



Supplemental Report 1

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



WORK ORDER NUMBER: 17-03-0641

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 04/26/2017 by:
Stephen Nowak
Project Manager

ResultLink ▶

Email your PM ▶

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 Work Order Number: 17-03-0641

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Work Order Narrative

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/08/17. They were assigned to Work Order 17-03-0641.

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: 17-03-0641
5261 West Imperial Highway	Project Name: Burbank Airport / 9836002041
Los Angeles, CA 90045-6231	PO Number:
	Date/Time Received: 03/08/17 18:10
	Number of Containers: 33

Attn: Brian Martasin

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
D-DU3-S-01-03	17-03-0641-1	02/24/17 14:47	1	Solid
D-DU3-S-02-03	17-03-0641-2	02/28/17 11:39	1	Solid
D-DU3-S-03-03	17-03-0641-3	02/28/17 09:13	1	Solid
D-DU3-S-04-03	17-03-0641-4	02/28/17 10:50	1	Solid
D-DU3-S-05-03	17-03-0641-5	02/28/17 09:55	1	Solid
D-DU3-S-SG-04-03	17-03-0641-6	03/01/17 12:44	1	Solid
D-DU3-S-SG-05-03	17-03-0641-7	03/01/17 14:19	1	Solid
D-DU3-S-06-03	17-03-0641-8	03/01/17 11:03	1	Solid
D-DU3-S-07-03	17-03-0641-9	03/01/17 10:20	1	Solid
D-DU3-S-08-03	17-03-0641-10	03/01/17 09:39	1	Solid
D-DU3-S-09-03	17-03-0641-11	03/01/17 09:08	1	Solid
D-DU3-S-10-3	17-03-0641-12	03/08/17 08:25	1	Solid
D-DU3-S-11-3	17-03-0641-13	03/08/17 14:08	1	Solid
D-DU3-S-12-3	17-03-0641-14	03/08/17 11:10	1	Solid
D-DU3-S-13-3	17-03-0641-15	03/08/17 09:10	1	Solid
D-DU3-S-14-3	17-03-0641-16	03/08/17 07:50	1	Solid
D-DU3-S-15-3	17-03-0641-17	03/08/17 09:45	1	Solid
D-DU3-S-SG-01-3S	17-03-0641-18	03/08/17 13:20	1	Solid
D-DU3-S-SG-02-3S	17-03-0641-19	03/08/17 12:43	1	Solid
D-DU3-S-SG-03-3S	17-03-0641-20	03/08/17 10:10	1	Solid
COMPOSITE	17-03-0641-21	02/24/17 00:00	1	Solid
D-DU3-ISM1-3	17-03-0641-22	02/24/17 00:00	1	Solid
D-DU3-ISM2-3	17-03-0641-23	02/24/17 00:00	1	Solid
D-DU3-ISM3-3	17-03-0641-24	02/24/17 00:00	1	Solid
D-DU3-ISM4-3	17-03-0641-25	02/24/17 00:00	1	Solid
D-DU3-ISM1-3	17-03-0641-26	02/24/17 00:00	1	Solid
D-DU3-ISM2-3	17-03-0641-27	02/24/17 00:00	1	Solid
D-DU3-ISM3-3	17-03-0641-28	02/24/17 00:00	1	Solid
D-DU3-ISM4-3	17-03-0641-29	02/24/17 00:00	1	Solid
D-DU3-ISM1-3	17-03-0641-30	02/24/17 00:00	1	Solid
D-DU3-ISM2-3	17-03-0641-31	02/24/17 00:00	1	Solid
D-DU3-ISM3-3	17-03-0641-32	02/24/17 00:00	1	Solid
D-DU3-ISM4-3	17-03-0641-33	02/24/17 00:00	1	Solid


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Detections Summary

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

Work Order: 17-03-0641
Project Name: Burbank Airport / 9836002041
Received: 03/08/17

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>
D-DU3-ISM1-3 (17-03-0641-26)						
Moisture	5.3	BV,BU	0.10	%	ASTM D-2216 (M)	N/A
TPH as Motor Oil	11		5.3	mg/kg	EPA 8015B (M)	EPA 3550B
D-DU3-ISM2-3 (17-03-0641-27)						
Moisture	4.9	BV,BU	0.10	%	ASTM D-2216 (M)	N/A
TPH as Motor Oil	13		5.2	mg/kg	EPA 8015B (M)	EPA 3550B
D-DU3-ISM3-3 (17-03-0641-28)						
Moisture	5.0	BV,BU	0.10	%	ASTM D-2216 (M)	N/A
TPH as Motor Oil	9.4		5.3	mg/kg	EPA 8015B (M)	EPA 3550B
D-DU3-ISM4-3 (17-03-0641-29)						
Moisture	4.8	BV,BU	0.10	%	ASTM D-2216 (M)	N/A
TPH as Motor Oil	11		5.3	mg/kg	EPA 8015B (M)	EPA 3550B
D-DU3-ISM1-3 (17-03-0641-30)						
Barium	88.8		0.503	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.92		0.251	mg/kg	EPA 6010B	EPA 3050B
Cobalt	7.25		0.251	mg/kg	EPA 6010B	EPA 3050B
Copper	9.84		0.503	mg/kg	EPA 6010B	EPA 3050B
Lead	10.8		0.503	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.39		0.251	mg/kg	EPA 6010B	EPA 3050B
Vanadium	24.1		0.251	mg/kg	EPA 6010B	EPA 3050B
Zinc	42.6		1.01	mg/kg	EPA 6010B	EPA 3050B
D-DU3-ISM2-3 (17-03-0641-31)						
Barium	88.5		0.495	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.45		0.248	mg/kg	EPA 6010B	EPA 3050B
Cobalt	7.04		0.248	mg/kg	EPA 6010B	EPA 3050B
Copper	9.83		0.495	mg/kg	EPA 6010B	EPA 3050B
Lead	8.34		0.495	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.14		0.248	mg/kg	EPA 6010B	EPA 3050B
Vanadium	22.4		0.248	mg/kg	EPA 6010B	EPA 3050B
Zinc	43.6		0.990	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: 17-03-0641
Project Name: Burbank Airport / 9836002041
Received: 03/08/17

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>
D-DU3-ISM3-3 (17-03-0641-32)						
Antimony	0.783		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	86.7		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.89		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	7.05		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	9.86		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	8.23		0.500	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.26		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	23.8		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	43.9		1.00	mg/kg	EPA 6010B	EPA 3050B
D-DU3-ISM4-3 (17-03-0641-33)						
Barium	81.4		0.503	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.07		0.251	mg/kg	EPA 6010B	EPA 3050B
Cobalt	6.41		0.251	mg/kg	EPA 6010B	EPA 3050B
Copper	8.73		0.503	mg/kg	EPA 6010B	EPA 3050B
Lead	7.74		0.503	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.81		0.251	mg/kg	EPA 6010B	EPA 3050B
Vanadium	21.4		0.251	mg/kg	EPA 6010B	EPA 3050B
Zinc	43.7		1.01	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: 03/08/17
Work Order: 17-03-0641
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
D-DU3-ISM1-3	17-03-0641-26-A	02/24/17 00:00	Solid	N/A	03/09/17	03/09/17 21:00	H0309MOIB2
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
Moisture		5.3	0.10		1.00		BV,BU
D-DU3-ISM2-3	17-03-0641-27-A	02/24/17 00:00	Solid	N/A	03/09/17	03/09/17 21:00	H0309MOIB2
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
Moisture		4.9	0.10		1.00		BV,BU
D-DU3-ISM3-3	17-03-0641-28-A	02/24/17 00:00	Solid	N/A	03/09/17	03/09/17 21:00	H0309MOIB2
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
Moisture		5.0	0.10		1.00		BV,BU
D-DU3-ISM4-3	17-03-0641-29-A	02/24/17 00:00	Solid	N/A	03/09/17	03/09/17 21:00	H0309MOIB2
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
Moisture		4.8	0.10		1.00		BV,BU
Method Blank	099-05-014-6733	N/A	Solid	N/A	03/09/17	03/09/17 21:00	H0309MOIB2
<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: 03/08/17
Work Order: 17-03-0641
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
D-DU3-ISM1-3	17-03-0641-26-A	02/24/17 00:00	Solid	GC 45	03/09/17	03/11/17 09:52	170309B12

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.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.3	1.00	
TPH as Motor Oil	11	5.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	91	61-145	

D-DU3-ISM2-3	17-03-0641-27-A	02/24/17 00:00	Solid	GC 45	03/09/17	03/11/17 10:13	170309B12

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.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.2	1.00	
TPH as Motor Oil	13	5.2	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	93	61-145	

D-DU3-ISM3-3	17-03-0641-28-A	02/24/17 00:00	Solid	GC 45	03/09/17	03/11/17 10:35	170309B12

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.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.3	1.00	
TPH as Motor Oil	9.4	5.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	96	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: 03/08/17
Work Order: 17-03-0641
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
D-DU3-ISM4-3	17-03-0641-29-A	02/24/17 00:00	Solid	GC 45	03/09/17	03/11/17 10:56	170309B12

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

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	5.3	1.00	
TPH as Motor Oil	11	5.3	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	95	61-145	

Method Blank	099-14-353-6	N/A	Solid	GC 45	03/09/17	03/11/17 07:21	170309B12

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	89	61-145	

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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: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM1-3	17-03-0641-30-A	02/24/17 00:00	Solid	ICP 7300	03/20/17	03/20/17 17:21	170320L04

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.754	1.01	
Arsenic	ND	0.754	1.01	
Barium	88.8	0.503	1.01	
Beryllium	ND	0.251	1.01	
Cadmium	ND	0.503	1.01	
Chromium	7.92	0.251	1.01	
Cobalt	7.25	0.251	1.01	
Copper	9.84	0.503	1.01	
Lead	10.8	0.503	1.01	
Molybdenum	ND	0.251	1.01	
Nickel	6.39	0.251	1.01	
Selenium	ND	0.754	1.01	
Silver	ND	0.251	1.01	
Thallium	ND	0.754	1.01	
Vanadium	24.1	0.251	1.01	
Zinc	42.6	1.01	1.01	

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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: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM2-3	17-03-0641-31-A	02/24/17 00:00	Solid	ICP 7300	03/20/17	03/20/17 17:24	170320L04

<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	88.5	0.495	0.990	
Beryllium	ND	0.248	0.990	
Cadmium	ND	0.495	0.990	
Chromium	7.45	0.248	0.990	
Cobalt	7.04	0.248	0.990	
Copper	9.83	0.495	0.990	
Lead	8.34	0.495	0.990	
Molybdenum	ND	0.248	0.990	
Nickel	6.14	0.248	0.990	
Selenium	ND	0.743	0.990	
Silver	ND	0.248	0.990	
Thallium	ND	0.743	0.990	
Vanadium	22.4	0.248	0.990	
Zinc	43.6	0.990	0.990	

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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: 03/08/17
Work Order: 17-03-0641
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
D-DU3-ISM3-3	17-03-0641-32-A	02/24/17 00:00	Solid	ICP 7300	03/20/17	03/20/17 17:25	170320L04

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	0.783	0.750	1.00	
Arsenic	ND	0.750	1.00	
Barium	86.7	0.500	1.00	
Beryllium	ND	0.250	1.00	
Cadmium	ND	0.500	1.00	
Chromium	7.89	0.250	1.00	
Cobalt	7.05	0.250	1.00	
Copper	9.86	0.500	1.00	
Lead	8.23	0.500	1.00	
Molybdenum	ND	0.250	1.00	
Nickel	6.26	0.250	1.00	
Selenium	ND	0.750	1.00	
Silver	ND	0.250	1.00	
Thallium	ND	0.750	1.00	
Vanadium	23.8	0.250	1.00	
Zinc	43.9	1.00	1.00	

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

Analytical Report

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 5261 West Imperial Highway
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Date Received: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM4-3	17-03-0641-33-A	02/24/17 00:00	Solid	ICP 7300	03/20/17	03/20/17 17:26	170320L05

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Antimony	ND	0.754	1.01	
Arsenic	ND	0.754	1.01	
Barium	81.4	0.503	1.01	
Beryllium	ND	0.251	1.01	
Cadmium	ND	0.503	1.01	
Chromium	7.07	0.251	1.01	
Cobalt	6.41	0.251	1.01	
Copper	8.73	0.503	1.01	
Lead	7.74	0.503	1.01	
Molybdenum	ND	0.251	1.01	
Nickel	5.81	0.251	1.01	
Selenium	ND	0.754	1.01	
Silver	ND	0.251	1.01	
Thallium	ND	0.754	1.01	
Vanadium	21.4	0.251	1.01	
Zinc	43.7	1.01	1.01	

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: 03/08/17
 Work Order: 17-03-0641
 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	097-01-002-24460	N/A	Solid	ICP 7300	03/20/17	03/20/17 17:06	170320L04

<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: 03/08/17
Work Order: 17-03-0641
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	097-01-002-24461	N/A	Solid	ICP 7300	03/20/17	03/20/17 17:07	170320L05

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

Return to Contents

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

Analytical Report

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

Date Received: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM1-3	17-03-0641-26-A	02/24/17 00:00	Solid	Mercury 08	03/14/17	03/14/17 16:17	170314L01

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	0.0866	1.00	

D-DU3-ISM2-3	17-03-0641-27-A	02/24/17 00:00	Solid	Mercury 08	03/14/17	03/14/17 16:20	170314L01

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	0.0835	1.00	

D-DU3-ISM3-3	17-03-0641-28-A	02/24/17 00:00	Solid	Mercury 08	03/14/17	03/14/17 16:22	170314L01

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	0.0849	1.00	

D-DU3-ISM4-3	17-03-0641-29-A	02/24/17 00:00	Solid	Mercury 08	03/14/17	03/14/17 16:24	170314L01

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	0.0834	1.00	

Method Blank	099-16-272-2870	N/A	Solid	Mercury 08	03/14/17	03/14/17 15:52	170314L01

<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: 03/08/17
Work Order: 17-03-0641
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Burbank Airport / 9836002041

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU3-ISM1-3	17-03-0641-30-A	02/24/17 00:00	Solid	GC 66	03/13/17	03/16/17 05:00	170313L11

Comment(s): - Sample extracted outside recommended holding time.

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

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	75	24-168	
2,4,5,6-Tetrachloro-m-Xylene	67	25-145	

D-DU3-ISM2-3	17-03-0641-31-A	02/24/17 00:00	Solid	GC 66	03/13/17	03/16/17 05:18	170313L11

Comment(s): - Sample extracted outside recommended holding time.

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

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	75	24-168	
2,4,5,6-Tetrachloro-m-Xylene	66	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: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM3-3	17-03-0641-32-A	02/24/17 00:00	Solid	GC 66	03/13/17	03/16/17 05:35	170313L11

Comment(s): - Sample extracted outside recommended holding time.

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

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	83	24-168	
2,4,5,6-Tetrachloro-m-Xylene	72	25-145	

D-DU3-ISM4-3	17-03-0641-33-A	02/24/17 00:00	Solid	GC 66	03/13/17	03/16/17 05:53	170313L11

Comment(s): - Sample extracted outside recommended holding time.

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

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	77	24-168	
2,4,5,6-Tetrachloro-m-Xylene	70	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: 03/08/17
Work Order: 17-03-0641
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
Method Blank	099-12-535-4095	N/A	Solid	GC 66	03/13/17	03/16/17 02:37	170313L11

<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	75	24-168	
2,4,5,6-Tetrachloro-m-Xylene	69	25-145	

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: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM1-3	17-03-0641-26-A	02/24/17 00:00	Solid	GC/MS AAA	03/10/17	03/13/17 19:46	170310L04

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

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

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	72	13-127	
Nitrobenzene-d5	78	17-137	
p-Terphenyl-d14	87	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: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM2-3	17-03-0641-27-A	02/24/17 00:00	Solid	GC/MS AAA	03/10/17	03/13/17 20:06	170310L04

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

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

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	77	13-127	
Nitrobenzene-d5	84	17-137	
p-Terphenyl-d14	95	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: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM3-3	17-03-0641-28-A	02/24/17 00:00	Solid	GC/MS AAA	03/10/17	03/13/17 20:26	170310L04

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

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

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
2-Fluorobiphenyl	69	13-127	
Nitrobenzene-d5	80	17-137	
p-Terphenyl-d14	87	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: 03/08/17
 Work Order: 17-03-0641
 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
D-DU3-ISM4-3	17-03-0641-29-A	02/24/17 00:00	Solid	GC/MS AAA	03/10/17	03/13/17 20:46	170310L04

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	71	13-127	
Nitrobenzene-d5	70	17-137	
p-Terphenyl-d14	181	4-160	1,2,7

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: 03/08/17
Work Order: 17-03-0641
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	099-14-035-380	N/A	Solid	GC/MS AAA	03/10/17	03/13/17 17:09	170310L04

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	55	13-127	
Nitrobenzene-d5	61	17-137	
p-Terphenyl-d14	74	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: 03/08/17
Work Order: 17-03-0641
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
17-03-0590-25	Sample	Solid	GC 45	03/09/17	03/11/17 08:46	170309S12
17-03-0590-25	Matrix Spike	Solid	GC 45	03/09/17	03/11/17 08:03	170309S12
17-03-0590-25	Matrix Spike Duplicate	Solid	GC 45	03/09/17	03/11/17 08:24	170309S12

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	361.3	90	394.8	99	61-145	9	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: 03/08/17
Work Order: 17-03-0641
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
17-03-1185-1	Sample	Solid	ICP 7300	03/20/17	03/20/17 17:41	170320S04
17-03-1185-1	Matrix Spike	Solid	ICP 7300	03/20/17	03/20/17 17:42	170320S04
17-03-1185-1	Matrix Spike Duplicate	Solid	ICP 7300	03/20/17	03/21/17 10:35	170320S04

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	9.122	36	8.897	36	50-115	3	0-20	3
Arsenic	4.453	25.00	31.65	109	32.04	110	75-125	1	0-20	
Barium	99.14	25.00	179.1	320	198.0	396	75-125	10	0-20	3
Beryllium	ND	25.00	24.88	100	27.21	109	75-125	9	0-20	
Cadmium	ND	25.00	24.18	97	26.06	104	75-125	7	0-20	
Chromium	28.60	25.00	71.20	170	111.6	332	75-125	44	0-20	3,4
Cobalt	8.900	25.00	35.88	108	44.69	143	75-125	22	0-20	3,4
Copper	20.29	25.00	53.07	131	64.16	175	75-125	19	0-20	3
Lead	7.895	25.00	35.62	111	40.04	129	75-125	12	0-20	3
Molybdenum	0.3745	25.00	23.31	92	24.79	98	75-125	6	0-20	
Nickel	47.35	25.00	94.48	189	162.7	461	75-125	53	0-20	3,4
Selenium	ND	25.00	24.43	98	26.19	105	75-125	7	0-20	
Silver	ND	12.50	12.61	101	13.17	105	75-125	4	0-20	
Thallium	ND	25.00	21.60	86	23.22	93	75-125	7	0-20	
Vanadium	21.06	25.00	54.63	134	69.36	193	75-125	24	0-20	3,4
Zinc	58.30	25.00	96.71	154	108.1	199	75-125	11	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Spike/Spike Duplicate

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

Date Received: 03/08/17
Work Order: 17-03-0641
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
17-03-1188-1	Sample	Solid	ICP 7300	03/20/17	03/20/17 17:45	170320S05
17-03-1188-1	Matrix Spike	Solid	ICP 7300	03/20/17	03/20/17 17:46	170320S05
17-03-1188-1	Matrix Spike Duplicate	Solid	ICP 7300	03/20/17	03/20/17 17:47	170320S05

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	0.9236	25.00	10.72	39	11.99	44	50-115	11	0-20	3
Arsenic	1.838	25.00	26.00	97	28.92	108	75-125	11	0-20	
Barium	186.3	25.00	205.1	4X	203.1	4X	75-125	4X	0-20	Q
Beryllium	0.5630	25.00	27.08	106	28.63	112	75-125	6	0-20	
Cadmium	ND	25.00	25.62	102	27.45	110	75-125	7	0-20	
Chromium	23.50	25.00	46.98	94	52.70	117	75-125	11	0-20	
Cobalt	15.33	25.00	38.82	94	41.44	104	75-125	7	0-20	
Copper	30.48	25.00	56.19	103	60.74	121	75-125	8	0-20	
Lead	6.808	25.00	31.40	98	34.53	111	75-125	9	0-20	
Molybdenum	ND	25.00	20.03	80	22.07	88	75-125	10	0-20	
Nickel	25.72	25.00	49.98	97	54.35	115	75-125	8	0-20	
Selenium	0.8236	25.00	23.79	92	26.76	104	75-125	12	0-20	
Silver	ND	12.50	12.78	102	11.89	95	75-125	7	0-20	
Thallium	ND	25.00	16.26	65	23.45	94	75-125	36	0-20	3,4
Vanadium	50.20	25.00	71.16	84	76.62	106	75-125	7	0-20	
Zinc	48.96	25.00	82.91	136	85.90	148	75-125	4	0-20	3

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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: 03/08/17
Work Order: 17-03-0641
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
17-03-0566-1	Sample	Solid	Mercury 08	03/14/17	03/14/17 15:57	170314S01
17-03-0566-1	Matrix Spike	Solid	Mercury 08	03/14/17	03/14/17 15:59	170314S01
17-03-0566-1	Matrix Spike Duplicate	Solid	Mercury 08	03/14/17	03/14/17 16:02	170314S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	0.1355	0.8350	0.8591	87	0.8413	85	71-137	2	0-14	

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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Spike/Spike Duplicate

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

Date Received: 03/08/17
Work Order: 17-03-0641
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
17-03-0642-30	Sample	Solid	GC 66	03/13/17	03/16/17 03:48	170313S11
17-03-0642-30	Matrix Spike	Solid	GC 66	03/13/17	03/16/17 03:13	170313S11
17-03-0642-30	Matrix Spike Duplicate	Solid	GC 66	03/13/17	03/16/17 03:31	170313S11

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	83.00	83	82.50	82	50-135	1	0-20	
Aroclor-1260	ND	100.0	84.50	84	85.00	85	50-135	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits



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Quality Control - Spike/Spike Duplicate

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

Date Received: 03/08/17
Work Order: 17-03-0641
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				
D-DU3-ISM1-3	Sample	Solid	GC/MS AAA	03/10/17	03/13/17 19:46	170310S04				
D-DU3-ISM1-3	Matrix Spike	Solid	GC/MS AAA	03/10/17	03/14/17 12:30	170310S04				
D-DU3-ISM1-3	Matrix Spike Duplicate	Solid	GC/MS AAA	03/10/17	03/13/17 18:08	170310S04				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	ND	0.1000	0.09218	92	0.08516	85	20-150	8	0-33	
2-Methylnaphthalene	ND	0.1000	0.1045	104	0.09445	94	29-137	10	0-31	
1-Methylnaphthalene	ND	0.1000	0.09569	96	0.08605	86	34-136	11	0-29	
Acenaphthylene	ND	0.1000	0.08040	80	0.07537	75	29-131	6	0-32	
Acenaphthene	ND	0.1000	0.08276	83	0.07798	78	29-137	6	0-28	
Fluorene	ND	0.1000	0.08493	85	0.07855	79	36-132	8	0-27	
Phenanthrene	ND	0.1000	0.09732	97	0.09182	92	20-144	6	0-27	
Anthracene	ND	0.1000	0.1009	101	0.09138	91	26-134	10	0-27	
Fluoranthene	ND	0.1000	0.09398	94	0.08904	89	20-151	5	0-26	
Pyrene	ND	0.1000	0.1040	104	0.09233	92	20-150	12	0-32	
Benzo (a) Anthracene	ND	0.1000	0.09475	95	0.09013	90	24-150	5	0-24	
Chrysene	ND	0.1000	0.09979	100	0.08850	88	25-145	12	0-28	
Benzo (k) Fluoranthene	ND	0.1000	0.1023	102	0.09310	93	28-148	9	0-26	
Benzo (b) Fluoranthene	ND	0.1000	0.08982	90	0.08694	87	21-153	3	0-26	
Benzo (a) Pyrene	ND	0.1000	0.09441	94	0.08980	90	29-149	5	0-22	
Indeno (1,2,3-c,d) Pyrene	ND	0.1000	0.08802	88	0.08785	88	20-154	0	0-25	
Dibenz (a,h) Anthracene	ND	0.1000	0.08938	89	0.08940	89	20-132	0	0-26	
Benzo (g,h,i) Perylene	ND	0.1000	0.08732	87	0.09140	91	20-148	5	0-27	

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RPD: Relative Percent Difference. CL: Control Limits

Quality Control - Sample Duplicate

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

Date Received: 03/08/17
Work Order: 17-03-0641
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
17-03-0643-29	Sample	Solid	N/A	03/09/17 00:00	03/09/17 21:00	H0309MOID2
17-03-0643-29	Sample Duplicate	Solid	N/A	03/09/17 00:00	03/09/17 21:00	H0309MOID2

<u>Parameter</u>	<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Moisture	3.300	3.100	6	0-10	

Quality Control - LCS

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

Date Received: 03/08/17
Work Order: 17-03-0641
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
099-14-353-6	LCS	Solid	GC 45	03/09/17	03/11/17 07:42	170309B12

<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	407.8	102	61-145	

Quality Control - LCS

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

Date Received: 03/08/17
Work Order: 17-03-0641
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
097-01-002-24460	LCS	Solid	ICP 7300	03/20/17	03/20/17 17:07	170320L04
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	22.89	92	80-120	73-127	
Arsenic	25.00	23.58	94	80-120	73-127	
Barium	25.00	24.69	99	80-120	73-127	
Beryllium	25.00	23.84	95	80-120	73-127	
Cadmium	25.00	23.87	95	80-120	73-127	
Chromium	25.00	23.77	95	80-120	73-127	
Cobalt	25.00	24.40	98	80-120	73-127	
Copper	25.00	23.41	94	80-120	73-127	
Lead	25.00	23.95	96	80-120	73-127	
Molybdenum	25.00	23.11	92	80-120	73-127	
Nickel	25.00	24.50	98	80-120	73-127	
Selenium	25.00	23.04	92	80-120	73-127	
Silver	12.50	11.03	88	80-120	73-127	
Thallium	25.00	23.69	95	80-120	73-127	
Vanadium	25.00	22.51	90	80-120	73-127	
Zinc	25.00	23.71	95	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: 03/08/17
Work Order: 17-03-0641
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
097-01-002-24461	LCS	Solid	ICP 7300	03/20/17	03/20/17 17:08	170320L05
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	22.35	89	80-120	73-127	
Arsenic	25.00	22.51	90	80-120	73-127	
Barium	25.00	24.20	97	80-120	73-127	
Beryllium	25.00	23.17	93	80-120	73-127	
Cadmium	25.00	23.22	93	80-120	73-127	
Chromium	25.00	23.34	93	80-120	73-127	
Cobalt	25.00	24.11	96	80-120	73-127	
Copper	25.00	23.06	92	80-120	73-127	
Lead	25.00	23.73	95	80-120	73-127	
Molybdenum	25.00	22.93	92	80-120	73-127	
Nickel	25.00	24.17	97	80-120	73-127	
Selenium	25.00	22.92	92	80-120	73-127	
Silver	12.50	10.79	86	80-120	73-127	
Thallium	25.00	23.74	95	80-120	73-127	
Vanadium	25.00	22.08	88	80-120	73-127	
Zinc	25.00	23.35	93	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: 03/08/17
Work Order: 17-03-0641
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
099-16-272-2870	LCS	Solid	Mercury 08	03/14/17	03/14/17 15:55	170314L01

<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	0.8050	96	85-121	

Quality Control - LCS

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

Date Received: 03/08/17
Work Order: 17-03-0641
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
099-12-535-4095	LCS	Solid	GC 66	03/13/17	03/16/17 02:55	170313L11
<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	84.00	84	50-135	
Aroclor-1260		100.0	85.00	85	50-135	

Quality Control - LCS

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

Date Received: 03/08/17
Work Order: 17-03-0641
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
099-14-035-380	LCS	Solid	GC/MS AAA	03/10/17	03/13/17 17:28	170310L04
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Naphthalene	0.1000	0.06679	67	51-129	38-142	
2-Methylnaphthalene	0.1000	0.07206	72	50-127	37-140	
1-Methylnaphthalene	0.1000	0.06639	66	54-132	41-145	
Acenaphthylene	0.1000	0.05763	58	50-123	38-135	
Acenaphthene	0.1000	0.05903	59	53-125	41-137	
Fluorene	0.1000	0.06071	61	55-127	43-139	
Phenanthrene	0.1000	0.07239	72	50-122	38-134	
Anthracene	0.1000	0.07105	71	50-132	36-146	
Fluoranthene	0.1000	0.07754	78	55-127	43-139	
Pyrene	0.1000	0.07831	78	50-134	36-148	
Benzo (a) Anthracene	0.1000	0.08311	83	50-133	36-147	
Chrysene	0.1000	0.08263	83	51-129	38-142	
Benzo (k) Fluoranthene	0.1000	0.08987	90	49-150	32-167	
Benzo (b) Fluoranthene	0.1000	0.08263	83	50-142	35-157	
Benzo (a) Pyrene	0.1000	0.08523	85	50-134	36-148	
Indeno (1,2,3-c,d) Pyrene	0.1000	0.08255	83	50-148	34-164	
Dibenz (a,h) Anthracene	0.1000	0.08511	85	50-133	36-147	
Benzo (g,h,i) Perylene	0.1000	0.08546	85	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

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Sample Analysis Summary Report

Work Order: 17-03-0641

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
ASTM D-2216 (M)	N/A	1009	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 45	1
EPA 8082	EPA 3545	669	GC 66	1
EPA 8270C SIM PAHs	EPA 3545	907	GC/MS AAA	1

Glossary of Terms and Qualifiers

Work Order: 17-03-0641

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<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.



5261 West Imperial Highway, Los Angeles CA 90045

5261 West Imperial Highway, Los Angeles CA 90045
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Analytical Laboratory:										Calsciencie		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	Vapor	Other	Cold (4° C)	HNO3	NaHSO4	HCl	Date	Time
1	D-DU3-ISM1-3		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
2	D-DU3-ISM2-3		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
3	D-DU3-ISM3-3		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
4	D-DU3-ISM4-3		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
5	D-DU3-ISM1-8		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
6	D-DU3-ISM2-8		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
7	D-DU3-ISM3-8		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
8	D-DU3-ISM4-8		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
9	D-DU3-ISM1-15		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
10	D-DU3-ISM2-15		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
11	D-DU3-ISM3-15		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
12	D-DU3-ISM4-15		X	X	X	X	X	X	X	2/24, 2/28, 3/1, 3/8			
13													
14													
15													
16													
17													
18													
19													
20													
Relinquished by		Date		Time		Received by		Date		Time		Remarks	
		03/08/17						03/08/17				Sample condition (circle): Chilled Intact	
												15-footers on hold pending results of shallow samples	
												Original samples for ISM previously submitted	

LAB_SDG	LAB_SAMPLE_NUMBER	FIELD_SAMPLE	SAMPLING_DATE	SAMPLING_TIME	MATRIX	DEPTH	PROJECT_ID
17-02-2293	17-02-2293-1	D-DU3-S-01-03	20170224	14:47:00	Soil	3	Burbank Airport / 9836002041
17-02-2479	17-02-2479-1	D-DU3-S-02-03	20170228	11:39:00	Soil	3	Burbank Airport / 9836002041
17-02-2479	17-02-2479-4	D-DU3-S-03-03	20170228	09:13:00	Soil	3	Burbank Airport / 9836002041
17-02-2479	17-02-2479-7	D-DU3-S-04-03	20170228	10:50:00	Soil	3	Burbank Airport / 9836002041
17-02-2479	17-02-2479-10	D-DU3-S-05-03	20170228	09:55:00	Soil	3	Burbank Airport / 9836002041
17-03-0090	17-03-0090-1	D-DU3-S-SG-04-03	20170301	12:44:00	Soil	3	Burbank Airport / 9836002041
17-03-0090	17-03-0090-4	D-DU3-S-SG-05-03	20170301	14:19:00	Soil	3	Burbank Airport / 9836002041
17-03-0090	17-03-0090-7	D-DU3-S-06-03	20170301	11:03:00	Soil	3	Burbank Airport / 9836002041
17-03-0090	17-03-0090-10	D-DU3-S-07-03	20170301	10:20:00	Soil	3	Burbank Airport / 9836002041
17-03-0090	17-03-0090-13	D-DU3-S-08-03	20170301	09:39:00	Soil	3	Burbank Airport / 9836002041
17-03-0090	17-03-0090-16	D-DU3-S-09-03	20170301	09:08:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-1	D-DU3-S-10-3	20170308	08:25:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-4	D-DU3-S-11-3	20170308	14:08:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-7	D-DU3-S-12-3	20170308	11:10:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-10	D-DU3-S-13-3	20170308	09:10:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-13	D-DU3-S-14-3	20170308	07:50:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-16	D-DU3-S-15-3	20170308	09:45:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-19	D-DU3-S-SG-01-3S	20170308	13:20:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-22	D-DU3-S-SG-02-3S	20170308	12:43:00	Soil	3	Burbank Airport / 9836002041
17-03-0636	17-03-0636-25	D-DU3-S-SG-03-3S	20170308	10:10:00	Soil	3	Burbank Airport / 9836002041

D-DU3-ISM1-3
D-DU3-ISM2-3
D-DU3-ISM3-3
D-DU3-ISM4-3

Analytical Laboratory:		Calscience		Job # 9836002041		Container		Method		Turnaround Time																	
Project Name:		Burbank Airport		NA		17-02-2293																					
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	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	D-043-S-01-03	1	Grab	Water	Other	2/24	14:47		X																		
2	" - 08	2	Grab	Water	Other	2/24	14:52		X																		
3	" - 15	3	Grab	Water	Other	2/24	15:03		X																		
Relinquished by: <i>[Signature]</i> Date: 2/24/17 Time: 16:00 Received by: <i>[Signature]</i> Date: 2/24/17 Time: 16:00 Sample condition (circle): Chilled Intact <i>Hold until all D-043 samples received for 15H</i>																											

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1CLIENT: EF1DATE: 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): 3.2 °C (w/ CF): 3.2 °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 ☐ FilterChecked by: 804

CUSTODY SEAL:

Cooler ☒ Present and Intact☐ Present but Not Intact☐ Not Present☐ N/AChecked by: 804Sample(s) ☐ Present and Intact☐ Present but Not Intact☒ Not Present☐ N/AChecked by: 1110

SAMPLE CONDITION:

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

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

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

Unpreserved aqueous sample(s) received for certain analyses

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

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

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

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

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 1110s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄.H₂O, znna = Zn (CH₃CO₂)₂ + NaOHReviewed by: 687

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	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	D-D435-02-03	1	Grab	Water	Discard		2/28/17 11:39																						
2	D-D435-02-08	2	Grab	Water	Discard		2/28/17 11:44																						
3	" -15	3	Grab	Water	Discard		2/28/17 12:02																						
4	D-D435-03-03	4	Grab	Water	Discard		2/28/17 9:13																						
5	" -08	5	Grab	Water	Discard		2/28/17 9:25																						
6	" -15	6	Grab	Water	Discard		2/28/17 9:28																						
7	D-D435-04-03	7	Grab	Water	Discard		2/28/17 10:50																						
8	" -08	8	Grab	Water	Discard		2/28/17 10:58																						
9	" -15	9	Grab	Water	Discard		2/28/17 11:15																						
10	D-D435-05-03	10	Grab	Water	Discard		2/28/17 9:55																						
11	" -08	11	Grab	Water	Discard		2/28/17 10:00																						
12	" -15	12	Grab	Water	Discard		2/28/17 10:15																						
Relinquished by		2/28/17 1556		Received by		2/28/17 1556		Time		Time		Time		Time		Time		Time		Time		Time		Time		Time		Time	
Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature	
Remarks		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact		Sample condition (circle): Chilled Intact	
Remarks		Hold until all D-D43		Remarks		Received for 15H		Remarks		Remarks		Remarks		Remarks		Remarks		Remarks		Remarks		Remarks		Remarks		Remarks		Remarks	

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 02/28/2017

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

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

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

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

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

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 1091

CUSTODY SEAL:

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

Checked by: 1091

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

Checked by: 778

SAMPLE CONDITION:

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

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

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

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

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

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

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

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

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

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

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

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

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

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals

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

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

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

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

CONTAINER TYPE: (Trip Blank Lot Number: _____)

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

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

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

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

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

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 778

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

Reviewed by: 694

Chain-of-Custody Record

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

EFI Global

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			
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	HCl	Date	Time	Method	Container	Turnaround Time		
1	D-DU3-S-56-04-03	1	Grab	Water	Discrete	X	3/1/17	12:44	VOCs, EPA Method 8260B	VOA	48 Hours		
2	-08	2	Grab	Soil		X		12:55	Metals, EPA Method 6010B/7470A	Amber Bottle	Normal		
3	-15	3	Grab	Vapor		X		13:12	PAHs, EPA Method 8270C	Acetate Liner	24 hours		
4	D-DU3-S-56-05-03	4	Grab	Water		X		14:19	Lead, EPA Method 6010B	EZ Draw (EPA 5035)			
5	-08	5	Grab	Soil		X		14:20	Arsenic, EPA Method 6010B				
6	-15	6	Grab	Vapor		X		14:36	STLC Lead EPA Method				
7	D-DU3-S-06-03	7	Grab	Water		X		11:03	TCLP Lead EPA Method				
8	-08	8	Grab	Soil		X		11:07	PCBs, EPA Method 8082				
9	-15	9	Grab	Vapor		X		11:13	TPH full chain, EPA Method 8015M				
10	D-DU3-S-07-03	10	Grab	Water		X		10:20	ERPH, EPA Method 8015M				
11	-08	11	Grab	Soil		X		10:30	Composite				
12	-15	12	Grab	Vapor		X		10:36	Hold				
13	D-DU3-S-08-03	13	Grab	Water		X		9:39					
14	-08	14	Grab	Soil		X		9:42					
15	-15	15	Grab	Vapor		X		9:51					
16	D-DU3-S-09-03	16	Grab	Water		X		9:08					
17	-08	17	Grab	Soil		X		9:12					
18	-15	18	Grab	Vapor		X		9:15					
Relinquished By: [Signature]										Date: 3/1/17		Time: 1530	
Received by: [Signature]										Date: 3/1/17		Time: 1725	
Remarks: Sample condition (circle): Chilled Intact													

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

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 courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 1091

CUSTODY SEAL:

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

Checked by: 1091

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

Checked by: 1091

SAMPLE CONDITION:

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

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

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

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

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

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

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

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

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

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

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

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

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

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals

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

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

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

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

CONTAINER TYPE:

(Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ 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: 1017

s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄.H₂O, z₂na = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 680

SAMPLE ANOMALY REPORT

DATE: 03 / 01 / 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) thru (-6)
labeled as D-DU3-S-SG-XX-XX "S"
Collection date & time ~~pe~~ matched

Comments

(Containers with bubble for other analysis)

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

Reported by: 1017

Reviewed by: 651

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	HCl	NaHSO4	HNO3	Cold (4° C)	Other	Vapor	Soil	Water	Discrete	Grab	Type	Sampling Information	Date	Time
1	D-DU3-S-10-3		X	X					X									3/8/17	8:25
2	-8																	3/8/17	8:27
3	-15																	3/8/17	8:35
4	D-DU3-S-11-3																	3/8/17	14:08
5	-8																	3/8/17	14:12
6	-15																	3/8/17	14:20
7	D-DU3-S-12-3																	3/8/17	11:10
8	-8																	3/8/17	11:15
9	-15																	3/8/17	11:20
10	D-DU3-S-13-3																	3/8/17	9:10
11	-8																	3/8/17	9:13
12	-15																	3/8/17	9:20
13	D-DU3-S-14-3																	3/8/17	7:50
14	-8																	3/8/17	7:53
15	-15																	3/8/17	8:05
16	D-DU3-S-15-3																	3/8/17	9:45
17	-8																	3/8/17	9:50
18	-15																	3/8/17	9:55
19	D-DU3-S-16-01-35																	3/8/17	13:20
20	-85																	3/8/17	13:25

Relinquished by	Date	Time	Received by	Date	Time	Remarks
[Signature]	3/8/17	1620	[Signature]	3/8/17	1620	Sample condition (circle): Chilled Intact
[Signature]	3/8/17	1810	[Signature]	3/8/17	1810	Hold until all DDUs received and separate loc for 156 ampoules.

Take sample from can of line.

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	Date	Time	OCPS, EPA Method 8081A	PAHs, EPA Method 8270C SIM	Metals, EPA Method 6010B/7471A	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	TPHd, TPHmo, EPA Method 8015M	Composite	Hold	4- or 8-ounce Glass	250-ml Poly Bottle	EZ Draw (EPA 5035)	Acetate Liner	1-l Amber Bottle	24 hours	48 hours	Normal
21	D-43-SSG-0455		Grab	Discrete	X	3/8/17	13:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22	D-43-SSG-02-35		Grab	Discrete	X	3/8/17	12:43	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	-88		Grab	Discrete	X	3/8/17	12:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
24	-153		Grab	Discrete	X	3/8/17	13:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	D-43-SSG-03-38		Grab	Discrete	X	3/8/17	10:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26	-85		Grab	Discrete	X	3/8/17	10:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27	-153		Grab	Discrete	X	3/8/17	10:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Relinquished by	Date	Time	Received by	Date	Time	Remarks
[Signature]	3/8/17	16:20	[Signature]	3/8/17	16:20	Sample condition (circle): Chilled Intact
[Signature]	3/8/17	18:10	[Signature]	3/8/17	18:10	Hold until all of D-43 received for 15th composites.

Take sample from center of line.

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 03 / 8 / 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): 2.0 °C (w/ CF): 2.0 °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: 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 ☐ VOAh ☐ VOAna₂ ☐ 100PJ ☐ 100PJna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB☐ 125PBznnna ☐ 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, znnna = Zn (CH₃CO₂)₂ + NaOH

Reviewed by: 607

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0641

CONDITION UPON RECEIPT:

Eurofins Calscience, Inc. received (20) solid samples on February 24, 28, March 1, and 8, 2017. A total of (20) containers were received in good condition and at temperatures of 1.8°C, 2.0°C, and 3.2°C, which were within the recommended temperature of 0°C – 6°C.

Client Sample ID	Lab Sample ID	Date & Time Sampled	Date & Time Received
D-DU3-S-01-03	17-03-0641-1	02/24/17 14:47	03/08/17 18:10
D-DU3-S-02-03	17-03-0641-2	02/28/17 11:39	03/08/17 18:10
D-DU3-S-03-03	17-03-0641-3	02/28/17 09:13	03/08/17 18:10
D-DU3-S-04-03	17-03-0641-4	02/28/17 10:50	03/08/17 18:10
D-DU3-S-05-03	17-03-0641-5	02/28/17 09:55	03/08/17 18:10
D-DU3-S-SG-04-03	17-03-0641-6	03/01/17 12:44	03/08/17 18:10
D-DU3-S-SG-05-03	17-03-0641-7	03/01/17 14:19	03/08/17 18:10
D-DU3-S-06-03	17-03-0641-8	03/01/17 11:03	03/08/17 18:10
D-DU3-S-07-03	17-03-0641-9	03/01/17 10:20	03/08/17 18:10
D-DU3-S-08-03	17-03-0641-10	03/01/17 09:39	03/08/17 18:10
D-DU3-S-09-03	17-03-0641-11	03/01/17 09:08	03/08/17 18:10
D-DU3-S-10-3	17-03-0641-12	03/08/17 08:25	03/08/17 18:10
D-DU3-S-11-3	17-03-0641-13	03/08/17 14:08	03/08/17 18:10
D-DU3-S-12-3	17-03-0641-14	03/08/17 11:10	03/08/17 18:10
D-DU3-S-13-3	17-03-0641-15	03/08/17 09:10	03/08/17 18:10
D-DU3-S-14-3	17-03-0641-16	03/08/17 07:50	03/08/17 18:10
D-DU3-S-15-3	17-03-0641-17	03/08/17 09:45	03/08/17 18:10
D-DU3-S-SG-01-3S	17-03-0641-18	03/08/17 13:20	03/08/17 18:10
D-DU3-S-SG-02-3S	17-03-0641-19	03/08/17 12:43	03/08/17 18:10
D-DU3-S-SG-03-3S	17-03-0641-20	03/08/17 10:10	03/08/17 18:10
COMPOSITE	17-03-0641-21	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM1-3	17-03-0641-22	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM2-3	17-03-0641-23	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM3-3	17-03-0641-24	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM4-3	17-03-0641-25	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM1-3	17-03-0641-26	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM2-3	17-03-0641-27	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM3-3	17-03-0641-28	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM4-3	17-03-0641-29	02/24/17 00:00	03/08/17 18:10
D-DU3-ISM1-3	17-03-0641-30	02/24/17 00:00	03/08/17 18:10

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0641

DATA SUMMARY:

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

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

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

Sample results were reported in the RL format.

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

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

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

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

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

Samples -26 through -29 were analyzed for % Moisture by ASTM D-2216 (M). The samples were prepared and analyzed on 03/09/17 in batch #s H0309MOIB2 / H0309MOID2.

Samples -26 through -29 were analyzed after holding time expired.

Balance Calibration/Verification:

All values were within acceptance criteria.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0641

Sample and QC:

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

EPA 6010B Title 22 Metals (Solid):

Samples -30 through -33 were analyzed for Metals by EPA 6010B. The samples were prepared and analyzed on 03/20/17 in batch #s 170320L04 / 170320S04 and 170320L05 / 170320S05 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 170320L04 / 170320S04: (Associated with samples -30 through -32)

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

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

- QC Batch #s 170320L05 / 170320S05: (Associated with sample -33)

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.

EPA 7471A Mercury (Solid):

Samples -26 through -29 were analyzed for Mercury by EPA 7471A. The samples were prepared and analyzed on 03/14/17 in batch #s 170314L01 / 170314S01 on Mercury 08.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0641

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

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

Samples -26 through -29 were analyzed for Diesel and Motor Oil Ranges by EPA 8015B (M). The samples were prepared on 03/09/17 and analyzed on 03/11/17 in batch #s 170309B12 / 170309S12 on GC 45.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 12/02/16 on GC 45. The ICAL was within the 20% RSD acceptance criteria and the ICV was within the 30% D acceptance criteria.

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

Continuing Calibration Verification:

All values were within the 20% D acceptance criteria.

Sample and QC:

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.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0641

EPA 8082 PCB Aroclors (Solid):

Samples -30 through -33 were analyzed for Polychlorinated Biphenyls Aroclors by EPA 8082. The samples were prepared on 03/13/17 and analyzed on 03/16/17 in batch #s 170313L11 / 170313S11 on GC 66.

Samples -30 through -33 were extracted past end of recommended maximum holding time.

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:

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.

EPA 8270C SIM PAHs (Solid):

Samples -26 through -29 were analyzed for Polynuclear Aromatic Hydrocarbons by EPA 8270C SIM. The samples were prepared on 03/10/17 and analyzed on 03/13/17 in batch #s 170310L04 / 170310S04 on GC/MS AAA.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 03/13/17 on GC/MS AAA. 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.

Case Narrative

Client Project Name: Burbank Airport / 9836002041

Work Order Number: 17-03-0641

Sample and QC:

Sample -26 was used for the MS/MSD. The method blank was non-detect; the LCS and MS/MSD were within acceptance criteria.

All surrogate and internal standard recoveries were within acceptance criteria except for p-Terphenyl-d14 surrogate recovery, which was above acceptance criteria in sample -29. Sample -29 was reanalyzed to confirm the matrix interference. The initial run was reported.

ASTM D-2216 (M)

Moisture Content

(Solid)

RAW DATA

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

Page 59 of 479

WORK ORDER: 17-03-0641
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-09 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-10 15:14

DATA FILE: NONE

26 **CLIENT SAMPLE NUMBER:** D-DU3-ISM1-3

LCS/MB BATCH:	H0309MOIB2	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0309MOID2	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	5.30	1.00	5.30	0.10	7c

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

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WORK ORDER: 17-03-0641
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-09 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-10 15:14

DATA FILE: NONE

27 **CLIENT SAMPLE NUMBER:** D-DU3-ISM2-3

<u>LCS/MB BATCH:</u>	H0309MOIB2	<u>SAMPLE VOLUME / WEIGHT:</u>	DEFAULT: 1.00 g
<u>MS/MSD BATCH:</u>	H0309MOID2	<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	4.90	1.00	4.90	0.10	7c

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

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WORK ORDER: 17-03-0641
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-09 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-10 15:14

DATA FILE: NONE

28 **CLIENT SAMPLE NUMBER:** D-DU3-ISM3-3

LCS/MB BATCH:	H0309MOIB2	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0309MOID2	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	5.00	1.00	5.00	0.10	7c

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

Page 62 of 479

WORK ORDER: 17-03-0641
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-09 00:00
DATA FILE: NONE

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-09 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-10 15:14

29 **CLIENT SAMPLE NUMBER:** D-DU3-ISM4-3

<u>LCS/MB BATCH:</u>	H0309MOIB2	<u>SAMPLE VOLUME / WEIGHT:</u>	DEFAULT: 1.00 g
<u>MS/MSD BATCH:</u>	H0309MOID2	<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	4.80	1.00	4.80	0.10	7c

METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: ASTM D-2216 (M)

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MB SAMPLE ID: 099-05-014-6733
MB BATCH ID: H0309MOIB2
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-09 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-10 15:14
MATRIX: Soil

DATA FILE: NONE

CLIENT WORK ORDER: 17-03-0641

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
26	D-DU3-ISM1-3		2017-03-09 21:00	NONE
27	D-DU3-ISM2-3		2017-03-09 21:00	NONE
28	D-DU3-ISM3-3		2017-03-09 21:00	NONE
29	D-DU3-ISM4-3		2017-03-09 21:00	NONE

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

Page 64 of 479

WORK ORDER: 099-05-014
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-09 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-10 15:14

DATA FILE: NONE

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH:	H0309MOIB2	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:		FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

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

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

DUP SAMPLE ID: 17-03-0643-29
DUP BATCH: H0309MOID2
INSTRUMENTS:
SAMPLE: N/A
DUP SAMPLE: N/A

EXTRACTION: N/A
D/T EXTRACTED:
SAMPLE: 2017-03-09 00:00
DUP SAMPLE: 2017-03-09 00:00

ANALYZED BY: 1,009
D/T ANALYZED
SAMPLE: 2017-03-09 21:00
DUP SAMPLE: 2017-03-09 21:00
REVIEWED BY: 1,009
D/T REVIEWED 2017-03-10 15:14

COMPOUND	SAMPLE CONC	DUP CONC	% RPD	CONTROL LIMIT	STATUS	QUALIFIERS
Moisture	3.300	3.100	6	0-10	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
SDP	NONE	

METHOD	MATRIX	DATE	ANALYST(S)	BATCH NUMBER
ASTM D2216(M)	☒ Solid ☐ Sediment ☐ Other _____	Preparation: 3/9/17	1050/1009	MB: H0309 M01B2
		Analysis: ↓	↓	Sample Duplicate: ↓ D2

CEL ID #	MASS (g)				% MOISTURE	RL (%)	COMMENTS	ALUMINUM DISH SUPPLY ID
	DISH		MOISTURE					
MB	1.87	1.87	0.00	0.00	0.00	0.10		6007-66-15

CEL ID #		% MOISTURE	RPD	CONTROL LIMIT	OVEN ID	THERMOMETER ID / CF (°C)	OVEN TEMP (°C)	BATCH PREP TIME (hh:mm)
Sample	17-03-0643-29A	3.3	6	0 - 10	☒ IO 07	☒ TSS IO7A CF: -2	Start: 103	Start: 1300
Duplicate	4	3.1			☐ IO 08	☐ TSS IO8A CF:	End: 103	End: 2100
					☐	CF:		

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

[illegible]

BATCH TIME
Time (24 Hrs) 2100
Initials: 1050/1004

[illegible]

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 3/9/17 Initials: llll

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	100.01	98.00 - 102.00	☒ N	
	500	500.03	498.00 - 502.00	☒ N	
62	0.002	.0025	0.00180 - 0.00220	☒ N	IO Lab
	1	99.9969	0.99900 - 1.00100	☒ N	
	100	1.0001	99.90000 - 100.10000	☒ N	
26	1	1.01	0.98 - 1.02	☒ N	IO Lab
	100	100.00	98.00 - 102.00	☒ N	
55	1	1.01	0.98 - 1.02	☒ N	IO Lab
	100	99.97	98.00 - 102.00	☒ N	
	500	499.85	498.00 - 502.00	☒ N	
11	1	1.00	0.98 - 1.02	☒ N	IO Lab
	100	100.01	98.00 - 102.00	☒ N	
66	0.002	.0020	0.00180 - 0.00220	☒ N	Metals
	1	.9993	0.99900 - 1.00100	☒ N	
	100	100.0011	99.90000 - 100.10000	☒ N	
53	0.1	.10	0.09 - 0.11	☒ N	Extractions
	1	1.00	0.98 - 1.02	☒ N	
	100	99.99	98.00 - 102.00	☒ N	
	500	499.95	498 - 502	☒ N	
20	1	1.00	0.98 - 1.02	☒ N	Extractions
70	100	99.83	98.00 - 102.00	☒ N	
	500	499.18	498.00 - 502.00	☒ N	
57	100	100.0	98.0-102.0	☒ N	Extractions
	1000	1000.0	998.0-1002.0	☒ N	
	2000	2000.0	1998.0-2002.0	☒ N	
52	0.002	.0020	0.0018 - 0.0022	☒ N	Extractions
	1	.9995	0.9990 - 1.0010	☒ N	
	100	99.9969	99.9000 - 100.1000	☒ N	
71	0.002	.0019 ~~0.0023~~ 101	0.0018 - 0.0022	☒ N	BOD Room
	1	.9994	0.9990 - 1.0010	☒ N	
	100	99.9965	99.9000 - 100.1000	☒ N	
63	0.1	.10	0.09 - 0.11	☒ N	BOD Room
	100	100.01	98.00 - 102.00	☒ N	
64	1	1.00	0.98 - 1.02	☒ N	Metals Clean Room
	10	10.00	9.8 - 10.2	☒ N	
	100	100.00	98.00 - 102.00	☒ N	
72	0.002	.0019	0.0018 - 0.0022	☒ N	Oil & Grease Room
	1	.9993	0.9990 - 1.0010	☒ N	
	100	100.0010	99.9000 - 100.1000	☒ N	
30	1	.99	0.98 - 1.02	☒ N	Oil & Grease Room
	100	99.97	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: 099-14-354-18-5901
ICAL BATCH ID: 1612021007
INSTRUMENT: GC 45

ANALYZED BY: 972
ICAL D/T ANALYZED: 2016-12-02 19:43
REVIEWED BY: 27
D/T REVIEWED: 2017-02-16 16:05

COMPOUND	COMP. TYPE	CALIB. MODEL	1	2	3	4	5	6	7	8	9	Avg. RF	Min. RF	%RSD CL	R or R^2 CL	STATUS
TPH as Diesel	C	Avg RF	69.187	81.182	81.639	84.113	83.988					80.02	0.00	8	0-20	PASS
												2				

Data Files:

Level #	D/T Analyzed	Data File
1	2016-12-02 19:43	T:\GC_45\GC_45_data\2016\161202\16120207.d\Report.txt16120207
2	2016-12-02 20:05	T:\GC_45\GC_45_data\2016\161202\16120208.d\Report.txt16120208
3	2016-12-02 20:27	T:\GC_45\GC_45_data\2016\161202\16120209.d\Report.txt16120209
4	2016-12-02 20:48	T:\GC_45\GC_45_data\2016\161202\16120210.d\Report.txt16120210
5	2016-12-02 21:09	T:\GC_45\GC_45_data\2016\161202\16120211.d\Report.txt16120211



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

ICV WORK ORDER: 099-14-354-18-5901
INITIAL BATCH: 1612021007
INSTRUMENT: GC 45

ANALYZED BY: 972
D/T ANALYZED: 2016-12-02 19:43
INITIAL: 2016-12-02 21:31
ICV: 27
REVIEWED BY: 2017-02-16 16:05
D/T REVIEWED:

DATA FILE: T:\GC_45\GC_45_data\2016\161202\16120212.d\Report.txt16120212

COMPOUND NAME	COMP CALIB		MIN RF	AVG RF	ICV RF	AMOUNT	ICV CONC	ICV %D	ICV %D CL	STATUS
	TYPE	MODEL								
TPH as Diesel	C	Avg Resp	0.00	80.022	82.011			-2	0-30	PASS

MIN RF: Method Specified Minimum Response Factor

Report Date : 05-Dec-2016 12:22

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2016 12:03
 End Cal Date : 03-DEC-2016 01:29
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Cal Date : 05-Dec-2016 12:21 uj3k
 Curve Type : Average

Calibration File Names:

Level 1: /chem1/SVOA/GC_45.i/161202.b/16120219.d
 Level 2: /chem1/SVOA/GC_45.i/161202.b/16120220.d
 Level 3: /chem1/SVOA/GC_45.i/161202.b/16120221.d
 Level 4: /chem1/SVOA/GC_45.i/161202.b/16120222.d
 Level 5: /chem1/SVOA/GC_45.i/161202.b/16120223.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	86545	105289	90515	85391	87961	91140	9
S 5 TPH as JP5 rf	69215	101437	91291	87968	106079	91198	16
S 8 TPH Gas/Diesel rf	37970	53614	55393	55706	53469	51230	15
S 15 TPH as Diesel rf	69187	81182	81639	84113	83988	80022	8

Report Date : 05-Dec-2016 12:22

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2016 12:03
 End Cal Date : 03-DEC-2016 01:29
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Cal Date : 05-Dec-2016 12:21 uj3k
 Curve Type : Average

	5.000	200.000	400.000	800.000	1600.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRP	% RSD
=====	=====	=====	=====	=====	=====	=====	=====
S 27 Diesel Range Organics rf	66446	76346	76541	77565	77319	74844	6
S 32 Oil Range Organics rf	61212	79825	76603	79618	78958	75243	11
S 36 TPH as Motor Oil rf	61342	80625	77575	80771	80149	76092	11
=====	=====	=====	=====	=====	=====	=====	=====

Report Date : 05-Dec-2016 12:22

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2016 12:03
 End Cal Date : 03-DEC-2016 01:29
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Cal Date : 05-Dec-2016 12:21 uj3k
 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 53 Crude Oil rf	46307	41013	42600	48242	48611	45355	8
S 65 Hydraulic Oil rf	70102	84275	85720	85748	86559	82481	8

Report Date : 05-Dec-2016 12:22

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2016 12:03
 End Cal Date : 03-DEC-2016 01:29
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Cal Date : 05-Dec-2016 12:21 uj3k
 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 206 NWTPH_Diesel rf	54683	80240	89681	88534	88358	80299	18
S 207 NWTPH_Diesel range rf	54683	80240	89681	88534	88358	80299	18
S 209 NWTPH_Motor Oil rf	81215	73070	86473	80435	85496	81338	7
=====	=====	=====	=====	=====	=====	=====	=====
\$ 93 n-Octacosane	86757	86415	85727	86538	85868	86261	1
\$ 94 C28 n-Octacosane	92246	92350	96946	93190	93357	93618	2
=====	=====	=====	=====	=====	=====	=====	=====

Data File: /chem1/SVOA/GC_45.i/161202.b/16120212.d
 Report Date: 12/05/2016 10:26

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_45.i Injection Date and Time: 02-DEC-2016 21:31
 Sample Name: ICV D400 C28 50 L102516G Initial Calibration Date(s): 18-OCT-2016 03-DEC-2016
 Sublist used: ICAL_D-DRO.sub Initial Calibration Time(s): 12:03 01:29
 Method used: /chem1/SVOA/GC_45.i/161202.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type
TPH as Diesel	80021.702	82010.680	0.00	-2	15	Averaged
Diesel Range Organics	74843.538	78906.825	0.00	-5	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type
n-Octacosane	86260.794	87158.300	0.00	-1	20	Averaged

page 1

Data File: /chem1/SVOA/GC_45.i/161202.b/16120207.d
 Report Date: 05-Dec-2016 10:25

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/161202.b/16120207.d
 Lab Smp Id:
 Inj Date : 02-DEC-2016 19:43
 Operator : 682
 Smp Info : ICAL D5 C28 0.625 L102516B
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Meth Date : 05-Dec-2016 10:25 uj3k
 Cal Date : 03-DEC-2016 00:02
 Als bottle: 7
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_45.i
 Quant Type: ESTD
 Cal File: 16120219.d
 Calibration Sample, Level: 1
 Compound Sublist: ICAL_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 15 TPH as Diesel	0.666-8.944			345934	5.00000	4.323 (a)
S 27 Diesel Range Organics	2.374-8.944			332229	5.00000	4.438 (a)
\$ 93 n-Octacosane	8.730	8.730	0.000	54223	0.62500	0.628

QC Flag Legend

a - Target compound detected but, quantitated amount
 Below Limit Of Quantitation(BLOQ).

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Data File: /chem1/SV00A/GC_45.i/161202.b/16120207.d

Date : 02-DEC-2016 19:43

Client ID:

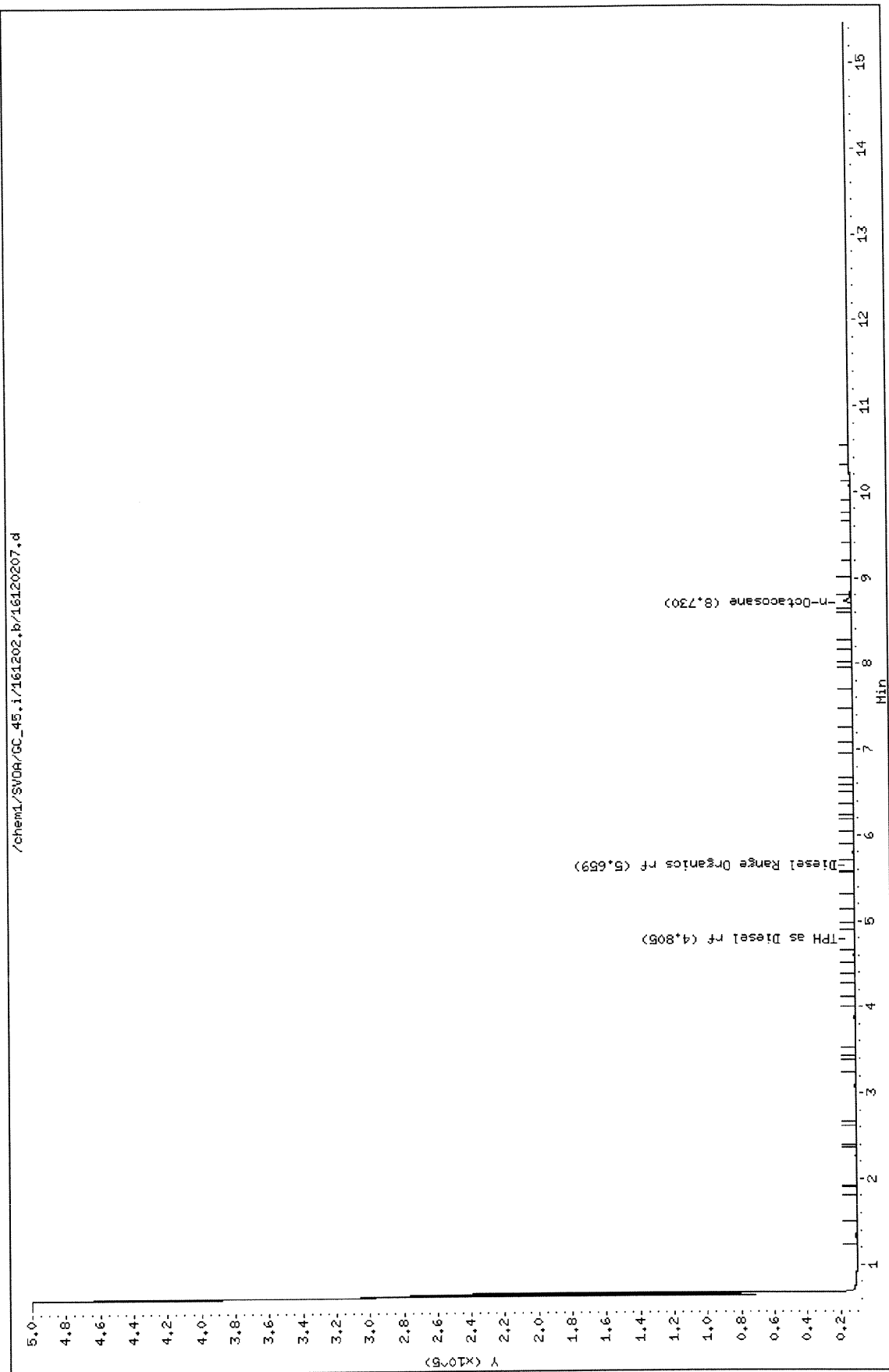
Sample Info: ICAL D5 C28 0.625 L102516B

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_45.i/161202.b/16120208.d
 Report Date: 05-Dec-2016 10:25

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/161202.b/16120208.d

Lab Smp Id:

Inj Date : 02-DEC-2016 20:05

Operator : 682

Inst ID: GC_45.i

Smp Info : ICAL D200 C28 25 L102516C

Misc Info :

Comment :

Method : /chem1/SVOA/GC_45.i/161202.b/8015d.m

Meth Date : 05-Dec-2016 10:25 uj3k

Quant Type: ESTD

Cal Date : 03-DEC-2016 00:23

Cal File: 16120220.d

Als bottle: 8

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 15 TPH as Diesel	0.666-8.944			16236450	200.000	202.900
S 27 Diesel Range Organics	2.374-8.944			15269183	200.000	204.014
\$ 93 n-Octacosane	8.713	8.713	0.000	2160363	25.0000	25.044

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Data File: /chem1/SVDA/GC_45.i/161202.b/16120208.d

Date : 02-DEC-2016 20:05

Client ID:

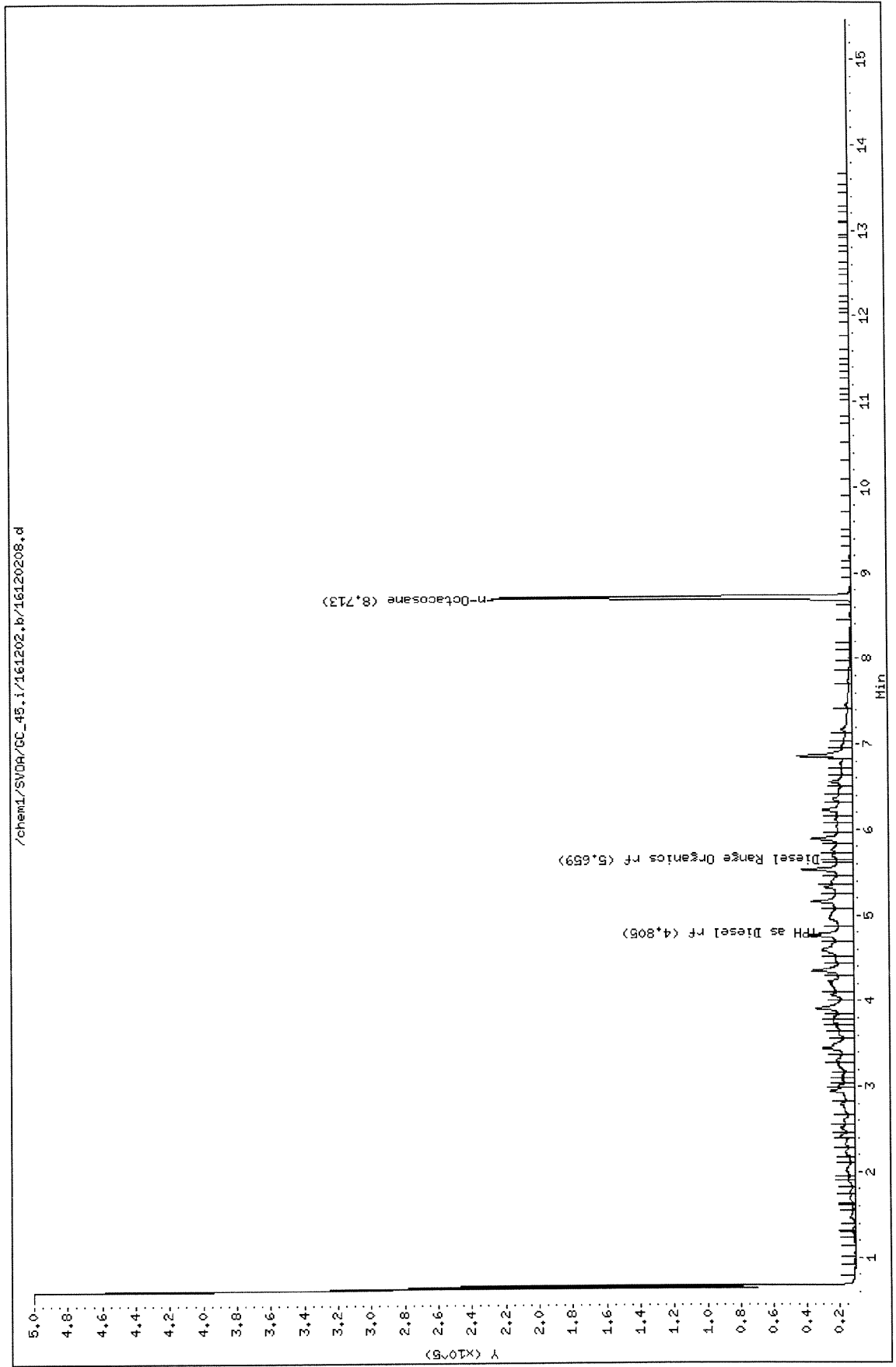
Sample Info: ICAL D200 C28 25 L102516C

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:

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Data File: /chem1/SVOA/GC_45.i/161202.b/16120209.d
 Report Date: 05-Dec-2016 10:25

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/161202.b/16120209.d
 Lab Smp Id:
 Inj Date : 02-DEC-2016 20:27
 Operator : 682
 Smp Info : ICAL D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Meth Date : 05-Dec-2016 10:25 uj3k
 Cal Date : 03-DEC-2016 00:46
 Als bottle: 9
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_45.i
 Quant Type: ESTD
 Cal File: 16120221.d
 Calibration Sample, Level: 3
 Compound Sublist: ICAL_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 15 TPH as Diesel	0.666	8.944		32655500	400.000	408.083
S 27 Diesel Range Organics	2.374	8.944		30616597	400.000	409.074
\$ 93 n-Octacosane	8.717	8.717	0.000	4286357	50.0000	49.690

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Data File: /chem1/SV09/GC_45.i/161202.b/16120209.d

Date : 02-DEC-2016 20:27

Client ID:

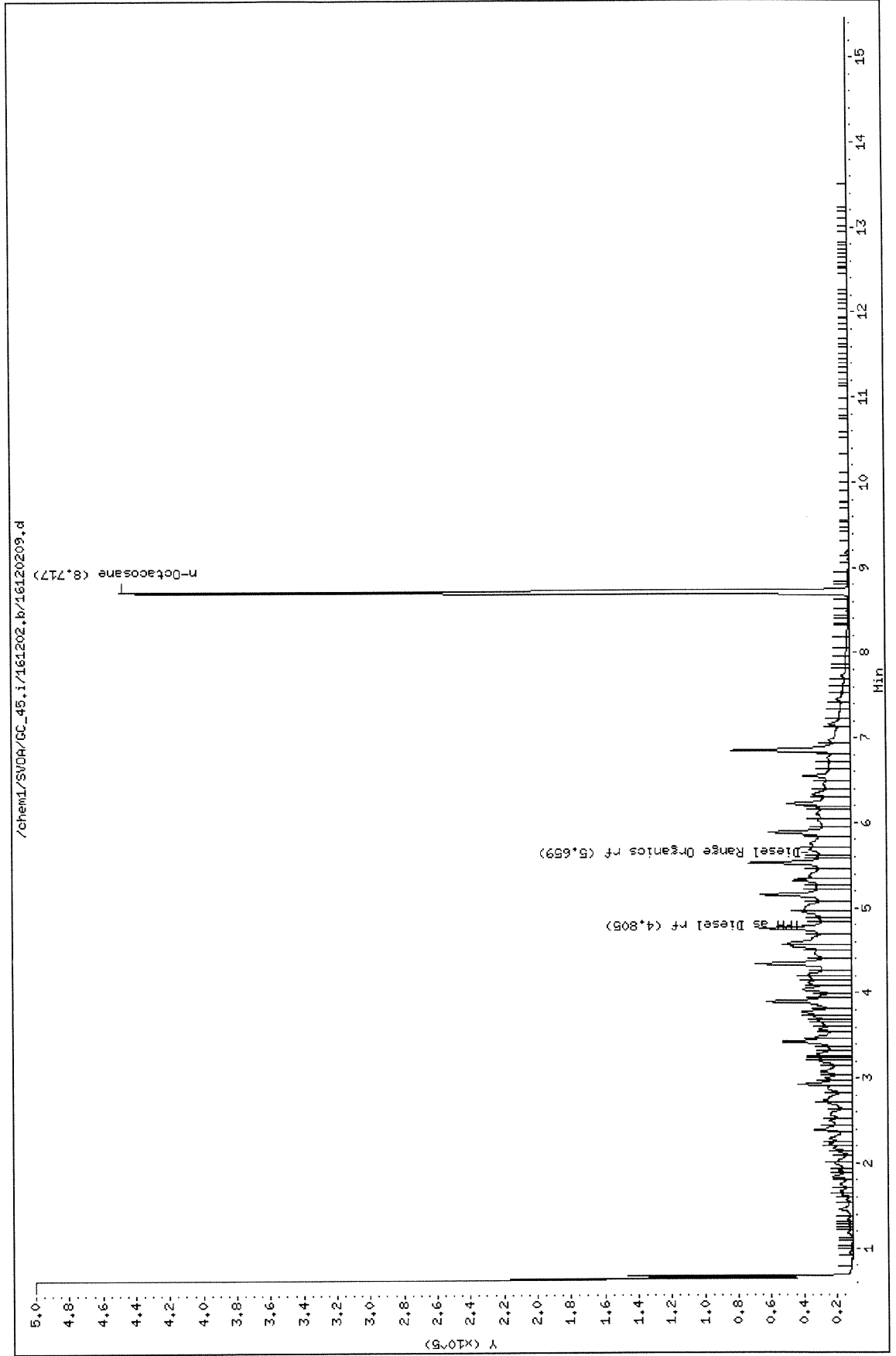
Sample Info: ICAL D400 C28 50 L102516D

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



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Data File: /chem1/SVOA/GC_45.i/161202.b/16120210.d
 Report Date: 05-Dec-2016 10:25

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/161202.b/16120210.d
 Lab Smp Id:
 Inj Date : 02-DEC-2016 20:48
 Operator : 682
 Smp Info : ICAL D800 C28 100 L102516E
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Meth Date : 05-Dec-2016 10:25 uj3k
 Cal Date : 03-DEC-2016 01:08
 Als bottle: 10
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_45.i
 Quant Type: ESTD
 Cal File: 16120222.d
 Calibration Sample, Level: 4
 Compound Sublist: ICAL_D-DRO.sub

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 15 TPH as Diesel	0.666-8.944			67290511	800.000	840.903
S 27 Diesel Range Organics	2.374-8.944			62052115	800.000	829.091
\$ 93 n-Octacosane	8.724	8.724	0.000	8653751	100.000	100.320

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Data File: /chem1/SVDA/GC_45.i/161202.b/16120210.d

Date : 02-DEC-2016 20:48

Client ID:

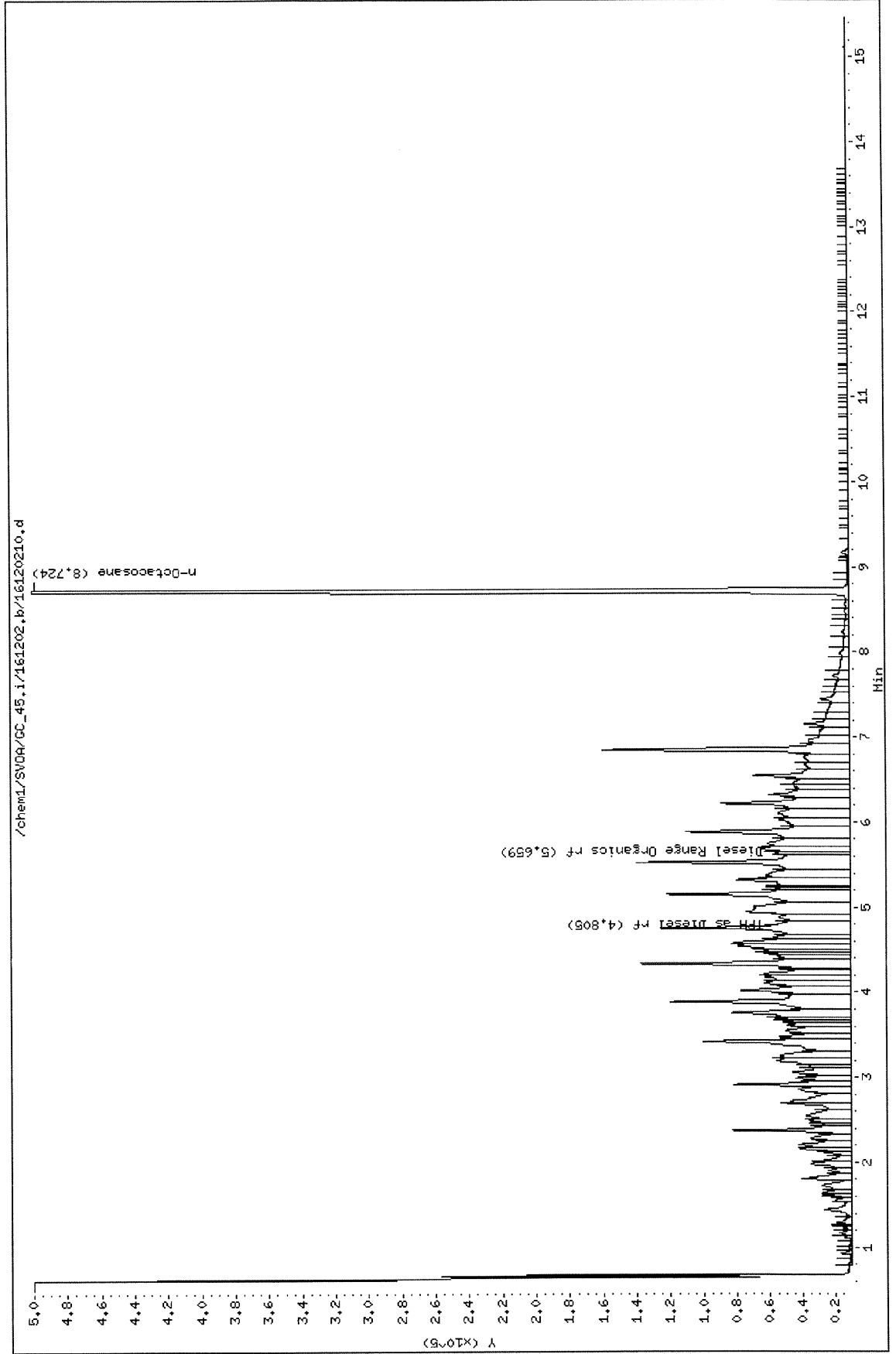
Sample Info: ICAL D800 C28 100 L102516E

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_45.i/161202.b/16120211.d
 Report Date: 05-Dec-2016 10:25

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/161202.b/16120211.d
 Lab Smp Id:
 Inj Date : 02-DEC-2016 21:09
 Operator : 682
 Smp Info : ICAL D1600 C28 200 L102516F
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Meth Date : 05-Dec-2016 10:25 uj3k
 Cal Date : 03-DEC-2016 01:29
 Als bottle: 11
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_45.i
 Quant Type: ESTD
 Cal File: 16120223.d
 Calibration Sample, Level: 5
 Compound Sublist: ICAL_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 15 TPH as Diesel	0.666-8.944			134380116	1600.00	1679.295 (A)
S 27 Diesel Range Organics	2.374-8.944			123710939	1600.00	1652.927 (A)
\$ 93 n-Octacosane	8.737	8.737	0.000	17173600	200.000	199.089

QC Flag Legend

A - Target compound detected but, quantitated amount
 exceeded maximum amount.

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Data File: /chem1/SVDA/GC_45.i/161202.b/16120211.d

Date : 02-DEC-2016 21:09

Client ID:

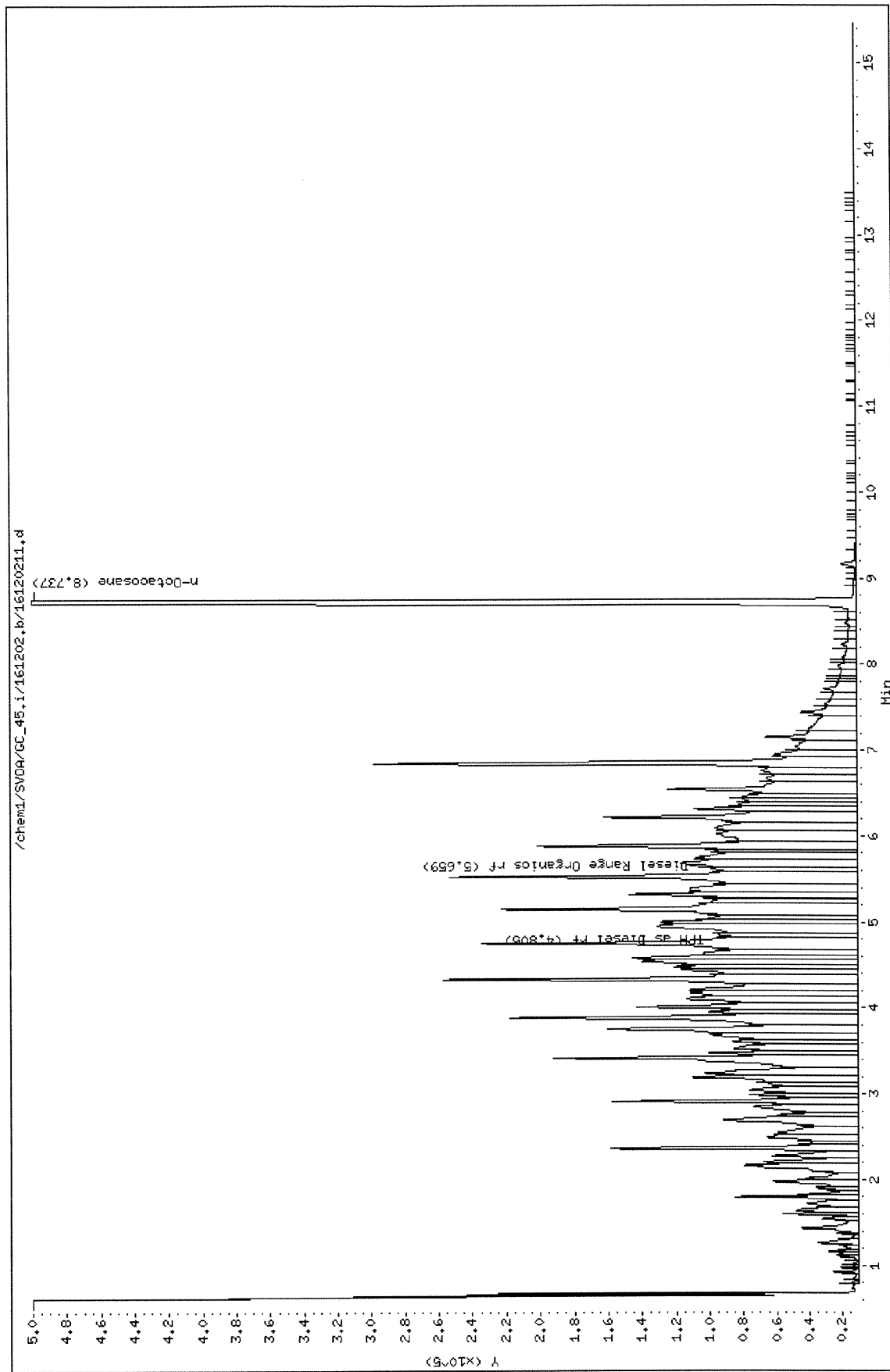
Sample Info: ICAL D1600 C28 200 L102516F

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:

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Data File: /chem1/SVOA/GC_45.i/161202.b/16120212.d
 Report Date: 05-Dec-2016 10:25

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/161202.b/16120212.d
 Lab Smp Id:
 Inj Date : 02-DEC-2016 21:31
 Operator : 682
 Smp Info : ICV D400 C28 50 L102516G
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_45.i/161202.b/8015d.m
 Meth Date : 05-Dec-2016 10:25 uj3k
 Cal Date : 03-DEC-2016 01:29
 Als bottle: 12
 Dil Factor: 1.00000
 Integrator: HP Genie
 Target Version: 3.50
 Processing Host: US26TAR4

Inst ID: GC_45.i
 Quant Type: ESTD
 Cal File: 16120223.d
 Continuing Calibration Sample
 Compound Sublist: ICAL_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 15 TPH as Diesel	0.666	8.944		32804272	400.000	409.942
S 27 Diesel Range Organics	2.374	8.944		31562730	400.000	421.716
\$ 93 n-Octacosane	8.717	8.717	0.000	4357915	50.0000	50.520

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Data File: /chem1/SVDA/GC_45.i/161202.b/16120212.d

Date : 02-DEC-2016 21:31

Client ID:

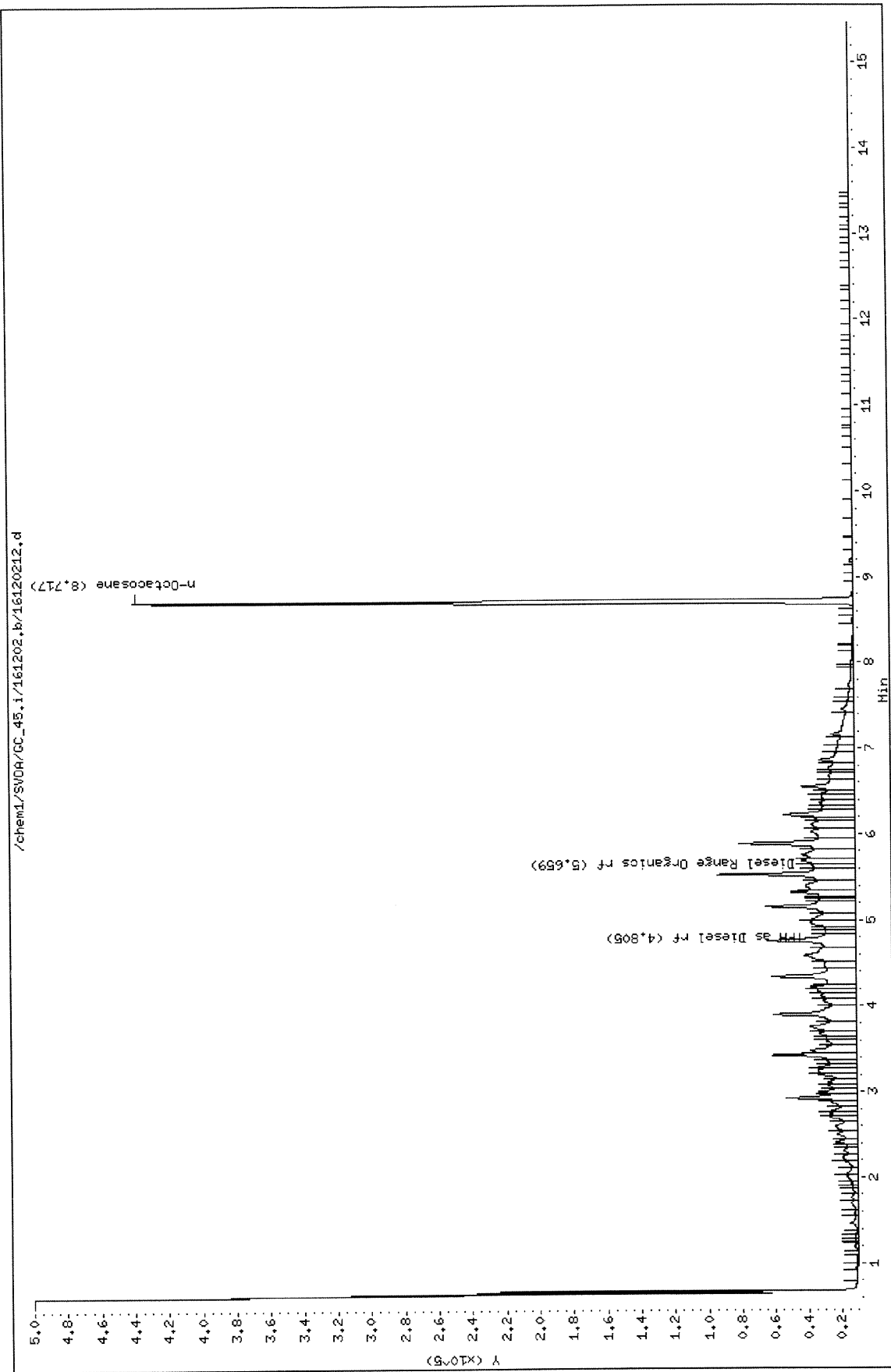
Sample Info: ICV D400 C28 50 L102516G

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:

[Return to Contents](#)

=====

External Standard Report

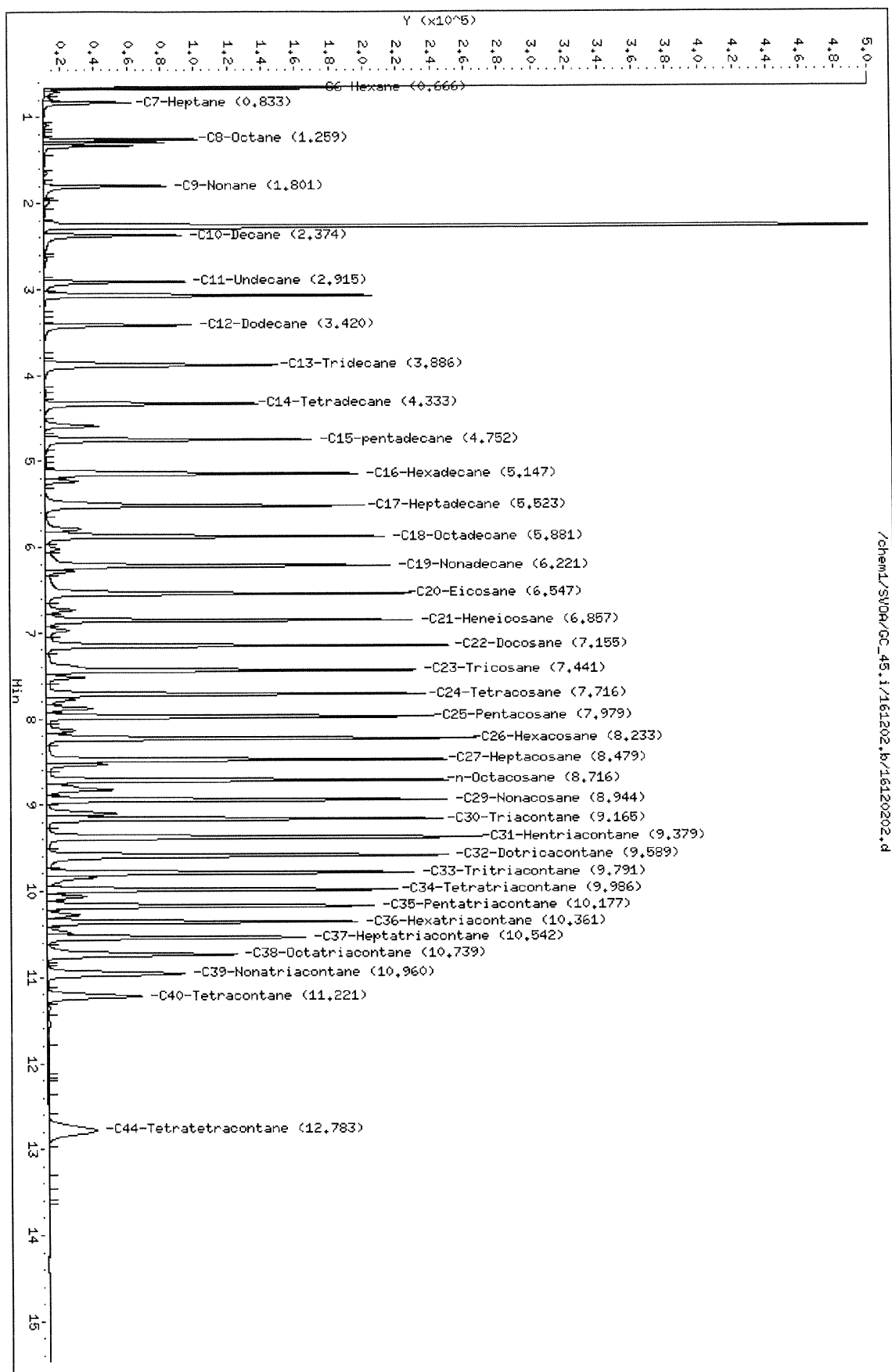
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Data File Name : /chem1/SVOA/GC_45/161202/16120202.d
 Page Number :
 Operator : 682 Vial Number : Vial 2
 Instrument : GC 45 Injection Number : 2
 Sample Name : C6-C44 L110816A Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 02 DEC 16 18:40
 Report Created on: 05-DEC-16 10:26 Method Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/161202.b/16120202.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.666	8.731	8.065	180018.00	0.00	C6-Hexane
0.833	8.731	7.898	363999.00	0.00	C7-Heptane
1.259	8.731	7.472	516823.00	0.00	C8-Octane
1.801	8.731	6.930	648211.00	0.00	C9-Nonane
2.374	8.731	6.357	819875.00	0.00	C10-Decane
2.915	8.731	5.816	821043.00	0.00	C11-Undecane
3.420	8.731	5.311	868861.00	0.00	C12-Dodecane
3.886	8.731	4.845	1699945.00	0.00	C13-Tridecane
4.333	8.731	4.398	1198646.00	0.00	C14-Tetradecane
4.752	8.731	3.979	1628623.00	0.00	C15-pentadecane
5.147	8.731	3.584	1935413.00	0.00	C16-Hexadecane
5.523	8.731	3.208	2181667.00	0.00	C17-Heptadecane
5.881	8.731	2.850	2092837.00	0.00	C18-Octadecane
6.221	8.731	2.510	2246859.00	0.00	C19-Nonadecane
6.547	8.731	2.184	2479179.00	0.00	C20-Eicosane
6.857	8.731	1.874	2195758.00	0.00	C21-Heneicosane
7.155	8.731	1.576	2470063.00	0.00	C22-Docosane
7.441	8.731	1.290	2524633.00	0.00	C23-Tricosane
7.716	8.731	1.015	2327237.00	0.00	C24-Tetracosane
7.979	8.731	0.752	2307901.00	0.00	C25-Pentacosane
8.233	8.731	0.498	2726070.00	0.00	C26-Hexacosane
8.479	8.731	0.252	2592723.00	0.00	C27-Heptacosane
8.716	8.731	0.015	2414138.00	1.63	n-Octacosane
8.944	8.731	-0.213	2391574.00	0.00	C29-Nonacosane
9.165	8.731	-0.434	2426307.00	0.00	C30-Triacontane
9.379	8.731	-0.648	2983404.00	0.00	C31-Hentriacontane
9.589	8.731	-0.858	2945350.00	0.00	C32-Dotriciacontane
9.791	8.731	-1.060	2432008.00	0.00	C33-Tritriacontane
9.986	8.731	-1.255	2277735.00	0.00	C34-Tetratriacontane
10.177	8.731	-1.446	2179871.00	0.00	C35-Pentatriacontane
10.361	8.731	-1.630	2070018.00	0.00	C36-Hexatriacontane
10.542	8.731	-1.811	1782436.00	0.00	C37-Heptatriacontane
10.739	8.731	-2.008	1683811.00	0.00	C38-Octatriacontane
10.960	8.731	-2.229	1322621.00	0.00	C39-Nonatriacontane
11.221	8.731	-2.490	1024950.00	0.00	C40-Tetracontane
12.783	8.731	-4.052	1055033.00	0.00	C44-Tetratetracontane

End of File



Data File: /chem1/SVDA/CC_45.i/161202.b/16120202.d
Date: 02-DEC-2016 18:40
Client ID:
Sample Info: C6-C44 L110816A
Column Phase:

Instrument: GC_45.i
Operator: 682
Column diameter: 2.00

EPA 8015B (M) Diesel + Motor Oil

SAMPLE DATA

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

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WORK ORDER: 17-03-0641
INSTRUMENT: GC 45
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-11 09:52
REVIEWED BY:
D/T REVIEWED: *21*

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031058.d\Report.txt17031058

26 **CLIENT SAMPLE NUMBER: D-DU3-ISM1-3**

LCS/MB BATCH: 170309B12	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 9.97 g
MS/MSD BATCH: 170309S12	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	2.35	1.00	ND	5.0	
TPH as Motor Oil	10.8	1.00	10.9	5.0	

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_45/170310/17031058.d
 Page Number :
 Operator : 682 Vial Number : Vial 58
 Instrument : GC 45 Injection Number : 58
 Sample Name : 17-03-0641-26 Sequence Line : 0
 Instrument Method: 8015d.m

Acquired on : 11 MAR 17 09:52
 Report Created on: 14-MAR-17 09:54 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031058.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.627	8.629	0.003	3945562.00	45.74	n-Octacosane
2.296- 8.852			188197.35	2.35	TPH as Diesel
5.445-12.452			867621.02	10.84	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDR/GC_45.i/170310.b/17031058.d

Date : 11-MAR-2017 09:52

Client ID:

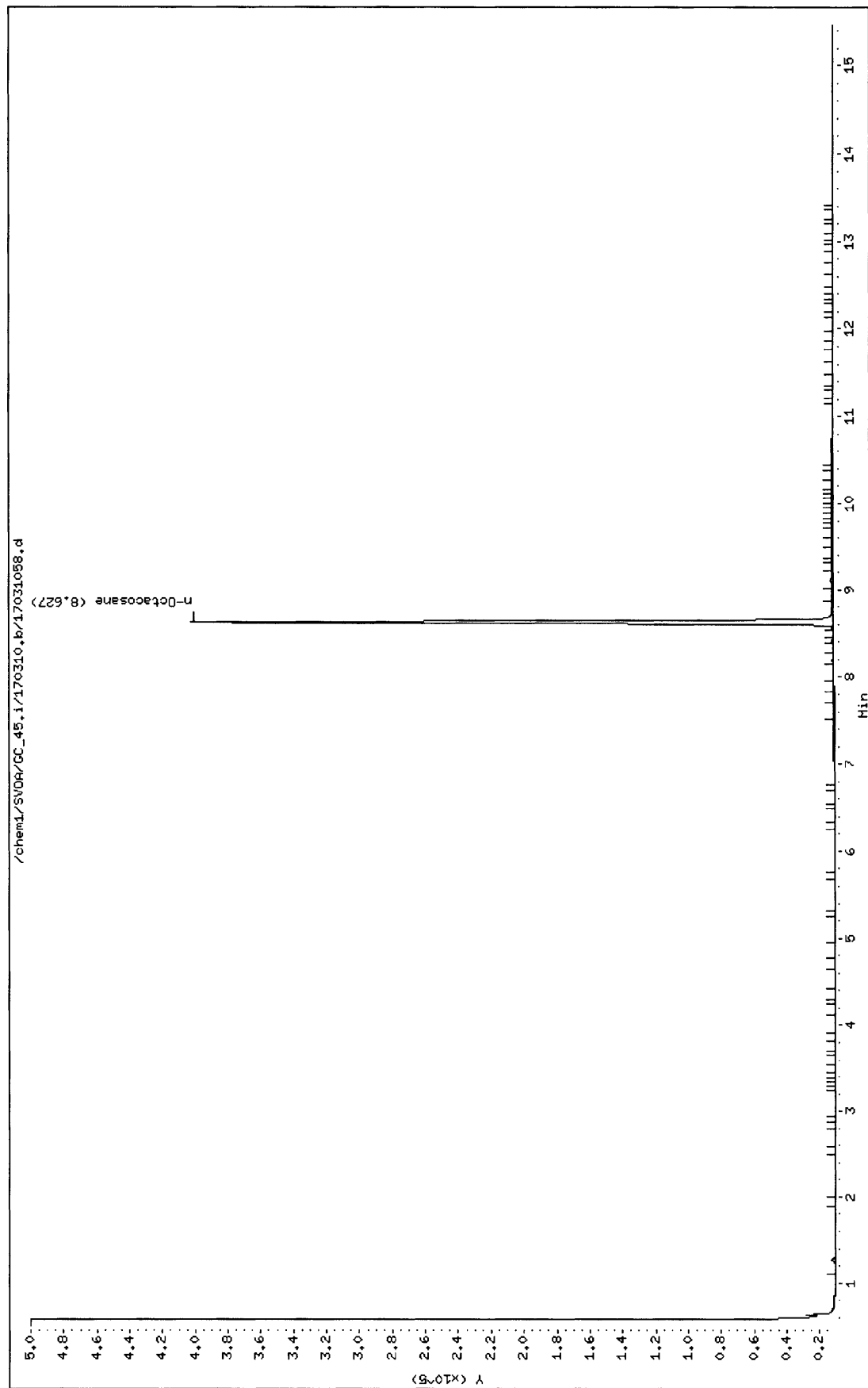
Sample Info: 17-03-0641-26

Instrument: GC_45.i

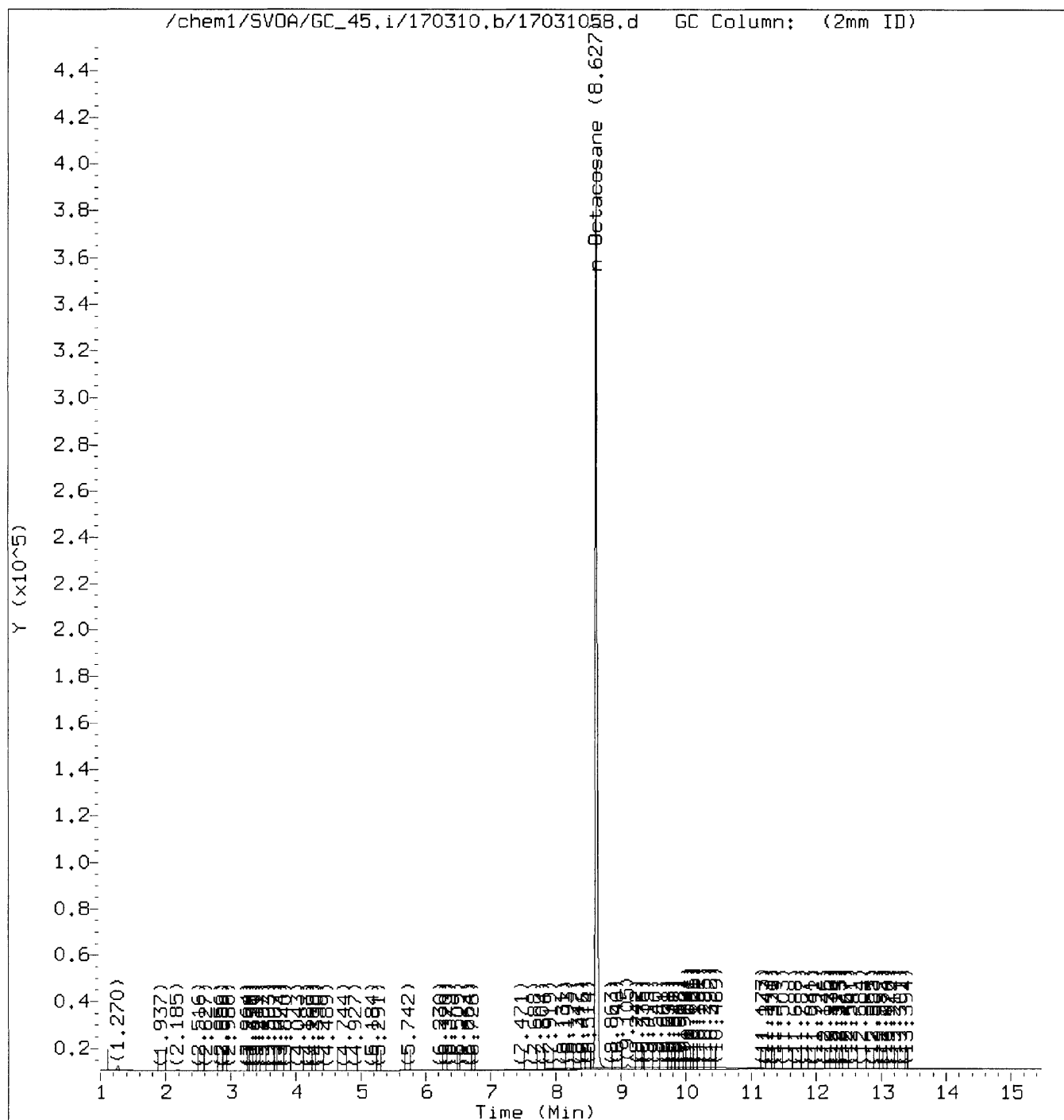
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File



Reason for manual integration: Signal not integrated by automation

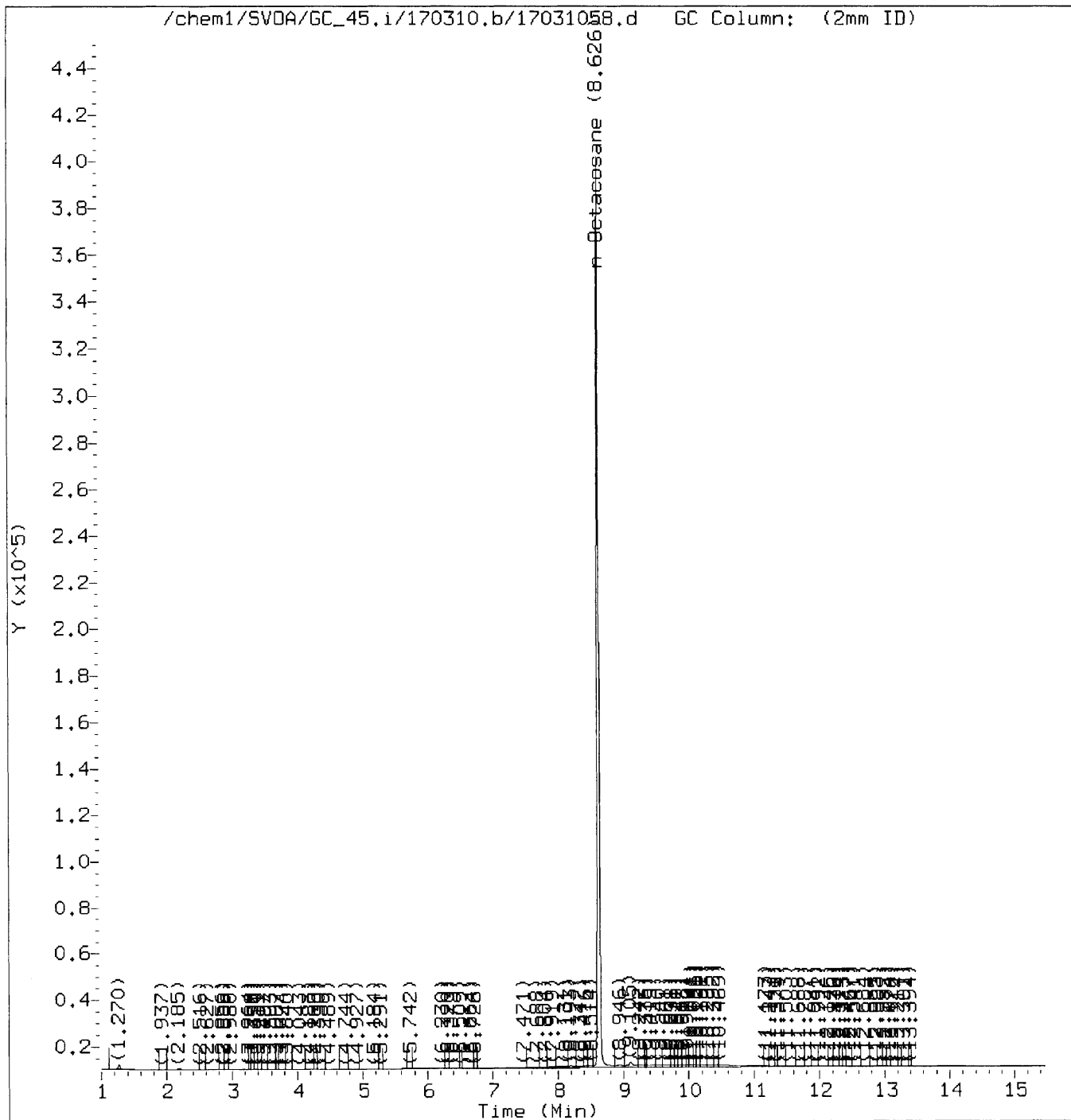
Digitally signed by Minhchi Doan

Analyst responsible for change: on 03/14/2017 at 09:54.

Target 3.5 esignature user ID: umd6

Audit/management approval: _____

Original Data File



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

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WORK ORDER: 17-03-0641
INSTRUMENT: GC 45
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-11 10:13
REVIEWED BY:
D/T REVIEWED: 4/

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031059.d\Report.txt17031059

27 **CLIENT SAMPLE NUMBER:** D-DU3-ISM2-3

LCS/MB BATCH: 170309B12	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.10 g
MS/MSD BATCH: 170309S12	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	2.53	1.00	ND	5.0	
TPH as Motor Oil	12.1	1.00	12.0	5.0	

=====

External Standard Report

=====

Data File Name : /chem1/SVOA/GC_45/170310/17031059.d
Page Number :
Operator : 682 Vial Number : Vial 59
Instrument : GC 45 Injection Number : 59
Sample Name : 17-03-0641-27 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 11 MAR 17 10:13
Report Created on: 14-MAR-17 09:54 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031059.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.627	8.629	0.003	3993334.00	46.29	n-Octacosane
2.296- 8.852			202075.55	2.53	TPH as Diesel
5.445-12.452			966172.00	12.07	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031059.d

Date : 11-Mar-2017 10:13

Client ID:

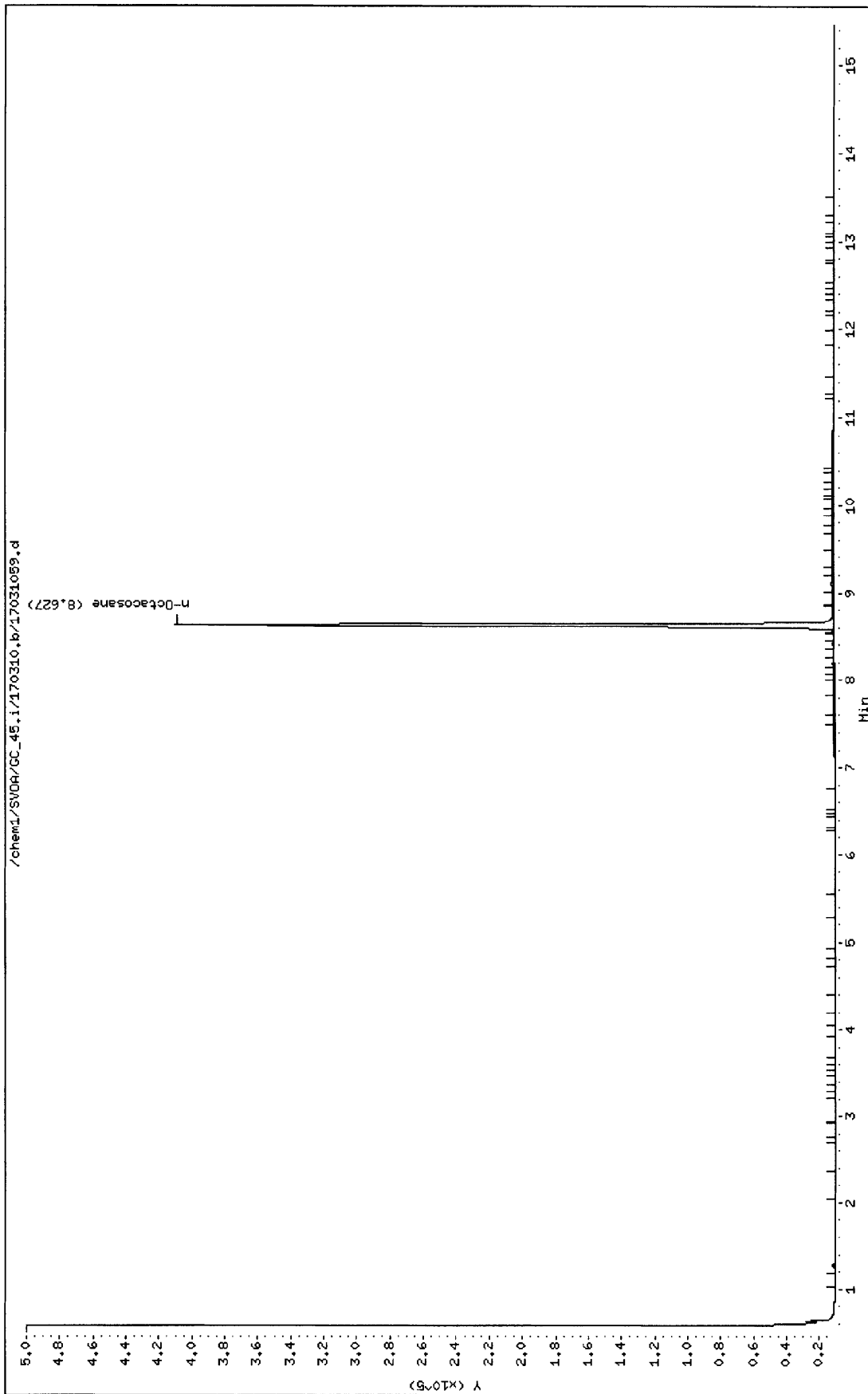
Sample Info: 17-03-0641-27

Instrument: GC_45.i

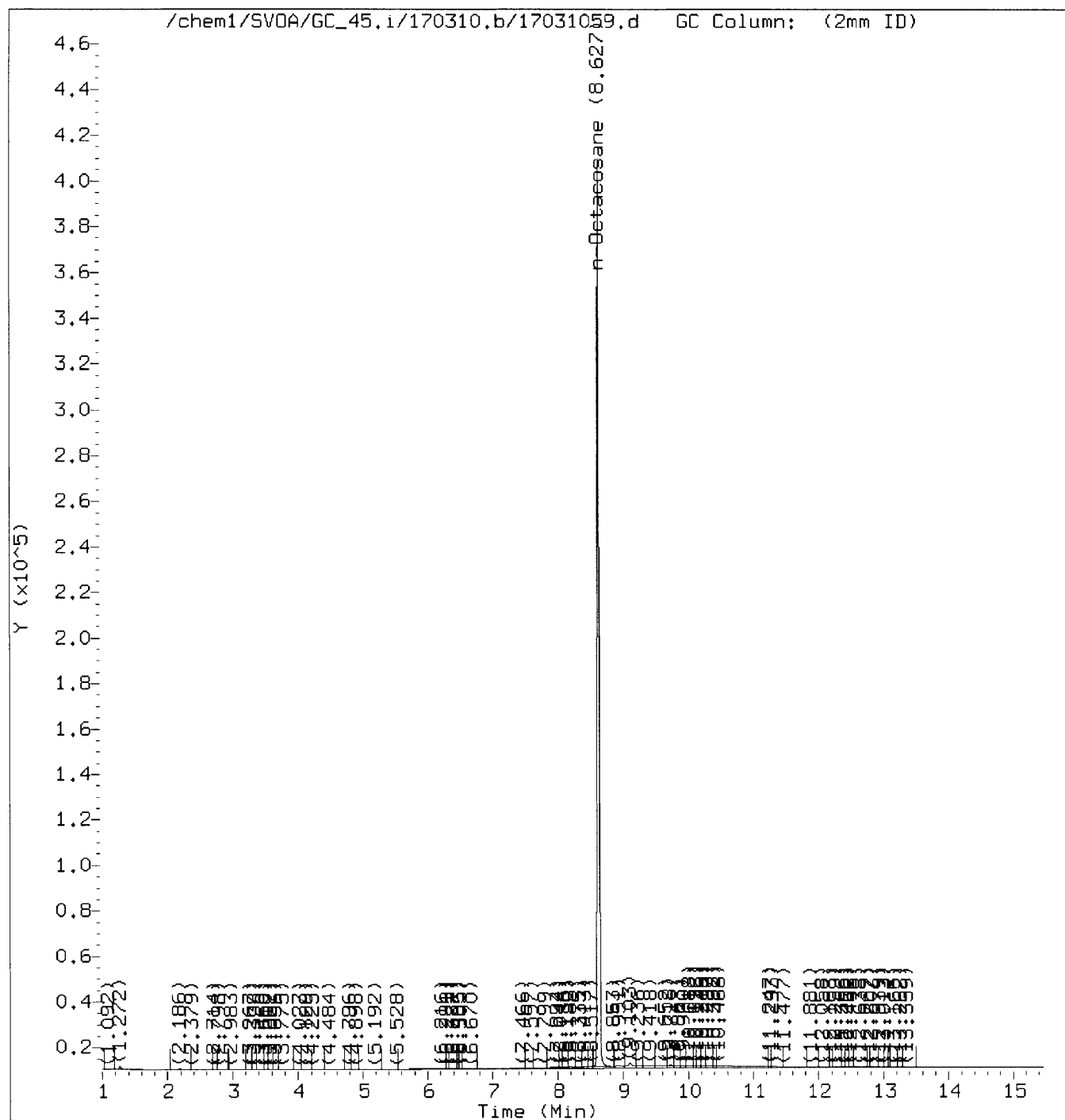
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File



Reason for manual integration: Signal not integrated by automation

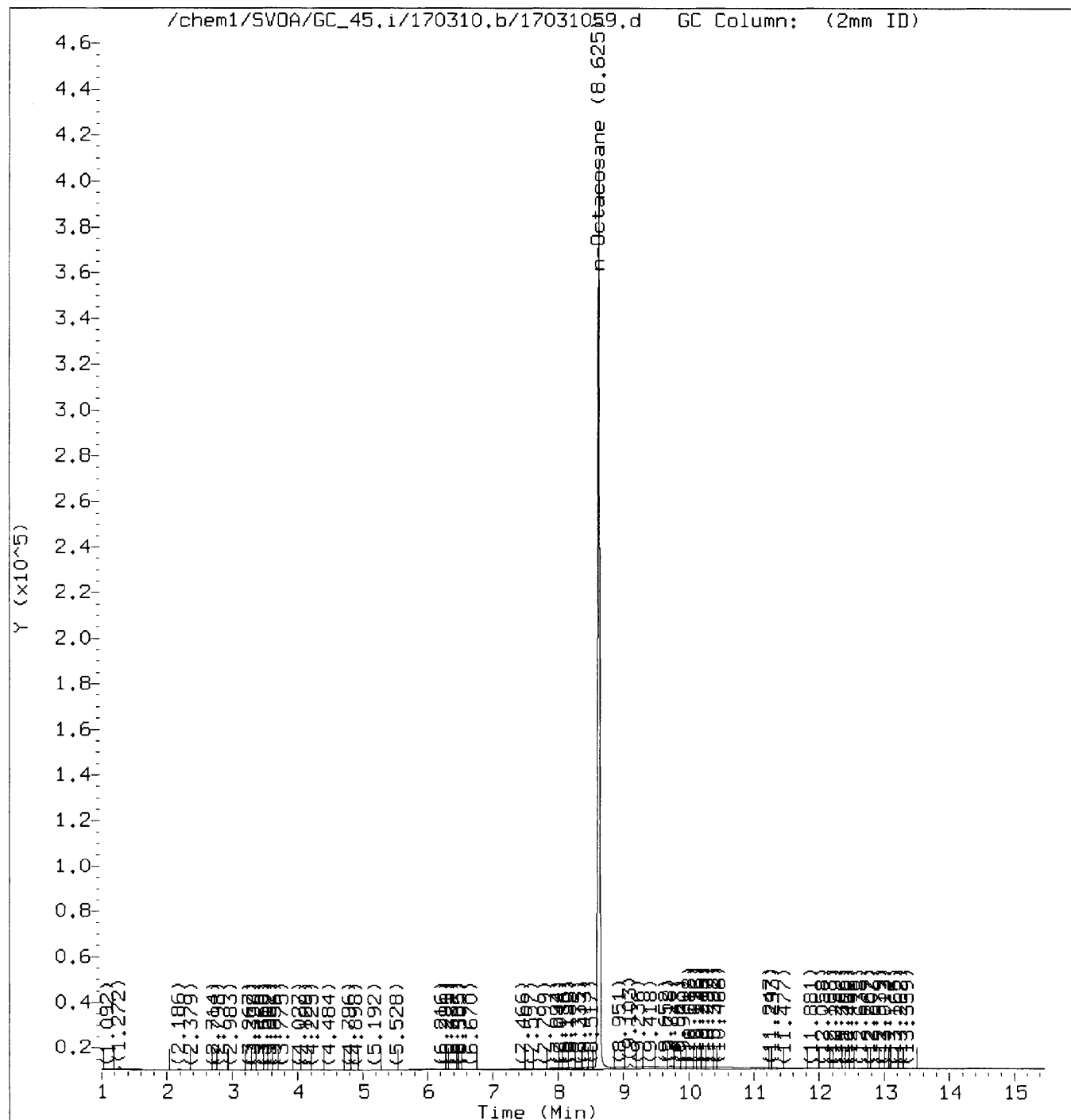
Digitally signed by Minhchi Doan

Analyst responsible for change: on 03/14/2017 at 09:54.

Target 3.5 esignature user ID: umd6

Audit/management approval: _____

Original Data File



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

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WORK ORDER: 17-03-0641
INSTRUMENT: GC 45
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-11 10:35
REVIEWED BY:
D/T REVIEWED: 9/1

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031060.d\Report.txt17031060

28

CLIENT SAMPLE NUMBER: D-DU3-ISM3-3

LCS/MB BATCH: 170309B12 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 10.00 g / ACTUAL: 9.94 g
MS/MSD BATCH: 170309S12 **FINAL VOLUME / WEIGHT:** DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: mg/kg **ADJUSTMENT RATIO TO PF:** 1.01

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
TPH as Diesel	1.60	1.00	ND	5.0	
TPH as Motor Oil	8.88	1.00	8.93	5.0	

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

Data File Name : /chem1/SVOA/GC_45/170310/17031060.d
Page Number :
Operator : 682 Vial Number : Vial 60
Instrument : GC 45 Injection Number : 60
Sample Name : 17-03-0641-28 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 11 MAR 17 10:35
Report Created on: 14-MAR-17 09:55 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031060.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.623	8.629	0.006	4138202.00	47.97	n-Octacosane
2.296- 8.852			128093.98	1.60	TPH as Diesel
5.445-12.452			710721.21	8.88	TPH as Motor Oil
End of File					

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031060.d

Date : 11-MAR-2017 10:35

Client ID:

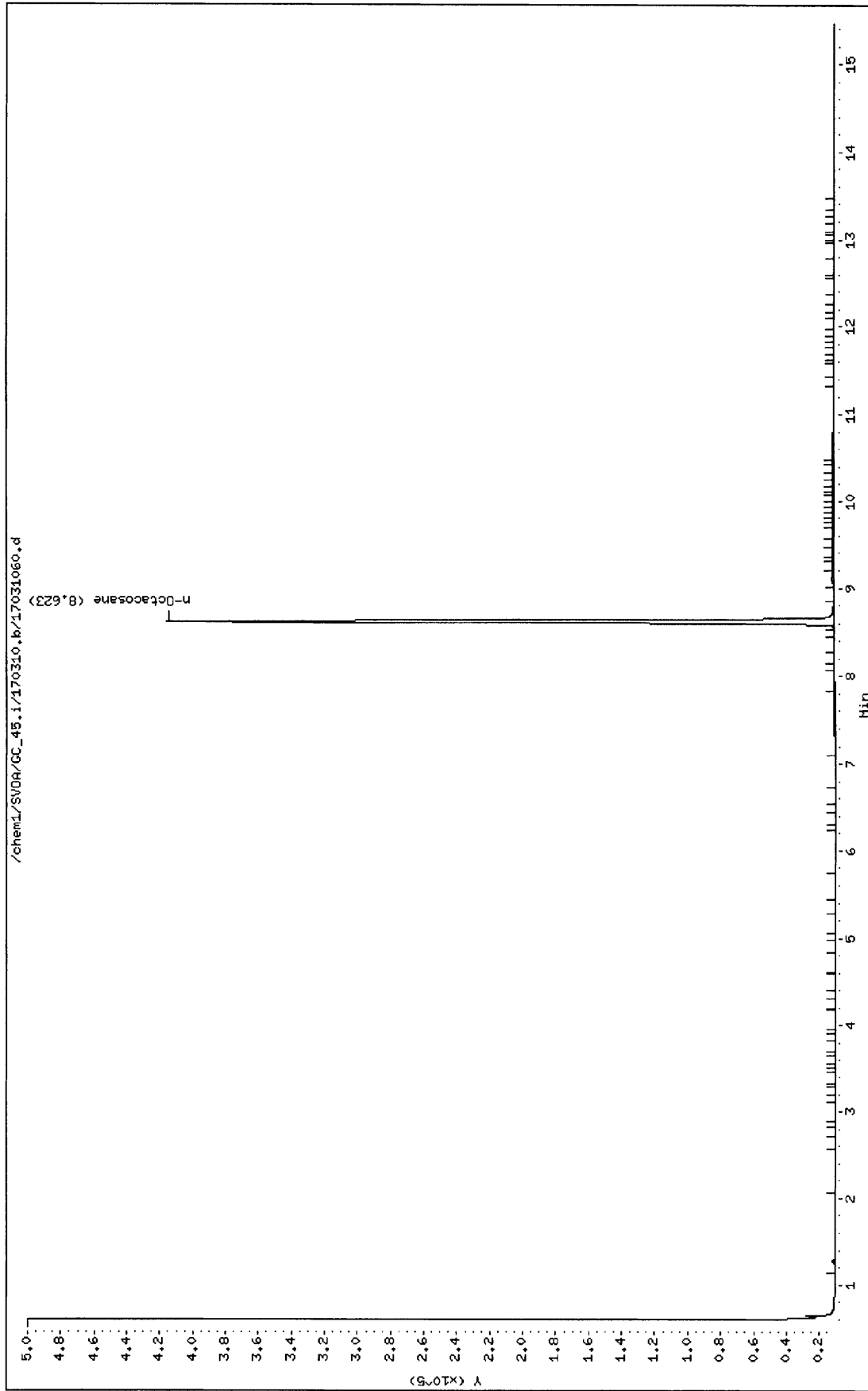
Sample Info: 17-03-0641-28

Instrument: GC_45.i

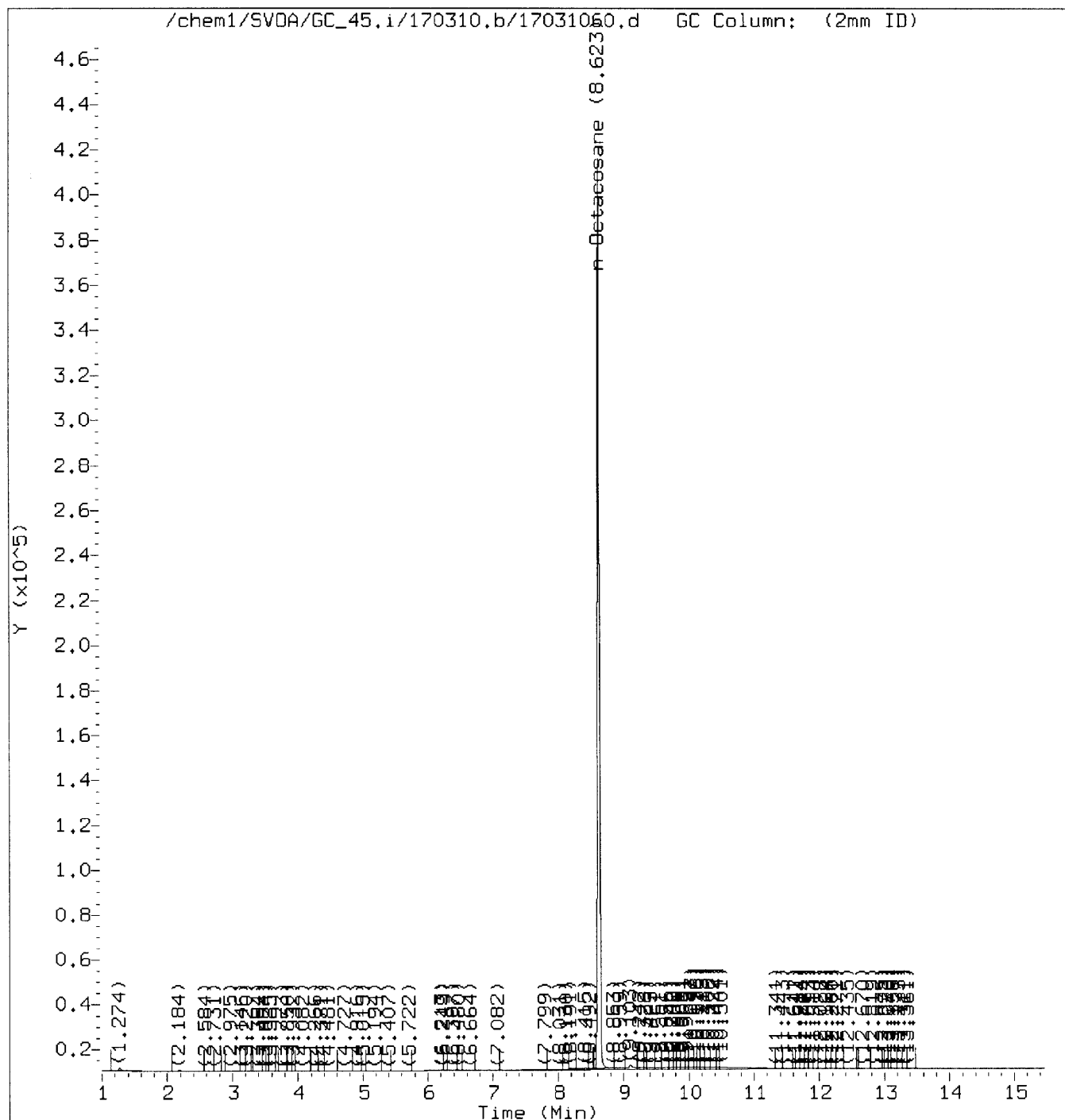
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File



Reason for manual integration: Signal not integrated by automation

Digitally signed by Minhchi Doan

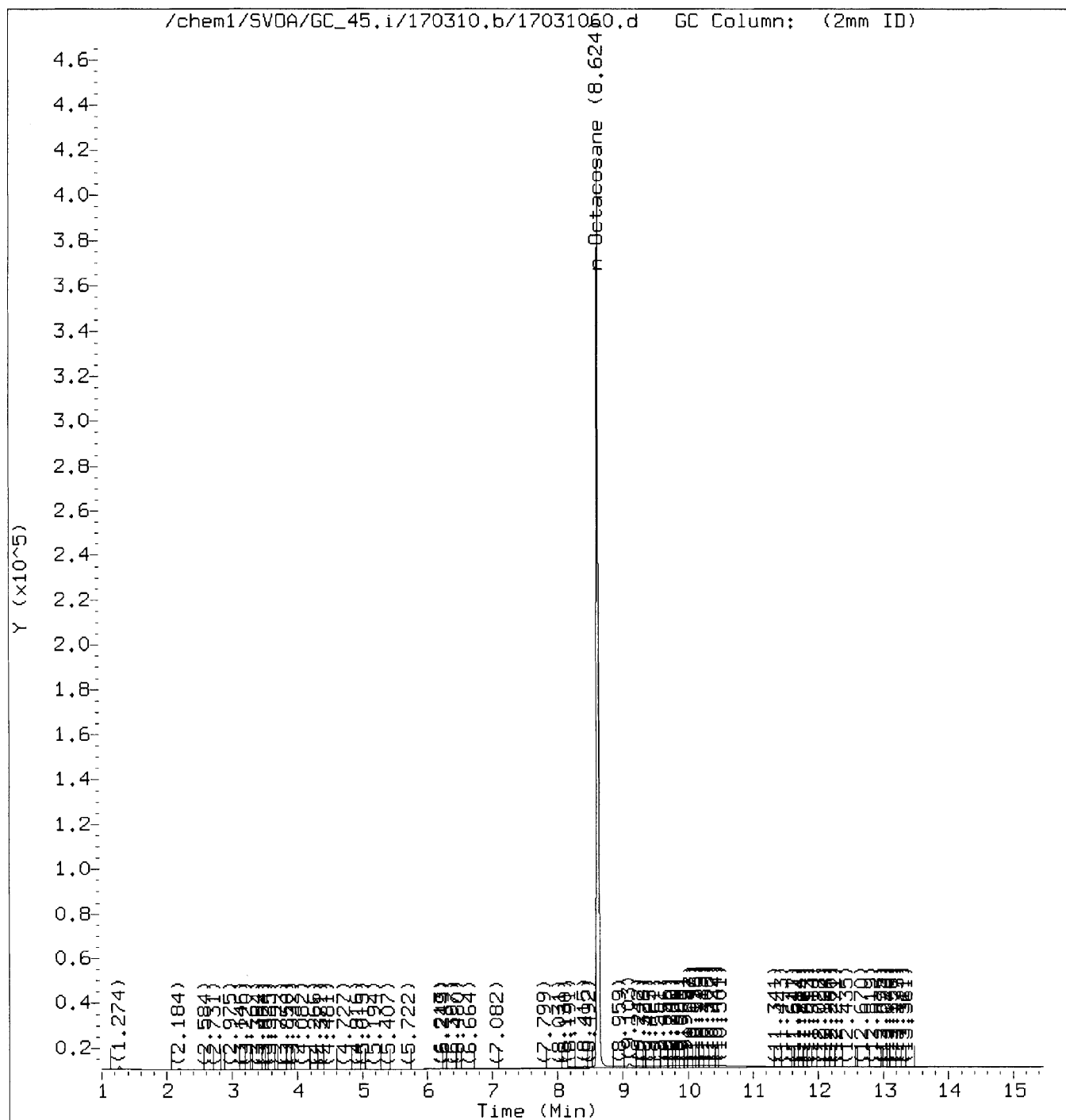
Analyst responsible for change: on 03/14/2017 at 09:55.

Target 3.5 esignature user ID: umd6

Audit/management approval: _____

~

Original Data File



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

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WORK ORDER: 17-03-0641
INSTRUMENT: GC 45
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-11 10:56
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031061.d\Report.txt17031061

29 **CLIENT SAMPLE NUMBER:** D-DU3-ISM4-3

LCS/MB BATCH: 170309B12	SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 9.97 g
MS/MSD BATCH: 170309S12	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	2.77	1.00	ND	5.0	
TPH as Motor Oil	10.1	1.00	10.1	5.0	

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

Data File Name : /chem1/SVOA/GC_45/170310/17031061.d
Page Number :
Operator : 682 Vial Number : Vial 61
Instrument : GC 45 Injection Number : 61
Sample Name : 17-03-0641-29 Sequence Line : 0
Instrument Method: 8015d.m

Acquired on : 11 MAR 17 10:56
Report Created on: 14-MAR-17 09:55 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031061.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.623	8.629	0.006	4099504.00	47.52	n-Octacosane
2.296- 8.852			221428.39	2.77	TPH as Diesel
5.445-12.452			807164.97	10.09	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031061.d

Date : 11-Mar-2017 10:56

Client ID:

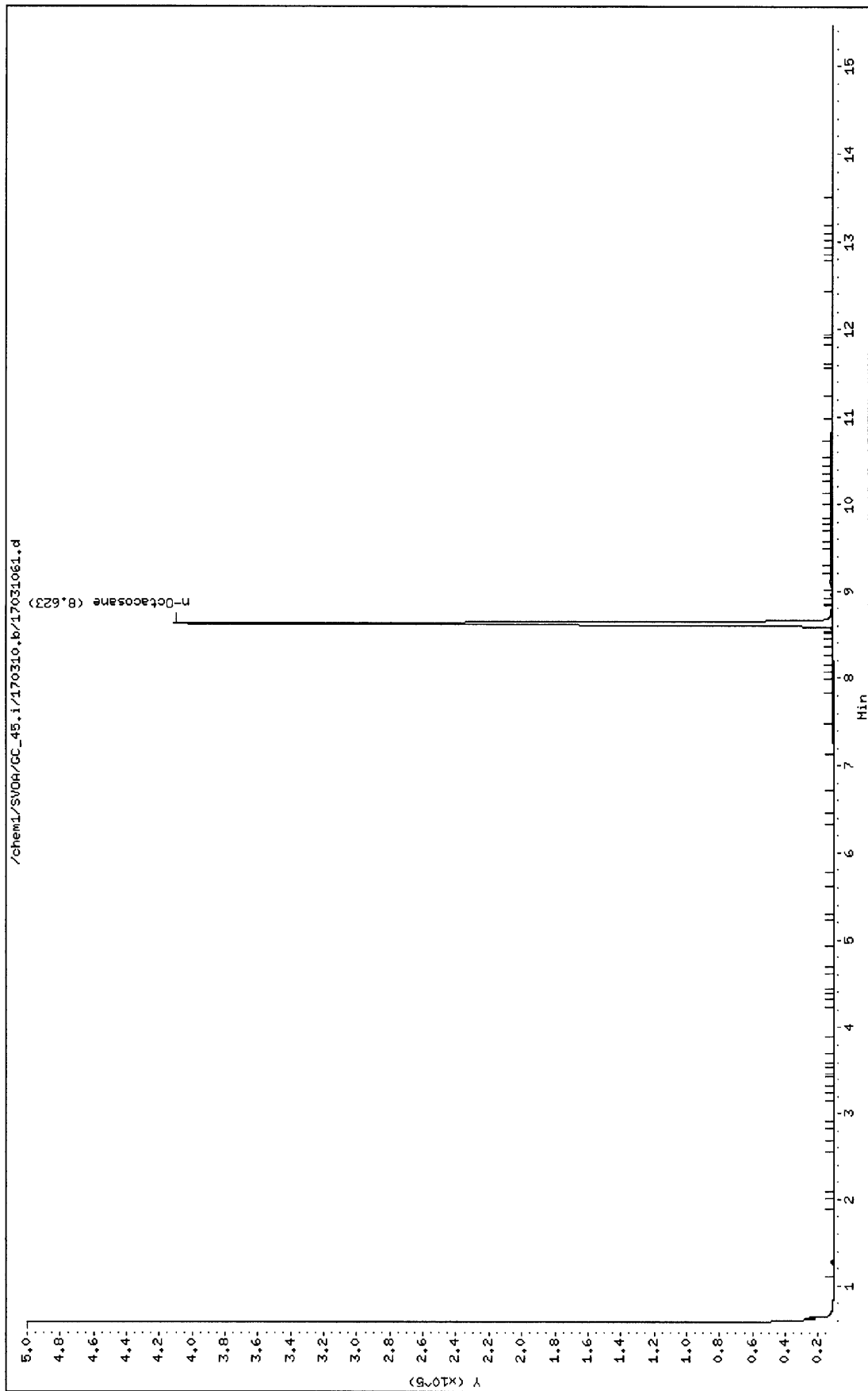
Sample Info: 17-03-0641-29

Instrument: GC_45.i

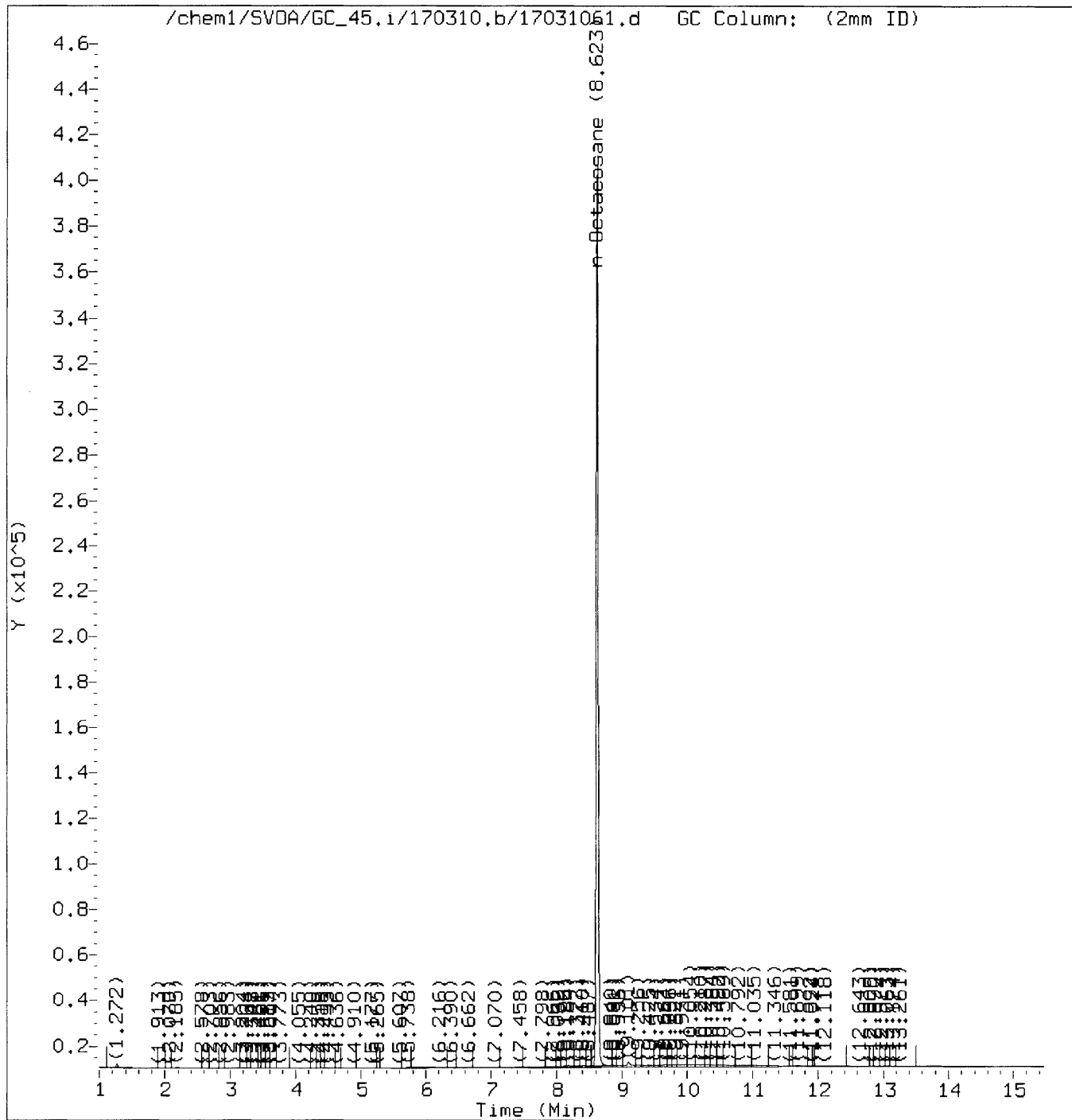
Operator: 682

Column diameter: 2.00

Column phase:



Manually Integrated Data File



Reason for manual integration: Signal not integrated by automation

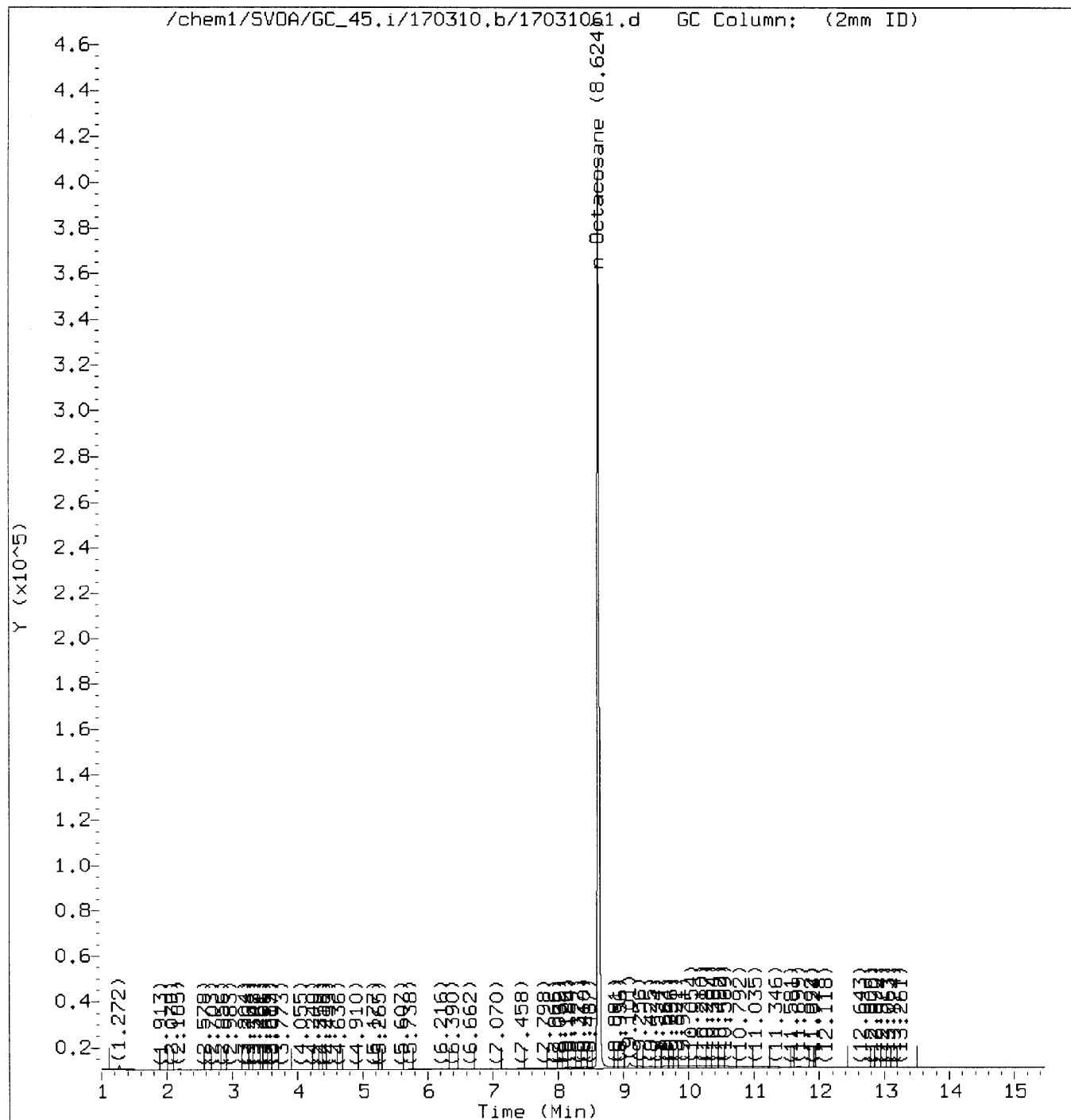
Digitally signed by Minhchi Doan

Analyst responsible for change: on 03/14/2017 at 09:55.

Target 3.5 esignature user ID: umd6

Audit/management approval: _____

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: 099-14-353-6
MB BATCH ID: 170309B12
INSTRUMENT: GC 45
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-11 07:21
REVIEWED BY: 
D/T REVIEWED:
MATRIX: Soil

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031051.d\Report.txt17031051

CLIENT WORK ORDER: 17-03-0641

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
26	D-DU3-ISM1-3		2017-03-11 09:52	T:\GC_45\GC_45_data\2017\170310\17031058.d\Report.txt17031058
27	D-DU3-ISM2-3		2017-03-11 10:13	T:\GC_45\GC_45_data\2017\170310\17031059.d\Report.txt17031059
28	D-DU3-ISM3-3		2017-03-11 10:35	T:\GC_45\GC_45_data\2017\170310\17031060.d\Report.txt17031060
29	D-DU3-ISM4-3		2017-03-11 10:56	T:\GC_45\GC_45_data\2017\170310\17031061.d\Report.txt17031061

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

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WORK ORDER: 099-14-353
INSTRUMENT: GC 45
EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-11 07:21
REVIEWED BY:
D/T REVIEWED: *m*

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031051.d\Report.txt17031051

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170309B12	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	0.150	1.00	ND	5.0	
TPH as Motor Oil	0.330	1.00	ND	5.0	

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

LCS SAMPLE ID: 099-14-353- 6
LCS/MB BATCH ID: 170309B12
INSTRUMENT: GC 45

EXTRACTION: EPA 3550B
D/T EXTRACTED: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED: 2017-03-11 07:42
REVIEWED BY:
D/T REVIEWED: *WZ*

DATA FILE: T:\GC_45_data\2017\170310\17031052.d\Report.txt17031052

<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	407.8	102	61-145	PASS	

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

SPIKED SAMPLE ID: 17-03-0590-25
MS/MSD BATCH: 170309S12
INSTRUMENTS:
SAMPLE: GC 45
MS: GC 45
MSD: GC 45

EXTRACTION: EPA 3550B
D/T EXTRACTED:
SAMPLE: 2017-03-09 00:00
MS: 2017-03-09 00:00
MSD: 2017-03-09 00:00

ANALYZED BY: 972
D/T ANALYZED:
SAMPLE: 2017-03-11 08:46
MS: 2017-03-11 08:03
MSD: 2017-03-11 08:24
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
TPH as Diesel	ND	400.0	400.0	361.3	90	394.8	99	61-145	9	0-25	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17031053	T:\GC_45\GC_45_data\2017\170310\17031053.d\Report.txt
MSD	17031054	T:\GC_45\GC_45_data\2017\170310\17031054.d\Report.txt

SURROGATE RECOVERIES FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-0641

BATCH ID:

REVIEWED BY: *21*

D/T REVIEWED:

LCS/MB: 170309B12MS: 170309S12EXTRACTION: EPA 3550B**# 26 CLIENT SAMPLE NUMBER : D-DU3-ISM1-3**INSTRUMENT: GC 45ANALYZED BY: 972D/T EXTRACTED: 2017-03-09 00:00D/T ANALYZED 2017-03-11 09:52DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031058.d\Report.txt17031058COMMENT:

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

27 CLIENT SAMPLE NUMBER : D-DU3-ISM2-3INSTRUMENT: GC 45ANALYZED BY: 972D/T EXTRACTED: 2017-03-09 00:00D/T ANALYZED 2017-03-11 10:13DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031059.d\Report.txt17031059COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	93	61-145	PASS	

28 CLIENT SAMPLE NUMBER : D-DU3-ISM3-3INSTRUMENT: GC 45ANALYZED BY: 972D/T EXTRACTED: 2017-03-09 00:00D/T ANALYZED 2017-03-11 10:35DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031060.d\Report.txt17031060COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
n-Octacosane	96	61-145	PASS	

29 CLIENT SAMPLE NUMBER : D-DU3-ISM4-3INSTRUMENT: GC 45ANALYZED BY: 972D/T EXTRACTED: 2017-03-09 00:00D/T ANALYZED 2017-03-11 10:56DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031061.d\Report.txt17031061COMMENT:

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

SURROGATE RECOVERIES FOR METHOD: EPA 8015B (M)

Page 119 of 479

WORK ORDER: 17-03-0641

BATCH ID:

LCS/MB: 170309B12

MS:

EXTRACTION: EPA 3550B

REVIEWED BY:

D/T REVIEWED:

u

MB CLIENT SAMPLE NUMBER: Method Blank

INSTRUMENT: GC 45

D/T EXTRACTED: 2017-03-09 00:00

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031051.d\Report.txt17031051

ANALYZED BY: 972

D/T ANALYZED 2017-03-11 07:21

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	89	61-145	PASS	

LCS CLIENT SAMPLE NUMBER: Lab Control Sample

INSTRUMENT: GC 45

D/T EXTRACTED: 2017-03-09 00:00

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031052.d\Report.txt17031052

ANALYZED BY: 972

D/T ANALYZED 2017-03-11 07:42

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	96	61-145	PASS	

MS CLIENT SAMPLE NUMBER: Matrix Spike

INSTRUMENT: GC 45

D/T EXTRACTED: 2017-03-09 00:00

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031053.d\Report.txt17031053

ANALYZED BY: 972

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

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	92	61-145	PASS	

MSD CLIENT SAMPLE NUMBER: Matrix Spike Duplicate

INSTRUMENT: GC 45

D/T EXTRACTED: 2017-03-09 00:00

DATA FILE: T:\GC_45\GC_45_data\2017\170310\17031054.d\Report.txt17031054

ANALYZED BY: 972

D/T ANALYZED 2017-03-11 08:24

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	90	61-145	PASS	

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External Standard Report

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Data File Name : /chem1/SVOA/GC_45/170310/17031051.d
 Page Number :
 Operator : 682 Vial Number : Vial 51
 Instrument : GC 45 Injection Number : 51
 Sample Name : MB 17030912 Sequence Line : 0
 Instrument Method: 8015d.m

Acquired on : 11 MAR 17 07:21
 Report Created on: 14-MAR-17 09:53 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031051.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.625	8.629	0.004	3843920.00	44.56	n-Octacosane
2.296- 8.852			12272.88	0.15	TPH as Diesel
5.445-12.452			26618.44	0.33	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVOR/GC_45.i/170310.b/17031051.d

Date : 11-MAR-2017 07:21

Client ID:

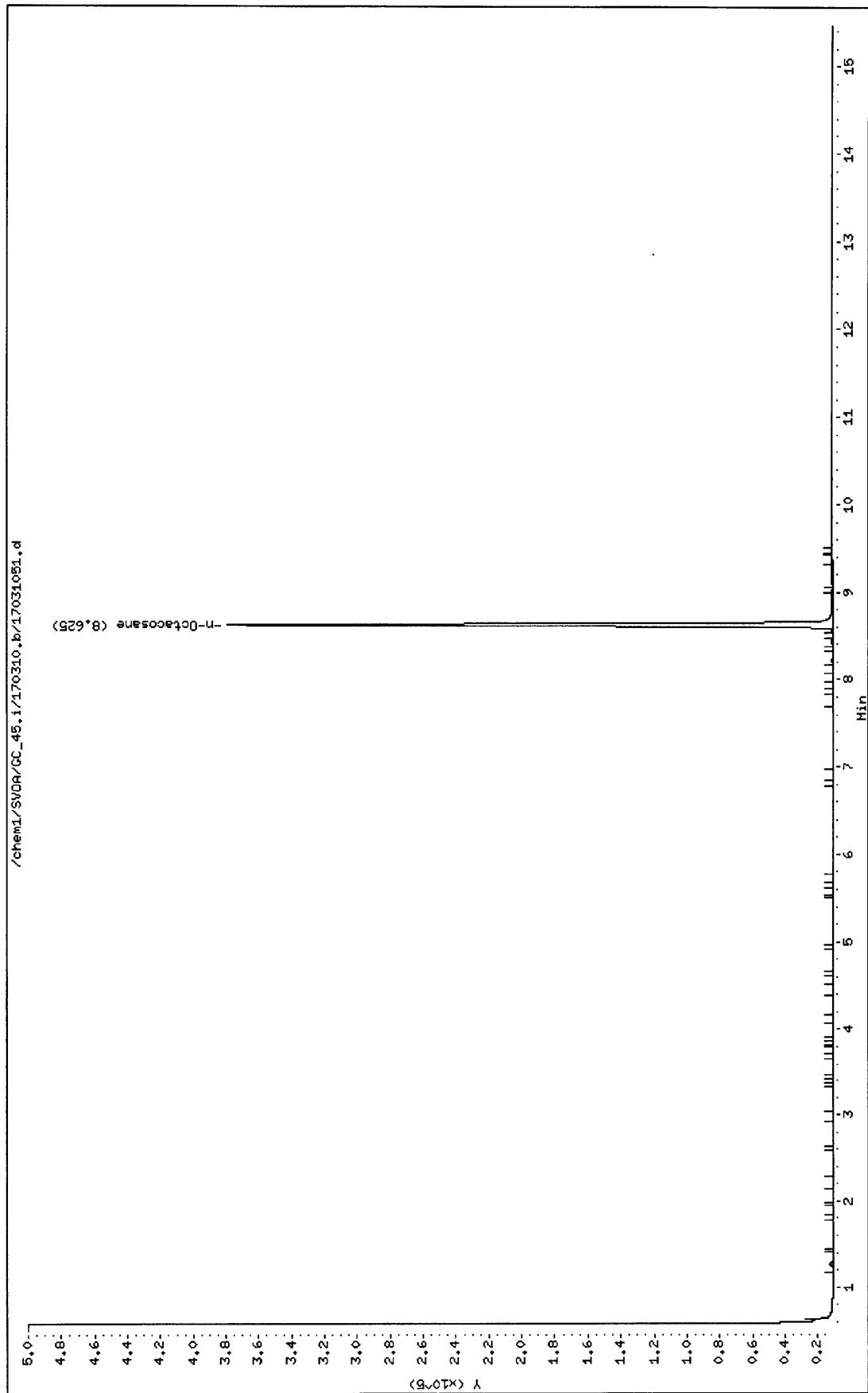
Sample Info: MB 17030912

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_45/170310/17031052.d
 Page Number :
 Operator : 682 Vial Number : Vial 52
 Instrument : GC 45 Injection Number : 52
 Sample Name : LCS 17030912 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 11 MAR 17 07:42
 Report Created on: 14-MAR-17 09:53 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031052.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.625	8.629	0.004	4131391.00	47.89	n-Octacosane
0.626- 8.852			32633027.47	407.80	TPH as Diesel
2.296- 8.852			31498318.94	420.86	Diesel Range Organics

End of File

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031052.d

Date : 11-MAR-2017 07:42

Client ID:

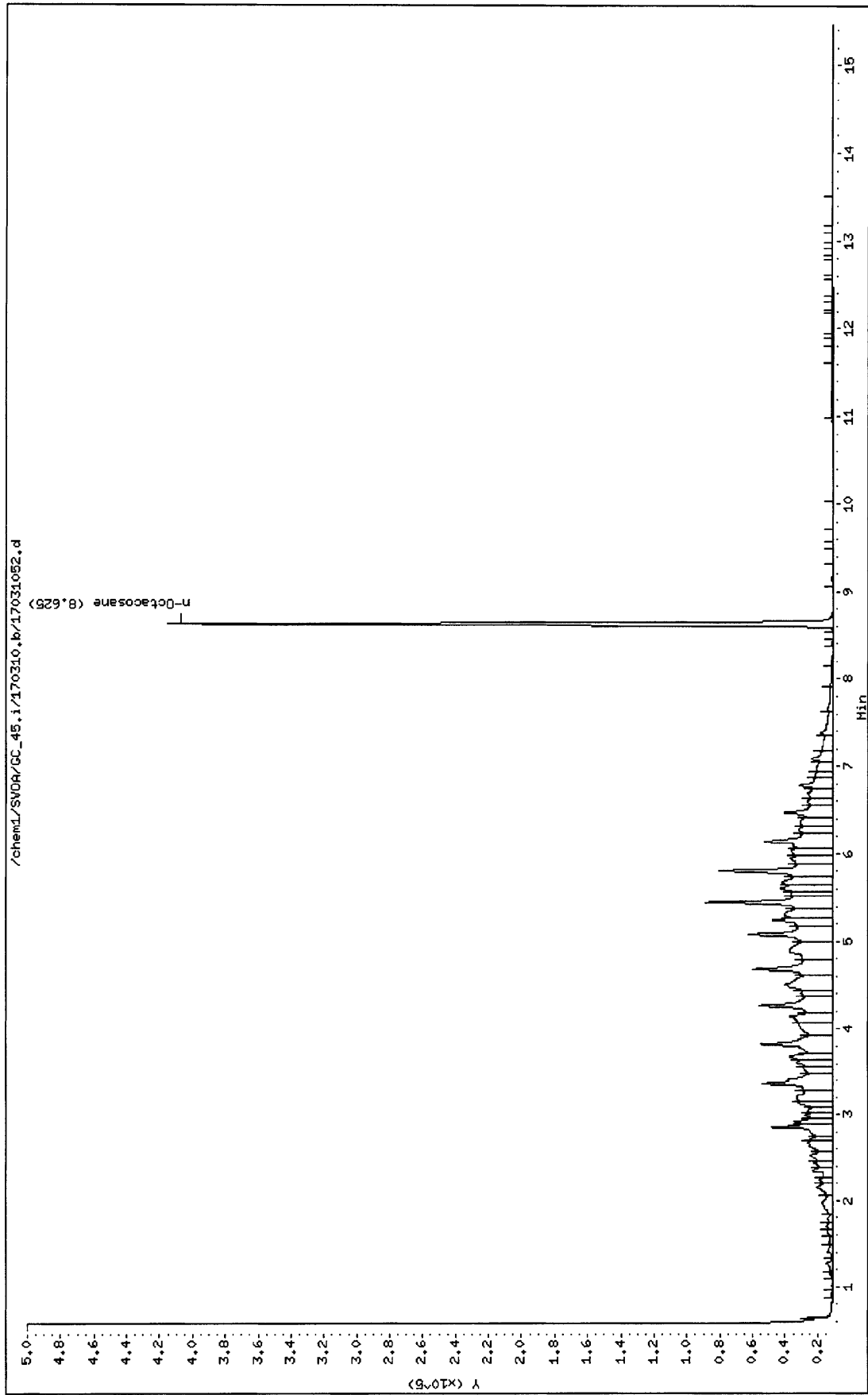
Sample Info: LCS 17030912

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_45/170310/17031053.d
Page Number :
Operator : 682 Vial Number : Vial 53
Instrument : GC 45 Injection Number : 53
Sample Name : MS 17-03-0590-25 Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 11 MAR 17 08:03
Report Created on: 14-MAR-17 09:53 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031053.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.624	8.629	0.005	3955186.00	45.85	n-Octacosane
2.296- 8.852			29491051.67	368.54	TPH as Diesel
5.445-12.452			11745370.60	146.78	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031053.d

Date : 11-MAR-2017 08:03

Client ID:

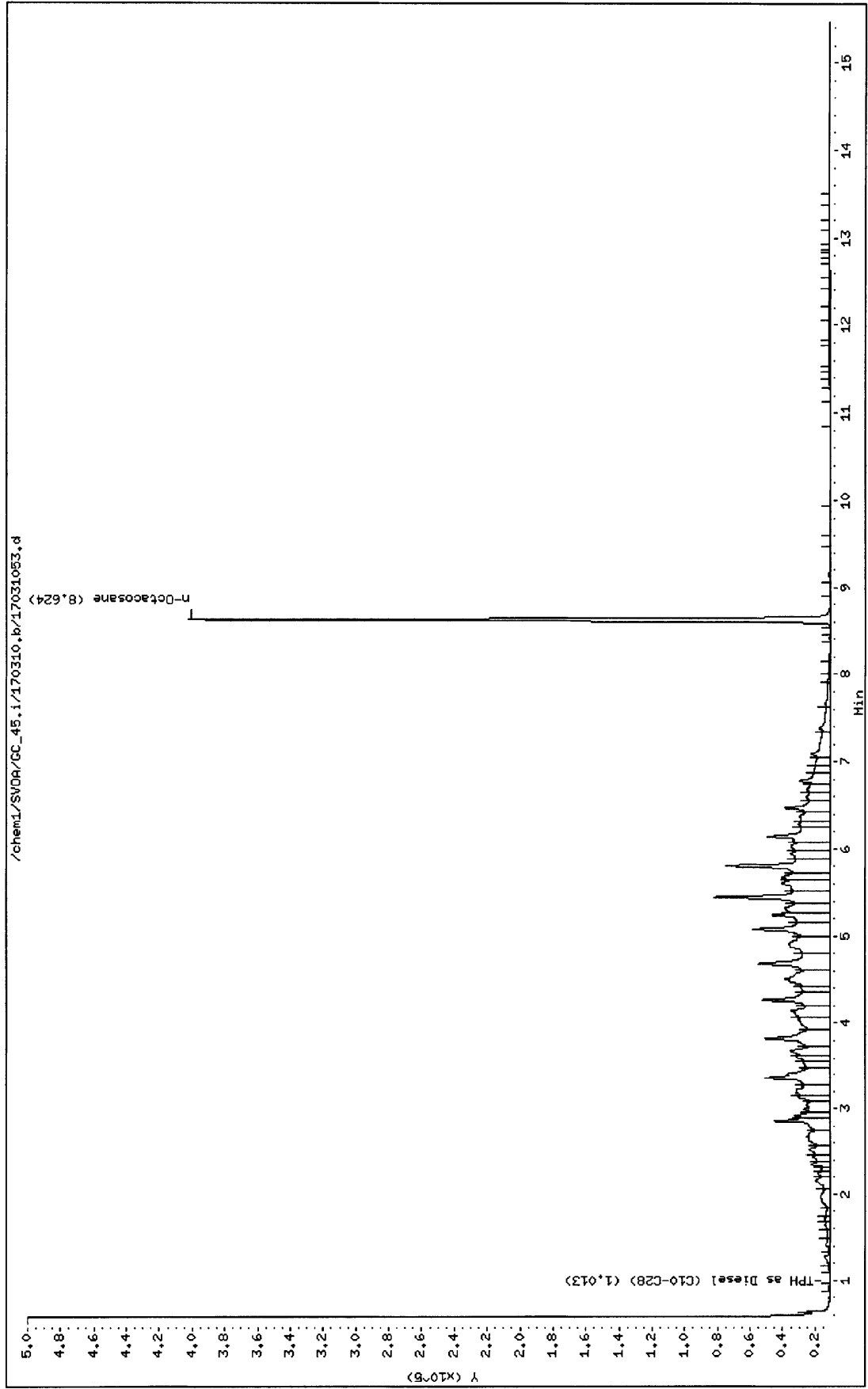
Sample Info: MS 17-03-0590-25

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_45/170310/17031054.d
 Page Number :
 Operator : 682 Vial Number : Vial 54
 Instrument : GC 45 Injection Number : 54
 Sample Name : MSD 17-03-0590-25 Sequence Line : 0
 Instrument Method: 8015d.m
 Acquired on : 11 MAR 17 08:24
 Report Created on: 14-MAR-17 09:53 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031054.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.625	8.629	0.004	3899987.00	45.21	n-Octacosane
2.296- 8.852			31911017.62	398.78	TPH as Diesel
5.445-12.452			12723702.59	159.00	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031054.d

Date : 11-MAR-2017 08:24

Client ID:

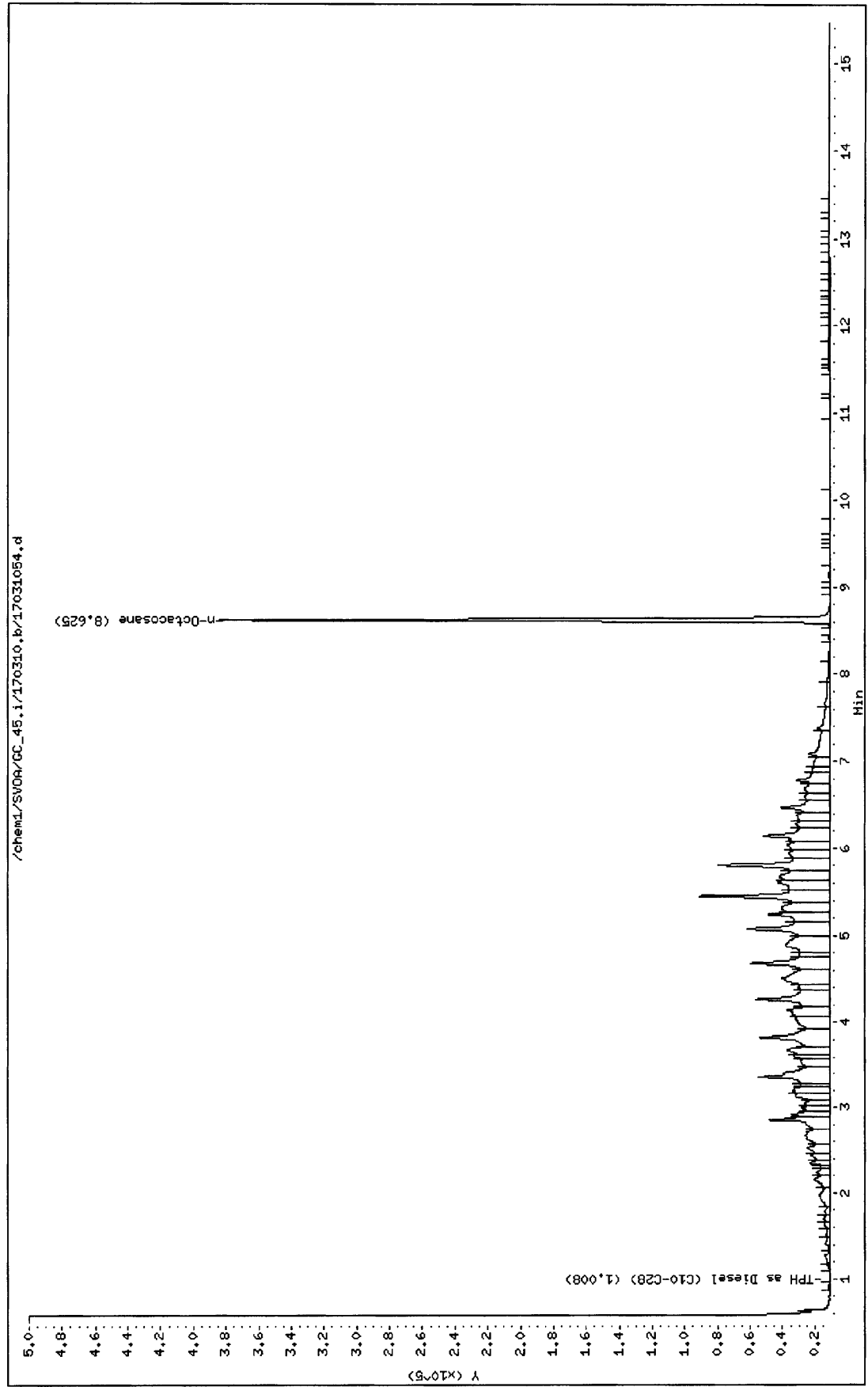
Sample Info: MSD 17-03-0590-25

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_45/170310/17031055.d
Page Number :
Operator : 682 Vial Number : Vial 55
Instrument : GC 45 Injection Number : 55
Sample Name : 17-03-0590-25 Sequence Line : 0
Instrument Method: 8015d.m

Acquired on : 11 MAR 17 08:46
Report Created on: 14-MAR-17 09:53 Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/17031055.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.625	8.629	0.005	3959179.00	45.90	n-Octacosane
2.296- 8.852			87994.17	1.10	TPH as Diesel
5.445-12.452			98912.46	1.24	TPH as Motor Oil

End of File

Page 1

Data File: /chem1/SVOR/GC_45.i/170310.b/17031055.d

Date : 11-MAR-2017 08:46

Client ID:

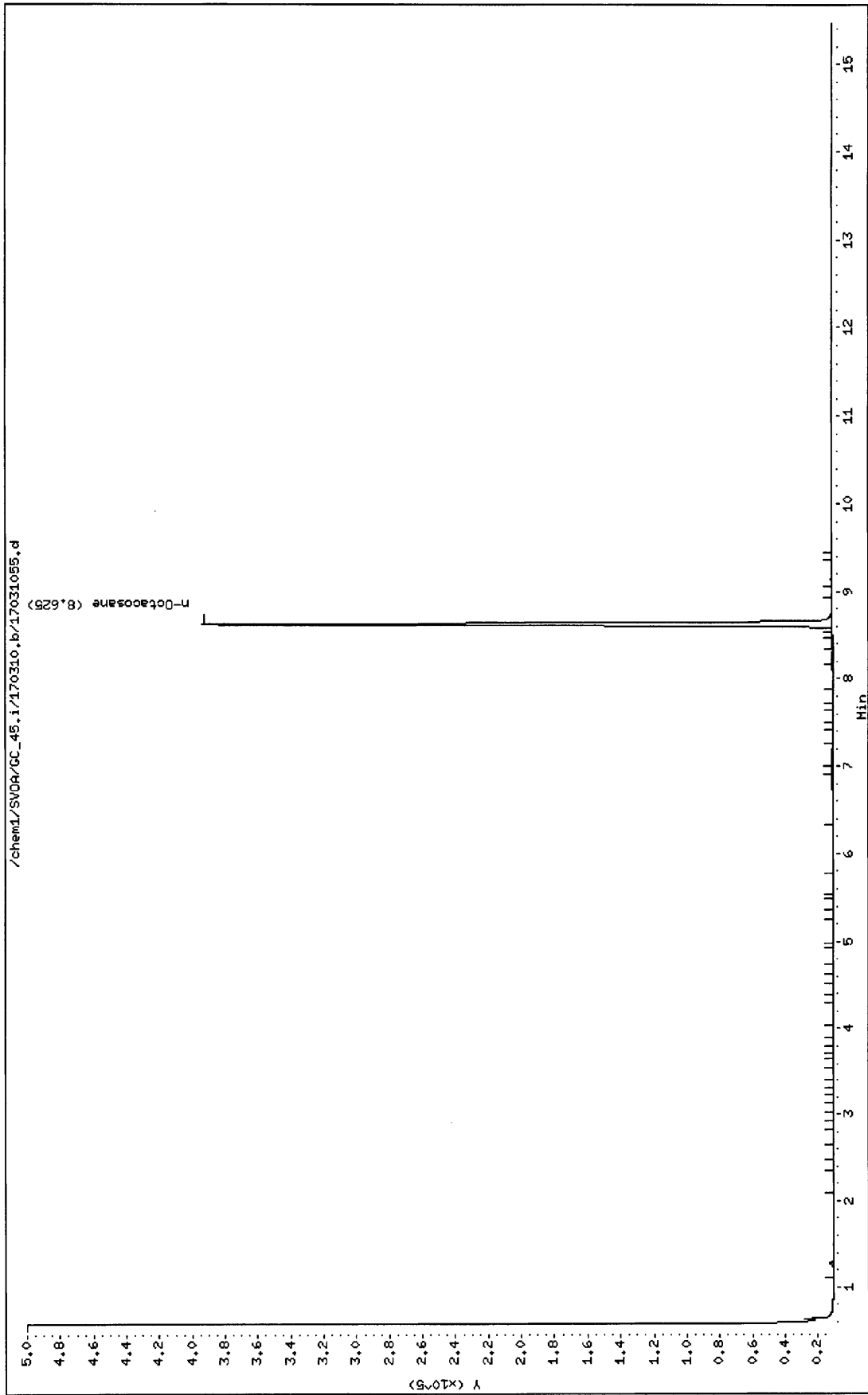
Sample Info: 17-03-0590-25

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



EPA 8015B (M) Diesel + Motor Oil

CONTINUING CALIBRATION

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

BATCH ID: 170310A055
INSTRUMENT: GC 45

ANALYZED BY: 972

WORK ORDER: 099-14-354
MATRIX: Water

REVIEWED BY: 27
D/T REVIEWED: 2017-03-14 12:25

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
30	Daily Calibration	2017-03-11 06:39	T:\GC_45\GC_45_data\2017\170310\17031049.d\Report.txt17031049

WORK ORDER: 17-03-0641
MATRIX: Soil

REVIEWED BY: 27
D/T REVIEWED: 2017-03-14 12:27

<u>CEL</u> <u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
26	D-DU3-ISM1-3	2017-03-11 09:52	T:\GC_45\GC_45_data\2017\170310\17031058.d\Report.txt17031058
27	D-DU3-ISM2-3	2017-03-11 10:13	T:\GC_45\GC_45_data\2017\170310\17031059.d\Report.txt17031059
28	D-DU3-ISM3-3	2017-03-11 10:35	T:\GC_45\GC_45_data\2017\170310\17031060.d\Report.txt17031060
29	D-DU3-ISM4-3	2017-03-11 10:56	T:\GC_45\GC_45_data\2017\170310\17031061.d\Report.txt17031061

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

CCV WORK ORDER: 099-14-354-30-5901

BATCH ID:

INITIAL: 161202J007

CCV: 170310A055

INSTRUMENT:

GC 45

DATA FILE: T:\GC_45\data\2017\170310\17031049.d\Report.txt17031049

ANALYZED BY: 972

D/T ANALYZED:

INITIAL:

2016-12-02 19:43

CCV:

2017-03-11 06:39

REVIEWED BY:

D/T REVIEWED:

21

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	80.022	78.850			1	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_45.i/170310.b/17031049.d
 Report Date: 03/14/2017 09:52

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_45.i Injection Date and Time: 11-MAR-2017 06:39
 Sample Name: CCV D400 C28 50 L102516D Initial Calibration Date(s): 18-OCT-2016 07-MAR-2017
 Sublist used: CCV_D-DRO.sub Initial Calibration Time(s): 12:03 13:58
 Method used: /chem1/SVOA/GC_45.i/170310.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	80021.702	78850.060	0.00	1	15	Averaged
Diesel Range Organics	74843.538	74015.530	0.00	1	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	86260.794	78231.280	0.00	9	20	Averaged

page 1

Data File: /chem1/SVOA/GC_45.i/170310.b/17031049.d
 Report Date: 13-Mar-2017 17:08

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/170310.b/17031049.d

Lab Smp Id:

Inj Date : 11-MAR-2017 06:39

Operator : 682

Inst ID: GC_45.i

Smp Info : CCV D400 C28 50 L102516D

Misc Info :

Comment :

Method : /chem1/SVOA/GC_45.i/170310.b/8015d.m

Meth Date : 13-Mar-2017 17:08 umd6

Quant Type: ESTD

Cal Date : 28-DEC-2016 19:01

Cal File: 16122828.d

Als bottle: 49

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 15 TPH as Diesel	0.626-8.852			31540024	400.000	394.143
S 27 Diesel Range Organics	2.296-8.852			29606212	400.000	395.574
\$ 93 n-Octacosane	8.624	8.624	0.000	3911564	50.0000	45.345

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031049.d

Date : 11-MAR-2017 06:39

Client ID:

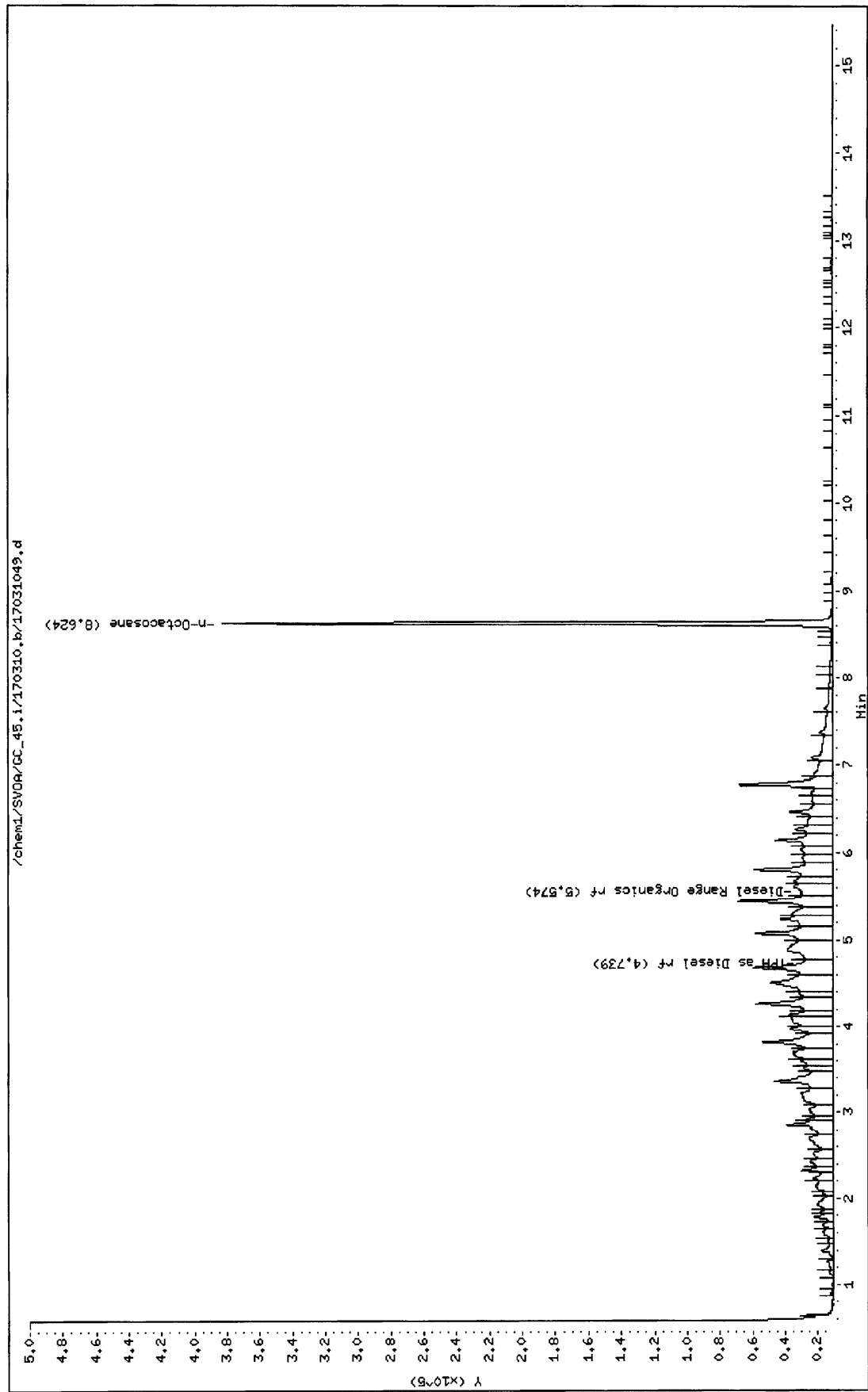
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_45.i/170310.b/17031065.d
 Report Date: 03/14/2017 09:56

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_45.i Injection Date and Time: 11-MAR-2017 12:23
 Sample Name: CCV D400 C28 50 L102516D Initial Calibration Date(s): 18-OCT-2016 07-MAR-2017
 Sublist used: CCV_D-DRO.sub Initial Calibration Time(s): 12:03 13:58
 Method used: /chem1/SVOA/GC_45.i/170310.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	80021.702	81069.435	0.00	-1	15	Averaged
Diesel Range Organics	74843.538	76136.095	0.00	-2	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	86260.794	76866.300	0.00	11	20	Averaged

page 1

Data File: /chem1/SVOA/GC_45.i/170310.b/17031065.d
 Report Date: 13-Mar-2017 17:44

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/170310.b/17031065.d

Lab Smp Id:

Inj Date : 11-MAR-2017 12:23

Operator : 682

Inst ID: GC_45.i

Smp Info : CCV D400 C28 50 L102516D

Misc Info :

Comment :

Method : /chem1/SVOA/GC_45.i/170310.b/8015d.m

Meth Date : 13-Mar-2017 17:44 umd6

Quant Type: ESTD

Cal Date : 28-DEC-2016 19:01

Cal File: 16122828.d

Als bottle: 65

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 15 TPH as Diesel	0.626	8.852		32427774	400.000	405.237
S 27 Diesel Range Organics	2.296	8.852		30454438	400.000	406.908
\$ 93 n-Octacosane	8.626	8.626	0.000	3843315	50.0000	44.554

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031065.d

Date : 11-MAR-2017 12:23

Client ID:

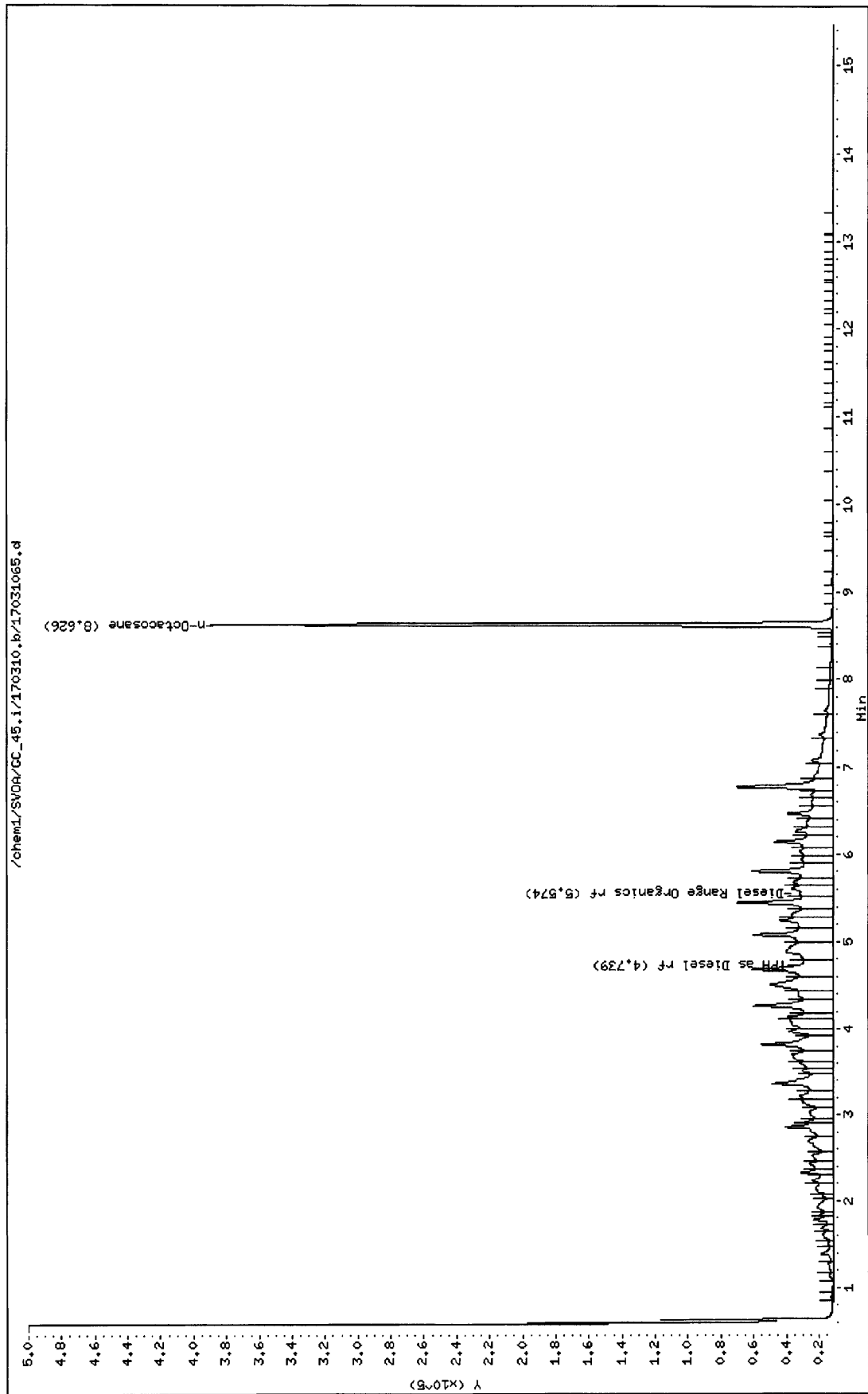
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_45.i/170310.b/17031071.d
 Report Date: 03/14/2017 09:58

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_45.i Injection Date and Time: 11-MAR-2017 14:33
 Sample Name: CCV D400 C28 50 L102516D Initial Calibration Date(s): 18-OCT-2016 07-MAR-2017
 Sublist used: CCV_D-DRO.sub Initial Calibration Time(s): 12:03 13:58
 Method used: /chem1/SVOA/GC_45.i/170310.b/8015d.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	80021.702	78432.530	0.00	2	15	Averaged
Diesel Range Organics	74843.538	73579.715	0.00	2	15	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	86260.794	73428.020	0.00	15	20	Averaged

page 1

Data File: /chem1/SVOA/GC_45.i/170310.b/17031071.d
 Report Date: 13-Mar-2017 17:45

Page 1

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/170310.b/17031071.d
 Lab Smp Id:
 Inj Date : 11-MAR-2017 14:33
 Operator : 682 Inst ID: GC_45.i
 Smp Info : CCV D400 C28 50 L102516D
 Misc Info :
 Comment :
 Method : /chem1/SVOA/GC_45.i/170310.b/8015d.m
 Meth Date : 13-Mar-2017 17:45 umd6 Quant Type: ESTD
 Cal Date : 28-DEC-2016 19:01 Cal File: 16122828.d
 Als bottle: 71 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 15 TPH as Diesel	0.626-8.852			31373012	400.000	392.056
S 27 Diesel Range Organics	2.296-8.852			29431886	400.000	393.245
\$ 93 n-Octacosane	8.624	8.624	0.000	3671401	50.0000	42.561

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/17031071.d

Date : 11-MAR-2017 14:33

Client ID:

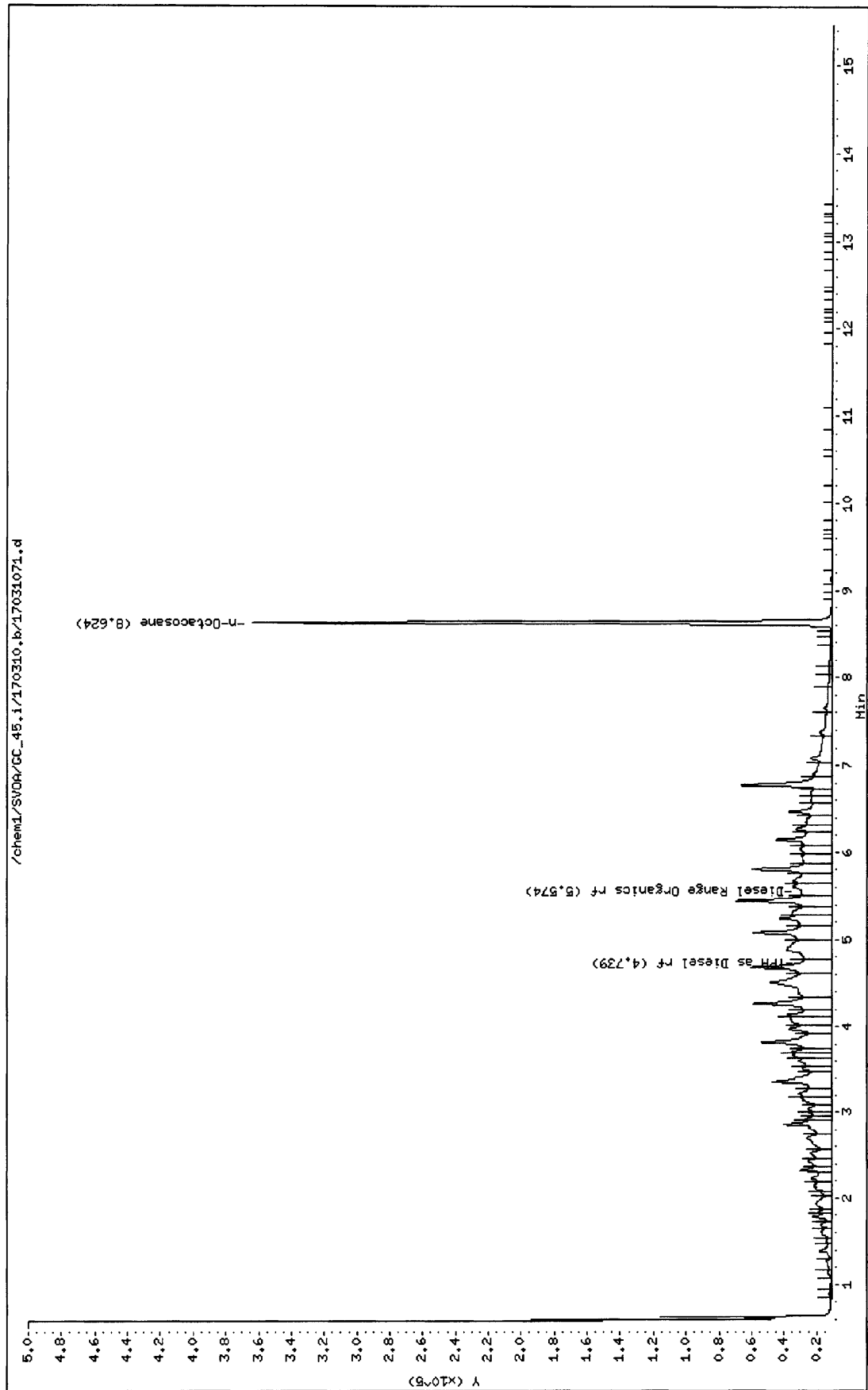
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



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External Standard Report

=====

Data File Name : /chem1/SVOA/GC_45/170310/1703100201.d
 Page Number :
 Operator : 682 Vial Number : Vial 2
 Instrument : GC 45 Injection Number : 2
 Sample Name : C6-C44 L110816A Sequence Line : 0
 Instrument Method: 8015d.m

Acquired on : 11 MAR 17 01:42
 Report Created on: 13-MAR-17 13:03 Compound Sublist : all
 Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_45.i/170310.b/1703100201.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.626	8.629	8.003	115198.00	0.00	C6-Hexane
0.780	8.629	7.849	292223.00	0.00	C7-Heptane
1.192	8.629	7.438	826805.00	0.00	C8-Octane
1.725	8.629	6.905	1232265.00	0.00	C9-Nonane
2.296	8.629	6.333	1446020.00	0.00	C10-Decane
2.839	8.629	5.791	1434692.00	0.00	C11-Undecane
3.344	8.629	5.285	1496907.00	0.00	C12-Dodecane
3.815	8.629	4.814	1686682.00	0.00	C13-Tridecane
4.257	8.629	4.372	1487669.00	0.00	C14-Tetradecane
4.675	8.629	3.954	1501700.00	0.00	C15-pentadecane
5.071	8.629	3.558	1529463.00	0.00	C16-Hexadecane
5.445	8.629	3.184	1520845.00	0.00	C17-Heptadecane
5.801	8.629	2.828	1517495.00	0.00	C18-Octadecane
6.139	8.629	2.490	1574049.00	0.00	C19-Nonadecane
6.463	8.629	2.166	1545204.00	0.00	C20-Eicosane
6.772	8.629	1.857	1548726.00	0.00	C21-Heneicosane
7.069	8.629	1.560	1599436.00	0.00	C22-Docosane
7.354	8.629	1.275	1578284.00	0.00	C23-Tricosane
7.627	8.629	1.002	1586443.00	0.00	C24-Tetracosane
7.889	8.629	0.741	1562453.00	0.00	C25-Pentacosane
8.144	8.629	0.486	1641506.00	0.00	C26-Hexacosane
8.387	8.629	0.242	1574125.00	0.00	C27-Heptacosane
8.623	8.629	0.006	1560327.00	18.09	n-Octacosane
8.852	8.629	-0.222	1520565.00	0.00	C29-Nonacosane
9.073	8.629	-0.443	1476656.00	0.00	C30-Triacontane
9.287	8.629	-0.657	1433083.00	0.00	C31-Hentriacontane
9.494	8.629	-0.865	1361754.00	0.00	C32-Dotriacontane
9.694	8.629	-1.065	1239227.00	0.00	C33-Tritriacontane
9.890	8.629	-1.260	1043908.00	0.00	C34-Tetratriacontane
10.080	8.629	-1.451	828653.00	0.00	C35-Pentatriacontane
10.263	8.629	-1.634	665937.00	0.00	C36-Hexatriacontane
10.443	8.629	-1.814	463601.00	0.00	C37-Heptatriacontane
10.626	8.629	-1.996	337214.00	0.00	C38-Octatriacontane
10.829	8.629	-2.200	218428.00	0.00	C39-Nonatriacontane
11.067	8.629	-2.437	146851.00	0.00	C40-Tetracontane
12.452	8.629	-3.822	206503.00	0.00	C44-Tetratetracontane

End of File

Page 1

Data File: /chem1/SVDA/GC_45.i/170310.b/1703100201.d

Date : 11-MAR-2017 01:42

Client ID:

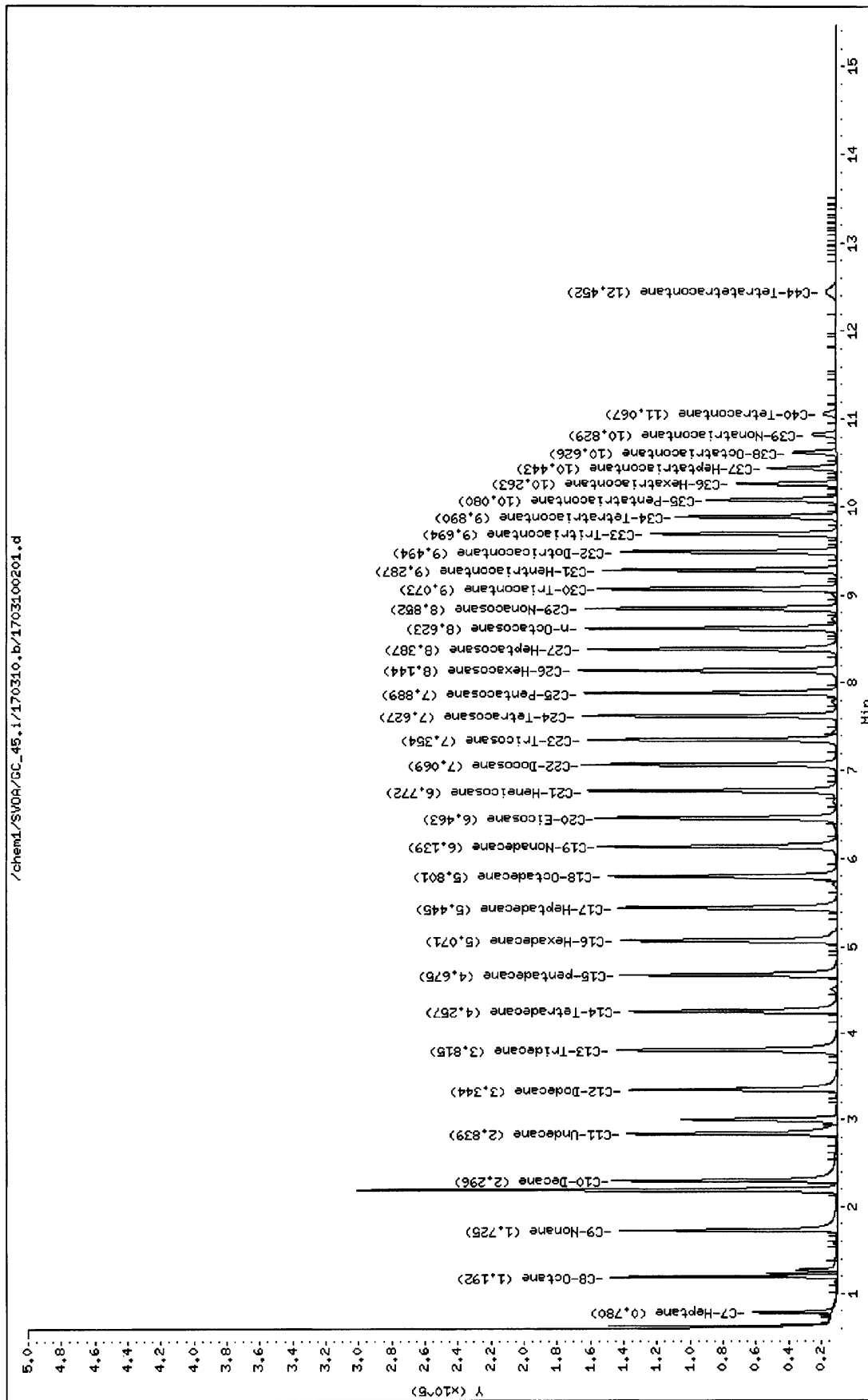
Sample Info: C6-C44 L110816A

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00

Column phase:



EPA 8015B (M) Diesel + Motor Oil

RUN LOGS

Line	Vial	File	Name	Method	Acquired
1	1	16120201	BLANK	8015D	02-Dec-16, 17:34:02
2	1	1612020102	BLANK	8015D	02-Dec-16, 17:55:52
3	1	1612020103	BLANK	8015D	02-Dec-16, 18:17:52
4	2	16120202	C6-C44 L110816A	8015D	02-Dec-16, 18:40:02
5	5	16120205	CCV D400 C28 50 L102516D	8015D	02-Dec-16, 19:00:47
6	6	16120206	CCV MO400 L090716D	8015D	02-Dec-16, 19:21:33
7	7	16120207	ICAL D5 C28 0.625 L102516B	8015D	02-Dec-16, 19:43:29
8	8	16120208	ICAL D200 C28 25 L102516C	8015D	02-Dec-16, 20:05:44
9	9	16120209	ICAL D400 C28 50 L102516D	8015D	02-Dec-16, 20:27:44
10	10	16120210	ICAL D800 C28 100 L102516E	8015D	02-Dec-16, 20:48:51
11	11	16120211	ICAL D1600 C28 200 L102516F	8015D	02-Dec-16, 21:09:46
12	12	16120212	ICV D400 C28 50 L102516G	8015D	02-Dec-16, 21:31:10
13	13	16120213	ICAL CO200 L111516C	8015D	02-Dec-16, 21:52:20
14	14	16120214	ICAL CO400 L111516D	8015D	02-Dec-16, 22:14:41
15	15	16120215	ICAL CO20 L111516B	8015D	02-Dec-16, 22:36:25
16	16	16120216	ICAL CO600 L111516E	8015D	02-Dec-16, 22:58:04
17	17	16120217	ICAL CO800 L111516F	8015D	02-Dec-16, 23:19:13
18	18	16120218	ICV CO400 L111516G	8015D	02-Dec-16, 23:40:58
19	19	16120219	ICAL GD5 L091416A	8015D	03-Dec-16, 00:02:10
20	20	16120220	ICAL GD200 L091416B	8015D	03-Dec-16, 00:23:54
21	21	16120221	ICAL GD400 L091416C	8015D	03-Dec-16, 00:46:08
22	22	16120222	ICAL GD800 L091416D	8015D	03-Dec-16, 01:08:26
23	23	16120223	ICAL GD1600 L091416E	8015D	03-Dec-16, 01:29:41
24	24	16120224	ICV GD400 L091416F	8015D	03-Dec-16, 01:50:38
25	2	16120225	C6-C44 L110816A	8015D	03-Dec-16, 02:11:22
26	26	16120226	CCV D400 C28 50 L102516D	8015D	03-Dec-16, 02:32:10
27	27	16120227	CCV GD400 L091416C	8015D	03-Dec-16, 02:53:05
28	28	16120228	MB 16120213	8015D	03-Dec-16, 03:13:44
29	29	16120229	GD LCS 16120213	8015D	03-Dec-16, 03:34:30
30	30	16120230	GDMS 16-12-0003-17	8015D	03-Dec-16, 03:55:45
31	31	16120231	GDMSD 16-12-0003-17	8015D	03-Dec-16, 04:17:45
32	32	16120232	16-12-0003-13	8015D	03-Dec-16, 04:39:44
33	33	16120233	16-12-0003-17	8015D	03-Dec-16, 05:02:19
34	34	16120234	16-12-0003-21	8015D	03-Dec-16, 05:24:56
35	35	16120235	CCV D400 C28 50 L102516D	8015D	03-Dec-16, 05:47:26
36	36	16120236	CCV GD400 L091416C	8015D	03-Dec-16, 06:09:53
37	37	16120237	MB 16120104	8015D	03-Dec-16, 06:31:28
38	38	16120238	LCS 16120104	8015D	03-Dec-16, 06:54:20
39	39	16120239	LCSD 16120104	8015D	03-Dec-16, 07:16:51
40	40	16120240	16-11-2665-1	8015D	03-Dec-16, 07:39:49
41	41	16120241	16-11-2665-2	8015D	03-Dec-16, 08:02:28
42	42	16120242	16-11-2665-3	8015D	03-Dec-16, 08:23:23
43	43	16120243	16-11-2665-4	8015D	03-Dec-16, 08:44:14
44	44	16120244	16-11-2665-5	8015D	03-Dec-16, 09:05:55
45	45	16120245	16-11-2665-6	8015D	03-Dec-16, 09:28:11
46	46	16120246	16-11-2665-7	8015D	03-Dec-16, 09:49:18
47	47	16120247	16-11-2665-8	8015D	03-Dec-16, 10:10:09
48	48	16120248	16-11-2665-9	8015D	03-Dec-16, 10:32:03
49	49	16120249	16-11-2606-1	8015D	03-Dec-16, 10:54:08
50	50	16120250	CCV D400 C28 50 L102516D	8015D	03-Dec-16, 11:16:34
51	51	16120251	16-11-2607-1	8015D	03-Dec-16, 11:38:13
52	52	16120252	16-11-2608-1	8015D	03-Dec-16, 11:59:20
53	2	16120253	C6-C44 L110816A	8015D	03-Dec-16, 12:21:29
54	54	16120254	CCV D400 C28 50 L102516D	8015D	03-Dec-16, 12:43:37
55	55	16120255	MB 16113008	8015D	03-Dec-16, 13:04:44
56	56	16120256	LCS 16113008	8015D	03-Dec-16, 13:25:48
57	57	16120257	LCSD 16113008	8015D	03-Dec-16, 13:48:06
58	58	16120258	16-11-2371-1	8015D	03-Dec-16, 14:10:26
59	59	16120259	16-11-2371-2	8015D	03-Dec-16, 14:33:03

Sequence: C:\CHEM32\1\SEQUENCE\170310.S
 Table: Front DataPath: W:\GC_45\2017\170310\

Line	Vial	File	Name	Method	Acquired
1	1	17031001	BLANK	8015D	10-Mar-17, 13:03:15
2	2	17031002	C6-C44 L110816A	8015D	10-Mar-17, 13:24:10
3	3	17031003	CCV D400 C28 50 L102516D A051	8015D	10-Mar-17, 13:45:04
4	4	17031004	CCV GD400 L091416C	8015D	10-Mar-17, 14:05:59
5	5	17031005	MB 17030809	8015D	10-Mar-17, 14:37:15
6	6	17031006	GDLCS 17030809	8015D	10-Mar-17, 14:58:44
7	7	17031007	GDMS 17-03-0414-14	8015D	10-Mar-17, 15:20:10
8	8	17031008	GDMSD 17-03-0414-14	8015D	10-Mar-17, 15:41:07
9	9	17031009	17-03-0414-2	8015D	10-Mar-17, 16:03:08
10	10	17031010	17-03-0414-4 5X	8015D	10-Mar-17, 16:24:29
11	11	17031011	17-03-0414-8	8015D	10-Mar-17, 16:45:25
12	12	17031012	17-03-0414-12	8015D	10-Mar-17, 17:06:58
13	13	17031013	17-03-0414-14	8015D	10-Mar-17, 17:28:47
14	14	17031014	17-03-0414-18	8015D	10-Mar-17, 17:49:47
15	15	17031015	CCV D400 C28 50 L102516D A052	8015D	10-Mar-17, 18:10:43
16	16	17031016	CCV GD400 L091416C	8015D	10-Mar-17, 18:32:55
17	17	17031017	MB 17030209	8015D	10-Mar-17, 18:54:15
18	18	17031018	LCS 17030209	8015D	10-Mar-17, 19:15:09
19	19	17031019	LCSD 17030209	8015D	10-Mar-17, 19:36:44
20	20	17031020	17-03-0018-1	8015D	10-Mar-17, 19:58:35
21	21	17031021	17-03-0018-2	8015D	10-Mar-17, 20:19:39
22	22	17031022	17-03-0018-3 @ 15	8015D	10-Mar-17, 20:40:40
23	23	17031023	17-03-0018-4	8015D	10-Mar-17, 21:02:53
24	24	17031024	17-03-0018-5	8015D	10-Mar-17, 21:24:01
25	25	17031025	17-03-0018-6	8015D	10-Mar-17, 21:44:59
26	26	17031026	17-03-0018-7	8015D	10-Mar-17, 22:06:20
27	27	17031027	17-03-0018-8 @ wrong vial	8015D	10-Mar-17, 22:28:25
28	28	17031028	17-03-0018-9	8015D	10-Mar-17, 22:49:30
29	29	17031029	17-03-0018-10	8015D	10-Mar-17, 23:10:53
30	30	17031030	CCV D400 C28 50 L102516D A053	8015D	10-Mar-17, 23:32:12
31	31	17031031	17-03-0018-11	8015D	10-Mar-17, 23:54:08
32	32	17031032	17-03-0018-12	8015D	11-Mar-17, 00:16:17
33	33	17031033	17-03-0018-13	8015D	11-Mar-17, 00:38:36
34	34	17031034	17-03-0018-14	8015D	11-Mar-17, 00:59:45
35	35	17031035	TEST BLANK	8015D	11-Mar-17, 01:20:40
36	2	1703100201	C6-C44 L110816A	8015D	11-Mar-17, 01:42:00
37	36	17031036	CCV D400 C28 50 L102516D A054	8015D	11-Mar-17, 02:03:56
38	37	17031037	CCV MO400 L030317D	8015D	11-Mar-17, 02:24:57
39	38	17031038	MB 17030909/10 @ contamination	8015D	11-Mar-17, 02:45:53
40	39	17031039	LCS 17030909/10	8015D	11-Mar-17, 03:07:25
41	40	17031040	LCSD 17030909/10	8015D	11-Mar-17, 03:29:27
42	41	17031041	17-03-0630-2	8015D	11-Mar-17, 03:50:59
43	42	17031042	17-03-0630-3	8015D	11-Mar-17, 04:11:58
44	43	17031043	17-03-0583-1	8015D	11-Mar-17, 04:32:59
45	44	17031044	17-03-0583-2	8015D	11-Mar-17, 04:54:02
46	45	17031045	17-03-0583-3	8015D	11-Mar-17, 05:15:12
47	46	17031046	17-03-0583-4	8015D	11-Mar-17, 05:36:14
48	47	17031047	17-03-0638-1	8015D	11-Mar-17, 05:57:13
49	48	17031048	17-03-0738-1	8015D	11-Mar-17, 06:18:08
50	49	17031049	CCV D400 C28 50 L102516D A055	8015D	11-Mar-17, 06:39:08
51	50	17031050	CCV MO400 L030317D	8015D	11-Mar-17, 07:00:28
52	51	17031051	MB 17030912	8015D	11-Mar-17, 07:21:44
53	52	17031052	LCS 17030912	8015D	11-Mar-17, 07:42:49
54	53	17031053	MS 17-03-0590-25	8015D	11-Mar-17, 08:03:45
55	54	17031054	MSD 17-03-0590-25	8015D	11-Mar-17, 08:24:50
56	55	17031055	17-03-0590-25	8015D	11-Mar-17, 08:46:08
57	56	17031056	17-03-0590-26	8015D	11-Mar-17, 09:08:01
58	57	17031057	17-03-0590-27	8015D	11-Mar-17, 09:30:19
59	58	17031058	17-03-0641-26	8015D	11-Mar-17, 09:52:21
60	59	17031059	17-03-0641-27	8015D	11-Mar-17, 10:13:42

61	60	17031060	17-03-0641-28	8015D	11-Mar-17, 10:35:00
62	61	17031061	17-03-0641-29	8015D	11-Mar-17, 10:56:04
63	62	17031062	17-03-0642-26	8015D	11-Mar-17, 11:17:26
64	63	17031063	17-03-0642-27	8015D	11-Mar-17, 11:38:58
65	64	17031064	17-03-0642-28	8015D	11-Mar-17, 12:01:15
66	65	17031065	CCV D400 C28 50 L102516D A086	8015D	11-Mar-17, 12:23:33
67	66	17031066	17-03-0642-29	8015D	11-Mar-17, 12:44:48
68	67	17031067	17-03-0643-26	8015D	11-Mar-17, 13:05:59
69	68	17031068	17-03-0643-27	8015D	11-Mar-17, 13:27:20
70	69	17031069	17-03-0643-28	8015D	11-Mar-17, 13:49:28
71	70	17031070	17-03-0643-29	8015D	11-Mar-17, 14:11:50
72	71	17031071	CCV D400 C28 50 L102516D	8015D	11-Mar-17, 14:33:28

3/13/17
682
45

8015
84

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

Peer Reviewed by: 972 Peer Reviewed Date: 3/9/2017 Revision Date: 10/24/16

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: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control Limit	Comment
		Observed	%D		
Silver	0.500000	0.507193	-1	+/-10	
Arsenic	5.000000	4.769165	5	+/-10	
Barium	1.000000	0.999533	0	+/-10	
Beryllium	0.500000	0.487585	2	+/-10	
Cadmium	1.500000	1.546304	-3	+/-10	
Cobalt	1.000000	1.065456	-7	+/-10	
Chromium	0.400000	0.408967	-2	+/-10	
Copper	1.000000	1.025621	-3	+/-10	
Molybdenum	2.500000	2.383715	5	+/-10	
Nickel	0.400000	0.418948	-5	+/-10	
Lead	5.000000	5.205077	-4	+/-10	
Antimony	2.000000	1.901992	5	+/-10	
Selenium	2.000000	1.906362	5	+/-10	
Thallium	2.000000	1.924998	4	+/-10	
Vanadium	1.000000	1.015628	-2	+/-10	
Zinc	1.500000	1.566558	-4	+/-10	

Report Time: 3/21/2017 9:22:33 AM

ICV-1 File: ICV-M072816C

Analysis Time: 3/20/2017 10:11:01 AM

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

01/22/2014 Revision

Return to Contents

Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Initial Calibration Blank		
	ICB-1	RL	Comment
Silver	0.000798	0.005000	
Arsenic	-0.003019	0.010000	
Barium	0.000088	0.010000	
Beryllium	0.000092	0.010000	
Cadmium	0.000101	0.010000	
Cobalt	0.000280	0.010000	
Chromium	0.000640	0.010000	
Copper	-0.000199	0.010000	
Molybdenum	0.002407	0.010000	
Nickel	-0.000098	0.010000	
Lead	-0.001893	0.010000	
Antimony	0.000573	0.015000	
Selenium	0.001457	0.015000	
Thallium	0.011152	0.015000	
Vanadium	-0.000357	0.010000	
Zinc	-0.001724	0.010000	

Report Time: 3/21/2017 9:22:33 AM

ICB-1 File: ICB-R12091601

Analysis Time: 3/20/2017 10:11:58 AM

01/22/2014 Revision

Return to Contents

Work Order No: 17-03-0641

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	-0.000369	0.005000	0.300000	0.311146	-4	+/-20	
Arsenic	0.005414	0.010000	1.000000	0.990938	1	+/-20	
Barium	0.002865	0.010000	0.300000	0.299460	0	+/-20	
Beryllium	-0.000122	0.010000	0.100000	0.101754	-2	+/-20	
Cadmium	0.001829	0.010000	0.300000	0.303771	-1	+/-20	
Cobalt	0.001128	0.010000	0.300000	0.309671	-3	+/-20	
Chromium	-0.000546	0.010000	0.300000	0.306295	-2	+/-20	
Copper	0.002198	0.010000	0.300000	0.315768	-5	+/-20	
Molybdenum	0.000461	0.010000	0.300000	0.291059	3	+/-20	
Nickel	0.000180	0.010000	0.300000	0.311197	-4	+/-20	
Lead	-0.007802	0.010000	1.000000	1.005781	-1	+/-20	
Antimony	-0.011962	0.015000	1.000000	0.940184	6	+/-20	
Selenium	-0.004081	0.015000	0.500000	0.495416	1	+/-20	
Thallium	-0.001133	0.015000	1.000000	0.986393	1	+/-20	
Vanadium	0.001677	0.010000	0.300000	0.303227	-1	+/-20	
Zinc	0.003566	0.010000	0.300000	0.310764	-4	+/-20	

Report Time: 3/21/2017 9:22:33 AM

ICS-A-1 File: ICS_A - M110116B

Analysis Time: 3/20/2017 10:14:33 AM

ICS-AB-1 File: ICS_AB - M110116A

Analysis Time: 3/20/2017 10:15:24 AM

01/22/2014 Revision



Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-2		Control Limit	Comment
		Observed	%D		
Silver	0.500000	0.502252	0	+/-10	
Arsenic	5.000000	4.995696	0	+/-10	
Barium	1.000000	1.031920	-3	+/-10	
Beryllium	0.500000	0.518831	-4	+/-10	
Cadmium	1.500000	1.507281	0	+/-10	
Cobalt	1.000000	1.037660	-4	+/-10	
Chromium	0.400000	0.401154	0	+/-10	
Copper	1.000000	1.012308	-1	+/-10	
Molybdenum	2.500000	2.479921	1	+/-10	
Nickel	0.400000	0.409503	-2	+/-10	
Lead	5.000000	5.118256	-2	+/-10	
Antimony	2.000000	1.982458	1	+/-10	
Selenium	2.000000	1.999486	0	+/-10	
Thallium	2.000000	2.007820	0	+/-10	
Vanadium	1.000000	0.995452	0	+/-10	
Zinc	1.500000	1.531690	-2	+/-10	

Report Time: 3/21/2017 9:22:33 AM

ICV-2 File: ICV-M072816C

Analysis Time: 3/20/2017 2:25:33 PM

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

01/22/2014 Revision

Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Initial Calibration Blank		
	ICB-2	RL	Comment
Silver	0.000596	0.005000	
Arsenic	0.001085	0.010000	
Barium	-0.000031	0.010000	
Beryllium	0.000054	0.010000	
Cadmium	0.000289	0.010000	
Cobalt	0.000168	0.010000	
Chromium	0.001398	0.010000	
Copper	-0.000667	0.010000	
Molybdenum	-0.000468	0.010000	
Nickel	-0.000854	0.010000	
Lead	0.002883	0.010000	
Antimony	0.009094	0.015000	
Selenium	0.004188	0.015000	
Thallium	-0.002828	0.015000	
Vanadium	0.000074	0.010000	
Zinc	0.001645	0.010000	

Report Time: 3/21/2017 9:22:33 AM

ICB-2 File: ICB-R12091601

Analysis Time: 3/20/2017 2:26:30 PM

01/22/2014 Revision

Return to Contents



Work Order No: 17-03-0641

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	0.361932	3	0.365834	2	+/-10	
Arsenic	3.750000	3.773792	-1	3.826395	-2	+/-10	
Barium	7.500000	7.730295	-3	7.791315	-4	+/-10	
Beryllium	0.562500	0.577659	-3	0.580584	-3	+/-10	
Cadmium	0.750000	0.759659	-1	0.764762	-2	+/-10	
Cobalt	1.875000	1.911624	-2	1.923164	-3	+/-10	
Chromium	0.600000	0.596956	1	0.602950	0	+/-10	
Copper	0.937500	0.913673	3	0.922725	2	+/-10	
Molybdenum	0.600000	0.595268	1	0.604187	-1	+/-10	
Nickel	0.600000	0.599758	0	0.604752	-1	+/-10	
Lead	3.750000	3.847749	-3	3.871509	-3	+/-10	
Antimony	4.500000	4.470056	1	4.524202	-1	+/-10	
Selenium	1.500000	1.524924	-2	1.542518	-3	+/-10	
Thallium	1.500000	1.520978	-1	1.540376	-3	+/-10	
Vanadium	1.875000	1.849408	1	1.861369	1	+/-10	
Zinc	2.500000	2.577827	-3	2.573945	-3	+/-10	

Report Time: 3/21/2017 9:22:33 AM

CCV-1 File: CCV= STD3x0.5

Analysis Time: 3/20/2017 4:51:58 PM

CCV-2 File: CCV= STD3x0.5

Analysis Time: 3/20/2017 5:11:39 PM

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

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Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-1	CCB-2	RL	Qualifier
Silver	0.000766	0.001222	0.005000	
Arsenic	-0.001891	0.005521	0.010000	
Barium	0.001737	0.002318	0.010000	
Beryllium	0.000118	0.000184	0.010000	
Cadmium	0.000014	0.000134	0.010000	
Cobalt	0.000912	0.000761	0.010000	
Chromium	0.000921	-0.000445	0.010000	
Copper	-0.001663	-0.001972	0.010000	
Molybdenum	0.000477	0.000851	0.010000	
Nickel	0.000208	0.000165	0.010000	
Lead	0.001475	-0.000480	0.010000	
Antimony	0.007448	0.008346	0.015000	
Selenium	0.010424	0.006791	0.015000	
Thallium	-0.000544	-0.006504	0.015000	
Vanadium	-0.000674	-0.000167	0.010000	
Zinc	-0.002649	-0.002759	0.010000	

Report Time: 3/21/2017 9:22:33 AM

CCB-1 File: CCB-R12091601

Analysis Time: 3/20/2017 4:52:51 PM

CCB-2 File: CCB-R12091601

Analysis Time: 3/20/2017 5:12:31 PM

01/22/2014 Revision



Work Order No: 17-03-0641

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	0.364199	3	0.362112	3	+/-10	
Arsenic	3.750000	3.809620	-2	3.841077	-2	+/-10	
Barium	7.500000	7.744009	-3	7.727838	-3	+/-10	
Beryllium	0.562500	0.576495	-2	0.576946	-3	+/-10	
Cadmium	0.750000	0.755971	-1	0.756172	-1	+/-10	
Cobalt	1.875000	1.901307	-1	1.900603	-1	+/-10	
Chromium	0.600000	0.597547	0	0.595962	1	+/-10	
Copper	0.937500	0.917568	2	0.918214	2	+/-10	
Molybdenum	0.600000	0.607123	-1	0.610490	-2	+/-10	
Nickel	0.600000	0.608385	-1	0.612748	-2	+/-10	
Lead	3.750000	3.816266	-2	3.813598	-2	+/-10	
Antimony	4.500000	4.528657	-1	4.563130	-1	+/-10	
Selenium	1.500000	1.522839	-2	1.548501	-3	+/-10	
Thallium	1.500000	1.524778	-2	1.546261	-3	+/-10	
Vanadium	1.875000	1.856578	1	1.844643	2	+/-10	
Zinc	2.500000	2.540282	-2	2.534839	-1	+/-10	

Report Time: 3/21/2017 9:22:33 AM

CCV-3 File: CCV= STD3x0.5

Analysis Time: 3/20/2017 5:22:23 PM

CCV-4 File: CCV= STD3x0.5

Analysis Time: 3/20/2017 5:32:37 PM

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

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Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-3	CCB-4	RL	Qualifier
Silver	0.001069	0.001095	0.005000	
Arsenic	-0.006128	-0.008417	0.010000	
Barium	0.001612	0.002091	0.010000	
Beryllium	0.000119	0.000143	0.010000	
Cadmium	0.000142	0.000039	0.010000	
Cobalt	0.000422	0.000701	0.010000	
Chromium	0.000068	0.000001	0.010000	
Copper	-0.001626	-0.002521	0.010000	
Molybdenum	0.001053	-0.000038	0.010000	
Nickel	-0.000006	0.000049	0.010000	
Lead	0.001154	0.003105	0.010000	
Antimony	0.006573	0.007478	0.015000	
Selenium	0.000445	0.000293	0.015000	
Thallium	-0.005152	-0.007250	0.015000	
Vanadium	-0.000503	-0.000012	0.010000	
Zinc	-0.002675	-0.002241	0.010000	

Report Time: 3/21/2017 9:22:33 AM

CCB-3 File: CCB-R12091601

Analysis Time: 3/20/2017 5:23:15 PM

CCB-4 File: CCB-R12091601

Analysis Time: 3/20/2017 5:33:30 PM

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Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						
	True	CCV-5		CCV-6		Control Limit	Comment
		Observed	%D	Observed	%D		
Silver	0.375000	0.366451	2	0.365949	2	+/-10	
Arsenic	3.750000	3.859270	-3	3.906293	-4	+/-10	
Barium	7.500000	7.777706	-4	7.786288	-4	+/-10	
Beryllium	0.562500	0.582568	-4	0.581946	-3	+/-10	
Cadmium	0.750000	0.764717	-2	0.764748	-2	+/-10	
Cobalt	1.875000	1.914689	-2	1.918560	-2	+/-10	
Chromium	0.600000	0.600526	0	0.601850	0	+/-10	
Copper	0.937500	0.924253	1	0.923901	1	+/-10	
Molybdenum	0.600000	0.613108	-2	0.618697	-3	+/-10	
Nickel	0.600000	0.616365	-3	0.620007	-3	+/-10	
Lead	3.750000	3.855622	-3	3.854252	-3	+/-10	
Antimony	4.500000	4.587906	-2	4.616808	-3	+/-10	
Selenium	1.500000	1.555711	-4	1.569546	-5	+/-10	
Thallium	1.500000	1.546741	-3	1.569897	-5	+/-10	
Vanadium	1.875000	1.865159	1	1.869254	0	+/-10	
Zinc	2.500000	2.561951	-2	2.568981	-3	+/-10	

Report Time: 3/21/2017 9:22:33 AM

CCV-5 File: CCV= STD3x0.5

Analysis Time: 3/20/2017 5:42:43 PM

CCV-6 File: CCV= STD3x0.5

Analysis Time: 3/20/2017 5:52:13 PM

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

01/22/2014 Revision

Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-5	CCB-6	RL	Qualifier
Silver	0.000583	0.000702	0.005000	
Arsenic	-0.002723	-0.003284	0.010000	
Barium	0.001789	0.001675	0.010000	
Beryllium	0.000118	0.000145	0.010000	
Cadmium	-0.000077	0.000111	0.010000	
Cobalt	0.000665	0.000639	0.010000	
Chromium	-0.000149	0.000577	0.010000	
Copper	-0.001513	-0.001718	0.010000	
Molybdenum	0.000812	0.000084	0.010000	
Nickel	-0.000040	-0.000094	0.010000	
Lead	0.001970	0.002141	0.010000	
Antimony	0.006870	0.010771	0.015000	
Selenium	0.005414	0.004367	0.015000	
Thallium	-0.006366	-0.002256	0.015000	
Vanadium	-0.000417	-0.000753	0.010000	
Zinc	-0.002378	-0.001506	0.010000	

Report Time: 3/21/2017 9:22:33 AM

CCB-5 File: CCB-R12091601

Analysis Time: 3/20/2017 5:43:36 PM

CCB-6 File: CCB-R12091601

Analysis Time: 3/20/2017 5:53:05 PM

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Analysis Begun

Start Time: 3/20/2017 10:08:48 AM
 Logged In Analyst: Oscar Gomez 935
 Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/20/2017 9:11:12 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 17032001.sif

Batch ID:
 Results Data Set: 170320C1
 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: 3/20/2017 10:08:59 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

=====
 Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected	Std.Dev.	RSD	Conc. Units	Calib
Tb 384	77967.7	643.24	0.83%	100.00 %	
Tb 350	126426.2	1641.44	1.30%	100.0 %	
Ag 328.068*†	-1016.5	26.40	2.60%	[0.00] mg/L	
Al 308.215*†	-2553.8	32.92	1.29%	[0.00] mg/L	
As 188.979†	4.0	8.10	201.72%	[0.00] mg/L	
As 193.696*†	1.9	4.27	220.13%	[0.00] mg/L	
B 249.677*†	370.9	10.49	2.83%	[0.00] mg/L	
Ba 233.527*†	-305.9	17.70	5.79%	[0.00] mg/L	
Be 313.042*†	-914.9	39.48	4.32%	[0.00] mg/L	
Ca 317.933*†	47.3	11.67	24.65%	[0.00] mg/L	
Cd 226.502*†	45.3	14.32	31.63%	[0.00] mg/L	
Cd 228.802†	23.1	2.85	12.37%	[0.00] mg/L	
Co 228.616*†	-93.0	7.92	8.51%	[0.00] mg/L	
Cr 267.716*†	418.7	87.35	20.86%	[0.00] mg/L	
Cu 324.752*†	3379.1	141.21	4.18%	[0.00] mg/L	
Fe 273.955*†	-384.6	6.59	1.71%	[0.00] mg/L	
K 766.490*†	993.7	298.97	30.09%	[0.00] mg/L	
Mg 279.077*†	-7739.1	91.89	1.19%	[0.00] mg/L	
Mn 257.610*†	-307.2	4.08	1.33%	[0.00] mg/L	
Mo 202.031*†	-48.1	5.85	12.16%	[0.00] mg/L	
Na 589.592*†	504.1	132.49	26.28%	[0.00] mg/L	
Ni 231.604*†	-69.4	4.30	6.19%	[0.00] mg/L	
P 213.617*†	-145.7	27.05	18.57%	[0.00] mg/L	
P 214.914†	-33.8	9.05	26.73%	[0.00] mg/L	
Pb 220.353*†	15.6	5.93	38.13%	[0.00] mg/L	
Sb 206.836†	24.6	2.66	10.82%	[0.00] mg/L	
Sb 217.582*†	1.7	3.48	202.87%	[0.00] mg/L	
Se 196.026*†	4.2	6.09	146.66%	[0.00] mg/L	
Si 251.611*†	1355.9	63.01	4.65%	[0.00] mg/L	
Sn 189.927*†	-96.0	7.67	7.99%	[0.00] mg/L	
Sn 242.170†	-402.6	20.68	5.14%	[0.00] mg/L	
Sr 407.771*†	153.8	20.02	13.01%	[0.00] mg/L	
Ti 334.940†	28816.2	95.81	0.33%	[0.00] mg/L	
Ti 336.121*†	-1266.7	30.32	2.39%	[0.00] mg/L	
Tl 190.801*†	-6.5	6.38	97.78%	[0.00] mg/L	
V 292.402*†	166.1	37.21	22.40%	[0.00] mg/L	
Zn 206.200*†	1031.2	11.70	1.13%	[0.00] mg/L	
Zn 213.857*†	2098.8	20.60	0.98%	[0.00] mg/L	

Sequence No.: 2

Sample ID: STD3-M111116A_935_ICP7300

Analyst:

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 2

Date Collected: 3/20/2017 10:10:05 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: STD3-M111116A_935_ICP7300

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Tb 384	66726.0	225.47	0.34%	85.58 %
Tb 350	111418.3	1323.73	1.19%	88.13 %
Ag 328.068*†	136531.0	235.87	0.17%	[0.75] mg/L
Al 308.215*†	458632.6	603.82	0.13%	[27.0] mg/L
As 188.979†	15798.6	376.51	2.38%	[7.50] mg/L
As 193.696*†	10991.9	246.41	2.24%	[7.50] mg/L
B 249.677*†	345596.0	5027.35	1.45%	[7.50] mg/L
Ba 233.527*†	2258715.7	42790.12	1.89%	[15.0] mg/L
Be 313.042*†	4209385.1	71883.33	1.71%	[1.125] mg/L
Ca 317.933*†	117176.5	2373.27	2.03%	[60.0] mg/L
Cd 226.502*†	110246.7	110.93	0.10%	[1.50] mg/L
Cd 228.802†	56324.2	151.09	0.27%	[1.50] mg/L
Co 228.616*†	100604.9	662.77	0.66%	[3.75] mg/L
Cr 267.716*†	130599.7	224.24	0.17%	[1.20] mg/L
Cu 324.752*†	452629.6	66.62	0.01%	[1.875] mg/L
Fe 273.955*†	170018.1	670.48	0.39%	[7.50] mg/L
K 766.490*†	158982.4	2584.41	1.63%	[54.0] mg/L
Mg 279.077*†	273567.8	379.26	0.14%	[15.0] mg/L
Mn 257.610*†	962216.3	18873.82	1.96%	[1.50] mg/L
Mo 202.031*†	11175.5	249.52	2.23%	[1.20] mg/L
Na 589.592*†	307201.5	5891.74	1.92%	[72.0] mg/L
Ni 231.604*†	27831.3	177.08	0.64%	[1.20] mg/L
P 213.617*†	23648.2	492.77	2.08%	[12.0] mg/L
P 214.914†	15020.6	359.02	2.39%	[12.0] mg/L
Pb 220.353*†	56907.7	234.52	0.41%	[7.50] mg/L
Sb 206.836†	17078.1	263.48	1.54%	[9.0] mg/L
Sb 217.582*†	16933.6	301.01	1.78%	[9.0] mg/L
Se 196.026*†	6615.9	155.71	2.35%	[3.0] mg/L
Si 251.611*†	448317.1	2607.94	0.58%	[12.0] mg/L
Sn 189.927*†	36348.4	749.75	2.06%	[6.0] mg/L
Sn 242.170†	10542.3	214.87	2.04%	[6.0] mg/L
Sr 407.771*†	194174.9	3390.68	1.75%	[0.60] mg/L
Ti 334.940†	997927.8	18985.56	1.90%	[1.20] mg/L
Ti 336.121*†	685948.9	260.32	0.04%	[1.20] mg/L
Tl 190.801*†	5529.9	112.35	2.03%	[3.0] mg/L
V 292.402*†	488145.8	1498.42	0.31%	[3.75] mg/L
Zn 206.200*†	194478.2	28.50	0.01%	[5.0] mg/L
Zn 213.857*†	337401.8	116.45	0.03%	[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: 3/20/2017 10:11:01 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	71694.7	91.95 %	1.117			1.21%
Tb 350	119142.0	94.24 %	0.812			0.86%
Ag 328.068*†	92330.1	0.5072 mg/L	0.00486	0.5072 mg/L	0.00486	0.96%
QC value within limits for Ag 328.068* Recovery = 101.44%						
Al 308.215*†	71364.1	4.201 mg/L	0.0612	4.201 mg/L	0.0612	1.46%
QC value within limits for Al 308.215* Recovery = 105.03%						
As 188.979†	10046.9	4.770 mg/L	0.0291	4.770 mg/L	0.0291	0.61%
QC value within limits for As 188.979 Recovery = 95.39%						
As 193.696*†	6989.6	4.769 mg/L	0.0597	4.769 mg/L	0.0597	1.25%
QC value within limits for As 193.696* Recovery = 95.38%						
B 249.677*†	121374.4	2.634 mg/L	0.0101	2.634 mg/L	0.0101	0.38%
QC value within limits for B 249.677* Recovery = 105.36%						
Ba 233.527*†	150510.7	0.9995 mg/L	0.01152	0.9995 mg/L	0.01152	1.15%
QC value within limits for Ba 233.527* Recovery = 99.95%						
Be 313.042*†	1824385.9	0.4876 mg/L	0.02117	0.4876 mg/L	0.02117	4.34%
QC value within limits for Be 313.042* Recovery = 97.52%						
Ca 317.933*†	38879.8	19.91 mg/L	0.083	19.91 mg/L	0.083	0.42%
QC value within limits for Ca 317.933* Recovery = 99.54%						
Cd 226.502*†	113650.0	1.546 mg/L	0.0197	1.546 mg/L	0.0197	1.27%
QC value within limits for Cd 226.502* Recovery = 103.09%						
Cd 228.802†	56915.0	1.516 mg/L	0.0123	1.516 mg/L	0.0123	0.81%
Co 228.616*†	28584.0	1.065 mg/L	0.0180	1.065 mg/L	0.0180	1.69%
QC value within limits for Co 228.616* Recovery = 106.55%						
Cr 267.716*†	44509.1	0.4090 mg/L	0.00529	0.4090 mg/L	0.00529	1.29%
QC value within limits for Cr 267.716* Recovery = 102.24%						
Cu 324.752*†	247587.3	1.026 mg/L	0.0110	1.026 mg/L	0.0110	1.07%
QC value within limits for Cu 324.752* Recovery = 102.56%						
Fe 273.955*†	2333139.8	102.9 mg/L	3.48	102.9 mg/L	3.48	3.38%
QC value within limits for Fe 273.955* Recovery = 102.92%						
K 766.490*†	23248.5	7.897 mg/L	0.0106	7.897 mg/L	0.0106	0.13%
QC value within limits for K 766.490* Recovery = 98.71%						
Mg 279.077*†	187407.2	10.28 mg/L	0.095	10.28 mg/L	0.095	0.92%
QC value within limits for Mg 279.077* Recovery = 102.76%						
Mn 257.610*†	636313.5	0.9919 mg/L	0.01213	0.9919 mg/L	0.01213	1.22%
QC value within limits for Mn 257.610* Recovery = 99.19%						
Mo 202.031*†	22199.3	2.384 mg/L	0.0145	2.384 mg/L	0.0145	0.61%
QC value within limits for Mo 202.031* Recovery = 95.35%						
Na 589.592*†	236704.6	55.48 mg/L	0.055	55.48 mg/L	0.055	0.10%
QC value within limits for Na 589.592* Recovery = 102.74%						
Ni 231.604*†	9716.6	0.4189 mg/L	0.00466	0.4189 mg/L	0.00466	1.11%
QC value within limits for Ni 231.604* Recovery = 104.74%						
P 213.617*†	9234.9	4.686 mg/L	0.0585	4.686 mg/L	0.0585	1.25%
QC value within limits for P 213.617* Recovery = 93.72%						
P 214.914†	6081.1	4.858 mg/L	0.0462	4.858 mg/L	0.0462	0.95%
Pb 220.353*†	39494.5	5.205 mg/L	0.0685	5.205 mg/L	0.0685	1.32%
QC value within limits for Pb 220.353* Recovery = 104.10%						
Sb 206.836†	3589.9	1.892 mg/L	0.0031	1.892 mg/L	0.0031	0.17%
QC value within limits for Sb 206.836 Recovery = 94.59%						
Sb 217.582*†	3578.6	1.902 mg/L	0.0138	1.902 mg/L	0.0138	0.72%
QC value within limits for Sb 217.582* Recovery = 95.10%						
Se 196.026*†	4204.1	1.906 mg/L	0.0195	1.906 mg/L	0.0195	1.02%
QC value within limits for Se 196.026* Recovery = 95.32%						
Si 251.611*†	367951.5	9.849 mg/L	0.1082	9.849 mg/L	0.1082	1.10%
QC value within limits for Si 251.611* Recovery = 98.49%						
Sn 189.927*†	14780.4	2.440 mg/L	0.0245	2.440 mg/L	0.0245	1.00%
QC value within limits for Sn 189.927* Recovery = 97.59%						
Sn 242.170†	4797.9	2.731 mg/L	0.0161	2.731 mg/L	0.0161	0.59%
Sr 407.771*†	65506.5	0.2024 mg/L	0.00053	0.2024 mg/L	0.00053	0.26%
QC value within limits for Sr 407.771* Recovery = 101.21%						

Tl 334.940†	3930517.6	4.726 mg/L	0.1379	4.726 mg/L	0.1379	2.92%
Tl 336.121*†	2791950.5	4.884 mg/L	0.1408	4.884 mg/L	0.1408	2.88%
QC value within limits for Tl 336.121* Recovery = 97.68%						
Tl 190.801*†	3548.3	1.925 mg/L	0.0051	1.925 mg/L	0.0051	0.26%
QC value within limits for Tl 190.801* Recovery = 96.25%						
V 292.402*†	132426.3	1.016 mg/L	0.0107	1.016 mg/L	0.0107	1.05%
QC value within limits for V 292.402* Recovery = 101.56%						
Zn 206.200*†	60932.3	1.567 mg/L	0.0145	1.567 mg/L	0.0145	0.93%
QC value within limits for Zn 206.200* Recovery = 104.44%						
Zn 213.857*†	105856.5	1.560 mg/L	0.0186	1.560 mg/L	0.0186	1.19%
QC value within limits for Zn 213.857* Recovery = 104.01%						

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: 3/20/2017 10:11:58 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	80115.6	102.8	%	0.31			0.31%
Tb 350	130585.0	103.3	%	1.36			1.32%
Ag 328.068*†	145.3	0.0008	mg/L	0.00042	0.0008 mg/L	0.00042	52.95%
Al 308.215*†	161.7	0.0095	mg/L	0.00147	0.0095 mg/L	0.00147	15.45%
As 188.979†	12.2	0.0058	mg/L	0.00271	0.0058 mg/L	0.00271	46.93%
As 193.696*†	-4.4	-0.0030	mg/L	0.00566	-0.0030 mg/L	0.00566	187.62%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	2799.8	0.0608	mg/L	0.00282	0.0608 mg/L	0.00282	4.65%
QC value greater than the upper limit for B 249.677* Recovery = Not calculated							
Ba 233.527*†	13.2	0.0001	mg/L	0.00004	0.0001 mg/L	0.00004	50.46%
Be 313.042*†	342.7	0.0001	mg/L	0.00001	0.0001 mg/L	0.00001	10.89%
Ca 317.933*†	4.4	0.0023	mg/L	0.00152	0.0023 mg/L	0.00152	66.93%
Cd 226.502*†	7.5	0.0001	mg/L	0.00013	0.0001 mg/L	0.00013	129.73%
Cd 228.802†	11.0	0.0003	mg/L	0.00023	0.0003 mg/L	0.00023	80.14%
Co 228.616*†	7.5	0.0003	mg/L	0.00045	0.0003 mg/L	0.00045	159.39%
Cr 267.716*†	69.7	0.0006	mg/L	0.00065	0.0006 mg/L	0.00065	101.02%
Cu 324.752*†	-48.1	-0.0002	mg/L	0.00067	-0.0002 mg/L	0.00067	337.42%
Fe 273.955*†	676.5	0.0298	mg/L	0.00398	0.0298 mg/L	0.00398	13.35%
K 766.490*†	111.8	0.0380	mg/L	0.08314	0.0380 mg/L	0.08314	218.90%
Mg 279.077*†	-67.5	-0.0037	mg/L	0.01784	-0.0037 mg/L	0.01784	482.13%
Mn 257.610*†	118.6	0.0002	mg/L	0.00001	0.0002 mg/L	0.00001	4.23%
Mo 202.031*†	22.4	0.0024	mg/L	0.00014	0.0024 mg/L	0.00014	5.96%
Na 589.592*†	-7.8	-0.0018	mg/L	0.00202	-0.0018 mg/L	0.00202	110.25%
Ni 231.604*†	-2.3	-0.0001	mg/L	0.00059	-0.0001 mg/L	0.00059	602.83%
P 213.617*†	14.6	0.0074	mg/L	0.00102	0.0074 mg/L	0.00102	13.77%
P 214.914†	-8.2	-0.0065	mg/L	0.00731	-0.0065 mg/L	0.00731	111.87%
Pb 220.353*†	-14.4	-0.0019	mg/L	0.00243	-0.0019 mg/L	0.00243	128.42%
QC value within limits for Pb 220.353* Recovery = Not calculated							
Sb 206.836†	8.1	0.0043	mg/L	0.00255	0.0043 mg/L	0.00255	59.44%
Sb 217.582*†	1.1	0.0006	mg/L	0.00097	0.0006 mg/L	0.00097	169.49%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	3.2	0.0015	mg/L	0.00473	0.0015 mg/L	0.00473	324.48%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	245.5	0.0066	mg/L	0.00075	0.0066 mg/L	0.00075	11.34%
QC value within limits for Si 251.611* Recovery = Not calculated							
Sn 189.927*†	55.0	0.0091	mg/L	0.00053	0.0091 mg/L	0.00053	5.87%
Sn 242.170†	21.1	0.0120	mg/L	0.00310	0.0120 mg/L	0.00310	25.78%
Sr 407.771*†	16.9	0.0001	mg/L	0.00001	0.0001 mg/L	0.00001	18.09%
Ti 334.940†	2048.1	0.0025	mg/L	0.00069	0.0025 mg/L	0.00069	28.08%
Ti 336.121*†	1701.1	0.0030	mg/L	0.00015	0.0030 mg/L	0.00015	5.19%
Tl 190.801*†	20.6	0.0112	mg/L	0.00263	0.0112 mg/L	0.00263	23.62%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	-46.4	-0.0004	mg/L	0.00003	-0.0004 mg/L	0.00003	8.40%
Zn 206.200*†	-67.1	-0.0017	mg/L	0.00006	-0.0017 mg/L	0.00006	3.73%
Zn 213.857*†	-133.0	-0.0020	mg/L	0.00018	-0.0020 mg/L	0.00018	9.33%

QC Failed. Retry.

Sequence No.: 5
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 1
Date Collected: 3/20/2017 10:12:43 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

Sequence No.: 7

Sample ID: ICS_A - M110116B

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 8

Date Collected: 3/20/2017 10:14:33 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	68368.3	87.69 %	0.685			0.78%
Tb 350	112746.9	89.18 %	0.968			1.09%
Ag 328.068*†	-67.2	-0.0004 mg/L	0.00212	-0.0004 mg/L	0.00212	573.85%
Al 308.215*†	420773.5	24.77 mg/L	0.177	24.77 mg/L	0.177	0.71%
As 188.979†	10.9	0.0052 mg/L	0.00234	0.0052 mg/L	0.00234	45.35%
As 193.696*†	7.9	0.0054 mg/L	0.00212	0.0054 mg/L	0.00212	39.15%
B 249.677*†	342.4	0.0074 mg/L	0.00119	0.0074 mg/L	0.00119	15.95%
Ba 233.527*†	431.4	0.0029 mg/L	0.00007	0.0029 mg/L	0.00007	2.48%
Be 313.042*†	-457.2	-0.0001 mg/L	0.00002	-0.0001 mg/L	0.00002	16.07%
Ca 317.933*†	232067.2	118.8 mg/L	2.38	118.8 mg/L	2.38	2.00%
Cd 226.502*†	134.4	0.0018 mg/L	0.00015	0.0018 mg/L	0.00015	8.43%
Cd 228.802†	-16.0	-0.0004 mg/L	0.00014	-0.0004 mg/L	0.00014	32.58%
Co 228.616*†	30.3	0.0011 mg/L	0.00023	0.0011 mg/L	0.00023	20.53%
Cr 267.716*†	-59.5	-0.0005 mg/L	0.00026	-0.0005 mg/L	0.00026	46.87%
Cu 324.752*†	530.5	0.0022 mg/L	0.00062	0.0022 mg/L	0.00062	28.02%
Fe 273.955*†	2187654.1	96.50 mg/L	1.610	96.50 mg/L	1.610	1.67%
K 766.490*†	-27.2	-0.0093 mg/L	0.05293	-0.0093 mg/L	0.05293	571.93%
Mg 279.077*†	1099261.9	60.27 mg/L	1.283	60.27 mg/L	1.283	2.13%
Mn 257.610*†	71.4	0.0001 mg/L	0.00017	0.0001 mg/L	0.00017	150.89%
Mo 202.031*†	4.3	0.0005 mg/L	0.00060	0.0005 mg/L	0.00060	130.70%
Na 589.592*†	90659.6	21.25 mg/L	0.262	21.25 mg/L	0.262	1.23%
Ni 231.604*†	4.2	0.0002 mg/L	0.00050	0.0002 mg/L	0.00050	280.63%
P 213.617*†	-291.2	-0.1477 mg/L	0.01804	-0.1477 mg/L	0.01804	12.21%
P 214.914†	42.2	0.0337 mg/L	0.01493	0.0337 mg/L	0.01493	44.26%
Pb 220.353*†	-59.2	-0.0078 mg/L	0.00062	-0.0078 mg/L	0.00062	7.96%
Sb 206.836†	4.4	0.0023 mg/L	0.00782	0.0023 mg/L	0.00782	340.77%
Sb 217.582*†	-22.5	-0.0120 mg/L	0.00550	-0.0120 mg/L	0.00550	46.00%
Se 196.026*†	-9.0	-0.0041 mg/L	0.00120	-0.0041 mg/L	0.00120	29.30%
Si 251.611*†	138.5	0.0037 mg/L	0.00324	0.0037 mg/L	0.00324	87.37%
Sn 189.927*†	13.1	0.0022 mg/L	0.00038	0.0022 mg/L	0.00038	17.74%
Sn 242.170†	489.1	0.2784 mg/L	0.00682	0.2784 mg/L	0.00682	2.45%
Sr 407.771*†	1073.5	0.0033 mg/L	0.00028	0.0033 mg/L	0.00028	8.52%
Ti 334.940†	-1389.9	-0.0017 mg/L	0.00026	-0.0017 mg/L	0.00026	15.48%
Ti 336.121*†	-471.7	-0.0008 mg/L	0.00000	-0.0008 mg/L	0.00000	0.33%
Tl 190.801*†	-2.1	-0.0011 mg/L	0.00669	-0.0011 mg/L	0.00669	590.60%
V 292.402*†	424.4	0.0017 mg/L	0.00016	0.0017 mg/L	0.00016	9.34%
Zn 206.200*†	138.7	0.0036 mg/L	0.00035	0.0036 mg/L	0.00035	9.91%
Zn 213.857*†	775.1	0.0035 mg/L	0.00059	0.0035 mg/L	0.00059	16.94%

Sequence No.: 8

Sample ID: ICS_AB - M110116A

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 9

Date Collected: 3/20/2017 10:15:24 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICS_AB - M110116A

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	68304.9	87.61 %	1.658			1.89%
Tb 350	115473.2	91.34 %	1.435			1.57%
Ag 328.068*†	56641.5	0.3111 mg/L	0.00158	0.3111 mg/L	0.00158	0.51%
Al 308.215*†	417171.1	24.56 mg/L	0.159	24.56 mg/L	0.159	0.65%
As 188.979†	2093.3	0.9937 mg/L	0.00940	0.9937 mg/L	0.00940	0.95%
As 193.696*†	1452.3	0.9909 mg/L	0.00151	0.9909 mg/L	0.00151	0.15%
B 249.677*†	22806.1	0.4949 mg/L	0.00853	0.4949 mg/L	0.00853	1.72%
Ba 233.527*†	45093.1	0.2995 mg/L	0.00157	0.2995 mg/L	0.00157	0.52%
Be 313.042*†	380732.3	0.1018 mg/L	0.00055	0.1018 mg/L	0.00055	0.54%
Ca 317.933*†	231034.7	118.3 mg/L	0.56	118.3 mg/L	0.56	0.47%
Cd 226.502*†	22326.5	0.3038 mg/L	0.00135	0.3038 mg/L	0.00135	0.45%
Cd 228.802†	11273.5	0.3002 mg/L	0.00144	0.3002 mg/L	0.00144	0.48%
Co 228.616*†	8307.8	0.3097 mg/L	0.00164	0.3097 mg/L	0.00164	0.53%
Cr 267.716*†	33335.0	0.3063 mg/L	0.00089	0.3063 mg/L	0.00089	0.29%
Cu 324.752*†	76227.1	0.3158 mg/L	0.00209	0.3158 mg/L	0.00209	0.66%
Fe 273.955*†	2184227.4	96.35 mg/L	0.661	96.35 mg/L	0.661	0.69%
K 766.490*†	62456.5	21.21 mg/L	0.063	21.21 mg/L	0.063	0.30%
Mg 279.077*†	1091358.7	59.84 mg/L	0.417	59.84 mg/L	0.417	0.70%
Mn 257.610*†	126907.7	0.1978 mg/L	0.00147	0.1978 mg/L	0.00147	0.74%
Mo 202.031*†	2710.6	0.2911 mg/L	0.00234	0.2911 mg/L	0.00234	0.80%
Na 589.592*†	88550.7	20.75 mg/L	0.082	20.75 mg/L	0.082	0.40%
Ni 231.604*†	7217.5	0.3112 mg/L	0.00112	0.3112 mg/L	0.00112	0.36%
P 213.617*†	-215.1	-0.1092 mg/L	0.01403	-0.1092 mg/L	0.01403	12.85%
P 214.914†	38.0	0.0303 mg/L	0.00339	0.0303 mg/L	0.00339	11.17%
Pb 220.353*†	7631.6	1.006 mg/L	0.0030	1.006 mg/L	0.0030	0.30%
Sb 206.836†	1802.0	0.9496 mg/L	0.00320	0.9496 mg/L	0.00320	0.34%
Sb 217.582*†	1769.0	0.9402 mg/L	0.00763	0.9402 mg/L	0.00763	0.81%
Se 196.026*†	1092.5	0.4954 mg/L	0.00601	0.4954 mg/L	0.00601	1.21%
Si 251.611*†	7744.4	0.2073 mg/L	0.00124	0.2073 mg/L	0.00124	0.60%
Sn 189.927*†	-27.7	-0.0046 mg/L	0.00028	-0.0046 mg/L	0.00028	6.08%
Sn 242.170†	453.8	0.2583 mg/L	0.00068	0.2583 mg/L	0.00068	0.26%
Sr 407.771*†	782.3	0.0024 mg/L	0.00019	0.0024 mg/L	0.00019	7.97%
Ti 334.940†	810442.5	0.9746 mg/L	0.00638	0.9746 mg/L	0.00638	0.65%
Ti 336.121*†	574598.3	1.005 mg/L	0.0052	1.005 mg/L	0.0052	0.51%
Tl 190.801*†	1818.2	0.9864 mg/L	0.00511	0.9864 mg/L	0.00511	0.52%
V 292.402*†	39677.4	0.3032 mg/L	0.00271	0.3032 mg/L	0.00271	0.89%
Zn 206.200*†	12087.4	0.3108 mg/L	0.00119	0.3108 mg/L	0.00119	0.38%
Zn 213.857*†	21396.5	0.3091 mg/L	0.00185	0.3091 mg/L	0.00185	0.60%

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Analysis Begun

Start Time: 3/20/2017 2:23:20 PM
 Logged In Analyst: Oscar Gomez 935
 Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/20/2017 2:17:47 PM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 17032001.sif

Batch ID:
 Results Data Set: 170320C1
 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: 3/20/2017 2:23:32 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected	Std.Dev.	RSD	Conc.	Units
Tb 384	75248.3	394.53	0.52%	100.0	%
Tb 350	123048.1	456.45	0.37%	100.0	%
Ag 328.068*†	-1166.5	251.99	21.60%	[0.00]	mg/L
Al 308.215*†	-2497.6	48.31	1.93%	[0.00]	mg/L
As 188.979†	1.2	6.23	541.56%	[0.00]	mg/L
As 193.696*†	7.9	0.12	1.46%	[0.00]	mg/L
B 249.677*†	545.6	83.40	15.29%	[0.00]	mg/L
Ba 233.527*†	73.7	1.43	1.94%	[0.00]	mg/L
Be 313.042*†	-409.2	50.36	12.31%	[0.00]	mg/L
Ca 317.933*†	66.1	8.52	12.87%	[0.00]	mg/L
Cd 226.502*†	41.3	0.93	2.26%	[0.00]	mg/L
Cd 228.802†	12.2	0.52	4.28%	[0.00]	mg/L
Co 228.616*†	-68.9	6.05	8.78%	[0.00]	mg/L
Cr 267.716*†	415.8	37.35	8.98%	[0.00]	mg/L
Cu 324.752*†	2496.7	139.01	5.57%	[0.00]	mg/L
Fe 273.955*†	-320.8	3.25	1.01%	[0.00]	mg/L
K 766.490*†	1297.4	173.92	13.41%	[0.00]	mg/L
Mg 279.077*†	-7761.6	152.85	1.97%	[0.00]	mg/L
Mn 257.610*†	-96.2	48.55	50.47%	[0.00]	mg/L
Mo 202.031*†	-46.4	8.44	18.18%	[0.00]	mg/L
Na 589.592*†	966.9	41.48	4.29%	[0.00]	mg/L
Ni 231.604*†	-52.8	11.19	21.21%	[0.00]	mg/L
P 213.617*†	-143.3	4.40	3.07%	[0.00]	mg/L
P 214.914†	-44.5	4.58	10.30%	[0.00]	mg/L
Pb 220.353*†	-26.9	13.28	49.44%	[0.00]	mg/L
Sb 206.836†	23.6	0.30	1.27%	[0.00]	mg/L
Sb 217.582*†	-14.9	8.82	59.23%	[0.00]	mg/L
Se 196.026*†	-1.1	9.12	841.95%	[0.00]	mg/L
Si 251.611*†	1786.7	79.26	4.44%	[0.00]	mg/L
Sn 189.927*†	-75.0	30.99	41.33%	[0.00]	mg/L
Sn 242.170†	-404.5	23.06	5.70%	[0.00]	mg/L
Sr 407.771*†	199.8	4.11	2.06%	[0.00]	mg/L
Ti 334.940†	28179.5	270.86	0.96%	[0.00]	mg/L
Ti 336.121*†	-847.1	35.64	4.21%	[0.00]	mg/L
Tl 190.801*†	5.5	3.96	72.50%	[0.00]	mg/L
V 292.402*†	346.8	156.37	45.09%	[0.00]	mg/L
Zn 206.200*†	142.6	0.98	0.69%	[0.00]	mg/L
Zn 213.857*†	620.6	21.07	3.40%	[0.00]	mg/L

Sequence No.: 2

Sample ID: STD3-M111116A_935_ICP7300

Analyst:

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 2

Date Collected: 3/20/2017 2:24:37 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: STD3-M111116A_935_ICP7300

Mean Corrected				Calib
Analyte	Intensity	Std.Dev.	RSD	Conc. Units
Tb 384	66887.9	1220.83	1.83%	88.89 %
Tb 350	112508.2	1780.16	1.58%	91.43 %
Ag 328.068*†	134112.6	297.18	0.22%	[0.75] mg/L
Al 308.215*†	444297.2	436.68	0.10%	[27.0] mg/L
As 188.979†	14249.1	214.64	1.51%	[7.50] mg/L
As 193.696*†	9921.0	177.50	1.79%	[7.50] mg/L
B 249.677*†	344710.1	205.90	0.06%	[7.50] mg/L
Ba 233.527*†	2088263.1	67434.02	3.23%	[15.0] mg/L
Be 313.042*†	3861912.9	88910.07	2.30%	[1.125] mg/L
Ca 317.933*†	106198.2	765.23	0.72%	[60.0] mg/L
Cd 226.502*†	108601.4	774.80	0.71%	[1.50] mg/L
Cd 228.802†	55575.1	69.10	0.12%	[1.50] mg/L
Co 228.616*†	99258.0	296.63	0.30%	[3.75] mg/L
Cr 267.716*†	128245.0	68.28	0.05%	[1.20] mg/L
Cu 324.752*†	440931.8	1921.97	0.44%	[1.875] mg/L
Fe 273.955*†	165462.1	170.00	0.10%	[7.50] mg/L
K 766.490*†	146659.2	1635.80	1.12%	[54.0] mg/L
Mg 279.077*†	266496.3	1397.61	0.52%	[15.0] mg/L
Mn 257.610*†	885407.7	29749.49	3.36%	[1.50] mg/L
Mo 202.031*†	10310.5	132.96	1.29%	[1.20] mg/L
Na 589.592*†	288922.8	2814.96	0.97%	[72.0] mg/L
Ni 231.604*†	26696.7	157.74	0.59%	[1.20] mg/L
P 213.617*†	20660.9	219.21	1.06%	[12.0] mg/L
P 214.914†	13657.5	204.45	1.50%	[12.0] mg/L
Pb 220.353*†	55556.8	190.86	0.34%	[7.50] mg/L
Sb 206.836†	15586.8	250.53	1.61%	[9.0] mg/L
Sb 217.582*†	15545.0	232.24	1.49%	[9.0] mg/L
Se 196.026*†	6029.1	97.71	1.62%	[3.0] mg/L
Si 251.611*†	428066.1	1449.92	0.34%	[12.0] mg/L
Sn 189.927*†	32910.2	493.98	1.50%	[6.0] mg/L
Sn 242.170†	9720.3	134.60	1.38%	[6.0] mg/L
Sr 407.771*†	177983.9	1212.13	0.68%	[0.60] mg/L
Ti 334.940†	916747.9	29262.33	3.19%	[1.20] mg/L
Ti 336.121*†	663691.0	512.04	0.08%	[1.20] mg/L
Tl 190.801*†	5110.2	91.85	1.80%	[3.0] mg/L
V 292.402*†	481689.0	788.38	0.16%	[3.75] mg/L
Zn 206.200*†	188103.1	933.37	0.50%	[5.0] mg/L
Zn 213.857*†	334438.2	690.30	0.21%	[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: 3/20/2017 2:25:33 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	69271.7	92.06 %		1.272			1.38%
Tb 350	115879.4	94.17 %		0.601			0.64%
Ag 328.068*†	89811.0	0.5023 mg/L		0.00263	0.5023 mg/L	0.00263	0.52%
QC value within limits for Ag 328.068* Recovery = 100.45%							
Al 308.215*†	68804.9	4.181 mg/L		0.0145	4.181 mg/L	0.0145	0.35%
QC value within limits for Al 308.215* Recovery = 104.53%							
As 188.979†	9545.6	5.024 mg/L		0.1530	5.024 mg/L	0.1530	3.04%
QC value within limits for As 188.979 Recovery = 100.49%							
As 193.696*†	6608.3	4.996 mg/L		0.1480	4.996 mg/L	0.1480	2.96%
QC value within limits for As 193.696* Recovery = 99.91%							
B 249.677*†	116415.6	2.533 mg/L		0.0409	2.533 mg/L	0.0409	1.61%
QC value within limits for B 249.677* Recovery = 101.32%							
Ba 233.527*†	143661.3	1.032 mg/L		0.0054	1.032 mg/L	0.0054	0.52%
QC value within limits for Ba 233.527* Recovery = 103.19%							
Be 313.042*†	1781048.4	0.5188 mg/L		0.00149	0.5188 mg/L	0.00149	0.29%
QC value within limits for Be 313.042* Recovery = 103.77%							
Ca 317.933*†	35568.2	20.10 mg/L		0.326	20.10 mg/L	0.326	1.62%
QC value within limits for Ca 317.933* Recovery = 100.48%							
Cd 226.502*†	109128.5	1.507 mg/L		0.0093	1.507 mg/L	0.0093	0.62%
QC value within limits for Cd 226.502* Recovery = 100.49%							
Cd 228.802†	55504.5	1.498 mg/L		0.0120	1.498 mg/L	0.0120	0.80%
Co 228.616*†	27465.6	1.038 mg/L		0.0027	1.038 mg/L	0.0027	0.26%
QC value within limits for Co 228.616* Recovery = 103.77%							
Cr 267.716*†	42871.7	0.4012 mg/L		0.00179	0.4012 mg/L	0.00179	0.45%
QC value within limits for Cr 267.716* Recovery = 100.29%							
Cu 324.752*†	238058.1	1.012 mg/L		0.0065	1.012 mg/L	0.0065	0.64%
QC value within limits for Cu 324.752* Recovery = 101.23%							
Fe 273.955*†	2305641.8	104.5 mg/L		0.89	104.5 mg/L	0.89	0.85%
QC value within limits for Fe 273.955* Recovery = 104.51%							
K 766.490*†	22188.4	8.170 mg/L		0.0195	8.170 mg/L	0.0195	0.24%
QC value within limits for K 766.490* Recovery = 102.12%							
Mg 279.077*†	179221.4	10.09 mg/L		0.026	10.09 mg/L	0.026	0.26%
QC value within limits for Mg 279.077* Recovery = 100.88%							
Mn 257.610*†	608962.4	1.032 mg/L		0.0037	1.032 mg/L	0.0037	0.36%
QC value within limits for Mn 257.610* Recovery = 103.17%							
Mo 202.031*†	21307.6	2.480 mg/L		0.0585	2.480 mg/L	0.0585	2.36%
QC value within limits for Mo 202.031* Recovery = 99.20%							
Na 589.592*†	227216.2	56.62 mg/L		0.791	56.62 mg/L	0.791	1.40%
QC value within limits for Na 589.592* Recovery = 104.86%							
Ni 231.604*†	9110.3	0.4095 mg/L		0.01050	0.4095 mg/L	0.01050	2.56%
QC value within limits for Ni 231.604* Recovery = 102.38%							
P 213.617*†	8469.8	4.919 mg/L		0.1399	4.919 mg/L	0.1399	2.84%
QC value within limits for P 213.617* Recovery = 98.39%							
P 214.914†	5788.8	5.086 mg/L		0.1703	5.086 mg/L	0.1703	3.35%
Pb 220.353*†	37913.9	5.118 mg/L		0.0286	5.118 mg/L	0.0286	0.56%
QC value within limits for Pb 220.353* Recovery = 102.37%							
Sb 206.836†	3413.2	1.971 mg/L		0.0504	1.971 mg/L	0.0504	2.56%
QC value within limits for Sb 206.836 Recovery = 98.54%							
Sb 217.582*†	3424.1	1.982 mg/L		0.0409	1.982 mg/L	0.0409	2.07%
QC value within limits for Sb 217.582* Recovery = 99.12%							
Se 196.026*†	4018.3	1.999 mg/L		0.0695	1.999 mg/L	0.0695	3.47%
QC value within limits for Se 196.026* Recovery = 99.97%							
Si 251.611*†	348398.4	9.767 mg/L		0.0550	9.767 mg/L	0.0550	0.56%
QC value within limits for Si 251.611* Recovery = 97.67%							
Sn 189.927*†	14062.2	2.564 mg/L		0.0662	2.564 mg/L	0.0662	2.58%
QC value within limits for Sn 189.927* Recovery = 102.55%							
Sn 242.170†	4579.4	2.827 mg/L		0.0700	2.827 mg/L	0.0700	2.48%
Sr 407.771*†	61300.2	0.2066 mg/L		0.00246	0.2066 mg/L	0.00246	1.19%
QC value within limits for Sr 407.771* Recovery = 103.32%							

Tl 334.940†	3846958.5	5.036 mg/L	0.0330	5.036 mg/L	0.0330	0.66%
Tl 336.121*†	2749498.7	4.971 mg/L	0.0307	4.971 mg/L	0.0307	0.62%
QC value within limits for Tl 336.121* Recovery = 99.43%						
Tl 190.801*†	3420.1	2.008 mg/L	0.0517	2.008 mg/L	0.0517	2.57%
QC value within limits for Tl 190.801* Recovery = 100.39%						
V 292.402*†	128086.4	0.9955 mg/L	0.00831	0.9955 mg/L	0.00831	0.83%
QC value within limits for V 292.402* Recovery = 99.55%						
Zn 206.200*†	57623.1	1.532 mg/L	0.0129	1.532 mg/L	0.0129	0.84%
QC value within limits for Zn 206.200* Recovery = 102.11%						
Zn 213.857*†	102303.8	1.521 mg/L	0.0045	1.521 mg/L	0.0045	0.30%
QC value within limits for Zn 213.857* Recovery = 101.39%						

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: 3/20/2017 2:26:30 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	76388.5	101.5 %		2.40			2.37%
Tb 350	126175.4	102.5 %		2.90			2.83%
Ag 328.068*†	106.6	0.0006 mg/L		0.00074	0.0006 mg/L	0.00074	123.88%
Al 308.215*†	-33.1	-0.0020 mg/L		0.00289	-0.0020 mg/L	0.00289	143.96%
As 188.979†	3.9	0.0021 mg/L		0.00381	0.0021 mg/L	0.00381	185.23%
As 193.696*†	1.4	0.0011 mg/L		0.00001	0.0011 mg/L	0.00001	1.17%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	2153.9	0.0469 mg/L		0.00177	0.0469 mg/L	0.00177	3.77%
QC value greater than the upper limit for B 249.677* Recovery = Not calculated							
Ba 233.527*†	-4.3	-0.0000 mg/L		0.00004	-0.0000 mg/L	0.00004	117.05%
Be 313.042*†	184.1	0.0001 mg/L		0.00003	0.0001 mg/L	0.00003	53.18%
Ca 317.933*†	-10.9	-0.0061 mg/L		0.00085	-0.0061 mg/L	0.00085	13.89%
Cd 226.502*†	20.9	0.0003 mg/L		0.00000	0.0003 mg/L	0.00000	0.53%
Cd 228.802†	14.9	0.0004 mg/L		0.00014	0.0004 mg/L	0.00014	35.05%
Co 228.616*†	4.4	0.0002 mg/L		0.00018	0.0002 mg/L	0.00018	108.98%
Cr 267.716*†	149.4	0.0014 mg/L		0.00004	0.0014 mg/L	0.00004	2.83%
Cu 324.752*†	-156.9	-0.0007 mg/L		0.00001	-0.0007 mg/L	0.00001	2.02%
Fe 273.955*†	13.5	0.0006 mg/L		0.00012	0.0006 mg/L	0.00012	18.83%
K 766.490*†	-183.9	-0.0677 mg/L		0.03017	-0.0677 mg/L	0.03017	44.55%
Mg 279.077*†	91.6	0.0052 mg/L		0.00624	0.0052 mg/L	0.00624	121.00%
Mn 257.610*†	43.9	0.0001 mg/L		0.00002	0.0001 mg/L	0.00002	29.07%
Mo 202.031*†	-4.0	-0.0005 mg/L		0.00010	-0.0005 mg/L	0.00010	22.00%
Na 589.592*†	-106.1	-0.0264 mg/L		0.00097	-0.0264 mg/L	0.00097	3.67%
Ni 231.604*†	-19.0	-0.0009 mg/L		0.00062	-0.0009 mg/L	0.00062	72.07%
P 213.617*†	-19.7	-0.0115 mg/L		0.01468	-0.0115 mg/L	0.01468	128.13%
P 214.914†	17.5	0.0154 mg/L		0.00473	0.0154 mg/L	0.00473	30.67%
Pb 220.353*†	21.4	0.0029 mg/L		0.00247	0.0029 mg/L	0.00247	85.58%
QC value within limits for Pb 220.353* Recovery = Not calculated							
Sb 206.836†	2.1	0.0012 mg/L		0.01080	0.0012 mg/L	0.01080	894.86%
Sb 217.582*†	15.7	0.0091 mg/L		0.00341	0.0091 mg/L	0.00341	37.49%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	8.4	0.0042 mg/L		0.00470	0.0042 mg/L	0.00470	112.32%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	190.6	0.0053 mg/L		0.00183	0.0053 mg/L	0.00183	34.19%
QC value within limits for Si 251.611* Recovery = Not calculated							
Sn 189.927*†	16.4	0.0030 mg/L		0.00151	0.0030 mg/L	0.00151	50.29%
Sn 242.170†	0.8	0.0005 mg/L		0.01818	0.0005 mg/L	0.01818	>999.9%
Sr 407.771*†	-12.8	-0.0000 mg/L		0.00000	-0.0000 mg/L	0.00000	2.38%
Ti 334.940†	403.7	0.0005 mg/L		0.00015	0.0005 mg/L	0.00015	27.64%
Ti 336.121*†	156.7	0.0003 mg/L		0.00028	0.0003 mg/L	0.00028	99.10%
Tl 190.801*†	-4.8	-0.0028 mg/L		0.00443	-0.0028 mg/L	0.00443	156.81%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	9.5	0.0001 mg/L		0.00002	0.0001 mg/L	0.00002	26.18%
Zn 206.200*†	61.9	0.0016 mg/L		0.00019	0.0016 mg/L	0.00019	11.74%
Zn 213.857*†	63.1	0.0009 mg/L		0.00001	0.0009 mg/L	0.00001	1.46%

QC Failed. Retry.

Sequence No.: 5

Sample ID: ICB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 20

Autosampler Location: 1

Date Collected: 3/20/2017 2:27:16 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD

Sequence No.: 20
 Sample ID: CCV= STD3x0.5
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 20

Autosampler Location: 3
 Date Collected: 3/20/2017 4:51:58 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	76259.4	101.3 %		3.49			3.45%
Tb 350	129618.1	105.3 %		3.67			3.48%
Ag 328.068*†	64719.5	0.3619 mg/L		0.00229	0.3619 mg/L	0.00229	0.63%
QC value within limits for Ag 328.068*		Recovery = 96.52%					
Al 308.215*†	220012.8	13.37 mg/L		0.051	13.37 mg/L	0.051	0.38%
QC value within limits for Al 308.215*		Recovery = 99.04%					
As 188.979†	7227.9	3.804 mg/L		0.1001	3.804 mg/L	0.1001	2.63%
QC value within limits for As 188.979		Recovery = 101.45%					
As 193.696*†	4992.0	3.774 mg/L		0.0980	3.774 mg/L	0.0980	2.60%
QC value within limits for As 193.696*		Recovery = 100.63%					
B 249.677*†	173958.9	3.785 mg/L		0.0273	3.785 mg/L	0.0273	0.72%
QC value within limits for B 249.677*		Recovery = 100.93%					
Ba 233.527*†	1076192.7	7.730 mg/L		0.0053	7.730 mg/L	0.0053	0.07%
QC value within limits for Ba 233.527*		Recovery = 103.07%					
Be 313.042*†	1982995.5	0.5777 mg/L		0.00696	0.5777 mg/L	0.00696	1.20%
QC value within limits for Be 313.042*		Recovery = 102.69%					
Ca 317.933*†	56112.4	31.70 mg/L		1.564	31.70 mg/L	1.564	4.93%
QC value within limits for Ca 317.933*		Recovery = 105.67%					
Cd 226.502*†	55000.0	0.7597 mg/L		0.00606	0.7597 mg/L	0.00606	0.80%
QC value within limits for Cd 226.502*		Recovery = 101.29%					
Cd 228.802†	27833.5	0.7512 mg/L		0.00173	0.7512 mg/L	0.00173	0.23%
Co 228.616*†	50598.4	1.912 mg/L		0.0086	1.912 mg/L	0.0086	0.45%
QC value within limits for Co 228.616*		Recovery = 101.95%					
Cr 267.716*†	63797.2	0.5970 mg/L		0.00200	0.5970 mg/L	0.00200	0.34%
QC value within limits for Cr 267.716*		Recovery = 99.49%					
Cu 324.752*†	214862.6	0.9137 mg/L		0.00099	0.9137 mg/L	0.00099	0.11%
QC value within limits for Cu 324.752*		Recovery = 97.46%					
Fe 273.955*†	83835.5	3.800 mg/L		0.0242	3.800 mg/L	0.0242	0.64%
QC value within limits for Fe 273.955*		Recovery = 101.33%					
K 766.490*†	73938.1	27.22 mg/L		1.476	27.22 mg/L	1.476	5.42%
QC value within limits for K 766.490*		Recovery = 100.83%					
Mg 279.077*†	137734.2	7.753 mg/L		0.0576	7.753 mg/L	0.0576	0.74%
QC value within limits for Mg 279.077*		Recovery = 103.37%					
Mn 257.610*†	455615.8	0.7719 mg/L		0.00342	0.7719 mg/L	0.00342	0.44%
QC value within limits for Mn 257.610*		Recovery = 102.92%					
Mo 202.031*†	5114.6	0.5953 mg/L		0.02011	0.5953 mg/L	0.02011	3.38%
QC value within limits for Mo 202.031*		Recovery = 99.21%					
Na 589.592*†	149823.7	37.34 mg/L		1.852	37.34 mg/L	1.852	4.96%
QC value within limits for Na 589.592*		Recovery = 103.71%					
Ni 231.604*†	13342.9	0.5998 mg/L		0.01858	0.5998 mg/L	0.01858	3.10%
QC value within limits for Ni 231.604*		Recovery = 99.96%					
P 213.617*†	10478.1	6.086 mg/L		0.1529	6.086 mg/L	0.1529	2.51%
QC value within limits for P 213.617*		Recovery = 101.43%					
P 214.914†	6931.6	6.090 mg/L		0.1551	6.090 mg/L	0.1551	2.55%
Pb 220.353*†	28502.5	3.848 mg/L		0.0472	3.848 mg/L	0.0472	1.23%
QC value within limits for Pb 220.353*		Recovery = 102.61%					
Sb 206.836†	7786.9	4.496 mg/L		0.1423	4.496 mg/L	0.1423	3.17%
QC value within limits for Sb 206.836		Recovery = 99.92%					
Sb 217.582*†	7720.8	4.470 mg/L		0.1535	4.470 mg/L	0.1535	3.43%
QC value within limits for Sb 217.582*		Recovery = 99.33%					
Se 196.026*†	3064.6	1.525 mg/L		0.0304	1.525 mg/L	0.0304	1.99%
QC value within limits for Se 196.026*		Recovery = 101.66%					
Si 251.611*†	216296.4	6.063 mg/L		0.0252	6.063 mg/L	0.0252	0.42%
QC value within limits for Si 251.611*		Recovery = 101.06%					
Sn 189.927*†	16844.1	3.071 mg/L		0.0922	3.071 mg/L	0.0922	3.00%
QC value within limits for Sn 189.927*		Recovery = 102.36%					
Sn 242.170†	4869.7	3.006 mg/L		0.0586	3.006 mg/L	0.0586	1.95%
Sr 407.771*†	92174.2	0.3107 mg/L		0.01490	0.3107 mg/L	0.01490	4.79%
QC value within limits for Sr 407.771*		Recovery = 103.58%					

Ti 334.940†	463930.5	0.6073 mg/L	0.00029	0.6073 mg/L	0.00029	0.05%
Ti 336.121*†	329570.0	0.5959 mg/L	0.00086	0.5959 mg/L	0.00086	0.14%
QC value within limits for Ti 336.121* Recovery = 99.31%						
Tl 190.801*†	2590.8	1.521 mg/L	0.0412	1.521 mg/L	0.0412	2.71%
QC value within limits for Tl 190.801* Recovery = 101.40%						
V 292.402*†	237565.2	1.849 mg/L	0.0094	1.849 mg/L	0.0094	0.51%
QC value within limits for V 292.402* Recovery = 98.64%						
Zn 206.200*†	96979.5	2.578 mg/L	0.0356	2.578 mg/L	0.0356	1.38%
QC value within limits for Zn 206.200* Recovery = 103.11%						
Zn 213.857*†	167849.7	2.509 mg/L	0.0228	2.509 mg/L	0.0228	0.91%
QC value within limits for Zn 213.857* Recovery = 100.36%						

All analyte(s) passed QC.

Sequence No.: 21
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/20/2017 4:52:51 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	83719.6	111.3	%	0.16			0.15%
Tb 350	138446.1	112.5	%	0.70			0.62%
Ag 328.068*†	136.9	0.0008	mg/L	0.00028	0.0008 mg/L	0.00028	36.82%
QC value within limits for Ag 328.068* Recovery = Not calculated							
Al 308.215*†	85.2	0.0052	mg/L	0.00673	0.0052 mg/L	0.00673	129.96%
As 188.979†	6.0	0.0032	mg/L	0.00094	0.0032 mg/L	0.00094	29.63%
As 193.696*†	-2.5	-0.0019	mg/L	0.00296	-0.0019 mg/L	0.00296	156.39%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	1411.7	0.0307	mg/L	0.00285	0.0307 mg/L	0.00285	9.27%
Ba 233.527*†	241.9	0.0017	mg/L	0.00001	0.0017 mg/L	0.00001	0.51%
Be 313.042*†	405.6	0.0001	mg/L	0.00002	0.0001 mg/L	0.00002	16.42%
Ca 317.933*†	14.2	0.0080	mg/L	0.00110	0.0080 mg/L	0.00110	13.71%
Cd 226.502*†	1.0	0.0000	mg/L	0.00028	0.0000 mg/L	0.00028	>999.9%
Cd 228.802†	10.0	0.0003	mg/L	0.00008	0.0003 mg/L	0.00008	29.46%
Co 228.616*†	24.1	0.0009	mg/L	0.00018	0.0009 mg/L	0.00018	19.53%
Cr 267.716*†	98.4	0.0009	mg/L	0.00021	0.0009 mg/L	0.00021	22.61%
Cu 324.752*†	-391.0	-0.0017	mg/L	0.00060	-0.0017 mg/L	0.00060	35.86%
Fe 273.955*†	7.7	0.0003	mg/L	0.00059	0.0003 mg/L	0.00059	168.69%
K 766.490*†	-186.8	-0.0688	mg/L	0.05218	-0.0688 mg/L	0.05218	75.85%
Mg 279.077*†	436.0	0.0245	mg/L	0.00384	0.0245 mg/L	0.00384	15.64%
Mn 257.610*†	106.6	0.0002	mg/L	0.00008	0.0002 mg/L	0.00008	42.23%
Mo 202.031*†	4.1	0.0005	mg/L	0.00048	0.0005 mg/L	0.00048	100.13%
Na 589.592*†	549.1	0.1368	mg/L	0.03380	0.1368 mg/L	0.03380	24.70%
Ni 231.604*†	4.6	0.0002	mg/L	0.00050	0.0002 mg/L	0.00050	238.37%
P 213.617*†	25.6	0.0149	mg/L	0.00622	0.0149 mg/L	0.00622	41.81%
P 214.914†	9.4	0.0083	mg/L	0.00217	0.0083 mg/L	0.00217	26.20%
Pb 220.353*†	10.9	0.0015	mg/L	0.00163	0.0015 mg/L	0.00163	110.39%
Sb 206.836†	8.1	0.0047	mg/L	0.00451	0.0047 mg/L	0.00451	96.47%
Sb 217.582*†	12.9	0.0074	mg/L	0.00151	0.0074 mg/L	0.00151	20.28%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	20.9	0.0104	mg/L	0.00392	0.0104 mg/L	0.00392	37.60%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	-375.8	-0.0105	mg/L	0.00230	-0.0105 mg/L	0.00230	21.79%
Sn 189.927*†	13.2	0.0024	mg/L	0.00236	0.0024 mg/L	0.00236	97.61%
Sn 242.170†	34.7	0.0214	mg/L	0.00242	0.0214 mg/L	0.00242	11.28%
Sr 407.771*†	21.1	0.0001	mg/L	0.00007	0.0001 mg/L	0.00007	92.65%
Ti 334.940†	622.5	0.0008	mg/L	0.00013	0.0008 mg/L	0.00013	15.38%
Ti 336.121*†	248.7	0.0004	mg/L	0.00049	0.0004 mg/L	0.00049	108.91%
Tl 190.801*†	-0.9	-0.0005	mg/L	0.00566	-0.0005 mg/L	0.00566	>999.9%
V 292.402*†	-86.5	-0.0007	mg/L	0.00064	-0.0007 mg/L	0.00064	95.61%
Zn 206.200*†	-99.7	-0.0026	mg/L	0.00025	-0.0026 mg/L	0.00025	9.42%
QC value within limits for Zn 206.200* Recovery = Not calculated							
Zn 213.857*†	-177.7	-0.0027	mg/L	0.00025	-0.0027 mg/L	0.00025	9.43%
QC value within limits for Zn 213.857* Recovery = Not calculated							
All analyte(s) passed QC.							

Sequence No.: 11

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/20/2017 5:11:39 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	74993.6	99.66 %	1.914			1.92%
Tb 350	127755.1	103.8 %	0.79			0.76%
Ag 328.068*†	65417.2	0.3658 mg/L	0.00427	0.3658 mg/L	0.00427	1.17%
QC value within limits for Ag 328.068* Recovery = 97.56%						
Al 308.215*†	222301.9	13.51 mg/L	0.057	13.51 mg/L	0.057	0.42%
QC value within limits for Al 308.215* Recovery = 100.07%						
As 188.979†	7309.3	3.847 mg/L	0.0103	3.847 mg/L	0.0103	0.27%
QC value within limits for As 188.979 Recovery = 102.59%						
As 193.696*†	5061.6	3.826 mg/L	0.0018	3.826 mg/L	0.0018	0.05%
QC value within limits for As 193.696* Recovery = 102.04%						
B 249.677*†	173944.0	3.785 mg/L	0.1092	3.785 mg/L	0.1092	2.89%
QC value within limits for B 249.677* Recovery = 100.92%						
Ba 233.527*†	1084687.8	7.791 mg/L	0.0525	7.791 mg/L	0.0525	0.67%
QC value within limits for Ba 233.527* Recovery = 103.88%						
Be 313.042*†	1993036.4	0.5806 mg/L	0.00978	0.5806 mg/L	0.00978	1.69%
QC value within limits for Be 313.042* Recovery = 103.21%						
Ca 317.933*†	57003.8	32.21 mg/L	0.870	32.21 mg/L	0.870	2.70%
QC value within limits for Ca 317.933* Recovery = 107.35%						
Cd 226.502*†	55369.5	0.7648 mg/L	0.01226	0.7648 mg/L	0.01226	1.60%
QC value within limits for Cd 226.502* Recovery = 101.97%						
Cd 228.802†	27923.2	0.7537 mg/L	0.00472	0.7537 mg/L	0.00472	0.63%
Co 228.616*†	50903.8	1.923 mg/L	0.0164	1.923 mg/L	0.0164	0.85%
QC value within limits for Co 228.616* Recovery = 102.57%						
Cr 267.716*†	64437.8	0.6030 mg/L	0.00657	0.6030 mg/L	0.00657	1.09%
QC value within limits for Cr 267.716* Recovery = 100.49%						
Cu 324.752*†	216991.2	0.9227 mg/L	0.00954	0.9227 mg/L	0.00954	1.03%
QC value within limits for Cu 324.752* Recovery = 98.42%						
Fe 273.955*†	84396.4	3.825 mg/L	0.0181	3.825 mg/L	0.0181	0.47%
QC value within limits for Fe 273.955* Recovery = 102.01%						
K 766.490*†	75149.3	27.67 mg/L	0.843	27.67 mg/L	0.843	3.05%
QC value within limits for K 766.490* Recovery = 102.48%						
Mg 279.077*†	138643.4	7.804 mg/L	0.0836	7.804 mg/L	0.0836	1.07%
QC value within limits for Mg 279.077* Recovery = 104.05%						
Mn 257.610*†	459052.1	0.7777 mg/L	0.00539	0.7777 mg/L	0.00539	0.69%
QC value within limits for Mn 257.610* Recovery = 103.69%						
Mo 202.031*†	5191.2	0.6042 mg/L	0.00083	0.6042 mg/L	0.00083	0.14%
QC value within limits for Mo 202.031* Recovery = 100.70%						
Na 589.592*†	151701.9	37.80 mg/L	0.931	37.80 mg/L	0.931	2.46%
QC value within limits for Na 589.592* Recovery = 105.01%						
Ni 231.604*†	13454.0	0.6048 mg/L	0.00066	0.6048 mg/L	0.00066	0.11%
QC value within limits for Ni 231.604* Recovery = 100.79%						
P 213.617*†	10556.6	6.131 mg/L	0.0288	6.131 mg/L	0.0288	0.47%
QC value within limits for P 213.617* Recovery = 102.19%						
P 214.914†	6999.9	6.150 mg/L	0.0048	6.150 mg/L	0.0048	0.08%
Pb 220.353*†	28678.5	3.872 mg/L	0.0416	3.872 mg/L	0.0416	1.07%
QC value within limits for Pb 220.353* Recovery = 103.24%						
Sb 206.836†	7892.3	4.557 mg/L	0.0144	4.557 mg/L	0.0144	0.32%
QC value within limits for Sb 206.836 Recovery = 101.27%						
Sb 217.582*†	7814.3	4.524 mg/L	0.0040	4.524 mg/L	0.0040	0.09%
QC value within limits for Sb 217.582* Recovery = 100.54%						
Se 196.026*†	3100.0	1.543 mg/L	0.0021	1.543 mg/L	0.0021	0.13%
QC value within limits for Se 196.026* Recovery = 102.83%						
Si 251.611*†	216677.8	6.074 mg/L	0.0739	6.074 mg/L	0.0739	1.22%
QC value within limits for Si 251.611* Recovery = 101.24%						
Sn 189.927*†	17035.3	3.106 mg/L	0.0042	3.106 mg/L	0.0042	0.13%
QC value within limits for Sn 189.927* Recovery = 103.53%						
Sn 242.170†	4907.0	3.029 mg/L	0.0197	3.029 mg/L	0.0197	0.65%
Sr 407.771*†	93459.9	0.3151 mg/L	0.00712	0.3151 mg/L	0.00712	2.26%
QC value within limits for Sr 407.771* Recovery = 105.02%						

Ti 334.940†	467648.1	0.6121 mg/L	0.00551	0.6121 mg/L	0.00551	0.90%
Ti 336.121*†	333257.0	0.6026 mg/L	0.00367	0.6026 mg/L	0.00367	0.61%
QC value within limits for Ti 336.121* Recovery = 100.43%						
Tl 190.801*†	2623.9	1.540 mg/L	0.0043	1.540 mg/L	0.0043	0.28%
QC value within limits for Tl 190.801* Recovery = 102.69%						
V 292.402*†	239101.7	1.861 mg/L	0.0265	1.861 mg/L	0.0265	1.42%
QC value within limits for V 292.402* Recovery = 99.27%						
Zn 206.200*†	96833.4	2.574 mg/L	0.0331	2.574 mg/L	0.0331	1.29%
QC value within limits for Zn 206.200* Recovery = 102.96%						

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: 3/20/2017 5:12:31 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	85123.2	113.1	%	0.80			0.71%
Tb 350	140797.7	114.4	%	1.21			1.06%
Ag 328.068*†	218.5	0.0012	mg/L	0.00076	0.0012 mg/L	0.00076	62.29%
Al 308.215*†	66.4	0.0040	mg/L	0.00320	0.0040 mg/L	0.00320	79.27%
As 188.979†	13.3	0.0070	mg/L	0.00037	0.0070 mg/L	0.00037	5.30%
As 193.696*†	7.3	0.0055	mg/L	0.00136	0.0055 mg/L	0.00136	24.71%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	941.6	0.0205	mg/L	0.00294	0.0205 mg/L	0.00294	14.35%
Ba 233.527*†	322.7	0.0023	mg/L	0.00017	0.0023 mg/L	0.00017	7.19%
Be 313.042*†	630.5	0.0002	mg/L	0.00004	0.0002 mg/L	0.00004	21.60%
Ca 317.933*†	6.8	0.0038	mg/L	0.00238	0.0038 mg/L	0.00238	62.48%
Cd 226.502*†	9.7	0.0001	mg/L	0.00012	0.0001 mg/L	0.00012	89.88%
Cd 228.802†	14.7	0.0004	mg/L	0.00015	0.0004 mg/L	0.00015	38.77%
Co 228.616*†	20.1	0.0008	mg/L	0.00014	0.0008 mg/L	0.00014	17.79%
Cr 267.716*†	-47.5	-0.0004	mg/L	0.00080	-0.0004 mg/L	0.00080	179.98%
Cu 324.752*†	-463.8	-0.0020	mg/L	0.00006	-0.0020 mg/L	0.00006	3.19%
Fe 273.955*†	11.4	0.0005	mg/L	0.00034	0.0005 mg/L	0.00034	65.49%
K 766.490*†	-523.8	-0.1929	mg/L	0.03368	-0.1929 mg/L	0.03368	17.46%
Mg 279.077*†	494.6	0.0278	mg/L	0.00275	0.0278 mg/L	0.00275	9.87%
Mn 257.610*†	146.2	0.0002	mg/L	0.00000	0.0002 mg/L	0.00000	0.30%
Mo 202.031*†	7.3	0.0009	mg/L	0.00055	0.0009 mg/L	0.00055	65.16%
Na 589.592*†	172.5	0.0430	mg/L	0.01171	0.0430 mg/L	0.01171	27.25%
Ni 231.604*†	3.7	0.0002	mg/L	0.00078	0.0002 mg/L	0.00078	475.24%
P 213.617*†	12.2	0.0071	mg/L	0.01465	0.0071 mg/L	0.01465	206.51%
P 214.914†	15.1	0.0133	mg/L	0.01354	0.0133 mg/L	0.01354	102.05%
Pb 220.353*†	-3.6	-0.0005	mg/L	0.00063	-0.0005 mg/L	0.00063	131.08%
Sb 206.836†	4.5	0.0026	mg/L	0.00151	0.0026 mg/L	0.00151	58.71%
Sb 217.582*†	14.4	0.0083	mg/L	0.00413	0.0083 mg/L	0.00413	49.53%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	13.6	0.0068	mg/L	0.00146	0.0068 mg/L	0.00146	21.56%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	-438.4	-0.0123	mg/L	0.00115	-0.0123 mg/L	0.00115	9.37%
Sn 189.927*†	29.2	0.0053	mg/L	0.00047	0.0053 mg/L	0.00047	8.76%
Sn 242.170†	8.3	0.0052	mg/L	0.02211	0.0052 mg/L	0.02211	429.13%
Sr 407.771*†	31.2	0.0001	mg/L	0.00008	0.0001 mg/L	0.00008	74.64%
Ti 334.940†	456.1	0.0006	mg/L	0.00008	0.0006 mg/L	0.00008	13.97%
Ti 336.121*†	-64.2	-0.0001	mg/L	0.00073	-0.0001 mg/L	0.00073	626.01%
Tl 190.801*†	-11.1	-0.0065	mg/L	0.00061	-0.0065 mg/L	0.00061	9.31%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	-21.4	-0.0002	mg/L	0.00020	-0.0002 mg/L	0.00020	118.22%
Zn 206.200*†	-103.8	-0.0028	mg/L	0.00022	-0.0028 mg/L	0.00022	7.87%
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: 3/20/2017 5:22:23 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	75809.7	100.7 %		1.33			1.32%
Tb 350	127574.7	103.7 %		0.97			0.94%
Ag 328.068*†	65124.9	0.3642 mg/L		0.00270	0.3642 mg/L	0.00270	0.74%
QC value within limits for Ag 328.068* Recovery = 97.12%							
Al 308.215*†	221676.8	13.47 mg/L		0.013	13.47 mg/L	0.013	0.09%
QC value within limits for Al 308.215* Recovery = 99.79%							
As 188.979†	7279.8	3.832 mg/L		0.0135	3.832 mg/L	0.0135	0.35%
QC value within limits for As 188.979 Recovery = 102.18%							
As 193.696*†	5039.4	3.810 mg/L		0.0421	3.810 mg/L	0.0421	1.10%
QC value within limits for As 193.696* Recovery = 101.59%							
B 249.677*†	170821.8	3.717 mg/L		0.0805	3.717 mg/L	0.0805	2.17%
QC value within limits for B 249.677* Recovery = 99.11%							
Ba 233.527*†	1078101.9	7.744 mg/L		0.0435	7.744 mg/L	0.0435	0.56%
QC value within limits for Ba 233.527* Recovery = 103.25%							
Be 313.042*†	1978997.7	0.5765 mg/L		0.00688	0.5765 mg/L	0.00688	1.19%
QC value within limits for Be 313.042* Recovery = 102.49%							
Ca 317.933*†	53617.2	30.29 mg/L		0.019	30.29 mg/L	0.019	0.06%
QC value within limits for Ca 317.933* Recovery = 100.98%							
Cd 226.502*†	54733.0	0.7560 mg/L		0.00927	0.7560 mg/L	0.00927	1.23%
QC value within limits for Cd 226.502* Recovery = 100.80%							
Cd 228.802†	27636.2	0.7459 mg/L		0.01024	0.7459 mg/L	0.01024	1.37%
Co 228.616*†	50325.3	1.901 mg/L		0.0139	1.901 mg/L	0.0139	0.73%
QC value within limits for Co 228.616* Recovery = 101.40%							
Cr 267.716*†	63860.3	0.5975 mg/L		0.00564	0.5975 mg/L	0.00564	0.94%
QC value within limits for Cr 267.716* Recovery = 99.59%							
Cu 324.752*†	215778.6	0.9176 mg/L		0.00348	0.9176 mg/L	0.00348	0.38%
QC value within limits for Cu 324.752* Recovery = 97.87%							
Fe 273.955*†	83727.2	3.795 mg/L		0.0413	3.795 mg/L	0.0413	1.09%
QC value within limits for Fe 273.955* Recovery = 101.20%							
K 766.490*†	71718.1	26.41 mg/L		0.103	26.41 mg/L	0.103	0.39%
QC value within limits for K 766.490* Recovery = 97.80%							
Mg 279.077*†	136790.4	7.699 mg/L		0.0710	7.699 mg/L	0.0710	0.92%
QC value within limits for Mg 279.077* Recovery = 102.66%							
Mn 257.610*†	456291.0	0.7730 mg/L		0.00538	0.7730 mg/L	0.00538	0.70%
QC value within limits for Mn 257.610* Recovery = 103.07%							
Mo 202.031*†	5216.4	0.6071 mg/L		0.00672	0.6071 mg/L	0.00672	1.11%
QC value within limits for Mo 202.031* Recovery = 101.19%							
Na 589.592*†	144332.1	35.97 mg/L		0.155	35.97 mg/L	0.155	0.43%
QC value within limits for Na 589.592* Recovery = 99.91%							
Ni 231.604*†	13534.9	0.6084 mg/L		0.00342	0.6084 mg/L	0.00342	0.56%
QC value within limits for Ni 231.604* Recovery = 101.40%							
P 213.617*†	10584.0	6.147 mg/L		0.0030	6.147 mg/L	0.0030	0.05%
QC value within limits for P 213.617* Recovery = 102.45%							
P 214.914†	6984.4	6.137 mg/L		0.0724	6.137 mg/L	0.0724	1.18%
Pb 220.353*†	28269.3	3.816 mg/L		0.0479	3.816 mg/L	0.0479	1.26%
QC value within limits for Pb 220.353* Recovery = 101.77%							
Sb 206.836†	7858.7	4.538 mg/L		0.0530	4.538 mg/L	0.0530	1.17%
QC value within limits for Sb 206.836 Recovery = 100.84%							
Sb 217.582*†	7822.0	4.529 mg/L		0.0458	4.529 mg/L	0.0458	1.01%
QC value within limits for Sb 217.582* Recovery = 100.64%							
Se 196.026*†	3060.4	1.523 mg/L		0.0059	1.523 mg/L	0.0059	0.38%
QC value within limits for Se 196.026* Recovery = 101.52%							
Si 251.611*†	215775.3	6.049 mg/L		0.0639	6.049 mg/L	0.0639	1.06%
QC value within limits for Si 251.611* Recovery = 100.81%							
Sn 189.927*†	16976.0	3.095 mg/L		0.0217	3.095 mg/L	0.0217	0.70%
QC value within limits for Sn 189.927* Recovery = 103.17%							
Sn 242.170†	4938.0	3.048 mg/L		0.0180	3.048 mg/L	0.0180	0.59%
Sr 407.771*†	89382.1	0.3013 mg/L		0.00117	0.3013 mg/L	0.00117	0.39%
QC value within limits for Sr 407.771* Recovery = 100.44%							

Pi 334.940†	470906.0	0.6164 mg/L	0.00377	0.6164 mg/L	0.00377	0.61%
Pi 336.121*†	334567.8	0.6049 mg/L	0.00305	0.6049 mg/L	0.00305	0.50%
QC value within limits for Pi 336.121* Recovery = 100.82%						
Tl 190.801*†	2597.3	1.525 mg/L	0.0250	1.525 mg/L	0.0250	1.64%
QC value within limits for Tl 190.801* Recovery = 101.65%						
V 292.402*†	238486.3	1.857 mg/L	0.0112	1.857 mg/L	0.0112	0.61%
QC value within limits for V 292.402* Recovery = 99.02%						
Zn 206.200*†	95567.0	2.540 mg/L	0.0361	2.540 mg/L	0.0361	1.42%
QC value within limits for Zn 206.200* Recovery = 101.61%						

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: 3/20/2017 5:23:15 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	83124.2	110.5 %		1.23			1.11%
Tb 350	138736.3	112.7 %		1.51			1.34%
Ag 328.068*†	191.2	0.0011 mg/L		0.00076	0.0011 mg/L	0.00076	71.40%
Al 308.215*†	135.9	0.0083 mg/L		0.00150	0.0083 mg/L	0.00150	18.17%
As 188.979†	-2.2	-0.0011 mg/L		0.00043	-0.0011 mg/L	0.00043	37.61%
As 193.696*†	-8.1	-0.0061 mg/L		0.00810	-0.0061 mg/L	0.00810	132.14%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	881.3	0.0192 mg/L		0.00241	0.0192 mg/L	0.00241	12.56%
Ba 233.527*†	224.4	0.0016 mg/L		0.00036	0.0016 mg/L	0.00036	22.11%
Be 313.042*†	408.9	0.0001 mg/L		0.00000	0.0001 mg/L	0.00000	0.49%
Ca 317.933*†	5.9	0.0033 mg/L		0.00055	0.0033 mg/L	0.00055	16.53%
Cd 226.502*†	10.2	0.0001 mg/L		0.00029	0.0001 mg/L	0.00029	203.15%
Cd 228.802†	1.4	0.0000 mg/L		0.00033	0.0000 mg/L	0.00033	863.35%
Co 228.616*†	11.2	0.0004 mg/L		0.00039	0.0004 mg/L	0.00039	91.78%
Cr 267.716*†	7.2	0.0001 mg/L		0.00044	0.0001 mg/L	0.00044	651.04%
Cu 324.752*†	-382.3	-0.0016 mg/L		0.00061	-0.0016 mg/L	0.00061	37.22%
Fe 273.955*†	81.0	0.0037 mg/L		0.00386	0.0037 mg/L	0.00386	105.15%
K 766.490*†	-403.2	-0.1484 mg/L		0.02183	-0.1484 mg/L	0.02183	14.71%
Mg 279.077*†	565.1	0.0318 mg/L		0.00406	0.0318 mg/L	0.00406	12.75%
Mn 257.610*†	100.4	0.0002 mg/L		0.00007	0.0002 mg/L	0.00007	40.05%
Mo 202.031*†	9.0	0.0011 mg/L		0.00051	0.0011 mg/L	0.00051	48.81%
Na 589.592*†	380.9	0.0949 mg/L		0.00229	0.0949 mg/L	0.00229	2.41%
Ni 231.604*†	-0.1	-0.0000 mg/L		0.00071	-0.0000 mg/L	0.00071	>999.9%
P 213.617*†	11.8	0.0068 mg/L		0.00785	0.0068 mg/L	0.00785	114.90%
P 214.914†	17.2	0.0151 mg/L		0.00338	0.0151 mg/L	0.00338	22.38%
Pb 220.353*†	8.6	0.0012 mg/L		0.00014	0.0012 mg/L	0.00014	12.34%
Sb 206.836†	-2.3	-0.0013 mg/L		0.00503	-0.0013 mg/L	0.00503	383.00%
Sb 217.582*†	11.4	0.0066 mg/L		0.00161	0.0066 mg/L	0.00161	24.53%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	0.9	0.0004 mg/L		0.00254	0.0004 mg/L	0.00254	570.16%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	-377.5	-0.0106 mg/L		0.00102	-0.0106 mg/L	0.00102	9.66%
Sn 189.927*†	15.2	0.0028 mg/L		0.00014	0.0028 mg/L	0.00014	5.18%
Sn 242.170†	53.2	0.0328 mg/L		0.00599	0.0328 mg/L	0.00599	18.23%
Sr 407.771*†	22.5	0.0001 mg/L		0.00004	0.0001 mg/L	0.00004	52.34%
Ti 334.940†	723.0	0.0009 mg/L		0.00062	0.0009 mg/L	0.00062	65.90%
Ti 336.121*†	453.9	0.0008 mg/L		0.00094	0.0008 mg/L	0.00094	115.07%
Tl 190.801*†	-8.8	-0.0052 mg/L		0.00168	-0.0052 mg/L	0.00168	32.53%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	-64.6	-0.0005 mg/L		0.00062	-0.0005 mg/L	0.00062	123.29%
Zn 206.200*†	-100.6	-0.0027 mg/L		0.00017	-0.0027 mg/L	0.00017	6.51%
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: 3/20/2017 5:32:37 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. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	76493.5	101.7	%	0.40			0.40%
Tb 350	129201.3	105.0	%	0.25			0.24%
Ag 328.068*†	64751.7	0.3621	mg/L	0.00002	0.3621 mg/L	0.00002	0.01%
QC value within limits for Ag 328.068* Recovery = 96.56%							
Al 308.215*†	220710.7	13.41	mg/L	0.011	13.41 mg/L	0.011	0.08%
QC value within limits for Al 308.215* Recovery = 99.35%							
As 188.979†	7345.8	3.866	mg/L	0.0025	3.866 mg/L	0.0025	0.06%
QC value within limits for As 188.979 Recovery = 103.11%							
As 193.696*†	5081.0	3.841	mg/L	0.0082	3.841 mg/L	0.0082	0.21%
QC value within limits for As 193.696* Recovery = 102.43%							
B 249.677*†	171392.4	3.729	mg/L	0.0223	3.729 mg/L	0.0223	0.60%
QC value within limits for B 249.677* Recovery = 99.44%							
Ba 233.527*†	1075850.6	7.728	mg/L	0.0084	7.728 mg/L	0.0084	0.11%
QC value within limits for Ba 233.527* Recovery = 103.04%							
Be 313.042*†	1980547.8	0.5769	mg/L	0.00185	0.5769 mg/L	0.00185	0.32%
QC value within limits for Be 313.042* Recovery = 102.57%							
Ca 317.933*†	55950.1	31.61	mg/L	0.151	31.61 mg/L	0.151	0.48%
QC value within limits for Ca 317.933* Recovery = 105.37%							
Cd 226.502*†	54747.5	0.7562	mg/L	0.00059	0.7562 mg/L	0.00059	0.08%
QC value within limits for Cd 226.502* Recovery = 100.82%							
Cd 228.802†	27534.8	0.7432	mg/L	0.00501	0.7432 mg/L	0.00501	0.67%
Co 228.616*†	50306.7	1.901	mg/L	0.0074	1.901 mg/L	0.0074	0.39%
QC value within limits for Co 228.616* Recovery = 101.37%							
Cr 267.716*†	63691.0	0.5960	mg/L	0.00082	0.5960 mg/L	0.00082	0.14%
QC value within limits for Cr 267.716* Recovery = 99.33%							
Cu 324.752*†	215930.6	0.9182	mg/L	0.00245	0.9182 mg/L	0.00245	0.27%
QC value within limits for Cu 324.752* Recovery = 97.94%							
Fe 273.955*†	83902.5	3.803	mg/L	0.0006	3.803 mg/L	0.0006	0.02%
QC value within limits for Fe 273.955* Recovery = 101.42%							
K 766.490*†	73165.1	26.94	mg/L	0.132	26.94 mg/L	0.132	0.49%
QC value within limits for K 766.490* Recovery = 99.78%							
Mg 279.077*†	136862.3	7.703	mg/L	0.0145	7.703 mg/L	0.0145	0.19%
QC value within limits for Mg 279.077* Recovery = 102.71%							
Mn 257.610*†	455970.3	0.7725	mg/L	0.00146	0.7725 mg/L	0.00146	0.19%
QC value within limits for Mn 257.610* Recovery = 103.00%							
Mo 202.031*†	5245.4	0.6105	mg/L	0.00232	0.6105 mg/L	0.00232	0.38%
QC value within limits for Mo 202.031* Recovery = 101.75%							
Na 589.592*†	148111.2	36.91	mg/L	0.153	36.91 mg/L	0.153	0.42%
QC value within limits for Na 589.592* Recovery = 102.53%							
Ni 231.604*†	13631.9	0.6127	mg/L	0.00007	0.6127 mg/L	0.00007	0.01%
QC value within limits for Ni 231.604* Recovery = 102.12%							
P 213.617*†	10718.3	6.225	mg/L	0.0124	6.225 mg/L	0.0124	0.20%
QC value within limits for P 213.617* Recovery = 103.75%							
P 214.914†	7027.3	6.174	mg/L	0.0114	6.174 mg/L	0.0114	0.19%
Pb 220.353*†	28249.5	3.814	mg/L	0.0203	3.814 mg/L	0.0203	0.53%
QC value within limits for Pb 220.353* Recovery = 101.70%							
Sb 206.836†	7942.1	4.586	mg/L	0.0030	4.586 mg/L	0.0030	0.07%
QC value within limits for Sb 206.836 Recovery = 101.91%							
Sb 217.582*†	7881.5	4.563	mg/L	0.0194	4.563 mg/L	0.0194	0.43%
QC value within limits for Sb 217.582* Recovery = 101.40%							
Se 196.026*†	3112.0	1.549	mg/L	0.0022	1.549 mg/L	0.0022	0.14%
QC value within limits for Se 196.026* Recovery = 103.23%							
Si 251.611*†	219612.3	6.156	mg/L	0.0259	6.156 mg/L	0.0259	0.42%
QC value within limits for Si 251.611* Recovery = 102.61%							
Sn 189.927*†	17156.8	3.128	mg/L	0.0122	3.128 mg/L	0.0122	0.39%
QC value within limits for Sn 189.927* Recovery = 104.26%							
Sn 242.170†	4949.9	3.055	mg/L	0.0152	3.055 mg/L	0.0152	0.50%
Sr 407.771*†	91534.5	0.3086	mg/L	0.00166	0.3086 mg/L	0.00166	0.54%
QC value within limits for Sr 407.771* Recovery = 102.86%							

Ti 334.940†	471412.9	0.6171 mg/L	0.00031	0.6171 mg/L	0.00031	0.05%
Ti 336.121*†	334852.9	0.6054 mg/L	0.00037	0.6054 mg/L	0.00037	0.06%
QC value within limits for Ti 336.121* Recovery = 100.91%						
Tl 190.801*†	2633.9	1.546 mg/L	0.0039	1.546 mg/L	0.0039	0.26%
QC value within limits for Tl 190.801* Recovery = 103.08%						
V 292.402*†	236953.2	1.845 mg/L	0.0008	1.845 mg/L	0.0008	0.04%
QC value within limits for V 292.402* Recovery = 98.38%						
Zn 206.200*†	95362.2	2.535 mg/L	0.0101	2.535 mg/L	0.0101	0.40%
QC value within limits for Zn 206.200* Recovery = 101.39%						

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: 3/20/2017 5:33:30 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	84379.6	112.1 %	0.02			0.02%
Tb 350	139898.8	113.7 %	0.65			0.57%
Ag 328.068*†	195.8	0.0011 mg/L	0.00077	0.0011 mg/L	0.00077	70.78%
Al 308.215*†	165.9	0.0101 mg/L	0.01667	0.0101 mg/L	0.01667	165.31%
As 188.979†	9.2	0.0049 mg/L	0.00288	0.0049 mg/L	0.00288	59.29%
As 193.696*†	-11.1	-0.0084 mg/L	0.00124	-0.0084 mg/L	0.00124	14.71%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	631.0	0.0137 mg/L	0.00364	0.0137 mg/L	0.00364	26.55%
Ba 233.527*†	291.1	0.0021 mg/L	0.00027	0.0021 mg/L	0.00027	13.00%
Be 313.042*†	491.8	0.0001 mg/L	0.00004	0.0001 mg/L	0.00004	25.68%
Ca 317.933*†	11.0	0.0062 mg/L	0.00302	0.0062 mg/L	0.00302	48.72%
Cd 226.502*†	2.8	0.0000 mg/L	0.00010	0.0000 mg/L	0.00010	265.39%
Cd 228.802†	16.0	0.0004 mg/L	0.00020	0.0004 mg/L	0.00020	47.34%
Co 228.616*†	18.6	0.0007 mg/L	0.00012	0.0007 mg/L	0.00012	17.35%
Cr 267.716*†	0.1	0.0000 mg/L	0.00007	0.0000 mg/L	0.00007	>999.9%
Cu 324.752*†	-592.9	-0.0025 mg/L	0.00008	-0.0025 mg/L	0.00008	3.16%
Fe 273.955*†	685.5	0.0311 mg/L	0.03241	0.0311 mg/L	0.03241	104.31%
K 766.490*†	-287.3	-0.1058 mg/L	0.05127	-0.1058 mg/L	0.05127	48.47%
Mg 279.077*†	641.9	0.0361 mg/L	0.00142	0.0361 mg/L	0.00142	3.93%
Mn 257.610*†	460.8	0.0008 mg/L	0.00069	0.0008 mg/L	0.00069	87.98%
Mo 202.031*†	-0.3	-0.0000 mg/L	0.00072	-0.0000 mg/L	0.00072	>999.9%
Na 589.592*†	268.9	0.0670 mg/L	0.00732	0.0670 mg/L	0.00732	10.93%
Ni 231.604*†	1.1	0.0000 mg/L	0.00049	0.0000 mg/L	0.00049	992.32%
P 213.617*†	13.1	0.0076 mg/L	0.01472	0.0076 mg/L	0.01472	193.98%
P 214.914†	13.0	0.0114 mg/L	0.00258	0.0114 mg/L	0.00258	22.53%
Pb 220.353*†	23.0	0.0031 mg/L	0.00144	0.0031 mg/L	0.00144	46.39%
Sb 206.836†	6.1	0.0035 mg/L	0.00026	0.0035 mg/L	0.00026	7.44%
Sb 217.582*†	12.9	0.0075 mg/L	0.00075	0.0075 mg/L	0.00075	10.07%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	0.6	0.0003 mg/L	0.00065	0.0003 mg/L	0.00065	222.54%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	17.3	0.0005 mg/L	0.00088	0.0005 mg/L	0.00088	181.90%
Sn 189.927*†	13.6	0.0025 mg/L	0.00148	0.0025 mg/L	0.00148	59.68%
Sn 242.170†	56.2	0.0347 mg/L	0.01168	0.0347 mg/L	0.01168	33.66%
Sr 407.771*†	33.9	0.0001 mg/L	0.00006	0.0001 mg/L	0.00006	51.61%
Ti 334.940†	873.1	0.0011 mg/L	0.00098	0.0011 mg/L	0.00098	86.01%
Ti 336.121*†	608.5	0.0011 mg/L	0.00074	0.0011 mg/L	0.00074	67.54%
Tl 190.801*†	-12.3	-0.0072 mg/L	0.00794	-0.0072 mg/L	0.00794	109.53%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	-1.5	-0.0000 mg/L	0.00017	-0.0000 mg/L	0.00017	>999.9%
Zn 206.200*†	-84.3	-0.0022 mg/L	0.00054	-0.0022 mg/L	0.00054	24.14%
QC value within limits for Zn 206.200* Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 47

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/20/2017 5:42:43 PM

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	76007.7	101.0	%	0.03			0.03%
Tb 350	127957.8	104.0	%	0.16			0.16%
Ag 328.068*†	65527.7	0.3665	mg/L	0.00053	0.3665 mg/L	0.00053	0.14%
QC value within limits for Ag 328.068* Recovery = 97.72%							
Al 308.215*†	222866.4	13.54	mg/L	0.065	13.54 mg/L	0.065	0.48%
QC value within limits for Al 308.215* Recovery = 100.32%							
As 188.979†	7384.0	3.887	mg/L	0.0205	3.887 mg/L	0.0205	0.53%
QC value within limits for As 188.979 Recovery = 103.64%							
As 193.696*†	5105.0	3.859	mg/L	0.0157	3.859 mg/L	0.0157	0.41%
QC value within limits for As 193.696* Recovery = 102.91%							
B 249.677*†	173397.5	3.773	mg/L	0.0664	3.773 mg/L	0.0664	1.76%
QC value within limits for B 249.677* Recovery = 100.60%							
Ba 233.527*†	1082793.2	7.778	mg/L	0.0378	7.778 mg/L	0.0378	0.49%
QC value within limits for Ba 233.527* Recovery = 103.70%							
Be 313.042*†	1999846.1	0.5826	mg/L	0.00375	0.5826 mg/L	0.00375	0.64%
QC value within limits for Be 313.042* Recovery = 103.57%							
Ca 317.933*†	56858.7	32.12	mg/L	0.060	32.12 mg/L	0.060	0.19%
QC value within limits for Ca 317.933* Recovery = 107.08%							
Cd 226.502*†	55366.2	0.7647	mg/L	0.00359	0.7647 mg/L	0.00359	0.47%
QC value within limits for Cd 226.502* Recovery = 101.96%							
Cd 228.802†	27877.4	0.7524	mg/L	0.00475	0.7524 mg/L	0.00475	0.63%
Co 228.616*†	50679.5	1.915	mg/L	0.0120	1.915 mg/L	0.0120	0.63%
QC value within limits for Co 228.616* Recovery = 102.12%							
Cr 267.716*†	64178.7	0.6005	mg/L	0.00232	0.6005 mg/L	0.00232	0.39%
QC value within limits for Cr 267.716* Recovery = 100.09%							
Cu 324.752*†	217350.6	0.9243	mg/L	0.00232	0.9243 mg/L	0.00232	0.25%
QC value within limits for Cu 324.752* Recovery = 98.59%							
Fe 273.955*†	84458.4	3.828	mg/L	0.0038	3.828 mg/L	0.0038	0.10%
QC value within limits for Fe 273.955* Recovery = 102.09%							
K 766.490*†	75311.9	27.73	mg/L	0.009	27.73 mg/L	0.009	0.03%
QC value within limits for K 766.490* Recovery = 102.70%							
Mg 279.077*†	138014.1	7.768	mg/L	0.0150	7.768 mg/L	0.0150	0.19%
QC value within limits for Mg 279.077* Recovery = 103.58%							
Mn 257.610*†	458781.8	0.7772	mg/L	0.00307	0.7772 mg/L	0.00307	0.40%
QC value within limits for Mn 257.610* Recovery = 103.63%							
Mo 202.031*†	5267.9	0.6131	mg/L	0.00161	0.6131 mg/L	0.00161	0.26%
QC value within limits for Mo 202.031* Recovery = 102.18%							
Na 589.592*†	152804.9	38.08	mg/L	0.034	38.08 mg/L	0.034	0.09%
QC value within limits for Na 589.592* Recovery = 105.78%							
Ni 231.604*†	13712.4	0.6164	mg/L	0.00190	0.6164 mg/L	0.00190	0.31%
QC value within limits for Ni 231.604* Recovery = 102.73%							
P 213.617*†	10736.6	6.236	mg/L	0.0280	6.236 mg/L	0.0280	0.45%
QC value within limits for P 213.617* Recovery = 103.93%							
P 214.914†	7092.7	6.232	mg/L	0.0373	6.232 mg/L	0.0373	0.60%
Pb 220.353*†	28560.8	3.856	mg/L	0.0189	3.856 mg/L	0.0189	0.49%
QC value within limits for Pb 220.353* Recovery = 102.82%							
Sb 206.836†	7979.7	4.608	mg/L	0.0310	4.608 mg/L	0.0310	0.67%
QC value within limits for Sb 206.836 Recovery = 102.39%							
Sb 217.582*†	7924.3	4.588	mg/L	0.0153	4.588 mg/L	0.0153	0.33%
QC value within limits for Sb 217.582* Recovery = 101.95%							
Se 196.026*†	3126.5	1.556	mg/L	0.0270	1.556 mg/L	0.0270	1.74%
QC value within limits for Se 196.026* Recovery = 103.71%							
Si 251.611*†	217555.7	6.099	mg/L	0.0496	6.099 mg/L	0.0496	0.81%
QC value within limits for Si 251.611* Recovery = 101.65%							
Sn 189.927*†	17221.3	3.140	mg/L	0.0370	3.140 mg/L	0.0370	1.18%
QC value within limits for Sn 189.927* Recovery = 104.66%							
Sn 242.170†	4977.8	3.073	mg/L	0.0206	3.073 mg/L	0.0206	0.67%
Sr 407.771*†	93263.3	0.3144	mg/L	0.00128	0.3144 mg/L	0.00128	0.41%
QC value within limits for Sr 407.771* Recovery = 104.80%							

Ti 334.940† 470550.0 0.6159 mg/L 0.00265 0.6159 mg/L 0.00265 0.43%
Ti 336.121*† 333761.3 0.6035 mg/L 0.00312 0.6035 mg/L 0.00312 0.52%
QC value within limits for Ti 336.121* Recovery = 100.58%
Tl 190.801*† 2634.7 1.547 mg/L 0.0084 1.547 mg/L 0.0084 0.54%
QC value within limits for Tl 190.801* Recovery = 103.12%
V 292.402*† 239588.5 1.865 mg/L 0.0106 1.865 mg/L 0.0106 0.57%
QC value within limits for V 292.402* Recovery = 99.48%
Zn 206.200*† 96382.2 2.562 mg/L 0.0163 2.562 mg/L 0.0163 0.64%
QC value within limits for Zn 206.200* Recovery = 102.48%
All analyte(s) passed QC.

Sequence No.: 48
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/20/2017 5:43:36 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	84107.8	111.8	%	1.61			1.44%
Tb 350	138586.4	112.6	%	1.80			1.60%
Ag 328.068*†	104.3	0.0006	mg/L	0.00051	0.0006 mg/L	0.00051	87.96%
Al 308.215*†	94.2	0.0057	mg/L	0.00411	0.0057 mg/L	0.00411	71.90%
As 188.979†	11.8	0.0062	mg/L	0.00144	0.0062 mg/L	0.00144	23.08%
As 193.696*†	-3.6	-0.0027	mg/L	0.00968	-0.0027 mg/L	0.00968	355.47%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	900.0	0.0196	mg/L	0.00063	0.0196 mg/L	0.00063	3.22%
Ba 233.527*†	249.1	0.0018	mg/L	0.00023	0.0018 mg/L	0.00023	12.70%
Be 313.042*†	404.7	0.0001	mg/L	0.00005	0.0001 mg/L	0.00005	41.22%
Ca 317.933*†	34.5	0.0195	mg/L	0.00338	0.0195 mg/L	0.00338	17.36%
Cd 226.502*†	-5.6	-0.0001	mg/L	0.00006	-0.0001 mg/L	0.00006	78.17%
Cd 228.802†	2.4	0.0001	mg/L	0.00007	0.0001 mg/L	0.00007	109.39%
Co 228.616*†	17.6	0.0007	mg/L	0.00021	0.0007 mg/L	0.00021	32.26%
Cr 267.716*†	-15.9	-0.0001	mg/L	0.00079	-0.0001 mg/L	0.00079	527.82%
Cu 324.752*†	-355.8	-0.0015	mg/L	0.00030	-0.0015 mg/L	0.00030	19.66%
Fe 273.955*†	176.0	0.0080	mg/L	0.00063	0.0080 mg/L	0.00063	7.96%
K 766.490*†	-34.1	-0.0126	mg/L	0.01618	-0.0126 mg/L	0.01618	128.88%
Mg 279.077*†	422.5	0.0238	mg/L	0.00011	0.0238 mg/L	0.00011	0.47%
Mn 257.610*†	195.4	0.0003	mg/L	0.00001	0.0003 mg/L	0.00001	3.06%
Mo 202.031*†	7.0	0.0008	mg/L	0.00118	0.0008 mg/L	0.00118	145.81%
Na 589.592*†	397.2	0.0990	mg/L	0.01239	0.0990 mg/L	0.01239	12.52%
Ni 231.604*†	-0.9	-0.0000	mg/L	0.00070	-0.0000 mg/L	0.00070	>999.9%
P 213.617*†	7.3	0.0042	mg/L	0.00270	0.0042 mg/L	0.00270	63.94%
P 214.914†	15.0	0.0131	mg/L	0.00535	0.0131 mg/L	0.00535	40.71%
Pb 220.353*†	14.6	0.0020	mg/L	0.00099	0.0020 mg/L	0.00099	50.42%
Sb 206.836†	1.9	0.0011	mg/L	0.00123	0.0011 mg/L	0.00123	113.87%
Sb 217.582*†	11.9	0.0069	mg/L	0.00049	0.0069 mg/L	0.00049	7.11%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	10.9	0.0054	mg/L	0.00315	0.0054 mg/L	0.00315	58.20%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	-373.0	-0.0105	mg/L	0.00126	-0.0105 mg/L	0.00126	12.09%
Sn 189.927*†	-6.6	-0.0012	mg/L	0.00577	-0.0012 mg/L	0.00577	480.02%
Sn 242.170†	29.3	0.0181	mg/L	0.00770	0.0181 mg/L	0.00770	42.55%
Sr 407.771*†	39.5	0.0001	mg/L	0.00001	0.0001 mg/L	0.00001	9.20%
Ti 334.940†	642.0	0.0008	mg/L	0.00028	0.0008 mg/L	0.00028	33.31%
Ti 336.121*†	110.1	0.0002	mg/L	0.00003	0.0002 mg/L	0.00003	15.55%
Tl 190.801*†	-10.8	-0.0064	mg/L	0.00031	-0.0064 mg/L	0.00031	4.93%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	-53.5	-0.0004	mg/L	0.00049	-0.0004 mg/L	0.00049	117.37%
Zn 206.200*†	-89.4	-0.0024	mg/L	0.00026	-0.0024 mg/L	0.00026	11.14%
QC value within limits for Zn 206.200* Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 59

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/20/2017 5:52:13 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	75938.4	100.9 %		0.36			0.36%
Tb 350	128452.8	104.4 %		0.32			0.31%
Ag 328.068*†	65437.8	0.3659 mg/L		0.00055	0.3659 mg/L	0.00055	0.15%
QC value within limits for Ag 328.068* Recovery = 97.59%							
Al 308.215*†	222431.2	13.52 mg/L		0.006	13.52 mg/L	0.006	0.05%
QC value within limits for Al 308.215* Recovery = 100.13%							
As 188.979†	7464.0	3.929 mg/L		0.0508	3.929 mg/L	0.0508	1.29%
QC value within limits for As 188.979 Recovery = 104.76%							
As 193.696*†	5167.2	3.906 mg/L		0.0581	3.906 mg/L	0.0581	1.49%
QC value within limits for As 193.696* Recovery = 104.17%							
B 249.677*†	173841.9	3.782 mg/L		0.0187	3.782 mg/L	0.0187	0.49%
QC value within limits for B 249.677* Recovery = 100.86%							
Ba 233.527*†	1083987.9	7.786 mg/L		0.0246	7.786 mg/L	0.0246	0.32%
QC value within limits for Ba 233.527* Recovery = 103.82%							
Be 313.042*†	1997709.8	0.5819 mg/L		0.00148	0.5819 mg/L	0.00148	0.25%
QC value within limits for Be 313.042* Recovery = 103.46%							
Ca 317.933*†	55648.8	31.44 mg/L		1.346	31.44 mg/L	1.346	4.28%
QC value within limits for Ca 317.933* Recovery = 104.80%							
Cd 226.502*†	55368.5	0.7647 mg/L		0.00359	0.7647 mg/L	0.00359	0.47%
QC value within limits for Cd 226.502* Recovery = 101.97%							
Cd 228.802†	27868.6	0.7522 mg/L		0.00159	0.7522 mg/L	0.00159	0.21%
Co 228.616*†	50782.0	1.919 mg/L		0.0132	1.919 mg/L	0.0132	0.69%
QC value within limits for Co 228.616* Recovery = 102.32%							
Cr 267.716*†	64320.2	0.6019 mg/L		0.00140	0.6019 mg/L	0.00140	0.23%
QC value within limits for Cr 267.716* Recovery = 100.31%							
Cu 324.752*†	217267.9	0.9239 mg/L		0.00178	0.9239 mg/L	0.00178	0.19%
QC value within limits for Cu 324.752* Recovery = 98.55%							
Fe 273.955*†	84697.3	3.839 mg/L		0.0198	3.839 mg/L	0.0198	0.52%
QC value within limits for Fe 273.955* Recovery = 102.38%							
K 766.490*†	73999.5	27.25 mg/L		0.698	27.25 mg/L	0.698	2.56%
QC value within limits for K 766.490* Recovery = 100.91%							
Mg 279.077*†	138445.5	7.793 mg/L		0.0406	7.793 mg/L	0.0406	0.52%
QC value within limits for Mg 279.077* Recovery = 103.90%							
Mn 257.610*†	459206.8	0.7780 mg/L		0.00237	0.7780 mg/L	0.00237	0.30%
QC value within limits for Mn 257.610* Recovery = 103.73%							
Mo 202.031*†	5315.9	0.6187 mg/L		0.00811	0.6187 mg/L	0.00811	1.31%
QC value within limits for Mo 202.031* Recovery = 103.12%							
Na 589.592*†	149233.8	37.19 mg/L		1.072	37.19 mg/L	1.072	2.88%
QC value within limits for Na 589.592* Recovery = 103.30%							
Ni 231.604*†	13793.4	0.6200 mg/L		0.00801	0.6200 mg/L	0.00801	1.29%
QC value within limits for Ni 231.604* Recovery = 103.33%							
P 213.617*†	10841.2	6.297 mg/L		0.1222	6.297 mg/L	0.1222	1.94%
QC value within limits for P 213.617* Recovery = 104.94%							
P 214.914†	7161.0	6.292 mg/L		0.0802	6.292 mg/L	0.0802	1.28%
Pb 220.353*†	28550.7	3.854 mg/L		0.0320	3.854 mg/L	0.0320	0.83%
QC value within limits for Pb 220.353* Recovery = 102.78%							
Sb 206.836†	8070.7	4.660 mg/L		0.0409	4.660 mg/L	0.0409	0.88%
QC value within limits for Sb 206.836 Recovery = 103.56%							
Sb 217.582*†	7974.2	4.617 mg/L		0.0480	4.617 mg/L	0.0480	1.04%
QC value within limits for Sb 217.582* Recovery = 102.60%							
Se 196.026*†	3154.3	1.570 mg/L		0.0194	1.570 mg/L	0.0194	1.24%
QC value within limits for Se 196.026* Recovery = 104.64%							
Si 251.611*†	217676.1	6.102 mg/L		0.0032	6.102 mg/L	0.0032	0.05%
QC value within limits for Si 251.611* Recovery = 101.70%							
Sn 189.927*†	17423.3	3.177 mg/L		0.0491	3.177 mg/L	0.0491	1.54%
QC value within limits for Sn 189.927* Recovery = 105.88%							
Sn 242.170†	4996.1	3.084 mg/L		0.0380	3.084 mg/L	0.0380	1.23%
Sr 407.771*†	92036.5	0.3103 mg/L		0.00836	0.3103 mg/L	0.00836	2.69%
QC value within limits for Sr 407.771* Recovery = 103.42%							

Ti 334.940†	470244.3	0.6155 mg/L	0.00016	0.6155 mg/L	0.00016	0.03%
Ti 336.121*†	334133.7	0.6041 mg/L	0.00076	0.6041 mg/L	0.00076	0.13%
QC value within limits for Ti 336.121* Recovery = 100.69%						
Tl 190.801*†	2674.2	1.570 mg/L	0.0330	1.570 mg/L	0.0330	2.10%
QC value within limits for Tl 190.801* Recovery = 104.66%						
V 292.402*†	240114.5	1.869 mg/L	0.0042	1.869 mg/L	0.0042	0.22%
QC value within limits for V 292.402* Recovery = 99.69%						
Zn 206.200*†	96646.7	2.569 mg/L	0.0085	2.569 mg/L	0.0085	0.33%
QC value within limits for Zn 206.200* Recovery = 102.76%						

All analyte(s) passed QC.

Sequence No.: 60
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/20/2017 5:53:05 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	84571.3	112.4 %	1.80			1.60%
Tb 350	139929.0	113.7 %	1.20			1.06%
Ag 328.068*†	125.5	0.0007 mg/L	0.00048	0.0007 mg/L	0.00048	68.22%
Al 308.215*†	98.3	0.0060 mg/L	0.00354	0.0060 mg/L	0.00354	59.23%
As 188.979†	9.6	0.0050 mg/L	0.00218	0.0050 mg/L	0.00218	43.43%
As 193.696*†	-4.3	-0.0033 mg/L	0.01003	-0.0033 mg/L	0.01003	305.45%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	1093.4	0.0238 mg/L	0.00398	0.0238 mg/L	0.00398	16.73%
Ba 233.527*†	233.1	0.0017 mg/L	0.00017	0.0017 mg/L	0.00017	10.26%
Be 313.042*†	498.8	0.0001 mg/L	0.00001	0.0001 mg/L	0.00001	7.93%
Ca 317.933*†	20.0	0.0113 mg/L	0.00242	0.0113 mg/L	0.00242	21.45%
Cd 226.502*†	8.0	0.0001 mg/L	0.00005	0.0001 mg/L	0.00005	45.81%
Cd 228.802†	5.4	0.0001 mg/L	0.00025	0.0001 mg/L	0.00025	172.53%
Co 228.616*†	16.9	0.0006 mg/L	0.00027	0.0006 mg/L	0.00027	42.39%
Cr 267.716*†	61.7	0.0006 mg/L	0.00029	0.0006 mg/L	0.00029	49.52%
Cu 324.752*†	-404.0	-0.0017 mg/L	0.00022	-0.0017 mg/L	0.00022	12.56%
Fe 273.955*†	124.7	0.0057 mg/L	0.00030	0.0057 mg/L	0.00030	5.32%
K 766.490*†	-137.7	-0.0507 mg/L	0.01120	-0.0507 mg/L	0.01120	22.08%
Mg 279.077*†	570.1	0.0321 mg/L	0.00439	0.0321 mg/L	0.00439	13.68%
Mn 257.610*†	228.6	0.0004 mg/L	0.00004	0.0004 mg/L	0.00004	11.28%
Mo 202.031*†	0.7	0.0001 mg/L	0.00039	0.0001 mg/L	0.00039	463.63%
Na 589.592*†	239.7	0.0597 mg/L	0.01239	0.0597 mg/L	0.01239	20.75%
Ni 231.604*†	-2.1	-0.0001 mg/L	0.00063	-0.0001 mg/L	0.00063	667.90%
P 213.617*†	18.2	0.0106 mg/L	0.00904	0.0106 mg/L	0.00904	85.40%
P 214.914†	9.2	0.0081 mg/L	0.00257	0.0081 mg/L	0.00257	31.95%
Pb 220.353*†	15.9	0.0021 mg/L	0.00042	0.0021 mg/L	0.00042	19.66%
Sb 206.836†	8.2	0.0047 mg/L	0.00203	0.0047 mg/L	0.00203	42.75%
Sb 217.582*†	18.6	0.0108 mg/L	0.00067	0.0108 mg/L	0.00067	6.19%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	8.8	0.0044 mg/L	0.00144	0.0044 mg/L	0.00144	32.92%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	-338.0	-0.0095 mg/L	0.00063	-0.0095 mg/L	0.00063	6.66%
Sn 189.927*†	12.9	0.0023 mg/L	0.00095	0.0023 mg/L	0.00095	40.55%
Sn 242.170†	47.4	0.0293 mg/L	0.01444	0.0293 mg/L	0.01444	49.33%
Sr 407.771*†	32.5	0.0001 mg/L	0.00011	0.0001 mg/L	0.00011	102.41%
Ti 334.940†	644.3	0.0008 mg/L	0.00013	0.0008 mg/L	0.00013	14.97%
Ti 336.121*†	234.7	0.0004 mg/L	0.00014	0.0004 mg/L	0.00014	33.89%
Tl 190.801*†	-3.8	-0.0023 mg/L	0.00057	-0.0023 mg/L	0.00057	25.25%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	-96.7	-0.0008 mg/L	0.00045	-0.0008 mg/L	0.00045	59.41%
Zn 206.200*†	-56.7	-0.0015 mg/L	0.00013	-0.0015 mg/L	0.00013	8.42%
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: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control Limit	Comment
		Observed	%D		
Silver	0.500000	0.500463	0	+/-10	
Arsenic	5.000000	4.823249	4	+/-10	
Barium	1.000000	1.015666	-2	+/-10	
Beryllium	0.500000	0.494965	1	+/-10	
Cadmium	1.500000	1.504004	0	+/-10	
Cobalt	1.000000	1.037517	-4	+/-10	
Chromium	0.400000	0.402579	-1	+/-10	
Copper	1.000000	1.011030	-1	+/-10	
Molybdenum	2.500000	2.409640	4	+/-10	
Nickel	0.400000	0.401299	0	+/-10	
Lead	5.000000	5.091071	-2	+/-10	
Antimony	2.000000	1.932906	3	+/-10	
Selenium	2.000000	1.921233	4	+/-10	
Thallium	2.000000	1.948069	3	+/-10	
Vanadium	1.000000	1.003068	0	+/-10	
Zinc	1.500000	1.532952	-2	+/-10	

Report Time: 3/21/2017 1:24:35 PM

ICV-1 File: ICV-M072816C

Analysis Time: 3/21/2017 9:23:35 AM

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

01/22/2014 Revision

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EPA Method 6010B
Initial Calibration Blank

Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Initial Calibration Blank		
	ICB-1	RL	Comment
Silver	0.000005	0.005000	
Arsenic	-0.000312	0.010000	
Barium	-0.000035	0.010000	
Beryllium	0.000019	0.010000	
Cadmium	0.000084	0.010000	
Cobalt	0.000082	0.010000	
Chromium	0.000426	0.010000	
Copper	0.000163	0.010000	
Molybdenum	0.001124	0.010000	
Nickel	0.000100	0.010000	
Lead	0.000940	0.010000	
Antimony	0.004940	0.015000	
Selenium	0.004130	0.015000	
Thallium	0.003635	0.015000	
Vanadium	-0.000533	0.010000	
Zinc	0.000669	0.010000	

Report Time: 3/21/2017 1:24:35 PM

ICB-1 File: ICB-R12091601

Analysis Time: 3/21/2017 9:24:33 AM

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Work Order No: 17-03-0641

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	0.001422	0.005000	0.300000	0.312590	-4	+/-20	
Arsenic	0.005945	0.010000	1.000000	1.044592	-4	+/-20	
Barium	0.002583	0.010000	0.300000	0.312615	-4	+/-20	
Beryllium	-0.000063	0.010000	0.100000	0.106344	-6	+/-20	
Cadmium	0.001508	0.010000	0.300000	0.300990	0	+/-20	
Cobalt	0.000559	0.010000	0.300000	0.311647	-4	+/-20	
Chromium	-0.001194	0.010000	0.300000	0.307351	-2	+/-20	
Copper	-0.001433	0.010000	0.300000	0.318116	-6	+/-20	
Molybdenum	0.000856	0.010000	0.300000	0.307744	-3	+/-20	
Nickel	0.000066	0.010000	0.300000	0.313736	-5	+/-20	
Lead	-0.005600	0.010000	1.000000	1.011276	-1	+/-20	
Antimony	-0.007435	0.015000	1.000000	0.992662	1	+/-20	
Selenium	-0.008709	0.015000	0.500000	0.523241	-5	+/-20	
Thallium	-0.003393	0.015000	1.000000	1.030620	-3	+/-20	
Vanadium	0.000627	0.010000	0.300000	0.303206	-1	+/-20	
Zinc	0.002083	0.010000	0.300000	0.311568	-4	+/-20	

Report Time: 3/21/2017 1:24:35 PM

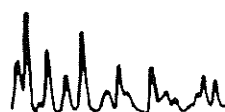
ICS-A-1 File: ICS_A - M110116B

Analysis Time: 3/21/2017 9:35:21 AM

ICS-AB-1 File: ICS_AB - M110116A

Analysis Time: 3/21/2017 9:36:12 AM

01/22/2014 Revision



Work Order No: 17-03-0641

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	0.361214	4	0.365248	3	+/-10	
Arsenic	3.750000	3.588520	4	3.570411	5	+/-10	
Barium	7.500000	7.406357	1	7.511545	0	+/-10	
Beryllium	0.562500	0.546252	3	0.558996	1	+/-10	
Cadmium	0.750000	0.727108	3	0.748869	0	+/-10	
Cobalt	1.875000	1.858209	1	1.895525	-1	+/-10	
Chromium	0.600000	0.587122	2	0.597482	0	+/-10	
Copper	0.937500	0.912185	3	0.921769	2	+/-10	
Molybdenum	0.600000	0.595464	1	0.587499	2	+/-10	
Nickel	0.600000	0.580965	3	0.576243	4	+/-10	
Lead	3.750000	3.636841	3	3.735754	0	+/-10	
Antimony	4.500000	4.398716	2	4.350979	3	+/-10	
Selenium	1.500000	1.437159	4	1.443992	4	+/-10	
Thallium	1.500000	1.513016	-1	1.484602	1	+/-10	
Vanadium	1.875000	1.839035	2	1.868079	0	+/-10	
Zinc	2.500000	2.365064	5	2.444981	2	+/-10	

Report Time: 3/21/2017 1:24:35 PM

CCV-1 File: CCV= STD3x0.5

Analysis Time: 3/21/2017 10:31:09 AM

CCV-2 File: CCV= STD3x0.5

Analysis Time: 3/21/2017 10:35:51 AM

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

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Work Order No: 17-03-0641

Instrument ID: ICP 7300

Concentration Unit: mg/L

Continuing Calibration Blank				
Analyte	CCB-1	CCB-2	RL	Qualifier
Silver	0.000099	0.000424	0.005000	
Arsenic	-0.000220	-0.003826	0.010000	
Barium	0.000045	0.000172	0.010000	
Beryllium	0.000009	-0.000011	0.010000	
Cadmium	-0.000079	-0.000124	0.010000	
Cobalt	0.000046	0.000090	0.010000	
Chromium	-0.000389	-0.000207	0.010000	
Copper	-0.000550	-0.000623	0.010000	
Molybdenum	0.001410	0.000357	0.010000	
Nickel	-0.000105	0.000158	0.010000	
Lead	0.000167	0.000174	0.010000	
Antimony	0.006456	0.000639	0.015000	
Selenium	-0.004771	0.004413	0.015000	
Thallium	0.001057	0.000932	0.015000	
Vanadium	0.000213	0.000227	0.010000	
Zinc	-0.001654	-0.004084	0.010000	

Report Time: 3/21/2017 1:24:35 PM

CCB-1 File: CCB-R12091601

Analysis Time: 3/21/2017 10:32:02 AM

CCB-2 File: CCB-R12091601

Analysis Time: 3/21/2017 10:36:44 AM

01/22/2014 Revision

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Analysis Begun

Start Time: 3/21/2017 9:21:19 AM
 Logged In Analyst: Oscar Gomez 935
 Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/21/2017 9:15:01 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
 17032101.sif

Batch ID:
 Results Data Set: 170321C1
 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: 3/21/2017 9:21:29 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected	Std.Dev.	RSD	Conc.	Units
Tb 384	76849.8	1497.63	1.95%	100.0	%
Tb 350	124520.5	2385.89	1.92%	100.0	%
Ag 328.068*†	-1065.5	41.70	3.91%	[0.00]	mg/L
Al 308.215*†	-2348.9	6.16	0.26%	[0.00]	mg/L
As 188.979†	8.3	3.49	42.15%	[0.00]	mg/L
As 193.696*†	4.5	4.07	91.38%	[0.00]	mg/L
B 249.677*†	-367.3	9.36	2.55%	[0.00]	mg/L
Ba 233.527*†	-321.7	18.97	5.90%	[0.00]	mg/L
Be 313.042*†	-943.6	34.01	3.60%	[0.00]	mg/L
Ca 317.933*†	33.1	2.63	7.94%	[0.00]	mg/L
Cd 226.502*†	15.9	12.26	77.05%	[0.00]	mg/L
Cd 228.802†	10.2	14.64	143.25%	[0.00]	mg/L
Co 228.616*†	-87.7	9.99	11.39%	[0.00]	mg/L
Cr 267.716*†	475.9	28.42	5.97%	[0.00]	mg/L
Cu 324.752*†	2497.1	46.92	1.88%	[0.00]	mg/L
Fe 273.955*†	-413.8	13.39	3.24%	[0.00]	mg/L
K 766.490*†	1125.9	77.72	6.90%	[0.00]	mg/L
Mg 279.077*†	-7934.5	127.94	1.61%	[0.00]	mg/L
Mn 257.610*†	-296.9	24.21	8.16%	[0.00]	mg/L
Mo 202.031*†	-55.5	0.11	0.19%	[0.00]	mg/L
Na 589.592*†	787.3	57.95	7.36%	[0.00]	mg/L
Ni 231.604*†	-65.4	1.90	2.91%	[0.00]	mg/L
P 213.617*†	-145.9	19.30	13.22%	[0.00]	mg/L
P 214.914†	-28.6	4.77	16.67%	[0.00]	mg/L
Pb 220.353*†	-24.7	0.45	1.81%	[0.00]	mg/L
Sb 206.836†	21.0	2.91	13.86%	[0.00]	mg/L
Sb 217.582*†	-10.9	3.29	30.12%	[0.00]	mg/L
Se 196.026*†	4.9	4.21	86.27%	[0.00]	mg/L
Si 251.611*†	1979.7	116.62	5.89%	[0.00]	mg/L
Sn 189.927*†	-70.6	5.80	8.21%	[0.00]	mg/L
Sn 242.170†	-403.1	24.38	6.05%	[0.00]	mg/L
Sr 407.771*†	109.9	3.69	3.36%	[0.00]	mg/L
Ti 334.940†	28329.1	137.48	0.49%	[0.00]	mg/L
Ti 336.121*†	-1119.4	106.71	9.53%	[0.00]	mg/L
Tl 190.801*†	-10.3	7.63	74.19%	[0.00]	mg/L
V 292.402*†	218.2	0.16	0.07%	[0.00]	mg/L
Zn 206.200*†	384.0	6.25	1.63%	[0.00]	mg/L
Zn 213.857*†	964.7	19.51	2.02%	[0.00]	mg/L

User canceled analysis.

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Analysis BegunStart Time: 3/21/2017 9:22:37 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401Plasma On Time: 3/21/2017 9:15:01 AM
Technique: ICP Continuous
Autosampler: ESISample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
17032101.sifBatch ID:
Results Data Set: 170321C1
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: 3/21/2017 9:22:39 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:-----
Mean Data: STD3-M111116A_935_ICP7300

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Units
Tb 384	68096.1	284.57	0.42%	88.61	%
Tb 350	112109.8	196.41	0.18%	90.03	%
Ag 328.068*†	138589.5	228.16	0.16%	[0.75]	mg/L
Al 308.215*†	460313.1	2376.16	0.52%	[27.0]	mg/L
As 188.979†	15674.2	108.81	0.69%	[7.50]	mg/L
As 193.696*†	10926.6	54.59	0.50%	[7.50]	mg/L
B 249.677*†	360527.6	3548.90	0.98%	[7.50]	mg/L
Ba 233.527*†	2213982.9	78333.84	3.54%	[15.0]	mg/L
Be 313.042*†	4174870.8	164247.26	3.93%	[1.125]	mg/L
Ca 317.933*†	122380.7	3377.57	2.76%	[60.0]	mg/L
Cd 226.502*†	113934.5	1079.10	0.95%	[1.50]	mg/L
Cd 228.802†	56506.1	443.89	0.79%	[1.50]	mg/L
Co 228.616*†	102348.2	860.64	0.84%	[3.75]	mg/L
Cr 267.716*†	131809.6	172.72	0.13%	[1.20]	mg/L
Cu 324.752*†	460699.4	486.96	0.11%	[1.875]	mg/L
Fe 273.955*†	172033.2	1227.47	0.71%	[7.50]	mg/L
K 766.490*†	161678.9	4272.49	2.64%	[54.0]	mg/L
Mg 279.077*†	281363.3	2368.60	0.84%	[15.0]	mg/L
Mn 257.610*†	949537.0	35747.04	3.76%	[1.50]	mg/L
Mo 202.031*†	10851.6	30.87	0.28%	[1.20]	mg/L
Na 589.592*†	311729.1	8145.45	2.61%	[72.0]	mg/L
Ni 231.604*†	29213.3	159.75	0.55%	[1.20]	mg/L
P 213.617*†	24044.9	98.89	0.41%	[12.0]	mg/L
P 214.914†	14838.6	83.88	0.57%	[12.0]	mg/L
Pb 220.353*†	58821.6	324.59	0.55%	[7.50]	mg/L
Sb 206.836†	16806.9	84.14	0.50%	[9.0]	mg/L
Sb 217.582*†	16658.3	41.12	0.25%	[9.0]	mg/L
Se 196.026*†	6568.5	22.47	0.34%	[3.0]	mg/L
Si 251.611*†	462456.0	5790.13	1.25%	[12.0]	mg/L
Sn 189.927*†	36126.2	115.62	0.32%	[6.0]	mg/L
Sn 242.170†	10326.1	18.77	0.18%	[6.0]	mg/L
Sr 407.771*†	192788.5	5110.10	2.65%	[0.60]	mg/L
Ti 334.940†	976395.1	35136.96	3.60%	[1.20]	mg/L
Ti 336.121*†	685017.2	1133.91	0.17%	[1.20]	mg/L
Tl 190.801*†	5421.4	36.43	0.67%	[3.0]	mg/L
V 292.402*†	489847.9	135.39	0.03%	[3.75]	mg/L
Zn 206.200*†	204183.0	2559.69	1.25%	[5.0]	mg/L
Zn 213.857*†	343511.8	1973.17	0.57%	[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: 3/21/2017 9:23:35 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	71268.3	92.74	%	1.063			1.15%
Tb 350	118052.1	94.81	%	1.949			2.06%
Ag 328.068*†	92478.5	0.5005	mg/L	0.00047	0.5005 mg/L	0.00047	0.09%
QC value within limits for Ag 328.068* Recovery = 100.09%							
Al 308.215*†	71473.6	4.192	mg/L	0.0048	4.192 mg/L	0.0048	0.11%
QC value within limits for Al 308.215* Recovery = 104.81%							
As 188.979†	10133.0	4.849	mg/L	0.1013	4.849 mg/L	0.1013	2.09%
QC value within limits for As 188.979 Recovery = 96.97%							
As 193.696*†	7026.9	4.823	mg/L	0.0933	4.823 mg/L	0.0933	1.93%
QC value within limits for As 193.696* Recovery = 96.46%							
B 249.677*†	123272.7	2.564	mg/L	0.0375	2.564 mg/L	0.0375	1.46%
QC value within limits for B 249.677* Recovery = 102.58%							
Ba 233.527*†	149911.1	1.016	mg/L	0.0068	1.016 mg/L	0.0068	0.67%
QC value within limits for Ba 233.527* Recovery = 101.57%							
Be 313.042*†	1836811.8	0.4950	mg/L	0.00052	0.4950 mg/L	0.00052	0.10%
QC value within limits for Be 313.042* Recovery = 98.99%							
Ca 317.933*†	37405.3	18.34	mg/L	0.508	18.34 mg/L	0.508	2.77%
QC value within limits for Ca 317.933* Recovery = 91.69%							
Cd 226.502*†	114238.6	1.504	mg/L	0.0136	1.504 mg/L	0.0136	0.91%
QC value within limits for Cd 226.502* Recovery = 100.27%							
Cd 228.802†	56408.5	1.497	mg/L	0.0138	1.497 mg/L	0.0138	0.92%
Co 228.616*†	28316.8	1.038	mg/L	0.0029	1.038 mg/L	0.0029	0.28%
QC value within limits for Co 228.616* Recovery = 103.75%							
Cr 267.716*†	44219.9	0.4026	mg/L	0.00048	0.4026 mg/L	0.00048	0.12%
QC value within limits for Cr 267.716* Recovery = 100.64%							
Cu 324.752*†	248416.6	1.011	mg/L	0.0043	1.011 mg/L	0.0043	0.43%
QC value within limits for Cu 324.752* Recovery = 101.10%							
Fe 273.955*†	2332447.6	101.7	mg/L	1.07	101.7 mg/L	1.07	1.06%
QC value within limits for Fe 273.955* Recovery = 101.69%							
K 766.490*†	22796.6	7.614	mg/L	0.2988	7.614 mg/L	0.2988	3.92%
QC value within limits for K 766.490* Recovery = 95.17%							
Mg 279.077*†	189089.6	10.08	mg/L	0.097	10.08 mg/L	0.097	0.97%
QC value within limits for Mg 279.077* Recovery = 100.81%							
Mn 257.610*†	640148.4	1.011	mg/L	0.0087	1.011 mg/L	0.0087	0.86%
QC value within limits for Mn 257.610* Recovery = 101.13%							
Mo 202.031*†	21790.3	2.410	mg/L	0.0564	2.410 mg/L	0.0564	2.34%
QC value within limits for Mo 202.031* Recovery = 96.39%							
Na 589.592*†	227882.7	52.63	mg/L	0.715	52.63 mg/L	0.715	1.36%
QC value within limits for Na 589.592* Recovery = 97.47%							
Ni 231.604*†	9769.4	0.4013	mg/L	0.00907	0.4013 mg/L	0.00907	2.26%
QC value within limits for Ni 231.604* Recovery = 100.32%							
P 213.617*†	9597.2	4.790	mg/L	0.1335	4.790 mg/L	0.1335	2.79%
QC value within limits for P 213.617* Recovery = 95.79%							
P 214.914†	6122.9	4.952	mg/L	0.1045	4.952 mg/L	0.1045	2.11%
Pb 220.353*†	39928.6	5.091	mg/L	0.0679	5.091 mg/L	0.0679	1.33%
QC value within limits for Pb 220.353* Recovery = 101.82%							
Sb 206.836†	3581.3	1.918	mg/L	0.0307	1.918 mg/L	0.0307	1.60%
QC value within limits for Sb 206.836 Recovery = 95.89%							
Sb 217.582*†	3577.7	1.933	mg/L	0.0401	1.933 mg/L	0.0401	2.08%
QC value within limits for Sb 217.582* Recovery = 96.65%							
Se 196.026*†	4206.5	1.921	mg/L	0.0445	1.921 mg/L	0.0445	2.31%
QC value within limits for Se 196.026* Recovery = 96.06%							
Si 251.611*†	370204.4	9.606	mg/L	0.1094	9.606 mg/L	0.1094	1.14%
QC value within limits for Si 251.611* Recovery = 96.06%							
Sn 189.927*†	14916.6	2.477	mg/L	0.0565	2.477 mg/L	0.0565	2.28%
QC value within limits for Sn 189.927* Recovery = 99.10%							
Sn 242.170†	4779.3	2.777	mg/L	0.0786	2.777 mg/L	0.0786	2.83%
Sr 407.771*†	62235.0	0.1937	mg/L	0.00396	0.1937 mg/L	0.00396	2.04%
QC value within limits for Sr 407.771* Recovery = 96.84%							

Ti 334.940†	3907863.9	4.803 mg/L	0.0465	4.803 mg/L	0.0465	0.97%
Ti 336.121*†	2762229.8	4.839 mg/L	0.0503	4.839 mg/L	0.0503	1.04%
QC value within limits for Ti 336.121* Recovery = 96.78%						
Tl 190.801*†	3520.4	1.948 mg/L	0.0393	1.948 mg/L	0.0393	2.02%
QC value within limits for Tl 190.801* Recovery = 97.40%						
V 292.402*†	131244.8	1.003 mg/L	0.0006	1.003 mg/L	0.0006	0.06%
QC value within limits for V 292.402* Recovery = 100.31%						
Zn 206.200*†	62600.6	1.533 mg/L	0.0274	1.533 mg/L	0.0274	1.79%
QC value within limits for Zn 206.200* Recovery = 102.20%						
Zn 213.857*†	106049.7	1.535 mg/L	0.0126	1.535 mg/L	0.0126	0.82%
QC value within limits for Zn 213.857* Recovery = 102.34%						

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: 3/21/2017 9:24:33 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	77502.4	100.8	%	1.13			1.12%
Tb 350	125901.0	101.1	%	1.16			1.15%
Ag 328.068*†	0.9	0.0000	mg/L	0.00114	0.0000 mg/L	0.00114	>999.9%
Al 308.215*†	-108.6	-0.0064	mg/L	0.00110	-0.0064 mg/L	0.00110	17.19%
As 188.979†	-7.4	-0.0035	mg/L	0.00039	-0.0035 mg/L	0.00039	11.07%
As 193.696*†	-0.5	-0.0003	mg/L	0.00258	-0.0003 mg/L	0.00258	825.23%
QC value within limits for As 193.696* Recovery = Not calculated							
B 249.677*†	3152.8	0.0656	mg/L	0.00068	0.0656 mg/L	0.00068	1.04%
QC value greater than the upper limit for B 249.677* Recovery = Not calculated							
Ba 233.527*†	-5.1	-0.0000	mg/L	0.00002	-0.0000 mg/L	0.00002	55.79%
Be 313.042*†	69.4	0.0000	mg/L	0.00001	0.0000 mg/L	0.00001	72.66%
Ca 317.933*†	-1.9	-0.0009	mg/L	0.00091	-0.0009 mg/L	0.00091	99.67%
Cd 226.502*†	6.4	0.0001	mg/L	0.00027	0.0001 mg/L	0.00027	316.53%
Cd 228.802†	11.8	0.0003	mg/L	0.00009	0.0003 mg/L	0.00009	30.00%
Co 228.616*†	2.2	0.0001	mg/L	0.00047	0.0001 mg/L	0.00047	569.35%
Cr 267.716*†	46.8	0.0004	mg/L	0.00004	0.0004 mg/L	0.00004	8.27%
Cu 324.752*†	40.1	0.0002	mg/L	0.00054	0.0002 mg/L	0.00054	328.92%
Fe 273.955*†	116.0	0.0051	mg/L	0.00017	0.0051 mg/L	0.00017	3.29%
K 766.490*†	-70.9	-0.0237	mg/L	0.00783	-0.0237 mg/L	0.00783	33.06%
Mg 279.077*†	12.6	0.0007	mg/L	0.00304	0.0007 mg/L	0.00304	452.87%
Mn 257.610*†	6.4	0.0000	mg/L	0.00004	0.0000 mg/L	0.00004	405.56%
Mo 202.031*†	10.2	0.0011	mg/L	0.00001	0.0011 mg/L	0.00001	0.64%
Na 589.592*†	179.9	0.0416	mg/L	0.00222	0.0416 mg/L	0.00222	5.34%
Ni 231.604*†	2.4	0.0001	mg/L	0.00026	0.0001 mg/L	0.00026	266.09%
P 213.617*†	-18.0	-0.0090	mg/L	0.01548	-0.0090 mg/L	0.01548	172.20%
P 214.914†	-8.2	-0.0066	mg/L	0.00223	-0.0066 mg/L	0.00223	33.78%
Pb 220.353*†	7.4	0.0009	mg/L	0.00158	0.0009 mg/L	0.00158	167.99%
QC value within limits for Pb 220.353* Recovery = Not calculated							
Sb 206.836†	6.3	0.0034	mg/L	0.00041	0.0034 mg/L	0.00041	12.06%
Sb 217.582*†	9.1	0.0049	mg/L	0.00097	0.0049 mg/L	0.00097	19.69%
QC value within limits for Sb 217.582* Recovery = Not calculated							
Se 196.026*†	9.0	0.0041	mg/L	0.00444	0.0041 mg/L	0.00444	107.40%
QC value within limits for Se 196.026* Recovery = Not calculated							
Si 251.611*†	-110.9	-0.0029	mg/L	0.00265	-0.0029 mg/L	0.00265	92.22%
QC value within limits for Si 251.611* Recovery = Not calculated							
Sn 189.927*†	26.8	0.0045	mg/L	0.00278	0.0045 mg/L	0.00278	62.44%
Sn 242.170†	13.1	0.0076	mg/L	0.00961	0.0076 mg/L	0.00961	126.47%
Sr 407.771*†	16.9	0.0001	mg/L	0.00005	0.0001 mg/L	0.00005	96.17%
Ti 334.940†	1125.7	0.0014	mg/L	0.00050	0.0014 mg/L	0.00050	36.26%
Ti 336.121*†	664.5	0.0012	mg/L	0.00032	0.0012 mg/L	0.00032	27.17%
Tl 190.801*†	6.6	0.0036	mg/L	0.00628	0.0036 mg/L	0.00628	172.65%
QC value within limits for Tl 190.801* Recovery = Not calculated							
V 292.402*†	-69.7	-0.0005	mg/L	0.00037	-0.0005 mg/L	0.00037	69.63%
Zn 206.200*†	27.3	0.0007	mg/L	0.00043	0.0007 mg/L	0.00043	64.63%
Zn 213.857*†	53.8	0.0008	mg/L	0.00014	0.0008 mg/L	0.00014	17.83%
QC Failed. Retry.							

Sequence No.: 5
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 1
Date Collected: 3/21/2017 9:25:19 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD

Sequence No.: 8
 Sample ID: ICS_A - M110116B
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 8
 Date Collected: 3/21/2017 9:35:21 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Mean Data: ICS_A - M110116B

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	65990.2	85.87	%	0.518			0.60%
Tb 350	110284.8	88.57	%	1.102			1.24%
Ag 328.068*†	262.7	0.0014	mg/L	0.00175	0.0014 mg/L	0.00175	122.97%
Al 308.215*†	426482.3	25.02	mg/L	0.048	25.02 mg/L	0.048	0.19%
As 188.979†	-1.2	-0.0006	mg/L	0.00618	-0.0006 mg/L	0.00618	>999.9%
As 193.696*†	8.7	0.0059	mg/L	0.00255	0.0059 mg/L	0.00255	42.89%
B 249.677*†	-87.1	-0.0018	mg/L	0.00150	-0.0018 mg/L	0.00150	82.91%
Ba 233.527*†	381.3	0.0026	mg/L	0.00036	0.0026 mg/L	0.00036	13.83%
Be 313.042*†	-234.8	-0.0001	mg/L	0.00002	-0.0001 mg/L	0.00002	35.47%
Ca 317.933*†	250646.2	122.9	mg/L	3.81	122.9 mg/L	3.81	3.10%
Cd 226.502*†	114.6	0.0015	mg/L	0.00016	0.0015 mg/L	0.00016	10.50%
Cd 228.802†	-3.0	-0.0001	mg/L	0.00018	-0.0001 mg/L	0.00018	227.68%
Co 228.616*†	15.3	0.0006	mg/L	0.00006	0.0006 mg/L	0.00006	11.56%
Cr 267.716*†	-131.1	-0.0012	mg/L	0.00003	-0.0012 mg/L	0.00003	2.15%
Cu 324.752*†	-352.1	-0.0014	mg/L	0.00015	-0.0014 mg/L	0.00015	10.55%
Fe 273.955*†	2217554.0	96.68	mg/L	0.333	96.68 mg/L	0.333	0.34%
K 766.490*†	316.7	0.1058	mg/L	0.09262	0.1058 mg/L	0.09262	87.58%
Mg 279.077*†	1121534.8	59.79	mg/L	0.252	59.79 mg/L	0.252	0.42%
Mn 257.610*†	88.8	0.0001	mg/L	0.00029	0.0001 mg/L	0.00029	206.64%
Mo 202.031*†	7.7	0.0009	mg/L	0.00086	0.0009 mg/L	0.00086	100.59%
Na 589.592*†	95415.3	22.04	mg/L	0.512	22.04 mg/L	0.512	2.32%
Ni 231.604*†	1.6	0.0001	mg/L	0.00075	0.0001 mg/L	0.00075	>999.9%
P 213.617*†	-281.5	-0.1405	mg/L	0.00320	-0.1405 mg/L	0.00320	2.28%
P 214.914†	36.5	0.0295	mg/L	0.00942	0.0295 mg/L	0.00942	31.95%
Pb 220.353*†	-43.9	-0.0056	mg/L	0.00147	-0.0056 mg/L	0.00147	26.28%
Sb 206.836†	9.6	0.0051	mg/L	0.00239	0.0051 mg/L	0.00239	46.36%
Sb 217.582*†	-13.8	-0.0074	mg/L	0.00082	-0.0074 mg/L	0.00082	10.98%
Se 196.026*†	-19.1	-0.0087	mg/L	0.00466	-0.0087 mg/L	0.00466	53.53%
Si 251.611*†	-356.2	-0.0092	mg/L	0.00292	-0.0092 mg/L	0.00292	31.59%
Sn 189.927*†	-4.5	-0.0008	mg/L	0.00194	-0.0008 mg/L	0.00194	257.86%
Sn 242.170†	430.1	0.2499	mg/L	0.02421	0.2499 mg/L	0.02421	9.69%
Sr 407.771*†	1136.3	0.0035	mg/L	0.00011	0.0035 mg/L	0.00011	3.23%
Ti 334.940†	-2355.0	-0.0029	mg/L	0.00024	-0.0029 mg/L	0.00024	8.25%
Ti 336.121*†	-993.5	-0.0017	mg/L	0.00028	-0.0017 mg/L	0.00028	15.89%
Tl 190.801*†	-6.1	-0.0034	mg/L	0.00064	-0.0034 mg/L	0.00064	18.78%
V 292.402*†	289.0	0.0006	mg/L	0.00041	0.0006 mg/L	0.00041	65.32%
Zn 206.200*†	85.1	0.0021	mg/L	0.00063	0.0021 mg/L	0.00063	30.12%
Zn 213.857*†	633.7	0.0012	mg/L	0.00080	0.0012 mg/L	0.00080	67.38%

Sequence No.: 9

Sample ID: ICS_AB - M110116A

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 9

Date Collected: 3/21/2017 9:36:12 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1

Mean Data: ICS_AB - M110116A

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	67542.7	87.89 %	0.559			0.64%
Tb 350	112022.9	89.96 %	0.899			1.00%
Ag 328.068*†	57762.2	0.3126 mg/L	0.00157	0.3126 mg/L	0.00157	0.50%
Al 308.215*†	425291.0	24.95 mg/L	0.177	24.95 mg/L	0.177	0.71%
As 188.979†	2193.2	1.049 mg/L	0.0023	1.049 mg/L	0.0023	0.21%
As 193.696*†	1521.8	1.045 mg/L	0.0001	1.045 mg/L	0.0001	0.01%
B 249.677*†	23276.8	0.4842 mg/L	0.00088	0.4842 mg/L	0.00088	0.18%
Ba 233.527*†	46141.6	0.3126 mg/L	0.00202	0.3126 mg/L	0.00202	0.64%
Be 313.042*†	394644.1	0.1063 mg/L	0.00083	0.1063 mg/L	0.00083	0.78%
Ca 317.933*†	247585.2	121.4 mg/L	1.56	121.4 mg/L	1.56	1.29%
Cd 226.502*†	22862.1	0.3010 mg/L	0.00462	0.3010 mg/L	0.00462	1.54%
Cd 228.802†	11498.0	0.3052 mg/L	0.00004	0.3052 mg/L	0.00004	0.01%
Co 228.616*†	8505.7	0.3116 mg/L	0.00018	0.3116 mg/L	0.00018	0.06%
Cr 267.716*†	33759.8	0.3074 mg/L	0.00030	0.3074 mg/L	0.00030	0.10%
Cu 324.752*†	78163.1	0.3181 mg/L	0.00078	0.3181 mg/L	0.00078	0.24%
Fe 273.955*†	2234391.0	97.41 mg/L	0.877	97.41 mg/L	0.877	0.90%
K 766.490*†	65776.9	21.97 mg/L	0.275	21.97 mg/L	0.275	1.25%
Mg 279.077*†	1128448.0	60.16 mg/L	0.737	60.16 mg/L	0.737	1.23%
Mn 257.610*†	130254.7	0.2058 mg/L	0.00131	0.2058 mg/L	0.00131	0.64%
Mo 202.031*†	2782.9	0.3077 mg/L	0.00001	0.3077 mg/L	0.00001	0.00%
Na 589.592*†	92637.2	21.40 mg/L	0.232	21.40 mg/L	0.232	1.09%
Ni 231.604*†	7637.7	0.3137 mg/L	0.00048	0.3137 mg/L	0.00048	0.15%
P 213.617*†	-226.1	-0.1128 mg/L	0.01765	-0.1128 mg/L	0.01765	15.64%
P 214.914†	39.6	0.0320 mg/L	0.00125	0.0320 mg/L	0.00125	3.91%
Pb 220.353*†	7931.3	1.011 mg/L	0.0003	1.011 mg/L	0.0003	0.03%
Sb 206.836†	1872.8	1.003 mg/L	0.0023	1.003 mg/L	0.0023	0.23%
Sb 217.582*†	1837.3	0.9927 mg/L	0.00448	0.9927 mg/L	0.00448	0.45%
Se 196.026*†	1145.6	0.5232 mg/L	0.00330	0.5232 mg/L	0.00330	0.63%
Si 251.611*†	7615.6	0.1976 mg/L	0.00232	0.1976 mg/L	0.00232	1.18%
Sn 189.927*†	-46.7	-0.0078 mg/L	0.00395	-0.0078 mg/L	0.00395	50.95%
Sn 242.170†	459.0	0.2667 mg/L	0.03572	0.2667 mg/L	0.03572	13.39%
Sr 407.771*†	852.2	0.0027 mg/L	0.00028	0.0027 mg/L	0.00028	10.62%
Ti 334.940†	827516.6	1.017 mg/L	0.0049	1.017 mg/L	0.0049	0.48%
Ti 336.121*†	581881.5	1.019 mg/L	0.0059	1.019 mg/L	0.0059	0.58%
Tl 190.801*†	1862.5	1.031 mg/L	0.0067	1.031 mg/L	0.0067	0.65%
V 292.402*†	39815.4	0.3032 mg/L	0.00303	0.3032 mg/L	0.00303	1.00%
Zn 206.200*†	12723.4	0.3116 mg/L	0.00142	0.3116 mg/L	0.00142	0.46%
Zn 213.857*†	21857.0	0.3100 mg/L	0.00061	0.3100 mg/L	0.00061	0.20%

Sequence No.: 22
 Sample ID: CCV= STD3x0.5
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 3
 Date Collected: 3/21/2017 10:31:09 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	72274.0	94.05 %	1.473			1.57%
Tb 350	120594.0	96.85 %	1.828			1.89%
Ag 328.068*†	66747.2	0.3612 mg/L	0.00208	0.3612 mg/L	0.00208	0.58%
QC value within limits for Ag 328.068* Recovery = 96.32%						
Al 308.215*†	226045.3	13.26 mg/L	0.007	13.26 mg/L	0.007	0.06%
QC value within limits for Al 308.215* Recovery = 98.21%						
As 188.979†	7565.5	3.620 mg/L	0.0385	3.620 mg/L	0.0385	1.06%
QC value within limits for As 188.979 Recovery = 96.53%						
As 193.696*†	5228.0	3.589 mg/L	0.0168	3.589 mg/L	0.0168	0.47%
QC value within limits for As 193.696* Recovery = 95.69%						
B 249.677*†	172180.5	3.582 mg/L	0.0207	3.582 mg/L	0.0207	0.58%
QC value within limits for B 249.677* Recovery = 95.52%						
Ba 233.527*†	1093169.9	7.406 mg/L	0.0269	7.406 mg/L	0.0269	0.36%
QC value within limits for Ba 233.527* Recovery = 98.75%						
Be 313.042*†	2027137.5	0.5463 mg/L	0.00180	0.5463 mg/L	0.00180	0.33%
QC value within limits for Be 313.042* Recovery = 97.11%						
Ca 317.933*†	58238.0	28.55 mg/L	1.313	28.55 mg/L	1.313	4.60%
QC value within limits for Ca 317.933* Recovery = 95.18%						
Cd 226.502*†	55228.4	0.7271 mg/L	0.00671	0.7271 mg/L	0.00671	0.92%
QC value within limits for Cd 226.502* Recovery = 96.95%						
Cd 228.802†	27713.0	0.7357 mg/L	0.00332	0.7357 mg/L	0.00332	0.45%
Co 228.616*†	50715.8	1.858 mg/L	0.0131	1.858 mg/L	0.0131	0.70%
QC value within limits for Co 228.616* Recovery = 99.10%						
Cr 267.716*†	64490.3	0.5871 mg/L	0.00021	0.5871 mg/L	0.00021	0.04%
QC value within limits for Cr 267.716* Recovery = 97.85%						
Cu 324.752*†	224129.7	0.9122 mg/L	0.00531	0.9122 mg/L	0.00531	0.58%
QC value within limits for Cu 324.752* Recovery = 97.30%						
Fe 273.955*†	84471.9	3.683 mg/L	0.0245	3.683 mg/L	0.0245	0.67%
QC value within limits for Fe 273.955* Recovery = 98.20%						
K 766.490*†	77355.1	25.84 mg/L	1.096	25.84 mg/L	1.096	4.24%
QC value within limits for K 766.490* Recovery = 95.69%						
Mg 279.077*†	137507.2	7.331 mg/L	0.0438	7.331 mg/L	0.0438	0.60%
QC value within limits for Mg 279.077* Recovery = 97.74%						
Mn 257.610*†	463784.7	0.7326 mg/L	0.00334	0.7326 mg/L	0.00334	0.46%
QC value within limits for Mn 257.610* Recovery = 97.69%						
Mo 202.031*†	5384.8	0.5955 mg/L	0.00838	0.5955 mg/L	0.00838	1.41%
QC value within limits for Mo 202.031* Recovery = 99.24%						
Na 589.592*†	153818.8	35.53 mg/L	1.514	35.53 mg/L	1.514	4.26%
QC value within limits for Na 589.592* Recovery = 98.69%						
Ni 231.604*†	14143.3	0.5810 mg/L	0.00791	0.5810 mg/L	0.00791	1.36%
QC value within limits for Ni 231.604* Recovery = 96.83%						
P 213.617*†	11158.0	5.569 mg/L	0.0721	5.569 mg/L	0.0721	1.30%
QC value within limits for P 213.617* Recovery = 92.81%						
P 214.914†	7192.7	5.817 mg/L	0.0771	5.817 mg/L	0.0771	1.33%
Pb 220.353*†	28523.3	3.637 mg/L	0.0477	3.637 mg/L	0.0477	1.31%
QC value within limits for Pb 220.353* Recovery = 96.98%						
Sb 206.836†	8206.0	4.394 mg/L	0.0499	4.394 mg/L	0.0499	1.14%
QC value within limits for Sb 206.836 Recovery = 97.65%						
Sb 217.582*†	8141.7	4.399 mg/L	0.0512	4.399 mg/L	0.0512	1.16%
QC value within limits for Sb 217.582* Recovery = 97.75%						
Se 196.026*†	3146.7	1.437 mg/L	0.0142	1.437 mg/L	0.0142	0.99%
QC value within limits for Se 196.026* Recovery = 95.81%						
Si 251.611*†	219011.8	5.683 mg/L	0.0013	5.683 mg/L	0.0013	0.02%
QC value within limits for Si 251.611* Recovery = 94.72%						
Sn 189.927*†	17660.8	2.933 mg/L	0.0283	2.933 mg/L	0.0283	0.97%
QC value within limits for Sn 189.927* Recovery = 97.77%						
Sn 242.170†	5100.5	2.964 mg/L	0.0486	2.964 mg/L	0.0486	1.64%
Sr 407.771*†	96201.2	0.2994 mg/L	0.01208	0.2994 mg/L	0.01208	4.03%
QC value within limits for Sr 407.771* Recovery = 99.80%						

Ti 334.940†	479421.7	0.5892 mg/L	0.00073	0.5892 mg/L	0.00073	0.12%
Ti 336.121*†	338162.9	0.5924 mg/L	0.00048	0.5924 mg/L	0.00048	0.08%
QC value within limits for Ti 336.121* Recovery = 98.73%						
Tl 190.801*†	2734.2	1.513 mg/L	0.0135	1.513 mg/L	0.0135	0.89%
QC value within limits for Tl 190.801* Recovery = 100.87%						
V 292.402*†	240233.9	1.839 mg/L	0.0003	1.839 mg/L	0.0003	0.02%
QC value within limits for V 292.402* Recovery = 98.08%						
Zn 206.200*†	96581.2	2.365 mg/L	0.0228	2.365 mg/L	0.0228	0.96%
QC value within limits for Zn 206.200* Recovery = 94.60%						

All analyte(s) passed QC.

Sequence No.: 23
 Sample ID: CCB-R12091601
 Analyst: 935 icp 7300
 Initial Sample Wt:
 Dilution:
 Wash Time: 15

Autosampler Location: 1
 Date Collected: 3/21/2017 10:32:02 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	82209.1	107.0 %	3.67			3.43%
Tb 350	133944.4	107.6 %	3.27			3.04%
Ag 328.068*†	18.3	0.0001 mg/L	0.00051	0.0001 mg/L	0.00051	511.42%
Al 308.215*†	-196.3	-0.0115 mg/L	0.00025	-0.0115 mg/L	0.00025	2.17%
As 188.979†	-7.5	-0.0036 mg/L	0.00119	-0.0036 mg/L	0.00119	33.13%
As 193.696*†	-0.3	-0.0002 mg/L	0.00449	-0.0002 mg/L	0.00449	>999.9%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	1843.3	0.0383 mg/L	0.00123	0.0383 mg/L	0.00123	3.21%
Ba 233.527*†	6.7	0.0000 mg/L	0.00003	0.0000 mg/L	0.00003	60.04%
Be 313.042*†	34.1	0.0000 mg/L	0.00001	0.0000 mg/L	0.00001	136.02%
Ca 317.933*†	3.9	0.0019 mg/L	0.00649	0.0019 mg/L	0.00649	341.74%
Cd 226.502*†	-6.0	-0.0001 mg/L	0.00001	-0.0001 mg/L	0.00001	13.11%
Cd 228.802†	3.2	0.0001 mg/L	0.00006	0.0001 mg/L	0.00006	71.12%
Co 228.616*†	1.3	0.0000 mg/L	0.00057	0.0000 mg/L	0.00057	>999.9%
Cr 267.716*†	-42.7	-0.0004 mg/L	0.00094	-0.0004 mg/L	0.00094	243.04%
Cu 324.752*†	-135.1	-0.0006 mg/L	0.00016	-0.0006 mg/L	0.00016	29.35%
Fe 273.955*†	81.9	0.0036 mg/L	0.00037	0.0036 mg/L	0.00037	10.47%
K 766.490*†	26.9	0.0090 mg/L	0.01569	0.0090 mg/L	0.01569	174.62%
Mg 279.077*†	433.1	0.0231 mg/L	0.00866	0.0231 mg/L	0.00866	37.50%
Mn 257.610*†	6.7	0.0000 mg/L	0.00006	0.0000 mg/L	0.00006	596.10%
Mo 202.031*†	12.7	0.0014 mg/L	0.00096	0.0014 mg/L	0.00096	68.15%
Na 589.592*†	209.7	0.0484 mg/L	0.02128	0.0484 mg/L	0.02128	43.92%
Ni 231.604*†	-2.6	-0.0001 mg/L	0.00073	-0.0001 mg/L	0.00073	693.62%
P 213.617*†	2.6	0.0013 mg/L	0.00959	0.0013 mg/L	0.00959	740.15%
P 214.914†	-11.0	-0.0089 mg/L	0.00067	-0.0089 mg/L	0.00067	7.50%
Pb 220.353*†	1.3	0.0002 mg/L	0.00072	0.0002 mg/L	0.00072	430.85%
Sb 206.836†	1.6	0.0008 mg/L	0.00087	0.0008 mg/L	0.00087	102.63%
Sb 217.582*†	11.9	0.0065 mg/L	0.00251	0.0065 mg/L	0.00251	38.89%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	-10.4	-0.0048 mg/L	0.00784	-0.0048 mg/L	0.00784	164.35%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	-462.2	-0.0120 mg/L	0.01106	-0.0120 mg/L	0.01106	92.25%
Sn 189.927*†	9.1	0.0015 mg/L	0.00012	0.0015 mg/L	0.00012	8.02%
Sn 242.170†	31.8	0.0185 mg/L	0.00577	0.0185 mg/L	0.00577	31.21%
Sr 407.771*†	29.7	0.0001 mg/L	0.00000	0.0001 mg/L	0.00000	2.64%
Ti 334.940†	518.7	0.0006 mg/L	0.00007	0.0006 mg/L	0.00007	10.60%
Ti 336.121*†	371.6	0.0007 mg/L	0.00030	0.0007 mg/L	0.00030	46.55%
Tl 190.801*†	1.9	0.0011 mg/L	0.00384	0.0011 mg/L	0.00384	363.36%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	27.8	0.0002 mg/L	0.00098	0.0002 mg/L	0.00098	459.60%
Zn 206.200*†	-67.5	-0.0017 mg/L	0.00008	-0.0017 mg/L	0.00008	4.93%
QC value within limits for Zn 206.200* Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 2

Sample ID: CCV= STD3x0.5

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 3

Date Collected: 3/21/2017 10:35:51 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	75060.0	97.67 %	0.006			0.01%
Tb 350	125500.9	100.8 %	0.28			0.28%
Ag 328.068*†	67492.7	0.3652 mg/L	0.00420	0.3652 mg/L	0.00420	1.15%
QC value within limits for Ag 328.068* Recovery = 97.40%						
Al 308.215*†	227030.9	13.32 mg/L	0.051	13.32 mg/L	0.051	0.38%
QC value within limits for Al 308.215* Recovery = 98.64%						
As 188.979†	7503.9	3.591 mg/L	0.0540	3.591 mg/L	0.0540	1.50%
QC value within limits for As 188.979 Recovery = 95.75%						
As 193.696*†	5201.7	3.570 mg/L	0.0563	3.570 mg/L	0.0563	1.58%
QC value within limits for As 193.696* Recovery = 95.21%						
B 249.677*†	178435.1	3.712 mg/L	0.0658	3.712 mg/L	0.0658	1.77%
QC value within limits for B 249.677* Recovery = 98.99%						
Ba 233.527*†	1108695.4	7.512 mg/L	0.0480	7.512 mg/L	0.0480	0.64%
QC value within limits for Ba 233.527* Recovery = 100.15%						
Be 313.042*†	2074430.9	0.5590 mg/L	0.00141	0.5590 mg/L	0.00141	0.25%
QC value within limits for Be 313.042* Recovery = 99.38%						
Ca 317.933*†	57782.9	28.33 mg/L	0.601	28.33 mg/L	0.601	2.12%
QC value within limits for Ca 317.933* Recovery = 94.43%						
Cd 226.502*†	56881.3	0.7489 mg/L	0.00811	0.7489 mg/L	0.00811	1.08%
QC value within limits for Cd 226.502* Recovery = 99.85%						
Cd 228.802†	28241.4	0.7497 mg/L	0.00746	0.7497 mg/L	0.00746	1.00%
Co 228.616*†	51734.3	1.896 mg/L	0.0227	1.896 mg/L	0.0227	1.20%
QC value within limits for Co 228.616* Recovery = 101.09%						
Cr 267.716*†	65628.2	0.5975 mg/L	0.00380	0.5975 mg/L	0.00380	0.64%
QC value within limits for Cr 267.716* Recovery = 99.58%						
Cu 324.752*†	226484.6	0.9218 mg/L	0.00016	0.9218 mg/L	0.00016	0.02%
QC value within limits for Cu 324.752* Recovery = 98.32%						
Fe 273.955*†	85962.3	3.748 mg/L	0.0287	3.748 mg/L	0.0287	0.77%
QC value within limits for Fe 273.955* Recovery = 99.94%						
K 766.490*†	75714.6	25.29 mg/L	0.489	25.29 mg/L	0.489	1.93%
QC value within limits for K 766.490* Recovery = 93.66%						
Mg 279.077*†	141188.4	7.527 mg/L	0.0509	7.527 mg/L	0.0509	0.68%
QC value within limits for Mg 279.077* Recovery = 100.36%						
Mn 257.610*†	472983.6	0.7472 mg/L	0.00507	0.7472 mg/L	0.00507	0.68%
QC value within limits for Mn 257.610* Recovery = 99.62%						
Mo 202.031*†	5312.7	0.5875 mg/L	0.00456	0.5875 mg/L	0.00456	0.78%
QC value within limits for Mo 202.031* Recovery = 97.92%						
Na 589.592*†	151451.8	34.98 mg/L	0.392	34.98 mg/L	0.392	1.12%
QC value within limits for Na 589.592* Recovery = 97.17%						
Ni 231.604*†	14028.3	0.5762 mg/L	0.00818	0.5762 mg/L	0.00818	1.42%
QC value within limits for Ni 231.604* Recovery = 96.04%						
P 213.617*†	11095.1	5.537 mg/L	0.0877	5.537 mg/L	0.0877	1.58%
QC value within limits for P 213.617* Recovery = 92.29%						
P 214.914†	7143.6	5.777 mg/L	0.1022	5.777 mg/L	0.1022	1.77%
Pb 220.353*†	29299.0	3.736 mg/L	0.0333	3.736 mg/L	0.0333	0.89%
QC value within limits for Pb 220.353* Recovery = 99.62%						
Sb 206.836†	8100.0	4.337 mg/L	0.0617	4.337 mg/L	0.0617	1.42%
QC value within limits for Sb 206.836 Recovery = 96.39%						
Sb 217.582*†	8053.3	4.351 mg/L	0.0573	4.351 mg/L	0.0573	1.32%
QC value within limits for Sb 217.582* Recovery = 96.69%						
Se 196.026*†	3161.6	1.444 mg/L	0.0116	1.444 mg/L	0.0116	0.80%
QC value within limits for Se 196.026* Recovery = 96.27%						
Si 251.611*†	223408.6	5.797 mg/L	0.0681	5.797 mg/L	0.0681	1.17%
QC value within limits for Si 251.611* Recovery = 96.62%						
Sn 189.927*†	17522.3	2.910 mg/L	0.0401	2.910 mg/L	0.0401	1.38%
QC value within limits for Sn 189.927* Recovery = 97.01%						
Sn 242.170†	5043.8	2.931 mg/L	0.0370	2.931 mg/L	0.0370	1.26%
Sr 407.771*†	93924.8	0.2923 mg/L	0.00423	0.2923 mg/L	0.00423	1.45%
QC value within limits for Sr 407.771* Recovery = 97.44%						

Ti 334.940†	481678.8	0.5920 mg/L	0.00213	0.5920 mg/L	0.00213	0.36%
Ti 336.121*†	340867.6	0.5971 mg/L	0.00411	0.5971 mg/L	0.00411	0.69%
QC value within limits for Ti 336.121* Recovery = 99.52%						
Tl 190.801*†	2682.9	1.485 mg/L	0.0223	1.485 mg/L	0.0223	1.50%
QC value within limits for Tl 190.801* Recovery = 98.97%						
V 292.402*†	244028.0	1.868 mg/L	0.0113	1.868 mg/L	0.0113	0.60%
QC value within limits for V 292.402* Recovery = 99.63%						
Zn 206.200*†	99844.7	2.445 mg/L	0.0288	2.445 mg/L	0.0288	1.18%
QC value within limits for Zn 206.200* Recovery = 97.80%						

All analyte(s) passed QC.

Sequence No.: 3

Sample ID: CCB-R12091601

Analyst: 935 icp 7300

Initial Sample Wt:

Dilution:

Wash Time: 15

Autosampler Location: 1

Date Collected: 3/21/2017 10:36:44 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	82425.1	107.3 %	0.31			0.29%
Tb 350	134881.2	108.3 %	0.17			0.16%
Ag 328.068*†	78.4	0.0004 mg/L	0.00121	0.0004 mg/L	0.00121	284.97%
Al 308.215*†	-328.8	-0.0193 mg/L	0.00438	-0.0193 mg/L	0.00438	22.71%
As 188.979†	-4.4	-0.0021 mg/L	0.00030	-0.0021 mg/L	0.00030	14.28%
As 193.696*†	-5.6	-0.0038 mg/L	0.00243	-0.0038 mg/L	0.00243	63.44%
QC value within limits for As 193.696* Recovery = Not calculated						
B 249.677*†	2323.7	0.0483 mg/L	0.00354	0.0483 mg/L	0.00354	7.32%
Ba 233.527*†	25.3	0.0002 mg/L	0.00011	0.0002 mg/L	0.00011	66.44%
Be 313.042*†	-41.1	-0.0000 mg/L	0.00001	-0.0000 mg/L	0.00001	66.39%
Ca 317.933*†	-0.0	-0.0000 mg/L	0.00078	-0.0000 mg/L	0.00078	>999.9%
Cd 226.502*†	-9.4	-0.0001 mg/L	0.00007	-0.0001 mg/L	0.00007	53.30%
Cd 228.802†	3.8	0.0001 mg/L	0.00004	0.0001 mg/L	0.00004	36.22%
Co 228.616*†	2.5	0.0001 mg/L	0.00033	0.0001 mg/L	0.00033	365.02%
Cr 267.716*†	-22.7	-0.0002 mg/L	0.00189	-0.0002 mg/L	0.00189	914.83%
Cu 324.752*†	-153.0	-0.0006 mg/L	0.00067	-0.0006 mg/L	0.00067	108.33%
Fe 273.955*†	45.1	0.0020 mg/L	0.00064	0.0020 mg/L	0.00064	32.56%
K 766.490*†	6.0	0.0020 mg/L	0.07794	0.0020 mg/L	0.07794	>999.9%
Mg 279.077*†	144.3	0.0077 mg/L	0.00319	0.0077 mg/L	0.00319	41.48%
Mn 257.610*†	17.1	0.0000 mg/L	0.00002	0.0000 mg/L	0.00002	88.55%
Mo 202.031*†	3.2	0.0004 mg/L	0.00089	0.0004 mg/L	0.00089	248.02%
Na 589.592*†	45.6	0.0105 mg/L	0.02470	0.0105 mg/L	0.02470	234.73%
Ni 231.604*†	3.8	0.0002 mg/L	0.00022	0.0002 mg/L	0.00022	138.01%
P 213.617*†	5.8	0.0029 mg/L	0.00775	0.0029 mg/L	0.00775	266.84%
P 214.914†	0.2	0.0002 mg/L	0.00650	0.0002 mg/L	0.00650	>999.9%
Pb 220.353*†	1.4	0.0002 mg/L	0.00288	0.0002 mg/L	0.00288	>999.9%
Sb 206.836†	7.4	0.0040 mg/L	0.00691	0.0040 mg/L	0.00691	174.10%
Sb 217.582*†	1.2	0.0006 mg/L	0.00583	0.0006 mg/L	0.00583	913.27%
QC value within limits for Sb 217.582* Recovery = Not calculated						
Se 196.026*†	9.7	0.0044 mg/L	0.00119	0.0044 mg/L	0.00119	27.02%
QC value within limits for Se 196.026* Recovery = Not calculated						
Si 251.611*†	-739.5	-0.0192 mg/L	0.00211	-0.0192 mg/L	0.00211	10.97%
Sn 189.927*†	19.3	0.0032 mg/L	0.00134	0.0032 mg/L	0.00134	41.98%
Sn 242.170†	25.9	0.0150 mg/L	0.00487	0.0150 mg/L	0.00487	32.39%
Sr 407.771*†	34.3	0.0001 mg/L	0.00009	0.0001 mg/L	0.00009	80.74%
Ti 334.940†	499.5	0.0006 mg/L	0.00021	0.0006 mg/L	0.00021	35.01%
Ti 336.121*†	27.9	0.0000 mg/L	0.00025	0.0000 mg/L	0.00025	506.89%
Tl 190.801*†	1.7	0.0009 mg/L	0.00034	0.0009 mg/L	0.00034	36.54%
QC value within limits for Tl 190.801* Recovery = Not calculated						
V 292.402*†	29.7	0.0002 mg/L	0.00085	0.0002 mg/L	0.00085	373.13%
Zn 206.200*†	-166.8	-0.0041 mg/L	0.00018	-0.0041 mg/L	0.00018	4.41%
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

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WORK ORDER: 17-03-0641
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:21
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\17-03-0641-30 MIS.icp

30 **CLIENT SAMPLE NUMBER:** D-DU3-ISM1-3

LCS/MB BATCH: 170320L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170320S04 **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	0.00486	1.01	ND	0.754	D
Arsenic	0.00480	1.01	ND	0.754	D
Barium	1.77	1.01	88.8	0.503	D
Beryllium	0.00413	1.01	ND	0.251	D
Cadmium	0.00622	1.01	ND	0.503	D
Chromium	0.158	1.01	7.92	0.251	D
Cobalt	0.144	1.01	7.25	0.251	D
Copper	0.196	1.01	9.84	0.503	D
Lead	0.216	1.01	10.8	0.503	D
Molybdenum	-0.000117	1.01	ND	0.251	D
Nickel	0.127	1.01	6.39	0.251	D
Selenium	-0.000840	1.01	ND	0.754	D
Silver	0.0000427	1.01	ND	0.251	D
Thallium	-0.0213	1.01	ND	0.754	D
Vanadium	0.480	1.01	24.1	0.251	D
Zinc	0.848	1.01	42.6	1.01	D

Return to Contents

Sequence No.: 22

Sample ID: 17-03-0641-30 MIS

Analyst: 935 icp 7300

Initial Sample Wt: 1.99 g

Dilution:

Wash Time: 15

Autosampler Location: 150

Date Collected: 3/20/2017 5:21:32 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-0641-30 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	60117.0	79.89 %	0.131			0.16%
Tb 350	118972.8	96.69 %	0.722			0.75%
Ag 328.068*†	7.6	0.0000 mg/L	0.00201	0.0021 mg/kg	0.10075	>999.9%
Al 308.215*†	2761280.9	167.8 mg/L	0.92	8432 mg/kg	46.28	0.55%
As 188.979†	70.9	0.0373 mg/L	0.00084	1.875 mg/kg	0.0422	2.25%
As 193.696*†	6.3	0.0048 mg/L	0.01143	0.2412 mg/kg	0.57429	238.07%
B 249.677*†	-1164.1	-0.0253 mg/L	0.00069	-1.273 mg/kg	0.0346	2.72%
Ba 233.527*†	245918.1	1.766 mg/L	0.0007	88.77 mg/kg	0.036	0.04%
Be 313.042*†	14167.2	0.0041 mg/L	0.00004	0.2074 mg/kg	0.00199	0.96%
Ca 317.933*†	162949.9	92.06 mg/L	1.632	4626 mg/kg	82.00	1.77%
Cd 226.502*†	450.4	0.0062 mg/L	0.00007	0.3126 mg/kg	0.00352	1.13%
Cd 228.802†	27.7	0.0007 mg/L	0.00022	0.0375 mg/kg	0.01091	29.08%
Co 228.616*†	3820.5	0.1443 mg/L	0.00022	7.253 mg/kg	0.0111	0.15%
Cr 267.716*†	16839.8	0.1576 mg/L	0.00147	7.918 mg/kg	0.0738	0.93%
Cu 324.752*†	46067.0	0.1959 mg/L	0.00005	9.844 mg/kg	0.0025	0.03%
Fe 273.955*†	5413689.7	245.4 mg/L	1.20	12330 mg/kg	60.23	0.49%
K 766.490*†	167455.1	61.66 mg/L	0.967	3098 mg/kg	48.61	1.57%
Mg 279.077*†	1555158.9	87.53 mg/L	0.009	4399 mg/kg	0.45	0.01%
Mn 257.610*†	2502835.6	4.240 mg/L	0.0043	213.1 mg/kg	0.22	0.10%
Mo 202.031*†	-1.0	-0.0001 mg/L	0.00029	-0.0059 mg/kg	0.01439	244.27%
Na 589.592*†	17999.6	4.486 mg/L	0.0845	225.4 mg/kg	4.25	1.88%
Ni 231.604*†	2828.6	0.1271 mg/L	0.00171	6.389 mg/kg	0.0859	1.34%
P 213.617*†	31910.0	18.53 mg/L	0.046	931.3 mg/kg	2.33	0.25%
P 214.914†	21319.5	18.73 mg/L	0.148	941.3 mg/kg	7.45	0.79%
Pb 220.353*†	1597.5	0.2157 mg/L	0.00196	10.84 mg/kg	0.098	0.91%
Sb 206.836†	-11.8	-0.0068 mg/L	0.00074	-0.3413 mg/kg	0.03710	10.87%
Sb 217.582*†	8.4	0.0049 mg/L	0.00006	0.2442 mg/kg	0.00295	1.21%
Se 196.026*†	-1.7	-0.0008 mg/L	0.00788	-0.0422 mg/kg	0.39588	937.85%
Si 251.611*†	400261.0	11.22 mg/L	0.033	563.8 mg/kg	1.64	0.29%
Sn 189.927*†	-192.3	-0.0351 mg/L	0.00231	-1.761 mg/kg	0.1162	6.60%
Sn 242.170†	1174.2	0.7248 mg/L	0.02732	36.42 mg/kg	1.373	3.77%
Sr 407.771*†	273480.0	0.9219 mg/L	0.01363	46.33 mg/kg	0.685	1.48%
Ti 334.940†	13218159.4	17.30 mg/L	0.109	869.5 mg/kg	5.48	0.63%
Ti 336.121*†	9486787.4	17.15 mg/L	0.113	861.9 mg/kg	5.67	0.66%
Tl 190.801*†	-36.2	-0.0213 mg/L	0.00153	-1.069 mg/kg	0.0769	7.20%
V 292.402*†	62213.2	0.4803 mg/L	0.00016	24.14 mg/kg	0.008	0.03%
Zn 206.200*†	31914.3	0.8483 mg/L	0.00765	42.63 mg/kg	0.385	0.90%

RAW DATA SHEET FOR METHOD: EPA 6010B

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WORK ORDER: 17-03-0641
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:24
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\17-03-0641-31 MIS.icp

31 **CLIENT SAMPLE NUMBER:** D-DU3-ISM2-3

LCS/MB BATCH: 170320L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170320S04 **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	0.00528	0.990	ND	0.743	
Arsenic	0.0127	0.990	ND	0.743	
Barium	1.79	0.990	88.5	0.495	
Beryllium	0.00415	0.990	ND	0.248	
Cadmium	0.00613	0.990	ND	0.495	
Chromium	0.151	0.990	7.45	0.248	
Cobalt	0.142	0.990	7.04	0.248	
Copper	0.199	0.990	9.83	0.495	
Lead	0.168	0.990	8.34	0.495	
Molybdenum	-0.000679	0.990	ND	0.248	
Nickel	0.124	0.990	6.14	0.248	
Selenium	-0.0113	0.990	ND	0.743	
Silver	-0.00201	0.990	ND	0.248	
Thallium	-0.0208	0.990	ND	0.743	
Vanadium	0.452	0.990	22.4	0.248	
Zinc	0.880	0.990	43.6	0.990	

Return to Contents

Sequence No.: 25
 Sample ID: 17-03-0641-31 MIS
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.02 g
 Dilution:
 Wash Time: 15

Autosampler Location: 151
 Date Collected: 3/20/2017 5:24:15 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0641-31 MIS

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	61773.9	82.09	%	0.629			0.77%
Tb 350	120158.8	97.65	%	0.730			0.75%
Ag 328.068*†	-360.3	-0.0020	mg/L	0.00062	-0.0997 mg/kg	0.03078	30.86%
Al 308.215*†	2786980.8	169.4	mg/L	2.43	8384 mg/kg	120.52	1.44%
As 188.979†	58.7	0.0309	mg/L	0.00272	1.529 mg/kg	0.1345	8.79%
As 193.696*†	16.8	0.0127	mg/L	0.00465	0.6285 mg/kg	0.22996	36.59%
B 249.677*†	-418.6	-0.0091	mg/L	0.00281	-0.4508 mg/kg	0.13918	30.87%
Ba 233.527*†	248819.3	1.787	mg/L	0.0077	88.48 mg/kg	0.380	0.43%
Be 313.042*†	14229.1	0.0041	mg/L	0.00004	0.2052 mg/kg	0.00203	0.99%
Ca 317.933*†	158464.7	89.53	mg/L	1.517	4432 mg/kg	75.09	1.69%
Cd 226.502*†	444.0	0.0061	mg/L	0.00000	0.3036 mg/kg	0.00005	0.02%
Cd 228.802†	17.8	0.0005	mg/L	0.00001	0.0237 mg/kg	0.00043	1.83%
Co 228.616*†	3764.0	0.1422	mg/L	0.00010	7.040 mg/kg	0.0051	0.07%
Cr 267.716*†	16092.4	0.1506	mg/L	0.00012	7.454 mg/kg	0.0060	0.08%
Cu 324.752*†	46684.2	0.1985	mg/L	0.00031	9.828 mg/kg	0.0156	0.16%
Fe 273.955*†	5175932.6	234.6	mg/L	7.31	11610 mg/kg	361.97	3.12%
K 766.490*†	164691.7	60.64	mg/L	0.570	3002 mg/kg	28.24	0.94%
Mg 279.077*†	1567957.9	88.25	mg/L	1.525	4369 mg/kg	75.50	1.73%
Mn 257.610*†	2485641.7	4.211	mg/L	0.0665	208.5 mg/kg	3.29	1.58%
Mo 202.031*†	-5.8	-0.0007	mg/L	0.00054	-0.0336 mg/kg	0.02678	79.65%
Na 589.592*†	18897.5	4.709	mg/L	0.0451	233.1 mg/kg	2.23	0.96%
Ni 231.604*†	2761.4	0.1241	mg/L	0.00047	6.145 mg/kg	0.0234	0.38%
P 213.617*†	31401.0	18.24	mg/L	0.177	902.9 mg/kg	8.74	0.97%
P 214.914†	20835.7	18.31	mg/L	0.077	906.3 mg/kg	3.80	0.42%
Pb 220.353*†	1247.5	0.1684	mg/L	0.00237	8.337 mg/kg	0.1174	1.41%
Sb 206.836†	6.8	0.0040	mg/L	0.00256	0.1956 mg/kg	0.12690	64.88%
Sb 217.582*†	9.1	0.0053	mg/L	0.00553	0.2616 mg/kg	0.27376	104.66%
Se 196.026*†	-22.7	-0.0113	mg/L	0.00597	-0.5580 mg/kg	0.29545	52.95%
Si 251.611*†	346181.3	9.705	mg/L	0.0040	480.4 mg/kg	0.20	0.04%
Sn 189.927*†	-522.8	-0.0953	mg/L	0.00061	-4.719 mg/kg	0.0302	0.64%
Sn 242.170†	1064.6	0.6571	mg/L	0.01415	32.53 mg/kg	0.701	2.15%
Sr 407.771*†	280602.5	0.9459	mg/L	0.00762	46.83 mg/kg	0.377	0.81%
Ti 334.940†	12999121.8	17.02	mg/L	0.438	842.4 mg/kg	21.67	2.57%
Ti 336.121*†	9312672.8	16.84	mg/L	0.456	833.6 mg/kg	22.59	2.71%
Tl 190.801*†	-35.4	-0.0208	mg/L	0.00067	-1.028 mg/kg	0.0334	3.25%
V 292.402*†	58555.3	0.4520	mg/L	0.00368	22.38 mg/kg	0.182	0.81%
Zn 206.200*†	33119.0	0.8803	mg/L	0.00473	43.58 mg/kg	0.234	0.54%

RAW DATA SHEET FOR METHOD: EPA 6010B

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WORK ORDER: 17-03-0641
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:25
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\17-03-0641-32 MIS.icp

32 **CLIENT SAMPLE NUMBER:** D-DU3-ISM3-3

LCS/MB BATCH: 170320L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 2.00 g / ACTUAL: 2.00 g
MS/MSD BATCH: 170320S04 **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	0.0157	1.00	0.783	0.750	
Arsenic	0.00732	1.00	ND	0.750	
Barium	1.73	1.00	86.7	0.500	
Beryllium	0.00403	1.00	ND	0.250	
Cadmium	0.00610	1.00	ND	0.500	
Chromium	0.158	1.00	7.89	0.250	
Cobalt	0.141	1.00	7.05	0.250	
Copper	0.197	1.00	9.86	0.500	
Lead	0.165	1.00	8.23	0.500	
Molybdenum	-0.0000142	1.00	ND	0.250	
Nickel	0.125	1.00	6.26	0.250	
Selenium	0.00249	1.00	ND	0.750	
Silver	-0.00175	1.00	ND	0.250	
Thallium	-0.0305	1.00	ND	0.750	
Vanadium	0.475	1.00	23.8	0.250	
Zinc	0.878	1.00	43.9	1.00	

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Sequence No.: 26
Sample ID: 17-03-0641-32 MIS
Analyst: 935 icp 7300
Initial Sample Wt: 2 g
Dilution:
Wash Time: 15

Autosampler Location: 152
Date Collected: 3/20/2017 5:25:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0641-32 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	62026.1	82.43 %	2.282			2.77%
Tb 350	121440.8	98.69 %	2.812			2.85%
Ag 328.068*†	-312.6	-0.0017 mg/L	0.00033	-0.0874 mg/kg	0.01641	18.77%
Al 308.215*†	2694601.2	163.8 mg/L	4.37	8188 mg/kg	218.54	2.67%
As 188.979†	62.7	0.0330 mg/L	0.00356	1.651 mg/kg	0.1782	10.79%
As 193.696*†	9.7	0.0073 mg/L	0.00193	0.3662 mg/kg	0.09637	26.31%
B 249.677*†	-723.0	-0.0157 mg/L	0.00364	-0.7866 mg/kg	0.18222	23.17%
Ba 233.527*†	241297.7	1.733 mg/L	0.0080	86.66 mg/kg	0.401	0.46%
Be 313.042*†	13821.3	0.0040 mg/L	0.00002	0.2013 mg/kg	0.00080	0.40%
Ca 317.933*†	150333.8	84.94 mg/L	0.405	4247 mg/kg	20.23	0.48%
Cd 226.502*†	442.0	0.0061 mg/L	0.00038	0.3052 mg/kg	0.01912	6.26%
Cd 228.802†	25.7	0.0007 mg/L	0.00010	0.0347 mg/kg	0.00478	13.78%
Co 228.616*†	3734.3	0.1411 mg/L	0.00494	7.054 mg/kg	0.2468	3.50%
Cr 267.716*†	16868.1	0.1578 mg/L	0.00571	7.892 mg/kg	0.2855	3.62%
Cu 324.752*†	46380.6	0.1972 mg/L	0.00226	9.861 mg/kg	0.1132	1.15%
Fe 273.955*†	5318963.3	241.1 mg/L	6.58	12050 mg/kg	328.86	2.73%
K 766.490*†	159095.1	58.58 mg/L	0.730	2929 mg/kg	36.50	1.25%
Mg 279.077*†	1546454.2	87.04 mg/L	0.651	4352 mg/kg	32.55	0.75%
Mn 257.610*†	2453923.1	4.157 mg/L	0.0212	207.9 mg/kg	1.06	0.51%
Mo 202.031*†	-0.1	-0.0000 mg/L	0.00069	-0.0007 mg/kg	0.03441	>999.9%
Na 589.592*†	17001.7	4.237 mg/L	0.0284	211.8 mg/kg	1.42	0.67%
Ni 231.604*†	2785.2	0.1252 mg/L	0.00479	6.260 mg/kg	0.2397	3.83%
P 213.617*†	29772.6	17.29 mg/L	0.296	864.6 mg/kg	14.80	1.71%
P 214.914†	19951.5	17.53 mg/L	0.616	876.5 mg/kg	30.78	3.51%
Pb 220.353*†	1219.4	0.1646 mg/L	0.00592	8.231 mg/kg	0.2959	3.60%
Sb 206.836†	-0.9	-0.0005 mg/L	0.00318	-0.0256 mg/kg	0.15893	619.95%
Sb 217.582*†	27.0	0.0157 mg/L	0.00348	0.7829 mg/kg	0.17400	22.22%
Se 196.026*†	5.0	0.0025 mg/L	0.00228	0.1247 mg/kg	0.11405	91.43%
Si 251.611*†	390545.0	10.95 mg/L	0.056	547.4 mg/kg	2.80	0.51%
Sn 189.927*†	-514.2	-0.0937 mg/L	0.00299	-4.687 mg/kg	0.1494	3.19%
Sn 242.170†	1070.5	0.6608 mg/L	0.04147	33.04 mg/kg	2.073	6.28%
Sr 407.771*†	253665.3	0.8551 mg/L	0.00879	42.76 mg/kg	0.439	1.03%
Ti 334.940†	12973677.7	16.98 mg/L	0.433	849.1 mg/kg	21.63	2.55%
Ti 336.121*†	9334587.2	16.88 mg/L	0.425	843.9 mg/kg	21.24	2.52%
Tl 190.801*†	-52.0	-0.0305 mg/L	0.00609	-1.527 mg/kg	0.3047	19.96%
V 292.402*†	61551.1	0.4752 mg/L	0.00116	23.76 mg/kg	0.058	0.24%
Zn 206.200*†	33040.4	0.8783 mg/L	0.03051	43.91 mg/kg	1.526	3.47%

RAW DATA SHEET FOR METHOD: EPA 6010B

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WORK ORDER: 17-03-0641
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:26
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\17-03-0641-33 MIS.icp

33 **CLIENT SAMPLE NUMBER:** D-DU3-ISM4-3

LCS/MB BATCH: 170320L05	SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g	
MS/MSD BATCH: 170320S05	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	0.0107	1.01	ND	0.754	D
Arsenic	0.0106	1.01	ND	0.754	D
Barium	1.62	1.01	81.4	0.503	D
Beryllium	0.00376	1.01	ND	0.251	D
Cadmium	0.00578	1.01	ND	0.503	D
Chromium	0.141	1.01	7.07	0.251	D
Cobalt	0.128	1.01	6.41	0.251	D
Copper	0.174	1.01	8.73	0.503	D
Lead	0.154	1.01	7.74	0.503	D
Molybdenum	-0.0000250	1.01	ND	0.251	D
Nickel	0.116	1.01	5.81	0.251	D
Selenium	-0.000996	1.01	ND	0.754	D
Silver	-0.00146	1.01	ND	0.251	D
Thallium	-0.0214	1.01	ND	0.754	D
Vanadium	0.425	1.01	21.4	0.251	D
Zinc	0.870	1.01	43.7	1.01	D

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Sequence No.: 27
 Sample ID: 17-03-0641-33 MIS
 Analyst: 935 icp 7300
 Initial Sample Wt: 1.99 g
 Dilution:
 Wash Time: 15

Autosampler Location: 153
 Date Collected: 3/20/2017 5:26:01 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-0641-33 MIS

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	62450.9	82.99 %	0.572			0.69%
Tb 350	121089.2	98.41 %	0.074			0.08%
Ag 328.068*†	-260.7	-0.0015 mg/L	0.00161	-0.0733 mg/kg	0.08089	110.41%
Al 308.215*†	2527512.9	153.6 mg/L	0.88	7718 mg/kg	44.41	0.58%
As 188.979†	70.3	0.0370 mg/L	0.00269	1.858 mg/kg	0.1354	7.28%
As 193.696*†	14.0	0.0106 mg/L	0.00908	0.5330 mg/kg	0.45625	85.60%
B 249.677*†	-1050.8	-0.0229 mg/L	0.00100	-1.149 mg/kg	0.0500	4.36%
Ba 233.527*†	225641.0	1.621 mg/L	0.0136	81.45 mg/kg	0.681	0.84%
Be 313.042*†	12904.6	0.0038 mg/L	0.00001	0.1889 mg/kg	0.00042	0.22%
Ca 317.933*†	142207.6	80.34 mg/L	0.633	4037 mg/kg	31.81	0.79%
Cd 226.502*†	418.7	0.0058 mg/L	0.00042	0.2906 mg/kg	0.02098	7.22%
Cd 228.802†	13.8	0.0004 mg/L	0.00021	0.0187 mg/kg	0.01049	56.08%
Co 228.616*†	3377.9	0.1276 mg/L	0.00049	6.413 mg/kg	0.0245	0.38%
Cr 267.716*†	15036.6	0.1407 mg/L	0.00087	7.070 mg/kg	0.0439	0.62%
Cu 324.752*†	40852.3	0.1737 mg/L	0.00135	8.730 mg/kg	0.0677	0.77%
Fe 273.955*†	4825894.4	218.7 mg/L	1.73	10990 mg/kg	87.09	0.79%
K 766.490*†	150560.0	55.44 mg/L	0.601	2786 mg/kg	30.20	1.08%
Mg 279.077*†	1419696.2	79.91 mg/L	1.165	4016 mg/kg	58.54	1.46%
Mn 257.610*†	2262177.5	3.832 mg/L	0.0402	192.6 mg/kg	2.02	1.05%
Mo 202.031*†	-0.2	-0.0000 mg/L	0.00136	-0.0013 mg/kg	0.06823	>999.9%
Na 589.592*†	16726.7	4.168 mg/L	0.0326	209.5 mg/kg	1.64	0.78%
Ni 231.604*†	2570.6	0.1155 mg/L	0.00041	5.806 mg/kg	0.0208	0.36%
P 213.617*†	25890.7	15.04 mg/L	0.441	755.7 mg/kg	22.14	2.93%
P 214.914†	17378.2	15.27 mg/L	0.109	767.3 mg/kg	5.48	0.71%
Pb 220.353*†	1140.7	0.1540 mg/L	0.00113	7.738 mg/kg	0.0567	0.73%
Sb 206.836†	-7.2	-0.0042 mg/L	0.00008	-0.2103 mg/kg	0.00416	1.98%
Sb 217.582*†	18.4	0.0107 mg/L	0.01018	0.5358 mg/kg	0.51151	95.47%
Se 196.026*†	-2.0	-0.0010 mg/L	0.01111	-0.0500 mg/kg	0.55836	>999.9%
Si 251.611*†	355628.7	9.969 mg/L	0.1357	501.0 mg/kg	6.82	1.36%
Sn 189.927*†	-513.8	-0.0937 mg/L	0.00150	-4.707 mg/kg	0.0753	1.60%
Sn 242.170†	945.8	0.5838 mg/L	0.00253	29.34 mg/kg	0.127	0.43%
Sr 407.771*†	257557.1	0.8682 mg/L	0.00588	43.63 mg/kg	0.296	0.68%
Ti 334.940†	12148723.6	15.90 mg/L	0.058	799.1 mg/kg	2.93	0.37%
Ti 336.121*†	8720457.9	15.77 mg/L	0.066	792.3 mg/kg	3.33	0.42%
Tl 190.801*†	-36.4	-0.0214 mg/L	0.00334	-1.075 mg/kg	0.1677	15.61%
V 292.402*†	55082.0	0.4252 mg/L	0.00538	21.37 mg/kg	0.271	1.27%
Zn 206.200*†	32735.2	0.8701 mg/L	0.00544	43.73 mg/kg	0.274	0.63%

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: 097-01-002-24460
MB BATCH ID: 170320L04
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:06
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170320C1\170320-b-04__339.icp

CLIENT WORK ORDER: 17-03-0641

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
30	D-DU3-ISM1-3		2017-03-20 17:21	W:\ICP-DATA\170320C1\17-03-0641-30 MIS.icp
31	D-DU3-ISM2-3		2017-03-20 17:24	W:\ICP-DATA\170320C1\17-03-0641-31 MIS.icp
32	D-DU3-ISM3-3		2017-03-20 17:25	W:\ICP-DATA\170320C1\17-03-0641-32 MIS.icp


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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: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:06
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\170320-b-04__339.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170320L04 **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	0.00255	0.966	ND	0.725	
Arsenic	-0.00161	0.966	ND	0.725	
Barium	-0.00271	0.966	ND	0.483	
Beryllium	-0.0000429	0.966	ND	0.242	
Cadmium	-0.000165	0.966	ND	0.483	
Chromium	0.000947	0.966	ND	0.242	
Cobalt	-0.000386	0.966	ND	0.242	
Copper	-0.00227	0.966	ND	0.483	
Lead	-0.00168	0.966	ND	0.483	
Molybdenum	0.00103	0.966	ND	0.242	
Nickel	0.000117	0.966	ND	0.242	
Selenium	0.0126	0.966	ND	0.725	
Silver	-0.000128	0.966	ND	0.242	
Thallium	-0.00749	0.966	ND	0.725	
Vanadium	-0.00168	0.966	ND	0.242	
Zinc	-0.00485	0.966	ND	0.966	

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LCS QUALITY CONTROL SHEET

FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24460
LCS/MB BATCH ID: 170320L04
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:07
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C\1170320-L04_340.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	22.89	92	80-120	73-127	PASS	
Arsenic	25.00	23.58	94	80-120	73-127	PASS	
Barium	25.00	24.69	99	80-120	73-127	PASS	
Beryllium	25.00	23.84	95	80-120	73-127	PASS	
Cadmium	25.00	23.87	95	80-120	73-127	PASS	
Chromium	25.00	23.77	95	80-120	73-127	PASS	
Cobalt	25.00	24.40	98	80-120	73-127	PASS	
Copper	25.00	23.41	94	80-120	73-127	PASS	
Lead	25.00	23.95	96	80-120	73-127	PASS	
Molybdenum	25.00	23.11	92	80-120	73-127	PASS	
Nickel	25.00	24.50	98	80-120	73-127	PASS	
Phosphorus	25.00	24.84	99	80-120	73-127	PASS	
Selenium	25.00	23.04	92	80-120	73-127	PASS	
Silver	12.50	11.03	88	80-120	73-127	PASS	
Thallium	25.00	23.69	95	80-120	73-127	PASS	
Vanadium	25.00	22.51	90	80-120	73-127	PASS	
Zinc	25.00	23.71	95	80-120	73-127	PASS	
Aluminum	25.00	25.11	100	80-120	73-127	PASS	
Calcium	25.00	24.31	97	80-120	73-127	PASS	
Iron	25.00	23.18	93	80-120	73-127	PASS	
Magnesium	25.00	24.68	99	80-120	73-127	PASS	
Manganese	25.00	24.41	98	80-120	73-127	PASS	
Potassium	250.0	217.7	87	80-120	73-127	PASS	
Sodium	250.0	234.1	94	80-120	73-127	PASS	
Strontium	25.00	24.41	98	80-120	73-127	PASS	
Tin	25.00	24.30	97	80-120	73-127	PASS	
Titanium	25.00	23.42	94	80-120	73-127	PASS	
Boron	25.00	21.40	86	80-120	73-127	PASS	
Silicon	25.00	22.07	88	80-120	73-127	PASS	

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24460
LCS/MB BATCH ID: 170320L04
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:07
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\170320-I-04__340.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: 17-03-1185-1
MS/MSD BATCH: 170320S04

INSTRUMENTS:

SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:

SAMPLE: 2017-03-20 00:00
MS: 2017-03-20 00:00
MSD: 2017-03-20 00:00

ANALYZED BY: 935

D/T ANALYZED:

SAMPLE: 2017-03-20 17:41
MS: 2017-03-20 17:42
MSD: 2017-03-21 10:35

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	9.122	36	8.897	36	50-115	3	0-20	FAIL	3G
Arsenic	4.453	0.5000	25.00	31.65	109	32.04	110	75-125	1	0-20	PASS	
Barium	99.14	0.5000	25.00	179.1	320	198.0	396	75-125	10	0-20	FAIL	3F
Beryllium	ND	0.5000	25.00	24.88	100	27.21	109	75-125	9	0-20	PASS	
Cadmium	ND	0.5000	25.00	24.18	97	26.06	104	75-125	7	0-20	PASS	
Chromium	28.60	0.5000	25.00	71.20	170	111.6	332	75-125	44	0-20	FAIL	3F4
Cobalt	8.900	0.5000	25.00	35.88	108	44.69	143	75-125	22	0-20	FAIL	34F
Copper	20.29	0.5000	25.00	53.07	131	64.16	175	75-125	19	0-20	FAIL	3F
Lead	7.895	0.5000	25.00	35.62	111	40.04	129	75-125	12	0-20	FAIL	3F
Molybdenum	0.3745	0.5000	25.00	23.31	92	24.79	98	75-125	6	0-20	PASS	
Nickel	47.35	0.5000	25.00	94.48	189	162.7	461	75-125	53	0-20	FAIL	3F4
Phosphorus	256.6	0.5000	25.00	416.4	4x	434.3	4x	75-125	4x	0-20	PASS	Q
Selenium	ND	0.5000	25.00	24.43	98	26.19	105	75-125	7	0-20	PASS	
Silver	ND	0.2500	12.50	12.61	101	13.17	105	75-125	4	0-20	PASS	
Thallium	ND	0.5000	25.00	21.60	86	23.22	93	75-125	7	0-20	PASS	
Vanadium	21.06	0.5000	25.00	54.63	134	69.36	193	75-125	24	0-20	FAIL	3F4
Zinc	58.30	0.5000	25.00	96.71	154	108.1	199	75-125	11	0-20	FAIL	3F
Aluminum	8147	0.5000	25.00	12420	4x	14240	4x	75-125	4x	0-20	PASS	Q
Calcium	8931	0.5000	25.00	10310	4x	12760	4x	75-125	4x	0-20	PASS	Q
Iron	14550	0.5000	25.00	21960	4x	26780	4x	75-125	4x	0-20	PASS	Q
Magnesium	7388	0.5000	25.00	10220	4x	16370	4x	75-125	4x	0-20	PASS	Q
Manganese	268.6	0.5000	25.00	440.2	4x	583.7	4x	75-125	4x	0-20	PASS	Q
Potassium	1248	5.000	250.0	2004	4x	2107	4x	75-125	4x	0-20	PASS	Q
Sodium	542.1	5.000	250.0	491.2	0	514.1	0	75-125	5	0-20	FAIL	3G
Strontium	71.38	0.5000	25.00	125.6	217	143.9	290	75-125	14	0-20	FAIL	3F
Tin	ND	0.5000	25.00	22.18	89	21.97	88	75-125	1	0-20	PASS	
Titanium	173.1	0.5000	25.00	203.1	4x	279.7	4x	75-125	4x	0-20	PASS	Q
Boron	4.033	0.5000	25.00	29.14	100	32.97	116	75-125	12	0-20	PASS	

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

SPIKED SAMPLE ID: 17-03-1185-1
MS/MSD BATCH: 170320S04
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-20 00:00
MS: 2017-03-20 00:00
MSD: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-20 17:41
MS: 2017-03-20 17:42
MSD: 2017-03-21 10:35
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	480.6	0.5000	25.00	533.5	4x	846.0	4x	75-125	4x	0-20	PASS	Q

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-1185-1 ms.icp	W:\ICP-DATA\170320C1\
MSD	17-03-1185-1 msd.icp	W:\ICP-DATA\170321C1\

Sequence No.: 5
Sample ID: 170320-b-04
Analyst: 935 icp 7300
Initial Sample Wt: 2.07 g
Dilution:
Wash Time: 15

Autosampler Location: 114
Date Collected: 3/20/2017 5:06:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170320-b-04

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	83366.6	110.8 %	1.89			1.71%
Tb 350	137581.6	111.8 %	1.90			1.70%
Ag 328.068*†	-22.8	-0.0001 mg/L	0.00026	-0.0062 mg/kg	0.01248	202.35%
Al 308.215*†	-90.0	-0.0055 mg/L	0.00290	-0.2641 mg/kg	0.13992	52.97%
As 188.979†	2.8	0.0015 mg/L	0.00404	0.0701 mg/kg	0.19494	277.96%
As 193.696*†	-2.1	-0.0016 mg/L	0.00208	-0.0778 mg/kg	0.10039	129.04%
B 249.677*†	-677.3	-0.0147 mg/L	0.00068	-0.7119 mg/kg	0.03295	4.63%
Ba 233.527*†	-377.2	-0.0027 mg/L	0.00002	-0.1309 mg/kg	0.00099	0.75%
Be 313.042*†	-147.4	-0.0000 mg/L	0.00007	-0.0021 mg/kg	0.00348	167.58%
Ca 317.933*†	-9.0	-0.0051 mg/L	0.00154	-0.2457 mg/kg	0.07442	30.28%
Cd 226.502*†	-12.0	-0.0002 mg/L	0.00022	-0.0080 mg/kg	0.01080	135.06%
Cd 228.802†	-1.0	-0.0000 mg/L	0.00004	-0.0014 mg/kg	0.00212	157.20%
Co 228.616*†	-10.2	-0.0004 mg/L	0.00032	-0.0186 mg/kg	0.01553	83.39%
Cr 267.716*†	101.2	0.0009 mg/L	0.00009	0.0458 mg/kg	0.00448	9.79%
Cu 324.752*†	-533.4	-0.0023 mg/L	0.00002	-0.1096 mg/kg	0.00107	0.98%
Fe 273.955*†	-85.2	-0.0039 mg/L	0.00023	-0.1865 mg/kg	0.01121	6.01%
K 766.490*†	-411.0	-0.1513 mg/L	0.03500	-7.311 mg/kg	1.6910	23.13%
Mg 279.077*†	181.8	0.0102 mg/L	0.00088	0.4943 mg/kg	0.04267	8.63%
Mn 257.610*†	-104.4	-0.0002 mg/L	0.00003	-0.0085 mg/kg	0.00130	15.17%
Mo 202.031*†	8.8	0.0010 mg/L	0.00054	0.0497 mg/kg	0.02592	52.21%
Na 589.592*†	172.3	0.0429 mg/L	0.03688	2.074 mg/kg	1.7815	85.89%
Ni 231.604*†	2.6	0.0001 mg/L	0.00032	0.0056 mg/kg	0.01535	272.79%
P 213.617*†	-2.1	-0.0012 mg/L	0.01713	-0.0584 mg/kg	0.82757	>999.9%
P 214.914†	13.2	0.0116 mg/L	0.00064	0.5618 mg/kg	0.03070	5.46%
Pb 220.353*†	-12.5	-0.0017 mg/L	0.00042	-0.0813 mg/kg	0.02030	24.95%
Sb 206.836†	1.8	0.0010 mg/L	0.00046	0.0490 mg/kg	0.02218	45.26%
Sb 217.582*†	4.4	0.0025 mg/L	0.00063	0.1231 mg/kg	0.03052	24.80%
Se 196.026*†	25.3	0.0126 mg/L	0.00015	0.6086 mg/kg	0.00729	1.20%
Si 251.611*†	-722.9	-0.0203 mg/L	0.00096	-0.9790 mg/kg	0.04617	4.72%
Sn 189.927*†	-25.2	-0.0046 mg/L	0.00034	-0.2217 mg/kg	0.01621	7.31%
Sn 242.170†	-6.1	-0.0038 mg/L	0.01078	-0.1822 mg/kg	0.52082	285.93%
Sr 407.771*†	12.7	0.0000 mg/L	0.00000	0.0021 mg/kg	0.00009	4.36%
Ti 334.940†	265.7	0.0003 mg/L	0.00011	0.0168 mg/kg	0.00546	32.49%
Ti 336.121*†	29.1	0.0001 mg/L	0.00018	0.0025 mg/kg	0.00888	349.02%
Tl 190.801*†	-12.8	-0.0075 mg/L	0.00618	-0.3618 mg/kg	0.29851	82.51%
V 292.402*†	-215.6	-0.0017 mg/L	0.00218	-0.0811 mg/kg	0.10555	130.17%
Zn 206.200*†	-182.4	-0.0048 mg/L	0.00053	-0.2343 mg/kg	0.02574	10.99%

Sequence No.: 6
Sample ID: 170320-1-04
Analyst: 935 icp 7300
Initial Sample Wt: 2.07 g
Dilution:
Wash Time: 15

Autosampler Location: 115
Date Collected: 3/20/2017 5:07:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170320-1-04

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	83761.9	111.3 %	2.68			2.41%
Tb 350	138720.0	112.7 %	2.28			2.02%
Ag 328.068*†	40839.2	0.2284 mg/L	0.00108	11.03 mg/kg	0.052	0.47%
Al 308.215*†	8553.5	0.5198 mg/L	0.00934	25.11 mg/kg	0.451	1.80%
As 188.979†	920.5	0.4845 mg/L	0.00752	23.41 mg/kg	0.363	1.55%
As 193.696*†	645.6	0.4881 mg/L	0.00447	23.58 mg/kg	0.216	0.92%
B 249.677*†	20356.7	0.4429 mg/L	0.00711	21.40 mg/kg	0.343	1.60%
Ba 233.527*†	71140.3	0.5110 mg/L	0.00046	24.69 mg/kg	0.022	0.09%
Be 313.042*†	1693838.1	0.4934 mg/L	0.00254	23.84 mg/kg	0.123	0.51%
Ca 317.933*†	890.8	0.5033 mg/L	0.02637	24.31 mg/kg	1.274	5.24%
Cd 226.502*†	35772.8	0.4941 mg/L	0.00265	23.87 mg/kg	0.128	0.54%
Cd 228.802†	17283.5	0.4665 mg/L	0.00946	22.54 mg/kg	0.457	2.03%
Co 228.616*†	13368.0	0.5050 mg/L	0.01062	24.40 mg/kg	0.513	2.10%
Cr 267.716*†	52574.6	0.4919 mg/L	0.00208	23.77 mg/kg	0.101	0.42%
Cu 324.752*†	113974.3	0.4847 mg/L	0.00115	23.41 mg/kg	0.056	0.24%
Fe 273.955*†	10586.3	0.4799 mg/L	0.01005	23.18 mg/kg	0.486	2.10%
K 766.490*†	12240.0	4.507 mg/L	0.0026	217.7 mg/kg	0.13	0.06%
Mg 279.077*†	9075.1	0.5108 mg/L	0.00203	24.68 mg/kg	0.098	0.40%
Mn 257.610*†	298226.2	0.5052 mg/L	0.00086	24.41 mg/kg	0.042	0.17%
Mo 202.031*†	4109.5	0.4783 mg/L	0.01048	23.11 mg/kg	0.506	2.19%
Na 589.592*†	19443.7	4.845 mg/L	0.0062	234.1 mg/kg	0.30	0.13%
Ni 231.604*†	11280.5	0.5071 mg/L	0.00954	24.50 mg/kg	0.461	1.88%
P 213.617*†	885.4	0.5143 mg/L	0.00636	24.84 mg/kg	0.307	1.24%
P 214.914†	547.0	0.4806 mg/L	0.00159	23.22 mg/kg	0.077	0.33%
Pb 220.353*†	3672.5	0.4958 mg/L	0.01040	23.95 mg/kg	0.502	2.10%
Sb 206.836†	807.3	0.4661 mg/L	0.00846	22.52 mg/kg	0.409	1.82%
Sb 217.582*†	818.5	0.4739 mg/L	0.00728	22.89 mg/kg	0.352	1.54%
Se 196.026*†	958.3	0.4769 mg/L	0.01377	23.04 mg/kg	0.665	2.89%
Si 251.611*†	16294.4	0.4568 mg/L	0.00765	22.07 mg/kg	0.370	1.67%
Sn 189.927*†	2758.8	0.5030 mg/L	0.00786	24.30 mg/kg	0.380	1.56%
Sn 242.170†	850.9	0.5252 mg/L	0.01416	25.37 mg/kg	0.684	2.70%
Sr 407.771*†	149871.4	0.5052 mg/L	0.00097	24.41 mg/kg	0.047	0.19%
Ti 334.940†	375758.7	0.4919 mg/L	0.00106	23.76 mg/kg	0.051	0.22%
Ti 336.121*†	268155.2	0.4848 mg/L	0.00006	23.42 mg/kg	0.003	0.01%
Tl 190.801*†	835.1	0.4903 mg/L	0.00754	23.69 mg/kg	0.364	1.54%
V 292.402*†	59849.5	0.4659 mg/L	0.00290	22.51 mg/kg	0.140	0.62%
Zn 206.200*†	18462.5	0.4908 mg/L	0.00803	23.71 mg/kg	0.388	1.64%

Sequence No.: 46
 Sample ID: 17-03-1185-1 ms
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.09 g
 Dilution:
 Wash Time: 15

Autosampler Location: 130
 Date Collected: 3/20/2017 5:42:02 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-1185-1 ms

Analyte	Mean Corrected	Calib.	Std.Dev.	Sample	Std.Dev.	RSD
	Intensity	Conc. Units		Conc. Units		
Tb 384	60989.1	81.05 %	1.505			1.86%
Tb 350	115121.1	93.56 %	1.260			1.35%
Ag 328.068*†	47142.0	0.2636 mg/L	0.00216	12.61 mg/kg	0.103	0.82%
Al 308.215*†	4270791.2	259.5 mg/L	3.83	12420 mg/kg	183.44	1.48%
As 188.979†	1261.7	0.6641 mg/L	0.00500	31.78 mg/kg	0.239	0.75%
As 193.696*†	875.0	0.6615 mg/L	0.03936	31.65 mg/kg	1.883	5.95%
B 249.677*†	27988.7	0.6090 mg/L	0.01733	29.14 mg/kg	0.829	2.85%
Ba 233.527*†	521041.6	3.743 mg/L	0.0173	179.1 mg/kg	0.83	0.46%
Be 313.042*†	1784990.6	0.5200 mg/L	0.00424	24.88 mg/kg	0.203	0.81%
Ca 317.933*†	381434.9	215.5 mg/L	0.62	10310 mg/kg	29.62	0.29%
Cd 226.502*†	36596.0	0.5055 mg/L	0.00034	24.18 mg/kg	0.016	0.07%
Cd 228.802†	18912.6	0.5105 mg/L	0.00113	24.42 mg/kg	0.054	0.22%
Co 228.616*†	19848.7	0.7499 mg/L	0.00324	35.88 mg/kg	0.155	0.43%
Cr 267.716*†	159026.7	1.488 mg/L	0.0065	71.20 mg/kg	0.309	0.43%
Cu 324.752*†	260827.9	1.109 mg/L	0.0024	53.07 mg/kg	0.116	0.22%
Fe 273.955*†	10127239.1	459.0 mg/L	8.90	21960 mg/kg	425.85	1.94%
K 766.490*†	113738.1	41.88 mg/L	0.363	2004 mg/kg	17.38	0.87%
Mg 279.077*†	3794110.4	213.6 mg/L	1.91	10220 mg/kg	91.27	0.89%
Mn 257.610*†	5430448.0	9.200 mg/L	0.1684	440.2 mg/kg	8.06	1.83%
Mo 202.031*†	4186.8	0.4873 mg/L	0.00366	23.31 mg/kg	0.175	0.75%
Na 589.592*†	41193.2	10.27 mg/L	0.024	491.2 mg/kg	1.15	0.23%
Ni 231.604*†	43929.0	1.975 mg/L	0.0090	94.48 mg/kg	0.432	0.46%
P 213.617*†	14985.0	8.703 mg/L	0.0790	416.4 mg/kg	3.78	0.91%
P 214.914†	10748.0	9.444 mg/L	0.0523	451.8 mg/kg	2.50	0.55%
Pb 220.353*†	5514.8	0.7445 mg/L	0.00176	35.62 mg/kg	0.084	0.24%
Sb 206.836†	416.1	0.2403 mg/L	0.00155	11.50 mg/kg	0.074	0.65%
Sb 217.582*†	329.3	0.1906 mg/L	0.00588	9.122 mg/kg	0.2813	3.08%
Se 196.026*†	1026.2	0.5106 mg/L	0.01620	24.43 mg/kg	0.775	3.17%
Si 251.611*†	397752.7	11.15 mg/L	0.057	533.5 mg/kg	2.71	0.51%
Sn 189.927*†	2542.1	0.4635 mg/L	0.00580	22.18 mg/kg	0.278	1.25%
Sn 242.170†	2704.6	1.669 mg/L	0.0771	79.88 mg/kg	3.687	4.62%
Sr 407.771*†	778728.8	2.625 mg/L	0.0085	125.6 mg/kg	0.41	0.32%
Ti 334.940†	3276800.7	4.289 mg/L	0.0103	205.2 mg/kg	0.49	0.24%
Ti 336.121*†	2347851.5	4.245 mg/L	0.0082	203.1 mg/kg	0.39	0.19%
Tl 190.801*†	768.9	0.4514 mg/L	0.01941	21.60 mg/kg	0.929	4.30%
V 292.402*†	147623.7	1.142 mg/L	0.0087	54.63 mg/kg	0.417	0.76%
Zn 206.200*†	76043.0	2.021 mg/L	0.0149	96.71 mg/kg	0.713	0.74%

=====
Analysis Begun

Start Time: 3/21/2017 10:34:54 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/21/2017 9:15:01 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\
17032101.sif

Batch ID:
Results Data Set: 170321C1
Results Library: W:\pe\7300\Results\results.mdb

=====
Sequence No.: 1
Sample ID: 17-03-1185-1 msd
Analyst: 935 icp 7300
Initial Sample Wt: 2.05 g
Dilution:
Wash Time:

Autosampler Location: 146
Date Collected: 3/21/2017 10:35:04 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL

=====
Mean Data: 17-03-1185-1 msd

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	58408.0	76.00 %	1.513			1.99%
Tb 350	112073.6	90.00 %	0.449			0.50%
Ag 328.068*†	49881.8	0.2699 mg/L	0.00018			0.07%
Al 308.215*†	4977012.9	291.9 mg/L	1.59			0.55%
As 188.979†	1415.7	0.6774 mg/L	0.02612			3.86%
As 193.696*†	957.0	0.6569 mg/L	0.07172			10.92%
B 249.677*†	32489.5	0.6759 mg/L	0.00334			0.49%
Ba 233.527*†	599165.0	4.059 mg/L	0.0177			0.44%
Be 313.042*†	2070337.0	0.5579 mg/L	0.00375			0.67%
Ca 317.933*†	533573.4	261.6 mg/L	4.81			1.84%
Cd 226.502*†	40585.1	0.5343 mg/L	0.00685			1.28%
Cd 228.802†	21015.2	0.5579 mg/L	0.00063			0.11%
Co 228.616*†	25006.4	0.9162 mg/L	0.00483			0.53%
Cr 267.716*†	251395.9	2.289 mg/L	0.0035			0.15%
Cu 324.752*†	323165.9	1.315 mg/L	0.0016			0.12%
Fe 273.955*†	12590646.8	548.9 mg/L	3.35			0.61%
K 766.490*†	129302.1	43.19 mg/L	0.755			1.75%
Mg 279.077*†	6295054.0	335.6 mg/L	1.56			0.46%
Mn 257.610*†	7574090.0	11.96 mg/L	0.046			0.38%
Mo 202.031*†	4595.3	0.5082 mg/L	0.00513			1.01%
Na 589.592*†	45626.6	10.54 mg/L	0.152			1.44%
Ni 231.604*†	81190.7	3.335 mg/L	0.0314			0.94%
P 213.617*†	17840.0	8.903 mg/L	0.1907			2.14%
P 214.914†	12787.0	10.34 mg/L	0.072			0.70%
Pb 220.353*†	6437.2	0.8208 mg/L	0.01038			1.26%
Sb 206.836†	505.9	0.2709 mg/L	0.00216			0.80%
Sb 217.582*†	337.6	0.1824 mg/L	0.02162			11.86%
Se 196.026*†	1175.5	0.5369 mg/L	0.00615			1.15%
Si 251.611*†	668389.2	17.34 mg/L	0.102			0.59%
Sn 189.927*†	2711.3	0.4503 mg/L	0.01030			2.29%
Sn 242.170†	3185.5	1.851 mg/L	0.0076			0.41%
Sr 407.771*†	947635.6	2.949 mg/L	0.0450			1.53%
Ti 334.940†	4579500.9	5.628 mg/L	0.0152			0.27%
Ti 336.121*†	3272781.2	5.733 mg/L	0.0217			0.38%
Tl 190.801*†	860.3	0.4760 mg/L	0.02885			6.06%
V 292.402*†	186918.7	1.422 mg/L	0.0077			0.54%
Zn 206.200*†	90508.0	2.216 mg/L	0.0054			0.24%

Sample conc. not calculated. Nominal Wt. AND Initial Wt. required OR sample units incorrect.

Sequence No.: 45
Sample ID: 17-03-1185-1
Analyst: 935 icp 7300
Initial Sample Wt: 2.08 g
Dilution:
Wash Time: 20

Autosampler Location: 129
Date Collected: 3/20/2017 5:41:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1185-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	64466.9	85.67 %	0.297			0.35%
Tb 350	117531.5	95.52 %	0.478			0.50%
Ag 328.068*†	117.0	0.0007 mg/L	0.00070	0.0315 mg/kg	0.03358	106.72%
Al 308.215*†	2788672.9	169.5 mg/L	1.00	8148 mg/kg	47.93	0.59%
As 188.979†	166.0	0.0874 mg/L	0.00372	4.201 mg/kg	0.1787	4.25%
As 193.696*†	122.5	0.0926 mg/L	0.00467	4.453 mg/kg	0.2246	5.04%
B 249.677*†	3855.8	0.0839 mg/L	0.00136	4.033 mg/kg	0.0656	1.63%
Ba 233.527*†	287090.0	2.062 mg/L	0.0072	99.14 mg/kg	0.345	0.35%
Be 313.042*†	16740.6	0.0049 mg/L	0.00007	0.2345 mg/kg	0.00323	1.38%
Ca 317.933*†	328799.6	185.8 mg/L	1.79	8931 mg/kg	86.19	0.97%
Cd 226.502*†	457.5	0.0063 mg/L	0.00015	0.3038 mg/kg	0.00734	2.42%
Cd 228.802†	27.6	0.0007 mg/L	0.00012	0.0358 mg/kg	0.00562	15.72%
Co 228.616*†	4899.7	0.1851 mg/L	0.00280	8.900 mg/kg	0.1346	1.51%
Cr 267.716*†	63565.9	0.5948 mg/L	0.00355	28.60 mg/kg	0.171	0.60%
Cu 324.752*†	99237.4	0.4220 mg/L	0.00145	20.29 mg/kg	0.070	0.34%
Fe 273.955*†	6675410.6	302.6 mg/L	2.71	14550 mg/kg	130.19	0.89%
K 766.490*†	70526.7	25.97 mg/L	0.104	1248 mg/kg	5.00	0.40%
Mg 279.077*†	2730117.4	153.7 mg/L	1.25	7388 mg/kg	59.86	0.81%
Mn 257.610*†	3297527.2	5.586 mg/L	0.0331	268.6 mg/kg	1.59	0.59%
Mo 202.031*†	66.9	0.0078 mg/L	0.00264	0.3745 mg/kg	0.12702	33.92%
Na 589.592*†	45246.5	11.28 mg/L	0.040	542.1 mg/kg	1.93	0.36%
Ni 231.604*†	21908.7	0.9848 mg/L	0.00250	47.35 mg/kg	0.120	0.25%
P 213.617*†	9188.8	5.337 mg/L	0.0386	256.6 mg/kg	1.85	0.72%
P 214.914†	6747.4	5.928 mg/L	0.0553	285.0 mg/kg	2.66	0.93%
Pb 220.353*†	1216.5	0.1642 mg/L	0.00216	7.895 mg/kg	0.1039	1.32%
Sb 206.836†	36.0	0.0208 mg/L	0.00138	1.000 mg/kg	0.0662	6.62%
Sb 217.582*†	-2.2	-0.0013 mg/L	0.00088	-0.0622 mg/kg	0.04229	67.96%
Se 196.026*†	3.9	0.0019 mg/L	0.00652	0.0923 mg/kg	0.31322	339.32%
Si 251.611*†	356607.0	9.997 mg/L	0.0565	480.6 mg/kg	2.72	0.57%
Sn 189.927*†	-157.4	-0.0287 mg/L	0.00307	-1.380 mg/kg	0.1476	10.70%
Sn 242.170†	1320.4	0.8151 mg/L	0.02505	39.19 mg/kg	1.204	3.07%
Sr 407.771*†	440399.2	1.485 mg/L	0.0035	71.38 mg/kg	0.170	0.24%
Ti 334.940†	2774597.7	3.632 mg/L	0.0083	174.6 mg/kg	0.40	0.23%
Ti 336.121*†	1991711.4	3.601 mg/L	0.0109	173.1 mg/kg	0.53	0.30%
Tl 190.801*†	-36.8	-0.0216 mg/L	0.00108	-1.040 mg/kg	0.0519	5.00%
V 292.402*†	56895.1	0.4380 mg/L	0.00178	21.06 mg/kg	0.085	0.41%
Zn 206.200*†	45622.9	1.213 mg/L	0.0174	58.30 mg/kg	0.838	1.44%

METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 6010B

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MB SAMPLE ID: 097-01-002-24461
MB BATCH ID: 170320L05
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:07
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170320C1\170320-b-05__341.icp

CLIENT WORK ORDER: 17-03-0641

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
33	D-DU3-ISM4-3		2017-03-20 17:26	W:\ICP-DATA\170320C1\17-03-0641-33 MIS.icp


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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: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:07
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\170320-b-05__341.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170320L05 **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	0.00502	0.962	ND	0.721	
Arsenic	-0.00381	0.962	ND	0.721	
Barium	-0.00279	0.962	ND	0.481	
Beryllium	-0.0000649	0.962	ND	0.240	
Cadmium	-0.000332	0.962	ND	0.481	
Chromium	0.000804	0.962	ND	0.240	
Cobalt	-0.0000640	0.962	ND	0.240	
Copper	-0.00250	0.962	ND	0.481	
Lead	-0.00178	0.962	ND	0.481	
Molybdenum	0.00149	0.962	ND	0.240	
Nickel	0.000104	0.962	ND	0.240	
Selenium	0.00216	0.962	ND	0.721	
Silver	0.00102	0.962	ND	0.240	
Thallium	-0.00825	0.962	ND	0.721	
Vanadium	-0.000931	0.962	ND	0.240	
Zinc	-0.00198	0.962	ND	0.962	

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LCS QUALITY CONTROL SHEET FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24461
LCS/MB BATCH ID: 170320L05
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:08
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C\1170320-L05_342.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	22.35	89	80-120	73-127	PASS	
Arsenic	25.00	22.51	90	80-120	73-127	PASS	
Barium	25.00	24.20	97	80-120	73-127	PASS	
Beryllium	25.00	23.17	93	80-120	73-127	PASS	
Cadmium	25.00	23.22	93	80-120	73-127	PASS	
Chromium	25.00	23.34	93	80-120	73-127	PASS	
Cobalt	25.00	24.11	96	80-120	73-127	PASS	
Copper	25.00	23.06	92	80-120	73-127	PASS	
Lead	25.00	23.73	95	80-120	73-127	PASS	
Molybdenum	25.00	22.93	92	80-120	73-127	PASS	
Nickel	25.00	24.17	97	80-120	73-127	PASS	
Phosphorus	25.00	24.50	98	80-120	73-127	PASS	
Selenium	25.00	22.92	92	80-120	73-127	PASS	
Silver	12.50	10.79	86	80-120	73-127	PASS	
Thallium	25.00	23.74	95	80-120	73-127	PASS	
Vanadium	25.00	22.08	88	80-120	73-127	PASS	
Zinc	25.00	23.35	93	80-120	73-127	PASS	
Aluminum	25.00	24.42	98	80-120	73-127	PASS	
Calcium	25.00	23.83	95	80-120	73-127	PASS	
Iron	25.00	22.93	92	80-120	73-127	PASS	
Magnesium	25.00	24.30	97	80-120	73-127	PASS	
Manganese	25.00	23.94	96	80-120	73-127	PASS	
Potassium	250.0	227.9	91	80-120	73-127	PASS	
Sodium	250.0	240.7	96	80-120	73-127	PASS	
Strontium	25.00	24.76	99	80-120	73-127	PASS	
Tin	25.00	23.95	96	80-120	73-127	PASS	
Titanium	25.00	22.98	92	80-120	73-127	PASS	
Boron	25.00	20.79	83	80-120	73-127	PASS	
Silicon	25.00	21.86	87	80-120	73-127	PASS	

LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: 097-01-002-24461
LCS/MB BATCH ID: 170320L05
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 17:08
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\170320-L05__342.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: 17-03-1188-1
MS/MSD BATCH: 170320S05
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-20 00:00
MS: 2017-03-20 00:00
MSD: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-20 17:45
MS: 2017-03-20 17:46
MSD: 2017-03-20 17:47
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	0.9236	0.5000	25.00	10.72	39	11.99	44	50-115	11	0-20	FAIL	3G
Arsenic	1.838	0.5000	25.00	26.00	97	28.92	108	75-125	11	0-20	PASS	
Barium	186.3	0.5000	25.00	205.1	4x	203.1	4x	75-125	4x	0-20	PASS	Q
Beryllium	0.5630	0.5000	25.00	27.08	106	28.63	112	75-125	6	0-20	PASS	
Cadmium	ND	0.5000	25.00	25.62	102	27.45	110	75-125	7	0-20	PASS	
Chromium	23.50	0.5000	25.00	46.98	94	52.70	117	75-125	11	0-20	PASS	
Cobalt	15.33	0.5000	25.00	38.82	94	41.44	104	75-125	7	0-20	PASS	
Copper	30.48	0.5000	25.00	56.19	103	60.74	121	75-125	8	0-20	PASS	
Lead	6.808	0.5000	25.00	31.40	98	34.53	111	75-125	9	0-20	PASS	
Molybdenum	ND	0.5000	25.00	20.03	80	22.07	88	75-125	10	0-20	PASS	
Nickel	25.72	0.5000	25.00	49.98	97	54.35	115	75-125	8	0-20	PASS	
Phosphorus	423.3	0.5000	25.00	528.5	4x	509.5	4x	75-125	4x	0-20	PASS	Q
Selenium	0.8236	0.5000	25.00	23.79	92	26.76	104	75-125	12	0-20	PASS	
Silver	ND	0.2500	12.50	12.78	102	11.89	95	75-125	7	0-20	PASS	
Thallium	ND	0.5000	25.00	16.26	65	23.45	94	75-125	36	0-20	FAIL	3G4
Vanadium	50.20	0.5000	25.00	71.16	84	76.62	106	75-125	7	0-20	PASS	
Zinc	48.96	0.5000	25.00	82.91	136	85.90	148	75-125	4	0-20	FAIL	3F
Aluminum	22180	0.5000	25.00	19430	4x	21890	4x	75-125	4x	0-20	PASS	Q
Calcium	7899	0.5000	25.00	7600	4x	8280	4x	75-125	4x	0-20	PASS	Q
Iron	19880	0.5000	25.00	16410	4x	19720	4x	75-125	4x	0-20	PASS	Q
Magnesium	3878	0.5000	25.00	3588	4x	3948	4x	75-125	4x	0-20	PASS	Q
Manganese	639.9	0.5000	25.00	573.6	4x	546.5	4x	75-125	4x	0-20	PASS	Q
Potassium	830.8	5.000	250.0	1049	87	1111	112	75-125	6	0-20	PASS	
Sodium	579.6	5.000	250.0	822.9	97	861.6	113	75-125	5	0-20	PASS	
Strontium	81.20	0.5000	25.00	101.7	82	110.2	116	75-125	8	0-20	PASS	
Tin	ND	0.5000	25.00	21.00	84	23.06	92	75-125	9	0-20	PASS	
Titanium	414.5	0.5000	25.00	305.6	4x	427.6	4x	75-125	4x	0-20	PASS	Q
Boron	ND	0.5000	25.00	22.25	89	21.69	87	75-125	3	0-20	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET

FOR METHOD: EPA 6010B

SPIKED SAMPLE ID: 17-03-1188-1
MS/MSD BATCH: 170320S05
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-20 00:00
MS: 2017-03-20 00:00
MSD: 2017-03-20 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-20 17:45
MS: 2017-03-20 17:46
MSD: 2017-03-20 17:47
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	774.5	0.5000	25.00	662.8	4x	858.2	4x	75-125	4x	0-20	PASS	Q

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-1188-1 ms.icp	W:\ICP-DATA\170320C1\
MSD	17-03-1188-1 msd.icp	W:\ICP-DATA\170320C1\

Sequence No.: 7
 Sample ID: 170320-b-05
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.08 g
 Dilution:
 Wash Time: 15

Autosampler Location: 116
 Date Collected: 3/20/2017 5:07:57 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 170320-b-05

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	84024.9	111.7 %	0.76			0.68%
Tb 350	139478.1	113.4 %	0.69			0.61%
Ag 328.068*†	182.2	0.0010 mg/L	0.00013	0.0490 mg/kg	0.00614	12.54%
Al 308.215*†	-104.7	-0.0064 mg/L	0.00483	-0.3060 mg/kg	0.23223	75.90%
As 188.979†	5.6	0.0029 mg/L	0.00674	0.1411 mg/kg	0.32427	229.83%
As 193.696*†	-5.0	-0.0038 mg/L	0.00396	-0.1830 mg/kg	0.19056	104.15%
B 249.677*†	-688.8	-0.0150 mg/L	0.00013	-0.7205 mg/kg	0.00613	0.85%
Ba 233.527*†	-388.9	-0.0028 mg/L	0.00007	-0.1343 mg/kg	0.00323	2.40%
Be 313.042*†	-222.6	-0.0001 mg/L	0.00001	-0.0031 mg/kg	0.00046	14.91%
Ca 317.933*†	-1.1	-0.0006 mg/L	0.00150	-0.0287 mg/kg	0.07227	251.81%
Cd 226.502*†	-24.0	-0.0003 mg/L	0.00015	-0.0160 mg/kg	0.00731	45.76%
Cd 228.802†	2.7	0.0001 mg/L	0.00008	0.0035 mg/kg	0.00383	108.14%
Co 228.616*†	-1.7	-0.0001 mg/L	0.00031	-0.0031 mg/kg	0.01508	490.31%
Cr 267.716*†	85.9	0.0008 mg/L	0.00044	0.0387 mg/kg	0.02097	54.25%
Cu 324.752*†	-587.5	-0.0025 mg/L	0.00015	-0.1201 mg/kg	0.00733	6.10%
Fe 273.955*†	-71.3	-0.0032 mg/L	0.00017	-0.1553 mg/kg	0.00815	5.25%
K 766.490*†	-74.9	-0.0276 mg/L	0.01073	-1.326 mg/kg	0.5161	38.93%
Mg 279.077*†	237.7	0.0134 mg/L	0.00609	0.6433 mg/kg	0.29298	45.54%
Mn 257.610*†	-121.3	-0.0002 mg/L	0.00009	-0.0099 mg/kg	0.00443	44.84%
Mo 202.031*†	12.8	0.0015 mg/L	0.00054	0.0715 mg/kg	0.02607	36.48%
Na 589.592*†	306.1	0.0763 mg/L	0.04358	3.668 mg/kg	2.0950	57.12%
Ni 231.604*†	2.3	0.0001 mg/L	0.00060	0.0050 mg/kg	0.02867	576.14%
P 213.617*†	12.6	0.0073 mg/L	0.01563	0.3519 mg/kg	0.75135	213.54%
P 214.914†	2.5	0.0022 mg/L	0.00889	0.1048 mg/kg	0.42723	407.52%
Pb 220.353*†	-13.2	-0.0018 mg/L	0.00119	-0.0857 mg/kg	0.05723	66.75%
Sb 206.836†	1.7	0.0010 mg/L	0.00169	0.0478 mg/kg	0.08107	169.57%
Sb 217.582*†	8.7	0.0050 mg/L	0.00032	0.2416 mg/kg	0.01562	6.47%
Se 196.026*†	4.3	0.0022 mg/L	0.00459	0.1038 mg/kg	0.22069	212.57%
Si 251.611*†	-769.0	-0.0216 mg/L	0.00044	-1.036 mg/kg	0.0211	2.04%
Sn 189.927*†	-13.9	-0.0025 mg/L	0.00098	-0.1222 mg/kg	0.04688	38.36%
Sn 242.170†	-11.8	-0.0073 mg/L	0.00803	-0.3497 mg/kg	0.38596	110.37%
Sr 407.771*†	1.4	0.0000 mg/L	0.00013	0.0002 mg/kg	0.00603	>999.9%
Ti 334.940†	278.0	0.0004 mg/L	0.00004	0.0175 mg/kg	0.00180	10.29%
Ti 336.121*†	-240.1	-0.0004 mg/L	0.00020	-0.0209 mg/kg	0.00975	46.71%
Tl 190.801*†	-14.0	-0.0082 mg/L	0.00412	-0.3965 mg/kg	0.19798	49.93%
V 292.402*†	-119.6	-0.0009 mg/L	0.00064	-0.0448 mg/kg	0.03064	68.45%
Zn 206.200*†	-74.5	-0.0020 mg/L	0.00012	-0.0952 mg/kg	0.00594	6.23%

Sequence No.: 8
 Sample ID: 170320-1-05
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.09 g
 Dilution:
 Wash Time: 15

Autosampler Location: 117
 Date Collected: 3/20/2017 5:08:56 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 170320-1-05

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	82042.2	109.0 %	0.43			0.40%
Tb 350	136750.5	111.1 %	0.80			0.72%
Ag 328.068*†	40318.8	0.2255 mg/L	0.00165	10.79 mg/kg	0.079	0.73%
Al 308.215*†	8398.7	0.5104 mg/L	0.00880	24.42 mg/kg	0.421	1.72%
As 188.979†	911.4	0.4797 mg/L	0.00399	22.95 mg/kg	0.191	0.83%
As 193.696*†	622.2	0.4704 mg/L	0.01073	22.51 mg/kg	0.514	2.28%
B 249.677*†	19973.6	0.4346 mg/L	0.00268	20.79 mg/kg	0.128	0.62%
Ba 233.527*†	70399.4	0.5057 mg/L	0.00057	24.20 mg/kg	0.027	0.11%
Be 313.042*†	1662462.3	0.4843 mg/L	0.00166	23.17 mg/kg	0.079	0.34%
Ca 317.933*†	881.5	0.4981 mg/L	0.00562	23.83 mg/kg	0.269	1.13%
Cd 226.502*†	35132.3	0.4852 mg/L	0.00161	23.22 mg/kg	0.077	0.33%
Cd 228.802†	17245.1	0.4655 mg/L	0.00841	22.27 mg/kg	0.402	1.81%
Co 228.616*†	13336.7	0.5039 mg/L	0.00915	24.11 mg/kg	0.438	1.82%
Cr 267.716*†	52143.0	0.4879 mg/L	0.00069	23.34 mg/kg	0.033	0.14%
Cu 324.752*†	113332.0	0.4819 mg/L	0.00130	23.06 mg/kg	0.062	0.27%
Fe 273.955*†	10573.9	0.4793 mg/L	0.00682	22.93 mg/kg	0.326	1.42%
K 766.490*†	12934.3	4.762 mg/L	0.0335	227.9 mg/kg	1.60	0.70%
Mg 279.077*†	9022.2	0.5078 mg/L	0.00295	24.30 mg/kg	0.141	0.58%
Mn 257.610*†	295309.0	0.5003 mg/L	0.00111	23.94 mg/kg	0.053	0.22%
Mo 202.031*†	4118.5	0.4793 mg/L	0.00618	22.93 mg/kg	0.296	1.29%
Na 589.592*†	20188.4	5.031 mg/L	0.1552	240.7 mg/kg	7.42	3.08%
Ni 231.604*†	11238.0	0.5051 mg/L	0.00778	24.17 mg/kg	0.372	1.54%
P 213.617*†	881.6	0.5120 mg/L	0.02190	24.50 mg/kg	1.048	4.28%
P 214.914†	538.3	0.4730 mg/L	0.02310	22.63 mg/kg	1.105	4.88%
Pb 220.353*†	3673.1	0.4959 mg/L	0.01003	23.73 mg/kg	0.480	2.02%
Sb 206.836†	812.9	0.4694 mg/L	0.00459	22.46 mg/kg	0.220	0.98%
Sb 217.582*†	806.9	0.4672 mg/L	0.00259	22.35 mg/kg	0.124	0.56%
Se 196.026*†	962.7	0.4790 mg/L	0.01110	22.92 mg/kg	0.531	2.32%
Si 251.611*†	16295.0	0.4568 mg/L	0.01253	21.86 mg/kg	0.599	2.74%
Sn 189.927*†	2745.8	0.5006 mg/L	0.00390	23.95 mg/kg	0.187	0.78%
Sn 242.170†	832.2	0.5137 mg/L	0.00685	24.58 mg/kg	0.328	1.33%
Sr 407.771*†	153525.3	0.5175 mg/L	0.02030	24.76 mg/kg	0.971	3.92%
Ti 334.940†	372245.1	0.4873 mg/L	0.00019	23.31 mg/kg	0.009	0.04%
Ti 336.121*†	265660.6	0.4803 mg/L	0.00075	22.98 mg/kg	0.036	0.16%
Tl 190.801*†	845.2	0.4962 mg/L	0.01153	23.74 mg/kg	0.552	2.32%
V 292.402*†	59281.5	0.4615 mg/L	0.00010	22.08 mg/kg	0.005	0.02%
Zn 206.200*†	18356.3	0.4879 mg/L	0.01073	23.35 mg/kg	0.513	2.20%

Sequence No.: 51
Sample ID: 17-03-1188-1 ms
Analyst: 935 icp 7300
Initial Sample Wt: 2.08 g
Dilution:
Wash Time: 15

Autosampler Location: 133
Date Collected: 3/20/2017 5:46:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1188-1 ms

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	59040.1	78.46 %	0.632			0.80%
Tb 350	120765.5	98.14 %	0.085			0.09%
Ag 328.068*†	47551.2	0.2659 mg/L	0.00527	12.78 mg/kg	0.253	1.98%
Al 308.215*†	6651572.2	404.2 mg/L	16.40	19430 mg/kg	788.70	4.06%
As 188.979†	1056.4	0.5561 mg/L	0.02218	26.73 mg/kg	1.067	3.99%
As 193.696*†	715.2	0.5407 mg/L	0.00336	26.00 mg/kg	0.161	0.62%
B 249.677*†	21267.6	0.4627 mg/L	0.01011	22.25 mg/kg	0.486	2.19%
Ba 233.527*†	594000.5	4.267 mg/L	0.1027	205.1 mg/kg	4.94	2.41%
Be 313.042*†	1933520.6	0.5632 mg/L	0.01843	27.08 mg/kg	0.886	3.27%
Ca 317.933*†	279782.5	158.1 mg/L	3.38	7600 mg/kg	162.43	2.14%
Cd 226.502*†	38580.1	0.5329 mg/L	0.00426	25.62 mg/kg	0.205	0.80%
Cd 228.802†	19587.2	0.5287 mg/L	0.00664	25.42 mg/kg	0.319	1.26%
Co 228.616*†	21372.1	0.8074 mg/L	0.01247	38.82 mg/kg	0.600	1.54%
Cr 267.716*†	104431.9	0.9772 mg/L	0.02289	46.98 mg/kg	1.100	2.34%
Cu 324.752*†	274849.8	1.169 mg/L	0.0259	56.19 mg/kg	1.247	2.22%
Fe 273.955*†	7531756.4	341.4 mg/L	17.46	16410 mg/kg	839.48	5.11%
K 766.490*†	59234.7	21.81 mg/L	0.613	1049 mg/kg	29.47	2.81%
Mg 279.077*†	1325924.1	74.63 mg/L	2.544	3588 mg/kg	122.29	3.41%
Mn 257.610*†	7042590.3	11.93 mg/L	0.592	573.6 mg/kg	28.44	4.96%
Mo 202.031*†	3580.3	0.4167 mg/L	0.00034	20.03 mg/kg	0.016	0.08%
Na 589.592*†	68682.4	17.12 mg/L	0.354	822.9 mg/kg	17.02	2.07%
Ni 231.604*†	23125.7	1.039 mg/L	0.0073	49.98 mg/kg	0.349	0.70%
P 213.617*†	18925.1	10.99 mg/L	0.094	528.5 mg/kg	4.54	0.86%
P 214.914†	13207.8	11.60 mg/L	0.212	557.9 mg/kg	10.19	1.83%
Pb 220.353*†	4838.4	0.6532 mg/L	0.00084	31.40 mg/kg	0.041	0.13%
Sb 206.836†	400.8	0.2314 mg/L	0.02259	11.13 mg/kg	1.086	9.76%
Sb 217.582*†	385.3	0.2231 mg/L	0.00949	10.72 mg/kg	0.456	4.25%
Se 196.026*†	994.3	0.4948 mg/L	0.02861	23.79 mg/kg	1.375	5.78%
Si 251.611*†	491784.1	13.79 mg/L	0.386	662.8 mg/kg	18.57	2.80%
Sn 189.927*†	2395.7	0.4368 mg/L	0.00619	21.00 mg/kg	0.298	1.42%
Sn 242.170†	2272.4	1.403 mg/L	0.0409	67.44 mg/kg	1.966	2.92%
Sr 407.771*†	627643.7	2.116 mg/L	0.0473	101.7 mg/kg	2.27	2.24%
Ti 334.940†	4898588.4	6.412 mg/L	0.3080	308.3 mg/kg	14.81	4.80%
Ti 336.121*†	3515265.7	6.356 mg/L	0.2871	305.6 mg/kg	13.80	4.52%
Tl 190.801*†	576.1	0.3382 mg/L	0.00184	16.26 mg/kg	0.088	0.54%
V 292.402*†	190830.3	1.480 mg/L	0.0342	71.16 mg/kg	1.644	2.31%
Zn 206.200*†	64876.8	1.725 mg/L	0.0157	82.91 mg/kg	0.755	0.91%

Sequence No.: 52
 Sample ID: 17-03-1188-1 msd
 Analyst: 935 icp 7300
 Initial Sample Wt: 2.03 g
 Dilution:
 Wash Time: 15

Autosampler Location: 134
 Date Collected: 3/20/2017 5:47:02 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol: 100 mL
 Auto Dilution Factor: 1

Mean Data: 17-03-1188-1 msd

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Tb 384	57412.7	76.30	%	0.462			0.61%
Tb 350	117495.7	95.49	%	0.618			0.65%
Ag 328.068*†	43167.8	0.2414	mg/L	0.00041	11.89 mg/kg	0.020	0.17%
Al 308.215*†	7313114.9	444.4	mg/L	0.76	21890 mg/kg	37.44	0.17%
As 188.979†	1085.4	0.5713	mg/L	0.00799	28.14 mg/kg	0.393	1.40%
As 193.696*†	776.6	0.5871	mg/L	0.00275	28.92 mg/kg	0.135	0.47%
B 249.677*†	20233.8	0.4402	mg/L	0.00298	21.69 mg/kg	0.147	0.68%
Ba 233.527*†	574013.3	4.123	mg/L	0.0129	203.1 mg/kg	0.64	0.31%
Be 313.042*†	1995450.7	0.5813	mg/L	0.00173	28.63 mg/kg	0.085	0.30%
Ca 317.933*†	297507.1	168.1	mg/L	4.23	8280 mg/kg	208.55	2.52%
Cd 226.502*†	40347.5	0.5573	mg/L	0.00685	27.45 mg/kg	0.338	1.23%
Cd 228.802†	20572.2	0.5553	mg/L	0.00848	27.35 mg/kg	0.418	1.53%
Co 228.616*†	22268.6	0.8413	mg/L	0.00949	41.44 mg/kg	0.467	1.13%
Cr 267.716*†	114320.7	1.070	mg/L	0.0036	52.70 mg/kg	0.175	0.33%
Cu 324.752*†	289960.0	1.233	mg/L	0.0025	60.74 mg/kg	0.122	0.20%
Fe 273.955*†	8831596.8	400.3	mg/L	1.03	19720 mg/kg	50.92	0.26%
K 766.490*†	61280.3	22.56	mg/L	0.502	1111 mg/kg	24.72	2.22%
Mg 279.077*†	1423773.1	80.14	mg/L	0.322	3948 mg/kg	15.86	0.40%
Mn 257.610*†	6547936.0	11.09	mg/L	0.024	546.5 mg/kg	1.18	0.22%
Mo 202.031*†	3848.9	0.4480	mg/L	0.00386	22.07 mg/kg	0.190	0.86%
Na 589.592*†	70185.6	17.49	mg/L	0.425	861.6 mg/kg	20.95	2.43%
Ni 231.604*†	24546.2	1.103	mg/L	0.0047	54.35 mg/kg	0.232	0.43%
P 213.617*†	17808.0	10.34	mg/L	0.125	509.5 mg/kg	6.17	1.21%
P 214.914†	12576.0	11.05	mg/L	0.159	544.3 mg/kg	7.85	1.44%
Pb 220.353*†	5192.1	0.7009	mg/L	0.00974	34.53 mg/kg	0.480	1.39%
Sb 206.836†	454.4	0.2624	mg/L	0.02586	12.92 mg/kg	1.274	9.86%
Sb 217.582*†	420.4	0.2434	mg/L	0.01732	11.99 mg/kg	0.853	7.11%
Se 196.026*†	1091.9	0.5433	mg/L	0.01695	26.76 mg/kg	0.835	3.12%
Si 251.611*†	621439.4	17.42	mg/L	0.052	858.2 mg/kg	2.57	0.30%
Sn 189.927*†	2567.3	0.4681	mg/L	0.01154	23.06 mg/kg	0.569	2.47%
Sn 242.170†	2655.2	1.639	mg/L	0.0460	80.74 mg/kg	2.267	2.81%
Sr 407.771*†	663631.7	2.237	mg/L	0.0516	110.2 mg/kg	2.54	2.31%
Ti 334.940†	6682918.8	8.748	mg/L	0.0160	430.9 mg/kg	0.79	0.18%
Ti 336.121*†	4801362.9	8.681	mg/L	0.0139	427.6 mg/kg	0.68	0.16%
Tl 190.801*†	811.0	0.4761	mg/L	0.00532	23.45 mg/kg	0.262	1.12%
V 292.402*†	200630.5	1.555	mg/L	0.0005	76.62 mg/kg	0.023	0.03%
Zn 206.200*†	65600.8	1.744	mg/L	0.0299	85.90 mg/kg	1.472	1.71%

Sequence No.: 50

Sample ID: 17-03-1188-1

Analyst: 935 icp 7300

Initial Sample Wt: 2.01 g

Dilution:

Wash Time: 15

Autosampler Location: 132

Date Collected: 3/20/2017 5:45:30 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Mean Data: 17-03-1188-1

	Mean Corrected	Calib.		Sample		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Tb 384	57431.5	76.32 %	1.853			2.43%
Tb 350	116849.7	94.96 %	2.416			2.54%
Ag 328.068*†	-151.8	-0.0008 mg/L	0.00041	-0.0422 mg/kg	0.02028	48.01%
Al 308.215*†	7337756.6	445.9 mg/L	3.77	22180 mg/kg	187.36	0.84%
As 188.979†	78.1	0.0411 mg/L	0.00710	2.046 mg/kg	0.3531	17.26%
As 193.696*†	48.9	0.0369 mg/L	0.01520	1.838 mg/kg	0.7563	41.15%
B 249.677*†	38.0	0.0008 mg/L	0.00211	0.0412 mg/kg	0.10510	255.22%
Ba 233.527*†	521248.1	3.744 mg/L	0.0122	186.3 mg/kg	0.61	0.33%
Be 313.042*†	38847.3	0.0113 mg/L	0.00002	0.5630 mg/kg	0.00112	0.20%
Ca 317.933*†	281002.5	158.8 mg/L	0.68	7899 mg/kg	33.61	0.43%
Cd 226.502*†	695.0	0.0096 mg/L	0.00130	0.4776 mg/kg	0.06472	13.55%
Cd 228.802†	94.6	0.0026 mg/L	0.00017	0.1271 mg/kg	0.00849	6.68%
Co 228.616*†	8155.6	0.3081 mg/L	0.00708	15.33 mg/kg	0.352	2.30%
Cr 267.716*†	50482.3	0.4724 mg/L	0.00162	23.50 mg/kg	0.081	0.34%
Cu 324.752*†	144052.0	0.6126 mg/L	0.00145	30.48 mg/kg	0.072	0.24%
Fe 273.955*†	8817174.6	399.7 mg/L	2.73	19880 mg/kg	135.96	0.68%
K 766.490*†	45351.1	16.70 mg/L	0.172	830.8 mg/kg	8.55	1.03%
Mg 279.077*†	1384741.1	77.94 mg/L	0.065	3878 mg/kg	3.24	0.08%
Mn 257.610*†	7592366.9	12.86 mg/L	0.091	639.9 mg/kg	4.52	0.71%
Mo 202.031*†	-60.5	-0.0070 mg/L	0.00088	-0.3503 mg/kg	0.04386	12.52%
Na 589.592*†	46747.5	11.65 mg/L	0.158	579.6 mg/kg	7.87	1.36%
Ni 231.604*†	11501.5	0.5170 mg/L	0.01372	25.72 mg/kg	0.682	2.65%
P 213.617*†	14649.6	8.509 mg/L	0.1947	423.3 mg/kg	9.69	2.29%
P 214.914†	10458.4	9.189 mg/L	0.2145	457.2 mg/kg	10.67	2.33%
Pb 220.353*†	1013.6	0.1368 mg/L	0.00180	6.808 mg/kg	0.0894	1.31%
Sb 206.836†	55.9	0.0323 mg/L	0.01942	1.607 mg/kg	0.9664	60.15%
Sb 217.582*†	32.1	0.0186 mg/L	0.01523	0.9236 mg/kg	0.75766	82.03%
Se 196.026*†	33.3	0.0166 mg/L	0.01416	0.8236 mg/kg	0.70447	85.53%
Si 251.611*†	555301.8	15.57 mg/L	0.015	774.5 mg/kg	0.76	0.10%
Sn 189.927*†	-316.6	-0.0577 mg/L	0.00428	-2.872 mg/kg	0.2127	7.41%
Sn 242.170†	1637.5	1.011 mg/L	0.0145	50.29 mg/kg	0.720	1.43%
Sr 407.771*†	484121.2	1.632 mg/L	0.0163	81.19 mg/kg	0.810	1.00%
Ti 334.940†	6422004.3	8.406 mg/L	0.0662	418.2 mg/kg	3.30	0.79%
Ti 336.121*†	4607593.8	8.331 mg/L	0.0605	414.5 mg/kg	3.01	0.73%
Tl 190.801*†	-47.1	-0.0277 mg/L	0.00443	-1.377 mg/kg	0.2202	15.99%
V 292.402*†	130459.4	1.009 mg/L	0.0045	50.20 mg/kg	0.223	0.44%
Zn 206.200*†	37023.8	0.9841 mg/L	0.00592	48.96 mg/kg	0.295	0.60%

EPA 6010B ICP Metals (Solid)

Run Logs

170320C1

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	3/20/2017	10:02:39 AM	935 icp	7300	1	
2	Cal blank R12091601_935	3/20/2017	10:03:53 AM	935 icp	7300	1	
3	STD3-M111116A_935_ICP7300	3/20/2017	10:04:59 AM	935 icp	7300	2	
4	ICV-M072816C	3/20/2017	10:05:55 AM	935 icp	7300	10	
5	ICB-R12091601	3/20/2017	10:06:52 AM	935 icp	7300	1	
6	Cal blank R12091601_935	3/20/2017	10:08:59 AM	935 icp	7300	1	
7	STD3-M111116A_935_ICP7300	3/20/2017	10:10:05 AM	935 icp	7300	2	
8	ICV-M072816C	3/20/2017	10:11:01 AM	935 icp	7300	10	
9	ICB-R12091601	3/20/2017	10:11:58 AM	935 icp	7300	1	✓ B > RL
10	ICB-R12091601	3/20/2017	10:12:43 AM	935 icp	7300	1	
11	ICB-R12091601	3/20/2017	10:13:31 AM	935 icp	7300	1	
12	ICS_A - M110116B	3/20/2017	10:14:33 AM	935 icp	7300	8	
13	ICS_AB - M110116A	3/20/2017	10:15:24 AM	935 icp	7300	9	
14	CCV= STD3x0.5	3/20/2017	10:16:14 AM	935 icp	7300	3	
15	CCB-R12091601	3/20/2017	10:17:05 AM	935 icp	7300	1	
16	LLCV-M082616A	3/20/2017	10:56:30 AM	935 icp	7300	101	
17	LLCV-M082616A	3/20/2017	10:57:36 AM	935 icp	7300	102	
18	17-03-0858-4 UTC	3/20/2017	10:58:35 AM	935 icp	7300	110	
19	LCS-JN-1012-1	3/20/2017	10:59:33 AM	935 icp	7300	103	
20	LCS-JN-1012-2	3/20/2017	11:00:26 AM	935 icp	7300	104	
21	LCS-JN-1012-3	3/20/2017	11:01:17 AM	935 icp	7300	105	
22	LCS-JN-1012-4	3/20/2017	11:02:08 AM	935 icp	7300	106	
23	LLCV-M082616A	3/20/2017	11:02:58 AM	935 icp	7300	101	
24	ICS_A - M110116B	3/20/2017	11:03:59 AM	935 icp	7300	8	

Mn, As, Pb, Sb, Zn act

Mn,

No.	File Name	Date	Time	Analyst	A/S	Location
185	17-03-1223-1	3/20/2017	1:38:27 PM	935 icp 7300		203
186	CCV= STD3x0.5	3/20/2017	1:39:18 PM	935 icp 7300		3
187	CCB-R12091601	3/20/2017	1:40:11 PM	935 icp 7300		1
188	17-03-1223-1 ms	3/20/2017	1:41:11 PM	935 icp 7300		204
189	17-03-1223-1 msd	3/20/2017	1:42:05 PM	935 icp 7300		205
190	17-03-1223-2	3/20/2017	1:42:56 PM	935 icp 7300		206
191	17-03-1223-3	3/20/2017	1:43:47 PM	935 icp 7300		207
192	17-03-1223-4	3/20/2017	1:44:38 PM	935 icp 7300		208
193	17-03-1223-5	3/20/2017	1:45:29 PM	935 icp 7300		209
194	17-03-0485-7 MIS	3/20/2017	1:46:20 PM	935 icp 7300		210
195	17-03-0485-8 MIS	3/20/2017	1:47:03 PM	935 icp 7300		211
196	17-03-0485-9 MIS	3/20/2017	1:47:46 PM	935 icp 7300		212
197	17-03-0884-1	3/20/2017	1:48:29 PM	935 icp 7300		213
198	CCV= STD3x0.5	3/20/2017	1:49:15 PM	935 icp 7300		3
199	CCB-R12091601	3/20/2017	1:50:07 PM	935 icp 7300		1
200	17-03-0884-1 ms	3/20/2017	1:51:07 PM	935 icp 7300		214
201	17-03-0884-1 msd	3/20/2017	1:51:55 PM	935 icp 7300		215
202	CCV= STD3x0.5	3/20/2017	1:52:41 PM	935 icp 7300		3
203	CCB-R12091601	3/20/2017	1:53:34 PM	935 icp 7300		1
204	CCV= STD3x0.5	3/20/2017	1:54:25 PM	935 icp 7300		3
205	CCB-R12091601	3/20/2017	1:55:23 PM	935 icp 7300		1
206	170320-ba-2	3/20/2017	1:56:14 PM	935 icp 7300		216
207	170320-la-2	3/20/2017	1:57:20 PM	935 icp 7300		217
208	17-03-1178-1	3/20/2017	1:58:19 PM	935 icp 7300		218
209	17-03-1178-2	3/20/2017	1:59:11 PM	935 icp 7300		219
210	17-03-1178-3	3/20/2017	1:59:58 PM	935 icp 7300		220
211	17-03-1113-1	3/20/2017	2:00:51 PM	935 icp 7300		221
212	17-03-1153-2	3/20/2017	2:10:51 PM	935 icp 7300		224
213	Cal blankR12091601_935	3/20/2017	2:19:17 PM	935 icp 7300		1
214	STD3-M111116A_935_ICP7300	3/20/2017	2:20:22 PM	935 icp 7300		2
215	ICV-M072816C	3/20/2017	2:21:18 PM	935 icp 7300		10
216	Cal blankR12091601_935	3/20/2017	2:23:32 PM	935 icp 7300		1

3 } * T2- + minerals (GOD Soil)
 1 } * T2- + minerals (GOD Water)

No solution

out

Reviewed/Assign to Logbook	Date: 3/24/17
Analysis: 2007/600	Chemist ID: 1012
Logbook Page: 89	Instrument ID: 1047

Reviewed/Assign to Logbook Date: 3/24/17
 Analysis: 200-71 6010 Chemist ID: 1012
 Logbook Page: 90 Instrument ID: 1017

No.	File Name	Date	Time	Analyst Name	A/S Location
217	STD3-M111116A_935_ICP7300	3/20/2017	2:24:37 PM	935 icp 7300	2
218	ICV-M072816C	3/20/2017	2:25:33 PM	935 icp 7300	10
219	ICB-R12091601	3/20/2017	2:26:30 PM	935 icp 7300	1
220	ICB-R12091601	3/20/2017	2:27:16 PM	935 icp 7300	1
221	ICB-R12091601	3/20/2017	2:28:04 PM	935 icp 7300	1
222	CCV= STD3x0.5	3/20/2017	2:29:07 PM	935 icp 7300	3
223	CCB-R12091601	3/20/2017	2:29:58 PM	935 icp 7300	1
224	170320-ba-2	3/20/2017	2:30:49 PM	935 icp 7300	216
225	170320-ba-2	3/20/2017	2:33:11 PM	935 icp 7300	216
226	170320-la-2	3/20/2017	2:34:16 PM	935 icp 7300	217
227	CCV= STD3x0.5	3/20/2017	2:35:06 PM	935 icp 7300	3
228	CCB-R12091601	3/20/2017	2:35:59 PM	935 icp 7300	1
229	17-03-1178-1	3/20/2017	2:36:50 PM	935 icp 7300	218
230	17-03-1178-2	3/20/2017	2:37:49 PM	935 icp 7300	219
231	17-03-1178-3	3/20/2017	2:38:36 PM	935 icp 7300	220
232	17-03-1113x5-1	3/20/2017	2:39:29 PM	935 icp 7300	221
233	17-03-1113x5-1 ms	3/20/2017	2:40:23 PM	935 icp 7300	222
234	17-03-1113x5-1 msd	3/20/2017	2:41:17 PM	935 icp 7300	223
235	17-03-1153-2	3/20/2017	2:42:11 PM	935 icp 7300	224
236	17-03-1153-3	3/20/2017	2:43:03 PM	935 icp 7300	225
237	17-03-1153-4	3/20/2017	2:43:55 PM	935 icp 7300	226
238	17-03-1153-5	3/20/2017	2:44:48 PM	935 icp 7300	227
239	CCV= STD3x0.5	3/20/2017	2:45:41 PM	935 icp 7300	3
240	CCB-R12091601	3/20/2017	2:46:34 PM	935 icp 7300	1
241	17-03-1153-6	3/20/2017	2:47:34 PM	935 icp 7300	228
242	17-03-1153-7	3/20/2017	2:48:30 PM	935 icp 7300	229
243	17-03-1153-8	3/20/2017	2:49:23 PM	935 icp 7300	230
244	17-03-1153-9	3/20/2017	2:50:16 PM	935 icp 7300	231
245	17-03-1153-10	3/20/2017	2:51:09 PM	935 icp 7300	232
246	17-03-1153-11	3/20/2017	2:52:01 PM	935 icp 7300	233
247	17-03-1153-12	3/20/2017	2:52:53 PM	935 icp 7300	234
248	17-03-1153-13	3/20/2017	2:53:46 PM	935 icp 7300	235

1, B > RL

No.	File Name	Date	Time	Analyst Name	A/S Location
313	CCB-R12091601	3/20/2017	4:33:17 PM	935 icp 7300	1
314	17-03-1282-1	3/20/2017	4:35:00 PM	935 icp 7300	450
315	17-03-1352-3	3/20/2017	4:36:01 PM	935 icp 7300	451
316	17-03-1352-4	3/20/2017	4:36:55 PM	935 icp 7300	452
317	17-03-1352-5	3/20/2017	4:37:50 PM	935 icp 7300	453
318	17-03-1352-6	3/20/2017	4:38:43 PM	935 icp 7300	454
319	17-03-1352-7	3/20/2017	4:39:35 PM	935 icp 7300	455
320	17-03-1352-8	3/20/2017	4:40:22 PM	935 icp 7300	456
321	17-03-1352-9	3/20/2017	4:41:15 PM	935 icp 7300	457
322	17-03-1352-10	3/20/2017	4:42:08 PM	935 icp 7300	458
323	17-03-1392-1	3/20/2017	4:43:01 PM	935 icp 7300	459
324	CCV= STD3x0.5	3/20/2017	4:43:58 PM	935 icp 7300	3
325	CCB-R12091601	3/20/2017	4:44:51 PM	935 icp 7300	1
326	17-03-1392-f-1	3/20/2017	4:45:51 PM	935 icp 7300	103
327	17-03-1392-f-1 ms	3/20/2017	4:46:48 PM	935 icp 7300	104
328	17-03-1392-f-1 msd	3/20/2017	4:47:44 PM	935 icp 7300	105
329	17-03-1300-1	3/20/2017	4:48:40 PM	935 icp 7300	106
330	17-03-1300-2	3/20/2017	4:49:27 PM	935 icp 7300	107
331	17-03-1361-1	3/20/2017	4:50:14 PM	935 icp 7300	108
332	17-03-1361-2	3/20/2017	4:51:06 PM	935 icp 7300	109
333	CCV= STD3x0.5	3/20/2017	4:51:58 PM	935 icp 7300	3
334	CCB-R12091601	3/20/2017	4:52:51 PM	935 icp 7300	1
335	170320-b-02	3/20/2017	5:02:20 PM	935 icp 7300	110
336	170320-l-02	3/20/2017	5:03:25 PM	935 icp 7300	111
337	170320-b-03	3/20/2017	5:04:17 PM	935 icp 7300	112
338	170320-l-03	3/20/2017	5:05:16 PM	935 icp 7300	113
339	170320-b-04	3/20/2017	5:06:06 PM	935 icp 7300	114
340	170320-l-04	3/20/2017	5:07:05 PM	935 icp 7300	115
341	170320-b-05	3/20/2017	5:07:57 PM	935 icp 7300	116
342	170320-l-05	3/20/2017	5:08:56 PM	935 icp 7300	117
343	170320-b-06	3/20/2017	5:09:48 PM	935 icp 7300	118
344	170320-l-06	3/20/2017	5:10:47 PM	935 icp 7300	119

Reviewed/Assign to Logbook Date: 3/21/17
 Analysis: 2027/6010 Chemist ID: 1012
 Logbook Page: 93 Instrument ID: 1017

No.	File Name	Date	Time	Analyst	A/S
345	CCV= STD3x0.5	3/20/2017	5:11:39 PM	935 icp 7300	3
346	CCB-R12091601	3/20/2017	5:12:31 PM	935 icp 7300	1
347	17-03-0486-7 MIS	3/20/2017	5:13:31 PM	935 icp 7300	141
348	17-03-0486-8 MIS	3/20/2017	5:14:30 PM	935 icp 7300	142
349	17-03-0486-9 MIS	3/20/2017	5:15:27 PM	935 icp 7300	143
350	17-03-0589-28 MIS	3/20/2017	5:16:24 PM	935 icp 7300	144
351	17-03-0589-29 MIS	3/20/2017	5:17:15 PM	935 icp 7300	145
352	17-03-0589-30 MIS	3/20/2017	5:18:06 PM	935 icp 7300	146
353	17-03-0590-28 MIS	3/20/2017	5:18:59 PM	935 icp 7300	147
354	17-03-0590-29 MIS	3/20/2017	5:19:50 PM	935 icp 7300	148
355	17-03-0590-30 MIS	3/20/2017	5:20:41 PM	935 icp 7300	149
356	17-03-0641-30 MIS	3/20/2017	5:21:32 PM	935 icp 7300	150
357	CCV= STD3x0.5	3/20/2017	5:22:23 PM	935 icp 7300	3
358	CCB-R12091601	3/20/2017	5:23:15 PM	935 icp 7300	1
359	17-03-0641-31 MIS	3/20/2017	5:24:15 PM	935 icp 7300	151
360	17-03-0641-32 MIS	3/20/2017	5:25:10 PM	935 icp 7300	152
361	17-03-0641-33 MIS	3/20/2017	5:26:01 PM	935 icp 7300	153
362	17-03-0642-30 MIS	3/20/2017	5:26:52 PM	935 icp 7300	154
363	17-03-0642-31 MIS	3/20/2017	5:27:43 PM	935 icp 7300	155
364	17-03-0642-32 MIS	3/20/2017	5:28:34 PM	935 icp 7300	156
365	17-03-0642-33 MIS	3/20/2017	5:29:25 PM	935 icp 7300	157
366	17-03-1273-1	3/20/2017	5:30:16 PM	935 icp 7300	160
367	17-03-0986-1	3/20/2017	5:31:00 PM	935 icp 7300	402
368	17-03-1256-1	3/20/2017	5:31:53 PM	935 icp 7300	120
369	CCV= STD3x0.5	3/20/2017	5:32:37 PM	935 icp 7300	3
370	CCB-R12091601	3/20/2017	5:33:30 PM	935 icp 7300	1
371	17-03-1256-1 ms	3/20/2017	5:34:30 PM	935 icp 7300	121
372	17-03-1256-1 msd	3/20/2017	5:35:15 PM	935 icp 7300	122
373	17-03-1125-3	3/20/2017	5:35:58 PM	935 icp 7300	123
374	17-03-1125-3 ms	3/20/2017	5:36:44 PM	935 icp 7300	124
375	17-03-1125-3 msd	3/20/2017	5:37:31 PM	935 icp 7300	125
376	17-03-1125-8	3/20/2017	5:38:18 PM	935 icp 7300	126

Reviewed/Assign to Logbook Date: 3/21/17
 Analysis: 200-7/6010 Chemist ID: 1012-
 Logbook Page: 94 Instrument ID: 1097

No.	File Name	Date	Time	Analyst Name	A/S Location
377	17-03-1125-13	3/20/2017	5:39:16 PM	935 icp 7300	127
378	17-03-1125-18	3/20/2017	5:40:14 PM	935 icp 7300	128
379	17-03-1185-1	3/20/2017	5:41:11 PM	935 icp 7300	129
380	17-03-1185-1 ms	3/20/2017	5:42:02 PM	935 icp 7300	130
381	CCV= STD3x0.5	3/20/2017	5:42:43 PM	935 icp 7300	3
382	CCB-R12091601	3/20/2017	5:43:36 PM	935 icp 7300	1
383	17-03-1185-1 msd	3/20/2017	5:44:36 PM	935 icp 7300	131
384	17-03-1188-1	3/20/2017	5:45:30 PM	935 icp 7300	132
385	17-03-1188-1 ms	3/20/2017	5:46:21 PM	935 icp 7300	133
386	17-03-1188-1 msd	3/20/2017	5:47:02 PM	935 icp 7300	134
387	17-03-1189-1	3/20/2017	5:47:43 PM	935 icp 7300	135
388	17-03-1189-1 ms	3/20/2017	5:48:26 PM	935 icp 7300	136
389	17-03-1189-1 msd	3/20/2017	5:49:13 PM	935 icp 7300	137
390	17-03-1260-2	3/20/2017	5:50:00 PM	935 icp 7300	138
391	17-03-1260-2 ms	3/20/2017	5:50:51 PM	935 icp 7300	139
392	17-03-1260-2 msd	3/20/2017	5:51:32 PM	935 icp 7300	140
393	CCV= STD3x0.5	3/20/2017	5:52:13 PM	935 icp 7300	3
394	CCB-R12091601	3/20/2017	5:53:05 PM	935 icp 7300	1
395	ICS_A - M110116B	3/20/2017	5:54:05 PM	935 icp 7300	8
396	ICS_AB - M110116A	3/20/2017	5:54:56 PM	935 icp 7300	9
397	CCV= STD3x0.5	3/20/2017	5:55:46 PM	935 icp 7300	3
398	CCB-R12091601	3/20/2017	5:56:37 PM	935 icp 7300	1

Didn't take sample

Reviewed/Assign to Logbook Date: 3/21/17
 Analysis: 200716010 Chemist ID: 1012
 Logbook Page: 95 Instrument ID: 1087

170321C1

M006-032-05 0.050 ml

10 ml

INT STD M120716A

PDS/PDSD

R.B. R12091602

M006-032-06 0.050 ml

Carrier/wash sol R12091604/R12091603

No.	File Name	Date	Time	Analyst	Name	A/S	Location
1	Cal blankR12091601_935	3/21/2017	9:17:42 AM		935 icp 7300		1
2	Cal blankR12091601_935	3/21/2017	9:19:05 AM		935 icp 7300		1
3	Cal blankR12091601_935	3/21/2017	9:20:17 AM		935 icp 7300		1
4	Cal blankR12091601_935	3/21/2017	9:21:29 AM		935 icp 7300		1
5	STD3-M111116A_935_ICP7300	3/21/2017	9:22:39 AM		935 icp 7300		2
6	ICV-M072816C	3/21/2017	9:23:35 AM		935 icp 7300		10
7	ICB-R12091601	3/21/2017	9:24:33 AM		935 icp 7300		1
8	ICB-R12091601	3/21/2017	9:25:19 AM		935 icp 7300		1
9	ICB-R12091601	3/21/2017	9:26:07 AM		935 icp 7300		1
10	ICB-R12091601	3/21/2017	9:34:20 AM		935 icp 7300		1
11	ICS_A - M110116B	3/21/2017	9:35:21 AM		935 icp 7300		8
12	ICS_AB - M110116A	3/21/2017	9:36:12 AM		935 icp 7300		9
13	CCV= STD3x0.5	3/21/2017	9:37:02 AM		935 icp 7300		3
14	CCB-R12091601	3/21/2017	9:37:53 AM		935 icp 7300		1
15	LLCV-M082616A	3/21/2017	9:41:29 AM		935 icp 7300		101
16	LLCV--M082616A	3/21/2017	9:42:34 AM		935 icp 7300		102
17	170314-ba-5	3/21/2017	9:43:33 AM		935 icp 7300		103
18	170314-la-5	3/21/2017	9:44:32 AM		935 icp 7300		104
19	170314-la-5-d	3/21/2017	9:45:23 AM		935 icp 7300		105
20	170320-ba-5	3/21/2017	9:46:14 AM		935 icp 7300		106
21	170320-la-5	3/21/2017	9:47:13 AM		935 icp 7300		107
22	17-03-1266x5-1	3/21/2017	9:48:05 AM		935 icp 7300		108
23	17-03-1266-1	3/21/2017	9:48:52 AM		935 icp 7300		109
24	17-03-1266-1 ms	3/21/2017	9:49:39 AM		935 icp 7300		110

B > RL

Ba, Hg, Al out

Reviewed/Assign to Logbook Date: 3/22/17
 Analysis: 200-1/6012 Chemist ID: 1012
 Logbook Page: 96 Instrument ID: 1017

No.	File Name	Date	Time	Analyst Name	A/S Location
57	17-03-1449-5	3/21/2017	10:19:07 AM	935 icp 7300	134
58	17-03-1449-6	3/21/2017	10:19:58 AM	935 icp 7300	135
59	17-03-1449-7	3/21/2017	10:20:39 AM	935 icp 7300	136
60	CCV= STD3x0.5	3/21/2017	10:21:30 AM	935 icp 7300	3
61	CCB-R12091601	3/21/2017	10:22:22 AM	935 icp 7300	1
62	17-03-1449-8	3/21/2017	10:23:22 AM	935 icp 7300	137
63	17-03-1449-9	3/21/2017	10:24:15 AM	935 icp 7300	138
64	17-03-1449-10	3/21/2017	10:25:06 AM	935 icp 7300	139
65	17-03-1449-11	3/21/2017	10:25:57 AM	935 icp 7300	140
66	17-03-1449-12	3/21/2017	10:26:49 AM	935 icp 7300	141
67	17-03-1449-13	3/21/2017	10:27:41 AM	935 icp 7300	142
68	17-03-1449-14	3/21/2017	10:28:33 AM	935 icp 7300	143
69	17-03-1444-1	3/21/2017	10:29:25 AM	935 icp 7300	144
70	17-03-1444-2	3/21/2017	10:30:16 AM	935 icp 7300	145
71	CCV= STD3x0.5	3/21/2017	10:31:09 AM	935 icp 7300	3
72	CCB-R12091601	3/21/2017	10:32:02 AM	935 icp 7300	1
73	17-03-1185-1 msd	3/21/2017	10:35:04 AM	935 icp 7300	146
74	CCV= STD3x0.5	3/21/2017	10:35:51 AM	935 icp 7300	3
75	CCB-R12091601	3/21/2017	10:36:44 AM	935 icp 7300	1

EPA 6010B ICP Metals (Solid)

Preparation Logs

Metals Sample Preparation Logbook (Solid / Other)

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #						
☒ EPA 3050B	☒ Solid	Thermometer	G704	(CF-2.0 °C)	HNO ₃	R01311701	20 mL	Spike 1	M022017 A					
☐ EPA 200.7	☐ Other (Specify)	Block Digester	3		HCl	R12301602	15 mL	Spike 2	M020617 C					
☐ EPA 200.8		Pipetter / Dispenser	P-072 / D-027 / D-028		H ₂ O ₂	M006-40-13	2.0 mL	Spike 3						
BATCH NUMBER		SUPPLY LOT #		BALANCE ID #		QUALITY SYSTEM MATRIX ID #		SAMPLE HANDLING						
MS/MSD 170320-803504		Tube / Container 170104		65		Teflon Chip M006-035-15		1 = Composite 2 = Subsample						
(Specify) 3/20/17 1030		Filter				(Specify)		3 = Homogenize 4 = None						
DIGESTION														
DATE	TIME	START		END		SAMPLE HANDLING	ECI ID #	ANALYTE(S)	SAMPLE		SPIKE STANDARD			
		TEMP W/O CF (°C)	PREP TECH ID #	TEMP W/O CF (°C)	PREP TECH ID #				INITIAL (g)	FINAL (mL)	1 (µL)	2 (µL)	3 (µL)	
3/20/17	11:30	95	1080	13:00	95	1080	4	MS 17-03-1185-1A	metals	2.09	100	500	500	
								MSD		2.05				
								LCS 17-0320-L04		2.07				
								LCSD / MB - B04		2.07				
								17-03-1185-1A		2.08				
								17-03-0641-30A		2.05				
								-30B		1.96				
								-30C		2.01				
								-30D		1.98				
								-30E		1.96				
								-31A		1.97				
								-31B		2.05				
								-31C		2.05				
								-31D		2.07				
								-31E		1.98				
								-32A		1.97				
								-32B		2.07				
								-32C		2.01				
								-32D		2.00				
								-32E		1.96				

COMMENTS:

COMMENTS:

EPA 7471A Mercury (Solid)

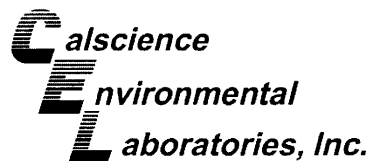
RAW DATA

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.: 17-03-0641

Instrument ID: HG 8 (H)

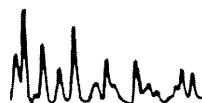
Concentration Unit: µg/L

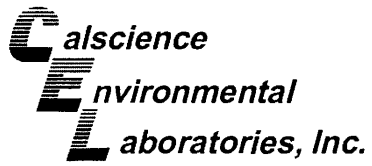
Test Method: EPA 7471A

Analyte	Initial Calibration Verification			
	True	ICV-1		Control Limit
		Observed	%D	
Mercury	5.000000	4.971729	1	0 – 10

03/15/2017 17:14

ICV-1 File: ICV M030617B 03/14/2017 12:07:55 PM





**EPA Method 7471A
Continuing Calibration Verification**



Work Order No.: 17-03-0641

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

Test Method: EPA 7471A

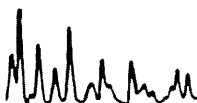
Analyte	Continuing Calibration Verification							
	True	CCV-1		CCV-2		CCV-3		Control Limit
		Observed	%D	Observed	%D	Observed	%D	
Mercury	2.000000	1.990674	0	1.987254	1	2.024582	1	0 - 20

03/15/2017 17:14

CCV-1 File: CCV 0.2x10ppb 03/14/2017 03:39:23 PM

CCV-2 File: CCV 0.2x10ppb 03/14/2017 04:06:37 PM

CCV-3 File: CCV 0.2x10ppb 03/14/2017 04:33:56 PM



EPA Method 7471A
Initial and Continuing Calibration Blanks

Work Order No.: 17-03-0641

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	RL (No PF)
Mercury	-0.000132	-0.004998	-0.005171	-0.003444	0.500000

03/15/2017 17:14

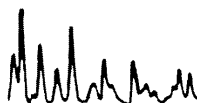
ICB-1 File: ICB 03/14/2017 12:10:09 PM

CCB-1 File: CCB 03/14/2017 03:41:39 PM

CCB-2 File: CCB 03/14/2017 04:08:53 PM

CCB-3 File: CCB 03/14/2017 04:36:12 PM

Note: Preparation factor (PF) = 167 L/kg



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

Page 260 of 479

WORK ORDER: 17-03-0641
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-14 16:17
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-26.icp

26 **CLIENT SAMPLE NUMBER:** D-DU3-ISM1-3

LCS/MB BATCH: 170314L01	SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.61 g
MS/MSD BATCH: 170314S01	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	0.000196	1.00	ND	0.0820	

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

Page 261 of 479

WORK ORDER: 17-03-0641

INSTRUMENT: Mercury 08

EXTRACTION: EPA 7471A Total

D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 868

D/T ANALYZED: 2017-03-14 16:20

REVIEWED BY:

D/T REVIEWED:

DATA FILE: W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-27.icp

27

CLIENT SAMPLE NUMBER: D-DU3-ISM2-3

LCS/MB BATCH: 170314L01

MS/MSD BATCH: 170314S01

UNITS: mg/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 0.60 g / ACTUAL: 0.63 g

DEFAULT: 100.00 ml

0.95

COMMENT:

COMPOUND

ON COL CONC

DF

CONC

RL

QUAL

Mercury

0.000190

1.00

ND

0.0794


Return to Contents

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

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WORK ORDER: 17-03-0641

INSTRUMENT: Mercury 08

EXTRACTION: EPA 7471A Total

D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 868

D/T ANALYZED: 2017-03-14 16:22

REVIEWED BY:

D/T REVIEWED:

DATA FILE: W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-28.icp

28

CLIENT SAMPLE NUMBER: D-DU3-ISM3-3

LCS/MB BATCH: 170314L01

MS/MSD BATCH: 170314S01

UNITS: mg/kg

SAMPLE VOLUME / WEIGHT:

FINAL VOLUME / WEIGHT:

ADJUSTMENT RATIO TO PF:

DEFAULT: 0.60 g / ACTUAL: 0.62 g

DEFAULT: 100.00 ml

0.97

COMMENT:

COMPOUND

ON COL CONC

DF

CONC

RL

QUAL

Mercury

0.000270

1.00

ND

0.0806

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

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WORK ORDER: 17-03-0641
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-14 16:24
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-29.icp

29

CLIENT SAMPLE NUMBER: D-DU3-ISM4-3

<u>LCS/MB BATCH:</u>	170314L01	<u>SAMPLE VOLUME / WEIGHT:</u>	DEFAULT: 0.60 g / ACTUAL: 0.63 g
<u>MS/MSD BATCH:</u>	170314S01	<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	0.000281	1.00	ND	0.0794	

METHOD BLANK ASSOCIATION SUMMARY

FOR METHOD: EPA 7471A

MB SAMPLE ID: 099-16-272-2870
MB BATCH ID: 170314L01
INSTRUMENT: Mercury 08
EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-14 15:52
REVIEWED BY: 771
D/T REVIEWED: 2017-03-14 16:52
MATRIX: Soil

DATA FILE: W:\MERCURY_DATA\FINAL\170314H1\170314-B-01.icp

CLIENT WORK ORDER: 17-03-0641

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
26	D-DU3-ISM1-3		2017-03-14 16:17	W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-26.icp
27	D-DU3-ISM2-3		2017-03-14 16:20	W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-27.icp
28	D-DU3-ISM3-3		2017-03-14 16:22	W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-28.icp
29	D-DU3-ISM4-3		2017-03-14 16:24	W:\MERCURY_DATA\FINAL\170314H1\17-03-0641-29.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: 2017-03-14 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-14 15:52
REVIEWED BY: 771
D/T REVIEWED: 2017-03-14 16:52

DATA FILE: W:\MERCURY_DATA\FINAL\170314H1\170314-B-01.icp

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH:	170314L01	SAMPLE VOLUME / WEIGHT:	DEFAULT: 0.60 g / ACTUAL: 0.60 g
MS/MSD BATCH:		FINAL VOLUME / WEIGHT:	DEFAULT: 100.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Mercury	-0.0000128	1.00	ND	0.0833	

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 7471A

LCS SAMPLE ID: 099-16-272- 2870
LCS/MB BATCH ID: 170314L01
INSTRUMENT: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-14 15:55
REVIEWED BY: 771
D/T REVIEWED: 2017-03-14 16:52

DATA FILE: W:\MERCURY_DATA\FINAL\170314H\1\170314-L-01.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	0.8050	96	85-121	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET

FOR METHOD: EPA 7471A

SPIKED SAMPLE ID: 17-03-0566-1
MS/MSD BATCH: 170314S01
INSTRUMENTS:
SAMPLE: Mercury 08
MS: Mercury 08
MSD: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED:
SAMPLE: 2017-03-14 00:00
MS: 2017-03-14 00:00
MSD: 2017-03-14 00:00

ANALYZED BY: 868
D/T ANALYZED:
SAMPLE: 2017-03-14 15:57
MS: 2017-03-14 15:59
MSD: 2017-03-14 16:02
REVIEWED BY: 771
D/T REVIEWED: 2017-03-14 16:52

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Mercury	0.1355	0.005000	0.8350	0.8591	87	0.8413	85	71-137	2	0-14	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-0566-1 MS.icp	W:\MERCURY_DATA\FINAL\170314H1\
MSD	17-03-0566-1 MSD.icp	W:\MERCURY_DATA\FINAL\170314H1\

=====
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\
170314H1.sifx

Batch ID:

Results Data Set: 170314H1

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: 3/14/2017 11:48:32 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 mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0001	-0.0009	0.0001	11:49:35 AM	Yes
2		[0.00]	0.0001	-0.0003	0.0001	11:50:20 AM	Yes
Mean:		[0.00]	0.0001				
SD:		0.0000	0.0000				
%RSD:		0.00%	22.01				

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: 3/14/2017 11:50:46 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 mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.025]	0.0003	0.0004	0.0004	11:51:50 AM	Yes
2		[0.025]	0.0003	0.0009	0.0004	11:52:34 AM	Yes
Mean:		[0.025]	0.0003				
SD:		0.00000	0.0000				
%RSD:		0.00%	3.40				

Standard number 1 applied. [0.025]
Correlation Coef.: 1.000000 Slope: 0.01150 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: 3/14/2017 11:53:01 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 mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0011	0.0030	0.0012	11:54:05 AM	Yes
2		[0.100]	0.0010	0.0023	0.0011	11:54:50 AM	Yes
Mean:		[0.100]	0.0011				
SD:		0.00000	0.0001				
%RSD:		0.00%	6.37				

Standard number 2 applied. [0.100]
Correlation Coef.: 0.999767 Slope: 0.01057 Intercept: 0.00001

```

=====
Sequence No.: 4                      Autosampler Location: 4
Sample ID: 1.00ppb M030617AX0.001   Date Collected: 3/14/2017 11:55:17 AM
Analyst: J68                         Data Type: Original
Initial Sample Wt:                   Initial Sample Vol:
Dilution:                           Sample Prep Vol:
Wash Time (before sample): 0         Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 1.00ppb M030617AX0.001   Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time    Peak
#      mg/L       ug/L      Signal   Area    Height              Stored
1      [1.000]    0.0109   0.0311   0.0110  11:56:22 AM  Yes
2      [1.000]    0.0101   0.0262   0.0102  11:57:06 AM  Yes
Mean:   [1.000]    0.0105
SD:     0.00000    0.0006
%RSD:   0.00%     5.52
Standard number 3 applied. [1.000]
Correlation Coef.: 0.999998   Slope: 0.01048   Intercept: 0.00001
=====

```

```

=====
Sequence No.: 5                      Autosampler Location: 5
Sample ID: 2.00ppb M030617AX0.002   Date Collected: 3/14/2017 11:57:33 AM
Analyst: J68                         Data Type: Original
Initial Sample Wt:                   Initial Sample Vol:
Dilution:                           Sample Prep Vol:
Wash Time (before sample): 0         Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 2.00ppb M030617AX0.002   Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time    Peak
#      mg/L       ug/L      Signal   Area    Height              Stored
1      [2.000]    0.0208   0.0597   0.0209  11:58:38 AM  Yes
2      [2.000]    0.0194   0.0506   0.0194  11:59:23 AM  Yes
Mean:   [2.000]    0.0201
SD:     0.00000    0.0010
%RSD:   0.00%     5.15
Standard number 4 applied. [2.000]
Correlation Coef.: 0.999780   Slope: 0.01009   Intercept: 0.00008
=====

```

```

=====
Sequence No.: 6                      Autosampler Location: 6
Sample ID: 5.00ppb M030617AX0.005   Date Collected: 3/14/2017 11:59:50 AM
Analyst: J68                         Data Type: Original
Initial Sample Wt:                   Initial Sample Vol:
Dilution:                           Sample Prep Vol:
Wash Time (before sample): 0         Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 5.00ppb M030617AX0.005   Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time    Peak
#      mg/L       ug/L      Signal   Area    Height              Stored
1      [5.000]    0.0524   0.1543   0.0525  12:00:54 PM  Yes
2      [5.000]    0.0480   0.1269   0.0481  12:01:39 PM  Yes
Mean:   [5.000]    0.0502
SD:     0.00000    0.0031
%RSD:   0.00%     6.19
Standard number 5 applied. [5.000]
Correlation Coef.: 0.999962   Slope: 0.01004   Intercept: 0.00011
=====

```

```

=====
Sequence No.: 7                      Autosampler Location: 7
Sample ID: 10.0ppb M030617AX0.01    Date Collected: 3/14/2017 12:02:04 PM
Analyst: J68                         Data Type: Original
Initial Sample Wt:                   Initial Sample Vol:
Dilution:                           Sample Prep Vol:
Wash Time (before sample): 0         Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 10.0ppb M030617AX0.01    Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time    Peak
#      mg/L       ug/L      Signal   Area    Height              Stored
=====

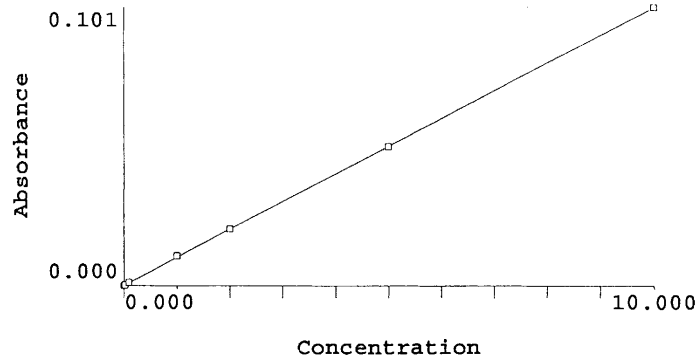
```

Method: EPA 7470A+7471A-Hg-8

Page 3

Date: 3/14/2017 12:04:18 PM

1 [10.00] 0.1054 0.3058 0.1054 12:03:08 PM Yes
 2 [10.00] 0.0965 0.2517 0.0966 12:03:53 PM Yes
 Mean: [10.00] 0.1009
 SD: 0.0000 0.0063
 %RSD: 0.00% 6.21
 Standard number 6 applied. [10.00]
 Correlation Coef.: 0.999989 Slope: 0.01008 Intercept: 0.00007



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	-0.006742	0.00	22.01
0.025ppb 0.005x5ppb	0.0003	0.025	0.021778	0.00	3.40
0.10ppb M030617AX0.0001	0.0011	0.100	0.098840	0.00	6.37
1.00ppb M030617AX0.001	0.0105	1.000	1.034327	0.00	5.52
2.00ppb M030617AX0.002	0.0201	2.000	1.988118	0.00	5.15
5.00ppb M030617AX0.005	0.0502	5.000	4.979432	0.00	6.19
10.0ppb M030617AX0.01	0.1009	10.00	10.009247	0.01	6.21

Correlation Coef.: 0.999989 Slope: 0.01008 Intercept: 0.00007

=====
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\
170314H1.sifx

Batch ID:

Results Data Set: 170314H1

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: 3/14/2017 12:06:07 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 mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00516	5.16	0.0521	0.1528	0.0521	12:07:10 PM	Yes
2	0.00478	4.78	0.0483	0.1267	0.0484	12:07:55 PM	Yes
Mean:	0.00497	4.97	0.0502				
SD:	0.000266	0.266	0.0027				
%RSD:	5.34%	5.34%	5.34				

QC value within limits for Hg 253.7 Recovery = 99.43%

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: 3/14/2017 12:08:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: ICB

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.000002	0.00183	0.0001	0.0012	0.0002	12:09:25 PM	Yes
2	-0.000002	-0.00210	0.0000	0.0005	0.0001	12:10:09 PM	Yes
Mean:	-0.000000	-0.000132	0.0001				
SD:	0.0000028	0.0027778	0.0000				
%RSD:	>999.9%	>999.9%	42.02				

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: 3/14/2017 12:10:35 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 mg/kg	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0505	0.303	0.0031	0.0099	0.0032	12:11:39 PM	Yes
2	0.0464	0.279	0.0029	0.0082	0.0029	12:12:24 PM	Yes
Mean:	0.0485	0.291	0.0030				
SD:	0.00290	0.0174	0.0002				
%RSD:	5.98%	5.98%	5.85				

Sequence No.: 20
 Sample ID: 17-03-0563-3
 Analyst: 868 HG-8
 Initial Sample Wt:
 Dilution: 2X
 Wash Time (before sample): 0

Autosampler Location: 51
 Date Collected: 3/14/2017 3:30:46 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Replicate Data: 17-03-0563-3

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000015	-0.00771	-0.0000	-0.0014	0.0001	3:31:51 PM	Yes
2	-0.000015	-0.00758	-0.0000	-0.0014	0.0001	3:32:36 PM	Yes
Mean:	-0.000015	-0.00764	-0.0000				
SD:	0.0000002	0.000091	0.0000				
%RSD:	1.19%	1.19%	10.05				

Sequence No.: 21
 Sample ID: 17-03-0563-F-2
 Analyst: 868 HG-8
 Initial Sample Wt:
 Dilution: 2X
 Wash Time (before sample): 0

Autosampler Location: 52
 Date Collected: 3/14/2017 3:33:02 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Replicate Data: 17-03-0563-F-2

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.000090	0.0448	0.0005	0.0034	0.0006	3:34:07 PM	Yes
2	-0.000019	-0.00965	-0.0000	-0.0019	0.0000	3:34:52 PM	Yes
Mean:	0.000035	0.0176	0.0002				
SD:	0.0000771	0.03853	0.0004				
%RSD:	219.02%	219.02%	158.34				

Sequence No.: 22
 Sample ID: 17-03-0563-F-3
 Analyst: 868 HG-8
 Initial Sample Wt:
 Dilution: 2X
 Wash Time (before sample): 0

Autosampler Location: 53
 Date Collected: 3/14/2017 3:35:18 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:
 Auto Dilution Factor: 1

Replicate Data: 17-03-0563-F-3

Analyte: Hg 253.7

Repl #	SampleConc mg/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000016	-0.00822	-0.0000	-0.0016	0.0001	3:36:23 PM	Yes
2	-0.000014	-0.00705	-0.0000	-0.0012	0.0001	3:37:07 PM	Yes
Mean:	-0.000015	-0.00764	-0.0000				
SD:	0.0000017	0.000829	0.0000				
%RSD:	10.85%	10.85%	92.42				

Sequence No.: 23
 Sample ID: CCV 0.2x10ppb
 Analyst: 868 HG-8
 Initial Sample Wt:
 Dilution:
 Wash Time (before sample): 0

Autosampler Location: 5
 Date Collected: 3/14/2017 3:37:33 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	0.00208	2.08	0.0210	0.0612	0.0211	3:38:39 PM	Yes
2	0.00190	1.90	0.0192	0.0501	0.0193	3:39:23 PM	Yes
Mean:	0.00199	1.99	0.0201				
SD:	0.000127	0.127	0.0013				
%RSD:	6.36%	6.36%	6.33				

QC value within limits for Hg 253.7 Recovery = 99.53%
 All analyte(s) passed QC.


```

=====
Sequence No.: 24                      Autosampler Location: 1
Sample ID: CCB                      Date Collected: 3/14/2017 3:39:51 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  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/L       ug/L      Signal   Area    Height
1      -0.000003  -0.00261  0.0000   0.0007  0.0001  3:40:55 PM  Yes
2      -0.000007  -0.00739  -0.0000  0.0000  0.0001  3:41:39 PM  Yes
Mean:  -0.000005  -0.00500  0.0000
SD:     0.0000034  0.003380  0.0000
%RSD:   67.61%    67.61%    193.82
QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.
=====

```

```

-----
Sequence No.: 25                      Autosampler Location: 54
Sample ID: 17-03-0885-1            Date Collected: 3/14/2017 3:42:05 PM
Analyst: 868 HG-8                  Data Type: Original
Initial Sample Wt:                  Initial Sample Vol:
Dilution: 2X                      Sample Prep Vol:
Wash Time (before sample): 0        Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 17-03-0885-1          Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/L       ug/L      Signal   Area    Height
1      0.000005   0.00249  0.0001   -0.0004 0.0002  3:43:10 PM  Yes
2      0.000044   0.0221   0.0003   0.0010  0.0004  3:43:54 PM  Yes
Mean:  0.000025   0.0123   0.0002
SD:     0.0000277  0.01387  0.0001
%RSD:   112.80%   112.80%   72.86
=====

```

```

-----
Sequence No.: 26                      Autosampler Location: 55
Sample ID: 17-03-0885-2            Date Collected: 3/14/2017 3:44:21 PM
Analyst: 868 HG-8                  Data Type: Original
Initial Sample Wt:                  Initial Sample Vol:
Dilution: 2X                      Sample Prep Vol:
Wash Time (before sample): 0        Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 17-03-0885-2          Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/L       ug/L      Signal   Area    Height
1      -0.000010  -0.00510  0.0000   0.0009  0.0001  3:45:25 PM  Yes
2      -0.000015  -0.00726  -0.0000  0.0001  0.0001  3:46:10 PM  Yes
Mean:  -0.000012  -0.00618  0.0000
SD:     0.0000031  0.001530  0.0000
%RSD:   24.75%    24.75%    272.97
=====

```

```

-----
Sequence No.: 27                      Autosampler Location: 56
Sample ID: 17-03-0885-3            Date Collected: 3/14/2017 3:46:36 PM
Analyst: 868 HG-8                  Data Type: Original
Initial Sample Wt:                  Initial Sample Vol:
Dilution: 2X                      Sample Prep Vol:
Wash Time (before sample): 0        Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 17-03-0885-3          Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/L       ug/L      Signal   Area    Height
1      0.000007   0.00325  0.0001   0.0009  0.0002  3:47:41 PM  Yes
2      -0.000002  -0.000773 0.0001   0.0002  0.0001  3:48:26 PM  Yes
Mean:  0.000002   0.00124  0.0001
=====

```

Method: EPA 7470A+7471A-Hg-8

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Date: 3/14/2017 3:57:34 PM

SD: 0.0000057 0.002845 0.0000
 %RSD: 229.73% 229.73% 35.65

```
=====
Sequence No.: 28                               Autosampler Location: 57
Sample ID: 17-03-0885-4                       Date Collected: 3/14/2017 3:48:52 PM
Analyst: 868 HG-8                             Data Type: Original
Initial Sample Wt:                           Initial Sample Vol:
Dilution: 2X                                Sample Prep Vol:
Wash Time (before sample): 0                 Auto Dilution Factor: 1
=====
```

```
-----
Replicate Data: 17-03-0885-4                 Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/L       ug/L      Signal   Area    Height             Stored
1      0.000012   0.00600  0.0001   0.0001  0.0002   3:49:57 PM  Yes
2      0.000012   0.00623  0.0001   0.0001  0.0002   3:50:41 PM  Yes
Mean:  0.000012   0.00612  0.0001
SD:     0.0000003  0.000164 0.0000
%RSD:  2.69%     2.69%    1.28
=====
```

```
=====
Sequence No.: 29                               Autosampler Location: 58
Sample ID: 170314-B-01                       Date Collected: 3/14/2017 3:51:08 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: 170314-B-01                 Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/kg      ug/L      Signal   Area    Height             Stored
1      -0.00244   -0.0146  -0.0001  -0.0027 -0.0000   3:52:13 PM  Yes
2      -0.00183   -0.0110  -0.0000  -0.0006 0.0000   3:52:58 PM  Yes
Mean:  -0.00213   -0.0128  -0.0001
SD:     0.000433   0.00260  0.0000
%RSD:  20.30%    20.30%   42.92
=====
```

```
=====
Sequence No.: 30                               Autosampler Location: 59
Sample ID: 170314-L-01                       Date Collected: 3/14/2017 3:53:24 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: 170314-L-01                 Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/kg      ug/L      Signal   Area    Height             Stored
1      0.839      5.03     0.0508   0.1499  0.0509   3:54:29 PM  Yes
2      0.771      4.63     0.0467   0.1254  0.0468   3:55:14 PM  Yes
Mean:  0.805      4.83     0.0487
SD:     0.0478     0.287    0.0029
%RSD:  5.94%     5.94%    5.93
=====
```

```
=====
Sequence No.: 31                               Autosampler Location: 60
Sample ID: 17-03-0566-1                       Date Collected: 3/14/2017 3:55:41 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: 17-03-0566-1                 Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak    Peak    Time      Peak
#      mg/kg      ug/L      Signal   Area    Height             Stored
1      0.142      0.880    0.0089   0.0267  0.0090   3:56:46 PM  Yes
2      0.129      0.800    0.0081   0.0229  0.0082   3:57:31 PM  Yes
Mean:  0.136      0.840    0.0085
=====
```

Method: EPA 7470A+7471A-Hg-8

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Date: 3/14/2017 4:06:40 PM

SD: 0.0091 0.0566 0.0006
 %RSD: 6.73% 6.73% 6.68

Sequence No.: 32

Autosampler Location: 61

Sample ID: 17-03-0566-1 MS

Date Collected: 3/14/2017 3:57:58 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: 17-03-0566-1 MS

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.898	5.48	0.0552	0.1695	0.0553	3:59:03 PM	Yes
2	0.821	5.01	0.0505	0.1388	0.0506	3:59:48 PM	Yes
Mean:	0.859	5.24	0.0529				
SD:	0.0545	0.332	0.0033				
%RSD:	6.34%	6.34%	6.33				

Sequence No.: 33

Autosampler Location: 62

Sample ID: 17-03-0566-1 MSD

Date Collected: 3/14/2017 4:00:15 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: 17-03-0566-1 MSD

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.876	5.43	0.0548	0.1647	0.0549	4:01:20 PM	Yes
2	0.807	5.00	0.0505	0.1373	0.0506	4:02:05 PM	Yes
Mean:	0.841	5.22	0.0526				
SD:	0.0487	0.302	0.0030				
%RSD:	5.79%	5.79%	5.78				

Sequence No.: 34

Autosampler Location: 63

Sample ID: 17-03-0927-1

Date Collected: 3/14/2017 4:02:32 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: 17-03-0927-1

Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0363	0.221	0.0023	0.0078	0.0024	4:03:36 PM	Yes
2	0.0328	0.200	0.0021	0.0058	0.0022	4:04:21 PM	Yes
Mean:	0.0346	0.211	0.0022				
SD:	0.00247	0.0151	0.0002				
%RSD:	7.14%	7.14%	6.92				

Sequence No.: 35

Autosampler Location: 5

Sample ID: CCV 0.2x10ppb

Date Collected: 3/14/2017 4:04:47 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 mg/L	StdConc ug/L	Blncorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00209	2.09	0.0211	0.0627	0.0212	4:05:53 PM	Yes
2	0.00189	1.89	0.0191	0.0513	0.0192	4:06:37 PM	Yes
Mean:	0.00199	1.99	0.0201				

SD: 0.000140 0.140 0.0014

%RSD: 7.03% 7.03% 7.00

QC value within limits for Hg 253.7 Recovery = 99.36%

All analyte(s) passed QC.

Sequence No.: 36

Sample ID: CCB

Analyst: 868 HG-8

Initial Sample Wt:

Dilution:

Wash Time (before sample): 0

Autosampler Location: 1

Date Collected: 3/14/2017 4:07:05 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Auto Dilution Factor: 1.0000

Replicate Data: CCB

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/L	ug/L	Signal	Area	Height		Stored
1	-0.000006	-0.00573	0.0000	-0.0002	0.0001	4:08:08 PM	Yes
2	-0.000005	-0.00461	0.0000	0.0009	0.0001	4:08:53 PM	Yes
Mean:	-0.000005	-0.00517	0.0000				
SD:	0.0000008	0.000792	0.0000				
%RSD:	15.31%	15.31%	50.38				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 37

Sample ID: 17-03-0996-1

Analyst: 868 HG-8

Initial Sample Wt: 0.61 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 64

Date Collected: 3/14/2017 4:09:18 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Replicate Data: 17-03-0996-1

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.00630	0.0384	0.0005	0.0026	0.0005	4:10:23 PM	Yes
2	0.00334	0.0204	0.0003	0.0010	0.0003	4:11:08 PM	Yes
Mean:	0.00482	0.0294	0.0004				
SD:	0.002094	0.01277	0.0001				
%RSD:	43.42%	43.42%	35.32				

Sequence No.: 38

Sample ID: 17-03-0981-1

Analyst: 868 HG-8

Initial Sample Wt: 0.6 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 65

Date Collected: 3/14/2017 4:11:34 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Replicate Data: 17-03-0981-1

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.355	2.13	0.0216	0.0641	0.0216	4:12:39 PM	Yes
2	0.328	1.97	0.0199	0.0547	0.0200	4:13:24 PM	Yes
Mean:	0.342	2.05	0.0207				
SD:	0.0196	0.118	0.0012				
%RSD:	5.74%	5.74%	5.72				

Sequence No.: 39

Sample ID: 17-03-0981-2

Analyst: 868 HG-8

Initial Sample Wt: 0.58 g

Dilution:

Wash Time (before sample): 0

Autosampler Location: 66

Date Collected: 3/14/2017 4:13:50 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol: 100 mL

Auto Dilution Factor: 1

Replicate Data: 17-03-0981-2

Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak

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#	mg/kg	ug/L	Signal	Area	Height	Time	Stored
1	0.697	4.04	0.0408	0.1215	0.0409	4:14:55 PM	Yes
2	0.638	3.70	0.0373	0.1019	0.0374	4:15:41 PM	Yes
Mean:	0.667	3.87	0.0391				
SD:	0.0421	0.244	0.0025				
%RSD:	6.30%	6.30%	6.29				

Sequence No.: 40
Sample ID: 17-03-0641-26
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 67
Date Collected: 3/14/2017 4:16:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0641-26
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0342	0.209	0.0022	0.0058	0.0022	4:17:12 PM	Yes
2	0.0302	0.184	0.0019	0.0049	0.0020	4:17:58 PM	Yes
Mean:	0.0322	0.196	0.0020				
SD:	0.00286	0.0174	0.0002				
%RSD:	8.89%	8.89%	8.59				

Sequence No.: 41
Sample ID: 17-03-0641-27
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 68
Date Collected: 3/14/2017 4:18:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0641-27
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0323	0.203	0.0021	0.0059	0.0022	4:19:29 PM	Yes
2	0.0280	0.176	0.0018	0.0051	0.0019	4:20:15 PM	Yes
Mean:	0.0301	0.190	0.0020				
SD:	0.00300	0.0189	0.0002				
%RSD:	9.97%	9.97%	9.62				

Sequence No.: 42
Sample ID: 17-03-0641-28
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 69
Date Collected: 3/14/2017 4:20:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0641-28
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0454	0.282	0.0029	0.0080	0.0030	4:21:47 PM	Yes
2	0.0416	0.258	0.0027	0.0078	0.0027	4:22:31 PM	Yes
Mean:	0.0435	0.270	0.0028				
SD:	0.00269	0.0167	0.0002				
%RSD:	6.18%	6.18%	6.03				

Sequence No.: 43
Sample ID: 17-03-0641-29
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 70
Date Collected: 3/14/2017 4:22:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0641-29
Analyte: Hg 253.7

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak

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Date: 3/14/2017 4:33:14 PM

#	mg/kg	ug/L	Signal	Area	Height		Stored
1	0.0462	0.291	0.0030	0.0085	0.0031	4:24:03 PM	Yes
2	0.0430	0.271	0.0028	0.0084	0.0029	4:24:49 PM	Yes
Mean:	0.0446	0.281	0.0029				
SD:	0.00228	0.0144	0.0001				
%RSD:	5.11%	5.11%	4.99				

```

=====
Sequence No.: 44
Sample ID: 17-03-0642-26
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 71
Date Collected: 3/14/2017 4:25:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 17-03-0642-26
Analyte: Hg 253.7
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak
# mg/kg ug/L Signal Area Height Stored
1 0.0939 0.592 0.0060 0.0184 0.0061 4:26:21 PM Yes
2 0.0840 0.529 0.0054 0.0157 0.0055 4:27:05 PM Yes
Mean: 0.0890 0.560 0.0057
SD: 0.00703 0.0443 0.0004
%RSD: 7.91% 7.91% 7.81
=====

```

```

=====
Sequence No.: 45
Sample ID: 17-03-0642-27
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 72
Date Collected: 3/14/2017 4:27:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 17-03-0642-27
Analyte: Hg 253.7
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak
# mg/kg ug/L Signal Area Height Stored
1 0.0707 0.431 0.0044 0.0129 0.0045 4:28:38 PM Yes
2 0.0632 0.385 0.0040 0.0120 0.0040 4:29:22 PM Yes
Mean: 0.0669 0.408 0.0042
SD: 0.00533 0.0325 0.0003
%RSD: 7.96% 7.96% 7.83
=====

```

```

=====
Sequence No.: 46
Sample ID: 17-03-0642-28
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 73
Date Collected: 3/14/2017 4:29:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1
=====

```

```

-----
Replicate Data: 17-03-0642-28
Analyte: Hg 253.7
Repl SampleConc StndConc BlnkCorr Peak Peak Time Peak
# mg/kg ug/L Signal Area Height Stored
1 0.0562 0.354 0.0036 0.0105 0.0037 4:30:54 PM Yes
2 0.0523 0.330 0.0034 0.0104 0.0035 4:31:39 PM Yes
Mean: 0.0543 0.342 0.0035
SD: 0.00276 0.0174 0.0002
%RSD: 5.09% 5.09% 4.99
=====

```

```

=====
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: 3/14/2017 4:32:06 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 StndConc BlnkCorr Peak Peak Time Peak
=====

```

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Date: 3/14/2017 4:41:11 PM

#	mg/L	ug/L	Signal	Area	Height		Stored
1	0.00211	2.11	0.0213	0.0628	0.0214	4:33:11 PM	Yes
2	0.00194	1.94	0.0196	0.0539	0.0197	4:33:56 PM	Yes
Mean:	0.00202	2.02	0.0205				
SD:	0.000123	0.123	0.0012				
%RSD:	6.05%	6.05%	6.03				

QC value within limits for Hg 253.7 Recovery = 101.23%
All analyte(s) passed QC.

```

=====
Sequence No.: 48                               Autosampler Location: 1
Sample ID: CCB                                Date Collected: 3/14/2017 4:34:24 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  StndConc  BlnkCorr  Peak  Peak  Time  Peak
#      mg/L       ug/L      Signal   Area  Height
1      -0.000004  -0.00436  0.0000    0.0000 0.0001 4:35:27 PM Yes
2      -0.000003  -0.00253  0.0000    0.0010 0.0001 4:36:12 PM Yes
Mean:  -0.000003  -0.00344  0.0000
SD:     0.0000013  0.001296  0.0000
%RSD:   37.63%    37.63%    39.29
=====

```

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

```

=====
Sequence No.: 49                               Autosampler Location: 74
Sample ID: 17-03-0642-29                     Date Collected: 3/14/2017 4:36:38 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: 17-03-0642-29                 Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak  Peak  Time  Peak
#      mg/kg      ug/L      Signal   Area  Height
1      0.0184     0.114    0.0012    0.0035 0.0013 4:37:42 PM Yes
2      0.0169     0.105    0.0011    0.0036 0.0012 4:38:27 PM Yes
Mean:  0.0176     0.109    0.0012
SD:     0.00110    0.0068   0.0001
%RSD:   6.22%     6.22%    5.86
=====

```

```

=====
Sequence No.: 503                               Autosampler Location: 75
Sample ID: 17-03-0662-1 24                     Date Collected: 3/14/2017 4:38:54 PM
Analyst: 868 HG-8 3/14/17                     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: 17-03-0662-1                 Analyte: Hg 253.7
Repl  SampleConc  StndConc  BlnkCorr  Peak  Peak  Time  Peak
#      mg/kg      ug/L      Signal   Area  Height
1      0.665      4.06     0.0410    0.1201 0.0410 4:39:59 PM Yes
2      0.599      3.65     0.0369    0.1017 0.0370 4:40:44 PM Yes
Mean:  0.632      3.86     0.0389
SD:     0.0466     0.285    0.0029
%RSD:   7.38%     7.38%    7.37
=====

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Sequence No.: 513                               Autosampler Location: 76
Sample ID: 17-03-0662-2 3                     Date Collected: 3/14/2017 4:41:11 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
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EPA 7471A Mercury (Solid)

Run Logs

170314H1

Carrier solution R07141602

Reducing Agent R07141603

Sample ID	Analyst Name	Initial		Sample Name	Analyte Name	Date	Time	Conc		Units		Conc	Units	Corr Coef
		Wt						(Calib)	(Calib)	(Samp)	(Samp)			
Calib blank_868	868 HG-8			Hg 253.7		3/14/2017	11:50:20 AM			ug/L			mg/L	
0.025ppb 0.005x5ppb	868 HG-8			Hg 253.7		3/14/2017	11:52:34 AM			ug/L			mg/L	
0.10ppb M030617AX0.0001	868 HG-8			Hg 253.7		3/14/2017	11:54:50 AM			ug/L			mg/L	
1.00ppb M030617AX0.001	868 HG-8			Hg 253.7		3/14/2017	11:57:06 AM			ug/L			mg/L	
2.00ppb M030617AX0.002	868 HG-8			Hg 253.7		3/14/2017	11:59:23 AM			ug/L			mg/L	
5.00ppb M030617AX0.005	868 HG-8			Hg 253.7		3/14/2017	12:01:39 PM			ug/L			mg/L	
10.0ppb M030617AX0.01	868 HG-8			Hg 253.7		3/14/2017	12:03:53 PM			ug/L			mg/L	
ICV M030617B	868 HG-8			Hg 253.7		3/14/2017	12:07:55 PM	4.971729	ug/L			0.004972	mg/L	0.999989
ICB	868 HG-8			Hg 253.7		3/14/2017	12:10:09 PM	-0.00013	ug/L			-1.32E-07	mg/L	0.999989
CRQL 0.25	868 HG-8	0.6		Hg 253.7		3/14/2017	12:12:24 PM	0.290855	ug/L			0.048476	mg/kg	0.999989
17-03-0016-3	868 HG-8	0.61		Hg 253.7		3/14/2017	12:14:41 PM	0.09376	ug/L			0.015371	mg/kg	0.999989
CCV 0.2x10ppb	868 HG-8			Hg 253.7		3/14/2017	12:16:58 PM	1.950028	ug/L			0.00195	mg/L	0.999989
CCB	868 HG-8			Hg 253.7		3/14/2017	12:19:14 PM	-0.00456	ug/L			-4.56E-06	mg/L	0.999989
170314-B-A2	868 HG-8			Hg 253.7		3/14/2017	12:33:52 PM	-0.00831	ug/L			-1.66E-05	mg/L	0.999989
170314-L-A2	868 HG-8			Hg 253.7		3/14/2017	12:36:09 PM	4.920221	ug/L			0.00984	mg/L	0.999989
17-03-0658-3	868 HG-8			Hg 253.7		3/14/2017	12:38:26 PM	-0.00477	ug/L			-9.55E-06	mg/L	0.999989
17-03-0658-3 MS	868 HG-8			Hg 253.7		3/14/2017	12:40:43 PM	4.604289	ug/L			0.009209	mg/L	0.999989
17-03-0658-3 MSD	868 HG-8			Hg 253.7		3/14/2017	12:42:59 PM	4.611896	ug/L			0.009224	mg/L	0.999989
17-03-0658-2	868 HG-8			Hg 253.7		3/14/2017	12:45:13 PM	-0.0036	ug/L			-7.21E-06	mg/L	0.999989
17-03-0658-4	868 HG-8			Hg 253.7		3/14/2017	12:47:27 PM	-0.00666	ug/L			-1.33E-05	mg/L	0.999989
17-03-0658-5	868 HG-8			Hg 253.7		3/14/2017	12:49:41 PM	-0.00575	ug/L			-1.15E-05	mg/L	0.999989
17-03-0658-6	868 HG-8			Hg 253.7		3/14/2017	12:51:56 PM	0.003206	ug/L			6.41E-06	mg/L	0.999989
17-03-0658-7	868 HG-8			Hg 253.7		3/14/2017	12:54:11 PM	-0.00613	ug/L			-1.23E-05	mg/L	0.999989
CCV 0.2x10ppb	868 HG-8			Hg 253.7		3/14/2017	12:56:27 PM	1.902197	ug/L			0.001902	mg/L	0.999989
CCB	868 HG-8			Hg 253.7		3/14/2017	12:58:43 PM	-0.00403	ug/L			-4.03E-06	mg/L	0.999989

Reviewed/Assign to Logbook Date: 03/14/17

Analysis: Hg Channel ID: 27

Logbook Page: 27 Instrument ID: Hg 8

Sample ID	Analyst Name	Initial Sample Wt	Analyte Name	Date	Time	Conc (Calib)	Units (Calib)	Conc (Samp)	Units (Samp)	Corr Coef
17-03-0658-8	868 HG-8		Hg 253.7	3/14/2017	1:00:57 PM	-0.00792	ug/L	-1.58E-05	mg/L	0.999989
17-03-0658-9	868 HG-8		Hg 253.7	3/14/2017	1:03:12 PM	-0.00675	ug/L	-1.35E-05	mg/L	0.999989
17-03-0658-F-2	868 HG-8		Hg 253.7	3/14/2017	1:05:28 PM	-0.0079	ug/L	-1.58E-05	mg/L	0.999989
17-03-0658-F-3	868 HG-8		Hg 253.7	3/14/2017	1:07:45 PM	-0.00766	ug/L	-1.53E-05	mg/L	0.999989
17-03-0658-F-4	868 HG-8		Hg 253.7	3/14/2017	1:10:02 PM	-0.00986	ug/L	-1.97E-05	mg/L	0.999989
17-03-0658-F-5	868 HG-8		Hg 253.7	3/14/2017	1:12:19 PM	-0.00931	ug/L	-1.86E-05	mg/L	0.999989
17-03-0658-F-6	868 HG-8		Hg 253.7	3/14/2017	1:14:35 PM	-0.00776	ug/L	-1.55E-05	mg/L	0.999989
17-03-0658-F-7	868 HG-8		Hg 253.7	3/14/2017	1:16:49 PM	-0.00826	ug/L	-1.65E-05	mg/L	0.999989
17-03-0658-F-8	868 HG-8		Hg 253.7	3/14/2017	1:19:05 PM	-0.00485	ug/L	-9.71E-06	mg/L	0.999989
17-03-0658-F-9	868 HG-8		Hg 253.7	3/14/2017	1:21:19 PM	-0.00313	ug/L	-6.26E-06	mg/L	0.999989
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/14/2017	1:23:35 PM	1.89743	ug/L	0.001897	mg/L	0.999989
CCB	868 HG-8		Hg 253.7	3/14/2017	1:25:51 PM	-0.00041	ug/L	-4.07E-07	mg/L	0.999989
17-03-0886-1	868 HG-8		Hg 253.7	3/14/2017	1:28:05 PM	-0.00052	ug/L	-1.03E-06	mg/L	0.999989
17-03-0886-2	868 HG-8		Hg 253.7	3/14/2017	1:30:20 PM	0.000444	ug/L	8.89E-07	mg/L	0.999989
17-03-466-1 MS	868 HG-8		Hg 253.7	3/14/2017	1:32:36 PM	4.257966	ug/L	0.008516	mg/L	0.999989
17-03-466-1 MSD	868 HG-8		Hg 253.7	3/14/2017	1:34:51 PM	4.001711	ug/L	0.008003	mg/L	0.999989
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/14/2017	1:37:07 PM	1.895087	ug/L	0.001895	mg/L	0.999989
CCB	868 HG-8		Hg 253.7	3/14/2017	1:39:23 PM	-0.00172	ug/L	-1.72E-06	mg/L	0.999989
170314-B-A1	868 HG-8		Hg 253.7	3/14/2017	2:49:31 PM	6.28E-05	ug/L	1.26E-07	mg/L	0.999989
170314-L-A1	868 HG-8		Hg 253.7	3/14/2017	2:51:48 PM	3.837774	ug/L	0.007676	mg/L	0.999989
17-03-0886-F-1	868 HG-8		Hg 253.7	3/14/2017	2:54:04 PM	0.027471	ug/L	5.49E-05	mg/L	0.999989
17-03-0886-F-1 MS	868 HG-8		Hg 253.7	3/14/2017	2:56:22 PM	3.106795	ug/L	0.006214	mg/L	0.999989
17-03-0886-F-1 MSD	868 HG-8		Hg 253.7	3/14/2017	2:58:37 PM	3.142739	ug/L	0.006285	mg/L	0.999989
17-03-0886-F-2	868 HG-8		Hg 253.7	3/14/2017	3:00:53 PM	-0.00441	ug/L	-8.81E-06	mg/L	0.999989
17-03-0885-F-1	868 HG-8		Hg 253.7	3/14/2017	3:03:08 PM	-0.00132	ug/L	-2.64E-06	mg/L	0.999989
17-03-0885-F-2	868 HG-8		Hg 253.7	3/14/2017	3:05:25 PM	-0.00718	ug/L	-1.44E-05	mg/L	0.999989
17-03-0885-F-3	868 HG-8		Hg 253.7	3/14/2017	3:07:40 PM	-0.00511	ug/L	-1.02E-05	mg/L	0.999989
17-03-0885-F-4	868 HG-8		Hg 253.7	3/14/2017	3:09:55 PM	-0.00281	ug/L	-5.61E-06	mg/L	0.999989
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/14/2017	3:12:11 PM	1.899124	ug/L	0.001899	mg/L	0.999989

Reviewed/Assign to Logbook Date: 03/14/17

Analysis: Hg

Logbook Page: 30 Instrument ID: Hg 2

Sample ID	Analyst Name	Initial Sample Wt	Analyte Name	Date	Time	Conc		Units		Conc	Units		Corr Coef
						(Calib)	(Calib)	(Calib)	(Calib)	(Samp)	(Samp)	(Samp)	
CCB	868 HG-8		Hg 253.7	3/14/2017	3:14:27 PM	-0.00698	ug/L	-0.00698	ug/L	-6.98E-06	mg/L	0.999989	0.999989
170314-B-A3	868 HG-8		Hg 253.7	3/14/2017	3:16:42 PM	-0.0138	ug/L	-0.0138	ug/L	-2.76E-05	mg/L	0.999989	0.999989
170314-L-A3	868 HG-8		Hg 253.7	3/14/2017	3:18:58 PM	4.994373	ug/L	4.994373	ug/L	0.009989	mg/L	0.999989	0.999989
17-03-0823-2	868 HG-8		Hg 253.7	3/14/2017	3:21:14 PM	-0.01037	ug/L	-0.01037	ug/L	-2.07E-05	mg/L	0.999989	0.999989
17-03-0823-2 MS	868 HG-8		Hg 253.7	3/14/2017	3:23:30 PM	4.484028	ug/L	4.484028	ug/L	0.008968	mg/L	0.999989	0.999989
17-03-0823-2 MSD	868 HG-8		Hg 253.7	3/14/2017	3:25:47 PM	3.631351	ug/L	3.631351	ug/L	0.007263	mg/L	0.999989	0.999989
17-03-0823-1	868 HG-8		Hg 253.7	3/14/2017	3:28:03 PM	-0.00733	ug/L	-0.00733	ug/L	-1.47E-05	mg/L	0.999989	0.999989
17-03-0563-2	868 HG-8		Hg 253.7	3/14/2017	3:30:20 PM	-0.00265	ug/L	-0.00265	ug/L	-5.30E-06	mg/L	0.999989	0.999989
17-03-0563-3	868 HG-8		Hg 253.7	3/14/2017	3:32:36 PM	-0.00764	ug/L	-0.00764	ug/L	-1.53E-05	mg/L	0.999989	0.999989
17-03-0563-F-2	868 HG-8		Hg 253.7	3/14/2017	3:34:52 PM	0.017591	ug/L	0.017591	ug/L	3.52E-05	mg/L	0.999989	0.999989
17-03-0563-F-3	868 HG-8		Hg 253.7	3/14/2017	3:37:07 PM	-0.00764	ug/L	-0.00764	ug/L	-1.53E-05	mg/L	0.999989	0.999989
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/14/2017	3:39:23 PM	1.990674	ug/L	1.990674	ug/L	0.001991	mg/L	0.999989	0.999989
CCB	868 HG-8		Hg 253.7	3/14/2017	3:41:39 PM	-0.005	ug/L	-0.005	ug/L	-5.00E-06	mg/L	0.999989	0.999989
17-03-0885-1	868 HG-8		Hg 253.7	3/14/2017	3:43:54 PM	0.012298	ug/L	0.012298	ug/L	2.46E-05	mg/L	0.999989	0.999989
17-03-0885-2	868 HG-8		Hg 253.7	3/14/2017	3:46:10 PM	-0.00618	ug/L	-0.00618	ug/L	-1.24E-05	mg/L	0.999989	0.999989
17-03-0885-3	868 HG-8		Hg 253.7	3/14/2017	3:48:26 PM	0.001239	ug/L	0.001239	ug/L	2.48E-06	mg/L	0.999989	0.999989
17-03-0885-4	868 HG-8		Hg 253.7	3/14/2017	3:50:41 PM	0.006116	ug/L	0.006116	ug/L	1.22E-05	mg/L	0.999989	0.999989
170314-B-01	868 HG-8	0.6	Hg 253.7	3/14/2017	3:52:58 PM	-0.01279	ug/L	-0.01279	ug/L	-0.00213	mg/kg	0.999989	0.999989
170314-L-01	868 HG-8	0.6	Hg 253.7	3/14/2017	3:55:14 PM	4.83028	ug/L	4.83028	ug/L	0.805047	mg/kg	0.999989	0.999989
17-03-0566-1	868 HG-8	0.62	Hg 253.7	3/14/2017	3:57:31 PM	0.840386	ug/L	0.840386	ug/L	0.135546	mg/kg	0.999989	0.999989
17-03-0566-1 MS	868 HG-8	0.61	Hg 253.7	3/14/2017	3:59:48 PM	5.240598	ug/L	5.240598	ug/L	0.859114	mg/kg	0.999989	0.999989
17-03-0566-1 MSD	868 HG-8	0.62	Hg 253.7	3/14/2017	4:02:05 PM	5.216161	ug/L	5.216161	ug/L	0.841316	mg/kg	0.999989	0.999989
17-03-0927-1	868 HG-8	0.61	Hg 253.7	3/14/2017	4:04:21 PM	0.210778	ug/L	0.210778	ug/L	0.034554	mg/kg	0.999989	0.999989
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/14/2017	4:06:37 PM	1.987254	ug/L	1.987254	ug/L	0.001987	mg/L	0.999989	0.999989
CCB	868 HG-8		Hg 253.7	3/14/2017	4:08:53 PM	-0.00517	ug/L	-0.00517	ug/L	-5.17E-06	mg/L	0.999989	0.999989
17-03-0996-1	868 HG-8	0.61	Hg 253.7	3/14/2017	4:11:08 PM	0.029416	ug/L	0.029416	ug/L	0.004822	mg/kg	0.999989	0.999989
17-03-0981-1	868 HG-8	0.6	Hg 253.7	3/14/2017	4:13:24 PM	2.049648	ug/L	2.049648	ug/L	0.341608	mg/kg	0.999989	0.999989
17-03-0981-2	868 HG-8	0.58	Hg 253.7	3/14/2017	4:15:41 PM	3.870803	ug/L	3.870803	ug/L	0.66738	mg/kg	0.999989	0.999989
17-03-0641-26	868 HG-8	0.61	Hg 253.7	3/14/2017	4:17:58 PM	0.196259	ug/L	0.196259	ug/L	0.032174	mg/kg	0.999989	0.999989

Review/Assign to Logbook Date: 03/14/17

Analysis: Hg

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Hg 2

Logbook Page: 31 Instrument ID: Hg 2

Initial		Sample		Analyte		Date	Time	Conc		Units		Conc	Units	Corr Coef
Sample ID	Analyst Name	Wt	Name	Name				(Calib)	(Calib)	(Samp)	(Samp)			
17-03-0641-27	868 HG-8	0.63	Hg 253.7	3/14/2017	4:20:15 PM	0.189804 ug/L	0.030128 mg/kg	0.999989						
17-03-0641-28	868 HG-8	0.62	Hg 253.7	3/14/2017	4:22:31 PM	0.26978 ug/L	0.043513 mg/kg	0.999989						
17-03-0641-29	868 HG-8	0.63	Hg 253.7	3/14/2017	4:24:49 PM	0.281137 ug/L	0.044625 mg/kg	0.999989						
17-03-0642-26	868 HG-8	0.63	Hg 253.7	3/14/2017	4:27:05 PM	0.560421 ug/L	0.088956 mg/kg	0.999989						
17-03-0642-27	868 HG-8	0.61	Hg 253.7	3/14/2017	4:29:22 PM	0.408369 ug/L	0.066946 mg/kg	0.999989						
17-03-0642-28	868 HG-8	0.63	Hg 253.7	3/14/2017	4:31:39 PM	0.341956 ug/L	0.054279 mg/kg	0.999989						
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/14/2017	4:33:56 PM	2.024582 ug/L	0.002025 mg/L	0.999989						
CCB	868 HG-8		Hg 253.7	3/14/2017	4:36:12 PM	-0.00344 ug/L	-3.44E-06 mg/L	0.999989						
17-03-0642-29	868 HG-8	0.62	Hg 253.7	3/14/2017	4:38:27 PM	0.109328 ug/L	0.017634 mg/kg	0.999989						
17-03-0662-1	868 HG-8	0.61	Hg 253.7	3/14/2017	4:40:44 PM	3.855704 ug/L	0.632083 mg/kg	0.999989						
17-03-0662-2	868 HG-8	0.6	Hg 253.7	3/14/2017	4:43:01 PM	3.779421 ug/L	0.629903 mg/kg	0.999989						
17-03-0679-1	868 HG-8	0.6	Hg 253.7	3/14/2017	4:45:18 PM	0.245123 ug/L	0.040854 mg/kg	0.999989						
17-03-0680-1	868 HG-8	0.59	Hg 253.7	3/14/2017	4:47:34 PM	3.224879 ug/L	0.54659 mg/kg	0.999989						
17-03-0694-1	868 HG-8	0.58	Hg 253.7	3/14/2017	4:49:50 PM	0.263531 ug/L	0.045436 mg/kg	0.999989						
17-03-0708-1	868 HG-8	0.61	Hg 253.7	3/14/2017	4:52:07 PM	0.023933 ug/L	0.003924 mg/kg	0.999989						
17-02-2225-1	868 HG-8		Hg 253.7	3/14/2017	4:54:24 PM	-0.00517 ug/L	-1.03E-05 mg/L	0.999989						
17-03-0638-1	868 HG-8		Hg 253.7	3/14/2017	4:56:40 PM	-0.00815 ug/L	-1.63E-05 mg/L	0.999989						
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/14/2017	4:58:57 PM	2.024624 ug/L	0.002025 mg/L	0.999989						
CCB	868 HG-8		Hg 253.7	3/14/2017	5:01:12 PM	-0.00402 ug/L	-4.02E-06 mg/L	0.999989						
170314-L-A1	868 HG-8		Hg 253.7	3/14/2017	5:33:32 PM	4.287217 ug/L	0.008574 mg/L	0.999989						
17-03-0632-1	868 HG-8		Hg 253.7	3/14/2017	5:35:49 PM	-0.00493 ug/L	-9.86E-06 mg/L	0.999989						
17-03-0632-2	868 HG-8		Hg 253.7	3/14/2017	5:38:06 PM	-0.00201 ug/L	-4.02E-06 mg/L	0.999989						
170314-B-A4	868 HG-8		Hg 253.7	3/14/2017	5:40:23 PM	-0.0062 ug/L	-1.24E-05 mg/L	0.999989						
170314-L-A4	868 HG-8		Hg 253.7	3/14/2017	5:42:40 PM	4.841172 ug/L	0.009682 mg/L	0.999989						
17-03-0617-1	868 HG-8		Hg 253.7	3/14/2017	5:44:57 PM	0.009179 ug/L	1.84E-05 mg/L	0.999989						
17-03-0617-1 MS	868 HG-8		Hg 253.7	3/14/2017	5:47:14 PM	4.986659 ug/L	0.009973 mg/L	0.999989						
17-03-0617-1 MSD	868 HG-8		Hg 253.7	3/14/2017	5:49:30 PM	5.165295 ug/L	0.010331 mg/L	0.999989						
17-03-0634-1	868 HG-8		Hg 253.7	3/14/2017	5:51:47 PM	0.003818 ug/L	7.64E-06 mg/L	0.999989						
17-03-0847-1	868 HG-8		Hg 253.7	3/14/2017	5:54:04 PM	-0.00312 ug/L	-6.24E-06 mg/L	0.999989						

Reviewed/Assign to Logbook Date: 03/14/17
 Analysis: Hg 32
 Logbook Page: 32
 03/14/17
 Hg
 Hg

EPA 7471A Mercury (Solid)

Preparation Logs

Mercury Sample Preparation Logbook (Solid / Other)

METHOD		MATRIX		EQUIPMENT ID #		REAGENT ID #		STANDARD ID #				
☒ EPA 7471A	☒ Solid			Thermometer	G7-04 (CF -2 °C)	Aqua Regia	R0429 160/ 10 mL	Spike	170306 H A			
☐ EPA 7471B	☐ Other (Specify)			Block Digester	3	5% KMnO ₄	R1006 160/	IC	A			
				Pipettor / Dispenser	P071 / *	NaCl-H ₃ NO-HCl	R1026 160/ 6 mL	ICV	B			
BATCH NUMBER		SUPPLY LOT #		BALANCE ID #		QUALITY SYSTEM MATRIX ID #		SAMPLE HANDLING				
MS/MSD 170314-561		Tube / Container 160925		36		Teflon Chip M006 -35-N		1 = Composite 2 = Subsample				
(Specify)		Filter				(Specify)		3 = Homogenize 4 = None				
DIGESTION							SAMPLE HANDLING	INITIAL (g)	FINAL (mL)	5% KMnO ₄ V (mL)	SPIKE OR IC/ICV V (μL)	
DATE	TIME	TEMP W/O CF (°C)	PREP TECH ID #	TIME	TEMP W/O CF (°C)	PREP TECH ID #						
3/14/17	10:30	95	868	11:15	95	868	4	MS 17-03-0566-1A	0.61	100	15	500
								MSD 1	0.62			
								LCS 170314-L01	0.60			
								LCSD / MB 170314-B01	0.60			
								17-03-0566-1A	0.62			
								17-03-0917-1A	0.61			
								17-03-0996-1A	0.61			
								17-03-0981-1A	0.60			
								1 2A	0.58			
								17-03-0641-26A	0.61			
								27	0.63			
								28	0.62			
								29	0.63			
								17-03-0642-27A	0.61			
								28	0.63			
								29	0.62			
								26	0.63			
								17-03-0662-1A	0.61			
								1 2A	0.60			
								17-03-0679-1A	0.60			
								17-03-0680-1A	0.59			
								17-03-0694-1A	0.58			
								17-03-0608-1A	0.61			
								IC				
								ICV				
								CB				

COMMENTS:

* 8-003/ MB-043 18-078

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: 170222I003
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	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: 1702221003
INSTRUMENT: GC 66

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:

DATA FILE: /chem1/SVOA/GC_66/170222A/b17022220617022206

COMPOUND NAME	COMP CALIB		MIN RF	AVG RF	ICV RF	AMOUNT	ICV CONC	ICV %D	ICV %D CL	STATUS
	TYPE	MODEL								
Aroclor-1016	C	Avg Resp	0.00	893304.438	1007962.398			-13	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	1078849.128			-14	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Report Date : 03-Mar-2017 10:49

Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
 End Cal Date : 22-FEB-2017 20:07
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP Genie
 Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
 Cal Date : 03-Mar-2017 10:49 uhhn
 Curve Type : Average

Calibration File Names:

Level 1: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
 Level 2: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
 Level 3: /chem1/SVOA/GC_66.i/170222A.b/b17022210.d
 Level 4: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
 Level 5: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d

		100.000	250.000	500.000	750.000	2000.000		
Compound		Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% 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

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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

	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

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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

Average %RSD Results.	
=====	
Calculated Average %RSD =	6.53024
Maximum Average %RSD =	20.00000
* Passed Average %RSD Test.	

Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022206.d
 Report Date: 02/23/2017 09:52

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_66.i Injection Date and Time: 22-FEB-2017 18:56
 Sample Name: PCB ICV P021517H 500PPB Initial Calibration Date(s): 17-OCT-2016 22-FEB-2017
 Sublist used: p1016_1260.sub Initial Calibration Time(s): 20:04 20:07
 Method used: /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D / Drift	Curve Type	
Aroclor 1260 (1)	270284.532	318239.382	0.01	-18	15	Averaged	<-Failed
Aroclor 1260 (2)	213956.488	237968.342	0.01	-11	15	Averaged	
Aroclor 1260 (3)	233064.808	267435.304	0.01	-15	15	Averaged	
Aroclor 1260 (4)	83122.167	83559.856	0.01	-1	15	Averaged	
Aroclor-1260	947781.003	1078849.128	0.01	-14	15	Averaged	
Aroclor-1016	893304.438	1007962.398	0.01	-13	15	Averaged	
Aroclor 1016 (1)	90035.625	99898.782	0.01	-11	15	Averaged	
Aroclor 1016 (2)	159465.395	177206.146	0.01	-11	15	Averaged	
Aroclor 1016 (3)	354923.864	406965.954	0.01	-15	15	Averaged	
Aroclor 1016 (4)	162098.269	181154.002	0.01	-12	15	Averaged	
Aroclor 1016 (5)	126781.283	142737.514	0.01	-13	15	Averaged	<-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

Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
 Report Date: 23-Feb-2017 09:41

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 Inst ID: GC_66.i
 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 Quant Type: ESTD
 Cal Date : 22-FEB-2017 17:27 Cal File: b17022201.d
 Als bottle: 1 Calibration Sample, Level: 1
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.694	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/SV0A/GC_66.i/170222A.b/b17022201.d

Date : 22-FEB-2017 17:27

Client ID:

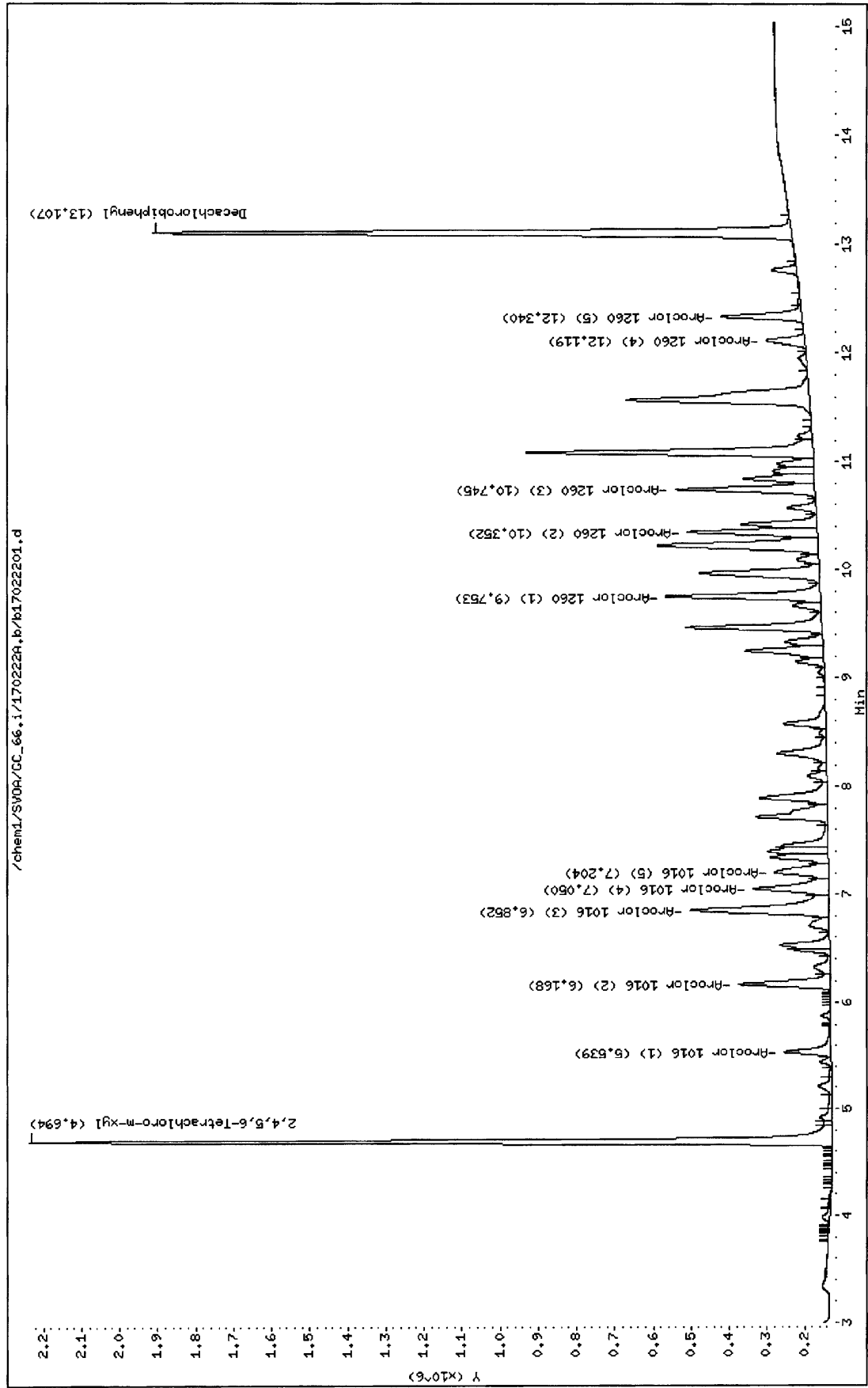
Sample Info: PCB ICAL1 P021517F 100PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
 Report Date: 23-Feb-2017 09:42

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
 Lab Smp Id:
 Inj Date : 22-FEB-2017 17:45
 Operator : 944 Inst ID: GC_66.i
 Smp Info : PCB ICAL2 P021517E 250PPB
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
 Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
 Cal Date : 22-FEB-2017 17:45 Cal File: b17022202.d
 Als bottle: 2 Calibration Sample, Level: 2
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

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

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Data File: /chem1/SVDA/GC_66.i/170222A.b/b17022202.d

Date : 22-FEB-2017 17:45

Client ID:

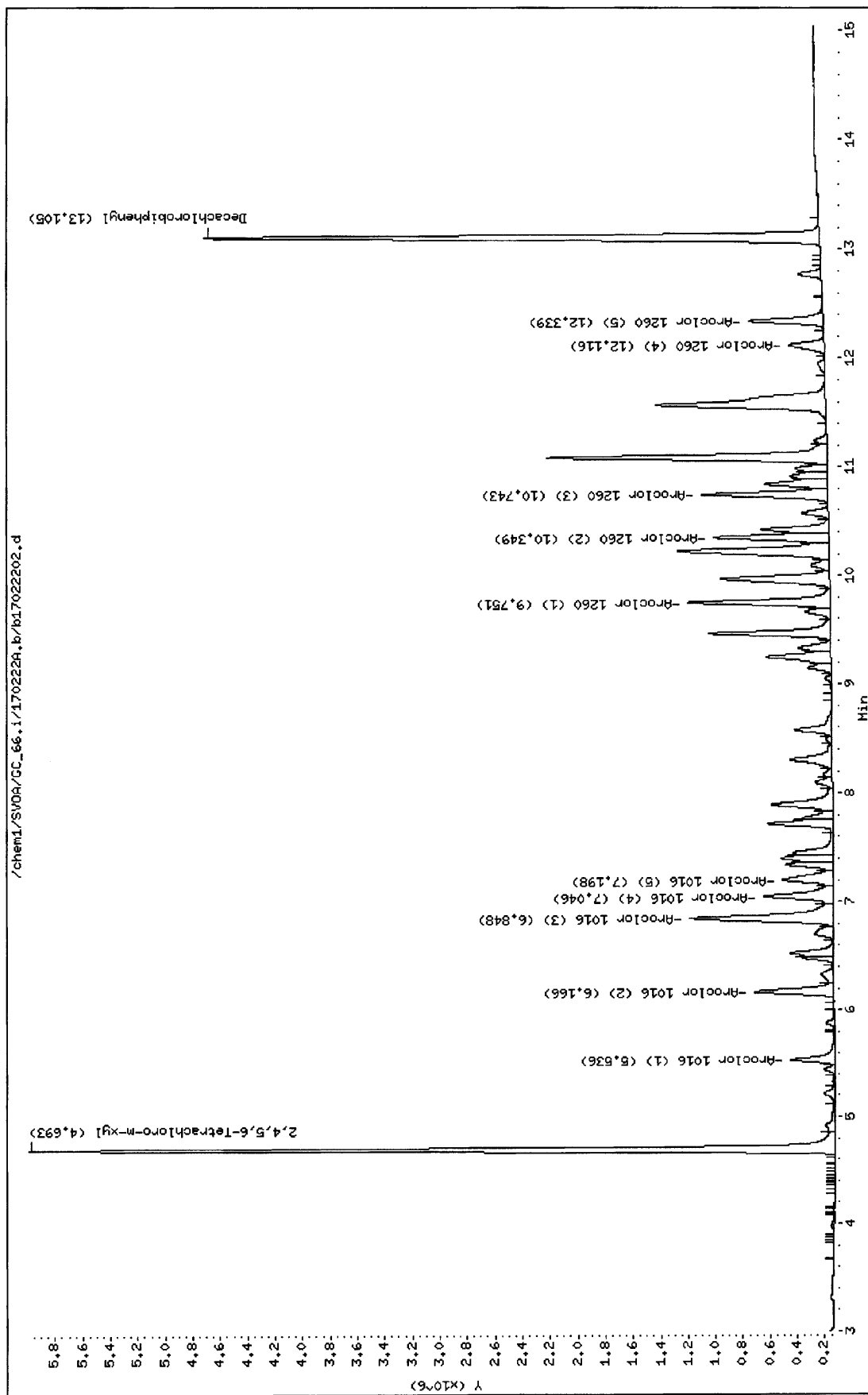
Sample Info: PCB ICAL2 P021517E 250PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022203.d
 Report Date: 23-Feb-2017 09:42

Page 1

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 Inst ID: GC_66.i
 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 Quant Type: ESTD
 Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
 Als bottle: 3 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1016_1260.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.692	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

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Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022203.d

Date : 22-FEB-2017 18:03

Client ID:

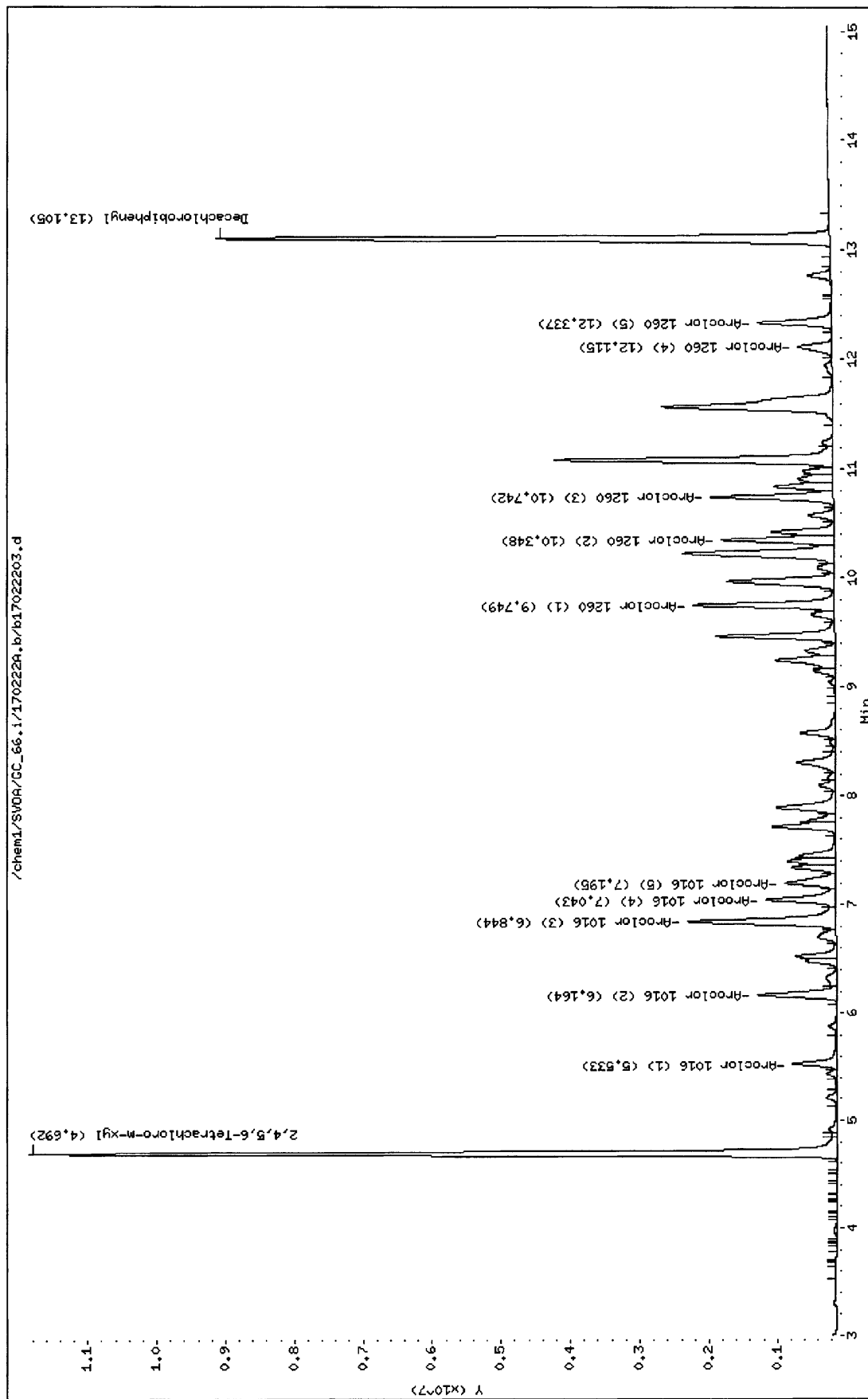
Sample Info: PCB IDAL3 P021517D 500PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
 Report Date: 23-Feb-2017 09:42

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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
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.691	4.692	-0.001	881880457	150.000	154
M 2 Aroclor-1016				648645686	750.000	726
3 Aroclor 1016 (1)	5.530	5.533	-0.003	64426684	750.000	716
4 Aroclor 1016 (2)	6.163	6.164	-0.001	114714592	750.000	719
5 Aroclor 1016 (3)	6.842	6.844	-0.002	263194053	750.000	742
6 Aroclor 1016 (4)	7.041	7.043	-0.002	115323393	750.000	711
7 Aroclor 1016 (5)	7.192	7.195	-0.003	90986964	750.000	718
M 8 Aroclor-1260				685721676	750.000	724
9 Aroclor 1260 (1)	9.748	9.749	-0.001	194025997	750.000	718
10 Aroclor 1260 (2)	10.348	10.348	0.000	153042314	750.000	715
11 Aroclor 1260 (3)	10.742	10.742	0.000	168891068	750.000	725
12 Aroclor 1260 (4)	12.113	12.115	-0.002	63938532	750.000	769
13 Aroclor 1260 (5)	12.336	12.337	-0.001	105823765	750.000	718
\$ 56 Decachlorobiphenyl	13.104	13.105	-0.001	802792169	150.000	147

Page 1

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022204.d

Date : 22-FEB-2017 18:21

Client ID:

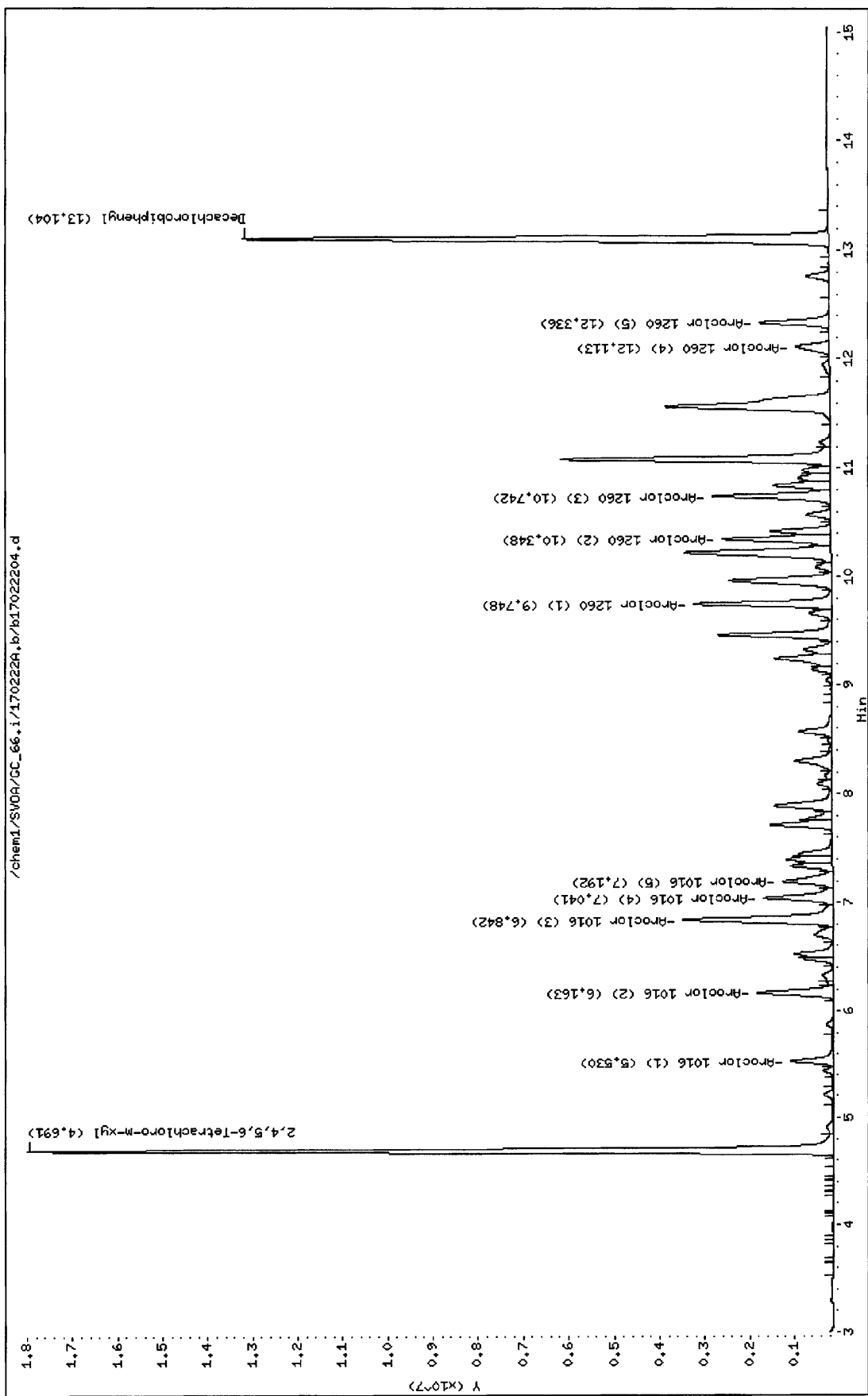
Sample Info: PCB ICAL4 P021517C 750PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d
Report Date: 23-Feb-2017 09:42

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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 Inst ID: GC_66.i
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 Quant Type: ESTD
Cal Date : 22-FEB-2017 18:38 Cal File: b17022205.d
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
					(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.691	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.

Page 1

Data File: /chem1/SV00A/GC_66.i/170222A.b/b17022205.d

Date : 22-FEB-2017 18:38

Client ID:

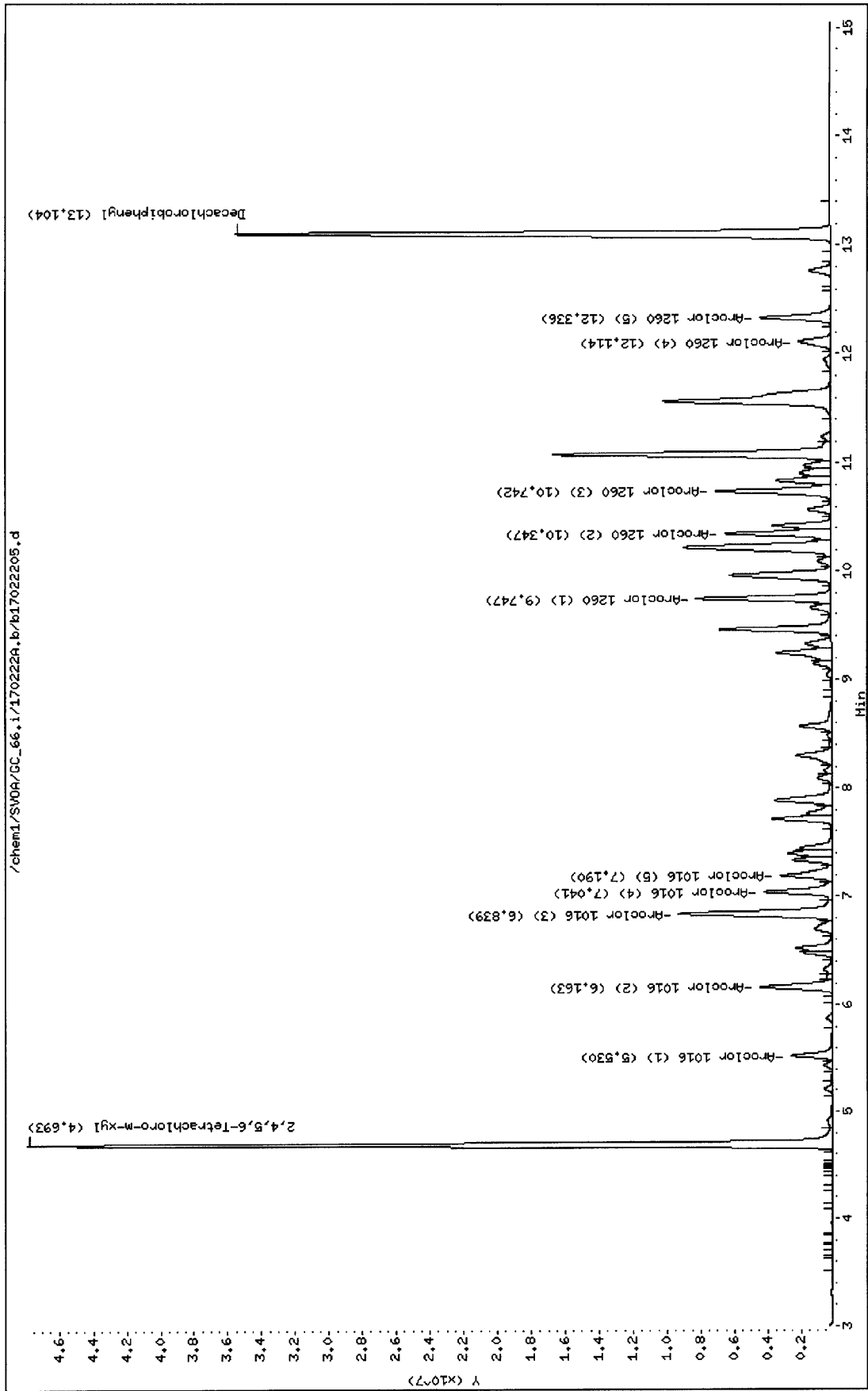
Sample Info: PCB ICAL5 P021517B 2000PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022206.d
 Report Date: 23-Feb-2017 09:42

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

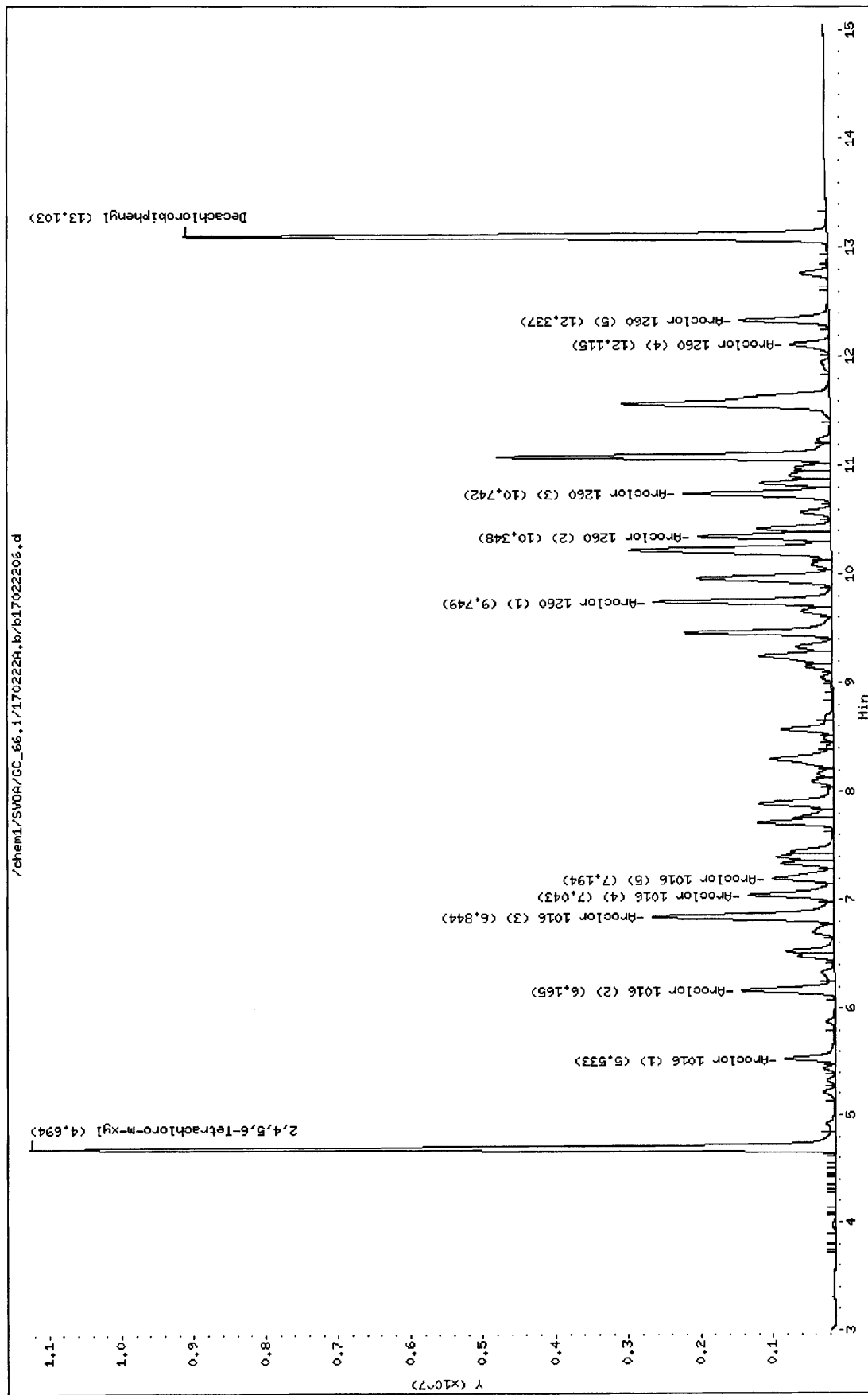
Sample Info: PCB ICV P021517H 500PPB

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022207.d
 Report Date: 23-Feb-2017 09:42

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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 Inst ID: GC_66.i
 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 Quant Type: ESTD
 Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
 Als bottle: 7 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1221_1254.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	RT	RESPONSE	CAL-AMT (ppb)	ON-COL (ppb)
=====	==	=====	=====		=====	=====	=====
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 Aroclor 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

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Data File: /chem1/SV04/GC_66.i/17022229.b/b170222207.d

Date : 22-FEB-2017 19:14

Client ID:

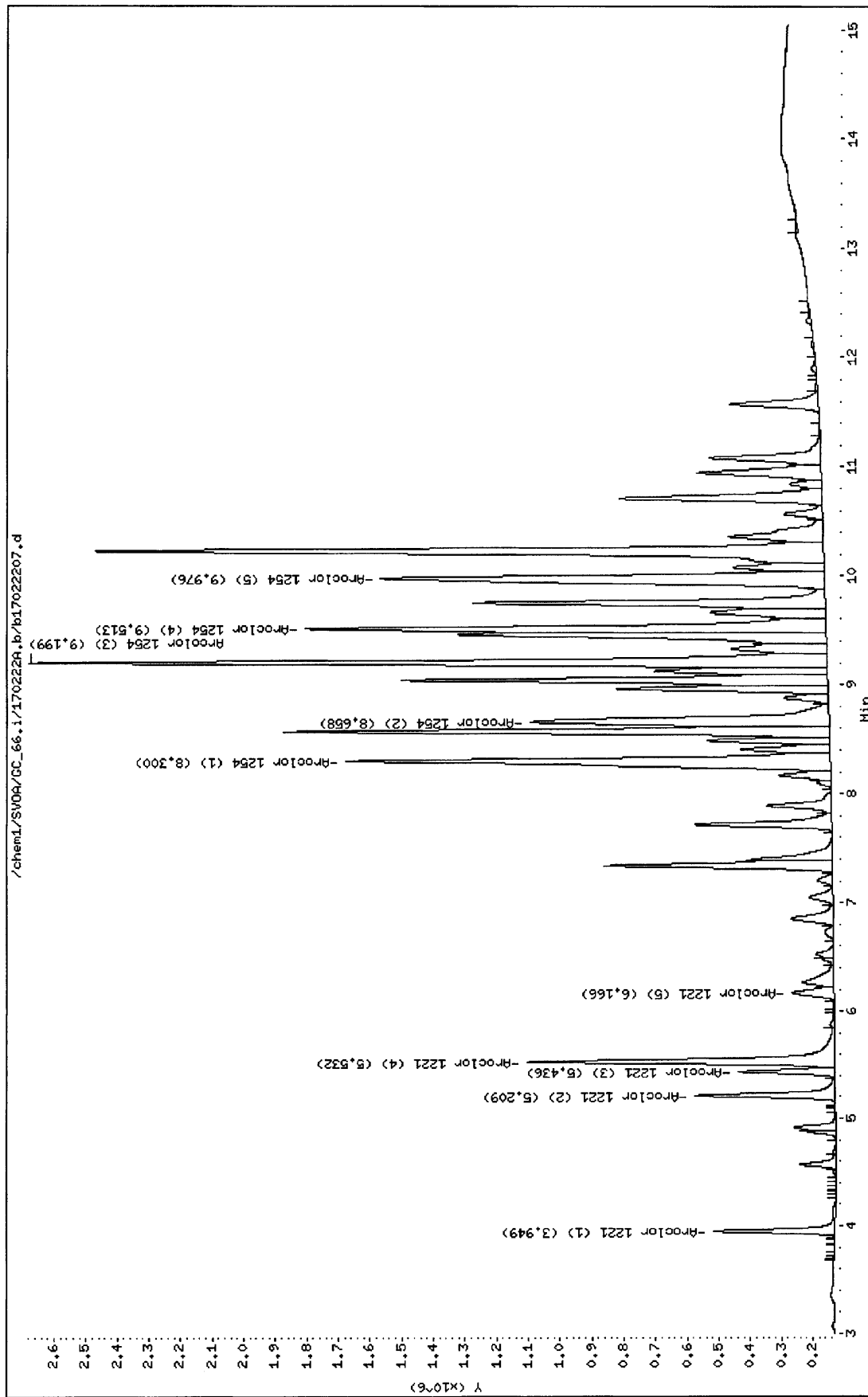
Sample Info: PCB 1221/54 500PPB P1206161

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022208.d
 Report Date: 23-Feb-2017 09:42

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022208.d
 Lab Smp Id:
 Inj Date : 22-FEB-2017 19:32
 Operator : 944 Inst ID: GC_66.i
 Smp Info : PCB 1232/62 500PPB P120616J
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
 Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
 Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
 Als bottle: 8 Calibration Sample, Level: 3
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: p1232_1262.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable

Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
						(ppb)	(ppb)
Compounds	RT	EXP RT	DLT RT	RT	RESPONSE		
=====	==	=====	=====		=====	=====	=====
M 20 Aroclor-1232					230600593	500.000	500
21 Aroclor 1232 (1)	5.533	5.533	0.000		46830292	500.000	500
22 Aroclor 1232 (2)	6.164	6.164	0.000		37990961	500.000	500
23 Aroclor 1232 (3)	6.846	6.846	0.000		80230398	500.000	500
24 Aroclor 1232 (4)	7.045	7.045	0.000		37042341	500.000	500
25 Aroclor 1232 (5)	7.198	7.198	0.000		28506601	500.000	500
M 44 Aroclor-1262					529581884	500.000	500
45 Aroclor 1262 (1)	9.749	9.749	0.000		99779332	500.000	500
46 Aroclor 1262 (2)	10.347	10.347	0.000		142884711	500.000	500
47 Aroclor 1262 (3)	10.742	10.742	0.000		132313903	500.000	500
48 Aroclor 1262 (4)	12.118	12.118	0.000		44885518	500.000	500
49 Aroclor 1262 (5)	12.337	12.337	0.000		109718420	500.000	500

Page 1

Data File: /chem1/SV00A/GC_66.i/17022208.d

Date : 22-FEB-2017 19:32

Client ID:

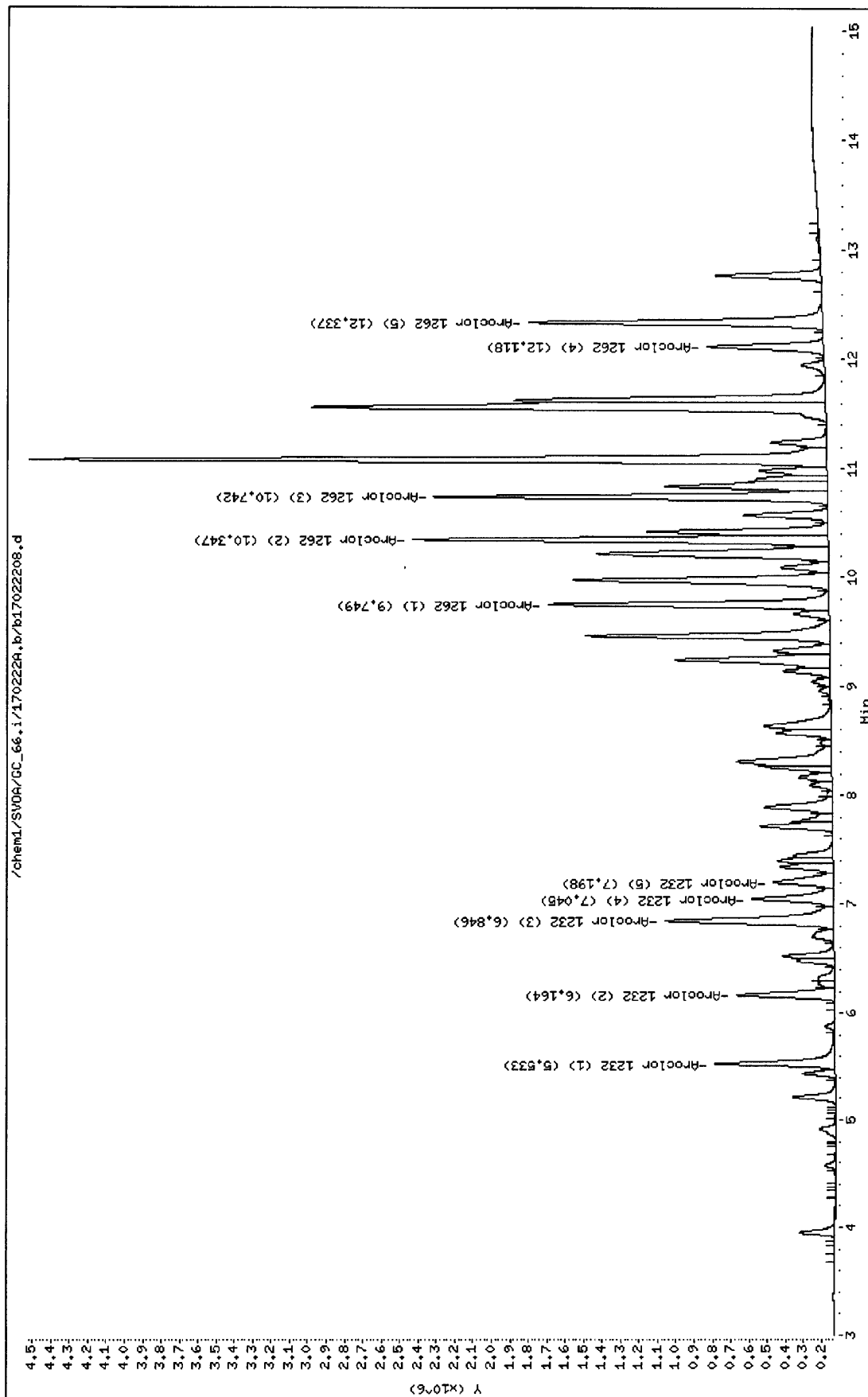
Sample Info: PCB 1232/62 500PPB P120616J

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022209.d
 Report Date: 23-Feb-2017 09:43

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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 Aroclor 1248 (2)	7.397	7.397	0.000	51572554	500.000	500
35 Aroclor 1248 (3)	7.445	7.445	0.000	38405884	500.000	500
36 Aroclor 1248 (4)	7.715	7.715	0.000	76011522	500.000	500
37 Aroclor 1248 (5)	7.888	7.888	0.000	90769029	500.000	500
M 50 Aroclor-1268				2132325871	500.000	500
51 Aroclor 1268 (1)	11.554	11.554	0.000	353673525	500.000	500
52 Aroclor 1268 (2)	11.615	11.615	0.000	354519915	500.000	500
53 Aroclor 1268 (3)	11.948	11.948	0.000	290210573	500.000	500
54 Aroclor 1268 (4)	12.334	12.334	0.000	127638418	500.000	500
55 Aroclor 1268 (5)	12.764	12.764	0.000	1006283437	500.000	500

Page 1

Data File: /chem1/SV00A/GC_66.i/170222a.b/17022209.d

Date : 22-FEB-2017 19:50

Client ID:

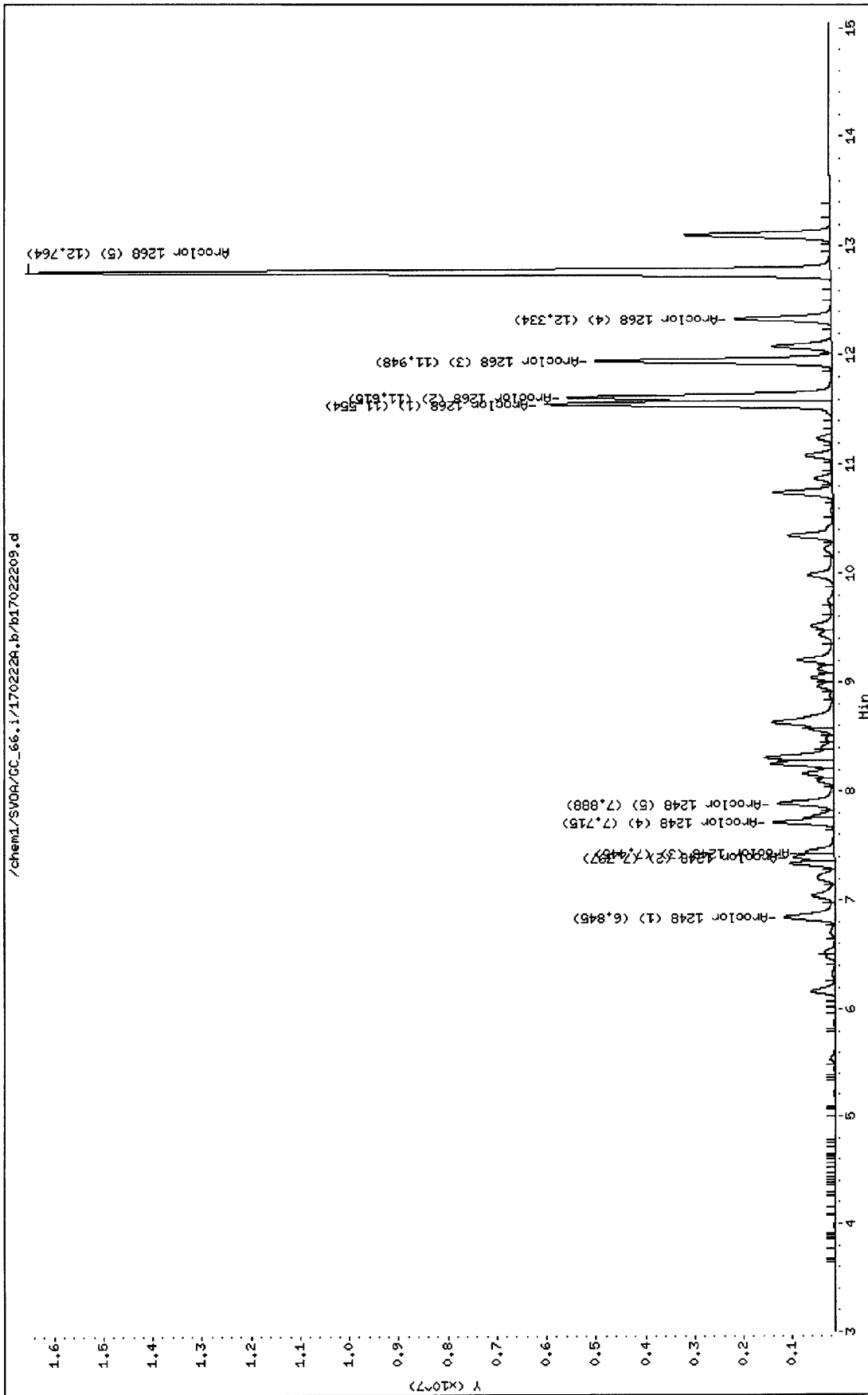
Sample Info: PCB 1248/68 500PPB P120616K

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022210.d
 Report Date: 23-Feb-2017 09:43

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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

Page 1

Data File: /chem1/SV0A/GC_66.i/170222A.b/b17022210.d

Date : 22-FEB-2017 20:07

Client ID:

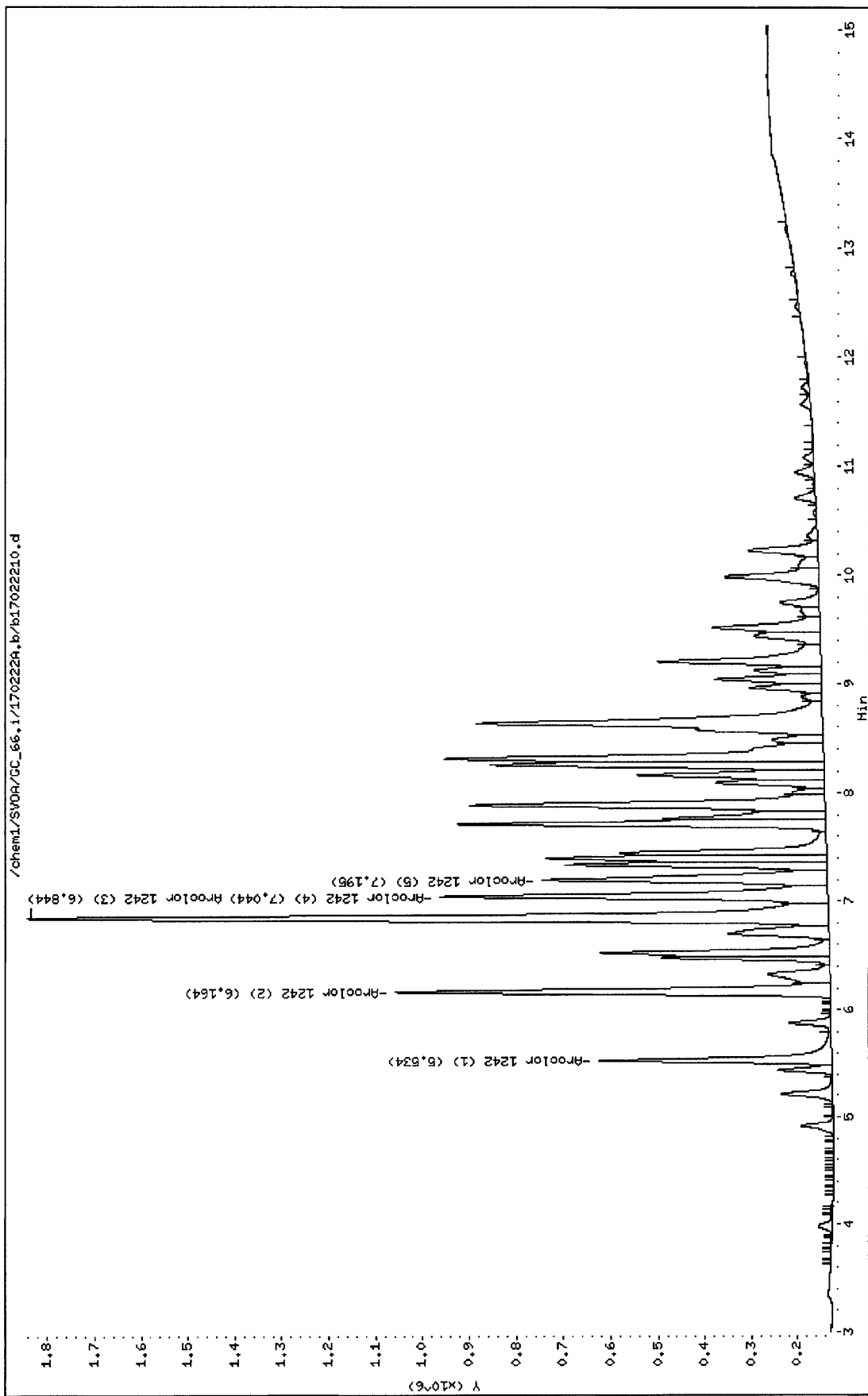
Sample Info: PCB 1242 500PPB P120616L

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00

Column phase:



EPA METHOD 8082 PCB

Sample Data

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

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WORK ORDER: 17-03-0641
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 669
D/T ANALYZED: 2017-03-16 05:00
REVIEWED BY: 421
D/T REVIEWED: 2017-03-22 17:31

DATA FILE: /chem1/SVOA/GC_66/170316/b1703161017031610

30 **CLIENT SAMPLE NUMBER:** D-DU3-ISM1-3

LCS/MB BATCH: 170313L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.10 g
MS/MSD BATCH: 170313S11	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT: Sample extracted outside recommended holding time.

<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	w
Aroclor-1221	0.000	1.00	ND	50	w
Aroclor-1232	0.000	1.00	ND	50	w
Aroclor-1242	0.000	1.00	ND	50	w
Aroclor-1248	0.000	1.00	ND	50	w
Aroclor-1254	0.000	1.00	ND	50	w
Aroclor-1260	0.000	1.00	ND	50	w
Aroclor-1262	0.000	1.00	ND	50	w
Aroclor-1268	0.000	1.00	ND	50	w

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031610.d
 Report Date: 16-Mar-2017 09:39

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031610.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 05:00
 Operator : 669 Inst ID: GC_66.i
 Smp Info : 17-03-0641-30
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 uhhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 10
 Dil Factor: 1.00000
 Integrator: HP Genie Compound Sublist: all.sub
 Target Version: 3.50
 Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene	4.692	4.692	0.000	382612359	66.6356	66.6
M 2 Aroclor-1016				Compound Not Detected.		
3 Aroclor 1016 (1)				Compound Not Detected.		
4 Aroclor 1016 (2)				Compound Not Detected.		
5 Aroclor 1016 (3)				Compound Not Detected.		
6 Aroclor 1016 (4)				Compound Not Detected.		
7 Aroclor 1016 (5)				Compound Not Detected.		
M 8 Aroclor-1260				Compound Not Detected.		
9 Aroclor 1260 (1)				Compound Not Detected.		
10 Aroclor 1260 (2)				Compound Not Detected.		
11 Aroclor 1260 (3)				Compound Not Detected.		
12 Aroclor 1260 (4)				Compound Not Detected.		
13 Aroclor 1260 (5)				Compound Not Detected.		
M 14 Aroclor-1221				Compound Not Detected.		
15 Aroclor 1221 (1)				Compound Not Detected.		
16 Aroclor 1221 (2)				Compound Not Detected.		
17 Aroclor 1221 (3)				Compound Not Detected.		
18 Aroclor 1221 (4)				Compound Not Detected.		
19 Aroclor 1221 (5)				Compound Not Detected.		
M 20 Aroclor-1232				Compound Not Detected.		
21 Aroclor 1232 (1)				Compound Not Detected.		

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031610.d
 Report Date: 16-Mar-2017 09:39

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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	13.102	-0.002		408126483	74.7535	74.8	

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Data File: /chem1/SV04/GC_66.i/170316.b/b17031610.d

Date : 16-HAR-2017 05:00

Client ID:

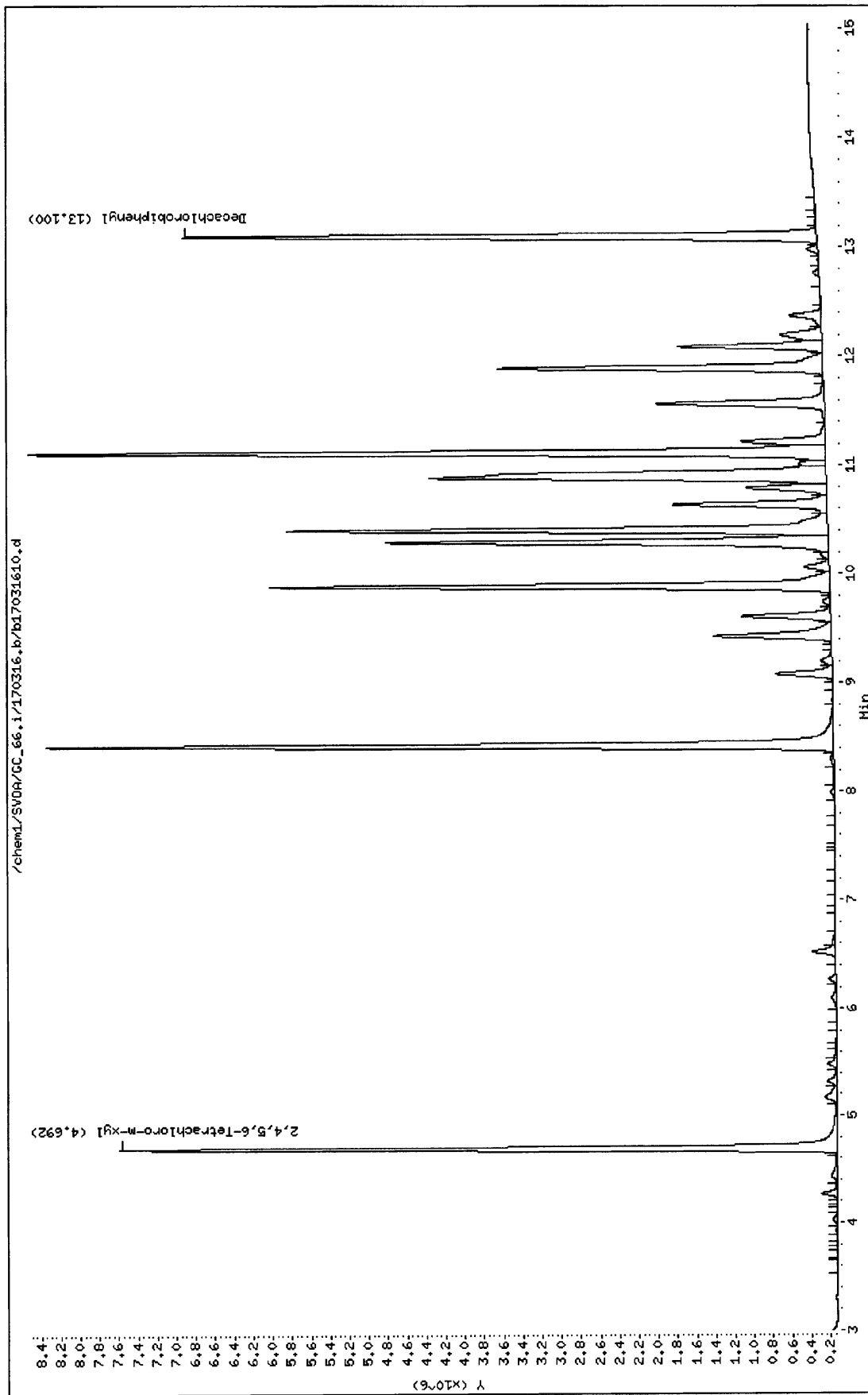
Sample Info: 17-03-0641-30

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: 17-03-0641
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 669
D/T ANALYZED: 2017-03-16 05:18
REVIEWED BY: 421
D/T REVIEWED: 2017-03-22 17:31

DATA FILE: /chem1/SVOA/GC_66/170316/b1703161117031611

31 **CLIENT SAMPLE NUMBER:** D-DU3-ISM2-3

LCS/MB BATCH: 170313L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
MS/MSD BATCH: 170313S11	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 0.99

COMMENT: Sample extracted outside recommended holding time.

<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	w
Aroclor-1221	0.000	1.00	ND	50	w
Aroclor-1232	0.000	1.00	ND	50	w
Aroclor-1242	0.000	1.00	ND	50	w
Aroclor-1248	0.000	1.00	ND	50	w
Aroclor-1254	0.000	1.00	ND	50	w
Aroclor-1260	0.000	1.00	ND	50	w
Aroclor-1262	0.000	1.00	ND	50	w
Aroclor-1268	0.000	1.00	ND	50	w

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031611.d
 Report Date: 16-Mar-2017 09:39

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031611.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 05:18
 Operator : 669 Inst ID: GC_66.i
 Smp Info : 17-03-0641-31
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 uhhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 11
 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	4.691	4.692	-0.001	381253050	66.3988	66.4
M 2 Aroclor-1016	Compound Not Detected.					
3 Aroclor 1016 (1)	Compound Not Detected.					
4 Aroclor 1016 (2)	Compound Not Detected.					
5 Aroclor 1016 (3)	Compound Not Detected.					
6 Aroclor 1016 (4)	Compound Not Detected.					
7 Aroclor 1016 (5)	Compound Not Detected.					
M 8 Aroclor-1260	Compound Not Detected.					
9 Aroclor 1260 (1)	Compound Not Detected.					
10 Aroclor 1260 (2)	Compound Not Detected.					
11 Aroclor 1260 (3)	Compound Not Detected.					
12 Aroclor 1260 (4)	Compound Not Detected.					
13 Aroclor 1260 (5)	Compound Not Detected.					
M 14 Aroclor-1221	Compound Not Detected.					
15 Aroclor 1221 (1)	Compound Not Detected.					
16 Aroclor 1221 (2)	Compound Not Detected.					
17 Aroclor 1221 (3)	Compound Not Detected.					
18 Aroclor 1221 (4)	Compound Not Detected.					
19 Aroclor 1221 (5)	Compound Not Detected.					
M 20 Aroclor-1232	Compound Not Detected.					
21 Aroclor 1232 (1)	Compound Not Detected.					

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031611.d
 Report Date: 16-Mar-2017 09:39

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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	13.098	13.102	-0.004		411697080	75.4075	75.4	

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Data File: /chem1/SV04/GC_66.i/170316.b/b17031611.d

Date : 16-MAR-2017 05:18

Client ID:

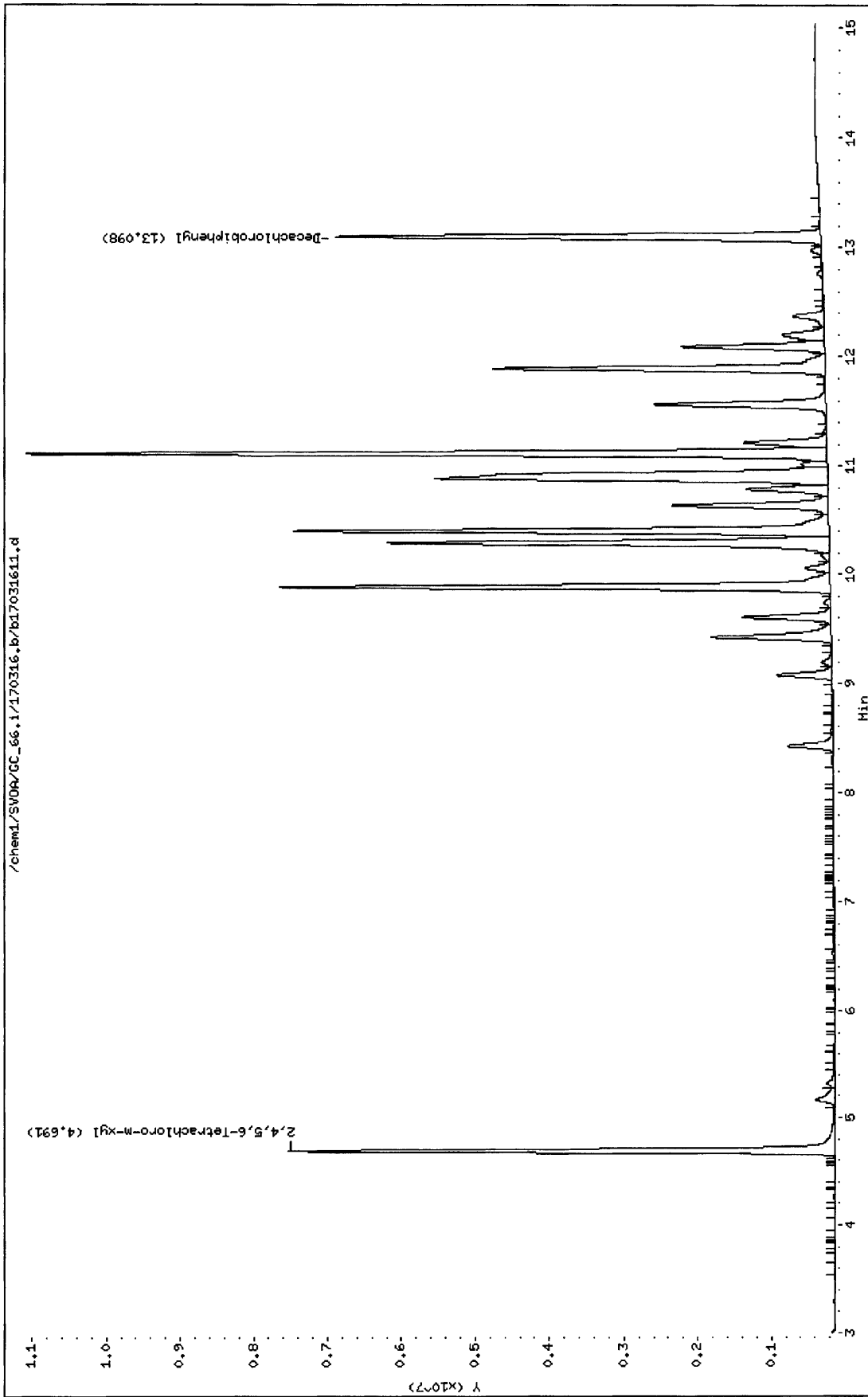
Sample Info: 17-03-0641-31

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: 17-03-0641
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 669
D/T ANALYZED: 2017-03-16 05:35
REVIEWED BY: 421
D/T REVIEWED: 2017-03-22 17:31

DATA FILE: /chem1/SVOA/GC_66/170316/b1703161217031612

32 **CLIENT SAMPLE NUMBER: D-DU3-ISM3-3**

LCS/MB BATCH: 170313L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170313S11	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT: Sample extracted outside recommended holding time.

<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	w
Aroclor-1221	0.000	1.00	ND	50	w
Aroclor-1232	0.000	1.00	ND	50	w
Aroclor-1242	0.000	1.00	ND	50	w
Aroclor-1248	0.000	1.00	ND	50	w
Aroclor-1254	0.000	1.00	ND	50	w
Aroclor-1260	0.000	1.00	ND	50	w
Aroclor-1262	0.000	1.00	ND	50	w
Aroclor-1268	0.000	1.00	ND	50	w

Return to Contents

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031612.d
 Report Date: 16-Mar-2017 09:39

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031612.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 05:35
 Operator : 669 Inst ID: GC_66.i
 Smp Info : 17-03-0641-32
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 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

Compounds						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ppb)	FINAL (ug/Kg)
=====		==	=====	=====	=====	=====	=====
\$ 1	2,4,5,6-Tetrachloro-m-xylene	4.693	4.692	0.001	415485832	72.3608	72.4
M 2	Aroclor-1016	Compound Not Detected.					
3	Aroclor 1016 (1)	Compound Not Detected.					
4	Aroclor 1016 (2)	Compound Not Detected.					
5	Aroclor 1016 (3)	Compound Not Detected.					
6	Aroclor 1016 (4)	Compound Not Detected.					
7	Aroclor 1016 (5)	Compound Not Detected.					
M 8	Aroclor-1260	Compound Not Detected.					
9	Aroclor 1260 (1)	Compound Not Detected.					
10	Aroclor 1260 (2)	Compound Not Detected.					
11	Aroclor 1260 (3)	Compound Not Detected.					
12	Aroclor 1260 (4)	Compound Not Detected.					
13	Aroclor 1260 (5)	Compound Not Detected.					
M 14	Aroclor-1221	Compound Not Detected.					
15	Aroclor 1221 (1)	Compound Not Detected.					
16	Aroclor 1221 (2)	Compound Not Detected.					
17	Aroclor 1221 (3)	Compound Not Detected.					
18	Aroclor 1221 (4)	Compound Not Detected.					
19	Aroclor 1221 (5)	Compound Not Detected.					
M 20	Aroclor-1232	Compound Not Detected.					
21	Aroclor 1232 (1)	Compound Not Detected.					

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031612.d
 Report Date: 16-Mar-2017 09:39

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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	13.099	13.102	-0.003	451172839	82.6380	82.6		

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Data File: /chem1/SVDA/GC_66.i/170316.b/b17031612.d

Date : 16-MAR-2017 05:35

Client ID:

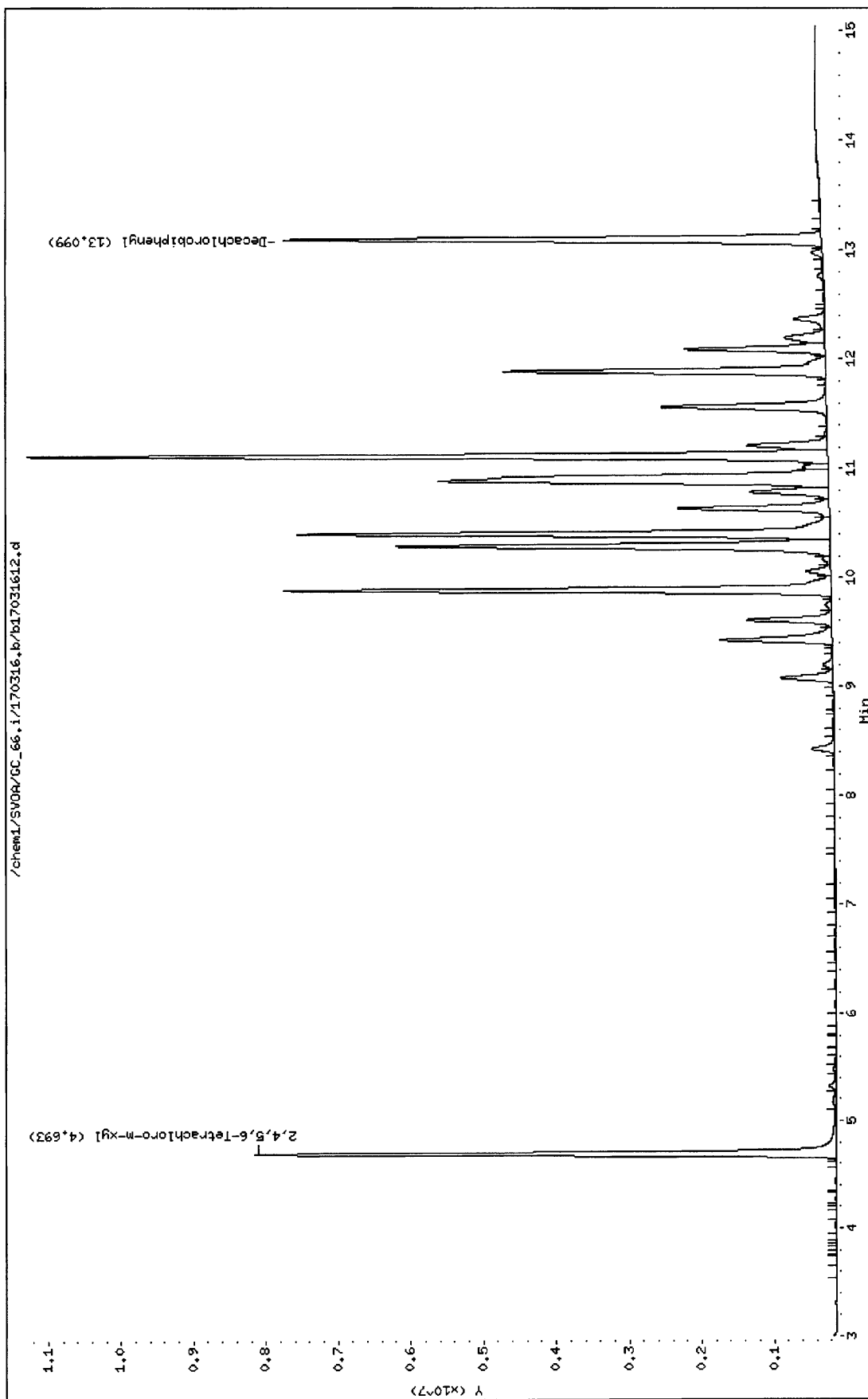
Sample Info: 17-03-0641-32

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: 17-03-0641
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 669
D/T ANALYZED: 2017-03-16 05:53
REVIEWED BY: 421
D/T REVIEWED: 2017-03-22 17:31

DATA FILE: /chem1/SVOA/GC_66/170316/b1703161317031613

33 **CLIENT SAMPLE NUMBER:** D-DU3-ISM4-3

LCS/MB BATCH: 170313L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.10 g
MS/MSD BATCH: 170313S11	FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT: Sample extracted outside recommended holding time.

<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	w
Aroclor-1221	0.000	1.00	ND	50	w
Aroclor-1232	0.000	1.00	ND	50	w
Aroclor-1242	0.000	1.00	ND	50	w
Aroclor-1248	0.000	1.00	ND	50	w
Aroclor-1254	0.000	1.00	ND	50	w
Aroclor-1260	0.000	1.00	ND	50	w
Aroclor-1262	0.000	1.00	ND	50	w
Aroclor-1268	0.000	1.00	ND	50	w

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031613.d
 Report Date: 16-Mar-2017 09:39

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031613.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 05:53
 Operator : 669 Inst ID: GC_66.i
 Smp Info : 17-03-0641-33
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 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	RT	RESPONSE	ON-COLUMN	FINAL
		==	=====	=====		=====	(ppb)	(ug/Kg)
\$	1 2,4,5,6-Tetrachloro-m-xylene	4.691	4.692	-0.001	402709082	70.1356	70.1	
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/170316.b/b17031613.d
 Report Date: 16-Mar-2017 09:39

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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	13.099	13.102	-0.003	419818491	76.8951	76.9		

Page 1

Data File: /chem1/SVDA/GC_66.i/170316.b/b17031613.d

Date : 16-MAR-2017 05:53

Client ID:

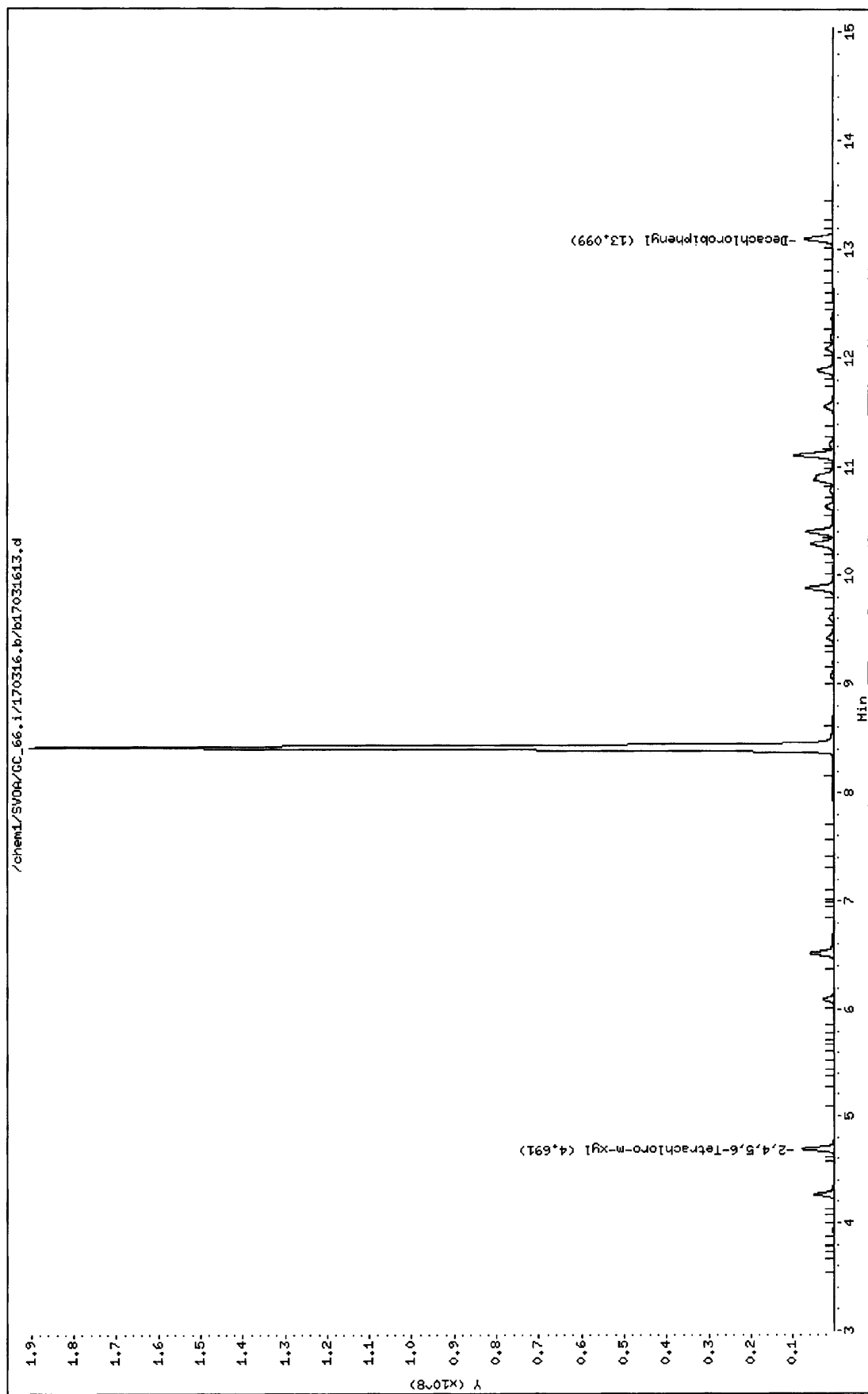
Sample Info: 17-03-0641-33

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: 099-12-535-4095
MB BATCH ID: 170313L11
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 669
D/T ANALYZED: 2017-03-16 02:37
REVIEWED BY: 
D/T REVIEWED:
MATRIX: Soil

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160217031602

CLIENT WORK ORDER: 17-03-0641

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
30	D-DU3-ISM1-3		2017-03-16 05:00	/chem1/SVOA/GC_66/170316/b1703161017031610
31	D-DU3-ISM2-3		2017-03-16 05:18	/chem1/SVOA/GC_66/170316/b1703161117031611
32	D-DU3-ISM3-3		2017-03-16 05:35	/chem1/SVOA/GC_66/170316/b1703161217031612
33	D-DU3-ISM4-3		2017-03-16 05:53	/chem1/SVOA/GC_66/170316/b1703161317031613

**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: 2017-03-13 00:00

ANALYZED BY: 669
D/T ANALYZED: 2017-03-16 02:37
REVIEWED BY: 
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160217031602

MB **CLIENT SAMPLE NUMBER: Method Blank**

LCS/MB BATCH: 170313L11	SAMPLE VOLUME / WEIGHT: DEFAULT: 1.00 / ACTUAL: 1.00
MS/MSD BATCH:	FINAL VOLUME / WEIGHT: DEFAULT: 1.00 ml / ACTUAL: 1.00 ml
UNITS: ug/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	


Return to Contents

LCS QUALITY CONTROL SHEET FOR METHOD: EPA 8082

LCS SAMPLE ID: 099-12-535- 4095
LCS/MB BATCH ID: 170313L11
INSTRUMENT: GC 66

EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-13 00:00

ANALYZED BY: 669
D/T ANALYZED: 2017-03-16 02:55
REVIEWED BY:
D/T REVIEWED: 21

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160317031603

<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	84.00	84	50-135	PASS	
Aroclor-1260	100.0	85.00	85	50-135	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

SPIKED SAMPLE ID: 17-03-0642-30
MS/MSD BATCH: 170313S11

INSTRUMENTS:
SAMPLE: GC 66
MS: GC 66
MSD: GC 66

EXTRACTION: EPA 3545
D/T EXTRACTED:

SAMPLE: 2017-03-13 00:00
MS: 2017-03-13 00:00
MSD: 2017-03-13 00:00

ANALYZED BY: 669

D/T ANALYZED:

SAMPLE: 2017-03-16 03:48
MS: 2017-03-16 03:13
MSD: 2017-03-16 03:31

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	83.00	83	82.50	82	50-135	1	0-20	PASS	
Aroclor-1260	ND	200.0	100.0	84.50	84	85.00	85	50-135	1	0-20	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17031604	/chem1/SVOA/GC_66/170316/b17031604
MSD	17031605	/chem1/SVOA/GC_66/170316/b17031605

SURROGATE RECOVERIES FOR METHOD: EPA 8082

WORK ORDER: 17-03-0641

BATCH ID:

LCS/MB: 170313L11MS: 170313S11

EXTRACTION: EPA 3545

REVIEWED BY: *u*D/T REVIEWED:**# 30** **CLIENT SAMPLE NUMBER : D-DU3-ISM1-3**INSTRUMENT: GC 66D/T EXTRACTED: 2017-03-13 00:00DATA FILE: /chem1/SVOA/GC_66/170316/b1703161017031610ANALYZED BY: 669D/T ANALYZED 2017-03-16 05:00COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Decachlorobiphenyl	75	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	67	25-145	PASS	

31 **CLIENT SAMPLE NUMBER : D-DU3-ISM2-3**INSTRUMENT: GC 66D/T EXTRACTED: 2017-03-13 00:00DATA FILE: /chem1/SVOA/GC_66/170316/b1703161117031611ANALYZED BY: 669D/T ANALYZED 2017-03-16 05:18COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Decachlorobiphenyl	75	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	66	25-145	PASS	

32 **CLIENT SAMPLE NUMBER : D-DU3-ISM3-3**INSTRUMENT: GC 66D/T EXTRACTED: 2017-03-13 00:00DATA FILE: /chem1/SVOA/GC_66/170316/b1703161217031612ANALYZED BY: 669D/T ANALYZED 2017-03-16 05:35COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Decachlorobiphenyl	83	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	72	25-145	PASS	

33 **CLIENT SAMPLE NUMBER : D-DU3-ISM4-3**INSTRUMENT: GC 66D/T EXTRACTED: 2017-03-13 00:00DATA FILE: /chem1/SVOA/GC_66/170316/b1703161317031613ANALYZED BY: 669D/T ANALYZED 2017-03-16 05:53COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
Decachlorobiphenyl	77	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	70	25-145	PASS	

SURROGATE RECOVERIES FOR METHOD: EPA 8082

WORK ORDER: 17-03-0641

BATCH ID:

LCS/MB: 170313L11**MS:**

EXTRACTION: EPA 3545

REVIEWED BY: *u*

D/T REVIEWED:

MB **CLIENT SAMPLE NUMBER : Method Blank**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-13 00:00

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160217031602

ANALYZED BY: 669

D/T ANALYZED 2017-03-16 02:37

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	75	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	69	25-145	PASS	

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

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-13 00:00

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160317031603

ANALYZED BY: 669

D/T ANALYZED 2017-03-16 02:55

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	76	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	68	25-145	PASS	

MS **CLIENT SAMPLE NUMBER : Matrix Spike**

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-13 00:00

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160417031604

ANALYZED BY: 669

D/T ANALYZED 2017-03-16 03:13

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	75	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	68	25-145	PASS	

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

INSTRUMENT: GC 66

D/T EXTRACTED: 2017-03-13 00:00

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160517031605

ANALYZED BY: 669

D/T ANALYZED 2017-03-16 03:31

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	76	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	67	25-145	PASS	

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031602.d
 Report Date: 16-Mar-2017 09:39

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031602.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 02:37
 Operator : 669 Inst ID: GC_66.i
 Smp Info : MB 170313L11
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 uhhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 2
 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		RT			RESPONSE	CONCENTRATIONS	
						ON-COLUMN	FINAL
		RT	EXP RT	DLT RT		(ppb)	(ug/Kg)
=====		==	=====	=====	=====	=====	=====
\$	1 2,4,5,6-Tetrachloro-m-xylene	4.692	4.692	0.000	394803974	68.7588	68.8
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.					

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031602.d
 Report Date: 16-Mar-2017 09:39

Page 2

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(ppb)	(ug/Kg)
=====	==	=====	=====	=====	=====	=====	=====	=====
22 Aroclor 1232 (2)						Compound Not Detected.		
23 Aroclor 1232 (3)						Compound Not Detected.		
24 Aroclor 1232 (4)						Compound Not Detected.		
25 Aroclor 1232 (5)						Compound Not Detected.		
M 26 Aroclor-1242						Compound Not Detected.		
27 Aroclor 1242 (1)						Compound Not Detected.		
28 Aroclor 1242 (2)						Compound Not Detected.		
29 Aroclor 1242 (3)						Compound Not Detected.		
30 Aroclor 1242 (4)						Compound Not Detected.		
31 Aroclor 1242 (5)						Compound Not Detected.		
M 32 Aroclor-1248						Compound Not Detected.		
33 Aroclor 1248 (1)						Compound Not Detected.		
34 Aroclor 1248 (2)						Compound Not Detected.		
35 Aroclor 1248 (3)						Compound Not Detected.		
36 Aroclor 1248 (4)						Compound Not Detected.		
37 Aroclor 1248 (5)						Compound Not Detected.		
M 38 Aroclor-1254						Compound Not Detected.		
39 Aroclor 1254 (1)						Compound Not Detected.		
40 Aroclor 1254 (2)						Compound Not Detected.		
41 Aroclor 1254 (3)						Compound Not Detected.		
42 Aroclor 1254 (4)						Compound Not Detected.		
43 Aroclor 1254 (5)						Compound Not Detected.		
M 44 Aroclor-1262						Compound Not Detected.		
45 Aroclor 1262 (1)						Compound Not Detected.		
46 Aroclor 1262 (2)						Compound Not Detected.		
47 Aroclor 1262 (3)						Compound Not Detected.		
48 Aroclor 1262 (4)						Compound Not Detected.		
49 Aroclor 1262 (5)						Compound Not Detected.		
M 50 Aroclor-1268						Compound Not Detected.		
51 Aroclor 1268 (1)						Compound Not Detected.		
52 Aroclor 1268 (2)						Compound Not Detected.		
53 Aroclor 1268 (3)						Compound Not Detected.		
54 Aroclor 1268 (4)						Compound Not Detected.		
55 Aroclor 1268 (5)						Compound Not Detected.		
\$ 56 Decachlorobiphenyl	13.101	13.102	-0.001	409460756	74.9979	75.0		

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Data File: /chem1/SV04/GC_66.i/170316.b/b17031602.d

Date : 16-HAR-2017 02:37

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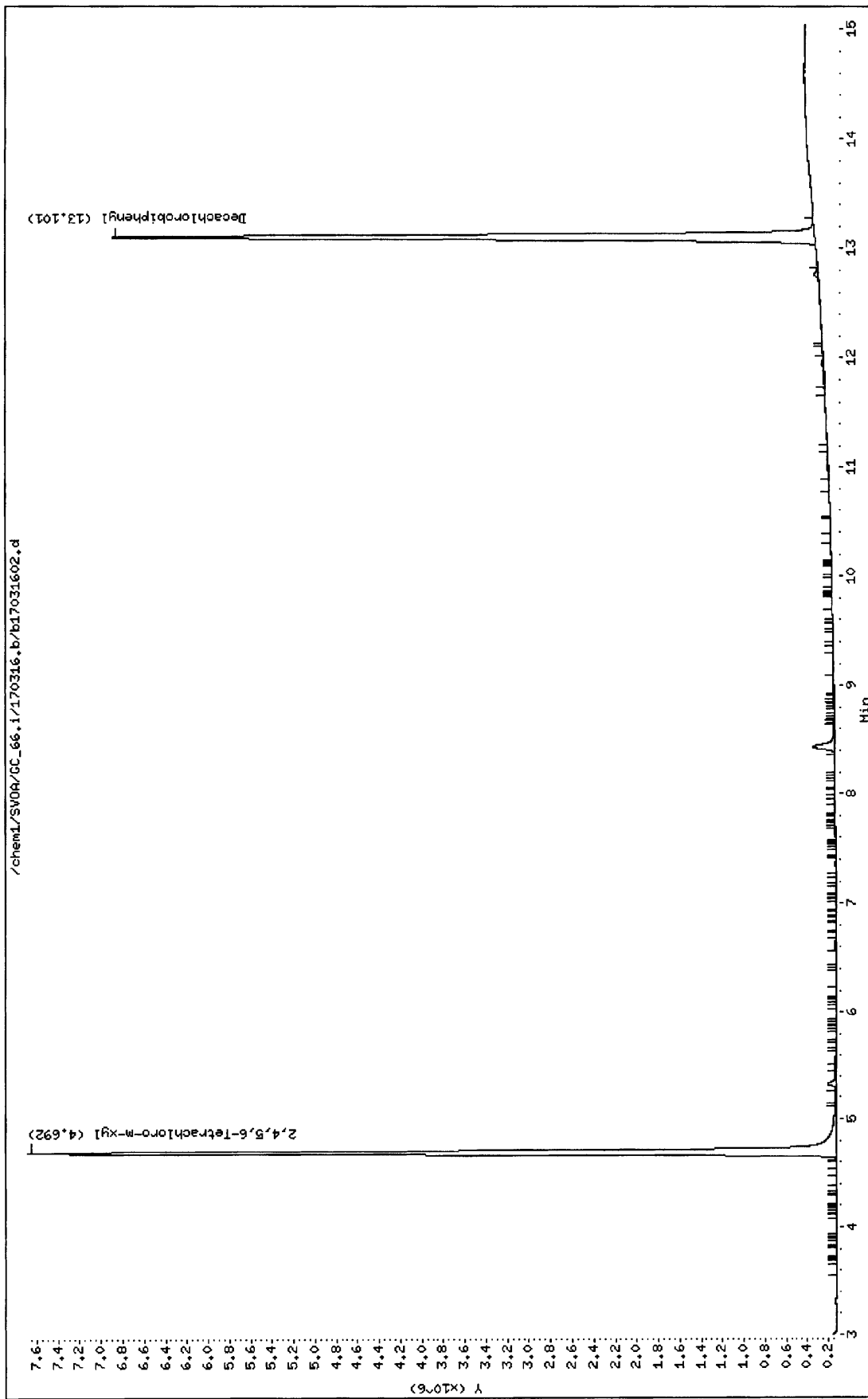
Sample Info: MB 170313L11

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170316.b/b17031603.d
 Report Date: 16-Mar-2017 09:39

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EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031603.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 02:55
 Operator : 669 Inst ID: GC_66.i
 Smp Info : LCS 170313L11
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 uhhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 3
 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	4.692	0.001	392010377	68.2723	68.3
M 2 Aroclor-1016				149699541	167.580	168
3 Aroclor 1016 (1)	5.540	5.535	0.005	16209045	180.029	180
4 Aroclor 1016 (2)	6.165	6.164	0.001	27261897	170.958	171
5 Aroclor 1016 (3)	6.852	6.846	0.006	56331026	158.713	159
6 Aroclor 1016 (4)	7.049	7.046	0.003	28344591	174.861	175
7 Aroclor 1016 (5)	7.203	7.197	0.006	21552982	170.001	170
M 8 Aroclor-1260				161569753	170.472	170
9 Aroclor 1260 (1)	9.748	9.748	0.000	47960963	177.446	177
10 Aroclor 1260 (2)	10.347	10.347	0.000	38254424	178.795	179
11 Aroclor 1260 (3)	10.740	10.741	-0.001	37955501	162.854	163
12 Aroclor 1260 (4)	12.115	12.116	-0.001	11135467	133.965	134
13 Aroclor 1260 (5)	12.334	12.335	-0.001	26263398	178.235	178
\$ 56 Decachlorobiphenyl	13.100	13.102	-0.002	413893821	75.8099	75.8

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Data File: /chem1/SVDA/GC_66.i/170316.b/b17031603.d

Date : 16-MAR-2017 02:55

Client ID:

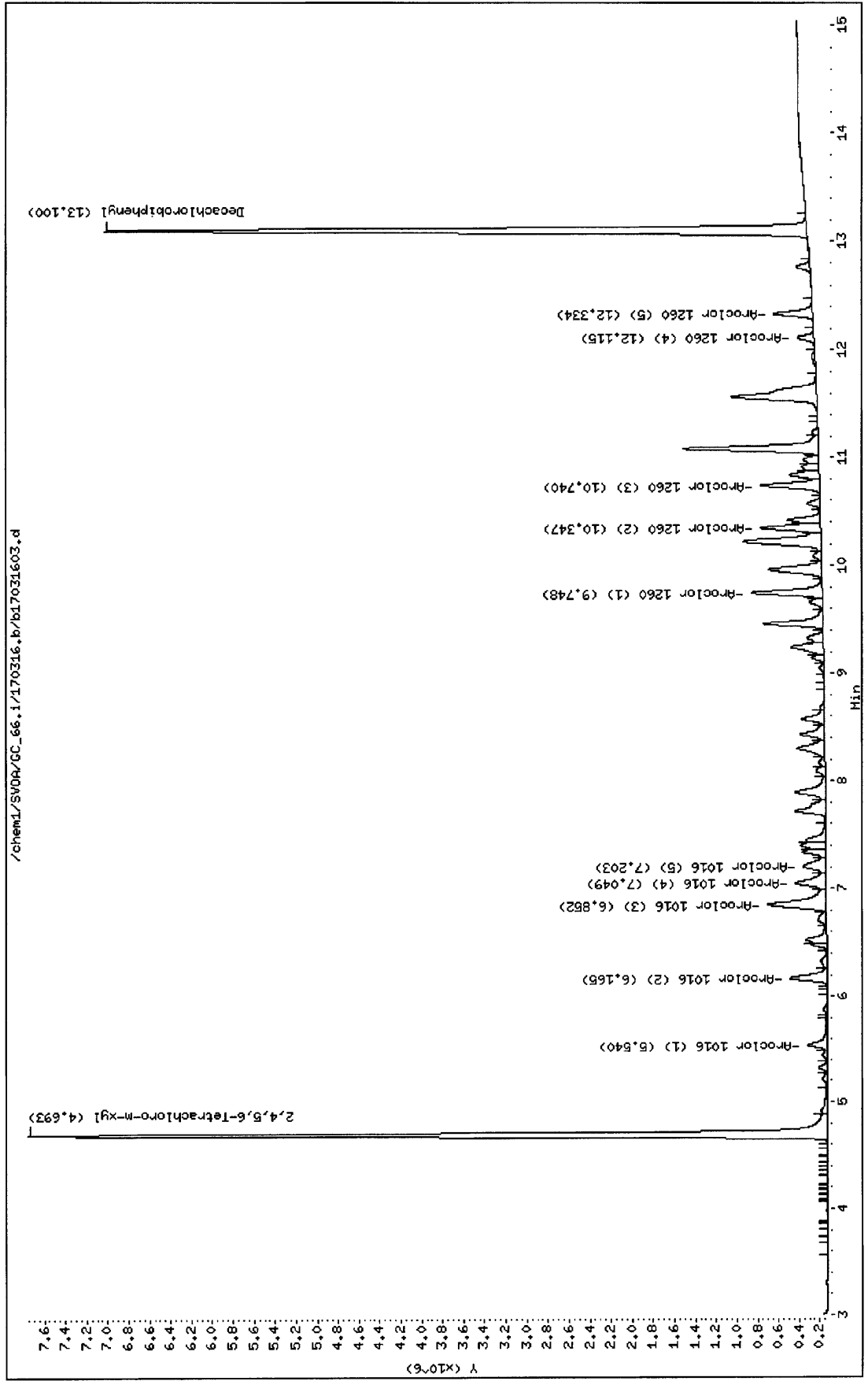
Sample Info: LCS 170313L11

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170316.b/b17031604.d
 Report Date: 16-Mar-2017 09:39

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EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031604.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 03:13
 Operator : 669 Inst ID: GC_66.i
 Smp Info : MS 17-03-0642-30 170313S11
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 uhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 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

		CONCENTRATIONS				
		ON-COLUMN			FINAL	
Compounds		RT	EXP RT	DLT RT	RESPONSE (ppb)	(ug/Kg)
=====		==	=====	=====	=====	=====
\$ 1 2,4,5,6-Tetrachloro-m-xylene		4.692	4.692	0.000	391758120	68.2284 68.2
M 2 Aroclor-1016					147932078	165.601 166
3 Aroclor 1016 (1)		5.538	5.535	0.003	16166680	179.559 180
4 Aroclor 1016 (2)		6.166	6.164	0.002	26761260	167.819 168
5 Aroclor 1016 (3)		6.850	6.846	0.004	55807556	157.238 157
6 Aroclor 1016 (4)		7.048	7.046	0.002	28023615	172.880 173
7 Aroclor 1016 (5)		7.200	7.197	0.003	21172967	167.004 167
M 8 Aroclor-1260					160522866	169.367 169
9 Aroclor 1260 (1)		9.749	9.748	0.001	47494181	175.719 176
10 Aroclor 1260 (2)		10.346	10.347	-0.001	37930713	177.282 177
11 Aroclor 1260 (3)		10.741	10.741	0.000	37740248	161.930 162
12 Aroclor 1260 (4)		12.116	12.116	0.000	11218175	134.960 135
13 Aroclor 1260 (5)		12.334	12.335	-0.001	26139549	177.394 177
\$ 56 Decachlorobiphenyl		13.101	13.102	-0.001	407340932	74.6097 74.6

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Data File: /chem1/SVDA/GC_66.i/170316.b/b17031604.d

Date : 16-MAR-2017 03:13

Client ID:

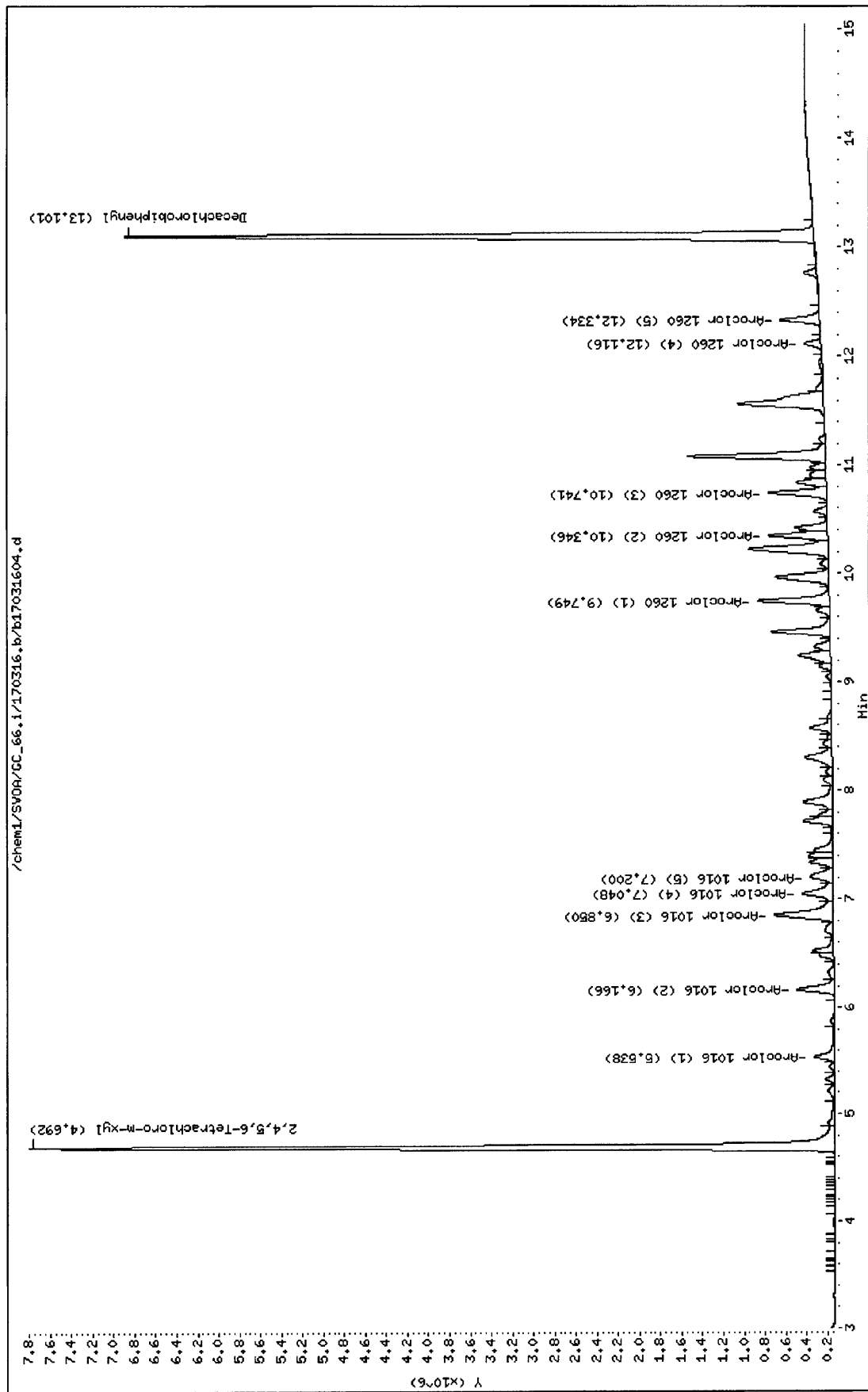
Sample Info: MS 17-03-0642-30 170313S11

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170316.b/b17031605.d
 Report Date: 16-Mar-2017 09:39

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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031605.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 03:31
 Operator : 669 Inst ID: GC_66.i
 Smp Info : MSD 17-03-0642-30 170313S11
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 uhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 5
 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	4.691	4.692	-0.001	386391515	67.2937	67.3
M 2 Aroclor-1016				147703155	165.345	165
3 Aroclor 1016 (1)	5.537	5.535	0.002	16101587	178.836	179
4 Aroclor 1016 (2)	6.165	6.164	0.001	26507276	166.226	166
5 Aroclor 1016 (3)	6.851	6.846	0.005	56093492	158.044	158
6 Aroclor 1016 (4)	7.048	7.046	0.002	27978865	172.604	173
7 Aroclor 1016 (5)	7.201	7.197	0.004	21021935	165.813	166
M 8 Aroclor-1260				160678733	169.531	170
9 Aroclor 1260 (1)	9.747	9.748	-0.001	47637382	176.249	176
10 Aroclor 1260 (2)	10.346	10.347	-0.001	37698861	176.199	176
11 Aroclor 1260 (3)	10.738	10.741	-0.003	38124388	163.578	164
12 Aroclor 1260 (4)	12.114	12.116	-0.002	11254981	135.403	135
13 Aroclor 1260 (5)	12.333	12.335	-0.002	25963121	176.197	176
\$ 56 Decachlorobiphenyl	13.099	13.102	-0.003	412287604	75.5157	75.5

Page 1

Data File: /chem1/SVDA/GC_66.i/170316.b/b17031605.d

Date : 16-Mar-2017 03:31

Client ID:

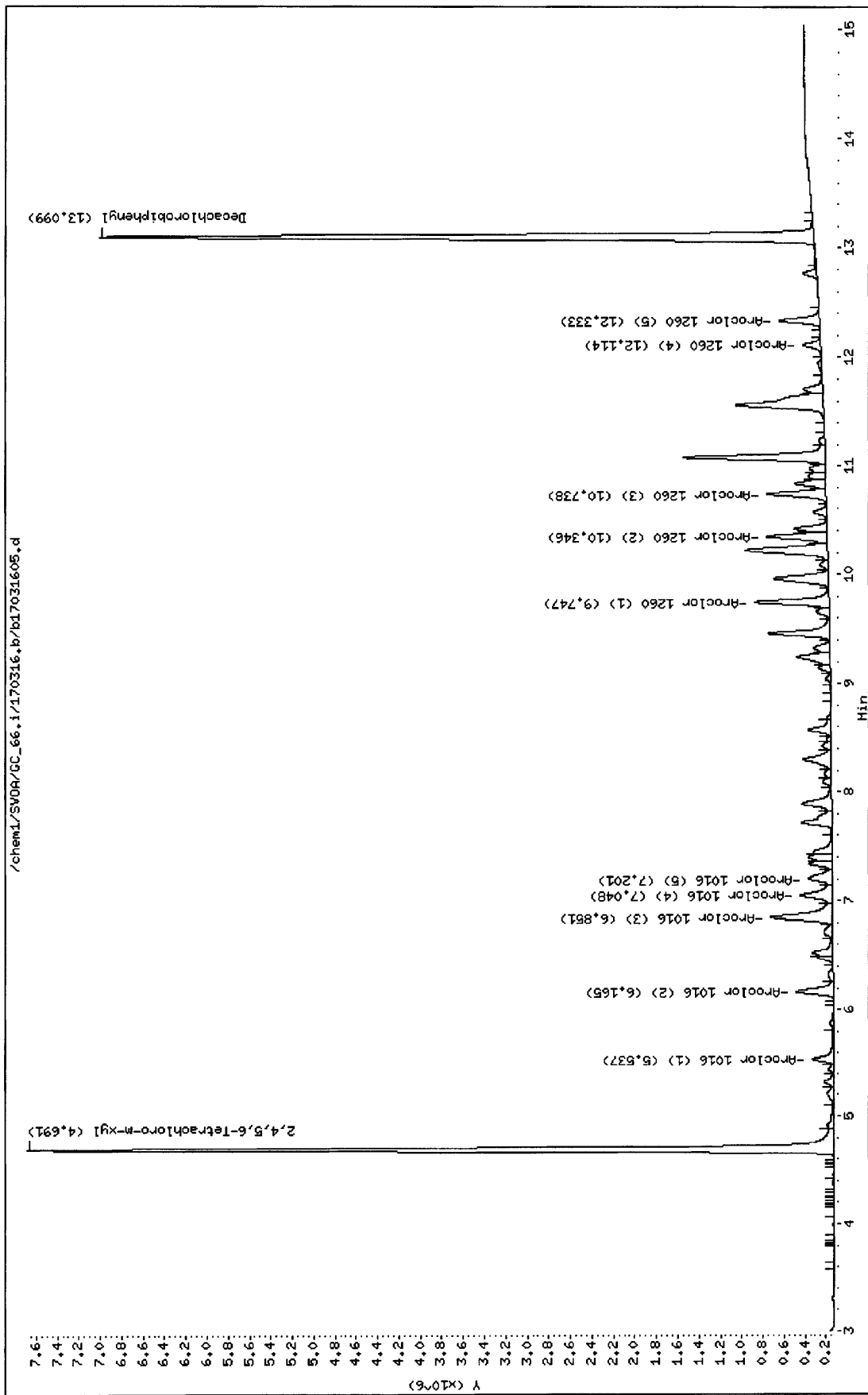
Sample Info: MSD 17-03-0642-30 170313S11

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00

Column phase:



Data File: /chem1/SVOA/GC_66.i/170316.b/b17031606.d
 Report Date: 16-Mar-2017 09:39

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031606.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 03:48
 Operator : 669
 Smp Info : 17-03-0642-30
 Misc Info :
 Comment : Rtx-CLPesticide II
 Method : /chem1/SVOA/GC_66.i/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 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	4.691	4.692	-0.001	396892431	69.1226
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/170316.b/b17031606.d
 Report Date: 16-Mar-2017 09:39

Page 2

Compounds	RT	EXP	RT	DLT	RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(ppb)	(ug/Kg)
=====	==	=====	=====		=====	=====	=====	=====
22 Aroclor 1232 (2)					Compound Not Detected.			
23 Aroclor 1232 (3)					Compound Not Detected.			
24 Aroclor 1232 (4)					Compound Not Detected.			
25 Aroclor 1232 (5)					Compound Not Detected.			
M 26 Aroclor-1242					Compound Not Detected.			
27 Aroclor 1242 (1)					Compound Not Detected.			
28 Aroclor 1242 (2)					Compound Not Detected.			
29 Aroclor 1242 (3)					Compound Not Detected.			
30 Aroclor 1242 (4)					Compound Not Detected.			
31 Aroclor 1242 (5)					Compound Not Detected.			
M 32 Aroclor-1248					Compound Not Detected.			
33 Aroclor 1248 (1)					Compound Not Detected.			
34 Aroclor 1248 (2)					Compound Not Detected.			
35 Aroclor 1248 (3)					Compound Not Detected.			
36 Aroclor 1248 (4)					Compound Not Detected.			
37 Aroclor 1248 (5)					Compound Not Detected.			
M 38 Aroclor-1254					Compound Not Detected.			
39 Aroclor 1254 (1)					Compound Not Detected.			
40 Aroclor 1254 (2)					Compound Not Detected.			
41 Aroclor 1254 (3)					Compound Not Detected.			
42 Aroclor 1254 (4)					Compound Not Detected.			
43 Aroclor 1254 (5)					Compound Not Detected.			
M 44 Aroclor-1262					Compound Not Detected.			
45 Aroclor 1262 (1)					Compound Not Detected.			
46 Aroclor 1262 (2)					Compound Not Detected.			
47 Aroclor 1262 (3)					Compound Not Detected.			
48 Aroclor 1262 (4)					Compound Not Detected.			
49 Aroclor 1262 (5)					Compound Not Detected.			
M 50 Aroclor-1268					Compound Not Detected.			
51 Aroclor 1268 (1)					Compound Not Detected.			
52 Aroclor 1268 (2)					Compound Not Detected.			
53 Aroclor 1268 (3)					Compound Not Detected.			
54 Aroclor 1268 (4)					Compound Not Detected.			
55 Aroclor 1268 (5)					Compound Not Detected.			
\$ 56 Decachlorobiphenyl	13.099	13.102	-0.003		414797331	75.9754	76.0	

Page 1

Data File: /chem1/SVOR/CC_66.i/170316.b/b17031606.d

Date : 16-MAR-2017 03:48

Client ID:

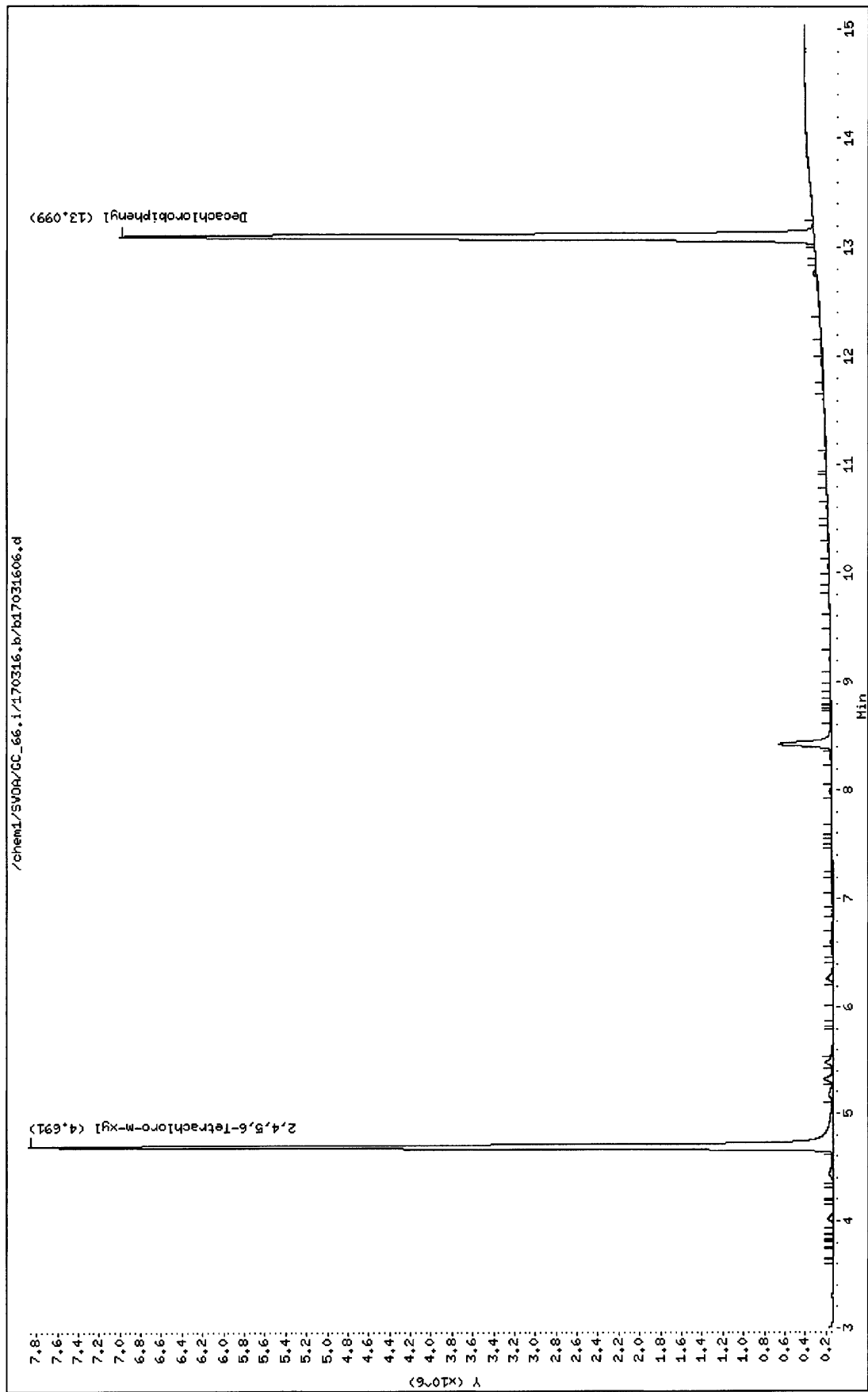
Sample Info: 17-03-0642-30

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: 170316A020
INSTRUMENT: GC 66

ANALYZED BY: 669

WORK ORDER: 099-12-532
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>
9440	Daily Calibration	2017-03-16 02:19	/chem1/SVOA/GC_66/170316/b1703160117031601
9441	Daily Calibration		

WORK ORDER: 17-03-0641
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>
30	D-DU3-ISM1-3	2017-03-16 05:00	/chem1/SVOA/GC_66/170316/b1703161017031610
31	D-DU3-ISM2-3	2017-03-16 05:18	/chem1/SVOA/GC_66/170316/b1703161117031611
32	D-DU3-ISM3-3	2017-03-16 05:35	/chem1/SVOA/GC_66/170316/b1703161217031612
33	D-DU3-ISM4-3	2017-03-16 05:53	/chem1/SVOA/GC_66/170316/b1703161317031613

CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

CCV WORK ORDER: 099-12-532-9440-5154

BATCH ID:

1702221003

INITIAL:

170316A020

CCV:

GC 66

INSTRUMENT:

DATA FILE: /chem1/SVOA/GC_66/170316/b1703160117031601

ANALYZED BY: 669

D/T ANALYZED:

INITIAL:

2017-02-22 17:27

CCV:

2017-03-16 02:19

REVIEWED BY:

D/T REVIEWED:

~

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	838691.902			6	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	921272.452			3	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031601.d
 Report Date: 03/16/2017 10:06

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_66.i Injection Date and Time: 16-MAR-2017 02:19
 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/170316.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	261311.072	0.01	3	15	Averaged	
Aroclor 1260 (2)	213956.488	217726.262	0.01	-2	15	Averaged	
Aroclor 1260 (3)	233064.808	217223.318	0.01	7	15	Averaged	
Aroclor 1260 (4)	83122.167	66454.886	0.01	20	15	Averaged	<-Failed
Aroclor-1260	947781.003	921272.452	0.01	3	15	Averaged	
Aroclor-1016	893304.438	838691.902	0.01	6	15	Averaged	
Aroclor 1016 (1)	90035.625	85510.550	0.01	5	15	Averaged	
Aroclor 1016 (2)	159465.395	150722.344	0.01	5	15	Averaged	
Aroclor 1016 (3)	354923.864	331584.622	0.01	7	15	Averaged	
Aroclor 1016 (4)	162098.269	151984.626	0.01	6	15	Averaged	
Aroclor 1016 (5)	126781.283	118889.760	0.01	6	15	Averaged	
Aroclor 1260 (5)	147353.008	158556.914	0.01	-8	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	5523862.840	0.01	4	15	Averaged	
Decachlorobiphenyl	5459627.036	5410297.090	0.01	1	15	Averaged	

page 1

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031601.d
 Report Date: 16-Mar-2017 09:39

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031601.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 02:19
 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/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:39 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				
		RT	EXP RT	DLT RT	RESPONSE	ON-COL
Compounds					CAL-AMT	
					(ppb)	(ppb)
=====		==	=====	=====	=====	=====
\$	1 2,4,5,6-Tetrachloro-m-xylene	4.692	4.692	0.000	552386284	100.000 96.2
M	2 Aroclor-1016				419345951	500.000 469
	3 Aroclor 1016 (1)	5.535	5.535	0.000	42755275	500.000 475
	4 Aroclor 1016 (2)	6.164	6.164	0.000	75361172	500.000 472
	5 Aroclor 1016 (3)	6.846	6.846	0.000	165792311	500.000 467
	6 Aroclor 1016 (4)	7.046	7.046	0.000	75992313	500.000 469
	7 Aroclor 1016 (5)	7.197	7.197	0.000	59444880	500.000 469
M	8 Aroclor-1260				460636226	500.000 486
	9 Aroclor 1260 (1)	9.748	9.748	0.000	130655536	500.000 483
	10 Aroclor 1260 (2)	10.347	10.347	0.000	108863131	500.000 509
	11 Aroclor 1260 (3)	10.741	10.741	0.000	108611659	500.000 466
	12 Aroclor 1260 (4)	12.116	12.116	0.000	33227443	500.000 400
	13 Aroclor 1260 (5)	12.335	12.335	0.000	79278457	500.000 538
\$	56 Decachlorobiphenyl	13.102	13.102	0.000	541029709	100.000 99.1

Page 1

Data File: /chem1/SV04/GC_66.i/170316.b/b17031601.d

Date : 16-MAR-2017 02:19

Client ID:

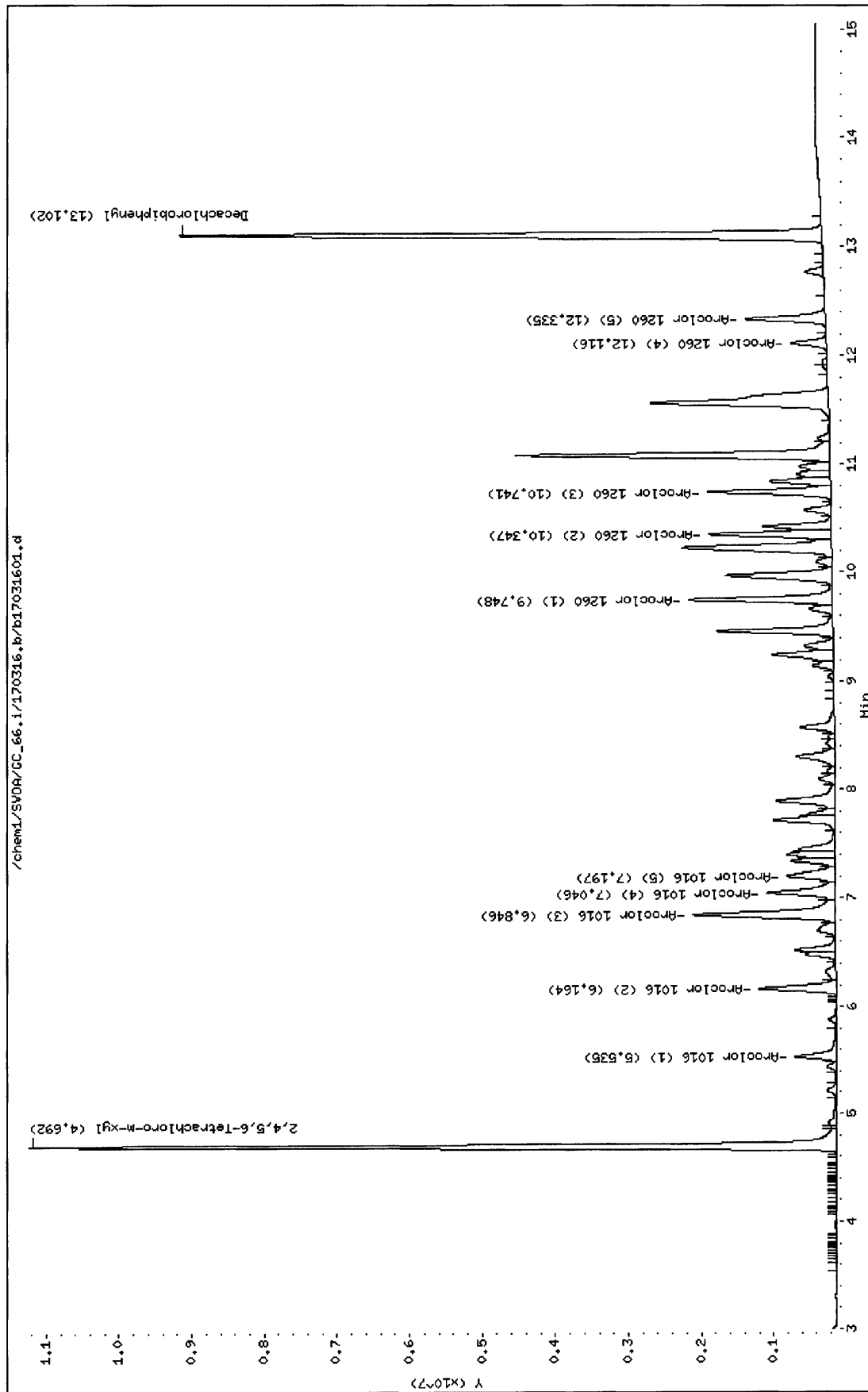
Sample Info: PCB CCV P0215171 500PPB

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: 099-12-532-9442-5154

BATCH ID:

170222I003

170316A021

GC 66

INITIAL:

CCV:

INSTRUMENT:

ANALYZED BY: 669

D/T ANALYZED:

INITIAL:

CCV:

REVIEWED BY:

D/T REVIEWED:

2017-02-22 17:27

2017-03-16 08:34

71

DATA FILE: /chem1/SVOA/GC_66/170316/b1703162217031622

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	845781.252			5	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	892972.092			6	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031622.d
 Report Date: 03/16/2017 10:06

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GC_66.i Injection Date and Time: 16-MAR-2017 08:34
 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/170316.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	255217.226	0.01	6	15	Averaged
Aroclor 1260 (2)	213956.488	211749.022	0.01	1	15	Averaged
Aroclor 1260 (3)	233064.808	211936.784	0.01	9	15	Averaged
Aroclor 1260 (4)	83122.167	64326.602	0.01	23	15	Averaged
Aroclor-1260	947781.003	892972.092	0.01	6	15	Averaged
Aroclor-1016	893304.438	845781.252	0.01	5	15	Averaged
Aroclor 1016 (1)	90035.625	86228.788	0.01	4	15	Averaged
Aroclor 1016 (2)	159465.395	151793.146	0.01	5	15	Averaged
Aroclor 1016 (3)	354923.864	337878.302	0.01	5	15	Averaged
Aroclor 1016 (4)	162098.269	151802.942	0.01	6	15	Averaged
Aroclor 1016 (5)	126781.283	118078.074	0.01	7	15	Averaged
Aroclor 1260 (5)	147353.008	149742.458	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	5689242.590	0.01	1	15	Averaged
Decachlorobiphenyl	5459627.036	5450682.520	0.01	0	15	Averaged

<-Failed

Data File: /chem1/SVOA/GC_66.i/170316.b/b17031622.d
 Report Date: 16-Mar-2017 09:40

Page 1

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170316.b/b17031622.d
 Lab Smp Id:
 Inj Date : 16-MAR-2017 08:34
 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/170316.b/b8082d-n2.m
 Meth Date : 16-Mar-2017 09:40 uhhn Quant Type: ESTD
 Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
 Als bottle: 22 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				
		RT	EXP RT	DLT RT	RESPONSE	ON-COL
Compounds					CAL-AMT	
					(ppb)	(ppb)
=====		==	=====	=====	=====	=====
\$	1 2,4,5,6-Tetrachloro-m-xylene	4.691	4.691	0.000	568924259	100.000 99.1
M	2 Aroclor-1016				422890626	500.000 473
	3 Aroclor 1016 (1)	5.532	5.532	0.000	43114394	500.000 479
	4 Aroclor 1016 (2)	6.163	6.163	0.000	75896573	500.000 476
	5 Aroclor 1016 (3)	6.843	6.843	0.000	168939151	500.000 476
	6 Aroclor 1016 (4)	7.042	7.042	0.000	75901471	500.000 468
	7 Aroclor 1016 (5)	7.193	7.193	0.000	59039037	500.000 466
M	8 Aroclor-1260				446486046	500.000 471
	9 Aroclor 1260 (1)	9.745	9.745	0.000	127608613	500.000 472
	10 Aroclor 1260 (2)	10.344	10.344	0.000	105874511	500.000 495
	11 Aroclor 1260 (3)	10.738	10.738	0.000	105968392	500.000 455
	12 Aroclor 1260 (4)	12.112	12.112	0.000	32163301	500.000 387
	13 Aroclor 1260 (5)	12.332	12.332	0.000	74871229	500.000 508
\$	56 Decachlorobiphenyl	13.099	13.099	0.000	545068252	100.000 99.8

Page 1

Data File: /chem1/SV0A/GC_66.i/170316.b/b17031622.d

Date: 16-Mar-2017 08:34

Client ID:

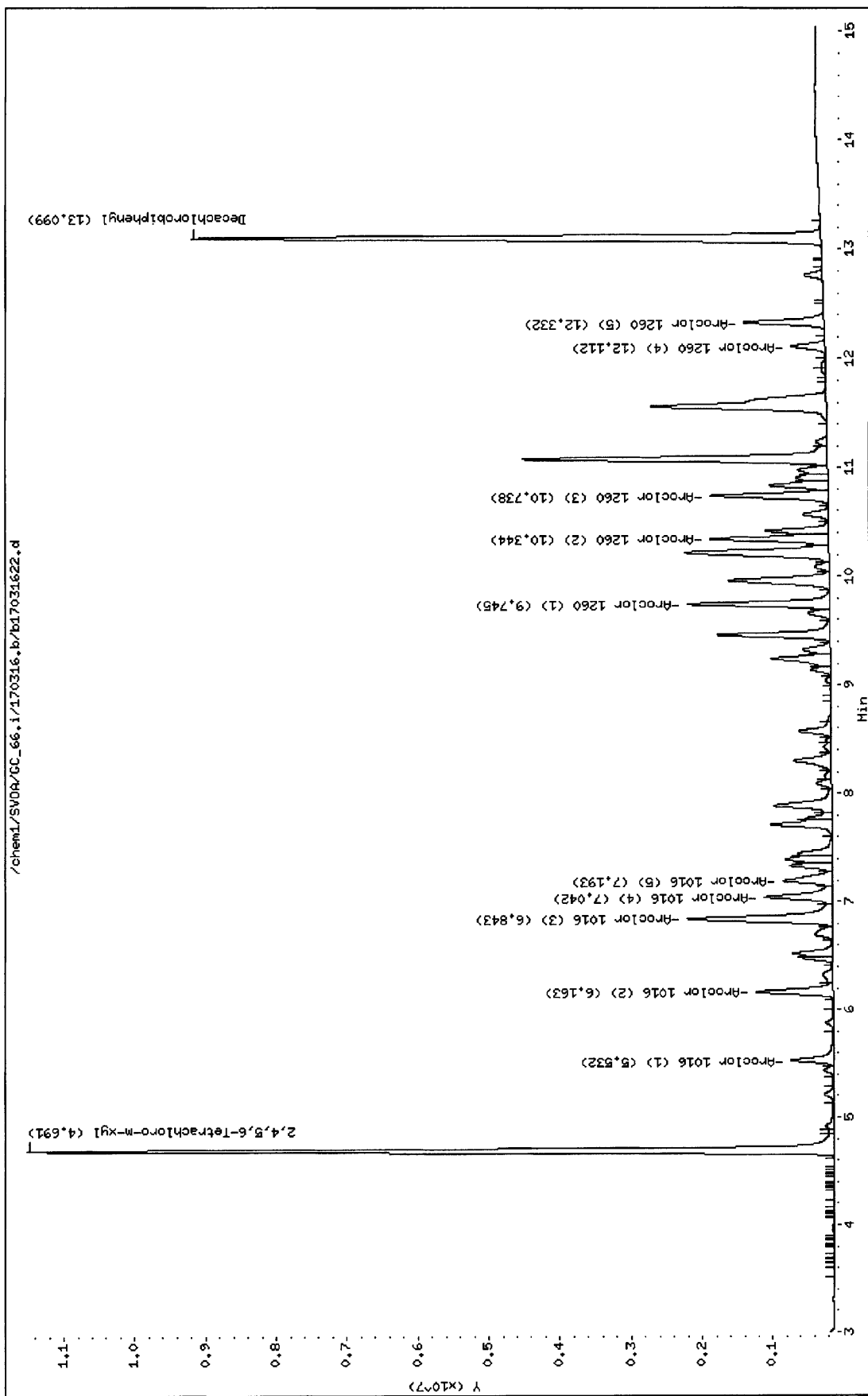
Sample Info: PCB CCV P0215171 500PPB

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	17031600	S007-46-21	8082D-N2	A020	16-Mar-17, 02:01:53
2	1	17031601	PCB CCV P021517I 500PPB	8082D-N2		16-Mar-17, 02:19:41
3	2	17031602	MB 170313L11	8082D-N2		16-Mar-17, 02:37:27
4	3	17031603	LCS 170313L11	8082D-N2		16-Mar-17, 02:55:14
5	4	17031604	MS 17-03-0642-30 170313S11	8082D-N2		16-Mar-17, 03:13:09
6	5	17031605	MSD 17-03-0642-30 170313S11	8082D-N2		16-Mar-17, 03:31:04
7	6	17031606	17-03-0642-30	8082D-N2		16-Mar-17, 03:48:56
8	7	17031607	17-03-0642-31	8082D-N2		16-Mar-17, 04:06:43
9	8	17031608	17-03-0642-32	8082D-N2		16-Mar-17, 04:24:35
10	9	17031609	17-03-0642-33	8082D-N2		16-Mar-17, 04:42:26
11	10	17031610	17-03-0641-30	8082D-N2		16-Mar-17, 05:00:16
12	11	17031611	17-03-0641-31	8082D-N2		16-Mar-17, 05:18:05
13	12	17031612	17-03-0641-32	8082D-N2		16-Mar-17, 05:35:59
14	13	17031613	17-03-0641-33	8082D-N2		16-Mar-17, 05:53:50
15	14	17031614	17-03-0590-28	8082D-N2		16-Mar-17, 06:11:37
16	15	17031615	17-03-0590-29	8082D-N2		16-Mar-17, 06:29:29
17	16	17031616	17-03-0590-30	8082D-N2		16-Mar-17, 06:47:21
18	17	17031617	17-03-0589-28	8082D-N2		16-Mar-17, 07:05:08
19	18	17031618	17-03-0589-29	8082D-N2		16-Mar-17, 07:22:58
20	19	17031619	17-03-0589-30	8082D-N2		16-Mar-17, 07:40:46
21	20	17031620	17-03-0486-7 Hg	8082D-N2	A021	16-Mar-17, 07:58:37
22	21	17031621	17-03-0486-8 Hg	8082D-N2		16-Mar-17, 08:16:26
23	22	17031622	PCB CCV P021517I 500PPB	8082D-N2		16-Mar-17, 08:34:16
24	23	17031623	17-03-0486-9 Hg	8082D-N2		16-Mar-17, 08:52:05
25	24	17031624	MB 170315L06	8082D-N2		16-Mar-17, 09:09:59
26	25	17031625	LCS 170315L06	8082D-N2		16-Mar-17, 09:27:50
27	26	17031626	MS 17-03-0966-1 170315S06	8082D-N2		
28	27	17031627	MSD 17-03-0966-1 170315S06	8082D-N2		
29	28	17031628	17-03-0966-1	8082D-N2		
30	29	17031629	LCS 170314L12	8082D-N2		
31	30	17031630	MB 170314L12	8082D-N2		
32	31	17031631	MS 17-03-0683-1 170314S12	8082D-N2		
33	32	17031632	MSD 17-03-0683-1 170314S12	8082D-N2		
34	33	17031633	17-03-0683-1	8082D-N2		
35	34	17031634	17-03-0683-2	8082D-N2		
36	35	17031635	17-03-0683-4	8082D-N2		
37	36	17031636	17-03-0683-5	8082D-N2		
38	37	17031637	17-03-0683-6	8082D-N2		
39	38	17031638	17-03-0683-7	8082D-N2		
40	39	17031639	17-03-0683-9	8082D-N2		
41	40	17031640	17-03-0683-10	8082D-N2		
42	41	17031641	17-03-0683-11	8082D-N2		
43	42	17031642	17-03-0683-12	8082D-N2		
44	43	17031643	PCB CCV P021517I 500PPB	8082D-N2	A022	
45	44	17031644	17-03-0683-14	8082D-N2		
46	45	17031645	17-03-0683-15	8082D-N2		
47	46	17031646	17-03-0683-16	8082D-N2		
48	47	17031647	17-03-0683-17	8082D-N2		
49	43	17031648	PCB CCV P021517I 500PPB	8082D-N2	A023	

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- 1002 Start Extraction- 1002 Blow Down- 1084 Clean Up- 1084				
Matrix: ☒ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air				
Balance ID#: 53 Filter ID#: 507-17-17 ASE ID#: 7,10 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:				
Ext. Start Date/Time: 03/13/2017 16:00 Ext. End Date/Time: 3/13/2017 19:10				
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): S 101316A 0.5				
Spike Std ID# & Volume Added (mL): S020317A 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#: 507-44-07/507-44-08 Exchange Solvent (☒ Hexane ☐ Acetonitrile) ID#: 507-42-09				
Clean Up Start Date & Time: 03/14/2017 8:00 Clean Up End Date & Time: 03/14/2017 8:30				
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 #: 170313 L11		Sample W (g) / V (mL)		
Cel ID#:	Initial	Final	Clean Up Performed	Comments
MB	20.0	10	☒	
LCS	20.0	10	☒	
LCSD			☐	
MS 17-03-0642-30A	20.0	10	☒	
MSD V-30A	20.0	10	☒	
17-03-0486-7A	10.1	5	☒	
-8A	10.0	5	☒	
-9A	10.1	5	☒	
17-03-0589-28A	20.1	10	☒	
-29A	20.2	10	☒	
-30A	20.0	10	☒	
17-03-0590-28A	20.1	10	☒	
-29A	20.0	10	☒	
-30A	20.2	10	☒	
17-03-0591-28A	20.2	10	☒	
-29A	20.1	10	☒	
-30A	20.1	10	☒	
17-03-0641-30A	20.1	10	☒	
-31A	20.2	10	☒	
-32A	20.0	10	☒	
-33A	20.1	10	☒	
17-03-0642-30A	20.1	10	☒	
-31A	20.1	10	☒	
-32A	20.0	10	☒	
-33A	20.2	10	☒	

Peer Reviewed by: XVZPeer Reviewed Date: 03/14/17

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: 099-06-009-4976-4741
ICAL BATCH ID: 1703131002
INSTRUMENT: GC/MS AAA

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-03-13 13:34
REVIEWED BY: 262
D/T REVIEWED: 2017-03-13 16:33

COMPOUND	COMP. TYPE	CALIB. MODEL	1	2	3	4	5	6	Z	S	AVG. RF	MIN. RF	%RSD CL	%RSD CL	R ²	R ² CL	R ² CL	STATUS
Naphthalene		Avg RF	1.094	0.977	1.072	1.081	1.037				1.052	0.00	4	0-15	4.489			PASS
2-Methylnaphthalene		Avg RF	0.686	0.637	0.698	0.718	0.691				0.686	0.00	4	0-15	4.366			PASS
1-Methylnaphthalene		Avg RF	0.683	0.635	0.698	0.707	0.671				0.679	0.00	4	0-15	4.137			PASS
Acenaphthylene		Avg RF	2.278	2.113	2.302	2.378	2.279				2.270	0.00	4	0-15	4.271			PASS
Acenaphthene	C	Avg RF	1.342	1.216	1.330	1.355	1.306				1.310	0.00	4	0-15	4.240			PASS
Fluorene		Avg RF	1.499	1.409	1.562	1.599	1.543				1.522	0.00	5	0-15	4.776			PASS
Phenanthrene		Avg RF	1.068	0.987	1.088	1.131	1.090				1.073	0.00	5	0-15	4.958			PASS
Anthracene		Avg RF	1.120	1.028	0.999	1.176	1.134				1.092	0.00	7	0-15	6.822			PASS
Fluoranthene	C	Avg RF	1.282	1.196	1.325	1.412	1.351				1.313	0.00	6	0-15	6.115			PASS
Pyrene		Avg RF	1.404	1.295	1.439	1.484	1.450				1.414	0.00	5	0-15	5.128			PASS
Benzo (a) Anthracene		Avg RF	1.402	1.189	1.285	1.352	1.345				1.315	0.00	6	0-15	6.202			PASS
Chrysene		Avg RF	1.270	1.142	1.260	1.265	1.240				1.236	0.00	4	0-15	4.313			PASS
Benzo (k) Fluoranthene		Avg RF	1.421	1.349	1.493	1.512	1.440				1.443	0.00	4	0-15	4.481			PASS
Benzo (b) Fluoranthene		Avg RF	1.307	1.150	1.459	1.401	1.408				1.345	0.00	9	0-15	9.070			PASS
Benzo (a) Pyrene	C	Avg RF	1.297	1.177	1.304	1.346	1.279				1.281	0.00	5	0-15	4.912			PASS
Indeno (1,2,3-c,d) Pyrene		Avg RF	1.444	1.339	1.563	1.553	1.529				1.485	0.00	6	0-15	6.354			PASS
Dibenz (a,h) Anthracene		Avg RF	1.123	1.067	1.237	1.227	1.191				1.169	0.00	6	0-15	6.186			PASS
Benzo (g,h,i) Perylene		Avg RF	1.204	1.097	1.257	1.257	1.229				1.209	0.00	5	0-15	5.484			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: 099-06-009-4976-4741
ICAL BATCH ID: 170313I002
INSTRUMENT: GC/MS AAA

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-03-13 13:34
REVIEWED BY: 262
D/T REVIEWED: 2017-03-13 16:33

LEVEL #	D/T ANALYZED	DATA FILE
1	2017-03-13 13:34	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar008.d\13mar008.r
2	2017-03-13 13:15	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar007.d\13mar007.r
3	2017-03-13 12:55	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar006.d\13mar006.r
4	2017-03-13 12:35	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar005.d\13mar005.r
5	2017-03-13 12:16	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar004.d\13mar004.r

INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET

FOR METHOD: EPA 8270C SIM PAHs

ICV WORK ORDER: 099-06-009-4976-4741

INITIAL BATCH ID: 1703131002

INSTRUMENT: GC/MS AAA

ANALYZED BY: 907

D/T ANALYZED:

INITIAL: 2017-03-13 13:34

ICV: 2017-03-13 13:54

REVIEWED BY: 262

D/T REVIEWED: 2017-03-13 16:33

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017170313113mar009.d\13mar009.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	1.052	1.119			-6	0-20	PASS
2-Methylnaphthalene	Avg Resp		0.00	0.686	0.796			-16	0-20	PASS
1-Methylnaphthalene	Avg Resp		0.00	0.679	0.730			-8	0-20	PASS
Acenaphthylene	Avg Resp		0.00	2.270	2.398			-6	0-20	PASS
Acenaphthene	Avg Resp	C	0.00	1.310	1.440			-10	0-20	PASS
Fluorene	Avg Resp		0.00	1.522	1.679			-10	0-20	PASS
Phenanthrene	Avg Resp		0.00	1.073	1.225			-14	0-20	PASS
Anthracene	Avg Resp		0.00	1.092	1.199			-10	0-20	PASS
Fluoranthene	Avg Resp	C	0.00	1.313	1.434			-9	0-20	PASS
Pyrene	Avg Resp		0.00	1.414	1.534			-8	0-20	PASS
Benzo (a) Anthracene	Avg Resp		0.00	1.315	1.364			-4	0-20	PASS
Chrysene	Avg Resp		0.00	1.236	1.288			-4	0-20	PASS
Benzo (k) Fluoranthene	Avg Resp		0.00	1.443	1.584			-10	0-20	PASS
Benzo (b) Fluoranthene	Avg Resp		0.00	1.345	1.393			-4	0-20	PASS
Benzo (a) Pyrene	Avg Resp	C	0.00	1.281	1.337			-4	0-20	PASS
Indeno (1,2,3-c,d) Pyrene	Avg Resp		0.00	1.485	1.541			-4	0-20	PASS
Dibenz (a,h) Anthracene	Avg Resp		0.00	1.169	1.231			-5	0-20	PASS
Benzo (g,h,i) Perylene	Avg Resp		0.00	1.209	1.309			-8	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Report Date : 13-Mar-2017 14:55

Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 17:28
 End Cal Date : 13-MAR-2017 13:34
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m
 Cal Date : 13-Mar-2017 14:53 ev7p
 Curve Type : Average

Calibration File Names:

Level 1: /chem/SVOA/GCMS_AAA.i/170313.b/13mar008.d
 Level 2: /chem/SVOA/GCMS_AAA.i/170313.b/13mar007.d
 Level 3: /chem/SVOA/GCMS_AAA.i/170313.b/13mar006.d
 Level 4: /chem/SVOA/GCMS_AAA.i/170313.b/13mar005.d
 Level 5: /chem/SVOA/GCMS_AAA.i/170313.b/13mar004.d

	0.10000	0.50000	1.000	2.000	5.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD
4 Naphthalene	1.09385	0.97659	1.07180	1.08137	1.03681	1.05209	4
5 2-Methylnaphthalene	0.68554	0.63704	0.69835	0.71775	0.69148	0.68603	4
6 1-Methylnaphthalene	0.68289	0.63479	0.69764	0.70688	0.67130	0.67870	4
8 Biphenyl	2.16644	1.96594	2.16003	2.14549	2.03227	2.09403	4
9 2,6-Dimethylnaphthalene	1.55347	1.41005	1.53941	1.55897	1.49704	1.51179	4
10 Acenaphthylene	2.27806	2.11290	2.30165	2.37847	2.27903	2.27002	4
12 Acenaphthene	1.34190	1.21569	1.33044	1.35456	1.30570	1.30966	4
13 Dibenzofuran	1.87476	1.77796	1.96814	2.01585	1.94706	1.91675	5
14 1,6,7-Trimethylnaphthalene	1.52468	1.38537	1.51994	1.55698	1.48361	1.49412	4
15 Fluorene	1.49915	1.40934	1.56234	1.59858	1.54302	1.52249	5
16 Dibenzothiophene	2.79109	2.56641	2.83728	2.97282	2.91846	2.81721	6
18 Phenanthrene	1.06827	0.98692	1.08813	1.13110	1.08972	1.07283	5
19 Anthracene	1.12039	1.02844	0.99944	1.17551	1.13440	1.09164	7
20 1-Methylphenanthrene	1.08036	0.99436	1.09406	1.14905	1.13790	1.09115	6
21 Fluoranthene	1.28248	1.19637	1.32488	1.41151	1.35059	1.31317	6
22 Pyrene	1.40416	1.29495	1.43927	1.48368	1.44973	1.41436	5
24 Benzo (a) Anthracene	1.40151	1.18890	1.28510	1.35219	1.34547	1.31463	6
26 Chrysene	1.26972	1.14244	1.26018	1.26546	1.24029	1.23562	4
27 Benzo (b) Fluoranthene	1.30658	1.15032	1.45930	1.40137	1.40753	1.34502	9
28 Benzo (k) Fluoranthene	1.42096	1.34890	1.49348	1.51245	1.43970	1.44310	4
29 Benzo (e) pyrene	1.58081	1.42277	1.65604	1.63617	1.60280	1.57972	6
30 Benzo (a) Pyrene	1.29689	1.17692	1.30373	1.34597	1.27947	1.28059	5

Report Date : 13-Mar-2017 14:55

Page 2

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 17:28
 End Cal Date : 13-MAR-2017 13:34
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m
 Cal Date : 13-Mar-2017 14:53 ev7p
 Curve Type : Average

Compound	0.10000	0.50000	1.000	2.000	5.000	RRF	% RSD
	Level 1	Level 2	Level 3	Level 4	Level 5		
32 Perylene	1.62127	1.42943	1.59538	1.61256	1.56628	1.56498	5
33 Indeno (1,2,3-c,d) Pyrene	1.44353	1.33902	1.56310	1.55254	1.52914	1.48547	6
34 Dibenz (a,h) Anthracene	1.12332	1.06671	1.23658	1.22659	1.19081	1.16880	6
35 Benzo (g,h,i) Perylene	1.20375	1.09684	1.25672	1.25676	1.22913	1.20864	5
=====							
\$ 2 Nitrobenzene-d5	0.33991	0.34002	0.39373	0.40003	0.39476	0.37369	8
\$ 7 2-Fluorobiphenyl	1.66075	1.54110	1.68248	1.66836	1.54430	1.61940	4
\$ 23 p-Terphenyl-d14	0.72431	0.67710	0.75455	0.77989	0.77847	0.74286	6

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar009.d
 Report Date: 03/13/2017 14:54

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GCMS_AAA.i Injection Date and Time: 13-MAR-2017 13:54
 Sample Name: ICV S010317I 1PPM Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
 Sublist used: all.sub Initial Calibration Time(s): 17:28 13:34
 Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Naphthalene	1.052	1.119	0.00	-6	20	Averaged
2-Methylnaphthalene	0.686	0.796	0.00	-16	20	Averaged
1-Methylnaphthalene	0.679	0.730	0.00	-8	20	Averaged
Acenaphthylene	2.270	2.398	0.00	-6	20	Averaged
Acenaphthene	1.310	1.440	0.00	-10	20	Averaged
Fluorene	1.522	1.679	0.00	-10	20	Averaged
Phenanthrene	1.073	1.225	0.00	-14	20	Averaged
Anthracene	1.092	1.199	0.00	-10	20	Averaged
Fluoranthene	1.313	1.434	0.00	-9	20	Averaged
Pyrene	1.414	1.534	0.00	-8	20	Averaged
Benzo (a) Anthracene	1.315	1.364	0.00	-4	20	Averaged
Chrysene	1.236	1.288	0.00	-4	20	Averaged
Benzo (b) Fluoranthene	1.345	1.393	0.00	-4	20	Averaged
Benzo (k) Fluoranthene	1.443	1.584	0.00	-10	20	Averaged
Benzo (a) Pyrene	1.281	1.337	0.00	-4	20	Averaged
Indeno (1,2,3-c,d) Pyrene	1.485	1.541	0.00	-4	20	Averaged
Dibenz (a,h) Anthracene	1.169	1.231	0.00	-5	20	Averaged
Benzo (g,h,i) Perylene	1.209	1.309	0.00	-8	20	Averaged
Biphenyl	2.094	1.920	0.00	8	20	Averaged
2,6-Dimethylnaphthalene	1.512	1.369	0.00	9	20	Averaged
1,6,7-Trimethylnaphthalene	1.494	1.312	0.00	12	20	Averaged
Dibenzothiophene	2.817	2.588	0.00	8	20	Averaged
1-Methylphenanthrene	1.091	0.986	0.00	10	20	Averaged
Benzo (e) pyrene	1.580	1.416	0.00	10	20	Averaged
Perylene	1.565	1.359	0.00	13	20	Averaged
Dibenzofuran	1.917	2.112	0.00	-10	20	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Nitrobenzene-d5	0.374	0.442	0.00	-18	20	Averaged
2-Fluorobiphenyl	1.619	1.908	0.00	-18	20	Averaged
p-Terphenyl-d14	0.743	0.855	0.00	-15	20	Averaged

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar004.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 12:16 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

Sample Name: ICAL-1 S010317D 5PPM Misc Info: 170313I002
 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)	3.686	152	108994	5.000	0.00
3)*Naphthalene-d8	(2)	4.937	136	329494	5.000	0.00
11)*Acenaphthene-d10	(3)	6.834	164	163934	5.000	0.00
17)*Phenanthrene-d10	(4)	8.437	188	323816	5.000	0.00
31)*Perylene-d12	(6)	13.009	264	282888	5.000	0.00
25)*Chrysene-d12	(5)	11.375	240	308710	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.241	82	130072	5.282	0.00
SpikedAmount 5.000	Recovery = 526.869					
7)\$2-Fluorobiphenyl	(3)	6.115	172	253163	4.768	0.00
SpikedAmount 5.000	Recovery = 485.891					
23)\$p-Terphenyl-d14	(5)	10.229	244	240321	5.240	0.00
SpikedAmount 5.000	Recovery = 520.854					
Target Compounds						QValue
4) Naphthalene	(2)	4.959	128	341623	4.927	100
5) 2-Methylnaphthalene	(2)	5.690	142	227840	5.040	100
6) 1-Methylnaphthalene	(2)	5.803	142	221189	4.945	99
10) Acenaphthylene	(3)	6.664	152	373610	5.020	100
12) Acenaphthene	(3)	6.865	153	214048	4.985	100
15) Fluorene	(3)	7.420	166	252954	5.067	99
18) Phenanthrene	(4)	8.461	178	352869	5.079	100
19) Anthracene	(4)	8.510	178	367338	5.196	99
21) Fluoranthene	(4)	9.777	202	437343	5.143	99
22) Pyrene	(5)	10.019	202	447546	5.125	99
24) Benzo (a) Anthracene	(5)	11.354	228	415359	5.117	100
26) Chrysene	(5)	11.399	228	382889	5.019	100
27) Benzo (b) Fluoranthene	(6)	12.585	252	398174	5.232	99
28) Benzo (k) Fluoranthene	(6)	12.609	252	407273	4.988	97
30) Benzo (a) Pyrene	(6)	12.944	252	361946	4.996	98
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.187	276	432575	5.147	99
34) Dibenz (a,h) Anthracene	(6)	14.207	278	336867	5.094	99
35) Benzo (g,h,i) Perylene	(6)	14.494	276	347707	5.085	99
8) Biphenyl	(3)	6.207	154	333158	4.853	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	245415	4.951	99
14) 1,6,7-Trimethylnaphthalene	(3)	7.297	170	243214	4.965	99
16) Dibenzothiophene	(3)	8.324	184	478435	5.180	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar004.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 12:16 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 13:57
Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

Sample Name: ICAL-1 S010317D 5PPM
Response via Initial Calibration

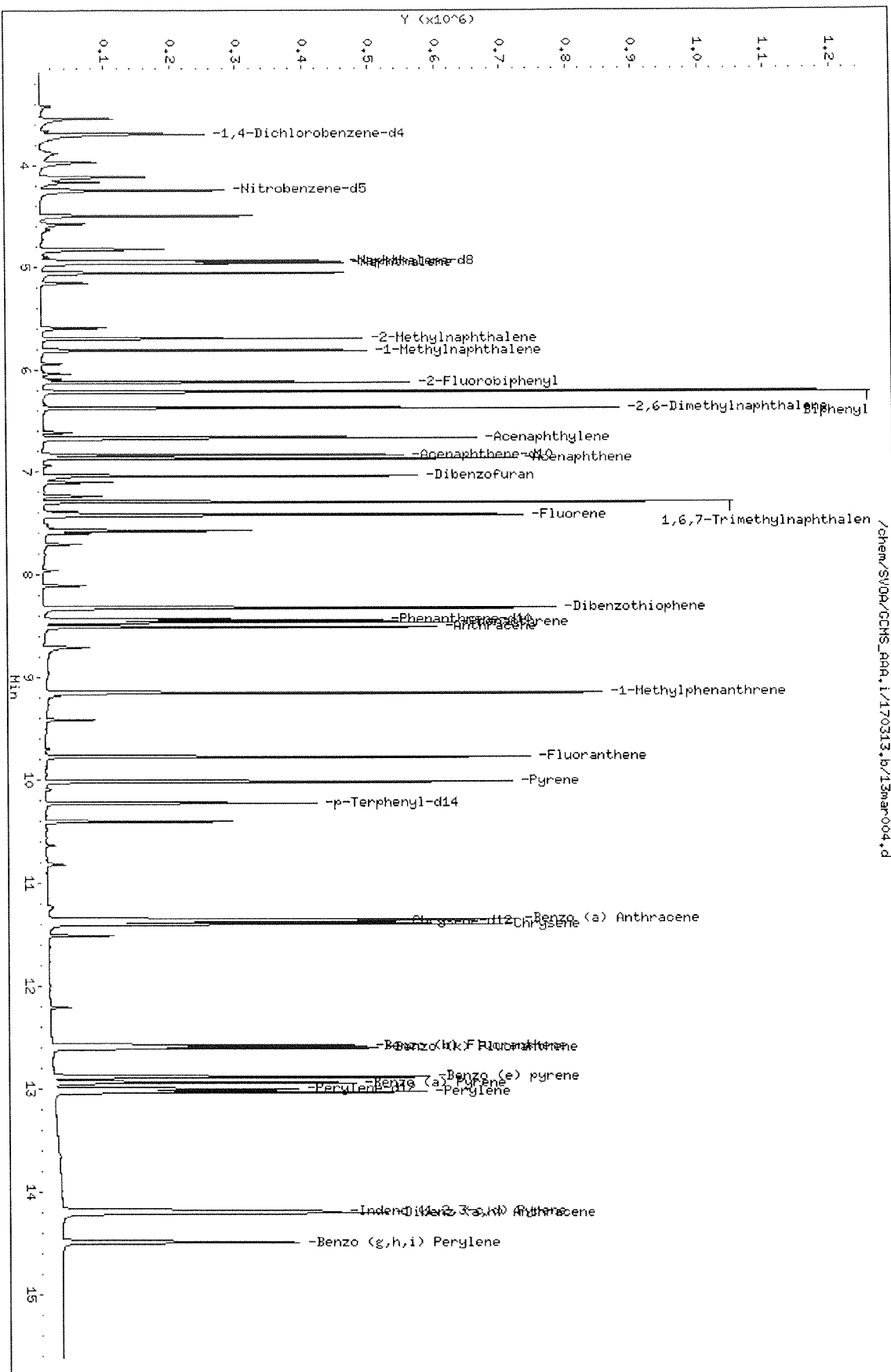
Misc Info: 170313I002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	351280	5.214	100
29) Benzo (e) pyrene	(6)	12.888	252	453412	5.073	99
32) Perylene	(6)	13.037	252	443082	5.004	100
13) Dibenzofuran	(3)	7.042	168	319189	5.079	80

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Data File: /chem/SV04/GCHS_AAA.i/170313.b/13mar004.d
 Date : 13-MAR-2017 12:16
 Client ID:
 Sample Info: ICAL-1 S010317D SPPH
 Volume Injected (uL): 10.0
 Column phase: J&W DB-SMS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar005.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 12:35 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

Sample Name: ICAL-2 S010317E 2PPM Misc Info:
 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)	3.686	152	116724	5.000	0.00
3)*Naphthalene-d8	(2)	4.937	136	358355	5.000	0.00
11)*Acenaphthene-d10	(3)	6.833	164	178488	5.000	0.00
17)*Phenanthrene-d10	(4)	8.437	188	349171	5.000	0.00
31)*Perylene-d12	(6)	13.005	264	302694	5.000	0.00
25)*Chrysene-d12	(5)	11.370	240	340071	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.240	82	57341	2.141	0.00
SpikedAmount 2.000	Recovery = 213.561					
7)\$2-Fluorobiphenyl	(3)	6.115	172	119113	2.060	0.00
SpikedAmount 2.000	Recovery = 209.970					
23)\$p-Terphenyl-d14	(5)	10.228	244	106087	2.100	0.00
SpikedAmount 2.000	Recovery = 208.722					
Target Compounds						QValue
4) Naphthalene	(2)	4.956	128	155006	2.056	99
5) 2-Methylnaphthalene	(2)	5.690	142	102884	2.092	100
6) 1-Methylnaphthalene	(2)	5.803	142	101325	2.083	99
10) Acenaphthylene	(3)	6.663	152	169811	2.096	100
12) Acenaphthene	(3)	6.865	153	96709	2.069	100
15) Fluorene	(3)	7.420	166	114131	2.100	100
18) Phenanthrene	(4)	8.461	178	157979	2.109	100
19) Anthracene	(4)	8.509	178	164181	2.154	99
21) Fluoranthene	(4)	9.772	202	197143	2.150	100
22) Pyrene	(5)	10.014	202	201823	2.098	100
24) Benzo (a) Anthracene	(5)	11.350	228	183936	2.057	100
26) Chrysene	(5)	11.399	228	172138	2.048	100
27) Benzo (b) Fluoranthene	(6)	12.581	252	169675	2.084	100
28) Benzo (k) Fluoranthene	(6)	12.609	252	183124	2.096	99
30) Benzo (a) Pyrene	(6)	12.940	252	162967	2.102	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.179	276	187978	2.090	99
34) Dibenz (a,h) Anthracene	(6)	14.203	278	148513	2.099	99
35) Benzo (g,h,i) Perylene	(6)	14.485	276	152166	2.080	99
8) Biphenyl	(3)	6.203	154	153178	2.049	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	111303	2.062	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.294	170	111161	2.084	99
16) Dibenzothiophene	(3)	8.324	184	212245	2.110	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar005.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 12:35 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

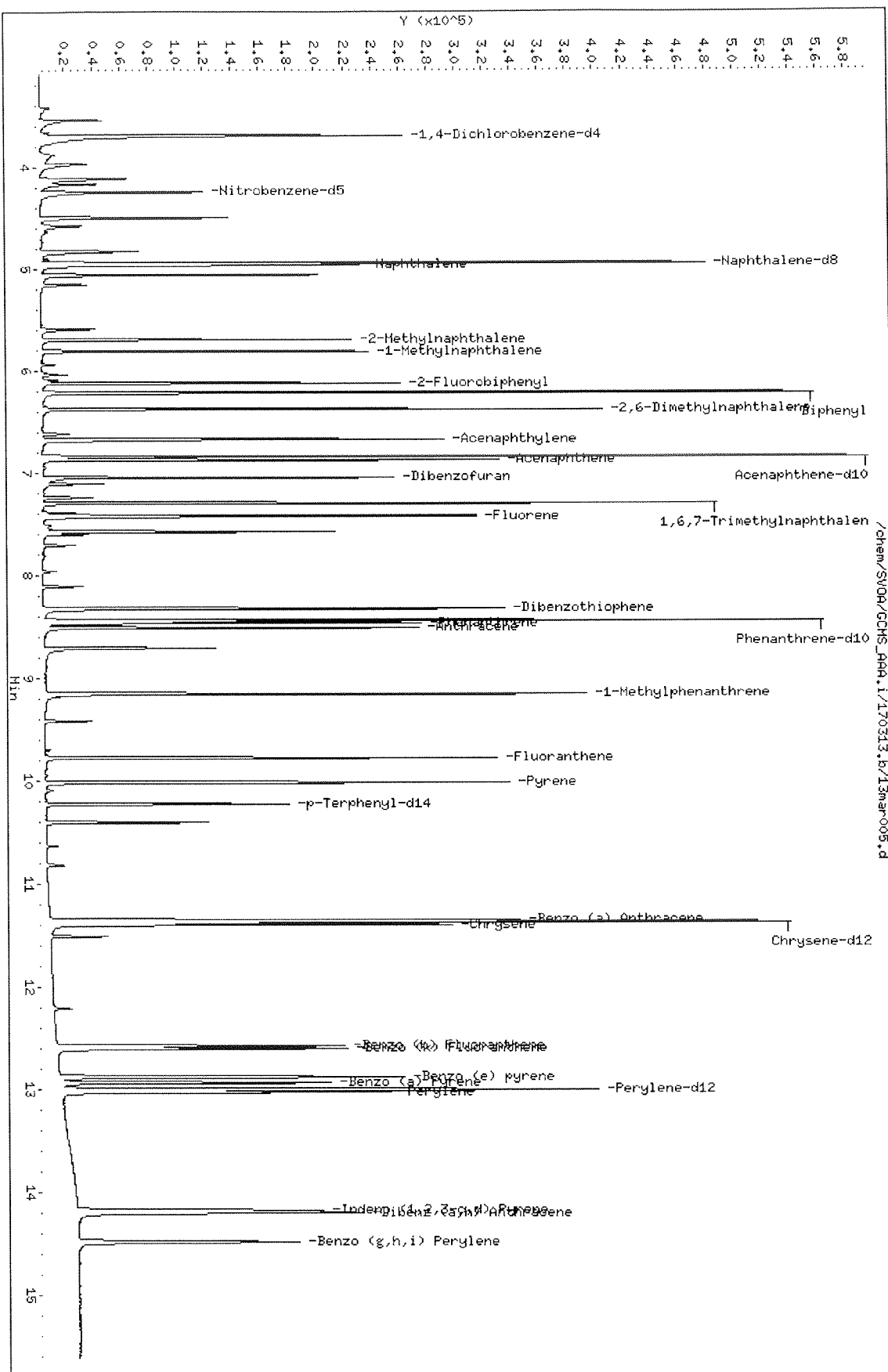
Sample Name: ICAL-2 S010317E 2PPM Misc Info:
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	156304	2.106	99
29) Benzo (e) pyrene	(6)	12.883	252	198103	2.071	100
32) Perylene	(6)	13.033	252	195245	2.061	99
13) Dibenzofuran	(3)	7.041	168	143922	2.103	99

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Data File: /chem/SV09/GCMS_AAA.i/170313.b/13mar005.d
 Date: 13-MAR-2017 12:35
 Client ID:
 Sample Info: ICAL-2 S010317E 2PPH
 Volume Injected (uL): 10.0
 Column phase: 38M DB-SMS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar006.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 12:55 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

Sample Name: ICAL-3 S010317F 1PPM Misc Info:
 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)	3.686	152	120202	5.000	0.00
3)*Naphthalene-d8	(2)	4.937	136	373417	5.000	0.00
11)*Acenaphthene-d10	(3)	6.833	164	184044	5.000	0.00
17)*Phenanthrene-d10	(4)	8.437	188	359556	5.000	0.00
31)*Perylene-d12	(6)	13.004	264	295234	5.000	0.00
25)*Chrysene-d12	(5)	11.370	240	345241	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.240	82	29405	1.054	0.00
SpikedAmount 1.000	Recovery = 105.098					
7)\$2-Fluorobiphenyl	(3)	6.115	172	61930	1.039	0.00
SpikedAmount 1.000	Recovery = 105.873					
23)\$p-Terphenyl-d14	(5)	10.224	244	52100	1.016	0.00
SpikedAmount 1.000	Recovery = 100.970					
Target Compounds						QValue
4) Naphthalene	(2)	4.955	128	80046	1.019	100
5) 2-Methylnaphthalene	(2)	5.690	142	52155	1.018	100
6) 1-Methylnaphthalene	(2)	5.803	142	52102	1.028	100
10) Acenaphthylene	(3)	6.663	152	84721	1.014	100
12) Acenaphthene	(3)	6.865	153	48972	1.016	100
15) Fluorene	(3)	7.416	166	57508	1.026	100
18) Phenanthrene	(4)	8.461	178	78249	1.014	100
19) Anthracene	(4)	8.509	178	71871	0.916	100
21) Fluoranthene	(4)	9.772	202	95274	1.009	100
22) Pyrene	(5)	10.014	202	99379	1.018	100
24) Benzo (a) Anthracene	(5)	11.350	228	88734	0.978	100
26) Chrysene	(5)	11.394	228	87013	1.020	100
27) Benzo (b) Fluoranthene	(6)	12.577	252	86167	1.085	100
28) Benzo (k) Fluoranthene	(6)	12.605	252	88185	1.035	100
30) Benzo (a) Pyrene	(6)	12.936	252	76981	1.018	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.179	276	92296	1.052	100
34) Dibenz (a,h) Anthracene	(6)	14.199	278	73016	1.058	100
35) Benzo (g,h,i) Perylene	(6)	14.481	276	74205	1.040	100
8) Biphenyl	(3)	6.203	154	79508	1.032	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	56664	1.018	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.293	170	55947	1.017	100
16) Dibenzothiophene	(3)	8.324	184	104437	1.007	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar006.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 12:55 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

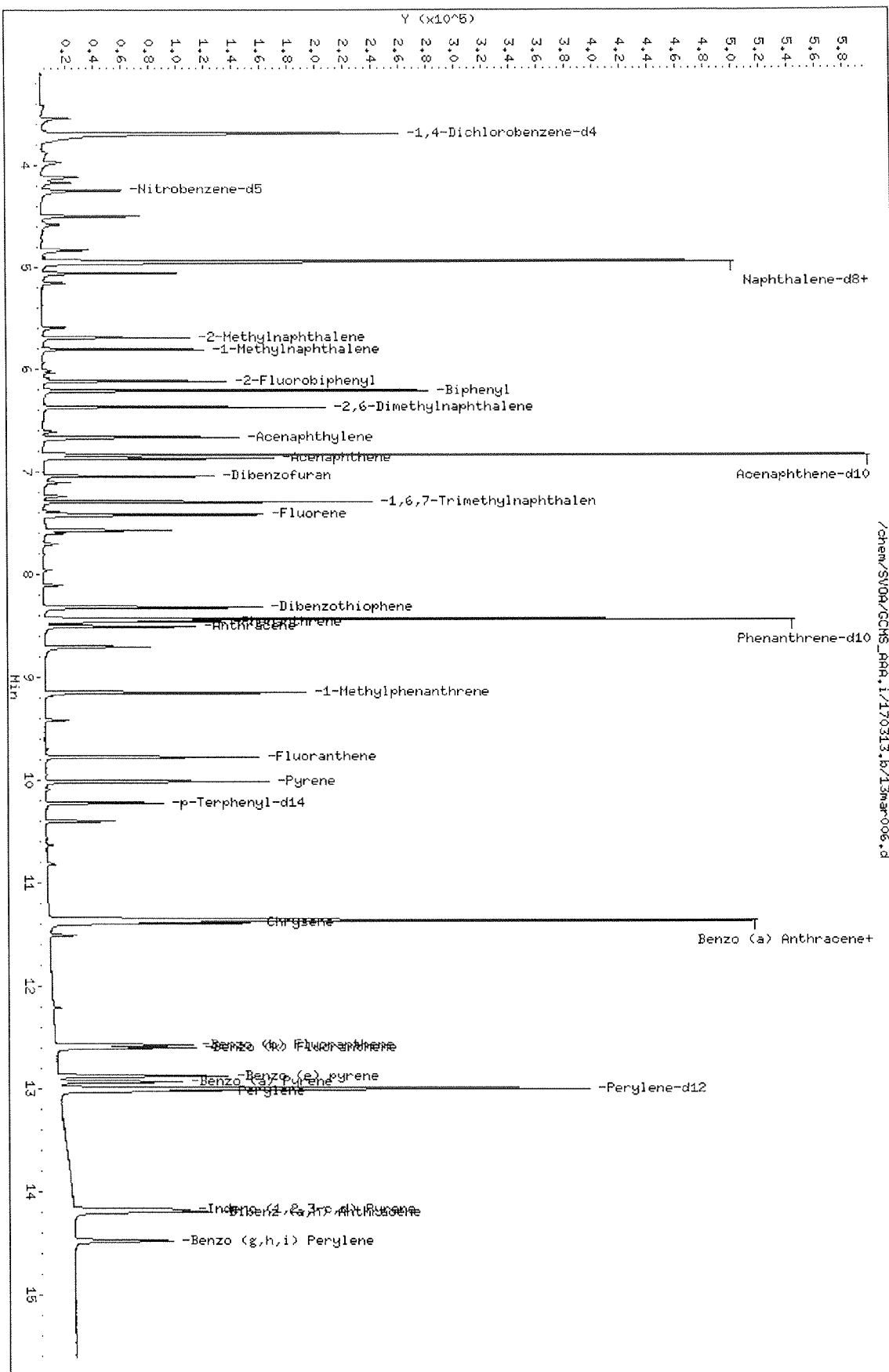
Sample Name: ICAL-3 S010317F 1PPM Misc Info:
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	75543	1.003	100
29) Benzo (e) pyrene	(6)	12.883	252	97784	1.048	100
32) Perylene	(6)	13.029	252	94202	1.019	100
13) Dibenzofuran	(3)	7.041	168	72445	1.027	100

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Data File: /chem/SV09/GCMS_AAA.i/170313.b/13mar006.d
 Date : 13-MAR-2017 12:55
 Client ID:
 Sample Info: ICPL-3 SOL0317F 1PPH
 Volume Injected (uL): 10.0
 Column phase: 38M DB-SMS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar007.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 13:15 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

Sample Name: ICAL-4 S010317G 0.5PPM Misc Info:
 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)	3.683	152	115396	5.000	0.00
3)*Naphthalene-d8	(2)	4.937	136	363775	5.000	0.00
11)*Acenaphthene-d10	(3)	6.833	164	183525	5.000	0.00
17)*Phenanthrene-d10	(4)	8.437	188	357842	5.000	0.00
31)*Perylene-d12	(6)	13.004	264	307948	5.000	0.00
25)*Chrysene-d12	(5)	11.370	240	343317	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.243	82	12369	0.455	0.00
SpikedAmount 0.500	Recovery = 45.387					
7)\$2-Fluorobiphenyl	(3)	6.115	172	28283	0.476	0.00
SpikedAmount 0.500	Recovery = 47.463					
23)\$p-Terphenyl-d14	(5)	10.228	244	23246	0.456	0.00
SpikedAmount 0.500	Recovery = 45.034					
Target Compounds						QValue
4) Naphthalene	(2)	4.955	128	35526	0.464	100
5) 2-Methylnaphthalene	(2)	5.690	142	23174	0.464	99
6) 1-Methylnaphthalene	(2)	5.803	142	23092	0.468	100
10) Acenaphthylene	(3)	6.663	152	38777	0.465	100
12) Acenaphthene	(3)	6.865	153	22311	0.464	99
15) Fluorene	(3)	7.420	166	25865	0.463	100
18) Phenanthrene	(4)	8.461	178	35316	0.460	100
19) Anthracene	(4)	8.509	178	36802	0.471	99
21) Fluoranthene	(4)	9.776	202	42811	0.456	100
22) Pyrene	(5)	10.014	202	44458	0.458	100
24) Benzo (a) Anthracene	(5)	11.350	228	40817	0.452	100
26) Chrysene	(5)	11.398	228	39222	0.462	99
27) Benzo (b) Fluoranthene	(6)	12.581	252	35424	0.428	99
28) Benzo (k) Fluoranthene	(6)	12.609	252	41539	0.467	99
30) Benzo (a) Pyrene	(6)	12.940	252	36243	0.460	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.183	276	41235	0.451	100
34) Dibenz (a,h) Anthracene	(6)	14.207	278	32849	0.456	99
35) Benzo (g,h,i) Perylene	(6)	14.485	276	33777	0.454	99
8) Biphenyl	(3)	6.203	154	36080	0.469	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	25878	0.466	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.293	170	25425	0.464	100
16) Dibenzothiophene	(3)	8.324	184	47100	0.455	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar007.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 13:15 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

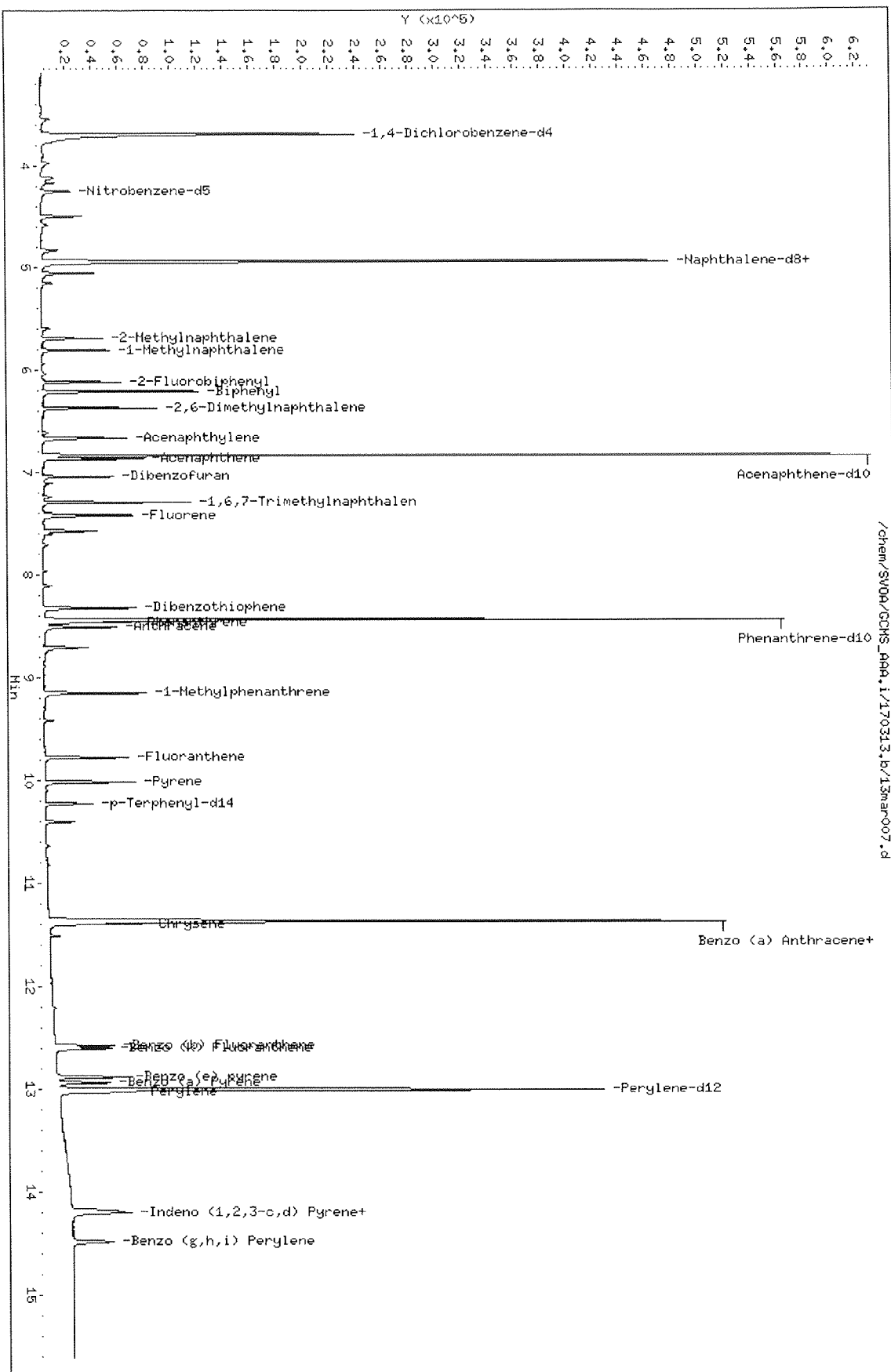
Sample Name: ICAL-4 S010317G 0.5PPM Misc Info:
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	34138	0.456	100
29) Benzo (e) pyrene	(6)	12.883	252	43814	0.450	100
32) Perylene	(6)	13.033	252	44019	0.457	99
13) Dibenzofuran	(3)	7.041	168	32630	0.464	100

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Data File: /chem/SV09/GCHS_AAA.i/170313.b/13mar007.d
 Date: 13-Mar-2017 13:15
 Client ID:
 Sample Info: ICAL-4 S010317G 0.5PPM
 Volume Injected (uL): 10.0
 Column phase: 3uM DB-SMS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar008.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 13:34 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

Sample Name: ICAL-5 S010317H 0.1PPM Misc Info:
 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)	3.686	152	112975	5.000	0.00
3)*Naphthalene-d8	(2)	4.937	136	358185	5.000	0.00
11)*Acenaphthene-d10	(3)	6.830	164	184104	5.000	0.00
17)*Phenanthrene-d10	(4)	8.433	188	357823	5.000	0.00
31)*Perylene-d12	(6)	13.001	264	299024	5.000	0.01
25)*Chrysene-d12	(5)	11.366	240	339563	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.247	82	2435	0.091	-0.01
SpikedAmount 0.100	Recovery =		9.077			
7)\$2-Fluorobiphenyl	(3)	6.115	172	6115	0.103	0.00
SpikedAmount 0.100	Recovery =		10.231			
23)\$p-Terphenyl-d14	(5)	10.224	244	4919	0.098	0.00
SpikedAmount 0.100	Recovery =		9.635			
Target Compounds						
4) Naphthalene	(2)	4.956	128	7836	0.104	100
5) 2-Methylnaphthalene	(2)	5.690	142	4911	0.100	100
6) 1-Methylnaphthalene	(2)	5.803	142	4892	0.101	99
10) Acenaphthylene	(3)	6.663	152	8388	0.100	99
12) Acenaphthene	(3)	6.865	153	4941	0.102	99
15) Fluorene	(3)	7.417	166	5520	0.098	99
18) Phenanthrene	(4)	8.457	178	7645	0.100	98
19) Anthracene	(4)	8.509	178	8018	0.103	99
21) Fluoranthene	(4)	9.772	202	9178	0.098	100
22) Pyrene	(5)	10.015	202	9536	0.099	100
24) Benzo (a) Anthracene	(5)	11.350	228	9518	0.107	97
26) Chrysene	(5)	11.395	228	8623	0.103	100
27) Benzo (b) Fluoranthene	(6)	12.577	252	7814	0.097	91
28) Benzo (k) Fluoranthene	(6)	12.605	252	8498	0.098	99
30) Benzo (a) Pyrene	(6)	12.936	252	7756	0.101	94
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.183	276	8633	0.097	99
34) Dibenz (a,h) Anthracene	(6)	14.207	278	6718	0.096	96
35) Benzo (g,h,i) Perylene	(6)	14.486	276	7199	0.100	99
8) Biphenyl	(3)	6.203	154	7977	0.103	99
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	5720	0.103	98
14) 1,6,7-Trimethylnaphthalene	(3)	7.294	170	5614	0.102	100
16) Dibenzothiophene	(3)	8.324	184	10277	0.099	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar008.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 13:34 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 13:57
 Date, time and analyst ID of latest file update: 13-Mar-2017 13:57 ev7p

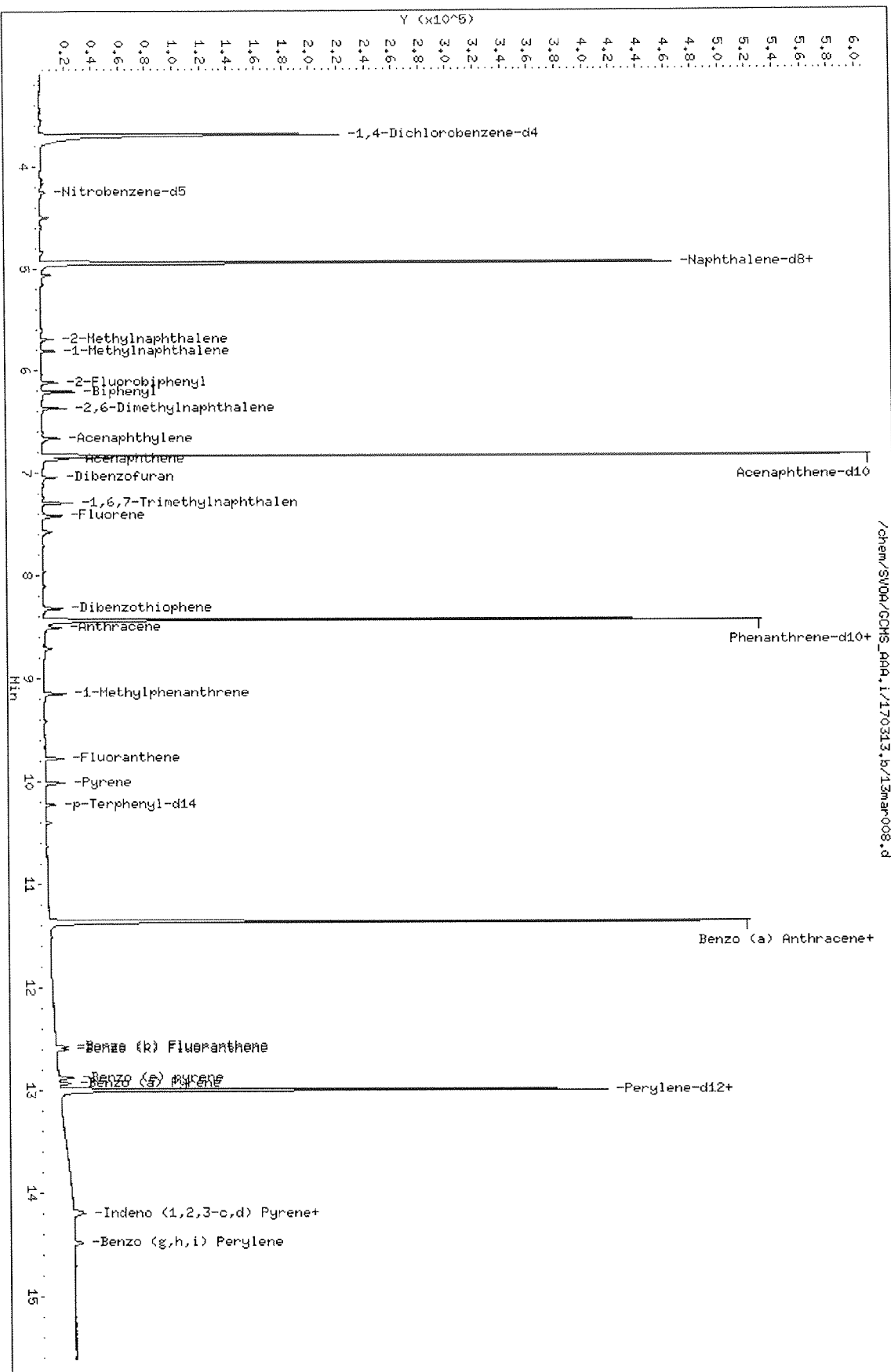
Sample Name: ICAL-5 S010317H 0.1PPM Misc Info:
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	7337	0.099	99
29) Benzo (e) pyrene	(6)	12.880	252	9454	0.100	98
32) Perylene	(6)	13.029	252	9696	0.104	94
13) Dibenzofuran	(3)	7.042	168	6903	0.098	97

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Data File: /chem/SV04/GCHS_AAA.i/170313.b/13mar008.d
 Date : 13-MAR-2017 13:34
 Client ID:
 Sample Info: ICAL-5 S010317H 0.1PPH
 Volume Injected (uL): 10.0
 Column phase: J&W DB-SMS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar009.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 13:54 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 14:17
 Date, time and analyst ID of latest file update: 13-Mar-2017 14:17 ev7p

Sample Name: ICV S010317I 1PPM Misc Info:
 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)	3.686	152	97964	5.000	0.00
3)*Naphthalene-d8	(2)	4.933	136	304263	5.000	0.00
11)*Acenaphthene-d10	(3)	6.830	164	151183	5.000	0.00
17)*Phenanthrene-d10	(4)	8.437	188	297682	5.000	0.00
31)*Perylene-d12	(6)	13.004	264	253681	5.000	0.00
25)*Chrysene-d12	(5)	11.370	240	285311	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.237	82	26885	1.182	0.00
SpikedAmount 1.000	Recovery = 118.231					
7)\$2-Fluorobiphenyl	(3)	6.115	172	57697	1.178	0.00
SpikedAmount 1.000	Recovery = 117.834					
23)\$p-Terphenyl-d14	(5)	10.228	244	48767	1.150	0.00
SpikedAmount 1.000	Recovery = 115.047					
Target Compounds						QValue
4) Naphthalene	(2)	4.952	128	68108	1.064	100
5) 2-Methylnaphthalene	(2)	5.686	142	48456	1.161	100
6) 1-Methylnaphthalene	(2)	5.800	142	44438	1.076	100
10) Acenaphthylene	(3)	6.660	152	72498	1.056	100
12) Acenaphthene	(3)	6.865	153	43530	1.099	100
15) Fluorene	(3)	7.416	166	50760	1.103	100
18) Phenanthrene	(4)	8.457	178	72924	1.142	100
19) Anthracene	(4)	8.509	178	71357	1.098	100
21) Fluoranthene	(4)	9.772	202	85398	1.092	100
22) Pyrene	(5)	10.014	202	87549	1.085	100
24) Benzo (a) Anthracene	(5)	11.350	228	77856	1.038	100
26) Chrysene	(5)	11.398	228	73521	1.043	100
27) Benzo (b) Fluoranthene	(6)	12.581	252	70652	1.035	100
28) Benzo (k) Fluoranthene	(6)	12.609	252	80385	1.098	100
30) Benzo (a) Pyrene	(6)	12.940	252	67815	1.044	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.183	276	78202	1.038	100
34) Dibenz (a,h) Anthracene	(6)	14.203	278	62444	1.053	100
35) Benzo (g,h,i) Perylene	(6)	14.485	276	66434	1.083	100
8) Biphenyl	(3)	6.203	154	58069	0.917	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	41405	0.906	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.293	170	39662	0.878	100
16) Dibenzothiophene	(3)	8.324	184	78239	0.918	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar009.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 13:54 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:17
Date, time and analyst ID of latest file update: 13-Mar-2017 14:17 ev7p

Sample Name: ICV S010317I 1PPM
Response via Initial Calibration

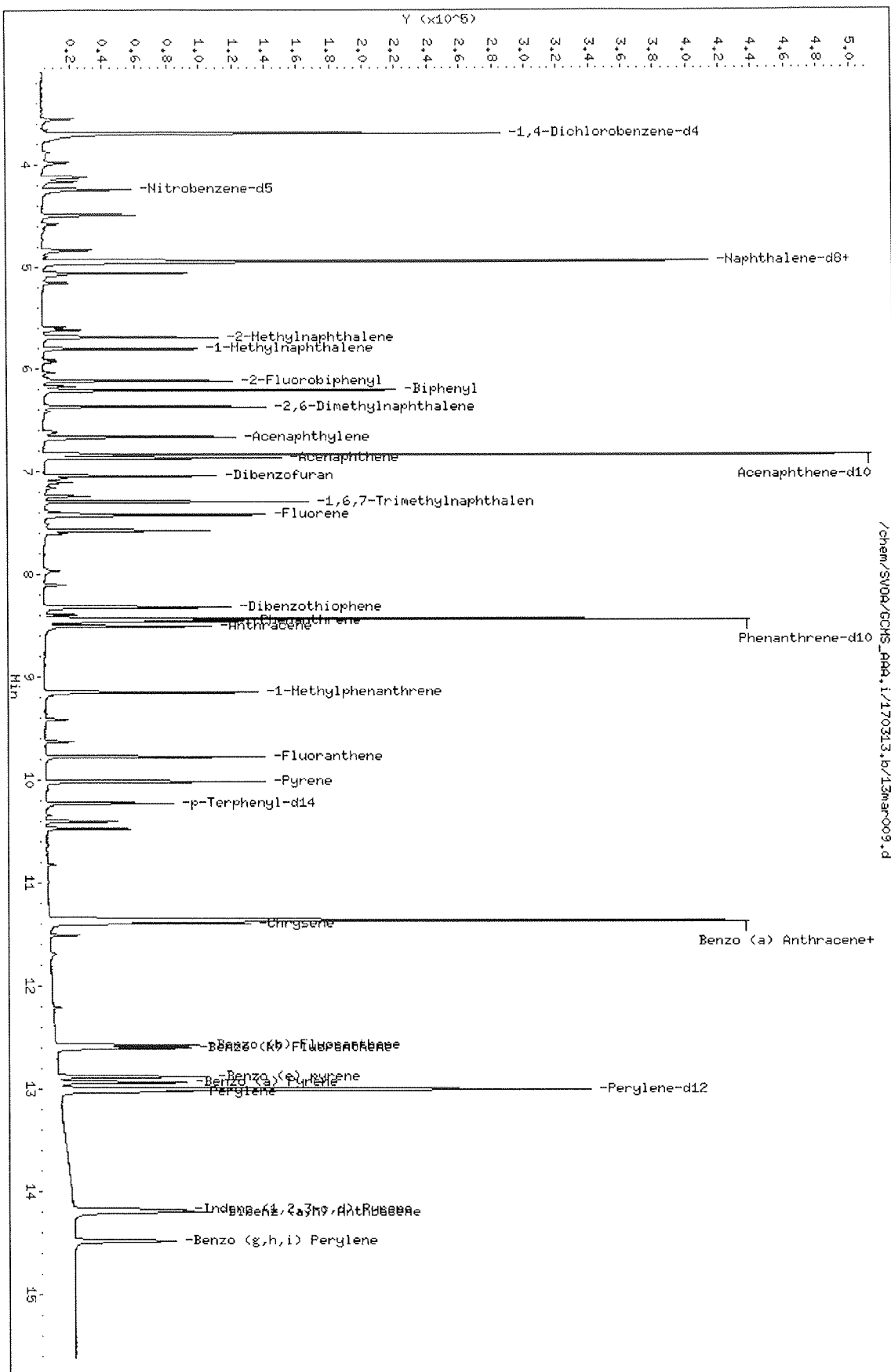
Misc Info:

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	56269	0.904	100
29) Benzo (e) pyrene	(6)	12.883	252	71830	0.896	100
32) Perylene	(6)	13.033	252	68970	0.869	100
13) Dibenzofuran	(3)	7.041	168	63853	1.102	100

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Data File: /chem/SV08/GCHS_AAA.i/170313.b/13mar009.d
 Date: 13-MAR-2017 13:54
 Client ID:
 Sample Info: ICV S0103171 1PPM
 Volume Injected (uL): 10.0
 Column phase: J&W DB-SMS

Instrument: GCHS_AAA.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: 17-03-0641
INSTRUMENT: GC/MS AAA
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 19:46
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar027.d\13mar027.rr

26 **CLIENT SAMPLE NUMBER: D-DU3-ISM1-3**

LCS/MB BATCH: 170310L04	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.10 g
MS/MSD BATCH: 170310S04	FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.000	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.000	1.00	ND	0.010	
Pyrene	0.000	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.000	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.000	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

Return to Contents

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar027.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 19:46 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 14-Mar-2017 09:55 ev7p

Sample Name: 17-03-0641-26 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)	3.686	152	121223	5.000 0.00
3) *Naphthalene-d8		(2)	4.934	136	377476	5.000 0.00
11) *Acenaphthene-d10		(3)	6.831	164	216433	5.000 0.00
17) *Phenanthrene-d10		(4)	8.437	188	386679	5.000 0.00
31) *Perylene-d12		(6)	13.005	264	334402	5.000 0.00
25) *Chrysene-d12		(5)	11.370	240	363542	5.000 0.00
System Monitoring Compounds						
2) \$Nitrobenzene-d5		(2)	4.237	82	21928	0.777 0.00
SpikedAmount 1.000		Recovery =		77.726		
7) \$2-Fluorobiphenyl		(3)	6.115	172	50547	0.721 0.00
SpikedAmount 1.000		Recovery =		72.109		
23) \$p-Terphenyl-d14		(5)	10.228	244	46838	0.867 0.00
SpikedAmount 1.000		Recovery =		86.717		
Target Compounds						
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		0D	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_AAA.i/170313.b/13mar027.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 19:46 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 16:28
Date, time and analyst ID of latest file update: 14-Mar-2017 09:55 ev7p

Sample Name: 17-03-0641-26 Misc Info: S101716B 10UL
Response via Initial Calibration

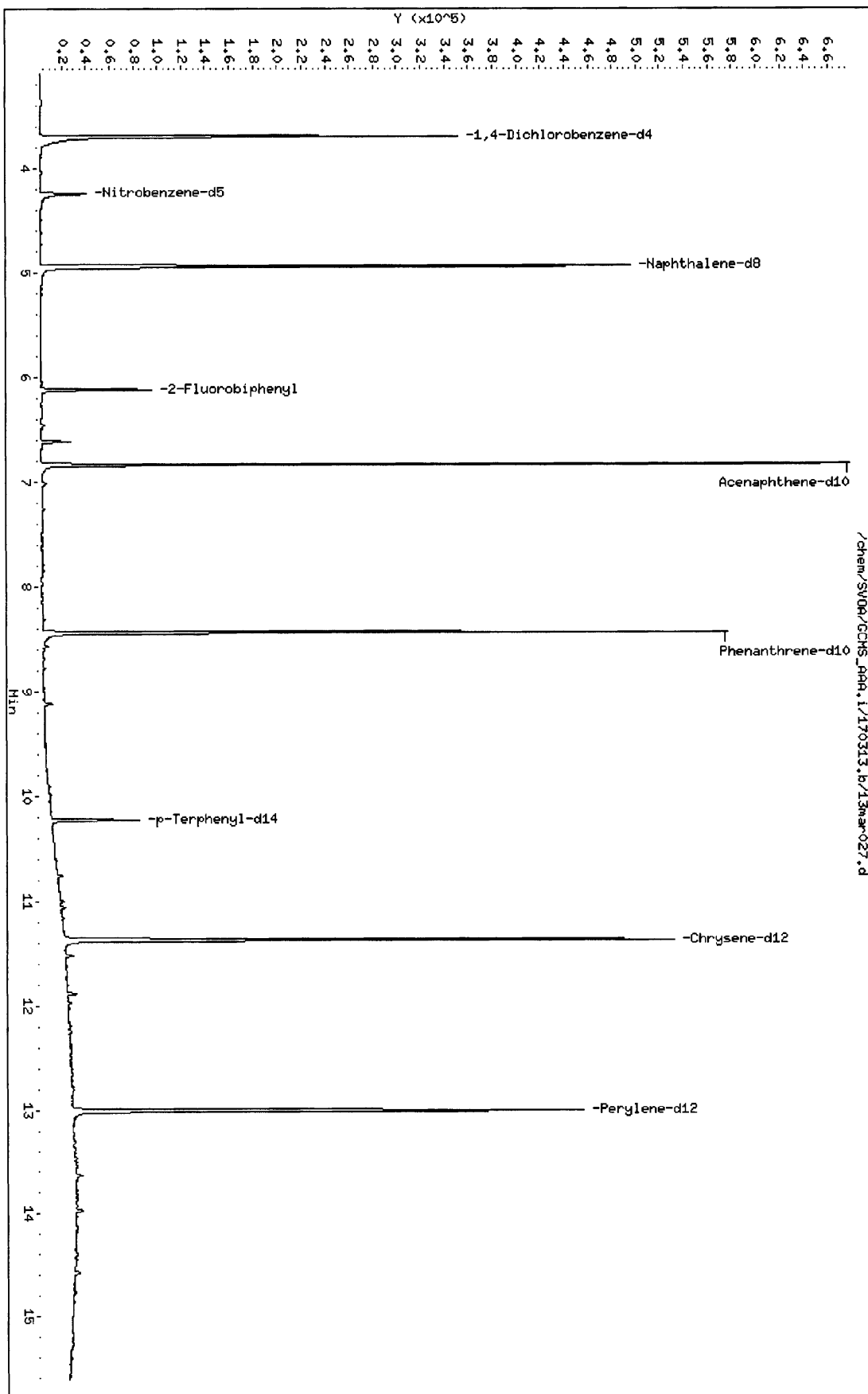
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0D	N.D.	
32) Perylene	(6)	0.000		0	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

D = Compound was deleted.

page 2 of 2

Data File: /chem/SV09/GCHS_AAA.i/170313.b/13mar027.d
Date: 13-MAR-2017 19:46
Client ID:
Sample Info: 17-03-0641-26
Volume Injected (uL): 10.0
Column phase: J&W DB-5MS

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



RAW DATA SHEET

FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 17-03-0641
INSTRUMENT: GC/MS AAA
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 20:06
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar028.d\13mar028.rr

27 **CLIENT SAMPLE NUMBER:** D-DU3-ISM2-3

LCS/MB BATCH: 170310L04	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170310S04	FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
UNITS: mg/kg	ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

<u>COMPOUND</u>	<u>ON COL CONC</u>	<u>DF</u>	<u>CONC</u>	<u>RL</u>	<u>QUAL</u>
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.000	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.000	1.00	ND	0.010	
Pyrene	0.000	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.000	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.000	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

Return to Contents

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar028.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 20:06 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 14-Mar-2017 09:55 ev7p

Sample Name: 17-03-0641-27 Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
					(mg/L)	
=====		=====	=====	=====	=====	=====
Internal Standards						
1) *1,4-Dichlorobenzene-d4		(1)	3.686	152	112979	5.000 0.00
3) *Naphthalene-d8		(2)	4.933	136	357488	5.000 0.00
11) *Acenaphthene-d10		(3)	6.830	164	204470	5.000 0.00
17) *Phenanthrene-d10		(4)	8.437	188	363225	5.000 0.00
31) *Perylene-d12		(6)	13.005	264	304173	5.000 0.00
25) *Chrysene-d12		(5)	11.370	240	337238	5.000 0.00
System Monitoring Compounds						
2) \$Nitrobenzene-d5		(2)	4.240	82	22508	0.842 0.00
SpikedAmount 1.000		Recovery =	84.243			
7) \$2-Fluorobiphenyl		(3)	6.115	172	50778	0.767 0.00
SpikedAmount 1.000		Recovery =	76.677			
23) \$p-Terphenyl-d14		(5)	10.228	244	47834	0.955 0.00
SpikedAmount 1.000		Recovery =	95.469			
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	0D	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_AAA.i/170313.b/13mar028.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 20:06 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 16:28
Date, time and analyst ID of latest file update: 14-Mar-2017 09:55 ev7p

Sample Name: 17-03-0641-27 Misc Info: S101716B 10UL
Response via Initial Calibration

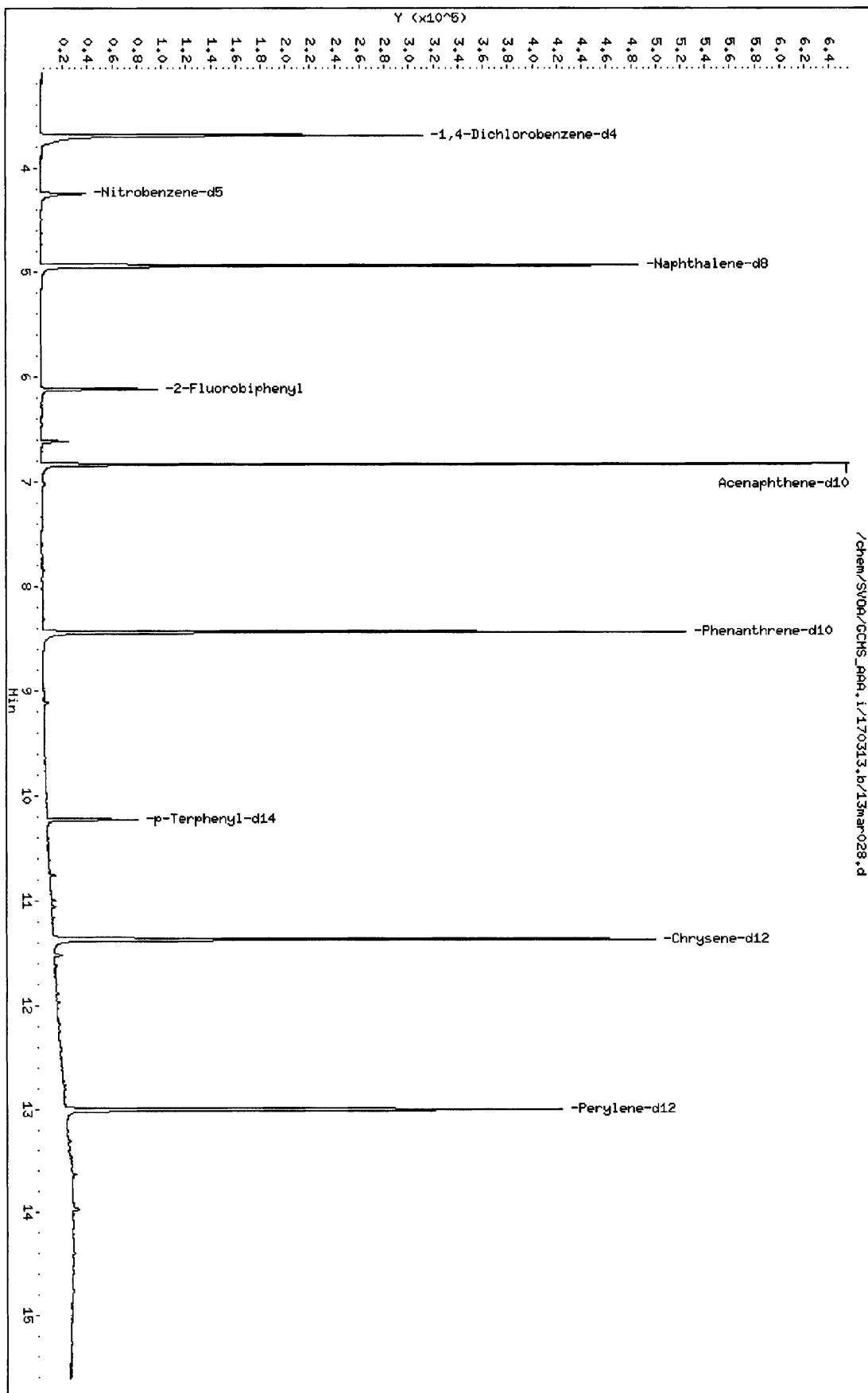
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0D	N.D.	
32) Perylene	(6)	0.000		0	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

D = Compound was deleted.

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Data File: /chem/SV09/CCHS_P00.i/170313.b/13mar028.d
Date: 13-MAR-2017 20:06
Client ID:
Sample Info: 17-03-0641-27
Volume Injected (uL): 10.0
Column phase: J&W DB-5MS

Instrument: CCHS_P00.i
Operator: 907
Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 17-03-0641
INSTRUMENT: GC/MS AAA
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 20:26
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar029.d\13mar029.rr

28 **CLIENT SAMPLE NUMBER:** D-DU3-ISM3-3

LCS/MB BATCH: 170310L04	SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH: 170310S04	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	0.000	1.00	ND	0.010	
Pyrene	0.000	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.0113	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	0.0143	1.00	ND	0.010	

Return to Contents

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar029.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 20:26 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 14-Mar-2017 09:55 ev7p

Sample Name: 17-03-0641-28 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)	3.686	152	122826	5.000 0.00
3)*Naphthalene-d8		(2)	4.933	136	386906	5.000 0.00
11)*Acenaphthene-d10		(3)	6.830	164	225111	5.000 0.00
17)*Phenanthrene-d10		(4)	8.437	188	401227	5.000 0.00
31)*Perylene-d12		(6)	13.005	264	340667	5.000 0.00
25)*Chrysene-d12		(5)	11.370	240	374190	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	4.240	82	23065	0.798 0.00
SpikedAmount 1.000		Recovery =		79.764		
7)\$2-Fluorobiphenyl		(3)	6.115	172	50353	0.691 0.00
SpikedAmount 1.000		Recovery =		69.063		
23)\$p-Terphenyl-d14		(5)	10.228	244	48407	0.871 0.00
SpikedAmount 1.000		Recovery =		87.072		
Target Compounds						QValue
4) Naphthalene		(2)	4.956	128	867	0.011 80
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)	11.399	228	1041	0.011 83
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		0D	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)	14.494	276	1178	0.014 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_AAA.i/170313.b/13mar029.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 20:26 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 16:28
Date, time and analyst ID of latest file update: 14-Mar-2017 09:55 ev7p

Sample Name: 17-03-0641-28 Misc Info: S101716B 10UL
Response via Initial Calibration

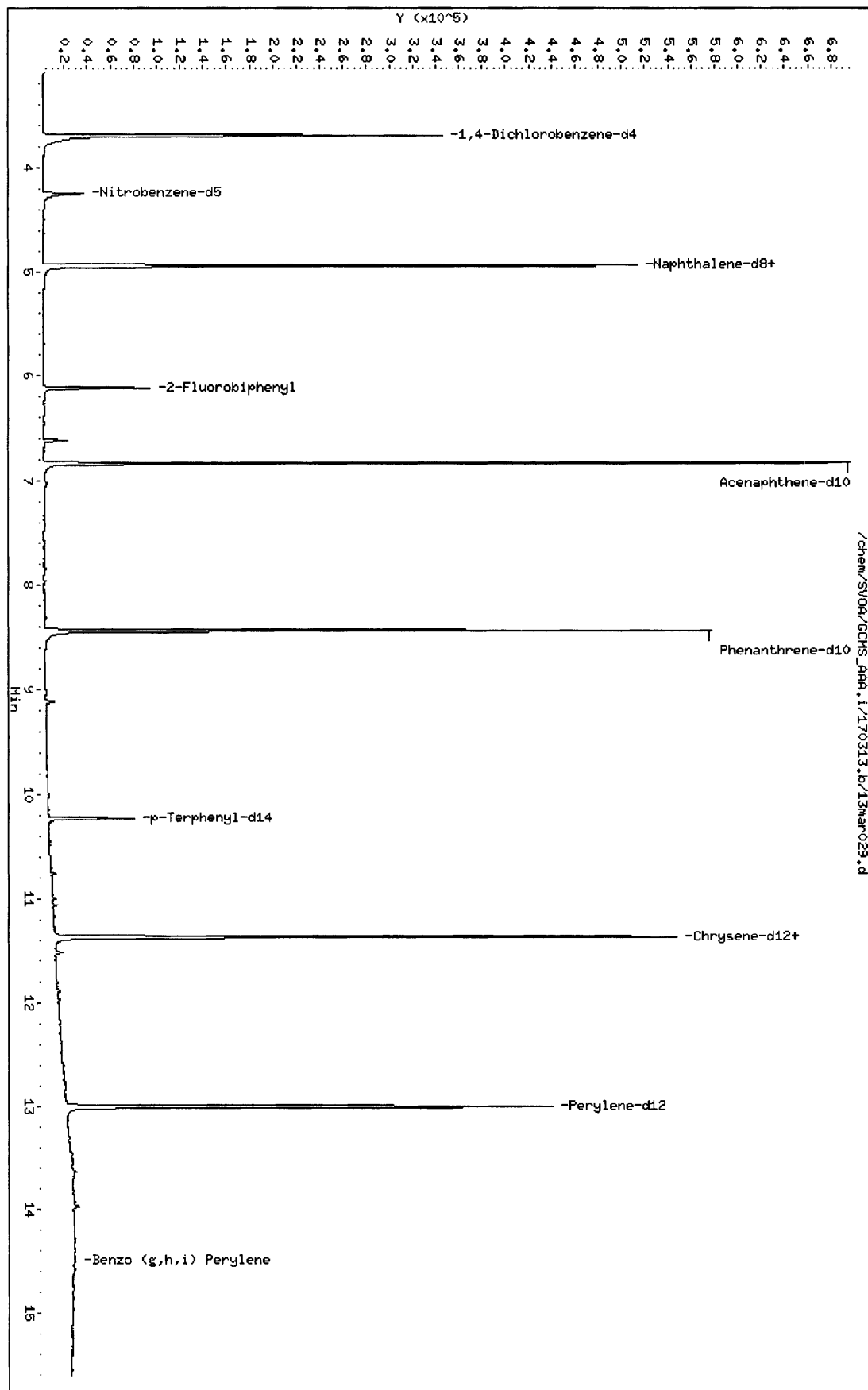
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0D	N.D.	
32) Perylene	(6)	0.000		0	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

D = Compound was deleted.

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Data File: /chem/SV09/CCHS_000.i/170313.b/13mar029.d
Date : 13-MAR-2017 20:26
Client ID:
Sample Info: 17-03-0641-28
Volume Injected (uL): 10.0
Column phase: J&H DB-5MS

Instrument: CCHS_000.i
Operator: 907
Column diameter: 0.18



RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 17-03-0641
INSTRUMENT: GC/MS AAA
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 20:46
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar030.d\13mar030.rr

29 **CLIENT SAMPLE NUMBER:** D-DU3-ISM4-3

LCS/MB BATCH: 170310L04 **SAMPLE VOLUME / WEIGHT:** DEFAULT: 20.00 g / ACTUAL: 20.10 g
MS/MSD BATCH: 170310S04 **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	0.0135	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	0.0195	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.0204	1.00	ND	0.010	
Pyrene	0.0212	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.0142	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.0111	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	0.0134	1.00	ND	0.010	

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Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar030.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 20:46 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 14-Mar-2017 09:56 ev7p

Sample Name: 17-03-0641-29 Misc Info: S101716B 10UL
 Response via Initial Calibration

		I.S.			On-Column	
Compounds		Ref.	RT	QIon	Amount	DEV (Min)
					(mg/L)	
=====		=====	=====	=====	=====	=====
Internal Standards						
1) *1,4-Dichlorobenzene-d4		(1)	3.686	152	121346	5.000 0.00
3) *Naphthalene-d8		(2)	4.933	136	382612	5.000 0.00
11) *Acenaphthene-d10		(3)	6.833	164	217952	5.000 0.00
17) *Phenanthrene-d10		(4)	8.436	188	389487	5.000 0.00
31) *Perylene-d12		(6)	13.008	264	335404	5.000 0.00
25) *Chrysene-d12		(5)	11.370	240	365316	5.000 0.00
System Monitoring Compounds						
2) \$Nitrobenzene-d5		(2)	4.240	82	20101	0.703 0.00
SpikedAmount 1.000		Recovery = 70.294				
7) \$2-Fluorobiphenyl		(3)	6.115	172	49885	0.707 0.00
SpikedAmount 1.000		Recovery = 70.669				
23) \$p-Terphenyl-d14		(5)	10.228	244	98324	1.812 0.00
SpikedAmount 1.000		Recovery = 181.156				
Target Compounds						QValue
4) Naphthalene		(2)	4.955	128	1088	0.014 1
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)	8.461	178	1626	0.019 99
19) Anthracene		(4)	0.000		0D	N.D.
21) Fluoranthene		(4)	9.776	202	2084	0.020 1
22) Pyrene		(5)	10.018	202	2192	0.021 84
24) Benzo (a) Anthracene		(5)	0.000		0D	N.D.
26) Chrysene		(5)	11.398	228	1284	0.014 83
27) Benzo (b) Fluoranthene		(6)	12.585	252	1006	0.011 1
28) Benzo (k) Fluoranthene		(6)	0.000		0D	N.D.
30) Benzo (a) Pyrene		(6)	0.000		0D	N.D.
33) Indeno (1,2,3-c,d) Pyrene		(6)	0.000		0D	N.D.
34) Dibenz (a,h) Anthracene		(6)	0.000		0	N.D.
35) Benzo (g,h,i) Perylene		(6)	14.501	276	1084	0.013 36
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		0D	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_AAA.i/170313.b/13mar030.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 20:46 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 14-Mar-2017 09:56 ev7p

Sample Name: 17-03-0641-29 Misc Info: S101716B 10UL
 Response via Initial Calibration

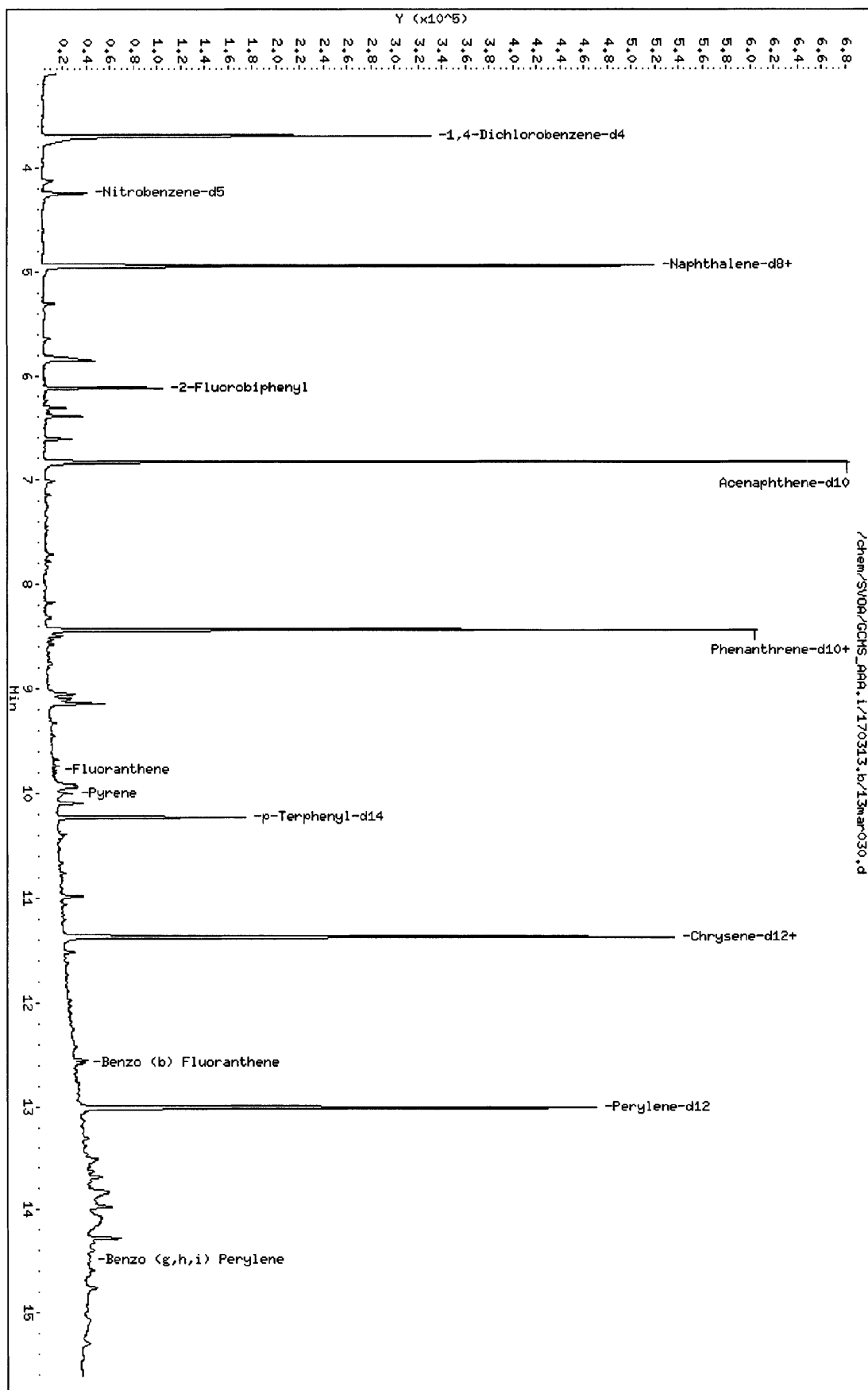
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
=====	=====	=====	=====	=====	=====	=====
20) 1-Methylphenanthrene	(5)	0.000		0D	N.D.	
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0D	N.D.	
13) Dibenzofuran	(3)	0.000		0D	N.D.	

D = Compound was deleted.

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Data File: /chem/SV09/CCHS_AAA.i/170313.b/13mar030.d
Date: 13-Mar-2017 20:46
Client ID:
Sample Info: 17-03-0641-29
Volume Injected (uL): 10.0
Column phase: J&W DB-5MS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170314.b/14mar008.d Instrument ID: GCMS_AAA.i
 Injection date and time: 14-MAR-2017 13:43 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170314.b/simpah-extra.m Sublist used: all
 Calibration date and time: 14-MAR-2017 11:17
 Date, time and analyst ID of latest file update: 14-Mar-2017 14:05 Unknown

Sample Name: 17-03-0641-29 RB
 Response via Initial Calibration

Misc Info: S101716B 10UL

Compounds	I.S.			On-Column		
	Ref.	RT	QIon	Area	Amount (mg/L)	DEV (Min)
=====						
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.676	152	119460	5.000	0.00
3)*Naphthalene-d8	(2)	4.924	136	372619	5.000	0.00
11)*Acenaphthene-d10	(3)	6.824	164	225190	5.000	0.00
17)*Phenanthrene-d10	(4)	8.429	188	385817	5.000	0.00
31)*Perylene-d12	(6)	13.005	264	262184	5.000	-0.01
25)*Chrysene-d12	(5)	11.366	240	312531	5.000	-0.01
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.231	82	19057	0.684	0.00
SpikedAmount 1.000	Recovery = 68.432					
7)\$2-Fluorobiphenyl	(3)	6.106	172	46365	0.636	0.00
SpikedAmount 1.000	Recovery = 63.571					
23)\$p-Terphenyl-d14	(5)	10.224	244	83184	1.791	0.00
SpikedAmount 1.000	Recovery = 179.147					
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)	8.453	178	1449	0.018	96
19) Anthracene	(4)	8.453	178	1449	0.017	76
21) Fluoranthene	(4)	9.768	202	1891	0.019	1
22) Pyrene	(5)	10.010	202	1947	0.022	85
24) Benzo (a) Anthracene	(5)	11.366	228	1126	0.014	88
26) Chrysene	(5)	11.394	228	1003	0.013	86
27) Benzo (b) Fluoranthene	(6)	12.581	252	722	0.010	1
28) Benzo (k) Fluoranthene	(6)	0.000		0	N.D.	
30) Benzo (a) Pyrene	(6)	12.883	252	791	0.012	1
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.187	276	2109	0.027	92
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.	
35) Benzo (g,h,i) Perylene	(6)	14.489	276	723	0.011	1
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)	8.429	184	56124	0.442	61

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170314.b/14mar008.d Instrument ID: GCMS_AAA.i
Injection date and time: 14-MAR-2017 13:43 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 14:05 Unknown

Sample Name: 17-03-0641-29 RB
Response via Initial Calibration

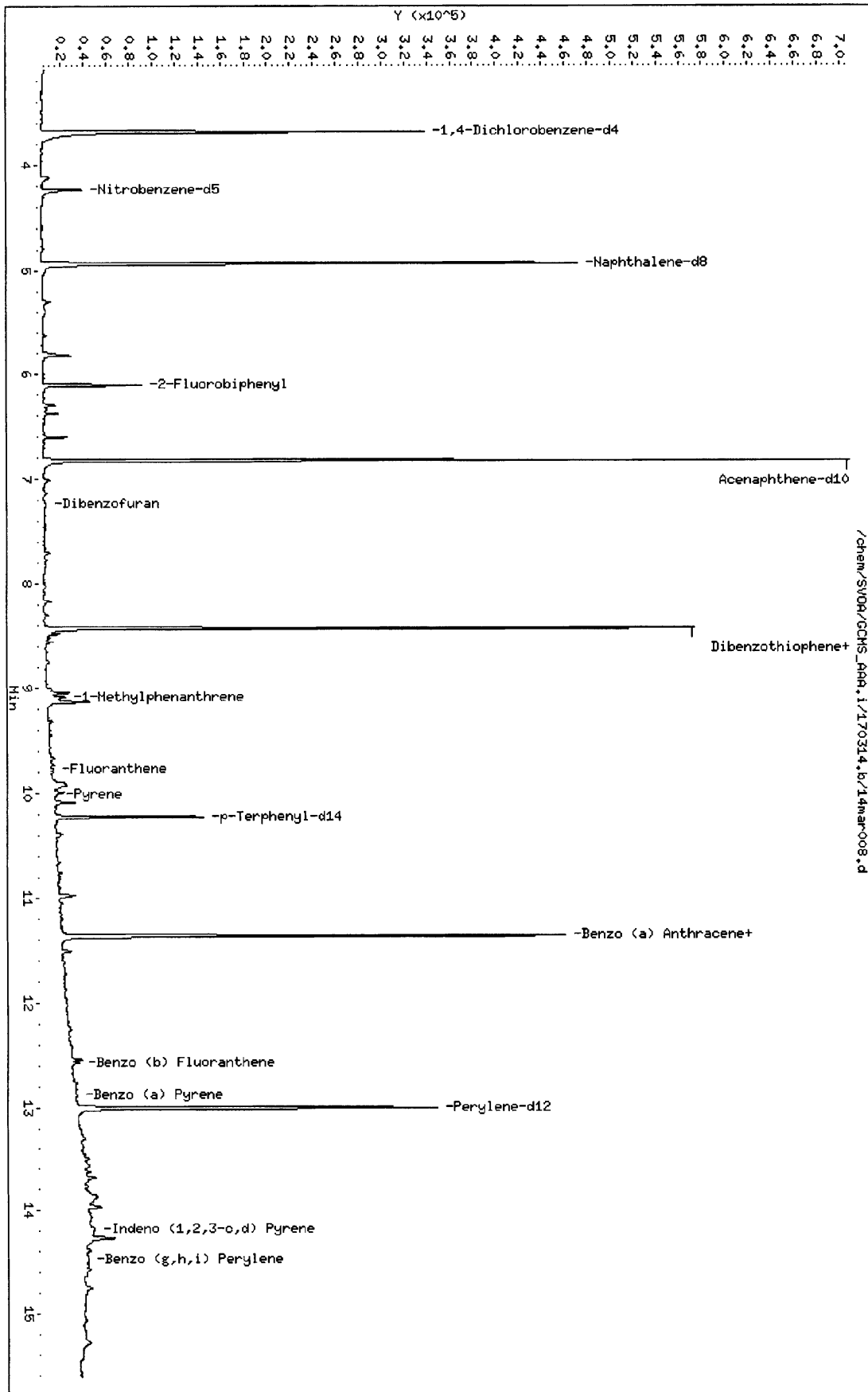
Misc Info: S101716B 10UL

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.086	192	855	0.013	67
29) Benzo (e) pyrene	(6)	0.000		0	N.D.	
32) Perylene	(6)	0.000		0	N.D.	
13) Dibenzofuran	(3)	7.221	168	1680	0.019	76

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Data File: /chem/SV09/CCHS_APA.i/170314.b/14mar008.d
Date: 14-Mar-2017 13:43
Client ID:
Sample Info: 17-03-0641-29 RB
Volume Injected (uL): 10.0
Column phase: J&W DB-SMS

Instrument: CCHS_APA.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: 099-14-035-380
MB BATCH ID: 170310L04
INSTRUMENT: GC/MS AAA
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 17:09
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar019.d\13mar019.rr

CLIENT WORK ORDER: 17-03-0641

<u>S#</u>	<u>RUN TYPE</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
26	D-DU3-ISM1-3		2017-03-13 19:46	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar027.d\13mar027.rr
27	D-DU3-ISM2-3		2017-03-13 20:06	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar028.d\13mar028.rr
28	D-DU3-ISM3-3		2017-03-13 20:26	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar029.d\13mar029.rr
29	D-DU3-ISM4-3		2017-03-13 20:46	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar030.d\13mar030.rr

RAW DATA SHEET FOR METHOD: EPA 8270C SIM PAHs

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WORK ORDER: 099-14-035
INSTRUMENT: GC/MS AAA
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 17:09
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar019.d\13mar019.rr

MB **CLIENT SAMPLE NUMBER:** Method Blank

LCS/MB BATCH: 170310L04 **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:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Naphthalene	0.000	1.00	ND	0.010	
2-Methylnaphthalene	0.000	1.00	ND	0.010	
1-Methylnaphthalene	0.000	1.00	ND	0.010	
Acenaphthylene	0.000	1.00	ND	0.010	
Acenaphthene	0.000	1.00	ND	0.010	
Fluorene	0.000	1.00	ND	0.010	
Phenanthrene	0.000	1.00	ND	0.010	
Anthracene	0.000	1.00	ND	0.010	
Fluoranthene	0.000	1.00	ND	0.010	
Pyrene	0.000	1.00	ND	0.010	
Benzo (a) Anthracene	0.000	1.00	ND	0.010	
Chrysene	0.000	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.010	
Benzo (a) Pyrene	0.000	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.010	

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LCS QUALITY CONTROL SHEET FOR METHOD: EPA 8270C SIM PAHs

LCS SAMPLE ID: 099-14-035-380
LCS/MB BATCH ID: 170310L04
INSTRUMENT: GC/MS AAA

EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 17:28
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar020.d\13mar020.rr

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Naphthalene	0.1000	0.06679	67	51-129	38-142	PASS	
2-Methylnaphthalene	0.1000	0.07206	72	50-127	37-140	PASS	
1-Methylnaphthalene	0.1000	0.06639	66	54-132	41-145	PASS	
Acenaphthylene	0.1000	0.05763	58	50-123	38-135	PASS	
Acenaphthene	0.1000	0.05903	59	53-125	41-137	PASS	
Fluorene	0.1000	0.06071	61	55-127	43-139	PASS	
Phenanthrene	0.1000	0.07239	72	50-122	38-134	PASS	
Anthracene	0.1000	0.07105	71	50-132	36-146	PASS	
Fluoranthene	0.1000	0.07754	78	55-127	43-139	PASS	
Pyrene	0.1000	0.07831	78	50-134	36-148	PASS	
Benzo (a) Anthracene	0.1000	0.08311	83	50-133	36-147	PASS	
Chrysene	0.1000	0.08263	83	51-129	38-142	PASS	
Benzo (k) Fluoranthene	0.1000	0.08987	90	49-150	32-167	PASS	
Benzo (b) Fluoranthene	0.1000	0.08263	83	50-142	35-157	PASS	
Benzo (a) Pyrene	0.1000	0.08523	85	50-134	36-148	PASS	
Indeno (1,2,3-c,d) Pyrene	0.1000	0.08255	83	50-148	34-164	PASS	
Dibenz (a,h) Anthracene	0.1000	0.08511	85	50-133	36-147	PASS	
Benzo (g,h,i) Perylene	0.1000	0.08546	85	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: 17-03-0641-26
MS/MSD BATCH: 170310S04
INSTRUMENTS:
SAMPLE: GC/MS AAA
MS: GC/MS AAA
MSD: GC/MS AAA

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-10 00:00
MS: 2017-03-10 00:00
MSD: 2017-03-10 00:00

ANALYZED BY: 907
D/T ANALYZED:
SAMPLE: 2017-03-13 19:46
MS: 2017-03-14 12:30
MSD: 2017-03-13 18:08
REVIEWED BY: 262
D/T REVIEWED: 2017-03-23 17:18

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	0.09218	92	0.08516	85	20-150	8	0-33	PASS	
2-Methylnaphthalene	ND	1.000	0.1000	0.1045	104	0.09445	94	29-137	10	0-31	PASS	
1-Methylnaphthalene	ND	1.000	0.1000	0.09569	96	0.08605	86	34-136	11	0-29	PASS	
Acenaphthylene	ND	1.000	0.1000	0.08040	80	0.07537	75	29-131	6	0-32	PASS	
Acenaphthene	ND	1.000	0.1000	0.08276	83	0.07798	78	29-137	6	0-28	PASS	
Fluorene	ND	1.000	0.1000	0.08493	85	0.07855	79	36-132	8	0-27	PASS	
Phenanthrene	ND	1.000	0.1000	0.09732	97	0.09182	92	20-144	6	0-27	PASS	
Anthracene	ND	1.000	0.1000	0.1009	101	0.09138	91	26-134	10	0-27	PASS	
Fluoranthene	ND	1.000	0.1000	0.09398	94	0.08904	89	20-151	5	0-26	PASS	
Pyrene	ND	1.000	0.1000	0.1040	104	0.09233	92	20-150	12	0-32	PASS	
Benzo (a) Anthracene	ND	1.000	0.1000	0.09475	95	0.09013	90	24-150	5	0-24	PASS	
Chrysene	ND	1.000	0.1000	0.09979	100	0.08850	88	25-145	12	0-28	PASS	
Benzo (k) Fluoranthene	ND	1.000	0.1000	0.1023	102	0.09310	93	28-148	9	0-26	PASS	
Benzo (b) Fluoranthene	ND	1.000	0.1000	0.08982	90	0.08694	87	21-153	3	0-26	PASS	
Benzo (a) Pyrene	ND	1.000	0.1000	0.09441	94	0.08980	90	29-149	5	0-22	PASS	
Indeno (1,2,3-c,d) Pyrene	ND	1.000	0.1000	0.08802	88	0.08785	88	20-154	0	0-25	PASS	
Dibenz (a,h) Anthracene	ND	1.000	0.1000	0.08938	89	0.08940	89	20-132	0	0-26	PASS	
Benzo (g,h,i) Perylene	ND	1.000	0.1000	0.08732	87	0.09140	91	20-148	5	0-27	PASS	

Data Files:

TYPE DATA FILE

MS 14mar007.rr
MSD 13mar022.rr

DATA FILE PATH

Z:\GCMS_AAA\GCMS_AAA_data\20171170314\14mar007.d\l
Z:\GCMS_AAA\GCMS_AAA_data\20171170313\13mar022.d\l

SURROGATE RECOVERIES FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0641

BATCH ID:

REVIEWED BY:

D/T REVIEWED:

LCS/MB: 170310L04MS: 170310S04EXTRACTION: EPA 3545**# 26** **CLIENT SAMPLE NUMBER : D-DU3-ISM1-3**INSTRUMENT: GC/MS AAAANALYZED BY: 907D/T EXTRACTED: 2017-03-10 00:00D/T ANALYZED 2017-03-13 19:46DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar027.d\13mar027.rrCOMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	72	13-127	PASS	
Nitrobenzene-d5	78	17-137	PASS	
p-Terphenyl-d14	87	4-160	PASS	

27 **CLIENT SAMPLE NUMBER : D-DU3-ISM2-3**INSTRUMENT: GC/MS AAAANALYZED BY: 907D/T EXTRACTED: 2017-03-10 00:00D/T ANALYZED 2017-03-13 20:06DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar028.d\13mar028.rrCOMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
p-Terphenyl-d14	95	4-160	PASS	
Nitrobenzene-d5	84	17-137	PASS	
2-Fluorobiphenyl	77	13-127	PASS	

28 **CLIENT SAMPLE NUMBER : D-DU3-ISM3-3**INSTRUMENT: GC/MS AAAANALYZED BY: 907D/T EXTRACTED: 2017-03-10 00:00D/T ANALYZED 2017-03-13 20:26DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar029.d\13mar029.rrCOMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	69	13-127	PASS	
Nitrobenzene-d5	80	17-137	PASS	
p-Terphenyl-d14	87	4-160	PASS	

**SURROGATE RECOVERIES
FOR METHOD: EPA 8270C SIM PAHs**

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WORK ORDER: 17-03-0641

BATCH ID:

LCS/MB: 170310L04

MS: 170310S04

EXTRACTION: EPA 3545

REVIEWED BY: 262

D/T REVIEWED: 2017-03-15 12:31

29 **CLIENT SAMPLE NUMBER : D-DU3-ISM4-3**

INSTRUMENT: GC/MS AAA

D/T EXTRACTED: 2017-03-10 00:00

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar030.d\13mar030.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-13 20:46

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
p-Terphenyl-d14	181	4-160	UNSAT	12S
2-Fluorobiphenyl	71	13-127	PASS	
Nitrobenzene-d5	70	17-137	PASS	

MB **CLIENT SAMPLE NUMBER : Method Blank**

INSTRUMENT: GC/MS AAA

D/T EXTRACTED: 2017-03-10 00:00

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar019.d\13mar019.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-13 17:09

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
2-Fluorobiphenyl	55	13-127	PASS	
Nitrobenzene-d5	61	17-137	PASS	
p-Terphenyl-d14	74	4-160	PASS	

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

INSTRUMENT: GC/MS AAA

D/T EXTRACTED: 2017-03-10 00:00

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar020.d\13mar020.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-13 17:28

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
p-Terphenyl-d14	82	4-160	PASS	
Nitrobenzene-d5	70	17-137	PASS	
2-Fluorobiphenyl	59	13-127	PASS	

MS **CLIENT SAMPLE NUMBER : Matrix Spike**

INSTRUMENT: GC/MS AAA

D/T EXTRACTED: 2017-03-10 00:00

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170314\14mar007.d\14mar007.rr

ANALYZED BY: 907

D/T ANALYZED 2017-03-14 12:30

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
p-Terphenyl-d14	102	4-160	PASS	
Nitrobenzene-d5	92	17-137	PASS	
2-Fluorobiphenyl	80	13-127	PASS	

**SURROGATE RECOVERIES
FOR METHOD: EPA 8270C SIM PAHs**

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WORK ORDER: 17-03-0641

BATCH ID:

LCS/MB:

MS: 170310S04

EXTRACTION: EPA 3545

REVIEWED BY:

D/T REVIEWED:

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

INSTRUMENT: GC/MS AAA

ANALYZED BY: 907

D/T EXTRACTED: 2017-03-10 00:00

D/T ANALYZED 2017-03-13 18:08

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar022.d\13mar022.rr

COMMENT:

<u>COMPOUND</u>	<u>% REC</u>	<u>% REC CL</u>	<u>STATUS</u>	<u>QUALIFIERS</u>
2-Fluorobiphenyl	76	13-127	PASS	
Nitrobenzene-d5	86	17-137	PASS	
p-Terphenyl-d14	88	4-160	PASS	

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar019.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 17:09 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 14-Mar-2017 09:49 ev7p

Sample Name: MB 170310 L04 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)	3.686	152	128497	5.000	0.00
3)*Naphthalene-d8	(2)	4.933	136	411882	5.000	0.00
11)*Acenaphthene-d10	(3)	6.830	164	237794	5.000	0.00
17)*Phenanthrene-d10	(4)	8.436	188	424517	5.000	0.00
31)*Perylene-d12	(6)	13.008	264	371587	5.000	0.00
25)*Chrysene-d12	(5)	11.370	240	403685	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.240	82	18820	0.611	0.00
SpikedAmount 1.000	Recovery =		61.137			
7)\$2-Fluorobiphenyl	(3)	6.115	172	42720	0.555	0.00
SpikedAmount 1.000	Recovery =		55.469			
23)\$p-Terphenyl-d14	(5)	10.228	244	44192	0.737	0.00
SpikedAmount 1.000	Recovery =		73.682			
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		0D	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		0D	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_AAA.i/170313.b/13mar019.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 17:09 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 16:28
Date, time and analyst ID of latest file update: 14-Mar-2017 09:49 ev7p

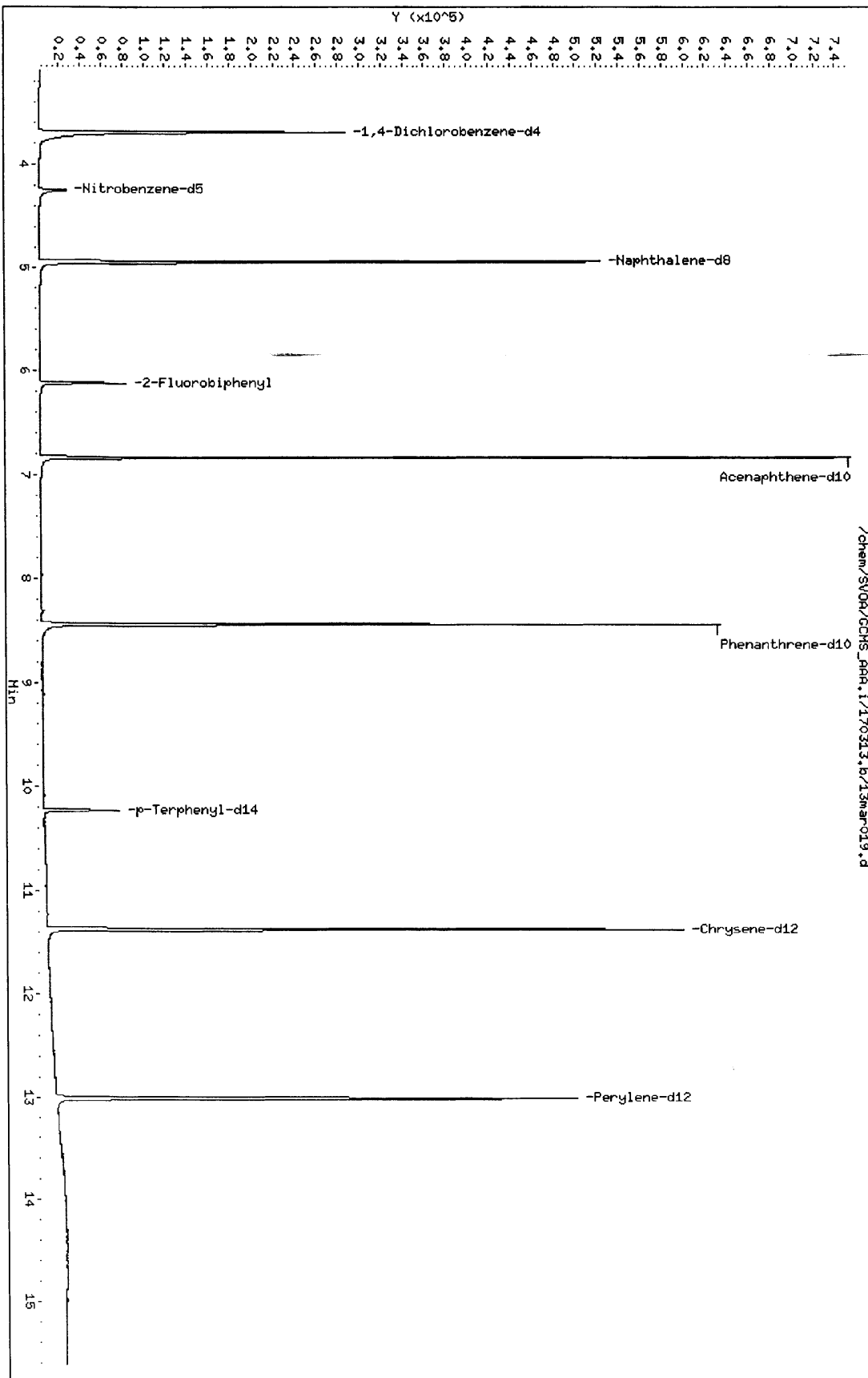
Sample Name: MB 170310 L04 Misc Info: S101716B 10UL
Response via Initial Calibration

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		0	N.D.	
13) Dibenzofuran	(3)	0.000		0	N.D.	

page 2 of 2

Data File: /chem/SV09/CCHS_AAA.i/170313.b/13mar019.d
 Date: 13-MAR-2017 17:09
 Client ID:
 Sample Info: HB 170310 L04
 Volume Injected (uL): 10.0
 Column phase: J&M DB-6MS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar020.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 17:28 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 13-Mar-2017 17:51 Unknown

Sample Name: LCS 170310 L04 Misc Info: S101716B 10UL
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column	DEV (Min)
					Amount (mg/L)	
=====	=====	=====	=====	=====	=====	=====
Internal Standards						
1) *1,4-Dichlorobenzene-d4	(1)	3.683	152	121322	5.000	0.00
3) *Naphthalene-d8	(2)	4.934	136	381080	5.000	0.00
11) *Acenaphthene-d10	(3)	6.834	164	215883	5.000	0.00
17) *Phenanthrene-d10	(4)	8.437	188	389406	5.000	0.00
31) *Perylene-d12	(6)	13.005	264	338055	5.000	0.00
25) *Chrysene-d12	(5)	11.370	240	372921	5.000	0.00
System Monitoring Compounds						
2) \$Nitrobenzene-d5	(2)	4.240	82	19848	0.697	0.00
SpikedAmount 1.000	Recovery =		69.689			
7) \$2-Fluorobiphenyl	(3)	6.115	172	41547	0.594	0.00
SpikedAmount 1.000	Recovery =		59.422			
23) \$p-Terphenyl-d14	(5)	10.228	244	45181	0.815	0.00
SpikedAmount 1.000	Recovery =		81.546			
Target Compounds						QValue
4) Naphthalene	(2)	4.956	128	53555	0.668	99
5) 2-Methylnaphthalene	(2)	5.687	142	37676	0.721	99
6) 1-Methylnaphthalene	(2)	5.803	142	34343	0.664	100
10) Acenaphthylene	(3)	6.663	152	56482	0.576	99
12) Acenaphthene	(3)	6.865	153	33377	0.590	100
15) Fluorene	(3)	7.420	166	39907	0.607	100
18) Phenanthrene	(4)	8.461	178	60481	0.724	99
19) Anthracene	(4)	8.509	178	60407	0.711	99
21) Fluoranthene	(4)	9.776	202	79297	0.775	99
22) Pyrene	(5)	10.014	202	82610	0.783	100
24) Benzo (a) Anthracene	(5)	11.350	228	81492	0.831	100
26) Chrysene	(5)	11.399	228	76147	0.826	100
27) Benzo (b) Fluoranthene	(6)	12.581	252	75142	0.826	100
28) Benzo (k) Fluoranthene	(6)	12.609	252	87687	0.899	99
30) Benzo (a) Pyrene	(6)	12.940	252	73794	0.852	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.183	276	82911	0.826	99
34) Dibenz (a,h) Anthracene	(6)	14.203	278	67257	0.851	99
35) Benzo (g,h,i) Perylene	(6)	14.486	276	69837	0.855	99
8) Biphenyl	(3)	6.203	154	51200	0.566	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	36329	0.557	99
14) 1,6,7-Trimethylnaphthalene	(3)	7.294	170	35439	0.549	99
16) Dibenzothiophene	(3)	8.324	184	72060	0.592	99

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar020.d Instrument ID: GCMS_AAA.i

Injection date and time: 13-MAR-2017 17:28 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all

Calibration date and time: 13-MAR-2017 16:28

Date, time and analyst ID of latest file update: 13-Mar-2017 17:51 Unknown

Sample Name: LCS 170310 L04

Misc Info: S101716B 10UL

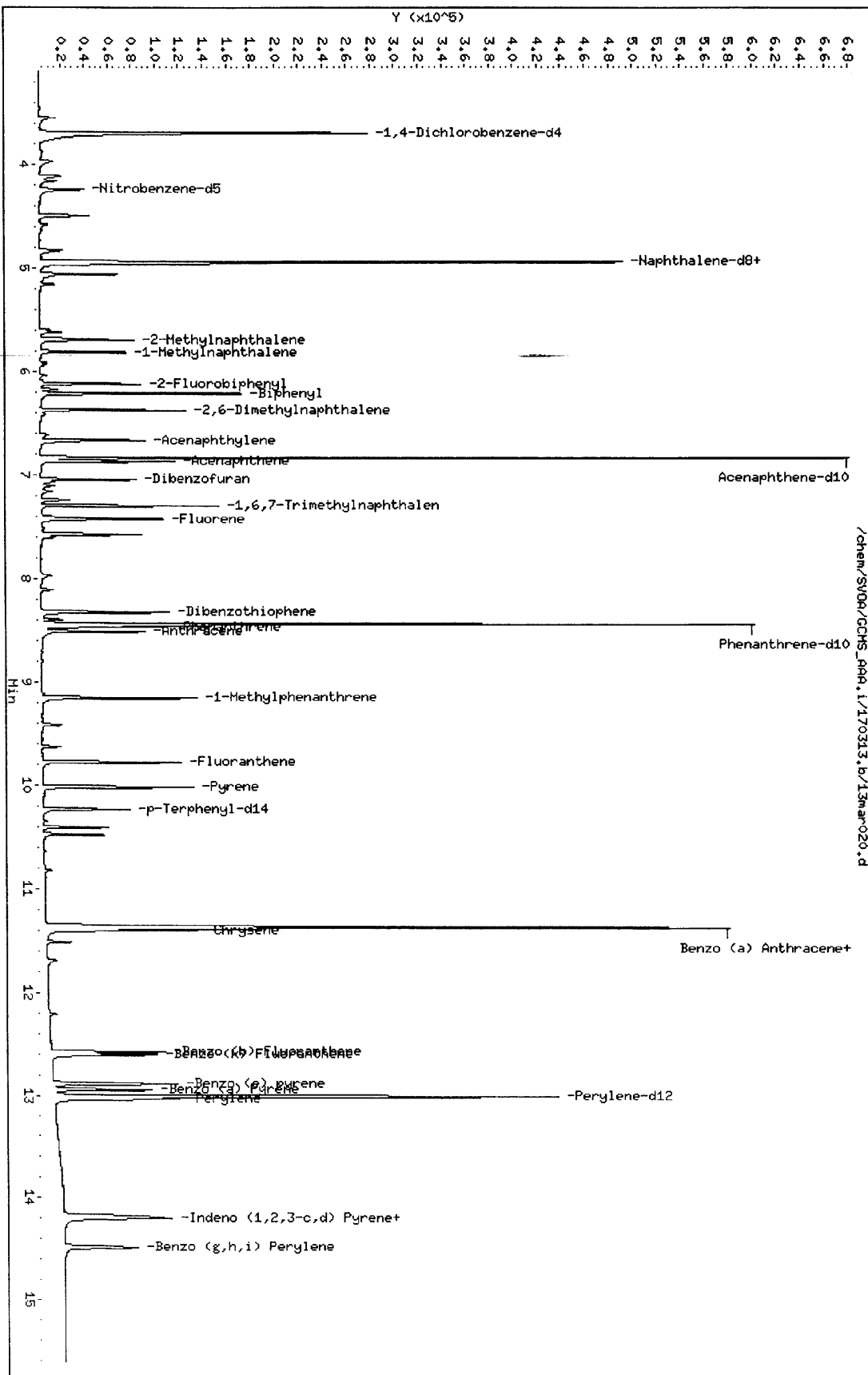
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	56611	0.696	99
29) Benzo (e) pyrene	(6)	12.883	252	86628	0.811	99
32) Perylene	(6)	13.033	252	86459	0.817	99
13) Dibenzofuran	(3)	7.042	168	49673	0.600	100

page 2 of 2

Data File: /chem/SV04/GCHS_APA.i/170313.b/13mar020.d
 Date: 13-MAR-2017 17:28
 Client ID:
 Sample Info: LCS 170310 L04
 Volume Injected (uL): 10.0
 Column Phase: J&M DB-SMS

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



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170314.b/14mar007.d Instrument ID: GCMS_AAA.i
 Injection date and time: 14-MAR-2017 12:30 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170314.b/simpah-extra.m Sublist used: all
 Calibration date and time: 14-MAR-2017 11:17
 Date, time and analyst ID of latest file update: 14-Mar-2017 12:52 Unknown

Sample Name: 17-03-0641-26 MS RB 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)	3.677	152	98844	5.000 0.00
3)*Naphthalene-d8		(2)	4.921	136	307556	5.000 0.00
11)*Acenaphthene-d10		(3)	6.821	164	180156	5.000 0.00
17)*Phenanthrene-d10		(4)	8.425	188	312346	5.000 0.00
31)*Perylene-d12		(6)	12.997	264	232750	5.000 0.00
25)*Chrysene-d12		(5)	11.362	240	268408	5.000 0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5		(2)	4.228	82	21186	0.922 0.00
SpikedAmount 1.000		Recovery =		92.173		
7)\$2-Fluorobiphenyl		(3)	6.103	172	46763	0.801 0.00
SpikedAmount 1.000		Recovery =		80.145		
23)\$p-Terphenyl-d14		(5)	10.220	244	40841	1.024 0.00
SpikedAmount 1.000		Recovery =		102.417		
Target Compounds						QValue
4) Naphthalene		(2)	4.943	128	59651	0.922 100
5) 2-Methylnaphthalene		(2)	5.674	142	44091	1.045 100
6) 1-Methylnaphthalene		(2)	5.791	142	39948	0.957 98
10) Acenaphthylene		(3)	6.651	152	65760	0.804 100
12) Acenaphthene		(3)	6.856	153	39054	0.828 100
15) Fluorene		(3)	7.407	166	46592	0.849 99
18) Phenanthrene		(4)	8.449	178	65225	0.973 99
19) Anthracene		(4)	8.501	178	68782	1.009 98
21) Fluoranthene		(4)	9.765	202	77092	0.940 99
22) Pyrene		(5)	10.007	202	78927	1.040 99
24) Benzo (a) Anthracene		(5)	11.342	228	66869	0.948 100
26) Chrysene		(5)	11.391	228	66189	0.998 99
27) Benzo (b) Fluoranthene		(6)	12.573	252	56239	0.898 99
28) Benzo (k) Fluoranthene		(6)	12.601	252	68738	1.023 96
30) Benzo (a) Pyrene		(6)	12.932	252	56276	0.944 97
33) Indeno (1,2,3-c,d) Pyrene		(6)	14.175	276	60865	0.880 98
34) Dibenz (a,h) Anthracene		(6)	14.195	278	48629	0.894 97
35) Benzo (g,h,i) Perylene		(6)	14.478	276	49130	0.873 97
8) Biphenyl		(3)	6.194	154	59211	0.785 100
9) 2,6-Dimethylnaphthalene		(3)	6.355	156	42600	0.782 98
14) 1,6,7-Trimethylnaphthalene		(3)	7.284	170	42387	0.787 98
16) Dibenzothiophene		(3)	8.312	184	79137	0.780 99

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170314.b/14mar007.d Instrument ID: GCMS_AAA.i
Injection date and time: 14-MAR-2017 12:30 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 12:52 Unknown

Sample Name: 17-03-0641-26 MS RB
Response via Initial Calibration

Misc Info: S101716B 10UL

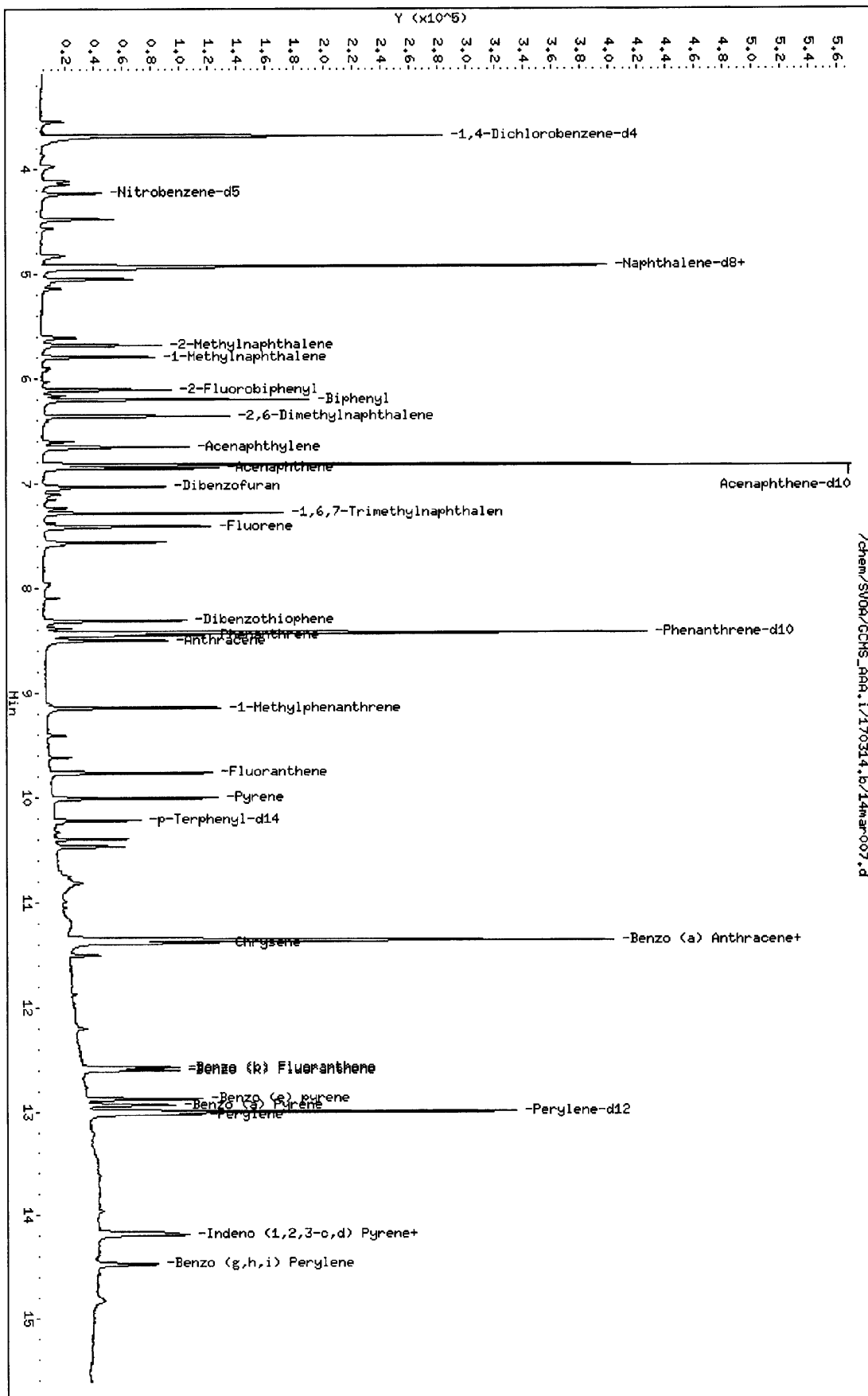
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.143	192	59246	1.011	98
29) Benzo (e) pyrene	(6)	12.876	252	65720	0.894	95
32) Perylene	(6)	13.025	252	65907	0.905	77
13) Dibenzofuran	(3)	7.032	168	58392	0.845	98

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Data File: /chem/SV04/GCHS_AAA.i/170314.b/14mar007.d
 Date : 14-Mar-2017 12:30
 Client ID:
 Sample Info: 17-03-0641-26 HS RB
 Volume Injected (uL): 10.0
 Column phase: J&W DB-5MS

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

Page 1



Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar022.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 18:08 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 16:28
 Date, time and analyst ID of latest file update: 13-Mar-2017 18:30 Unknown

Sample Name: 17-03-0641-26 MSD 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)	3.686	152	113728	5.000	0.00
3)*Naphthalene-d8	(2)	4.934	136	353701	5.000	0.00
11)*Acenaphthene-d10	(3)	6.834	164	198392	5.000	0.00
17)*Phenanthrene-d10	(4)	8.437	188	352891	5.000	0.00
31)*Perylene-d12	(6)	13.005	264	300339	5.000	0.00
25)*Chrysene-d12	(5)	11.370	240	324694	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.237	82	22723	0.860	0.00
SpikedAmount 1.000	Recovery =		85.960			
7)\$2-Fluorobiphenyl	(3)	6.112	172	48520	0.755	0.00
SpikedAmount 1.000	Recovery =		75.512			
23)\$p-Terphenyl-d14	(5)	10.228	244	42512	0.881	0.00
SpikedAmount 1.000	Recovery =		88.126			
Target Compounds						
						QValue
4) Naphthalene	(2)	4.953	128	63381	0.852	99
5) 2-Methylnaphthalene	(2)	5.687	142	45837	0.945	99
6) 1-Methylnaphthalene	(2)	5.800	142	41316	0.861	99
10) Acenaphthylene	(3)	6.664	152	67890	0.754	100
12) Acenaphthene	(3)	6.865	153	40522	0.780	99
15) Fluorene	(3)	7.417	166	47449	0.785	99
18) Phenanthrene	(4)	8.461	178	69524	0.918	99
19) Anthracene	(4)	8.509	178	70407	0.914	99
21) Fluoranthene	(4)	9.773	202	82520	0.890	99
22) Pyrene	(5)	10.015	202	84801	0.923	99
24) Benzo (a) Anthracene	(5)	11.350	228	76948	0.901	100
26) Chrysene	(5)	11.399	228	71010	0.885	99
27) Benzo (b) Fluoranthene	(6)	12.581	252	70238	0.869	99
28) Benzo (k) Fluoranthene	(6)	12.609	252	80699	0.931	99
30) Benzo (a) Pyrene	(6)	12.940	252	69075	0.898	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.183	276	78391	0.879	98
34) Dibenz (a,h) Anthracene	(6)	14.207	278	62762	0.894	96
35) Benzo (g,h,i) Perylene	(6)	14.490	276	66356	0.914	100
8) Biphenyl	(3)	6.204	154	62476	0.752	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	43983	0.733	99
14) 1,6,7-Trimethylnaphthalene	(3)	7.294	170	43027	0.726	99
16) Dibenzothiophene	(3)	8.324	184	83210	0.744	99

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar022.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 18:08 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 16:28
Date, time and analyst ID of latest file update: 13-Mar-2017 18:30 Unknown

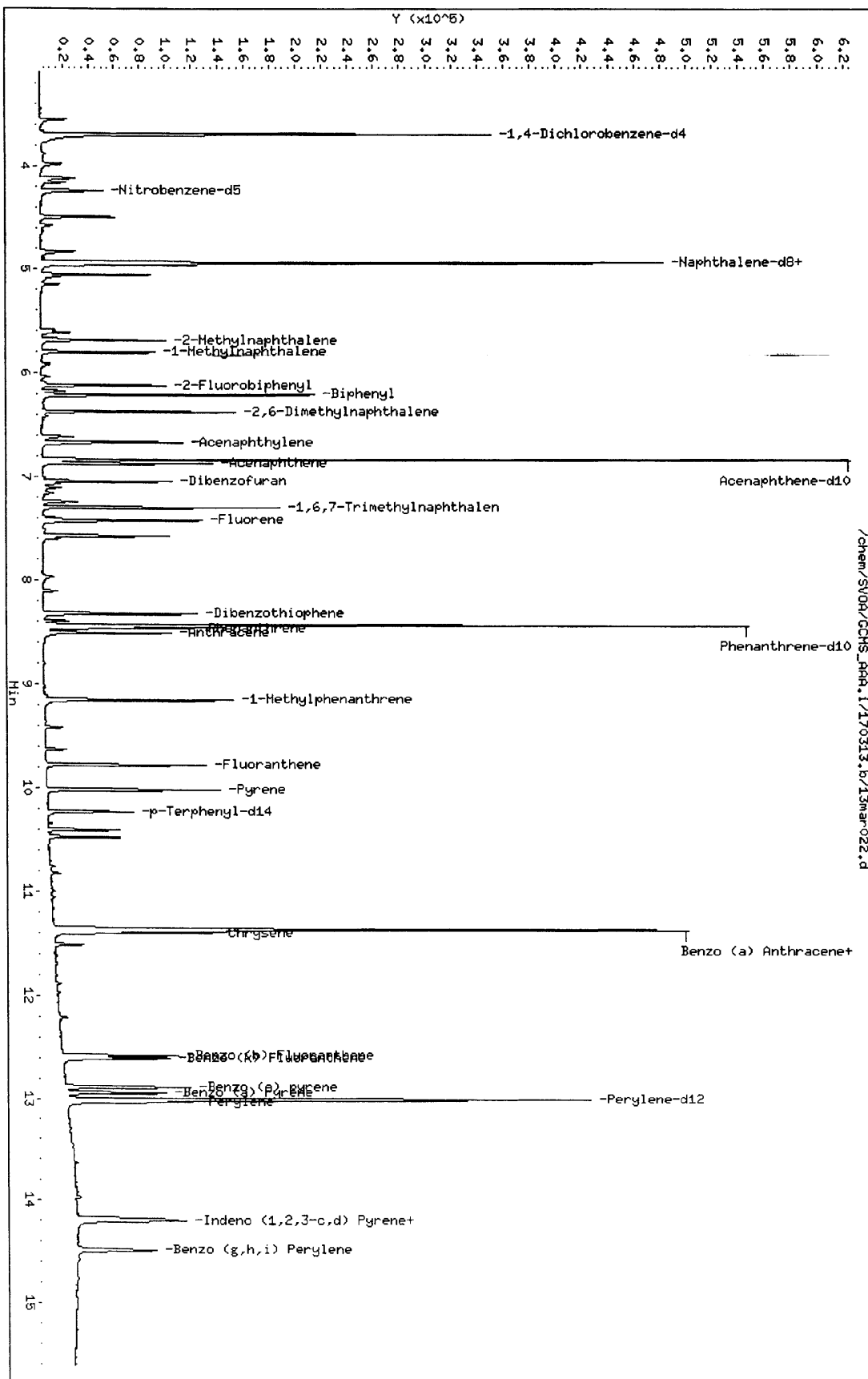
Sample Name: 17-03-0641-26 MSD Misc Info: S101716B 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	62302	0.879	100
29) Benzo (e) pyrene	(6)	12.884	252	80671	0.850	99
32) Perylene	(6)	13.033	252	81044	0.862	96
13) Dibenzofuran	(3)	7.042	168	60424	0.794	99

page 2 of 2

Data File: /chem/SV04/GCHS_AAA.i/170313.b/13mar022.d
 Date: 13-Mar-2017 18:08
 Client ID:
 Sample Info: 17-03-0641-26 HSD
 Volume Injected (uL): 10.0
 Column Phase: J&W DB-GMS

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



EPA METHOD 8270C PAHSIM

Continuing Calibration

**CCV ASSOCIATION SUMMARY
FOR METHOD: EPA 8270C SIM PAHs**

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BATCH ID: 170313A004
INSTRUMENT: GC/MS AAA

ANALYZED BY: 907

WORK ORDER: 099-06-009
MATRIX: Water

REVIEWED BY: 262
D/T REVIEWED: 2017-03-13 16:33

<u>CEL SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>D/T ANALYZED</u>	<u>DATA FILE</u>
4977	Daily Calibration	2017-03-13 14:31	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar011.d\13mar011.r

WORK ORDER: 17-03-0641
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>
26	D-DU3-ISM1-3	2017-03-13 19:46	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar027.d\13mar027.r
26	D-DU3-ISM1-3	2017-03-13 18:08	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar022.d\13mar022.r
27	D-DU3-ISM2-3	2017-03-13 20:06	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar028.d\13mar028.r
28	D-DU3-ISM3-3	2017-03-13 20:26	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar029.d\13mar029.r
29	D-DU3-ISM4-3	2017-03-13 20:46	Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar030.d\13mar030.r

Return to Contents

CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET

FOR METHOD: EPA 8270C SIM PAHS

CCV WORK ORDER: 099-06-009-4977-4741
INSTRUMENT: GC/MS AAA

ANALYZED BY: 907
D/T ANALYZED:
INITIAL: 2017-03-13 13:34
CCV: 2017-03-13 14:31
REVIEWED BY: 262
D/T REVIEWED: 2017-03-13 16:33

BATCH ID: 170313I002
INITIAL: 170313A004
CCV:

Data File: Z:\GCMS_AAA\GCMS_AAA_data\20171170313\13mar011.d\13mar011.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	1.052	1.066			-1	0-20	PASS
2-Methylnaphthalene	Avg Resp		0.00	0.686	0.704			-3	0-20	PASS
1-Methylnaphthalene	Avg Resp		0.00	0.679	0.690			-2	0-20	PASS
Acenaphthylene	Avg Resp		0.00	2.270	2.288			-1	0-20	PASS
Acenaphthene	C Avg Resp		0.00	1.310	1.328			-1	0-20	PASS
Fluorene	Avg Resp		0.00	1.522	1.584			-4	0-20	PASS
Phenanthrene	Avg Resp		0.00	1.073	1.084			-1	0-20	PASS
Anthracene	Avg Resp		0.00	1.092	0.995			9	0-20	PASS
Fluoranthene	C Avg Resp		0.00	1.313	1.337			-2	0-20	PASS
Pyrene	Avg Resp		0.00	1.414	1.409			0	0-20	PASS
Benzo (a) Anthracene	Avg Resp		0.00	1.315	1.264			4	0-20	PASS
Chrysene	Avg Resp		0.00	1.236	1.239			0	0-20	PASS
Benzo (k) Fluoranthene	Avg Resp		0.00	1.443	1.630			-13	0-20	PASS
Benzo (b) Fluoranthene	Avg Resp		0.00	1.345	1.341			0	0-20	PASS
Benzo (a) Pyrene	C Avg Resp		0.00	1.281	1.291			-1	0-20	PASS
Indeno (1,2,3-c,d) Pyrene	Avg Resp		0.00	1.485	1.527			-3	0-20	PASS
Dibenz (a,h) Anthracene	Avg Resp		0.00	1.169	1.214			-4	0-20	PASS
Benzo (g,h,i) Perylene	Avg Resp		0.00	1.209	1.226			-1	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

INTERNAL STANDARD COMPOUNDS AREA REPORT FOR METHOD: EPA 8270C SIM PAHs

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ICAL BATCH ID: 170313I002

CCV BATCH ID: 170313A004

ICAL MIDPOINT

SAMPLE ID: 099-06-009-4976

D/T ANALYZED: 2017-03-13 12:55

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar006.d\13mar006.rr

COMPOUND	AREA	RETENTION TIME
1,4-Dichlorobenzene-d4	120202	3.69
Naphthalene-d8	373417	4.94
Acenaphthene-d10	184044	6.83
Phenanthrene-d10	359556	8.44
Chrysene-d12	345241	11.37
Perylene-d12	295234	13.00

ICV

SAMPLE ID 099-06-009-4976

D/T ANALYZED: 2017-03-13 13:54

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar009.d\13mar009.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	97964	60101	240404	3.69	PASS
Naphthalene-d8	304263	186708	746834	4.93	PASS
Acenaphthene-d10	151183	92022	368088	6.83	PASS
Phenanthrene-d10	297682	179778	719112	8.44	PASS
Chrysene-d12	285311	172620	690482	11.37	PASS
Perylene-d12	253681	147617	590468	13.00	PASS

CCV

SAMPLE ID 099-06-009-4977

D/T ANALYZED: 2017-03-13 14:31

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar011.d\13mar011.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	132361	60101	240404	3.69	PASS
Naphthalene-d8	400020	186708	746834	4.94	PASS
Acenaphthene-d10	198190	92022	368088	6.83	PASS
Phenanthrene-d10	397335	179778	719112	8.44	PASS
Chrysene-d12	392940	172620	690482	11.37	PASS
Perylene-d12	330656	147617	590468	13.01	PASS

MB

SAMPLE ID 099-14-035-380

D/T ANALYZED: 2017-03-13 17:09

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar019.d\13mar019.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	128497	66180	264722	3.69	PASS
Naphthalene-d8	411882	200010	800040	4.93	PASS
Acenaphthene-d10	237794	99095	396380	6.83	PASS
Phenanthrene-d10	424517	198668	794670	8.44	PASS
Chrysene-d12	403685	196470	785880	11.37	PASS
Perylene-d12	371587	165328	661312	13.01	PASS

SAMPLE ID 099-14-035-380**D/T ANALYZED:** 2017-03-13 17:28**DATA FILE:** Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar020.d\13mar020.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	121322	66180	264722	3.68	PASS
Naphthalene-d8	381080	200010	800040	4.93	PASS
Acenaphthene-d10	215883	99095	396380	6.83	PASS
Phenanthrene-d10	389406	198668	794670	8.44	PASS
Chrysene-d12	372921	196470	785880	11.37	PASS
Perylene-d12	338055	165328	661312	13.00	PASS

MSD

SAMPLE ID 17-03-0641-26**D/T ANALYZED:** 2017-03-13 18:08**DATA FILE:** Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar022.d\13mar022.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	113728	66180	264722	3.69	PASS
Naphthalene-d8	353701	200010	800040	4.93	PASS
Acenaphthene-d10	198392	99095	396380	6.83	PASS
Phenanthrene-d10	352891	198668	794670	8.44	PASS
Chrysene-d12	324694	196470	785880	11.37	PASS
Perylene-d12	300339	165328	661312	13.00	PASS

CS

SAMPLE ID 17-03-0641-26**D/T ANALYZED:** 2017-03-13 19:46**DATA FILE:** Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar027.d\13mar027.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	121223	66180	264722	3.69	PASS
Naphthalene-d8	377476	200010	800040	4.93	PASS
Acenaphthene-d10	216433	99095	396380	6.83	PASS
Phenanthrene-d10	386679	198668	794670	8.44	PASS
Chrysene-d12	363542	196470	785880	11.37	PASS
Perylene-d12	334402	165328	661312	13.00	PASS

CS

SAMPLE ID 17-03-0641-27**D/T ANALYZED:** 2017-03-13 20:06**DATA FILE:** Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar028.d\13mar028.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	112979	66180	264722	3.69	PASS
Naphthalene-d8	357488	200010	800040	4.93	PASS
Acenaphthene-d10	204470	99095	396380	6.83	PASS
Phenanthrene-d10	363225	198668	794670	8.44	PASS
Chrysene-d12	337238	196470	785880	11.37	PASS
Perylene-d12	304173	165328	661312	13.00	PASS

SAMPLE ID 17-03-0641-28**D/T ANALYZED:** 2017-03-13 20:26**DATA FILE:** Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar029.d\13mar029.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	122826	66180	264722	3.69	PASS
Naphthalene-d8	386906	200010	800040	4.93	PASS
Acenaphthene-d10	225111	99095	396380	6.83	PASS
Phenanthrene-d10	401227	198668	794670	8.44	PASS
Chrysene-d12	374190	196470	785880	11.37	PASS
Perylene-d12	340667	165328	661312	13.00	PASS

SAMPLE ID 17-03-0641-29**D/T ANALYZED:** 2017-03-13 20:46**DATA FILE:** Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar030.d\13mar030.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	121346	66180	264722	3.69	PASS
Naphthalene-d8	382612	200010	800040	4.93	PASS
Acenaphthene-d10	217952	99095	396380	6.83	PASS
Phenanthrene-d10	389487	198668	794670	8.44	PASS
Chrysene-d12	365316	196470	785880	11.37	PASS
Perylene-d12	335404	165328	661312	13.01	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_AAA.i/170313.b/13mar011.d
 Report Date: 03/13/2017 14:54

Eurofins CalScience
 Calibration Verification Report

Instrument ID: GCMS_AAA.i Injection Date and Time: 13-MAR-2017 14:31
 Sample Name: CCV S101716G 1PPM Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
 Sublist used: all.sub Initial Calibration Time(s): 17:28 13:34
 Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Naphthalene	1.052	1.066	0.00	-1	20	Averaged
2-Methylnaphthalene	0.686	0.704	0.00	-3	20	Averaged
1-Methylnaphthalene	0.679	0.690	0.00	-2	20	Averaged
Acenaphthylene	2.270	2.288	0.00	-1	20	Averaged
Acenaphthene	1.310	1.328	0.00	-1	20	Averaged
Fluorene	1.522	1.584	0.00	-4	20	Averaged
Phenanthrene	1.073	1.084	0.00	-1	20	Averaged
Anthracene	1.092	0.995	0.00	9	20	Averaged
Fluoranthene	1.313	1.337	0.00	-2	20	Averaged
Pyrene	1.414	1.409	0.00	0	20	Averaged
Benzo (a) Anthracene	1.315	1.264	0.00	4	20	Averaged
Chrysene	1.236	1.239	0.00	0	20	Averaged
Benzo (b) Fluoranthene	1.345	1.341	0.00	0	20	Averaged
Benzo (k) Fluoranthene	1.443	1.630	0.00	-13	20	Averaged
Benzo (a) Pyrene	1.281	1.291	0.00	-1	20	Averaged
Indeno (1,2,3-c,d) Pyrene	1.485	1.527	0.00	-3	20	Averaged
Dibenz (a,h) Anthracene	1.169	1.214	0.00	-4	20	Averaged
Benzo (g,h,i) Perylene	1.209	1.226	0.00	-1	20	Averaged
Biphenyl	2.094	2.176	0.00	-4	20	Averaged
2,6-Dimethylnaphthalene	1.512	1.549	0.00	-2	20	Averaged
1,6,7-Trimethylnaphthalene	1.494	1.524	0.00	-2	20	Averaged
Dibenzothiophene	2.817	2.929	0.00	-4	20	Averaged
1-Methylphenanthrene	1.091	1.077	0.00	1	20	Averaged
Benzo (e) pyrene	1.580	1.654	0.00	-5	20	Averaged
Perylene	1.565	1.607	0.00	-3	20	Averaged
Dibenzofuran	1.917	2.008	0.00	-5	20	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Nitrobenzene-d5	0.374	0.385	0.00	-3	20	Averaged
2-Fluorobiphenyl	1.619	1.709	0.00	-6	20	Averaged
p-Terphenyl-d14	0.743	0.743	0.00	0	20	Averaged

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar011.d Instrument ID: GCMS_AAA.i
 Injection date and time: 13-MAR-2017 14:31 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
 Calibration date and time: 13-MAR-2017 14:53
 Date, time and analyst ID of latest file update: 13-Mar-2017 14:53 ev7p

Sample Name: CCV S101716G 1PPM Misc Info: 170313A004
 Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column	DEV (Min)
					Amount (mg/L)	
=====						
Internal Standards						
1) *1,4-Dichlorobenzene-d4	(1)	3.686	152	132361	5.000	0.00
3) *Naphthalene-d8	(2)	4.937	136	400020	5.000	0.00
11) *Acenaphthene-d10	(3)	6.831	164	198190	5.000	0.00
17) *Phenanthrene-d10	(4)	8.437	188	397335	5.000	0.00
31) *Perylene-d12	(6)	13.009	264	330656	5.000	0.00
25) *Chrysene-d12	(5)	11.370	240	392940	5.000	0.00
System Monitoring Compounds						
2) \$Nitrobenzene-d5	(2)	4.240	82	30834	1.031	0.00
SpikedAmount 1.000	Recovery = 103.136					
7) \$2-Fluorobiphenyl	(3)	6.115	172	67751	1.055	0.00
SpikedAmount 1.000	Recovery = 105.548					
23) \$p-Terphenyl-d14	(5)	10.228	244	58421	1.001	0.00
SpikedAmount 1.000	Recovery = 100.071					
Target Compounds						
						QValue
4) Naphthalene	(2)	4.956	128	85260	1.013	100
5) 2-Methylnaphthalene	(2)	5.687	142	56339	1.026	100
6) 1-Methylnaphthalene	(2)	5.803	142	55191	1.016	100
10) Acenaphthylene	(3)	6.664	152	90699	1.008	100
12) Acenaphthene	(3)	6.865	153	52628	1.014	100
15) Fluorene	(3)	7.417	166	62771	1.040	100
18) Phenanthrene	(4)	8.461	178	86154	1.011	100
19) Anthracene	(4)	8.509	178	79073	0.912	100
21) Fluoranthene	(4)	9.777	202	106232	1.018	100
22) Pyrene	(5)	10.015	202	110725	0.996	100
24) Benzo (a) Anthracene	(5)	11.354	228	99352	0.962	100
26) Chrysene	(5)	11.399	228	97380	1.003	100
27) Benzo (b) Fluoranthene	(6)	12.581	252	88690	0.997	100
28) Benzo (k) Fluoranthene	(6)	12.609	252	107823	1.130	100
30) Benzo (a) Pyrene	(6)	12.940	252	85351	1.008	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.183	276	100951	1.028	100
34) Dibenz (a,h) Anthracene	(6)	14.207	278	80292	1.039	100
35) Benzo (g,h,i) Perylene	(6)	14.490	276	81076	1.014	100
8) Biphenyl	(3)	6.203	154	86237	1.039	100
9) 2,6-Dimethylnaphthalene	(3)	6.367	156	61381	1.024	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.294	170	60424	1.020	100
16) Dibenzothiophene	(3)	8.324	184	116112	1.040	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

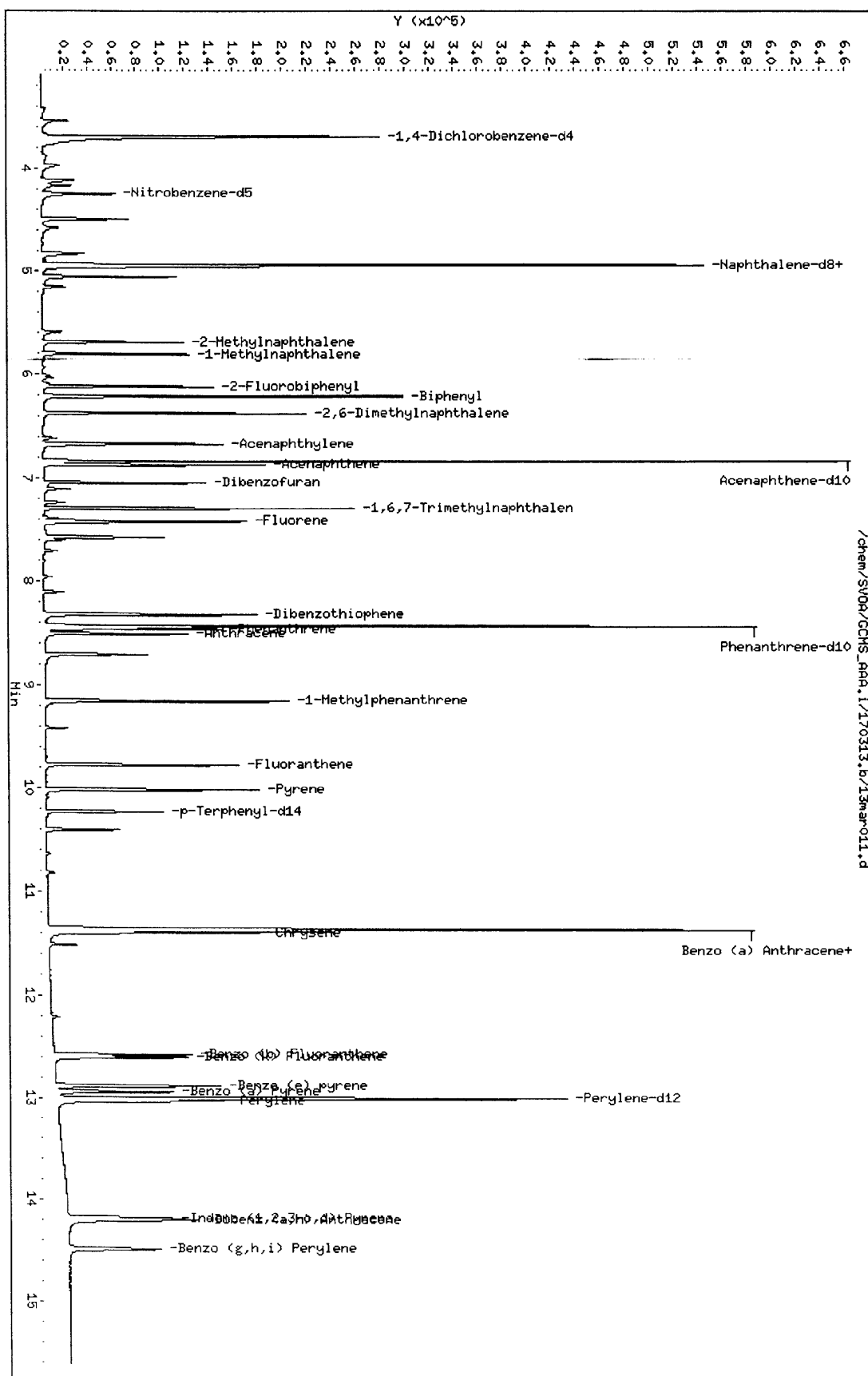
Data File: /chem/SVOA/GCMS_AAA.i/170313.b/13mar011.d Instrument ID: GCMS_AAA.i
Injection date and time: 13-MAR-2017 14:31 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:53
Date, time and analyst ID of latest file update: 13-Mar-2017 14:53 ev7p

Sample Name: CCV S101716G 1PPM Misc Info: 170313A004
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.151	192	84636	0.987	100
29) Benzo (e) pyrene	(6)	12.884	252	109380	1.047	100
32) Perylene	(6)	13.033	252	106248	1.027	100
13) Dibenzofuran	(3)	7.042	168	79598	1.048	100

page 2 of 2



Data File: /chem/SW06/GCHS_A04.i/170313.b/13mar011.d
 Date: 13-MAR-2017 14:31
 Client ID:
 Sample Info: CCV S1017160 1PPH
 Volume Injected (uL): 10.0
 Column Phase: J&W DB-5MS

Instrument: GCHS_A04.i
 Operator: 907
 Column diameter: 0.18

Page 1

CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET

FOR METHOD: EPA 8270C SIM PAHs

CCV WORK ORDER: 099-06-009-4982-4741
INSTRUMENT: GC/MS AAA
BATCH ID: 170313I002
INITIAL: 170314A011
CCV:

ANALYZED BY: 907
D/T ANALYZED: 2017-03-13 13:34
INITIAL: 2017-03-14 10:52
CCV: 262
REVIEWED BY: 2017-03-14 15:45
D/T REVIEWED:

Data File: Z:\GCMS_AAA\GCMS_AAA_data\2017\170314\14mar002.d\14mar002.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	1.052	1.129			-7	0-20	PASS
2-Methylnaphthalene	Avg Resp		0.00	0.686	0.754			-10	0-20	PASS
1-Methylnaphthalene	Avg Resp		0.00	0.679	0.747			-10	0-20	PASS
Acenaphthylene	Avg Resp		0.00	2.270	2.450			-8	0-20	PASS
Acenaphthene	C Avg Resp		0.00	1.310	1.412			-8	0-20	PASS
Fluorene	Avg Resp		0.00	1.522	1.630			-7	0-20	PASS
Phenanthrene	Avg Resp		0.00	1.073	1.149			-7	0-20	PASS
Anthracene	Avg Resp		0.00	1.092	1.042			5	0-20	PASS
Fluoranthene	C Avg Resp		0.00	1.313	1.347			-3	0-20	PASS
Pyrene	Avg Resp		0.00	1.414	1.641			-16	0-20	PASS
Benzo (a) Anthracene	Avg Resp		0.00	1.315	1.330			-1	0-20	PASS
Chrysene	Avg Resp		0.00	1.236	1.359			-10	0-20	PASS
Benzo (k) Fluoranthene	Avg Resp		0.00	1.443	1.708			-18	0-20	PASS
Benzo (b) Fluoranthene	Avg Resp		0.00	1.345	1.489			-11	0-20	PASS
Benzo (a) Pyrene	C Avg Resp		0.00	1.281	1.374			-7	0-20	PASS
Indeno (1,2,3-c,d) Pyrene	Avg Resp		0.00	1.485	1.513			-2	0-20	PASS
Dibenz (a,h) Anthracene	Avg Resp		0.00	1.169	1.180			-1	0-20	PASS
Benzo (g,h,i) Perylene	Avg Resp		0.00	1.209	1.230			-2	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

INTERNAL STANDARD COMPOUNDS AREA REPORT FOR METHOD: EPA 8270C SIM PAHs

Page 444 of 479

ICAL BATCH ID: 170313I002

CCV BATCH ID: 170314A011

ICAL MIDPOINT

SAMPLE ID: 099-06-009-4976

D/T ANALYZED: 2017-03-13 12:55

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar006.d\13mar006.rr

COMPOUND	AREA	RETENTION TIME
1,4-Dichlorobenzene-d4	120202	3.69
Naphthalene-d8	373417	4.94
Acenaphthene-d10	184044	6.83
Phenanthrene-d10	359556	8.44
Chrysene-d12	345241	11.37
Perylene-d12	295234	13.00

ICV

SAMPLE ID 099-06-009-4976

D/T ANALYZED: 2017-03-13 13:54

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170313\13mar009.d\13mar009.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	97964	60101	240404	3.69	PASS
Naphthalene-d8	304263	186708	746834	4.93	PASS
Acenaphthene-d10	151183	92022	368088	6.83	PASS
Phenanthrene-d10	297682	179778	719112	8.44	PASS
Chrysene-d12	285311	172620	690482	11.37	PASS
Perylene-d12	253681	147617	590468	13.00	PASS

CCV

SAMPLE ID 099-06-009-4982

D/T ANALYZED: 2017-03-14 10:52

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170314\14mar002.d\14mar002.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	108769	60101	240404	3.67	PASS
Naphthalene-d8	322404	186708	746834	4.92	PASS
Acenaphthene-d10	153007	92022	368088	6.82	PASS
Phenanthrene-d10	285156	179778	719112	8.42	PASS
Chrysene-d12	242173	172620	690482	11.36	PASS
Perylene-d12	192520	147617	590468	12.99	PASS

MS

SAMPLE ID 17-03-0641-26

D/T ANALYZED: 2017-03-14 12:30

DATA FILE: Z:\GCMS_AAA\GCMS_AAA_data\2017\170314\14mar007.d\14mar007.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	98844	54384	217538	3.68	PASS
Naphthalene-d8	307556	161202	644808	4.92	PASS
Acenaphthene-d10	180156	76504	306014	6.82	PASS
Phenanthrene-d10	312346	142578	570312	8.42	PASS
Chrysene-d12	268408	121086	484346	11.36	PASS
Perylene-d12	232750	96260	385040	13.00	PASS

Data File: /chem/SVOA/GCMS_AAA.i/170314.b/14mar002.d

Report Date: 03/14/2017 12:58

Eurofins CalScience
Calibration Verification Report

Instrument ID: GCMS_AAA.i

Injection Date and Time: 14-MAR-2017 10:52

Sample Name: CCV S101716G 1PPM

Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017

Sublist used: all.sub

Initial Calibration Time(s): 17:28 13:34

Method used: /chem/SVOA/GCMS_AAA.i/170314.b/simpah-extra.m

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift /Drift	Max%D	Curve Type
Naphthalene	1.052	1.129	0.00	-7	20	Averaged
2-Methylnaphthalene	0.686	0.754	0.00	-10	20	Averaged
1-Methylnaphthalene	0.679	0.747	0.00	-10	20	Averaged
Acenaphthylene	2.270	2.450	0.00	-8	20	Averaged
Acenaphthene	1.310	1.412	0.00	-8	20	Averaged
Fluorene	1.522	1.630	0.00	-7	20	Averaged
Phenanthrene	1.073	1.149	0.00	-7	20	Averaged
Anthracene	1.092	1.042	0.00	5	20	Averaged
Fluoranthene	1.313	1.347	0.00	-3	20	Averaged
Pyrene	1.414	1.641	0.00	-16	20	Averaged
Benzo (a) Anthracene	1.315	1.330	0.00	-1	20	Averaged
Chrysene	1.236	1.359	0.00	-10	20	Averaged
Benzo (b) Fluoranthene	1.345	1.489	0.00	-11	20	Averaged
Benzo (k) Fluoranthene	1.443	1.708	0.00	-18	20	Averaged
Benzo (a) Pyrene	1.281	1.374	0.00	-7	20	Averaged
Indeno (1,2,3-c,d) Pyrene	1.485	1.513	0.00	-2	20	Averaged
Dibenz (a,h) Anthracene	1.169	1.180	0.00	-1	20	Averaged
Benzo (g,h,i) Perylene	1.209	1.230	0.00	-2	20	Averaged
Biphenyl	2.094	2.332	0.00	-11	20	Averaged
2,6-Dimethylnaphthalene	1.512	1.644	0.00	-9	20	Averaged
1,6,7-Trimethylnaphthalene	1.494	1.609	0.00	-8	20	Averaged
Dibenzothiophene	2.817	2.878	0.00	-2	20	Averaged
1-Methylphenanthrene	1.091	1.285	0.00	-18	20	Averaged
Benzo (e) pyrene	1.580	1.790	0.00	-13	20	Averaged
Perylene	1.565	1.734	0.00	-11	20	Averaged
Dibenzofuran	1.917	2.070	0.00	-8	20	Averaged
Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift /Drift	Max%D	Curve Type
Nitrobenzene-d5	0.374	0.436	0.00	-17	20	Averaged
2-Fluorobiphenyl	1.619	1.825	0.00	-13	20	Averaged
p-Terphenyl-d14	0.743	0.836	0.00	-13	20	Averaged

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170314.b/14mar002.d Instrument ID: GCMS_AAA.i

Injection date and time: 14-MAR-2017 10:52 Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170314.b/simpah-extra.m Sublist used: all

Calibration date and time: 14-MAR-2017 11:17

Date, time and analyst ID of latest file update: 14-Mar-2017 11:17 ev7p

Sample Name: CCV S101716G 1PPM
Response via Initial Calibration

Misc Info: 170314A011

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	DEV(Min)
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.673	152	108769	5.000	0.00
3)*Naphthalene-d8	(2)	4.924	136	322404	5.000	0.00
11)*Acenaphthene-d10	(3)	6.821	164	153007	5.000	0.00
17)*Phenanthrene-d10	(4)	8.424	188	285156	5.000	0.00
31)*Perylene-d12	(6)	12.992	264	192520	5.000	0.00
25)*Chrysene-d12	(5)	11.358	240	242173	5.000	0.00
System Monitoring Compounds						
2)\$Nitrobenzene-d5	(2)	4.231	82	28123	1.167	0.00
SpikedAmount 1.000	Recovery = 116.716					
7)\$2-Fluorobiphenyl	(3)	6.102	172	55851	1.127	0.00
SpikedAmount 1.000	Recovery = 112.705					
23)\$p-Terphenyl-d14	(5)	10.220	244	40490	1.125	0.00
SpikedAmount 1.000	Recovery = 112.535					
Target Compounds						QValue
4) Naphthalene	(2)	4.946	128	72818	1.073	100
5) 2-Methylnaphthalene	(2)	5.677	142	48634	1.099	100
6) 1-Methylnaphthalene	(2)	5.790	142	48146	1.100	100
10) Acenaphthylene	(3)	6.651	152	74988	1.079	100
12) Acenaphthene	(3)	6.855	153	43218	1.078	100
15) Fluorene	(3)	7.407	166	49865	1.070	100
18) Phenanthrene	(4)	8.449	178	65530	1.071	100
19) Anthracene	(4)	8.501	178	59425	0.955	100
21) Fluoranthene	(4)	9.764	202	76834	1.026	100
22) Pyrene	(5)	10.006	202	79475	1.160	100
24) Benzo (a) Anthracene	(5)	11.342	228	64434	1.012	100
26) Chrysene	(5)	11.390	228	65844	1.100	100
27) Benzo (b) Fluoranthene	(6)	12.573	252	57318	1.107	100
28) Benzo (k) Fluoranthene	(6)	12.597	252	65767	1.184	100
30) Benzo (a) Pyrene	(6)	12.932	252	52897	1.073	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.171	276	58267	1.019	100
34) Dibenz (a,h) Anthracene	(6)	14.191	278	45422	1.009	100
35) Benzo (g,h,i) Perylene	(6)	14.473	276	47373	1.018	100
8) Biphenyl	(3)	6.194	154	71370	1.114	100
9) 2,6-Dimethylnaphthalene	(3)	6.358	156	50295	1.087	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.284	170	49224	1.077	100
16) Dibenzothiophene	(3)	8.315	184	88075	1.022	100

* = Compound is an internal standard.

\$ = Compound is a surrogate standard.

Quant Report

Target Revision 3.5

Data File: /chem/SVOA/GCMS_AAA.i/170314.b/14mar002.d Instrument ID: GCMS_AAA.i

Injection date and time: 14-MAR-2017 10:52

Analyst ID: 907

Method used: /chem/SVOA/GCMS_AAA.i/170314.b/simpah-extra.m Sublist used: all

Calibration date and time: 14-MAR-2017 11:17

Date, time and analyst ID of latest file update: 14-Mar-2017 11:17 ev7p

Sample Name: CCV S101716G 1PPM

Misc Info: 170314A011

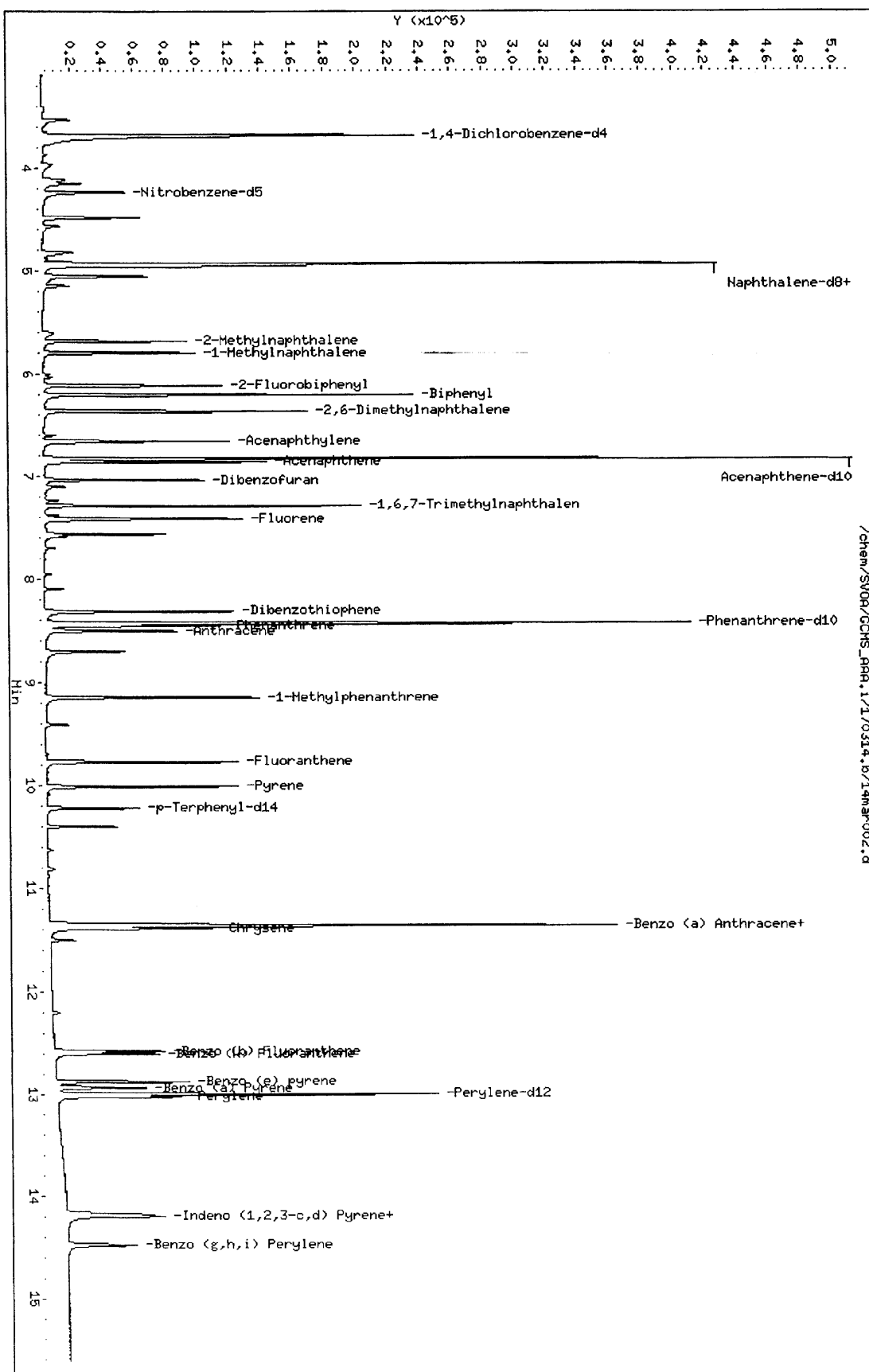
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	9.143	192	62232	1.178	100
29) Benzo (e) pyrene	(6)	12.875	252	68923	1.133	100
32) Perylene	(6)	13.020	252	66773	1.108	100
13) Dibenzofuran	(3)	7.032	168	63348	1.080	100

page 2 of 2

Data File: /chem/SV04/GCHS_AAA.i/170314.b/14mar002.d
 Date: 14-MAR-2017 10:52
 Client ID:
 Sample Info: CCV S101716G 1PPH
 Volume Injected (uL): 10.0
 Column phase: J&M DB-SMS

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



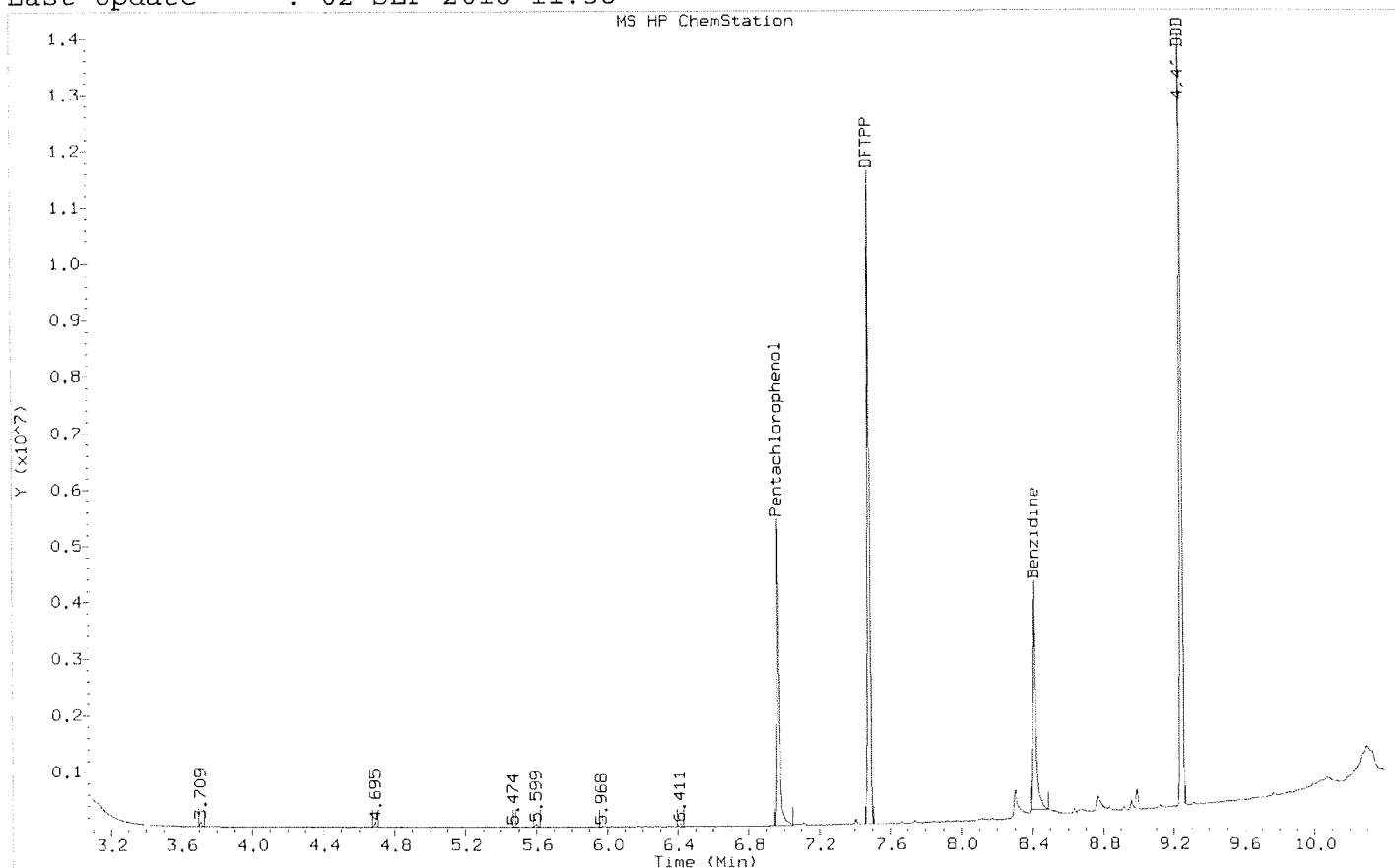
EPA METHOD 8270C PAHSIM

Tuning Reports

DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Mon Mar 13 14:56:03 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d
 ALS Vial : 1
 Acq on : 13-MAR-2017 10:50 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Last Update : 02-SEP-2016 11:58

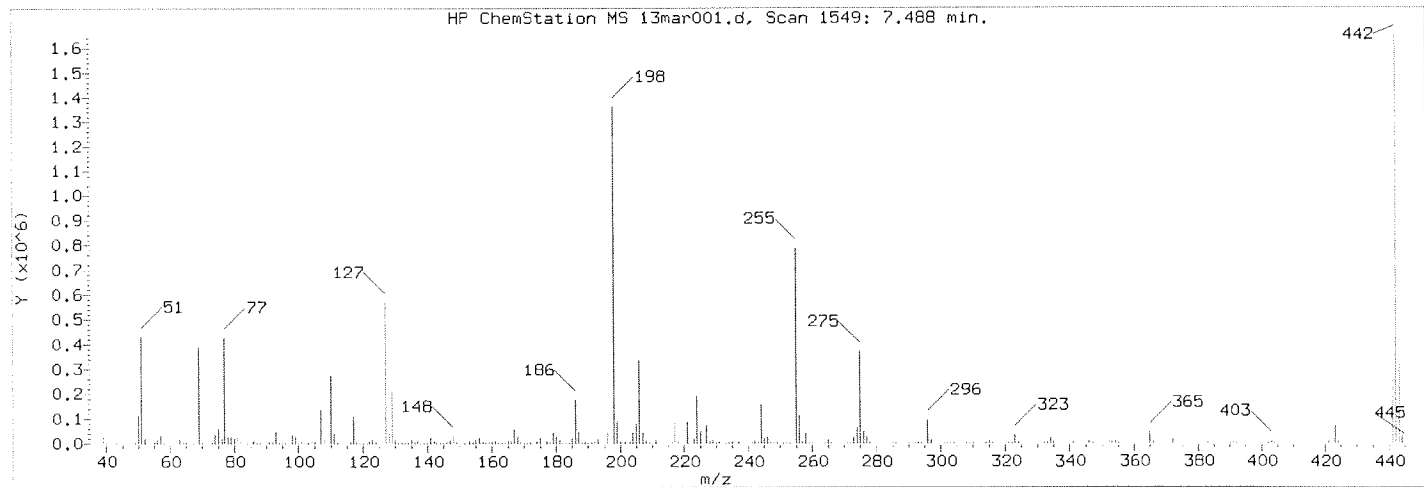
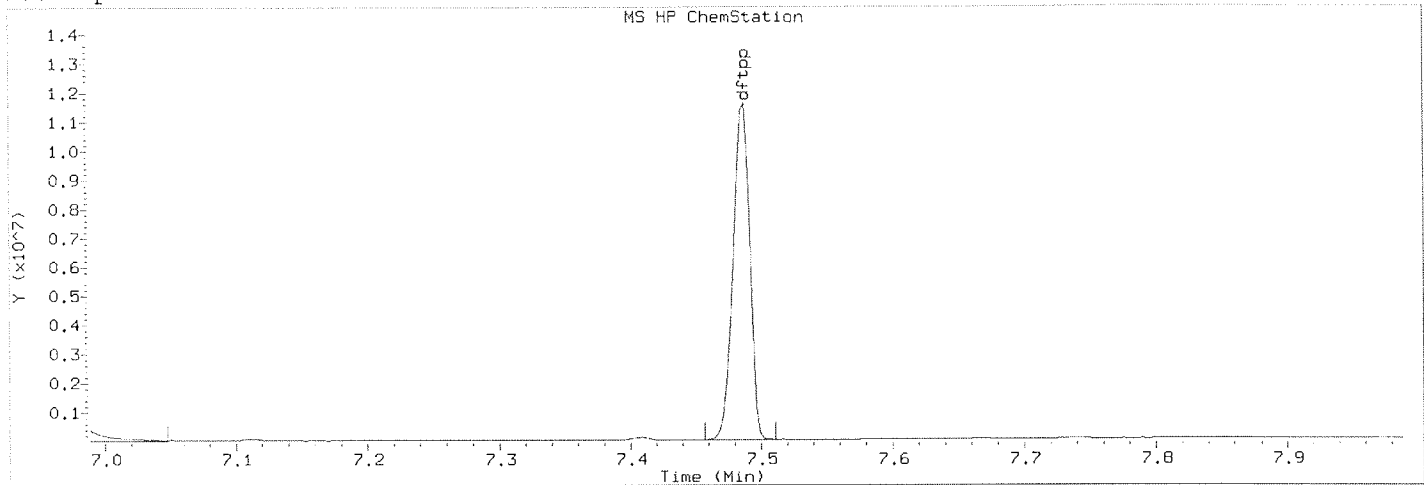


Tune *** PASSED ***
 Pentachlorophenol Tailing *** PASSED ***
 Benzidine Tailing *** PASSED ***
 DDT degradation *** PASSED ***

Tuning Sample, /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d , *** PASSED ***

Report Generated Time Mon Mar 13 14:56:03 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d
 ALS Vial : 1
 Acq on : 13-MAR-2017 10:50 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/dftpp tune.m
 Last Update : 02-SEP-2016 11:58

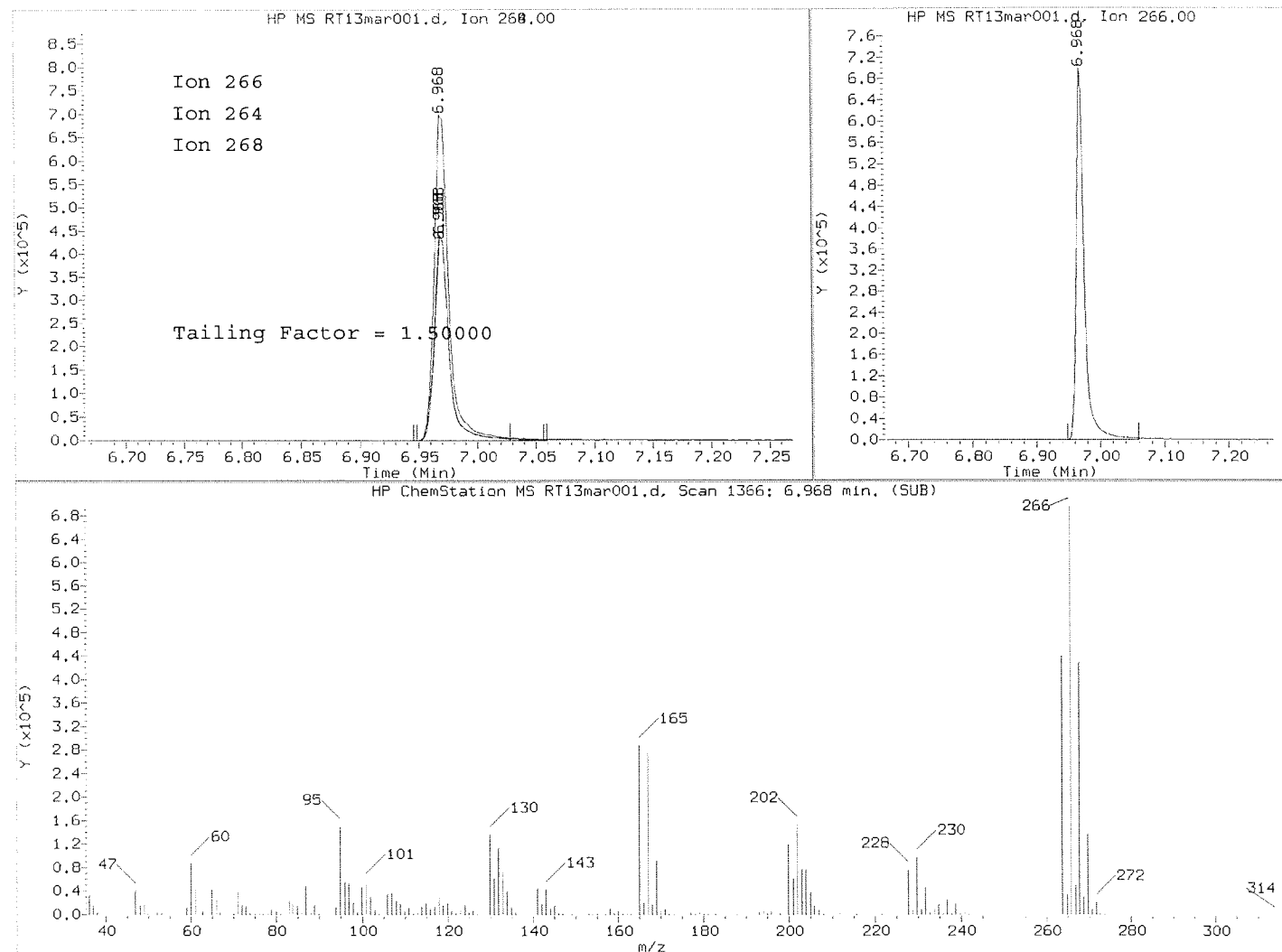


DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Response	Test
198	Base Peak, 100% relative abundance	100.00	1263156	PASS
51	30 - 60% of mass 198	31.54	398398	PASS
68	Less than 2% of mass 69	0.00	0	PASS
69	Less than mass 198	28.69	362441	PASS
70	Less than 2% of mass 69	0.45	1640	PASS
127	40 - 60% of mass 198	41.70	526678	PASS
197	0 - 1% of mass 198	0.00	0	PASS
199	5 - 9% of mass 198	6.76	85354	PASS
275	10 - 30% of mass 198	27.46	346858	PASS
365	1 - 100% of mass 198	3.26	41157	PASS
441	Present, but less than mass 443	78.20	228864	PASS
442	40 - 200% of mass 198	118.36	1495040	PASS
443	17 - 23% of mass 442	19.57	292650	PASS

Report Generated Time Mon Mar 13 14:56:03 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 10:50 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d/resolut.m
 Last Update : 13-MAR-2017 14:55



Pentachlorophenol

=====
 Exp. RT = 7.110
 Found RT = 6.968

Mass	Area	Ratio
266	615097	100.00
264	388944	63.23
268	376091	61.14

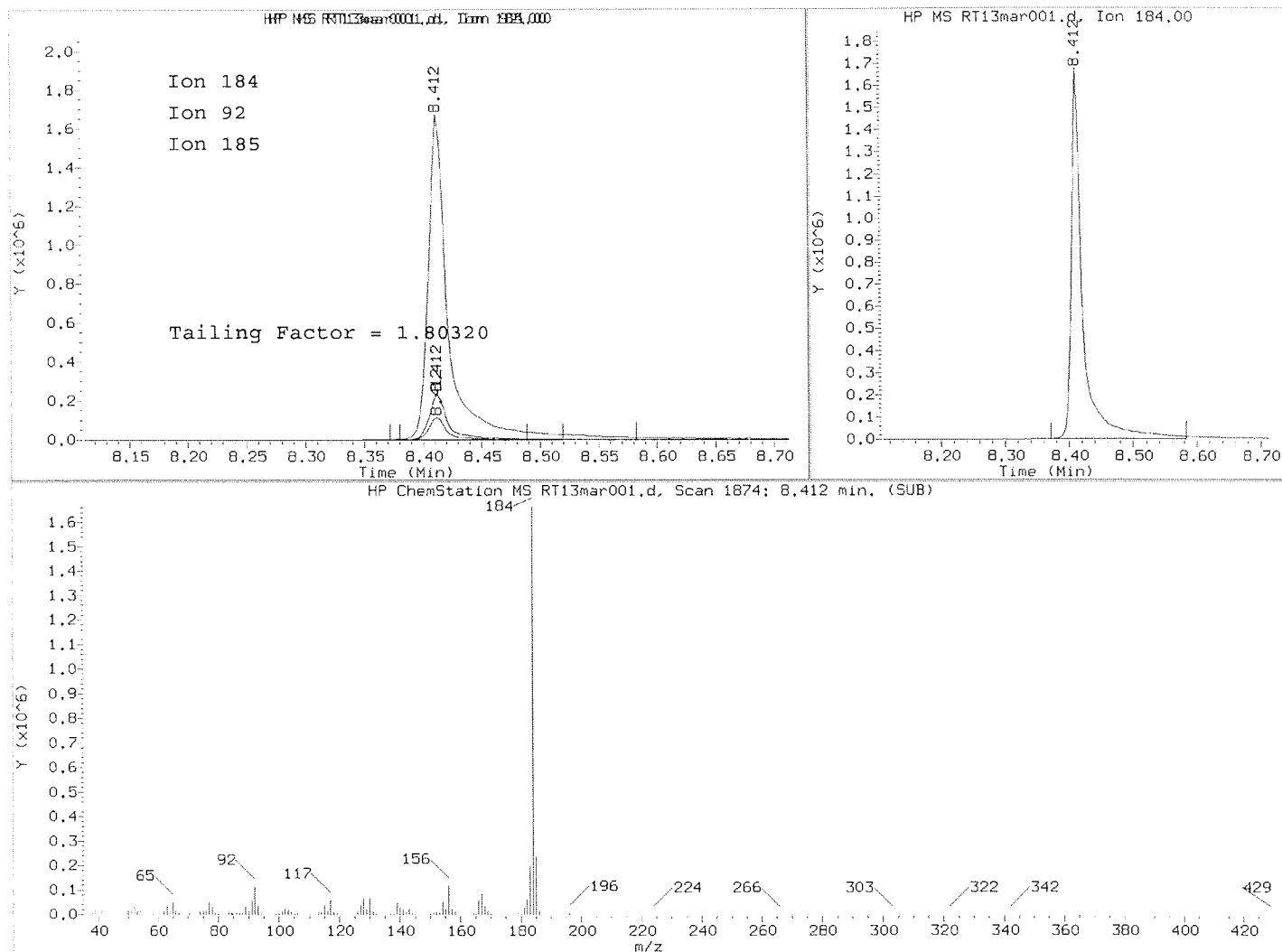
Peak baseline front width (sec) : 0.610
 Peak baseline tail width (sec) : 0.915
 Tail Factor = 0.915 / 0.610

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.500 Maximum Allowed = 3.0

Report Generated Time Mon Mar 13 14:56:03 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 10:50 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d/resolut.m
 Last Update : 13-MAR-2017 14:55



Benzidine

=====

Exp. RT = 8.565

Found RT = 8.412

Mass	Area	Ratio
184	2056132	100.00
92	134562	6.54
185	279715	13.60

Peak baseline front width (sec) : 0.813

Peak baseline tail width (sec) : 1.466

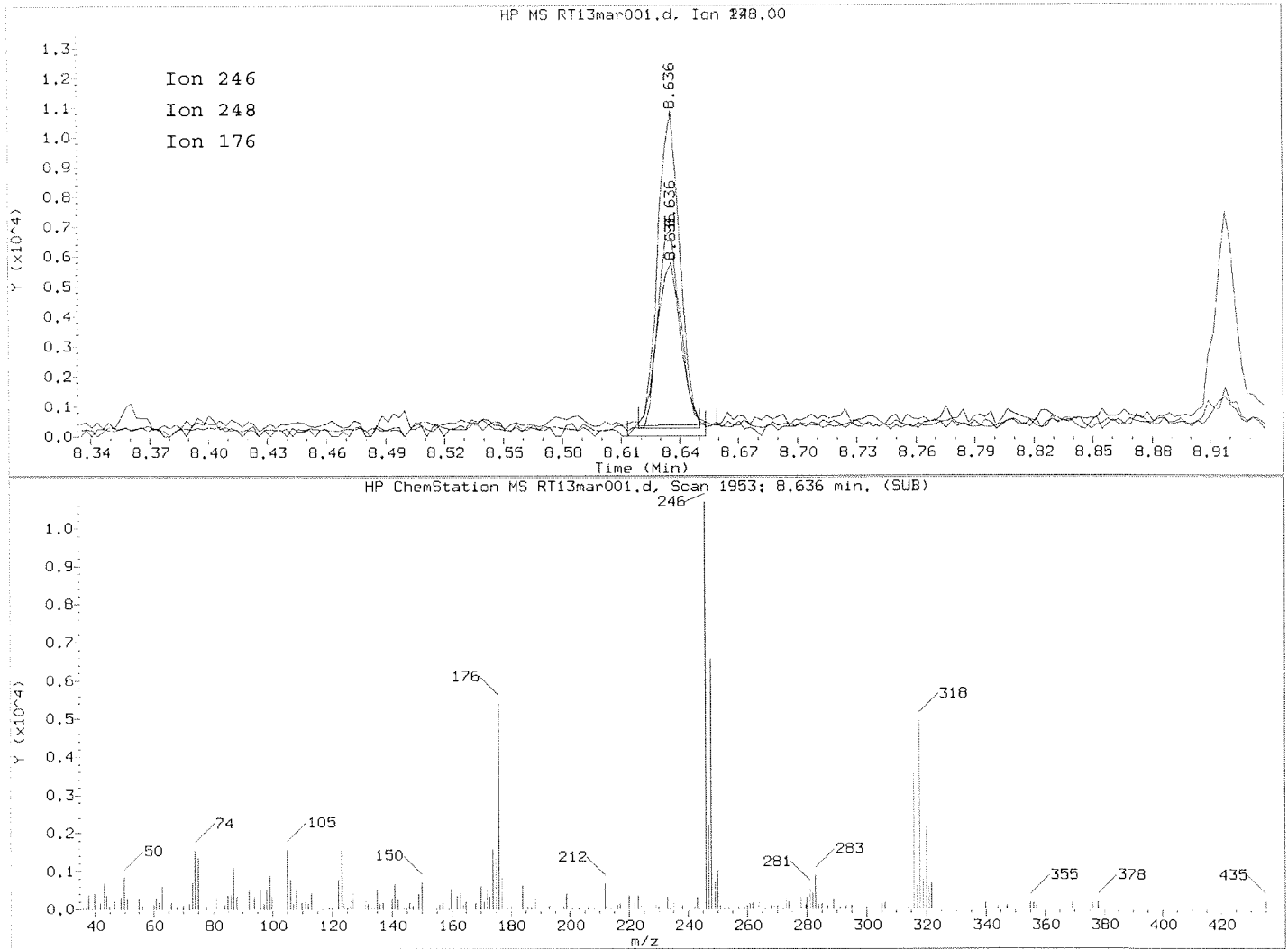
Tail Factor = 1.466/ 0.813

Tailing factor for Benzidine OK

Tail Factor = 1.803 Maximum Allowed = 3.0

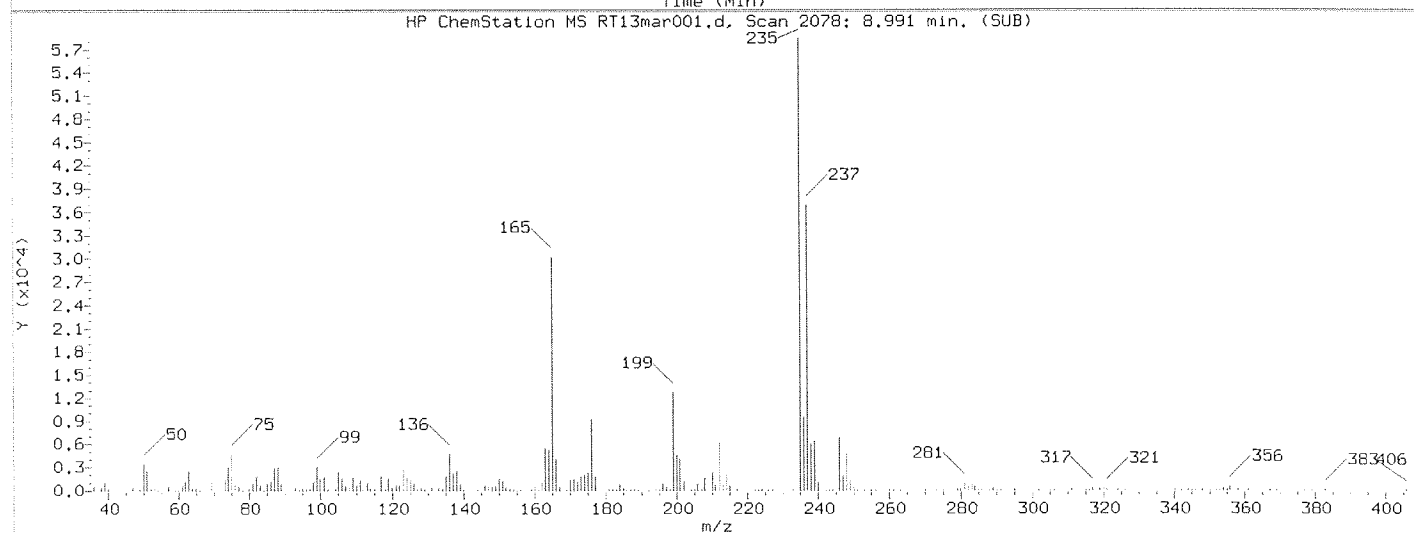
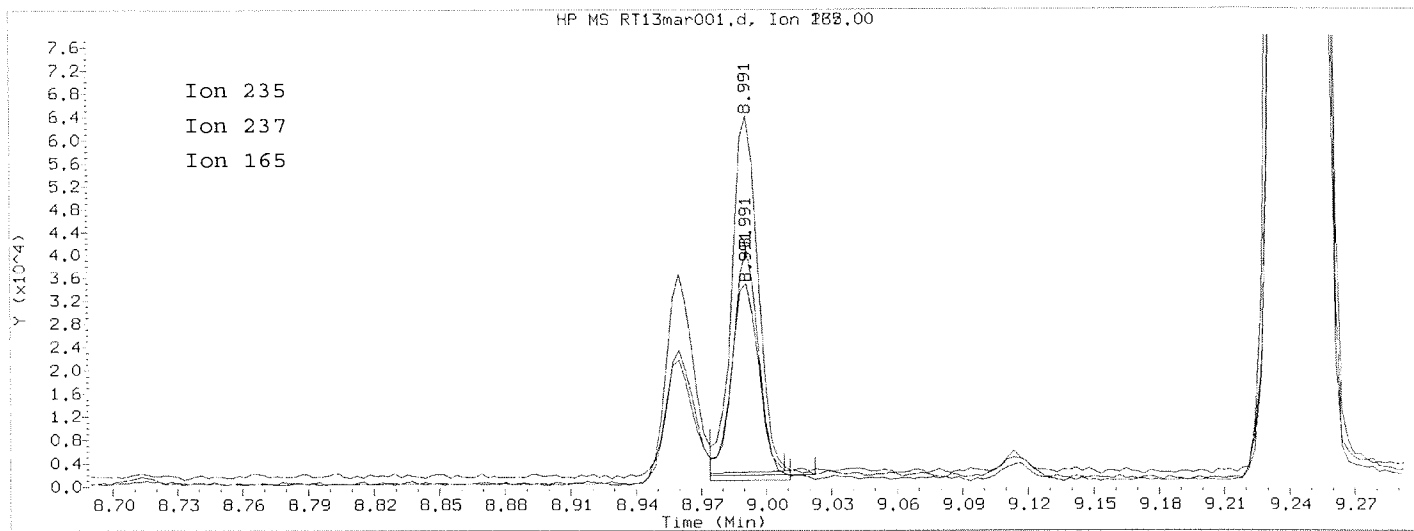
Report Generated Time Mon Mar 13 14:56:03 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 10:50 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d/resolut.m
 Last Update : 13-MAR-2017 14:55



Report Generated Time Mon Mar 13 14:56:03 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 10:50 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d/resolut.m
 Last Update : 13-MAR-2017 14:55



4,4'-DDD

=====

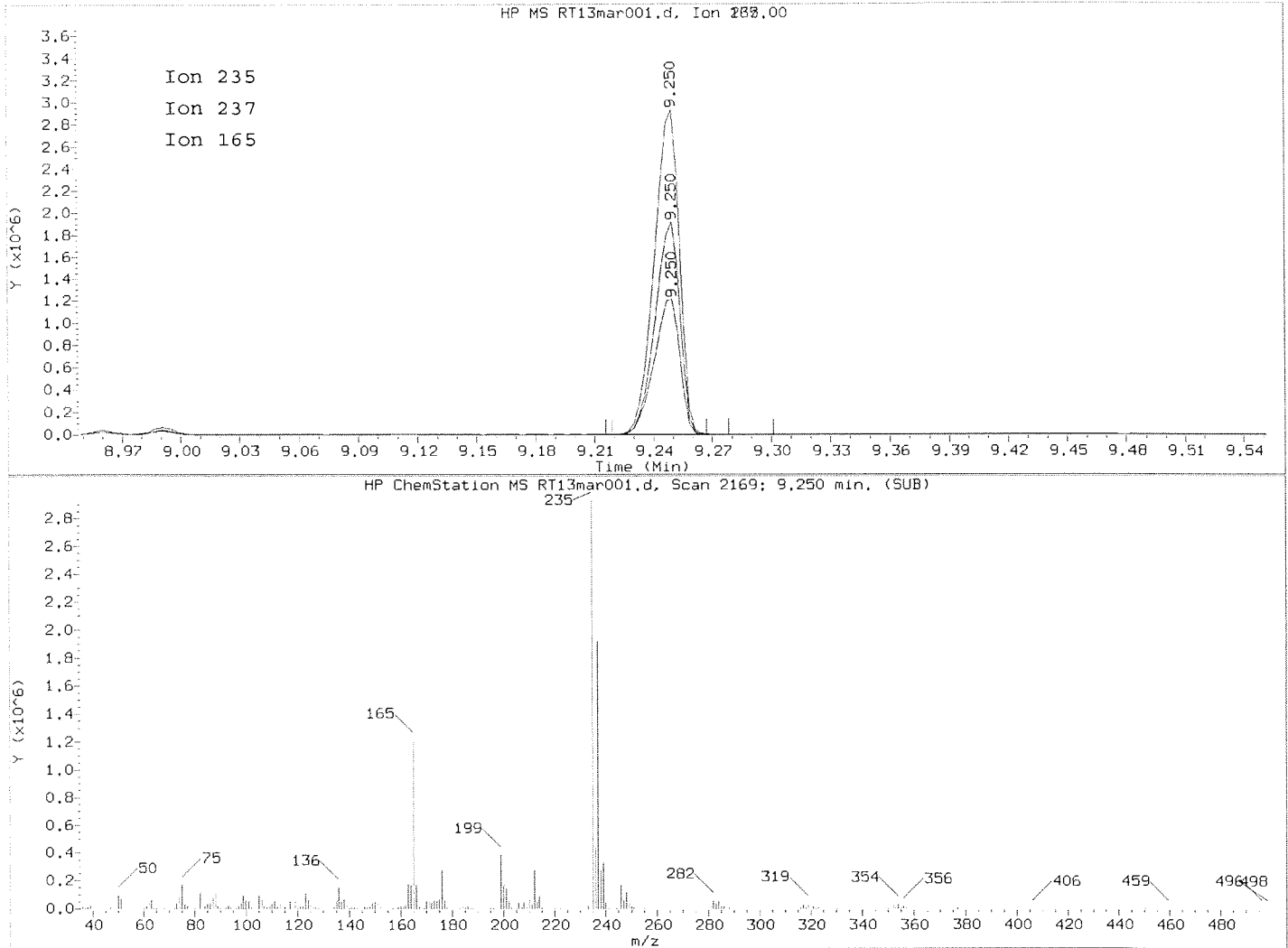
Exp. RT = 8.991

Found RT = 8.991

Mass	Area	Ratio
235	54109	100.00
237	34225	63.25
165	28483	52.64

Report Generated Time Mon Mar 13 14:56:03 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 10:50 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar001.d/resolut.m
 Last Update : 13-MAR-2017 14:55



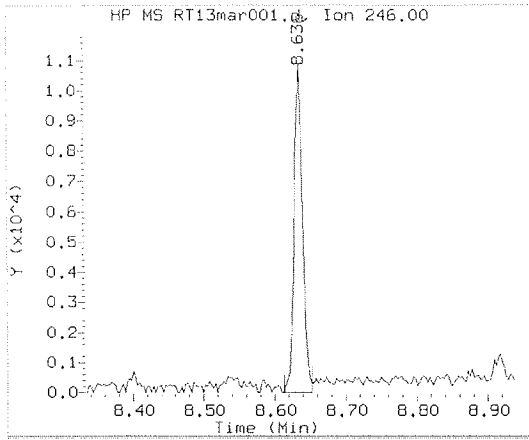
4,4'-DDT

=====

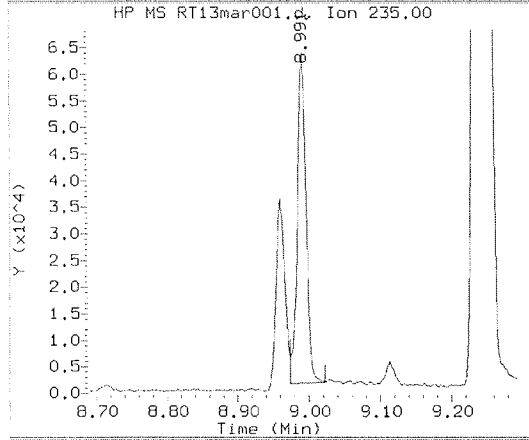
Exp. RT = 9.395

Found RT = 9.250

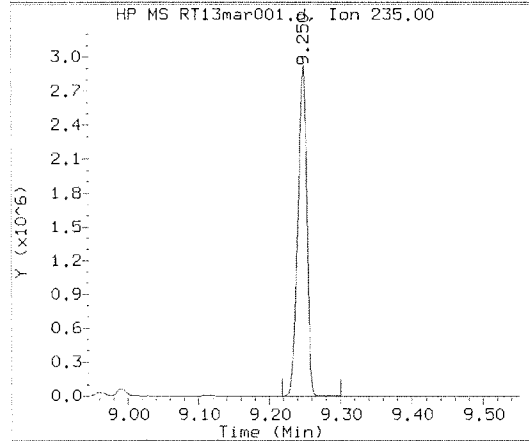
Mass	Area	Ratio
235	2624611	100.00
237	1692228	64.48
165	1118106	42.60



Compound: 4,4'-DDE
 Quant Mass: 246
 RT: 8.636
 Area: 9077



Compound: 4,4'-DDD
 Quant Mass: 235
 RT: 8.991
 Area: 54109



Compound: 4,4'-DDT
 Quant Mass: 235
 RT: 9.250
 Area: 2624611

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2624611			N/A
4,4-DDE	9077	0.34	20.0	PASS
4,4-DDD	54109	2.02	20.0	PASS
4,4-DDD + DDE	63186	2.4	20.0	PASS

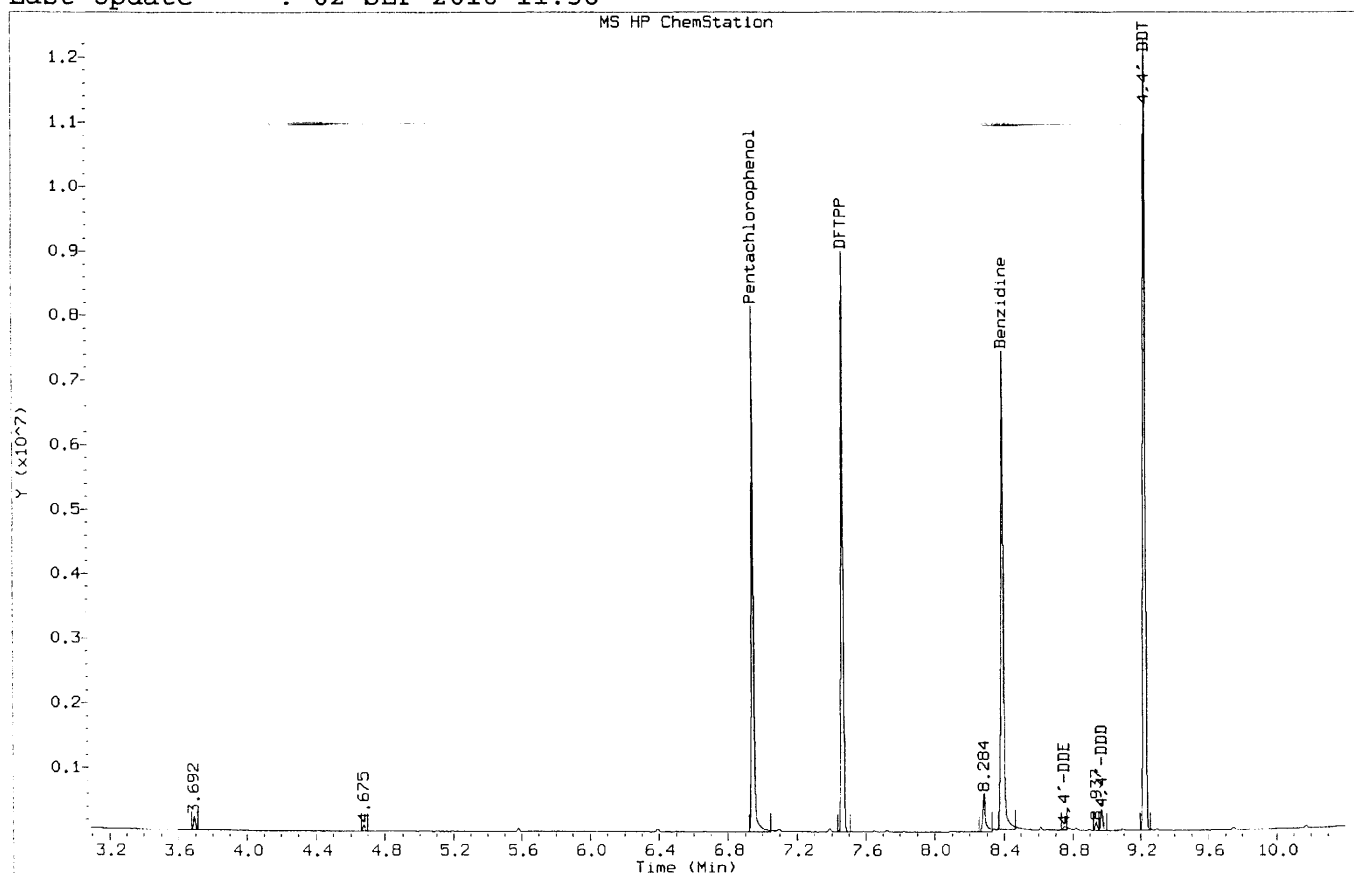
TUNE SAMPLE *****
 *** PASSED *** DDT BREAKDOWN TEST

Report Generated Time Mon Mar 13 14:34:55 2017

```

Data File       : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d
ALS Vial       : 1
Acq on         : 13-MAR-2017 14:16
Sample         : DFTPP S101716A
Misc          :
Integrator Type : HP RTE
Last Update    : 02-SEP-2016 11:58
Operator       : 907
Inst          : GCMS_AAA
Multiplier    : 1

```

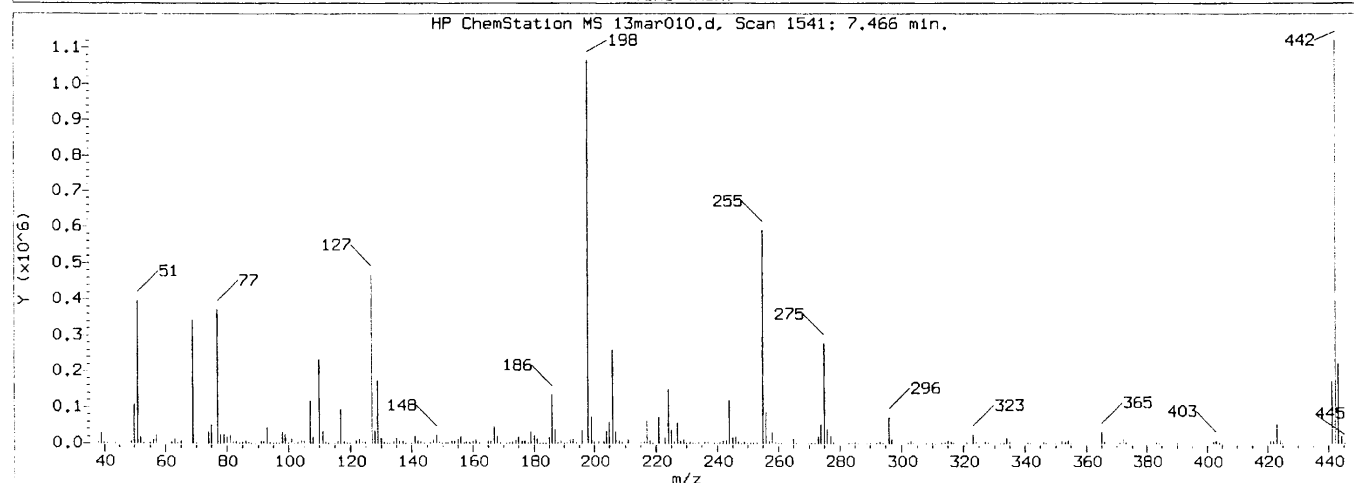
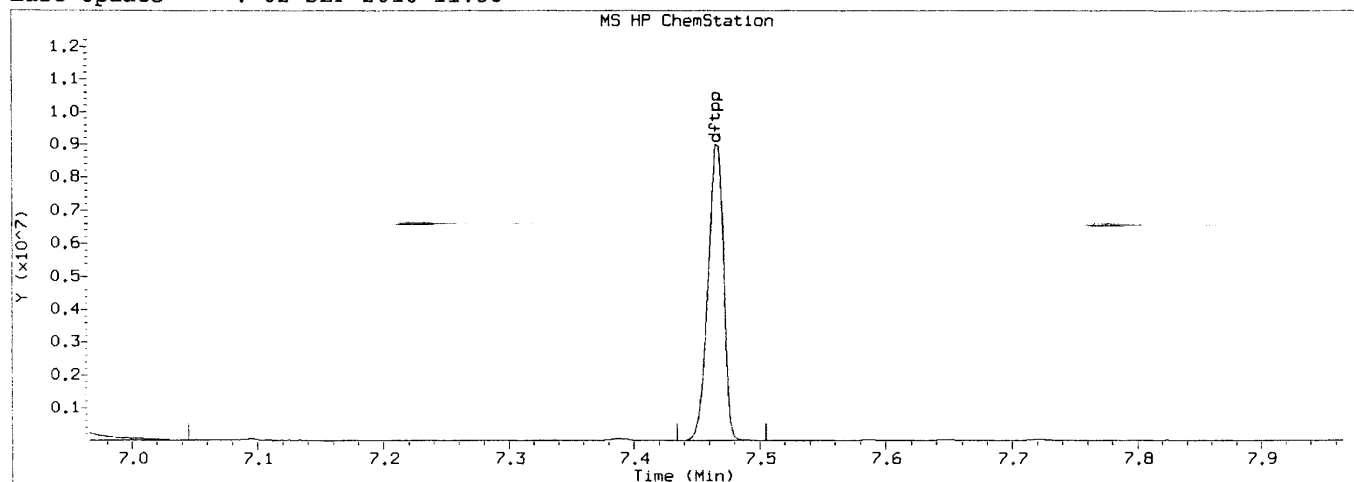


```
Tune *** PASSED ***
Pentachlorophenol Tailing *** PASSED ***
Benzidine Tailing *** PASSED ***
DDT degradation *** PASSED ***
```

Tuning Sample, /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d ,*** PASSED ***

Report Generated Time Mon Mar 13 14:34:55 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d
 ALS Vial : 1
 Acq on : 13-MAR-2017 14:16 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/dftpptune.m
 Last Update : 02-SEP-2016 11:58



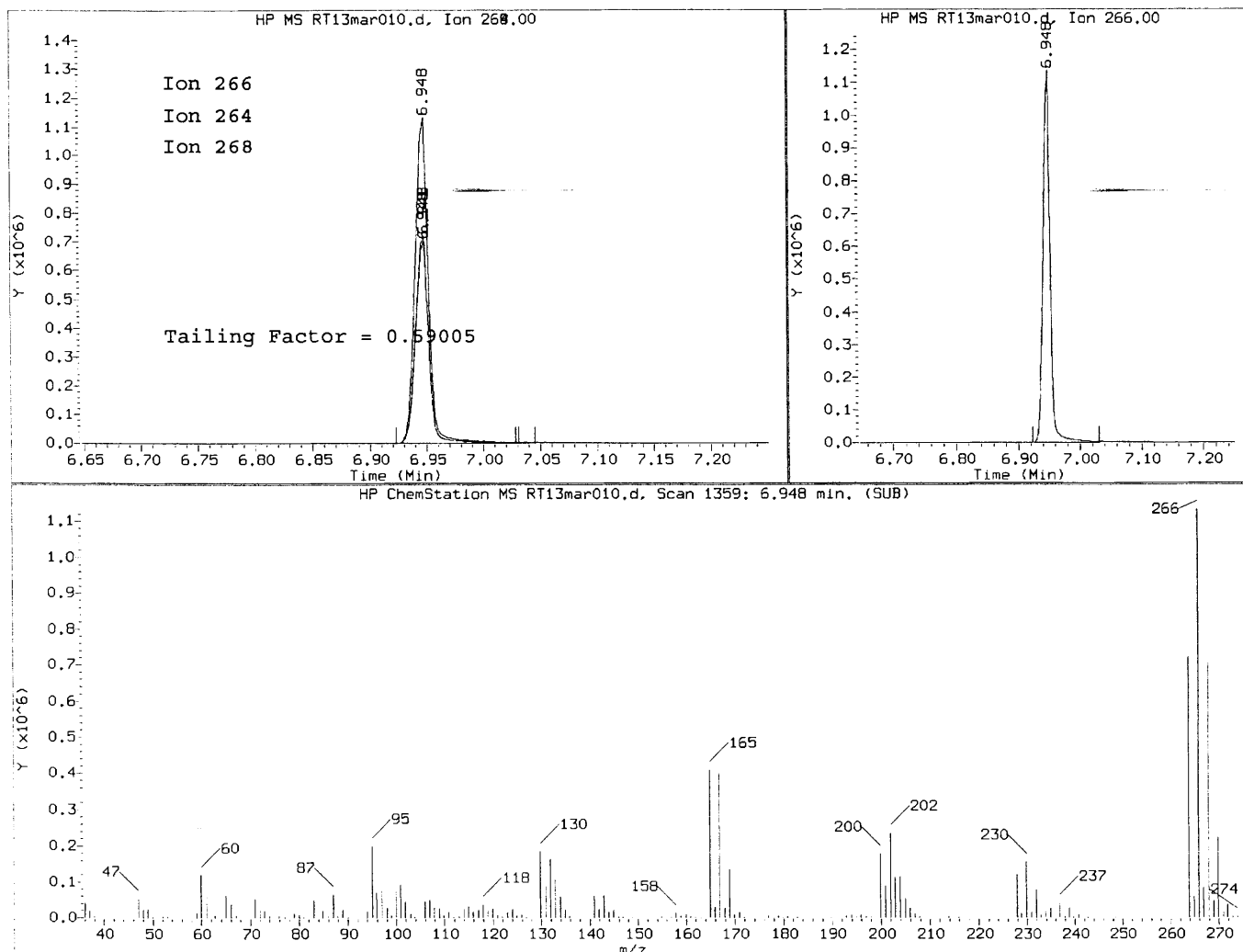
DFTPP Ion Abundance/RatioCriteria Chart

Ion	Abundance Criteria	Base Peak	Response	Test
198	Base Peak, 100% relative abundance	100.00	1004202	PASS
51	30 - 60% of mass 198	36.93	370875	PASS
68	Less than 2% of mass 69	0.00	0	PASS
69	Less than mass 198	32.13	322666	PASS
70	Less than 2% of mass 69	0.50	1619	PASS
127	40 - 60% of mass 198	43.76	439424	PASS
197	0 - 1% of mass 198	0.00	0	PASS
199	5 - 9% of mass 198	6.88	69098	PASS
275	10 - 30% of mass 198	26.15	262613	PASS
365	1 - 100% of mass 198	2.95	29634	PASS
441	Present, but less than mass 443	78.45	161962	PASS
442	40 - 200% of mass 198	104.85	1052906	PASS
443	17 - 23% of mass 442	19.61	206442	PASS

Report Generated Time Mon Mar 13 14:34:55 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 14:16
 Sample : DFTPP S101716A
 Misc :
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d/resolut.m
 Last Update : 13-MAR-2017 14:33

Operator : 907
 Inst : GCMS_AAA
 Multiplier : 1⁻



Pentachlorophenol

=====
 Exp. RT = 7.110
 Found RT = 6.948

Mass	Area	Ratio
266	913684	100.00
264	584406	63.96
268	566684	62.02

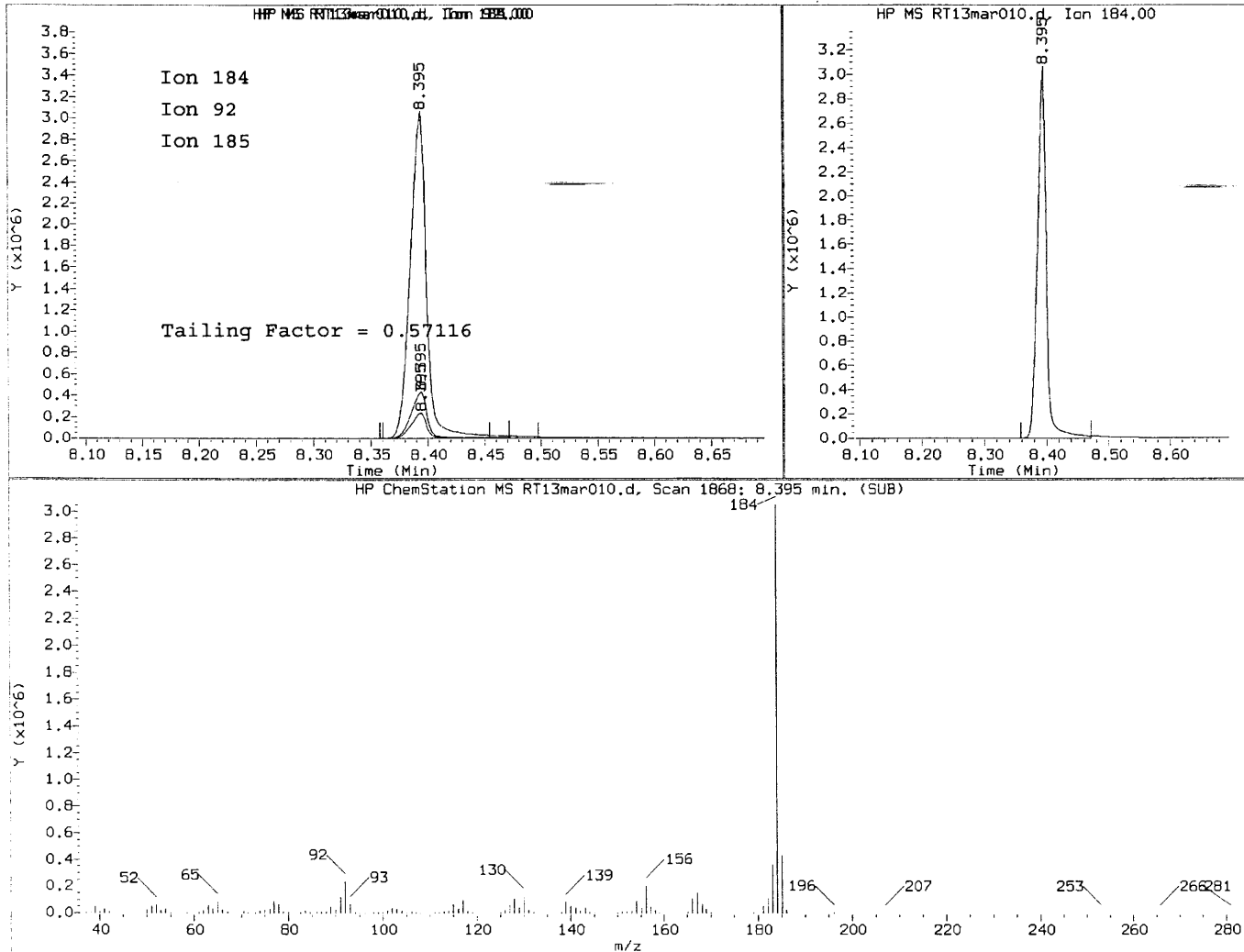
Peak baseline front width (sec) : 0.844
 Peak baseline tail width (sec) : 0.498
 Tail Factor = 0.498 / 0.844

Tailing factor for Pentachlorophenol OK

Tail Factor = 0.590 Maximum Allowed = 3.0

Report Generated Time Mon Mar 13 14:34:55 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 14:16 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d/resolut.m
 Last Update : 13-MAR-2017 14:33



Benzidine

=====

Exp. RT = 8.565
 Found RT = 8.395

Mass	Area	Ratio
184	3047845	100.00
92	228654	7.50
185	435001	14.27

Peak baseline front width (sec) : 1.068
 Peak baseline tail width (sec) : 0.610
 Tail Factor = 0.610/ 1.068

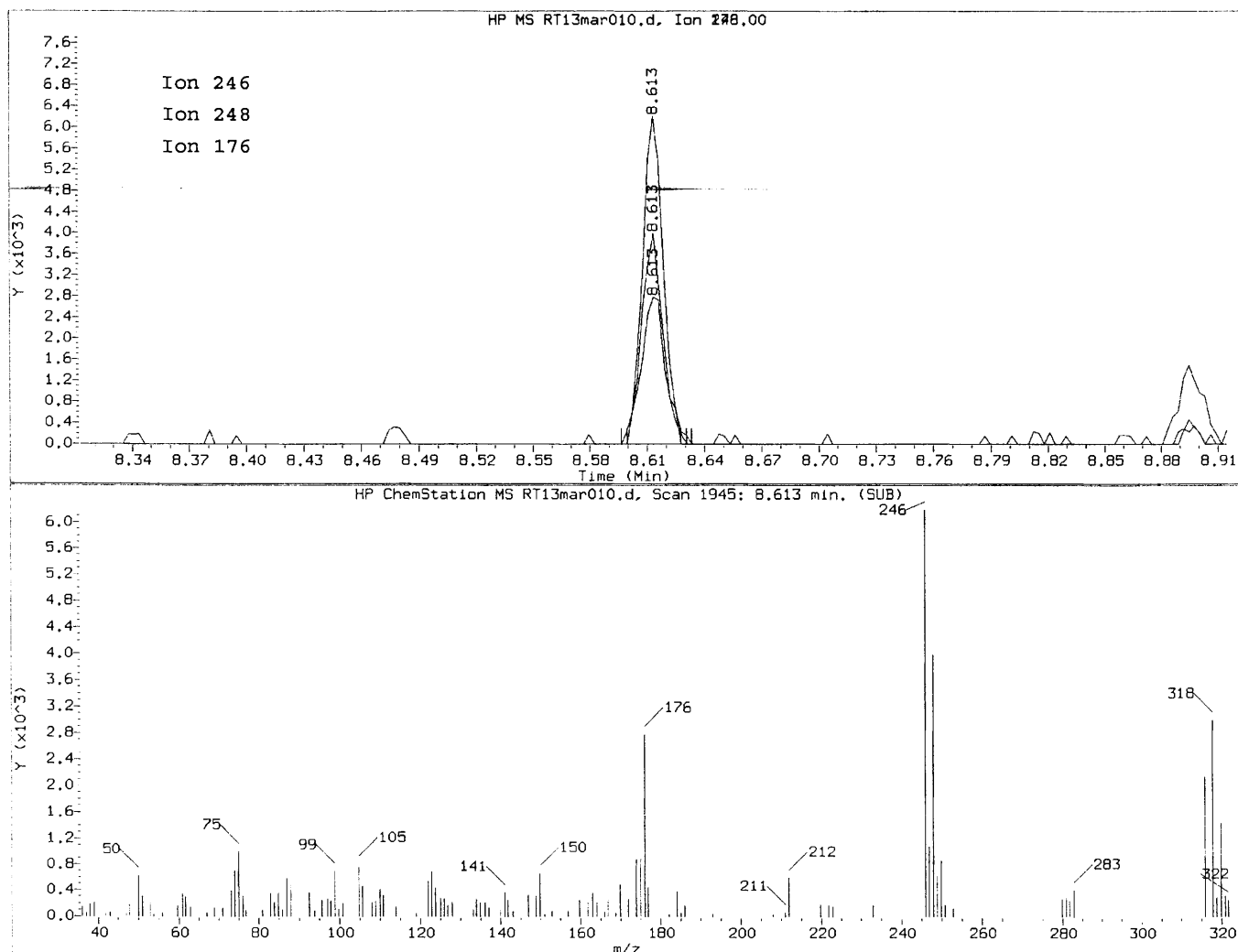
Tailing factor for Benzdine OK

Tail Factor = 0.571 Maximum Allowed = 3.0

Report Generated Time Mon Mar 13 14:34:55 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 14:16
 Sample : DFTPP S101716A
 Misc :
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d/resolut.m
 Last Update : 13-MAR-2017 14:33

Operator : 907
 Inst : GCMS_AAA
 Multiplier : 1⁻



4,4'-DDE

=====

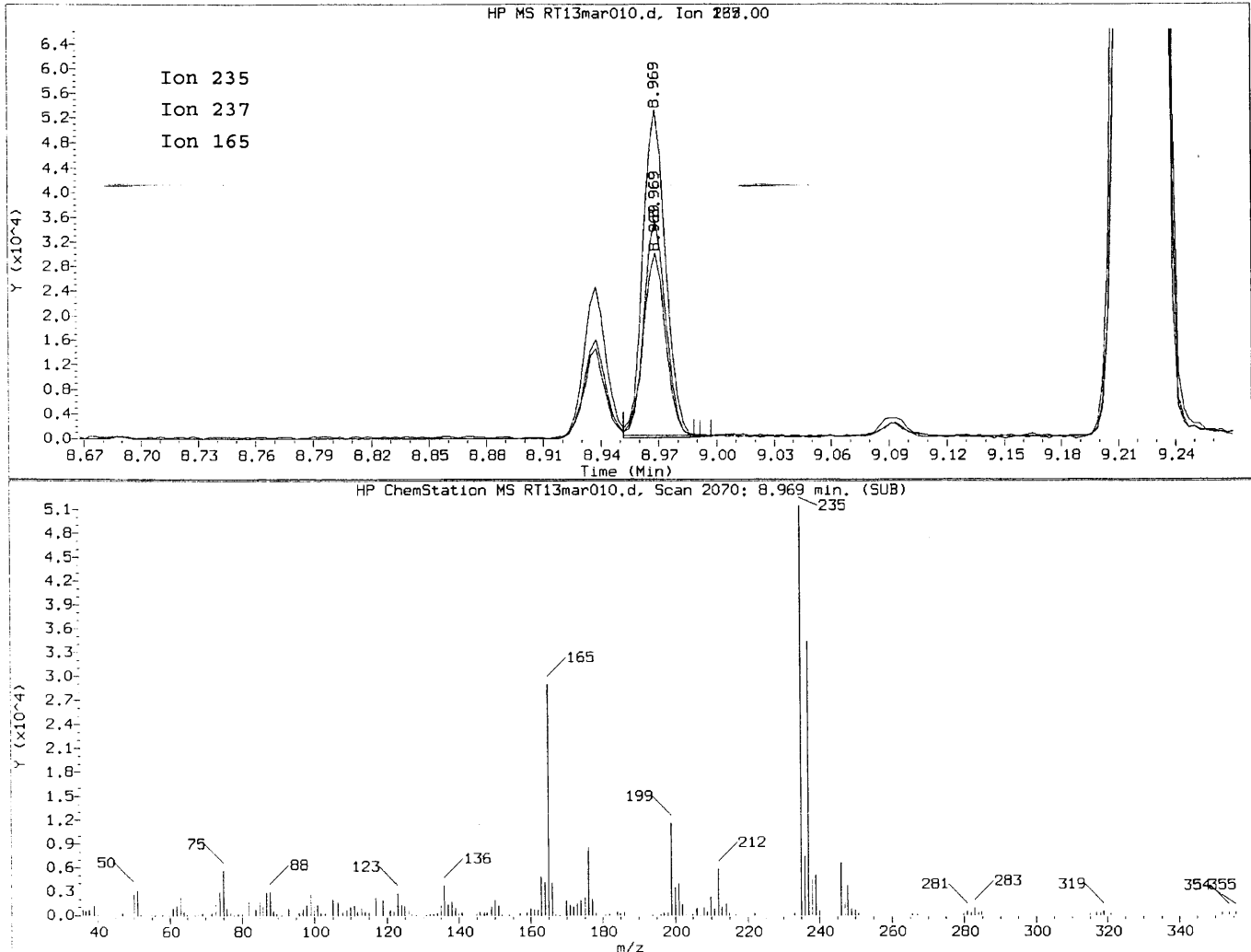
Exp. RT = 8.522

Found RT = 8.613

Mass	Area	Ratio
246	4873	100.00
248	3125	64.13
176	2417	49.61

Report Generated Time Mon Mar 13 14:34:55 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 14:16
 Sample : DFTPP S101716A
 Misc :
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d/resolut.m
 Last Update : 13-MAR-2017 14:33
 Operator : 907
 Inst : GCMS_AAA
 Multiplier : 1⁻



4,4'-DDD

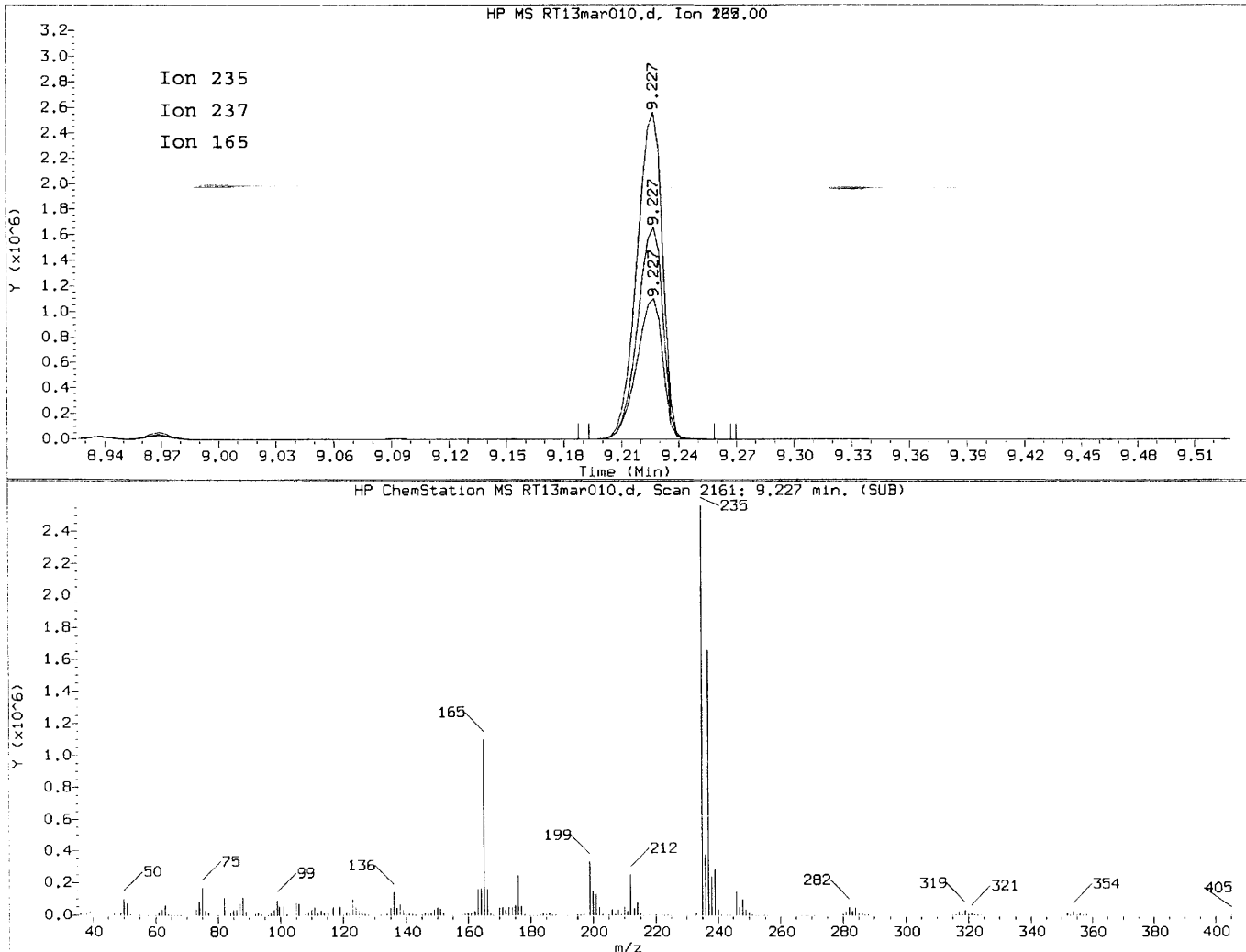
=====

Exp. RT = 8.875
 Found RT = 8.969

Mass	Area	Ratio
235	44885	100.00
237	28720	63.99
165	23976	53.42

Report Generated Time Mon Mar 13 14:34:55 2017

Data File : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d
 ALS Vial : 3
 Acq on : 13-MAR-2017 14:16 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170313.b/13mar010.d/resolut.m
 Last Update : 13-MAR-2017 14:33



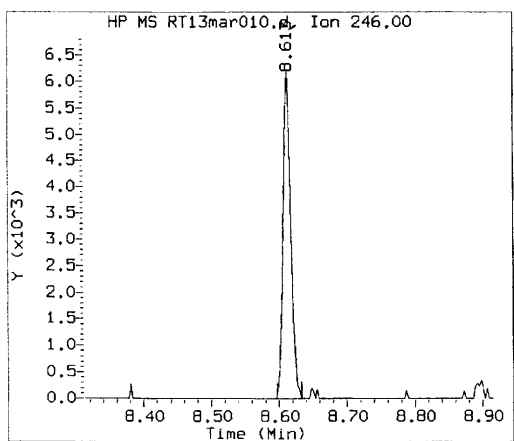
4,4'-DDT

=====

Exp. RT = 9.395

Found RT = 9.227

Mass	Area	Ratio
235	2403086	100.00
237	1546943	64.37
165	1048928	43.65

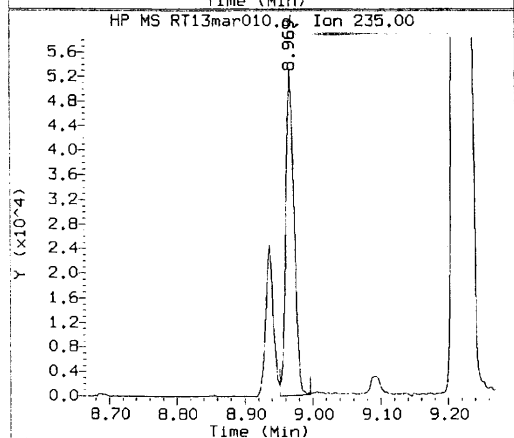


Compound: 4,4'-DDE

Quant Mass: 246

RT: 8.613

Area: 4873

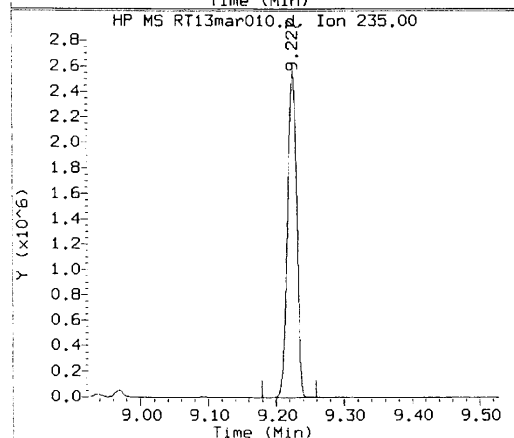


Compound: 4,4'-DDD

Quant Mass: 235

RT: 8.969

Area: 44885



Compound: 4,4'-DDT

Quant Mass: 235

RT: 9.227

Area: 2403086

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

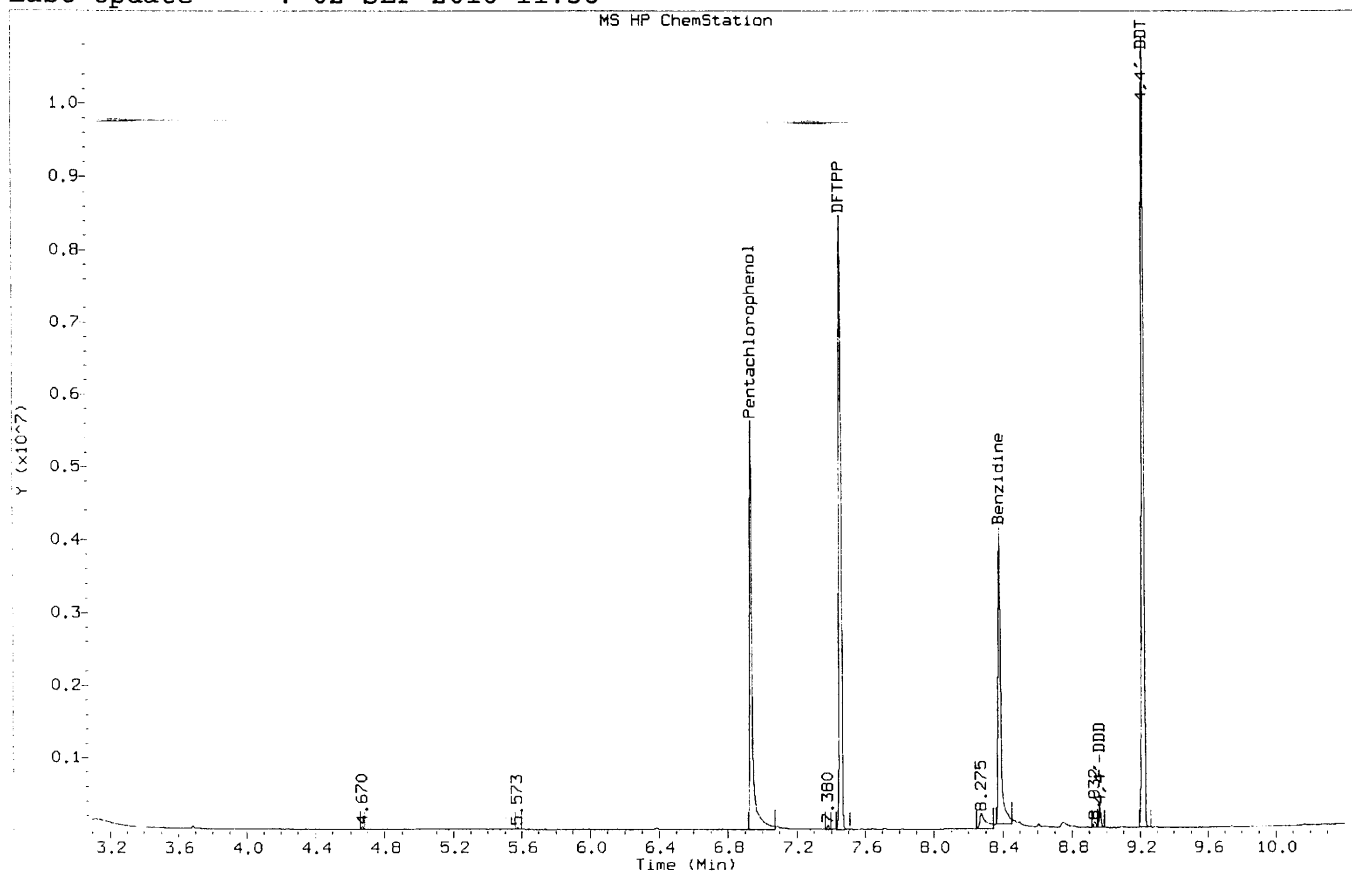
Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2403086			N/A
4,4-DDE	4873	0.20	20.0	PASS
4,4-DDD	44885	1.83	20.0	PASS
4,4-DDD + DDE	49758	2.0	20.0	PASS

 TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST

DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Tue Mar 14 10:56:43 2017

Data File : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d
ALS Vial : 36
Acq on : 14-MAR-2017 10:36 Operator : 907
Sample : DFTPP S101716A Inst : GCMS_AAA
Misc : Multiplier : 1
Integrator Type : HP RTE
Last Update : 02-SEP-2016 11:58

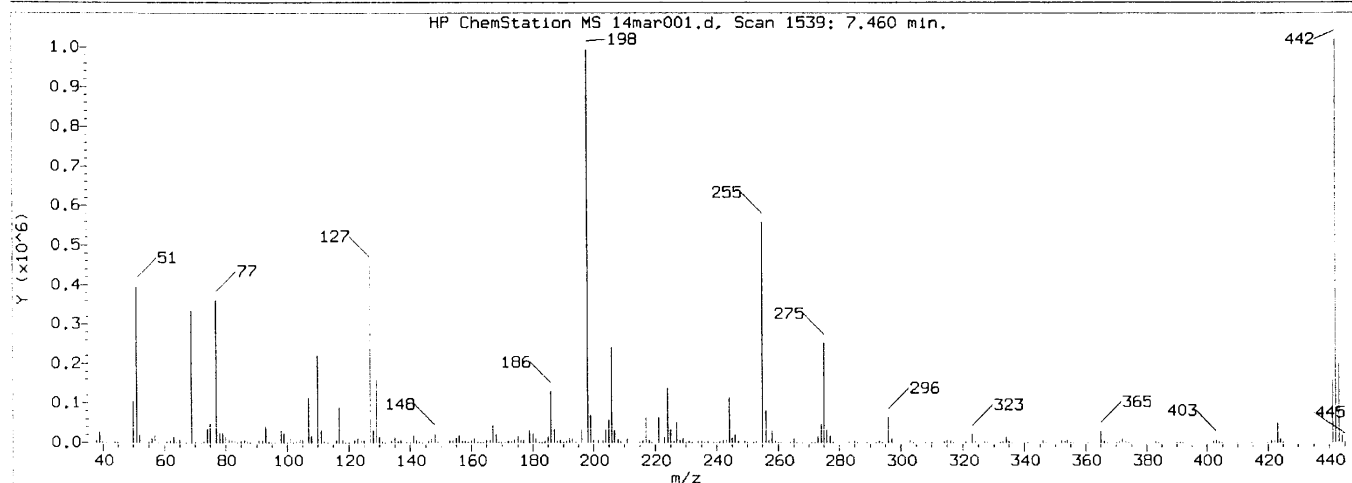
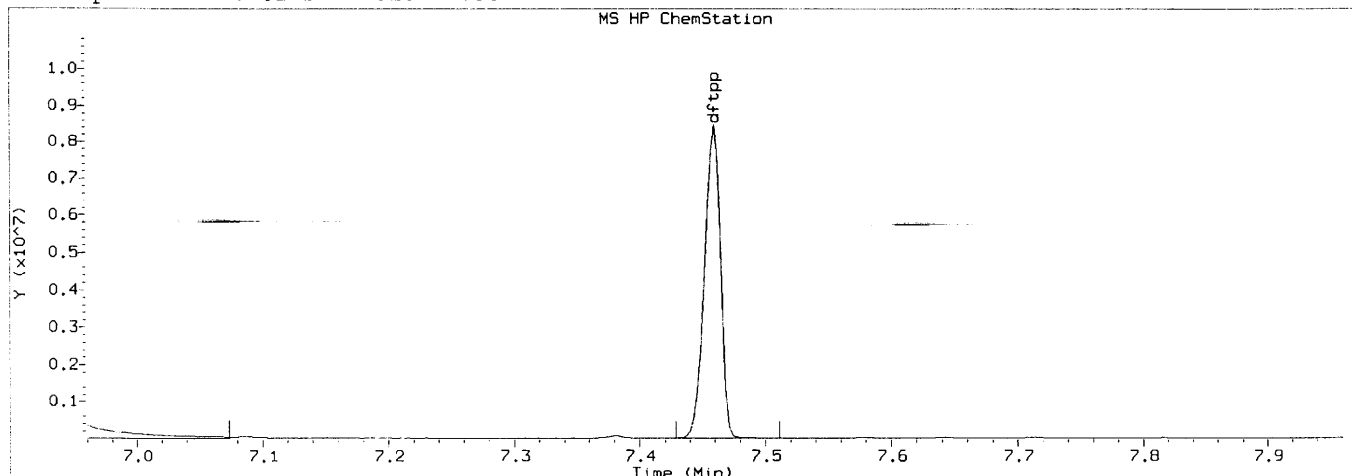


Tune *** PASSED ***
Pentachlorophenol Tailing *** PASSED ***
Benzidine Tailing *** PASSED ***
DDT degradation *** PASSED ***

Tuning Sample, /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d , *** PASSED ***

Report Generated Time Tue Mar 14 10:56:43 2017

Data File : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d
 ALS Vial : 36
 Acq on : 14-MAR-2017 10:36 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS AAA
 Misc : Multiplier : 1⁻
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170314.b/dftpptune.m
 Last Update : 02-SEP-2016 11:58

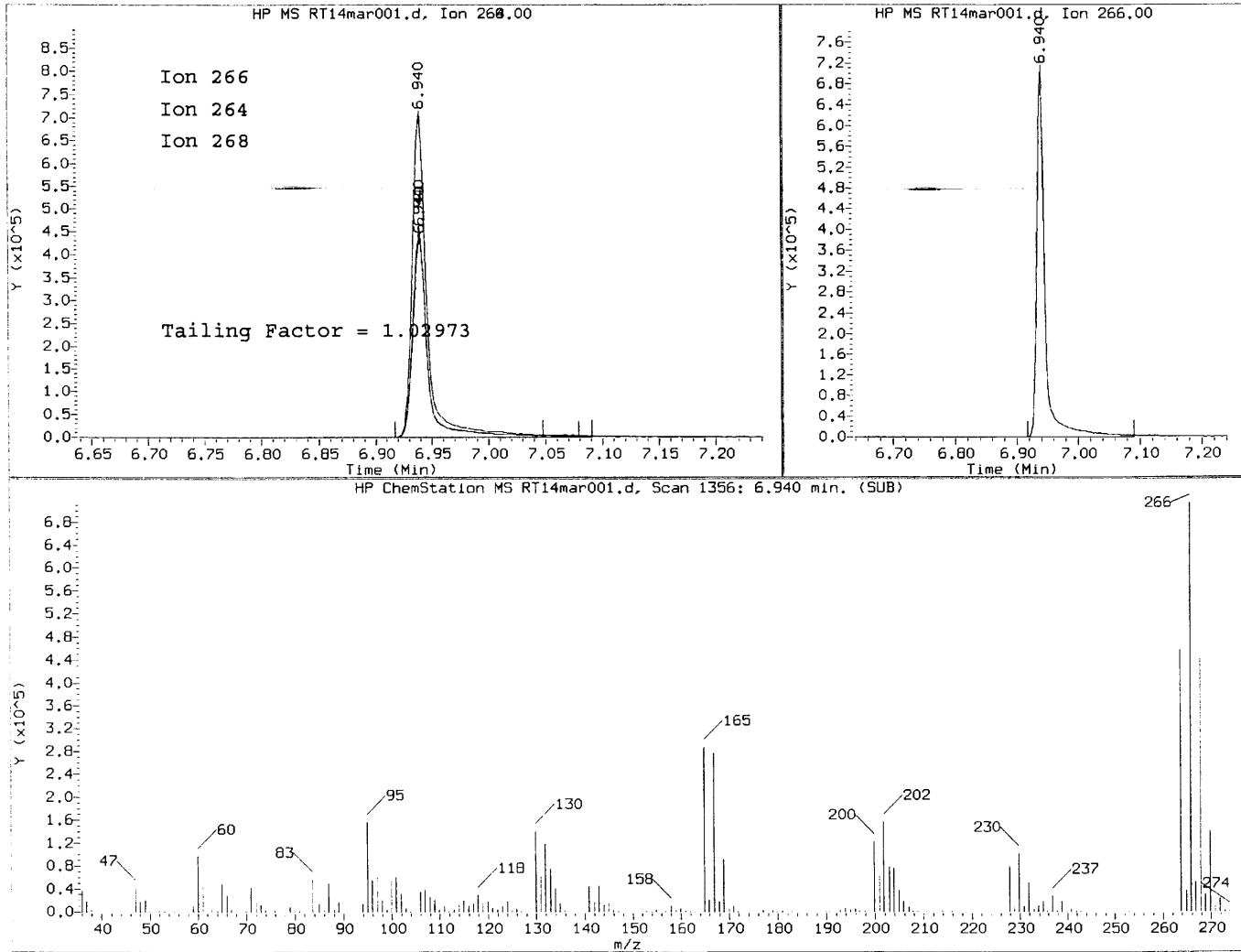


DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Response	Test
198	Base Peak, 100% relative abundance	100.00	920597	PASS
51	30 - 60% of mass 198	39.76	366033	PASS
68	Less than 2% of mass 69	0.00	0	PASS
69	Less than mass 198	33.51	308484	PASS
70	Less than 2% of mass 69	0.54	1674	PASS
127	40 - 60% of mass 198	44.33	408128	PASS
197	0 - 1% of mass 198	0.00	0	PASS
199	5 - 9% of mass 198	6.90	63517	PASS
275	10 - 30% of mass 198	25.58	235456	PASS
365	1 - 100% of mass 198	2.92	26861	PASS
441	Present, but less than mass 443	78.44	145416	PASS
442	40 - 200% of mass 198	102.69	945365	PASS
443	17 - 23% of mass 442	19.61	185386	PASS

Report Generated Time Tue Mar 14 10:56:43 2017

Data File : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d
 ALS Vial : 3
 Acq on : 14-MAR-2017 10:36 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d/resolut.m
 Last Update : 14-MAR-2017 10:53



Pentachlorophenol

=====
 Exp. RT = 7.110
 Found RT = 6.940

Mass	Area	Ratio
266	667286	100.00
264	415158	62.22
268	407437	61.06

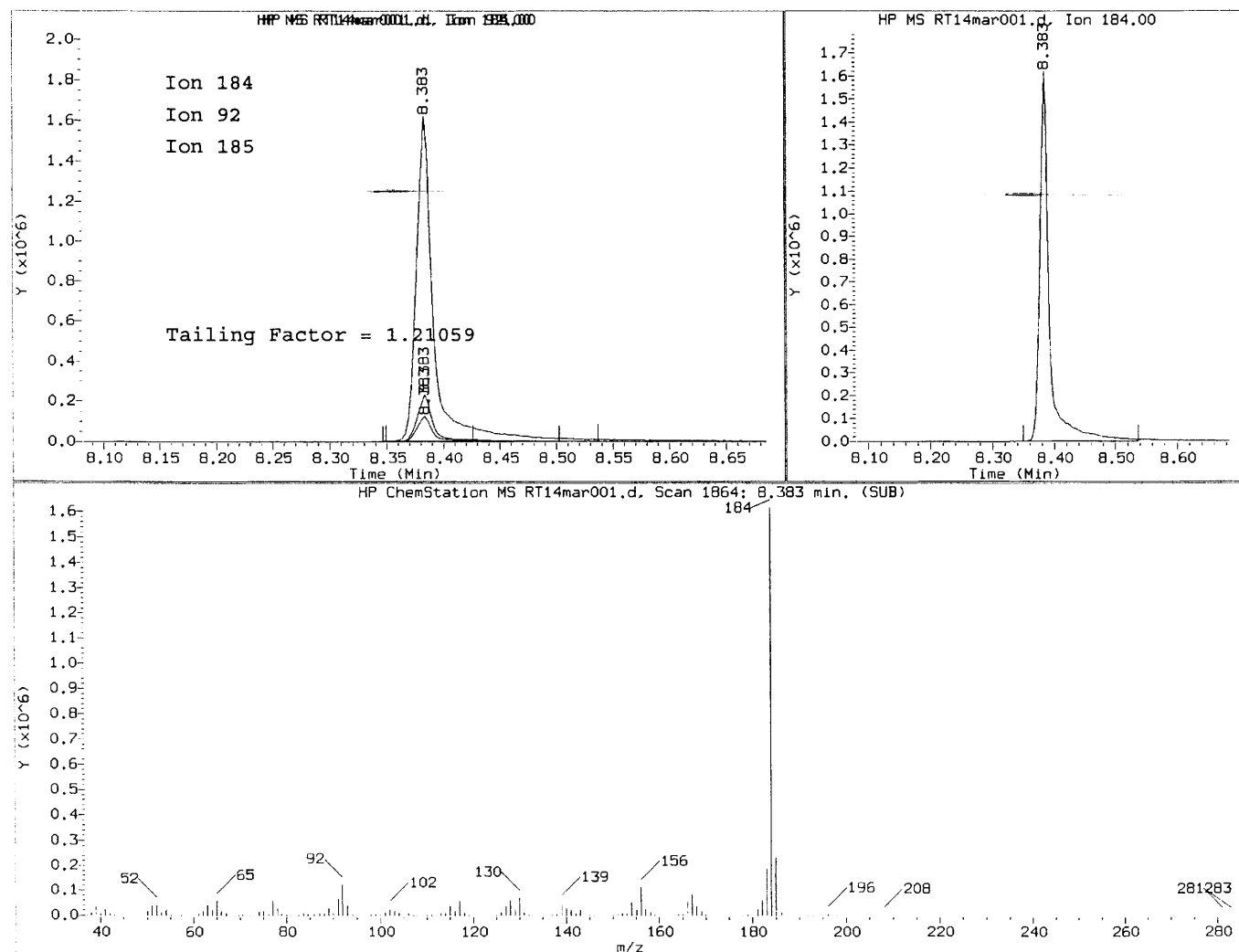
Peak baseline front width (sec) : 0.740
 Peak baseline tail width (sec) : 0.762
 Tail Factor = 0.762/ 0.740

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.030 Maximum Allowed = 3.0

Report Generated Time Tue Mar 14 10:56:43 2017

Data File : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d
 ALS Vial : 3
 Acq on : 14-MAR-2017 10:36 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d/resolut.m
 Last Update : 14-MAR-2017 10:53



Benzidine

=====

Exp. RT = 8.565

Found RT = 8.383

Mass	Area	Ratio
184	1763533	100.00
92	124152	7.04
185	242738	13.76

Peak baseline front width (sec) : 0.812

Peak baseline tail width (sec) : 0.983

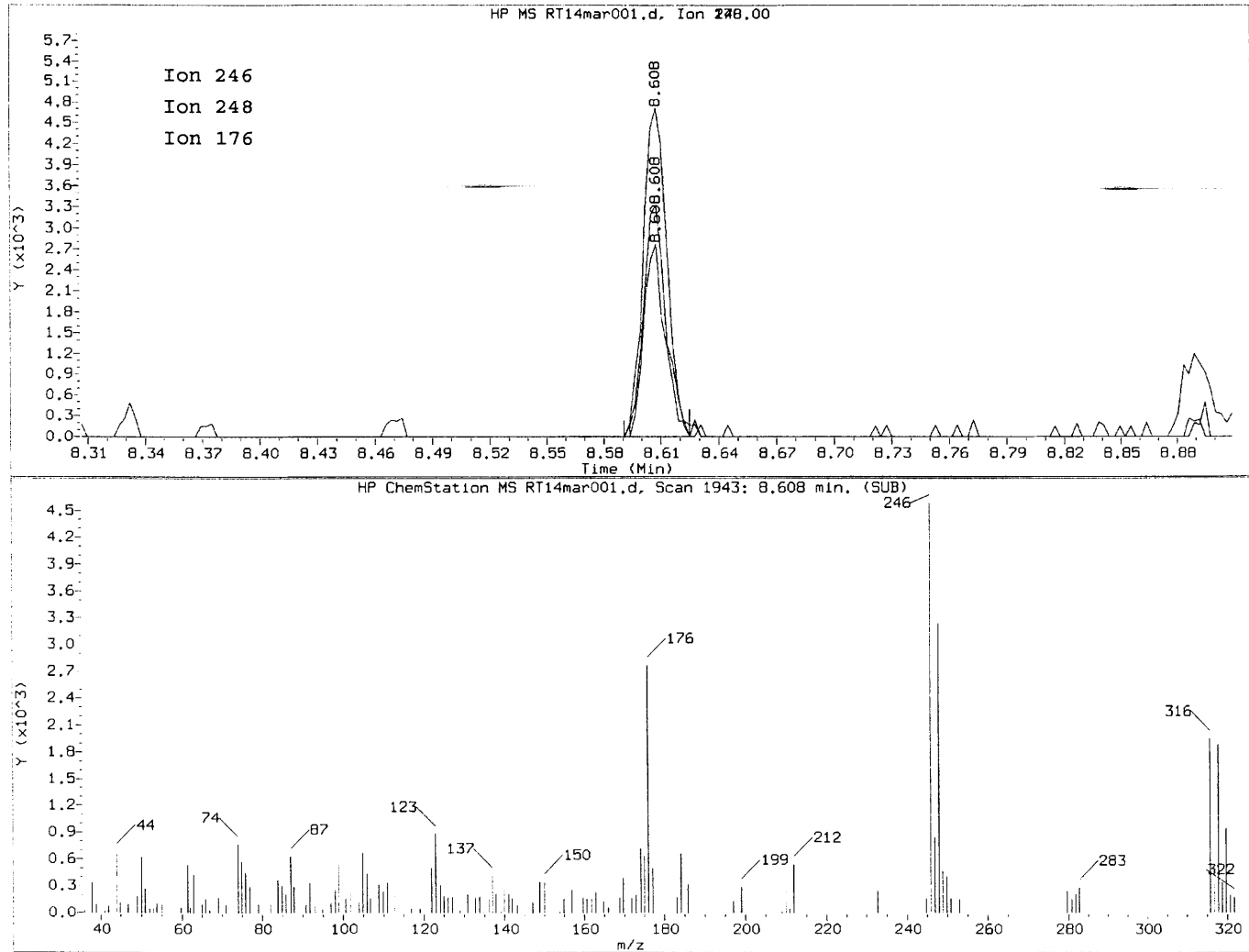
Tail Factor = 0.983/ 0.812

Tailing factor for Benzidine OK

Tail Factor = 1.211 Maximum Allowed = 3.0

Report Generated Time Tue Mar 14 10:56:43 2017

Data File : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d
 ALS Vial : 3
 Acq on : 14-MAR-2017 10:36 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS AAA
 Misc : Multiplier : 1⁻
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d/resolut.m
 Last Update : 14-MAR-2017 10:53



4,4'-DDE

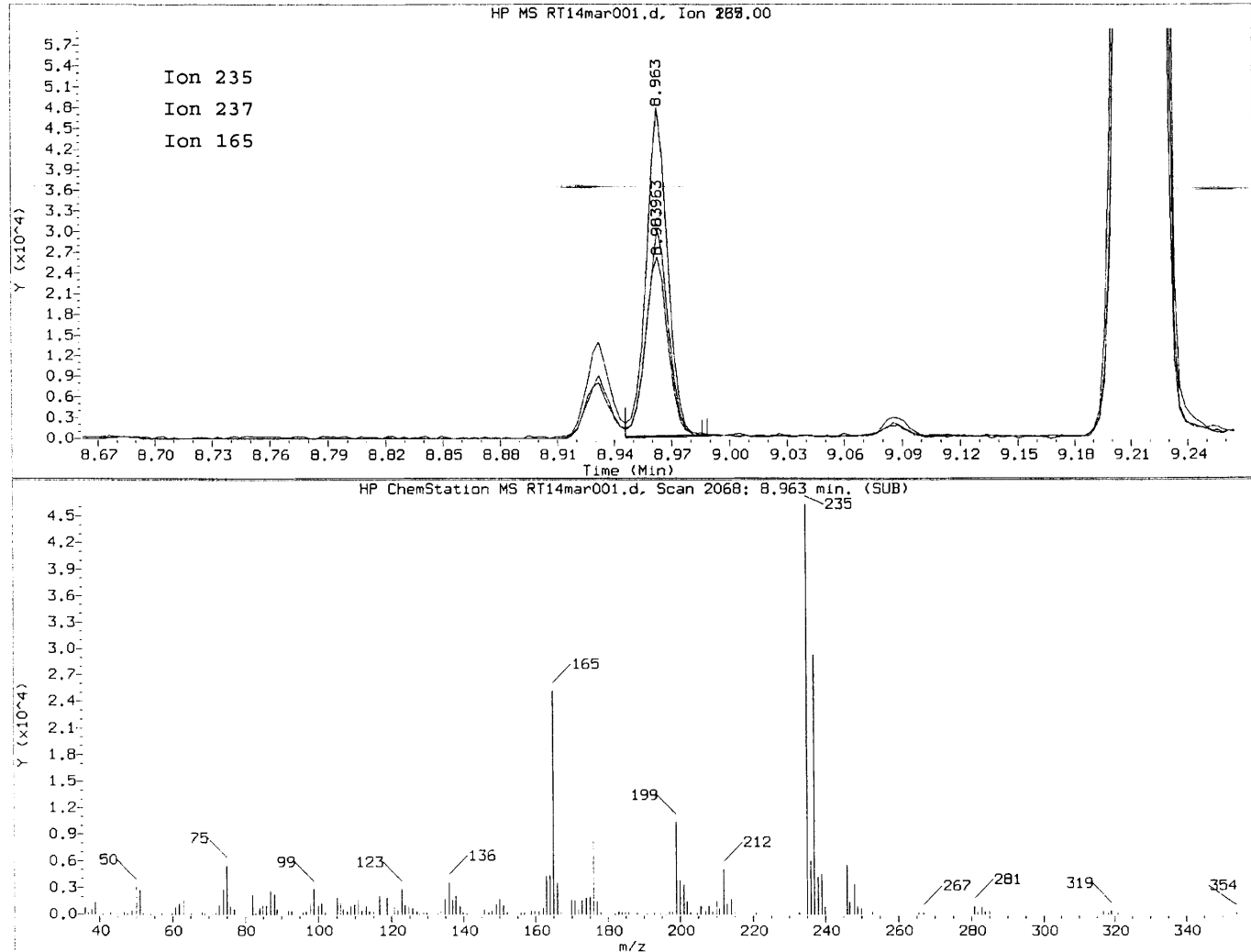
=====

Exp. RT = 8.636
 Found RT = 8.608

Mass	Area	Ratio
246	4116	100.00
248	2813	68.35
176	2199	53.44

Report Generated Time Tue Mar 14 10:56:43 2017

Data File : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d
 ALS Vial : 3
 Acq on : 14-MAR-2017 10:36 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d/resolut.m
 Last Update : 14-MAR-2017 10:53



4,4'-DDD

=====

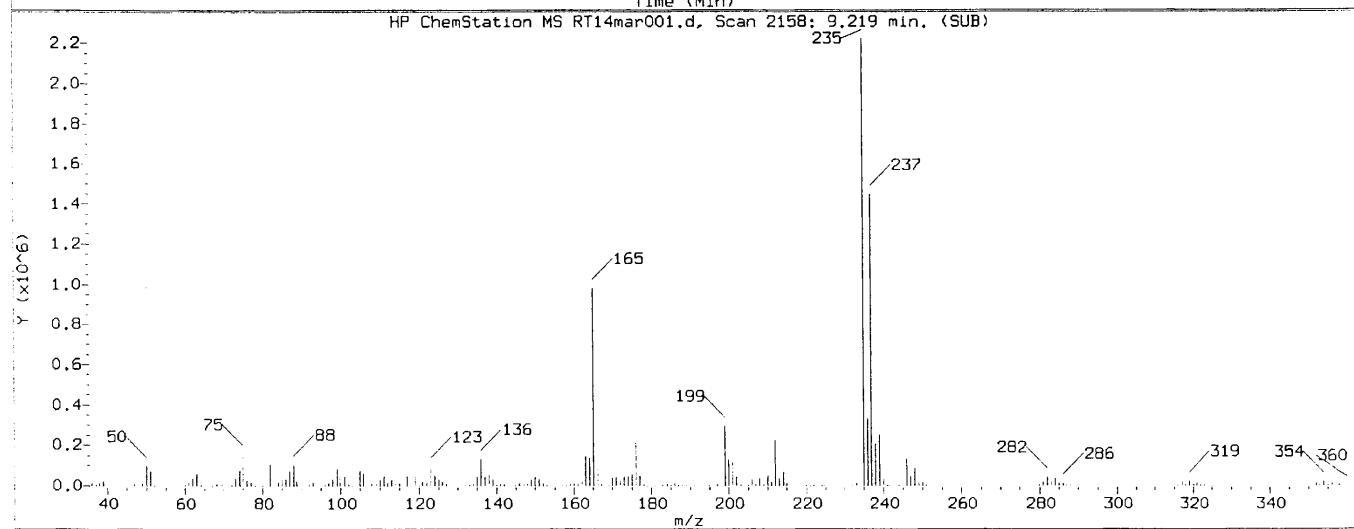
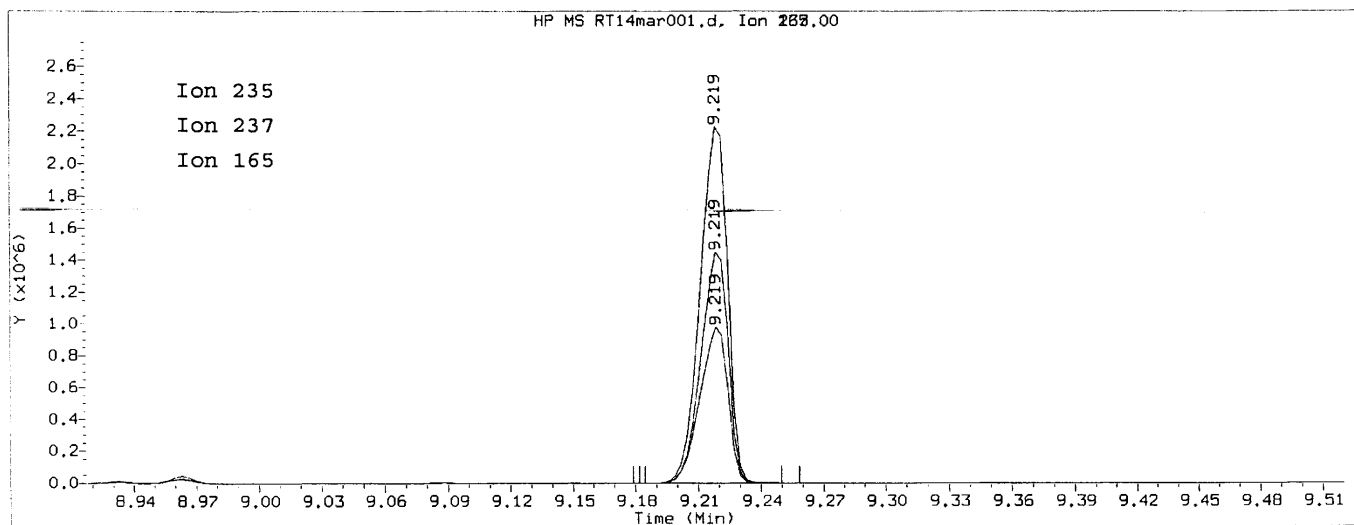
Exp. RT = 8.991

Found RT = 8.963

Mass	Area	Ratio
235	37618	100.00
237	24330	64.68
165	21821	58.01

Report Generated Time Tue Mar 14 10:56:43 2017

Data File : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d
 ALS Vial : 3
 Acq on : 14-MAR-2017 10:36 Operator : 907
 Sample : DFTPP S101716A Inst : GCMS_AAA
 Misc : Multiplier : 1
 Integrator Type : HP RTE
 Method : /chem/SVOA/GCMS_AAA.i/170314.b/14mar001.d/resolut.m
 Last Update : 14-MAR-2017 10:53



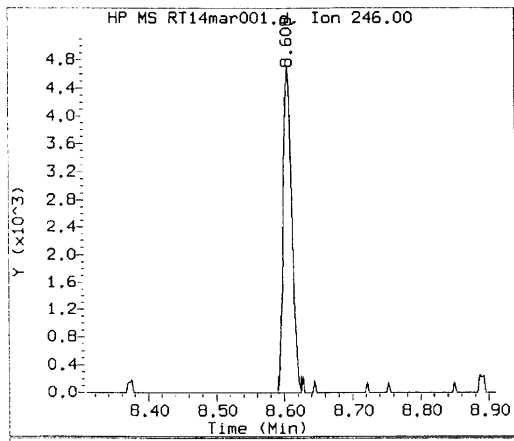
4,4'-DDT

=====

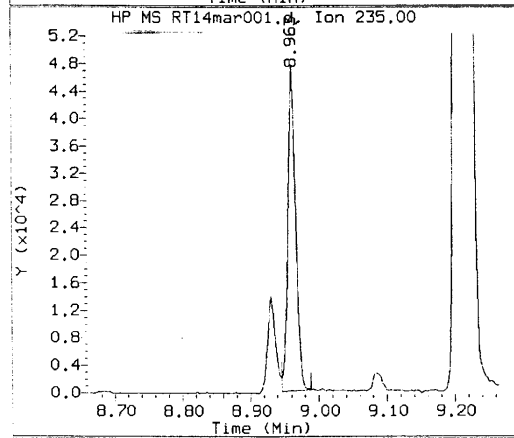
Exp. RT = 9.395

Found RT = 9.219

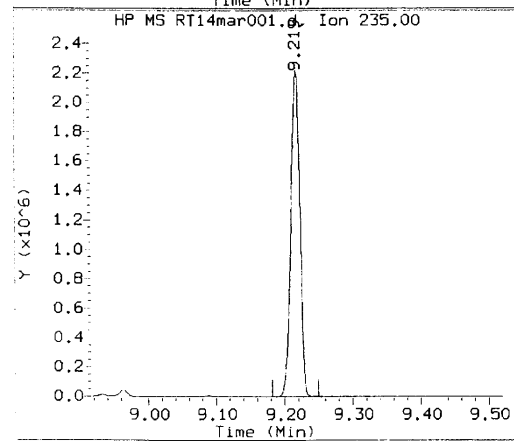
Mass	Area	Ratio
235	2052488	100.00
237	1322608	64.44
165	921440	44.89



Compound: 4,4'-DDE
 Quant Mass: 246
 RT: 8.608
 Area: 4116



Compound: 4,4'-DDD
 Quant Mass: 235
 RT: 8.963
 Area: 37618



Compound: 4,4'-DDT
 Quant Mass: 235
 RT: 9.219
 Area: 2052488

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	2052488			N/A
4,4-DDE	4116	0.20	20.0	PASS
4,4-DDD	37618	1.80	20.0	PASS
4,4-DDD + DDE	41734	2.0	20.0	PASS

 TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST

EPA METHOD 8270C PAHSIM

Run Logs

Injection Log

Directory: W:\GCMS_AAA\GCMS_AAA_DATA\2017\170313

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	13mar001.d	1.	DFTPP S101716A		13 Mar 2017 10:50
2	2	13mar002.d	1.	CCV S101716G 1PPM - Dev > 30%	170313A004	13 Mar 2017 11:36
3	3	13mar003.d	1.	BLANK	S101716B 10UL	13 Mar 2017 11:56
27	27	13mar004.d	1.	ICAL-1 S010317D 5PPM	170313I002	13 Mar 2017 12:16
28	28	13mar005.d	1.	ICAL-2 S010317E 2PPM		13 Mar 2017 12:35
29	29	13mar006.d	1.	ICAL-3 S010317F 1PPM		13 Mar 2017 12:55
30	30	13mar007.d	1.	ICAL-4 S010317G 0.5PPM		13 Mar 2017 13:15
31	31	13mar008.d	1.	ICAL-5 S010317H 0.1PPM		13 Mar 2017 13:34
32	32	13mar009.d	1.	ICV S010317I 1PPM		13 Mar 2017 13:54
0	1	13mar010.d	1.	DFTPP S101716A		13 Mar 2017 14:16
1	2	13mar011.d	1.	CCV S101716G 1PPM	170313A004	13 Mar 2017 14:31
2	21	13mar012.d	1.	MB 170310 L13	S101716B 10UL	13 Mar 2017 14:51
3	22	13mar013.d	1.	LCS 170310 L13	S101716B 10UL	13 Mar 2017 15:11
4	23	13mar014.d	1.	LCSD 170310 L13	S101716B 10UL	13 Mar 2017 15:30
5	24	13mar015.d	1.	17-03-0761-1	S101716B 10UL	13 Mar 2017 15:50
6	35	13mar016.d	1.	17-03-0761-1 10X	S101716B 10UL	13 Mar 2017 16:10
7	25	13mar017.d	1.	16-12-1370-12 50X	S101716B 10UL	13 Mar 2017 16:29
8	26	13mar018.d	1.	16-12-1370-13 50X	S101716B 10UL	13 Mar 2017 16:49
9	3	13mar019.d	1.	MB 170310 L04	S101716B 10UL	13 Mar 2017 17:09
0	4	13mar020.d	1.	LCS 170310 L04	S101716B 10UL	13 Mar 2017 17:28
1	5	13mar021.d	1.	17-03-0641-26 MS -	S101716B 10UL	13 Mar 2017 17:48
2	6	13mar022.d	1.	17-03-0641-26 MSD	S101716B 10UL	13 Mar 2017 18:08
3	7	13mar023.d	1.	17-03-0642-26	S101716B 10UL	13 Mar 2017 18:28
4	8	13mar024.d	1.	17-03-0642-27	S101716B 10UL	13 Mar 2017 18:47
5	9	13mar025.d	1.	17-03-0642-28	S101716B 10UL	13 Mar 2017 19:07
6	10	13mar026.d	1.	17-03-0642-29	S101716B 10UL	13 Mar 2017 19:27
7	11	13mar027.d	1.	17-03-0641-26	S101716B 10UL	13 Mar 2017 19:46
8	12	13mar028.d	1.	17-03-0641-27	S101716B 10UL	13 Mar 2017 20:06
9	13	13mar029.d	1.	17-03-0641-28	S101716B 10UL	13 Mar 2017 20:26
0	14	13mar030.d	1.	17-03-0641-29 - 1 sum	S101716B 10UL	13 Mar 2017 20:46
1	15	13mar031.d	1.	17-03-0589-25	S101716B 10UL	13 Mar 2017 21:05
2	16	13mar032.d	1.	17-03-0589-26	S101716B 10UL	13 Mar 2017 21:25
3	17	13mar033.d	1.	17-03-0589-27	S101716B 10UL	13 Mar 2017 21:45
4	18	13mar034.d	1.	17-03-0590-25	S101716B 10UL	13 Mar 2017 22:05
5	19	13mar035.d	1.	17-03-0590-26	S101716B 10UL	13 Mar 2017 22:24
6	20	13mar036.d	1.	17-03-0590-27	S101716B 10UL	13 Mar 2017 22:44
7	33	13mar037.d	1.	17-03-0153-1 MSD RB	S101716B 10UL	13 Mar 2017 23:04
8	34	13mar038.d	1.	17-03-0153-1 RB	S101716B 10UL	13 Mar 2017 23:24

Injection Log

Directory: w:\GCMS_AAA\GCMS_AAA_DATA\2017\170314

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Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	36	14mar001.d	1.	DFTPP S101716A		14 Mar 2017 10:36
2	37	14mar002.d	1.	CCV S101716G 1PPM	170314A011	14 Mar 2017 10:52
3	38	14mar003.d	1.	16-12-1370-12 MS 5X RB	S101716B 10UL	14 Mar 2017 11:11
4	39	14mar004.d	1.	16-12-1370-12 MSD 5X RB	S101716B 10UL	14 Mar 2017 11:31
5	40	14mar005.d	1.	16-12-1370-12 5X RB	S101716B 10UL	14 Mar 2017 11:51
6	41	14mar006.d	1.	16-12-1370-13 5X RB	S101716B 10UL	14 Mar 2017 12:11
7	42	14mar007.d	1.	17-03-0641-26 MS RB	S101716B 10UL	14 Mar 2017 12:30
8	43	14mar008.d	1.	17-03-0641-29 RB	S101716B 10UL	14 Mar 2017 13:43
9	44	14mar009.d	1.	BLANK LOQ S	S101716B 10UL	14 Mar 2017 17:10
10	45	14mar010.d	1.	LOQ-V S 0.1PPM	S101716B 10UL	14 Mar 2017 17:30
11	46	14mar011.d	1.	LOD-V S 0.05PPM	S101716B 10UL	14 Mar 2017 17:49
12	47	14mar012.d	1.	LOD-V S 0.025PPM	S101716B 10UL	14 Mar 2017 18:09
13	48	14mar013.d	1.	BLANK LOQ W	S101716B 10UL	14 Mar 2017 18:29
14	49	14mar014.d	1.	LOQ-V W 0.1PPM	S101716B 10UL	14 Mar 2017 18:48
15	50	14mar015.d	1.	LOD-V W 0.05PPM	S101716B 10UL	14 Mar 2017 19:08
16	51	14mar016.d	1.	LOD-V W 0.025PPM	S101716B 10UL	14 Mar 2017 19:28

EPA METHOD 8270C PAHSIM

Sample Preparation Logs

☒ 8270 () Soil ☐ Soil SIM SUPER ☐ PAH ☒ SIM PAH ☐ SIM Pest ☐ SIM PCB cong. ☐ SIM FLExtraction Method (EPA Method): ☐ 3510 ☐ 3520 ☐ 3540 ☐ 3541 ☒ 3545 ☐ 3550 ☐ 3580

Analyst ID#: Measuring Sample: 785 Start Extraction: 6/10/17 7:47 Blow Down: 10/8/17 Clean Up:

Matrix: ☒ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air

Balance ID#: 53 Filter ID#: 507-17-13 ASE ID#: 7 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:

Ext. Start Date/Time: 03/10/17 7:45 Ext. End Date/Time: 03/10/17 12:45

Sand or Wipe ID#:

507-19-19

Drying Agent: ☒ Na₂SO₄ ☒ Diatomaceous Earth

Drying Agent(s) ID#: 507-44-18 / 507-22-03

Surrogate Std ID# & Volume Added (mL): 5020117C 0.5

Spike Std ID# & Volume Added (mL): 5100716A 0.5 Spike Added to: ☒ LCS ☐ LCSD ☒ MS ☒ MSDExtraction Solvent: ☐ MeCl₂ ☐ 1:1 Hexane-Acetone ☒ 1:1 MeCl₂-Acetone ☐ 9:1 Hexane-Diethyl-ether ☐ AcetonitrileExtraction 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 #:

170310204

Sample W(g) V (mL)

Cel ID#:

Initial

Final

Clean Up
Performed

Comments

MB

20.0

2

☐

LCS

20.0

2

☐

LCSD

NA

—

—

☐

MS

17-03-0641-26 ms A

20.0

2

☐

MSD

1 26 ms A

20.1

2

☐

17-03-0641-26 A

20.1

2

☐

↓ ↓ 27 A

20.0

2

☐

↓ ↓ 28 A

20.0

2

☐

↓ ↓ 29 A

20.1

2

☐

17-03-0589-25 A

20.1

2

☐

↓ ↓ 26 A

20.2

2

☐

↓ ↓ 27 A

20.0

2

☐

17-03-0590-25 A

20.1

2

☐

↓ ↓ 26 A

20.0

2

☐

↓ ↓ 27 A

20.1

2

☐

17-03-0642-26 A

20.0

2

☐

↓ ↓ 27 A

20.1

2

☐

↓ ↓ 28 A

20.0

2

☐

↓ ↓ 29 A

20.0

2

☐