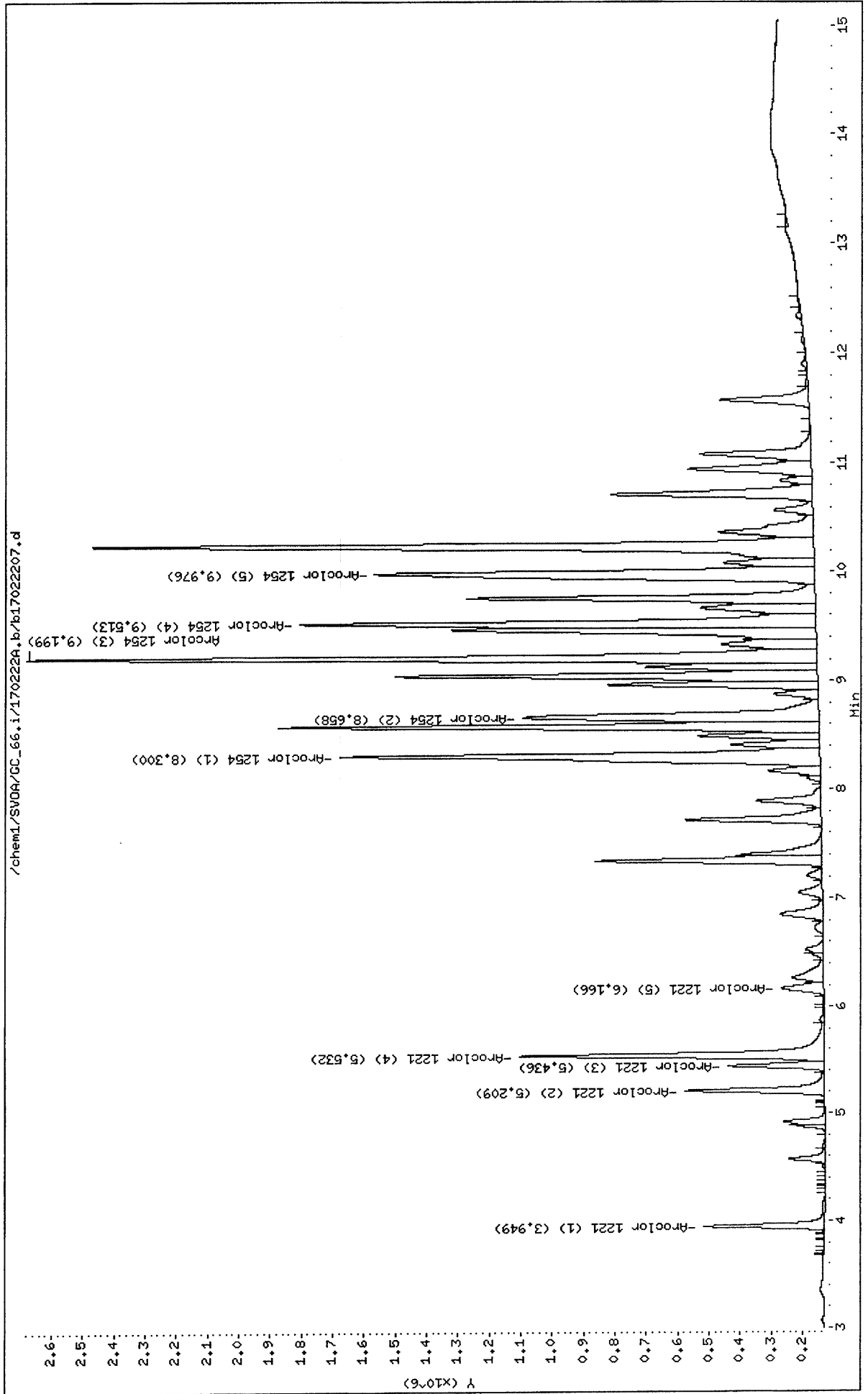
Concentration Formula: Amt * DF * CpndVariable

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/SVDA/GC_66.i/170222A.b/b17022207.d
Date : 22-FEB-2017 19:14
Client ID:
Sample Info: PCB 1221/B4 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
Compounds					(ppb)	(ppb)
=====					=====	=====
M 20	Aroclor-1232			230600593	500.000	500
21	Aroclor 1232 (1)	5.533	5.533	0.000	46830292	500.000
22	Aroclor 1232 (2)	6.164	6.164	0.000	37990961	500.000
23	Aroclor 1232 (3)	6.846	6.846	0.000	80230398	500.000
24	Aroclor 1232 (4)	7.045	7.045	0.000	37042341	500.000
25	Aroclor 1232 (5)	7.198	7.198	0.000	28506601	500.000
M 44	Aroclor-1262			529581884	500.000	500
45	Aroclor 1262 (1)	9.749	9.749	0.000	99779332	500.000
46	Aroclor 1262 (2)	10.347	10.347	0.000	142884711	500.000
47	Aroclor 1262 (3)	10.742	10.742	0.000	132313903	500.000
48	Aroclor 1262 (4)	12.118	12.118	0.000	44885518	500.000
49	Aroclor 1262 (5)	12.337	12.337	0.000	109718420	500.000

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022208.d

Date : 22-FEB-2017 19:32

Client ID:

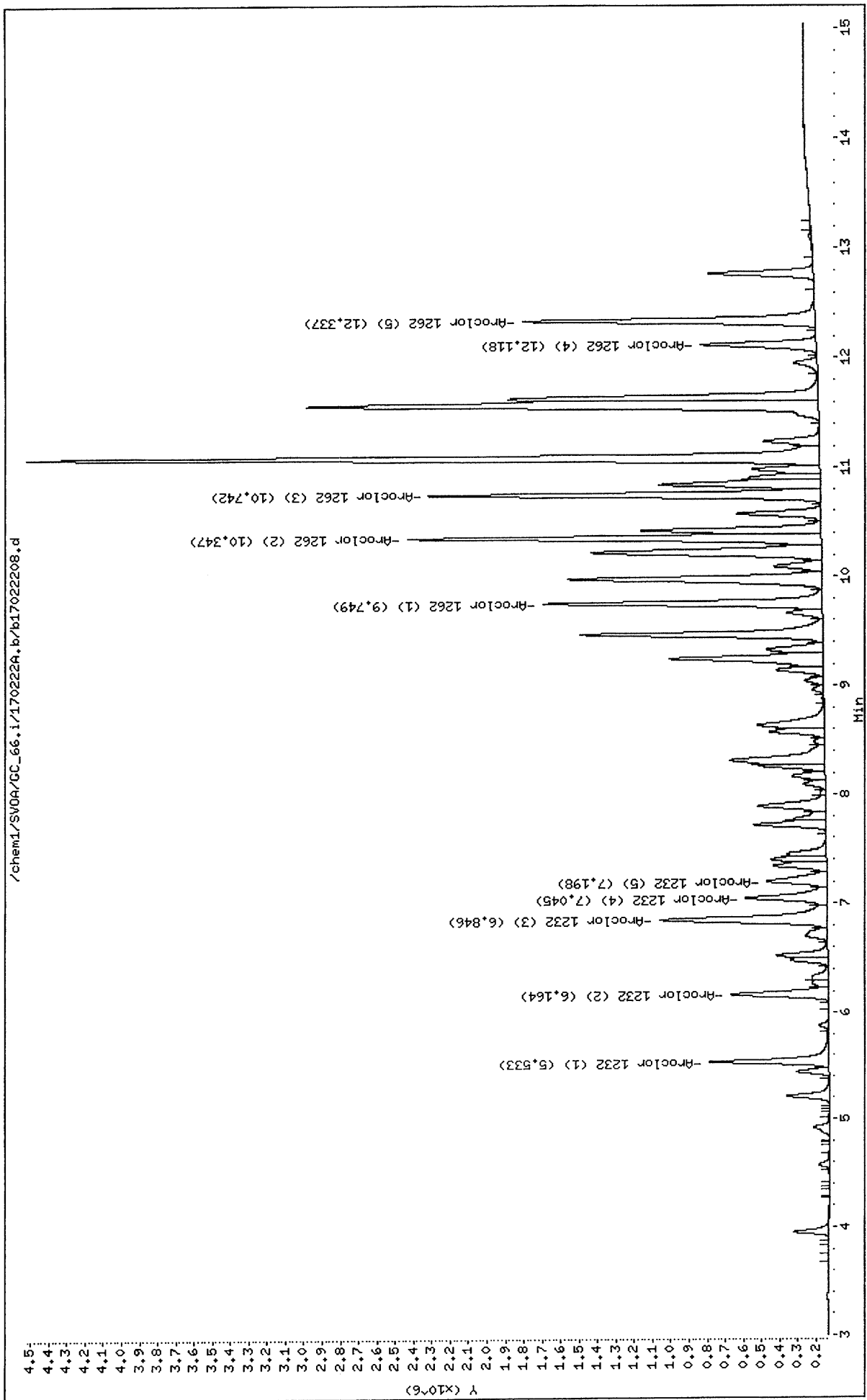
Sample Info: PCB 1232/62 500PPB P120616J

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 Inst ID: GC_66.i
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 Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 9 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1248_1268.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 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

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

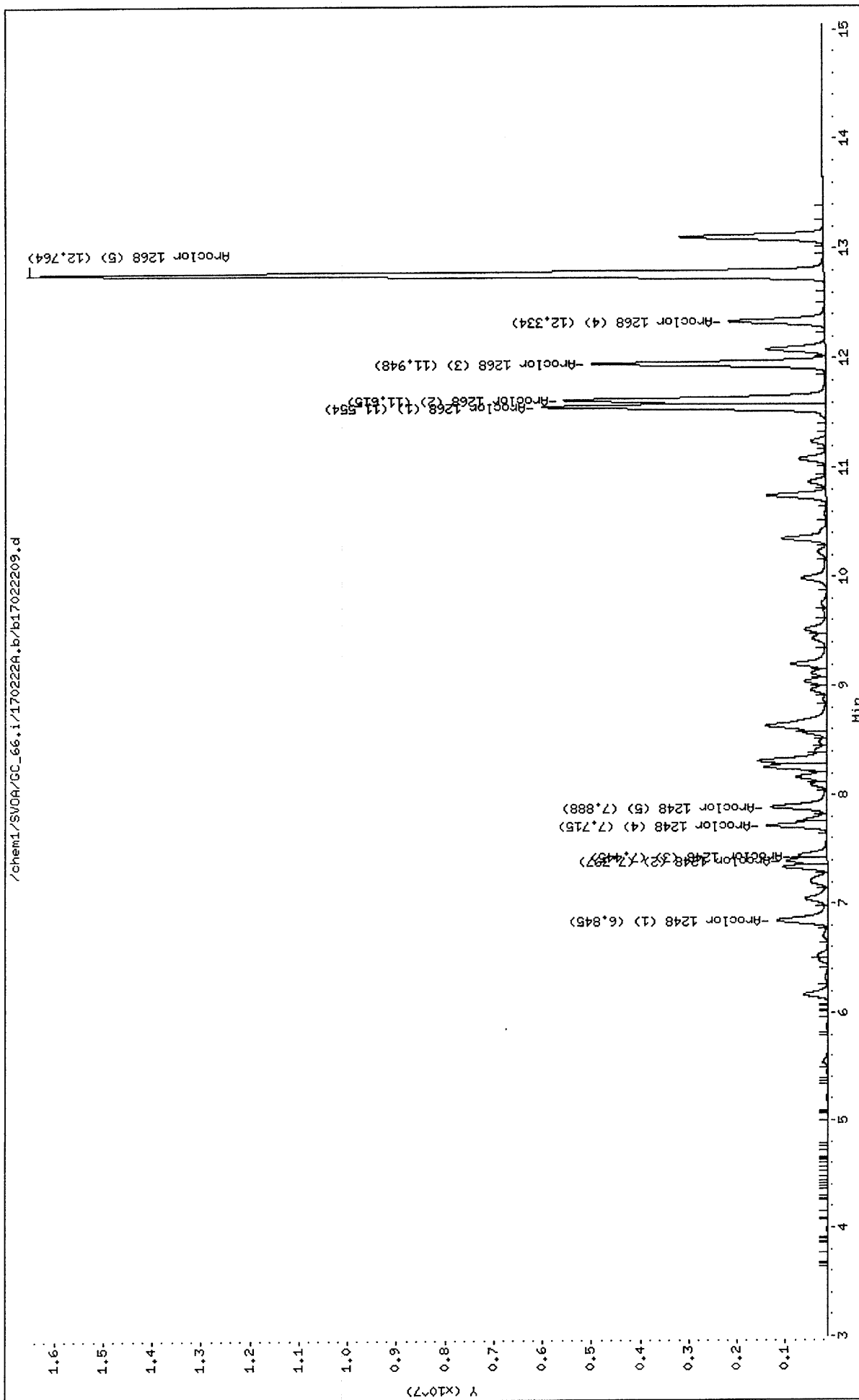
Column phase:

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

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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 Inst ID: GC_66.i
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 Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 10 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1242-ical.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

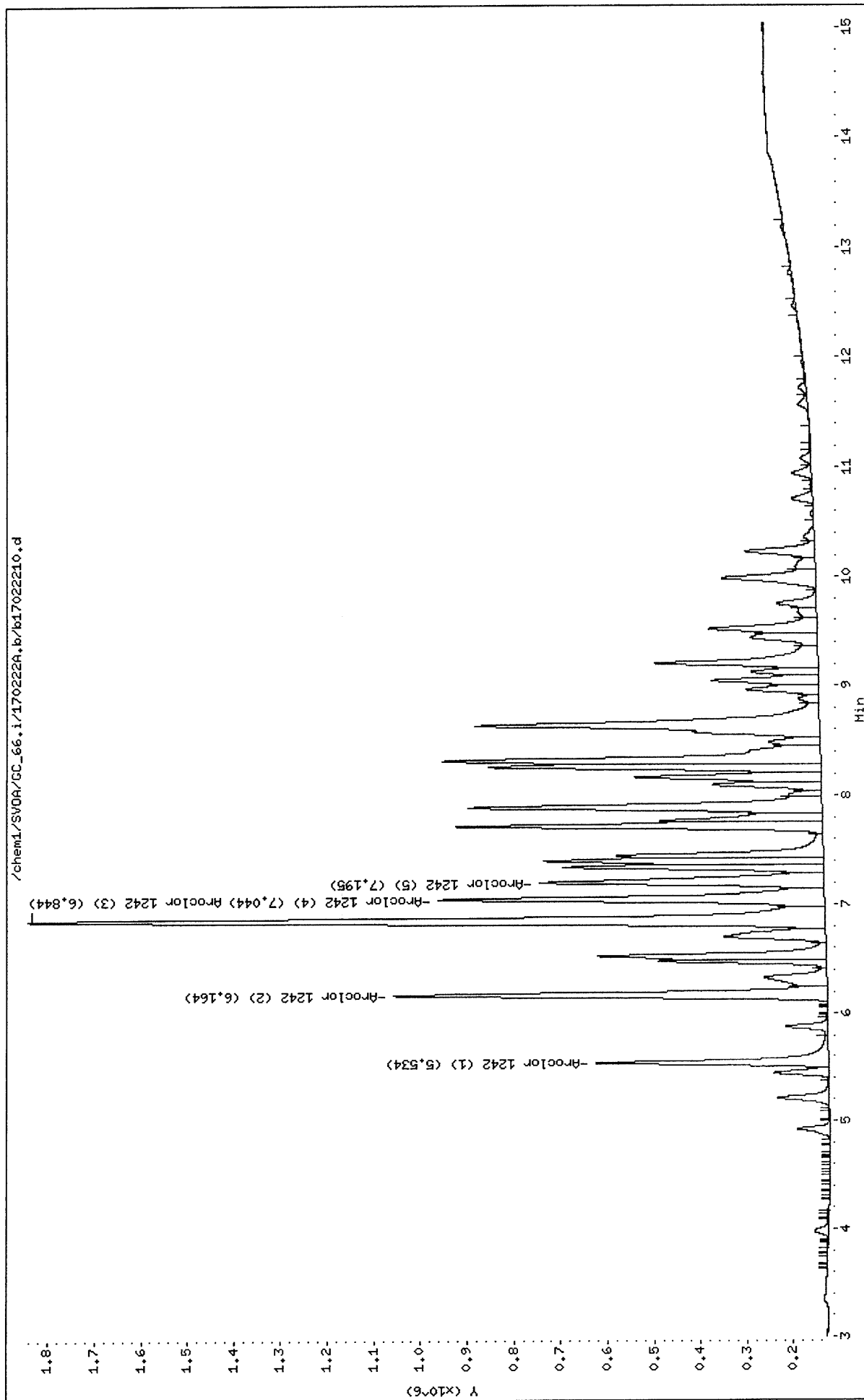
Cpnd Variable

Local Compound Variable

Compounds					AMOUNTS	
	RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ppb)	ON-COL (ppb)
=====	==	=====	=====	=====	=====	=====
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

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Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022210.d
Date : 22-FEB-2017 20:07
Client ID:
Sample Info: PCB 1242 500PPB P120616L
Column phase:
Instrument: GC_66.i
Operator: 944
Column diameter: 2.00

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EPA METHOD 8082 PCB

Sample Data

**RAW DATA SHEET
FOR METHOD: EPA 8082**

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WORK ORDER: 17-03-0140

INSTRUMENT: GC 66

EXTRACTION: EPA 3545

D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028

D/T ANALYZED: 2017-03-13 13:10

REVIEWED BY:

D/T REVIEWED: M

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131117031311

32

CLIENT SAMPLE NUMBER: F-DU1-ISM1-3

LCS/MB BATCH: 170308L12

MS/MSD BATCH: 170308S12

UNITS: ug/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 20.00 g / ACTUAL: 20.10 g

DEFAULT: 10.00 ml / ACTUAL: 10.00 ml

1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
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	

Compounds				RESPONSE	CONCENTRATIONS	
	RT	EXP RT	DLT RT		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	481957615	88.2767	88.3

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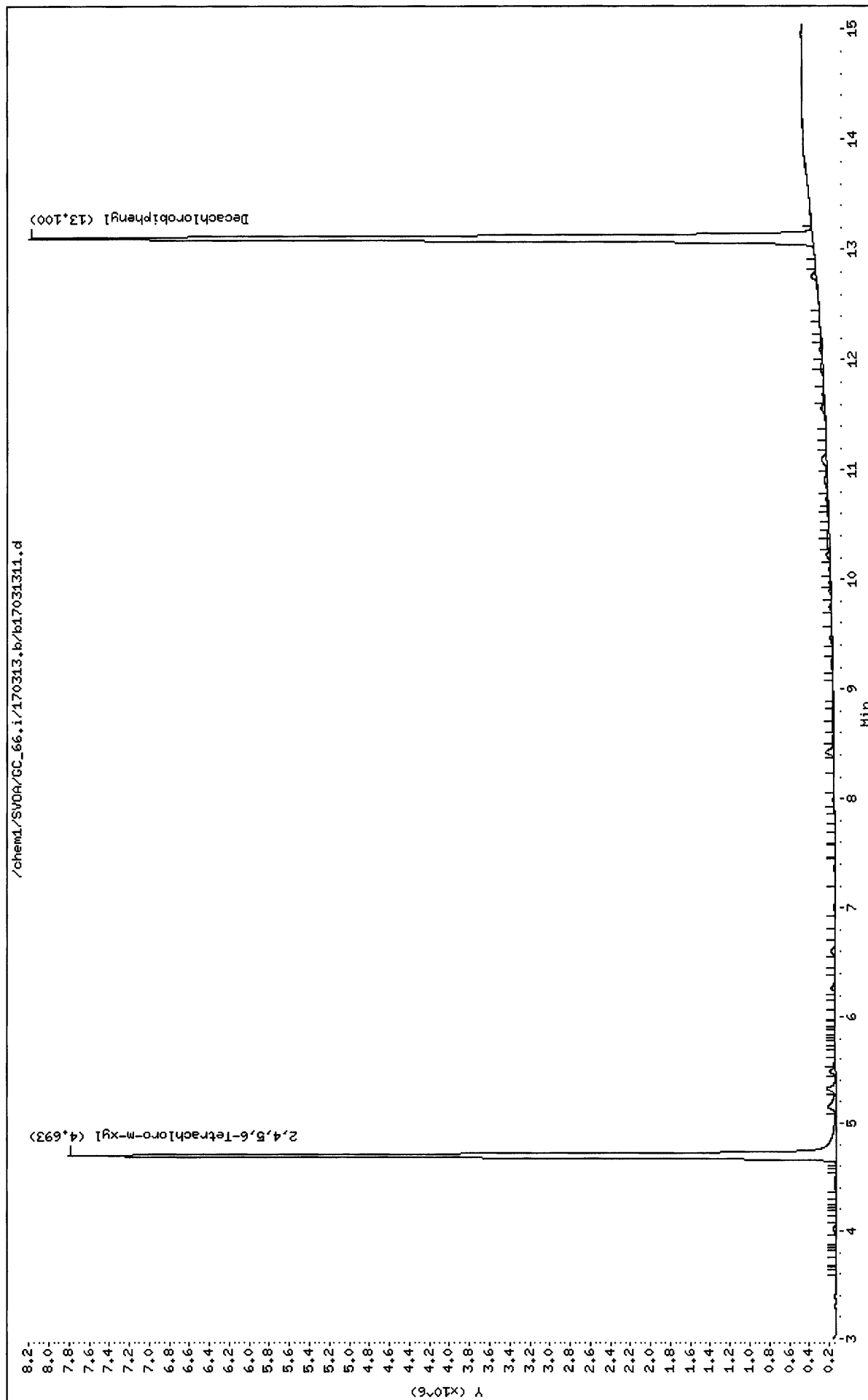
Data File: /chem1/SV0A/GC_66.i/170313.b/b17031311.d
Date : 13-MAR-2017 13:10
Client ID:
Sample Info: 17-03-0140-32

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

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WORK ORDER: 17-03-0140

INSTRUMENT: GC 66

EXTRACTION: EPA 3545

D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028

D/T ANALYZED: 2017-03-13 13:27

REVIEWED BY:

D/T REVIEWED:

~

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131217031312

33

CLIENT SAMPLE NUMBER: F-DU1-ISM2-3

LCS/MB BATCH: 170308L12

MS/MSD BATCH: 170308S12

UNITS: ug/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 20.00 g / ACTUAL: 20.10 g

DEFAULT: 10.00 ml / ACTUAL: 10.00 ml

1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
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	

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031312.d

Lab Smp Id:

Inj Date : 13-MAR-2017 13:27

Operator : 669

Inst ID: GC_66.i

Smp Info : 17-03-0140-33

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: 12

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

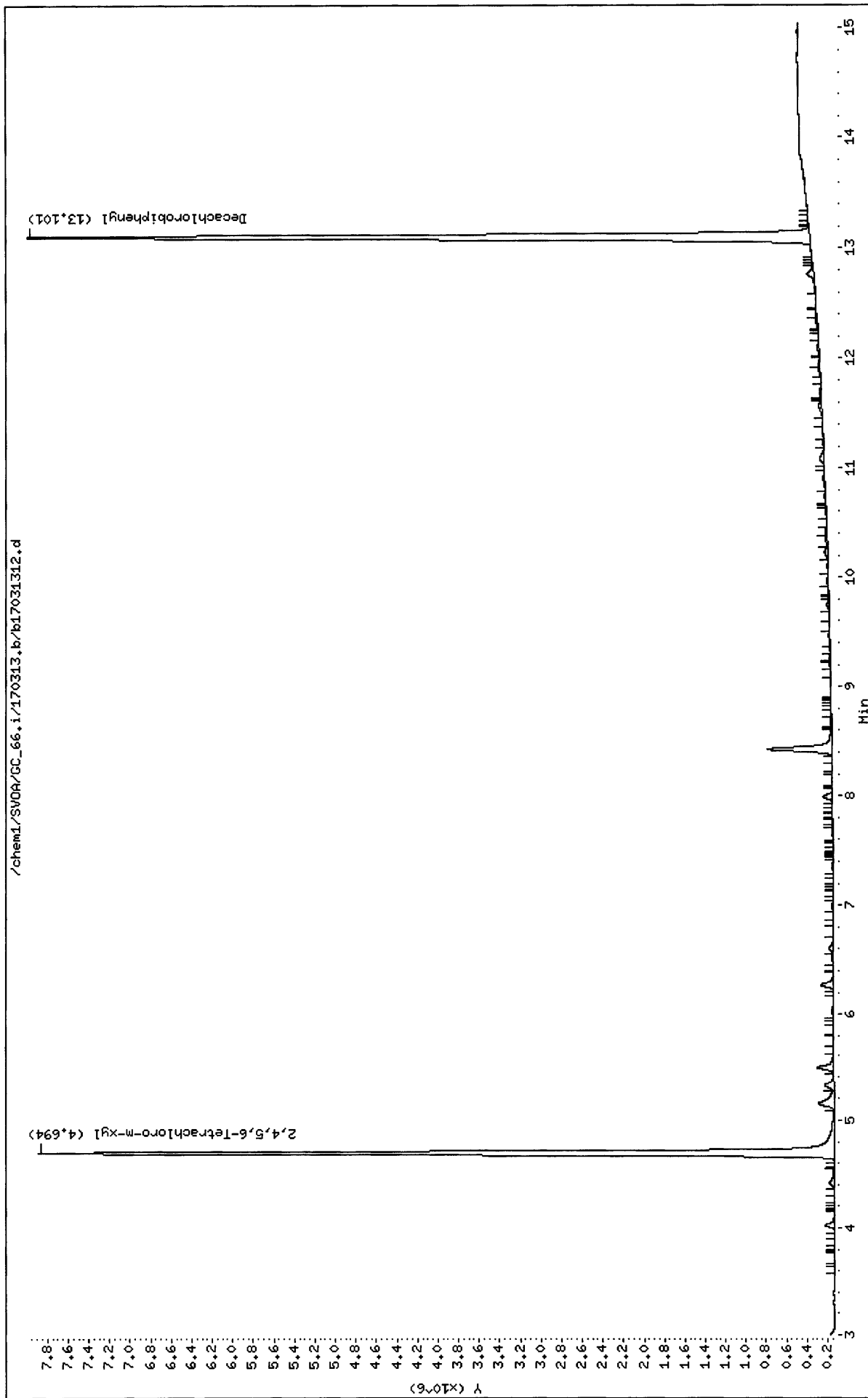
						CONCENTRATIONS	
						ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE		(ppb)	(ug/Kg)
=====	==	=====	=====	=====		=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.694	4.693	0.001	392148027		68.2963	68.3
M 2 Aroclor-1016				Compound Not Detected.			
3 Aroclor 1016 (1)				Compound Not Detected.			
4 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	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	13.101	13.103	-0.002	463099936	84.8226	84.8

Data File: /chem1/SV0A/GC_66.i/170313.b/17031312.d
 Date : 13-MAR-2017 13:27
 Client ID:
 Sample Info: 17-03-0140-33

Instrument: GC_66.i
 Operator: 669
 Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

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WORK ORDER: 17-03-0140
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 13:45
REVIEWED BY:
D/T REVIEWED: 

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131317031313

34 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-3

LCS/MB BATCH: 170308L12	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.10 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

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031313.d
 Report Date: 13-Mar-2017 14:12

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031313.d
 Lab Smp Id:
 Inj Date : 13-MAR-2017 13:45
 Operator : 669 Inst ID: GC_66.i
 Smp Info : 17-03-0140-34
 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 Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 13
 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

Compounds						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ppb)	FINAL (ug/Kg)
=====		==	=====	=====	=====	=====	=====
\$	1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	384006160	66.8783	66.9
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.					

Data File: /chem1/SVOA/GC_66.i/170313.b/b17031313.d
 Report Date: 13-Mar-2017 14:12

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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		465808188	85.3187	85.3	

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Data File: /chem1/SV04/GC_66.i/170313.b/b17031313.d

Date : 13-MAR-2017 13:45

Client ID:

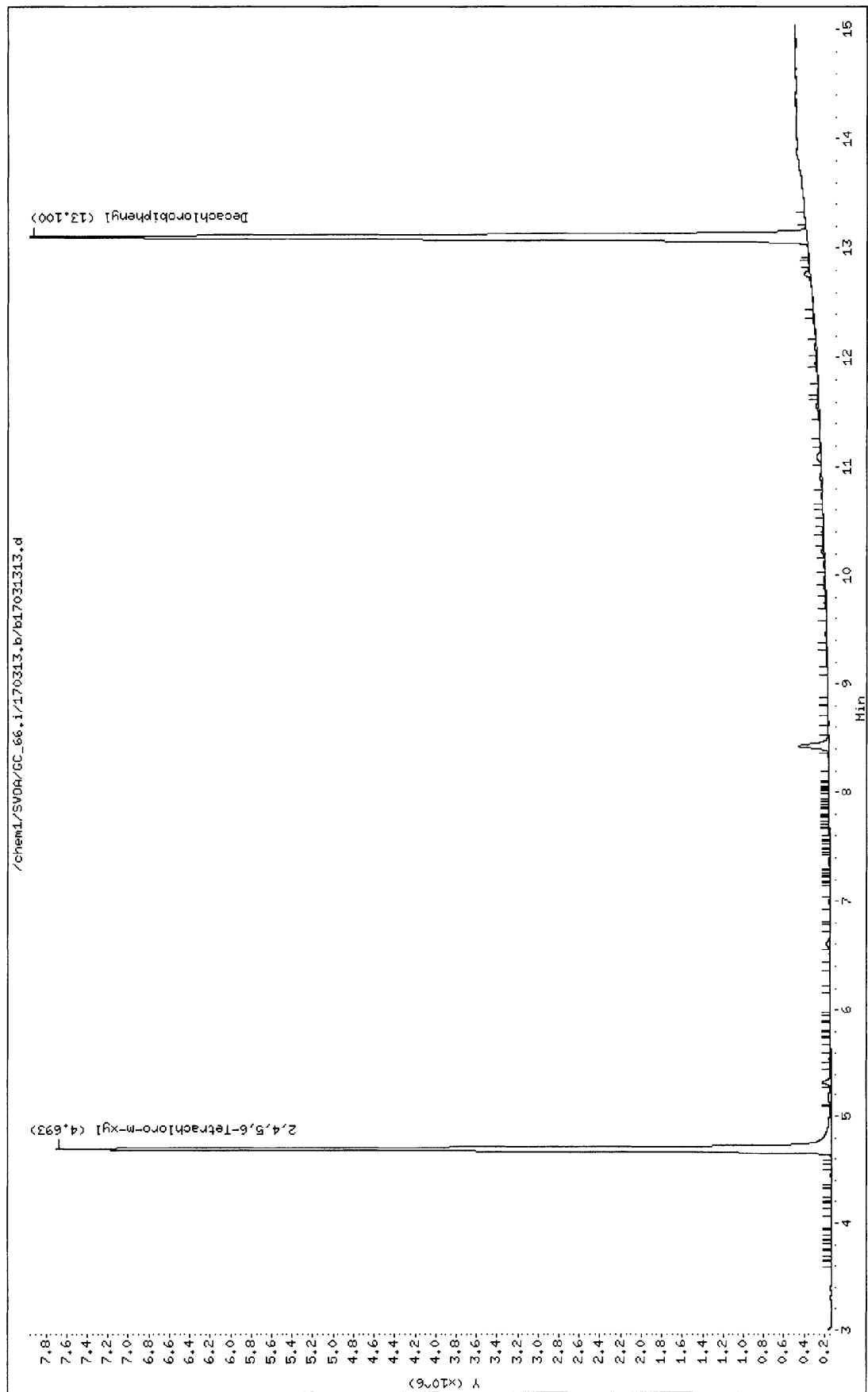
Sample Info: 17-03-0140-34

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

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WORK ORDER: 17-03-0140
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 14:03
REVIEWED BY:
D/T REVIEWED: 

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131417031314

35 **CLIENT SAMPLE NUMBER:** F-DU1-ISM4-3

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	

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031314.d

Lab Smp Id:

Inj Date : 13-MAR-2017 14:03

Operator : 669

Inst ID: GC_66.i

Smp Info : 17-03-0140-35

Misc Info :

Comment : Rtx-CLPesticide II

Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m

Meth Date : 13-Mar-2017 12:03 uhn

Quant Type: ESTD

Cal Date : 22-FEB-2017 20:07

Cal File: b17022210.d

Als bottle: 14

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	4.694	4.693	0.001	360537197		62.7910	62.8
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					
	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	429839028	78.7305	78.7

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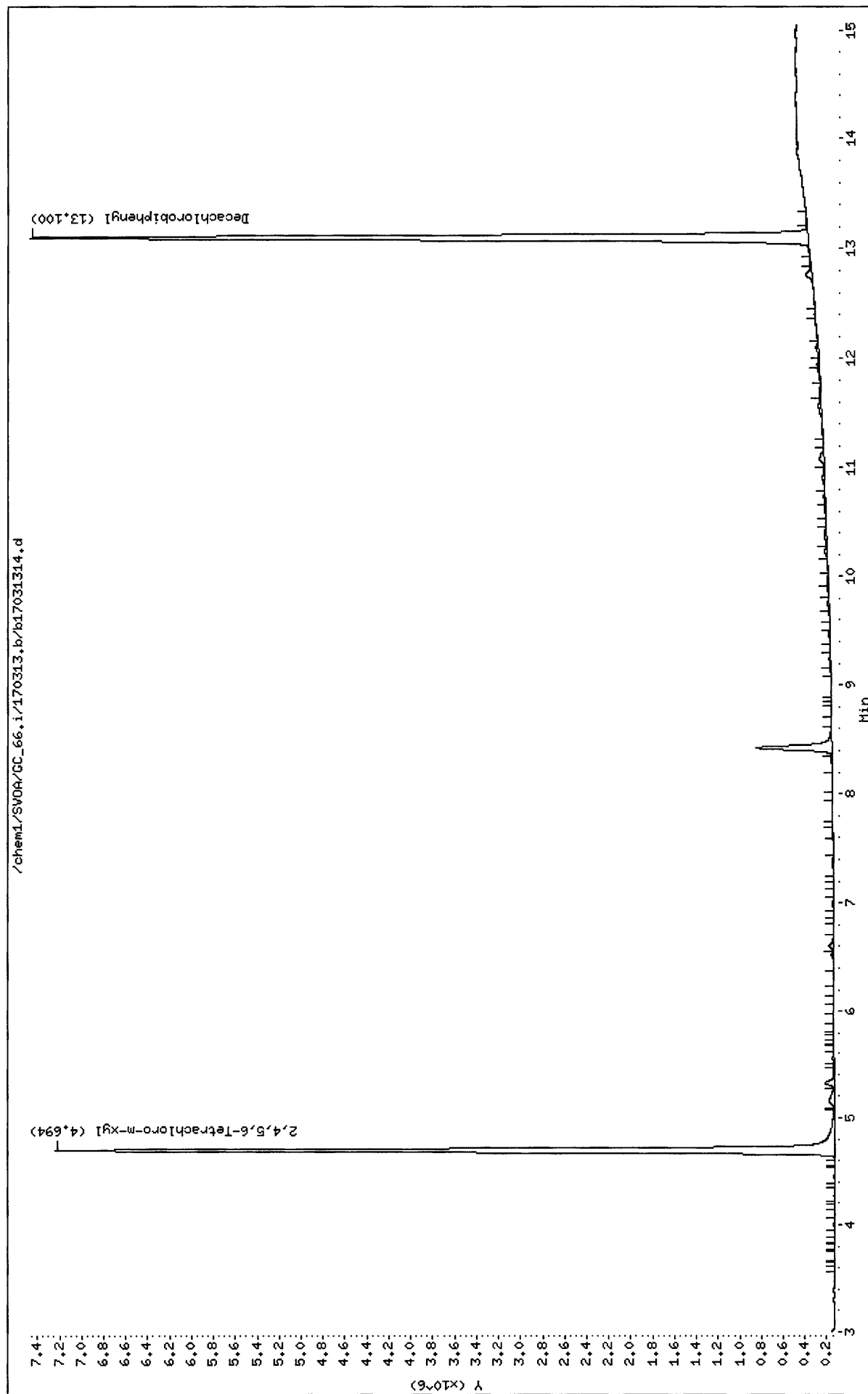
Data File: /chem1/SV0A/GC_66.i/170313.b/b17031314.d
Date : 13-MAR-2017 14:03
Client ID:
Sample Info: 17-03-0140-35

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



**RAW DATA SHEET
FOR METHOD: EPA 8082**

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WORK ORDER: 17-03-0140
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-13 14:21
REVIEWED BY:
D/T REVIEWED: 

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131517031315

36

CLIENT SAMPLE NUMBER: F-DU1-ISM5-3

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	


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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170313.b/b17031315.d
Lab Smp Id:
Inj Date : 13-MAR-2017 14:21
Operator : 669
Smp Info : 17-03-0140-36
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170313.b/b8082d-n2.m
Meth Date : 13-Mar-2017 12:03 uhn
Cal Date : 22-FEB-2017 20:07
Als bottle: 15
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	4.694	4.693	0.001	327280903	56.9991	57.0
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.		

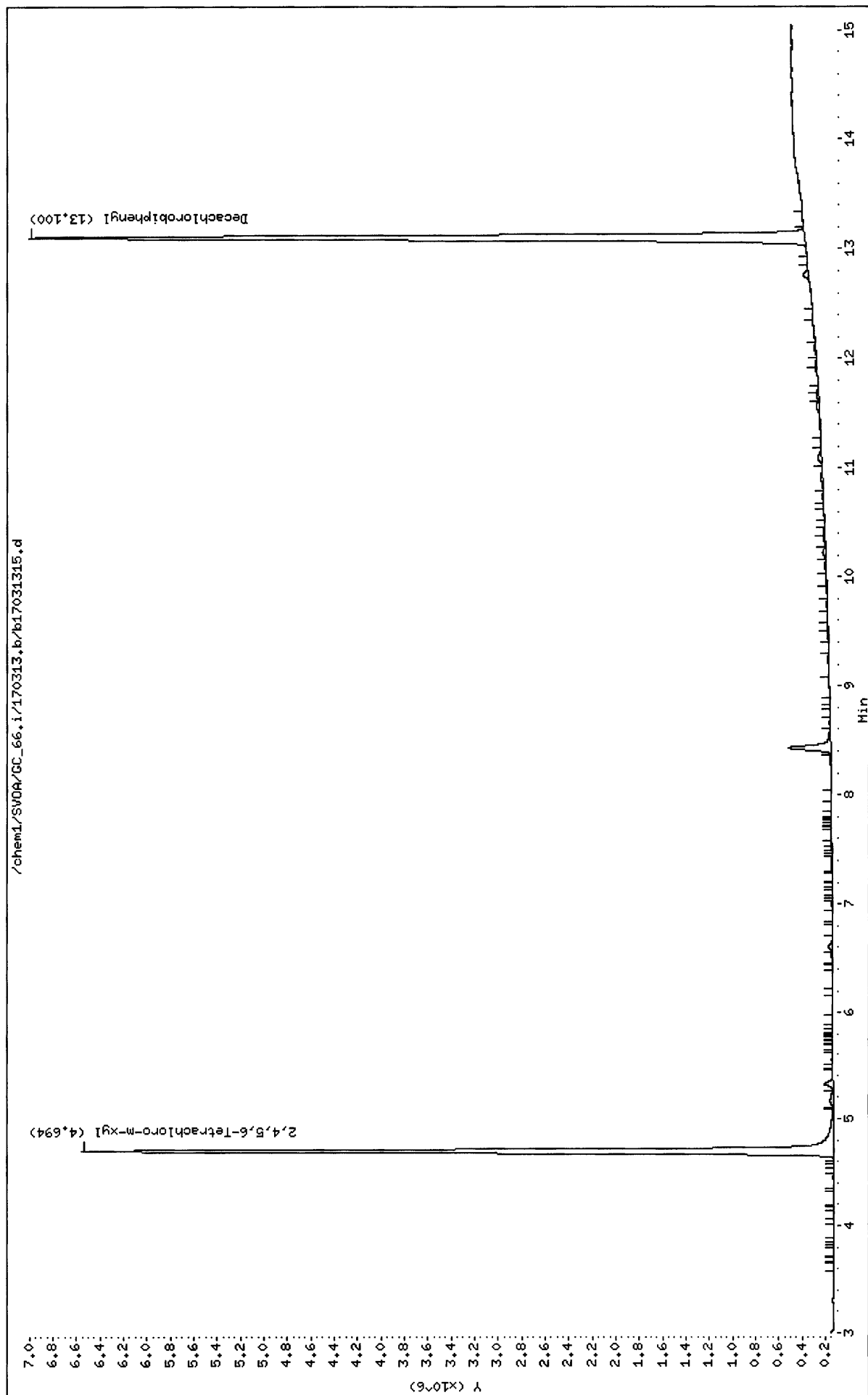
Compounds	CONCENTRATIONS				RESPONSE	ON-COLUMN		FINAL
	RT	EXP RT	DLT RT	RT		(ppb)	(ug/Kg)	
=====	==	=====	=====	=====	=====	=====	=====	
22 Aroclor 1232 (2)					Compound Not Detected.			
23 Aroclor 1232 (3)					Compound Not Detected.			
24 Aroclor 1232 (4)					Compound Not Detected.			
25 Aroclor 1232 (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	404148093		74.0249	74.0	

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Data File: /chem1/SV0A/GC_66.i/170313.b/17031315.d
Date : 13-HAR-2017 14:21
Client ID:
Sample Info: 17-03-0140-36

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

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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: 17-03-0140

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
32	F-DU1-ISM1-3		2017-03-13 13:10	/chem1/SVOA/GC_66/170313/b1703131117031311
33	F-DU1-ISM2-3		2017-03-13 13:27	/chem1/SVOA/GC_66/170313/b1703131217031312
34	F-DU1-ISM3-3		2017-03-13 13:45	/chem1/SVOA/GC_66/170313/b1703131317031313
35	F-DU1-ISM4-3		2017-03-13 14:03	/chem1/SVOA/GC_66/170313/b1703131417031314
36	F-DU1-ISM5-3		2017-03-13 14:21	/chem1/SVOA/GC_66/170313/b1703131517031315

RAW DATA SHEET FOR METHOD: EPA 8082

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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:

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	

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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:
D/T REVIEWED: 2

DATA FILE: /chem1/SVOA/GC_66/170313/b1703130217031302

<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>
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:

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: 17-03-0140

BATCH ID:

LCS/MB: 170308L12**MS:** 170308S12

EXTRACTION: EPA 3545

REVIEWED BY: 

D/T REVIEWED:

32 **CLIENT SAMPLE NUMBER : F-DU1-ISM1-3**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131117031311

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 13:10

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	88	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	68	25-145	PASS	

33 **CLIENT SAMPLE NUMBER : F-DU1-ISM2-3**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131217031312

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 13:27

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	85	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	68	25-145	PASS	

34 **CLIENT SAMPLE NUMBER : F-DU1-ISM3-3**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131317031313

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 13:45

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	85	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	67	25-145	PASS	

35 **CLIENT SAMPLE NUMBER : F-DU1-ISM4-3**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131417031314

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 14:03

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	79	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	63	25-145	PASS	

SURROGATE RECOVERIES FOR METHOD: EPA 8082

WORK ORDER: 17-03-0140

BATCH ID:

LCS/MB: 170308L12**MS:** 170308S12

EXTRACTION: EPA 3545

REVIEWED BY: 

D/T REVIEWED:

36 CLIENT SAMPLE NUMBER : F-DU1-ISM5-3

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: /chem1/SVOA/GC_66/170313/b1703131517031315

COMMENT:

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 14:21

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	74	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	57	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

COMMENT:

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 10:47

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

COMMENT:

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 10:29

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

COMMENT:

ANALYZED BY: 1,028

D/T ANALYZED 2017-03-13 11:05

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

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WORK ORDER: 17-03-0140

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

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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 Inst ID: GC_66.i
 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 Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 3 QC Sample: BLANK
 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	(ug/Kg)
=====		==	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene		4.692	4.693	-0.001	441834265	76.9496
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.				

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 (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	13.101	13.103	-0.002	441058628	80.7855	80.8

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Data File: /chem1/SV0A/GC_66.1/170313.b/b17031303.d

Date : 13-MAR-2017 10:47

Client ID:

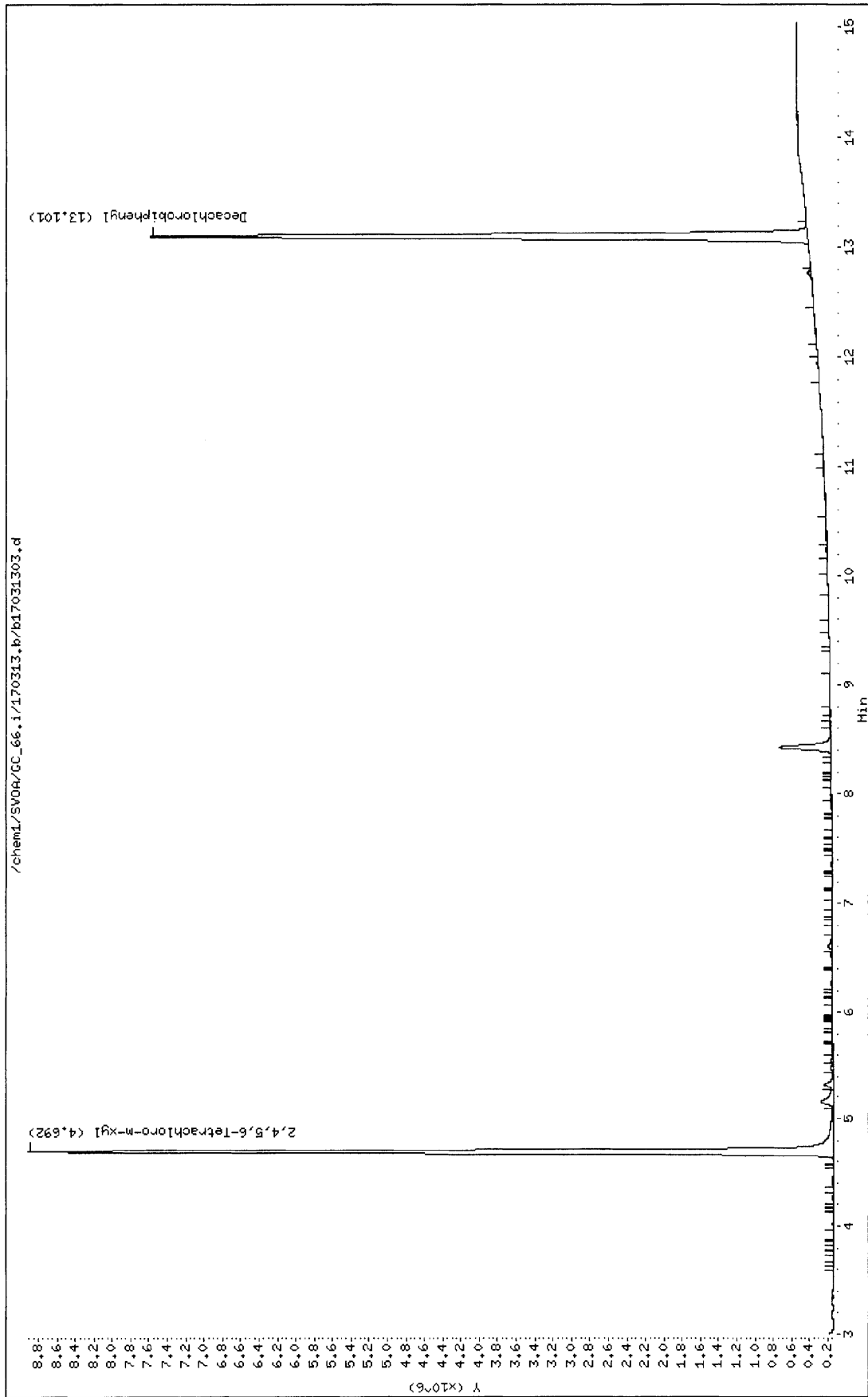
Sample Info: MB 170308L12

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

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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 uhhn 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/GC_66.i/170313.b/b17031302.d

Date : 13-MAR-2017 10:29

Client ID:

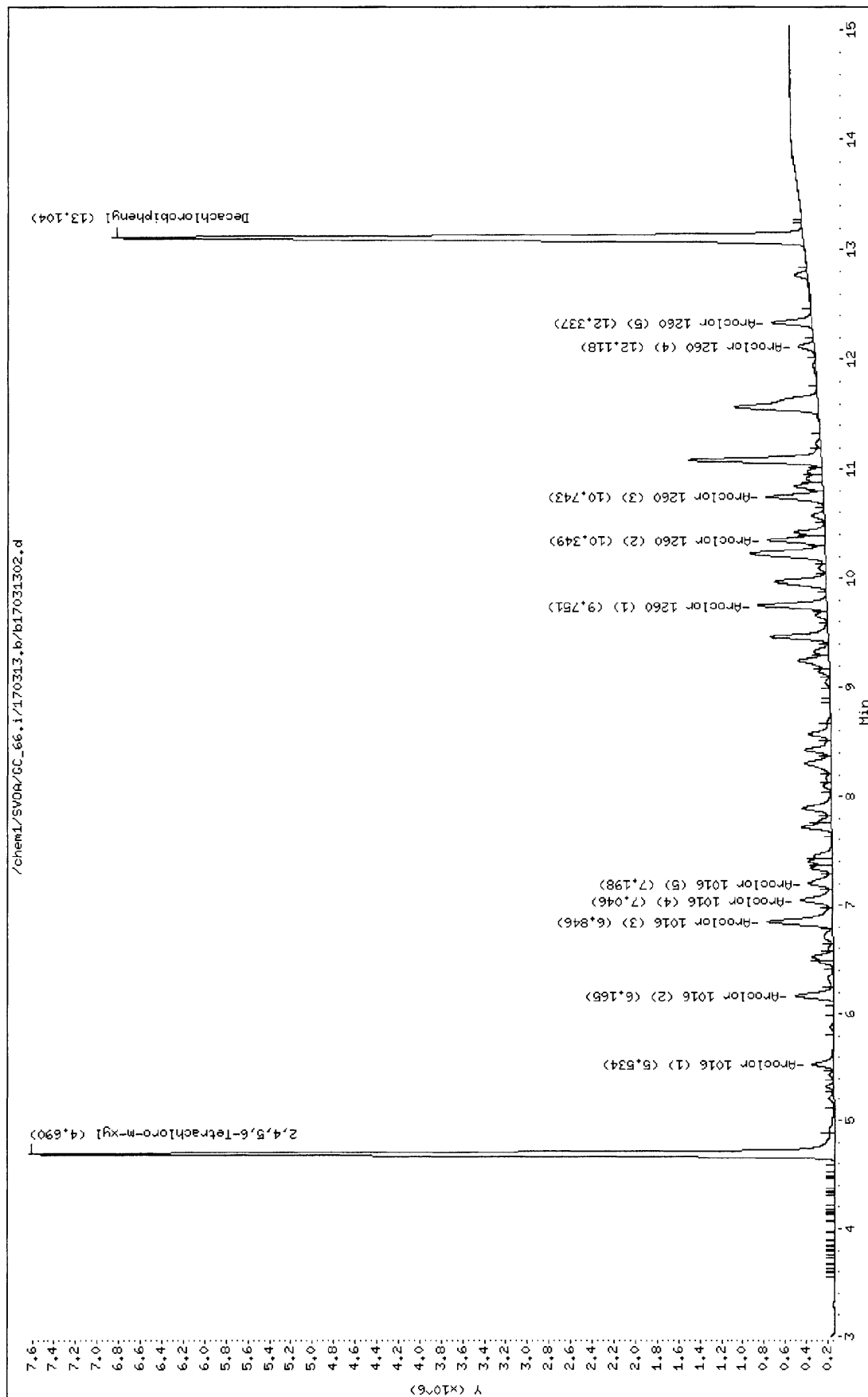
Sample Info: LCS 170308L12

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

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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/SVDA/GC_66.i/170313.b/b17031304.d

Date : 13-MAR-2017 11:05

Client ID:

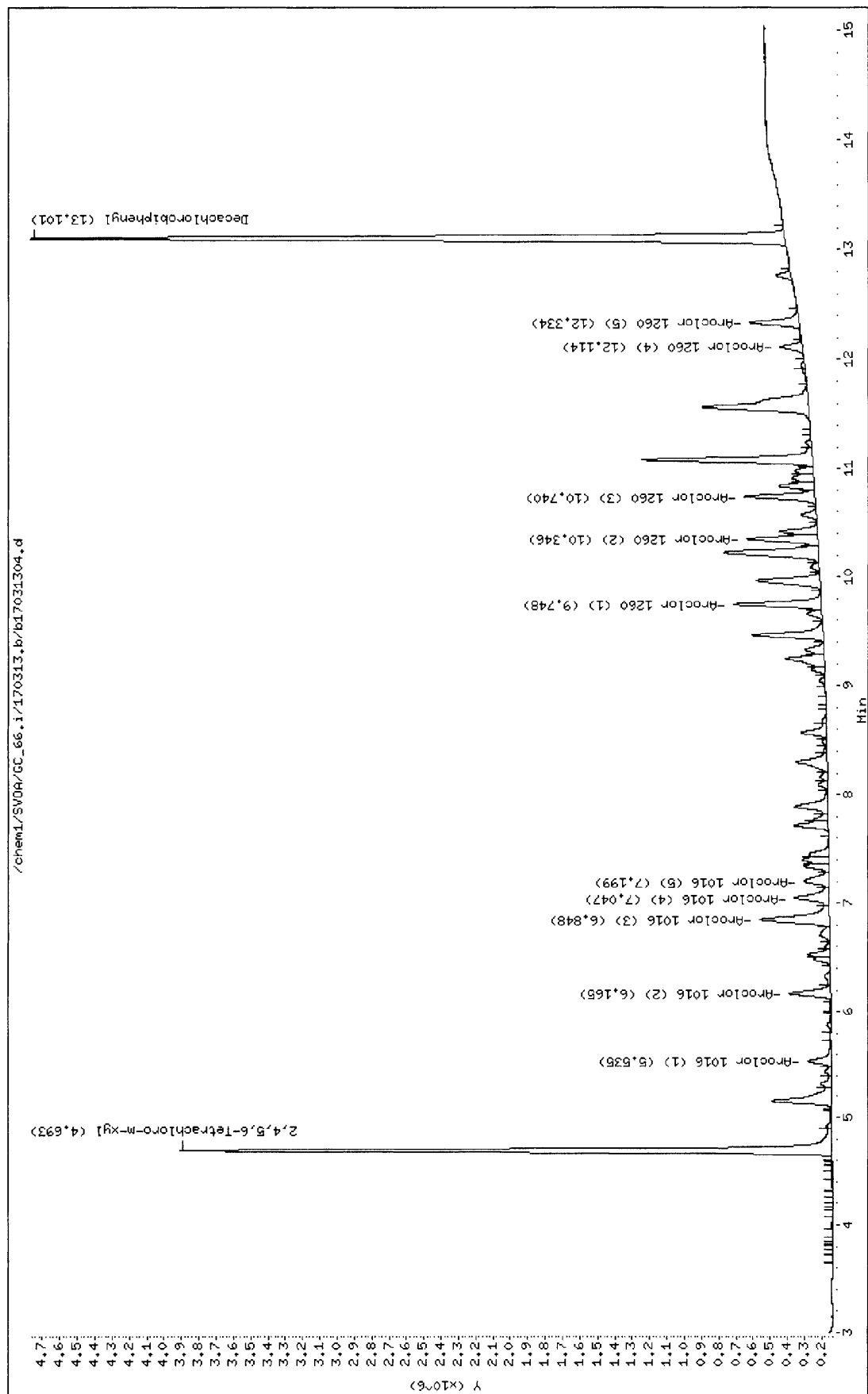
Instrument: GC_66.i

Sample Info: MS 17-03-0141-32 170308S12

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

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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

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Data File: /chem1/SV04/GC_66.i/170313.b/b17031305.d

Date : 13-MAR-2017 11:22

Client ID:

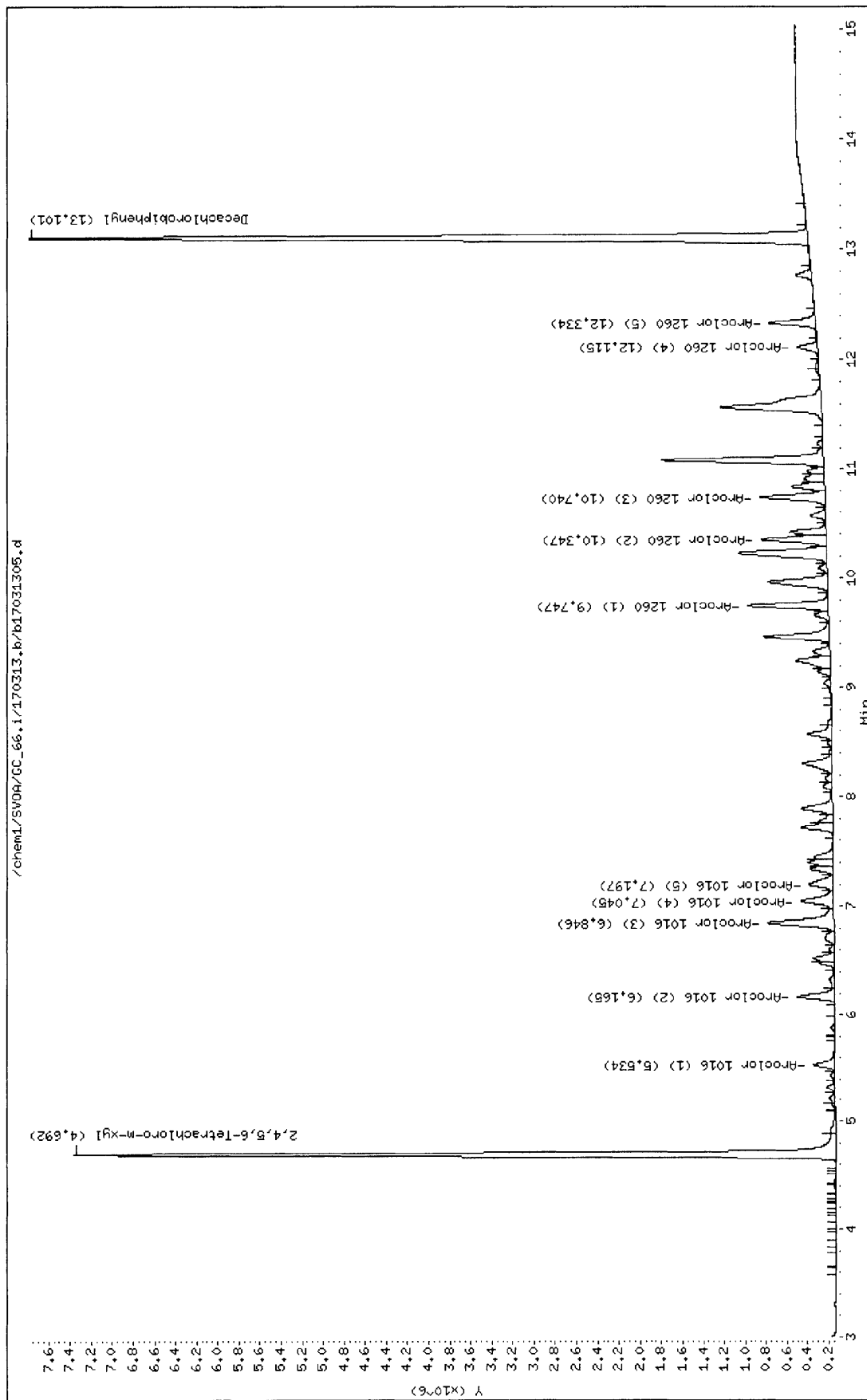
Sample Info: MSD 17-03-0141-32 170308S12

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170313.b/b17031306.d
 Report Date: 13-Mar-2017 12:47

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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 uhhn
 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	
Compounds		RT	EXP RT	DLT RT	RESPONSE (ppb)	(ug/Kg)
=====		==	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene		4.693	4.693	0.000	349217945	60.8196
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.				

Data File: /chem1/SVOA/GC 66.i/170313.b/b17031306.d
 Report Date: 13-Mar-2017 12:47

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Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS	
					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	13.101	13.103	-0.002	463217751	84.8442	84.8

Page 1

Data File: /chem1/SV04/GC_66.i/170313.b/b17031306.d

Date : 13-MAR-2017 11:40

Client ID:

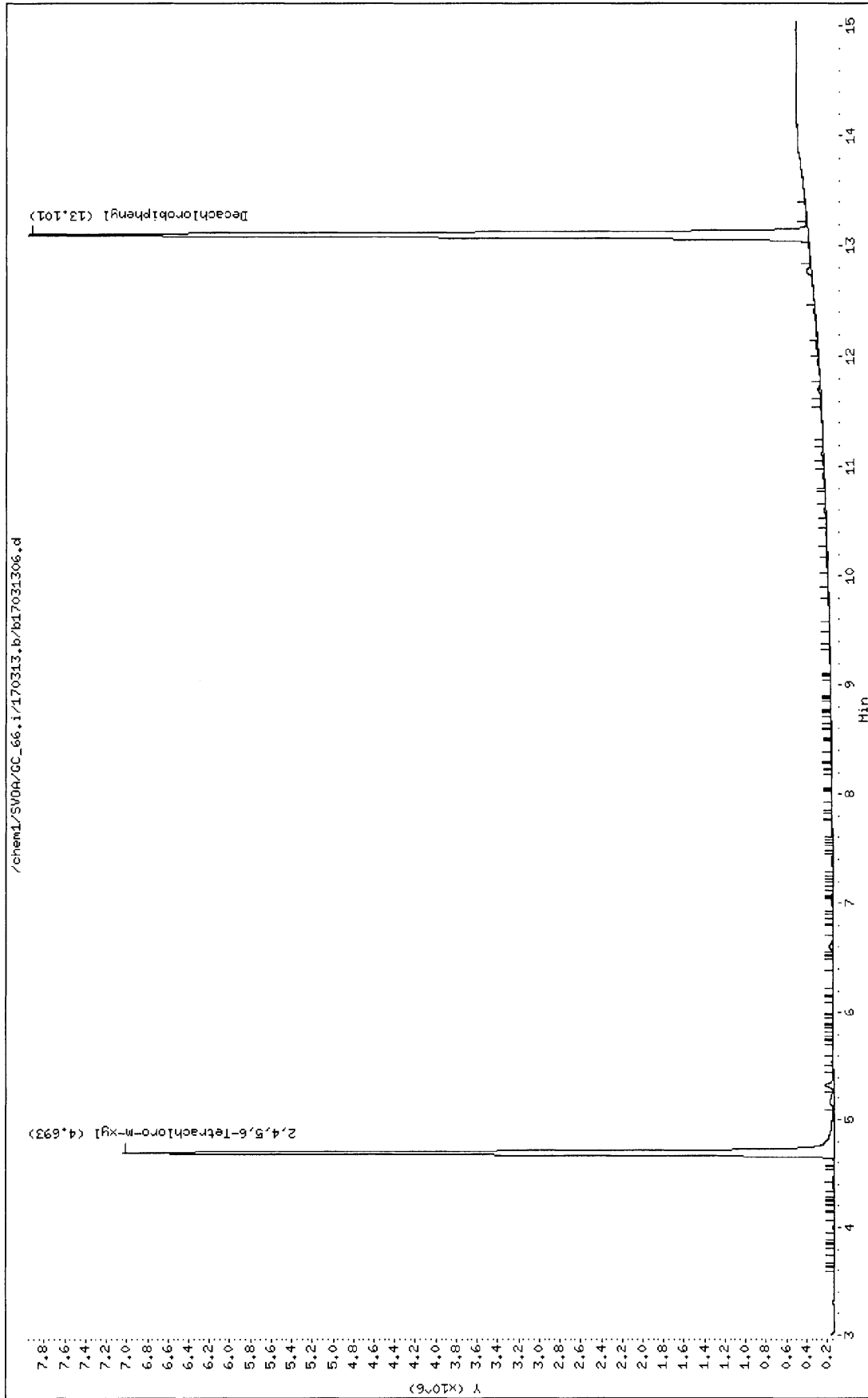
Sample Info: 17-03-0141-32

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



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: 2
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: 17-03-0140
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-ISM1-3	2017-03-13 13:10	/chem1/SVOA/GC_66/170313/b1703131117031311
33	F-DU1-ISM2-3	2017-03-13 13:27	/chem1/SVOA/GC_66/170313/b1703131217031312
34	F-DU1-ISM3-3	2017-03-13 13:45	/chem1/SVOA/GC_66/170313/b1703131317031313
35	F-DU1-ISM4-3	2017-03-13 14:03	/chem1/SVOA/GC_66/170313/b1703131417031314
36	F-DU1-ISM5-3	2017-03-13 14:21	/chem1/SVOA/GC_66/170313/b1703131517031315

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: *21*
D/T REVIEWED:

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 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 12:03 uhhn 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
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 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/SV0A/GC_66.i/170313.b/b17031301.d

Date : 13-MAR-2017 10:06

Client ID:

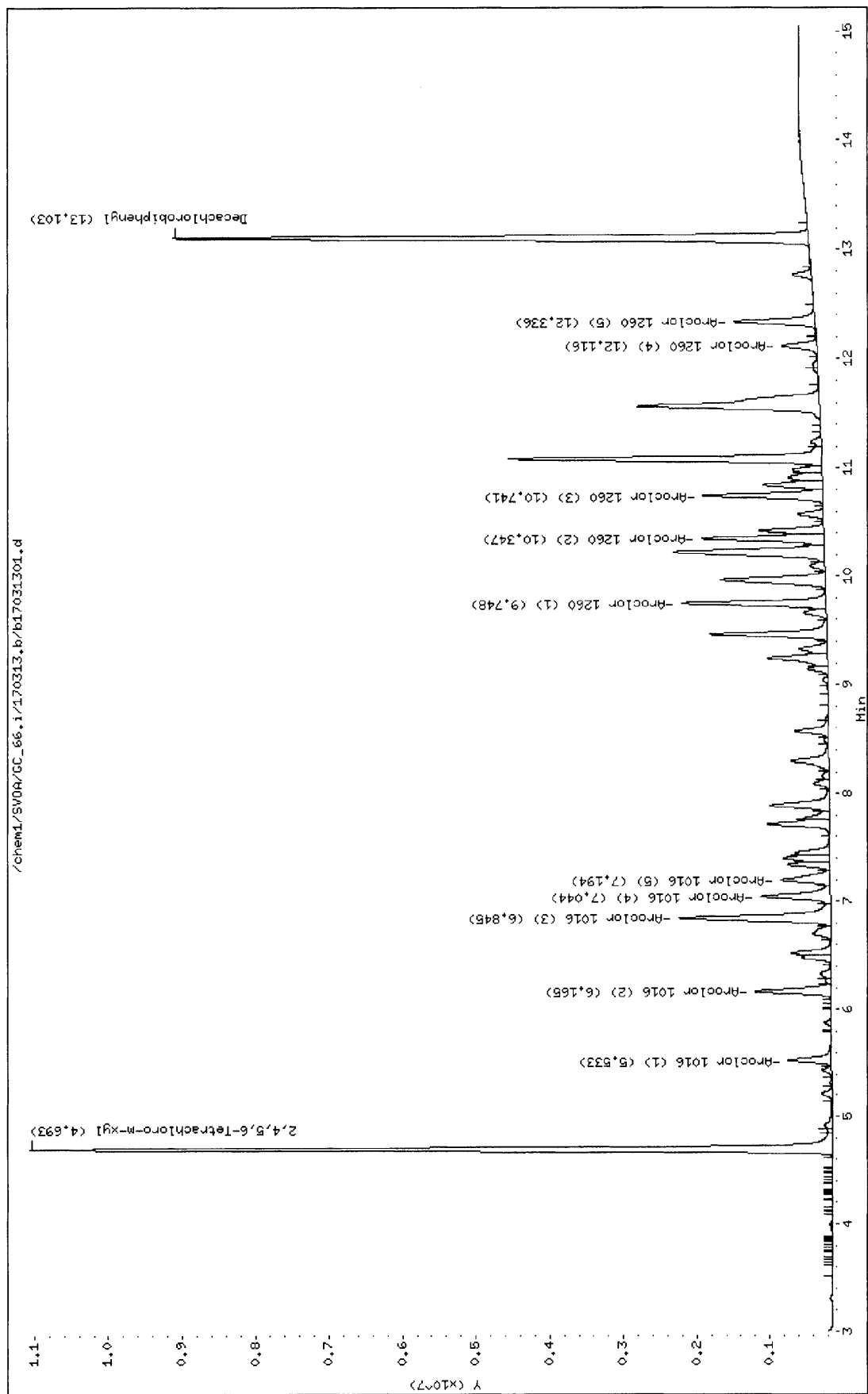
Sample Info: PCB CCV P0215171 500PPB

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:

INITIAL: 170222I003

CCV: 170313A015

INSTRUMENT: GC 66

DATA FILE:

/chem1/SVOA/GC_66/170313/b1703132217031322

ANALYZED BY: 669

D/T ANALYZED:

INITIAL:

CCV:

REVIEWED BY:

D/T REVIEWED:

2017-02-22 17:27

2017-03-13 16:44

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	Max%D /Drift	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	<-Failed
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	Max%D /Drift	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	

page 1

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 uhhn 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
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
=====	==	=====	=====	=====	=====	=====
\$ 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/SV004/GC_66.i/170313.b/b17031322.d

Date : 13-MAR-2017 16:44

Client ID:

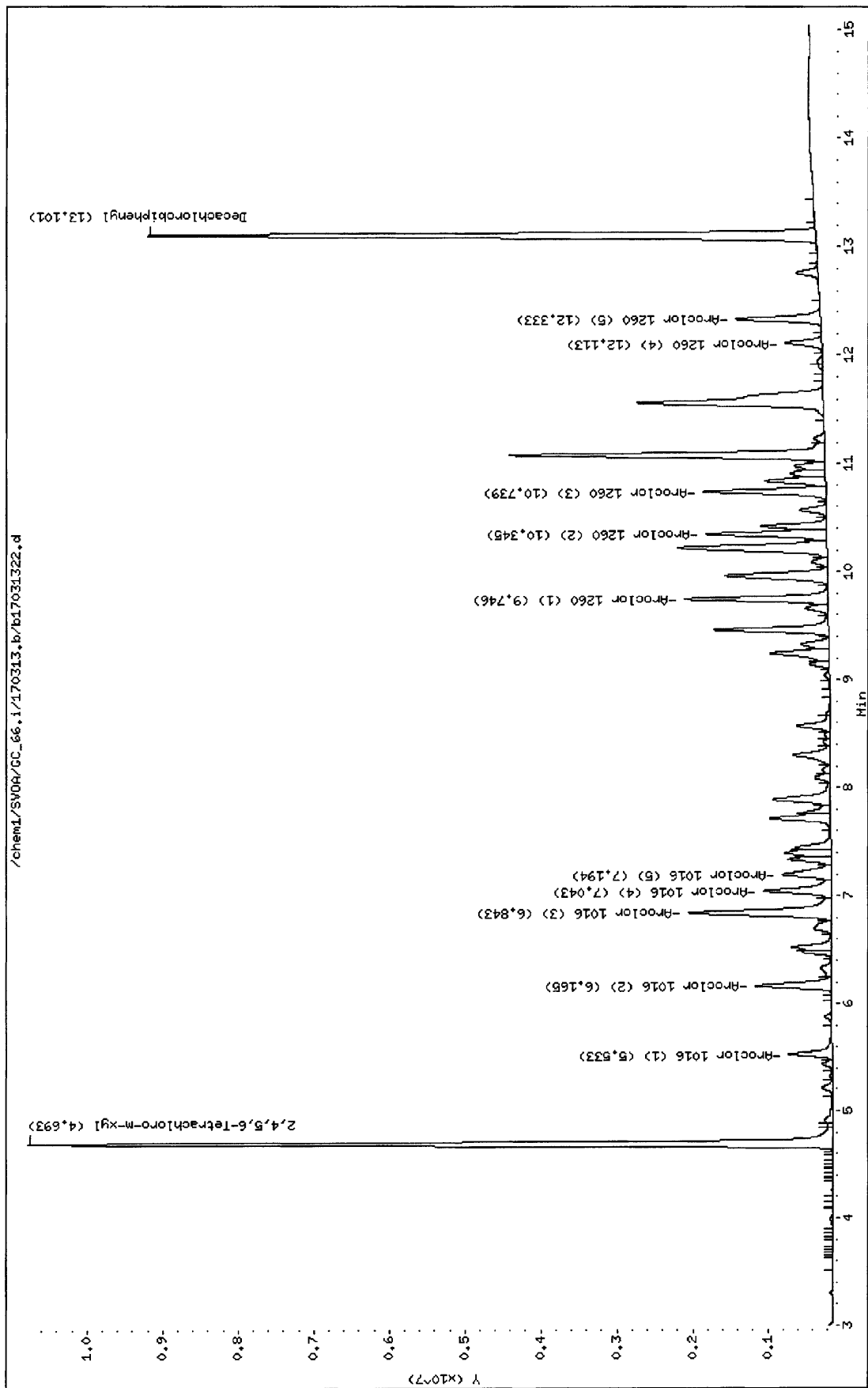
Sample Info: PCB CCV P0215171 500PPB

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		13-Mar-17, 09:48:22
2	1	17031301	PCB CCV P021517I 500PPB	8082D-N2	A014	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		13-Mar-17, 16:09:04
22	21	17031321	MSD 17-03-0771-26 170313S06	8082D-N2	A015	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#:		Drying Agent: ☒ Na ₂ SO ₄ ☒ Diatomaceous Earth		
507-19-19		Drying Agent(s) ID#: 507-44-18 / 507-22-03		
Surrogate Std ID# & Volume Added (mL): 5101316A 0.5 mL				
Spike Std ID# & Volume Added (mL): 5020317A 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 ^A	20.1	10	☒	
MSD 17-03-0141-32 ^A	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, (mistake in
- 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: JKTPeer 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: 170227I004
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: 1702271004

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	C Avg Resp		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	C Avg Resp		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	C Avg Resp		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

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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	On-Column					
	I.S. Ref.	RT	QIon	Area	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						
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) Dibenz (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

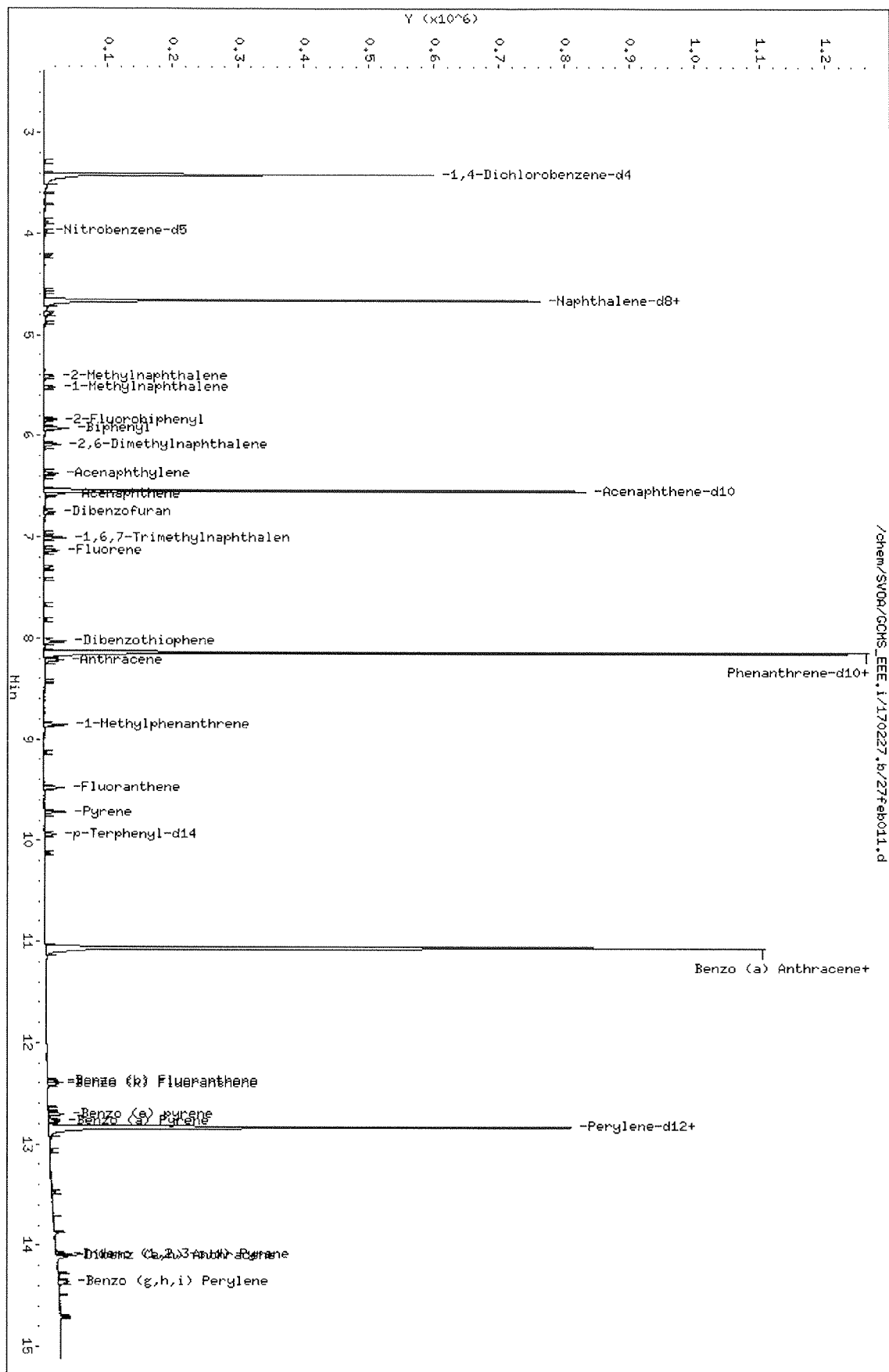
Sample Name: ICAL-5 S010317H 0.1PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

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.	RT	QIon	Area	On-Column	DEV (Min)
	Ref.				Amount (mg/L)	
=====	=====	=====	=====	=====	=====	=====
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

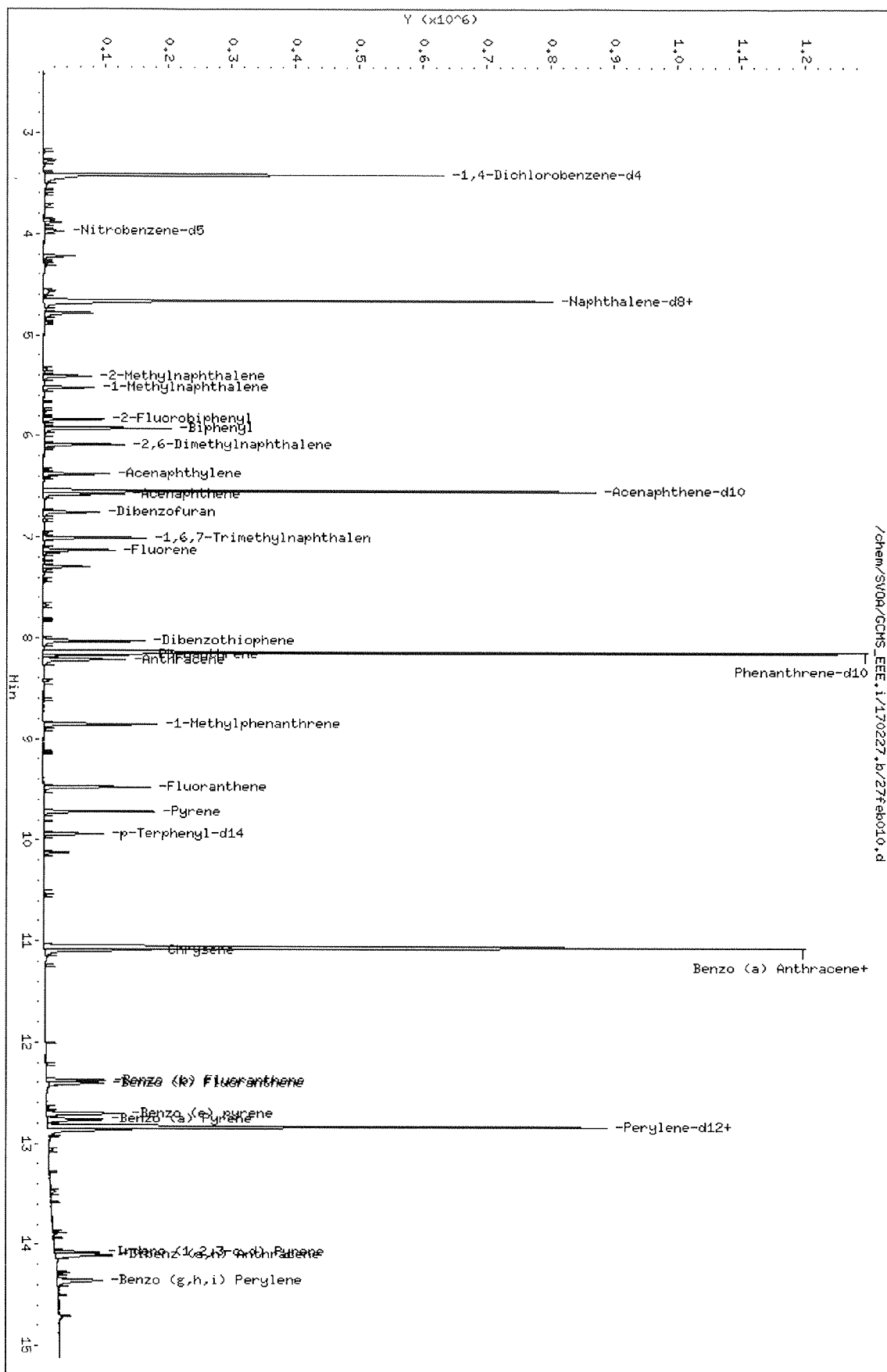
Sample Name: ICAL-4 S010317G 0.5PPM Misc Info: S101716B 10UL
Response via Initial Calibration

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

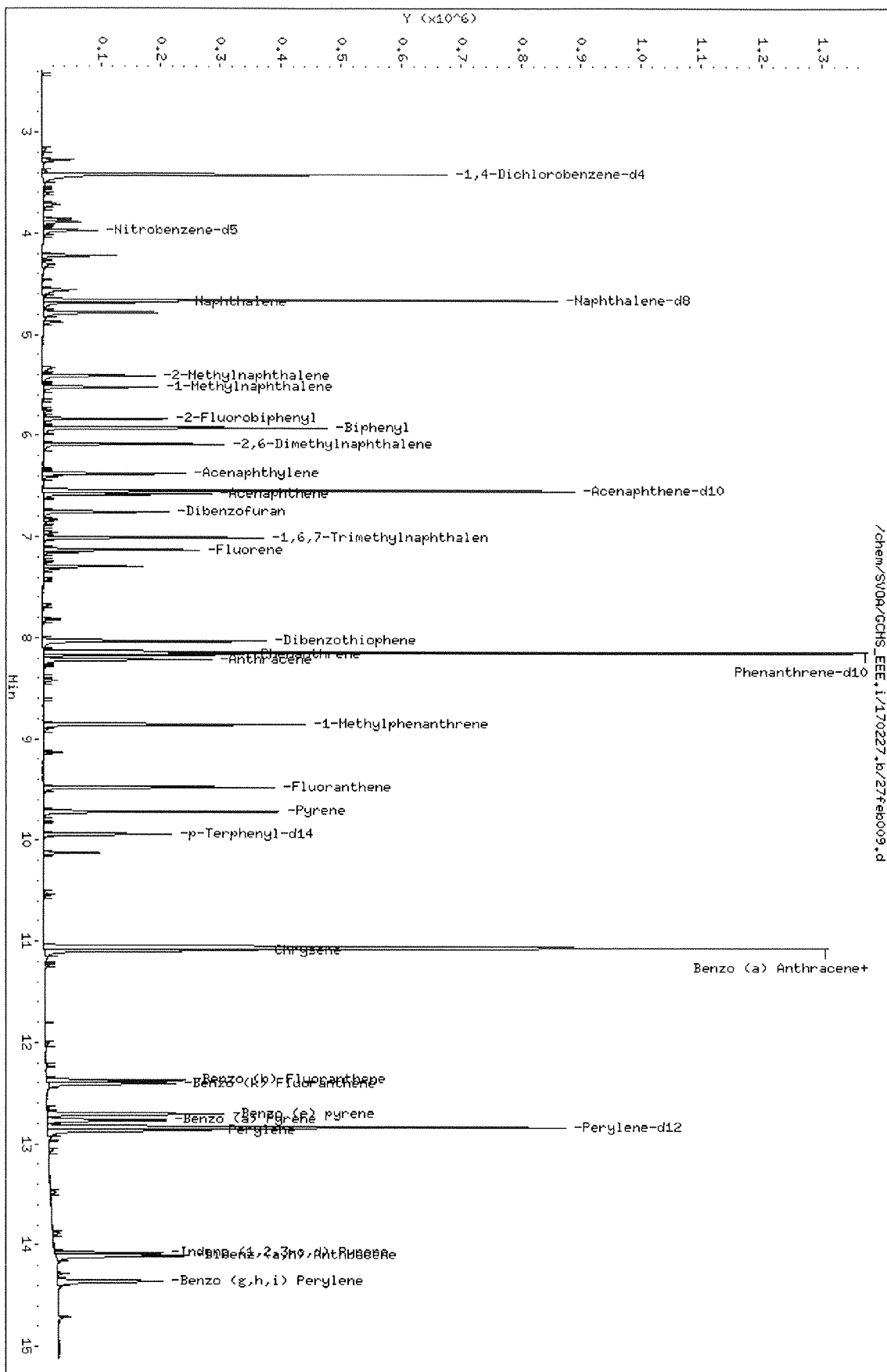
Sample Name: ICAL-3 S010317F 1PPM Misc Info: S101716B 10UL
Response via Initial Calibration

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

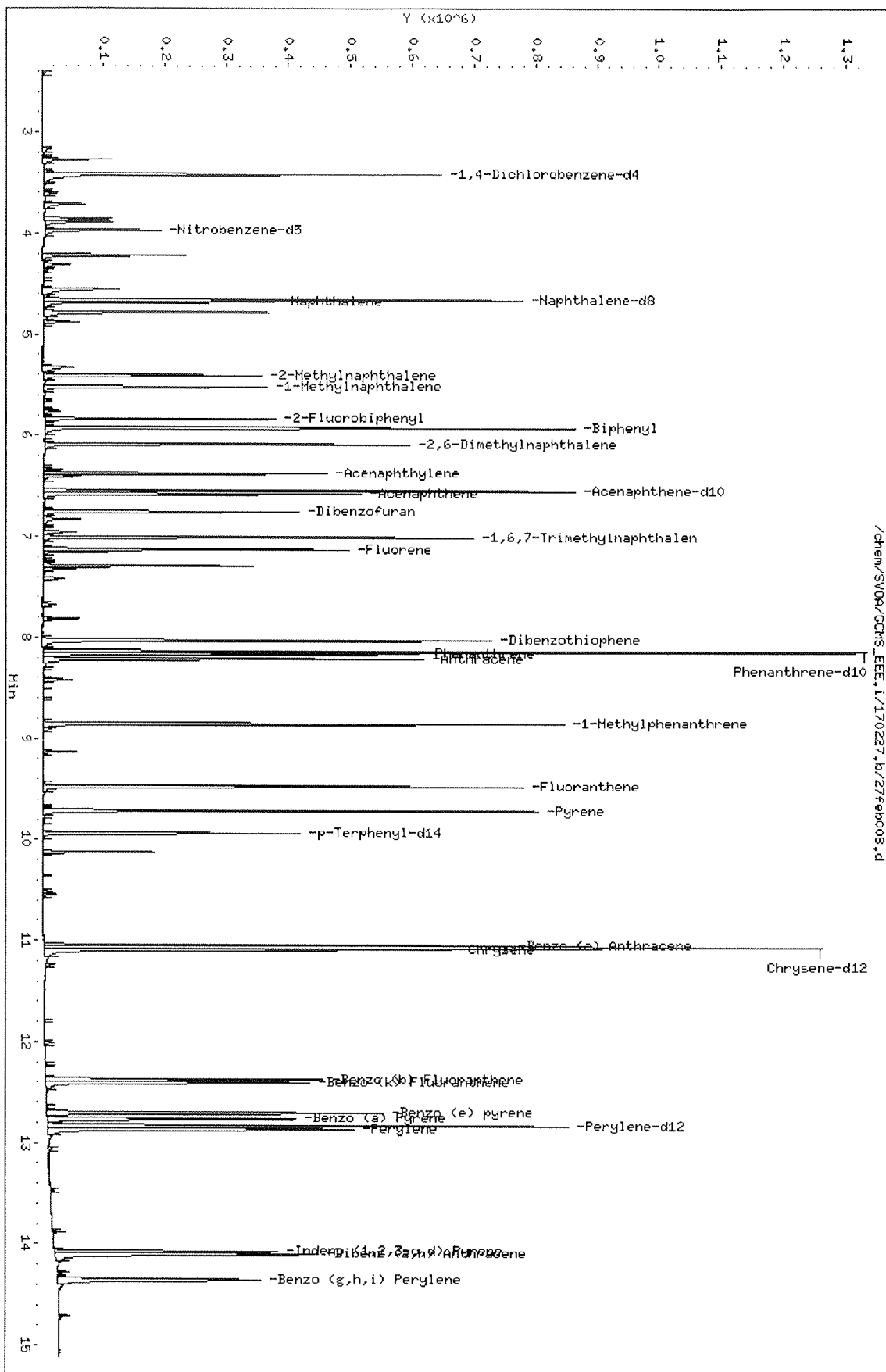
Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb008.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 12:52 Analyst ID: 907

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

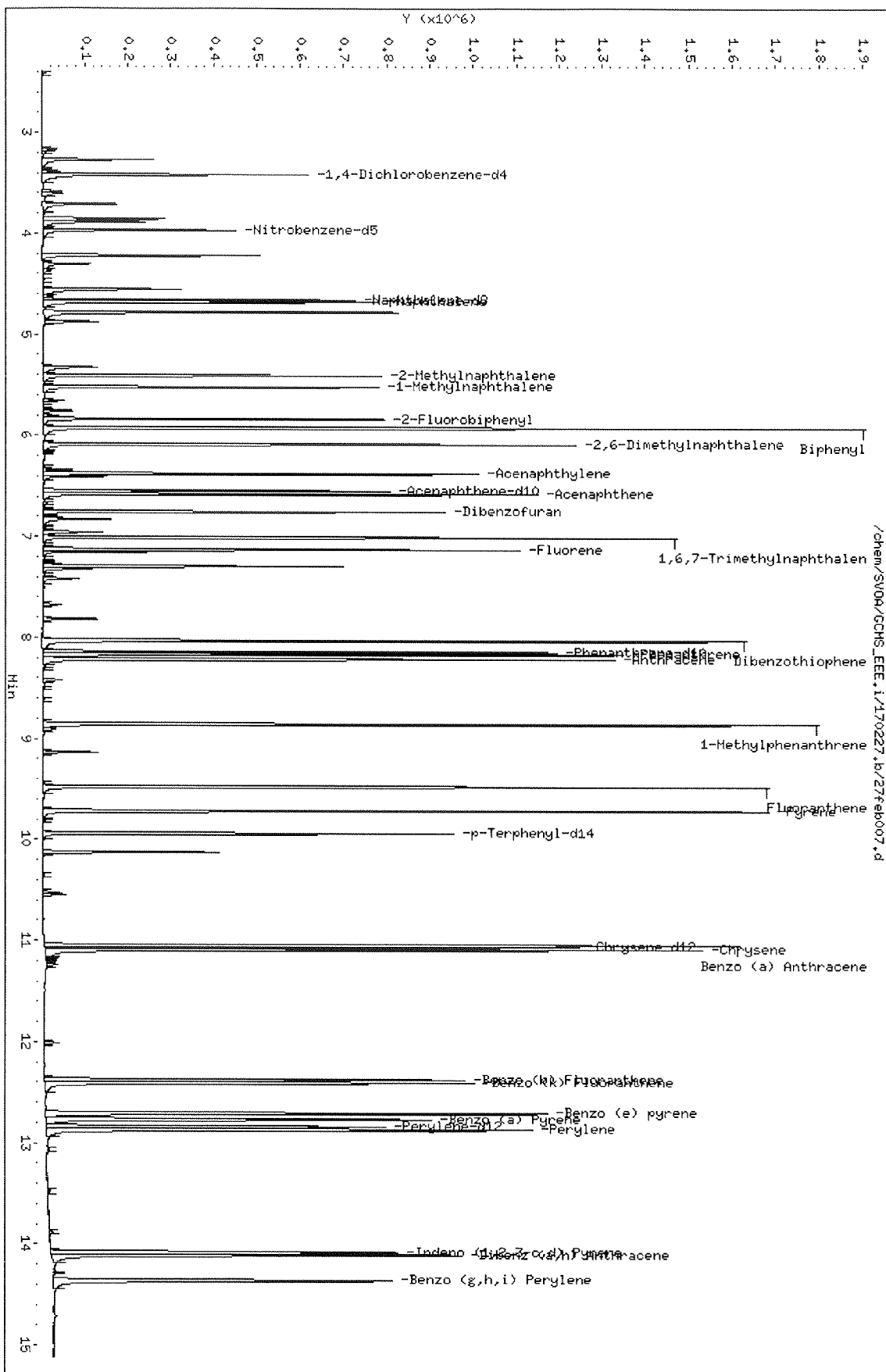
Data File: /chem/SVOA/GCMS_EEE.i/170227.b/27feb007.d Instrument ID: GCMS_EEE.i
 Injection date and time: 27-FEB-2017 12:32 Analyst ID: 907

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

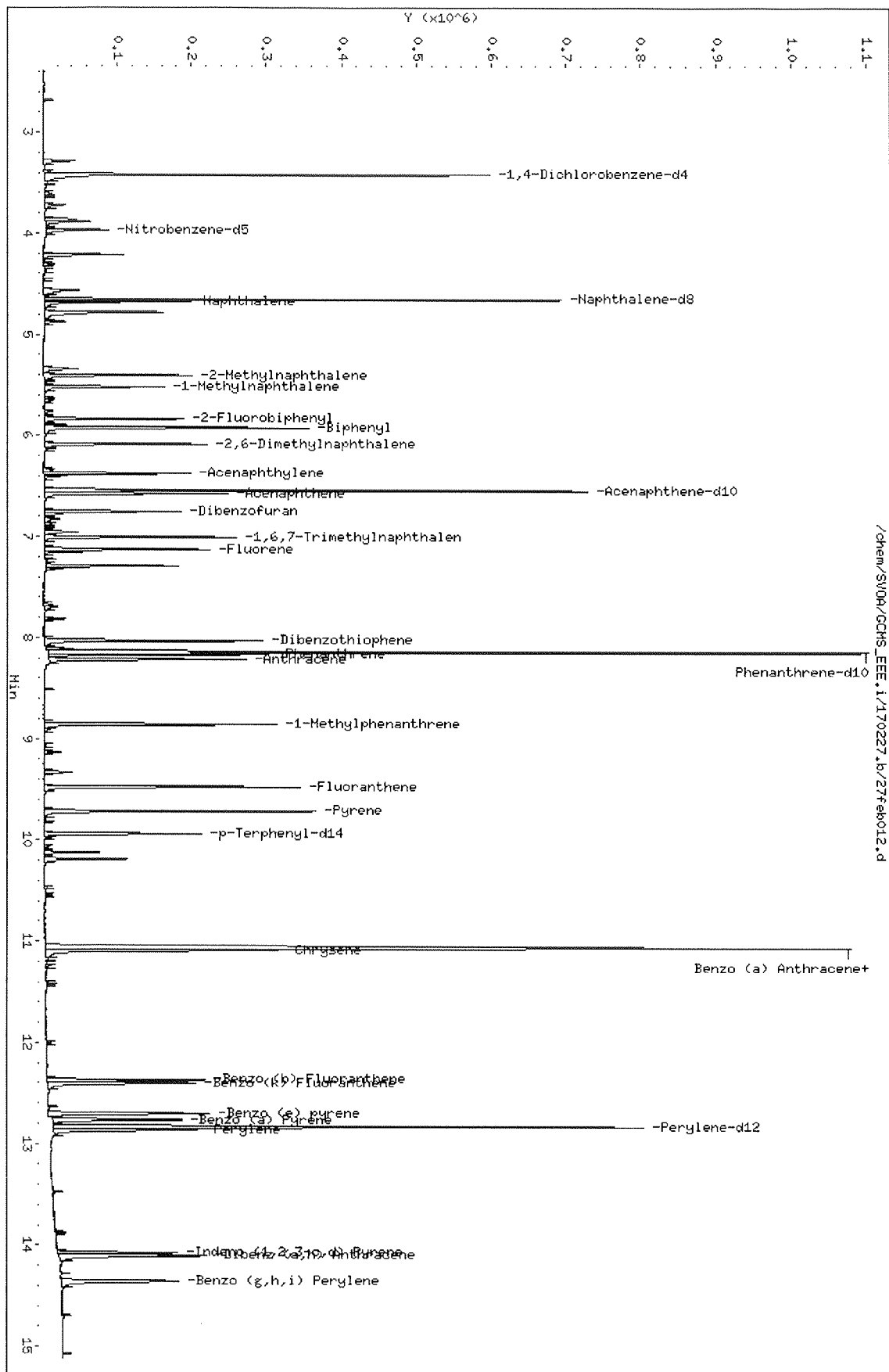
Sample Name: ICV S010317I 1PPM Misc Info: S101716B 10UL
 Response via Initial Calibration

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

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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

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WORK ORDER: 17-03-0140
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 11:48
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar007.d\09mar007.rr

27 **CLIENT SAMPLE NUMBER:** F-DU1-ISM1-3

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:

<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	0.0117	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.0241	1.00	ND	0.010	
Pyrene	0.0208	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.0206	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	0.0337	1.00	ND	0.010	

Return to Contents

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar007.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 11:48 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 14:58 ev7p

Sample Name: 17-03-0140-27 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)	3.346	152	261103	5.000 0.00
3)*Naphthalene-d8		(2)	4.579	136	711704	5.000 0.00
11)*Acenaphthene-d10		(3)	6.462	164	364135	5.000 0.00
17)*Phenanthrene-d10		(4)	8.059	188	1165854	5.000 0.00
31)*Perylene-d12		(6)	12.730	264	960491	5.000 0.00
25)*Chrysene-d12		(5)	10.977	240	980927	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.897	82	43275	0.861 0.00
SpikedAmount 1.000		Recovery =		86.089		
7)\$2-Fluorobiphenyl		(3)	5.758	172	111857	0.845 0.00
SpikedAmount 1.000		Recovery =		84.454		
23)\$p-Terphenyl-d14		(5)	9.856	244	197319	1.269 0.00
SpikedAmount 1.000		Recovery =		126.890		
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)	8.085	178	2929	0.012 98
19) Anthracene		(4)	0.000		0D	N.D.
21) Fluoranthene		(4)	9.395	202	7610	0.024 97
22) Pyrene		(5)	9.635	202	6143	0.021 88
24) Benzo (a) Anthracene		(5)	0.000		0D	N.D.
26) Chrysene		(5)	11.009	228	5069	0.021 88
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)	14.253	276	7320	0.034 72
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/09mar007.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 11:48 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 14:58 ev7p

Sample Name: 17-03-0140-27

Misc Info: S101716B 10UL

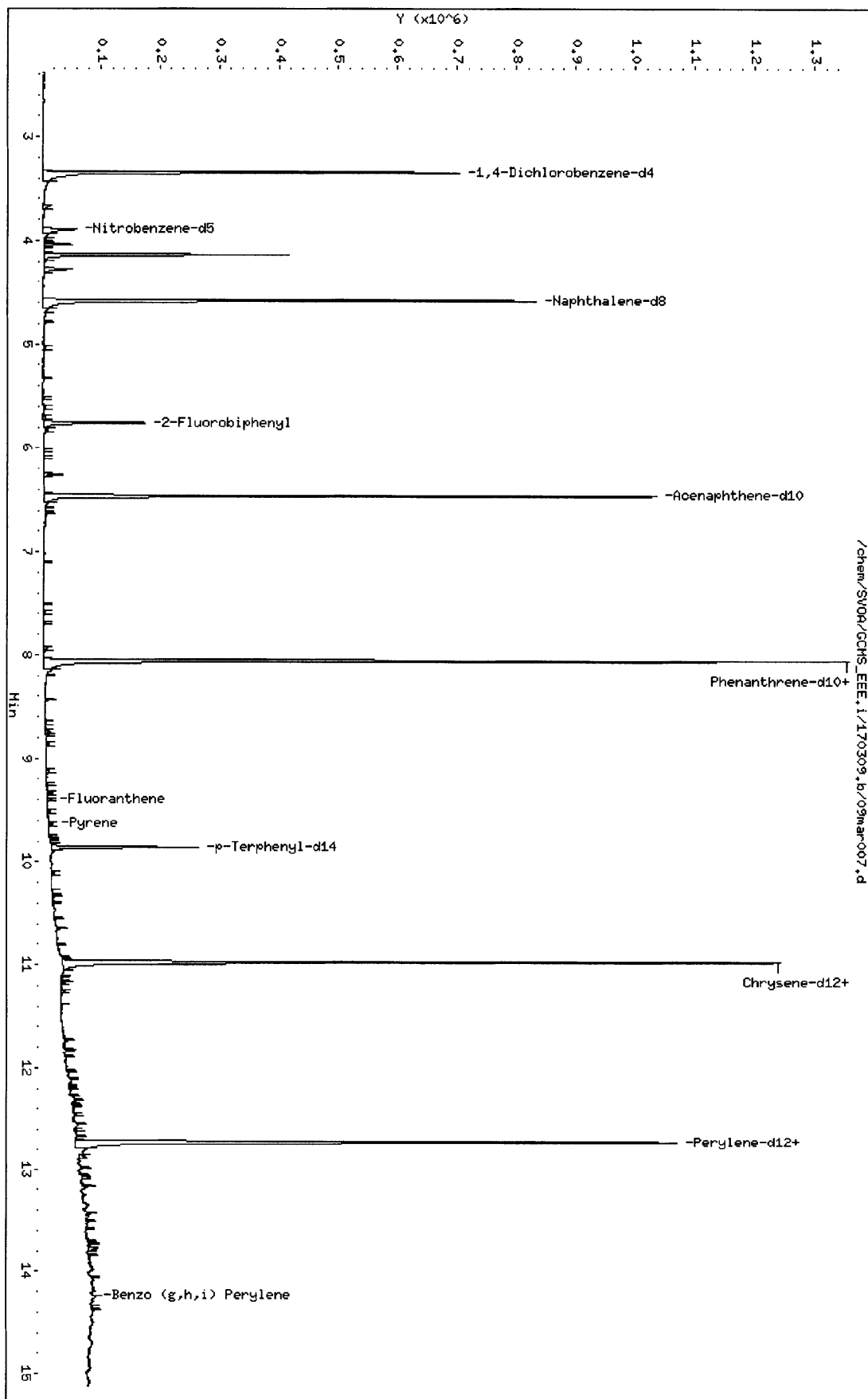
Response via Initial Calibration

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)	12.760	252	5358	0.018	18
13) Dibenzofuran	(3)	0.000		0	N.D.	

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Data File: /chem/SV09/GCHS_EEE.i/170309.b/09mar007.d
Date : 09-MAR-2017 11:48
Client ID:
Sample Info: 17-03-0140-27
Column phase: J&W DB-SMS

Instrument: GCHS_EEE.i
Operator: 907
Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 17-03-0140
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 12:08
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar008.d\09mar008.rr

28

CLIENT SAMPLE NUMBER: F-DU1-ISM2-3

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:

<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	0.0135	1.00	ND	0.010	
Pyrene	0.0172	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.0177	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	0.0285	1.00	ND	0.010	

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Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar008.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 12:08 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 12:31 ev7p

Sample Name: 17-03-0140-28 Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount (mg/L)	DEV (Min)
=====		=====	=====	=====	=====	=====
Internal Standards						
1)*1,4-Dichlorobenzene-d4		(1)	3.347	152	267515	5.000 0.00
3)*Naphthalene-d8		(2)	4.578	136	742966	5.000 0.00
11)*Acenaphthene-d10		(3)	6.462	164	377682	5.000 0.00
17)*Phenanthrene-d10		(4)	8.059	188	1195337	5.000 0.00
31)*Perylene-d12		(6)	12.731	264	999920	5.000 -0.01
25)*Chrysene-d12		(5)	10.978	240	1040858	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.898	82	46930	0.894 0.00
SpikedAmount 1.000		Recovery =		89.432		
7)\$2-Fluorobiphenyl		(3)	5.758	172	128628	0.936 0.00
SpikedAmount 1.000		Recovery =		93.633		
23)\$p-Terphenyl-d14		(5)	9.855	244	184211	1.116 0.00
SpikedAmount 1.000		Recovery =		111.640		
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)	9.395	202	4363	0.013 92
22) Pyrene		(5)	9.633	202	5406	0.017 82
24) Benzo (a) Anthracene		(5)	0.000		0D	N.D.
26) Chrysene		(5)	11.006	228	4628	0.018 88
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)	14.255	276	6454	0.029 82
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/09mar008.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 12:08 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 12:31 ev7p

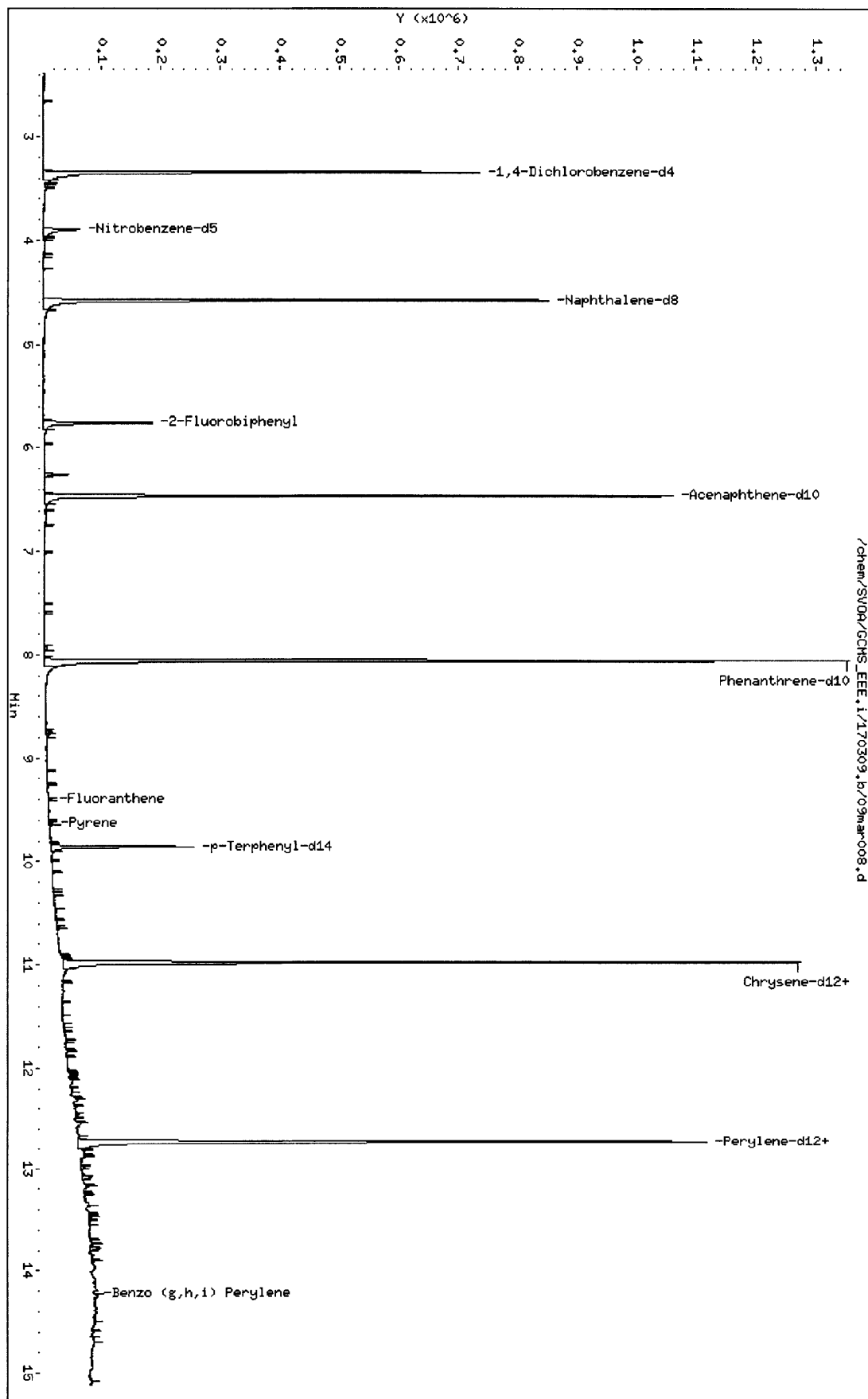
Sample Name: 17-03-0140-28 Misc Info: S101716B 10UL
Response via Initial Calibration

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)	12.761	252	4940	0.016	85
13) Dibenzofuran	(3)	0.000		0	N.D.	

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Data File: /chem/SV09/GCHS_EEE.i/170309.b/09mar008.d
Date : 09-MAR-2017 12:08
Client ID:
Sample Info: 17-03-0140-28
Column Phase: 3M DB-BHS

Instrument: GCHS_EEE.i
Operator: 907
Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 17-03-0140
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 12:28
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar009.d\09mar009.rr

29 **CLIENT SAMPLE NUMBER:** F-DU1-ISM3-3

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:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Naphthalene	0.0106	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	0.0111	1.00	ND	0.010	
Pyrene	0.0142	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.0225	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	0.0118	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	0.0347	1.00	ND	0.010	

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Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar009.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 12:28 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 13:01 ev7p

Sample Name: 17-03-0140-29 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	260542	5.000	0.00
3)*Naphthalene-d8	(2)	4.579	136	732666	5.000	0.00
11)*Acenaphthene-d10	(3)	6.463	164	373829	5.000	0.00
17)*Phenanthrene-d10	(4)	8.060	188	1190746	5.000	0.00
31)*Perylene-d12	(6)	12.732	264	1023406	5.000	-0.01
25)*Chrysene-d12	(5)	10.980	240	1012424	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	3.897	82	48801	0.943	0.00
SpikedAmount 1.000	Recovery = 94.305					
7)\$2-Fluorobiphenyl	(3)	5.758	172	111512	0.820	0.00
SpikedAmount 1.000	Recovery = 82.010					
23)\$p-Terphenyl-d14	(5)	9.858	244	183904	1.146	0.00
SpikedAmount 1.000	Recovery = 114.584					
Target Compounds					QValue	
4) Naphthalene	(2)	4.599	128	1751	0.011	93
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)	9.396	202	3577	0.011	98
22) Pyrene	(5)	9.635	202	4331	0.014	91
24) Benzo (a) Anthracene	(5)	0.000		0D	N.D.	
26) Chrysene	(5)	11.000	228	5725	0.022	72
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)	12.669	252	3076	0.012	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)	14.258	276	8040	0.035	91
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/09mar009.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 12:28 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 13:01 ev7p

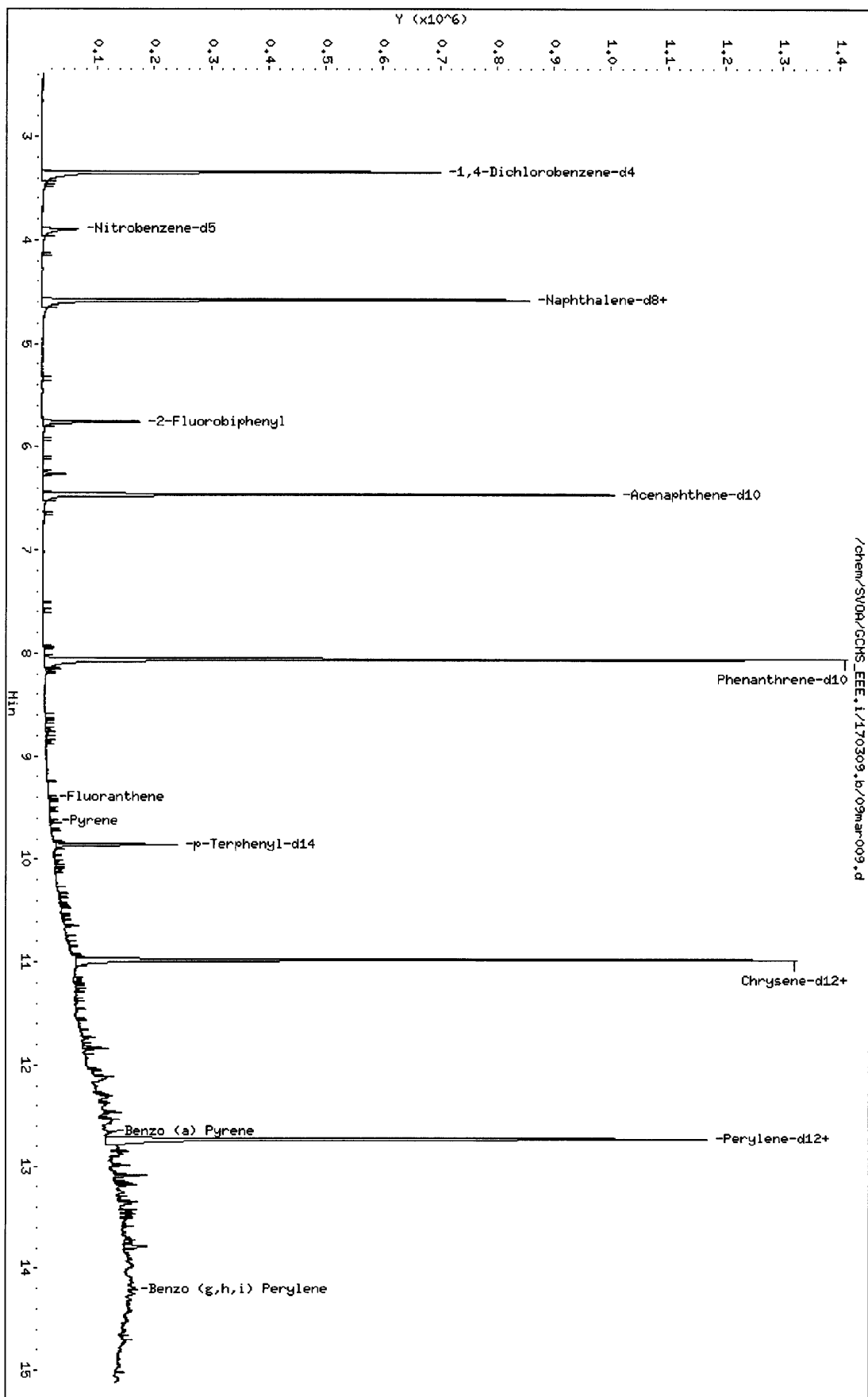
Sample Name: 17-03-0140-29 Misc Info: S101716B 10UL
Response via Initial Calibration

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)	12.765	252	24326	0.076	1
13) Dibenzofuran	(3)	0.000		0	N.D.	

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Data File: /chem/SV09/GCHS_EEE.i/170309.b/09mar009.d
Date : 09-MAR-2017 12:28
Client ID:
Sample Info: 17-03-0140-29
Column phase: J&M DB-5MS

Instrument: GCHS_EEE.i
Operator: 907
Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 17-03-0140

INSTRUMENT: GC/MS EEE

EXTRACTION: EPA 3545

D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907

D/T ANALYZED: 2017-03-09 12:48

REVIEWED BY:

D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar010.d\09mar010.rr

30

CLIENT SAMPLE NUMBER: F-DU1-ISM4-3

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	0.0103	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.0173	1.00	ND	0.010	
Pyrene	0.0197	1.00	ND	0.010	
Benzo (a) Anthracene	0.0250	1.00	ND	0.010	
Chrysene	0.0250	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	0.0133	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.0322	1.00	ND	0.010	

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Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar010.d Instrument ID: GCMS_EEE.i
 Injection date and time: 09-MAR-2017 12:48 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 14:58 ev7p

Sample Name: 17-03-0140-30 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	266824	5.000 0.00
3)*Naphthalene-d8		(2)	4.578	136	743959	5.000 0.00
11)*Acenaphthene-d10		(3)	6.463	164	379788	5.000 0.00
17)*Phenanthrene-d10		(4)	8.060	188	1147199	5.000 0.00
31)*Perylene-d12		(6)	12.734	264	956726	5.000 -0.01
25)*Chrysene-d12		(5)	10.981	240	960740	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	3.897	82	46674	0.888 0.00
SpikedAmount 1.000		Recovery =		88.826		
7)\$2-Fluorobiphenyl		(3)	5.758	172	112521	0.815 0.00
SpikedAmount 1.000		Recovery =		81.454		
23)\$p-Terphenyl-d14		(5)	9.858	244	171537	1.126 0.00
SpikedAmount 1.000		Recovery =		112.628		
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	2557	0.010 97
19) Anthracene		(4)	0.000		0D	N.D.
21) Fluoranthene		(4)	9.398	202	5367	0.017 94
22) Pyrene		(5)	9.636	202	5696	0.020 90
24) Benzo (a) Anthracene		(5)	10.967	228	6336	0.025 87
26) Chrysene		(5)	11.005	228	6043	0.025 88
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)	13.982	276	3377	0.013 63
34) Dibenz (a,h) Anthracene		(6)	0.000		0	N.D.
35) Benzo (g,h,i) Perylene		(6)	14.257	276	6979	0.032 95
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/09mar010.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 12:48 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 14:58 ev7p

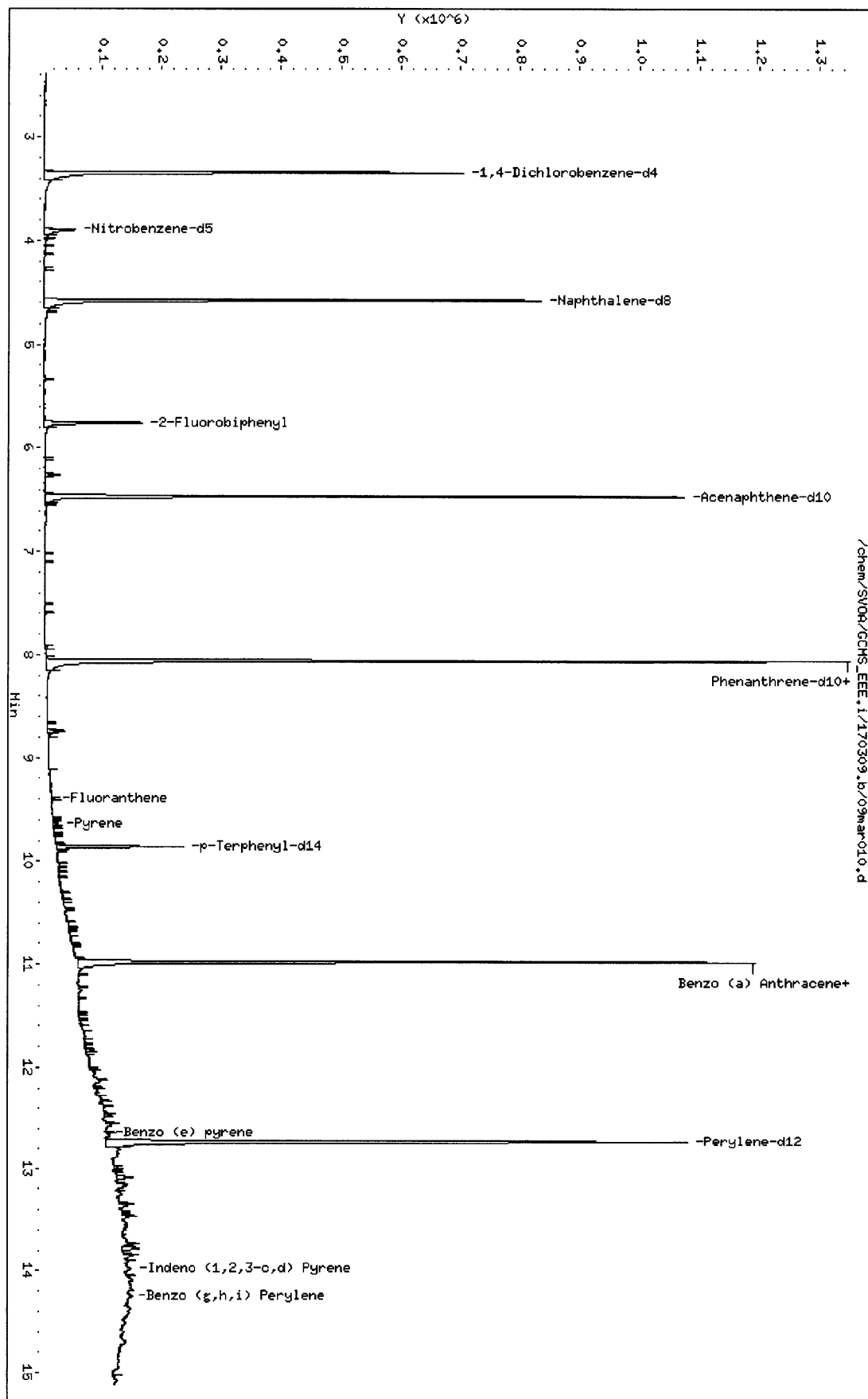
Sample Name: 17-03-0140-30 Misc Info: S101716B 10UL
Response via Initial Calibration

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)	12.606	252	5079	0.017	1
32) Perylene	(6)	0.000		0	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

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Data File: /chem/SV06/GCHS_EEE.i/170309.b/09mar010.d
 Date : 09-MAR-2017 12:48
 Client ID:
 Sample Info: 17-03-0140-30
 Column phase: J&W DB-5MS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 17-03-0140
INSTRUMENT: GC/MS EEE
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-08 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-09 13:09
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar011.d\09mar011.rr

31 **CLIENT SAMPLE NUMBER: F-DU1-ISM5-3**

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:

<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	0.0134	1.00	ND	0.010	
Pyrene	0.0173	1.00	ND	0.010	
Benzo (a) Anthracene	0.0204	1.00	ND	0.010	
Chrysene	0.0203	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	0.0144	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	0.0248	1.00	ND	0.010	

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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

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	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

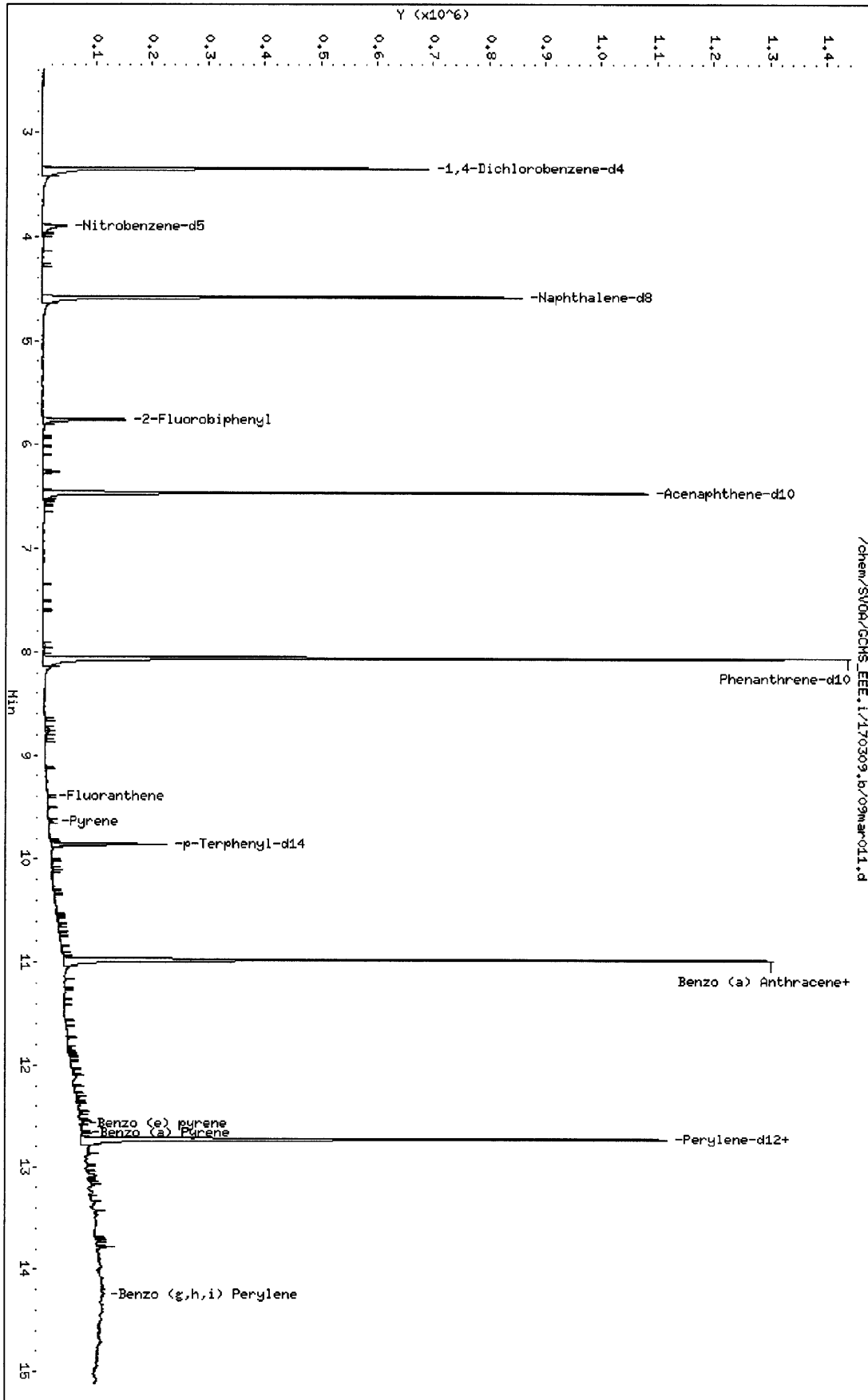
Sample Name: 17-03-0140-31 Misc Info: S101716B 10UL
Response via Initial Calibration

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.	

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Data File: /chem/SV04/GCHS_EEE.i/170309.b/09mar01.d
Date: 09-MAR-2017 13:09
Client ID:
Sample Info: 17-03-0140-31
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

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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: 17-03-0140

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
27	F-DU1-ISM1-3		2017-03-09 11:48	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar007.d\09mar007.rr
28	F-DU1-ISM2-3		2017-03-09 12:08	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar008.d\09mar008.rr
29	F-DU1-ISM3-3		2017-03-09 12:28	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar009.d\09mar009.rr
30	F-DU1-ISM4-3		2017-03-09 12:48	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar010.d\09mar010.rr
31	F-DU1-ISM5-3		2017-03-09 13:09	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar011.d\09mar011.rr

RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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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	

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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: 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: 17-03-0140

BATCH ID:

LCS/MB: 170308L11MS: 170308S11

EXTRACTION: EPA 3545

REVIEWED BY:D/T REVIEWED:

27

CLIENT SAMPLE NUMBER : F-DU1-ISM1-3INSTRUMENT: GC/MS EEED/T EXTRACTED: 2017-03-08 00:00DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar007.d\09mar007.rrANALYZED BY: 907D/T ANALYZED 2017-03-09 11:48COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	84	13-127	PASS	
Nitrobenzene-d5	86	17-137	PASS	
p-Terphenyl-d14	127	4-160	PASS	

28

CLIENT SAMPLE NUMBER : F-DU1-ISM2-3INSTRUMENT: GC/MS EEED/T EXTRACTED: 2017-03-08 00:00DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar008.d\09mar008.rrANALYZED BY: 907D/T ANALYZED 2017-03-09 12:08COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
p-Terphenyl-d14	112	4-160	PASS	
Nitrobenzene-d5	89	17-137	PASS	
2-Fluorobiphenyl	94	13-127	PASS	

29

CLIENT SAMPLE NUMBER : F-DU1-ISM3-3INSTRUMENT: GC/MS EEED/T EXTRACTED: 2017-03-08 00:00DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar009.d\09mar009.rrANALYZED BY: 907D/T ANALYZED 2017-03-09 12:28COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	82	13-127	PASS	
Nitrobenzene-d5	94	17-137	PASS	
p-Terphenyl-d14	115	4-160	PASS	

SURROGATE RECOVERIES FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0140

BATCH ID:

LCS/MB: 170308L11

MS: 170308S11

EXTRACTION: EPA 3545

REVIEWED BY:

D/T REVIEWED:

30 CLIENT SAMPLE NUMBER : F-DU1-ISM4-3

INSTRUMENT: GC/MS EEE

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar010.d\09mar010.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-09 12:48

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
p-Terphenyl-d14	113	4-160	PASS	
2-Fluorobiphenyl	81	13-127	PASS	
Nitrobenzene-d5	89	17-137	PASS	

31 CLIENT SAMPLE NUMBER : F-DU1-ISM5-3

INSTRUMENT: GC/MS EEE

D/T EXTRACTED: 2017-03-08 00:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar011.d\09mar011.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-09 13:09

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
2-Fluorobiphenyl	72	13-127	PASS	
Nitrobenzene-d5	70	17-137	PASS	
p-Terphenyl-d14	96	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:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
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:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
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

WORK ORDER: 17-03-0140

BATCH ID:

LCS/MB:MS: 170308S11

EXTRACTION: EPA 3545

REVIEWED BY:

D/T REVIEWED:

MS CLIENT SAMPLE NUMBER: Matrix SpikeINSTRUMENT: GC/MS EEEANALYZED BY: 907D/T EXTRACTED: 2017-03-08 00:00D/T ANALYZED 2017-03-09 11:07DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar005.d\09mar005.rrCOMMENT:

<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 DuplicateINSTRUMENT: GC/MS EEEANALYZED BY: 907D/T EXTRACTED: 2017-03-08 00:00D/T ANALYZED 2017-03-09 11:28DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar006.d\09mar006.rrCOMMENT:

<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

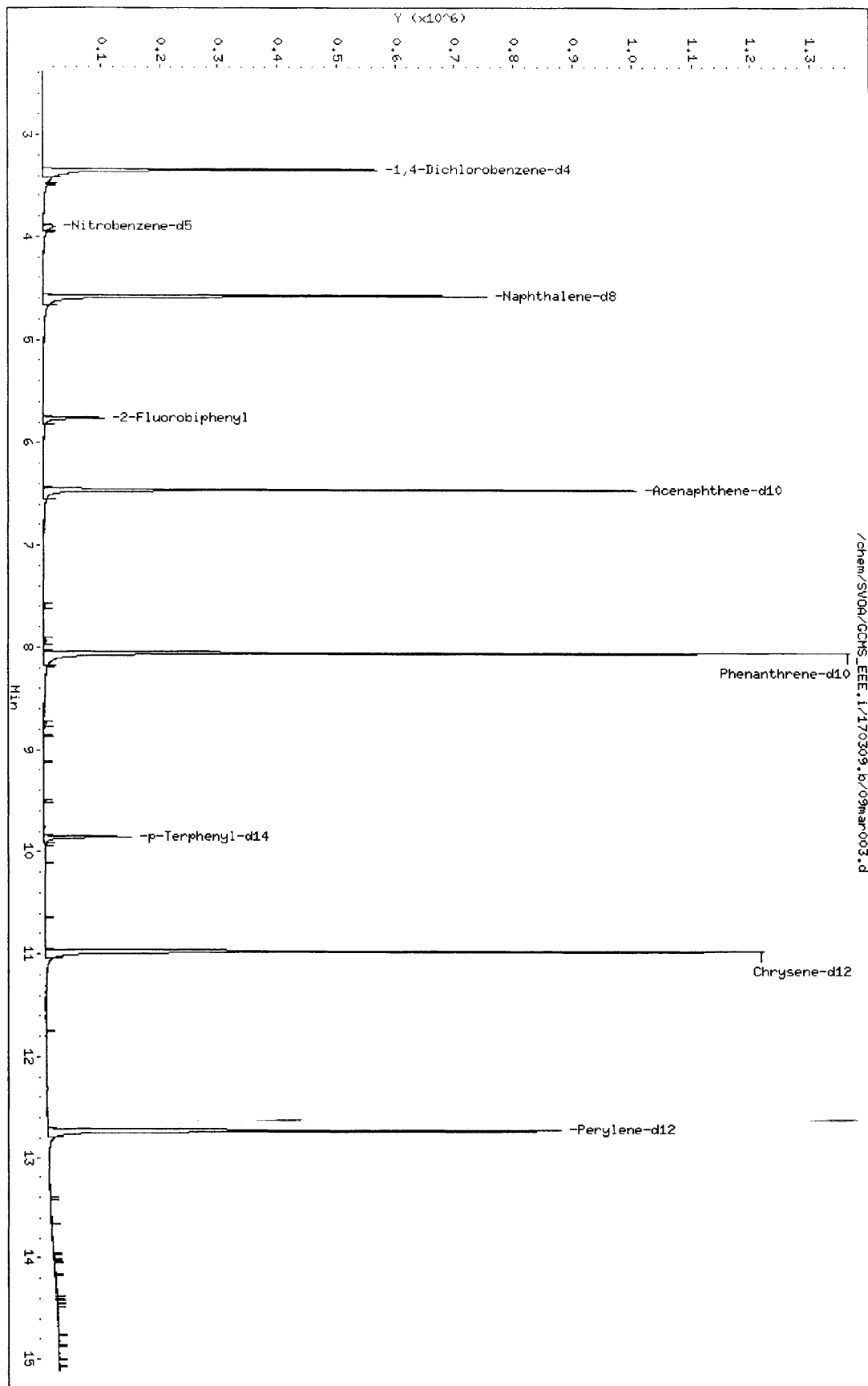
Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 11:58 ev7p

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.

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Data File: /chem/SV04/CCHS_EEE.i/170309.b/09mar003.d
Date : 09-MAR-2017 10:27
Client ID:
Sample Info: MB 170308 L11
Column Phase: J&W DB-SMS

Instrument: CCHS_EEE.i
Operator: 907
Column diameter: 0.18

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) Dibenz (a,h) Anthracene	(6)	13.997	278	123523	0.782	97
35) Benzo (g,h,i) Perylene	(6)	14.242	276	153961	0.7867	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

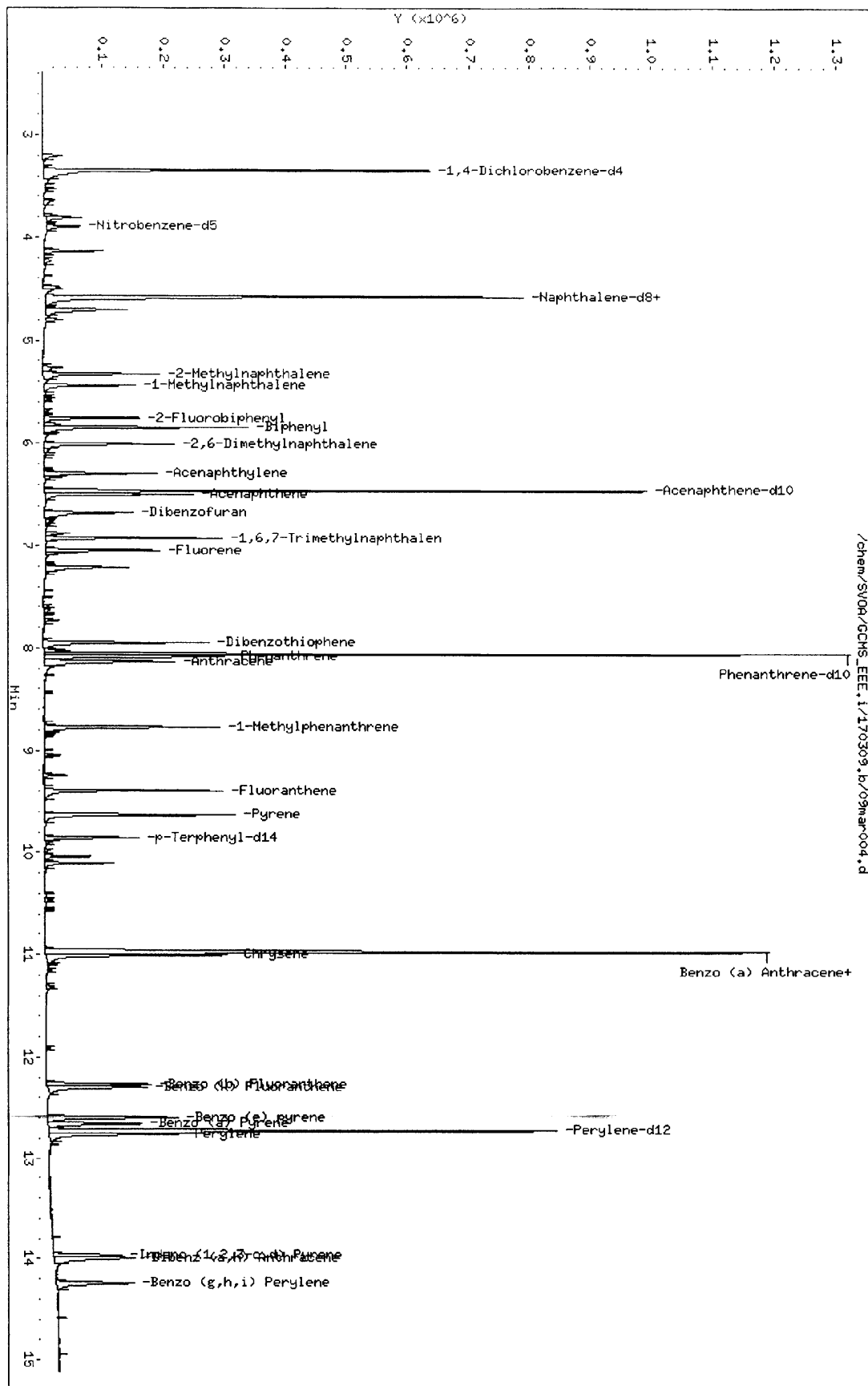
Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 11:09 Unknown

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

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Data File: /chem/SV08/GCHS_EEE.i/170309.b/09mar004.d
 Date: 09-Mar-2017 10:47
 Client ID:
 Sample Info: LCS 170308 L11
 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/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

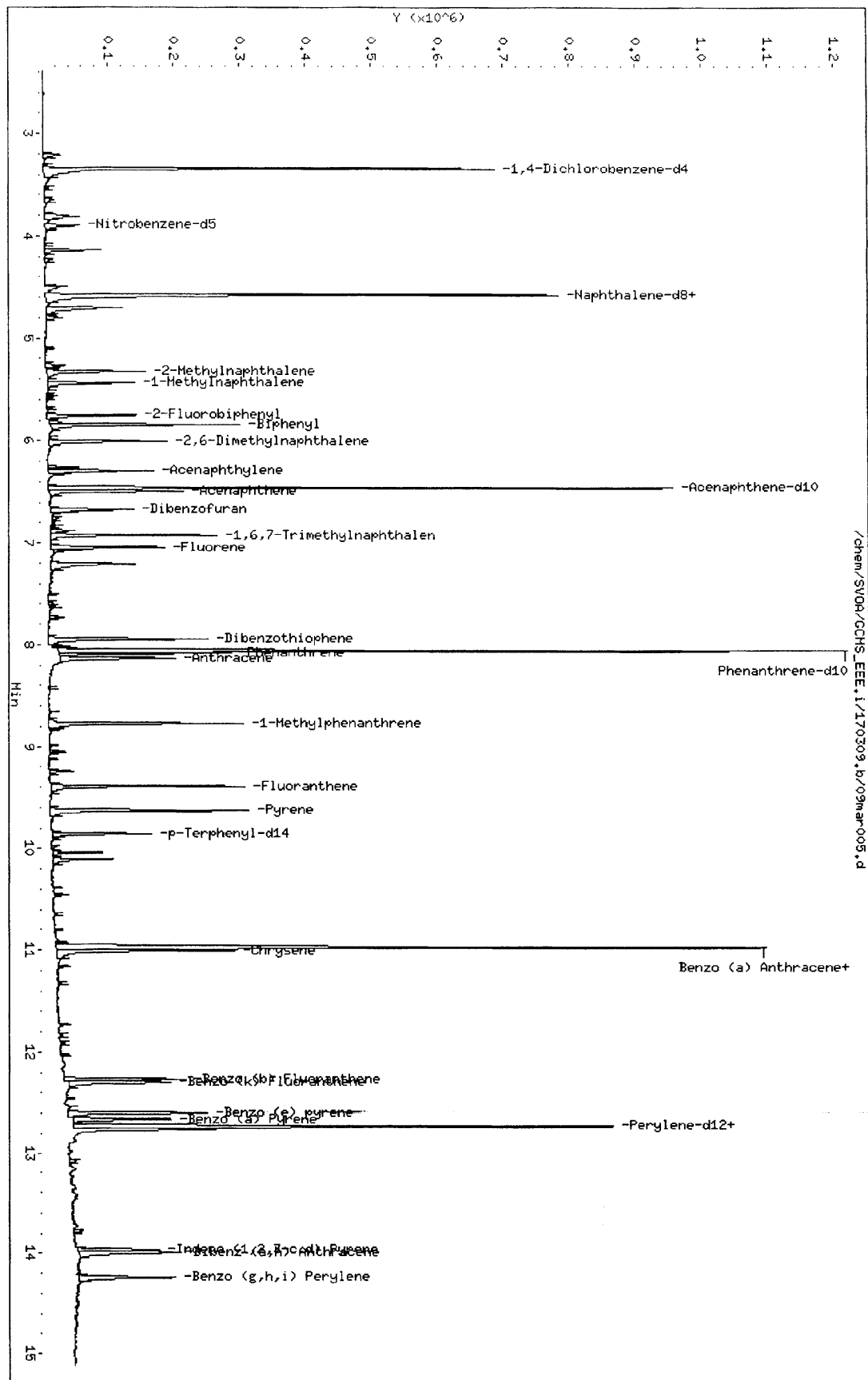
Data File: /chem/SVOA/GCMS_EEE.i/170309.b/09mar005.d Instrument ID: GCMS_EEE.i
Injection date and time: 09-MAR-2017 11:07 Analyst ID: 907

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

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Data File: /chem/SV0A/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.			On-Column		
	Ref.	RT	QIon	Area	Amount (mg/L)	DEV (Min)
=====	=====	=====	=====	=====	=====	=====
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/SV08/CCHS_EEE.i/170309.b/09mar006.d

Date : 09-MAR-2017 11:28

Client ID:

Sample Info: 17-03-0140-31 MSD

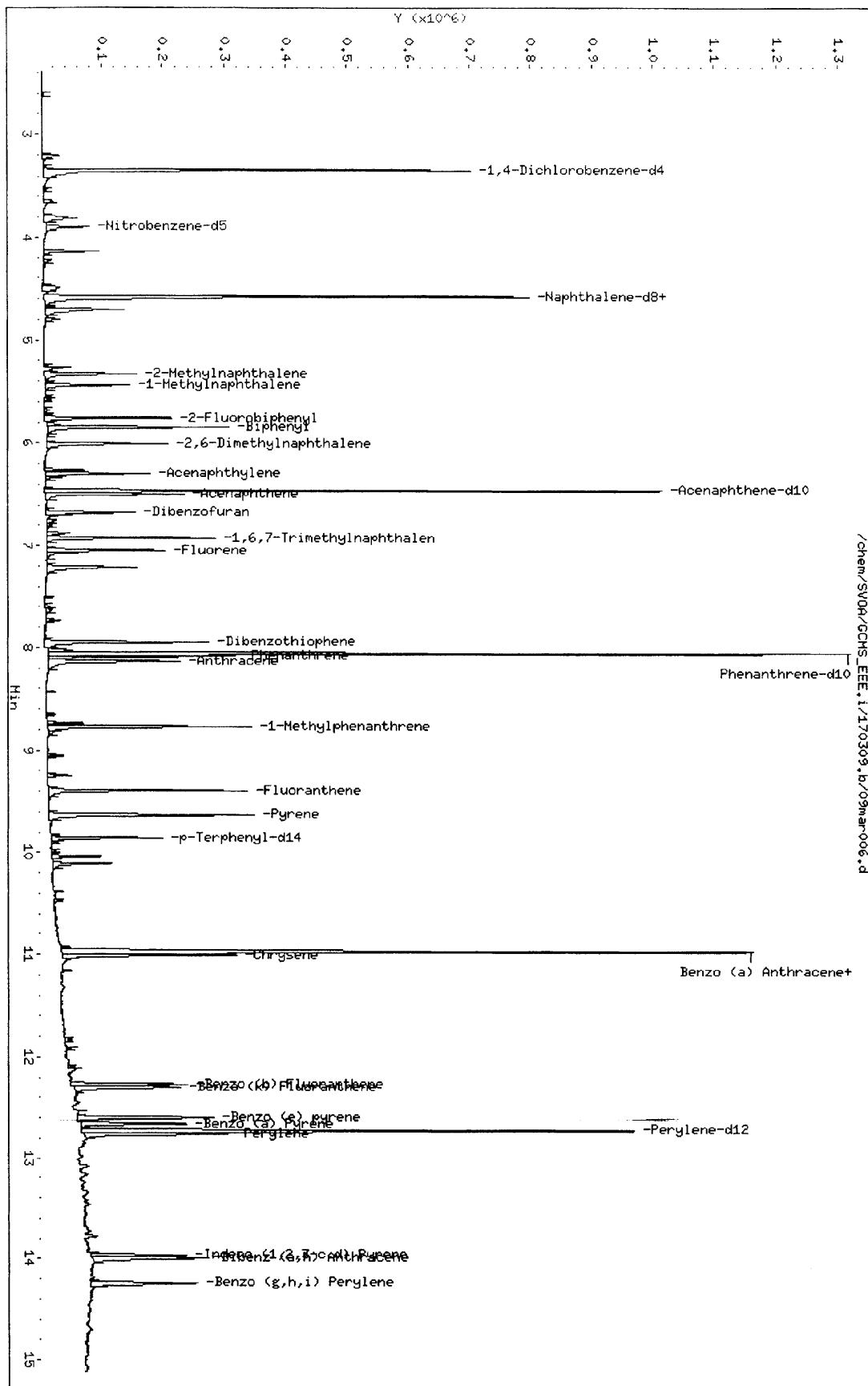
Column Phase: J&W DB-SMS

Instrument: CCHS_EEE.i

Operator: 907

Column diameter: 0.18

Page 1



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: 17-03-0140
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-ISM1-3	2017-03-09 11:48	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar007.d\09mar007.r
28	F-DU1-ISM2-3	2017-03-09 12:08	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar008.d\09mar008.r
29	F-DU1-ISM3-3	2017-03-09 12:28	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar009.d\09mar009.r
30	F-DU1-ISM4-3	2017-03-09 12:48	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar010.d\09mar010.r
31	F-DU1-ISM5-3	2017-03-09 13:09	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar011.d\09mar011.r
31	F-DU1-ISM5-3	2017-03-09 11:07	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar005.d\09mar005.r
31	F-DU1-ISM5-3	2017-03-09 11:28	Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar006.d\09mar006.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\20171170309\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: 170227I004CCV 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

<u>COMPOUND</u>	<u>AREA</u>	<u>RETENTION TIME</u>
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

<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	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

<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	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

<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	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** 17-03-0140-27**D/T ANALYZED:** 2017-03-09 11:48**DATA FILE:** Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar007.d\09mar007.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	261103	115462	461846	3.35	PASS
Naphthalene-d8	711704	297258	1189030	4.58	PASS
Acenaphthene-d10	364135	132744	530978	6.46	PASS
Phenanthrene-d10	1165854	434653	1738612	8.06	PASS
Chrysene-d12	980927	386905	1547620	10.98	PASS
Perylene-d12	960491	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0140-28

D/T ANALYZED: 2017-03-09 12:08

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar008.d\09mar008.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	267515	115462	461846	3.35	PASS
Naphthalene-d8	742966	297258	1189030	4.58	PASS
Acenaphthene-d10	377682	132744	530978	6.46	PASS
Phenanthrene-d10	1195337	434653	1738612	8.06	PASS
Chrysene-d12	1040858	386905	1547620	10.98	PASS
Perylene-d12	999920	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0140-29

D/T ANALYZED: 2017-03-09 12:28

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar009.d\09mar009.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	260542	115462	461846	3.35	PASS
Naphthalene-d8	732666	297258	1189030	4.58	PASS
Acenaphthene-d10	373829	132744	530978	6.46	PASS
Phenanthrene-d10	1190746	434653	1738612	8.06	PASS
Chrysene-d12	1012424	386905	1547620	10.98	PASS
Perylene-d12	1023406	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0140-30

D/T ANALYZED: 2017-03-09 12:48

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar010.d\09mar010.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	266824	115462	461846	3.35	PASS
Naphthalene-d8	743959	297258	1189030	4.58	PASS
Acenaphthene-d10	379788	132744	530978	6.46	PASS
Phenanthrene-d10	1147199	434653	1738612	8.06	PASS
Chrysene-d12	960740	386905	1547620	10.98	PASS
Perylene-d12	956726	325828	1303312	12.73	PASS

CS

SAMPLE ID 17-03-0140-31

D/T ANALYZED: 2017-03-09 13:09

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170309\09mar011.d\09mar011.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	264550	115462	461846	3.35	PASS
Naphthalene-d8	745934	297258	1189030	4.58	PASS
Acenaphthene-d10	389690	132744	530978	6.46	PASS
Phenanthrene-d10	1217400	434653	1738612	8.06	PASS
Chrysene-d12	1043812	386905	1547620	10.98	PASS
Perylene-d12	1020225	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
 Response via Initial Calibration

Misc Info: 170309A009

		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

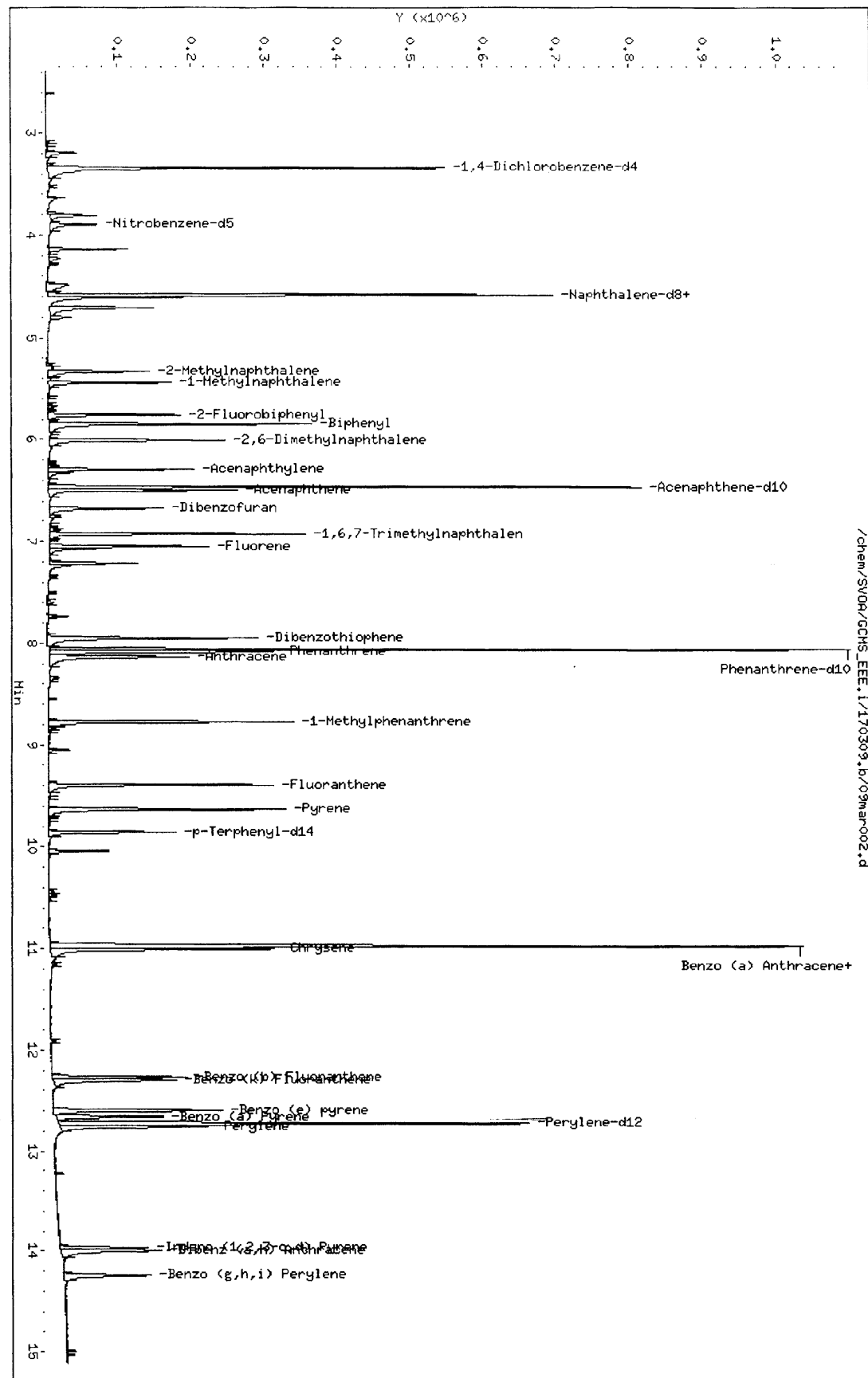
Method used: /chem/SVOA/GCMS_EEE.i/170309.b/simpah-extra.m Sublist used: all
Calibration date and time: 09-MAR-2017 10:30
Date, time and analyst ID of latest file update: 09-Mar-2017 10:30 ev7p

Sample Name: CCV S010317F 1PPM
Response via Initial Calibration

Misc Info: 170309A009

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/SV09/GCHS_EEE.i/170309.b/09mar002.d
 Date: 09-Mar-2017 10:07
 Client ID:
 Sample Info: CCV S010317F 1PPH
 Column Phase: J&W DB-SMS

Instrument: GCHS_EEE.i
 Operator: 907
 Column diameter: 0.18

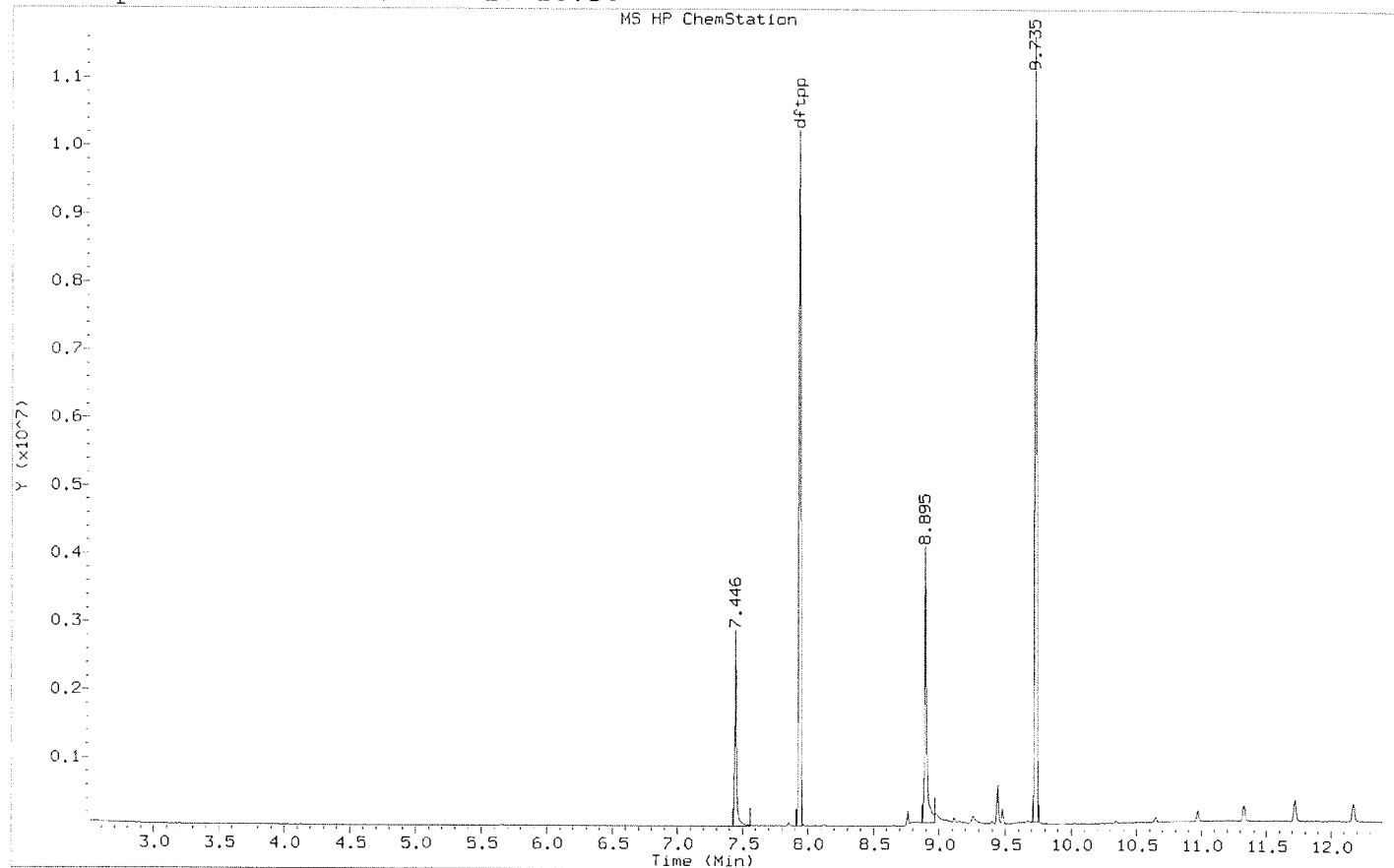
EPA METHOD 8270C PAHSIM

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

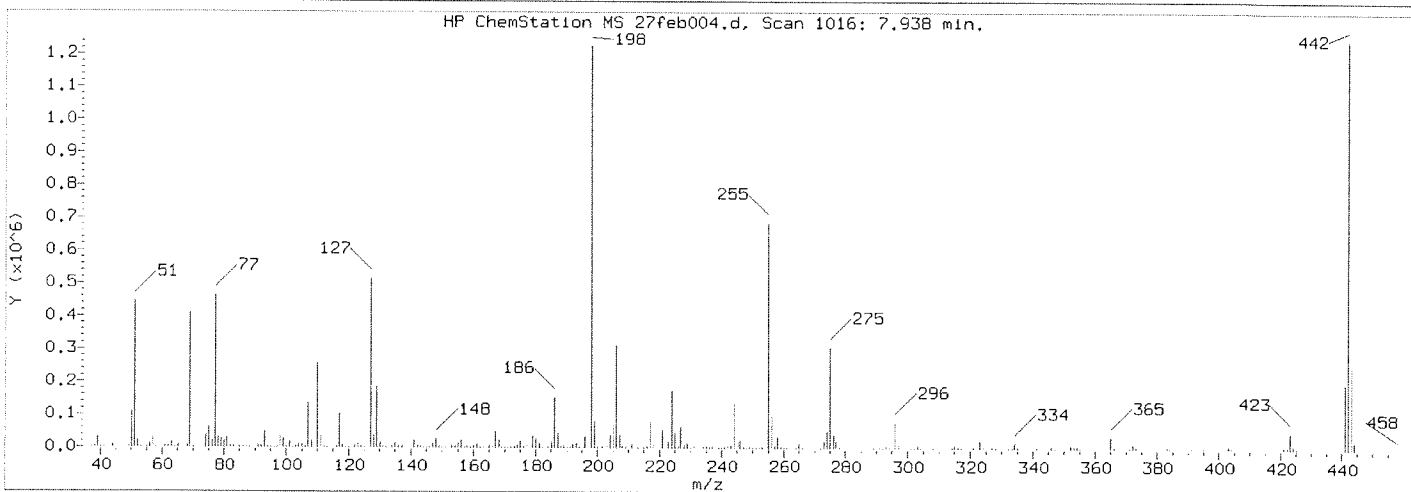
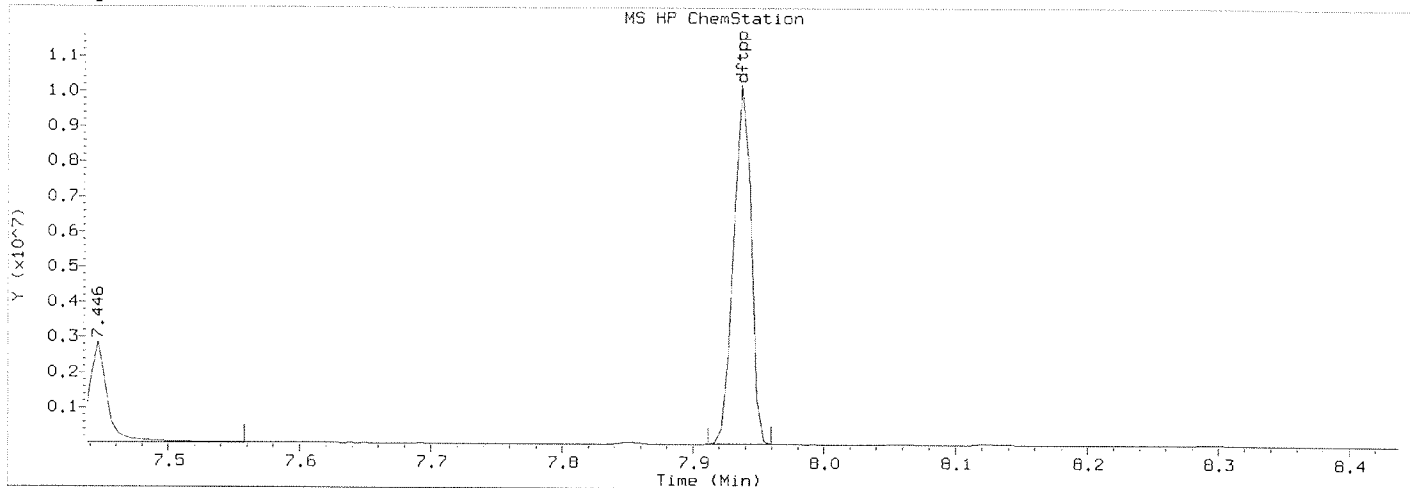


Tune *** PASSED ***
Pentachlorophenol Tailing *** PASSED ***
Benzidine Tailing *** PASSED ***
DDT degradation *** PASSED ***

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/dftpp tune.m
 Last Update : 26-JAN-2017 10:50



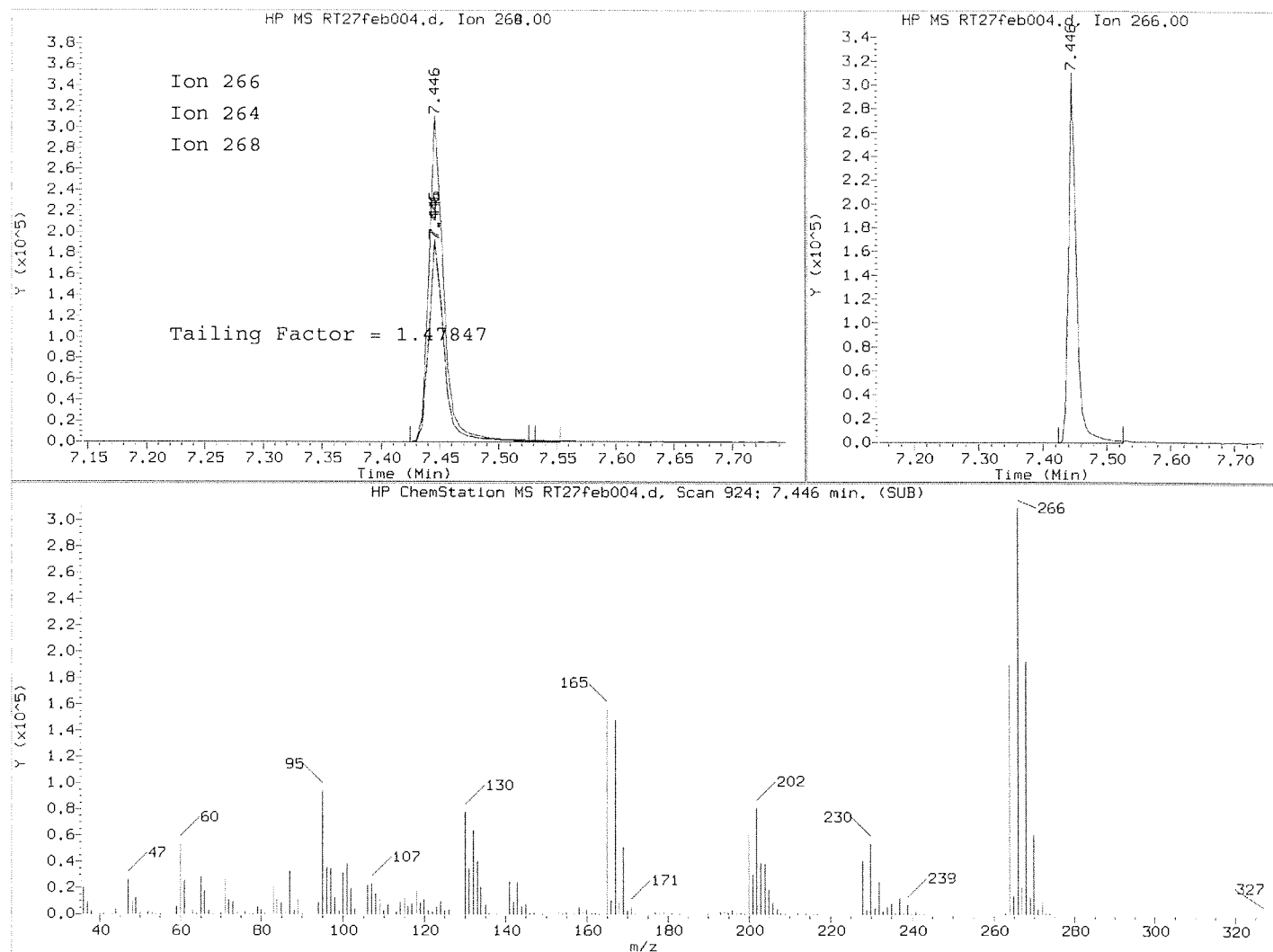
Spectrum: Avg. Scans 1015-1017 (7.94), Background Scan 1010

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

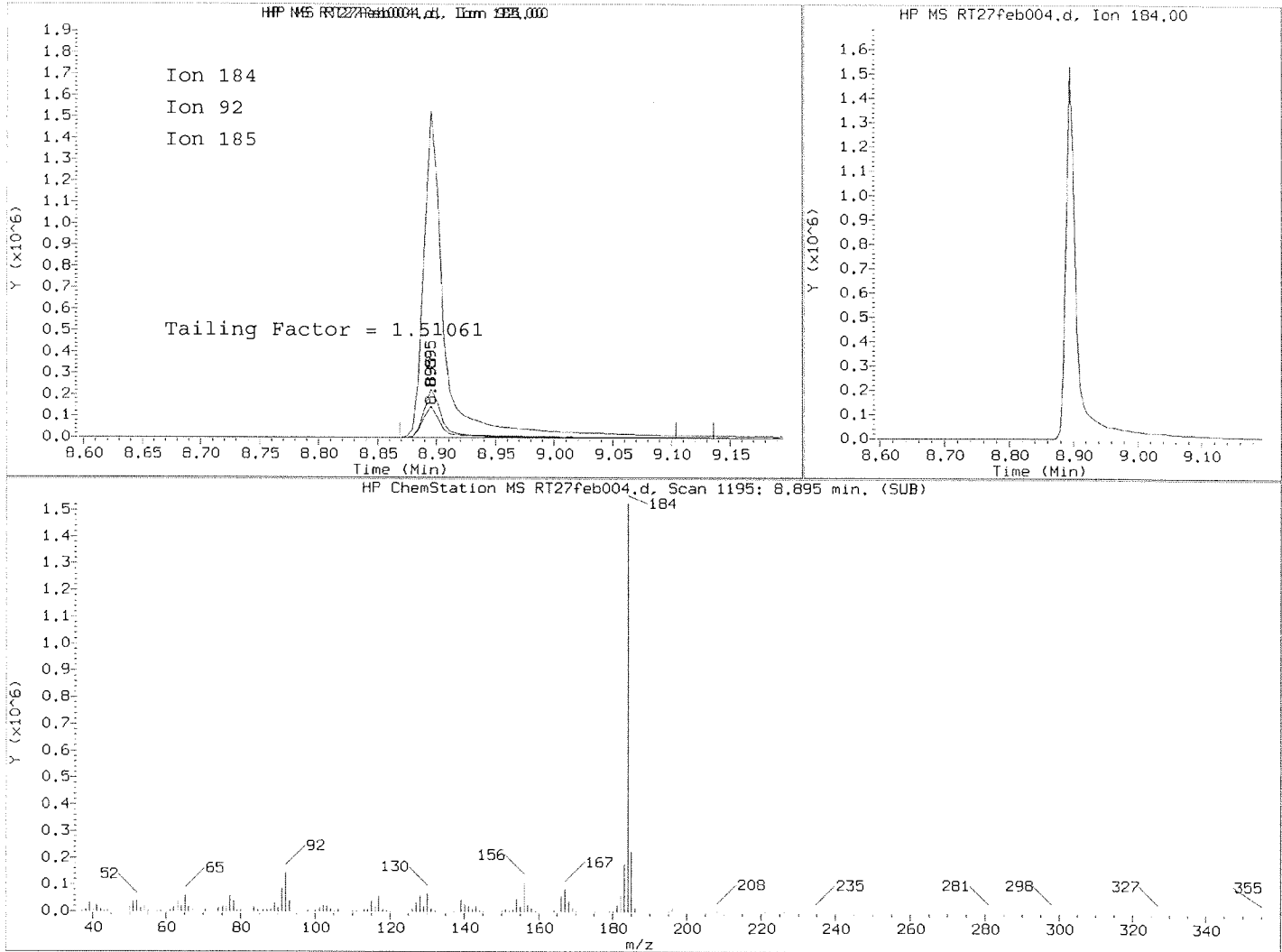
Peak baseline front width (sec) : 0.627
 Peak baseline tail width (sec) : 0.927
 Tail Factor = 0.927 / 0.627

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

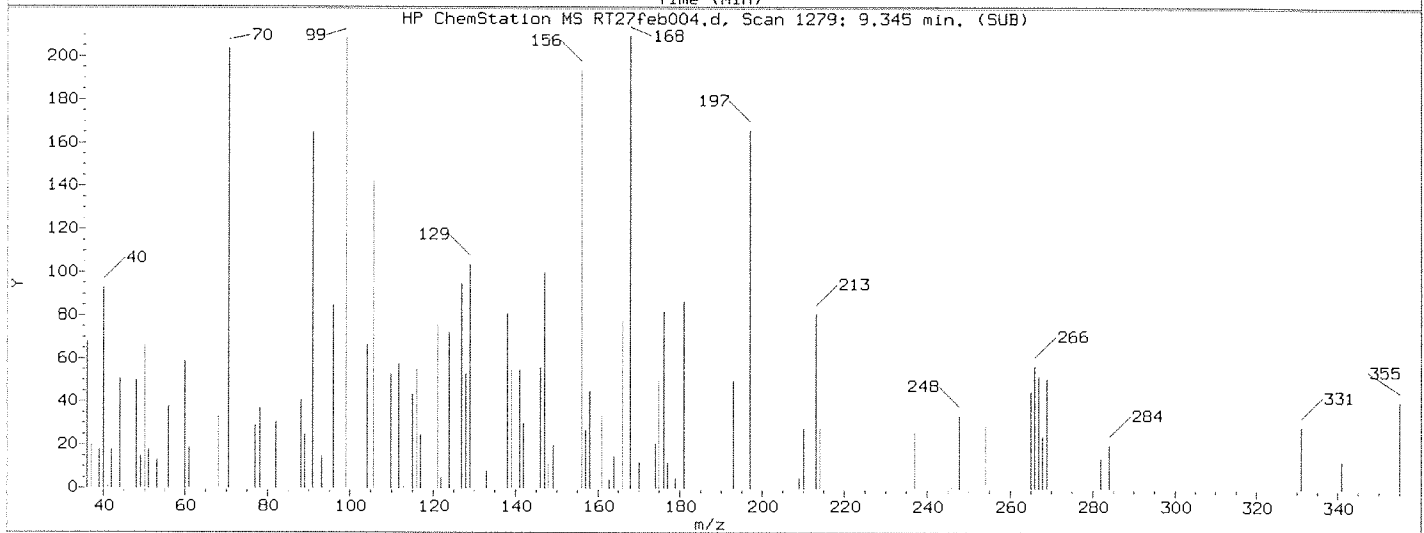
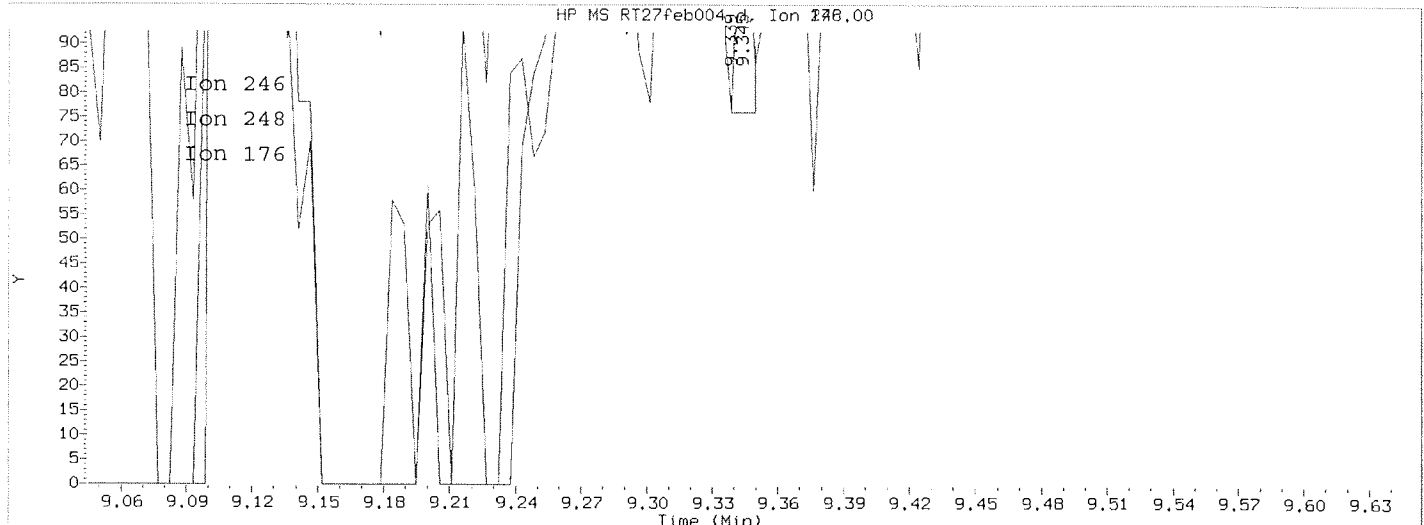
Peak baseline front width (sec) : 0.801
 Peak baseline tail width (sec) : 1.210
 Tail Factor = 1.210/ 0.801

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

=====

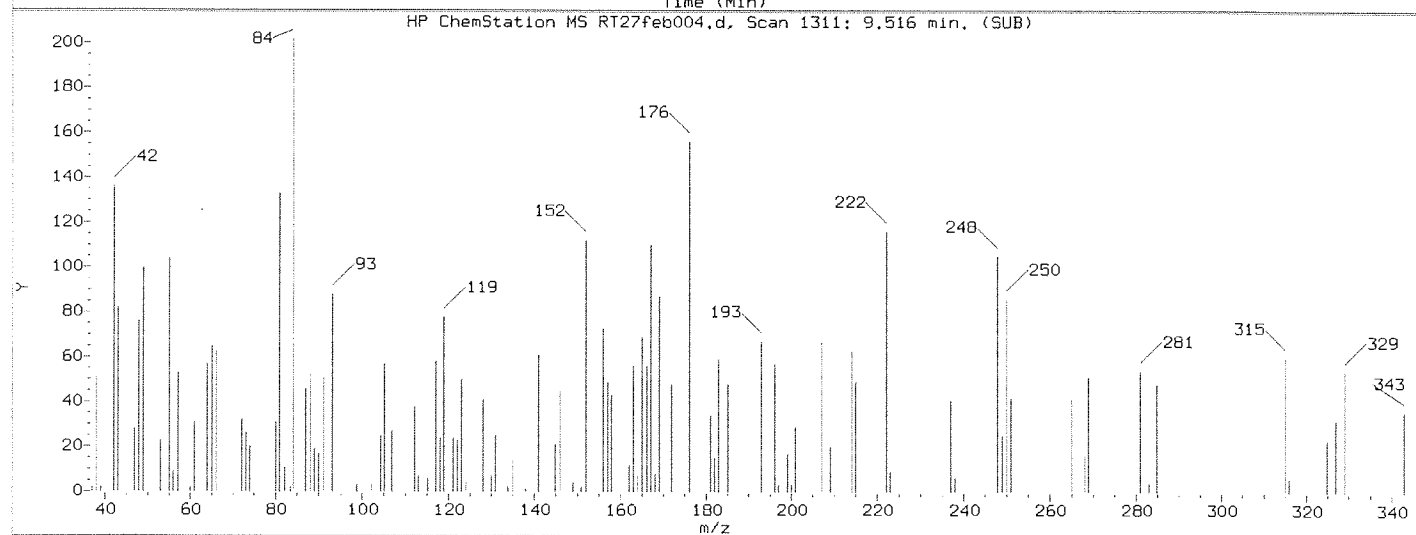
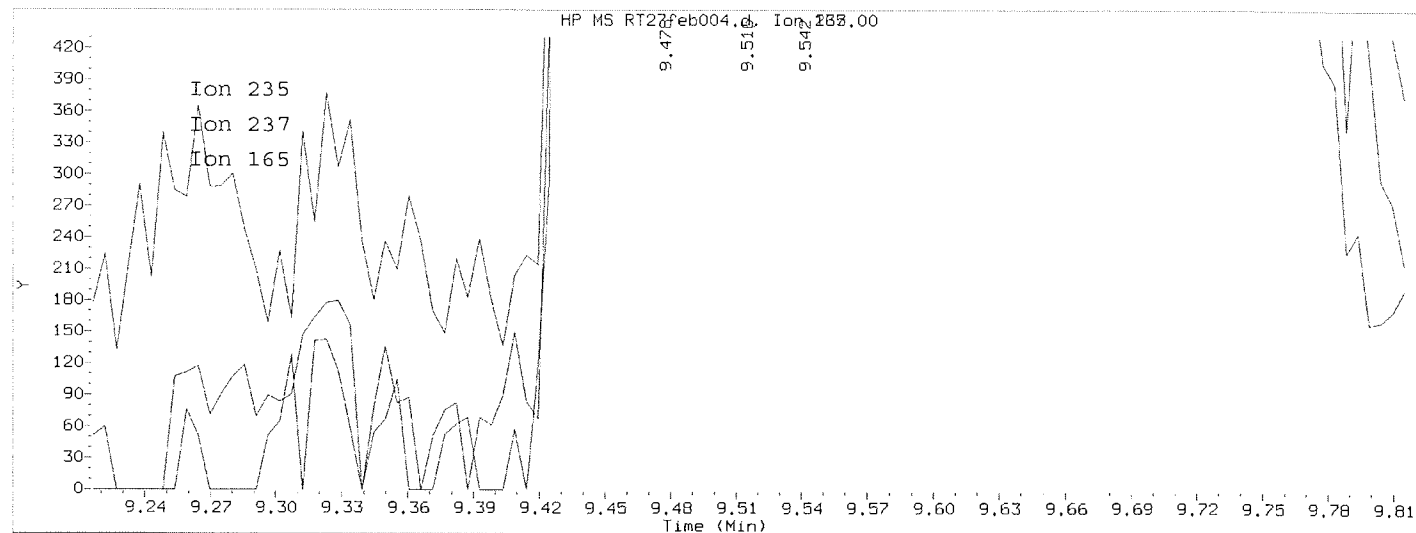
Exp. RT = 9.344

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

=====

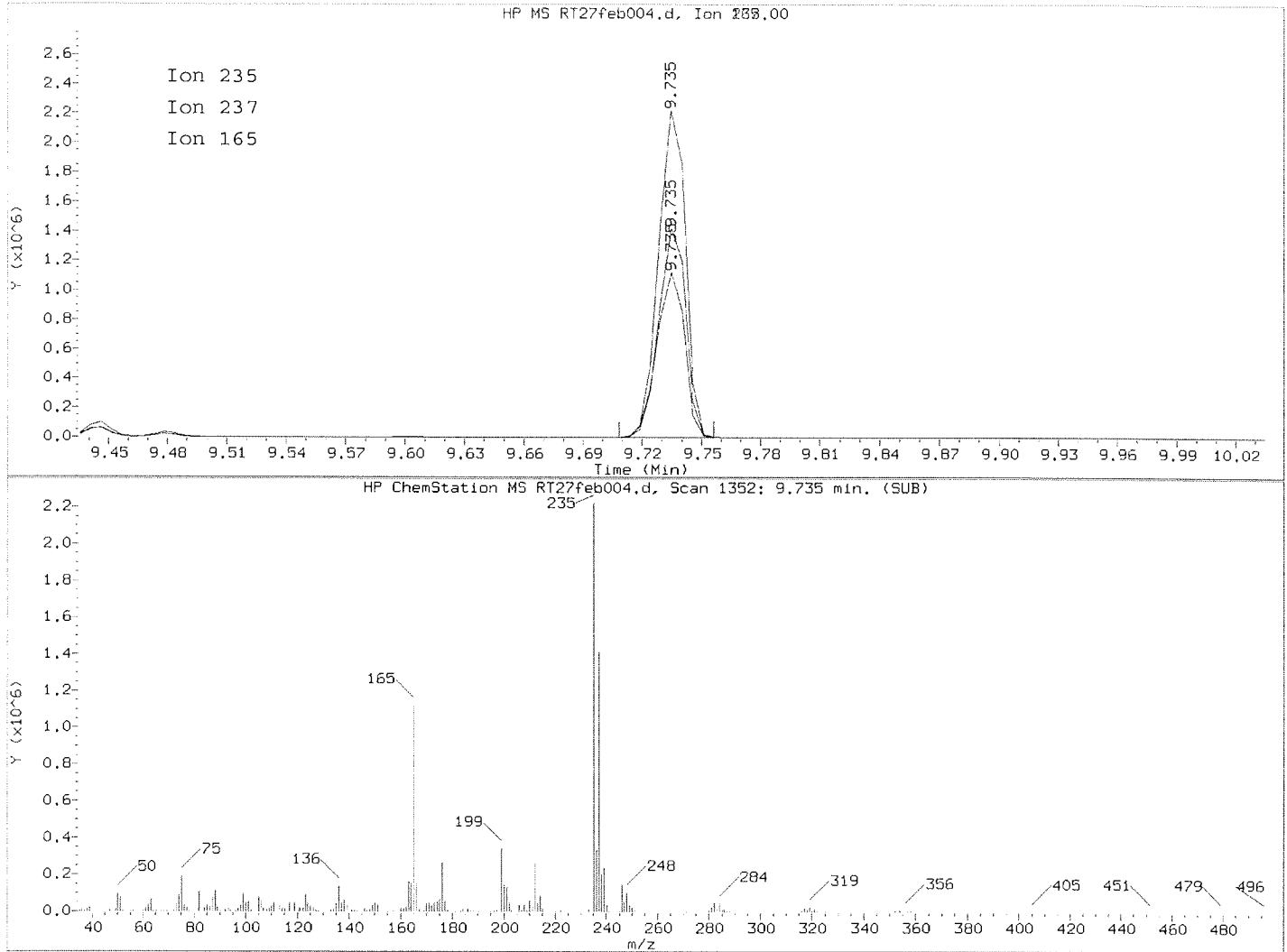
Exp. RT = 9.499

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



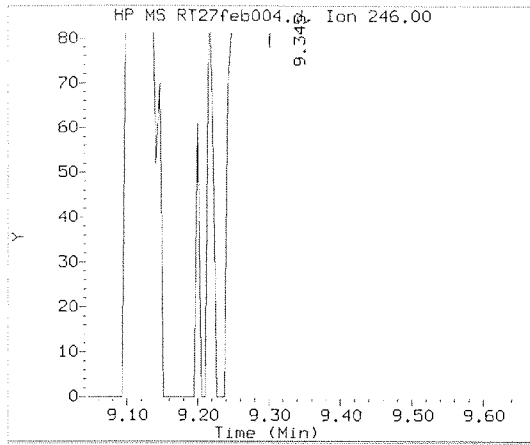
4,4'-DDT

=====

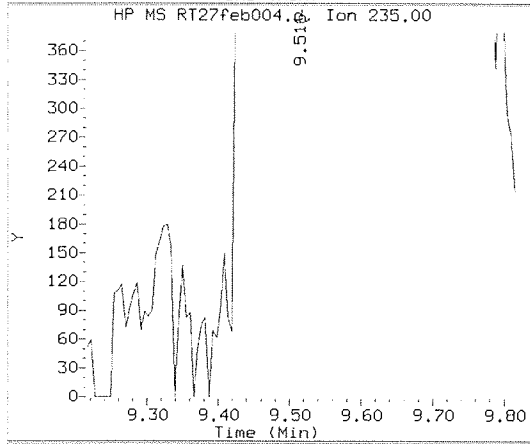
Exp. RT = 9.756

Found RT = 9.735

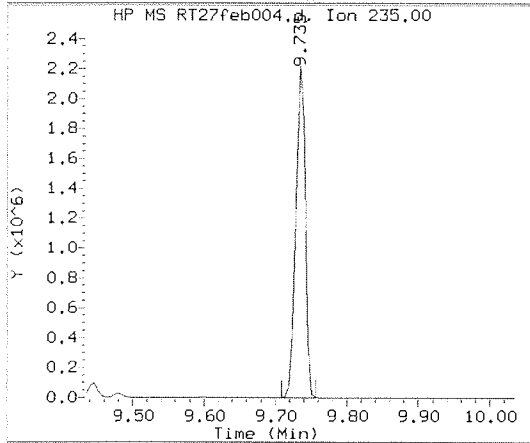
Mass	Area	Ratio
235	2098568	100.00
237	1342252	63.96
165	1084282	51.67



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

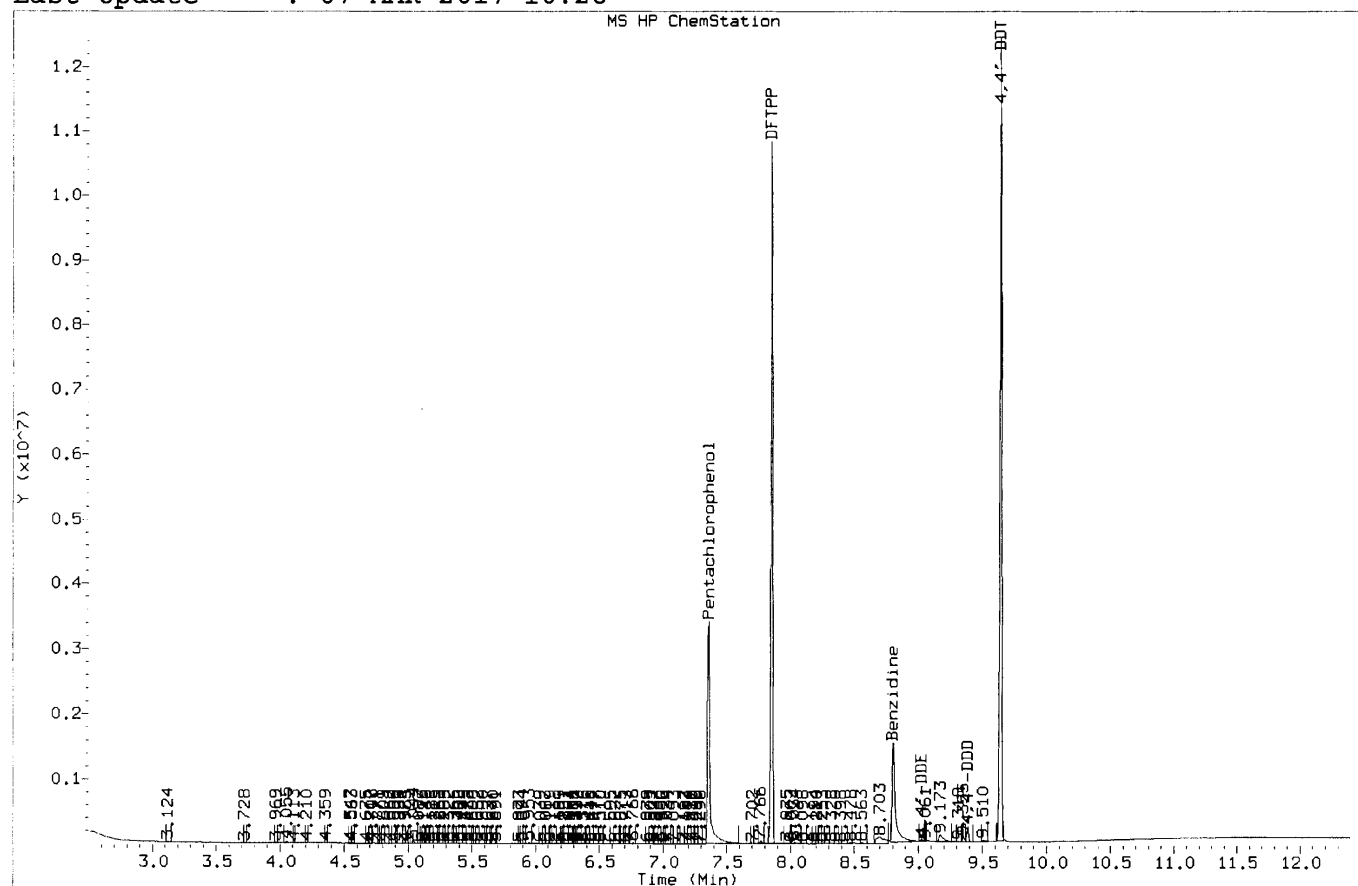
Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2098568			N/A
4,4-DDE	43	0.00	20.0	PASS
4,4-DDD	347	0.02	20.0	PASS
4,4-DDD + DDE	390	0.0	20.0	PASS

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



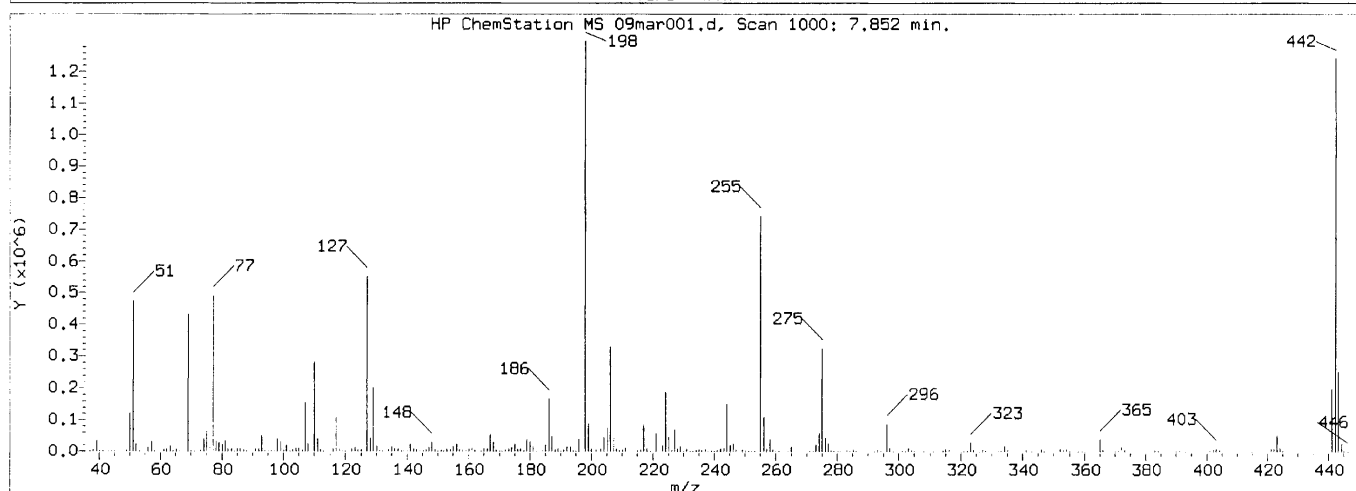
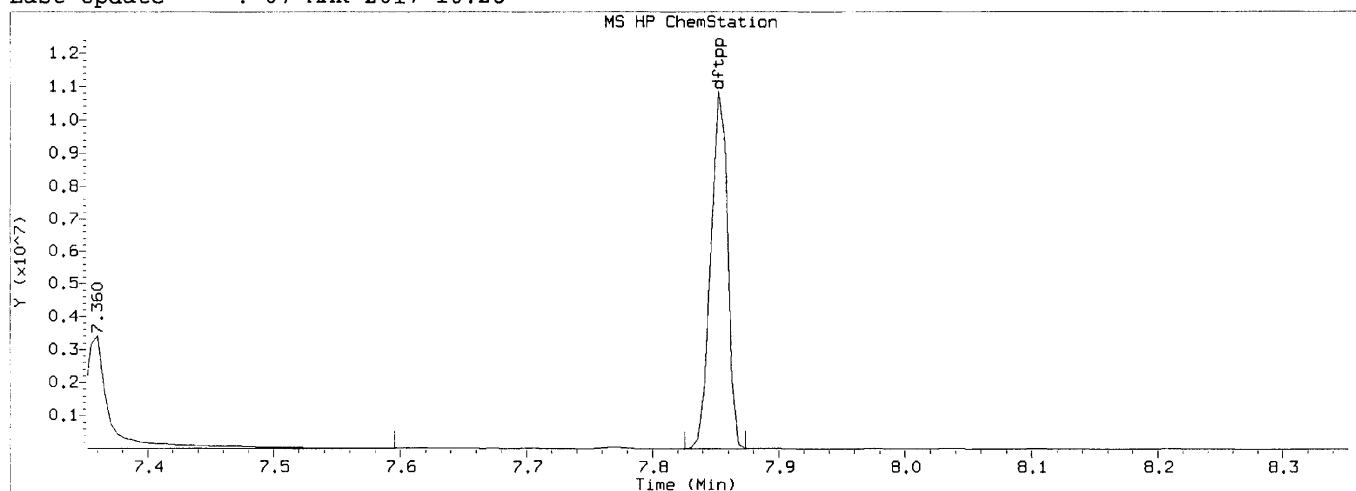
Tune *** PASSED ***
 Pentachlorophenol Tailing *** PASSED ***
 Benzidine Tailing *** PASSED ***
 DDT degradation *** PASSED ***

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
 Sample : TUNE S101716A DFTPP
 Misc :
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_EEE.i/170309.b/dftpptune.m
 Last Update : 07-MAR-2017 10:28

Operator : 907
 Inst : GCMS_EEE
 Multiplier : 1



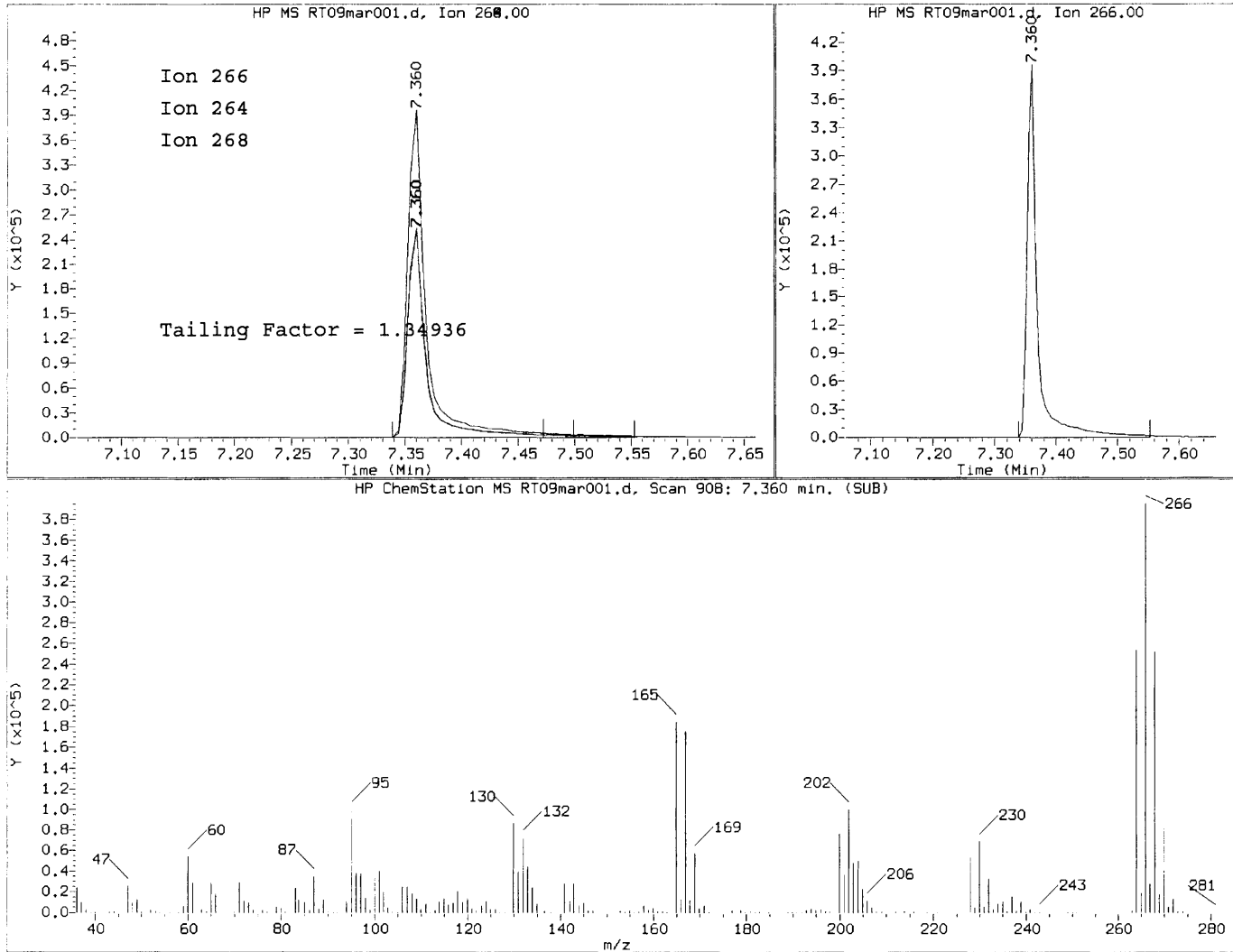
Spectrum: Avg. Scans 999-1001 (7.85), Background Scan 994

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 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



Pentachlorophenol

=====
 Exp. RT = 7.467
 Found RT = 7.360

Mass	Area	Ratio
266	466713	100.00
264	292108	62.59
268	287799	61.67

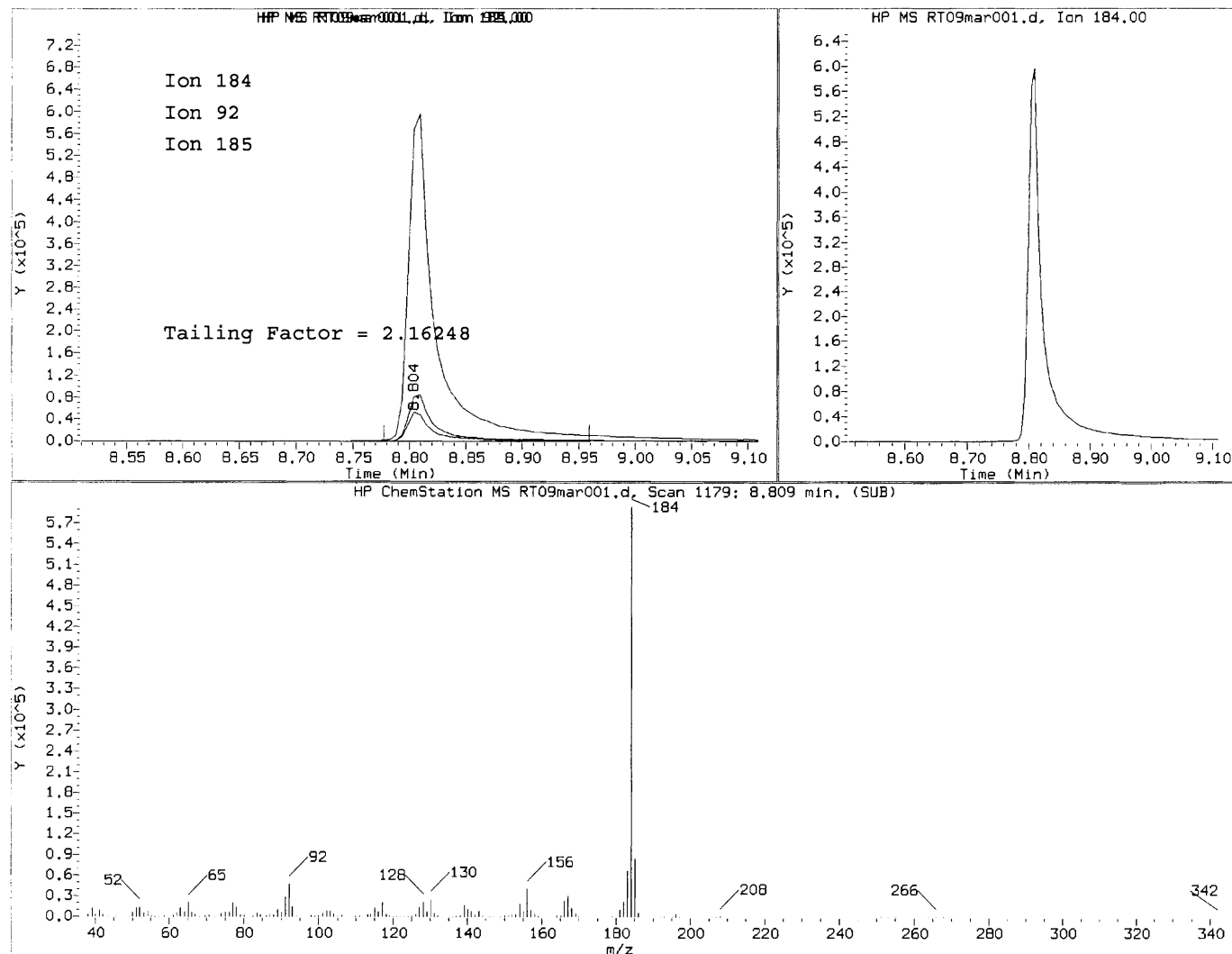
Peak baseline front width (sec) : 0.853
 Peak baseline tail width (sec) : 1.151
 Tail Factor = 1.151 / 0.853

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 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



Benzidine

=====

Exp. RT = 8.911
 Found RT = 8.809

Mass	Area	Ratio
184	1035462	100.00
92	85755	8.28
185	144363	13.94

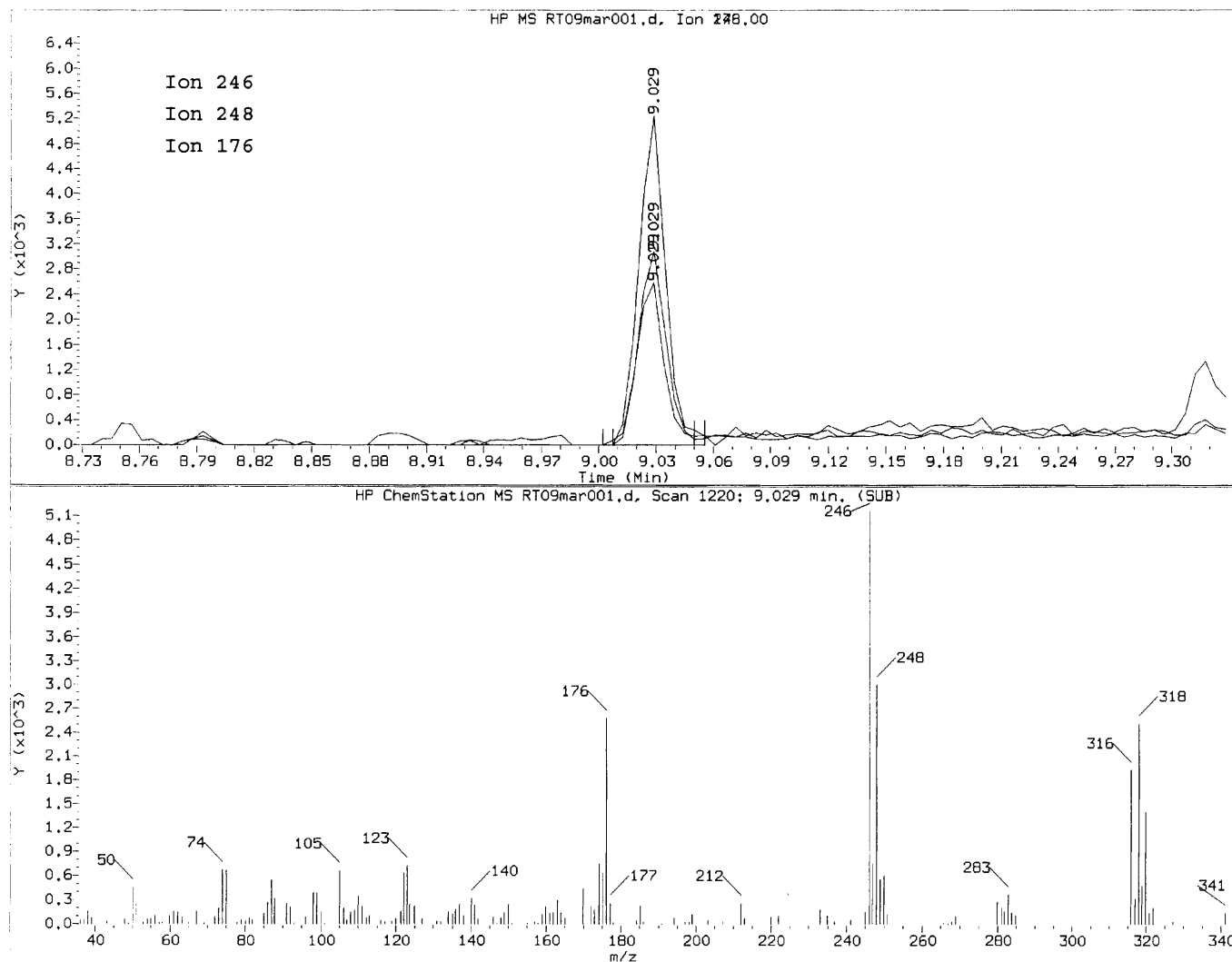
Peak baseline front width (sec) : 1.034
 Peak baseline tail width (sec) : 2.236
 Tail Factor = 2.236 / 1.034

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

=====

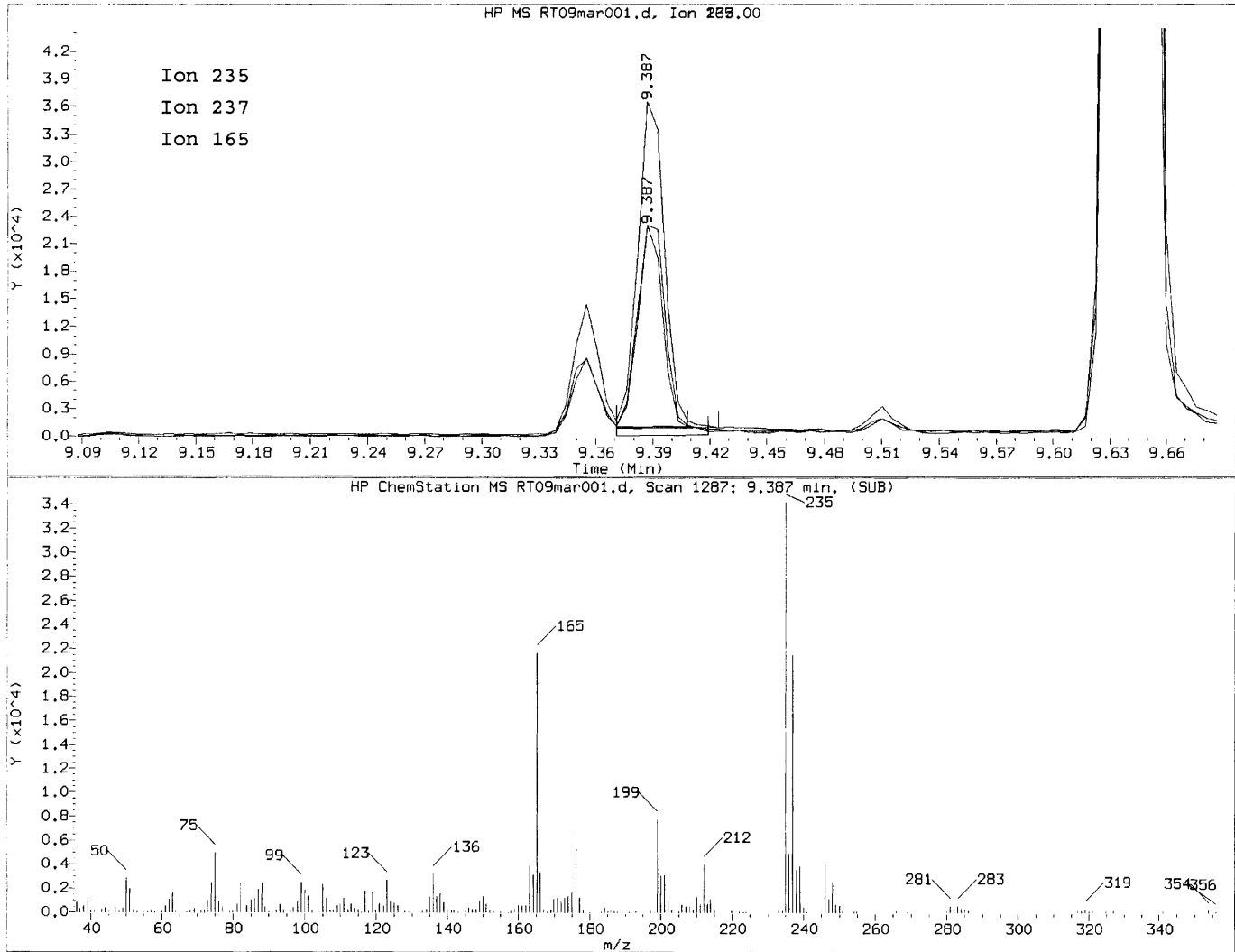
Exp. RT = 9.029

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

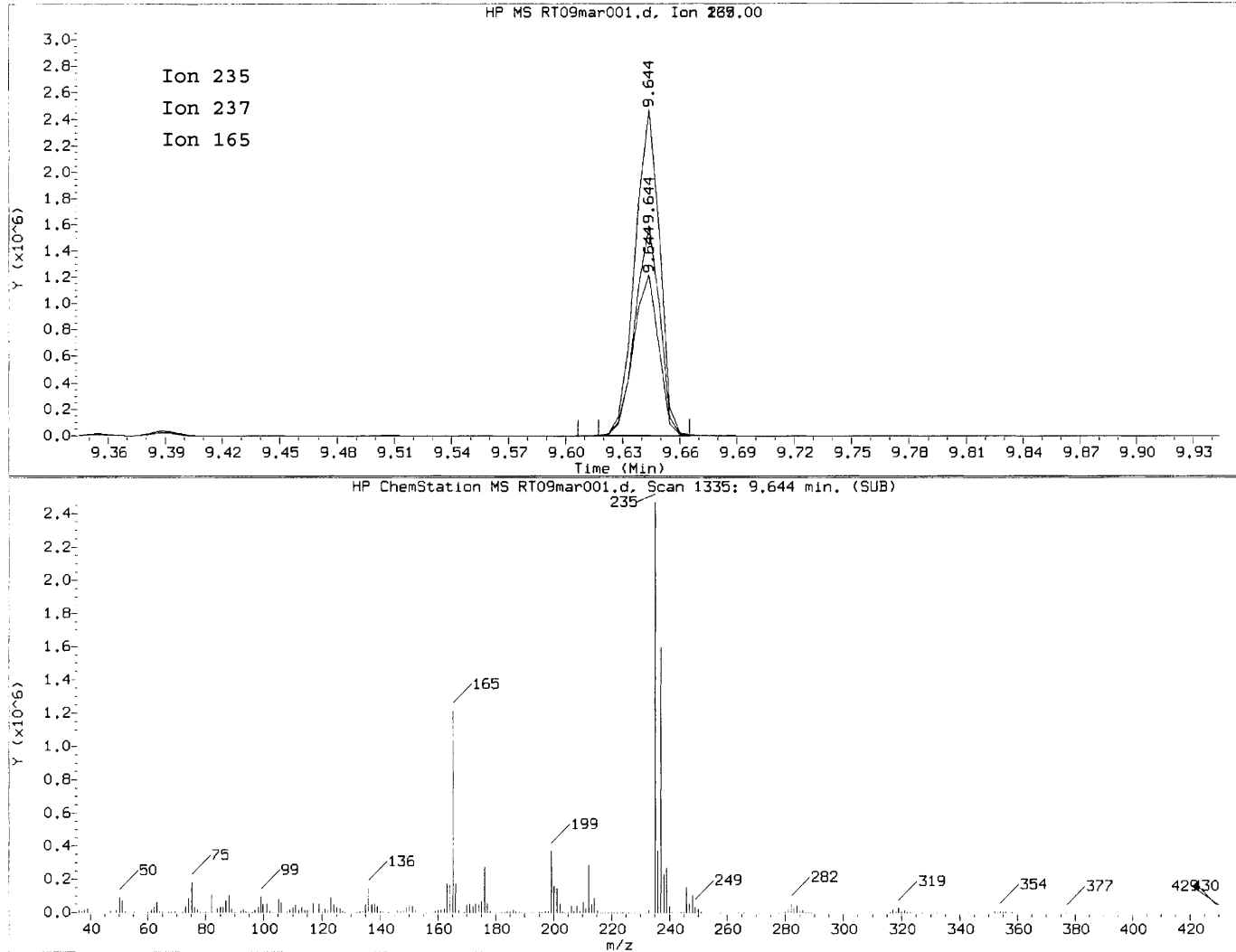


=====
 Exp. RT = 9.380
 Found RT = 9.387

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



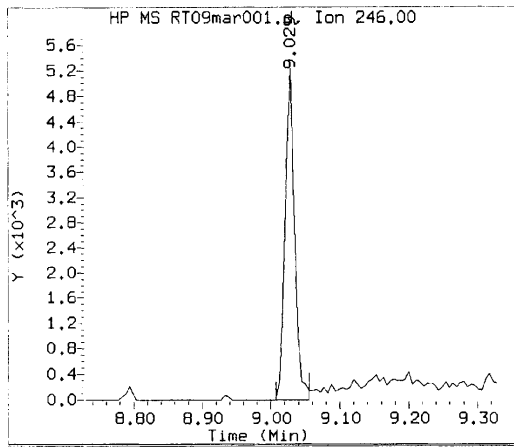
4,4'-DDT

=====

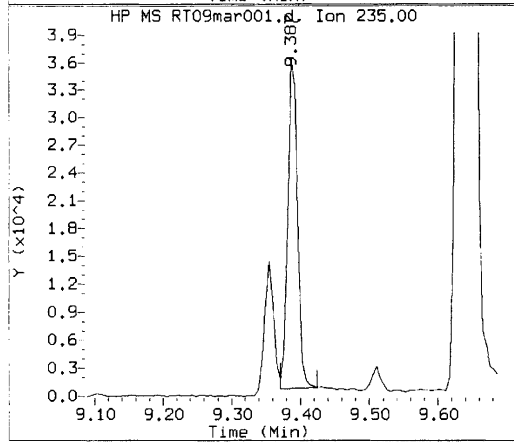
Exp. RT = 9.756

Found RT = 9.644

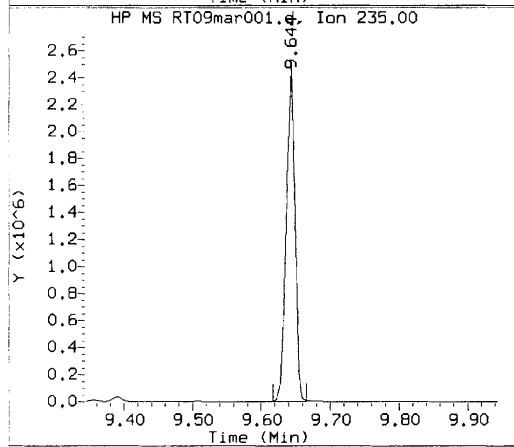
Mass	Area	Ratio
235	2205855	100.00
237	1415837	64.19
165	1126285	51.06



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

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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

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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

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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- 1101/1084 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): 502017C 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