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Supplemental Report 1

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

WORK ORDER NUMBER: 17-03-1557

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

Approved for release on 04/28/2017 by:
Stephen Nowak
Project Manager

ResultLink

Email your PM

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Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1557

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Work Order Narrative

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/21/17. They were assigned to Work Order 17-03-1557.

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.

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Sample Summary

Client:	Andersen Environmental 5261 West Imperial Highway Los Angeles, CA 90045-6231	Work Order:	17-03-1557
		Project Name:	Burbank Airport / 9836002041
		PO Number:	
		Date/Time Received:	03/21/17 15:37
		Number of Containers:	30
Attn:	Brian Martasin		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
B-DU1-S-06-8	17-03-1557-1	03/16/17 12:25	1	Solid
B-DU1-S-SG-02-8S	17-03-1557-2	03/16/17 07:25	1	Solid
B-DU1-S-SG-07-8S	17-03-1557-3	03/16/17 12:55	1	Solid
B-DU1-S-SG-08-8S	17-03-1557-4	03/16/17 15:10	1	Solid
B-DU1-S-SG-10-8S	17-03-1557-5	03/16/17 09:22	1	Solid
B-DU1-S-SG-11-8S	17-03-1557-6	03/16/17 10:47	1	Solid
B-DU1-S-04-8	17-03-1557-7	03/16/17 14:25	1	Solid
B-DU1-S-SG-01-8S	17-03-1557-8	03/17/17 13:00	1	Solid
B-DU1-S-SG-03-8S	17-03-1557-9	03/17/17 12:20	1	Solid
B-DU1-S-SG-04-8S	17-03-1557-10	03/17/17 10:30	1	Solid
B-DU1-S-03-8	17-03-1557-11	03/17/17 13:35	1	Solid
B-DU1-S-01-8	17-03-1557-12	03/20/17 14:20	1	Solid
B-DU1-S-02-8	17-03-1557-13	03/20/17 11:00	1	Solid
B-DU1-S-05-8	17-03-1557-14	03/20/17 10:20	1	Solid
B-DU1-S-07-8	17-03-1557-15	03/20/17 09:45	1	Solid
B-DU1-S-08-8	17-03-1557-16	03/20/17 13:05	1	Solid
B-DU1-S-09-8	17-03-1557-17	03/20/17 09:21	1	Solid
B-DU1-S-SG-05-8S	17-03-1557-18	03/20/17 08:20	1	Solid
B-DU1-S-SG-06-8S	17-03-1557-19	03/20/17 12:42	1	Solid
B-DU1-S-SG-09-8S	17-03-1557-20	03/20/17 07:40	1	Solid
COMPOSITE	17-03-1557-21	03/16/17 00:00	1	Solid
B-DU1-ISM1-8	17-03-1557-22	03/16/17 00:00	1	Solid
B-DU1-ISM2-8	17-03-1557-23	03/16/17 00:00	1	Solid
B-DU1-ISM3-8	17-03-1557-24	03/16/17 00:00	1	Solid
B-DU1-ISM1-8	17-03-1557-25	03/16/17 00:00	1	Solid
B-DU1-ISM2-8	17-03-1557-26	03/16/17 00:00	1	Solid
B-DU1-ISM3-8	17-03-1557-27	03/16/17 00:00	1	Solid
B-DU1-ISM1-8	17-03-1557-28	03/16/17 00:00	1	Solid
B-DU1-ISM2-8	17-03-1557-29	03/16/17 00:00	1	Solid
B-DU1-ISM3-8	17-03-1557-30	03/16/17 00:00	1	Solid

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Detections Summary

Client:	Andersen Environmental	Work Order:	17-03-1557
	5261 West Imperial Highway	Project Name:	Burbank Airport / 9836002041
	Los Angeles, CA 90045-6231	Received:	03/21/17
Attn:	Brian Martasin		Page 1 of 1

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
B-DU1-ISM1-8 (17-03-1557-25)						
Moisture	3.0		0.10	%	ASTM D-2216 (M)	N/A
B-DU1-ISM2-8 (17-03-1557-26)						
Moisture	2.8		0.10	%	ASTM D-2216 (M)	N/A
B-DU1-ISM3-8 (17-03-1557-27)						
Moisture	3.0		0.10	%	ASTM D-2216 (M)	N/A
B-DU1-ISM1-8 (17-03-1557-28)						
Arsenic	1.37		0.739	mg/kg	EPA 6010B	EPA 3050B
Barium	61.1		0.493	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.85		0.246	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.92		0.246	mg/kg	EPA 6010B	EPA 3050B
Copper	6.93		0.493	mg/kg	EPA 6010B	EPA 3050B
Lead	4.39		0.493	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.31		0.246	mg/kg	EPA 6010B	EPA 3050B
Vanadium	16.5		0.246	mg/kg	EPA 6010B	EPA 3050B
Zinc	24.3		0.985	mg/kg	EPA 6010B	EPA 3050B
B-DU1-ISM2-8 (17-03-1557-29)						
Barium	66.9		0.490	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.74		0.245	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.75		0.245	mg/kg	EPA 6010B	EPA 3050B
Copper	6.71		0.490	mg/kg	EPA 6010B	EPA 3050B
Lead	3.46		0.490	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.81		0.245	mg/kg	EPA 6010B	EPA 3050B
Vanadium	15.8		0.245	mg/kg	EPA 6010B	EPA 3050B
Zinc	24.3		0.980	mg/kg	EPA 6010B	EPA 3050B
B-DU1-ISM3-8 (17-03-1557-30)						
Arsenic	0.950		0.735	mg/kg	EPA 6010B	EPA 3050B
Barium	56.9		0.490	mg/kg	EPA 6010B	EPA 3050B
Chromium	4.12		0.245	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.22		0.245	mg/kg	EPA 6010B	EPA 3050B
Copper	6.12		0.490	mg/kg	EPA 6010B	EPA 3050B
Lead	3.74		0.490	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.48		0.245	mg/kg	EPA 6010B	EPA 3050B
Vanadium	13.4		0.245	mg/kg	EPA 6010B	EPA 3050B
Zinc	23.2		0.980	mg/kg	EPA 6010B	EPA 3050B

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

* MDL is shown

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM1-8	**17-03-1557-25-A**	**03/16/17 00:00**	**Solid**	**N/A**	**03/23/17**	**03/23/17 21:00**	**H0323MOIB3**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.0	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM2-8	**17-03-1557-26-A**	**03/16/17 00:00**	**Solid**	**N/A**	**03/23/17**	**03/23/17 21:00**	**H0323MOIB3**

Parameter	Result	RL	DF	Qualifiers
Moisture	2.8	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM3-8	**17-03-1557-27-A**	**03/16/17 00:00**	**Solid**	**N/A**	**03/23/17**	**03/23/17 21:00**	**H0323MOIB3**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.0	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-014-6770**	**N/A**	**Solid**	**N/A**	**03/23/17**	**03/23/17 21:00**	**H0323MOIB3**

Parameter	Result	RL	DF	Qualifiers
Moisture	ND	0.10	1.00	

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

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Analytical Report

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Burbank Airport / 9836002041			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM1-8	**17-03-1557-25-C**	**03/16/17 00:00**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 14:08**	**170324B12**

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	5.1	1.00	
TPH as Motor Oil	ND	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	102	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM2-8	**17-03-1557-26-C**	**03/16/17 00:00**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 14:29**	**170324B12**

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	5.0	1.00	
TPH as Motor Oil	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	105	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM3-8	**17-03-1557-27-C**	**03/16/17 00:00**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 14:51**	**170324B12**

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	5.1	1.00	
TPH as Motor Oil	ND	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	101	61-145	

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

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Analytical Report

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Burbank Airport / 9836002041			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-353-13**	**N/A**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 11:16**	**170324B12**

Comment(s): - 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	5.0	1.00	
TPH as Motor Oil	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	103	61-145	

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM1-8	**17-03-1557-28-A**	**03/16/17 00:00**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 18:56**	**170329L05**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.739	0.985	
Arsenic	1.37	0.739	0.985	
Barium	61.1	0.493	0.985	
Beryllium	ND	0.246	0.985	
Cadmium	ND	0.493	0.985	
Chromium	4.85	0.246	0.985	
Cobalt	4.92	0.246	0.985	
Copper	6.93	0.493	0.985	
Lead	4.39	0.493	0.985	
Molybdenum	ND	0.246	0.985	
Nickel	4.31	0.246	0.985	
Selenium	ND	0.739	0.985	
Silver	ND	0.246	0.985	
Thallium	ND	0.739	0.985	
Vanadium	16.5	0.246	0.985	
Zinc	24.3	0.985	0.985	

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM2-8	**17-03-1557-29-A**	**03/16/17 00:00**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 18:57**	**170329L05**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.735	0.980	
Arsenic	ND	0.735	0.980	
Barium	66.9	0.490	0.980	
Beryllium	ND	0.245	0.980	
Cadmium	ND	0.490	0.980	
Chromium	4.74	0.245	0.980	
Cobalt	4.75	0.245	0.980	
Copper	6.71	0.490	0.980	
Lead	3.46	0.490	0.980	
Molybdenum	ND	0.245	0.980	
Nickel	3.81	0.245	0.980	
Selenium	ND	0.735	0.980	
Silver	ND	0.245	0.980	
Thallium	ND	0.735	0.980	
Vanadium	15.8	0.245	0.980	
Zinc	24.3	0.980	0.980	

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM3-8	**17-03-1557-30-A**	**03/16/17 00:00**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 18:58**	**170329L05**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.735	0.980	
Arsenic	0.950	0.735	0.980	
Barium	56.9	0.490	0.980	
Beryllium	ND	0.245	0.980	
Cadmium	ND	0.490	0.980	
Chromium	4.12	0.245	0.980	
Cobalt	4.22	0.245	0.980	
Copper	6.12	0.490	0.980	
Lead	3.74	0.490	0.980	
Molybdenum	ND	0.245	0.980	
Nickel	3.48	0.245	0.980	
Selenium	ND	0.735	0.980	
Silver	ND	0.245	0.980	
Thallium	ND	0.735	0.980	
Vanadium	13.4	0.245	0.980	
Zinc	23.2	0.980	0.980	

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-24537**	**N/A**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 17:07**	**170329L05**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.732	0.976	
Arsenic	ND	0.732	0.976	
Barium	ND	0.488	0.976	
Beryllium	ND	0.244	0.976	
Cadmium	ND	0.488	0.976	
Chromium	ND	0.244	0.976	
Cobalt	ND	0.244	0.976	
Copper	ND	0.488	0.976	
Lead	ND	0.488	0.976	
Molybdenum	ND	0.244	0.976	
Nickel	ND	0.244	0.976	
Selenium	ND	0.732	0.976	
Silver	ND	0.244	0.976	
Thallium	ND	0.732	0.976	
Vanadium	ND	0.244	0.976	
Zinc	ND	0.976	0.976	

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

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Analytical Report

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

Project: Burbank Airport / 9836002041

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM1-8	**17-03-1557-25-B**	**03/16/17 00:00**	**Solid**	**Mercury 08**	**03/29/17**	**03/29/17 15:54**	**170329L01**

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

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0818	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM2-8	**17-03-1557-26-B**	**03/16/17 00:00**	**Solid**	**Mercury 08**	**03/29/17**	**03/29/17 15:56**	**170329L01**

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

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0830	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM3-8	**17-03-1557-27-A**	**03/16/17 00:00**	**Solid**	**Mercury 08**	**03/29/17**	**03/29/17 15:59**	**170329L01**

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

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0859	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-2910**	**N/A**	**Solid**	**Mercury 08**	**03/29/17**	**03/29/17 15:08**	**170329L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM1-8	**17-03-1557-28-B**	**03/16/17 00:00**	**Solid**	**GC 66**	**03/27/17**	**03/28/17 03:41**	**170327L05**

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	77	24-168	
2,4,5,6-Tetrachloro-m-Xylene	65	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM2-8	**17-03-1557-29-B**	**03/16/17 00:00**	**Solid**	**GC 66**	**03/27/17**	**03/28/17 03:59**	**170327L05**

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	73	24-168	
2,4,5,6-Tetrachloro-m-Xylene	61	25-145	

Return to Contents

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM3-8	**17-03-1557-30-B**	**03/16/17 00:00**	**Solid**	**GC 66**	**03/27/17**	**03/28/17 04:35**	**170327L05**

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	76	24-168	
2,4,5,6-Tetrachloro-m-Xylene	70	25-145	

Method Blank	099-12-535-4123	N/A	Solid	GC 66	03/27/17	03/28/17 02:30	170327L05

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	70	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.

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM1-8	**17-03-1557-25-D**	**03/16/17 00:00**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 13:57**	**170324L17**

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

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	83	13-127	
Nitrobenzene-d5	79	17-137	
p-Terphenyl-d14	94	4-160	

Return to Contents

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM2-8	**17-03-1557-26-D**	**03/16/17 00:00**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 14:17**	**170324L17**

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

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	91	13-127	
Nitrobenzene-d5	86	17-137	
p-Terphenyl-d14	98	4-160	

Return to Contents

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-DU1-ISM3-8	**17-03-1557-27-D**	**03/16/17 00:00**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 14:38**	**170324L17**

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

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	99	13-127	
Nitrobenzene-d5	101	17-137	
p-Terphenyl-d14	90	4-160	

Return to Contents

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

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Analytical Report

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

Date Received: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-035-386**	**N/A**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 11:15**	**170324L17**

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	107	13-127	
Nitrobenzene-d5	109	17-137	
p-Terphenyl-d14	104	4-160	

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

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Quality Control - Spike/Spike Duplicate

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Burbank Airport / 9836002041			Page 1 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
B-DU1-ISM3-8	**Sample**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 14:51**	**170324S12**
B-DU1-ISM3-8	**Matrix Spike**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 12:42**	**170324S12**
B-DU1-ISM3-8	**Matrix Spike Duplicate**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 13:03**	**170324S12**

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	379.0	95	393.3	98	61-145	4	0-25	

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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: 03/21/17
Work Order: 17-03-1557
Preparation: EPA 3050B
Method: EPA 6010B

Project: Burbank Airport / 9836002041

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-1813-1	**Sample**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 17:12**	**170329S05**
17-03-1813-1	**Matrix Spike**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 17:13**	**170329S05**
17-03-1813-1	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 17:16**	**170329S05**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	11.32	45	11.05	44	50-115	2	0-20	3
Arsenic	2.141	25.00	28.57	106	26.28	97	75-125	8	0-20	
Barium	65.88	25.00	95.97	120	78.14	49	75-125	20	0-20	3
Beryllium	0.3817	25.00	26.81	106	25.14	99	75-125	6	0-20	
Cadmium	ND	25.00	28.11	112	26.45	106	75-125	6	0-20	
Chromium	12.69	25.00	39.67	108	35.64	92	75-125	11	0-20	
Cobalt	7.098	25.00	35.02	112	32.08	100	75-125	9	0-20	
Copper	10.42	25.00	37.01	106	33.11	91	75-125	11	0-20	
Lead	3.987	25.00	32.73	115	30.39	106	75-125	7	0-20	
Molybdenum	ND	25.00	24.76	99	23.57	94	75-125	5	0-20	
Nickel	8.515	25.00	34.90	106	31.89	93	75-125	9	0-20	
Selenium	ND	25.00	27.32	109	25.65	103	75-125	6	0-20	
Silver	ND	12.50	13.18	105	12.25	98	75-125	7	0-20	
Thallium	ND	25.00	25.36	101	24.63	99	75-125	3	0-20	
Vanadium	24.52	25.00	50.22	103	43.83	77	75-125	14	0-20	
Zinc	29.81	25.00	57.58	111	49.16	77	75-125	16	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Burbank Airport / 9836002041			Page 3 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-1569-1	**Sample**	**Sediment**	**Mercury 08**	**03/29/17**	**03/29/17 15:13**	**170329S01**
17-03-1569-1	**Matrix Spike**	**Sediment**	**Mercury 08**	**03/29/17**	**03/29/17 15:20**	**170329S01**
17-03-1569-1	**Matrix Spike Duplicate**	**Sediment**	**Mercury 08**	**03/29/17**	**03/29/17 15:22**	**170329S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	0.06019	0.8350	0.7189	79	0.8023	89	76-136	11	0-16	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3545
		Method:	EPA 8082
Project: Burbank Airport / 9836002041			Page 4 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
B-DU1-ISM1-8	**Sample**	**Solid**	**GC 66**	**03/27/17**	**03/28/17 03:41**	**170327S05**
B-DU1-ISM1-8	**Matrix Spike**	**Solid**	**GC 66**	**03/27/17**	**03/28/17 03:05**	**170327S05**
B-DU1-ISM1-8	**Matrix Spike Duplicate**	**Solid**	**GC 66**	**03/27/17**	**03/28/17 03:23**	**170327S05**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	82.50	82	81.00	81	50-135	2	0-20	
Aroclor-1260	ND	100.0	85.00	85	86.00	86	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		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3545
		Method:	EPA 8270C SIM PAHs
Project: Burbank Airport / 9836002041			Page 5 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-1753-6	**Sample**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 12:36**	**170324S17**
17-03-1753-6	**Matrix Spike**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 11:56**	**170324S17**
17-03-1753-6	**Matrix Spike Duplicate**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 12:16**	**170324S17**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	ND	0.1000	0.1123	112	0.1093	109	20-150	3	0-33	
2-Methylnaphthalene	ND	0.1000	0.1381	138	0.1341	134	29-137	3	0-31	3
1-Methylnaphthalene	0.01270	0.1000	0.1196	107	0.1189	106	34-136	1	0-29	
Acenaphthylene	ND	0.1000	0.1041	104	0.1049	105	29-131	1	0-32	
Acenaphthene	ND	0.1000	0.1076	108	0.1064	106	29-137	1	0-28	
Fluorene	ND	0.1000	0.1148	115	0.1155	115	36-132	1	0-27	
Phenanthrene	ND	0.1000	0.1057	106	0.1076	108	20-144	2	0-27	
Anthracene	ND	0.1000	0.1124	112	0.1092	109	26-134	3	0-27	
Fluoranthene	ND	0.1000	0.1066	107	0.1059	106	20-151	1	0-26	
Pyrene	ND	0.1000	0.1054	105	0.1084	108	20-150	3	0-32	
Benzo (a) Anthracene	ND	0.1000	0.1010	101	0.1040	104	24-150	3	0-24	
Chrysene	ND	0.1000	0.1012	101	0.09957	100	25-145	2	0-28	
Benzo (k) Fluoranthene	ND	0.1000	0.08966	90	0.08590	86	28-148	4	0-26	
Benzo (b) Fluoranthene	ND	0.1000	0.1132	113	0.1146	115	21-153	1	0-26	
Benzo (a) Pyrene	ND	0.1000	0.09968	100	0.09760	98	29-149	2	0-22	
Indeno (1,2,3-c,d) Pyrene	ND	0.1000	0.1004	100	0.09966	100	20-154	1	0-25	
Dibenz (a,h) Anthracene	ND	0.1000	0.1039	104	0.1048	105	20-132	1	0-26	
Benzo (g,h,i) Perylene	ND	0.1000	0.1071	107	0.1078	108	20-148	1	0-27	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	N/A
		Method:	ASTM D-2216 (M)
Project: Burbank Airport / 9836002041			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
17-03-1556-25	**Sample**	**Solid**	**N/A**	**03/23/17 00:00**	**03/23/17 21:00**	**H0323MOID3**
17-03-1556-25	**Sample Duplicate**	**Solid**	**N/A**	**03/23/17 00:00**	**03/23/17 21:00**	**H0323MOID3**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	4.600	4.700	2	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Burbank Airport / 9836002041			Page 1 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-353-13	**LCS**	**Solid**	**GC 45**	**03/24/17**	**03/28/17 11:37**	**170324B12**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	373.8	93	61-145	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Burbank Airport / 9836002041			Page 2 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-24537	**LCS**	**Solid**	**ICP 7300**	**03/29/17**	**03/29/17 17:08**	**170329L05**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	20.99	84	80-120	73-127	
Arsenic	25.00	22.47	90	80-120	73-127	
Barium	25.00	25.38	102	80-120	73-127	
Beryllium	25.00	22.33	89	80-120	73-127	
Cadmium	25.00	25.54	102	80-120	73-127	
Chromium	25.00	24.93	100	80-120	73-127	
Cobalt	25.00	26.08	104	80-120	73-127	
Copper	25.00	24.17	97	80-120	73-127	
Lead	25.00	25.61	102	80-120	73-127	
Molybdenum	25.00	23.03	92	80-120	73-127	
Nickel	25.00	24.87	99	80-120	73-127	
Selenium	25.00	23.31	93	80-120	73-127	
Silver	12.50	11.95	96	80-120	73-127	
Thallium	25.00	24.20	97	80-120	73-127	
Vanadium	25.00	23.74	95	80-120	73-127	
Zinc	25.00	25.45	102	80-120	73-127	

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Burbank Airport / 9836002041			Page 3 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2910	**LCS**	**Solid**	**Mercury 08**	**03/29/17**	**03/29/17 15:11**	**170329L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.7369	88	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3545
		Method:	EPA 8082
Project: Burbank Airport / 9836002041			Page 4 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-4123	**LCS**	**Solid**	**GC 66**	**03/27/17**	**03/28/17 02:47**	**170327L05**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	88.50	88	50-135	
Aroclor-1260	100.0	88.00	88	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/21/17
5261 West Imperial Highway		Work Order:	17-03-1557
Los Angeles, CA 90045-6231		Preparation:	EPA 3545
		Method:	EPA 8270C SIM PAHs
Project: Burbank Airport / 9836002041			Page 5 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-035-386	**LCS**	**Solid**	**GC/MS EEE**	**03/24/17**	**03/27/17 11:35**	**170324L17**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Naphthalene	0.1000	0.09899	99	51-129	38-142	
2-Methylnaphthalene	0.1000	0.1132	113	50-127	37-140	
1-Methylnaphthalene	0.1000	0.1008	101	54-132	41-145	
Acenaphthylene	0.1000	0.09919	99	50-123	38-135	
Acenaphthene	0.1000	0.1036	104	53-125	41-137	
Fluorene	0.1000	0.1041	104	55-127	43-139	
Phenanthrene	0.1000	0.1044	104	50-122	38-134	
Anthracene	0.1000	0.1059	106	50-132	36-146	
Fluoranthene	0.1000	0.1039	104	55-127	43-139	
Pyrene	0.1000	0.1021	102	50-134	36-148	
Benzo (a) Anthracene	0.1000	0.09779	98	50-133	36-147	
Chrysene	0.1000	0.1023	102	51-129	38-142	
Benzo (k) Fluoranthene	0.1000	0.09607	96	49-150	32-167	
Benzo (b) Fluoranthene	0.1000	0.1068	107	50-142	35-157	
Benzo (a) Pyrene	0.1000	0.09631	96	50-134	36-148	
Indeno (1,2,3-c,d) Pyrene	0.1000	0.09683	97	50-148	34-164	
Dibenz (a,h) Anthracene	0.1000	0.1004	100	50-133	36-147	
Benzo (g,h,i) Perylene	0.1000	0.1028	103	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

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 17-03-1557 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-2216 (M)	N/A	1050	N/A	1
EPA 6010B	EPA 3050B	935	ICP 7300	1
EPA 7471A	EPA 7471A Total	868	Mercury 08	1
EPA 8015B (M)	EPA 3550B	972	GC 45	1
EPA 8082	EPA 3545	1028	GC 66	1
EPA 8270C SIM PAHs	EPA 3545	907	GC/MS EEE	1

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Glossary of Terms and Qualifiers

Work Order: 17-03-1557 Page 1 of 1

Qualifiers	Definition
*	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.

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17-03-1557

EFI Global

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

Chain-of-Custody Record

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: Grab	Type: Composite	Matrix: Water	Matrix: Soil	Matrix: Vapor	Matrix: Other	Preservative: Cold (4° C)	Preservative: HNO3	Preservative: NaHSO4	Preservative: HCl	Sampling Information: Date	Sampling Information: Time
1	B-DU1-ISM1-3			X		X			X				3/16, 3/17, 3/20	
2	B-DU1-ISM2-3			X		X			X				3/16, 3/17, 3/20	
3	B-DU1-ISM3-3			X		X			X				3/16, 3/17, 3/20	
4	B-DU1-ISM1-8			X		X			X				3/16, 3/17, 3/20	
5	B-DU1-ISM2-8			X		X			X				3/16, 3/17, 3/20	
6	B-DU1-ISM3-8			X		X			X				3/16, 3/17, 3/20	
7	B-DU1-ISM1-15			X		X			X				3/16, 3/17, 3/20	
8	B-DU1-ISM2-15			X		X			X				3/16, 3/17, 3/20	
9	B-DU1-ISM3-15			X		X			X				3/16, 3/17, 3/20	
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Method: 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	TPHd, TPHmo, EPA Method 8015M	Composite	Hold	Container: 4- or 8-ounce Glass	VOA	EZ Draw (EPA 5035)	Acetate Liner	Amber Bottle	Turnaround Time: 24 hours	Normal	48 Hours
	X	X					X		X	X					X			X		
	X	X					X		X	X					X			X		
	X	X					X		X	X					X			X		
	X	X					X		X	X					X			X		
	X	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
	03/21/17			03/21/17	1537	Sample condition (circle): Chilled Intact
						15-footers on hold pending results of shallow samples
						Original samples for ISM previously submitted

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17-03-1557

LAB_SDG	LAB_SAMPLE_NUMBER	FIELD_SAMPLE	SAMPLING_DATE	SAMPLING_TIME	MATRIX	DEPTH	PROJECT_ID
17-03-1279	17-03-1279-2	B-DU1-S-06-8	20170316	12:25:00	Soil	8	Burbank Airport / 9836002041
17-03-1279	17-03-1279-5	B-DU1-S-SG-02-8S	20170316	07:25:00	Soil	8	Burbank Airport / 9836002041
17-03-1279	17-03-1279-8	B-DU1-S-SG-07-8S	20170316	12:55:00	Soil	8	Burbank Airport / 9836002041
17-03-1279	17-03-1279-11	B-DU1-S-SG-08-8S	20170316	15:10:00	Soil	8	Burbank Airport / 9836002041
17-03-1279	17-03-1279-14	B-DU1-S-SG-10-8S	20170316	09:22:00	Soil	8	Burbank Airport / 9836002041
17-03-1279	17-03-1279-17	B-DU1-S-SG-11-8S	20170316	10:47:00	Soil	8	Burbank Airport / 9836002041
17-03-1279	17-03-1279-20	B-DU1-S-04-8	20170316	14:25:00	Soil	8	Burbank Airport / 9836002041
17-03-1382	17-03-1382-2	B-DU1-S-SG-01-8S	20170317	13:00:00	Soil	8	Burbank Airport / 9836002041
17-03-1382	17-03-1382-5	B-DU1-S-SG-03-8S	20170317	12:20:00	Soil	8	Burbank Airport / 9836002041
17-03-1382	17-03-1382-8	B-DU1-S-SG-04-8S	20170317	10:30:00	Soil	8	Burbank Airport / 9836002041
17-03-1382	17-03-1382-11	B-DU1-S-03-8	20170317	13:35:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-2	B-DU1-S-01-8	20170320	14:20:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-5	B-DU1-S-02-8	20170320	11:00:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-8	B-DU1-S-05-8	20170320	10:20:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-11	B-DU1-S-07-8	20170320	09:45:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-14	B-DU1-S-08-8	20170320	13:05:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-17	B-DU1-S-09-8	20170320	09:21:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-20	B-DU1-S-SG-05-8S	20170320	08:20:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-23	B-DU1-S-SG-06-8S	20170320	12:42:00	Soil	8	Burbank Airport / 9836002041
17-03-1524	17-03-1524-26	B-DU1-S-SG-09-8S	20170320	07:40:00	Soil	8	Burbank Airport / 9836002041

B-DU1-ISM1-8
B-DU1-ISM2-8
B-DU1-ISM3-8

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Chain-of-Custody Record

17-03-1279

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: Grab	Type: Discrete	Matrix: Water	Matrix: Soil	Matrix: Vapor	Matrix: Other	Preservative: Cold (4° C)	Preservative: HNO3	Preservative: NaHSO4	Preservative: HCl	Sampling Information: Date	Sampling Information: Time
1	B-D41-S-06-3	1		X		X			X				3/16/17	12:20
2	-8	2												12:25
3	-15	3												12:30
4	B-D41-S-SG-02-35	4												7:20
5	-85	5												7:25
6	-155	6												7:30
7	B-D41-S-SG-07-35	7												12:50
8	-85	8												12:55
9	-155	9												13:05
10	B-D41-S-SG-08-35	10												15:00
11	-85	11												15:10
12	-155	12												15:20
13	B-D41-S-SG-10-35	13												9:10
14	-85	14												9:22
15	-155	15												9:45
16	B-D41-S-SG-11-35	16												10:35
17	-85	17												10:47
18	-155	18												10:55
19	B-D41-S-04-3	19												14:15
20	-8	20												14:25

Method	Container	Turnaround Time
VOCs, EPA Method 8260B		
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	24 hours
	250-ml Poly Bottle	48 hours
	EZ Draw (EPA 5035)	Normal
	Acetate Liner	
	T-I Amber Bottle	

Relinquished by	Date	Time	Received by	Date	Time
	3/16/17	1605		3/16/17	1605
	3/16/17	1835		3/16/17	18:35

Remarks

Sample condition (circle): Chilled Intact

Take sample from end of liner.

Hold all samples until dec for D/S!

received for 1st composites (separate coc)
hold 15' samples as needed after 3' + 8' analysis

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Chain-of-Custody Record

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: Grab	Type: Discrete	Matrix: Water	Matrix: Soil	Matrix: Vapor	Matrix: Other	Preservative: Cold (4° C)	Preservative: HNO3	Preservative: NaHSO4	Preservative: HCl	Sampling Information: Date	Sampling Information: Time
21	B-DU1-S-04-15	21		X		X			X				3/16/17	14:35
22														
23														

Method: 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

Container: 4- or 8-ounce Glass; 250-ml Poly Bottle; EZ Draw (EPA 5035); Acetate Liner (1279); 1-l Amber Bottle

Turnaround Time: 24 hours; 48 hours; Normal (X)

Relinquished by	Date	Time	Received by	Date	Time
[signature]	3/16/17	1605	[signature]	3/16/17	1605
[signature]	3/16/17	1835	[signature]	3/16/17	18:35

Remarks

Sample condition (circle): Chilled Intact

Take sample from center of liner unless otherwise indicated.

Hold all samples until all for DU received, analysis on separate COC.

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WORK ORDER NUMBER: 17-03- 1279

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 03 / 16 / 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 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: TR

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 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** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, Labeled/Checked by: TR

s = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH Reviewed by: KRY

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Chain-of-Custody Record

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

17-03-1382

Number	Sample ID	Lab ID	Type: Grab	Type: Discrete	Matrix: Water	Matrix: Soil	Matrix: Vapor	Matrix: Other	Preservative: Cold (4° C)	Preservative: HNO3	Preservative: NaHSO4	Preservative: HCl	Sampling Information: Date	Sampling Information: Time
1	B-DU1-5-G-01-35			X		X			X				3/17/17	12:55
2	-85			X		X			X				3/17/17	13:00
3	-155			X		X			X				3/17/17	13:10
4	B-DU1-5-G-03-35			X		X			X				3/17/17	12:15
5	-85			X		X			X				3/17/17	12:20
6	-155			X		X			X				3/17/17	13:35
7	B-DU1-5-G-04-35			X		X			X				3/17/17	10:25
8	-85			X		X			X				3/17/17	10:30
9	-155			X		X			X				3/17/17	10:50
10	B-DU1-5-03-3			X		X			X				3/17/17	13:30
11	-8			X		X			X				3/17/17	13:35
12	-15			X		X			X				3/17/17	13:50
13														
14														
15														
16														
17														
18														
19														
20														

Method: VOCs, EPA Method 8260B	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	Container: 4- or 8-ounce Glass	250-ml Poly Bottle	EZ Draw (EPA 5035)	Acetate Liner	1-l Amber Bottle	Turnaround Time: 24 hours	48 hours	Normal
	X	X					X	X		X	X				X				X
	X	X					X	X			X				X				
											X				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
	3/17/17	1520		3/17/17	1520
	3/17/17	1825	ECI	031717	1825

Remarks

Sample condition (circle): Chilled Intact

Hold until all B-DU1 received for 15ft composites. Take sample from center of liner unless otherwise indicated. Hold 15' samples until 3' and 8' samples analyzed as needed.

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WORK ORDER NUMBER: 17-03- 1382

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 03 / 17 / 2017

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

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

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

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

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

Ambient Temperature: ☐ Air ☐ Filter Checked by: 1091

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1091

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: **(Trip Blank Lot Number:** _____**)**

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (2) ☐ 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** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 681

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WORK ORDER NUMBER: 17-03- 1382

SAMPLE ANOMALY REPORT

DATE: 03 / 17 / 2017

SAMPLES, CONTAINERS, AND LABELS:

Comments

- ☐ 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*)

(-6) collection time per label is 12:35

* Transferred at client's request.

MISCELLANEOUS: (Describe)

Comments

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**

(Containers with bubble for other analysis)

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

Comments: _____

Reported by: 1053

Reviewed by: 681

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

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EFI Global

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

Chain-of-Custody Record

17-03-1524

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: Grab	Type: Discrete	Matrix: Water	Matrix: Soil	Matrix: Vapor	Matrix: Other	Preservative: Cold (4° C)	Preservative: HNO3	Preservative: NaHSO4	Preservative: HCl	Sampling Information: Date	Sampling Information: Time
1	B-DU1-S-01-3	1		X		X			X				3/20/17	14:15
2	-8	2												14:20
3	-15	3												14:30
4	B-DU1-S-02-3	4												10:55
5	-8	5												11:00
6	-15	6												11:10
7	B-DU1-S-05-3	7												10:15
8	-8	8												10:20
9	-15	9												10:30
10	B-DU1-S-07-3	10												9:40
11	-8	11												9:45
12	-15	12												9:55
13	B-DU1-S-08-3	13												13:00
14	-8	14												13:05
15	-15	15												13:25
16	B-DU1-S-09-3	16												9:18
17	-8	17												9:21
18	-15	18												9:25
19	B-DU1-SG-05-3	19												8:15
20	-05-8	20												8:20

Method: VOCs, EPA Method 8260B	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	Container: 4- or 8-ounce Glass	250-ml Poly Bottle	EZ Draw (EPA 5035)	Acetate Liner	1-l Amber Bottle	Turnaround Time: 24 hours	48 hours	Normal
	X	X					X	X			X				X				X
	X	X					X												

Relinquished by	Date	Time	Received by	Date	Time
	3/20/17	15:45		3/20/17	15:45
	3/21/17	1145		3/21/17	1145
	3/21/17	1537		3/21/17	1537

Remarks

Sample condition (circle): Chilled Intact

Hold all high all of B-DU1 received for 15 composites. Hold all 15' samples for further analysis after 3-15' results are known. Take sample from Center Liner.

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Chain-of-Custody Record

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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: Grab	Type: Discrete	Matrix: Water	Matrix: Soil	Matrix: Vapor	Matrix: Other	Preservative: Cold (4° C)	Preservative: HNO3	Preservative: NaHSO4	Preservative: HCl	Sampling Information: Date	Sampling Information: Time
1	B-D41-5SG-08-15S	21		X		X			X				3/20/17	8:30
2	B-D41-5SG-06-3S	22												12:38
3	-8S	23												12:42
4	-15S	24												12:45
5	B-D41-5-SG-09-3S	25												7:35
6	-8S	26												7:40
7	-15S	27												7:46
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Method: VOCs, EPA Method 8260B; 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

Container: 4-oz or 8-ounce Glass; 250-ml Poly Bottle; EZ Draw (EPA 5035); Acetate Liner; 1-l Amber Bottle — 1524

Turnaround Time: 24 hours; 48 hours; Normal

Relinquished by	Date	Time	Received by	Date	Time
	3/20/17	15:45		3/20/17	15:45
	3/21/17	1145	Ally EC2	3/21/17	1145
Ally	3/21/17	1537	Dhinggle EC2	3/21/17	15:37

Remarks: Sample condition (circle): Chilled Intact

See page 1 of 2 for notes

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WORK ORDER NUMBER: 17-03- 1524

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: EFI

DATE: 03 / 21 / 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): 3.8 °C (w/ CF): 3.8 °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: GTP

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A Checked by: GTP

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	☒ 3/21/17	☒	☐
Sample container(s) intact and in good condition	☒	☐	☐
Proper containers for analyses requested	☒	☐	☐
Sufficient volume/mass for analyses requested	☒	☐	☐
Samples received within holding time	☒	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☒
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☒
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☒
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☒

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 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** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, Labeled/Checked by: 1110

s = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH Reviewed by: GTP

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WORK ORDER NUMBER: 17-03- 1524

SAMPLE ANOMALY REPORT

DATE: 03 / 21 / 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.

Comments

Collection time per Label:
(-2) 14:30
(-3) 14:20

MISCELLANEOUS: (Describe)

Comments

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**

(Containers with bubble for other analysis)

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

Comments: _____

Reported by: 1110

Reviewed by: 659

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

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1557

CONDITION UPON RECEIPT:

Eurofins Calscience, Inc. received (20) solid samples on March 16, 17, and 21, 2017. A total of (20) containers were received in good condition and at temperatures of 1.8°C, 2.0°C, and 3.8°C, which were within the recommended temperature of 0°C – 6°C.

Client Sample ID	Lab Sample ID	Date & Time Sampled	Date & Time Received
B-DU1-S-06-8	17-03-1557-1	03/16/17 12:25	03/21/17 15:37
B-DU1-S-SG-02-8S	17-03-1557-2	03/16/17 07:25	03/21/17 15:37
B-DU1-S-SG-07-8S	17-03-1557-3	03/16/17 12:55	03/21/17 15:37
B-DU1-S-SG-08-8S	17-03-1557-4	03/16/17 15:10	03/21/17 15:37
B-DU1-S-SG-10-8S	17-03-1557-5	03/16/17 09:22	03/21/17 15:37
B-DU1-S-SG-11-8S	17-03-1557-6	03/16/17 10:47	03/21/17 15:37
B-DU1-S-04-8	17-03-1557-7	03/16/17 14:25	03/21/17 15:37
B-DU1-S-SG-01-8S	17-03-1557-8	03/17/17 13:00	03/21/17 15:37
B-DU1-S-SG-03-8S	17-03-1557-9	03/17/17 12:20	03/21/17 15:37
B-DU1-S-SG-04-8S	17-03-1557-10	03/17/17 10:30	03/21/17 15:37
B-DU1-S-03-8	17-03-1557-11	03/17/17 13:35	03/21/17 15:37
B-DU1-S-01-8	17-03-1557-12	03/20/17 14:20	03/21/17 15:37
B-DU1-S-02-8	17-03-1557-13	03/20/17 11:00	03/21/17 15:37
B-DU1-S-05-8	17-03-1557-14	03/20/17 10:20	03/21/17 15:37
B-DU1-S-07-8	17-03-1557-15	03/20/17 09:45	03/21/17 15:37
B-DU1-S-08-8	17-03-1557-16	03/20/17 13:05	03/21/17 15:37
B-DU1-S-09-8	17-03-1557-17	03/20/17 09:21	03/21/17 15:37
B-DU1-S-SG-05-8S	17-03-1557-18	03/20/17 08:20	03/21/17 15:37
B-DU1-S-SG-06-8S	17-03-1557-19	03/20/17 12:42	03/21/17 15:37
B-DU1-S-SG-09-8S	17-03-1557-20	03/20/17 07:40	03/21/17 15:37
COMPOSITE	17-03-1557-21	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM1-8	17-03-1557-22	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM2-8	17-03-1557-23	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM3-8	17-03-1557-24	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM1-8	17-03-1557-25	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM2-8	17-03-1557-26	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM3-8	17-03-1557-27	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM1-8	17-03-1557-28	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM2-8	17-03-1557-29	03/16/17 00:00	03/21/17 15:37
B-DU1-ISM3-8	17-03-1557-30	03/16/17 00:00	03/21/17 15:37

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1557

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 -25 through -27 were analyzed for % Moisture by ASTM D-2216 (M). The samples were prepared and analyzed on 03/23/17 in batch #s H0323MOIB3 / H0323MOID3.

Balance Calibration/Verification:

All values were within acceptance criteria.

Sample and QC:

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

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1557

EPA 6010B Title 22 Metals (Solid):

Samples -28 through -30 were analyzed for Metals by EPA 6010B. The samples were prepared and analyzed on 03/29/17 in batch #s 170329L05 / 170329S05 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:

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 -25 through -27 were analyzed for Mercury by EPA 7471A. The samples were prepared and analyzed on 03/29/17 in batch #s 170329L01 / 170329S01 on Mercury 08.

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

All values were within acceptance criteria.

Continuing Calibration Verification and Continuing Calibration Blank:

All values were within acceptance criteria.

Sample and QC:

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

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

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1557

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

Samples -25 through -27 were analyzed for Diesel and Motor Oil Ranges by EPA 8015B (M). The samples were prepared on 03/24/17 and analyzed on 03/28/17 in batch #s 170324B12 / 170324S12 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:

Sample -27 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 8082 PCB Aroclors (Solid):

Samples -28 through -30 were analyzed for Polychlorinated Biphenyls Aroclors by EPA 8082. The samples were prepared on 03/27/17 and analyzed on 03/28/17 in batch #s 170327L05 / 170327S05 on GC 66.

Initial Calibration and Initial Calibration Verification:

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

Continuing Calibration Verification:

All values were within the 15% D acceptance criteria.

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1557

Sample and QC:

Sample -28 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 -25 through -27 were analyzed for Polynuclear Aromatic Hydrocarbons by EPA 8270C SIM. The samples were prepared on 03/24/17 and analyzed on 03/27/17 in batch #s 170324L17 / 170324S17 on GC/MS EEE.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 03/13/17 on GC/MS EEE. The ICAL was within the 15% RSD acceptance criteria and the ICV was within the 20% D acceptance criteria.

Continuing Calibration Verification:

All values were within the 20% D acceptance criteria.

Tuning Standards:

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

Sample and QC:

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

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

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

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ASTM D-2216 (M)

Moisture Content

(Solid)

RAW DATA

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

WORK ORDER:	**17-03-1557**	ANALYZED BY:	1,050
INSTRUMENT:	N/A	D/T ANALYZED:	2017-03-23 21:00
EXTRACTION :	N/A	REVIEWED BY:	1,050
D/T EXTRACTED:	2017-03-23 00:00	D/T REVIEWED:	2017-03-27 09:57

DATA FILE: NONE

 # 25 **CLIENT SAMPLE NUMBER: B-DU1-ISM1-8**

LCS/MB BATCH:	H0323MOIB3	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0323MOID3	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	3.00	1.00	3.00	0.10	

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

WORK ORDER:	**17-03-1557**	ANALYZED BY:	1,050
INSTRUMENT:	N/A	D/T ANALYZED:	2017-03-23 21:00
EXTRACTION :	N/A	REVIEWED BY:	1,050
D/T EXTRACTED:	2017-03-23 00:00	D/T REVIEWED:	2017-03-27 09:57

DATA FILE: NONE

 # 26 **CLIENT SAMPLE NUMBER: B-DU1-ISM2-8**

LCS/MB BATCH:	H0323MOIB3	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0323MOID3	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	2.80	1.00	2.80	0.10	

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

WORK ORDER:	**17-03-1557**	ANALYZED BY:	1,050
INSTRUMENT:	N/A	D/T ANALYZED:	2017-03-23 21:00
EXTRACTION :	N/A	REVIEWED BY:	1,050
D/T EXTRACTED:	2017-03-23 00:00	D/T REVIEWED:	2017-03-27 09:57

DATA FILE: NONE

 # 27 **CLIENT SAMPLE NUMBER: B-DU1-ISM3-8**

LCS/MB BATCH:	H0323MOIB3	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:	H0323MOID3	FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	3.00	1.00	3.00	0.10	

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

MB SAMPLE ID:	**099-05-014-6770**	ANALYZED BY:	1,050
MB BATCH ID:	H0323MOIB3	D/T ANALYZED:	2017-03-23 21:00
INSTRUMENT:	N/A	REVIEWED BY:	1,050
EXTRACTION:	N/A	D/T REVIEWED:	2017-03-27 09:57
D/T EXTRACTED:	2017-03-23 00:00	MATRIX:	Soil

DATA FILE: NONE

CLIENT WORK ORDER: 17-03-1557

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
25		B-DU1-ISM1-8	2017-03-23 21:00	NONE
26		B-DU1-ISM2-8	2017-03-23 21:00	NONE
27		B-DU1-ISM3-8	2017-03-23 21:00	NONE

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

WORK ORDER:	**099-05-014**	ANALYZED BY:	1,050
INSTRUMENT:	N/A	D/T ANALYZED:	2017-03-23 21:00
EXTRACTION :	N/A	REVIEWED BY:	1,050
D/T EXTRACTED:	2017-03-23 00:00	D/T REVIEWED:	2017-03-27 09:57

DATA FILE: NONE

 # MB **CLIENT SAMPLE NUMBER: Method Blank**

LCS/MB BATCH:	H0323MOIB3	SAMPLE VOLUME / WEIGHT:	DEFAULT: 1.00 g
MS/MSD BATCH:		FINAL VOLUME / WEIGHT:	DEFAULT: 1.00 ml
UNITS:	%	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

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

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

DUP SAMPLE ID: 17-03-1556-25
DUP BATCH : H0323MOID3
INSTRUMENTS:
SAMPLE: N/A
DUP SAMPLE: N/A

EXTRACTION : N/A
D/T EXTRACTED :
SAMPLE: 2017-03-23 00:00
DUP SAMPLE: 2017-03-23 00:00

ANALYZED BY: 1,050
D/T ANALYZED
SAMPLE: 2017-03-23 21:00
DUP SAMPLE: 2017-03-23 21:00
REVIEWED BY: 1,050
D/T REVIEWED 2017-03-27 09:57

COMPOUND	SAMPLE CONC	DUP CONC	% RPD	CONTROL LIMIT	STATUS	QUALIFIERS
Moisture	4.600	4.700	2	0-10	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
SDP	NONE	

Moisture Content Raw Data Logbook

METHOD	MATRIX	DATE	ANALYST(S)	BATCH NUMBER
ASTM D2216(M)	☑ Solid ☐ Sediment ☐ Other_____	Preparation: 3/23/17	10501 / 1009	MB: H0323 MOI B3
		Analysis: ↓	↓	Sample Duplicate: ↓ D3

CEL ID #	MASS (g) DISH	DRY DISH	MOISTURE	% MOISTURE	RL (%)	COMMENTS	ALUMINUM DISH SUPPLY ID
MB	1.88	1.88	0.00	0.00	0.16		God. 66-15

CEL ID #	% MOISTURE	RPD	CONTROL LIMIT	OVEN ID	THERMOMETER ID / CF (°C)	OVEN TEMP (°C)	BATCH PREP TIME (hh:mm)
Sample 17-03-1556-25-A	4.6	2	0 – 10	☑ IO 07	☑ TSS IO7A CF: -2	Start: 103	Start: 1300
Duplicate ↓	4.7			☐ IO 08	☐ TSS IO8A CF:_____	End: 103	End: 2100
Instructions: CEL ID consists of Work Order Number and Container ID				☐ _____	☐ _____ CF:_____		

CEL ID #	MASS (g) DISH	DISH + SAMPLE (as-received)	SAMPLE (as-received)	DISH + SAMPLE (oven-dried)	MOISTURE	% MOISTURE WET-BASED	% MOISTURE DRY-BASED	BALANCE ID #	RL (%)	QUAL	COMMENTS
Duplicate 17-03-1556-25A	1.91	12.14	10.23	11.66	0.48	4.7		63	0.10		
17-03-1556-25A	1.86	12.05	10.19	11.58	0.47	4.6		↓	↓		
↓ -26A	1.87	12.28	10.41	11.82	0.46	4.4					
↓ -27A	1.87	12.38	10.51	11.89	0.49	4.7					
17-03-1557-25A	1.89	12.48	10.59	12.16	0.32	3.0					
↓ -26A	1.88	12.05	10.17	11.77	0.28	2.8					
↓ -27A	1.89	12.32	10.43	12.01	0.31	3.0					
17-03-1558-25A	1.86	12.35	10.49	12.04	0.31	3.0					
↓ -26A	1.88	12.44	10.56	12.12	0.32	3.0					
↓ -27A	1.88	12.06	10.18	11.78	0.28	2.8					
17-03-1618-1A	1.89	12.47	10.58	9.88	2.59	24.9		↓	↓		

BATCH TIME
Time (24 Hr): 2100
Initials: 1009/1050

Drying / Weighing Cycle Raw Data Logbook

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

METHOD				MASS CHANGE CONTROL LIMIT	COMMENTS
☑ ASTM D2216(M)	☐ EPA 160.4	☐ SM 2540 C	☐ WET (STLC)	Moisture/Solids Content: < 0.1% of previous mass	BATCH TIME Time (24 Hr): 2100 Initials: 1050/1009
☐ EPA 160.1	☐ EPA 1311	☐ SM 2540 D	☐ Other	TDS/TSS/VS/VSS: < 4% of previous mass or 0.5 mg, whichever is less	
☐ EPA 160.2	☐ EPA 1312	☐ SM 2540 E		TCLP/SPLP/STLC: within ± 1% of previous mass	
☐ EPA 160.3	☐ SM 2540 B	☐ SOP-M489			

MATRIX	DATE	ANALYST(S)	BATCH NUMBER		COMMENTS
Solid	Preparation: 03/23/17	1050/1009	MB: H03 23 Mo1 B3	LCS/LCSD:	
	Analysis: ↓	↓	Sample Duplicate:	Sample Duplicate or MS/MSD:	

ECI ID #	OVEN ID #	CONTAINER + RESIDUE (OVEN-DRIED) CYCLE 1 MASS (g)	CYCLE 1 TIME (hh:mm) IN	CYCLE 1 TIME (hh:mm) OUT	CYCLE 2 MASS (g)	CYCLE 2 TIME (hh:mm) IN	CYCLE 2 TIME (hh:mm) OUT	CYCLE 3 MASS (g)	CYCLE 3 TIME (hh:mm) IN	CYCLE 3 TIME (hh:mm) OUT	FINAL MASS CHANGE WITHIN LIMITS	BALANCE ID #	COMMENTS
MB	10-07	1.88	1400	1800	1.88	1900	2000				(Y) N	63	
LCS											Y N		
LCSD											Y N		
MS											Y N		
MSD/Duplicate											Y N		
Duplicate HC 17-03-1556-25A	10-07	11.66	1400	1800	11.66	1900	2000				(Y) N	63	
1009 3/23/17 17-03-1556-25A	↓	11.58	↓	↓	11.58	↓	↓				(Y) N	↓	
26A	↓	11.82	↓	↓	11.82	↓	↓				(Y) N	↓	
27A	↓	11.89	↓	↓	11.89	↓	↓				(Y) N	↓	
17-03-1557-25A	↓	12.16	↓	↓	12.16	↓	↓				(Y) N	↓	
26A	↓	11.77	↓	↓	11.77	↓	↓				(Y) N	↓	
27A	↓	12.01	↓	↓	12.01	↓	↓				(Y) N	↓	
17-03-1558-25A	↓	12.04	↓	↓	12.04	↓	↓				(Y) N	↓	
26A	↓	12.12	↓	↓	12.12	↓	↓				(Y) N	↓	
27A	↓	11.78	↓	↓	11.78	↓	↓				(Y) N	↓	
17-03-1618-1A	✓	9.88	✓	✓	9.88	✓	✓				(Y) N	✓	
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		

BALANCE CALIBRATION CHECK LOG

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Date performed: 03/23/17 Initials: III

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	Y N	IO Lab
	100	100.01	98.00 - 102.00	Y N	
	500	500.08	498.00 - 502.00	Y N	
62	0.002	.0018	0.00180 - 0.00220	Y N	IO Lab
	1	.9993	0.99900 - 1.00100	Y N	
	100	99.9964	99.90000 - 100.10000	Y N	
26	1	1.01	0.98 - 1.02	Y N	IO Lab
	100	99.99	98.00 - 102.00	Y N	
55	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	99.97	98.00 - 102.00	Y N	
	500	499.89	498.00 - 502.00	Y N	
11	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	99.99	98.00 - 102.00	Y N	
66	0.002	.0018	0.00180 - 0.00220	Y N	Metals
	1	.9995	0.99900 - 1.00100	Y N	
	100	100.0001	99.90000 - 100.10000	Y N	
53	0.1	.10	0.09 - 0.11	Y N	Extractions
	1	1.07	0.98 - 1.02	Y N	
	100	100.06	98.00 - 102.00	Y N	
	500	499.99	498 - 502	Y N	
~~20~~ 70	1	.99	0.98 - 1.02	Y N	Extractions
	100	99.83	98.00 - 102.00	Y N	
	500	499.17	498.00 - 502.00	Y N	
57	100	100.0	98.0-102.0	Y N	Extractions
	1000	1000.0	998.0-1002.0	Y N	
	2000	2000.0	1998.0-2002.0	Y N	
52	0.002	.0018	0.0018 - 0.0022	Y N	Extractions
	1	.9993	0.9990 - 1.0010	Y N	
	100	99.9961	99.9000 - 100.1000	Y N	
71	0.002	.0021	0.0018 - 0.0022	Y N	BOD Room
	1	.9994	0.9990 - 1.0010	Y N	
	100	99.9966	99.9000 - 100.1000	Y N	
63	0.1	0.10	0.09 - 0.11	Y N	BOD Room
	100	100.00	98.00 - 102.00	Y N	
64	1	1.00	0.98 - 1.02	Y N	Metals Clean Room
	10	10.00	9.8 - 10.2	Y N	
	100	100.01	98.00 - 102.00	Y N	
72	0.002	.0020	0.0018 - 0.0022	Y N	Oil & Grease Room
	1	.9994	0.9990 - 1.0010	Y N	
	100	100.0003	99.9000 - 100.1000	Y N	
30	1	1.00	0.98 - 1.02	Y N	Oil & Grease Room
	100	100.00	98.00 - 102.00	Y N	

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EPA 8015B (M)

Diesel + Motor Oil

RAW DATA

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EPA 8015B (M)

Diesel + Motor Oil

INITIAL CALIBRATION

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

ICAL WORK ORDER: 099-14-354-18-5901
ICAL BATCH ID: 161202I007
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	%RSD CL	R or R^2	R or R^2 CL	STATUS
TPH as Diesel	C	Avg RF	69.187	81.182	81.639	84.113	83.988					80.022	0.00	8	0-20			PASS

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

LR - E: Linear Regression (Equal Weight) LR - IC: Linear Regression (Inverse Concentration Weight) LR - ISC: Linear Regression (Inverse Square Concentration Weight)
Avg RF: Average Response Factor QR - E: Quadratic Regression (Equal Weight)

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

ICV WORK ORDER: **099-14-354-18-5901**
INITIAL BATCH: 161202I007
INSTRUMENT: GC 45

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

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

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

MIN RF: Method Specified Minimum Response Factor

Report Date : 05-Dec-2016 12:22 Page 1

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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

Compound	5.000 Level 1	200.000 Level 2	400.000 Level 3	800.000 Level 4	1600.000 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

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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

Compound	5.000 Level 1	200.000 Level 2	400.000 Level 3	800.000 Level 4	1600.000 Level 5	___ RRF	% 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

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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

Compound	5.000 Level 1	200.000 Level 2	400.000 Level 3	800.000 Level 4	1600.000 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

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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

Compound	5.000 Level 1	200.000 Level 2	400.000 Level 3	800.000 Level 4	1600.000 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

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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
Sample Name: ICV D400 C28 50 L102516G
Sublist used: ICAL_D-DRO.sub
Method used: /chem1/SVOA/GC_45.i/161202.b/8015d.m

Injection Date and Time: 02-DEC-2016 21:31
Initial Calibration Date(s): 18-OCT-2016 03-DEC-2016
Initial Calibration Time(s): 12:03 01:29

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

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

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 Inst ID: GC_45.i
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 Quant Type: ESTD
Cal Date : 03-DEC-2016 00:02 Cal File: 16120219.d
Als bottle: 7 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(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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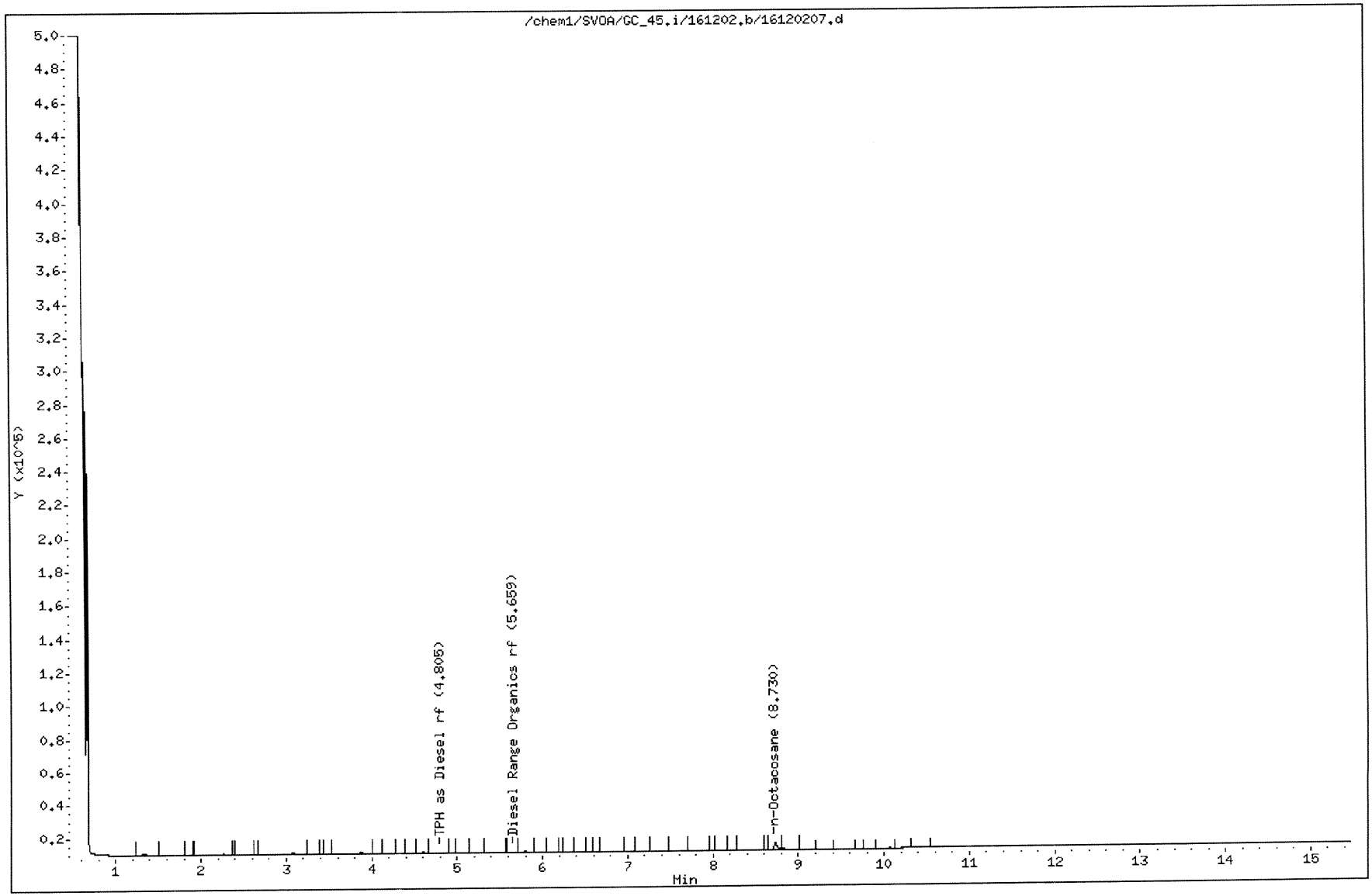
Data File: /chem1/SVOA/GC_45.i/161202.b/16120207.d
Date : 02-DEC-2016 19:43
Client ID:
Sample Info: ICAL D5 C28 0.625 L102516B

Instrument: GC_45.i

Operator: 682
Column diameter: 2.00

Column phase:



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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

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(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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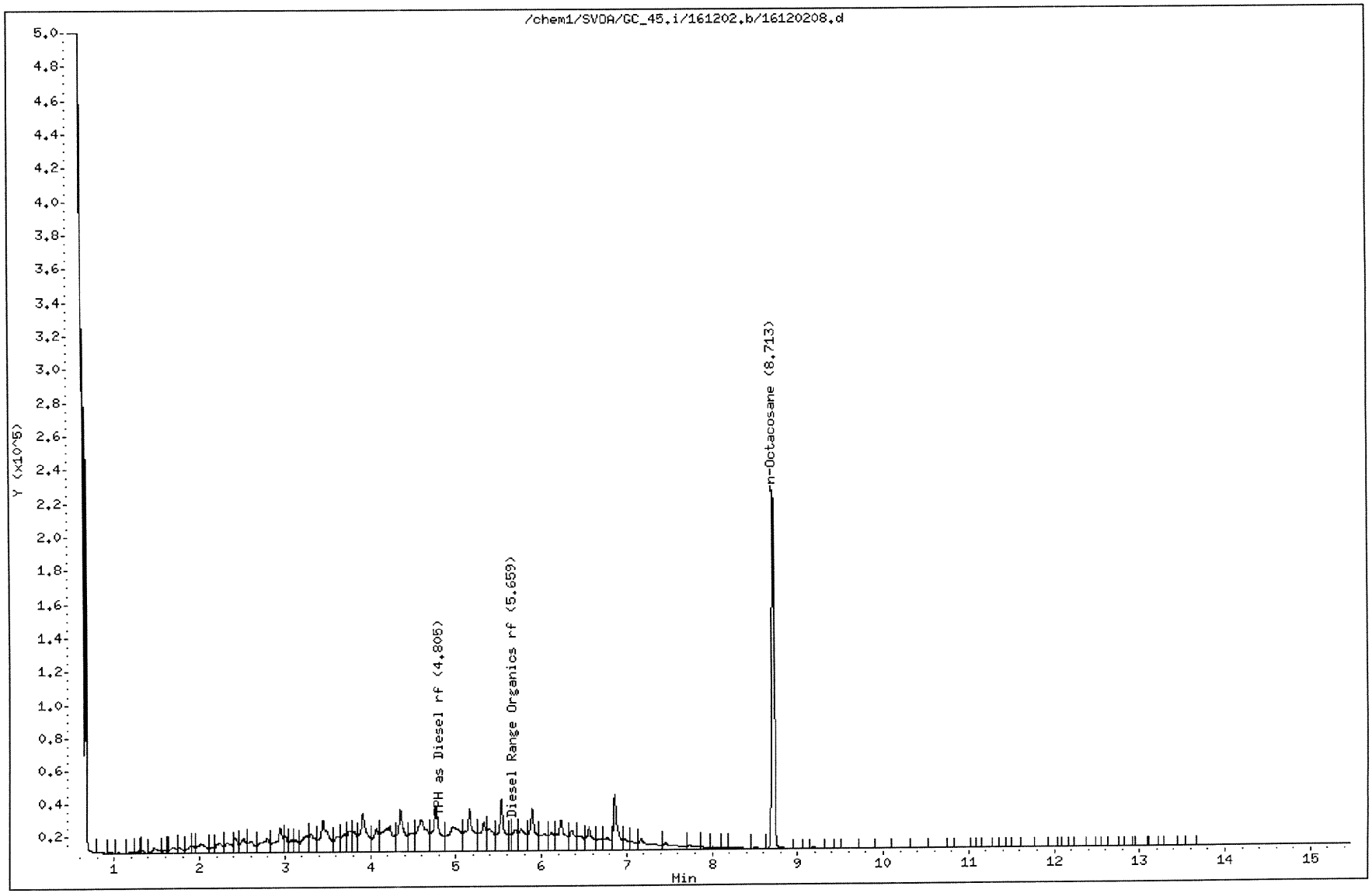
Data File: /chem1/SVOA/GC_45.i/161202.b/16120208.d
Date : 02-DEC-2016 20:05
Client ID:
Sample Info: ICAL D200 C28 25 L102516C

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 Page 1
Report Date: 05-Dec-2016 10:25

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 Inst ID: GC_45.i
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 Quant Type: ESTD
Cal Date : 03-DEC-2016 00:46 Cal File: 16120221.d
Als bottle: 9 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(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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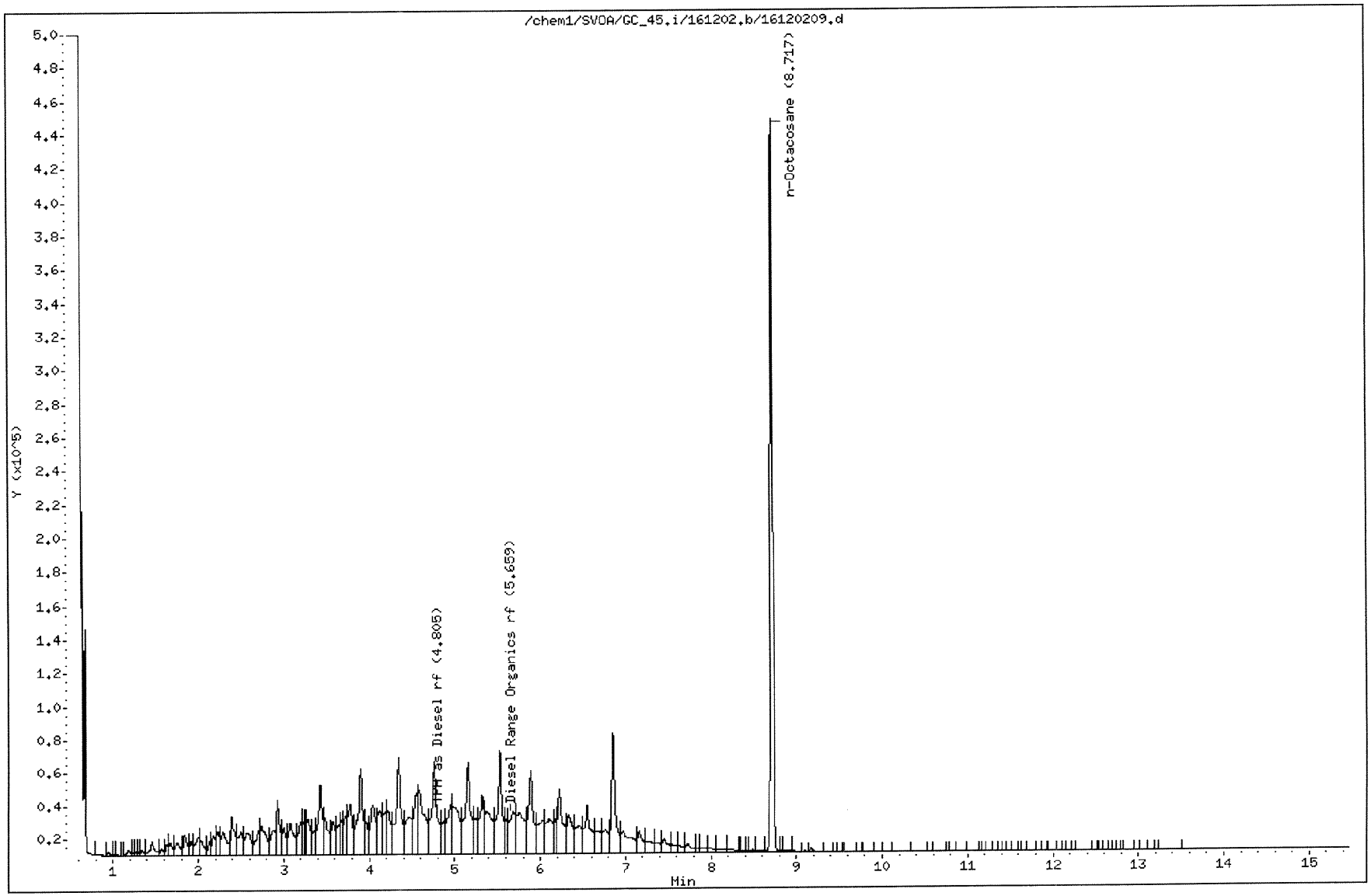
Data File: /chem1/SVOA/GC_45.i/161202.b/16120209.d
Date : 02-DEC-2016 20:27
Client ID:
Sample Info: ICAL D400 C28 50 L102516D

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 Page 1
Report Date: 05-Dec-2016 10:25

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 Inst ID: GC_45.i
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 Quant Type: ESTD
Cal Date : 03-DEC-2016 01:08 Cal File: 16120222.d
Als bottle: 10 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

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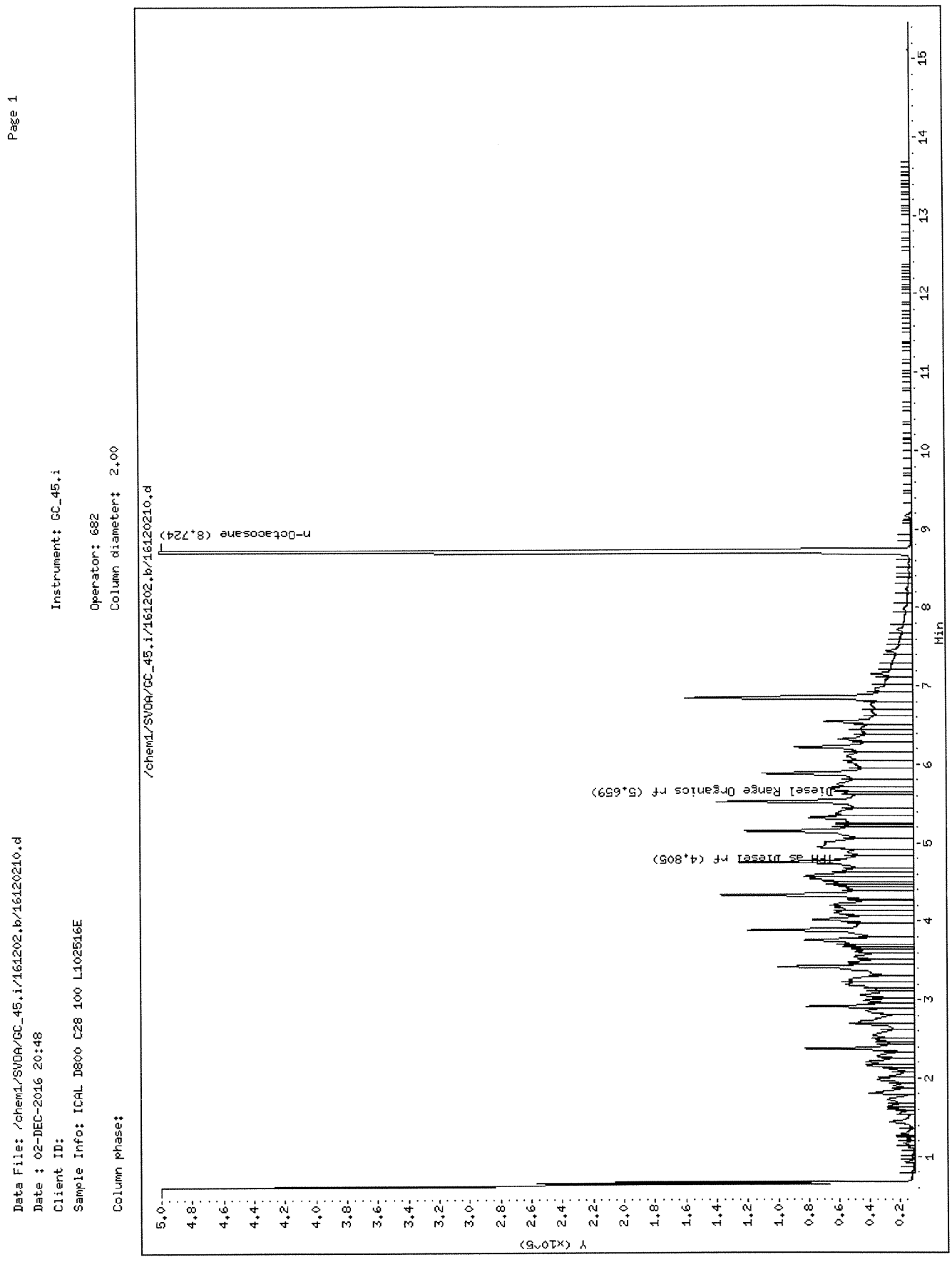

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Data File: /chem1/SVOA/GC_45.i/161202.b/16120211.d Page 1
Report Date: 05-Dec-2016 10:25

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 Inst ID: GC_45.i
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 Quant Type: ESTD
Cal Date : 03-DEC-2016 01:29 Cal File: 16120223.d
Als bottle: 11 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(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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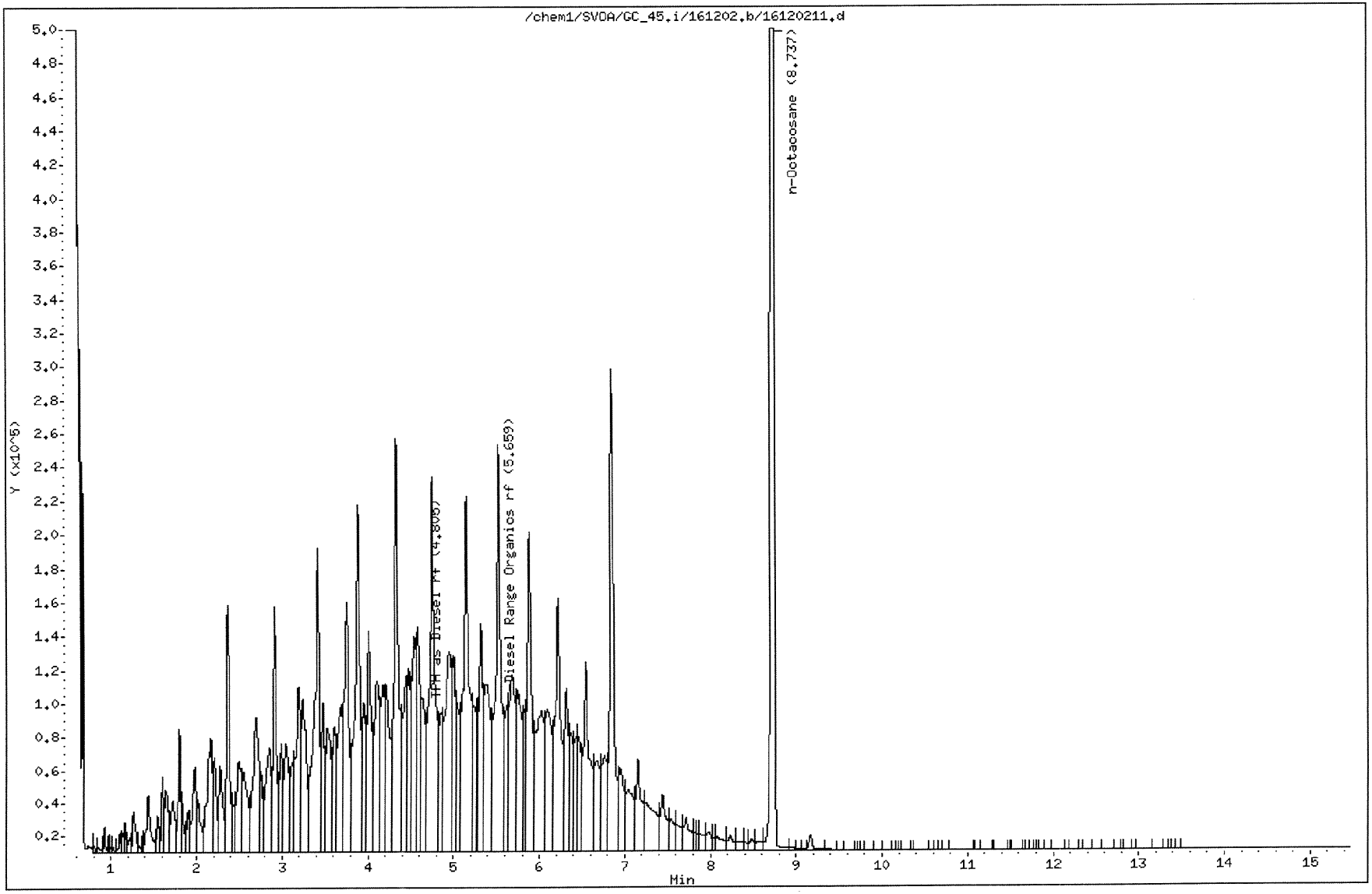
Data File: /chem1/SVOA/GC_45.i/161202.b/16120211.d
Date : 02-DEC-2016 21:09
Client ID:
Sample Info: ICAL D1600 C28 200 L102516F

Instrument: GC_45.i

Operator: 682
Column diameter: 2.00

Column phase:



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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 Inst ID: GC_45.i
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 Quant Type: ESTD
Cal Date : 03-DEC-2016 01:29 Cal File: 16120223.d
Als bottle: 12 Continuing Calibration Sample
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

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(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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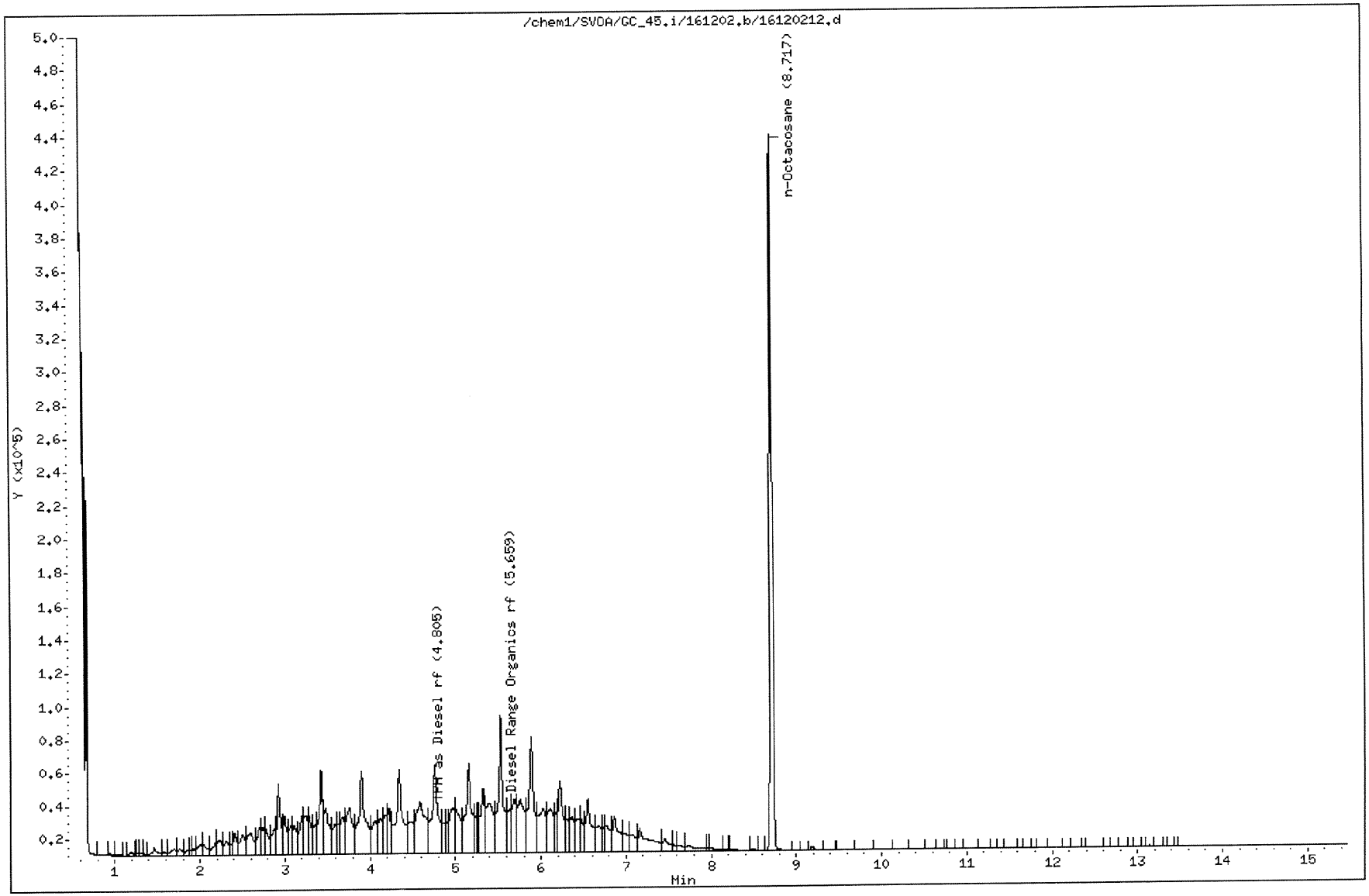
Data File: /chem1/SVOA/GC_45.i/161202.b/16120212.d
Date : 02-DEC-2016 21:31
Client ID:
Sample Info: ICV D400 C28 50 L102516G

Instrument: GC_45.i

Operator: 682
Column diameter: 2.00

Column phase:



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External Standard Report

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

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-Dotricacontane
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

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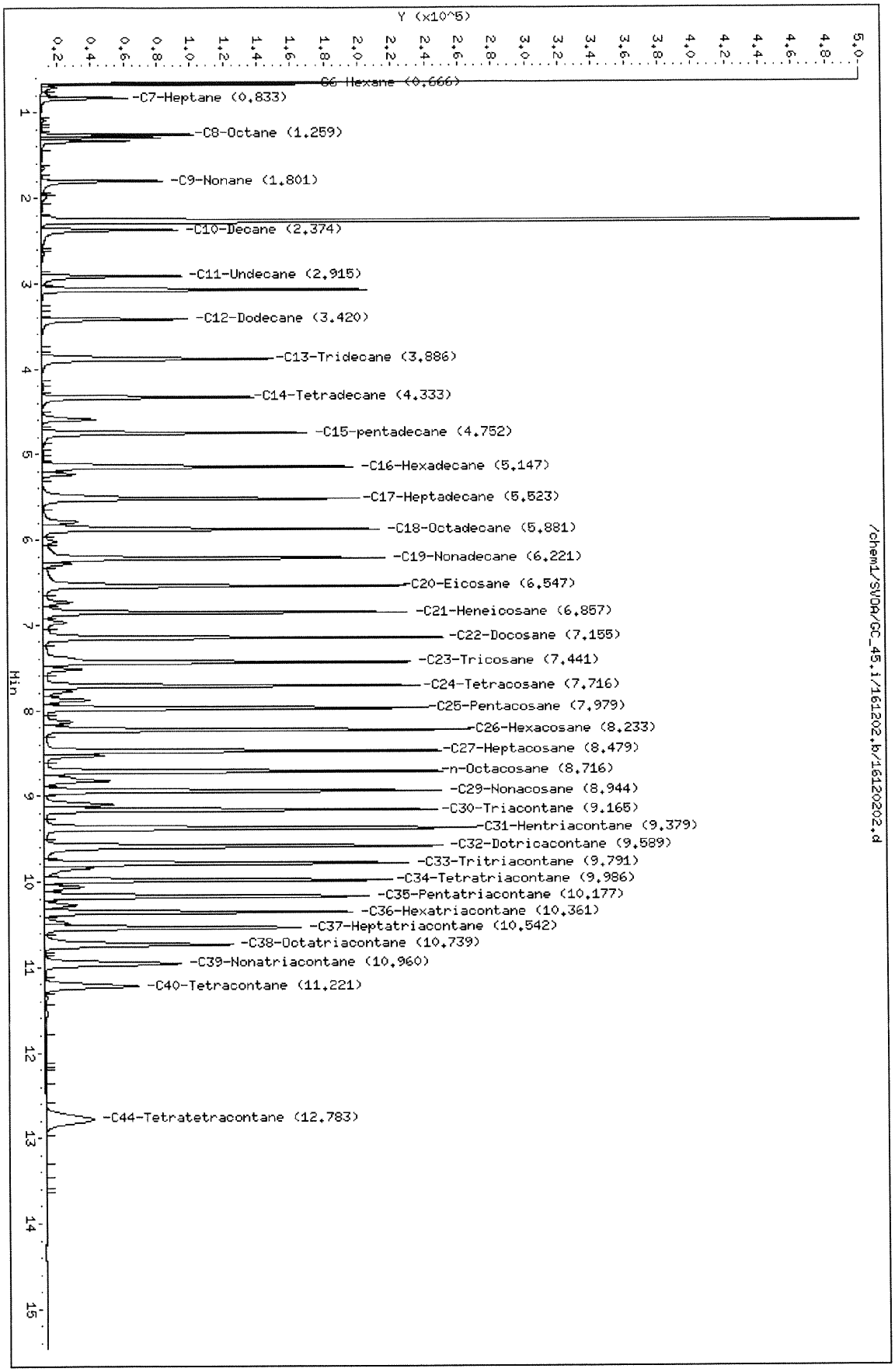

Data File: /chem1/SVOA/GC_45.i/161202.b/16120202.d
Date : 02-DEC-2016 18:40
Client ID:
Sample Info: C6-C44 L110816A
Column phase:

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

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EPA 8015B (M)

Diesel + Motor Oil

SAMPLE DATA

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

WORK ORDER:	**17-03-1557**	ANALYZED BY:	972
INSTRUMENT:	GC 45	D/T ANALYZED:	2017-03-28 14:08
EXTRACTION :	EPA 3550B	REVIEWED BY:	
D/T EXTRACTED:	2017-03-24 00:00	D/T REVIEWED:	

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032810.d\Report.txt17032810

 # 25 **CLIENT SAMPLE NUMBER: B-DU1-ISM1-8**

LCS/MB BATCH:	170324B12	SAMPLE VOLUME / WEIGHT:	DEFAULT: 10.00 g / ACTUAL: 10.10 g
MS/MSD BATCH:	170324S12	FINAL VOLUME / WEIGHT:	DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	0.99

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.430	1.00	ND	5.0	
TPH as Motor Oil	0.700	1.00	ND	5.0	

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

Data File Name    : /chem1/SVOA/GC_45/170328/17032810.d
Page Number       :
Operator          : 682                          Vial Number       : Vial 10
Instrument        : GC 45                        Injection Number  : 10
Sample Name       : 17-03-1557-25                Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 28 MAR 17  14:08
Report Created on: 29-MAR-17  09:47              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_45.i/170328.b/17032810.d
RT Range      Exp RT    DLT RT    Response           ppm                Compound
|-------------|---------|---------|------------------|----------------|--------------------|
        8.612     8.628     0.017         4382608.00           50.81  n-Octacosane
 2.300- 8.839                                 34198.42            0.43  TPH as Diesel
 5.442-12.391                                 55892.46            0.70  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032810.d

Date : 28-MAR-2017 14:08

Client ID:

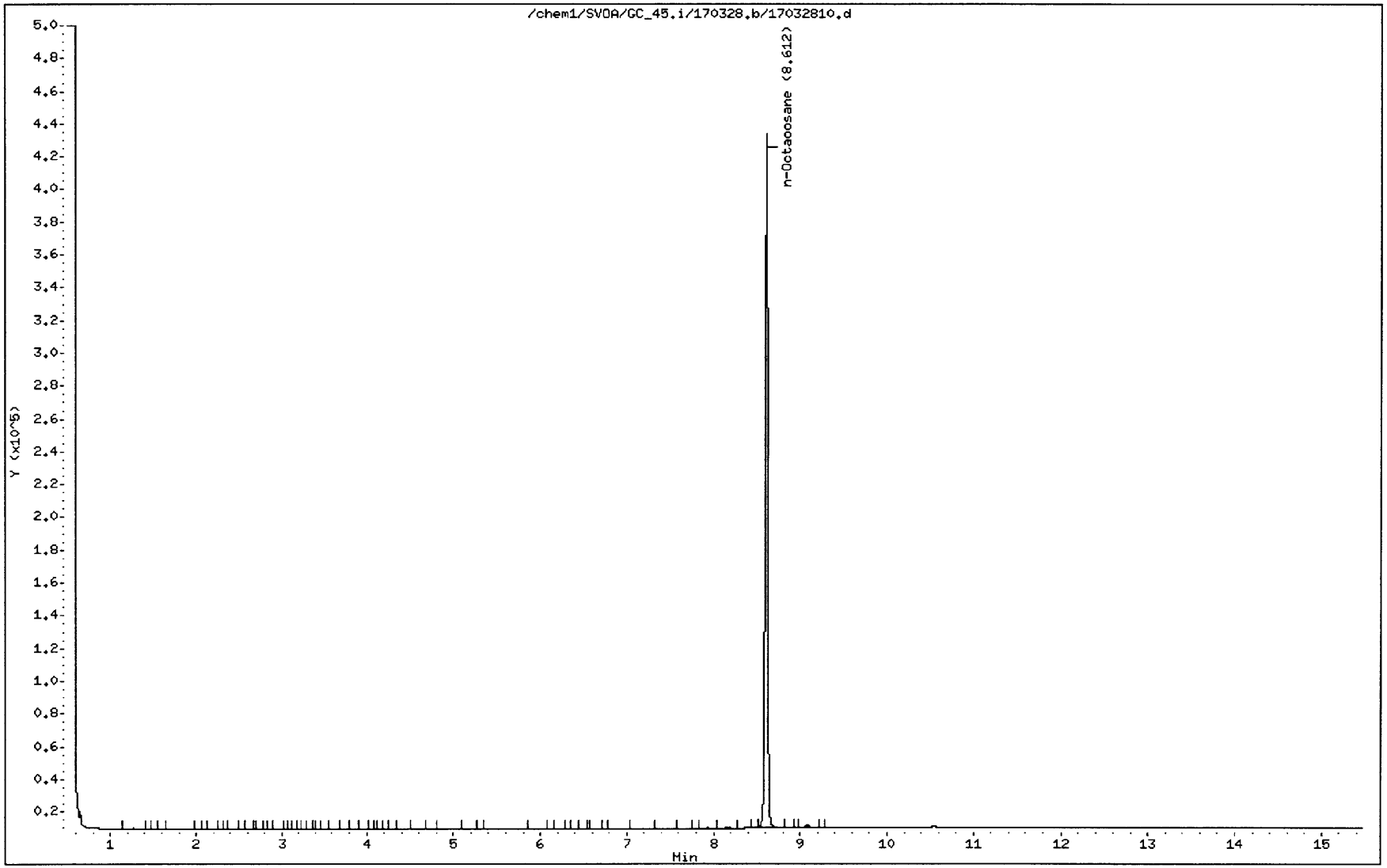
Instrument: GC_45.i

Sample Info: 17-03-1557-25

Operator: 682

Column phase:

Column diameter: 2.00



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

WORK ORDER:	**17-03-1557**	ANALYZED BY:	972
INSTRUMENT:	GC 45	D/T ANALYZED:	2017-03-28 14:29
EXTRACTION :	EPA 3550B	REVIEWED BY:	
D/T EXTRACTED:	2017-03-24 00:00	D/T REVIEWED:	

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032811.d\Report.txt17032811

 # 26 **CLIENT SAMPLE NUMBER: B-DU1-ISM2-8**

LCS/MB BATCH:	170324B12	SAMPLE VOLUME / WEIGHT:	DEFAULT: 10.00 g / ACTUAL: 10.20 g
MS/MSD BATCH:	170324S12	FINAL VOLUME / WEIGHT:	DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	0.98

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.570	1.00	ND	4.9	
TPH as Motor Oil	0.940	1.00	ND	4.9	

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

Data File Name    : /chem1/SVOA/GC_45/170328/17032811.d
Page Number       :
Operator          : 682                          Vial Number      : Vial 11
Instrument        : GC 45                        Injection Number : 11
Sample Name       : 17-03-1557-26                Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 28 MAR 17  14:29
Report Created on: 29-MAR-17  09:47              Compound Sublist : all
Software Revision: Target 3.50

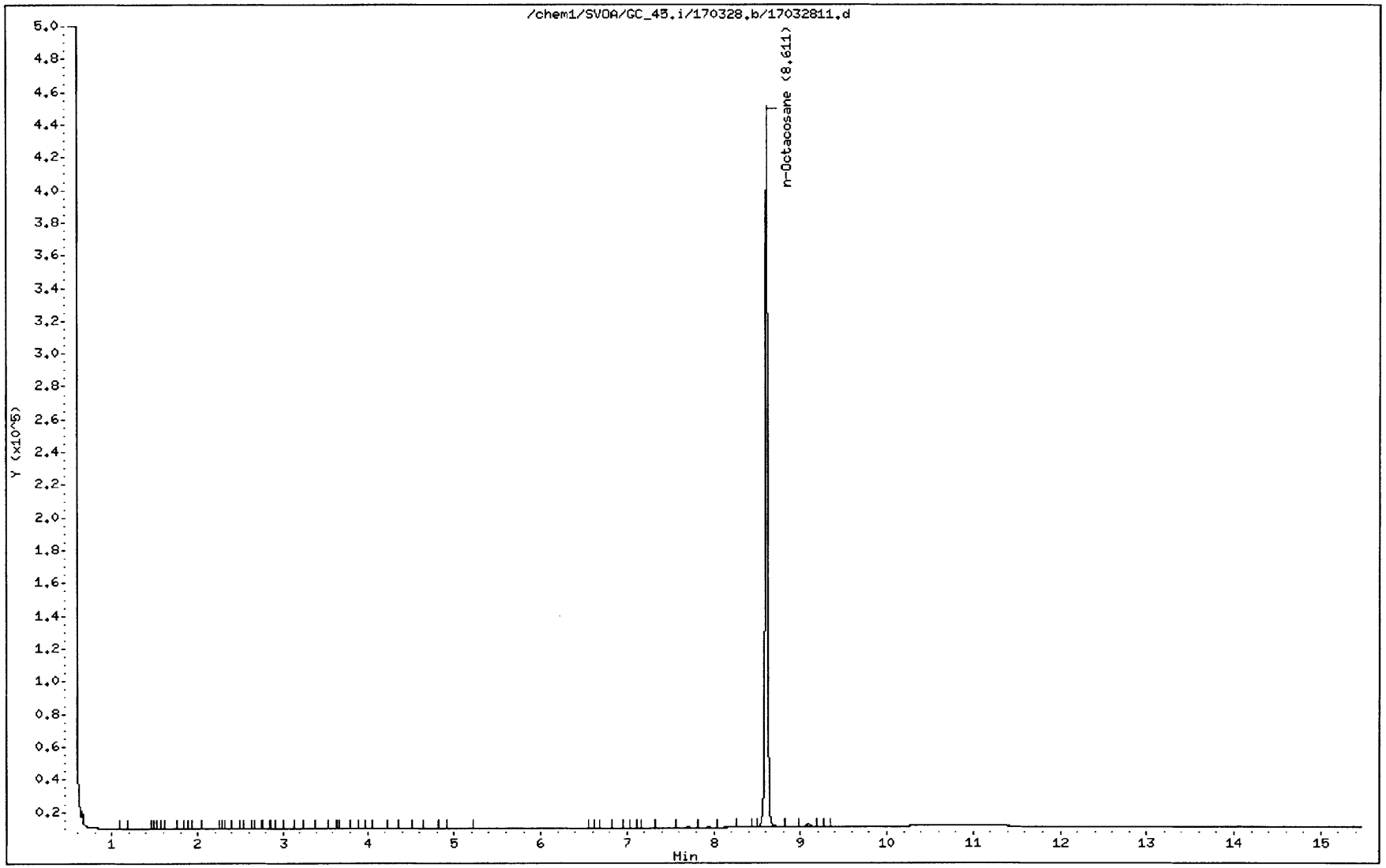
Sig. 1 in  /chem1/SVOA/GC_45.i/170328.b/17032811.d
RT Range      Exp RT    DLT RT    Response           ppm               Compound
|-------------|---------|---------|------------------|---------------|--------------------|
        8.611     8.628     0.017         4512502.00           52.31  n-Octacosane
 2.300- 8.839                                 45521.73            0.57  TPH as Diesel
 5.442-12.391                                 75515.93            0.94  TPH as Motor Oil
End of File
```

Return to Contents

Data File: /chem1/SVOA/GC_45.i/170328.b/17032811.d
Date : 28-MAR-2017 14:29
Client ID:
Sample Info: 17-03-1557-26

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

Column phase:



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

WORK ORDER:	**17-03-1557**	ANALYZED BY:	972
INSTRUMENT:	GC 45	D/T ANALYZED:	2017-03-28 14:51
EXTRACTION :	EPA 3550B	REVIEWED BY:	
D/T EXTRACTED:	2017-03-24 00:00	D/T REVIEWED:	

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032812.d\Report.txt17032812

 # 27 **CLIENT SAMPLE NUMBER: B-DU1-ISM3-8**

LCS/MB BATCH:	170324B12	SAMPLE VOLUME / WEIGHT:	DEFAULT: 10.00 g / ACTUAL: 10.10 g
MS/MSD BATCH:	170324S12	FINAL VOLUME / WEIGHT:	DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	0.99

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.450	1.00	ND	5.0	
TPH as Motor Oil	0.910	1.00	ND	5.0	

Return to Contents

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

Data File Name    : /chem1/SVOA/GC_45/170328/17032812.d
Page Number       :
Operator          : 682                          Vial Number       : Vial 12
Instrument        : GC 45                        Injection Number  : 12
Sample Name       : 17-03-1557-27                Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 28 MAR 17  14:51
Report Created on: 29-MAR-17  09:48              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_45.i/170328.b/17032812.d
RT Range      Exp RT    DLT RT    Response           ppm               Compound
|-------------|---------|---------|------------------|---------------|--------------------|
        8.611     8.628     0.017         4345132.00           50.37  n-Octacosane
 2.300- 8.839                                35706.48            0.45  TPH as Diesel
 5.442-12.391                                73014.44            0.91  TPH as Motor Oil
End of File
```

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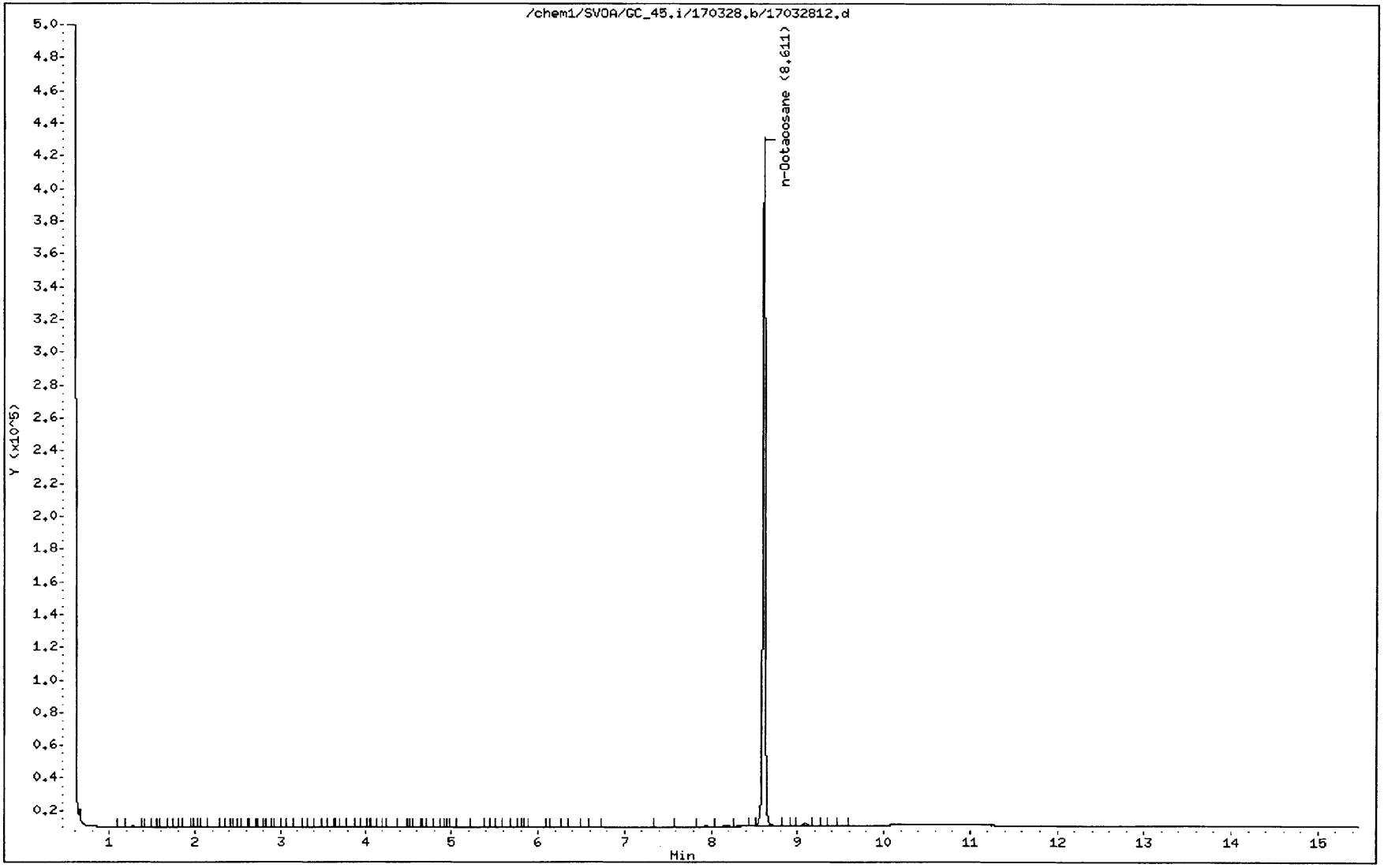
Data File: /chem1/SVOA/GC_45.i/170328.b/17032812.d
Date : 28-MAR-2017 14:51
Client ID:
Sample Info: 17-03-1557-27

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

Column phase:



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EPA 8015B (M)

Diesel + Motor Oil

QUALITY CONTROL

Method Blank
LCS/LCSD
MS/MSD

Return to Contents

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

MB SAMPLE ID:	**099-14-353-13**	ANALYZED BY:	972
MB BATCH ID:	170324B12	D/T ANALYZED:	2017-03-28 11:16
INSTRUMENT:	GC 45	REVIEWED BY:	
EXTRACTION:	EPA 3550B	D/T REVIEWED:	
D/T EXTRACTED:	2017-03-24 00:00	MATRIX:	Soil

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032806.d\Report.txt17032806

CLIENT WORK ORDER: 17-03-1557

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
25		B-DU1-ISM1-8	2017-03-28 14:08	T:\GC_45\GC_45_data\2017\170328\17032810.d\Report.txt17032810
26		B-DU1-ISM2-8	2017-03-28 14:29	T:\GC_45\GC_45_data\2017\170328\17032811.d\Report.txt17032811
27		B-DU1-ISM3-8	2017-03-28 14:51	T:\GC_45\GC_45_data\2017\170328\17032812.d\Report.txt17032812

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

WORK ORDER:	**099-14-353**	ANALYZED BY:	972
INSTRUMENT:	GC 45	D/T ANALYZED:	2017-03-28 11:16
EXTRACTION :	EPA 3550B	REVIEWED BY:	
D/T EXTRACTED:	2017-03-24 00:00	D/T REVIEWED:	

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032806.d\Report.txt17032806

 # MB **CLIENT SAMPLE NUMBER: Method Blank**

LCS/MB BATCH:	170324B12	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:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.360	1.00	ND	5.0	
TPH as Motor Oil	0.600	1.00	ND	5.0	

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

LCS SAMPLE ID:	**099-14-353- 13**	EXTRACTION :	EPA 3550B	ANALYZED BY:	972
LCS/MB BATCH ID:	170324B12	D/T EXTRACTED:	2017-03-24 00:00	D/T ANALYZED:	2017-03-28 11:37
INSTRUMENT:	GC 45			REVIEWED BY:	
				D/T REVIEWED:	

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032807.d\Report.txt17032807

COMPOUND NAME	CONC ADDED	CONC REC	%RECOVERY	%REC CONTROL LIMIT	STATUS	QUALIFIERS
TPH as Diesel	400.0	373.8	93	61-145	PASS	

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

SPIKED SAMPLE ID: **17-03-1557-27**
MS/MSD BATCH: 170324S12
INSTRUMENTS:
SAMPLE: GC 45
MS: GC 45
MSD: GC 45

EXTRACTION: EPA 3550B
D/T EXTRACTED:
SAMPLE: 2017-03-24 00:00
MS: 2017-03-24 00:00
MSD: 2017-03-24 00:00

ANALYZED BY: 972
D/T ANALYZED:
SAMPLE: 2017-03-28 14:51
MS: 2017-03-28 12:42
MSD: 2017-03-28 13:03
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	379.0	95	393.3	98	61-145	4	0-25	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17032808	T:\GC_45\GC_45_data\2017\170328\17032808.d\Report.txt
MSD	17032809	T:\GC_45\GC_45_data\2017\170328\17032809.d\Report.txt

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SURROGATE RECOVERIES
FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-1557
BATCH ID:
LCS/MB: 170324B12
MS: 170324S12
EXTRACTION : EPA 3550B

REVIEWED BY:
D/T REVIEWED:

 # 25 CLIENT SAMPLE NUMBER : B-DU1-ISM1-8

INSTRUMENT: GC 45
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032810.d\Report.txt17032810

ANALYZED BY: 972
D/T ANALYZED 2017-03-28 14:08

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	102	61-145	PASS	

 # 26 CLIENT SAMPLE NUMBER : B-DU1-ISM2-8

INSTRUMENT: GC 45
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032811.d\Report.txt17032811

ANALYZED BY: 972
D/T ANALYZED 2017-03-28 14:29

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	105	61-145	PASS	

 # 27 CLIENT SAMPLE NUMBER : B-DU1-ISM3-8

INSTRUMENT: GC 45
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032812.d\Report.txt17032812

ANALYZED BY: 972
D/T ANALYZED 2017-03-28 14:51

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	101	61-145	PASS	

 # MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 45
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032806.d\Report.txt17032806

ANALYZED BY: 972
D/T ANALYZED 2017-03-28 11:16

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	103	61-145	PASS	

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SURROGATE RECOVERIES
FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-1557
BATCH ID:
LCS/MB: 170324B12
MS:
EXTRACTION : EPA 3550B

REVIEWED BY:
D/T REVIEWED:

 # LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 45
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032807.d\Report.txt17032807

ANALYZED BY: 972
D/T ANALYZED 2017-03-28 11:37

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	100	61-145	PASS	

 # MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC 45
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032808.d\Report.txt17032808

ANALYZED BY: 972
D/T ANALYZED 2017-03-28 12:42

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	103	61-145	PASS	

 # MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC 45
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032809.d\Report.txt17032809

ANALYZED BY: 972
D/T ANALYZED 2017-03-28 13:03

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	102	61-145	PASS	

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

Data File Name    : /chem1/SVOA/GC_45/170328/17032806.d
Page Number       :
Operator          : 682                          Vial Number       : Vial 6
Instrument        : GC 45                        Injection Number  : 6
Sample Name       : MB 17032412                  Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 28 MAR 17  11:16
Report Created on: 28-MAR-17  17:33              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_45.i/170328.b/17032806.d
RT Range      Exp RT    DLT RT    Response           ppm               Compound
|-------------|---------|---------|------------------|---------------|--------------------|
       8.611     8.628     0.017         4422114.00           51.26  n-Octacosane
 2.300- 8.839                              28906.63            0.36  TPH as Diesel
 5.442-12.391                              47888.98            0.60  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032806.d

Date : 28-MAR-2017 11:16

Client ID:

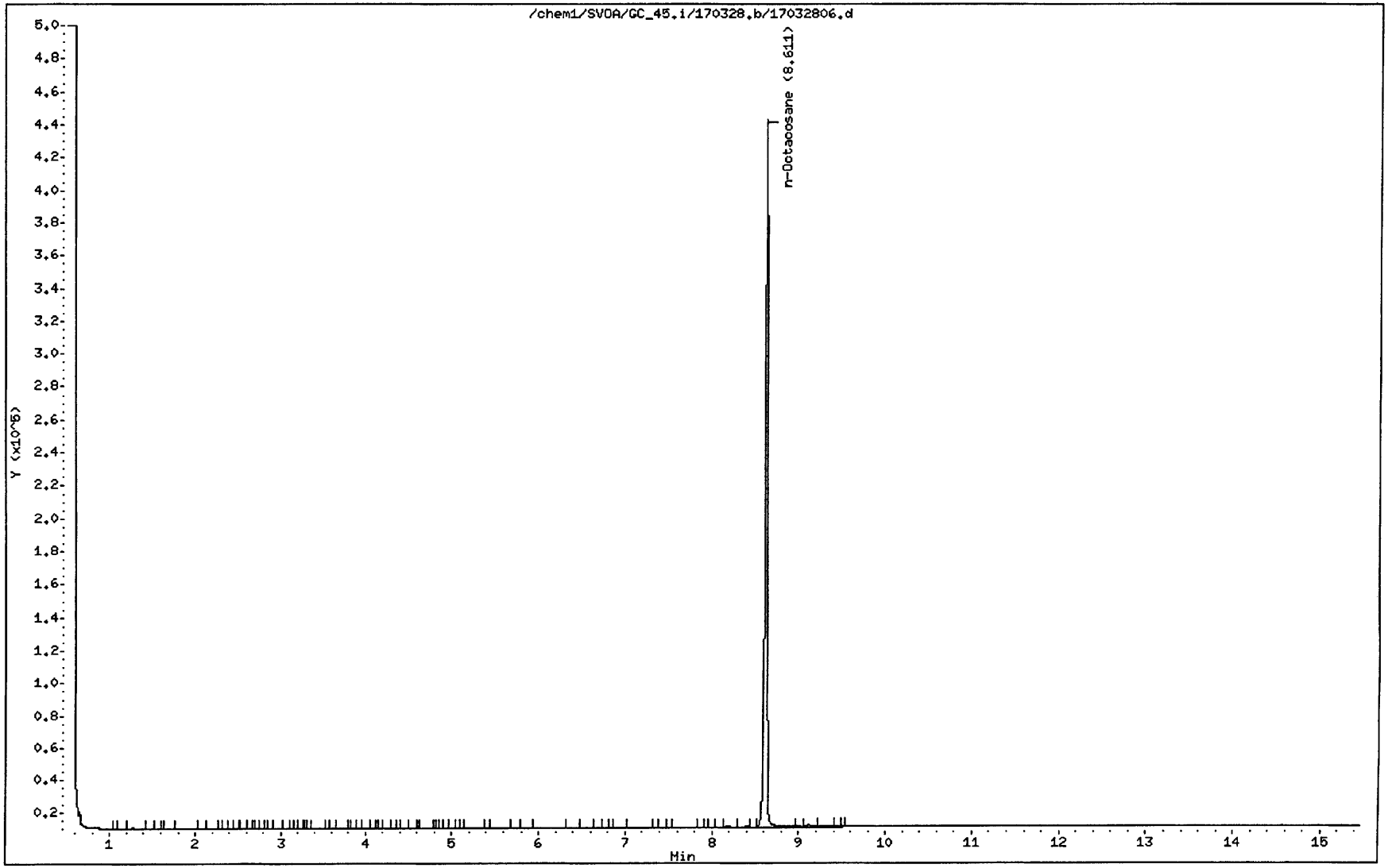
Instrument: GC_45.i

Sample Info: MB 17032412

Operator: 682

Column phase:

Column diameter: 2.00



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External Standard Report

Data File Name : /chem1/SVOA/GC_45/170328/17032807.d
Page Number :
Operator : 682
Instrument : GC 45
Sample Name : LCS 17032412
Acquired on : 28 MAR 17 11:37
Report Created on: 28-MAR-17 17:33
Software Revision: Target 3.50
Vial Number : Vial 7
Injection Number : 7
Sequence Line : 0
Instrument Method: 8015d.m
Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_45.i/170328.b/17032807.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
8.610	8.628	0.018	4297394.00	49.82	n-Octacosane
0.649- 8.839			29912924.71	373.81	TPH as Diesel
2.300- 8.839			28764552.27	384.33	Diesel Range Organics

End of File

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032807.d

Page 1

Date : 28-MAR-2017 11:37

Client ID:

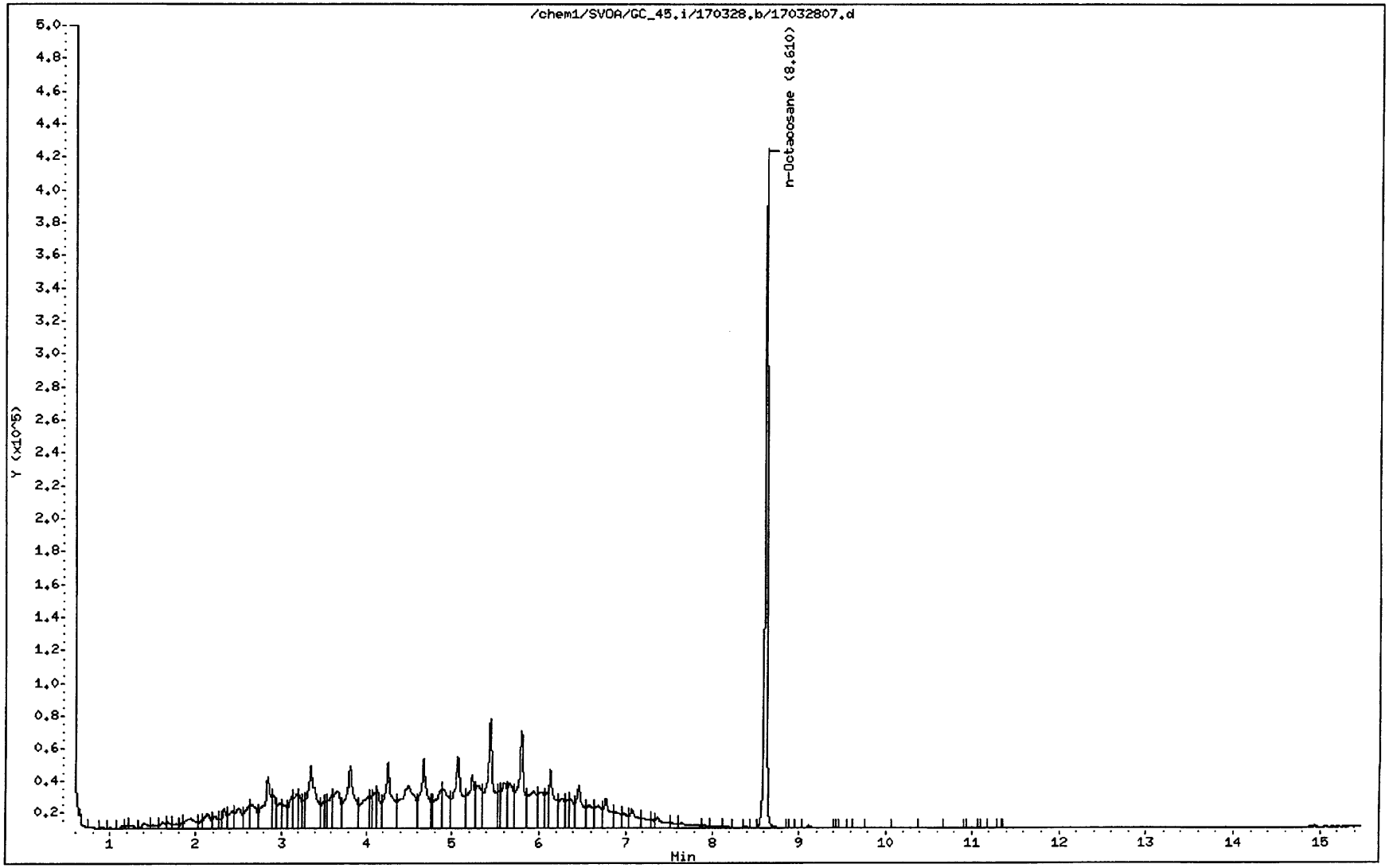
Instrument: GC_45.i

Sample Info: LCS 17032412

Operator: 682

Column phase:

Column diameter: 2.00



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

Data File Name    : /chem1/SVOA/GC_45/170328/17032808.d
Page Number       :
Operator          : 682                          Vial Number       : Vial 8
Instrument        : GC 45                        Injection Number  : 8
Sample Name       : MS 17-03-1557-27             Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 28 MAR 17  12:42
Report Created on: 29-MAR-17  09:47              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_45.i/170328.b/17032808.d
RT Range      Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|-------------------|----------------|--------------------|
        8.611     8.628     0.018         4450050.00           51.59  n-Octacosane
 2.300- 8.839                             30630369.62          382.78  TPH as Diesel
 5.442-12.391                             10370140.00          129.59  TPH as Motor Oil
End of File
```

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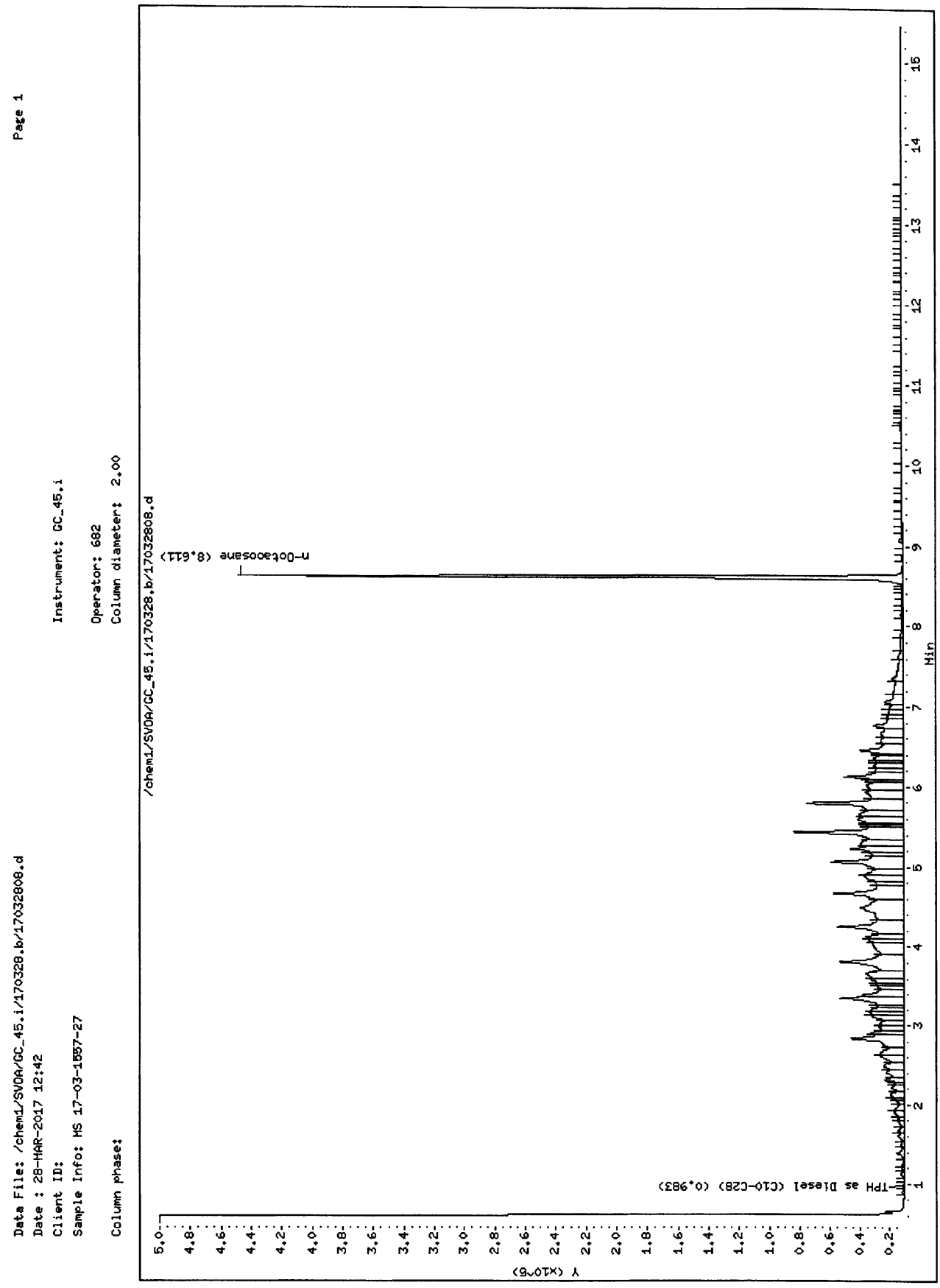

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================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_45/170328/17032809.d
Page Number       :
Operator          : 682                          Vial Number       : Vial 9
Instrument        : GC 45                        Injection Number  : 9
Sample Name       : MSD 17-03-1557-27            Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 28 MAR 17  13:03
Report Created on: 29-MAR-17  09:47              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_45.i/170328.b/17032809.d
RT Range       Exp RT     DLT RT     Response            ppm                Compound
|-------------|---------|---------|------------------|---------------|---------------------|
        8.611     8.628      0.017         4386449.00           50.85  n-Octacosane
 2.300- 8.839                            31475683.35          393.34  TPH as Diesel
 5.442-12.391                            11132190.40          139.11  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032809.d

Page 1

Date : 28-MAR-2017 13:03

Client ID:

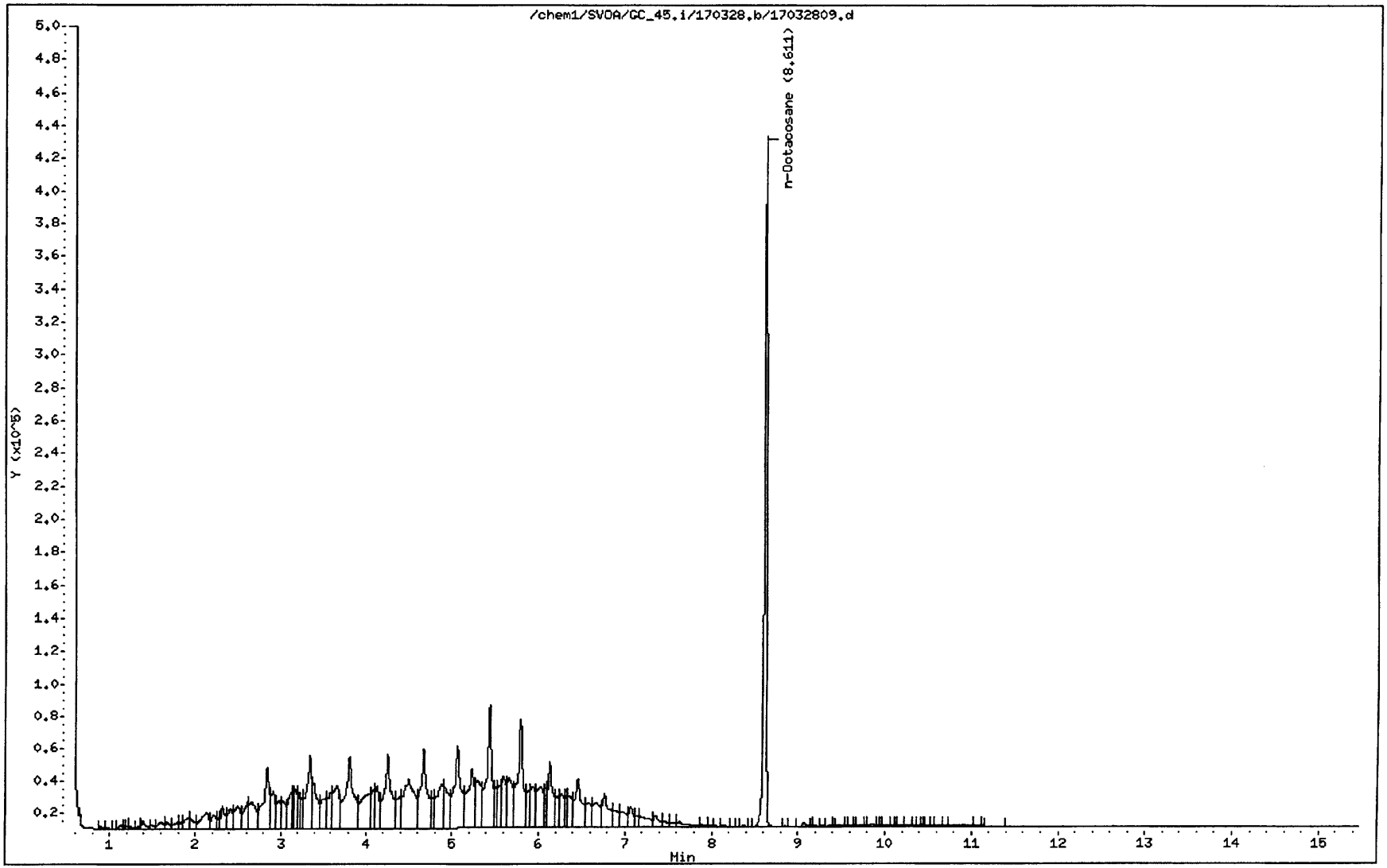
Instrument: GC_45.i

Sample Info: MSD 17-03-1557-27

Operator: 682

Column phase:

Column diameter: 2.00



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EPA 8015B (M)

Diesel + Motor Oil

CONTINUING CALIBRATION

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

CCV WORK ORDER: **099-14-354-50-5901**
BATCH ID:
INITIAL: 161202I007
CCV: 170328A031
INSTRUMENT: GC 45

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032803.d\Report.txt17032803

ANALYZED BY: 972
D/T ANALYZED:
INITIAL: 2016-12-02 19:43
CCV: 2017-03-28 10:13
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
TPH as Diesel	C	Avg Resp	0.00	80.022	79.568			1	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_45.i/170328.b/17032803.d
Report Date: 03/28/2017 14:09

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_45.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_45.i/170328.b/8015d.m

Injection Date and Time: 28-MAR-2017 10:13
Initial Calibration Date(s): 18-OCT-2016 09-MAR-2017
Initial Calibration Time(s): 12:03 12:25

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	80021.702	79567.635	0.00	1	15	Averaged
Diesel Range Organics	74843.538	74452.873	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	89298.460	0.00	-4	20	Averaged

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032803.d Page 1
Report Date: 28-Mar-2017 14:09

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/170328.b/17032803.d
Lab Smp Id:
Inj Date : 28-MAR-2017 10:13
Operator : 682 Inst ID: GC_45.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_45.i/170328.b/8015d.m
Meth Date : 28-Mar-2017 14:09 umd6 Quant Type: ESTD
Cal Date : 28-DEC-2016 19:01 Cal File: 16122828.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(ppm)
S 15 TPH as Diesel	0.649-8.839			31827054	400.000	397.730
S 27 Diesel Range Organics	2.300-8.839			29781149	400.000	397.912
$ 93 n-Octacosane	8.612	8.612	0.000	4464923	50.0000	51.760

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032803.d

Page 1

Date : 28-MAR-2017 10:13

Client ID:

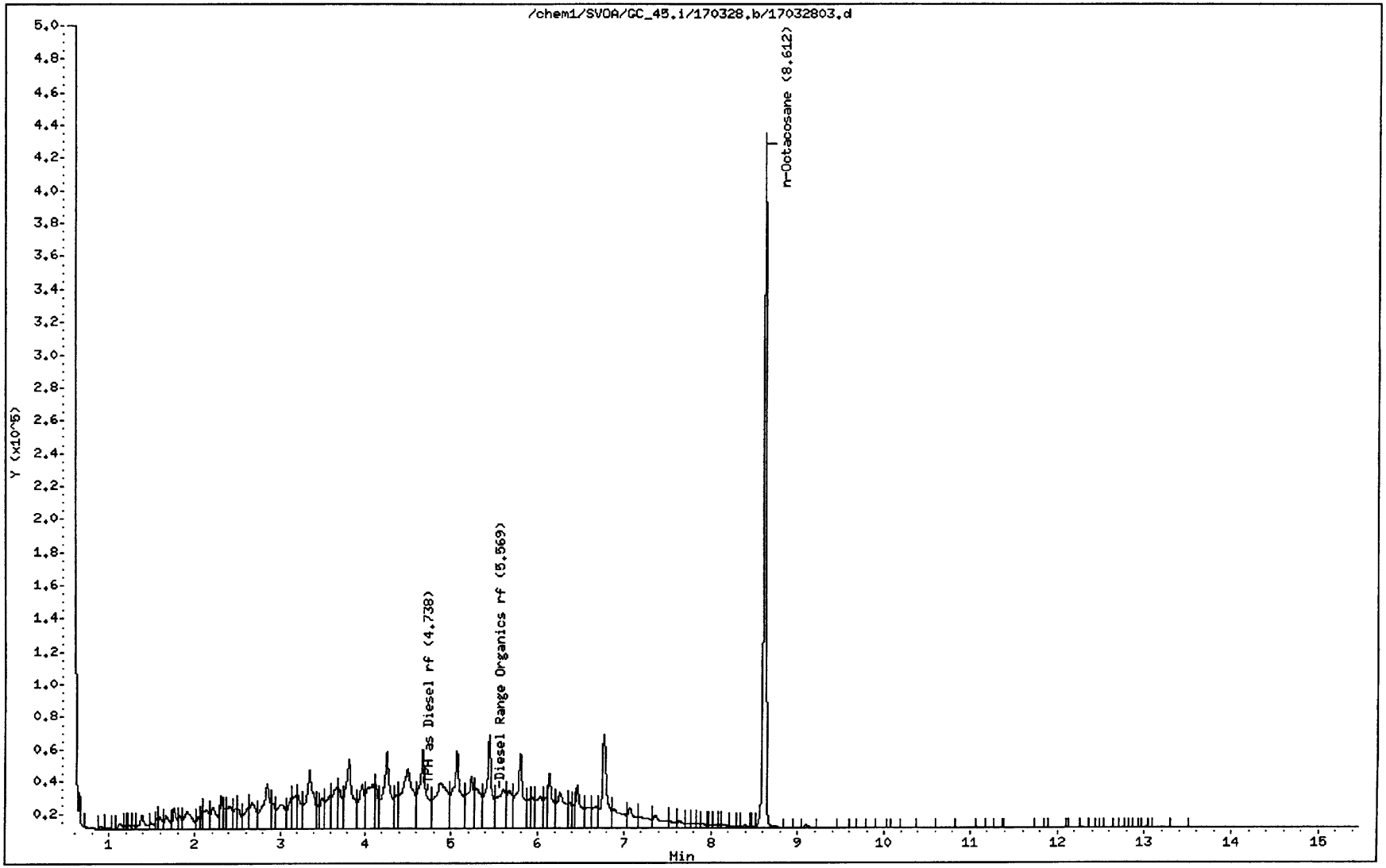
Instrument: GC_45.i

Sample Info: CCV D400 C28 50 L102516D

Operator: 682

Column phase:

Column diameter: 2.00



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

BATCH ID: **170328A055** ANALYZED BY: 972
INSTRUMENT: GC 45

WORK ORDER: **099-14-354** REVIEWED BY: 1,027
MATRIX: Water D/T REVIEWED: 2017-03-29 11:48

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
51	Daily Calibration	2017-03-28 13:24	T:\GC_45\GC_45_data\2017\170328\17032829.d\Report.txt17032829

WORK ORDER: **17-03-1557** REVIEWED BY: 1,027
MATRIX: Soil D/T REVIEWED: 2017-03-29 11:54

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
25	B-DU1-ISM1-8	2017-03-28 14:08	T:\GC_45\GC_45_data\2017\170328\17032810.d\Report.txt17032810
26	B-DU1-ISM2-8	2017-03-28 14:29	T:\GC_45\GC_45_data\2017\170328\17032811.d\Report.txt17032811
27	B-DU1-ISM3-8	2017-03-28 14:51	T:\GC_45\GC_45_data\2017\170328\17032812.d\Report.txt17032812

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

CCV WORK ORDER: **099-14-354-51-5901**

BATCH ID:
- INITIAL: 161202I007
- CCV: 170328A055

INSTRUMENT: GC 45

DATA FILE: T:\GC_45\GC_45_data\2017\170328\17032829.d\Report.txt17032829

ANALYZED BY: 972

D/T ANALYZED:
- INITIAL: 2016-12-02 19:43
- CCV: 2017-03-28 13:24

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
TPH as Diesel	C	Avg Resp	0.00	80.022	81.349			-2	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_45.i/170328.b/17032829.d
Report Date: 03/29/2017 10:33

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_45.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_45.i/170328.b/8015d.m

Injection Date and Time: 28-MAR-2017 13:24
Initial Calibration Date(s): 18-OCT-2016 29-MAR-2017
Initial Calibration Time(s): 12:03 07:24

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	80021.702	81349.008	0.00	-2	15	Averaged
Diesel Range Organics	74843.538	75070.305	0.00	0	15	Averaged

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	86260.794	93243.320	0.00	-8	20	Averaged

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032829.d Page 1
Report Date: 28-Mar-2017 17:22

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/170328.b/17032829.d
Lab Smp Id:
Inj Date : 28-MAR-2017 13:24
Operator : 682 Inst ID: GC_45.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_45.i/170328.b/8015d.m
Meth Date : 28-Mar-2017 17:22 umd6 Quant Type: ESTD
Cal Date : 28-DEC-2016 19:01 Cal File: 16122828.d
Als bottle: 29 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

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(ppm)
S 15 TPH as Diesel	0.649-8.839			32539603	400.000	406.634
S 27 Diesel Range Organics	2.300-8.839			30028122	400.000	401.211
$ 93 n-Octacosane	8.612	8.612	0.000	4662166	50.0000	54.047

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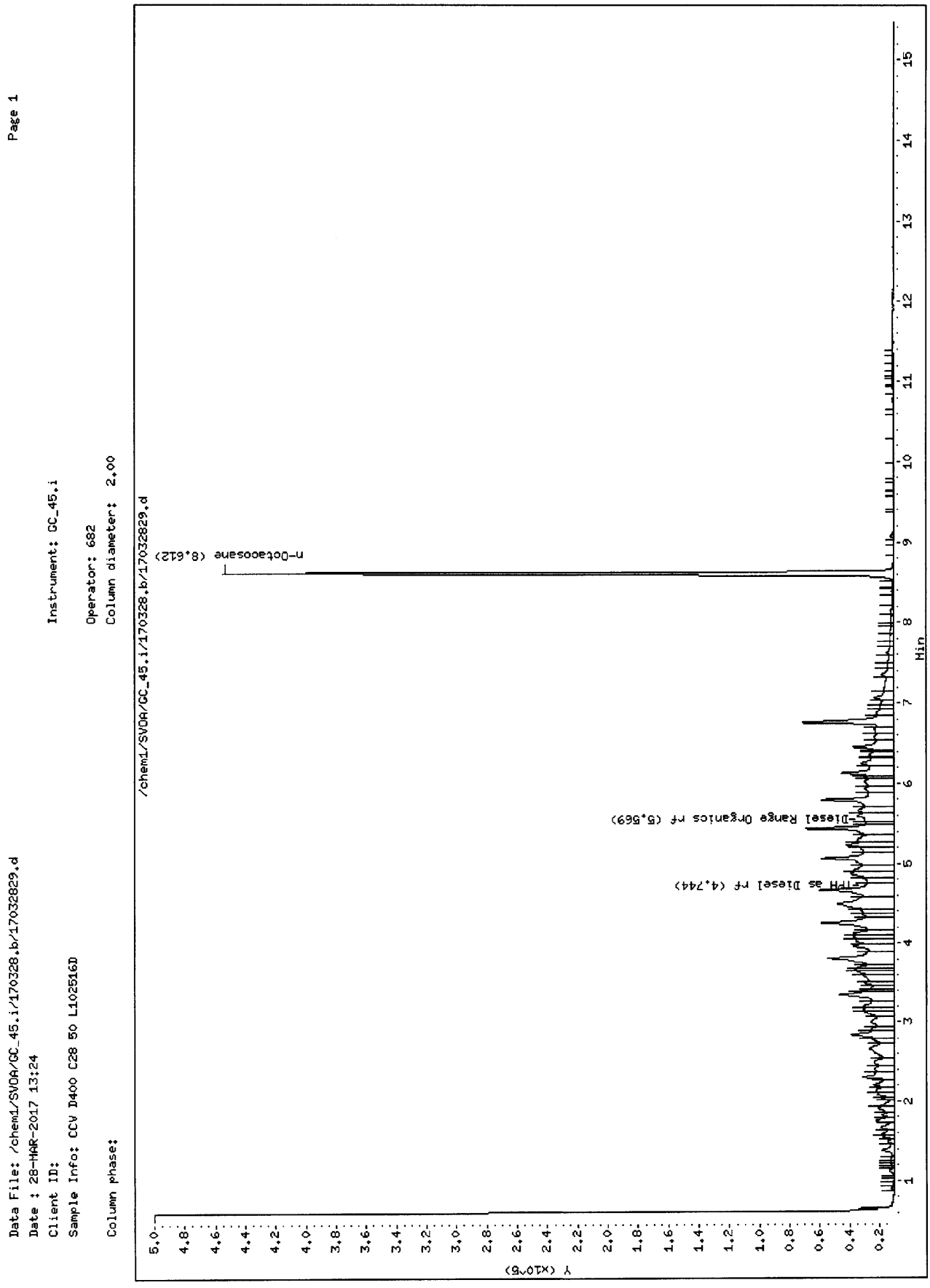

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032819.d
Report Date: 03/29/2017 09:47

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_45.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_45.i/170328.b/8015d.m

Injection Date and Time: 28-MAR-2017 17:24
Initial Calibration Date(s): 18-OCT-2016 29-MAR-2017
Initial Calibration Time(s): 12:03 07:24

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D/Drift	Curve Type
TPH as Diesel	80021.702	82584.760	0.00	-3	15	Averaged
Diesel Range Organics	74843.538	77307.980	0.00	-3	15	Averaged

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D/Drift	Curve Type
n-Octacosane	86260.794	94553.240	0.00	-10	20	Averaged

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032819.d Page 1
Report Date: 28-Mar-2017 18:06

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/170328.b/17032819.d
Lab Smp Id:
Inj Date : 28-MAR-2017 17:24
Operator : 682 Inst ID: GC_45.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_45.i/170328.b/8015d.m
Meth Date : 28-Mar-2017 18:06 umd6 Quant Type: ESTD
Cal Date : 28-DEC-2016 19:01 Cal File: 16122828.d
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppm)	(ppm)
S 15 TPH as Diesel	0.649-8.839			33033904	400.000	412.811
S 27 Diesel Range Organics	2.300-8.839			30923192	400.000	413.171
$ 93 n-Octacosane	8.614	8.614	0.000	4727662	50.0000	54.806

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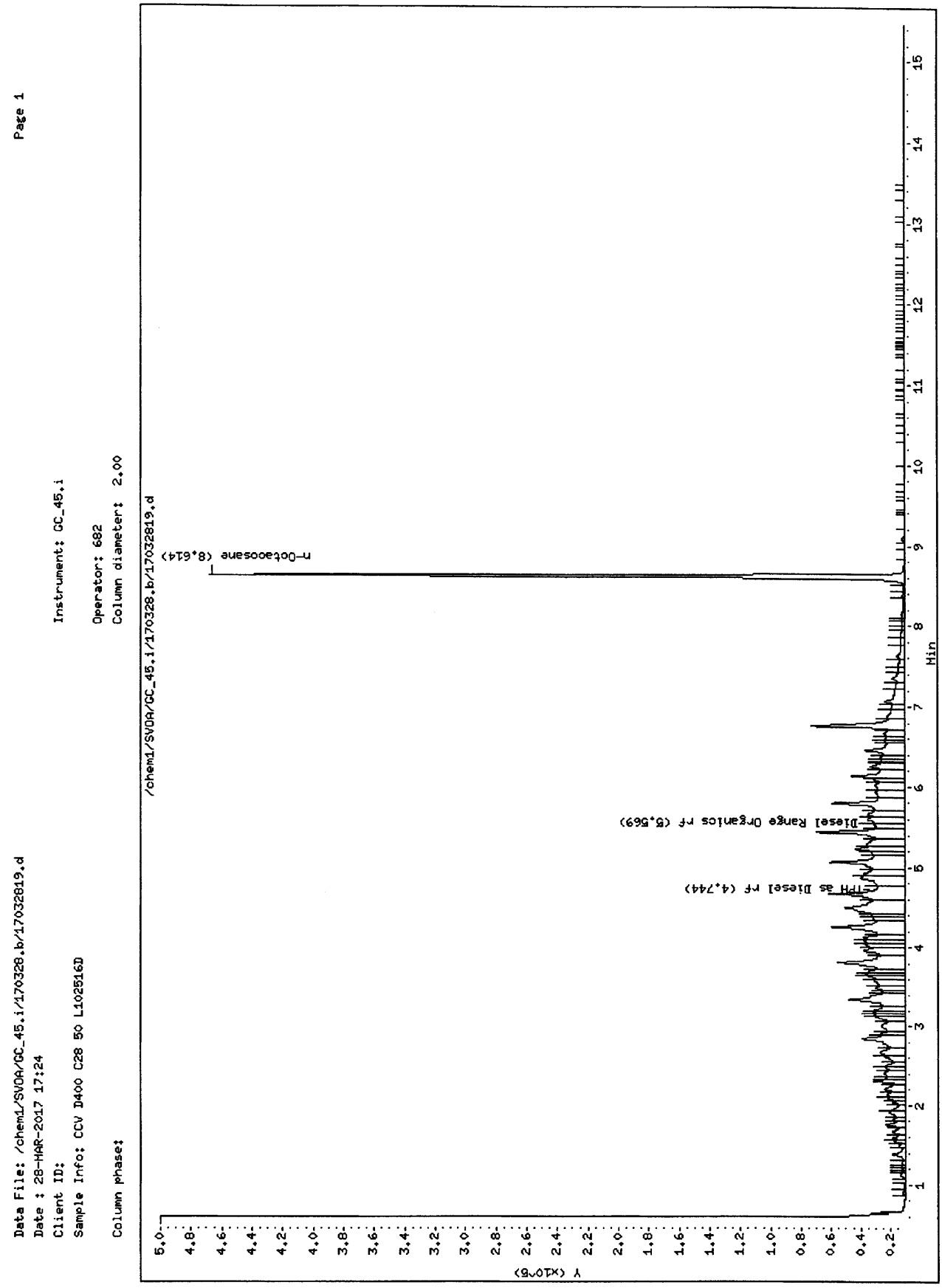

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032826.d
Report Date: 03/29/2017 10:31

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_45.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_45.i/170328.b/8015d.m

Injection Date and Time: 28-MAR-2017 19:54
Initial Calibration Date(s): 18-OCT-2016 29-MAR-2017
Initial Calibration Time(s): 12:03 07:24

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	80021.702	81209.305	0.00	-1	15	Averaged
Diesel Range Organics	74843.538	75952.245	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	93539.560	0.00	-8	20	Averaged

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032826.d Page 1
Report Date: 29-Mar-2017 10:28

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_45.i/170328.b/17032826.d
Lab Smp Id:
Inj Date : 28-MAR-2017 19:54
Operator : 682 Inst ID: GC_45.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_45.i/170328.b/8015d.m
Meth Date : 29-Mar-2017 10:27 umd6 Quant Type: ESTD
Cal Date : 29-MAR-2017 07:24 Cal File: 17032863.d
Als bottle: 26 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)	AMOUNTS ON-COL (ppm)
S 15 TPH as Diesel	0.649-8.839			32483722	400.000	405.936
S 27 Diesel Range Organics	2.300-8.839			30380898	400.000	405.925
$ 93 n-Octacosane	8.612	8.612	0.000	4676978	50.0000	54.219

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Data File: /chem1/SVOA/GC_45.i/170328.b/17032826.d

Date : 28-MAR-2017 19:54

Client ID:

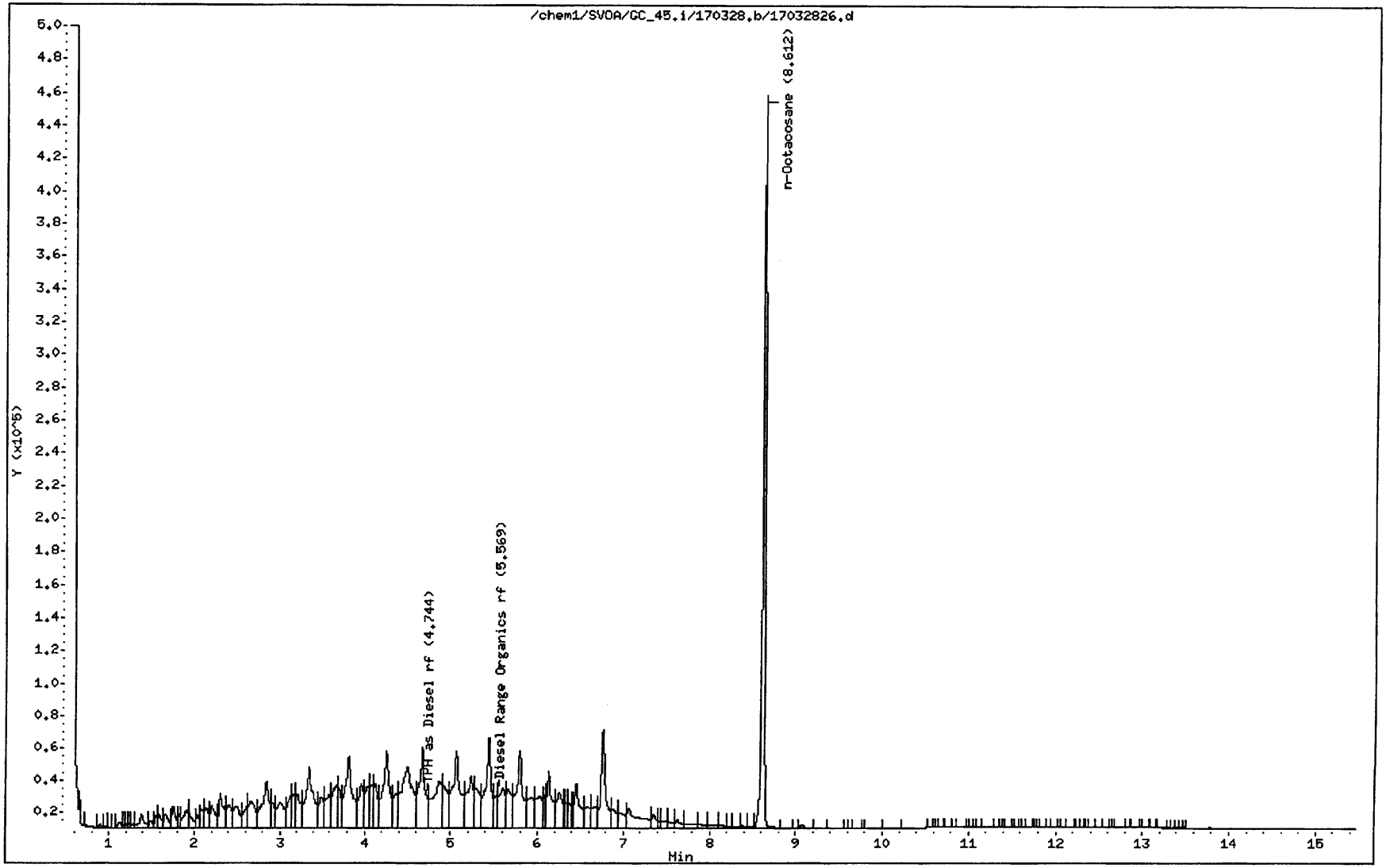
Sample Info: CCV D400 C28 50 L102516D

Column phase:

Instrument: GC_45.i

Operator: 682

Column diameter: 2.00



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External Standard Report

Data File Name : /chem1/SVOA/GC_45/170328/17032802.d
Page Number :
Operator : 682
Instrument : GC 45
Sample Name : C6-C44 L110816A
Acquired on : 28 MAR 17 09:50
Report Created on: 28-MAR-17 14:07
Software Revision: Target 3.50
Vial Number : Vial 2
Injection Number : 2
Sequence Line : 0
Instrument Method: 8015d.m
Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_45.i/170328.b/17032802.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.649	8.628	7.979	91768.00	0.00	C6-Hexane
0.805	8.628	7.823	194316.00	0.00	C7-Heptane
1.200	8.628	7.428	366057.00	0.00	C8-Octane
1.723	8.628	6.905	543918.00	0.00	C9-Nonane
2.300	8.628	6.328	649581.00	0.00	C10-Decane
2.850	8.628	5.778	531998.00	0.00	C11-Undecane
3.355	8.628	5.273	642332.00	0.00	C12-Dodecane
3.823	8.628	4.805	727422.00	0.00	C13-Tridecane
4.263	8.628	4.366	710780.00	0.00	C14-Tetradecane
4.677	8.628	3.952	758796.00	0.00	C15-pentadecane
5.069	8.628	3.559	781474.00	0.00	C16-Hexadecane
5.442	8.628	3.187	784796.00	0.00	C17-Heptadecane
5.796	8.628	2.832	788986.00	0.00	C18-Octadecane
6.134	8.628	2.495	800870.00	0.00	C19-Nonadecane
6.456	8.628	2.172	811307.00	0.00	C20-Eicosane
6.766	8.628	1.863	814573.00	0.00	C21-Heneicosane
7.061	8.628	1.568	827132.00	0.00	C22-Docosane
7.345	8.628	1.284	833698.00	0.00	C23-Tricosane
7.616	8.628	1.012	831196.00	0.00	C24-Tetracosane
7.878	8.628	0.750	840236.00	0.00	C25-Pentacosane
8.131	8.628	0.498	877188.00	0.00	C26-Hexacosane
8.375	8.628	0.254	871681.00	0.00	C27-Heptacosane
8.611	8.628	0.017	899905.00	10.43	n-Octacosane
8.839	8.628	-0.210	917053.00	0.00	C29-Nonacosane
9.059	8.628	-0.430	956005.00	0.00	C30-Triacontane
9.272	8.628	-0.644	974028.00	0.00	C31-Hentriacontane
9.478	8.628	-0.850	1008553.00	0.00	C32-Dotricacontane
9.680	8.628	-1.052	1023195.00	0.00	C33-Tritriacontane
9.875	8.628	-1.247	991845.00	0.00	C34-Tetratriacontane
10.064	8.628	-1.436	924018.00	0.00	C35-Pentatriacontane
10.247	8.628	-1.618	904871.00	0.00	C36-Hexatriacontane
10.427	8.628	-1.798	781874.00	0.00	C37-Heptatriacontane
10.606	8.628	-1.978	714520.00	0.00	C38-Octatriacontane
10.807	8.628	-2.178	582222.00	0.00	C39-Nonatriacontane
11.037	8.628	-2.408	472440.00	0.00	C40-Tetracontane
12.391	8.628	-3.762	479640.00	0.00	C44-Tetratetracontane

End of File

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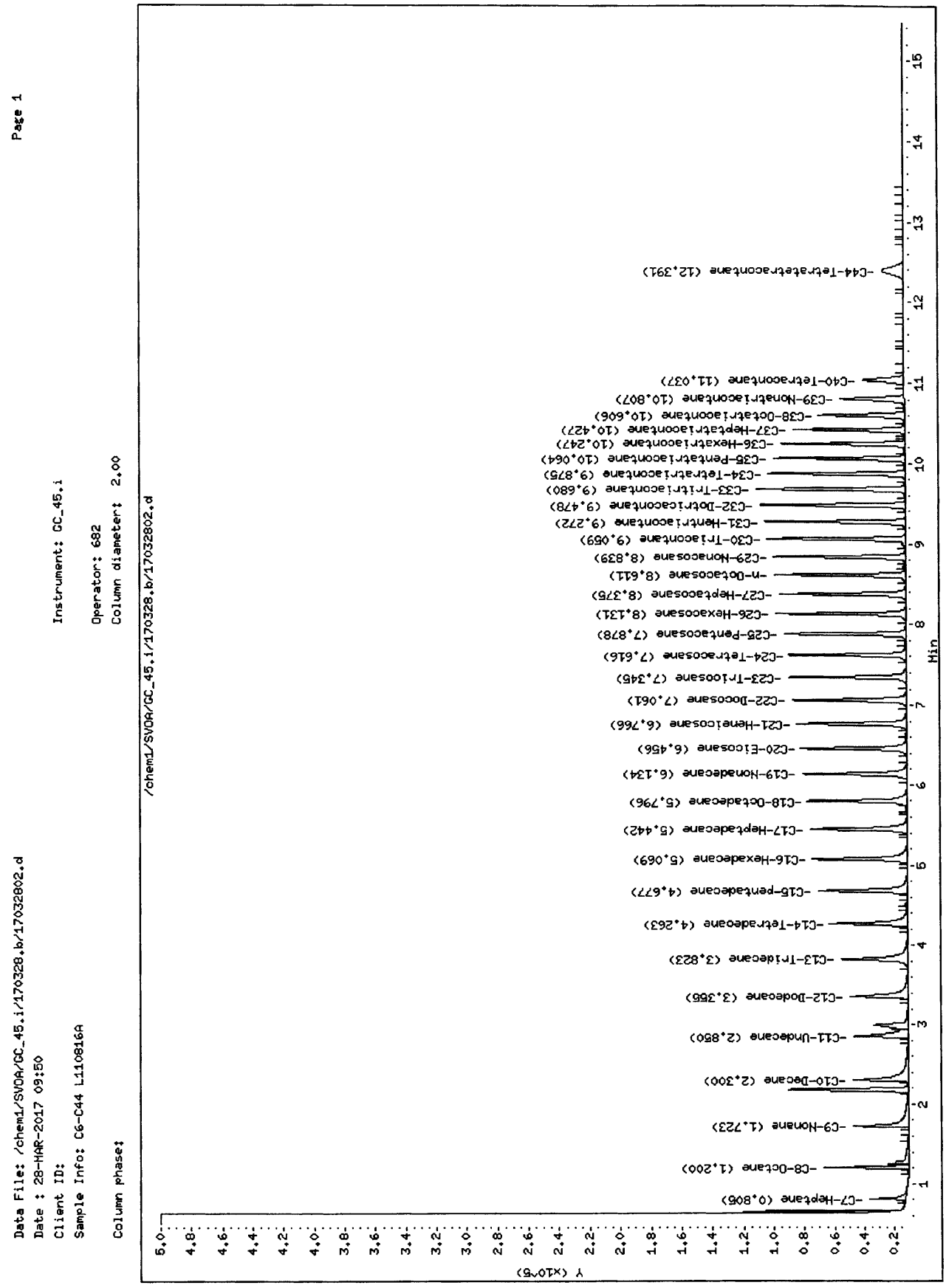

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EPA 8015B (M)

Diesel + Motor Oil

RUN LOGS

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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	GDLCS 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

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4	3	17032803	CCV D400 C28 50 L102516D A031	8015D	28-Mar-17, 10:13:03
5	4	17032804	CCV MO400 L030317D	8015D	28-Mar-17, 10:34:41
6	5	17032805	17-03-1532-17 RB	8015D	28-Mar-17, 10:55:43
7	6	17032806	MB 17032412	8015D	28-Mar-17, 11:16:37
8	7	17032807	LCS 17032412	8015D	28-Mar-17, 11:37:35
9	27	17032827	17-03-1130-7 CONF	8015D	28-Mar-17, 11:59:52
10	28	17032828	17-03-1130-18 CONF	8015D	28-Mar-17, 12:21:29
11	8	17032808	MS 17-03-1557-27	8015D	28-Mar-17, 12:42:28
12	9	17032809	MSD 17-03-1557-27	8015D	28-Mar-17, 13:03:23
13	29	17032829	CCV D400 C28 50 L102516D A055	8015D	28-Mar-17, 13:24:59
14	42	17032842	17-03-1532-17 RB	8015D	28-Mar-17, 13:47:27
15	10	17032810	17-03-1557-25	8015D	28-Mar-17, 14:08:47
16	11	17032811	17-03-1557-26	8015D	28-Mar-17, 14:29:39
17	12	17032812	17-03-1557-27	8015D	28-Mar-17, 14:51:06
18	13	17032813	17-03-1556-25	8015D	28-Mar-17, 15:13:32
19	14	17032814	17-03-1556-26	8015D	28-Mar-17, 15:34:46
20	15	17032815	17-03-1556-27	8015D	28-Mar-17, 15:55:46
21	16	17032816	17-03-1418-25	8015D	28-Mar-17, 16:17:52
22	17	17032817	17-03-1418-26	8015D	28-Mar-17, 16:39:35
23	18	17032818	17-03-1418-27	8015D	28-Mar-17, 17:00:37
24	19	17032819	CCV D400 C28 50 L102516D A056	8015D	28-Mar-17, 17:24:04
25	20	17032820	17-03-1558-25	8015D	28-Mar-17, 17:46:42
26	21	17032821	17-03-1558-26	8015D	28-Mar-17, 18:07:57
27	22	17032822	17-03-1558-27	8015D	28-Mar-17, 18:28:51
28	23	17032823	17-03-1417-25	8015D	28-Mar-17, 18:51:02
29	24	17032824	17-03-1417-26	8015D	28-Mar-17, 19:12:37
30	25	17032825	17-03-1417-27	8015D	28-Mar-17, 19:33:39
31	26	17032826	CCV D400 C28 50 L102516D	8015D	28-Mar-17, 19:54:54
32	31	17032831	CCV D80 C28 10 L103116B A057	8015D	28-Mar-17, 20:17:21
33	32	17032832	CCV MO80 L030717D	8015D	28-Mar-17, 20:38:59
34	33	17032833	17-03-1588-3 RB	8015D	28-Mar-17, 20:59:52
35	34	17032834	CCV D80 C28 10 L103116B	8015D	28-Mar-17, 21:21:01
36	35	17032835	CCV MO80 L030717D	8015D	28-Mar-17, 21:43:26
37	36	17032836	ICAL MO25 L030317B	8015D	28-Mar-17, 22:04:48
38	37	17032837	ICAL MO200 L030317C	8015D	28-Mar-17, 22:25:51
39	38	17032838	ICAL MO400 L030317D	8015D	28-Mar-17, 22:47:24
40	39	17032839	ICAL MO600 L030317E	8015D	28-Mar-17, 23:09:31
41	40	17032840	ICAL MO800 L030317F	8015D	28-Mar-17, 23:31:49
42	41	17032841	ICV MO400 L030317G	8015D	28-Mar-17, 23:53:04
43	43	17032843	CCV D400 C28 50 L102516D A058	8015D	29-Mar-17, 00:14:00
44	44	17032844	CCV MO400 L030317D	8015D	29-Mar-17, 00:34:59
45	45	17032845	MB 17032803/04/05/06/14	8015D	29-Mar-17, 00:56:13
46	46	17032846	LCS 17032803/14	8015D	29-Mar-17, 01:18:26
47	47	17032847	LCSD 17032803/14	8015D	29-Mar-17, 01:40:28
48	48	17032848	MOLCS 17032804	8015D	29-Mar-17, 02:01:39
49	49	17032849	MOLCSD 17032804	8015D	29-Mar-17, 02:22:37
50	50	17032850	17-03-1973-1 5X	8015D	29-Mar-17, 02:43:46
51	51	17032851	17-03-1993-1	8015D	29-Mar-17, 03:05:20
52	52	17032852	17-03-1823-3	8015D	29-Mar-17, 03:27:25
53	53	17032853	CCV D400 C28 50 L102516D	8015D	29-Mar-17, 03:48:45
54	54	17032854	CCV MO400 L030317D	8015D	29-Mar-17, 04:09:39

I001

Reviewed/Assign to Logbook Date: 3/29/17
Analysis 8015 Chemist ID: 682
Logbook Page: 04 Instrument ID: 45

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EPA 8015B (M)

Diesel + Motor Oil

PREPARATION LOGS

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Analysis Method (EPA Method): ☒ TPH 8015 ☐ NWTPH 8015

Extraction Method (EPA Method): ☐ 3510 ☐ 3511 ☒ 3550

Analyst ID#: Measuring Sample- 1112 Start Extraction- 605 Blow Down- Clean Up-

Matrix: ☒ Solid ☐ Aqueous ☐ Oil ☐ Wipe / Filter | Balance ID#: 15 Sand or Filter ID#: Lot-19-20

Extraction Start Date & Time: 3-24-17 1820 | Extractions End Date & Time: 3-24-17 2020

Drying Agent & ID#: ☒ Na_2SO_4 Lot-23-20 | Spike Added to: ☒ LCS ☐ LCSD ☐ MS ☐ MSD

Surrogate Std ID# & Volume Added (mL): Lot 17A 0.5

Spike Std ID# & Volume Added (mL): ☒ D: Lot 16B 0.2 | ☐ MO: | ☐ | ☐

Extraction Solvent & ID#: ☒ $MeCl_2$ SOP-55-1 | Elution Solvent ID# & Volume (mL): 10

Reverse Surrogate ID#: & Volume Added (mL):

Clean Up Start Date & Time: | Clean Up End Date & Time:

SGC Clean Up: ☐ 1. CEL 0.5g ☐ 2. 3630 - 2g ☐ 3. 3630 – 10g | SPE Cartridge ID#:

Clean Up Solvent ID#: | Silica Gel ID#:

QC Batch #: 1703241 2 / Cel ID#:	Test Analyte	Sample W (g) / V (mL) Initial	Final	SCG Clean Up	Comments
MB	D+M	10.0	10	☐ NA ☐ 1 ☐ 2 ☐ 3	
LCS		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
MS 17-03-1557-27C		10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
MSD ↓		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1417-25C	D+MO	9.86		☐ NA ☐ 1 ☐ 2 ☐ 3	
-26		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-27		9.86		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1418 -25C	D+MO	9.98		☐ NA ☐ 1 ☐ 2 ☐ 3	
-26		9.86		☐ NA ☐ 1 ☐ 2 ☐ 3	
-27		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1419 -25C	D+MO	10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
-26		9.80		☐ NA ☐ 1 ☐ 2 ☐ 3	
-27		9.87		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1556 -25C	D+MO	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
-26		10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
-27		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1557-25C	D+MO	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
-26		10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-27		10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1558 -25C	D+MO	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
-26		9.84		☐ NA ☐ 1 ☐ 2 ☐ 3	
-27		10.1	↓	☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	

Peer Reviewed by: 605 Peer Reviewed Date: 3-24-17 Revision Date: 10/24/16

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EPA 6010B ICP Metals

(Solid)

RAW DATA

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EPA 6010B ICP Metals

(Solid)

Initial Calibration

ICV/ICB
CCV/CCB
ICSA/B

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Initial Calibration Verification

ACCREDITED IN ACCORDANCE WITH nelac

Work Order No: 17-03-1557

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control Limit	Comment
		Observed	%D		
Silver	0.500000	0.491810	2	+/-10	
Arsenic	5.000000	4.806104	4	+/-10	
Barium	1.000000	0.977623	2	+/-10	
Beryllium	0.500000	0.485431	3	+/-10	
Cadmium	1.500000	1.492932	0	+/-10	
Cobalt	1.000000	1.030879	-3	+/-10	
Chromium	0.400000	0.395313	1	+/-10	
Copper	1.000000	0.986354	1	+/-10	
Molybdenum	2.500000	2.376245	5	+/-10	
Nickel	0.400000	0.406362	-2	+/-10	
Lead	5.000000	5.071895	-1	+/-10	
Antimony	2.000000	1.903690	5	+/-10	
Selenium	2.000000	1.927283	4	+/-10	
Thallium	2.000000	1.940131	3	+/-10	
Vanadium	1.000000	0.976319	2	+/-10	
Zinc	1.500000	1.515325	-1	+/-10	

Report Time: 3/30/2017 6:02:51 PM

ICV-1 File: ICV-M072816C Analysis Time: 3/29/2017 9:46:40 AM

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

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Initial Calibration Blank

Work Order No: 17-03-1557

Instrument ID: ICP 7300

Concentration Unit: mg/L

	Initial Calibration Blank		
Analyte	ICB-1	RL	Comment
Silver	-0.000620	0.005000	
Arsenic	0.003618	0.010000	
Barium	-0.000096	0.010000	
Beryllium	0.000030	0.010000	
Cadmium	0.000421	0.010000	
Cobalt	0.000260	0.010000	
Chromium	0.000106	0.010000	
Copper	-0.000241	0.010000	
Molybdenum	0.000250	0.010000	
Nickel	0.000954	0.010000	
Lead	0.000993	0.010000	
Antimony	-0.001530	0.015000	
Selenium	0.002268	0.015000	
Thallium	-0.001209	0.015000	
Vanadium	0.000021	0.010000	
Zinc	0.000192	0.010000	

Report Time: 3/30/2017 6:02:51 PM

ICB-1 File: ICB-R12091601 Analysis Time: 3/29/2017 9:47:39 AM

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Interference Check

Work Order No: 17-03-1557

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Interference Check						
	ICS-A-1		ICS-AB-1				
	Observed	Control Limit	True	Observed	%D	Control Limit	Comment
Silver	-0.000235	0.005000	0.300000	0.318524	-6	+/-20	
Arsenic	-0.004571	0.010000	1.000000	1.029879	-3	+/-20	
Barium	0.002481	0.010000	0.300000	0.310564	-4	+/-20	
Beryllium	-0.000002	0.010000	0.100000	0.105207	-5	+/-20	
Cadmium	0.002364	0.010000	0.300000	0.308962	-3	+/-20	
Cobalt	0.000896	0.010000	0.300000	0.313328	-4	+/-20	
Chromium	-0.001851	0.010000	0.300000	0.316153	-5	+/-20	
Copper	-0.001849	0.010000	0.300000	0.319465	-6	+/-20	
Molybdenum	0.001841	0.010000	0.300000	0.305124	-2	+/-20	
Nickel	0.002170	0.010000	0.300000	0.316239	-5	+/-20	
Lead	-0.005630	0.010000	1.000000	1.030376	-3	+/-20	
Antimony	-0.011601	0.015000	1.000000	0.984318	2	+/-20	
Selenium	-0.006483	0.015000	0.500000	0.515228	-3	+/-20	
Thallium	-0.005541	0.015000	1.000000	1.020640	-2	+/-20	
Vanadium	0.001300	0.010000	0.300000	0.313592	-5	+/-20	
Zinc	0.000752	0.010000	0.300000	0.318114	-6	+/-20	

Report Time: 3/30/2017 6:02:51 PM

ICS-A-1 File: ICS_A - M110116B Analysis Time: 3/29/2017 9:48:40 AM

ICS-AB-1 File: ICS_AB - M110116A Analysis Time: 3/29/2017 9:49:46 AM

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Verification

Work Order No: 17-03-1557

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	0.364909	3	0.366493	2	+/-10	
Arsenic	3.750000	3.683143	2	3.748817	0	+/-10	
Barium	7.500000	7.466781	0	7.509775	0	+/-10	
Beryllium	0.562500	0.554684	1	0.552267	2	+/-10	
Cadmium	0.750000	0.765439	-2	0.772031	-3	+/-10	
Cobalt	1.875000	1.943705	-4	1.958211	-4	+/-10	
Chromium	0.600000	0.605527	-1	0.610239	-2	+/-10	
Copper	0.937500	0.914562	2	0.915045	2	+/-10	
Molybdenum	0.600000	0.590266	2	0.598323	0	+/-10	
Nickel	0.600000	0.605696	-1	0.612071	-2	+/-10	
Lead	3.750000	3.831537	-2	3.868642	-3	+/-10	
Antimony	4.500000	4.295910	5	4.356098	3	+/-10	
Selenium	1.500000	1.501677	0	1.536173	-2	+/-10	
Thallium	1.500000	1.503777	0	1.524691	-2	+/-10	
Vanadium	1.875000	1.884077	0	1.887622	-1	+/-10	
Zinc	2.500000	2.532855	-1	2.558497	-2	+/-10	

Report Time: 3/30/2017 6:02:51 PM

CCV-1 File: CCV= STD3x0.5 Analysis Time: 3/29/2017 4:56:49 PM

CCV-2 File: CCV= STD3x0.5 Analysis Time: 3/29/2017 5:14:09 PM

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

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Blank

Work Order No: 17-03-1557

Instrument ID: ICP 7300

Concentration Unit: mg/L

	Continuing Calibration Blank			
Analyte	CCB-1	CCB-2	RL	Qualifier
Silver	0.000093	-0.000166	0.005000	
Arsenic	0.001411	0.003119	0.010000	
Barium	0.002932	0.003744	0.010000	
Beryllium	0.000202	0.000244	0.010000	
Cadmium	0.000400	0.000604	0.010000	
Cobalt	0.000682	0.001410	0.010000	
Chromium	0.000346	0.000524	0.010000	
Copper	-0.000270	0.000140	0.010000	
Molybdenum	0.000265	0.000834	0.010000	
Nickel	0.001092	0.001622	0.010000	
Lead	-0.000451	0.002461	0.010000	
Antimony	0.000419	0.002032	0.015000	
Selenium	0.004360	0.000890	0.015000	
Thallium	0.000833	0.003304	0.015000	
Vanadium	0.001293	0.001167	0.010000	
Zinc	-0.001586	-0.002259	0.010000	

Report Time: 3/30/2017 6:02:51 PM

CCB-1 File: CCB-R12091601 Analysis Time: 3/29/2017 4:57:41 PM

CCB-2 File: CCB-R12091601 Analysis Time: 3/29/2017 5:15:02 PM

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Verification

ACCREDITED IN ACCORDANCE WITH nelac

Work Order No: 17-03-1557

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	0.365890	2	0.364320	3	+/-10	
Arsenic	3.750000	3.639842	3	3.738350	0	+/-10	
Barium	7.500000	7.486822	0	7.490872	0	+/-10	
Beryllium	0.562500	0.552547	2	0.554388	1	+/-10	
Cadmium	0.750000	0.768964	-3	0.769795	-3	+/-10	
Cobalt	1.875000	1.953335	-4	1.946074	-4	+/-10	
Chromium	0.600000	0.605342	-1	0.606826	-1	+/-10	
Copper	0.937500	0.927333	1	0.913727	3	+/-10	
Molybdenum	0.600000	0.583597	3	0.601492	0	+/-10	
Nickel	0.600000	0.596226	1	0.612980	-2	+/-10	
Lead	3.750000	3.864061	-3	3.805985	-1	+/-10	
Antimony	4.500000	4.253002	5	4.379475	3	+/-10	
Selenium	1.500000	1.487794	1	1.520864	-1	+/-10	
Thallium	1.500000	1.479459	1	1.518761	-1	+/-10	
Vanadium	1.875000	1.881908	0	1.880491	0	+/-10	
Zinc	2.500000	2.584336	-3	2.548002	-2	+/-10	

Report Time: 3/30/2017 6:02:51 PM

CCV-3 File: CCV= STD3x0.5 Analysis Time: 3/29/2017 5:25:20 PM

CCV-4 File: CCV= STD3x0.5 Analysis Time: 3/29/2017 6:49:54 PM

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

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Blank

ACCREDITED IN ACCORDANCE WITH ilac

Work Order No: 17-03-1557

Instrument ID: ICP 7300

Concentration Unit: mg/L

	Continuing Calibration Blank			
Analyte	CCB-3	CCB-4	RL	Qualifier
Silver	0.000243	-0.001144	0.005000	
Arsenic	0.002115	0.006971	0.010000	
Barium	0.005343	0.006558	0.010000	
Beryllium	0.000338	0.000452	0.010000	
Cadmium	0.000642	0.000805	0.010000	
Cobalt	0.001688	0.002144	0.010000	
Chromium	0.000661	0.000733	0.010000	
Copper	0.007025	0.001044	0.010000	
Molybdenum	0.001400	0.001459	0.010000	
Nickel	0.001460	0.001553	0.010000	
Lead	0.002519	0.002238	0.010000	
Antimony	0.003017	0.009395	0.015000	
Selenium	-0.000616	0.001094	0.015000	
Thallium	0.000804	0.010618	0.015000	
Vanadium	0.001323	0.001626	0.010000	
Zinc	**0.018746**	-0.000224	0.010000	

Report Time: 3/30/2017 6:02:51 PM

CCB-3 File: CCB-R12091601 Analysis Time: 3/29/2017 5:26:13 PM

CCB-4 File: CCB-R12091601 Analysis Time: 3/29/2017 6:50:47 PM

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Verification

Work Order No: 17-03-1557

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Continuing Calibration Verification						
	True	CCV-5				Control Limit	Comment
		Observed	%D	Observed	%D		
Silver	0.375000	0.365897	2			+/-10	
Arsenic	3.750000	3.766058	0			+/-10	
Barium	7.500000	7.590027	-1			+/-10	
Beryllium	0.562500	0.557685	1			+/-10	
Cadmium	0.750000	0.781077	-4			+/-10	
Cobalt	1.875000	1.977082	-5			+/-10	
Chromium	0.600000	0.612816	-2			+/-10	
Copper	0.937500	0.923631	1			+/-10	
Molybdenum	0.600000	0.598362	0			+/-10	
Nickel	0.600000	0.616309	-3			+/-10	
Lead	3.750000	3.912740	-4			+/-10	
Antimony	4.500000	4.368196	3			+/-10	
Selenium	1.500000	1.540234	-3			+/-10	
Thallium	1.500000	1.525337	-2			+/-10	
Vanadium	1.875000	1.890963	-1			+/-10	
Zinc	2.500000	2.601649	-4			+/-10	

Report Time: 3/30/2017 6:02:51 PM

CCV-5 File: CCV= STD3x0.5 Analysis Time: 3/29/2017 7:02:53 PM

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

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Blank

Work Order No: 17-03-1557

Instrument ID: ICP 7300

Concentration Unit: mg/L

	Continuing Calibration Blank			
Analyte	CCB-5		RL	Qualifier
Silver	-0.000051		0.005000	
Arsenic	0.006579		0.010000	
Barium	0.006934		0.010000	
Beryllium	0.000482		0.010000	
Cadmium	0.000909		0.010000	
Cobalt	0.001929		0.010000	
Chromium	0.000660		0.010000	
Copper	0.000713		0.010000	
Molybdenum	0.001566		0.010000	
Nickel	0.001572		0.010000	
Lead	0.002269		0.010000	
Antimony	0.003698		0.015000	
Selenium	-0.001731		0.015000	
Thallium	0.007080		0.015000	
Vanadium	0.001911		0.010000	
Zinc	-0.000648		0.010000	

Report Time: 3/30/2017 6:02:51 PM

CCB-5 File: CCB-R12091601 Analysis Time: 3/29/2017 7:03:52 PM

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Analysis Begun

Start Time: 3/29/2017 9:42:08 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401
Plasma On Time: 3/29/2017 9:19:17 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032901.sif
Batch ID:
Results Data Set: 170329C 1
Results Library: W:\pe\7300\Results\results.mdb

Sequence No.: 1
Sample ID: Cal blankR12091601_935
Analyst:
Initial Sample Wt:
Dilution:
Wash Time:
Autosampler Location: 1
Date Collected: 3/29/2017 9:42:24 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: Cal blankR12091601_935

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Tb 384	79882.1	426.02	0.53%	100.0	%
Tb 350	126132.3	1450.08	1.15%	100.0	%
Ag 328.068*†	-1109.6	15.42	1.39%	[0.00]	mg/L
Al 308.215*†	-2344.4	51.96	2.22%	[0.00]	mg/L
As 188.979†	0.1	0.40	305.01%	[0.00]	mg/L
As 193.696*†	-3.2	5.42	170.90%	[0.00]	mg/L
B 249.677*†	-719.8	6.20	0.86%	[0.00]	mg/L
Ba 233.527*†	-217.4	10.10	4.65%	[0.00]	mg/L
Be 313.042*†	-398.3	118.04	29.63%	[0.00]	mg/L
Ca 317.933*†	5.8	0.49	8.35%	[0.00]	mg/L
Cd 226.502*†	-1.6	12.07	771.16%	[0.00]	mg/L
Cd 228.802†	10.9	2.33	21.37%	[0.00]	mg/L
Co 228.616*†	-67.4	9.47	14.05%	[0.00]	mg/L
Cr 267.716*†	302.8	15.66	5.17%	[0.00]	mg/L
Cu 324.752*†	1754.3	23.32	1.33%	[0.00]	mg/L
Fe 273.955*†	-199.7	9.87	4.94%	[0.00]	mg/L
K 766.490*†	1041.3	116.35	11.17%	[0.00]	mg/L
Mg 279.077*†	-5115.6	30.88	0.60%	[0.00]	mg/L
Mn 257.610*†	-49.5	19.18	38.75%	[0.00]	mg/L
Mo 202.031*†	-33.8	5.89	17.42%	[0.00]	mg/L
Na 589.592*†	755.1	78.40	10.38%	[0.00]	mg/L
Ni 231.604*†	-71.1	12.46	17.53%	[0.00]	mg/L
P 213.617*†	-105.6	4.60	4.36%	[0.00]	mg/L
P 214.914†	-31.9	7.95	24.94%	[0.00]	mg/L
Pb 220.353*†	-24.3	7.17	29.51%	[0.00]	mg/L
Sb 206.836†	7.8	11.31	144.24%	[0.00]	mg/L
Sb 217.582*†	-1.9	3.44	176.56%	[0.00]	mg/L
Se 196.026*†	8.1	2.61	32.16%	[0.00]	mg/L
Si 251.611*†	1405.3	3.05	0.22%	[0.00]	mg/L
Sn 189.927*†	-64.3	2.08	3.24%	[0.00]	mg/L
Sn 242.170†	-315.5	2.08	0.66%	[0.00]	mg/L
Sr 407.771*†	60.3	7.88	13.08%	[0.00]	mg/L
Ti 334.940†	27706.2	76.17	0.27%	[0.00]	mg/L
Ti 336.121*†	-972.8	72.76	7.48%	[0.00]	mg/L
Tl 190.801*†	-5.8	0.68	11.72%	[0.00]	mg/L
V 292.402*†	132.7	20.06	15.12%	[0.00]	mg/L
Zn 206.200*†	-34.9	0.39	1.11%	[0.00]	mg/L
Zn 213.857*†	119.5	17.89	14.97%	[0.00]	mg/L

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User canceled analysis.

==========

Analysis Begun

Start Time: 3/29/2017 9:43:25 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/29/2017 9:19:17 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032901.sif
Batch ID:
Results Data Set: 170329C 1
Results Library: W:\pe\7300\Results\results.mdb

==========

Sequence No.: 2
Sample ID: STD3-M111116A_935_ICP7300
Analyst:
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 2
Date Collected: 3/29/2017 9:43:26 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD3-M111116A_935_ICP7300

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Tb 384	70310.9	175.42	0.25%	88.02	%
Tb 350	114006.6	129.66	0.11%	90.39	%
Ag 328.068*†	132760.8	506.60	0.38%	[0.75]	mg/L
Al 308.215*†	417970.9	1264.07	0.30%	[27.0]	mg/L
As 188.979†	13072.6	17.28	0.13%	[7.50]	mg/L
As 193.696*†	9184.5	5.51	0.06%	[7.50]	mg/L
B 249.677*†	331734.3	3157.74	0.95%	[7.50]	mg/L
Ba 233.527*†	2067399.5	35890.20	1.74%	[15.0]	mg/L
Be 313.042*†	4061144.7	55774.45	1.37%	[1.125]	mg/L
Ca 317.933*†	132985.6	2989.41	2.25%	[60.0]	mg/L
Cd 226.502*†	95218.2	56.21	0.06%	[1.50]	mg/L
Cd 228.802†	49766.0	136.18	0.27%	[1.50]	mg/L
Co 228.616*†	89541.7	116.69	0.13%	[3.75]	mg/L
Cr 267.716*†	121151.8	259.85	0.21%	[1.20]	mg/L
Cu 324.752*†	451519.6	842.06	0.19%	[1.875]	mg/L
Fe 273.955*†	154634.3	29.78	0.02%	[7.50]	mg/L
K 766.490*†	181803.1	3712.57	2.04%	[54.0]	mg/L
Mg 279.077*†	231349.7	410.69	0.18%	[15.0]	mg/L
Mn 257.610*†	883422.8	14802.15	1.68%	[1.50]	mg/L
Mo 202.031*†	10066.3	11.91	0.12%	[1.20]	mg/L
Na 589.592*†	373282.3	7409.12	1.98%	[72.0]	mg/L
Ni 231.604*†	25478.2	161.58	0.63%	[1.20]	mg/L
P 213.617*†	19555.6	1.92	0.01%	[12.0]	mg/L
P 214.914†	12138.0	23.23	0.19%	[12.0]	mg/L
Pb 220.353*†	48071.5	334.82	0.70%	[7.50]	mg/L
Sb 206.836†	15257.3	69.05	0.45%	[9.0]	mg/L
Sb 217.582*†	15357.9	28.80	0.19%	[9.0]	mg/L
Se 196.026*†	5293.3	26.37	0.50%	[3.0]	mg/L
Si 251.611*†	421514.9	3936.53	0.93%	[12.0]	mg/L
Sn 189.927*†	30377.8	53.27	0.18%	[6.0]	mg/L
Sn 242.170†	9669.3	63.12	0.65%	[6.0]	mg/L
Sr 407.771*†	222734.4	5110.22	2.29%	[0.60]	mg/L
Ti 334.940†	975572.3	13341.42	1.37%	[1.20]	mg/L
Ti 336.121*†	673724.1	1066.79	0.16%	[1.20]	mg/L
Tl 190.801*†	4756.7	7.82	0.16%	[3.0]	mg/L
V 292.402*†	468425.9	1116.44	0.24%	[3.75]	mg/L
Zn 206.200*†	161669.7	701.58	0.43%	[5.0]	mg/L
Zn 213.857*†	298383.1	319.81	0.11%	[5.0]	mg/L

Return to Contents

User canceled analysis.

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Analysis Begun

Start Time: 3/29/2017 9:46:38 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401
Plasma On Time: 3/29/2017 9:19:17 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032901.sif
Batch ID:
Results Data Set: 170329C 1
Results Library: W:\pe\7300\Results\results.mdb

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Sequence No.: 3
Sample ID: ICV-M072816C
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20
Autosampler Location: 10
Date Collected: 3/29/2017 9:46:40 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	74252.1	92.95	%	1.178				1.27%
Tb 350	120370.3	95.43	%	0.983				1.03%
Ag 328.068*†	87057.5	0.4918	mg/L	0.00376	0.4918	mg/L	0.00376	0.76%
QC value within limits for Ag 328.068* Recovery = 98.36%								
Al 308.215*†	62137.3	4.014	mg/L	0.0023	4.014	mg/L	0.0023	0.06%
QC value within limits for Al 308.215* Recovery = 100.35%								
As 188.979†	8467.2	4.858	mg/L	0.0687	4.858	mg/L	0.0687	1.41%
QC value within limits for As 188.979 Recovery = 97.16%								
As 193.696*†	5885.6	4.806	mg/L	0.0697	4.806	mg/L	0.0697	1.45%
QC value within limits for As 193.696* Recovery = 96.12%								
B 249.677*†	108210.5	2.446	mg/L	0.0327	2.446	mg/L	0.0327	1.34%
QC value within limits for B 249.677* Recovery = 97.86%								
Ba 233.527*†	134742.5	0.9776	mg/L	0.00166	0.9776	mg/L	0.00166	0.17%
QC value within limits for Ba 233.527* Recovery = 97.76%								
Be 313.042*†	1752361.6	0.4854	mg/L	0.00056	0.4854	mg/L	0.00056	0.12%
QC value within limits for Be 313.042* Recovery = 97.09%								
Ca 317.933*†	40919.5	18.46	mg/L	0.137	18.46	mg/L	0.137	0.74%
QC value within limits for Ca 317.933* Recovery = 92.31%								
Cd 226.502*†	94769.5	1.493	mg/L	0.0050	1.493	mg/L	0.0050	0.33%
QC value within limits for Cd 226.502* Recovery = 99.53%								
Cd 228.802†	49016.9	1.477	mg/L	0.0045	1.477	mg/L	0.0045	0.30%
Co 228.616*†	24615.1	1.031	mg/L	0.0170	1.031	mg/L	0.0170	1.65%
QC value within limits for Co 228.616* Recovery = 103.09%								
Cr 267.716*†	39910.8	0.3953	mg/L	0.00152	0.3953	mg/L	0.00152	0.38%
QC value within limits for Cr 267.716* Recovery = 98.83%								
Cu 324.752*†	237524.2	0.9864	mg/L	0.00299	0.9864	mg/L	0.00299	0.30%
QC value within limits for Cu 324.752* Recovery = 98.64%								
Fe 273.955*†	2084449.0	101.1	mg/L	0.54	101.1	mg/L	0.54	0.54%
QC value within limits for Fe 273.955* Recovery = 101.10%								
K 766.490*†	25136.2	7.466	mg/L	0.2347	7.466	mg/L	0.2347	3.14%
QC value within limits for K 766.490* Recovery = 93.33%								
Mg 279.077*†	152956.5	9.917	mg/L	0.0222	9.917	mg/L	0.0222	0.22%
QC value within limits for Mg 279.077* Recovery = 99.17%								
Mn 257.610*†	577658.6	0.9808	mg/L	0.00144	0.9808	mg/L	0.00144	0.15%
QC value within limits for Mn 257.610* Recovery = 98.08%								
Mo 202.031*†	19933.3	2.376	mg/L	0.0406	2.376	mg/L	0.0406	1.71%
QC value within limits for Mo 202.031* Recovery = 95.05%								
Na 589.592*†	270521.4	52.18	mg/L	0.492	52.18	mg/L	0.492	0.94%
QC value within limits for Na 589.592* Recovery = 96.63%								
Ni 231.604*†	8627.8	0.4064	mg/L	0.00598	0.4064	mg/L	0.00598	1.47%
QC value within limits for Ni 231.604* Recovery = 101.59%								
P 213.617*†	7685.4	4.716	mg/L	0.0525	4.716	mg/L	0.0525	1.11%
QC value within limits for P 213.617* Recovery = 94.32%								
P 214.914†	4932.4	4.876	mg/L	0.0578	4.876	mg/L	0.0578	1.19%
Pb 220.353*†	32508.5	5.072	mg/L	0.0101	5.072	mg/L	0.0101	0.20%

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QC value within limits for Pb 220.353* Recovery = 101.44%						
Sb 206.836†	3192.6	1.883	mg/L	0.0399	1.883 mg/L	0.0399 2.12%
QC value within limits for Sb 206.836 Recovery = 94.16%						
Sb 217.582*†	3248.5	1.904	mg/L	0.0259	1.904 mg/L	0.0259 1.36%
QC value within limits for Sb 217.582* Recovery = 95.18%						
Se 196.026*†	3400.5	1.927	mg/L	0.0389	1.927 mg/L	0.0389 2.02%
QC value within limits for Se 196.026* Recovery = 96.36%						
Si 251.611*†	327242.2	9.316	mg/L	0.0398	9.316 mg/L	0.0398 0.43%
QC value within limits for Si 251.611* Recovery = 93.16%						
Sn 189.927*†	12344.0	2.438	mg/L	0.0383	2.438 mg/L	0.0383 1.57%
QC value within limits for Sn 189.927* Recovery = 97.52%						
Sn 242.170†	4361.7	2.707	mg/L	0.0428	2.707 mg/L	0.0428 1.58%
Sr 407.771*†	71013.0	0.1913	mg/L	0.00178	0.1913 mg/L	0.00178 0.93%
QC value within limits for Sr 407.771* Recovery = 95.65%						
Ti 334.940†	3828522.5	4.709	mg/L	0.0185	4.709 mg/L	0.0185 0.39%
Ti 336.121*†	2698233.6	4.806	mg/L	0.0203	4.806 mg/L	0.0203 0.42%
QC value within limits for Ti 336.121* Recovery = 96.12%						
Tl 190.801*†	3076.2	1.940	mg/L	0.0300	1.940 mg/L	0.0300 1.55%
QC value within limits for Tl 190.801* Recovery = 97.01%						
V 292.402*†	122162.7	0.9763	mg/L	0.00045	0.9763 mg/L	0.00045 0.05%
QC value within limits for V 292.402* Recovery = 97.63%						
Zn 206.200*†	48996.4	1.515	mg/L	0.0094	1.515 mg/L	0.0094 0.62%
QC value within limits for Zn 206.200* Recovery = 101.02%						
Zn 213.857*†	90376.6	1.506	mg/L	0.0014	1.506 mg/L	0.0014 0.09%
QC value within limits for Zn 213.857* Recovery = 100.40%						

All analyte(s) passed QC.

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Sequence No.: 4
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 1
Date Collected: 3/29/2017 9:47:39 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Tb 384	80062.2	100.2	%	1.32				1.31%
Tb 350	126192.1	100.0	%	0.73				0.73%
Ag 328.068*†	-109.7	-0.0006	mg/L	0.00085	-0.0006	mg/L	0.00085	136.57%
Al 308.215*†	-27.1	-0.0018	mg/L	0.00237	-0.0018	mg/L	0.00237	135.61%
As 188.979†	2.5	0.0015	mg/L	0.00654	0.0015	mg/L	0.00654	448.28%
As 193.696*†	4.4	0.0036	mg/L	0.00058	0.0036	mg/L	0.00058	15.92%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	1487.2	0.0336	mg/L	0.00158	0.0336	mg/L	0.00158	4.70%
QC value within limits for B 249.677* Recovery = Not calculated								
Ba 233.527*†	-13.2	-0.0001	mg/L	0.00001	-0.0001	mg/L	0.00001	9.43%
Be 313.042*†	107.8	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	40.92%
Ca 317.933*†	-10.7	-0.0048	mg/L	0.00563	-0.0048	mg/L	0.00563	116.82%
Cd 226.502*†	26.7	0.0004	mg/L	0.00005	0.0004	mg/L	0.00005	12.58%
Cd 228.802†	9.4	0.0003	mg/L	0.00030	0.0003	mg/L	0.00030	106.23%
Co 228.616*†	6.2	0.0003	mg/L	0.00044	0.0003	mg/L	0.00044	170.02%
Cr 267.716*†	10.7	0.0001	mg/L	0.00030	0.0001	mg/L	0.00030	281.33%
Cu 324.752*†	-58.0	-0.0002	mg/L	0.00029	-0.0002	mg/L	0.00029	119.06%
Fe 273.955*†	-3.3	-0.0002	mg/L	0.00019	-0.0002	mg/L	0.00019	117.82%
K 766.490*†	-219.3	-0.0651	mg/L	0.09670	-0.0651	mg/L	0.09670	148.43%
Mg 279.077*†	33.0	0.0021	mg/L	0.00730	0.0021	mg/L	0.00730	340.90%
Mn 257.610*†	-47.6	-0.0001	mg/L	0.00002	-0.0001	mg/L	0.00002	27.17%
Mo 202.031*†	2.1	0.0002	mg/L	0.00053	0.0002	mg/L	0.00053	214.34%
Na 589.592*†	-65.9	-0.0127	mg/L	0.02287	-0.0127	mg/L	0.02287	179.88%
Ni 231.604*†	20.3	0.0010	mg/L	0.00083	0.0010	mg/L	0.00083	86.80%
P 213.617*†	1.5	0.0009	mg/L	0.00987	0.0009	mg/L	0.00987	>999.9%
P 214.914†	6.8	0.0067	mg/L	0.00567	0.0067	mg/L	0.00567	84.20%
Pb 220.353*†	6.4	0.0010	mg/L	0.00019	0.0010	mg/L	0.00019	19.07%
QC value within limits for Pb 220.353* Recovery = Not calculated								
Sb 206.836†	9.6	0.0056	mg/L	0.00309	0.0056	mg/L	0.00309	54.85%
Sb 217.582*†	-2.6	-0.0015	mg/L	0.00049	-0.0015	mg/L	0.00049	32.11%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	4.0	0.0023	mg/L	0.00539	0.0023	mg/L	0.00539	237.50%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	-12.4	-0.0004	mg/L	0.00026	-0.0004	mg/L	0.00026	74.63%
QC value within limits for Si 251.611* Recovery = Not calculated								
Sn 189.927*†	3.0	0.0006	mg/L	0.00118	0.0006	mg/L	0.00118	197.30%
Sn 242.170†	27.5	0.0171	mg/L	0.01715	0.0171	mg/L	0.01715	100.55%
Sr 407.771*†	3.1	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	388.36%
Ti 334.940†	580.3	0.0007	mg/L	0.00020	0.0007	mg/L	0.00020	28.61%
Ti 336.121*†	497.4	0.0009	mg/L	0.00024	0.0009	mg/L	0.00024	26.60%
Tl 190.801*†	-1.9	-0.0012	mg/L	0.00109	-0.0012	mg/L	0.00109	90.05%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	2.6	0.0000	mg/L	0.00057	0.0000	mg/L	0.00057	>999.9%
Zn 206.200*†	6.2	0.0002	mg/L	0.00042	0.0002	mg/L	0.00042	218.81%
Zn 213.857*†	4.5	0.0001	mg/L	0.00027	0.0001	mg/L	0.00027	359.95%

All analyte(s) passed QC.

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Sequence No.: 5
Sample ID: ICS_A - M110116B
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 8
Date Collected: 3/29/2017 9:48:40 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.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	73445.6	91.94	%	1.573				1.71%
Tb 350	118669.9	94.08	%	1.683				1.79%
Ag 328.068*†	-41.5	-0.0002	mg/L	0.00014	-0.0002	mg/L	0.00014	60.69%
Al 308.215*†	364506.1	23.55	mg/L	0.374	23.55	mg/L	0.374	1.59%
As 188.979†	10.7	0.0061	mg/L	0.00615	0.0061	mg/L	0.00615	100.24%
As 193.696*†	-5.6	-0.0046	mg/L	0.00786	-0.0046	mg/L	0.00786	171.99%
B 249.677*†	865.8	0.0196	mg/L	0.00061	0.0196	mg/L	0.00061	3.12%
Ba 233.527*†	341.9	0.0025	mg/L	0.00008	0.0025	mg/L	0.00008	3.11%
Be 313.042*†	-6.9	-0.0000	mg/L	0.00000	-0.0000	mg/L	0.00000	55.15%
Ca 317.933*†	245949.8	111.0	mg/L	3.11	111.0	mg/L	3.11	2.80%
Cd 226.502*†	150.1	0.0024	mg/L	0.00022	0.0024	mg/L	0.00022	9.12%
Cd 228.802†	13.1	0.0004	mg/L	0.00018	0.0004	mg/L	0.00018	45.94%
Co 228.616*†	21.4	0.0009	mg/L	0.00024	0.0009	mg/L	0.00024	26.67%
Cr 267.716*†	-186.9	-0.0019	mg/L	0.00008	-0.0019	mg/L	0.00008	4.56%
Cu 324.752*†	-445.2	-0.0018	mg/L	0.00058	-0.0018	mg/L	0.00058	31.17%
Fe 273.955*†	1877600.3	91.07	mg/L	1.379	91.07	mg/L	1.379	1.51%
K 766.490*†	284.4	0.0845	mg/L	0.05387	0.0845	mg/L	0.05387	63.77%
Mg 279.077*†	881903.1	57.18	mg/L	0.889	57.18	mg/L	0.889	1.55%
Mn 257.610*†	39.5	0.0001	mg/L	0.00018	0.0001	mg/L	0.00018	271.60%
Mo 202.031*†	15.4	0.0018	mg/L	0.00148	0.0018	mg/L	0.00148	80.19%
Na 589.592*†	103624.1	19.99	mg/L	0.504	19.99	mg/L	0.504	2.52%
Ni 231.604*†	46.1	0.0022	mg/L	0.00044	0.0022	mg/L	0.00044	20.44%
P 213.617*†	-175.0	-0.1074	mg/L	0.00670	-0.1074	mg/L	0.00670	6.24%
P 214.914†	44.5	0.0440	mg/L	0.00351	0.0440	mg/L	0.00351	7.98%
Pb 220.353*†	-36.1	-0.0056	mg/L	0.00068	-0.0056	mg/L	0.00068	12.00%
Sb 206.836†	13.6	0.0081	mg/L	0.00665	0.0081	mg/L	0.00665	82.58%
Sb 217.582*†	-19.8	-0.0116	mg/L	0.00039	-0.0116	mg/L	0.00039	3.33%
Se 196.026*†	-11.4	-0.0065	mg/L	0.00011	-0.0065	mg/L	0.00011	1.75%
Si 251.611*†	-112.0	-0.0032	mg/L	0.00078	-0.0032	mg/L	0.00078	24.45%
Sn 189.927*†	-30.7	-0.0061	mg/L	0.00213	-0.0061	mg/L	0.00213	35.13%
Sn 242.170†	383.3	0.2379	mg/L	0.01939	0.2379	mg/L	0.01939	8.15%
Sr 407.771*†	901.8	0.0024	mg/L	0.00022	0.0024	mg/L	0.00022	8.97%
Ti 334.940†	-1941.7	-0.0024	mg/L	0.00000	-0.0024	mg/L	0.00000	0.18%
Ti 336.121*†	-727.7	-0.0013	mg/L	0.00001	-0.0013	mg/L	0.00001	0.47%
Tl 190.801*†	-8.8	-0.0055	mg/L	0.00484	-0.0055	mg/L	0.00484	87.29%
V 292.402*†	349.0	0.0013	mg/L	0.00021	0.0013	mg/L	0.00021	16.02%
Zn 206.200*†	24.3	0.0008	mg/L	0.00025	0.0008	mg/L	0.00025	32.85%
Zn 213.857*†	436.2	-0.0003	mg/L	0.00017	-0.0003	mg/L	0.00017	66.49%

Return to Contents

User canceled analysis.

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Analysis Begun

Start Time: 3/29/2017 9:49:44 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401
Plasma On Time: 3/29/2017 9:19:17 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032901.sif
Batch ID:
Results Data Set: 170329C 1
Results Library: W:\pe\7300\Results\results.mdb

==========

Sequence No.: 6
Sample ID: ICS_AB - M110116A
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time:
Autosampler Location: 9
Date Collected: 3/29/2017 9:49:46 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS_AB - M110116A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	69213.3	86.64	%	0.628				0.73%
Tb 350	111741.1	88.59	%	0.558				0.63%
Ag 328.068*†	56383.3	0.3185	mg/L	0.00094	0.3185	mg/L	0.00094	0.29%
Al 308.215*†	386172.1	24.95	mg/L	0.043	24.95	mg/L	0.043	0.17%
As 188.979†	1815.2	1.041	mg/L	0.0159	1.041	mg/L	0.0159	1.52%
As 193.696*†	1261.2	1.030	mg/L	0.0158	1.030	mg/L	0.0158	1.54%
B 249.677*†	22608.1	0.5111	mg/L	0.00130	0.5111	mg/L	0.00130	0.25%
Ba 233.527*†	42804.0	0.3106	mg/L	0.00161	0.3106	mg/L	0.00161	0.52%
Be 313.042*†	379786.1	0.1052	mg/L	0.00024	0.1052	mg/L	0.00024	0.22%
Ca 317.933*†	259231.0	117.0	mg/L	1.61	117.0	mg/L	1.61	1.38%
Cd 226.502*†	19612.6	0.3090	mg/L	0.00254	0.3090	mg/L	0.00254	0.82%
Cd 228.802†	10291.7	0.3102	mg/L	0.00244	0.3102	mg/L	0.00244	0.79%
Co 228.616*†	7481.6	0.3133	mg/L	0.00140	0.3133	mg/L	0.00140	0.45%
Cr 267.716*†	31918.8	0.3162	mg/L	0.00263	0.3162	mg/L	0.00263	0.83%
Cu 324.752*†	76930.6	0.3195	mg/L	0.00068	0.3195	mg/L	0.00068	0.21%
Fe 273.955*†	2004522.9	97.22	mg/L	0.297	97.22	mg/L	0.297	0.31%
K 766.490*†	71628.9	21.28	mg/L	0.299	21.28	mg/L	0.299	1.41%
Mg 279.077*†	933465.3	60.52	mg/L	0.221	60.52	mg/L	0.221	0.37%
Mn 257.610*†	121136.8	0.2057	mg/L	0.00018	0.2057	mg/L	0.00018	0.09%
Mo 202.031*†	2559.6	0.3051	mg/L	0.00361	0.3051	mg/L	0.00361	1.18%
Na 589.592*†	108252.2	20.88	mg/L	0.238	20.88	mg/L	0.238	1.14%
Ni 231.604*†	6714.3	0.3162	mg/L	0.00284	0.3162	mg/L	0.00284	0.90%
P 213.617*†	-179.6	-0.1102	mg/L	0.01262	-0.1102	mg/L	0.01262	11.45%
P 214.914†	53.0	0.0524	mg/L	0.00286	0.0524	mg/L	0.00286	5.47%
Pb 220.353*†	6604.2	1.030	mg/L	0.0063	1.030	mg/L	0.0063	0.61%
Sb 206.836†	1683.3	0.9929	mg/L	0.00751	0.9929	mg/L	0.00751	0.76%
Sb 217.582*†	1679.7	0.9843	mg/L	0.01766	0.9843	mg/L	0.01766	1.79%
Se 196.026*†	909.1	0.5152	mg/L	0.00282	0.5152	mg/L	0.00282	0.55%
Si 251.611*†	7843.2	0.2233	mg/L	0.00499	0.2233	mg/L	0.00499	2.23%
Sn 189.927*†	-46.3	-0.0091	mg/L	0.00084	-0.0091	mg/L	0.00084	9.23%
Sn 242.170†	427.6	0.2653	mg/L	0.00089	0.2653	mg/L	0.00089	0.34%
Sr 407.771*†	1019.1	0.0027	mg/L	0.00013	0.0027	mg/L	0.00013	4.64%
Ti 334.940†	820110.1	1.009	mg/L	0.0018	1.009	mg/L	0.0018	0.18%
Ti 336.121*†	576771.8	1.027	mg/L	0.0013	1.027	mg/L	0.0013	0.12%
Tl 190.801*†	1618.3	1.021	mg/L	0.0032	1.021	mg/L	0.0032	0.32%
V 292.402*†	39371.0	0.3136	mg/L	0.00014	0.3136	mg/L	0.00014	0.04%
Zn 206.200*†	10285.9	0.3181	mg/L	0.00327	0.3181	mg/L	0.00327	1.03%
Zn 213.857*†	19555.3	0.3196	mg/L	0.00270	0.3196	mg/L	0.00270	0.85%

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Sequence No.: 4
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/29/2017 4:56:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Tb 384	79501.9	99.52	%	1.057				1.06%
Tb 350	129845.7	102.9	%	1.53				1.49%
Ag 328.068*†	64594.2	0.3649	mg/L	0.00125	0.3649	mg/L	0.00125	0.34%
QC value within limits for Ag 328.068* Recovery = 97.31%								
Al 308.215*†	203459.0	13.14	mg/L	0.016	13.14	mg/L	0.016	0.12%
QC value within limits for Al 308.215* Recovery = 97.36%								
As 188.979†	6495.3	3.727	mg/L	0.0684	3.727	mg/L	0.0684	1.84%
QC value within limits for As 188.979 Recovery = 99.37%								
As 193.696*†	4510.4	3.683	mg/L	0.0643	3.683	mg/L	0.0643	1.74%
QC value within limits for As 193.696* Recovery = 98.22%								
B 249.677*†	167196.1	3.780	mg/L	0.0642	3.780	mg/L	0.0642	1.70%
QC value within limits for B 249.677* Recovery = 100.80%								
Ba 233.527*†	1029121.3	7.467	mg/L	0.0022	7.467	mg/L	0.0022	0.03%
QC value within limits for Ba 233.527* Recovery = 99.56%								
Be 313.042*†	2002359.1	0.5547	mg/L	0.00157	0.5547	mg/L	0.00157	0.28%
QC value within limits for Be 313.042* Recovery = 98.61%								
Ca 317.933*†	63340.7	28.58	mg/L	0.373	28.58	mg/L	0.373	1.31%
QC value within limits for Ca 317.933* Recovery = 95.26%								
Cd 226.502*†	48589.2	0.7654	mg/L	0.00203	0.7654	mg/L	0.00203	0.27%
QC value within limits for Cd 226.502* Recovery = 102.06%								
Cd 228.802†	25174.3	0.7588	mg/L	0.00116	0.7588	mg/L	0.00116	0.15%
Co 228.616*†	46411.4	1.944	mg/L	0.0056	1.944	mg/L	0.0056	0.29%
QC value within limits for Co 228.616* Recovery = 103.66%								
Cr 267.716*†	61133.9	0.6055	mg/L	0.00200	0.6055	mg/L	0.00200	0.33%
QC value within limits for Cr 267.716* Recovery = 100.92%								
Cu 324.752*†	220236.1	0.9146	mg/L	0.00000	0.9146	mg/L	0.00000	0.00%
QC value within limits for Cu 324.752* Recovery = 97.55%								
Fe 273.955*†	78942.0	3.829	mg/L	0.0125	3.829	mg/L	0.0125	0.33%
QC value within limits for Fe 273.955* Recovery = 102.10%								
K 766.490*†	85604.5	25.43	mg/L	0.446	25.43	mg/L	0.446	1.75%
QC value within limits for K 766.490* Recovery = 94.17%								
Mg 279.077*†	119014.6	7.717	mg/L	0.0180	7.717	mg/L	0.0180	0.23%
QC value within limits for Mg 279.077* Recovery = 102.89%								
Mn 257.610*†	436371.8	0.7409	mg/L	0.00034	0.7409	mg/L	0.00034	0.05%
QC value within limits for Mn 257.610* Recovery = 98.79%								
Mo 202.031*†	4951.5	0.5903	mg/L	0.01250	0.5903	mg/L	0.01250	2.12%
QC value within limits for Mo 202.031* Recovery = 98.38%								
Na 589.592*†	179849.3	34.69	mg/L	0.475	34.69	mg/L	0.475	1.37%
QC value within limits for Na 589.592* Recovery = 96.36%								
Ni 231.604*†	12860.0	0.6057	mg/L	0.01357	0.6057	mg/L	0.01357	2.24%
QC value within limits for Ni 231.604* Recovery = 100.95%								
P 213.617*†	9433.6	5.789	mg/L	0.1357	5.789	mg/L	0.1357	2.35%
QC value within limits for P 213.617* Recovery = 96.48%								
P 214.914†	6032.9	5.964	mg/L	0.1051	5.964	mg/L	0.1051	1.76%
Pb 220.353*†	24558.4	3.832	mg/L	0.0072	3.832	mg/L	0.0072	0.19%
QC value within limits for Pb 220.353* Recovery = 102.17%								
Sb 206.836†	7354.7	4.338	mg/L	0.0727	4.338	mg/L	0.0727	1.68%
QC value within limits for Sb 206.836 Recovery = 96.41%								
Sb 217.582*†	7330.7	4.296	mg/L	0.0861	4.296	mg/L	0.0861	2.00%
QC value within limits for Sb 217.582* Recovery = 95.46%								
Se 196.026*†	2649.6	1.502	mg/L	0.0216	1.502	mg/L	0.0216	1.44%
QC value within limits for Se 196.026* Recovery = 100.11%								
Si 251.611*†	204763.4	5.829	mg/L	0.0354	5.829	mg/L	0.0354	0.61%
QC value within limits for Si 251.611* Recovery = 97.16%								
Sn 189.927*†	15221.0	3.006	mg/L	0.0546	3.006	mg/L	0.0546	1.82%
QC value within limits for Sn 189.927* Recovery = 100.21%								
Sn 242.170†	4737.4	2.940	mg/L	0.0233	2.940	mg/L	0.0233	0.79%
Sr 407.771*†	108135.4	0.2913	mg/L	0.00424	0.2913	mg/L	0.00424	1.46%
QC value within limits for Sr 407.771* Recovery = 97.10%								

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Ti 334.940†	474413.1	0.5836	mg/L	0.00142	0.5836	mg/L	0.00142	0.24%
Ti 336.121*†	334591.0	0.5960	mg/L	0.00096	0.5960	mg/L	0.00096	0.16%
QC value within limits for Ti 336.121* Recovery = 99.33%								
Tl 190.801*†	2384.3	1.504	mg/L	0.0274	1.504	mg/L	0.0274	1.83%
QC value within limits for Tl 190.801* Recovery = 100.25%								
V 292.402*†	235354.6	1.884	mg/L	0.0041	1.884	mg/L	0.0041	0.22%
QC value within limits for V 292.402* Recovery = 100.48%								
Zn 206.200*†	81897.2	2.533	mg/L	0.0117	2.533	mg/L	0.0117	0.46%
QC value within limits for Zn 206.200* Recovery = 101.31%								
Zn 213.857*†	152244.9	2.551	mg/L	0.0007	2.551	mg/L	0.0007	0.03%
QC value within limits for Zn 213.857* Recovery = 102.03%								

All analyte(s) passed QC.

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Sequence No.: 5
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/29/2017 4:57:41 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.	Conc.	Sample Units	Std.Dev.	RSD
Tb 384	86105.4	107.8	%	1.44				1.33%
Tb 350	138375.3	109.7	%	1.32				1.20%
Ag 328.068*†	16.5	0.0001	mg/L	0.00070	0.0001	mg/L	0.00070	758.37%
QC value within limits for Ag 328.068*		Recovery =	Not calculated					
Al 308.215*†	-66.0	-0.0043	mg/L	0.00210	-0.0043	mg/L	0.00210	49.12%
As 188.979†	5.7	0.0032	mg/L	0.00024	0.0032	mg/L	0.00024	7.51%
As 193.696*†	1.7	0.0014	mg/L	0.00184	0.0014	mg/L	0.00184	130.69%
QC value within limits for As 193.696*		Recovery =	Not calculated					
B 249.677*†	1691.8	0.0382	mg/L	0.00259	0.0382	mg/L	0.00259	6.77%
Ba 233.527*†	404.1	0.0029	mg/L	0.00014	0.0029	mg/L	0.00014	4.77%
Be 313.042*†	728.5	0.0002	mg/L	0.00001	0.0002	mg/L	0.00001	5.03%
Ca 317.933*†	52.4	0.0236	mg/L	0.00026	0.0236	mg/L	0.00026	1.09%
Cd 226.502*†	25.4	0.0004	mg/L	0.00003	0.0004	mg/L	0.00003	7.92%
Cd 228.802†	24.8	0.0007	mg/L	0.00006	0.0007	mg/L	0.00006	8.63%
Co 228.616*†	16.3	0.0007	mg/L	0.00062	0.0007	mg/L	0.00062	90.23%
Cr 267.716*†	34.9	0.0003	mg/L	0.00021	0.0003	mg/L	0.00021	60.61%
Cu 324.752*†	-65.1	-0.0003	mg/L	0.00008	-0.0003	mg/L	0.00008	28.49%
Fe 273.955*†	214.7	0.0104	mg/L	0.00072	0.0104	mg/L	0.00072	6.88%
K 766.490*†	-252.9	-0.0751	mg/L	0.07945	-0.0751	mg/L	0.07945	105.75%
Mg 279.077*†	344.7	0.0224	mg/L	0.00143	0.0224	mg/L	0.00143	6.38%
Mn 257.610*†	315.7	0.0005	mg/L	0.00000	0.0005	mg/L	0.00000	0.88%
Mo 202.031*†	2.2	0.0003	mg/L	0.00084	0.0003	mg/L	0.00084	317.17%
Na 589.592*†	27.7	0.0053	mg/L	0.01470	0.0053	mg/L	0.01470	275.36%
Ni 231.604*†	23.2	0.0011	mg/L	0.00053	0.0011	mg/L	0.00053	48.23%
P 213.617*†	9.6	0.0059	mg/L	0.00079	0.0059	mg/L	0.00079	13.49%
P 214.914†	5.9	0.0059	mg/L	0.00091	0.0059	mg/L	0.00091	15.49%
Pb 220.353*†	-2.9	-0.0005	mg/L	0.00036	-0.0005	mg/L	0.00036	79.94%
Sb 206.836†	25.5	0.0151	mg/L	0.00201	0.0151	mg/L	0.00201	13.34%
Sb 217.582*†	0.7	0.0004	mg/L	0.00118	0.0004	mg/L	0.00118	281.37%
QC value within limits for Sb 217.582*		Recovery =	Not calculated					
Se 196.026*†	7.7	0.0044	mg/L	0.00097	0.0044	mg/L	0.00097	22.25%
QC value within limits for Se 196.026*		Recovery =	Not calculated					
Si 251.611*†	-68.7	-0.0020	mg/L	0.00389	-0.0020	mg/L	0.00389	198.84%
Sn 189.927*†	14.5	0.0029	mg/L	0.00152	0.0029	mg/L	0.00152	53.32%
Sn 242.170†	12.8	0.0079	mg/L	0.01786	0.0079	mg/L	0.01786	224.66%
Sr 407.771*†	82.8	0.0002	mg/L	0.00003	0.0002	mg/L	0.00003	12.39%
Ti 334.940†	707.6	0.0009	mg/L	0.00030	0.0009	mg/L	0.00030	34.83%
Ti 336.121*†	628.9	0.0011	mg/L	0.00030	0.0011	mg/L	0.00030	26.44%
Tl 190.801*†	1.3	0.0008	mg/L	0.00034	0.0008	mg/L	0.00034	41.34%
V 292.402*†	161.5	0.0013	mg/L	0.00146	0.0013	mg/L	0.00146	112.55%
Zn 206.200*†	-51.3	-0.0016	mg/L	0.00060	-0.0016	mg/L	0.00060	37.62%
QC value within limits for Zn 206.200*		Recovery =	Not calculated					
Zn 213.857*†	-43.8	-0.0007	mg/L	0.00019	-0.0007	mg/L	0.00019	25.42%
QC value within limits for Zn 213.857*		Recovery =	Not calculated					

All analyte(s) passed QC.

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Sequence No.: 11
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/29/2017 5:14:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Tb 384	79519.1	99.55	%	0.022				0.02%
Tb 350	131160.1	104.0	%	0.11				0.10%
Ag 328.068*†	64874.6	0.3665	mg/L	0.00021	0.3665	mg/L	0.00021	0.06%
QC value within limits for Ag 328.068* Recovery = 97.73%								
Al 308.215*†	204627.2	13.22	mg/L	0.021	13.22	mg/L	0.021	0.16%
QC value within limits for Al 308.215* Recovery = 97.91%								
As 188.979†	6594.7	3.784	mg/L	0.0224	3.784	mg/L	0.0224	0.59%
QC value within limits for As 188.979 Recovery = 100.89%								
As 193.696*†	4590.8	3.749	mg/L	0.0185	3.749	mg/L	0.0185	0.49%
QC value within limits for As 193.696* Recovery = 99.97%								
B 249.677*†	167474.5	3.786	mg/L	0.0544	3.786	mg/L	0.0544	1.44%
QC value within limits for B 249.677* Recovery = 100.97%								
Ba 233.527*†	1035047.1	7.510	mg/L	0.0045	7.510	mg/L	0.0045	0.06%
QC value within limits for Ba 233.527* Recovery = 100.13%								
Be 313.042*†	1993630.9	0.5523	mg/L	0.00033	0.5523	mg/L	0.00033	0.06%
QC value within limits for Be 313.042* Recovery = 98.18%								
Ca 317.933*†	65347.7	29.48	mg/L	0.091	29.48	mg/L	0.091	0.31%
QC value within limits for Ca 317.933* Recovery = 98.28%								
Cd 226.502*†	49007.6	0.7720	mg/L	0.00153	0.7720	mg/L	0.00153	0.20%
QC value within limits for Cd 226.502* Recovery = 102.94%								
Cd 228.802†	25246.5	0.7610	mg/L	0.00301	0.7610	mg/L	0.00301	0.40%
Co 228.616*†	46757.8	1.958	mg/L	0.0073	1.958	mg/L	0.0073	0.37%
QC value within limits for Co 228.616* Recovery = 104.44%								
Cr 267.716*†	61609.6	0.6102	mg/L	0.00041	0.6102	mg/L	0.00041	0.07%
QC value within limits for Cr 267.716* Recovery = 101.71%								
Cu 324.752*†	220352.4	0.9150	mg/L	0.00010	0.9150	mg/L	0.00010	0.01%
QC value within limits for Cu 324.752* Recovery = 97.60%								
Fe 273.955*†	81168.6	3.937	mg/L	0.0177	3.937	mg/L	0.0177	0.45%
QC value within limits for Fe 273.955* Recovery = 104.98%								
K 766.490*†	86754.1	25.77	mg/L	0.056	25.77	mg/L	0.056	0.22%
QC value within limits for K 766.490* Recovery = 95.44%								
Mg 279.077*†	119999.3	7.780	mg/L	0.0015	7.780	mg/L	0.0015	0.02%
QC value within limits for Mg 279.077* Recovery = 103.74%								
Mn 257.610*†	439771.5	0.7467	mg/L	0.00181	0.7467	mg/L	0.00181	0.24%
QC value within limits for Mn 257.610* Recovery = 99.56%								
Mo 202.031*†	5019.1	0.5983	mg/L	0.00255	0.5983	mg/L	0.00255	0.43%
QC value within limits for Mo 202.031* Recovery = 99.72%								
Na 589.592*†	182050.8	35.11	mg/L	0.007	35.11	mg/L	0.007	0.02%
QC value within limits for Na 589.592* Recovery = 97.54%								
Ni 231.604*†	12995.4	0.6121	mg/L	0.00179	0.6121	mg/L	0.00179	0.29%
QC value within limits for Ni 231.604* Recovery = 102.01%								
P 213.617*†	9532.3	5.849	mg/L	0.0674	5.849	mg/L	0.0674	1.15%
QC value within limits for P 213.617* Recovery = 97.49%								
P 214.914†	6151.3	6.081	mg/L	0.0305	6.081	mg/L	0.0305	0.50%
Pb 220.353*†	24796.2	3.869	mg/L	0.0250	3.869	mg/L	0.0250	0.65%
QC value within limits for Pb 220.353* Recovery = 103.16%								
Sb 206.836†	7437.0	4.387	mg/L	0.0116	4.387	mg/L	0.0116	0.26%
QC value within limits for Sb 206.836 Recovery = 97.49%								
Sb 217.582*†	7433.4	4.356	mg/L	0.0213	4.356	mg/L	0.0213	0.49%
QC value within limits for Sb 217.582* Recovery = 96.80%								
Se 196.026*†	2710.5	1.536	mg/L	0.0078	1.536	mg/L	0.0078	0.51%
QC value within limits for Se 196.026* Recovery = 102.41%								
Si 251.611*†	207337.9	5.903	mg/L	0.0448	5.903	mg/L	0.0448	0.76%
QC value within limits for Si 251.611* Recovery = 98.38%								
Sn 189.927*†	15430.2	3.048	mg/L	0.0216	3.048	mg/L	0.0216	0.71%
QC value within limits for Sn 189.927* Recovery = 101.59%								
Sn 242.170†	4821.1	2.992	mg/L	0.0395	2.992	mg/L	0.0395	1.32%
Sr 407.771*†	109828.3	0.2959	mg/L	0.00005	0.2959	mg/L	0.00005	0.02%
QC value within limits for Sr 407.771* Recovery = 98.62%								

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Ti 334.940†	482106.2	0.5930	mg/L	0.00020	0.5930	mg/L	0.00020	0.03%
Ti 336.121*†	340660.6	0.6068	mg/L	0.00031	0.6068	mg/L	0.00031	0.05%
QC value within limits for Ti 336.121* Recovery = 101.13%								
Tl 190.801*†	2417.5	1.525	mg/L	0.0115	1.525	mg/L	0.0115	0.76%
QC value within limits for Tl 190.801* Recovery = 101.65%								
V 292.402*†	235797.7	1.888	mg/L	0.0022	1.888	mg/L	0.0022	0.12%
QC value within limits for V 292.402* Recovery = 100.67%								
Zn 206.200*†	82726.3	2.558	mg/L	0.0217	2.558	mg/L	0.0217	0.85%
QC value within limits for Zn 206.200* Recovery = 102.34%								

All analyte(s) passed QC.

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Sequence No.: 12
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/29/2017 5:15:02 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	85492.7	107.0	%	0.27				0.25%
Tb 350	138055.2	109.5	%	0.60				0.55%
Ag 328.068*†	-29.4	-0.0002	mg/L	0.00099	-0.0002	mg/L	0.00099	599.31%
Al 308.215*†	12.3	0.0008	mg/L	0.00200	0.0008	mg/L	0.00200	250.17%
As 188.979†	10.2	0.0059	mg/L	0.00304	0.0059	mg/L	0.00304	51.95%
As 193.696*†	3.8	0.0031	mg/L	0.00286	0.0031	mg/L	0.00286	91.85%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	1583.3	0.0358	mg/L	0.00164	0.0358	mg/L	0.00164	4.59%
Ba 233.527*†	516.1	0.0037	mg/L	0.00005	0.0037	mg/L	0.00005	1.24%
Be 313.042*†	882.7	0.0002	mg/L	0.00003	0.0002	mg/L	0.00003	11.53%
Ca 317.933*†	42.6	0.0192	mg/L	0.00319	0.0192	mg/L	0.00319	16.60%
Cd 226.502*†	38.4	0.0006	mg/L	0.00002	0.0006	mg/L	0.00002	3.97%
Cd 228.802†	24.0	0.0007	mg/L	0.00016	0.0007	mg/L	0.00016	22.27%
Co 228.616*†	33.7	0.0014	mg/L	0.00033	0.0014	mg/L	0.00033	23.45%
Cr 267.716*†	52.8	0.0005	mg/L	0.00003	0.0005	mg/L	0.00003	5.70%
Cu 324.752*†	33.6	0.0001	mg/L	0.00061	0.0001	mg/L	0.00061	437.36%
Fe 273.955*†	230.7	0.0112	mg/L	0.00027	0.0112	mg/L	0.00027	2.41%
K 766.490*†	-90.9	-0.0270	mg/L	0.05264	-0.0270	mg/L	0.05264	195.05%
Mg 279.077*†	99.6	0.0065	mg/L	0.00078	0.0065	mg/L	0.00078	12.08%
Mn 257.610*†	383.7	0.0007	mg/L	0.00002	0.0007	mg/L	0.00002	2.82%
Mo 202.031*†	7.0	0.0008	mg/L	0.00047	0.0008	mg/L	0.00047	56.36%
Na 589.592*†	-64.9	-0.0125	mg/L	0.03335	-0.0125	mg/L	0.03335	266.57%
Ni 231.604*†	34.4	0.0016	mg/L	0.00053	0.0016	mg/L	0.00053	32.75%
P 213.617*†	24.3	0.0149	mg/L	0.00462	0.0149	mg/L	0.00462	31.00%
P 214.914†	7.7	0.0077	mg/L	0.00525	0.0077	mg/L	0.00525	68.51%
Pb 220.353*†	15.8	0.0025	mg/L	0.00069	0.0025	mg/L	0.00069	27.93%
Sb 206.836†	25.2	0.0149	mg/L	0.00252	0.0149	mg/L	0.00252	16.96%
Sb 217.582*†	3.5	0.0020	mg/L	0.00000	0.0020	mg/L	0.00000	0.02%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	1.6	0.0009	mg/L	0.01087	0.0009	mg/L	0.01087	>999.9%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	215.4	0.0061	mg/L	0.00111	0.0061	mg/L	0.00111	18.04%
Sn 189.927*†	17.6	0.0035	mg/L	0.00377	0.0035	mg/L	0.00377	108.28%
Sn 242.170†	12.9	0.0080	mg/L	0.01297	0.0080	mg/L	0.01297	162.37%
Sr 407.771*†	78.5	0.0002	mg/L	0.00001	0.0002	mg/L	0.00001	7.02%
Ti 334.940†	1179.7	0.0015	mg/L	0.00002	0.0015	mg/L	0.00002	1.19%
Ti 336.121*†	574.8	0.0010	mg/L	0.00024	0.0010	mg/L	0.00024	23.63%
Tl 190.801*†	5.2	0.0033	mg/L	0.00462	0.0033	mg/L	0.00462	139.79%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	145.8	0.0012	mg/L	0.00026	0.0012	mg/L	0.00026	22.48%
Zn 206.200*†	-73.1	-0.0023	mg/L	0.00034	-0.0023	mg/L	0.00034	14.97%
QC value within limits for Zn 206.200* Recovery = Not calculated								

All analyte(s) passed QC.

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Sequence No.: 23
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/29/2017 5:25:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Tb 384	81435.6	101.9	%	0.40				0.40%
Tb 350	135223.7	107.2	%	0.48				0.44%
Ag 328.068*†	64767.7	0.3659	mg/L	0.00231	0.3659	mg/L	0.00231	0.63%
QC value within limits for Ag 328.068* Recovery = 97.57%								
Al 308.215*†	203883.0	13.17	mg/L	0.055	13.17	mg/L	0.055	0.41%
QC value within limits for Al 308.215* Recovery = 97.56%								
As 188.979†	6388.3	3.665	mg/L	0.0016	3.665	mg/L	0.0016	0.04%
QC value within limits for As 188.979 Recovery = 97.74%								
As 193.696*†	4457.4	3.640	mg/L	0.0044	3.640	mg/L	0.0044	0.12%
QC value within limits for As 193.696* Recovery = 97.06%								
B 249.677*†	168270.0	3.804	mg/L	0.0629	3.804	mg/L	0.0629	1.65%
QC value within limits for B 249.677* Recovery = 101.45%								
Ba 233.527*†	1031883.5	7.487	mg/L	0.0363	7.487	mg/L	0.0363	0.48%
QC value within limits for Ba 233.527* Recovery = 99.82%								
Be 313.042*†	1994642.8	0.5525	mg/L	0.00361	0.5525	mg/L	0.00361	0.65%
QC value within limits for Be 313.042* Recovery = 98.23%								
Ca 317.933*†	64567.9	29.13	mg/L	0.189	29.13	mg/L	0.189	0.65%
QC value within limits for Ca 317.933* Recovery = 97.11%								
Cd 226.502*†	48812.9	0.7690	mg/L	0.00345	0.7690	mg/L	0.00345	0.45%
QC value within limits for Cd 226.502* Recovery = 102.53%								
Cd 228.802†	25357.6	0.7643	mg/L	0.00768	0.7643	mg/L	0.00768	1.00%
Co 228.616*†	46641.3	1.953	mg/L	0.0152	1.953	mg/L	0.0152	0.78%
QC value within limits for Co 228.616* Recovery = 104.18%								
Cr 267.716*†	61115.2	0.6053	mg/L	0.00335	0.6053	mg/L	0.00335	0.55%
QC value within limits for Cr 267.716* Recovery = 100.89%								
Cu 324.752*†	223311.5	0.9273	mg/L	0.00292	0.9273	mg/L	0.00292	0.31%
QC value within limits for Cu 324.752* Recovery = 98.92%								
Fe 273.955*†	80306.7	3.895	mg/L	0.0292	3.895	mg/L	0.0292	0.75%
QC value within limits for Fe 273.955* Recovery = 103.87%								
K 766.490*†	85015.0	25.25	mg/L	0.135	25.25	mg/L	0.135	0.53%
QC value within limits for K 766.490* Recovery = 93.52%								
Mg 279.077*†	119994.5	7.780	mg/L	0.0674	7.780	mg/L	0.0674	0.87%
QC value within limits for Mg 279.077* Recovery = 103.73%								
Mn 257.610*†	437996.9	0.7437	mg/L	0.00391	0.7437	mg/L	0.00391	0.53%
QC value within limits for Mn 257.610* Recovery = 99.16%								
Mo 202.031*†	4895.6	0.5836	mg/L	0.00110	0.5836	mg/L	0.00110	0.19%
QC value within limits for Mo 202.031* Recovery = 97.27%								
Na 589.592*†	179185.8	34.56	mg/L	0.022	34.56	mg/L	0.022	0.06%
QC value within limits for Na 589.592* Recovery = 96.01%								
Ni 231.604*†	12659.0	0.5962	mg/L	0.00327	0.5962	mg/L	0.00327	0.55%
QC value within limits for Ni 231.604* Recovery = 99.37%								
P 213.617*†	9320.1	5.719	mg/L	0.0266	5.719	mg/L	0.0266	0.47%
QC value within limits for P 213.617* Recovery = 95.32%								
P 214.914†	5980.7	5.913	mg/L	0.0117	5.913	mg/L	0.0117	0.20%
Pb 220.353*†	24766.8	3.864	mg/L	0.0321	3.864	mg/L	0.0321	0.83%
QC value within limits for Pb 220.353* Recovery = 103.04%								
Sb 206.836†	7258.7	4.282	mg/L	0.0115	4.282	mg/L	0.0115	0.27%
QC value within limits for Sb 206.836 Recovery = 95.15%								
Sb 217.582*†	7257.5	4.253	mg/L	0.0259	4.253	mg/L	0.0259	0.61%
QC value within limits for Sb 217.582* Recovery = 94.51%								
Se 196.026*†	2625.1	1.488	mg/L	0.0028	1.488	mg/L	0.0028	0.19%
QC value within limits for Se 196.026* Recovery = 99.19%								
Si 251.611*†	207433.5	5.905	mg/L	0.0705	5.905	mg/L	0.0705	1.19%
QC value within limits for Si 251.611* Recovery = 98.42%								
Sn 189.927*†	15032.8	2.969	mg/L	0.0001	2.969	mg/L	0.0001	0.00%
QC value within limits for Sn 189.927* Recovery = 98.97%								
Sn 242.170†	4688.7	2.909	mg/L	0.0194	2.909	mg/L	0.0194	0.67%
Sr 407.771*†	108181.2	0.2914	mg/L	0.00101	0.2914	mg/L	0.00101	0.35%
QC value within limits for Sr 407.771* Recovery = 97.14%								

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Ti 334.940†	476182.1	0.5857	mg/L	0.00273	0.5857	mg/L	0.00273	0.47%
Ti 336.121*†	336509.2	0.5994	mg/L	0.00320	0.5994	mg/L	0.00320	0.53%
QC value within limits for Ti 336.121* Recovery = 99.90%								
Tl 190.801*†	2345.8	1.479	mg/L	0.0005	1.479	mg/L	0.0005	0.03%
QC value within limits for Tl 190.801* Recovery = 98.63%								
V 292.402*†	235083.9	1.882	mg/L	0.0110	1.882	mg/L	0.0110	0.59%
QC value within limits for V 292.402* Recovery = 100.37%								
Zn 206.200*†	83561.8	2.584	mg/L	0.0138	2.584	mg/L	0.0138	0.53%
QC value within limits for Zn 206.200* Recovery = 103.37%								

All analyte(s) passed QC.

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Sequence No.: 24
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/29/2017 5:26:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Tb 384	87301.5	109.3	%	0.54				0.50%
Tb 350	141412.6	112.1	%	0.61				0.54%
Ag 328.068*†	43.1	0.0002	mg/L	0.00066	0.0002	mg/L	0.00066	272.26%
Al 308.215*†	46.9	0.0030	mg/L	0.00255	0.0030	mg/L	0.00255	84.04%
As 188.979†	7.6	0.0044	mg/L	0.00572	0.0044	mg/L	0.00572	130.82%
As 193.696*†	2.6	0.0021	mg/L	0.00501	0.0021	mg/L	0.00501	236.68%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	1585.0	0.0358	mg/L	0.00349	0.0358	mg/L	0.00349	9.73%
Ba 233.527*†	736.4	0.0053	mg/L	0.00026	0.0053	mg/L	0.00026	4.78%
Be 313.042*†	1218.7	0.0003	mg/L	0.00001	0.0003	mg/L	0.00001	2.68%
Ca 317.933*†	116.2	0.0524	mg/L	0.00374	0.0524	mg/L	0.00374	7.14%
Cd 226.502*†	40.7	0.0006	mg/L	0.00007	0.0006	mg/L	0.00007	10.81%
Cd 228.802†	26.3	0.0008	mg/L	0.00024	0.0008	mg/L	0.00024	29.93%
Co 228.616*†	40.3	0.0017	mg/L	0.00047	0.0017	mg/L	0.00047	27.77%
Cr 267.716*†	66.7	0.0007	mg/L	0.00000	0.0007	mg/L	0.00000	0.03%
Cu 324.752*†	1691.7	0.0070	mg/L	0.00000	0.0070	mg/L	0.00000	0.02%
Fe 273.955*†	395.0	0.0192	mg/L	0.00163	0.0192	mg/L	0.00163	8.53%
K 766.490*†	45.7	0.0136	mg/L	0.00425	0.0136	mg/L	0.00425	31.31%
Mg 279.077*†	384.4	0.0249	mg/L	0.00329	0.0249	mg/L	0.00329	13.20%
Mn 257.610*†	496.0	0.0008	mg/L	0.00005	0.0008	mg/L	0.00005	6.13%
Mo 202.031*†	11.7	0.0014	mg/L	0.00012	0.0014	mg/L	0.00012	8.64%
Na 589.592*†	25.5	0.0049	mg/L	0.00160	0.0049	mg/L	0.00160	32.55%
Ni 231.604*†	31.0	0.0015	mg/L	0.00004	0.0015	mg/L	0.00004	2.89%
P 213.617*†	2.2	0.0014	mg/L	0.00015	0.0014	mg/L	0.00015	11.08%
P 214.914†	1.7	0.0017	mg/L	0.00291	0.0017	mg/L	0.00291	169.19%
Pb 220.353*†	16.1	0.0025	mg/L	0.00134	0.0025	mg/L	0.00134	53.11%
Sb 206.836†	24.4	0.0144	mg/L	0.00000	0.0144	mg/L	0.00000	0.02%
Sb 217.582*†	5.1	0.0030	mg/L	0.00082	0.0030	mg/L	0.00082	27.22%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	-1.1	-0.0006	mg/L	0.00983	-0.0006	mg/L	0.00983	>999.9%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	78.7	0.0022	mg/L	0.00081	0.0022	mg/L	0.00081	36.22%
Sn 189.927*†	24.8	0.0049	mg/L	0.00365	0.0049	mg/L	0.00365	74.49%
Sn 242.170†	17.0	0.0105	mg/L	0.00612	0.0105	mg/L	0.00612	58.12%
Sr 407.771*†	145.1	0.0004	mg/L	0.00004	0.0004	mg/L	0.00004	10.49%
Ti 334.940†	1340.6	0.0016	mg/L	0.00043	0.0016	mg/L	0.00043	26.32%
Ti 336.121*†	696.6	0.0012	mg/L	0.00065	0.0012	mg/L	0.00065	51.99%
Tl 190.801*†	1.3	0.0008	mg/L	0.00086	0.0008	mg/L	0.00086	107.51%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	165.3	0.0013	mg/L	0.00072	0.0013	mg/L	0.00072	54.27%
Zn 206.200*†	606.1	0.0187	mg/L	0.00095	0.0187	mg/L	0.00095	5.06%
QC value greater than the upper limit for Zn 206.200* Recovery = Not calculated								

QC Failed. Retry.

Sequence No.: 25
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/29/2017 5:26:59 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	85629.2	107.2	%	2.03				1.89%
Tb 350	139521.6	110.6	%	1.66				1.50%
Ag 328.068*†	-123.8	-0.0007	mg/L	0.00046	-0.0007	mg/L	0.00046	65.99%

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Sequence No.: 11
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 3
Date Collected: 3/29/2017 6:49:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Tb 384	79358.9	99.35	%	0.593				0.60%
Tb 350	130127.7	103.2	%	0.73				0.71%
Ag 328.068*†	64489.9	0.3643	mg/L	0.00130	0.3643	mg/L	0.00130	0.36%
QC value within limits for Ag 328.068* Recovery = 97.15%								
Al 308.215*†	203857.8	13.17	mg/L	0.094	13.17	mg/L	0.094	0.71%
QC value within limits for Al 308.215* Recovery = 97.55%								
As 188.979†	6610.2	3.792	mg/L	0.0048	3.792	mg/L	0.0048	0.13%
QC value within limits for As 188.979 Recovery = 101.13%								
As 193.696*†	4578.0	3.738	mg/L	0.0173	3.738	mg/L	0.0173	0.46%
QC value within limits for As 193.696* Recovery = 99.69%								
B 249.677*†	166568.8	3.766	mg/L	0.0262	3.766	mg/L	0.0262	0.70%
QC value within limits for B 249.677* Recovery = 100.42%								
Ba 233.527*†	1032441.6	7.491	mg/L	0.0382	7.491	mg/L	0.0382	0.51%
QC value within limits for Ba 233.527* Recovery = 99.88%								
Be 313.042*†	2001290.4	0.5544	mg/L	0.00154	0.5544	mg/L	0.00154	0.28%
QC value within limits for Be 313.042* Recovery = 98.56%								
Ca 317.933*†	64772.7	29.22	mg/L	0.788	29.22	mg/L	0.788	2.70%
QC value within limits for Ca 317.933* Recovery = 97.41%								
Cd 226.502*†	48865.7	0.7698	mg/L	0.00321	0.7698	mg/L	0.00321	0.42%
QC value within limits for Cd 226.502* Recovery = 102.64%								
Cd 228.802†	25050.9	0.7551	mg/L	0.00753	0.7551	mg/L	0.00753	1.00%
Co 228.616*†	46467.9	1.946	mg/L	0.0203	1.946	mg/L	0.0203	1.04%
QC value within limits for Co 228.616* Recovery = 103.79%								
Cr 267.716*†	61265.1	0.6068	mg/L	0.00167	0.6068	mg/L	0.00167	0.27%
QC value within limits for Cr 267.716* Recovery = 101.14%								
Cu 324.752*†	220035.0	0.9137	mg/L	0.00469	0.9137	mg/L	0.00469	0.51%
QC value within limits for Cu 324.752* Recovery = 97.46%								
Fe 273.955*†	79800.1	3.870	mg/L	0.0221	3.870	mg/L	0.0221	0.57%
QC value within limits for Fe 273.955* Recovery = 103.21%								
K 766.490*†	85973.8	25.54	mg/L	0.588	25.54	mg/L	0.588	2.30%
QC value within limits for K 766.490* Recovery = 94.58%								
Mg 279.077*†	119653.1	7.758	mg/L	0.0007	7.758	mg/L	0.0007	0.01%
QC value within limits for Mg 279.077* Recovery = 103.44%								
Mn 257.610*†	437872.1	0.7435	mg/L	0.00372	0.7435	mg/L	0.00372	0.50%
QC value within limits for Mn 257.610* Recovery = 99.13%								
Mo 202.031*†	5045.7	0.6015	mg/L	0.00475	0.6015	mg/L	0.00475	0.79%
QC value within limits for Mo 202.031* Recovery = 100.25%								
Na 589.592*†	180334.2	34.78	mg/L	0.730	34.78	mg/L	0.730	2.10%
QC value within limits for Na 589.592* Recovery = 96.62%								
Ni 231.604*†	13014.7	0.6130	mg/L	0.00535	0.6130	mg/L	0.00535	0.87%
QC value within limits for Ni 231.604* Recovery = 102.16%								
P 213.617*†	9599.6	5.891	mg/L	0.0166	5.891	mg/L	0.0166	0.28%
QC value within limits for P 213.617* Recovery = 98.18%								
P 214.914†	6163.2	6.093	mg/L	0.0358	6.093	mg/L	0.0358	0.59%
Pb 220.353*†	24394.6	3.806	mg/L	0.0014	3.806	mg/L	0.0014	0.04%
QC value within limits for Pb 220.353* Recovery = 101.49%								
Sb 206.836†	7490.0	4.418	mg/L	0.0137	4.418	mg/L	0.0137	0.31%
QC value within limits for Sb 206.836 Recovery = 98.18%								
Sb 217.582*†	7473.3	4.379	mg/L	0.0313	4.379	mg/L	0.0313	0.71%
QC value within limits for Sb 217.582* Recovery = 97.32%								
Se 196.026*†	2683.4	1.521	mg/L	0.0042	1.521	mg/L	0.0042	0.28%
QC value within limits for Se 196.026* Recovery = 101.39%								
Si 251.611*†	207523.4	5.908	mg/L	0.0097	5.908	mg/L	0.0097	0.16%
QC value within limits for Si 251.611* Recovery = 98.47%								
Sn 189.927*†	15486.6	3.059	mg/L	0.0106	3.059	mg/L	0.0106	0.35%
QC value within limits for Sn 189.927* Recovery = 101.96%								
Sn 242.170†	4811.9	2.986	mg/L	0.0001	2.986	mg/L	0.0001	0.00%
Sr 407.771*†	108771.6	0.2930	mg/L	0.00698	0.2930	mg/L	0.00698	2.38%
QC value within limits for Sr 407.771* Recovery = 97.67%								

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Ti 334.940†	475601.3	0.5850	mg/L	0.00425	0.5850	mg/L	0.00425	0.73%
Ti 336.121*†	335088.3	0.5968	mg/L	0.00268	0.5968	mg/L	0.00268	0.45%
QC value within limits for Ti 336.121* Recovery = 99.47%								
Tl 190.801*†	2408.1	1.519	mg/L	0.0018	1.519	mg/L	0.0018	0.12%
QC value within limits for Tl 190.801* Recovery = 101.25%								
V 292.402*†	234906.7	1.880	mg/L	0.0083	1.880	mg/L	0.0083	0.44%
QC value within limits for V 292.402* Recovery = 100.29%								
Zn 206.200*†	82386.9	2.548	mg/L	0.0021	2.548	mg/L	0.0021	0.08%
QC value within limits for Zn 206.200* Recovery = 101.92%								
Zn 213.857*†	152037.2	2.547	mg/L	0.0010	2.547	mg/L	0.0010	0.04%
QC value within limits for Zn 213.857* Recovery = 101.89%								

All analyte(s) passed QC.

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Sequence No.: 12
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/29/2017 6:50:47 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	87734.0	109.8	%	0.53				0.48%
Tb 350	142073.9	112.6	%	0.01				0.01%
Ag 328.068*†	-202.4	-0.0011	mg/L	0.00060	-0.0011	mg/L	0.00060	52.66%
QC value within limits for Ag 328.068*		Recovery = Not calculated						
Al 308.215*†	55.8	0.0036	mg/L	0.00301	0.0036	mg/L	0.00301	83.41%
As 188.979†	9.0	0.0052	mg/L	0.00180	0.0052	mg/L	0.00180	34.80%
As 193.696*†	8.5	0.0070	mg/L	0.00103	0.0070	mg/L	0.00103	14.84%
QC value within limits for As 193.696*		Recovery = Not calculated						
B 249.677*†	1804.5	0.0408	mg/L	0.00235	0.0408	mg/L	0.00235	5.76%
Ba 233.527*†	903.8	0.0066	mg/L	0.00021	0.0066	mg/L	0.00021	3.15%
Be 313.042*†	1629.8	0.0005	mg/L	0.00003	0.0005	mg/L	0.00003	5.56%
Ca 317.933*†	100.4	0.0453	mg/L	0.00273	0.0453	mg/L	0.00273	6.02%
Cd 226.502*†	51.1	0.0008	mg/L	0.00005	0.0008	mg/L	0.00005	6.22%
Cd 228.802†	31.5	0.0010	mg/L	0.00002	0.0010	mg/L	0.00002	2.34%
Co 228.616*†	51.2	0.0021	mg/L	0.00006	0.0021	mg/L	0.00006	2.86%
Cr 267.716*†	74.0	0.0007	mg/L	0.00014	0.0007	mg/L	0.00014	18.73%
Cu 324.752*†	251.3	0.0010	mg/L	0.00016	0.0010	mg/L	0.00016	15.22%
Fe 273.955*†	304.0	0.0147	mg/L	0.00001	0.0147	mg/L	0.00001	0.04%
K 766.490*†	-265.0	-0.0787	mg/L	0.08257	-0.0787	mg/L	0.08257	104.91%
Mg 279.077*†	314.3	0.0204	mg/L	0.00559	0.0204	mg/L	0.00559	27.42%
Mn 257.610*†	481.5	0.0008	mg/L	0.00007	0.0008	mg/L	0.00007	8.30%
Mo 202.031*†	12.2	0.0015	mg/L	0.00051	0.0015	mg/L	0.00051	34.63%
Na 589.592*†	82.2	0.0159	mg/L	0.00070	0.0159	mg/L	0.00070	4.39%
Ni 231.604*†	33.0	0.0016	mg/L	0.00001	0.0016	mg/L	0.00001	0.68%
P 213.617*†	16.8	0.0103	mg/L	0.00318	0.0103	mg/L	0.00318	30.86%
P 214.914†	5.0	0.0049	mg/L	0.00242	0.0049	mg/L	0.00242	49.24%
Pb 220.353*†	14.3	0.0022	mg/L	0.00144	0.0022	mg/L	0.00144	64.25%
Sb 206.836†	23.0	0.0136	mg/L	0.00106	0.0136	mg/L	0.00106	7.78%
Sb 217.582*†	16.0	0.0094	mg/L	0.00502	0.0094	mg/L	0.00502	53.48%
QC value within limits for Sb 217.582*		Recovery = Not calculated						
Se 196.026*†	1.9	0.0011	mg/L	0.00363	0.0011	mg/L	0.00363	332.02%
QC value within limits for Se 196.026*		Recovery = Not calculated						
Si 251.611*†	115.3	0.0033	mg/L	0.00079	0.0033	mg/L	0.00079	23.98%
Sn 189.927*†	25.3	0.0050	mg/L	0.00074	0.0050	mg/L	0.00074	14.85%
Sn 242.170†	23.5	0.0146	mg/L	0.00024	0.0146	mg/L	0.00024	1.64%
Sr 407.771*†	151.1	0.0004	mg/L	0.00002	0.0004	mg/L	0.00002	4.64%
Ti 334.940†	1313.5	0.0016	mg/L	0.00009	0.0016	mg/L	0.00009	5.83%
Ti 336.121*†	789.6	0.0014	mg/L	0.00000	0.0014	mg/L	0.00000	0.19%
Tl 190.801*†	16.8	0.0106	mg/L	0.00149	0.0106	mg/L	0.00149	14.01%
V 292.402*†	203.2	0.0016	mg/L	0.00014	0.0016	mg/L	0.00014	8.59%
Zn 206.200*†	-7.2	-0.0002	mg/L	0.00011	-0.0002	mg/L	0.00011	50.11%
QC value within limits for Zn 206.200*		Recovery = Not calculated						
Zn 213.857*†	28.0	0.0005	mg/L	0.00026	0.0005	mg/L	0.00026	54.66%
QC value within limits for Zn 213.857*		Recovery = Not calculated						

All analyte(s) passed QC.

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Analysis Begun

Start Time: 3/29/2017 7:02:35 PM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401
Plasma On Time: 3/29/2017 4:49:39 PM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032902.sif
Batch ID:
Results Data Set: 170329C 1
Results Library: W:\pe\7300\Results\results.mdb

Sequence No.: 1
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time:
Autosampler Location: 3
Date Collected: 3/29/2017 7:02:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	79586.6	99.63	%	1.006				1.01%
Tb 350	132281.0	104.9	%	0.79				0.75%
Ag 328.068*†	64769.0	0.3659	mg/L	0.00156	0.3659	mg/L	0.00156	0.43%
QC value within limits for Ag 328.068* Recovery = 97.57%								
Al 308.215*†	206702.8	13.35	mg/L	0.035	13.35	mg/L	0.035	0.26%
QC value within limits for Al 308.215* Recovery = 98.91%								
As 188.979†	6628.4	3.803	mg/L	0.0266	3.803	mg/L	0.0266	0.70%
QC value within limits for As 188.979 Recovery = 101.41%								
As 193.696*†	4611.9	3.766	mg/L	0.0197	3.766	mg/L	0.0197	0.52%
QC value within limits for As 193.696* Recovery = 100.43%								
B 249.677*†	169490.4	3.832	mg/L	0.0216	3.832	mg/L	0.0216	0.56%
QC value within limits for B 249.677* Recovery = 102.18%								
Ba 233.527*†	1046107.9	7.590	mg/L	0.0449	7.590	mg/L	0.0449	0.59%
QC value within limits for Ba 233.527* Recovery = 101.20%								
Be 313.042*†	2013190.4	0.5577	mg/L	0.00408	0.5577	mg/L	0.00408	0.73%
QC value within limits for Be 313.042* Recovery = 99.14%								
Ca 317.933*†	63373.3	28.59	mg/L	0.142	28.59	mg/L	0.142	0.50%
QC value within limits for Ca 317.933* Recovery = 95.31%								
Cd 226.502*†	49581.9	0.7811	mg/L	0.00335	0.7811	mg/L	0.00335	0.43%
QC value within limits for Cd 226.502* Recovery = 104.14%								
Cd 228.802†	25482.2	0.7681	mg/L	0.00480	0.7681	mg/L	0.00480	0.62%
Co 228.616*†	47208.3	1.977	mg/L	0.0215	1.977	mg/L	0.0215	1.09%
QC value within limits for Co 228.616* Recovery = 105.44%								
Cr 267.716*†	61869.8	0.6128	mg/L	0.00375	0.6128	mg/L	0.00375	0.61%
QC value within limits for Cr 267.716* Recovery = 102.14%								
Cu 324.752*†	222419.9	0.9236	mg/L	0.00146	0.9236	mg/L	0.00146	0.16%
QC value within limits for Cu 324.752* Recovery = 98.52%								
Fe 273.955*†	81797.6	3.967	mg/L	0.0015	3.967	mg/L	0.0015	0.04%
QC value within limits for Fe 273.955* Recovery = 105.79%								
K 766.490*†	83769.4	24.88	mg/L	0.138	24.88	mg/L	0.138	0.55%
QC value within limits for K 766.490* Recovery = 92.15%								
Mg 279.077*†	121598.4	7.884	mg/L	0.0339	7.884	mg/L	0.0339	0.43%
QC value within limits for Mg 279.077* Recovery = 105.12%								
Mn 257.610*†	444131.6	0.7541	mg/L	0.00477	0.7541	mg/L	0.00477	0.63%
QC value within limits for Mn 257.610* Recovery = 100.55%								
Mo 202.031*†	5019.4	0.5984	mg/L	0.00311	0.5984	mg/L	0.00311	0.52%
QC value within limits for Mo 202.031* Recovery = 99.73%								
Na 589.592*†	175700.8	33.89	mg/L	0.219	33.89	mg/L	0.219	0.64%
QC value within limits for Na 589.592* Recovery = 94.14%								
Ni 231.604*†	13085.4	0.6163	mg/L	0.00407	0.6163	mg/L	0.00407	0.66%
QC value within limits for Ni 231.604* Recovery = 102.72%								
P 213.617*†	9658.1	5.927	mg/L	0.0659	5.927	mg/L	0.0659	1.11%
QC value within limits for P 213.617* Recovery = 98.78%								
P 214.914†	6201.9	6.131	mg/L	0.0637	6.131	mg/L	0.0637	1.04%
Pb 220.353*†	25078.8	3.913	mg/L	0.0044	3.913	mg/L	0.0044	0.11%
QC value within limits for Pb 220.353* Recovery = 104.34%								

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Sb 206.836†	7472.2	4.408	mg/L	0.0302	4.408 mg/L	0.0302 0.68%
QC value within limits for Sb 206.836 Recovery = 97.95%						
Sb 217.582*†	7454.0	4.368	mg/L	0.0376	4.368 mg/L	0.0376 0.86%
QC value within limits for Sb 217.582* Recovery = 97.07%						
Se 196.026*†	2717.6	1.540	mg/L	0.0261	1.540 mg/L	0.0261 1.69%
QC value within limits for Se 196.026* Recovery = 102.68%						
Si 251.611*†	210785.1	6.001	mg/L	0.0030	6.001 mg/L	0.0030 0.05%
QC value within limits for Si 251.611* Recovery = 100.01%						
Sn 189.927*†	15533.5	3.068	mg/L	0.0333	3.068 mg/L	0.0333 1.08%
QC value within limits for Sn 189.927* Recovery = 102.27%						
Sn 242.170†	4812.8	2.986	mg/L	0.0384	2.986 mg/L	0.0384 1.29%
Sr 407.771*†	105832.0	0.2851	mg/L	0.00107	0.2851 mg/L	0.00107 0.37%
QC value within limits for Sr 407.771* Recovery = 95.03%						
Ti 334.940†	498627.4	0.6133	mg/L	0.00059	0.6133 mg/L	0.00059 0.10%
Ti 336.121*†	351352.1	0.6258	mg/L	0.00036	0.6258 mg/L	0.00036 0.06%
QC value within limits for Ti 336.121* Recovery = 104.30%						
Tl 190.801*†	2418.5	1.525	mg/L	0.0154	1.525 mg/L	0.0154 1.01%
QC value within limits for Tl 190.801* Recovery = 101.69%						
V 292.402*†	236215.1	1.891	mg/L	0.0111	1.891 mg/L	0.0111 0.59%
QC value within limits for V 292.402* Recovery = 100.85%						
Zn 206.200*†	84121.6	2.602	mg/L	0.0160	2.602 mg/L	0.0160 0.61%
QC value within limits for Zn 206.200* Recovery = 104.07%						
Zn 213.857*†	154374.6	2.587	mg/L	0.0121	2.587 mg/L	0.0121 0.47%
QC value within limits for Zn 213.857* Recovery = 103.46%						

All analyte(s) passed QC.

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Sequence No.: 2
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/29/2017 7:03:52 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.	Conc.	Sample Units	Std.Dev.	RSD
Tb 384	86528.6	108.3	%	1.11				1.03%
Tb 350	140513.5	111.4	%	0.62				0.56%
Ag 328.068*†	-9.1	-0.0001	mg/L	0.00175	-0.0001	mg/L	0.00175	>999.9%
QC value within limits for Ag 328.068*			Recovery = Not calculated					
Al 308.215*†	102.9	0.0066	mg/L	0.00182	0.0066	mg/L	0.00182	27.33%
As 188.979†	12.3	0.0071	mg/L	0.00204	0.0071	mg/L	0.00204	28.92%
As 193.696*†	8.1	0.0066	mg/L	0.00949	0.0066	mg/L	0.00949	144.29%
QC value within limits for As 193.696*			Recovery = Not calculated					
B 249.677*†	1567.3	0.0354	mg/L	0.00230	0.0354	mg/L	0.00230	6.50%
Ba 233.527*†	955.7	0.0069	mg/L	0.00030	0.0069	mg/L	0.00030	4.32%
Be 313.042*†	1739.5	0.0005	mg/L	0.00003	0.0005	mg/L	0.00003	6.31%
Ca 317.933*†	94.7	0.0427	mg/L	0.00574	0.0427	mg/L	0.00574	13.43%
Cd 226.502*†	57.7	0.0009	mg/L	0.00021	0.0009	mg/L	0.00021	22.84%
Cd 228.802†	27.7	0.0008	mg/L	0.00013	0.0008	mg/L	0.00013	15.14%
Co 228.616*†	46.1	0.0019	mg/L	0.00021	0.0019	mg/L	0.00021	10.71%
Cr 267.716*†	66.7	0.0007	mg/L	0.00010	0.0007	mg/L	0.00010	15.18%
Cu 324.752*†	171.7	0.0007	mg/L	0.00002	0.0007	mg/L	0.00002	2.54%
Fe 273.955*†	251.3	0.0122	mg/L	0.00137	0.0122	mg/L	0.00137	11.27%
K 766.490*†	28.5	0.0085	mg/L	0.02904	0.0085	mg/L	0.02904	342.66%
Mg 279.077*†	266.7	0.0173	mg/L	0.00666	0.0173	mg/L	0.00666	38.55%
Mn 257.610*†	466.6	0.0008	mg/L	0.00002	0.0008	mg/L	0.00002	2.32%
Mo 202.031*†	13.1	0.0016	mg/L	0.00061	0.0016	mg/L	0.00061	38.97%
Na 589.592*†	70.3	0.0136	mg/L	0.00083	0.0136	mg/L	0.00083	6.09%
Ni 231.604*†	33.4	0.0016	mg/L	0.00028	0.0016	mg/L	0.00028	18.00%
P 213.617*†	18.5	0.0114	mg/L	0.02398	0.0114	mg/L	0.02398	210.96%
P 214.914†	12.2	0.0120	mg/L	0.00803	0.0120	mg/L	0.00803	66.82%
Pb 220.353*†	14.5	0.0023	mg/L	0.00283	0.0023	mg/L	0.00283	124.58%
Sb 206.836†	30.8	0.0182	mg/L	0.00217	0.0182	mg/L	0.00217	11.97%
Sb 217.582*†	6.3	0.0037	mg/L	0.00046	0.0037	mg/L	0.00046	12.40%
QC value within limits for Sb 217.582*			Recovery = Not calculated					
Se 196.026*†	-3.1	-0.0017	mg/L	0.00163	-0.0017	mg/L	0.00163	94.41%
QC value within limits for Se 196.026*			Recovery = Not calculated					
Si 251.611*†	183.7	0.0052	mg/L	0.00061	0.0052	mg/L	0.00061	11.75%
Sn 189.927*†	32.2	0.0064	mg/L	0.00113	0.0064	mg/L	0.00113	17.82%
Sn 242.170†	15.5	0.0096	mg/L	0.00526	0.0096	mg/L	0.00526	54.63%
Sr 407.771*†	143.0	0.0004	mg/L	0.00001	0.0004	mg/L	0.00001	2.23%
Ti 334.940†	2050.8	0.0025	mg/L	0.00051	0.0025	mg/L	0.00051	20.24%
Ti 336.121*†	1392.1	0.0025	mg/L	0.00041	0.0025	mg/L	0.00041	16.46%
Tl 190.801*†	11.2	0.0071	mg/L	0.00106	0.0071	mg/L	0.00106	14.95%
V 292.402*†	238.7	0.0019	mg/L	0.00003	0.0019	mg/L	0.00003	1.54%
Zn 206.200*†	-20.9	-0.0006	mg/L	0.00015	-0.0006	mg/L	0.00015	23.12%
QC value within limits for Zn 206.200*			Recovery = Not calculated					
Zn 213.857*†	7.3	0.0001	mg/L	0.00003	0.0001	mg/L	0.00003	21.42%
QC value within limits for Zn 213.857*			Recovery = Not calculated					

All analyte(s) passed QC.

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EPA 6010B ICP Metals (Solid)

Sample Data

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RAW DATA SHEET
FOR METHOD: EPA 6010B

WORK ORDER: **17-03-1557**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-29 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-29 18:56
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170329C 1\17-03-1557-28.icp

 # 28 **CLIENT SAMPLE NUMBER: B-DU1-ISM1-8**

LCS/MB BATCH: 170329L05
MS/MSD BATCH: 170329S05
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Antimony	0.00788	0.985	ND	0.739	
Arsenic	0.0278	0.985	1.37	0.739	
Barium	1.24	0.985	61.1	0.493	
Beryllium	0.00296	0.985	ND	0.246	
Cadmium	0.00500	0.985	ND	0.493	
Chromium	0.0984	0.985	4.85	0.246	
Cobalt	0.0999	0.985	4.92	0.246	
Copper	0.141	0.985	6.93	0.493	
Lead	0.0892	0.985	4.39	0.493	
Molybdenum	0.00171	0.985	ND	0.246	
Nickel	0.0875	0.985	4.31	0.246	
Selenium	-0.00306	0.985	ND	0.739	
Silver	-0.00316	0.985	ND	0.246	
Thallium	-0.00717	0.985	ND	0.739	
Vanadium	0.335	0.985	16.5	0.246	
Zinc	0.493	0.985	24.3	0.985	

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Sequence No.: 3
Sample ID: 17-03-1557-28
Analyst: 1030 icp 7300
Initial Sample Wt: 2.03 g
Dilution:
Wash Time: 15

Autosampler Location: 134
Date Collected: 3/29/2017 6:56:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1557-28

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	67749.9	84.81	%	0.497				0.59%
Tb 350	126349.2	100.2	%	0.88				0.88%
Ag 328.068*†	-560.0	-0.0032	mg/L	0.00060	-0.1559	mg/kg	0.02970	19.05%
Al 308.215*†	1713264.2	110.7	mg/L	0.14	5452	mg/kg	6.74	0.12%
As 188.979†	51.1	0.0293	mg/L	0.00283	1.445	mg/kg	0.1396	9.66%
As 193.696*†	34.0	0.0278	mg/L	0.00528	1.368	mg/kg	0.2602	19.03%
B 249.677*†	747.5	0.0169	mg/L	0.00601	0.8325	mg/kg	0.29591	35.55%
Ba 233.527*†	170926.8	1.240	mg/L	0.0041	61.09	mg/kg	0.204	0.33%
Be 313.042*†	10688.1	0.0030	mg/L	0.00001	0.1459	mg/kg	0.00041	0.28%
Ca 317.933*†	133803.9	60.37	mg/L	1.311	2974	mg/kg	64.59	2.17%
Cd 226.502*†	317.2	0.0050	mg/L	0.00000	0.2462	mg/kg	0.00017	0.07%
Cd 228.802†	33.0	0.0010	mg/L	0.00009	0.0490	mg/kg	0.00422	8.60%
Co 228.616*†	2384.6	0.0999	mg/L	0.00082	4.920	mg/kg	0.0402	0.82%
Cr 267.716*†	9931.3	0.0984	mg/L	0.00123	4.846	mg/kg	0.0607	1.25%
Cu 324.752*†	33860.0	0.1406	mg/L	0.00006	6.927	mg/kg	0.0031	0.05%
Fe 273.955*†	3544151.7	171.9	mg/L	4.87	8468	mg/kg	240.01	2.83%
K 766.490*†	107408.9	31.90	mg/L	0.603	1572	mg/kg	29.73	1.89%
Mg 279.077*†	873986.6	56.67	mg/L	0.339	2791	mg/kg	16.70	0.60%
Mn 257.610*†	1625277.9	2.760	mg/L	0.0087	135.9	mg/kg	0.43	0.32%
Mo 202.031*†	14.4	0.0017	mg/L	0.00082	0.0844	mg/kg	0.04048	47.98%
Na 589.592*†	19653.9	3.791	mg/L	0.0849	186.7	mg/kg	4.18	2.24%
Ni 231.604*†	1857.3	0.0875	mg/L	0.00109	4.309	mg/kg	0.0539	1.25%
P 213.617*†	16660.7	10.22	mg/L	0.093	503.6	mg/kg	4.56	0.91%
P 214.914†	11053.6	10.93	mg/L	0.096	538.3	mg/kg	4.73	0.88%
Pb 220.353*†	571.6	0.0892	mg/L	0.00202	4.393	mg/kg	0.0997	2.27%
Sb 206.836†	13.3	0.0078	mg/L	0.00038	0.3865	mg/kg	0.01896	4.91%
Sb 217.582*†	13.4	0.0079	mg/L	0.00251	0.3882	mg/kg	0.12353	31.82%
Se 196.026*†	-5.4	-0.0031	mg/L	0.00191	-0.1509	mg/kg	0.09426	62.48%
Si 251.611*†	311712.8	8.874	mg/L	0.1160	437.1	mg/kg	5.71	1.31%
Sn 189.927*†	-363.6	-0.0718	mg/L	0.00283	-3.538	mg/kg	0.1392	3.93%
Sn 242.170†	693.0	0.4300	mg/L	0.00465	21.18	mg/kg	0.229	1.08%
Sr 407.771*†	275485.0	0.7421	mg/L	0.01644	36.56	mg/kg	0.810	2.22%
Ti 334.940†	8744139.9	10.76	mg/L	0.259	529.8	mg/kg	12.78	2.41%
Ti 336.121*†	6232628.4	11.10	mg/L	0.272	546.9	mg/kg	13.38	2.45%
Tl 190.801*†	-11.4	-0.0072	mg/L	0.00764	-0.3531	mg/kg	0.37611	106.51%
V 292.402*†	42231.6	0.3353	mg/L	0.00458	16.52	mg/kg	0.226	1.37%
Zn 206.200*†	15942.2	0.4930	mg/L	0.00386	24.29	mg/kg	0.190	0.78%

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RAW DATA SHEET
FOR METHOD: EPA 6010B

WORK ORDER: **17-03-1557**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-29 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-29 18:57
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170329C 1\17-03-1557-29.icp

 # 29 **CLIENT SAMPLE NUMBER: B-DU1-ISM2-8**

LCS/MB BATCH: 170329L05
MS/MSD BATCH: 170329S05
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Antimony	-0.00144	0.980	ND	0.735	
Arsenic	0.00514	0.980	ND	0.735	
Barium	1.36	0.980	66.9	0.490	
Beryllium	0.00274	0.980	ND	0.245	
Cadmium	0.00469	0.980	ND	0.490	
Chromium	0.0966	0.980	4.74	0.245	
Cobalt	0.0969	0.980	4.75	0.245	
Copper	0.137	0.980	6.71	0.490	
Lead	0.0705	0.980	3.46	0.490	
Molybdenum	0.00150	0.980	ND	0.245	
Nickel	0.0777	0.980	3.81	0.245	
Selenium	0.00322	0.980	ND	0.735	
Silver	-0.00251	0.980	ND	0.245	
Thallium	-0.00798	0.980	ND	0.735	
Vanadium	0.322	0.980	15.8	0.245	
Zinc	0.496	0.980	24.3	0.980	

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Sequence No.: 4
Sample ID: 17-03-1557-29
Analyst: 1030 icp 7300
Initial Sample Wt: 2.04 g
Dilution:
Wash Time: 15

Autosampler Location: 135
Date Collected: 3/29/2017 6:57:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1557-29

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	67797.0	84.87	%	0.497				0.59%
Tb 350	127607.7	101.2	%	1.32				1.30%
Ag 328.068*†	-444.4	-0.0025	mg/L	0.00113	-0.1231	mg/kg	0.05523	44.88%
Al 308.215*†	1686580.8	108.9	mg/L	0.03	5341	mg/kg	1.44	0.03%
As 188.979†	56.5	0.0324	mg/L	0.00236	1.589	mg/kg	0.1155	7.27%
As 193.696*†	6.3	0.0051	mg/L	0.00281	0.2519	mg/kg	0.13764	54.65%
B 249.677*†	397.3	0.0090	mg/L	0.00235	0.4403	mg/kg	0.11499	26.11%
Ba 233.527*†	187982.4	1.364	mg/L	0.0046	66.86	mg/kg	0.225	0.34%
Be 313.042*†	9908.1	0.0027	mg/L	0.00005	0.1345	mg/kg	0.00269	2.00%
Ca 317.933*†	130585.5	58.92	mg/L	1.096	2888	mg/kg	53.71	1.86%
Cd 226.502*†	297.7	0.0047	mg/L	0.00000	0.2299	mg/kg	0.00002	0.01%
Cd 228.802†	6.2	0.0002	mg/L	0.00017	0.0092	mg/kg	0.00855	93.14%
Co 228.616*†	2313.4	0.0969	mg/L	0.00082	4.749	mg/kg	0.0401	0.84%
Cr 267.716*†	9755.5	0.0966	mg/L	0.00104	4.737	mg/kg	0.0512	1.08%
Cu 324.752*†	32958.7	0.1369	mg/L	0.00049	6.709	mg/kg	0.0240	0.36%
Fe 273.955*†	3477701.5	168.7	mg/L	2.67	8268	mg/kg	130.64	1.58%
K 766.490*†	108959.5	32.36	mg/L	0.692	1586	mg/kg	33.92	2.14%
Mg 279.077*†	883463.9	57.28	mg/L	0.003	2808	mg/kg	0.16	0.01%
Mn 257.610*†	1605043.5	2.725	mg/L	0.0010	133.6	mg/kg	0.05	0.04%
Mo 202.031*†	12.6	0.0015	mg/L	0.00090	0.0733	mg/kg	0.04420	60.26%
Na 589.592*†	19951.6	3.848	mg/L	0.0934	188.6	mg/kg	4.58	2.43%
Ni 231.604*†	1649.8	0.0777	mg/L	0.00112	3.809	mg/kg	0.0550	1.44%
P 213.617*†	17071.7	10.48	mg/L	0.148	513.5	mg/kg	7.27	1.42%
P 214.914†	11295.0	11.17	mg/L	0.108	547.4	mg/kg	5.29	0.97%
Pb 220.353*†	451.9	0.0705	mg/L	0.00178	3.456	mg/kg	0.0871	2.52%
Sb 206.836†	13.5	0.0080	mg/L	0.00749	0.3913	mg/kg	0.36725	93.86%
Sb 217.582*†	-2.5	-0.0014	mg/L	0.00309	-0.0704	mg/kg	0.15138	214.89%
Se 196.026*†	5.7	0.0032	mg/L	0.00643	0.1578	mg/kg	0.31533	199.84%
Si 251.611*†	295745.4	8.420	mg/L	0.1392	412.7	mg/kg	6.82	1.65%
Sn 189.927*†	-333.6	-0.0659	mg/L	0.00189	-3.230	mg/kg	0.0928	2.87%
Sn 242.170†	675.3	0.4191	mg/L	0.02941	20.54	mg/kg	1.442	7.02%
Sr 407.771*†	239896.2	0.6462	mg/L	0.01298	31.68	mg/kg	0.636	2.01%
Ti 334.940†	8644708.4	10.63	mg/L	0.136	521.2	mg/kg	6.66	1.28%
Ti 336.121*†	6155086.7	10.96	mg/L	0.145	537.4	mg/kg	7.09	1.32%
Tl 190.801*†	-12.6	-0.0080	mg/L	0.01013	-0.3909	mg/kg	0.49636	126.97%
V 292.402*†	40553.4	0.3219	mg/L	0.00188	15.78	mg/kg	0.092	0.58%
Zn 206.200*†	16043.5	0.4962	mg/L	0.00573	24.32	mg/kg	0.281	1.16%

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RAW DATA SHEET
FOR METHOD: EPA 6010B

WORK ORDER: **17-03-1557**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-29 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-29 18:58
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170329C 1\17-03-1557-30.icp

 # 30 **CLIENT SAMPLE NUMBER: B-DU1-ISM3-8**

LCS/MB BATCH: 170329L05
MS/MSD BATCH: 170329S05
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Antimony	0.00207	0.980	ND	0.735	
Arsenic	0.0194	0.980	0.950	0.735	
Barium	1.16	0.980	56.9	0.490	
Beryllium	0.00258	0.980	ND	0.245	
Cadmium	0.00405	0.980	ND	0.490	
Chromium	0.0841	0.980	4.12	0.245	
Cobalt	0.0862	0.980	4.22	0.245	
Copper	0.125	0.980	6.12	0.490	
Lead	0.0763	0.980	3.74	0.490	
Molybdenum	0.000970	0.980	ND	0.245	
Nickel	0.0709	0.980	3.48	0.245	
Selenium	0.00118	0.980	ND	0.735	
Silver	-0.00248	0.980	ND	0.245	
Thallium	-0.0116	0.980	ND	0.735	
Vanadium	0.273	0.980	13.4	0.245	
Zinc	0.473	0.980	23.2	0.980	

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Sequence No.: 5
Sample ID: 17-03-1557-30
Analyst: 1030 icp 7300
Initial Sample Wt: 2.04 g
Dilution:
Wash Time: 15

Autosampler Location: 136
Date Collected: 3/29/2017 6:58:29 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1557-30

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	70482.6	88.23	%	0.824				0.93%
Tb 350	127648.3	101.2	%	0.65				0.64%
Ag 328.068*†	-439.6	-0.0025	mg/L	0.00056	-0.1217	mg/kg	0.02747	22.56%
Al 308.215*†	1552436.6	100.3	mg/L	0.37	4916	mg/kg	18.15	0.37%
As 188.979†	40.2	0.0231	mg/L	0.00107	1.131	mg/kg	0.0527	4.66%
As 193.696*†	23.7	0.0194	mg/L	0.00920	0.9502	mg/kg	0.45094	47.46%
B 249.677*†	394.2	0.0089	mg/L	0.00117	0.4368	mg/kg	0.05752	13.17%
Ba 233.527*†	159924.0	1.160	mg/L	0.0044	56.88	mg/kg	0.216	0.38%
Be 313.042*†	9311.1	0.0026	mg/L	0.00001	0.1264	mg/kg	0.00067	0.53%
Ca 317.933*†	116209.7	52.43	mg/L	0.333	2570	mg/kg	16.32	0.63%
Cd 226.502*†	257.3	0.0041	mg/L	0.00002	0.1987	mg/kg	0.00120	0.60%
Cd 228.802†	11.1	0.0003	mg/L	0.00041	0.0164	mg/kg	0.01988	120.89%
Co 228.616*†	2057.4	0.0862	mg/L	0.00106	4.224	mg/kg	0.0520	1.23%
Cr 267.716*†	8490.0	0.0841	mg/L	0.00053	4.122	mg/kg	0.0261	0.63%
Cu 324.752*†	30054.0	0.1248	mg/L	0.00006	6.118	mg/kg	0.0030	0.05%
Fe 273.955*†	3012378.6	146.1	mg/L	4.24	7162	mg/kg	207.69	2.90%
K 766.490*†	101256.7	30.08	mg/L	0.214	1474	mg/kg	10.48	0.71%
Mg 279.077*†	841817.7	54.58	mg/L	0.057	2676	mg/kg	2.80	0.10%
Mn 257.610*†	1521876.8	2.584	mg/L	0.0046	126.7	mg/kg	0.22	0.18%
Mo 202.031*†	8.1	0.0010	mg/L	0.00079	0.0476	mg/kg	0.03870	81.39%
Na 589.592*†	17775.5	3.429	mg/L	0.0223	168.1	mg/kg	1.09	0.65%
Ni 231.604*†	1505.5	0.0709	mg/L	0.00126	3.476	mg/kg	0.0619	1.78%
P 213.617*†	15893.1	9.753	mg/L	0.0324	478.1	mg/kg	1.59	0.33%
P 214.914†	10561.0	10.44	mg/L	0.062	511.8	mg/kg	3.02	0.59%
Pb 220.353*†	489.2	0.0763	mg/L	0.00034	3.741	mg/kg	0.0166	0.44%
Sb 206.836†	14.0	0.0082	mg/L	0.00743	0.4036	mg/kg	0.36398	90.19%
Sb 217.582*†	3.5	0.0021	mg/L	0.00313	0.1016	mg/kg	0.15361	151.22%
Se 196.026*†	2.1	0.0012	mg/L	0.00786	0.0577	mg/kg	0.38521	667.23%
Si 251.611*†	303503.4	8.640	mg/L	0.0583	423.5	mg/kg	2.86	0.67%
Sn 189.927*†	-300.8	-0.0594	mg/L	0.00260	-2.913	mg/kg	0.1274	4.37%
Sn 242.170†	602.5	0.3739	mg/L	0.01277	18.33	mg/kg	0.626	3.41%
Sr 407.771*†	234567.1	0.6319	mg/L	0.00556	30.97	mg/kg	0.273	0.88%
Ti 334.940†	7789122.6	9.581	mg/L	0.2312	469.7	mg/kg	11.33	2.41%
Ti 336.121*†	5554103.8	9.893	mg/L	0.2456	484.9	mg/kg	12.04	2.48%
Tl 190.801*†	-18.4	-0.0116	mg/L	0.00614	-0.5675	mg/kg	0.30099	53.04%
V 292.402*†	34434.2	0.2733	mg/L	0.00185	13.40	mg/kg	0.091	0.68%
Zn 206.200*†	15281.9	0.4726	mg/L	0.00082	23.17	mg/kg	0.040	0.17%

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EPA 6010B ICP Metals

(Solid)

Quality Control

Method Blank
LCS/LCSD
MS/MSD

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METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 6010B

MB SAMPLE ID:	**097-01-002-24537**	ANALYZED BY:	935
MB BATCH ID:	170329L05	D/T ANALYZED:	2017-03-29 17:07
INSTRUMENT:	ICP 7300	REVIEWED BY:	
EXTRACTION:	EPA 3050B	D/T REVIEWED:	
D/T EXTRACTED:	2017-03-29 00:00	MATRIX:	Soil

DATA FILE: W:\ICP-DATA\170329C 1\170329-b-05__376.icp

CLIENT WORK ORDER: 17-03-1557

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
28		B-DU1-ISM1-8	2017-03-29 18:56	W:\ICP-DATA\170329C 1\17-03-1557-28.icp
29		B-DU1-ISM2-8	2017-03-29 18:57	W:\ICP-DATA\170329C 1\17-03-1557-29.icp
30		B-DU1-ISM3-8	2017-03-29 18:58	W:\ICP-DATA\170329C 1\17-03-1557-30.icp

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RAW DATA SHEET
FOR METHOD: EPA 6010B

WORK ORDER:	**097-01-002**	ANALYZED BY:	935
INSTRUMENT:	ICP 7300	D/T ANALYZED:	2017-03-29 17:07
EXTRACTION :	EPA 3050B	REVIEWED BY:	
D/T EXTRACTED:	2017-03-29 00:00	D/T REVIEWED:	

DATA FILE: W:\ICP-DATA\170329C 1\170329-b-05__376.icp

 # MB **CLIENT SAMPLE NUMBER: Method Blank**

LCS/MB BATCH:	170329L05	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:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Antimony	0.00945	0.976	ND	0.732	
Arsenic	0.00243	0.976	ND	0.732	
Barium	0.000101	0.976	ND	0.488	
Beryllium	0.000126	0.976	ND	0.244	
Cadmium	0.000351	0.976	ND	0.488	
Chromium	0.000619	0.976	ND	0.244	
Cobalt	0.000590	0.976	ND	0.244	
Copper	0.000285	0.976	ND	0.488	
Lead	-0.000160	0.976	ND	0.488	
Molybdenum	0.000532	0.976	ND	0.244	
Nickel	0.000974	0.976	ND	0.244	
Selenium	0.00485	0.976	ND	0.732	
Silver	-0.000838	0.976	ND	0.244	
Thallium	-0.000864	0.976	ND	0.732	
Vanadium	0.000318	0.976	ND	0.244	
Zinc	-0.00205	0.976	ND	0.976	

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: **097-01-002-24537**
LCS/MB BATCH ID: 170329L05
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-29 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-29 17:08
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170329C 1\170329-I-05__377.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	20.99	84	80-120	73-127	PASS	
Arsenic	25.00	22.47	90	80-120	73-127	PASS	
Barium	25.00	25.38	102	80-120	73-127	PASS	
Beryllium	25.00	22.33	89	80-120	73-127	PASS	
Cadmium	25.00	25.54	102	80-120	73-127	PASS	
Chromium	25.00	24.93	100	80-120	73-127	PASS	
Cobalt	25.00	26.08	104	80-120	73-127	PASS	
Copper	25.00	24.17	97	80-120	73-127	PASS	
Lead	25.00	25.61	102	80-120	73-127	PASS	
Molybdenum	25.00	23.03	92	80-120	73-127	PASS	
Nickel	25.00	24.87	99	80-120	73-127	PASS	
Phosphorus	25.00	22.97	92	80-120	73-127	PASS	
Selenium	25.00	23.31	93	80-120	73-127	PASS	
Silver	12.50	11.95	96	80-120	73-127	PASS	
Thallium	25.00	24.20	97	80-120	73-127	PASS	
Vanadium	25.00	23.74	95	80-120	73-127	PASS	
Zinc	25.00	25.45	102	80-120	73-127	PASS	
Aluminum	25.00	23.68	95	80-120	73-127	PASS	
Calcium	25.00	23.08	92	80-120	73-127	PASS	
Iron	25.00	24.89	100	80-120	73-127	PASS	
Magnesium	25.00	25.96	104	80-120	73-127	PASS	
Manganese	25.00	24.29	97	80-120	73-127	PASS	
Potassium	250.0	218.0	87	80-120	73-127	PASS	
Sodium	250.0	225.7	90	80-120	73-127	PASS	
Strontium	25.00	23.68	95	80-120	73-127	PASS	
Tin	25.00	23.49	94	80-120	73-127	PASS	
Titanium	25.00	23.67	95	80-120	73-127	PASS	
Boron	25.00	23.78	95	80-120	73-127	PASS	
Silicon	25.00	23.33	93	80-120	73-127	PASS	

Compounds listed in bold are required to be reported.

LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID:	**097-01-002-24537**	EXTRACTION:	EPA 3050B	ANALYZED BY:	935
LCS/MB BATCH ID:	170329L05	D/T EXTRACTED:	2017-03-29 00:00	D/T ANALYZED:	2017-03-29 17:08
INSTRUMENT:	ICP 7300			REVIEWED BY:	
				D/T REVIEWED:	

DATA FILE: W:\ICP-DATA\170329C 1\170329-I-05__377.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS

Total number of LCS compounds: 29
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Compounds listed in bold are required to be reported.

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

SPIKED SAMPLE ID: **17-03-1813-1**
MS/MSD BATCH: 170329S05
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-29 00:00
MS: 2017-03-29 00:00
MSD: 2017-03-29 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-29 17:12
MS: 2017-03-29 17:13
MSD: 2017-03-29 17:16
REVIEWED BY:
D/T REVIEWED:

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Antimony	**ND**	**0.5000**	**25.00**	**11.32**	**45**	**11.05**	**44**	**50-115**	**2**	**0-20**	**FAIL**	**3G**
Arsenic	2.141	0.5000	25.00	28.57	106	26.28	97	75-125	8	0-20	PASS	
Barium	**65.88**	**0.5000**	**25.00**	**95.97**	**120**	**78.14**	**49**	**75-125**	**20**	**0-20**	**FAIL**	**3G**
Beryllium	0.3817	0.5000	25.00	26.81	106	25.14	99	75-125	6	0-20	PASS	
Cadmium	ND	0.5000	25.00	28.11	112	26.45	106	75-125	6	0-20	PASS	
Chromium	12.69	0.5000	25.00	39.67	108	35.64	92	75-125	11	0-20	PASS	
Cobalt	7.098	0.5000	25.00	35.02	112	32.08	100	75-125	9	0-20	PASS	
Copper	10.42	0.5000	25.00	37.00	106	33.11	91	75-125	11	0-20	PASS	
Lead	3.987	0.5000	25.00	32.73	115	30.39	106	75-125	7	0-20	PASS	
Molybdenum	ND	0.5000	25.00	24.76	99	23.57	94	75-125	5	0-20	PASS	
Nickel	8.515	0.5000	25.00	34.90	106	31.89	93	75-125	9	0-20	PASS	
Phosphorus	343.9	0.5000	25.00	340.2	4x	303.6	4x	75-125	4x	0-20	PASS	Q
Selenium	ND	0.5000	25.00	27.32	109	25.65	103	75-125	6	0-20	PASS	
Silver	ND	0.2500	12.50	13.18	105	12.25	98	75-125	7	0-20	PASS	
Thallium	ND	0.5000	25.00	25.36	101	24.63	99	75-125	3	0-20	PASS	
Vanadium	24.51	0.5000	25.00	50.22	103	43.83	77	75-125	14	0-20	PASS	
Zinc	29.81	0.5000	25.00	57.58	111	49.16	77	75-125	16	0-20	PASS	
Aluminum	7204	0.5000	25.00	7385	4x	5915	4x	75-125	4x	0-20	PASS	Q
Calcium	2062	0.5000	25.00	1931	4x	1604	4x	75-125	4x	0-20	PASS	Q
Iron	11500	0.5000	25.00	11170	4x	8906	4x	75-125	4x	0-20	PASS	Q
Magnesium	3039	0.5000	25.00	2843	4x	2242	4x	75-125	4x	0-20	PASS	Q
Manganese	272.5	0.5000	25.00	287.3	4x	228.9	4x	75-125	4x	0-20	PASS	Q
Potassium	2239	5.000	250.0	2385	4x	1876	4x	75-125	4x	0-20	PASS	Q
Sodium	115.9	5.000	250.0	380.6	106	346.5	92	75-125	9	0-20	PASS	
Strontium	24.23	0.5000	25.00	49.64	102	43.61	78	75-125	13	0-20	PASS	
Tin	ND	0.5000	25.00	22.89	92	21.88	88	75-125	5	0-20	PASS	
Titanium	465.0	0.5000	25.00	531.3	4x	435.8	4x	75-125	4x	0-20	PASS	Q
Boron	ND	0.5000	25.00	25.76	103	25.29	101	75-125	2	0-20	PASS	

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

SPIKED SAMPLE ID: **17-03-1813-1**
MS/MSD BATCH: 170329S05
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-29 00:00
MS: 2017-03-29 00:00
MSD: 2017-03-29 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-29 17:12
MS: 2017-03-29 17:13
MSD: 2017-03-29 17:16
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	290.2	0.5000	25.00	621.6	4x	634.2	4x	75-125	4x	0-20	PASS	Q

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-1813-1 ms.icp	W:\ICP-DATA\170329C 1\
MSD	17-03-1813-1 msd.icp	W:\ICP-DATA\170329C 1\

Sequence No.: 3
Sample ID: 170329-b-05
Analyst: 1030 icp 7300
Initial Sample Wt: 2.05 g
Dilution:
Wash Time: 15

Autosampler Location: 103
Date Collected: 3/29/2017 5:07:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170329-b-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	85764.3	107.4	%	3.74				3.48%
Tb 350	138557.8	109.9	%	4.15				3.78%
Ag 328.068*†	-148.3	-0.0008	mg/L	0.00141	-0.0409	mg/kg	0.06886	168.54%
Al 308.215*†	-205.2	-0.0133	mg/L	0.00337	-0.6467	mg/kg	0.16421	25.39%
As 188.979†	2.7	0.0016	mg/L	0.00035	0.0758	mg/kg	0.01727	22.76%
As 193.696*†	3.0	0.0024	mg/L	0.00407	0.1185	mg/kg	0.19856	167.63%
B 249.677*†	413.6	0.0094	mg/L	0.00011	0.4562	mg/kg	0.00518	1.14%
Ba 233.527*†	13.9	0.0001	mg/L	0.00008	0.0049	mg/kg	0.00382	77.51%
Be 313.042*†	456.3	0.0001	mg/L	0.00001	0.0062	mg/kg	0.00033	5.37%
Ca 317.933*†	6.0	0.0027	mg/L	0.00077	0.1310	mg/kg	0.03769	28.78%
Cd 226.502*†	22.3	0.0004	mg/L	0.00001	0.0171	mg/kg	0.00049	2.89%
Cd 228.802†	7.0	0.0002	mg/L	0.00030	0.0103	mg/kg	0.01444	139.79%
Co 228.616*†	14.1	0.0006	mg/L	0.00029	0.0288	mg/kg	0.01400	48.67%
Cr 267.716*†	62.5	0.0006	mg/L	0.00002	0.0302	mg/kg	0.00106	3.50%
Cu 324.752*†	68.6	0.0003	mg/L	0.00006	0.0139	mg/kg	0.00279	20.05%
Fe 273.955*†	71.3	0.0035	mg/L	0.00014	0.1686	mg/kg	0.00659	3.91%
K 766.490*†	-194.2	-0.0577	mg/L	0.07207	-2.814	mg/kg	3.5154	124.92%
Mg 279.077*†	148.1	0.0096	mg/L	0.01779	0.4685	mg/kg	0.86801	185.28%
Mn 257.610*†	824.0	0.0014	mg/L	0.00001	0.0682	mg/kg	0.00044	0.65%
Mo 202.031*†	4.5	0.0005	mg/L	0.00037	0.0259	mg/kg	0.01805	69.58%
Na 589.592*†	-115.1	-0.0222	mg/L	0.02283	-1.083	mg/kg	1.1138	102.84%
Ni 231.604*†	20.7	0.0010	mg/L	0.00121	0.0475	mg/kg	0.05887	123.89%
P 213.617*†	1.1	0.0007	mg/L	0.02091	0.0324	mg/kg	1.01980	>999.9%
P 214.914†	3.7	0.0037	mg/L	0.00245	0.1795	mg/kg	0.11967	66.67%
Pb 220.353*†	-1.0	-0.0002	mg/L	0.00129	-0.0078	mg/kg	0.06269	805.04%
Sb 206.836†	27.5	0.0162	mg/L	0.00325	0.7919	mg/kg	0.15848	20.01%
Sb 217.582*†	16.1	0.0095	mg/L	0.00009	0.4611	mg/kg	0.00434	0.94%
Se 196.026*†	8.6	0.0048	mg/L	0.00445	0.2365	mg/kg	0.21695	91.74%
Si 251.611*†	-375.5	-0.0107	mg/L	0.00060	-0.5215	mg/kg	0.02938	5.63%
Sn 189.927*†	-24.5	-0.0048	mg/L	0.00103	-0.2359	mg/kg	0.05011	21.24%
Sn 242.170†	-11.7	-0.0073	mg/L	0.00834	-0.3549	mg/kg	0.40663	114.57%
Sr 407.771*†	69.9	0.0002	mg/L	0.00004	0.0092	mg/kg	0.00206	22.45%
Ti 334.940†	358.2	0.0004	mg/L	0.00041	0.0215	mg/kg	0.02020	94.01%
Ti 336.121*†	474.1	0.0008	mg/L	0.00019	0.0412	mg/kg	0.00915	22.22%
Tl 190.801*†	-1.4	-0.0009	mg/L	0.00545	-0.0421	mg/kg	0.26582	630.77%
V 292.402*†	39.7	0.0003	mg/L	0.00060	0.0155	mg/kg	0.02932	189.10%
Zn 206.200*†	-66.3	-0.0021	mg/L	0.00063	-0.1001	mg/kg	0.03070	30.67%

Return to Contents

Sequence No.: 4
Sample ID: 170329-1-05
Analyst: 1030 icp 7300
Initial Sample Wt: 2.08 g
Dilution:
Wash Time: 15

Autosampler Location: 104
Date Collected: 3/29/2017 5:08:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170329-1-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	86898.2	108.8	%	0.65				0.60%
Tb 350	142895.2	113.3	%	0.71				0.63%
Ag 328.068*†	44003.8	0.2486	mg/L	0.00008	11.95	mg/kg	0.004	0.03%
Al 308.215*†	7624.2	0.4925	mg/L	0.00806	23.68	mg/kg	0.387	1.64%
As 188.979†	841.8	0.4829	mg/L	0.00677	23.22	mg/kg	0.325	1.40%
As 193.696*†	572.4	0.4674	mg/L	0.00113	22.47	mg/kg	0.054	0.24%
B 249.677*†	21880.2	0.4947	mg/L	0.00221	23.78	mg/kg	0.106	0.45%
Ba 233.527*†	72768.0	0.5280	mg/L	0.00145	25.38	mg/kg	0.070	0.27%
Be 313.042*†	1676315.9	0.4644	mg/L	0.00999	22.33	mg/kg	0.481	2.15%
Ca 317.933*†	1064.0	0.4801	mg/L	0.01466	23.08	mg/kg	0.705	3.05%
Cd 226.502*†	33723.8	0.5313	mg/L	0.00069	25.54	mg/kg	0.033	0.13%
Cd 228.802†	17095.4	0.5153	mg/L	0.00366	24.77	mg/kg	0.176	0.71%
Co 228.616*†	12954.0	0.5425	mg/L	0.00087	26.08	mg/kg	0.042	0.16%
Cr 267.716*†	52354.3	0.5186	mg/L	0.00085	24.93	mg/kg	0.041	0.16%
Cu 324.752*†	121051.2	0.5027	mg/L	0.00236	24.17	mg/kg	0.113	0.47%
Fe 273.955*†	10674.8	0.5177	mg/L	0.00049	24.89	mg/kg	0.023	0.09%
K 766.490*†	15262.8	4.533	mg/L	0.0101	218.0	mg/kg	0.48	0.22%
Mg 279.077*†	8329.4	0.5401	mg/L	0.00147	25.96	mg/kg	0.070	0.27%
Mn 257.610*†	297594.5	0.5053	mg/L	0.00039	24.29	mg/kg	0.019	0.08%
Mo 202.031*†	4017.9	0.4790	mg/L	0.00285	23.03	mg/kg	0.137	0.60%
Na 589.592*†	24338.1	4.694	mg/L	0.0024	225.7	mg/kg	0.12	0.05%
Ni 231.604*†	10985.2	0.5174	mg/L	0.00782	24.87	mg/kg	0.376	1.51%
P 213.617*†	778.7	0.4778	mg/L	0.00461	22.97	mg/kg	0.222	0.97%
P 214.914†	471.8	0.4664	mg/L	0.00125	22.42	mg/kg	0.060	0.27%
Pb 220.353*†	3413.7	0.5326	mg/L	0.00057	25.61	mg/kg	0.027	0.11%
Sb 206.836†	758.6	0.4475	mg/L	0.00739	21.51	mg/kg	0.355	1.65%
Sb 217.582*†	745.1	0.4366	mg/L	0.00937	20.99	mg/kg	0.450	2.15%
Se 196.026*†	855.3	0.4848	mg/L	0.00019	23.31	mg/kg	0.009	0.04%
Si 251.611*†	17045.8	0.4853	mg/L	0.00031	23.33	mg/kg	0.015	0.06%
Sn 189.927*†	2473.6	0.4886	mg/L	0.00173	23.49	mg/kg	0.083	0.35%
Sn 242.170†	765.3	0.4749	mg/L	0.00080	22.83	mg/kg	0.038	0.17%
Sr 407.771*†	182846.7	0.4926	mg/L	0.00347	23.68	mg/kg	0.167	0.70%
Ti 334.940†	378838.1	0.4660	mg/L	0.00912	22.40	mg/kg	0.438	1.96%
Ti 336.121*†	276396.0	0.4923	mg/L	0.00008	23.67	mg/kg	0.004	0.02%
Tl 190.801*†	798.0	0.5033	mg/L	0.00213	24.20	mg/kg	0.102	0.42%
V 292.402*†	61688.5	0.4938	mg/L	0.00012	23.74	mg/kg	0.006	0.02%
Zn 206.200*†	17114.6	0.5293	mg/L	0.00309	25.45	mg/kg	0.149	0.58%

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Sequence No.: 10
Sample ID: 17-03-1813-1 ms
Analyst: 1030 icp 7300
Initial Sample Wt: 1.96 g
Dilution:
Wash Time: 15

Autosampler Location: 106
Date Collected: 3/29/2017 5:13:18 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1813-1 ms

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	69206.7	86.64	%	1.576				1.82%
Tb 350	127784.2	101.3	%	1.06				1.05%
Ag 328.068*†	45731.6	0.2583	mg/L	0.00065	13.18	mg/kg	0.033	0.25%
Al 308.215*†	2240725.0	144.7	mg/L	0.36	7385	mg/kg	18.58	0.25%
As 188.979†	1016.2	0.5830	mg/L	0.00268	29.74	mg/kg	0.136	0.46%
As 193.696*†	685.8	0.5600	mg/L	0.00098	28.57	mg/kg	0.050	0.17%
B 249.677*†	22330.0	0.5048	mg/L	0.00464	25.76	mg/kg	0.237	0.92%
Ba 233.527*†	259257.6	1.881	mg/L	0.0004	95.97	mg/kg	0.021	0.02%
Be 313.042*†	1896769.4	0.5254	mg/L	0.00120	26.81	mg/kg	0.061	0.23%
Ca 317.933*†	83871.9	37.84	mg/L	0.123	1931	mg/kg	6.27	0.32%
Cd 226.502*†	34976.5	0.5510	mg/L	0.00304	28.11	mg/kg	0.155	0.55%
Cd 228.802†	18083.4	0.5451	mg/L	0.00280	27.81	mg/kg	0.143	0.51%
Co 228.616*†	16389.6	0.6864	mg/L	0.00241	35.02	mg/kg	0.123	0.35%
Cr 267.716*†	78491.4	0.7775	mg/L	0.00076	39.67	mg/kg	0.039	0.10%
Cu 324.752*†	174659.4	0.7253	mg/L	0.00041	37.01	mg/kg	0.021	0.06%
Fe 273.955*†	4515453.9	219.0	mg/L	3.66	11170	mg/kg	186.72	1.67%
K 766.490*†	157382.8	46.75	mg/L	0.223	2385	mg/kg	11.39	0.48%
Mg 279.077*†	859499.9	55.73	mg/L	0.120	2843	mg/kg	6.13	0.22%
Mn 257.610*†	3315944.7	5.630	mg/L	0.0040	287.3	mg/kg	0.20	0.07%
Mo 202.031*†	4071.6	0.4854	mg/L	0.00147	24.76	mg/kg	0.075	0.30%
Na 589.592*†	38672.9	7.459	mg/L	0.0602	380.6	mg/kg	3.07	0.81%
Ni 231.604*†	14522.6	0.6840	mg/L	0.00326	34.90	mg/kg	0.166	0.48%
P 213.617*†	10866.0	6.668	mg/L	0.0253	340.2	mg/kg	1.29	0.38%
P 214.914†	7356.9	7.273	mg/L	0.0531	371.1	mg/kg	2.71	0.73%
Pb 220.353*†	4111.8	0.6415	mg/L	0.00241	32.73	mg/kg	0.123	0.38%
Sb 206.836†	405.4	0.2391	mg/L	0.01082	12.20	mg/kg	0.552	4.53%
Sb 217.582*†	378.6	0.2219	mg/L	0.00360	11.32	mg/kg	0.184	1.62%
Se 196.026*†	945.0	0.5356	mg/L	0.00395	27.32	mg/kg	0.201	0.74%
Si 251.611*†	427954.9	12.18	mg/L	0.041	621.6	mg/kg	2.07	0.33%
Sn 189.927*†	2271.6	0.4487	mg/L	0.00864	22.89	mg/kg	0.441	1.93%
Sn 242.170†	1717.2	1.066	mg/L	0.0102	54.37	mg/kg	0.521	0.96%
Sr 407.771*†	361183.2	0.9730	mg/L	0.00639	49.64	mg/kg	0.326	0.66%
Ti 334.940†	8198521.5	10.08	mg/L	0.143	514.5	mg/kg	7.30	1.42%
Ti 336.121*†	5846264.4	10.41	mg/L	0.150	531.3	mg/kg	7.64	1.44%
Tl 190.801*†	788.1	0.4971	mg/L	0.00898	25.36	mg/kg	0.458	1.81%
V 292.402*†	123410.1	0.9844	mg/L	0.00432	50.22	mg/kg	0.220	0.44%
Zn 206.200*†	36489.6	1.129	mg/L	0.0029	57.58	mg/kg	0.147	0.25%

Return to Contents

Sequence No.: 13
Sample ID: 17-03-1813-1 msd
Analyst: 1030 icp 7300
Initial Sample Wt: 2.04 g
Dilution:
Wash Time: 15

Autosampler Location: 107
Date Collected: 3/29/2017 5:16:02 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1813-1 msd

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	70700.4	88.51	%	1.621				1.83%
Tb 350	126817.2	100.5	%	1.34				1.33%
Ag 328.068*†	44228.6	0.2499	mg/L	0.00135	12.25	mg/kg	0.066	0.54%
Al 308.215*†	1868023.3	120.7	mg/L	1.55	5915	mg/kg	76.19	1.29%
As 188.979†	976.9	0.5605	mg/L	0.00458	27.47	mg/kg	0.224	0.82%
As 193.696*†	656.4	0.5360	mg/L	0.01203	26.28	mg/kg	0.590	2.24%
B 249.677*†	22816.7	0.5159	mg/L	0.00877	25.29	mg/kg	0.430	1.70%
Ba 233.527*†	219705.9	1.594	mg/L	0.0203	78.14	mg/kg	0.993	1.27%
Be 313.042*†	1851346.2	0.5129	mg/L	0.00616	25.14	mg/kg	0.302	1.20%
Ca 317.933*†	72521.1	32.72	mg/L	1.111	1604	mg/kg	54.48	3.40%
Cd 226.502*†	34249.1	0.5395	mg/L	0.00546	26.45	mg/kg	0.267	1.01%
Cd 228.802†	17779.5	0.5359	mg/L	0.00695	26.27	mg/kg	0.341	1.30%
Co 228.616*†	15627.4	0.6545	mg/L	0.00701	32.08	mg/kg	0.344	1.07%
Cr 267.716*†	73405.0	0.7271	mg/L	0.00667	35.64	mg/kg	0.327	0.92%
Cu 324.752*†	162668.7	0.6755	mg/L	0.00769	33.11	mg/kg	0.377	1.14%
Fe 273.955*†	3745721.1	181.7	mg/L	4.03	8906	mg/kg	197.42	2.22%
K 766.490*†	128876.3	38.28	mg/L	1.011	1876	mg/kg	49.58	2.64%
Mg 279.077*†	705514.8	45.74	mg/L	0.519	2242	mg/kg	25.44	1.13%
Mn 257.610*†	2750197.6	4.670	mg/L	0.0509	228.9	mg/kg	2.49	1.09%
Mo 202.031*†	4033.2	0.4808	mg/L	0.00286	23.57	mg/kg	0.140	0.60%
Na 589.592*†	36649.3	7.069	mg/L	0.1906	346.5	mg/kg	9.34	2.70%
Ni 231.604*†	13812.4	0.6506	mg/L	0.00174	31.89	mg/kg	0.085	0.27%
P 213.617*†	10091.8	6.193	mg/L	0.0187	303.6	mg/kg	0.92	0.30%
P 214.914†	6802.8	6.725	mg/L	0.0352	329.7	mg/kg	1.73	0.52%
Pb 220.353*†	3974.1	0.6200	mg/L	0.00301	30.39	mg/kg	0.147	0.49%
Sb 206.836†	412.5	0.2433	mg/L	0.00052	11.93	mg/kg	0.026	0.21%
Sb 217.582*†	384.8	0.2255	mg/L	0.00141	11.05	mg/kg	0.069	0.63%
Se 196.026*†	923.3	0.5233	mg/L	0.00718	25.65	mg/kg	0.352	1.37%
Si 251.611*†	454462.0	12.94	mg/L	0.206	634.2	mg/kg	10.10	1.59%
Sn 189.927*†	2260.3	0.4464	mg/L	0.00044	21.88	mg/kg	0.021	0.10%
Sn 242.170†	1574.4	0.9769	mg/L	0.00278	47.89	mg/kg	0.136	0.28%
Sr 407.771*†	330261.8	0.8897	mg/L	0.02465	43.61	mg/kg	1.208	2.77%
Ti 334.940†	7001799.4	8.613	mg/L	0.1470	422.2	mg/kg	7.21	1.71%
Ti 336.121*†	4991082.4	8.890	mg/L	0.1529	435.8	mg/kg	7.50	1.72%
Tl 190.801*†	796.6	0.5024	mg/L	0.00918	24.63	mg/kg	0.450	1.83%
V 292.402*†	112053.1	0.8941	mg/L	0.01133	43.83	mg/kg	0.555	1.27%
Zn 206.200*†	32425.5	1.003	mg/L	0.0075	49.16	mg/kg	0.367	0.75%

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Sequence No.: 9
Sample ID: 17-03-1813-1
Analyst: 1030 icp 7300
Initial Sample Wt: 2.02 g
Dilution:
Wash Time: 15

Autosampler Location: 105
Date Collected: 3/29/2017 5:12:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1813-1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	69133.0	86.54	%	0.100				0.12%
Tb 350	129419.1	102.6	%	0.42				0.41%
Ag 328.068*†	-445.9	-0.0025	mg/L	0.00020	-0.1247	mg/kg	0.00994	7.97%
Al 308.215*†	2252863.3	145.5	mg/L	0.51	7204	mg/kg	25.49	0.35%
As 188.979†	99.1	0.0569	mg/L	0.00576	2.815	mg/kg	0.2851	10.13%
As 193.696*†	53.0	0.0433	mg/L	0.00276	2.141	mg/kg	0.1365	6.37%
B 249.677*†	183.7	0.0042	mg/L	0.00218	0.2056	mg/kg	0.10787	52.46%
Ba 233.527*†	183408.8	1.331	mg/L	0.0061	65.88	mg/kg	0.300	0.46%
Be 313.042*†	27830.3	0.0077	mg/L	0.00005	0.3817	mg/kg	0.00256	0.67%
Ca 317.933*†	92329.7	41.66	mg/L	0.070	2062	mg/kg	3.47	0.17%
Cd 226.502*†	354.2	0.0056	mg/L	0.00014	0.2763	mg/kg	0.00685	2.48%
Cd 228.802†	-1.0	-0.0000	mg/L	0.00003	-0.0015	mg/kg	0.00162	106.92%
Co 228.616*†	3423.7	0.1434	mg/L	0.00046	7.098	mg/kg	0.0229	0.32%
Cr 267.716*†	25871.6	0.2563	mg/L	0.00136	12.69	mg/kg	0.067	0.53%
Cu 324.752*†	50674.9	0.2104	mg/L	0.00063	10.42	mg/kg	0.031	0.30%
Fe 273.955*†	4788115.1	232.2	mg/L	1.44	11500	mg/kg	71.24	0.62%
K 766.490*†	152241.2	45.22	mg/L	0.133	2239	mg/kg	6.56	0.29%
Mg 279.077*†	946792.7	61.39	mg/L	0.417	3039	mg/kg	20.64	0.68%
Mn 257.610*†	3242286.8	5.505	mg/L	0.0345	272.5	mg/kg	1.71	0.63%
Mo 202.031*†	-10.0	-0.0012	mg/L	0.00096	-0.0588	mg/kg	0.04764	81.04%
Na 589.592*†	12134.0	2.340	mg/L	0.0057	115.9	mg/kg	0.28	0.24%
Ni 231.604*†	3652.1	0.1720	mg/L	0.00107	8.515	mg/kg	0.0532	0.62%
P 213.617*†	11320.1	6.946	mg/L	0.0376	343.9	mg/kg	1.86	0.54%
P 214.914†	7791.9	7.703	mg/L	0.0526	381.4	mg/kg	2.61	0.68%
Pb 220.353*†	516.2	0.0805	mg/L	0.00051	3.987	mg/kg	0.0253	0.63%
Sb 206.836†	26.9	0.0159	mg/L	0.00662	0.7865	mg/kg	0.32768	41.66%
Sb 217.582*†	0.1	0.0000	mg/L	0.01088	0.0023	mg/kg	0.53872	>999.9%
Se 196.026*†	15.4	0.0087	mg/L	0.00202	0.4313	mg/kg	0.09988	23.16%
Si 251.611*†	205893.7	5.862	mg/L	0.3338	290.2	mg/kg	16.53	5.70%
Sn 189.927*†	-275.1	-0.0543	mg/L	0.00223	-2.690	mg/kg	0.1106	4.11%
Sn 242.170†	973.9	0.6043	mg/L	0.02232	29.92	mg/kg	1.105	3.69%
Sr 407.771*†	181720.7	0.4895	mg/L	0.00055	24.23	mg/kg	0.027	0.11%
Ti 334.940†	7396041.7	9.097	mg/L	0.0541	450.4	mg/kg	2.68	0.59%
Ti 336.121*†	5273784.8	9.393	mg/L	0.0558	465.0	mg/kg	2.76	0.59%
Tl 190.801*†	-34.7	-0.0219	mg/L	0.00799	-1.082	mg/kg	0.3958	36.58%
V 292.402*†	62333.4	0.4952	mg/L	0.00465	24.52	mg/kg	0.230	0.94%
Zn 206.200*†	19469.7	0.6021	mg/L	0.00403	29.81	mg/kg	0.200	0.67%

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(Solid)

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170329C 1

M006-032-05 0.050 ml

INT STD M120716A **PDS/PDSD** **10 ml**

R.B. R12091602 **M006-032-06 0.050 ml**

Carrier/wash sol R12091604/R12091603

No.	File Name	Date	Time	Analyst Name	A/S Location	
1	Cal blankR12091601_935	3/29/2017	9:40:37 AM	935 icp 7300	1	
2	Cal blankR12091601_935	3/29/2017	9:42:24 AM	935 icp 7300	1	
3	STD3-M111116A_935_ICP7300	3/29/2017	9:43:26 AM	935 icp 7300	2	
4	ICV-M072816C	3/29/2017	9:44:25 AM	935 icp 7300	10	} out. Rerun
5	ICB-R12091601	3/29/2017	9:45:44 AM	935 icp 7300	1	
6	ICV-M072816C	3/29/2017	9:46:40 AM	935 icp 7300	10	
7	ICB-R12091601	3/29/2017	9:47:39 AM	935 icp 7300	1	
8	ICS_A - M110116B	3/29/2017	9:48:40 AM	935 icp 7300	8	
9	ICS_AB - M110116A	3/29/2017	9:49:46 AM	935 icp 7300	9	
10	LLCV-M010617A	3/29/2017	9:50:36 AM	935 icp 7300	101	B out
11	LLCV--M010617A	3/29/2017	9:51:52 AM	935 icp 7300	102	
12	CCV= STD3x0.5	3/29/2017	9:52:52 AM	935 icp 7300	3	
13	CCB-R12091601	3/29/2017	9:53:44 AM	935 icp 7300	1	
14	17-03-1526-4 pds	3/29/2017	9:57:10 AM	935 icp 7300	359	
15	LLCV-M010617A	3/29/2017	9:58:13 AM	935 icp 7300	101	B, Sb, Se out
16	ICS_A - M110116B	3/29/2017	9:59:15 AM	935 icp 7300	8	
17	ICS_AB - M110116A	3/29/2017	10:00:05 AM	935 icp 7300	9	
18	CCV= STD3x0.5	3/29/2017	10:00:55 AM	935 icp 7300	3	
19	CCB-R12091601	3/29/2017	10:01:47 AM	935 icp 7300	1	
20	170328-b-07	3/29/2017	10:07:01 AM	935 icp 7300	103	
21	170328-l-07	3/29/2017	10:08:08 AM	935 icp 7300	104	
22	170328-b-08	3/29/2017	10:09:09 AM	935 icp 7300	105	
23	170328-l-08	3/29/2017	10:10:08 AM	935 icp 7300	106	
24	170328-b-02	3/29/2017	10:10:59 AM	935 icp 7300	107	

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No.	File Name	Date	Time	Analyst Name	A/S Location
345	CCV= STD3x0.5	3/29/2017	4:14:19 PM	935 icp 7300	3
346	CCB-R12091601	3/29/2017	4:15:11 PM	935 icp 7300	1
347	170329-b-02	3/29/2017	4:31:05 PM	935 icp 7300	125
348	170329-l-02	3/29/2017	4:32:12 PM	935 icp 7300	126
349	17-03-1625-1 pds	3/29/2017	4:33:03 PM	935 icp 7300	137
350	17-03-1625-1 pdsd	3/29/2017	4:33:47 PM	935 icp 7300	138
351	17-03-2113-1 ms	3/29/2017	4:34:30 PM	935 icp 7300	139
352	17-03-2113-1 msd	3/29/2017	4:35:22 PM	935 icp 7300	140
353	17-03-2113-1	3/29/2017	4:36:15 PM	935 icp 7300	141
354	17-03-1667-1	3/29/2017	4:37:08 PM	935 icp 7300	127
355	17-03-1667-1 ms	3/29/2017	4:38:01 PM	935 icp 7300	128
356	17-03-1667-1 msd	3/29/2017	4:38:43 PM	935 icp 7300	129
357	CCV= STD3x0.5	3/29/2017	4:39:24 PM	935 icp 7300	3
358	CCB-R12091601	3/29/2017	4:40:17 PM	935 icp 7300	1
359	17-03-1667-3	3/29/2017	4:41:18 PM	935 icp 7300	130
360	17-03-1667-5	3/29/2017	4:42:12 PM	935 icp 7300	131
361	17-03-1667-7	3/29/2017	4:43:04 PM	935 icp 7300	132
362	17-03-1667-9	3/29/2017	4:43:56 PM	935 icp 7300	133
363	blank	3/29/2017	4:44:47 PM	935 icp 7300	5
364	blank	3/29/2017	4:45:49 PM	935 icp 7300	6
365	LLCV-M010617A	3/29/2017	4:46:48 PM	935 icp 7300	101
366	LLCV-M010617A	3/29/2017	4:50:06 PM	935 icp 7300	101
367	CCV= STD3x0.5	3/29/2017	4:52:11 PM	935 icp 7300	3
368	CCB-R12091601	3/29/2017	4:53:10 PM	935 icp 7300	1
369	LLCV-M010617A	3/29/2017	4:54:02 PM	935 icp 7300	101
370	ICS_A - M110116B	3/29/2017	4:55:09 PM	935 icp 7300	8
371	ICS_AB - M110116A	3/29/2017	4:55:59 PM	935 icp 7300	9
372	CCV= STD3x0.5	3/29/2017	4:56:49 PM	935 icp 7300	3
373	CCB-R12091601	3/29/2017	4:57:41 PM	935 icp 7300	1
374	1703239-b-03	3/29/2017	5:05:12 PM	935 icp 7300	108
375	1703239-l-03	3/29/2017	5:06:20 PM	935 icp 7300	109
376	170329-b-05	3/29/2017	5:07:11 PM	935 icp 7300	103

No solution
Pb, Se, Zn out

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No.	File Name	Date	Time	Analyst Name	A/S Location
377	170329-l-05	3/29/2017	5:08:12 PM	935 icp 7300	104
378	17-03-2139-1	3/29/2017	5:09:03 PM	935 icp 7300	144
379	17-03-2139-2	3/29/2017	5:09:47 PM	935 icp 7300	145
380	17-03-2139-3	3/29/2017	5:10:40 PM	935 icp 7300	146
381	17-03-2139-4	3/29/2017	5:11:32 PM	935 icp 7300	147
382	17-03-1813-1	3/29/2017	5:12:24 PM	935 icp 7300	105
383	17-03-1813-1 ms	3/29/2017	5:13:18 PM	935 icp 7300	106
384	CCV= STD3x0.5	3/29/2017	5:14:09 PM	935 icp 7300	3
385	CCB-R12091601	3/29/2017	5:15:02 PM	935 icp 7300	1
386	17-03-1813-1 msd	3/29/2017	5:16:02 PM	935 icp 7300	107
387	17-03-1672-1	3/29/2017	5:16:55 PM	935 icp 7300	110
388	17-03-1672-1 ms	3/29/2017	5:17:54 PM	935 icp 7300	111
389	17-03-1672-1 msd	3/29/2017	5:18:53 PM	935 icp 7300	112
390	17-03-1679-1	3/29/2017	5:19:52 PM	935 icp 7300	113
391	17-03-1679-2	3/29/2017	5:20:48 PM	935 icp 7300	114
392	17-03-1679-3	3/29/2017	5:21:42 PM	935 icp 7300	115
393	17-03-1679-4	3/29/2017	5:22:39 PM	935 icp 7300	116
394	17-03-1680-1	3/29/2017	5:23:38 PM	935 icp 7300	117
395	17-03-1680-2	3/29/2017	5:24:29 PM	935 icp 7300	118
396	CCV= STD3x0.5	3/29/2017	5:25:20 PM	935 icp 7300	3
397	CCB-R12091601	3/29/2017	5:26:13 PM	935 icp 7300	1
398	CCB-R12091601	3/29/2017	5:26:59 PM	935 icp 7300	1
399	CCB-R12091601	3/29/2017	5:27:47 PM	935 icp 7300	1
400	17-03-1680-3	3/29/2017	5:28:50 PM	935 icp 7300	119
401	17-03-1680-4	3/29/2017	5:29:43 PM	935 icp 7300	120
402	17-03-1680-5	3/29/2017	5:30:34 PM	935 icp 7300	121
403	17-03-1680-6	3/29/2017	5:31:25 PM	935 icp 7300	122
404	17-03-1680-7	3/29/2017	5:32:16 PM	935 icp 7300	123
405	17-03-1681-1	3/29/2017	5:33:07 PM	935 icp 7300	124
406	CCV= STD3x0.5	3/29/2017	5:33:58 PM	935 icp 7300	3
407	CCB-R12091601	3/29/2017	5:34:50 PM	935 icp 7300	1
408	CCV= STD3x0.5	3/29/2017	6:39:14 PM	935 icp 7300	3

Zn > RL

Reviewed/Assign to Logbook Date: 3/30/17
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No.	File Name	Date	Time	Analyst Name	A/S Location
409	CCB-R12091601	3/29/2017	6:40:13 PM	935 icp 7300	1
410	17-03-1835-1 pds	3/29/2017	6:41:05 PM	935 icp 7300	142
411	17-03-1835-1 pdsd	3/29/2017	6:42:08 PM	935 icp 7300	143
412	17-03-1780x5-1	3/29/2017	6:43:04 PM	935 icp 7300	148
413	17-03-1780-1 pds	3/29/2017	6:43:53 PM	935 icp 7300	149
414	17-03-1965x5-1	3/29/2017	6:44:49 PM	935 icp 7300	150
415	17-03-1965-1 pds	3/29/2017	6:45:36 PM	935 icp 7300	151
416	17-03-1973x5-1	3/29/2017	6:46:31 PM	935 icp 7300	152
417	17-03-1973-1 pds	3/29/2017	6:47:19 PM	935 icp 7300	153
418	17-03-1959x5-f-2	3/29/2017	6:48:10 PM	935 icp 7300	154
419	17-03-1959-f-2 pds	3/29/2017	6:48:58 PM	935 icp 7300	155
420	CCV= STD3x0.5	3/29/2017	6:49:54 PM	935 icp 7300	3
421	CCB-R12091601	3/29/2017	6:50:47 PM	935 icp 7300	1
422	17-03-1959x5-9	3/29/2017	6:51:47 PM	935 icp 7300	156
423	17-03-1959-9 pds	3/29/2017	6:52:42 PM	935 icp 7300	157
424	170328-la-4	3/29/2017	6:53:39 PM	935 icp 7300	160
425	17-03-1667x5-1	3/29/2017	6:54:54 PM	935 icp 7300	158
426	17-03-1667-1 pds	3/29/2017	6:55:52 PM	935 icp 7300	159
427	17-03-1557-28	3/29/2017	6:56:44 PM	935 icp 7300	134
428	17-03-1557-29	3/29/2017	6:57:37 PM	935 icp 7300	135
429	17-03-1557-30	3/29/2017	6:58:29 PM	935 icp 7300	136
430	CCV= STD3x0.5	3/29/2017	7:02:53 PM	935 icp 7300	3
431	CCB-R12091601	3/29/2017	7:03:52 PM	935 icp 7300	1
432	LLCV-M010617A	3/29/2017	7:04:43 PM	935 icp 7300	101
433	LLCV-M010617A	3/29/2017	7:06:31 PM	935 icp 7300	101
434	ICS_A - M110116B	3/29/2017	7:07:40 PM	935 icp 7300	8
435	ICS_AB - M110116A	3/29/2017	7:08:30 PM	935 icp 7300	9
436	blank	3/29/2017	7:09:20 PM	935 icp 7300	5
437	blank	3/29/2017	7:10:21 PM	935 icp 7300	6
438	CCV= STD3x0.5	3/29/2017	7:11:20 PM	935 icp 7300	3
439	CCB-R12091601	3/29/2017	7:12:12 PM	935 icp 7300	1
440	170329-b-06	3/29/2017	7:38:03 PM	935 icp 7300	301

Ag, As, B, Sb, Se, Zn out

Reviewed/Assign to Logbook Date: 3/30/17
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Metals Sample Preparation Logbook (Solid / Other)

METHOD	MATRIX	EQUIPMENT ID #	REAGENT ID #	STANDARD ID #
☒ EPA 3050B	☒ Solid	Thermometer 171114 (CF 0.0 °C)	HNO_3 R032717-02 20 mL	Spike 1 M022178
☐ EPA 200.7	☐ Other (Specify)	Block Digester J	HCl R032717-01 15 mL	Spike 2 M022617c
☐ EPA 200.8		Pipetter / Dispenser P-073/P-27/P-028	H_2O_2 M060R073 3 mL	Spike 3

BATCH NUMBER	SUPPLY LOT #	BALANCE ID #	QUALITY SYSTEM MATRIX ID #	SAMPLE HANDLING
MS/MSD 170329-BOS	Tube / Container 17010 4	65	Teflon Chip M006-035-11J	1 = Composite 2 = Subsample
(Specify)	Filter		(Specify)	3 = Homogenize 4 = None

DIGESTION										SAMPLE		SPIKE STANDARD		
	START			END						INITIAL	FINAL	1	2	3
DATE	TIME	TEMP W/O CF (°C)	PREP TECH ID #	TIME	TEMP W/O CF (°C)	PREP TECH ID #	SAMPLE HANDLING	ECI ID #	ANALYTE(S)	(g)	(mL)	(µL)	(µL)	(µL)
03/29/17	11:40	95	70	13:10	95	70	4	MS 17-03-1813-1A	T12	1.96	100	500	500	
								MSD ↓		2.04				
								LCS 170329-LOT		2.08				
								LCSD / MB -BOS		2.05				
								17-03-1813-1A		2.02				
								17-03-1157-28A		2.02				
								-28B		2.03				
								-28C		1.98				
								-28D		2.01				
								-28E		2.09				
								-29A		2.07				
								-29B		1.95				
								-29C		2.06				
								-29D		2.06				
								-29E		2.05				
								-30A		2.04				
								-30B		1.98				
								-30C		2.02				
								-30D		2.08				
								-30E		2.07				

COMMENTS:

EPA 7471A Mercury

(Solid)

RAW DATA

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EPA 7471A Mercury

(Solid)

Initial Calibration
ICV/ICB
CCV/CCB

Sample Data

Quality Control
Method Blank
LCS/LCSD
MS/MSD

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Calscience Environmental Laboratories, Inc.

EPA Method 7471A
Initial Calibration Verification

Work Order No.: 17-03-1557
Instrument ID: HG 8 (H)
Concentration Unit: µg/L
Test Method: EPA 7471A

	Initial Calibration Verification			
		ICV-1		Control
Analyte	True	Observed	%D	Limit
Mercury	5.000000	4.964654	1	0 - 10

03/29/2017 17:09

ICV-1 File: ICV M030617B 03/29/2017 11:45:01 AM

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Calscience Environmental Laboratories, Inc.

EPA Method 7471A
Continuing Calibration Verification

Work Order No.: 17-03-1557
Instrument ID: HG 8 (H)
Concentration Unit: µg/L

Test Method: EPA 7471A

Analyte	Continuing Calibration Verification									
	True	CCV-1		CCV-2		CCV-3		CCV-4		Control Limit
		Observed	%D	Observed	%D	Observed	%D	Observed	%D	
Mercury	2.000000	1.998235	0	1.742626	13	1.713826	14	1.786031	11	0 - 20

03/29/2017 17:10

CCV-1 File: CCV 0.2x10ppb 03/29/2017 02:19:44 PM
CCV-2 File: CCV 0.2x10ppb 03/29/2017 03:15:49 PM
CCV-3 File: CCV 0.2x10ppb 03/29/2017 03:50:04 PM
CCV-4 File: CCV 0.2x10ppb 03/29/2017 04:17:32 PM

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Calscience Environmental Laboratories, Inc.

EPA Method 7471A
Initial and Continuing Calibration Blanks

Work Order No.: 17-03-1557
Instrument ID: HG 8 (H)
Concentration Unit: µg/L
Test Method: EPA 7471A

	Initial and Continuing Calibration Blanks					
Analyte	ICB-1	CCB-1	CCB-2	CCB-3	CCB-4	RL (No PF)
Mercury	-0.027629	-0.018645	-0.031176	-0.017623	-0.030838	0.500000

03/29/2017 17:11

ICB-1 File: ICB 03/29/2017 11:47:15 AM
CCB-1 File: CCB 03/29/2017 02:48:04 PM
CCB-2 File: CCB 03/29/2017 03:18:06 PM
CCB-3 File: CCB 03/29/2017 03:52:21 PM
CCB-4 File: CCB 03/29/2017 04:19:49 PM
Note: Preparation factor (PF) = 167 L/kg

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER:	**17-03-1557**	ANALYZED BY:	868
INSTRUMENT:	Mercury 08	D/T ANALYZED:	2017-03-29 15:54
EXTRACTION :	EPA 7471A Total	REVIEWED BY:	309
D/T EXTRACTED:	2017-03-29 00:00	D/T REVIEWED:	2017-03-29 17:04

DATA FILE: W:\MERCURY_DATA\FINAL\170329H1\17-03-1557-25.icp

 # 25 **CLIENT SAMPLE NUMBER: B-DU1-ISM1-8**

LCS/MB BATCH:	170329L01	SAMPLE VOLUME / WEIGHT:	DEFAULT: 0.60 g / ACTUAL: 0.63 g
MS/MSD BATCH:	170329S01	FINAL VOLUME / WEIGHT:	DEFAULT: 100.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	0.95

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	0.000120	1.00	ND	0.0794	

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER:	**17-03-1557**	ANALYZED BY:	868
INSTRUMENT:	Mercury 08	D/T ANALYZED:	2017-03-29 15:56
EXTRACTION :	EPA 7471A Total	REVIEWED BY:	309
D/T EXTRACTED:	2017-03-29 00:00	D/T REVIEWED:	2017-03-29 17:04

DATA FILE: W:\MERCURY_DATA\FINAL\170329H1\17-03-1557-26.icp

 # 26 **CLIENT SAMPLE NUMBER: B-DU1-ISM2-8**

LCS/MB BATCH:	170329L01	SAMPLE VOLUME / WEIGHT:	DEFAULT: 0.60 g / ACTUAL: 0.62 g
MS/MSD BATCH:	170329S01	FINAL VOLUME / WEIGHT:	DEFAULT: 100.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	0.97

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	0.000359	1.00	ND	0.0806	

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER:	**17-03-1557**	ANALYZED BY:	868
INSTRUMENT:	Mercury 08	D/T ANALYZED:	2017-03-29 15:59
EXTRACTION :	EPA 7471A Total	REVIEWED BY:	
D/T EXTRACTED:	2017-03-29 00:00	D/T REVIEWED:	

DATA FILE: W:\MERCURY_DATA\FINAL\170329H1\170329H1_1557\17-03-1557-27.icp

 # 27 **CLIENT SAMPLE NUMBER: B-DU1-ISM3-8**

LCS/MB BATCH:	170329L01	SAMPLE VOLUME / WEIGHT:	DEFAULT: 0.60 g / ACTUAL: 0.60 g
MS/MSD BATCH:	170329S01	FINAL VOLUME / WEIGHT:	DEFAULT: 100.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	0.0000575	1.00	ND	0.0833	

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METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 7471A

MB SAMPLE ID:	**099-16-272-2910**	ANALYZED BY:	868
MB BATCH ID:	170329L01	D/T ANALYZED:	2017-03-29 15:08
INSTRUMENT:	Mercury 08	REVIEWED BY:	309
EXTRACTION:	EPA 7471A Total	D/T REVIEWED:	2017-03-29 17:00
D/T EXTRACTED:	2017-03-29 00:00	MATRIX:	Soil

DATA FILE: W:\MERCURY_DATA\FINAL\170329H1\170329-B-01.icp

CLIENT WORK ORDER: 17-03-1557

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
25		B-DU1-ISM1-8	2017-03-29 15:54	W:\MERCURY_DATA\FINAL\170329H1\17-03-1557-25.icp
26		B-DU1-ISM2-8	2017-03-29 15:56	W:\MERCURY_DATA\FINAL\170329H1\17-03-1557-26.icp
27		B-DU1-ISM3-8	2017-03-29 15:59	W:\MERCURY_DATA\FINAL\170329H1\170329H1_1557\17-03-1557-27.icp

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER:	**099-16-272**	ANALYZED BY:	868
INSTRUMENT:	Mercury 08	D/T ANALYZED:	2017-03-29 15:08
EXTRACTION :	EPA 7471A Total	REVIEWED BY:	309
D/T EXTRACTED:	2017-03-29 00:00	D/T REVIEWED:	2017-03-29 17:00

DATA FILE: W:\MERCURY_DATA\FINAL\170329H1\170329-B-01.icp

 # MB **CLIENT SAMPLE NUMBER: Method Blank**

LCS/MB BATCH:	170329L01	SAMPLE VOLUME / WEIGHT:	DEFAULT: 0.60 g / ACTUAL: 0.60 g
MS/MSD BATCH:		FINAL VOLUME / WEIGHT:	DEFAULT: 100.00 ml
UNITS:	mg/kg	ADJUSTMENT RATIO TO PF:	1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	-0.00000955	1.00	ND	0.0833	

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 7471A

LCS SAMPLE ID:	**099-16-272- 2910**	EXTRACTION :	EPA 7471A Total	ANALYZED BY:	868
LCS/MB BATCH ID:	170329L01	D/T EXTRACTED:	2017-03-29 00:00	D/T ANALYZED:	2017-03-29 15:11
INSTRUMENT:	Mercury 08			REVIEWED BY:	309
				D/T REVIEWED:	2017-03-29 17:00

DATA FILE: W:\MERCURY_DATA\FINAL\170329H1\170329-L-01.icp

COMPOUND NAME	CONC ADDED	CONC REC	%RECOVERY	%REC CONTROL LIMIT	STATUS	QUALIFIERS
Mercury	0.8350	0.7369	88	85-121	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 7471A

SPIKED SAMPLE ID: **17-03-1569-1**
MS/MSD BATCH: 170329S01
INSTRUMENTS:
SAMPLE: Mercury 08
MS: Mercury 08
MSD: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED:
SAMPLE: 2017-03-29 00:00
MS: 2017-03-29 00:00
MSD: 2017-03-29 00:00

ANALYZED BY: 868
D/T ANALYZED:
SAMPLE: 2017-03-29 15:13
MS: 2017-03-29 15:20
MSD: 2017-03-29 15:22
REVIEWED BY: 309
D/T REVIEWED: 2017-03-29 16:59

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Mercury	0.06019	0.005000	0.8350	0.7189	79	0.8023	89	76-136	11	0-16	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-1569-1 MS.icp	W:\MERCURY_DATA\FINAL\170329H1\
MSD	17-03-1569-1 MSD.icp	W:\MERCURY_DATA\FINAL\170329H1\

Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170329H1.sifx
Batch ID:
Results Data Set: 170329H1
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: 3/29/2017 11:23:11 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0000	-0.0002	0.0000	11:24:15 AM	Yes
2		[0.00]	0.0000	0.0000	0.0000	11:25:00 AM	Yes
Mean:		[0.00]	0.0000				
SD:		0.0000	0.0000				
%RSD:		0.00%	37.15				

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: 3/29/2017 11:25:25 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.025]	0.0002	0.0000	0.0002	11:26:30 AM	Yes
2		[0.025]	0.0002	-0.0008	0.0002	11:27:14 AM	Yes
Mean:		[0.025]	0.0002				
SD:		0.00000	0.0000				
%RSD:		0.00%	11.59				

Standard number 1 applied. [0.025]
Correlation Coef.: 1.000000 Slope: 0.00769 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: 3/29/2017 11:27:40 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0010	0.0027	0.0011	11:28:44 AM	Yes
2		[0.100]	0.0010	0.0022	0.0010	11:29:30 AM	Yes
Mean:		[0.100]	0.0010				
SD:		0.00000	0.0001				
%RSD:		0.00%	5.16				

Standard number 2 applied. [0.100]
Correlation Coef.: 0.998204 Slope: 0.01015 Intercept: -0.00003

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Sequence No.: 4 Autosampler Location: 4
Sample ID: 1.00ppb M030617AX0.001 Date Collected: 3/29/2017 11:29:56 AM
Analyst: 868 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 1.00ppb M030617AX0.001 Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0103	0.0301	0.0103	11:31:01 AM	Yes
2		[1.000]	0.0095	0.0253	0.0095	11:31:45 AM	Yes
Mean:		[1.000]	0.0099				
SD:		0.00000	0.0005				
%RSD:		0.00%	5.55				

Standard number 3 applied. [1.000]
Correlation Coef.: 0.999982 Slope: 0.00988 Intercept: -0.00002

Sequence No.: 5 Autosampler Location: 5
Sample ID: 2.00ppb M030617AX0.002 Date Collected: 3/29/2017 11:32:12 AM
Analyst: 868 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 2.00ppb M030617AX0.002 Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0198	0.0618	0.0199	11:33:17 AM	Yes
2		[2.000]	0.0181	0.0484	0.0182	11:34:02 AM	Yes
Mean:		[2.000]	0.0190				
SD:		0.00000	0.0012				
%RSD:		0.00%	6.37				

Standard number 4 applied. [2.000]
Correlation Coef.: 0.999807 Slope: 0.00954 Intercept: 0.00005

Sequence No.: 6 Autosampler Location: 6
Sample ID: 5.00ppb M030617AX0.005 Date Collected: 3/29/2017 11:34:30 AM
Analyst: 868 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 5.00ppb M030617AX0.005 Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0494	0.1503	0.0494	11:35:33 AM	Yes
2		[5.000]	0.0447	0.1195	0.0448	11:36:18 AM	Yes
Mean:		[5.000]	0.0471				
SD:		0.00000	0.0033				
%RSD:		0.00%	7.01				

Standard number 5 applied. [5.000]
Correlation Coef.: 0.999949 Slope: 0.00941 Intercept: 0.00011

Sequence No.: 7 Autosampler Location: 7
Sample ID: 10.0ppb M030617AX0.01 Date Collected: 3/29/2017 11:36:44 AM
Analyst: 868 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 10.0ppb M030617AX0.01 Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored

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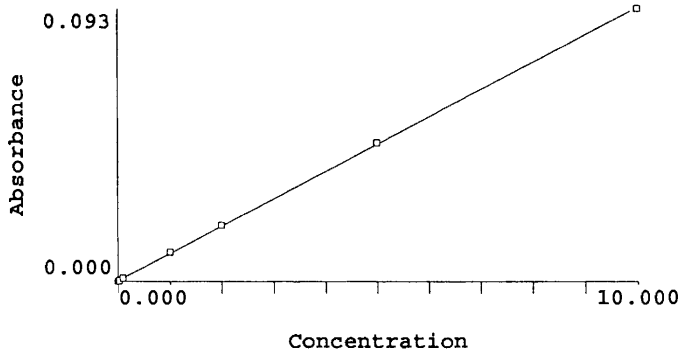
1	[10.00]	0.0972	0.3015	0.0972	11:37:48 AM	Yes
2	[10.00]	0.0882	0.2366	0.0882	11:38:33 AM	Yes
Mean:	[10.00]	0.0927				
SD:	0.0000	0.0064				
%RSD:	0.00%	6.87				

Standard number 6 applied. [10.00]
Correlation Coef.: 0.999956 Slope: 0.00927 Intercept: 0.00025



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	-0.026433	0.00	37.15
0.025ppb 0.005x5ppb	0.0002	0.025	-0.005694	0.00	11.59
0.10ppb M030617AX0.0001	0.0010	0.100	0.081189	0.00	5.16
1.00ppb M030617AX0.001	0.0099	1.000	1.037536	0.00	5.55
2.00ppb M030617AX0.002	0.0190	2.000	2.021603	0.00	6.37
5.00ppb M030617AX0.005	0.0471	5.000	5.049216	0.00	7.01
10.0ppb M030617AX0.01	0.0927	10.00	9.967583	0.01	6.87

Correlation Coef.: 0.999956 Slope: 0.00927 Intercept: 0.00025

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Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170329H1.sifx
Batch ID:
Results Data Set: 170329H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 1
Autosampler Location: 8
Sample ID: ICV M030617B
Date Collected: 3/29/2017 11:43:13 AM
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: ICV M030617B
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00510	5.10	0.0475	0.1395	0.0475	11:44:16 AM	Yes
2	0.00483	4.83	0.0451	0.1197	0.0451	11:45:01 AM	Yes
Mean:	0.00496	4.96	0.0463				
SD:	0.000185	0.185	0.0017				
%RSD:	3.72%	3.72%	3.70				

QC value within limits for Hg 253.7 Recovery = 99.29%
All analyte(s) passed QC.

Sequence No.: 2
Autosampler Location: 1
Sample ID: ICB
Date Collected: 3/29/2017 11:45:27 AM
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: ICB
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000027	-0.0270	-0.0000	-0.0005	0.0000	11:46:30 AM	Yes
2	-0.000028	-0.0283	-0.0000	-0.0003	0.0000	11:47:15 AM	Yes
Mean:	-0.000028	-0.0276	-0.0000				
SD:	0.0000009	0.00091	0.0000				
%RSD:	3.28%	3.28%	75.78				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 3
Autosampler Location: 9
Sample ID: CRQL 0.25
Date Collected: 3/29/2017 11:47:41 AM
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: CRQL 0.25
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0429	0.258	0.0026	0.0071	0.0027	11:48:45 AM	Yes
2	0.0392	0.235	0.0024	0.0053	0.0025	11:49:31 AM	Yes
Mean:	0.0411	0.246	0.0025				
SD:	0.00265	0.0159	0.0001				
%RSD:	6.45%	6.45%	5.82				

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Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560 Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\
170329H1.sifx
Batch ID:
Results Data Set: 170329H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 1 Autosampler Location: 5
Sample ID: CCV 0.2x10ppb Date Collected: 3/29/2017 2:15:37 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00140	1.40	0.0132	-0.0159	0.0132	2:16:42 PM	Yes
2	0.00150	1.50	0.0142	0.0062	0.0142	2:17:27 PM	Yes
Mean:	0.00145	1.45	0.0137				
SD:	0.000073	0.073	0.0007				
%RSD:	5.01%	5.01%	4.92				

QC value less than the lower limit for Hg 253.7 Recovery = 72.50%
QC Failed. Retry.

Sequence No.: 2 Autosampler Location: 5
Sample ID: CCV 0.2x10ppb Date Collected: 3/29/2017 2:17:54 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00207	2.07	0.0194	0.0634	0.0194	2:18:59 PM	Yes
2	0.00193	1.93	0.0182	0.0556	0.0182	2:19:44 PM	Yes
Mean:	0.00200	2.00	0.0188				
SD:	0.000095	0.095	0.0009				
%RSD:	4.73%	4.73%	4.67				

QC value within limits for Hg 253.7 Recovery = 99.91%
All analyte(s) passed QC.

Sequence No.: 3 Autosampler Location: 1
Sample ID: CCB Date Collected: 3/29/2017 2:20:11 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1.0000

Replicate Data: CCB Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.000256	0.256	0.0026	-0.0040	0.0027	2:21:15 PM	Yes
2	0.00250	2.50	0.0235	0.2001	0.0235	2:22:01 PM	Yes
Mean:	0.00138	1.38	0.0130				
SD:	0.001590	1.590	0.0147				
%RSD:	115.23%	115.23%	113.07				

QC value greater than the upper limit for Hg 253.7 Recovery = Not calculated
QC Failed. Stop the analysis.

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Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170329H1.sifx
Batch ID:
Results Data Set: 170329H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 1
Autosampler Location: 1
Sample ID: CCB
Date Collected: 3/29/2017 2:46:13 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1.0000

Replicate Data: CCB
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000014	-0.0137	0.0001	0.0019	0.0002	2:47:18 PM	Yes
2	-0.000024	-0.0235	0.0000	0.0002	0.0001	2:48:04 PM	Yes
Mean:	-0.000019	-0.0186	0.0001				
SD:	0.0000069	0.00694	0.0001				
%RSD:	37.20%	37.20%	89.07				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 2
Autosampler Location: 34
Sample ID: 17-03-2069-1
Date Collected: 3/29/2017 2:48:29 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt: 0.63 g
Initial Sample Vol:
Dilution:
Sample Prep Vol: 100 mL
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 17-03-2069-1
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00607	0.0383	0.0006	0.0014	0.0006	2:49:34 PM	Yes
2	0.00581	0.0366	0.0006	0.0026	0.0006	2:50:20 PM	Yes
Mean:	0.00594	0.0374	0.0006				
SD:	0.000186	0.00117	0.0000				
%RSD:	3.14%	3.14%	1.84				

Sequence No.: 3
Autosampler Location: 35
Sample ID: 17-03-1667-1
Date Collected: 3/29/2017 2:50:47 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: 17-03-1667-1
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00995	0.0607	0.0008	0.0026	0.0008	2:51:52 PM	Yes
2	0.00825	0.0503	0.0007	0.0026	0.0007	2:52:38 PM	Yes
Mean:	0.00910	0.0555	0.0008				
SD:	0.001206	0.00735	0.0001				
%RSD:	13.25%	13.25%	8.98				

Sequence No.: 4
Autosampler Location: 36
Sample ID: 17-03-1667-3
Date Collected: 3/29/2017 2:53:05 PM

Return to Contents

Replicate Data: 17-03-1667-9 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00574	0.0350	0.0006	0.0021	0.0006	3:03:39 PM	Yes
2	0.00543	0.0331	0.0006	0.0020	0.0006	3:04:25 PM	Yes
Mean:	0.00559	0.0341	0.0006				
SD:	0.000216	0.00132	0.0000				
%RSD:	3.87%	3.87%	2.18				

Sequence No.: 8
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: 3/29/2017 3:04:52 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0363	0.218	0.0023	0.0092	0.0023	3:05:57 PM	Yes
2	0.00115	0.00691	0.0003	0.0027	0.0003	3:06:42 PM	Yes
Mean:	0.0187	0.112	0.0013				
SD:	0.02487	0.1492	0.0014				
%RSD:	132.73%	132.73%	107.46				

Sequence No.: 9
Sample ID: 170329-B-01
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 40
Date Collected: 3/29/2017 3:07:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170329-B-01 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.00239	-0.0144	0.0001	0.0019	0.0001	3:08:13 PM	Yes
2	-0.000788	-0.00473	0.0002	0.0027	0.0002	3:08:58 PM	Yes
Mean:	-0.00159	-0.00955	0.0002				
SD:	0.001136	0.006815	0.0001				
%RSD:	71.39%	71.39%	40.36				

Sequence No.: 10
Sample ID: 170329-L-01
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 41
Date Collected: 3/29/2017 3:09:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170329-L-01 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.755	4.53	0.0422	0.1503	0.0423	3:10:29 PM	Yes
2	0.719	4.31	0.0402	0.1233	0.0403	3:11:15 PM	Yes
Mean:	0.737	4.42	0.0412				
SD:	0.0251	0.151	0.0014				
%RSD:	3.41%	3.41%	3.39				

Sequence No.: 11
Sample ID: 17-03-1569-1
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 42
Date Collected: 3/29/2017 3:11:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Return to Contents

Replicate Data: 17-03-1569-1 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0616	0.376	0.0037	0.0135	0.0038	3:12:46 PM	Yes
2	0.0588	0.359	0.0036	0.0113	0.0036	3:13:31 PM	Yes
Mean:	0.0602	0.367	0.0036				
SD:	0.00194	0.0118	0.0001				
%RSD:	3.22%	3.22%	3.01				

==========

Sequence No.: 12 Autosampler Location: 5
Sample ID: CCV 0.2x10ppb Date Collected: 3/29/2017 3:13:57 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00179	1.79	0.0169	0.0598	0.0169	3:15:03 PM	Yes
2	0.00169	1.69	0.0159	0.0483	0.0160	3:15:49 PM	Yes
Mean:	0.00174	1.74	0.0164				
SD:	0.000073	0.073	0.0007				
%RSD:	4.18%	4.18%	4.11				

QC value within limits for Hg 253.7 Recovery = 87.13%
All analyte(s) passed QC.

==========

Sequence No.: 13 Autosampler Location: 1
Sample ID: CCB Date Collected: 3/29/2017 3:16:16 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1.0000

Replicate Data: CCB Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000031	-0.0311	-0.0000	-0.0021	-0.0000	3:17:21 PM	Yes
2	-0.000031	-0.0312	-0.0000	-0.0010	-0.0000	3:18:06 PM	Yes
Mean:	-0.000031	-0.0312	-0.0000				
SD:	0.0000001	0.00007	0.0000				
%RSD:	0.24%	0.24%	1.56				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 14 Autosampler Location: 43
Sample ID: 17-03-1569-1 MS Date Collected: 3/29/2017 3:18:32 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: 17-03-1569-1 MS Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.731	4.46	0.0416	0.1532	0.0416	3:19:36 PM	Yes
2	0.707	4.31	0.0402	0.1216	0.0402	3:20:22 PM	Yes
Mean:	0.719	4.39	0.0409				
SD:	0.0173	0.106	0.0010				
%RSD:	2.41%	2.41%	2.39				

==========

Sequence No.: 15 Autosampler Location: 44
Sample ID: 17-03-1569-1 MSD Date Collected: 3/29/2017 3:20:48 PM
Analyst: 868 HG-8 Data Type: Original

Return to Contents

Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0

Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1569-1 MSD — Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.821	4.84	0.0451	0.1638	0.0452	3:21:53 PM	Yes
2	0.784	4.63	0.0431	0.1293	0.0432	3:22:39 PM	Yes
Mean:	0.802	4.73	0.0441				
SD:	0.0260	0.154	0.0014				
%RSD:	3.25%	3.25%	3.23				

==========

Sequence No.: 16
Sample ID: 17-03-1569-2
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 45
Date Collected: 3/29/2017 3:23:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1569-2 — Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0817	0.499	0.0049	0.0184	0.0049	3:24:10 PM	Yes
2	0.0782	0.477	0.0047	0.0149	0.0047	3:24:56 PM	Yes
Mean:	0.0800	0.488	0.0048				
SD:	0.00250	0.0153	0.0001				
%RSD:	3.13%	3.13%	2.97				

==========

Sequence No.: 17
Sample ID: 17-03-1569-3
Analyst: 868 HG-8
Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 46
Date Collected: 3/29/2017 3:25:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1569-3 — Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.119	0.699	0.0067	0.0235	0.0068	3:26:28 PM	Yes
2	0.114	0.671	0.0065	0.0198	0.0065	3:27:14 PM	Yes
Mean:	0.116	0.685	0.0066				
SD:	0.0034	0.0199	0.0002				
%RSD:	2.90%	2.90%	2.80				

==========

Sequence No.: 18
Sample ID: 17-03-1569-4
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 47
Date Collected: 3/29/2017 3:27:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1569-4 — Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0924	0.554	0.0054	0.0187	0.0054	3:28:46 PM	Yes
2	0.0900	0.540	0.0052	0.0160	0.0053	3:29:31 PM	Yes
Mean:	0.0912	0.547	0.0053				
SD:	0.00171	0.0103	0.0001				
%RSD:	1.88%	1.88%	1.79				

==========

Sequence No.: 19
Sample ID: 17-03-1569-5
Analyst: 868 HG-8

Autosampler Location: 48
Date Collected: 3/29/2017 3:29:58 PM
Data Type: Original

Return to Contents

Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1569-5 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.107	0.656	0.0063	0.0219	0.0064	3:31:04 PM	Yes
2	0.101	0.614	0.0059	0.0188	0.0060	3:31:50 PM	Yes
Mean:	0.104	0.635	0.0061				
SD:	0.0048	0.0294	0.0003				
%RSD:	4.62%	4.62%	4.44				

==========

Sequence No.: 20
Sample ID: 17-03-1569-6
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 49
Date Collected: 3/29/2017 3:32:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1569-6 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0380	0.236	0.0024	0.0089	0.0025	3:33:23 PM	Yes
2	0.0356	0.221	0.0023	0.0067	0.0023	3:34:08 PM	Yes
Mean:	0.0368	0.228	0.0024				
SD:	0.00170	0.0105	0.0001				
%RSD:	4.60%	4.60%	4.12				

==========

Sequence No.: 21
Sample ID: 17-03-1556-25
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 50
Date Collected: 3/29/2017 3:34:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1556-25 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0103	0.0628	0.0008	0.0029	0.0009	3:35:40 PM	Yes
2	0.00997	0.0608	0.0008	0.0020	0.0008	3:36:26 PM	Yes
Mean:	0.0101	0.0618	0.0008				
SD:	0.00023	0.00143	0.0000				
%RSD:	2.31%	2.31%	1.62				

==========

Sequence No.: 22
Sample ID: 17-03-1556-26
Analyst: 868 HG-8
Initial Sample Wt: 0.58 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 51
Date Collected: 3/29/2017 3:36:52 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1556-26 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00923	0.0535	0.0007	0.0023	0.0008	3:37:57 PM	Yes
2	0.00943	0.0547	0.0008	0.0019	0.0008	3:38:43 PM	Yes
Mean:	0.00933	0.0541	0.0007				
SD:	0.000144	0.00084	0.0000				
%RSD:	1.54%	1.54%	1.04				

==========

Sequence No.: 23
Sample ID: 17-03-1556-27
Analyst: 868 HG-8

Autosampler Location: 52
Date Collected: 3/29/2017 3:39:09 PM
Data Type: Original

Return to Contents

Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1556-27 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0160	0.0959	0.0011	0.0034	0.0012	3:40:14 PM	Yes
2	0.0134	0.0803	0.0010	0.0024	0.0010	3:40:59 PM	Yes
Mean:	0.0147	0.0881	0.0011				
SD:	0.00183	0.01099	0.0001				
%RSD:	12.47%	12.47%	9.59				

==========

Sequence No.: 24
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/29/2017 3:41:26 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00155	1.55	0.0146	0.0520	0.0147	3:42:32 PM	Yes
2	0.00147	1.47	0.0138	0.0429	0.0139	3:43:17 PM	Yes
Mean:	0.00151	1.51	0.0142				
SD:	0.000059	0.059	0.0005				
%RSD:	3.90%	3.90%	3.83				

QC value less than the lower limit for Hg 253.7 Recovery = 75.41%
QC Failed. Stop the analysis.

==========

Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Spectrometer: FIMS-400, S/N B050-9560

Technique: AA FIMS-MHS
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\
170329H1.sifx
Batch ID:
Results Data Set: 170329H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

==========

Sequence No.: 24
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/29/2017 3:48:12 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00175	1.75	0.0165	0.0603	0.0165	3:49:18 PM	Yes
2	0.00167	1.67	0.0158	0.0505	0.0158	3:50:04 PM	Yes
Mean:	0.00171	1.71	0.0161				
SD:	0.000056	0.056	0.0005				
%RSD:	3.25%	3.25%	3.20				

QC value within limits for Hg 253.7 Recovery = 85.69%
All analyte(s) passed QC.

==========

Sequence No.: 25
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 3/29/2017 3:50:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Return to Contents

Wash Time (before sample): 0 Auto Dilution Factor: 1.0000

Replicate Data: CCB Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000021	-0.0206	0.0001	0.0010	0.0001	3:51:35 PM	Yes
2	-0.000015	-0.0147	0.0001	0.0014	0.0001	3:52:21 PM	Yes
Mean:	-0.000018	-0.0176	0.0001				
SD:	0.0000042	0.00420	0.0000				
%RSD:	23.82%	23.82%	47.64				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 26 Autosampler Location: 53
Sample ID: 17-03-1557-25 Date Collected: 3/29/2017 3:52:46 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: 0.63 g Initial Sample Vol:
Dilution: Sample Prep Vol: 100 mL
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 17-03-1557-25 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0195	0.123	0.0014	0.0054	0.0014	3:53:51 PM	Yes
2	0.0185	0.116	0.0013	0.0048	0.0014	3:54:37 PM	Yes
Mean:	0.0190	0.120	0.0014				
SD:	0.00075	0.0047	0.0000				
%RSD:	3.93%	3.93%	3.22				

==========

Sequence No.: 27 Autosampler Location: 54
Sample ID: 17-03-1557-26 Date Collected: 3/29/2017 3:55:03 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: 17-03-1557-26 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0593	0.368	0.0037	0.0132	0.0037	3:56:08 PM	Yes
2	0.0564	0.350	0.0035	0.0112	0.0035	3:56:54 PM	Yes
Mean:	0.0578	0.359	0.0036				
SD:	0.00206	0.0128	0.0001				
%RSD:	3.57%	3.57%	3.32				

==========

Sequence No.: 28 Autosampler Location: 55
Sample ID: 17-03-1557-27 Date Collected: 3/29/2017 3:57:20 PM
Analyst: 868 HG-8 0.6 Data Type: Original
Initial Sample Wt: ~~0.5~~ g Initial Sample Vol:
Dilution: Sample Prep Vol: 100 mL
Wash Time (before sample): 0 Auto Dilution Factor: 1

304
03/31/17

PF = 166.66666704505

Replicate Data: 17-03-1557-27 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0113	0.0565	0.0008	0.0010	0.0008	3:58:25 PM	Yes
2	0.0117	0.0586	0.0008	0.0014	0.0008	3:59:11 PM	Yes
Mean:	0.0115	0.0575	0.0008				
SD:	0.00029	0.00146	0.0000				
%RSD:	2.53%	2.53%	1.73				

==========

Sequence No.: 29 Autosampler Location: 56
Sample ID: 17-03-1679-1 Date Collected: 3/29/2017 3:59:38 PM
Analyst: 868 HG-8 Data Type: Original

Return to Contents

Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170329-B-02 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.00428	-0.0257	0.0000	0.0000	0.0000	4:09:53 PM	Yes
2	-0.00430	-0.0258	0.0000	-0.0000	0.0000	4:10:39 PM	Yes
Mean:	-0.00429	-0.0257	0.0000				
SD:	0.000019	0.00011	0.0000				
%RSD:	0.44%	0.44%	16.23				

==========

Sequence No.: 34
Sample ID: 170329-L-02
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 61
Date Collected: 3/29/2017 4:11:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170329-L-02 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.743	4.46	0.0416	0.1463	0.0416	4:12:11 PM	Yes
2	0.703	4.22	0.0393	0.1210	0.0394	4:12:56 PM	Yes
Mean:	0.723	4.34	0.0404				
SD:	0.0284	0.170	0.0016				
%RSD:	3.93%	3.93%	3.91				

==========

Sequence No.: 35
Sample ID: 17-03-1672-1
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 62
Date Collected: 3/29/2017 4:13:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1672-1 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0777	0.466	0.0046	0.0165	0.0046	4:14:29 PM	Yes
2	0.0722	0.433	0.0043	0.0131	0.0043	4:15:14 PM	Yes
Mean:	0.0750	0.450	0.0044				
SD:	0.00391	0.0235	0.0002				
%RSD:	5.22%	5.22%	4.93				

==========

Sequence No.: 36
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/29/2017 4:15:41 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	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00183	1.83	0.0172	0.0618	0.0172	4:16:47 PM	Yes
2	0.00174	1.74	0.0164	0.0503	0.0164	4:17:32 PM	Yes
Mean:	0.00179	1.79	0.0168				
SD:	0.000061	0.061	0.0006				
%RSD:	3.42%	3.42%	3.37				

QC value within limits for Hg 253.7 Recovery = 89.30%
All analyte(s) passed QC.

==========

Sequence No.: 37 Autosampler Location: 1

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Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Date Collected: 3/29/2017 4:17:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: CCB — Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000032	-0.0324	-0.0001	-0.0016	-0.0000	4:19:04 PM	Yes
2	-0.000029	-0.0293	-0.0000	-0.0019	0.0000	4:19:49 PM	Yes
Mean:	-0.000031	-0.0308	-0.0000				
SD:	0.0000021	0.00215	0.0000				
%RSD:	6.96%	6.96%	48.69				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 38
Sample ID: 17-03-1672-1 MS
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 63
Date Collected: 3/29/2017 4:20:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1672-1 MS — Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.705	4.30	0.0401	0.1413	0.0401	4:21:20 PM	Yes
2	0.678	4.13	0.0386	0.1198	0.0386	4:22:06 PM	Yes
Mean:	0.691	4.22	0.0393				
SD:	0.0190	0.116	0.0011				
%RSD:	2.75%	2.75%	2.73				

==========

Sequence No.: 39
Sample ID: 17-03-1672-1 MSD
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 64
Date Collected: 3/29/2017 4:22:33 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1672-1 MSD — Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.712	4.41	0.0412	0.1456	0.0412	4:23:38 PM	Yes
2	0.681	4.22	0.0394	0.1232	0.0394	4:24:23 PM	Yes
Mean:	0.696	4.32	0.0403				
SD:	0.0220	0.137	0.0013				
%RSD:	3.16%	3.16%	3.14				

==========

Sequence No.: 40
Sample ID: 17-03-1681-1
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 65
Date Collected: 3/29/2017 4:24:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1681-1 — Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0262	0.165	0.0018	0.0065	0.0018	4:25:55 PM	Yes
2	0.0228	0.143	0.0016	0.0043	0.0016	4:26:41 PM	Yes
Mean:	0.0245	0.154	0.0017				
SD:	0.00241	0.0152	0.0001				
%RSD:	9.85%	9.85%	8.41				

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EPA 7471A Mercury (Solid)

Run Logs

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170329H1

Carrier solution R07141602 **Reducing Agent R07141603**

Sample ID	Analyst Name	Initial Sample Wt	Analyte Name	Date	Time	Conc (Calib)	Units (Calib)	Conc (Samp)	Units (Samp)	Corr Coef
Calib blank_868	868 HG-8		Hg 253.7	3/29/2017	11:25:00 AM		ug/L		mg/L	
0.025ppb 0.005x5ppb	868 HG-8		Hg 253.7	3/29/2017	11:27:14 AM		ug/L		mg/L	
0.10ppb M030617AX0.0001	868 HG-8		Hg 253.7	3/29/2017	11:29:30 AM		ug/L		mg/L	
1.00ppb M030617AX0.001	868 HG-8		Hg 253.7	3/29/2017	11:31:45 AM		ug/L		mg/L	
2.00ppb M030617AX0.002	868 HG-8		Hg 253.7	3/29/2017	11:34:02 AM		ug/L		mg/L	
5.00ppb M030617AX0.005	868 HG-8		Hg 253.7	3/29/2017	11:36:18 AM		ug/L		mg/L	
10.0ppb M030617AX0.01	868 HG-8		Hg 253.7	3/29/2017	11:38:33 AM		ug/L		mg/L	
ICV M030617B	868 HG-8		Hg 253.7	3/29/2017	11:45:01 AM	4.964654	ug/L	0.004965	mg/L	0.999956
ICB	868 HG-8		Hg 253.7	3/29/2017	11:47:15 AM	-0.02763	ug/L	-2.76E-05	mg/L	0.999956
CRQL 0.25	868 HG-8	0.6	Hg 253.7	3/29/2017	11:49:31 AM	0.246378	ug/L	0.041063	mg/kg	0.999956
17-03-2051-1	868 HG-8	0.61	Hg 253.7	3/29/2017	11:51:46 AM	0.229835	ug/L	0.037678	mg/kg	0.999956
17-03-2051-3	868 HG-8	0.6	Hg 253.7	3/29/2017	11:54:01 AM	0.290939	ug/L	0.04849	mg/kg	0.999956
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/29/2017	11:56:18 AM	1.99546	ug/L	0.001995	mg/L	0.999956
CCB	868 HG-8		Hg 253.7	3/29/2017	11:58:33 AM	-0.02897	ug/L	-2.90E-05	mg/L	0.999956
CCV 0.2x10ppb *	868 HG-8		Hg 253.7	3/29/2017	2:17:27 PM	1.450055	ug/L	0.00145	mg/L	0.999956
CCV 0.2x10ppb *	868 HG-8		Hg 253.7	3/29/2017	2:19:44 PM	1.998235	ug/L	0.001998	mg/L	0.999956
CCB **	868 HG-8		Hg 253.7	3/29/2017	2:22:01 PM	1.379949	ug/L	0.00138	mg/L	0.999956
CCB **	868 HG-8		Hg 253.7	3/29/2017	2:48:04 PM	-0.01864	ug/L	-1.86E-05	mg/L	0.999956
17-03-2069-1	868 HG-8	0.63	Hg 253.7	3/29/2017	2:50:20 PM	0.037432	ug/L	0.005942	mg/kg	0.999956
17-03-1667-1	868 HG-8	0.61	Hg 253.7	3/29/2017	2:52:38 PM	0.055516	ug/L	0.009101	mg/kg	0.999956
17-03-1667-3	868 HG-8	0.62	Hg 253.7	3/29/2017	2:54:55 PM	0.038839	ug/L	0.006264	mg/kg	0.999956
17-03-1667-5	868 HG-8	0.62	Hg 253.7	3/29/2017	2:59:51 PM	0.054284	ug/L	0.008755	mg/kg	0.999956
17-03-1667-7	868 HG-8	0.59	Hg 253.7	3/29/2017	3:02:09 PM	0.040424	ug/L	0.006852	mg/kg	0.999956
17-03-1667-9	868 HG-8	0.61	Hg 253.7	3/29/2017	3:04:25 PM	0.034079	ug/L	0.005587	mg/kg	0.999956
CRQL 0.25	868 HG-8	0.6	Hg 253.7	3/29/2017	3:06:42 PM	0.112428	ug/L	0.018738	mg/kg	0.999956
170329-B-01	868 HG-8	0.6	Hg 253.7	3/29/2017	3:08:58 PM	-0.00955	ug/L	-0.00159	mg/kg	0.999956

* time gap, CCV did not pass, reran - passed

** CCB failed, reran - passed

Reviewed/Assign to Logbook Date: 03-29-17
Analysis Hg Chemist ID: 309
Logbook Page: 85 Instrument ID: Hg-8

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Sample ID	Analyst Name	Initial Sample Wt	Analyte Name	Date	Time	Conc (Calib)	Units (Calib)	Conc (Samp)	Units (Samp)	Corr Coef
170329-L-01	868 HG-8	0.6	Hg 253.7	3/29/2017	3:11:15 PM	4.42118	ug/L	0.736863	mg/kg	0.999956
17-03-1569-1	868 HG-8	0.61	Hg 253.7	3/29/2017	3:13:31 PM	0.367148	ug/L	0.060188	mg/kg	0.999956
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/29/2017	3:15:49 PM	1.742626	ug/L	0.001743	mg/L	0.999956
CCB	868 HG-8		Hg 253.7	3/29/2017	3:18:06 PM	-0.03118	ug/L	-3.12E-05	mg/L	0.999956
17-03-1569-1 MS	868 HG-8	0.61	Hg 253.7	3/29/2017	3:20:22 PM	4.385517	ug/L	0.718937	mg/kg	0.999956
17-03-1569-1 MSD	868 HG-8	0.59	Hg 253.7	3/29/2017	3:22:39 PM	4.733645	ug/L	0.802313	mg/kg	0.999956
17-03-1569-2	868 HG-8	0.61	Hg 253.7	3/29/2017	3:24:56 PM	0.487886	ug/L	0.079981	mg/kg	0.999956
17-03-1569-3	868 HG-8	0.59	Hg 253.7	3/29/2017	3:27:14 PM	0.685259	ug/L	0.116146	mg/kg	0.999956
17-03-1569-4	868 HG-8	0.6	Hg 253.7	3/29/2017	3:29:31 PM	0.547062	ug/L	0.091177	mg/kg	0.999956
17-03-1569-5	868 HG-8	0.61	Hg 253.7	3/29/2017	3:31:50 PM	0.634961	ug/L	0.104092	mg/kg	0.999956
17-03-1569-6	868 HG-8	0.62	Hg 253.7	3/29/2017	3:34:08 PM	0.228437	ug/L	0.036845	mg/kg	0.999956
17-03-1556-25	868 HG-8	0.61	Hg 253.7	3/29/2017	3:36:26 PM	0.061837	ug/L	0.010137	mg/kg	0.999956
17-03-1556-26	868 HG-8	0.58	Hg 253.7	3/29/2017	3:38:43 PM	0.054118	ug/L	0.009331	mg/kg	0.999956
17-03-1556-27	868 HG-8	0.6	Hg 253.7	3/29/2017	3:40:59 PM	0.088094	ug/L	0.014682	mg/kg	0.999956
CCV 0.2x10ppb *	868 HG-8		Hg 253.7	3/29/2017	3:43:17 PM	1.508247	ug/L	0.001508	mg/L	0.999956
CCV 0.2x10ppb *	868 HG-8		Hg 253.7	3/29/2017	3:50:04 PM	1.713826	ug/L	0.001714	mg/L	0.999956
CCB	868 HG-8		Hg 253.7	3/29/2017	3:52:21 PM	-0.01762	ug/L	-1.76E-05	mg/L	0.999956
17-03-1557-25	868 HG-8	0.63	Hg 253.7	3/29/2017	3:54:37 PM	0.119648	ug/L	0.018992	mg/kg	0.999956
17-03-1557-26	868 HG-8	0.62	Hg 253.7	3/29/2017	3:56:54 PM	0.358583	ug/L	0.057836	mg/kg	0.999956
17-03-1557-27	868 HG-8	0.6	Hg 253.7	3/29/2017	3:59:11 PM	0.057546	ug/L	0.009591	mg/kg	0.999956
17-03-1679-1	868 HG-8	0.6	Hg 253.7	3/29/2017	4:01:28 PM	-0.01356	ug/L	-0.00226	mg/kg	0.999956
17-03-1679-2	868 HG-8	0.63	Hg 253.7	3/29/2017	4:03:46 PM	-0.0119	ug/L	-0.00189	mg/kg	0.999956
17-03-1679-3	868 HG-8	0.63	Hg 253.7	3/29/2017	4:06:02 PM	-3.80E-05	ug/L	-6.03E-06	mg/kg	0.999956
17-03-1679-4	868 HG-8	0.63	Hg 253.7	3/29/2017	4:08:20 PM	0.095148	ug/L	0.015103	mg/kg	0.999956
170329-B-02	868 HG-8	0.6	Hg 253.7	3/29/2017	4:10:39 PM	-0.02574	ug/L	-0.00429	mg/kg	0.999956
170329-L-02	868 HG-8	0.6	Hg 253.7	3/29/2017	4:12:56 PM	4.335919	ug/L	0.722653	mg/kg	0.999956
17-03-1672-1	868 HG-8	0.6	Hg 253.7	3/29/2017	4:15:14 PM	0.449749	ug/L	0.074958	mg/kg	0.999956
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/29/2017	4:17:32 PM	1.786031	ug/L	0.001786	mg/L	0.999956
CCB	868 HG-8		Hg 253.7	3/29/2017	4:19:49 PM	-0.03084	ug/L	-3.08E-05	mg/L	0.999956

* CCV failed, reran - passed

Reviewed/Assign to Logbook Date: 03-29-17
Analysis Hg Chemist ID: 309
Logbook Page: 86 Instrument ID: Hg-8

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EPA 7471A Mercury (Solid)

Preparation Logs

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Mercury Sample Preparation Logbook (Solid / Other)

METHOD	MATRIX	EQUIPMENT ID #	REAGENT ID #	STANDARD ID #
☐ EPA 7471A	☒ Solid	Thermometer GT-4 (CF -2.0°C)	Aqua Regia R04291601 10 mL	Spike M030617A
☐ EPA 7471B	☐ Other (Specify)	Block Digester 3	5% $KMnO_4$ R10061601	IC A
		Pipetter / Dispenser P071/*	$NaCl-H_3NO\cdot HCl$ R10261601 6 mL	ICV B

BATCH NUMBER	SUPPLY LOT #	BALANCE ID #	QUALITY SYSTEM MATRIX ID #	SAMPLE HANDLING
MS/MSD 170329.S01	Tube / Container 166973	36	Teflon Chip H066-35-15	1 = Composite 2 = Subsample
(Specify)	Filter		(Specify)	3 = Homogenize 4 = None

DIGESTION												
	START			END					SAMPLE		5% $KMnO_4$	SPIKE OR IC/ICV
DATE	TIME	TEMP W/O CF (°C)	PREP TECH ID #	TIME	TEMP W/O CF (°C)	PREP TECH ID #	SAMPLE HANDLING	ECI ID #	INITIAL (g)	FINAL (mL)	V (mL)	V (µL)
3/29/17	10:00	95	868	16:45	95	868	3	MS 17-03-1569-1AA	0.61	100	15	550
							3	MSD	0.59			
							4	LCS 170329-LCS1	0.60			
							4	LCSD / MB 170329-BD1	0.60			
							3	17-03-1569-1AA	0.61			
								2	0.61			
								3	0.59			
								4	0.60			
								5	0.61			
								6	0.62			
							4	17-03-1556-25B	0.61			
								26	0.58			
								27	0.66			
								17-03-1557-25B	0.63			
								26	0.62			
								27	0.66			
								~~17-03-1617-1A~~ 868 3/29/17	~~0.60~~			
								17-03-1619-1A	0.60			
								2A	0.63			
								3A	0.63			
								~~17-03-1~~ 868 3/29/17 4A	0.63			
								IC				
								ICV				
								CB				

COMMENTS: *D003/MD043/D058

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EPA METHOD 8082
PCB

RAW DATA

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EPA METHOD 8082
PCB

Initial Calibration

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

Data Files:

Level #	D/T Analyzed	Data File
1	2017-02-22 17:27	/chem1/SVOA/GC_66/170222A/b1702220117022201
2	2017-02-22 17:45	/chem1/SVOA/GC_66/170222A/b1702220217022202
3	2017-02-22 18:03	/chem1/SVOA/GC_66/170222A/b1702220317022203
4	2017-02-22 18:21	/chem1/SVOA/GC_66/170222A/b1702220417022204
5	2017-02-22 18:38	/chem1/SVOA/GC_66/170222A/b1702220517022205

LR - E: Linear Regression (Equal Weight)
Avg RF: Average Response Factor

LR - IC: Linear Regression (Inverse Concentration Weight)
QR - E: Quadratic Regression (Equal Weight)

LR - ISC: Linear Regression (Inverse Square Concentration Weight)

INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

ICV WORK ORDER: **099-12-532-9351-5154**
INITIAL BATCH: 170222I003
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170222A/b1702220617022206

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
ICV: 2017-02-22 18:56
REVIEWED BY: 27
D/T REVIEWED: 2017-02-24 16:33

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

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Report Date : 03-Mar-2017 10:49 Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
End Cal Date : 22-FEB-2017 20:07
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Cal Date : 03-Mar-2017 10:49 uhhn
Curve Type : Average

Calibration File Names:
Level 1: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
Level 2: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
Level 3: /chem1/SVOA/GC_66.i/170222A.b/b17022210.d
Level 4: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
Level 5: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d

Compound	100.000 Level 1	250.000 Level 2	500.000 Level 3	750.000 Level 4	2000.000 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

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Report Date : 03-Mar-2017 10:49 Page 2

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
End Cal Date : 22-FEB-2017 20:07
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Cal Date : 03-Mar-2017 10:49 uhhn
Curve Type : Average

	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 Arcolor 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 Arcolor 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

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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
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

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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
Maximun Average %RSD =	20.00000
* Passed Average %RSD Test.	

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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
Sample Name: PCB ICV P021517H 500PPB
Sublist used: p1016_1260.sub
Method used: /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m

Injection Date and Time: 22-FEB-2017 18:56
Initial Calibration Date(s): 17-OCT-2016 22-FEB-2017
Initial Calibration Time(s): 20:04 20:07

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D/Drift	Curve Type	
Aroclor 1260 (1)	270284.532	318239.382	0.01	-18	15	Averaged	<-Failed
Aroclor 1260 (2)	213956.488	237968.342	0.01	-11	15	Averaged	
Aroclor 1260 (3)	233064.808	267435.304	0.01	-15	15	Averaged	
Aroclor 1260 (4)	83122.167	83559.856	0.01	-1	15	Averaged	
Aroclor-1260	947781.003	1078849.128	0.01	-14	15	Averaged	
Aroclor-1016	893304.438	1007962.398	0.01	-13	15	Averaged	
Aroclor 1016 (1)	90035.625	99898.782	0.01	-11	15	Averaged	
Aroclor 1016 (2)	159465.395	177206.146	0.01	-11	15	Averaged	
Aroclor 1016 (3)	354923.864	406965.954	0.01	-15	15	Averaged	
Aroclor 1016 (4)	162098.269	181154.002	0.01	-12	15	Averaged	
Aroclor 1016 (5)	126781.283	142737.514	0.01	-13	15	Averaged	
Aroclor 1260 (5)	147353.008	171646.244	0.01	-16	15	Averaged	<-Failed

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D/Drift	Curve Type
2,4,5,6-Tetrachloro-m-xylene	5741865.170	5554897.950	0.01	3	15	Averaged
Decachlorobiphenyl	5459627.040	5505849.720	0.01	-1	15	Averaged

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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
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.694	4.694	0.000	108354401	20.0000	18.9(a)
M	2 Aroclor-1016				97528686	100.000	109
	3 Aroclor 1016 (1)	5.539	5.533	0.006	10196308	100.000	113
	4 Aroclor 1016 (2)	6.168	6.165	0.003	17794023	100.000	112
	5 Aroclor 1016 (3)	6.852	6.844	0.008	36813879	100.000	104
	6 Aroclor 1016 (4)	7.050	7.043	0.007	18530301	100.000	114
	7 Aroclor 1016 (5)	7.204	7.194	0.010	14194175	100.000	112
M	8 Aroclor-1260				101241371	100.000	107
	9 Aroclor 1260 (1)	9.753	9.749	0.004	29573320	100.000	109
	10 Aroclor 1260 (2)	10.352	10.348	0.004	23396360	100.000	109
	11 Aroclor 1260 (3)	10.745	10.742	0.003	24453781	100.000	105
	12 Aroclor 1260 (4)	12.119	12.115	0.004	8477403	100.000	102
	13 Aroclor 1260 (5)	12.340	12.337	0.003	15340507	100.000	104
$	56 Decachlorobiphenyl	13.107	13.103	0.004	107657233	20.0000	19.7(a)

QC Flag Legend

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

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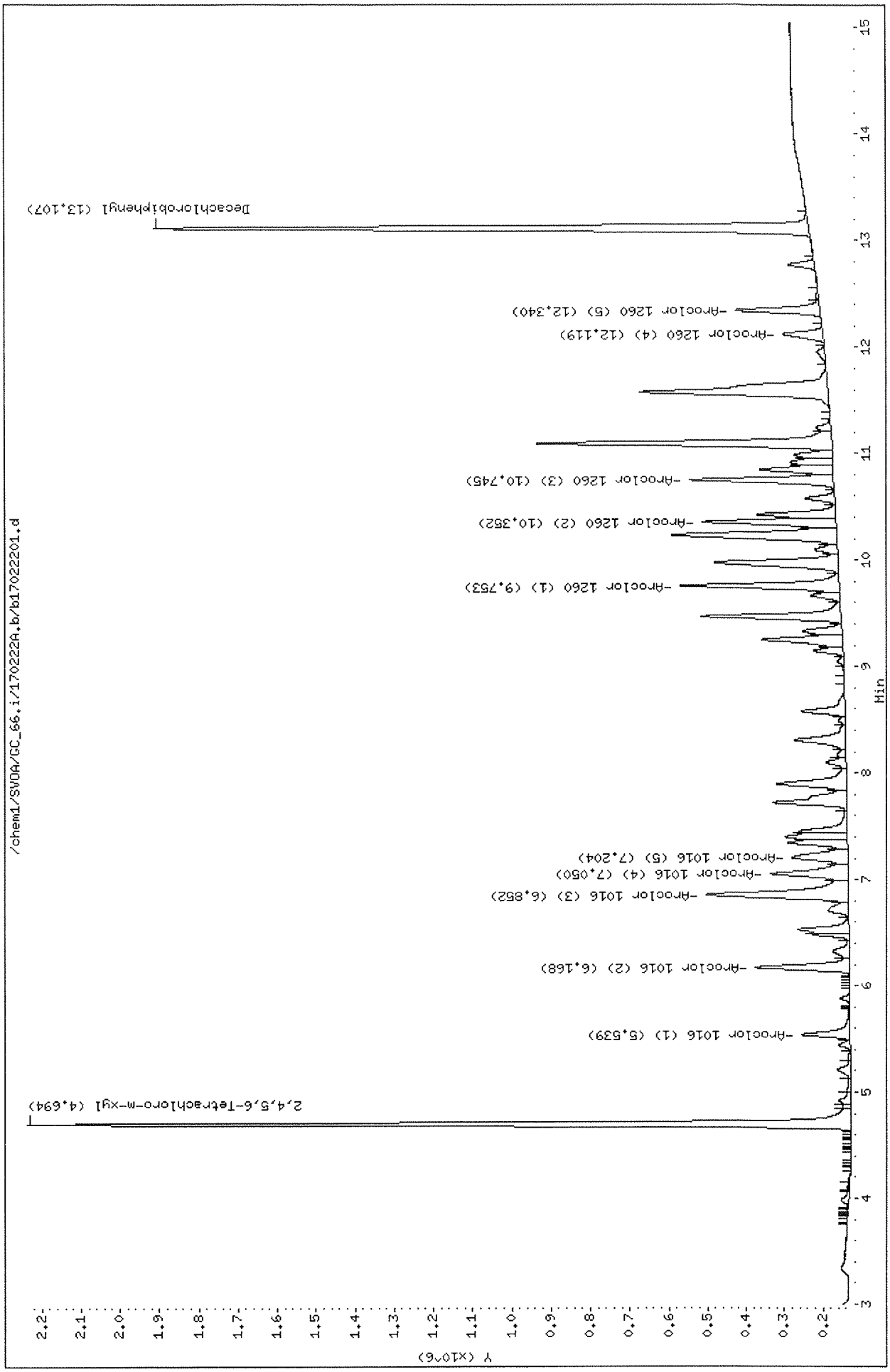
Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
Date : 22-FEB-2017 17:27
Client ID:
Sample Info: PCB ICAL1 P021517F 100PPB

Instrument: GC_66.i

Operator: 944
Column diameter: 2.00

Column phase:



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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
Report Date: 23-Feb-2017 09:42

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

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppb)	AMOUNTS ON-COL (ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.694	-0.001	291172299	50.0000	50.7
M	2 Aroclor-1016				235261233	250.000	263
	3 Aroclor 1016 (1)	5.536	5.539	-0.003	24139170	250.000	268
	4 Aroclor 1016 (2)	6.166	6.168	-0.002	42349726	250.000	266
	5 Aroclor 1016 (3)	6.848	6.852	-0.004	91847697	250.000	259
	6 Aroclor 1016 (4)	7.046	7.050	-0.004	43282979	250.000	267
	7 Aroclor 1016 (5)	7.198	7.204	-0.006	33641661	250.000	265
M	8 Aroclor-1260				248961695	250.000	263
	9 Aroclor 1260 (1)	9.751	9.753	-0.002	71155515	250.000	263
	10 Aroclor 1260 (2)	10.349	10.352	-0.003	56484954	250.000	264
	11 Aroclor 1260 (3)	10.743	10.745	-0.002	60924633	250.000	261
	12 Aroclor 1260 (4)	12.116	12.119	-0.003	21453649	250.000	258
	13 Aroclor 1260 (5)	12.339	12.340	-0.001	38942944	250.000	264
$	56 Decachlorobiphenyl	13.105	13.107	-0.002	280190360	50.0000	51.3

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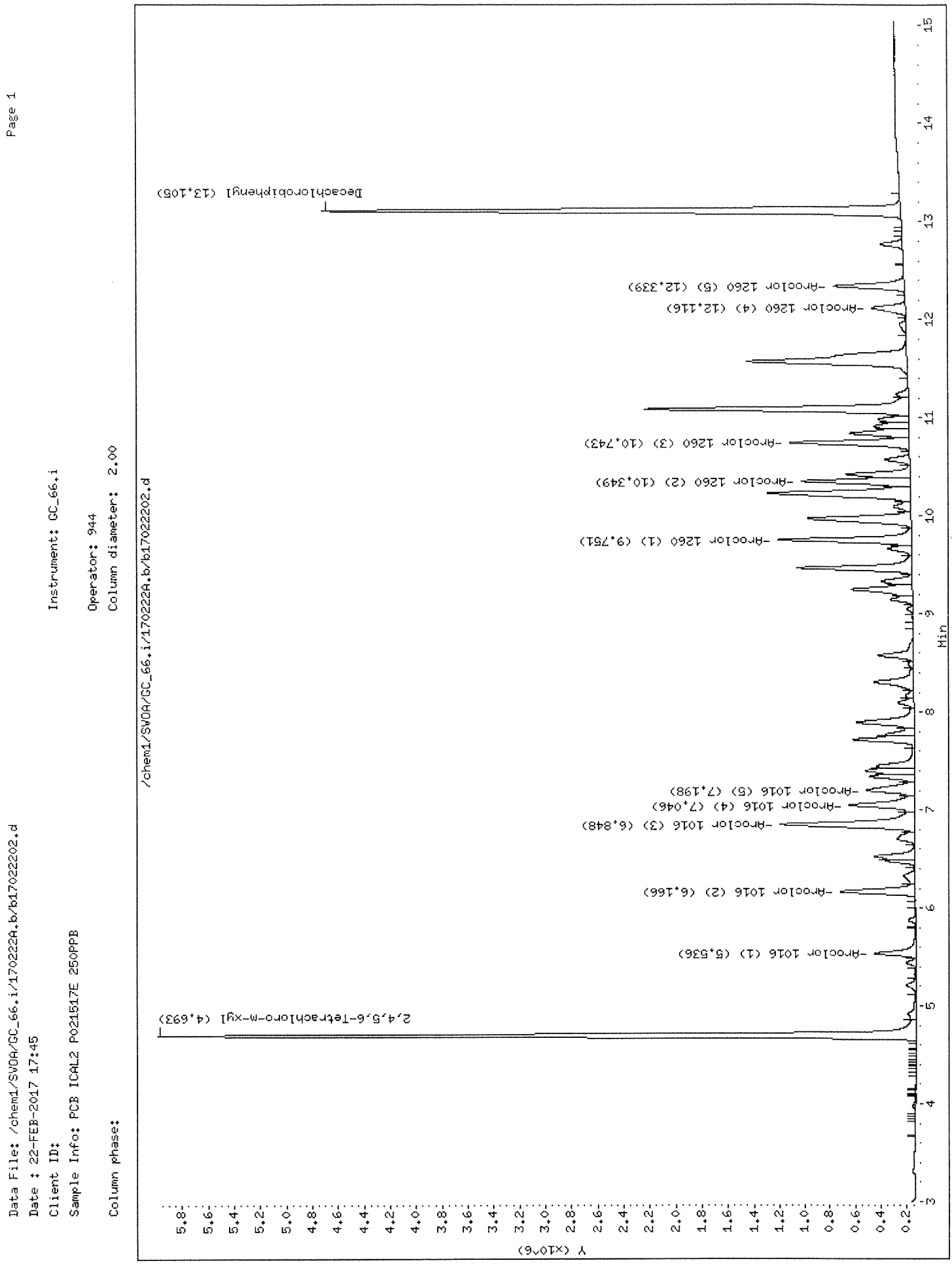

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EPA 8082/A PCB analysis

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

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppb)	ON-COL (ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.692	4.693	-0.001	583670480	100.000	102
M	2 Aroclor-1016				441364860	500.000	494
	3 Aroclor 1016 (1)	5.533	5.536	-0.003	44444648	500.000	494
	4 Aroclor 1016 (2)	6.164	6.166	-0.002	78615211	500.000	493
	5 Aroclor 1016 (3)	6.844	6.848	-0.004	176646127	500.000	498
	6 Aroclor 1016 (4)	7.043	7.046	-0.003	79269778	500.000	489
	7 Aroclor 1016 (5)	7.195	7.198	-0.003	62389096	500.000	492
M	8 Aroclor-1260				469957779	500.000	496
	9 Aroclor 1260 (1)	9.749	9.751	-0.002	133449409	500.000	494
	10 Aroclor 1260 (2)	10.348	10.349	-0.001	105630017	500.000	494
	11 Aroclor 1260 (3)	10.742	10.743	-0.001	116161904	500.000	498
	12 Aroclor 1260 (4)	12.115	12.116	-0.001	40559632	500.000	488
	13 Aroclor 1260 (5)	12.337	12.339	-0.002	74156817	500.000	503
$	56 Decachlorobiphenyl	13.105	13.105	0.000	553933911	100.000	101

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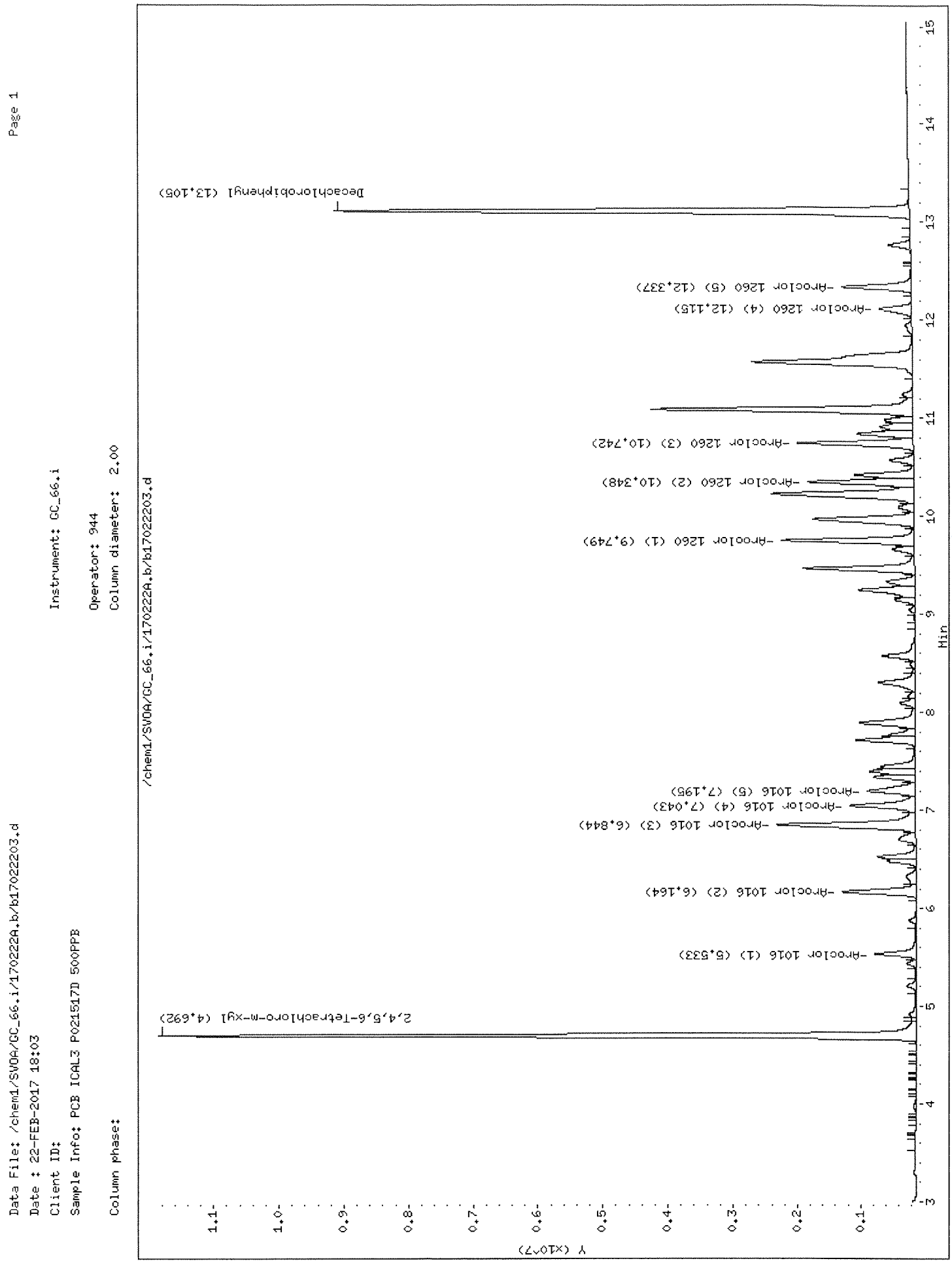

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Eurofins Calscience

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
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.691	4.692	-0.001	881880457	150.000	154
M	2 Aroclor-1016				648645686	750.000	726
	3 Aroclor 1016 (1)	5.530	5.533	-0.003	64426684	750.000	716
	4 Aroclor 1016 (2)	6.163	6.164	-0.001	114714592	750.000	719
	5 Aroclor 1016 (3)	6.842	6.844	-0.002	263194053	750.000	742
	6 Aroclor 1016 (4)	7.041	7.043	-0.002	115323393	750.000	711
	7 Aroclor 1016 (5)	7.192	7.195	-0.003	90986964	750.000	718
M	8 Aroclor-1260				685721676	750.000	724
	9 Aroclor 1260 (1)	9.748	9.749	-0.001	194025997	750.000	718
	10 Aroclor 1260 (2)	10.348	10.348	0.000	153042314	750.000	715
	11 Aroclor 1260 (3)	10.742	10.742	0.000	168891068	750.000	725
	12 Aroclor 1260 (4)	12.113	12.115	-0.002	63938532	750.000	769
	13 Aroclor 1260 (5)	12.336	12.337	-0.001	105823765	750.000	718
$	56 Decachlorobiphenyl	13.104	13.105	-0.001	802792169	150.000	147

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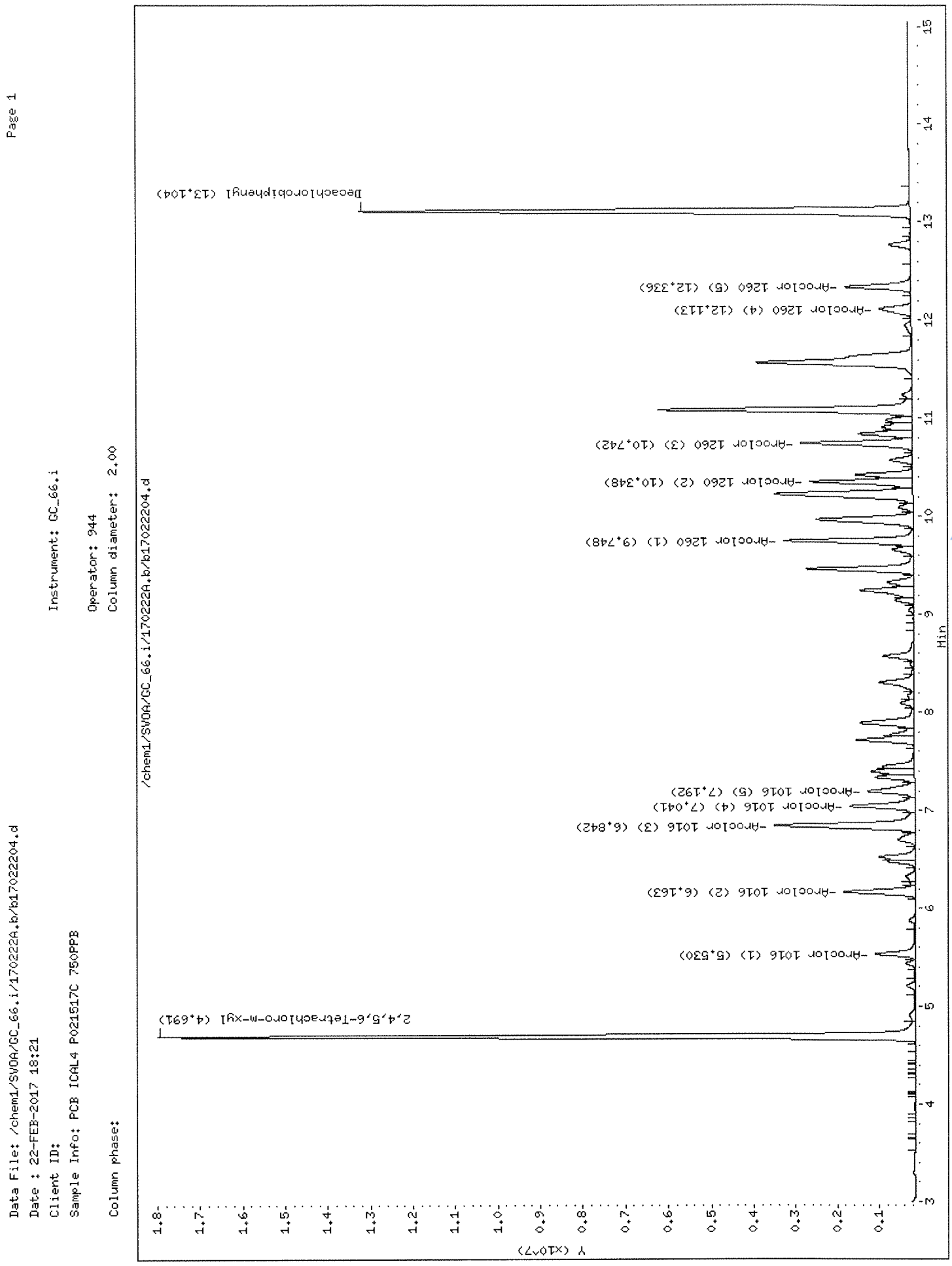

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Eurofins Calscience

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

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppb)	AMOUNTS ON-COL (ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.691	0.002	2300900796	400.000	401(A)
M	2 Aroclor-1016				1605199523	2000.00	1800
	3 Aroclor 1016 (1)	5.530	5.530	0.000	153733649	2000.00	1710
	4 Aroclor 1016 (2)	6.163	6.163	0.000	279609263	2000.00	1750
	5 Aroclor 1016 (3)	6.839	6.842	-0.003	669744171	2000.00	1890
	6 Aroclor 1016 (4)	7.041	7.041	0.000	279504681	2000.00	1720
	7 Aroclor 1016 (5)	7.190	7.192	-0.002	222607759	2000.00	1760
M	8 Aroclor-1260				1752866795	2000.00	1850
	9 Aroclor 1260 (1)	9.747	9.748	-0.001	490934501	2000.00	1820
	10 Aroclor 1260 (2)	10.347	10.348	-0.001	389125144	2000.00	1820
	11 Aroclor 1260 (3)	10.742	10.742	0.000	439151601	2000.00	1880
	12 Aroclor 1260 (4)	12.114	12.113	0.001	157303133	2000.00	1890
	13 Aroclor 1260 (5)	12.336	12.336	0.000	276352416	2000.00	1880
$	56 Decachlorobiphenyl	13.104	13.104	0.000	2168071770	400.000	397

QC Flag Legend

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

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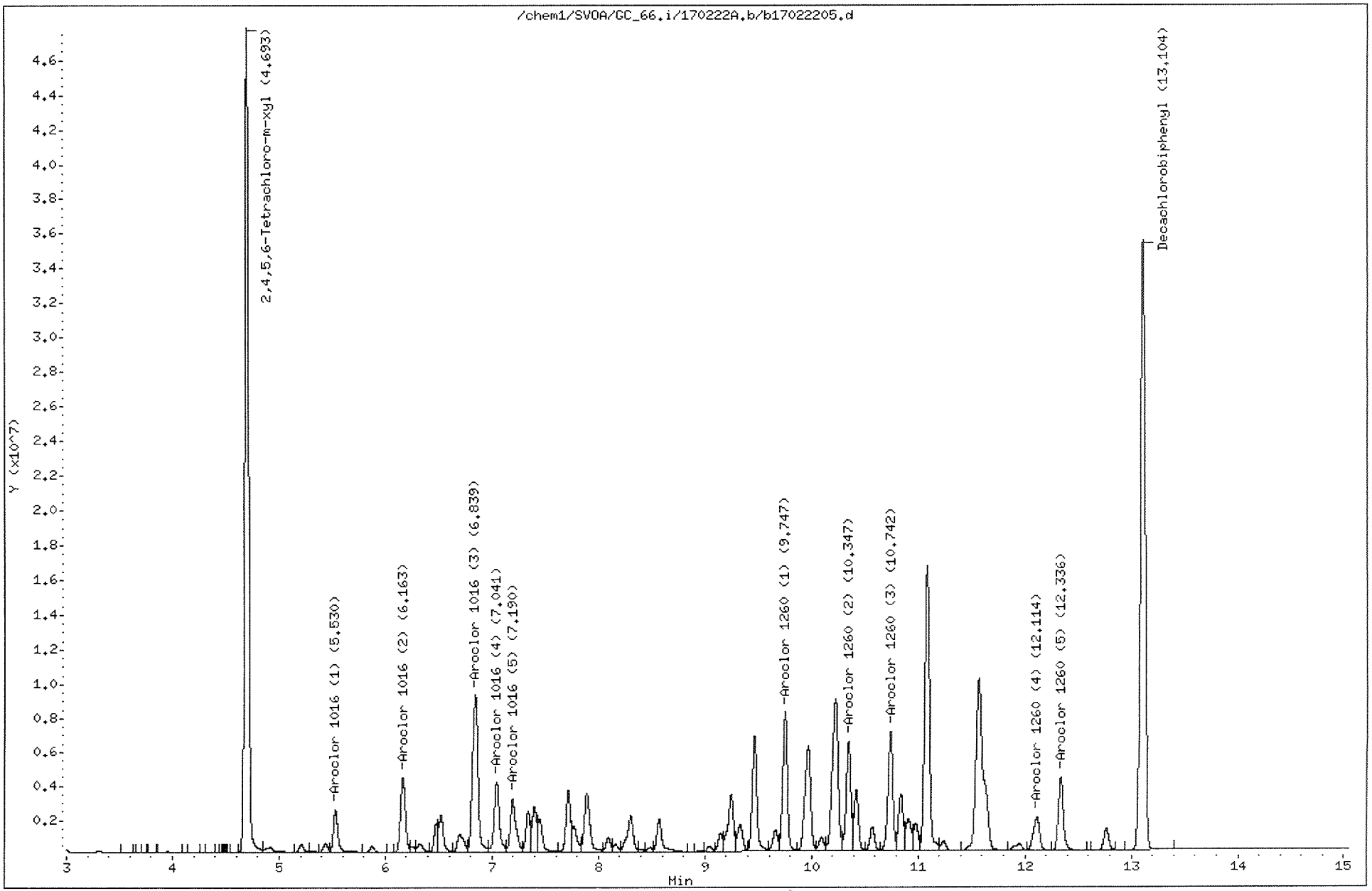
Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d
Date : 22-FEB-2017 18:38
Client ID:
Sample Info: PCB ICAL5 P021517B 2000PPB

Instrument: GC_66.i
Operator: 944
Column diameter: 2.00

Column phase:



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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

	Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppb)	AMOUNTS ON-COL (ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.694	4.693	0.001	555489795	100.000	96.7
M	2 Aroclor-1016				503981199	500.000	564
	3 Aroclor 1016 (1)	5.533	5.530	0.003	49949391	500.000	555
	4 Aroclor 1016 (2)	6.165	6.163	0.002	88603073	500.000	556
	5 Aroclor 1016 (3)	6.844	6.839	0.005	203482977	500.000	573
	6 Aroclor 1016 (4)	7.043	7.041	0.002	90577001	500.000	559
	7 Aroclor 1016 (5)	7.194	7.190	0.004	71368757	500.000	563
M	8 Aroclor-1260				539424564	500.000	569
	9 Aroclor 1260 (1)	9.749	9.747	0.002	159119691	500.000	589
	10 Aroclor 1260 (2)	10.348	10.347	0.001	118984171	500.000	556
	11 Aroclor 1260 (3)	10.742	10.742	0.000	133717652	500.000	574
	12 Aroclor 1260 (4)	12.115	12.114	0.001	41779928	500.000	503
	13 Aroclor 1260 (5)	12.337	12.336	0.001	85823122	500.000	582
$	56 Decachlorobiphenyl	13.103	13.104	-0.001	550584972	100.000	101

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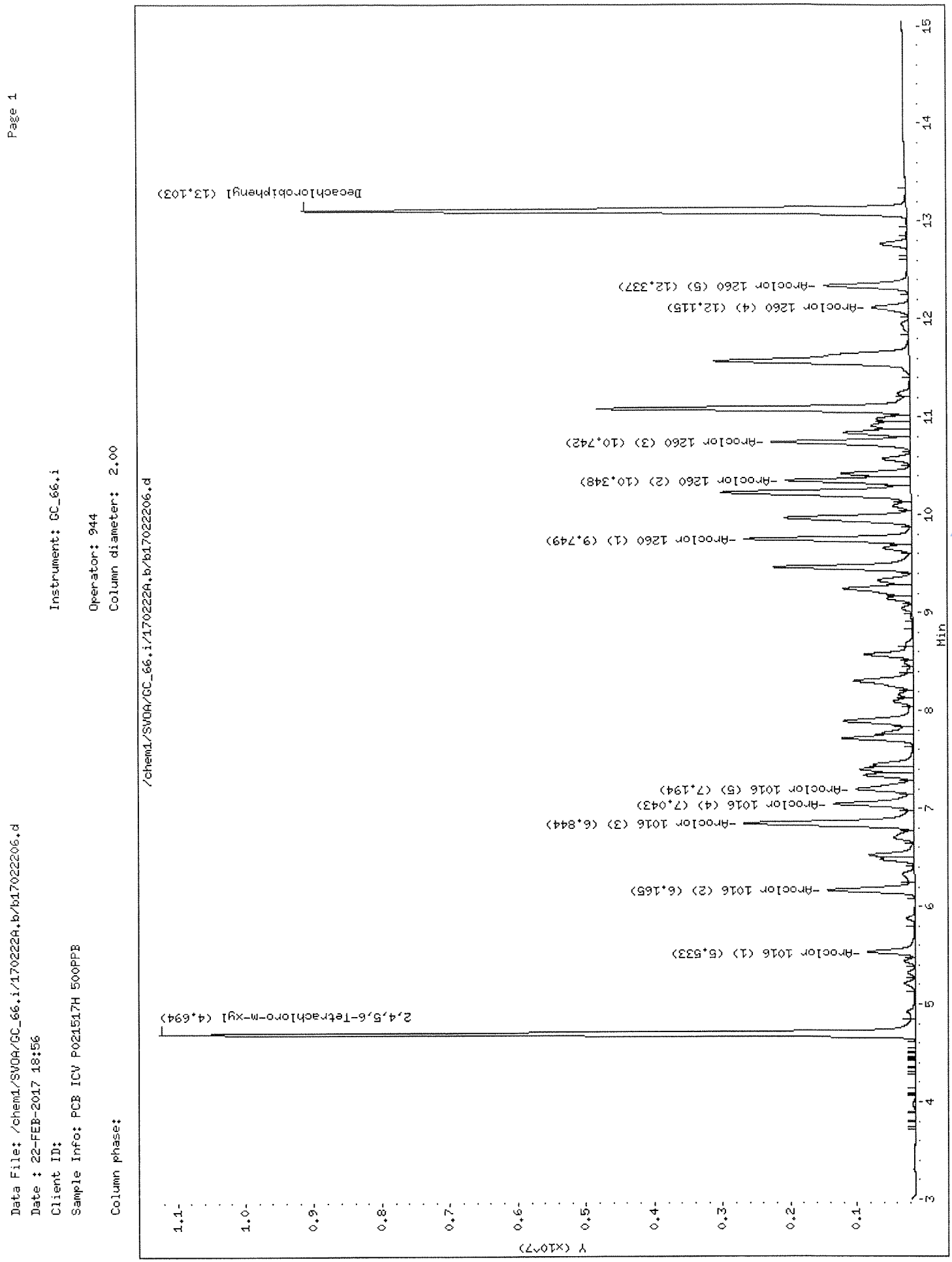

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Eurofins Calscience

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

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(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 Arcolor 1254 (3)	9.199	9.199	0.000	175076127	500.000	500
42 Aroclor 1254 (4)	9.513	9.513	0.000	119868437	500.000	500
43 Aroclor 1254 (5)	9.976	9.976	0.000	138721030	500.000	500

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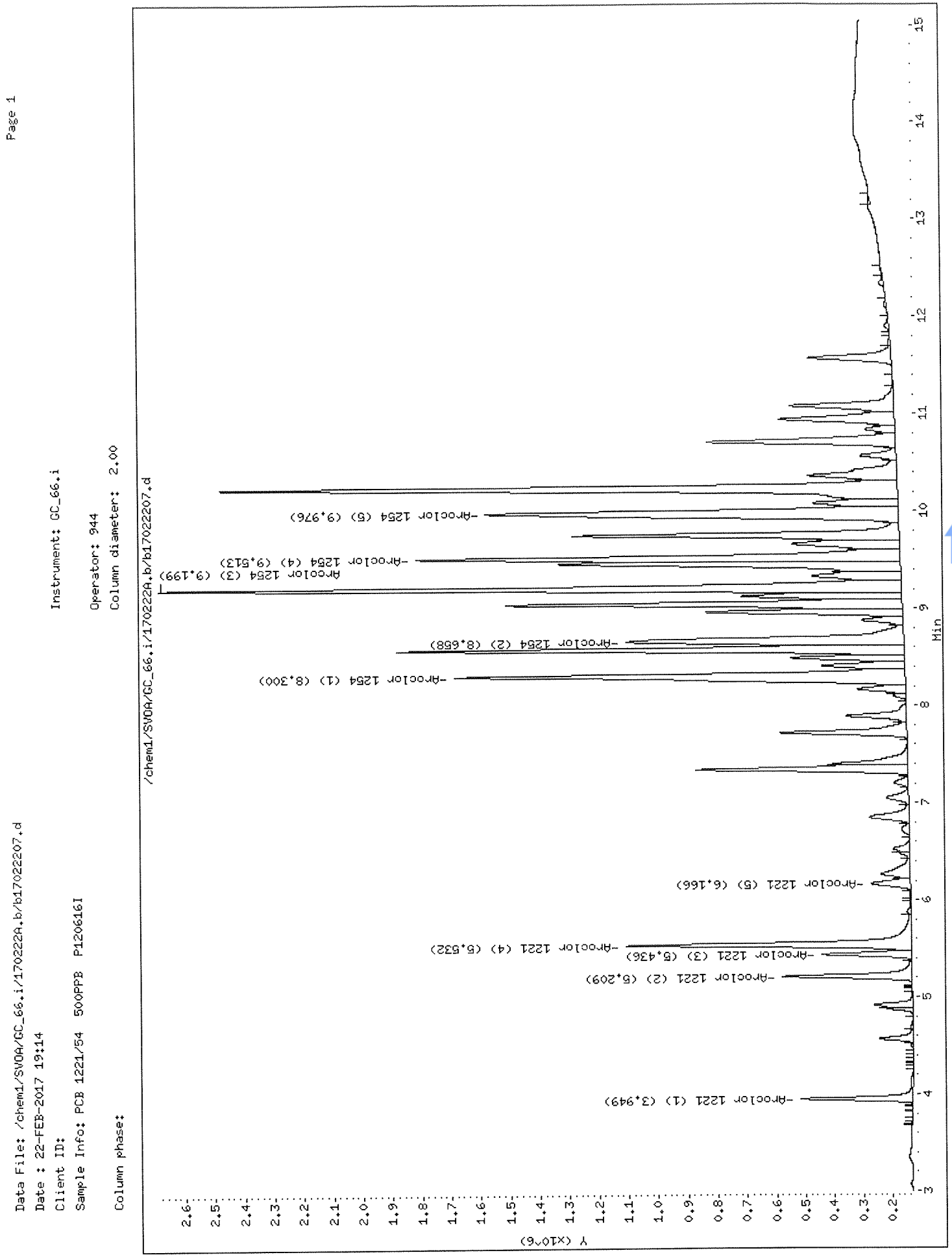

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Eurofins Calscience

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

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

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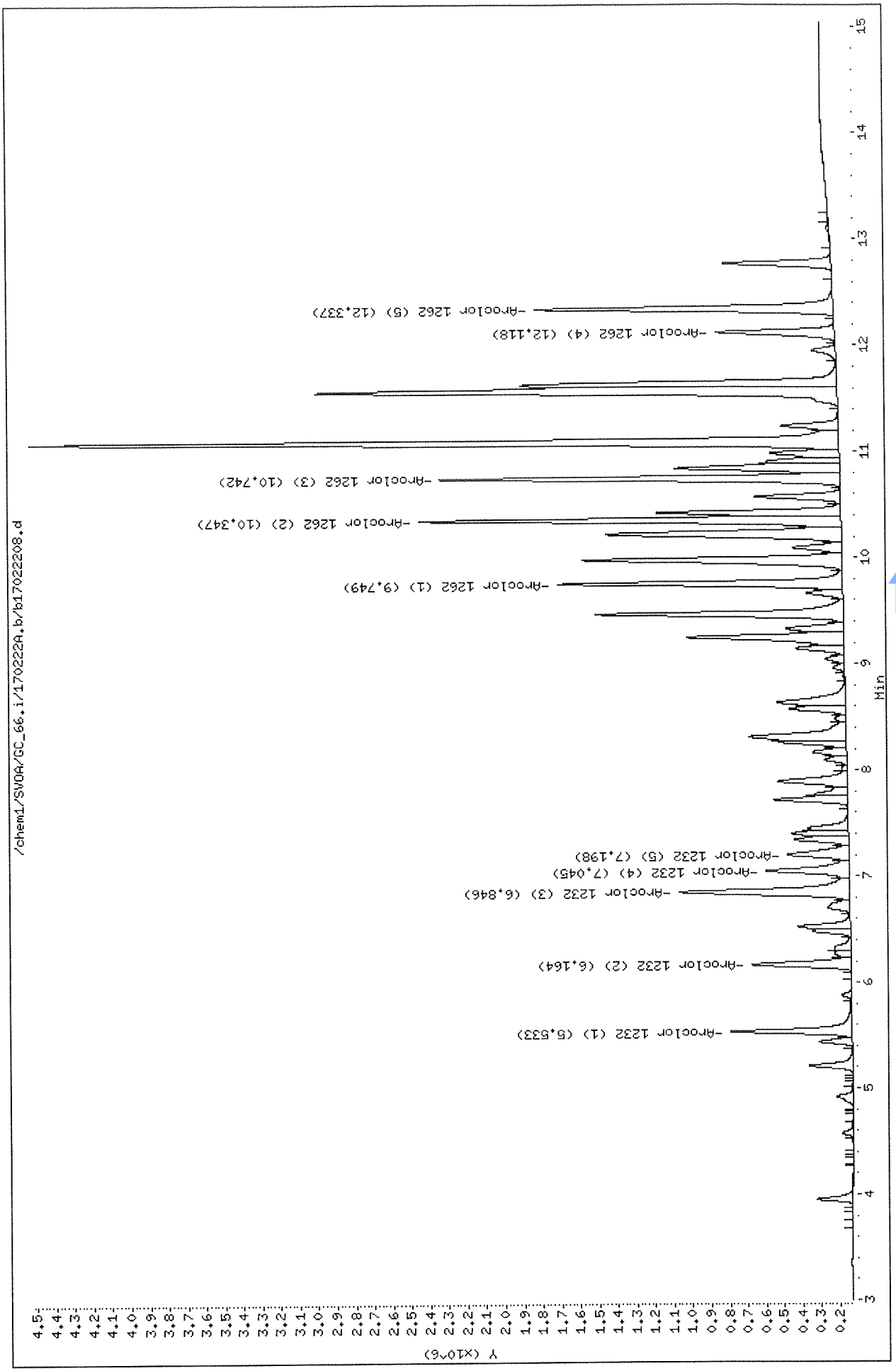
Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022208.d
Date : 22-FEB-2017 19:32
Client ID:
Sample Info: PCB 1232/62 500PPB P120616J

Instrument: GC_66.i

Operator: 944
Column diameter: 2.00

Column phase:



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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

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppb)	ON-COL (ppb)
M 32 Aroclor-1248				349356650	500.000	500
33 Aroclor 1248 (1)	6.845	6.164	0.681	92597659	500.000	500
34 Arcolor 1248 (2)	7.397	7.397	0.000	51572554	500.000	500
35 Aroclor 1248 (3)	7.445	7.445	0.000	38405884	500.000	500
36 Aroclor 1248 (4)	7.715	7.715	0.000	76011522	500.000	500
37 Aroclor 1248 (5)	7.888	7.888	0.000	90769029	500.000	500
M 50 Aroclor-1268				2132325871	500.000	500
51 Aroclor 1268 (1)	11.554	11.554	0.000	353673525	500.000	500
52 Aroclor 1268 (2)	11.615	11.615	0.000	354519915	500.000	500
53 Aroclor 1268 (3)	11.948	11.948	0.000	290210573	500.000	500
54 Aroclor 1268 (4)	12.334	12.334	0.000	127638418	500.000	500
55 Aroclor 1268 (5)	12.764	12.764	0.000	1006283437	500.000	500

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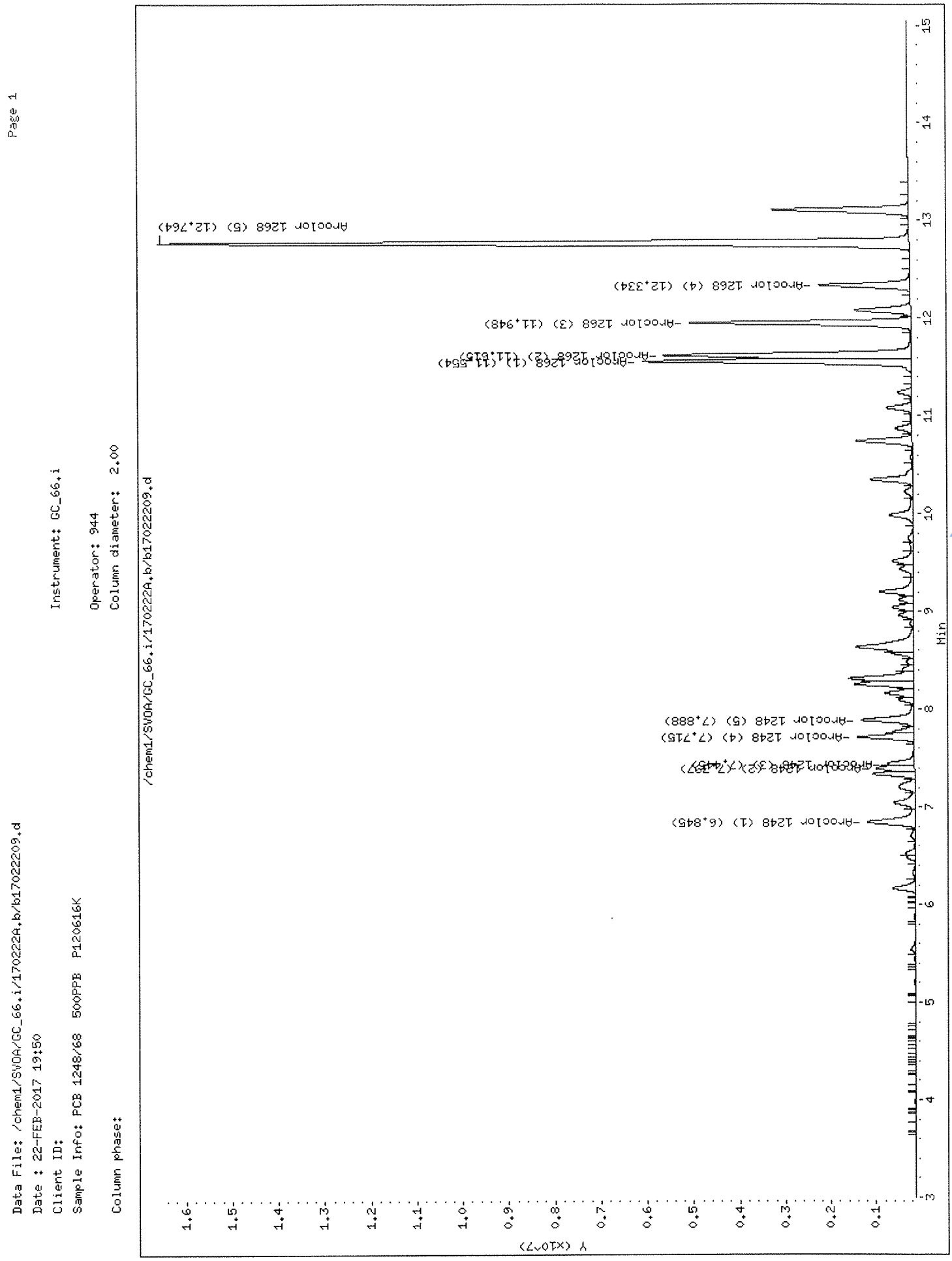

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Eurofins Calscience

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	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppb)	AMOUNTS ON-COL (ppb)
M 26 Aroclor-1242				360695998	500.000	500
27 Aroclor 1242 (1)	5.534	5.534	0.000	35639904	500.000	500
28 Aroclor 1242 (2)	6.164	6.164	0.000	64753688	500.000	500
29 Aroclor 1242 (3)	6.844	6.844	0.000	143503184	500.000	500
30 Aroclor 1242 (4)	7.044	7.044	0.000	65451422	500.000	500
31 Aroclor 1242 (5)	7.195	7.195	0.000	51347800	500.000	500

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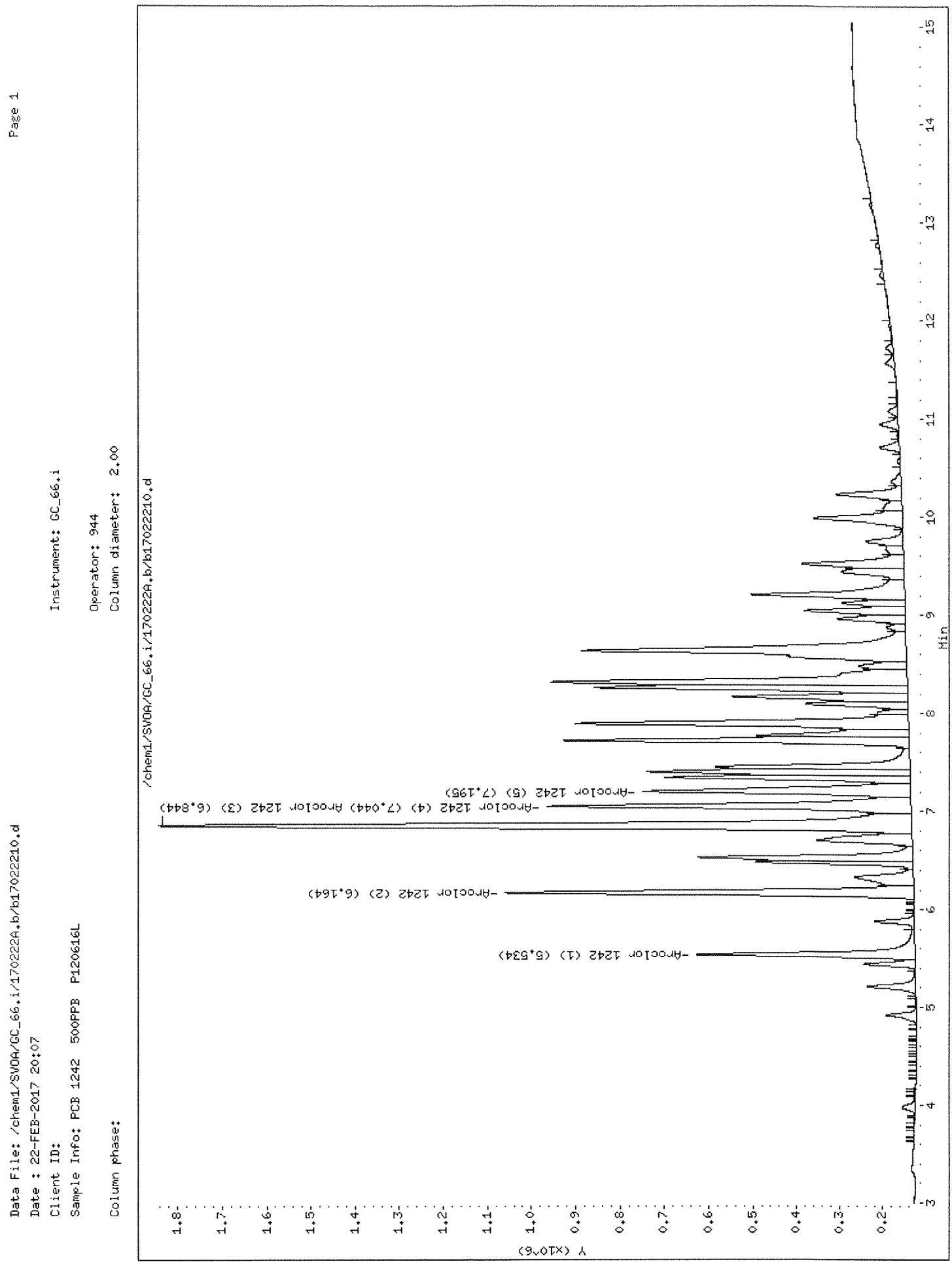

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EPA METHOD 8082
PCB

Sample Data

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RAW DATA SHEET
FOR METHOD: EPA 8082

WORK ORDER: **17-03-1557**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-27 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-28 03:41
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170328/b1703282917032829

 # 28 **CLIENT SAMPLE NUMBER: B-DU1-ISM1-8**

LCS/MB BATCH: 170327L05
MS/MSD BATCH: 170327S05
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032829.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032829.d
Lab Smp Id:
Inj Date : 28-MAR-2017 03:41
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-1557-28
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 29
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	4.690	4.690	0.000	384884629	64.8393	64.8
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.					

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032829.d Page 2
Report Date: 28-Mar-2017 09:42

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb)	CONCENTRATIONS 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 Arcolor 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 Arcolor 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	13.098	0.000	422410796	76.7050	76.7

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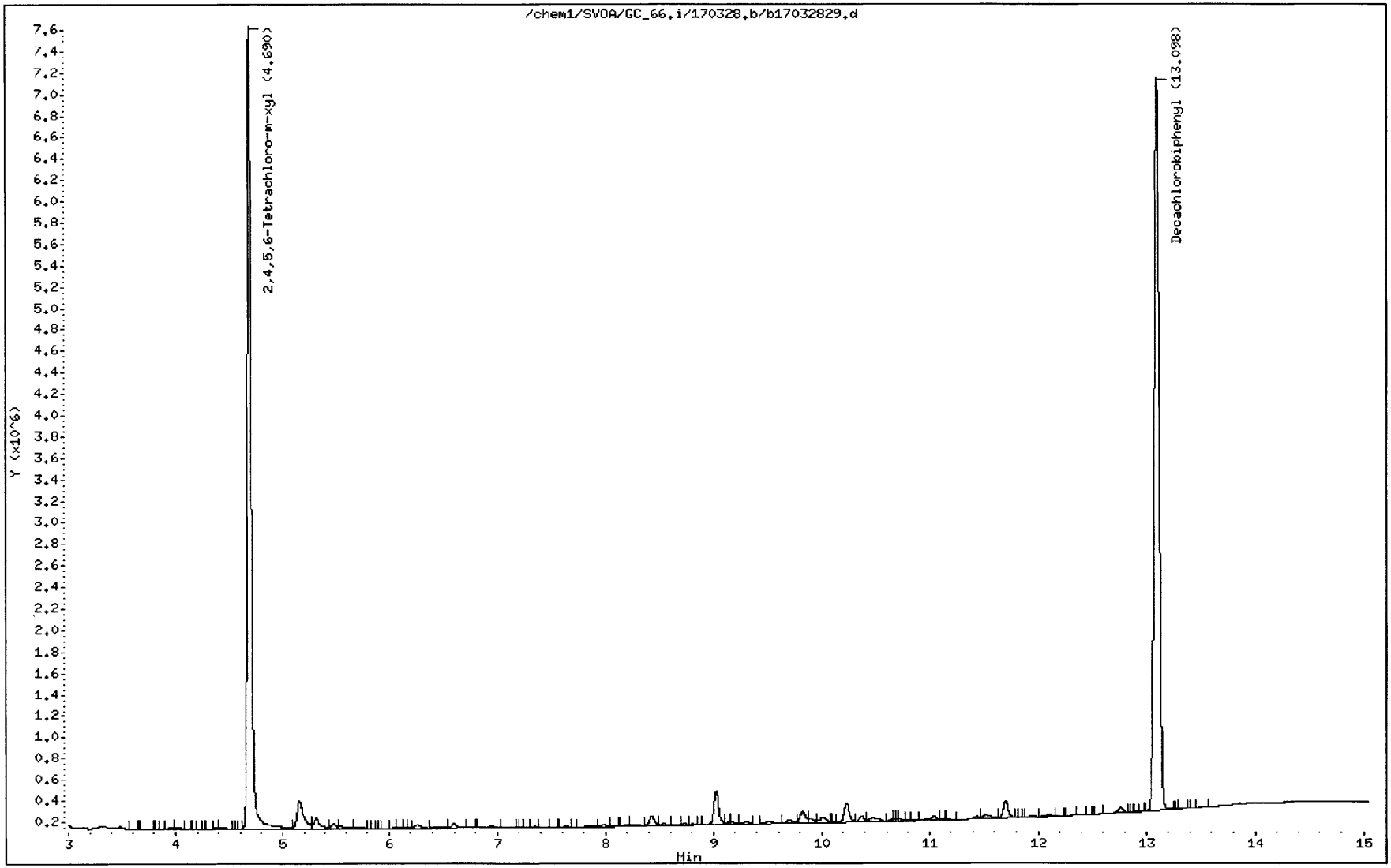
Data File: /chem1/SVOA/GC_66.i/170328.b/b17032829.d
Date : 28-MAR-2017 03:41
Client ID:
Sample Info: 17-03-1557-28

Instrument: GC_66.i

Operator: 669
Column diameter: 2.00

Column phase:



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RAW DATA SHEET
FOR METHOD: EPA 8082

WORK ORDER: **17-03-1557**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-27 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-28 03:59
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170328/b1703283017032830

 # 29 **CLIENT SAMPLE NUMBER: B-DU1-ISM2-8**

LCS/MB BATCH: 170327L05
MS/MSD BATCH: 170327S05
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032830.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032830.d
Lab Smp Id:
Inj Date : 28-MAR-2017 03:59
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-1557-29
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 30
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	4.690	0.001	362632594	61.0906	61.1
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.					

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032830.d Page 2
Report Date: 28-Mar-2017 09:42

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb)	CONCENTRATIONS 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 Arcolor 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 Arcolor 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	13.097	13.098	-0.001	403526302	73.2758	73.3

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032830.d

Date : 28-MAR-2017 03:59

Client ID:

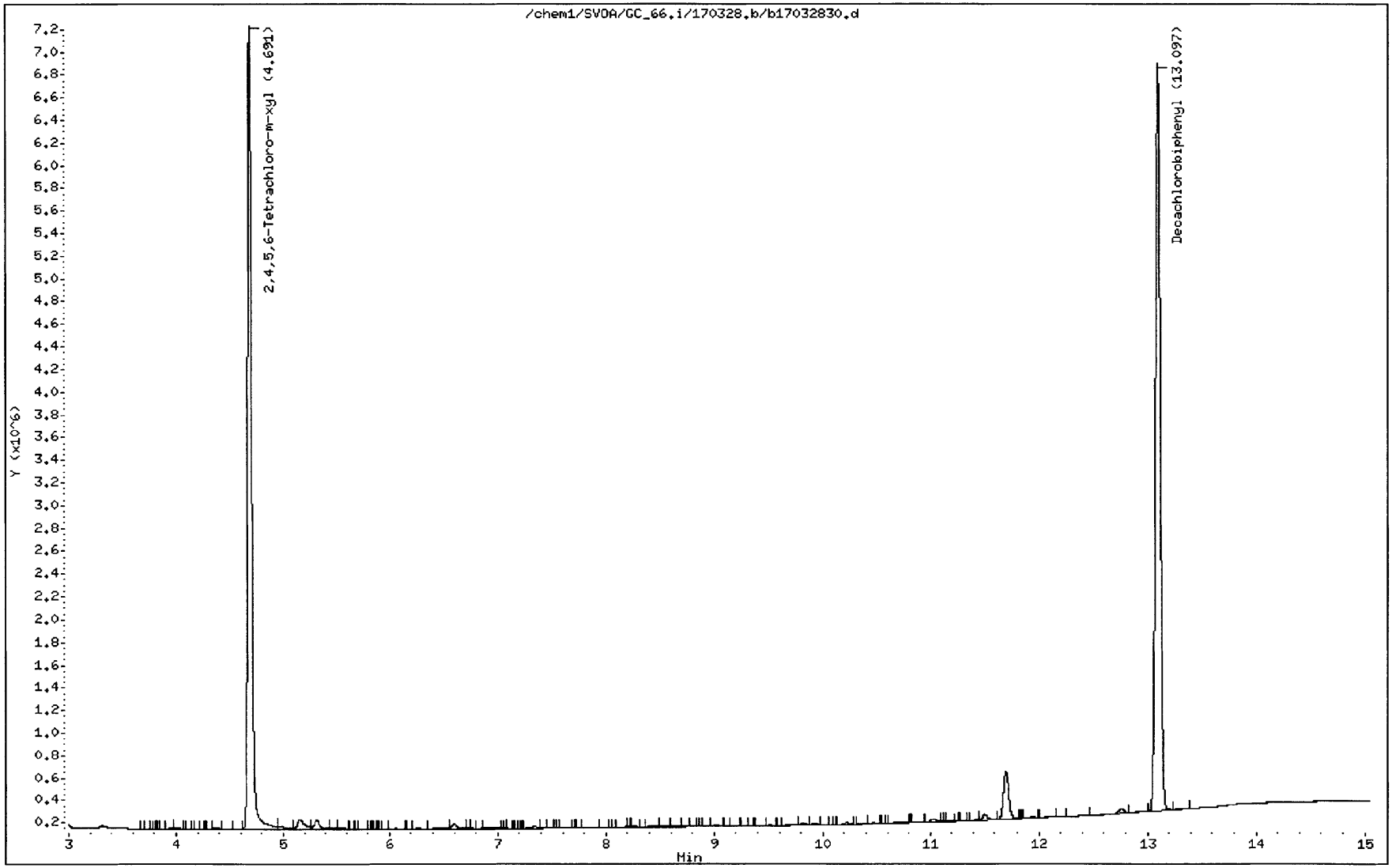
Sample Info: 17-03-1557-29

Column phase:

Instrument: GC_66.i

Operator: 669

Column diameter: 2.00



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RAW DATA SHEET
FOR METHOD: EPA 8082

WORK ORDER: **17-03-1557**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-27 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-28 04:35
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170328/b1703283217032832

 # 30 **CLIENT SAMPLE NUMBER: B-DU1-ISM3-8**

LCS/MB BATCH: 170327L05
MS/MSD BATCH: 170327S05
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.10 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032832.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032832.d
Lab Smp Id:
Inj Date : 28-MAR-2017 04:35
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-1557-30
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 32
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	4.690	4.690	0.000	414146348	69.7689	69.8
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.					

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032832.d Page 2
Report Date: 28-Mar-2017 09:42

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb)	CONCENTRATIONS 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 Arcolor 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 Arcolor 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	13.097	13.097	0.000	419388900	76.1563	76.2

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032832.d

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Date : 28-MAR-2017 04:35

Client ID:

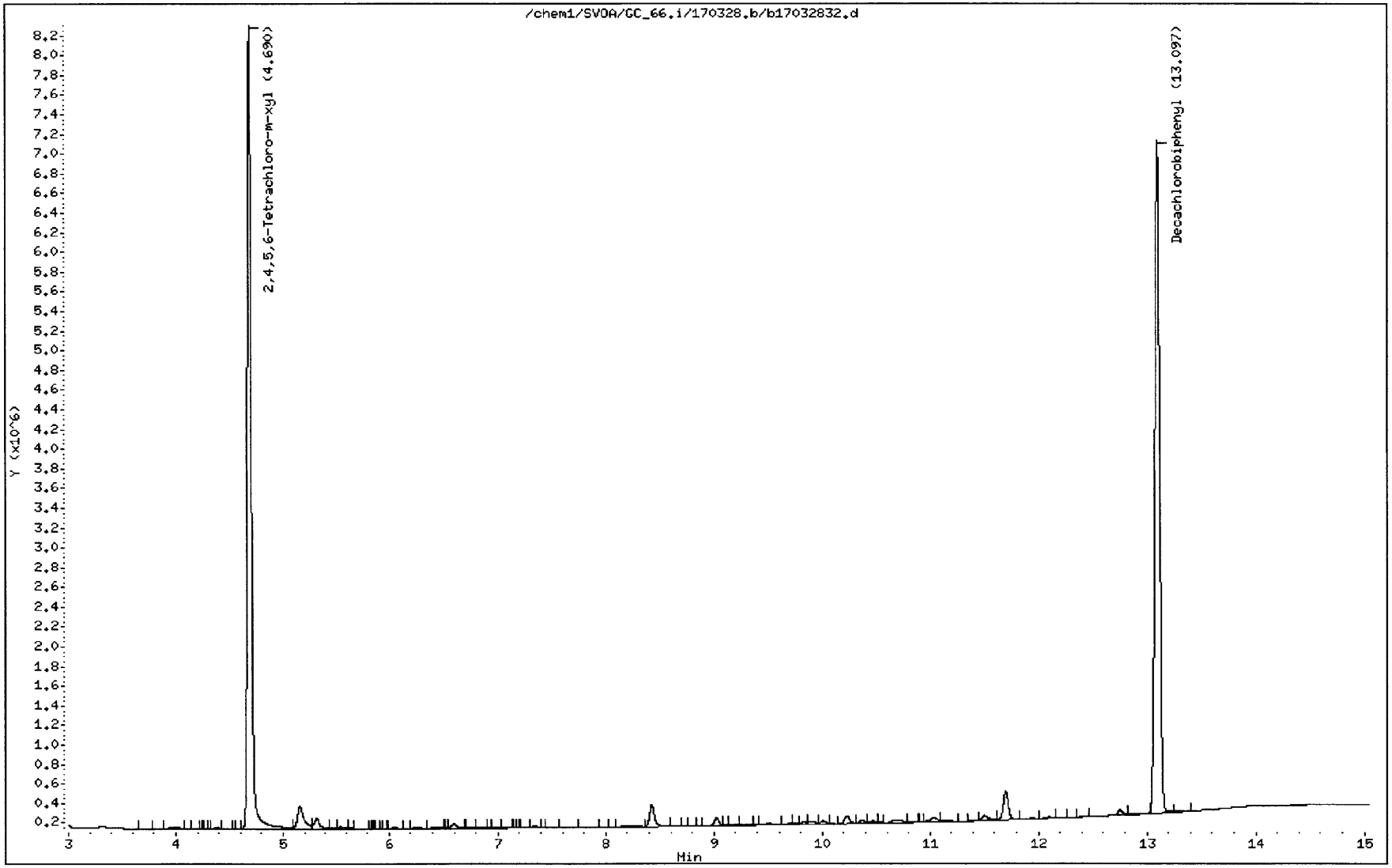
Instrument: GC_66.i

Sample Info: 17-03-1557-30

Operator: 669

Column phase:

Column diameter: 2.00



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EPA METHOD 8082
PCB

Quality Control

Method Blank
LCS/LCSD
MS/MSD

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METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 8082

MB SAMPLE ID:	**099-12-535-4123**	ANALYZED BY:	1,028
MB BATCH ID:	170327L05	D/T ANALYZED:	2017-03-28 02:30
INSTRUMENT:	GC 66	REVIEWED BY:	M
EXTRACTION:	EPA 3545	D/T REVIEWED:	
D/T EXTRACTED:	2017-03-27 00:00	MATRIX:	Soil

DATA FILE: /chem1/SVOA/GC_66/170328/b1703282517032825

CLIENT WORK ORDER: 17-03-1557

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
28		B-DU1-ISM1-8	2017-03-28 03:41	/chem1/SVOA/GC_66/170328/b1703282917032829
29		B-DU1-ISM2-8	2017-03-28 03:59	/chem1/SVOA/GC_66/170328/b1703283017032830
30		B-DU1-ISM3-8	2017-03-28 04:35	/chem1/SVOA/GC_66/170328/b1703283217032832

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RAW DATA SHEET
FOR METHOD: EPA 8082

WORK ORDER: **099-12-535**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-27 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-28 02:30
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170328/b1703282517032825

 # MB **CLIENT SAMPLE NUMBER: Method Blank**

LCS/MB BATCH: 170327L05
MS/MSD BATCH:
UNITS: ug/kg

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

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Aroclor-1016	0.000	1.00	ND	50	
Aroclor-1221	0.000	1.00	ND	50	
Aroclor-1232	0.000	1.00	ND	50	
Aroclor-1242	0.000	1.00	ND	50	
Aroclor-1248	0.000	1.00	ND	50	
Aroclor-1254	0.000	1.00	ND	50	
Aroclor-1260	0.000	1.00	ND	50	
Aroclor-1262	0.000	1.00	ND	50	
Aroclor-1268	0.000	1.00	ND	50	

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

LCS SAMPLE ID:	**099-12-535- 4123**	EXTRACTION :	EPA 3545	ANALYZED BY:	1,028
LCS/MB BATCH ID:	170327L05	D/T EXTRACTED:	2017-03-27 00:00	D/T ANALYZED:	2017-03-28 02:47
INSTRUMENT:	GC 66			REVIEWED BY:	
				D/T REVIEWED:	

DATA FILE: /chem1/SVOA/GC_66/170328/b1703282617032826

COMPOUND NAME	CONC ADDED	CONC REC	%RECOVERY	%REC CONTROL LIMIT	STATUS	QUALIFIERS
Aroclor-1016	100.0	88.50	88	50-135	PASS	
Aroclor-1260	100.0	88.00	88	50-135	PASS	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

SPIKED SAMPLE ID: **17-03-1557-28**
MS/MSD BATCH: 170327S05
INSTRUMENTS:
SAMPLE: GC 66
MS: GC 66
MSD: GC 66

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-27 00:00
MS: 2017-03-27 00:00
MSD: 2017-03-27 00:00

ANALYZED BY: 1,028
D/T ANALYZED:
SAMPLE: 2017-03-28 03:41
MS: 2017-03-28 03:05
MSD: 2017-03-28 03:23
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	82.50	82	81.00	81	50-135	2	0-20	PASS	
Aroclor-1260	ND	200.0	100.0	85.00	85	86.00	86	50-135	1	0-20	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17032827	/chem1/SVOA/GC_66/170328/b17032827
MSD	17032828	/chem1/SVOA/GC_66/170328/b17032828

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SURROGATE RECOVERIES
FOR METHOD: EPA 8082

WORK ORDER: 17-03-1557
BATCH ID:
LCS/MB: 170327L05
MS: 170327S05
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

 # 28 CLIENT SAMPLE NUMBER : B-DU1-ISM1-8

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-27 00:00
DATA FILE: /chem1/SVOA/GC_66/170328/b1703282917032829

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-28 03:41

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	77	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	65	25-145	PASS	

 # 29 CLIENT SAMPLE NUMBER : B-DU1-ISM2-8

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-27 00:00
DATA FILE: /chem1/SVOA/GC_66/170328/b1703283017032830

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-28 03:59

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	73	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	61	25-145	PASS	

 # 30 CLIENT SAMPLE NUMBER : B-DU1-ISM3-8

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-27 00:00
DATA FILE: /chem1/SVOA/GC_66/170328/b1703283217032832

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-28 04:35

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	76	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	70	25-145	PASS	

 # MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-27 00:00
DATA FILE: /chem1/SVOA/GC_66/170328/b1703282517032825

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-28 02:30

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	70	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	69	25-145	PASS	

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SURROGATE RECOVERIES FOR METHOD: EPA 8082

WORK ORDER: 17-03-1557
BATCH ID:
LCS/MB: 170327L05
MS:
EXTRACTION : EPA 3545

REVIEWED BY: AA
D/T REVIEWED:

LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-27 00:00
DATA FILE: /chem1/SVOA/GC_66/170328/b1703282617032826

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-28 02:47

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	71	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	71	25-145	PASS	

MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-27 00:00
DATA FILE: /chem1/SVOA/GC_66/170328/b1703282717032827

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-28 03:05

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	70	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	65	25-145	PASS	

MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-27 00:00
DATA FILE: /chem1/SVOA/GC_66/170328/b1703282817032828

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-28 03:23

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
Decachlorobiphenyl	69	24-168	PASS	
2,4,5,6-Tetrachloro-m-Xylene	62	25-145	PASS	

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032825.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032825.d
Lab Smp Id:
Inj Date : 28-MAR-2017 02:30
Operator : 669 Inst ID: GC_66.i
Smp Info : MB 170327L05
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 25
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	4.690	4.690	0.000	407822147	68.7035	68.7
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.					

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032825.d Page 2
Report Date: 28-Mar-2017 09:42

	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 Arcolor 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 Arcolor 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	13.097	13.098	-0.001	387709171	70.4036	70.4

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032825.d

Page 1

Date : 28-MAR-2017 02:30

Client ID:

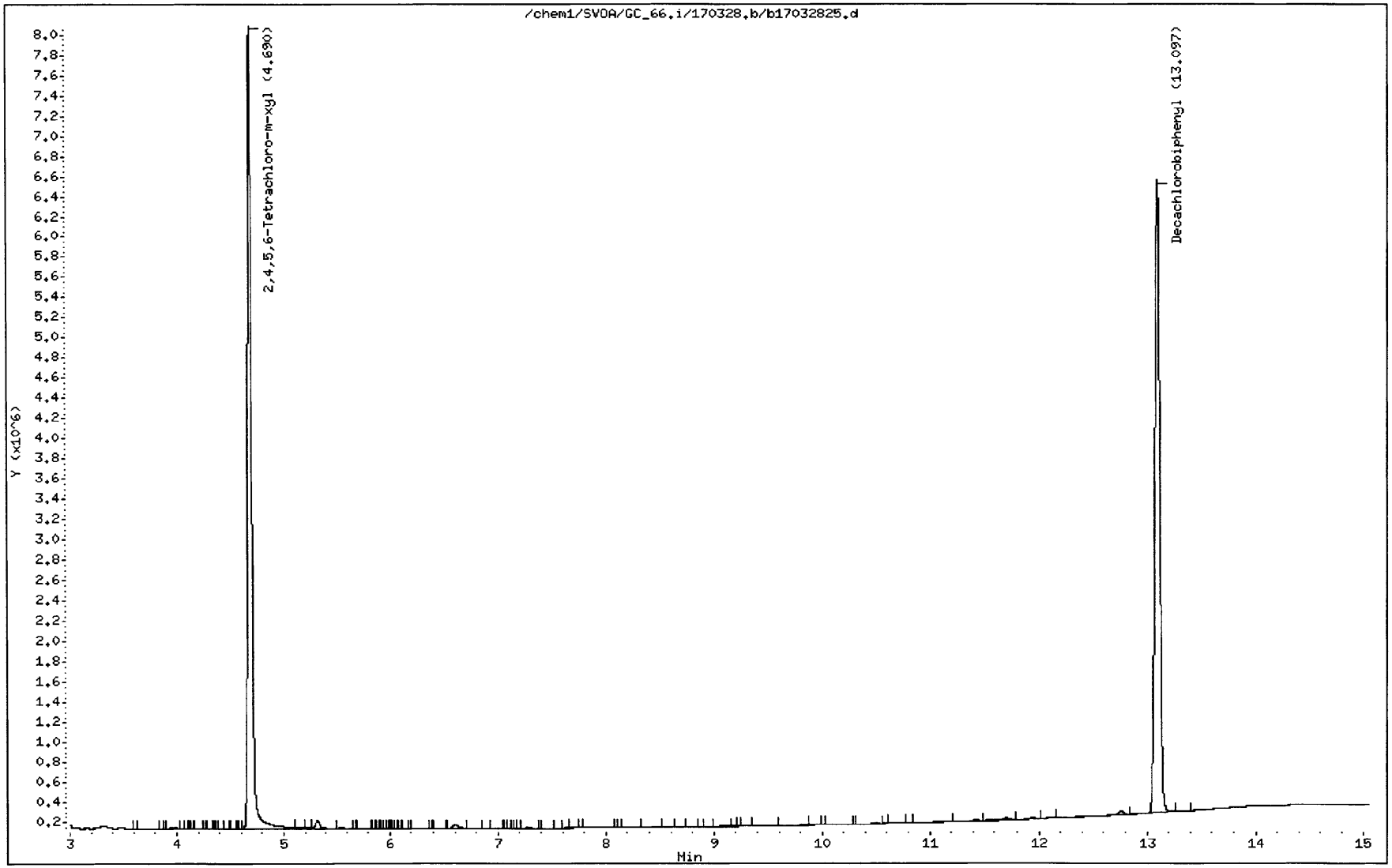
Instrument: GC_66.i

Sample Info: MB 170327L05

Operator: 669

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032826.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032826.d
Lab Smp Id:
Inj Date : 28-MAR-2017 02:47
Operator : 669 Inst ID: GC_66.i
Smp Info : LCS 170327L05
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 26
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	4.689	4.690	-0.001	418868429	70.5644	70.6
M	2 Aroclor-1016				162212301	176.844	177
	3 Aroclor 1016 (1)	5.531	5.529	0.002	17121353	187.422	187
	4 Aroclor 1016 (2)	6.161	6.160	0.001	29111574	178.532	178
	5 Aroclor 1016 (3)	6.843	6.840	0.003	62137562	170.426	170
	6 Aroclor 1016 (4)	7.041	7.039	0.002	30054337	180.755	181
	7 Aroclor 1016 (5)	7.194	7.190	0.004	23787475	180.240	180
M	8 Aroclor-1260				161879821	176.125	176
	9 Aroclor 1260 (1)	9.744	9.743	0.001	50983712	192.483	192
	10 Aroclor 1260 (2)	10.343	10.342	0.001	35963760	169.828	170
	11 Aroclor 1260 (3)	10.736	10.736	0.000	39495834	170.016	170
	12 Aroclor 1260 (4)	12.110	12.112	-0.002	11241783	171.972	172
	13 Aroclor 1260 (5)	12.329	12.330	-0.001	24194732	167.089	167
$	56 Decachlorobiphenyl	13.097	13.098	-0.001	390988159	70.9990	71.0

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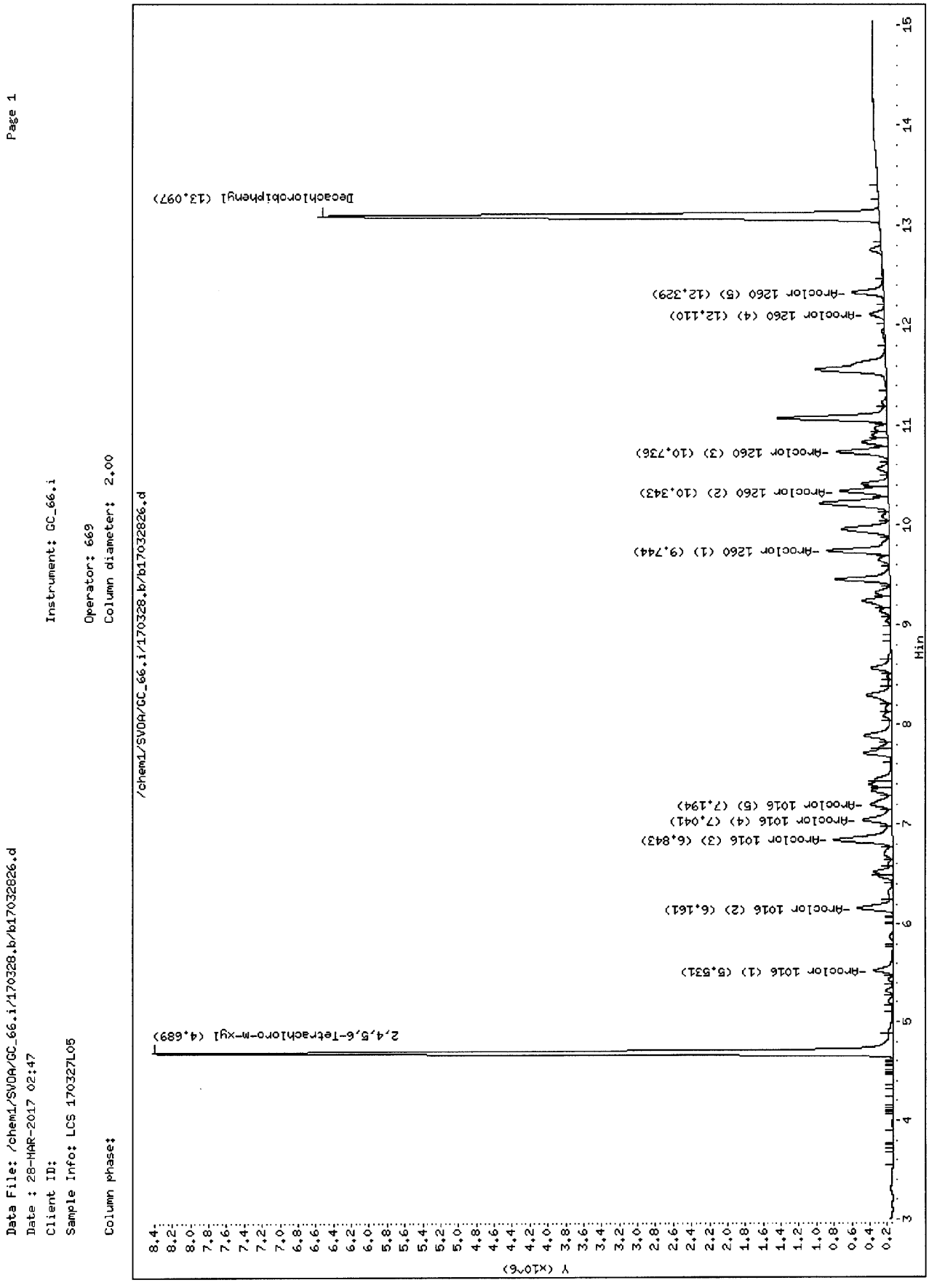

Data File: /chem1/SVOA/GC_66.i/170328.b/b17032827.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032827.d
Lab Smp Id:
Inj Date : 28-MAR-2017 03:05
Operator : 669 Inst ID: GC_66.i
Smp Info : MS 17-03-1557-28
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 27
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.690	4.690	0.000	386619322	65.1315	65.1
M	2 Aroclor-1016				151406137	165.063	165
	3 Aroclor 1016 (1)	5.531	5.529	0.002	16378707	179.293	179
	4 Aroclor 1016 (2)	6.161	6.160	0.001	27202631	166.825	167
	5 Aroclor 1016 (3)	6.842	6.840	0.002	58441294	160.288	160
	6 Aroclor 1016 (4)	7.041	7.039	0.002	27913886	167.882	168
	7 Aroclor 1016 (5)	7.192	7.190	0.002	21469619	162.677	163
M	8 Aroclor-1260				156034216	169.765	170
	9 Aroclor 1260 (1)	9.744	9.743	0.001	47228372	178.305	178
	10 Aroclor 1260 (2)	10.343	10.342	0.001	35058709	165.554	166
	11 Aroclor 1260 (3)	10.737	10.736	0.001	38828487	167.143	167
	12 Aroclor 1260 (4)	12.110	12.112	-0.002	10807824	165.333	165
	13 Aroclor 1260 (5)	12.329	12.330	-0.001	24110824	166.510	166
$	56 Decachlorobiphenyl	13.097	13.098	-0.001	386749822	70.2294	70.2

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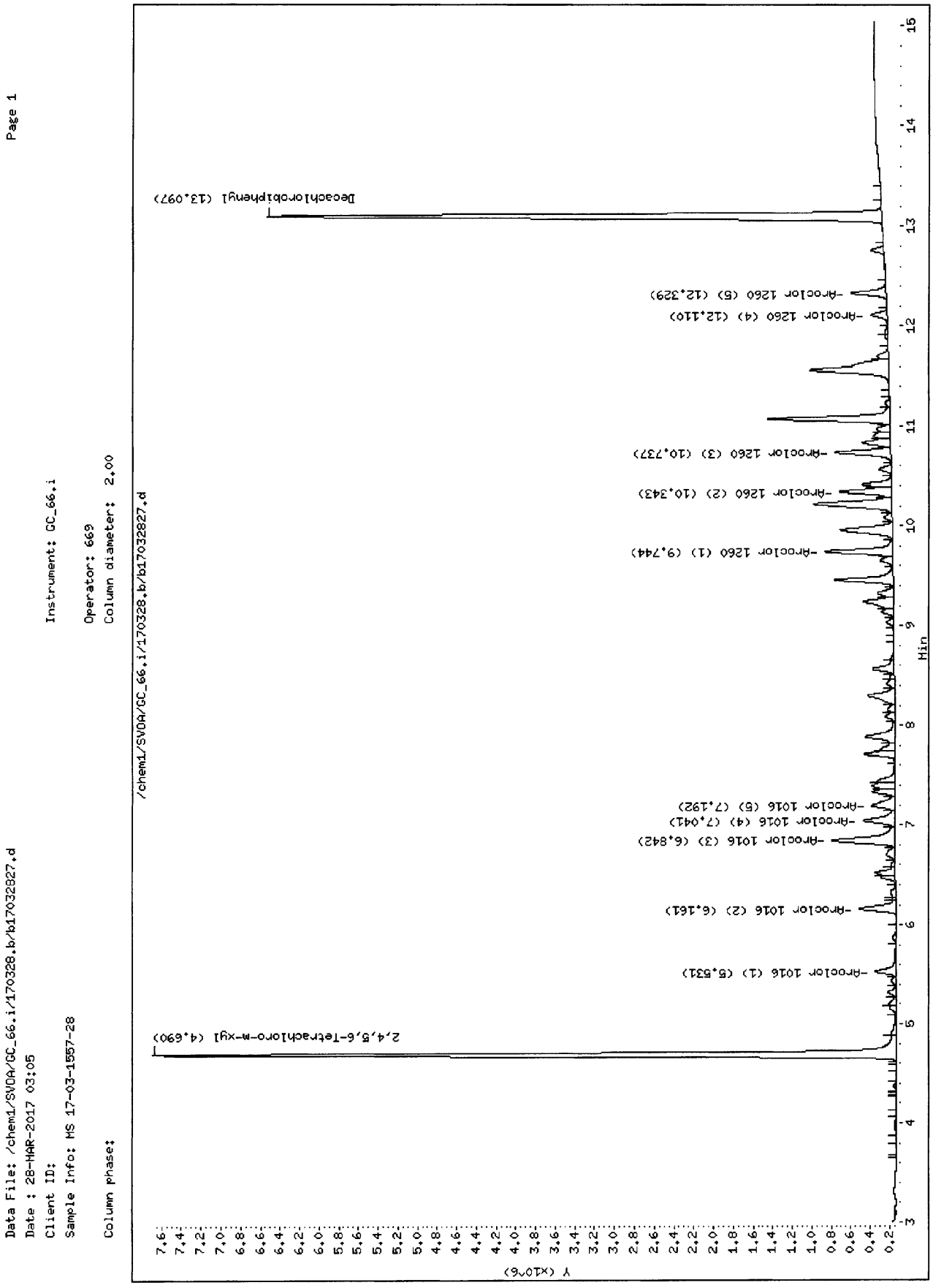

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032828.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032828.d
Lab Smp Id:
Inj Date : 28-MAR-2017 03:23
Operator : 669 Inst ID: GC_66.i
Smp Info : MSD 17-03-1557-28
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 28
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

						CONCENTRATIONS	
						ON-COLUMN	FINAL
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/Kg)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.690	4.690	0.000	365205260	61.5240	61.5
M	2 Aroclor-1016				148838746	162.264	162
	3 Aroclor 1016 (1)	5.529	5.529	0.000	16185328	177.176	177
	4 Aroclor 1016 (2)	6.160	6.160	0.000	26847354	164.646	165
	5 Aroclor 1016 (3)	6.842	6.840	0.002	57517092	157.753	158
	6 Aroclor 1016 (4)	7.041	7.039	0.002	27283345	164.089	164
	7 Aroclor 1016 (5)	7.191	7.190	0.001	21005627	159.161	159
M	8 Aroclor-1260				157989844	171.893	172
	9 Aroclor 1260 (1)	9.744	9.743	0.001	47702826	180.097	180
	10 Aroclor 1260 (2)	10.343	10.342	0.001	35145838	165.966	166
	11 Aroclor 1260 (3)	10.736	10.736	0.000	39512192	170.086	170
	12 Aroclor 1260 (4)	12.110	12.112	-0.002	11137671	170.379	170
	13 Aroclor 1260 (5)	12.329	12.330	-0.001	24491317	169.138	169
$	56 Decachlorobiphenyl	13.096	13.098	-0.002	378230462	68.6824	68.7

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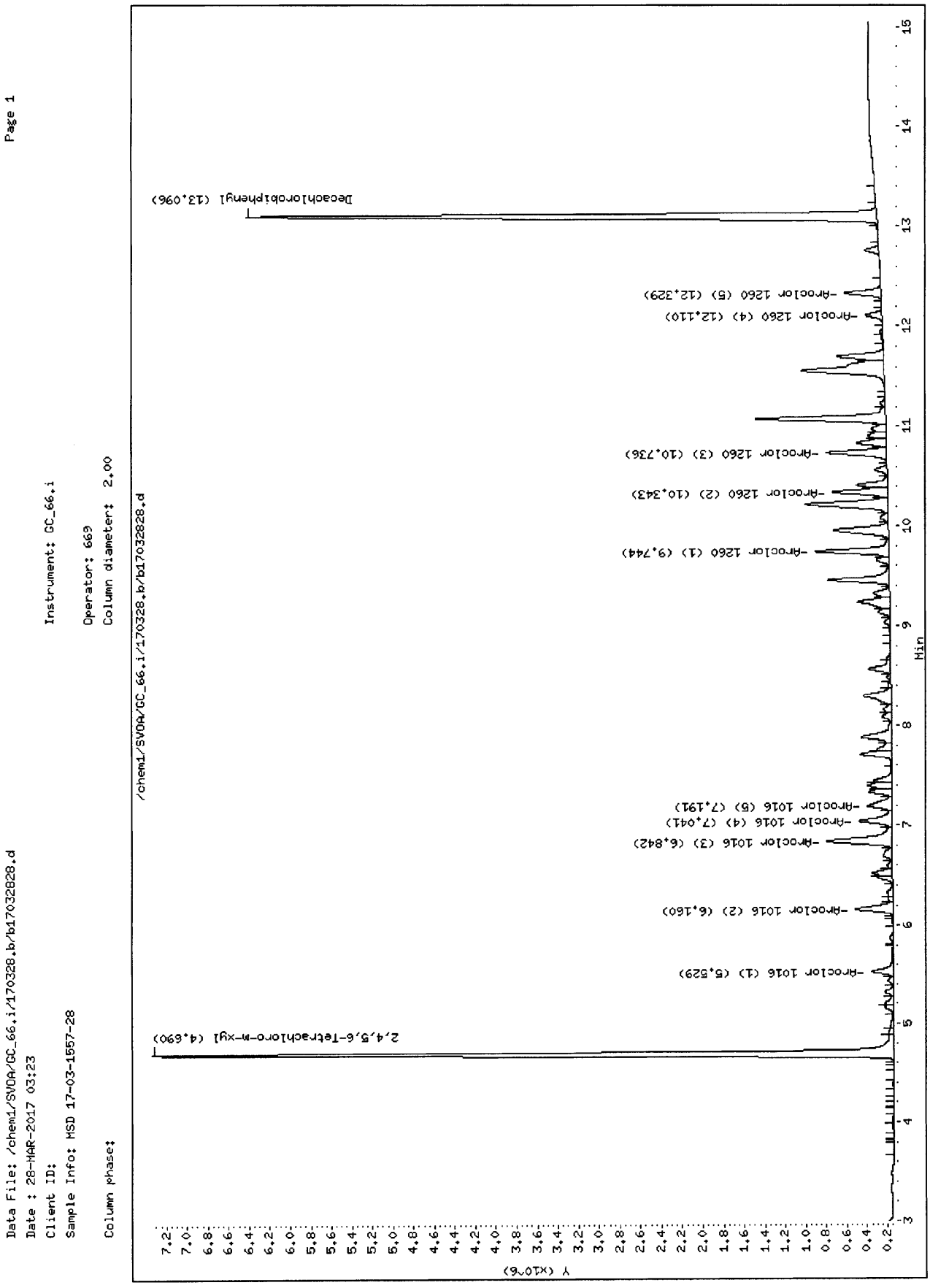

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EPA METHOD 8082
PCB

Continuing Calibration

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CCV ASSOCIATION SUMMARY
FOR METHOD: EPA 8082

BATCH ID: **170328A021** ANALYZED BY: 669
INSTRUMENT: GC 66

WORK ORDER: **099-12-532** REVIEWED BY: VL
MATRIX: Water D/T REVIEWED:

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
9514	Daily Calibration	2017-03-27 22:20	/chem1/SVOA/GC_66/170328/b1703281117032811

WORK ORDER: **17-03-1557** REVIEWED BY:
MATRIX: Soil D/T REVIEWED:

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
28	B-DU1-ISM1-8	2017-03-28 03:05	/chem1/SVOA/GC_66/170328/b1703282717032827
28	B-DU1-ISM1-8	2017-03-28 03:23	/chem1/SVOA/GC_66/170328/b1703282817032828
28	B-DU1-ISM1-8	2017-03-28 03:41	/chem1/SVOA/GC_66/170328/b1703282917032829
29	B-DU1-ISM2-8	2017-03-28 03:59	/chem1/SVOA/GC_66/170328/b1703283017032830

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CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

CCV WORK ORDER: 099-12-532-9514-5154
BATCH ID:
INITIAL: 170222I003
CCV: 170328A021
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170328/b1703281117032811

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
CCV: 2017-03-27 22:20
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	847497.946			5	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	853241.020			10	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170328.b/b17032811.d
Report Date: 03/28/2017 10:34

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_66.i
Sample Name: PCB CCV 500PPB P021517I
Sublist used: p1016_1260.sub
Method used: /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m

Injection Date and Time: 27-MAR-2017 22:20
Initial Calibration Date(s): 22-FEB-2017 22-FEB-2017
Initial Calibration Time(s): 17:27 20:07

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type	
Aroclor 1260 (1)	270284.532	249584.964	0.01	8	15	Averaged	
Aroclor 1260 (2)	213956.488	194373.400	0.01	9	15	Averaged	
Aroclor 1260 (3)	233064.808	213372.218	0.01	8	15	Averaged	
Aroclor 1260 (4)	83122.167	60679.846	0.01	27	15	Averaged	<-Failed
Aroclor-1260	947781.003	853241.020	0.01	10	15	Averaged	
Aroclor-1016	893304.438	847497.946	0.01	5	15	Averaged	
Aroclor 1016 (1)	90035.625	85708.878	0.01	5	15	Averaged	
Aroclor 1016 (2)	159465.395	150734.022	0.01	5	15	Averaged	
Aroclor 1016 (3)	354923.864	337788.372	0.01	5	15	Averaged	
Aroclor 1016 (4)	162098.269	152353.020	0.01	6	15	Averaged	
Aroclor 1016 (5)	126781.283	120913.654	0.01	5	15	Averaged	
Aroclor 1260 (5)	147353.008	135230.592	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	5574003.380	0.01	3	15	Averaged
Decachlorobiphenyl	5459627.036	5143896.180	0.01	6	15	Averaged

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032811.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032811.d
Lab Smp Id:
Inj Date : 27-MAR-2017 22:20
Operator : 669 Inst ID: GC_66.i
Smp Info : PCB CCV 500PPB P021517I
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.690	4.690	0.000	557400338	100.000	93.9
M	2 Aroclor-1016				423748973	500.000	462
	3 Aroclor 1016 (1)	5.529	5.529	0.000	42854439	500.000	469
	4 Aroclor 1016 (2)	6.160	6.160	0.000	75367011	500.000	462
	5 Aroclor 1016 (3)	6.840	6.840	0.000	168894186	500.000	463
	6 Aroclor 1016 (4)	7.039	7.039	0.000	76176510	500.000	458
	7 Aroclor 1016 (5)	7.190	7.190	0.000	60456827	500.000	458
M	8 Aroclor-1260				426620510	500.000	464
	9 Aroclor 1260 (1)	9.743	9.743	0.000	124792482	500.000	471
	10 Aroclor 1260 (2)	10.342	10.342	0.000	97186700	500.000	459
	11 Aroclor 1260 (3)	10.736	10.736	0.000	106686109	500.000	459
	12 Aroclor 1260 (4)	12.112	12.112	0.000	30339923	500.000	464
	13 Aroclor 1260 (5)	12.330	12.330	0.000	67615296	500.000	467
$	56 Decachlorobiphenyl	13.098	13.098	0.000	514389618	100.000	93.4

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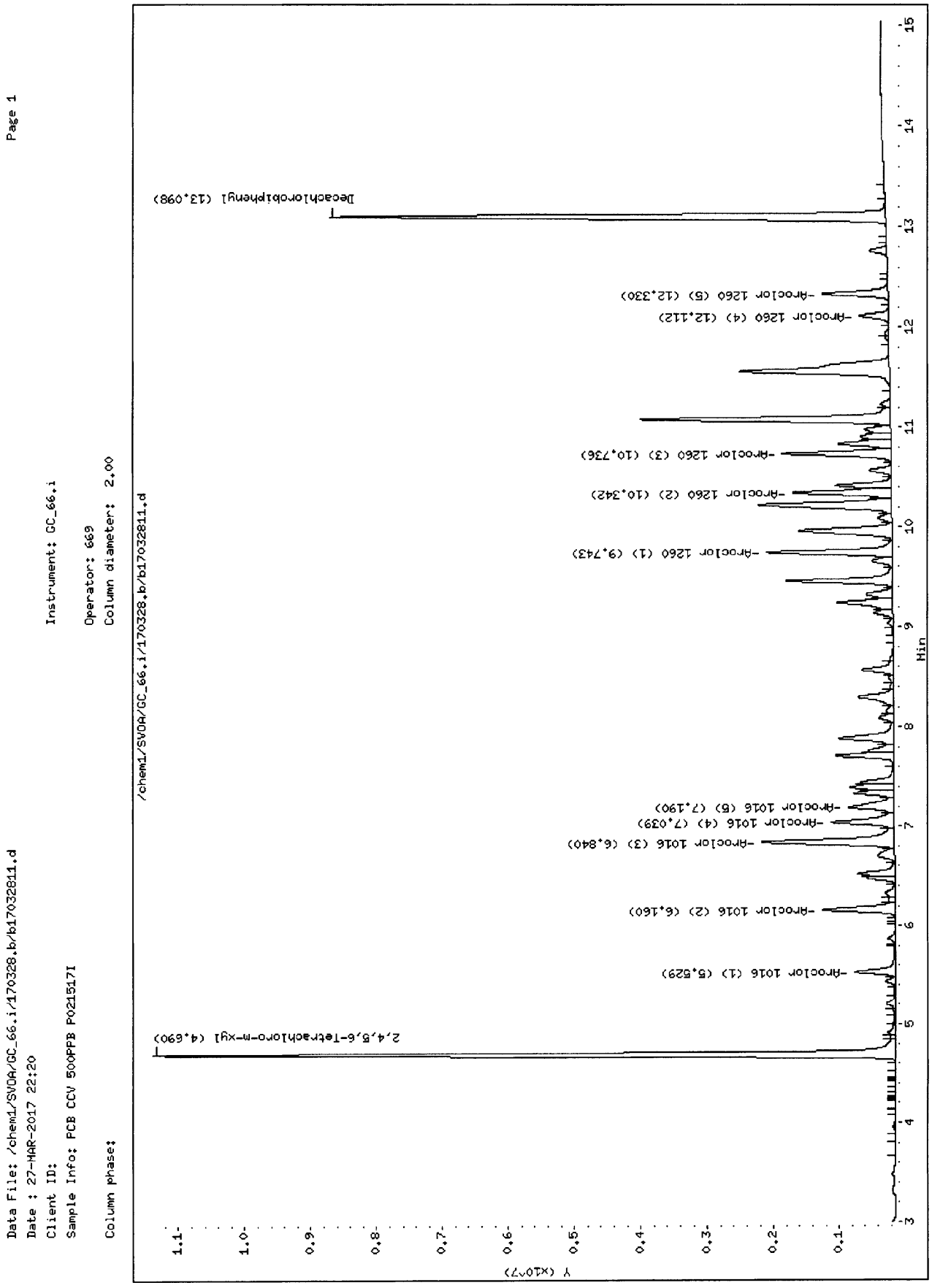

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CCV ASSOCIATION SUMMARY
FOR METHOD: EPA 8082

BATCH ID: **170328A022** ANALYZED BY: 669
INSTRUMENT: GC 66

WORK ORDER: **099-12-532** REVIEWED BY:
MATRIX: Water D/T REVIEWED:

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
9515	Daily Calibration	2017-03-28 04:17	/chem1/SVOA/GC_66/170328/b1703283117032831

WORK ORDER: **17-03-1557** REVIEWED BY:
MATRIX: Soil D/T REVIEWED:

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
30	B-DU1-ISM3-8	2017-03-28 04:35	/chem1/SVOA/GC_66/170328/b1703283217032832

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CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

CCV WORK ORDER: **099-12-532-9515-5154**
BATCH ID:
INITIAL: 170222I003
CCV: 170328A022
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170328/b1703283117032831

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
CCV: 2017-03-28 04:17
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	825648.918			8	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	836538.960			12	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170328.b/b17032831.d
Report Date: 03/28/2017 10:34

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_66.i
Sample Name: PCB CCV 500PPB P021517I
Sublist used: p1016_1260.sub
Method used: /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m

Injection Date and Time: 28-MAR-2017 04:17
Initial Calibration Date(s): 22-FEB-2017 22-FEB-2017
Initial Calibration Time(s): 17:27 20:07

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type	
Aroclor 1260 (1)	270284.532	244053.526	0.01	10	15	Averaged	
Aroclor 1260 (2)	213956.488	187468.718	0.01	12	15	Averaged	
Aroclor 1260 (3)	233064.808	208078.902	0.01	11	15	Averaged	
Aroclor 1260 (4)	83122.167	61148.526	0.01	26	15	Averaged	<-Failed
Aroclor-1260	947781.003	836538.960	0.01	12	15	Averaged	
Aroclor-1016	893304.438	825648.918	0.01	8	15	Averaged	
Aroclor 1016 (1)	90035.625	84114.300	0.01	7	15	Averaged	
Aroclor 1016 (2)	159465.395	147869.816	0.01	7	15	Averaged	
Aroclor 1016 (3)	354923.864	334754.466	0.01	6	15	Averaged	
Aroclor 1016 (4)	162098.269	143114.172	0.01	12	15	Averaged	
Aroclor 1016 (5)	126781.283	115796.164	0.01	9	15	Averaged	
Aroclor 1260 (5)	147353.008	135789.288	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	5475699.490	0.01	5	15	Averaged
Decachlorobiphenyl	5459627.036	5076834.410	0.01	7	15	Averaged

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032831.d Page 1
Report Date: 28-Mar-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032831.d
Lab Smp Id:
Inj Date : 28-MAR-2017 04:17
Operator : 669 Inst ID: GC_66.i
Smp Info : PCB CCV 500PPB P021517I
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 09:42 uhhn Quant Type: ESTD
Cal Date : 27-MAR-2017 20:32 Cal File: b17032805.d
Als bottle: 31 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.690	4.690	0.000	547569949	100.000	92.2
M	2 Aroclor-1016				412824459	500.000	450
	3 Aroclor 1016 (1)	5.528	5.528	0.000	42057150	500.000	460
	4 Aroclor 1016 (2)	6.160	6.160	0.000	73934908	500.000	453
	5 Aroclor 1016 (3)	6.838	6.838	0.000	167377233	500.000	459
	6 Aroclor 1016 (4)	7.038	7.038	0.000	71557086	500.000	430
	7 Aroclor 1016 (5)	7.188	7.188	0.000	57898082	500.000	439
M	8 Aroclor-1260				418269480	500.000	455
	9 Aroclor 1260 (1)	9.742	9.742	0.000	122026763	500.000	461
	10 Aroclor 1260 (2)	10.341	10.341	0.000	93734359	500.000	443
	11 Aroclor 1260 (3)	10.735	10.735	0.000	104039451	500.000	448
	12 Aroclor 1260 (4)	12.110	12.110	0.000	30574263	500.000	468
	13 Aroclor 1260 (5)	12.329	12.329	0.000	67894644	500.000	469
$	56 Decachlorobiphenyl	13.097	13.097	0.000	507683441	100.000	92.2

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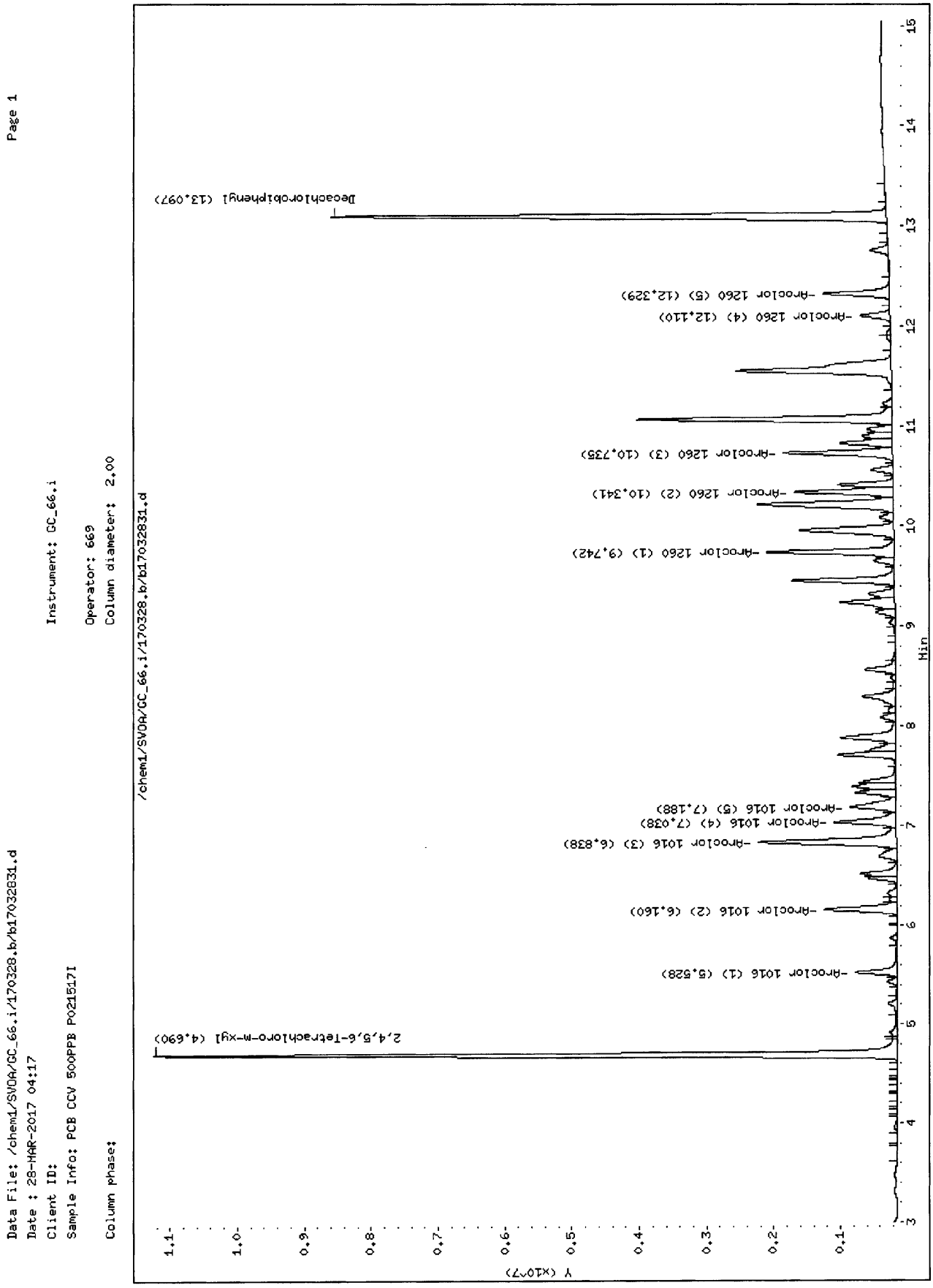

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CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8082

CCV WORK ORDER: 099-12-532-9516-5154
BATCH ID:
INITIAL: 170222I003
CCV: 170328A023
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170328/b1703285217032852

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
CCV: 2017-03-28 11:21
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	977934.848			-9	0-15	PASS
Aroclor-1260	C	Avg Resp	0.00	947781.003	979021.840			-3	0-15	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170328.b/b17032852.d
Report Date: 03/28/2017 11:49

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_66.i
Sample Name: PCB CCV 500PPB P021517I
Sublist used: p1016_1260.sub
Method used: /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m

Injection Date and Time: 28-MAR-2017 11:21
Initial Calibration Date(s): 22-FEB-2017 22-FEB-2017
Initial Calibration Time(s): 17:27 20:07

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type	
Aroclor 1260 (1)	270284.532	286383.584	0.01	-6	15	Averaged	
Aroclor 1260 (2)	213956.488	220169.396	0.01	-3	15	Averaged	
Aroclor 1260 (3)	233064.808	246076.762	0.01	-6	15	Averaged	
Aroclor 1260 (4)	83122.167	71157.334	0.01	14	15	Averaged	
Aroclor-1260	947781.003	979021.840	0.01	-3	15	Averaged	
Aroclor-1016	893304.438	977934.848	0.01	-9	15	Averaged	
Aroclor 1016 (1)	90035.625	97555.094	0.01	-8	15	Averaged	
Aroclor 1016 (2)	159465.395	175960.958	0.01	-10	15	Averaged	
Aroclor 1016 (3)	354923.864	400282.932	0.01	-13	15	Averaged	
Aroclor 1016 (4)	162098.269	167293.654	0.01	-3	15	Averaged	
Aroclor 1016 (5)	126781.283	136842.210	0.01	-8	15	Averaged	
Aroclor 1260 (5)	147353.008	155234.764	0.01	-5	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	6603495.780	0.01	-15	15	Averaged	<-Failed
Decachlorobiphenyl	5459627.036	5963090.840	0.01	-9	15	Averaged	

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Data File: /chem1/SVOA/GC_66.i/170328.b/b17032852.d Page 1
Report Date: 28-Mar-2017 11:49

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170328.b/b17032852.d
Lab Smp Id:
Inj Date : 28-MAR-2017 11:21
Operator : 669 Inst ID: GC_66.i
Smp Info : PCB CCV 500PPB P021517I
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170328.b/b8082d-n2.m
Meth Date : 28-Mar-2017 11:49 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 52 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

						AMOUNTS	
						CAL-AMT	ON-COL
	Compounds	RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ppb)
$	1 2,4,5,6-Tetrachloro-m-xylene	4.693	4.693	0.000	660349578	100.000	115
M	2 Aroclor-1016				488967424	500.000	547
	3 Aroclor 1016 (1)	5.529	5.529	0.000	48777547	500.000	542
	4 Aroclor 1016 (2)	6.160	6.160	0.000	87980479	500.000	552
	5 Aroclor 1016 (3)	6.838	6.838	0.000	200141466	500.000	564
	6 Aroclor 1016 (4)	7.038	7.038	0.000	83646827	500.000	516
	7 Aroclor 1016 (5)	7.188	7.188	0.000	68421105	500.000	540
M	8 Aroclor-1260				489510920	500.000	516
	9 Aroclor 1260 (1)	9.740	9.740	0.000	143191792	500.000	530
	10 Aroclor 1260 (2)	10.341	10.341	0.000	110084698	500.000	514
	11 Aroclor 1260 (3)	10.734	10.734	0.000	123038381	500.000	528
	12 Aroclor 1260 (4)	12.108	12.108	0.000	35578667	500.000	428
	13 Aroclor 1260 (5)	12.328	12.328	0.000	77617382	500.000	527
$	56 Decachlorobiphenyl	13.096	13.096	0.000	596309084	100.000	109

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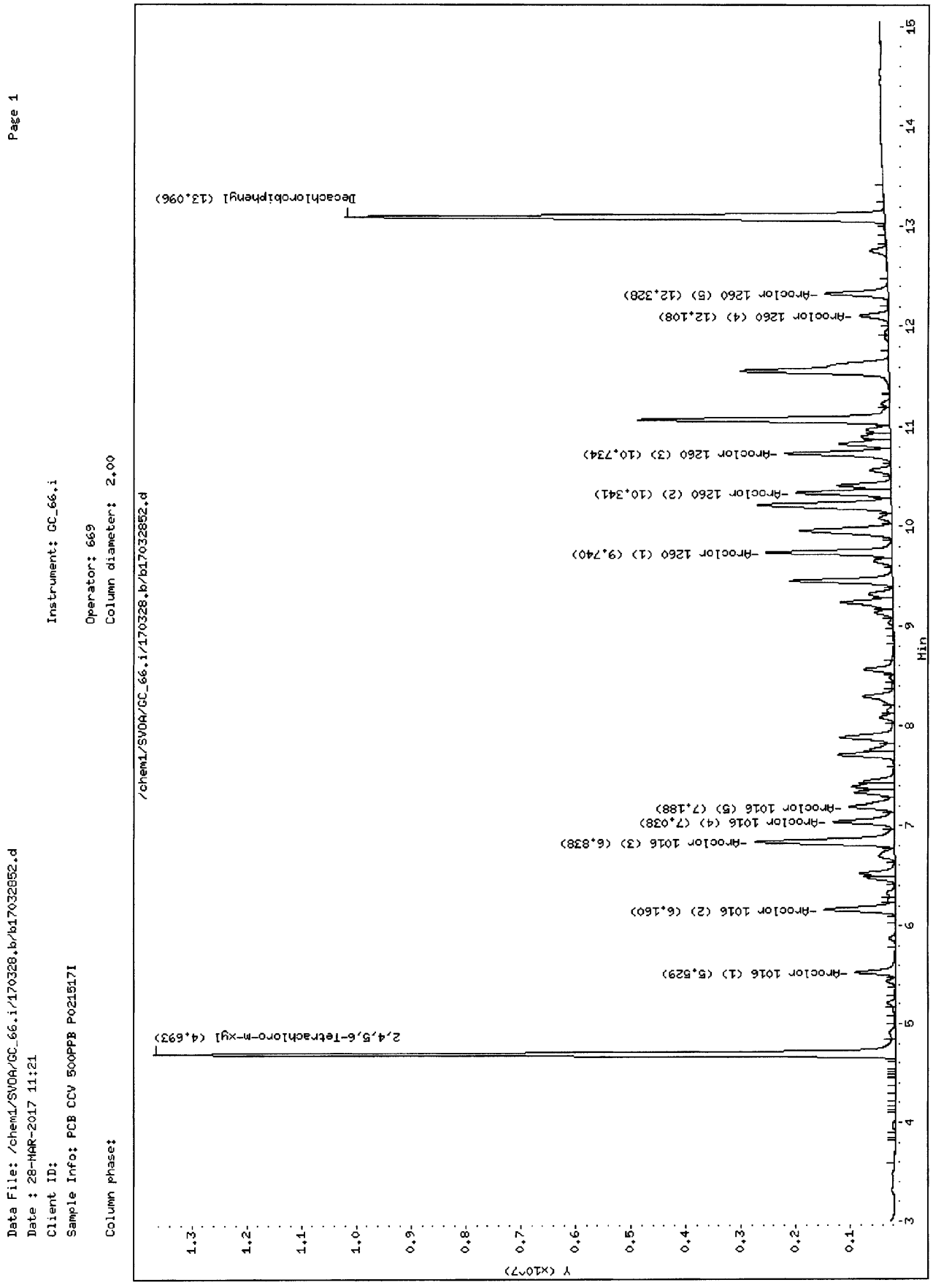

EPA METHOD 8082
PCB

Run Logs

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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

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Line	Vial	File	Name	Method	InjVolume	Acquired
1	150	17032800	S007-044-07	8082D-N2		27-Mar-17, 19:03:33
2	1	17032801	PCB CCV P021517H 500PPB	8082D-N2		27-Mar-17, 19:21:22
3	2	17032802	LCS 170323L16	8082D-N2		27-Mar-17, 19:39:12
4	3	17032803	MB 170323L16	8082D-N2		27-Mar-17, 19:57:03
5	4	17032804	MS 17-03-1551-1 170323L16	8082D-N2		27-Mar-17, 20:14:57
6	5	17032805	MSD 17-03-1551-1 170323L16	8082D-N2		27-Mar-17, 20:32:49
7	6	17032806	17-03-1551-1	8082D-N2		27-Mar-17, 20:50:42
8	7	17032807	PCB1221/54 P032617A	8082D-N2		27-Mar-17, 21:08:32
9	8	17032808	PCB1232/62 P032617B	8082D-N2		27-Mar-17, 21:26:27
10	9	17032809	PCB1248/68 P032617C	8082D-N2		27-Mar-17, 21:44:17
11	10	17032810	PCB1242 P032617D	8082D-N2		27-Mar-17, 22:02:17
12	11	17032811	PCB CCV 500PPB P021517I	8082D-N2		27-Mar-17, 22:20:07
13	12	17032812	MB 170324L03	8082D-N2		27-Mar-17, 22:38:00
14	13	17032813	LCS 170324L03	8082D-N2		27-Mar-17, 22:55:50
15	14	17032814	MS 17-03-1417-29 170324S03	8082D-N2		27-Mar-17, 23:13:39
16	15	17032815	MSD 17-03-1417-29 170324S03	8082D-N2		27-Mar-17, 23:31:29
17	16	17032816	17-03-1417-29	8082D-N2		27-Mar-17, 23:49:22
18	17	17032817	17-03-1417-28	8082D-N2		28-Mar-17, 00:07:14
19	18	17032818	17-03-1417-30	8082D-N2		28-Mar-17, 00:25:05
20	19	17032819	17-03-1418-28	8082D-N2		28-Mar-17, 00:42:56
21	20	17032820	17-03-1418-29	8082D-N2		28-Mar-17, 01:00:49
22	21	17032821	17-03-1418-30	8082D-N2		28-Mar-17, 01:18:39
23	22	17032822	17-03-1419-28	8082D-N2		28-Mar-17, 01:36:30
24	23	17032823	17-03-1419-29	8082D-N2		28-Mar-17, 01:54:21
25	24	17032824	17-03-1419-30	8082D-N2		28-Mar-17, 02:12:15
26	25	17032825	MB 170327L05	8082D-N2		28-Mar-17, 02:30:08
27	26	17032826	LCS 170327L05	8082D-N2		28-Mar-17, 02:47:56
28	27	17032827	MS 17-03-1557-28	8082D-N2		28-Mar-17, 03:05:48
29	28	17032828	MSD 17-03-1557-28	8082D-N2		28-Mar-17, 03:23:47
30	29	17032829	17-03-1557-28	8082D-N2		28-Mar-17, 03:41:39
31	30	17032830	17-03-1557-29	8082D-N2		28-Mar-17, 03:59:29
32	31	17032831	PCB CCV 500PPB P021517I	8082D-N2		28-Mar-17, 04:17:18
33	32	17032832	17-03-1557-30	8082D-N2		28-Mar-17, 04:35:12
34	33	17032833	17-03-1556-28	8082D-N2		28-Mar-17, 04:53:02
35	34	17032834	17-03-1556-29	8082D-N2		28-Mar-17, 05:10:54
36	35	17032835	17-03-1556-30	8082D-N2		28-Mar-17, 05:28:42
37	36	17032836	MB 170323L21	8082D-N2		28-Mar-17, 05:46:36
38	37	17032837	LCS 170323L21	8082D-N2		28-Mar-17, 06:04:24
39	38	17032838	LCSD 170323L21	8082D-N2		28-Mar-17, 06:22:13
40	39	17032839	MS 16-10-1328-47 10X	8082D-N2		28-Mar-17, 06:40:03
41	40	17032840	MSD 16-10-1328-47 10X	8082D-N2		28-Mar-17, 06:57:58
42	41	17032841	16-10-1328-47 10X	8082D-N2		28-Mar-17, 07:15:48
43	42	17032842	16-10-1328-48 10X	8082D-N2		28-Mar-17, 07:33:41
44	43	17032843	16-10-1328-49 10X	8082D-N2		28-Mar-17, 07:51:29
45	44	17032844	16-10-1328-50 10X	8082D-N2		28-Mar-17, 08:09:25
46	45	17032845	16-10-1328-51 10X	8082D-N2		28-Mar-17, 08:27:15
47	46	17032846	16-10-1328-52 10X	8082D-N2		28-Mar-17, 08:45:04
48	47	17032847	16-10-1328-53 10X	8082D-N2		28-Mar-17, 09:02:55
49	48	17032848	17-03-1950-1	8082D-N2		28-Mar-17, 09:20:51
50	49	17032849	17-03-1005-1	8082D-N2		28-Mar-17, 10:02:40
51	50	17032850	17-03-1005-2	8082D-N2		28-Mar-17, 10:33:04
52	51	17032851	16-10-1328-48 10X Hg	8082D-N2		28-Mar-17, 10:50:55
53	52	17032852	PCB CCV 500PPB P021517I	8082D-N2		28-Mar-17, 11:21:49
54	53	17032853	17-03-1005-3	8082D-N2		
55	54	17032854	17-03-1005-4	8082D-N2		
56	55	17032855	17-03-1005-6	8082D-N2		
57	56	17032856	17-03-1005-7	8082D-N2		
58	57	17032857	17-03-1005-8	8082D-N2		
59	58	17032858	17-03-1005-10	8082D-N2		
60	59	17032859	17-03-1005-11	8082D-N2		

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EPA METHOD 8082
PCB

Preparation Logs

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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- 610 Start Extraction- 610/787 Blow Down- 610 Clean Up- 471

Matrix: ☑ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air

Balance ID#: 70 Filter ID#: S07-17-17 ASE ID#: 7 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:

Ext. Start Date/Time: 03/27/17 9:00 Ext. End Date/Time: 03/27/17 13:00

Sand or Wipe ID#: S07-19-19

Drying Agent: ☑ Na_2SO_4 ☑ Diatomaceous Earth

Drying Agent(s) ID#: S07-44-18 / S07-22-03

Surrogate Std ID# & Volume Added (mL): S101316A 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#: S07-44-07/S07-44-08 Exchange Solvent (☑ Hexane ☐ Acetonitrile) ID#: S07-44-07

Clean Up Start Date & Time: 3/27/17 16:30 Clean Up End Date & Time: 3/27/17 ~~17~~ 17:00 (4=3/27)

Clean Up: ☐ 3620 Florisil ☐ 3630 SGC ☐ 3660 Sulfur ☑ 3665 Acid ☐ Other Cartridge ID#:

Clean Up Reagent ID#: S07-52-12 Cartridge Conditioning Column Pre-Elution Reagent ID#:

MB/LCS/MS Batch #: 170327L05

Cel ID#:	Sample W(g)/V(mL) Initial	Final	Clean Up Performed	Comments
MB	20.0	10	☑	
LCS	20.0	10	☑	
LCSD NA	—	—	☐	
MS 17-03-1557-28 B	20.0	10	☑	
MSD -28 B	20.0	10	☑	
17-03-1556-28 B	20.0	10	☑	
17-03-1556-29 B	20.1	10	☑	
17-03-1556-30 B	20.1	10	☑	
17-03-1557-28 B	20.0	10	☑	
17-03-1557-29 B	20.2	10	☑	
17-03-1557-30 B	20.1	10	☑	
17-03-1558-28 B	20.0	10	☑	Hold
17-03-1558-29 B	20.1	10	☑	↓
17-03-1558-30 B	20.1	10	☑	
17-03-1950-1A	1.01	10	☑	dirty sample
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	
			☐	

Peer Reviewed by: 471 Peer Reviewed Date: 3/27/17 Revision Date: 10/20/16

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EPA METHOD 8270C
PAHSIM

RAW DATA

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EPA METHOD 8270C
PAHSIM

Initial Calibration

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INITIAL CALIBRATION QUALITY CONTROL SUMMARY
FOR METHOD: EPA 8270C SIM PAHs

ICAL WORK ORDER: 099-06-009-4979-4741
ICAL BATCH ID: 170313I001
INSTRUMENT: GC/MS EEE

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-03-13 14:13
REVIEWED BY: 262
D/T REVIEWED: 2017-03-14 12:54

COMPOUND	COMP. TYPE	CALIB. MODEL	1	2	3	4	5	6	7	8	9	AVG. RF	MIN. RF	%RSD	%R SD CL	R or R^2	R or R^2 CL	STATUS
Naphthalene		Avg RF	1.116	1.006	1.100	1.129	1.071					1.085	0.00	4	0-15	4.487		PASS
2-Methylnaphthalene		Avg RF	0.652	0.598	0.675	0.704	0.679					0.661	0.00	6	0-15	6.043		PASS
1-Methylnaphthalene		Avg RF	0.707	0.604	0.670	0.683	0.650					0.663	0.00	6	0-15	5.855		PASS
Acenaphthylene		Avg RF	2.585	2.328	2.575	2.640	2.513					2.528	0.00	5	0-15	4.766		PASS
Acenaphthene	C	Avg RF	1.539	1.413	1.552	1.581	1.501					1.517	0.00	4	0-15	4.263		PASS
Fluorene		Avg RF	1.678	1.586	1.751	1.767	1.664					1.689	0.00	4	0-15	4.314		PASS
Phenanthrene		Avg RF	1.080	0.981	1.087	1.105	1.053					1.061	0.00	5	0-15	4.587		PASS
Anthracene		Avg RF	1.036	0.984	0.969	1.116	1.083					1.037	0.00	6	0-15	6.047		PASS
Fluoranthene	C	Avg RF	1.376	1.262	1.391	1.425	1.371					1.365	0.00	4	0-15	4.487		PASS
Pyrene		Avg RF	1.387	1.261	1.393	1.422	1.344					1.362	0.00	5	0-15	4.620		PASS
Benzo (a) Anthracene		Avg RF	1.432	1.208	1.306	1.343	1.298					1.317	0.00	6	0-15	6.146		PASS
Chrysene		Avg RF	1.217	1.108	1.220	1.253	1.186					1.197	0.00	5	0-15	4.604		PASS
Benzo (k) Fluoranthene		Avg RF	1.363	1.261	1.425	1.424	1.358					1.366	0.00	5	0-15	4.922		PASS
Benzo (b) Fluoranthene		Avg RF	1.221	1.183	1.395	1.380	1.336					1.303	0.00	7	0-15	7.367		PASS
Benzo (a) Pyrene	C	Avg RF	1.253	1.166	1.268	1.329	1.265					1.256	0.00	5	0-15	4.648		PASS
Indeno (1,2,3-c,d) Pyrene		Avg RF	1.472	1.337	1.583	1.587	1.530					1.502	0.00	7	0-15	6.876		PASS
Dibenz (a,h) Anthracene		Avg RF	1.022	1.057	1.229	1.228	1.159					1.139	0.00	8	0-15	8.436		PASS
Benzo (g,h,i) Perylene		Avg RF	1.197	1.089	1.261	1.263	1.221					1.207	0.00	6	0-15	5.902		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: 099-06-009-4979-4741
ICAL BATCH ID: 170313I001
INSTRUMENT: GC/MS EEE

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-03-13 14:13
REVIEWED BY: 262
D/T REVIEWED: 2017-03-14 12:54

LEVEL #	D/T ANALYZED	DATA FILE
1	2017-03-13 14:13	Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar010.d\13mar010.rr
2	2017-03-13 13:53	Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar009.d\13mar009.rr
3	2017-03-13 13:33	Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar008.d\13mar008.rr
4	2017-03-13 13:13	Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar007.d\13mar007.rr
5	2017-03-13 12:52	Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar006.d\13mar006.rr

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 8270C SIM PAHs

ICV WORK ORDER: 099-06-009-4979-4741
INITIAL BATCH ID: 170313I001
INSTRUMENT: GC/MS EEE

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar011.d\13mar011.rr

ANALYZED BY: 907
D/T ANALYZED:
INITIAL: 2017-03-13 14:13
ICV: 2017-03-13 14:34
REVIEWED BY: 262
D/T REVIEWED: 2017-03-14 12:54

COMPOUND	COMP TYPE	CALIB MODEL	MIN RF	AVG RF	ICV RF	AMOUNT	ICV	ICV %D	ICV %D CL	STATUS
Naphthalene		Avg Resp	0.00	1.085	1.135			-5	0-20	PASS
2-Methylnaphthalene		Avg Resp	0.00	0.661	0.783			-18	0-20	PASS
1-Methylnaphthalene		Avg Resp	0.00	0.663	0.698			-5	0-20	PASS
Acenaphthylene		Avg Resp	0.00	2.528	2.579			-2	0-20	PASS
Acenaphthene	C	Avg Resp	0.00	1.517	1.642			-8	0-20	PASS
Fluorene		Avg Resp	0.00	1.689	1.833			-9	0-20	PASS
Phenanthrene		Avg Resp	0.00	1.061	1.203			-13	0-20	PASS
Anthracene		Avg Resp	0.00	1.037	1.123			-8	0-20	PASS
Fluoranthene	C	Avg Resp	0.00	1.365	1.484			-9	0-20	PASS
Pyrene		Avg Resp	0.00	1.362	1.480			-9	0-20	PASS
Benzo (a) Anthracene		Avg Resp	0.00	1.317	1.360			-3	0-20	PASS
Chrysene		Avg Resp	0.00	1.197	1.249			-4	0-20	PASS
Benzo (k) Fluoranthene		Avg Resp	0.00	1.366	1.424			-4	0-20	PASS
Benzo (b) Fluoranthene		Avg Resp	0.00	1.303	1.418			-9	0-20	PASS
Benzo (a) Pyrene	C	Avg Resp	0.00	1.256	1.318			-5	0-20	PASS
Indeno (1,2,3-c,d) Pyrene		Avg Resp	0.00	1.502	1.570			-5	0-20	PASS
Dibenz (a,h) Anthracene		Avg Resp	0.00	1.139	1.243			-9	0-20	PASS
Benzo (g,h,i) Perylene		Avg Resp	0.00	1.207	1.334			-11	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Report Date : 13-Mar-2017 15:04 Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
End Cal Date : 13-MAR-2017 14:13
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m
Cal Date : 13-Mar-2017 14:59 ev7p
Curve Type : Average

Calibration File Names:
Level 1: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d
Level 2: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d
Level 3: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d
Level 4: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d
Level 5: /chem/SVOA/GCMS_EEE.i/170313.b/13mar006.d

Compound	0.10000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	5.000 Level 5	___ RRF	% RSD
4 Naphthalene	1.11581	1.00634	1.10029	1.12879	1.07133	1.08451	4
5 2-Methylnaphthalene	0.65197	0.59811	0.67457	0.70415	0.67863	0.66149	6
6 1-Methylnaphthalene	0.70747	0.60440	0.67039	0.68304	0.65028	0.66312	6
8 Biphenyl	2.35823	2.11929	2.30021	2.29717	2.12271	2.23952	5
9 2,6-Dimethylnaphthalene	1.61703	1.47875	1.60729	1.63394	1.52299	1.57200	4
10 Acenaphthylene	2.58512	2.32846	2.57549	2.63987	2.51288	2.52836	5
12 Acenaphthene	1.53912	1.41348	1.55163	1.58080	1.50094	1.51719	4
13 Dibenzofuran	2.16158	2.04374	2.26236	2.30541	2.19584	2.19379	5
14 1,6,7-Trimethylnaphthalene	1.63669	1.46201	1.59794	1.62883	1.52745	1.57058	5
15 Fluorene	1.67753	1.58594	1.75075	1.76676	1.66409	1.68901	4
16 Dibenzothiophene	4.72855	4.27529	4.71886	4.80185	4.58747	4.62241	5
18 Phenanthrene	1.07962	0.98082	1.08700	1.10520	1.05266	1.06106	5
19 Anthracene	1.03555	0.98375	0.96886	1.11560	1.08257	1.03727	6
20 1-Methylphenanthrene	0.97116	0.92998	1.02072	1.05271	1.00870	0.99665	5
21 Fluoranthene	1.37602	1.26225	1.39052	1.42534	1.37085	1.36500	4
22 Pyrene	1.38699	1.26059	1.39347	1.42216	1.34443	1.36153	5
24 Benzo (a) Anthracene	1.43152	1.20758	1.30623	1.34262	1.29815	1.31722	6
26 Chrysene	1.21702	1.10798	1.22017	1.25314	1.18561	1.19678	5
27 Benzo (b) Fluoranthene	1.22069	1.18251	1.39522	1.38038	1.33563	1.30289	7
28 Benzo (k) Fluoranthene	1.36330	1.26057	1.42543	1.42402	1.35775	1.36621	5
29 Benzo (e) pyrene	1.59986	1.40940	1.63930	1.60515	1.53257	1.55726	6
30 Benzo (a) Pyrene	1.25298	1.16587	1.26774	1.32867	1.26501	1.25606	5

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Report Date : 13-Mar-2017 15:04 Page 2

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
End Cal Date : 13-MAR-2017 14:13
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m
Cal Date : 13-Mar-2017 14:59 ev7p
Curve Type : Average

Compound	0.10000 Level 1	0.50000 Level 2	1.000 Level 3	2.000 Level 4	5.000 Level 5	RRF	% RSD
32 Perylene	1.53641	1.41079	1.50876	1.54399	1.46685	1.49336	4
33 Indeno (1,2,3-c,d) Pyrene	1.47205	1.33679	1.58268	1.58673	1.52950	1.50155	7
34 Dibenz (a,h) Anthracene	1.02180	1.05709	1.22915	1.22831	1.15856	1.13898	8
35 Benzo (g,h,i) Perylene	1.19737	1.08929	1.26132	1.26340	1.22141	1.20656	6
$ 2 Nitrobenzene-d5	0.30130	0.29496	0.33923	0.35910	0.36136	0.33119	10
$ 7 2-Fluorobiphenyl	1.88477	1.69943	1.88233	1.85964	1.69885	1.80500	5
$ 23 p-Terphenyl-d14	0.78803	0.71467	0.79649	0.80490	0.77019	0.77486	5

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
End Cal Date : 13-MAR-2017 14:13
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m
Cal Date : 13-Mar-2017 14:59 ev7p
Curve Type : Average

Average %RSD Results.
Calculated Average %RSD = 5.35528
Maximun Average %RSD = 15.00000
* Passed Average %RSD Test.

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Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d
Report Date: 03/13/2017 15:04

Eurofins CalScience
Calibration Verification Report

Instrument ID: GCMS_EEE.i
Sample Name: ICV S010317I 1PPM
Sublist used: all.sub
Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m

Injection Date and Time: 13-MAR-2017 14:34
Initial Calibration Date(s): 03-JAN-2017 13-MAR-2017
Initial Calibration Time(s): 11:59 14:13

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Naphthalene	1.085	1.135	0.00	-5	20	Averaged
2-Methylnaphthalene	0.661	0.783	0.00	-18	20	Averaged
1-Methylnaphthalene	0.663	0.698	0.00	-5	20	Averaged
Acenaphthylene	2.528	2.579	0.00	-2	20	Averaged
Acenaphthene	1.517	1.642	0.00	-8	20	Averaged
Fluorene	1.689	1.833	0.00	-9	20	Averaged
Phenanthrene	1.061	1.203	0.00	-13	20	Averaged
Anthracene	1.037	1.123	0.00	-8	20	Averaged
Fluoranthene	1.365	1.484	0.00	-9	20	Averaged
Pyrene	1.362	1.480	0.00	-9	20	Averaged
Benzo (a) Anthracene	1.317	1.360	0.00	-3	20	Averaged
Chrysene	1.197	1.249	0.00	-4	20	Averaged
Benzo (b) Fluoranthene	1.303	1.418	0.00	-9	20	Averaged
Benzo (k) Fluoranthene	1.366	1.424	0.00	-4	20	Averaged
Benzo (a) Pyrene	1.256	1.318	0.00	-5	20	Averaged
Indeno (1,2,3-c,d) Pyrene	1.502	1.570	0.00	-5	20	Averaged
Dibenz (a,h) Anthracene	1.139	1.243	0.00	-9	20	Averaged
Benzo (g,h,i) Perylene	1.207	1.334	0.00	-11	20	Averaged
Biphenyl	2.240	2.047	0.00	9	20	Averaged
2,6-Dimethylnaphthalene	1.572	1.418	0.00	10	20	Averaged
1,6,7-Trimethylnaphthalene	1.571	1.354	0.00	14	20	Averaged
Dibenzothiophene	4.622	4.193	0.00	9	20	Averaged
1-Methylphenanthrene	0.997	0.912	0.00	9	20	Averaged
Benzo (e) pyrene	1.557	1.395	0.00	10	20	Averaged
Perylene	1.493	1.264	0.00	15	20	Averaged
Dibenzofuran	2.194	2.418	0.00	-10	20	Averaged

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Nitrobenzene-d5	0.331	0.397	0.00	-20	20	Averaged
2-Fluorobiphenyl	1.805	2.154	0.00	-19	20	Averaged
p-Terphenyl-d14	0.775	0.898	0.00	-16	20	Averaged

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar006.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 12:52 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-1 S010317D 5PPM Misc Info: 170313I001
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)	3.415	152	39443	5.000	0.00
3)*Naphthalene-d8	(2)	4.657	136	113690	5.000	0.00
11)*Acenaphthene-d10	(3)	6.542	164	52246	5.000	0.00
17)*Phenanthrene-d10	(4)	8.138	188	176924	5.000	0.00
31)*Perylene-d12	(6)	12.826	264	181619	5.000	0.00
25)*Chrysene-d12	(5)	11.060	240	185442	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.966	82	41083	5.455	0.00
SpikedAmount 5.000	Recovery =	0.000				
7)$2-Fluorobiphenyl	(3)	5.833	172	88758	4.706	0.00
SpikedAmount 5.000	Recovery =	0.000				
23)$p-Terphenyl-d14	(5)	9.934	244	142825	4.970	0.00
SpikedAmount 5.000	Recovery =	0.000				
Target Compounds						QValue
4) Naphthalene	(2)	4.677	128	121800	4.939	99
5) 2-Methylnaphthalene	(2)	5.405	142	77154	5.130	98
6) 1-Methylnaphthalene	(2)	5.518	142	73930	4.903	100
10) Acenaphthylene	(3)	6.373	152	131288	4.969	99
12) Acenaphthene	(3)	6.575	153	78418	4.946	99
15) Fluorene	(3)	7.125	166	86942	4.926	100
18) Phenanthrene	(4)	8.163	178	186241	4.960	100
19) Anthracene	(4)	8.211	178	191533	5.218	100
21) Fluoranthene	(4)	9.471	202	242537	5.021	99
22) Pyrene	(5)	9.711	202	249314	4.937	99
24) Benzo (a) Anthracene	(5)	11.042	228	240732	4.928	100
26) Chrysene	(5)	11.088	228	219861	4.953	99
27) Benzo (b) Fluoranthene	(6)	12.366	252	242576	5.126	99
28) Benzo (k) Fluoranthene	(6)	12.396	252	246593	4.969	99
30) Benzo (a) Pyrene	(6)	12.757	252	229750	5.036	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.070	276	277787	5.093	92
34) Dibenz (a,h) Anthracene	(6)	14.094	278	210417	5.086	98
35) Benzo (g,h,i) Perylene	(6)	14.348	276	221831	5.062	99
8) Biphenyl	(3)	5.922	154	110903	4.739	99
9) 2,6-Dimethylnaphthalene	(3)	6.084	156	79570	4.844	99
14) 1,6,7-Trimethylnaphthalene	(3)	7.006	170	79803	4.863	99
16) Dibenzothiophene	(3)	8.027	184	239677	4.962	100

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar006.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 12:52 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-1 S010317D 5PPM Misc Info: 170313I001
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.852	192	187056	5.060	98
29) Benzo (e) pyrene	(6)	12.697	252	278344	4.921	97
32) Perylene	(6)	12.859	252	266407	4.911	98
13) Dibenzofuran	(3)	6.749	168	114724	5.005	99

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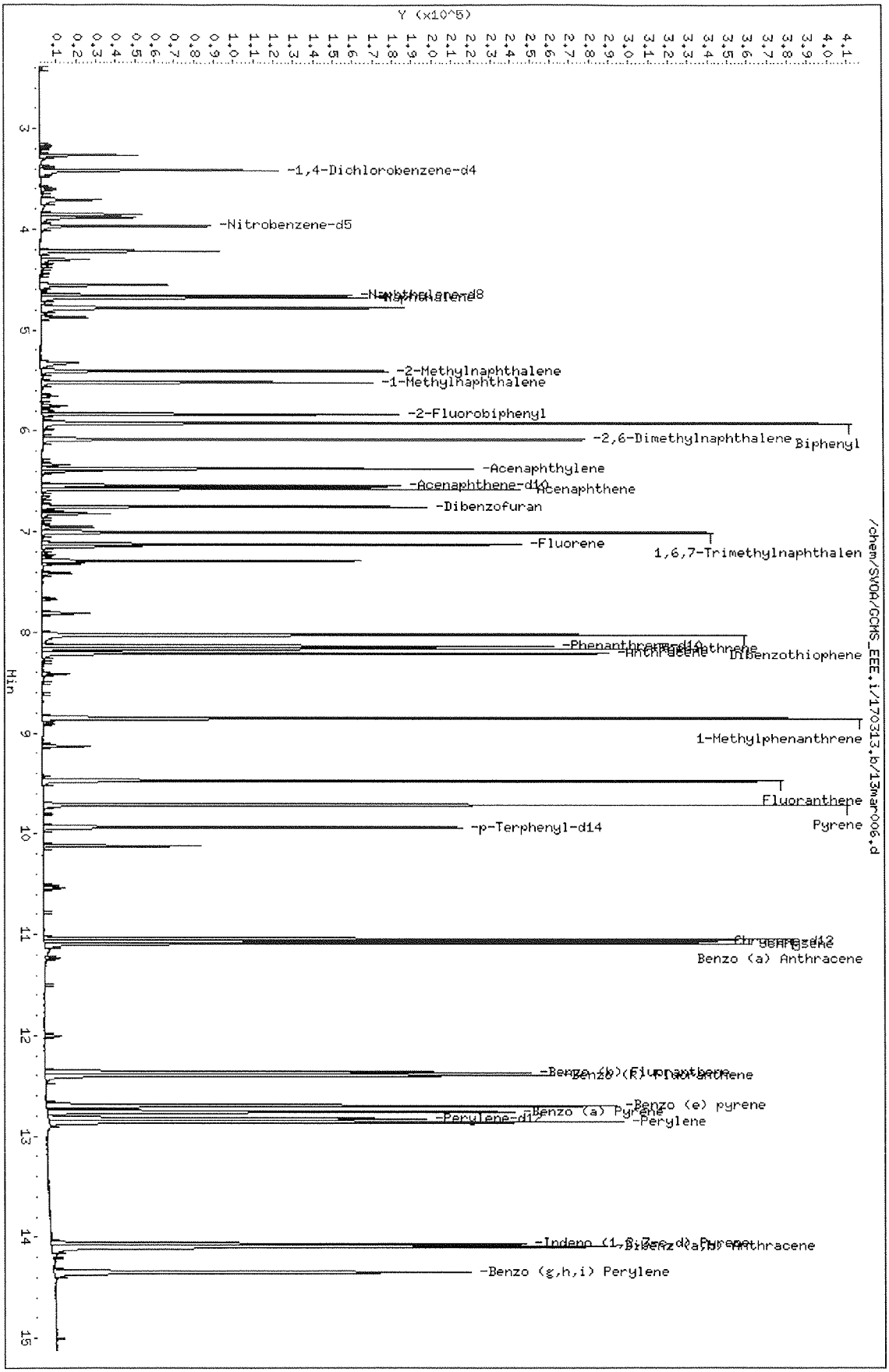

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	3.415	152	43537	5.000	0.00
3)*Naphthalene-d8	(2)	4.656	136	128027	5.000	0.00
11)*Acenaphthene-d10	(3)	6.541	164	58252	5.000	0.00
17)*Phenanthrene-d10	(4)	8.138	188	195969	5.000	0.00
31)*Perylene-d12	(6)	12.826	264	200691	5.000	0.00
25)*Chrysene-d12	(5)	11.058	240	204739	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.965	82	18390	2.169	0.00
SpikedAmount 2.000	Recovery = 204.796					
7)$2-Fluorobiphenyl	(3)	5.832	172	43331	2.061	0.00
SpikedAmount 2.000	Recovery = 201.236					
23)$p-Terphenyl-d14	(5)	9.931	244	65918	2.078	0.00
SpikedAmount 2.000	Recovery = 204.185					
Target Compounds						QValue
4) Naphthalene	(2)	4.676	128	57806	2.082	99
5) 2-Methylnaphthalene	(2)	5.404	142	36060	2.129	97
6) 1-Methylnaphthalene	(2)	5.518	142	34979	2.060	99
10) Acenaphthylene	(3)	6.371	152	61511	2.088	99
12) Acenaphthene	(3)	6.574	153	36834	2.084	99
15) Fluorene	(3)	7.123	166	41167	2.092	100
18) Phenanthrene	(4)	8.161	178	86634	2.083	100
19) Anthracene	(4)	8.209	178	87449	2.151	99
21) Fluoranthene	(4)	9.469	202	111729	2.088	99
22) Pyrene	(5)	9.708	202	116469	2.089	100
24) Benzo (a) Anthracene	(5)	11.039	228	109955	2.039	100
26) Chrysene	(5)	11.085	228	102627	2.094	99
27) Benzo (b) Fluoranthene	(6)	12.363	252	110812	2.119	100
28) Benzo (k) Fluoranthene	(6)	12.391	252	114315	2.085	99
30) Benzo (a) Pyrene	(6)	12.752	252	106661	2.116	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.066	276	127377	2.113	91
34) Dibenz (a,h) Anthracene	(6)	14.093	278	98604	2.157	98
35) Benzo (g,h,i) Perylene	(6)	14.343	276	101421	2.094	100
8) Biphenyl	(3)	5.921	154	53526	2.051	99
9) 2,6-Dimethylnaphthalene	(3)	6.081	156	38072	2.079	99
14) 1,6,7-Trimethylnaphthalene	(3)	7.004	170	37953	2.074	99
16) Dibenzothiophene	(3)	8.024	184	111887	2.078	100

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	8.850	192	86212	2.112	99
29) Benzo (e) pyrene	(6)	12.694	252	128856	2.062	98
32) Perylene	(6)	12.855	252	123946	2.068	99
13) Dibenzofuran	(3)	6.749	168	53718	2.102	99

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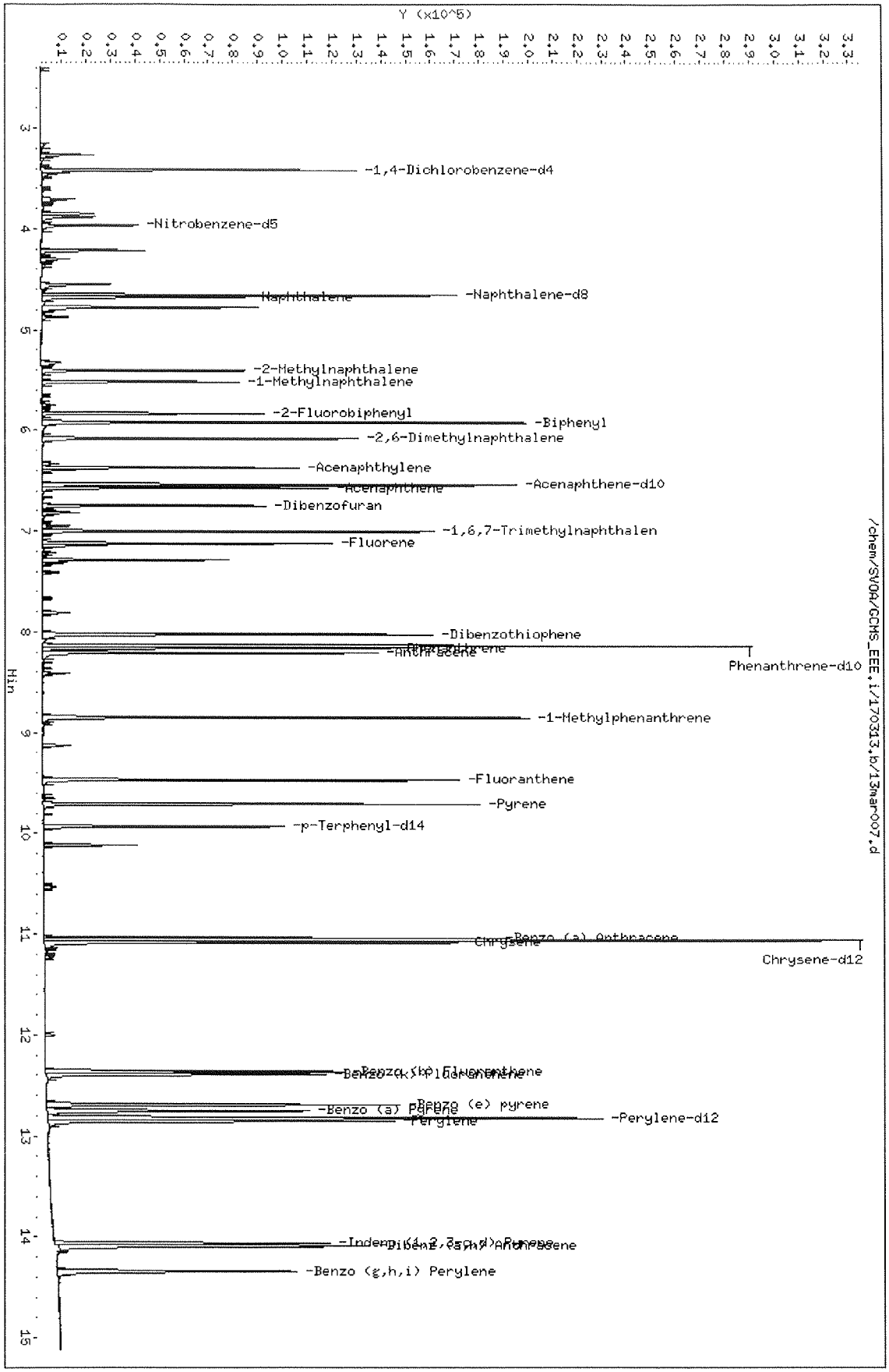

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d
Date : 13-MAR-2017 13:13
Client ID:
Sample Info: ICAL-2 S010317E 2PPM
Column phase: J&W DB-5MS

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

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:33 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	3.414	152	46489	5.000	0.01
3)*Naphthalene-d8	(2)	4.656	136	140022	5.000	0.00
11)*Acenaphthene-d10	(3)	6.541	164	63153	5.000	0.00
17)*Phenanthrene-d10	(4)	8.136	188	210133	5.000	0.00
31)*Perylene-d12	(6)	12.823	264	208071	5.000	0.00
25)*Chrysene-d12	(5)	11.056	240	220711	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.966	82	9500	1.024	0.00
SpikedAmount 1.000	Recovery = 97.033					
7)$2-Fluorobiphenyl	(3)	5.833	172	23775	1.043	0.00
SpikedAmount 1.000	Recovery = 100.830					
23)$p-Terphenyl-d14	(5)	9.932	244	35159	1.028	0.00
SpikedAmount 1.000	Recovery = 101.689					
Target Compounds						QValue
4) Naphthalene	(2)	4.676	128	30813	1.015	100
5) 2-Methylnaphthalene	(2)	5.404	142	18891	1.020	100
6) 1-Methylnaphthalene	(2)	5.517	142	18774	1.011	100
10) Acenaphthylene	(3)	6.371	152	32530	1.019	100
12) Acenaphthene	(3)	6.574	153	19598	1.023	100
15) Fluorene	(3)	7.123	166	22113	1.037	100
18) Phenanthrene	(4)	8.159	178	45683	1.024	100
19) Anthracene	(4)	8.211	178	40718	0.934	100
21) Fluoranthene	(4)	9.470	202	58439	1.019	100
22) Pyrene	(5)	9.707	202	61511	1.023	100
24) Benzo (a) Anthracene	(5)	11.040	228	57660	0.992	100
26) Chrysene	(5)	11.084	228	53861	1.020	100
27) Benzo (b) Fluoranthene	(6)	12.362	252	58061	1.071	100
28) Benzo (k) Fluoranthene	(6)	12.391	252	59318	1.043	100
30) Benzo (a) Pyrene	(6)	12.750	252	52756	1.009	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.064	276	65862	1.054	100
34) Dibenz (a,h) Anthracene	(6)	14.094	278	51150	1.079	100
35) Benzo (g,h,i) Perylene	(6)	14.342	276	52489	1.045	100
8) Biphenyl	(3)	5.922	154	29053	1.027	100
9) 2,6-Dimethylnaphthalene	(3)	6.081	156	20301	1.022	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.003	170	20183	1.017	100
16) Dibenzothiophene	(3)	8.024	184	59602	1.021	100

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:33 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	8.850	192	45057	1.024	100
29) Benzo (e) pyrene	(6)	12.690	252	68218	1.053	100
32) Perylene	(6)	12.854	252	62786	1.010	100
13) Dibenzofuran	(3)	6.749	168	28575	1.031	100

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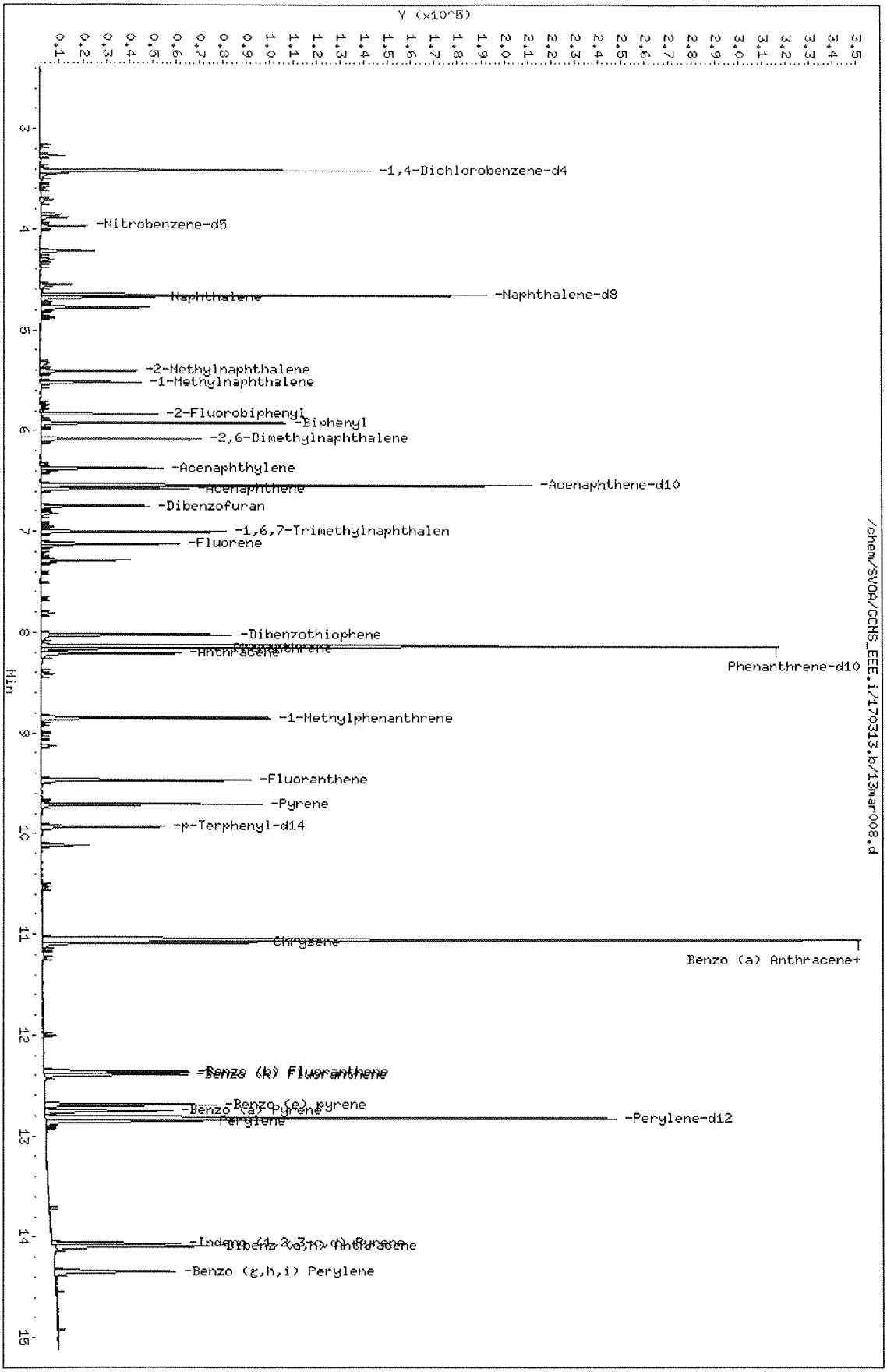

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d
Date : 13-MAR-2017 13:33
Client ID:
Sample Info: ICAL-3 S010317F 1PPM
Column phase: J&W DB-5MS

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

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:53 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	DEV(Min)
Internal Standards						
1)*1,4-Dichlorobenzene-d4	(1)	3.414	152	46816	5.000	0.01
3)*Naphthalene-d8	(2)	4.654	136	141612	5.000	0.00
11)*Acenaphthene-d10	(3)	6.540	164	65116	5.000	0.00
17)*Phenanthrene-d10	(4)	8.136	188	215147	5.000	0.00
31)*Perylene-d12	(6)	12.825	264	224201	5.000	0.00
25)*Chrysene-d12	(5)	11.057	240	226005	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.967	82	4177	0.445	0.00
SpikedAmount 0.500	Recovery = 43.133					
7)$2-Fluorobiphenyl	(3)	5.831	172	11066	0.471	0.00
SpikedAmount 0.500	Recovery = 45.627					
23)$p-Terphenyl-d14	(5)	9.931	244	16152	0.461	0.00
SpikedAmount 0.500	Recovery = 45.890					
Target Compounds						QValue
4) Naphthalene	(2)	4.676	128	14251	0.464	98
5) 2-Methylnaphthalene	(2)	5.404	142	8470	0.452	96
6) 1-Methylnaphthalene	(2)	5.516	142	8559	0.456	99
10) Acenaphthylene	(3)	6.371	152	15162	0.460	99
12) Acenaphthene	(3)	6.574	153	9204	0.466	99
15) Fluorene	(3)	7.123	166	10327	0.469	99
18) Phenanthrene	(4)	8.160	178	21102	0.462	99
19) Anthracene	(4)	8.209	178	21165	0.474	99
21) Fluoranthene	(4)	9.469	202	27157	0.462	99
22) Pyrene	(5)	9.707	202	28490	0.463	99
24) Benzo (a) Anthracene	(5)	11.040	228	27292	0.458	99
26) Chrysene	(5)	11.085	228	25041	0.463	99
27) Benzo (b) Fluoranthene	(6)	12.361	252	26512	0.454	99
28) Benzo (k) Fluoranthene	(6)	12.393	252	28262	0.461	98
30) Benzo (a) Pyrene	(6)	12.752	252	26139	0.464	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.065	276	29971	0.445	92
34) Dibenz (a,h) Anthracene	(6)	14.093	278	23700	0.464	99
35) Benzo (g,h,i) Perylene	(6)	14.344	276	24422	0.451	100
8) Biphenyl	(3)	5.921	154	13800	0.473	100
9) 2,6-Dimethylnaphthalene	(3)	6.081	156	9629	0.470	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.001	170	9520	0.465	99
16) Dibenzothiophene	(3)	8.024	184	27839	0.462	99

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:53 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	8.850	192	21018	0.467	99
29) Benzo (e) pyrene	(6)	12.691	252	31599	0.453	99
32) Perylene	(6)	12.853	252	31630	0.472	100
13) Dibenzofuran	(3)	6.749	168	13308	0.466	100

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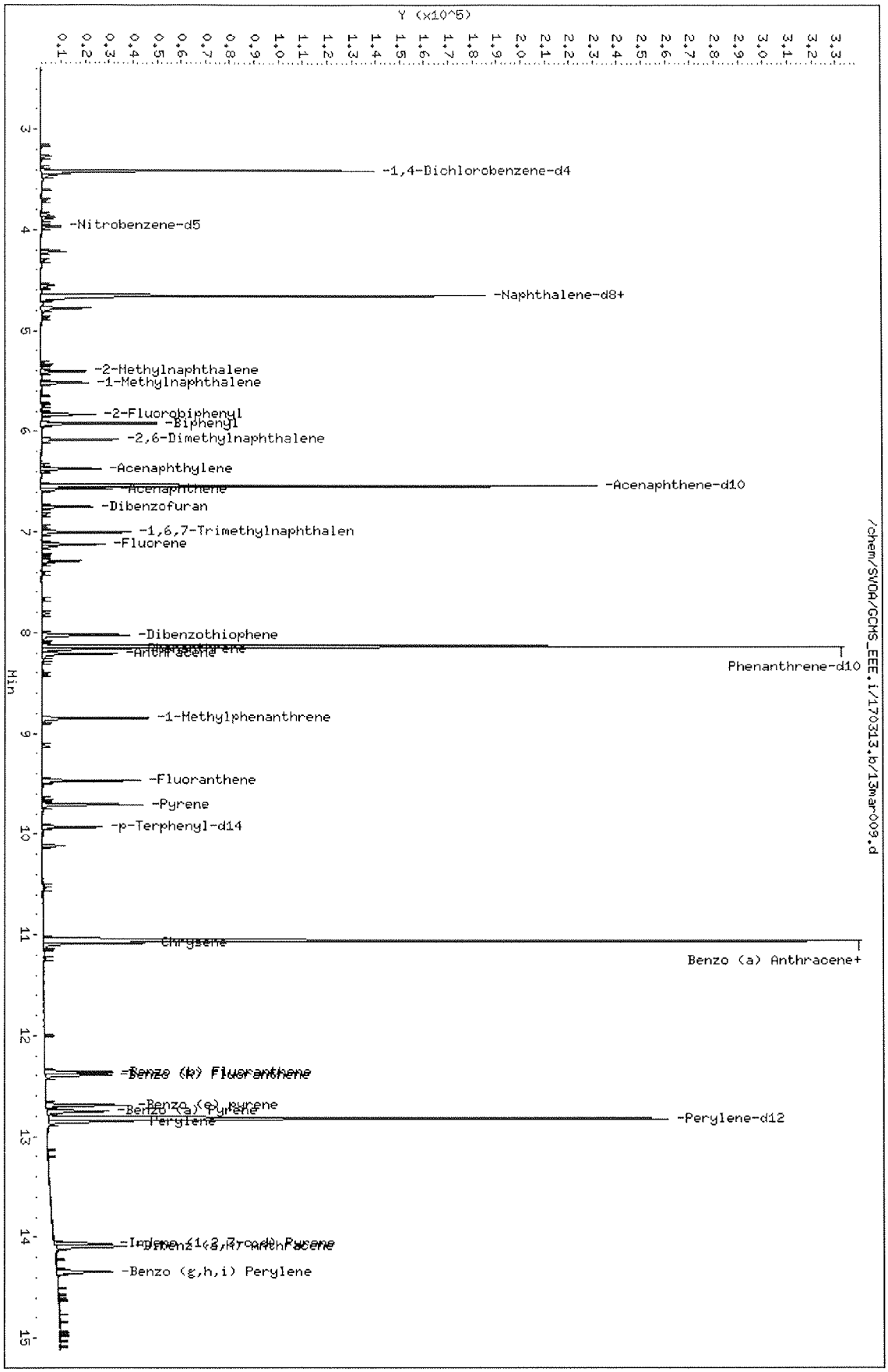

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d
Date : 13-MAR-2017 13:53
Client ID:
Sample Info: ICAL-4 S010317C 0.5PPM
Column phase: J&W DB-5MS

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

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	3.414	152	46155	5.000	0.01
3)*Naphthalene-d8	(2)	4.655	136	138733	5.000	0.00
11)*Acenaphthene-d10	(3)	6.539	164	66109	5.000	0.00
17)*Phenanthrene-d10	(4)	8.135	188	215586	5.000	0.00
31)*Perylene-d12	(6)	12.823	264	222988	5.000	0.00
25)*Chrysene-d12	(5)	11.057	240	227975	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.971	82	836	0.091	-0.01
SpikedAmount 0.100	Recovery =	8.992				
7)$2-Fluorobiphenyl	(3)	5.833	172	2492	0.104	0.00
SpikedAmount 0.100	Recovery =	10.221				
23)$p-Terphenyl-d14	(5)	9.933	244	3593	0.102	0.00
SpikedAmount 0.100	Recovery =	10.183				
Target Compounds						QValue
4) Naphthalene	(2)	4.676	128	3096	0.103	100
5) 2-Methylnaphthalene	(2)	5.404	142	1809	0.099	97
6) 1-Methylnaphthalene	(2)	5.517	142	1963	0.107	96
10) Acenaphthylene	(3)	6.371	152	3418	0.102	99
12) Acenaphthene	(3)	6.571	153	2035	0.101	97
15) Fluorene	(3)	7.124	166	2218	0.099	99
18) Phenanthrene	(4)	8.162	178	4655	0.102	98
19) Anthracene	(4)	8.211	178	4465	0.100	100
21) Fluoranthene	(4)	9.471	202	5933	0.101	100
22) Pyrene	(5)	9.708	202	6324	0.102	99
24) Benzo (a) Anthracene	(5)	11.039	228	6527	0.109	97
26) Chrysene	(5)	11.084	228	5549	0.102	99
27) Benzo (b) Fluoranthene	(6)	12.361	252	5444	0.094	93
28) Benzo (k) Fluoranthene	(6)	12.393	252	6080	0.100	91
30) Benzo (a) Pyrene	(6)	12.752	252	5588	0.100	93
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.068	276	6565	0.098	81
34) Dibenz (a,h) Anthracene	(6)	14.096	278	4557	0.090	91
35) Benzo (g,h,i) Perylene	(6)	14.346	276	5340	0.099	97
8) Biphenyl	(3)	5.922	154	3118	0.105	90
9) 2,6-Dimethylnaphthalene	(3)	6.081	156	2138	0.103	99
14) 1,6,7-Trimethylnaphthalene	(3)	7.003	170	2164	0.104	100
16) Dibenzothiophene	(3)	8.024	184	6252	0.102	98

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 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)	8.850	192	4428	0.097	98
29) Benzo (e) pyrene	(6)	12.691	252	7135	0.103	99
32) Perylene	(6)	12.853	252	6852	0.103	98
13) Dibenzofuran	(3)	6.748	168	2858	0.099	98

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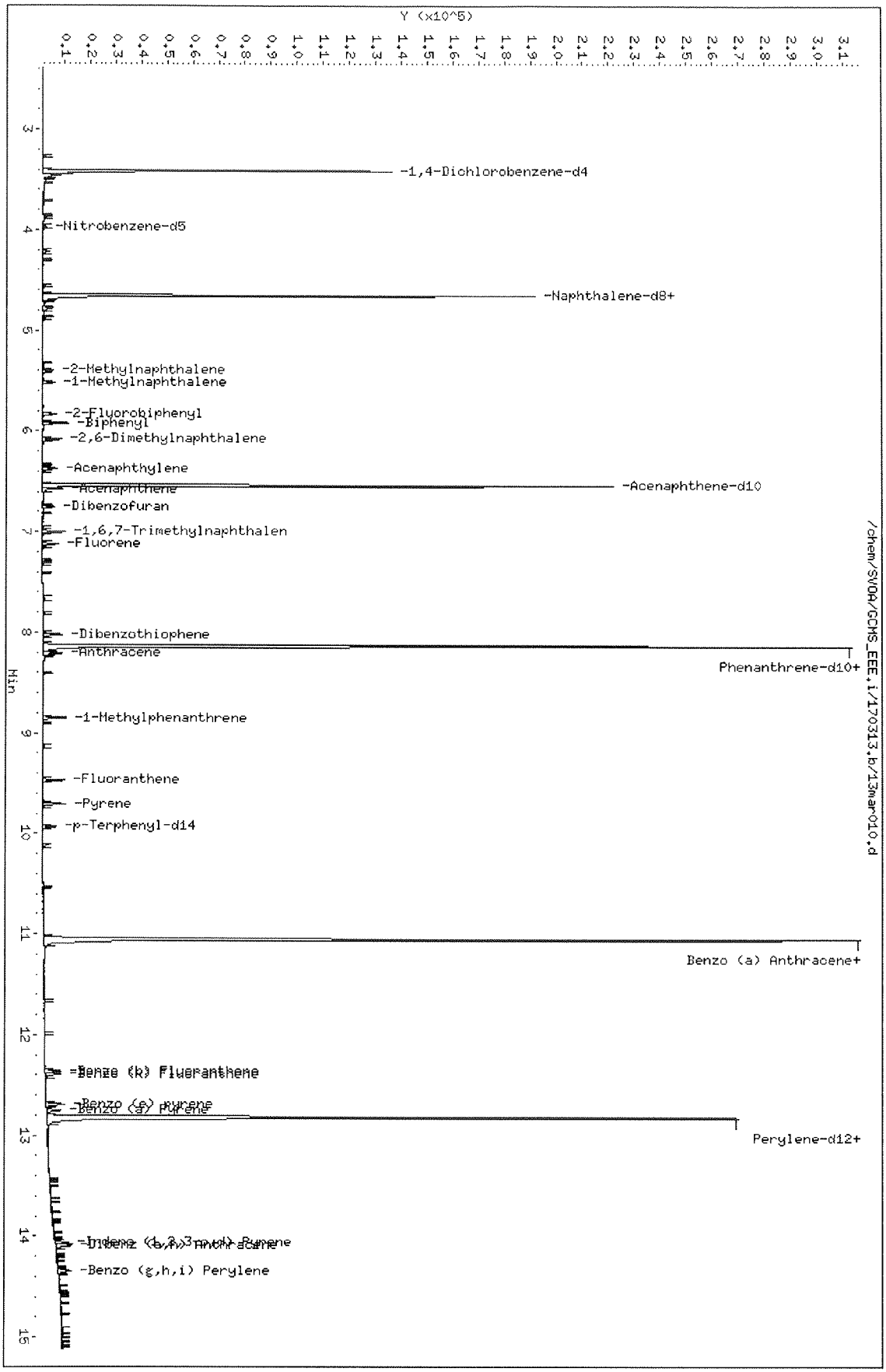

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d
Date : 13-MAR-2017 14:13
Client ID:
Sample Info: ICAL-5 S010317H 0.1PPM
Column Phase: J&W DB-5MS

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

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:34 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICV S010317I 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)	3.419	152	44664	5.000	0.00
3)*Naphthalene-d8	(2)	4.653	136	134376	5.000	0.00
11)*Acenaphthene-d10	(3)	6.538	164	61082	5.000	0.00
17)*Phenanthrene-d10	(4)	8.136	188	200519	5.000	0.00
31)*Perylene-d12	(6)	12.823	264	200860	5.000	0.00
25)*Chrysene-d12	(5)	11.055	240	207148	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.965	82	10658	1.197	0.00
SpikedAmount 1.000	Recovery =	0.000				
7)$2-Fluorobiphenyl	(3)	5.831	172	26320	1.194	0.00
SpikedAmount 1.000	Recovery =	0.000				
23)$p-Terphenyl-d14	(5)	9.929	244	37191	1.159	0.00
SpikedAmount 1.000	Recovery =	0.000				
Target Compounds						QValue
4) Naphthalene	(2)	4.673	128	30493	1.046	100
5) 2-Methylnaphthalene	(2)	5.402	142	21043	1.184	100
6) 1-Methylnaphthalene	(2)	5.516	142	18763	1.053	100
10) Acenaphthylene	(3)	6.370	152	31506	1.020	100
12) Acenaphthene	(3)	6.572	153	20057	1.082	100
15) Fluorene	(3)	7.122	166	22387	1.085	100
18) Phenanthrene	(4)	8.160	178	48240	1.134	100
19) Anthracene	(4)	8.209	178	45040	1.083	100
21) Fluoranthene	(4)	9.469	202	59504	1.087	100
22) Pyrene	(5)	9.707	202	61311	1.087	100
24) Benzo (a) Anthracene	(5)	11.038	228	56357	1.033	100
26) Chrysene	(5)	11.083	228	51734	1.043	100
27) Benzo (b) Fluoranthene	(6)	12.360	252	56960	1.088	100
28) Benzo (k) Fluoranthene	(6)	12.391	252	57224	1.043	100
30) Benzo (a) Pyrene	(6)	12.752	252	52949	1.049	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	14.065	276	63053	1.045	100
34) Dibenz (a,h) Anthracene	(6)	14.091	278	49952	1.092	100
35) Benzo (g,h,i) Perylene	(6)	14.339	276	53577	1.105	100
8) Biphenyl	(3)	5.919	154	25012	0.914	100
9) 2,6-Dimethylnaphthalene	(3)	6.079	156	17327	0.902	100
14) 1,6,7-Trimethylnaphthalene	(3)	7.001	170	16542	0.862	100
16) Dibenzothiophene	(3)	8.024	184	51223	0.907	100

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:34 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

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

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.848	192	37778	0.915	100
29) Benzo (e) pyrene	(6)	12.691	252	56048	0.896	100
32) Perylene	(6)	12.851	252	50780	0.846	100
13) Dibenzofuran	(3)	6.748	168	29537	1.102	100

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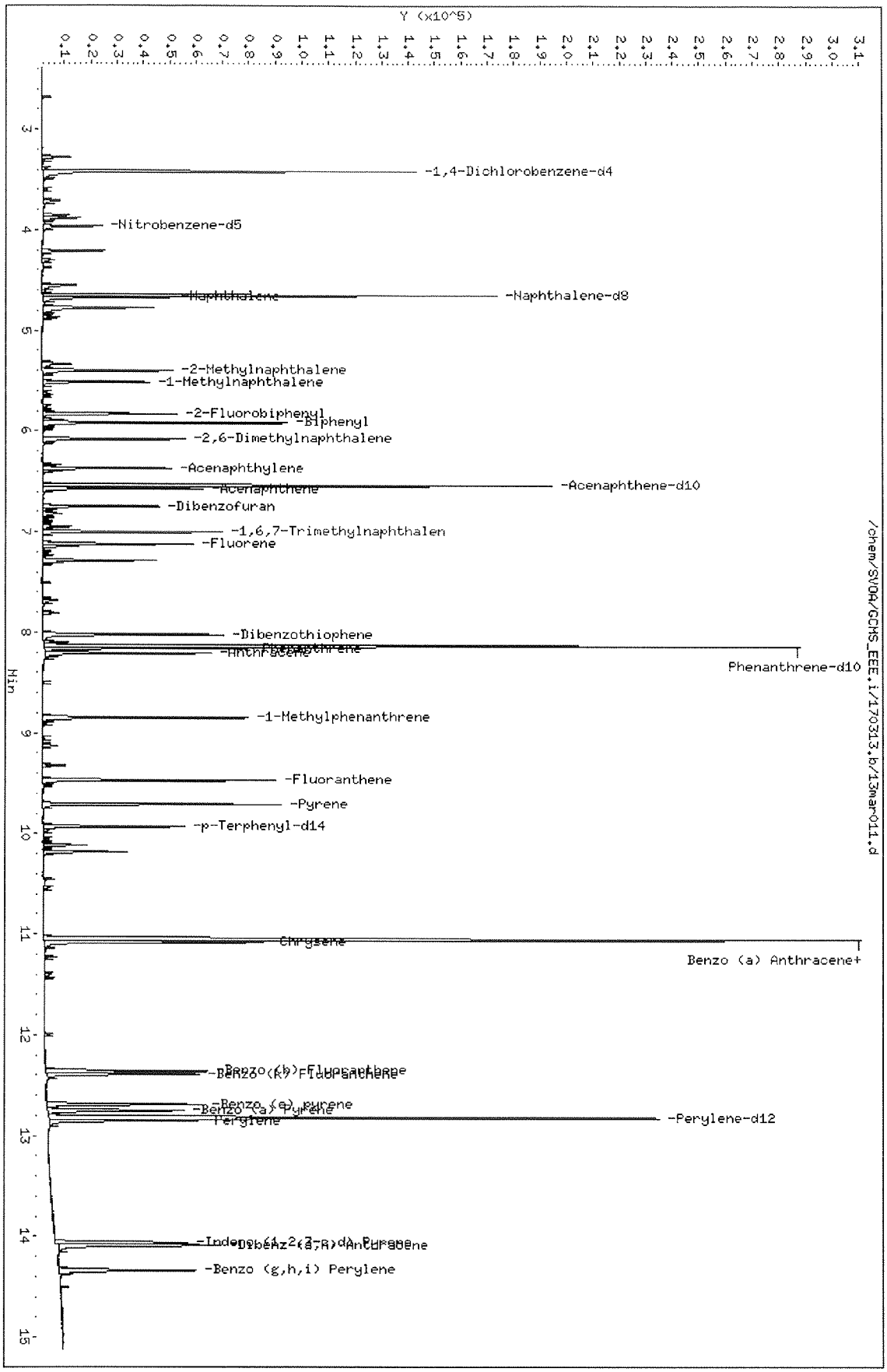

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d
Date : 13-MAR-2017 14:34
Client ID:
Sample Info: ICV S0103171 1PPM
Column phase: J&W DB-5MS

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

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EPA METHOD 8270C
PAHSIM

Sample Data

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RAW DATA SHEET
FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER:	**17-03-1557**	ANALYZED BY:	907
INSTRUMENT:	GC/MS EEE	D/T ANALYZED:	2017-03-27 13:57
EXTRACTION :	EPA 3545	REVIEWED BY:	
D/T EXTRACTED:	2017-03-24 00:00	D/T REVIEWED:	

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar011.d\27mar011.rr

 # 25 **CLIENT SAMPLE NUMBER: B-DU1-ISM1-8**

LCS/MB BATCH:	170324L17	SAMPLE VOLUME / WEIGHT:	DEFAULT: 20.00 g / ACTUAL: 20.00 g
MS/MSD BATCH:	170324S17	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	0.0162	1.00	ND	0.010	
Pyrene	0.0216	1.00	ND	0.010	
Benzo (a) Anthracene	0.0243	1.00	ND	0.010	
Chrysene	0.0271	1.00	ND	0.010	
Benzo (k) Fluoranthene	0.0226	1.00	ND	0.010	
Benzo (b) Fluoranthene	0.0236	1.00	ND	0.010	
Benzo (a) Pyrene	0.0230	1.00	ND	0.010	
Indeno (1,2,3-c,d) Pyrene	0.0308	1.00	ND	0.010	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.010	
Benzo (g,h,i) Perylene	0.0475	1.00	ND	0.010	

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 13:57 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 14:38 ev7p

Sample Name: 17-03-1557-25 Misc Info: S032317A 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)	3.302	152	59986	5.000	0.00
3)*Naphthalene-d8	(2)	4.535	136	169237	5.000	0.00
11)*Acenaphthene-d10	(3)	6.418	164	80719	5.000	0.00
17)*Phenanthrene-d10	(4)	8.017	188	267245	5.000	0.00
31)*Perylene-d12	(6)	12.679	264	254564	5.000	0.01
25)*Chrysene-d12	(5)	10.934	240	260860	5.000	0.01
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.854	82	8826	0.787	0.00
SpikedAmount 1.000	Recovery = 78.735					
7)$2-Fluorobiphenyl	(3)	5.719	172	24177	0.830	0.00
SpikedAmount 1.000	Recovery = 82.970					
23)$p-Terphenyl-d14	(5)	9.810	244	37848	0.936	0.01
SpikedAmount 1.000	Recovery = 93.625					
Target Compounds						QValue
4) Naphthalene	(2)	0.000		0	N.D.	
5) 2-Methylnaphthalene	(2)	0.000		0	N.D.	
6) 1-Methylnaphthalene	(2)	0.000		0	N.D.	
10) Acenaphthylene	(3)	0.000		0	N.D.	
12) Acenaphthene	(3)	0.000		0	N.D.	
15) Fluorene	(3)	0.000		0	N.D.	
18) Phenanthrene	(4)	0.000		0	N.D.	
19) Anthracene	(4)	0.000		0	N.D.	
21) Fluoranthene	(4)	9.353	202	1181	0.016	33
22) Pyrene	(5)	9.592	202	1533	0.022	82
24) Benzo (a) Anthracene	(5)	10.918	228	1669	0.024	82
26) Chrysene	(5)	10.961	228	1694	0.027	96
27) Benzo (b) Fluoranthene	(6)	12.229	252	1567	0.024	96
28) Benzo (k) Fluoranthene	(6)	12.240	252	1573A	0.023	86
30) Benzo (a) Pyrene	(6)	12.613	252	1472	0.023	84
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.931	276	2351	0.031	68
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.	
35) Benzo (g,h,i) Perylene	(6)	14.204	276	2919	0.048	83
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.	

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 13:57 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 14:38 ev7p

Sample Name: 17-03-1557-25 Misc Info: S032317A 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	12.548	252	1587	0.020	84
32) Perylene	(6)	12.709	252	1305A	0.017	95
13) Dibenzofuran	(3)	0.000		0	N.D.	

A = User selected an alternate hit.

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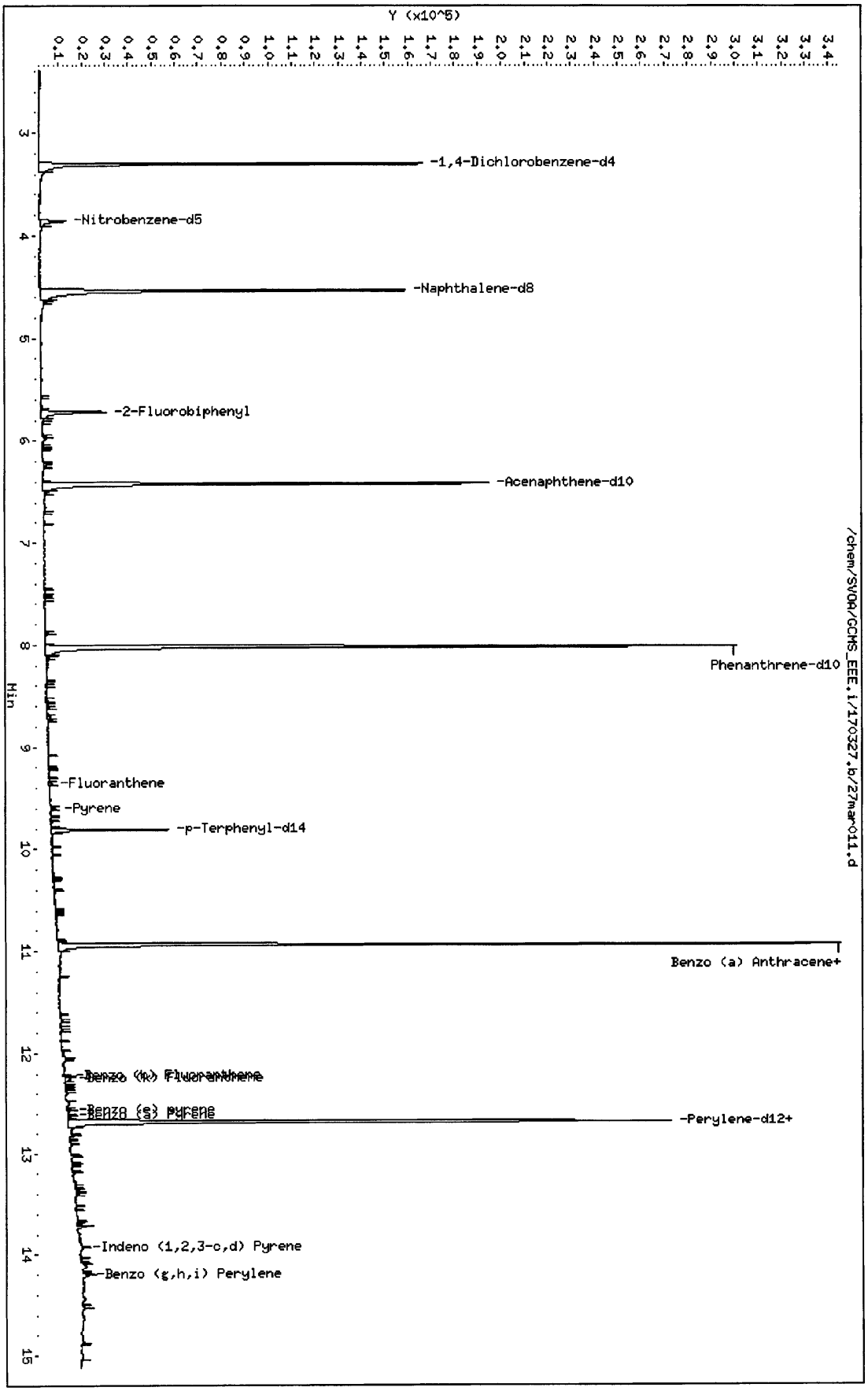
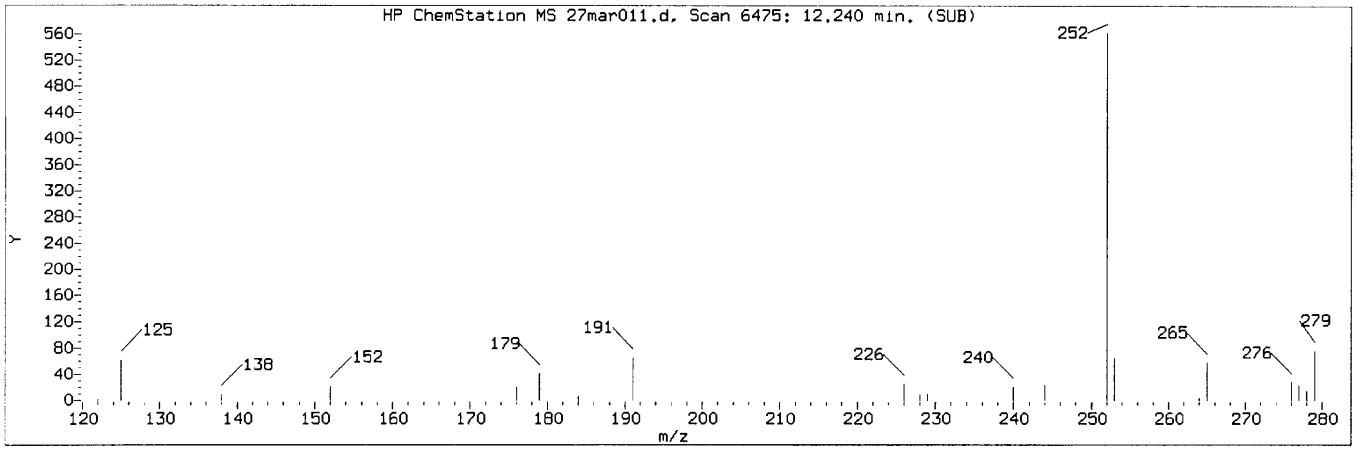


Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar011.d
Date : 27-MAR-2017 13:57
Client ID:
Sample Info: 17-03-1557-25

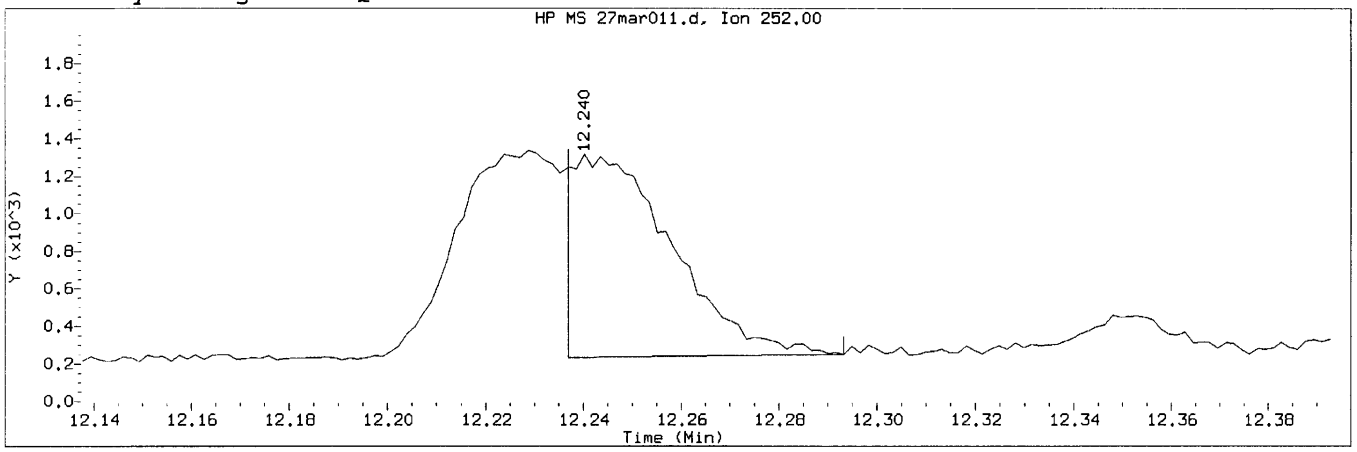
Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18

Column phase: J&W DB-5MS

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 13:57 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 14:38 ev7p

Sample Name: 17-03-1557-25

Compound Number : 28
Compound Name : Benzo (k) Fluoranthene
Scan Number : 6475
Retention Time (minutes): 12.240
Quant Ion : 252.00
Area (flag) : 1573A
On-Column Amount (mg/L) : 0.0226
Integration start scan : 6472 Integration stop scan: 6506
Y at integration start : 234 Y at integration end: 250

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Jeremy Huynh
on 03/28/2017 at 09:12.
Target 3.5 esignature user ID: ev7p

GC/MS audit/management approval: _____ 3/28/17

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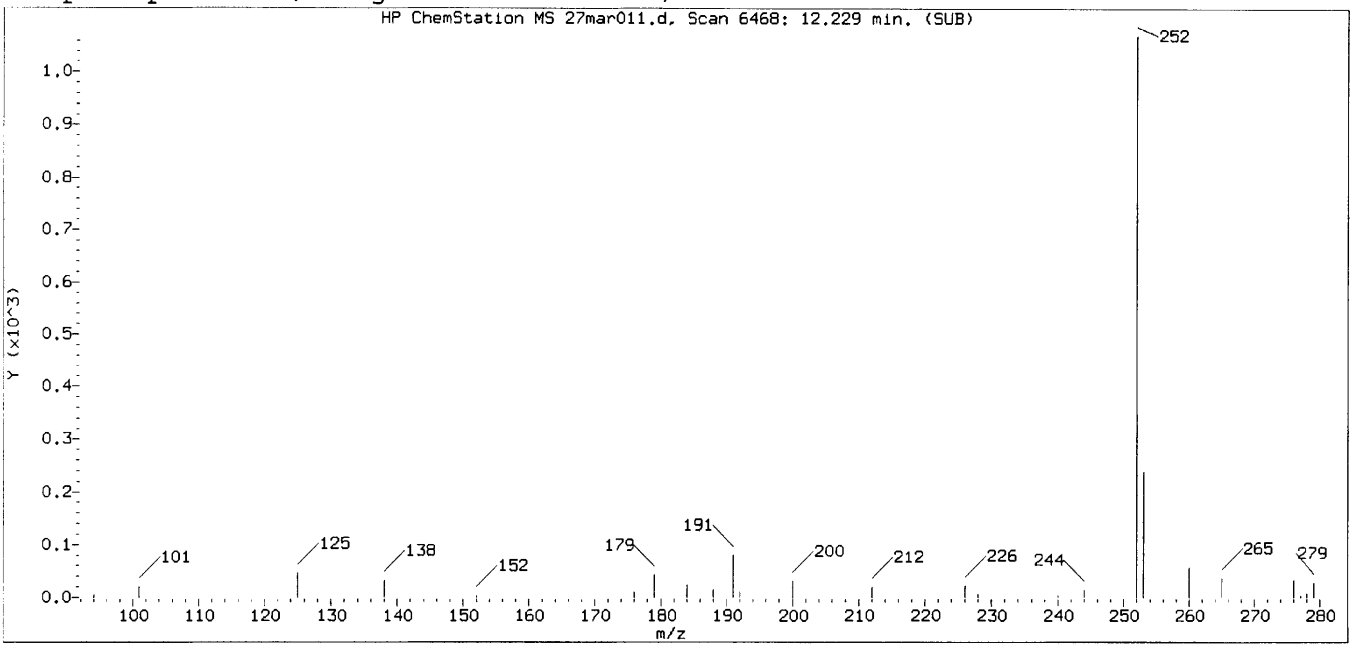
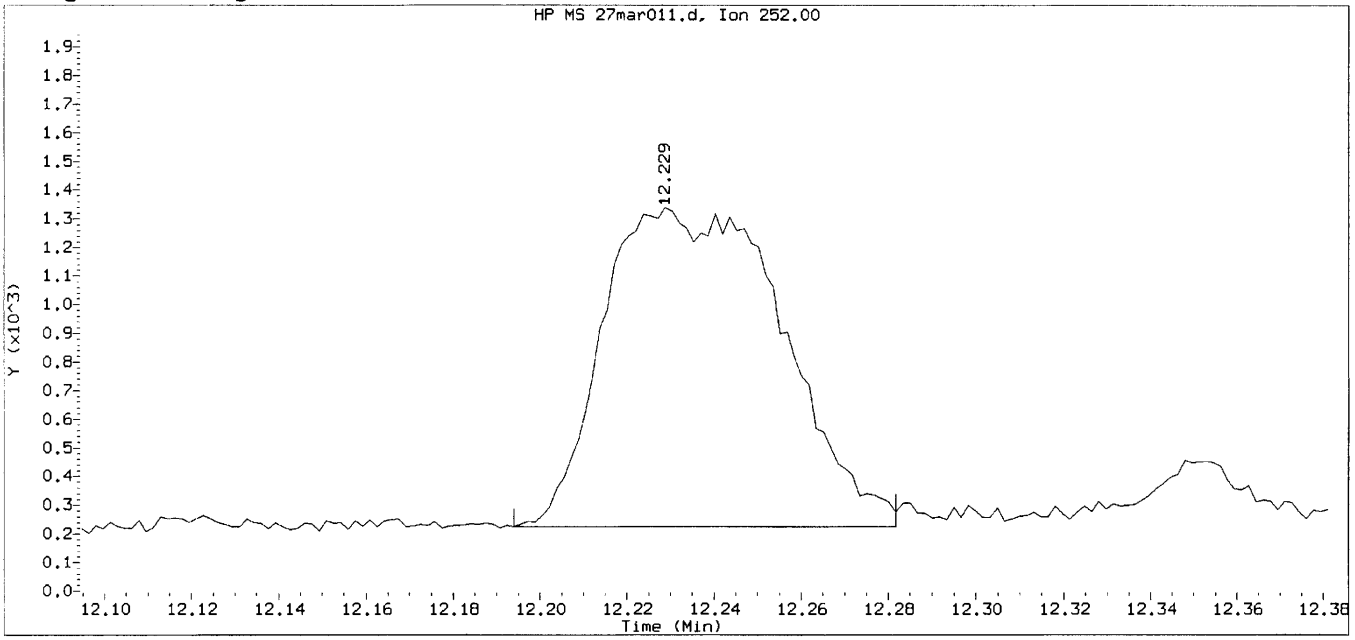
Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 13:57 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 14:20 Unknown

Sample Name: 17-03-1557-25

Compound Number	: 28		
Compound Name	: Benzo (k) Fluoranthene		
Scan Number	: 6468		
Retention Time (minutes)	: 12.229		
Quant Ion	: 252.00		
Area	: 3182		
On-column Amount (mg/L)	: 0.0458		
Integration start scan	: 6446	Integration stop scan:	6499
Y at integration start	: 224	Y at integration end:	224

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RAW DATA SHEET
FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: **17-03-1557**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-27 14:17
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar012.d\27mar012.rr

 # 26 **CLIENT SAMPLE NUMBER: B-DU1-ISM2-8**

LCS/MB BATCH: 170324L17
MS/MSD BATCH: 170324S17
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Naphthalene	0.000	1.00	ND	0.0099	
2-Methylnaphthalene	0.000	1.00	ND	0.0099	
1-Methylnaphthalene	0.000	1.00	ND	0.0099	
Acenaphthylene	0.000	1.00	ND	0.0099	
Acenaphthene	0.000	1.00	ND	0.0099	
Fluorene	0.000	1.00	ND	0.0099	
Phenanthrene	0.000	1.00	ND	0.0099	
Anthracene	0.000	1.00	ND	0.0099	
Fluoranthene	0.0212	1.00	ND	0.0099	
Pyrene	0.0249	1.00	ND	0.0099	
Benzo (a) Anthracene	0.0285	1.00	ND	0.0099	
Chrysene	0.0231	1.00	ND	0.0099	
Benzo (k) Fluoranthene	0.000	1.00	ND	0.0099	
Benzo (b) Fluoranthene	0.000	1.00	ND	0.0099	
Benzo (a) Pyrene	0.000	1.00	ND	0.0099	
Indeno (1,2,3-c,d) Pyrene	0.000	1.00	ND	0.0099	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.0099	
Benzo (g,h,i) Perylene	0.000	1.00	ND	0.0099	

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar012.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:17 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 16:17 ev7p

Sample Name: 17-03-1557-26 Misc Info: S032317A 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)	3.301	152	60589	5.000	0.00
3)*Naphthalene-d8	(2)	4.534	136	171804	5.000	0.00
11)*Acenaphthene-d10	(3)	6.418	164	81274	5.000	0.00
17)*Phenanthrene-d10	(4)	8.017	188	274687	5.000	0.00
31)*Perylene-d12	(6)	12.683	264	271055	5.000	0.00
25)*Chrysene-d12	(5)	10.936	240	279862	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.854	82	9817	0.863	0.00
SpikedAmount 1.000	Recovery = 86.270					
7)$2-Fluorobiphenyl	(3)	5.716	172	26564	0.905	0.01
SpikedAmount 1.000	Recovery = 90.539					
23)$p-Terphenyl-d14	(5)	9.812	244	42475	0.979	0.01
SpikedAmount 1.000	Recovery = 97.937					
Target Compounds						QValue
4) Naphthalene	(2)	0.000		0	N.D.	
5) 2-Methylnaphthalene	(2)	0.000		0	N.D.	
6) 1-Methylnaphthalene	(2)	0.000		0	N.D.	
10) Acenaphthylene	(3)	0.000		0	N.D.	
12) Acenaphthene	(3)	0.000		0	N.D.	
15) Fluorene	(3)	0.000		0	N.D.	
18) Phenanthrene	(4)	0.000		0	N.D.	
19) Anthracene	(4)	0.000		0	N.D.	
21) Fluoranthene	(4)	9.352	202	1590	0.021	94
22) Pyrene	(5)	9.590	202	1898	0.025	93
24) Benzo (a) Anthracene	(5)	10.923	228	2097	0.028	76
26) Chrysene	(5)	10.963	228	1549	0.023	86
27) Benzo (b) Fluoranthene	(6)	0.000		0	N.D.	
28) Benzo (k) Fluoranthene	(6)	0.000		0	N.D.	
30) Benzo (a) Pyrene	(6)	0.000		0	N.D.	
33) Indeno (1,2,3-c,d) Pyrene	(6)	0.000		0	N.D.	
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.	
35) Benzo (g,h,i) Perylene	(6)	0.000		0	N.D.	
8) Biphenyl	(3)	0.000		0	N.D.	
9) 2,6-Dimethylnaphthalene	(3)	0.000		0	N.D.	
14) 1,6,7-Trimethylnaphthalene	(3)	0.000		0	N.D.	
16) Dibenzothiophene	(3)	0.000		0	N.D.	

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar012.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:17 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 16:17 ev7p

Sample Name: 17-03-1557-26 Misc Info: S032317A 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.	

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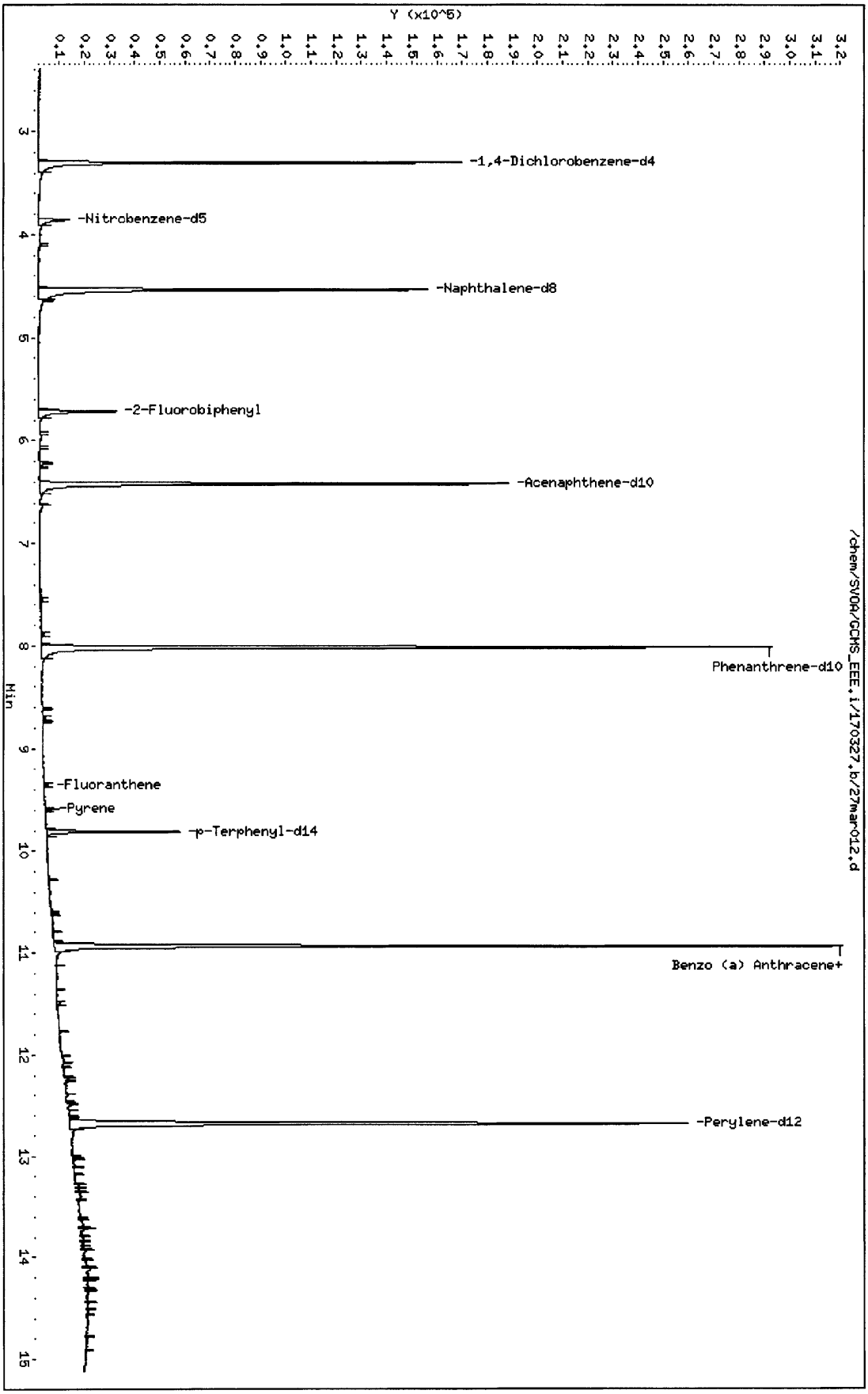

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RAW DATA SHEET
FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: **17-03-1557**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-27 14:38
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar013.d\27mar013.rr

 # 27 **CLIENT SAMPLE NUMBER: B-DU1-ISM3-8**

LCS/MB BATCH: 170324L17
MS/MSD BATCH: 170324S17
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Naphthalene	0.000	1.00	ND	0.0099	
2-Methylnaphthalene	0.000	1.00	ND	0.0099	
1-Methylnaphthalene	0.000	1.00	ND	0.0099	
Acenaphthylene	0.000	1.00	ND	0.0099	
Acenaphthene	0.000	1.00	ND	0.0099	
Fluorene	0.000	1.00	ND	0.0099	
Phenanthrene	0.0246	1.00	ND	0.0099	
Anthracene	0.000	1.00	ND	0.0099	
Fluoranthene	0.0549	1.00	ND	0.0099	
Pyrene	0.0626	1.00	ND	0.0099	
Benzo (a) Anthracene	0.0439	1.00	ND	0.0099	
Chrysene	0.0454	1.00	ND	0.0099	
Benzo (k) Fluoranthene	0.0371	1.00	ND	0.0099	
Benzo (b) Fluoranthene	0.0331	1.00	ND	0.0099	
Benzo (a) Pyrene	0.0406	1.00	ND	0.0099	
Indeno (1,2,3-c,d) Pyrene	0.0267	1.00	ND	0.0099	
Dibenz (a,h) Anthracene	0.000	1.00	ND	0.0099	
Benzo (g,h,i) Perylene	0.0396	1.00	ND	0.0099	

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:38 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 15:03 ev7p

Sample Name: 17-03-1557-27 Misc Info: S032317A 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)	3.301	152	61080	5.000	0.00
3)*Naphthalene-d8	(2)	4.536	136	171171	5.000	0.00
11)*Acenaphthene-d10	(3)	6.420	164	82099	5.000	0.00
17)*Phenanthrene-d10	(4)	8.019	188	275585	5.000	0.00
31)*Perylene-d12	(6)	12.688	264	268126	5.000	0.00
25)*Chrysene-d12	(5)	10.940	240	277786	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.853	82	11423	1.008	0.00
SpikedAmount 1.000	Recovery = 100.755					
7)$2-Fluorobiphenyl	(3)	5.718	172	29263	0.987	0.00
SpikedAmount 1.000	Recovery = 98.735					
23)$p-Terphenyl-d14	(5)	9.812	244	38881	0.903	0.00
SpikedAmount 1.000	Recovery = 90.319					
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)	8.044	178	1436	0.025	96
19) Anthracene	(4)	0.000		0D	N.D.	
21) Fluoranthene	(4)	9.355	202	4133	0.055	95
22) Pyrene	(5)	9.590	202	4735	0.063	98
24) Benzo (a) Anthracene	(5)	10.923	228	3210	0.044	87
26) Chrysene	(5)	10.964	228	3017	0.045	97
27) Benzo (b) Fluoranthene	(6)	12.229	252	2313	0.033	70
28) Benzo (k) Fluoranthene	(6)	12.249	252	2719M	0.037	50
30) Benzo (a) Pyrene	(6)	12.620	252	2733A	0.041	97
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.938	276	2148	0.027	84
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.	
35) Benzo (g,h,i) Perylene	(6)	14.211	276	2560	0.040	89
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.	

M = Compound was manually integrated.
D = Compound was deleted.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:38 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 15:03 ev7p

Sample Name: 17-03-1557-27 Misc Info: S032317A 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	0.000		0	N.D.	
29) Benzo (e) pyrene	(6)	12.555	252	1785	0.021	79
32) Perylene	(6)	12.714	252	1327A	0.017	72
13) Dibenzofuran	(3)	0.000		0	N.D.	

A = User selected an alternate hit.

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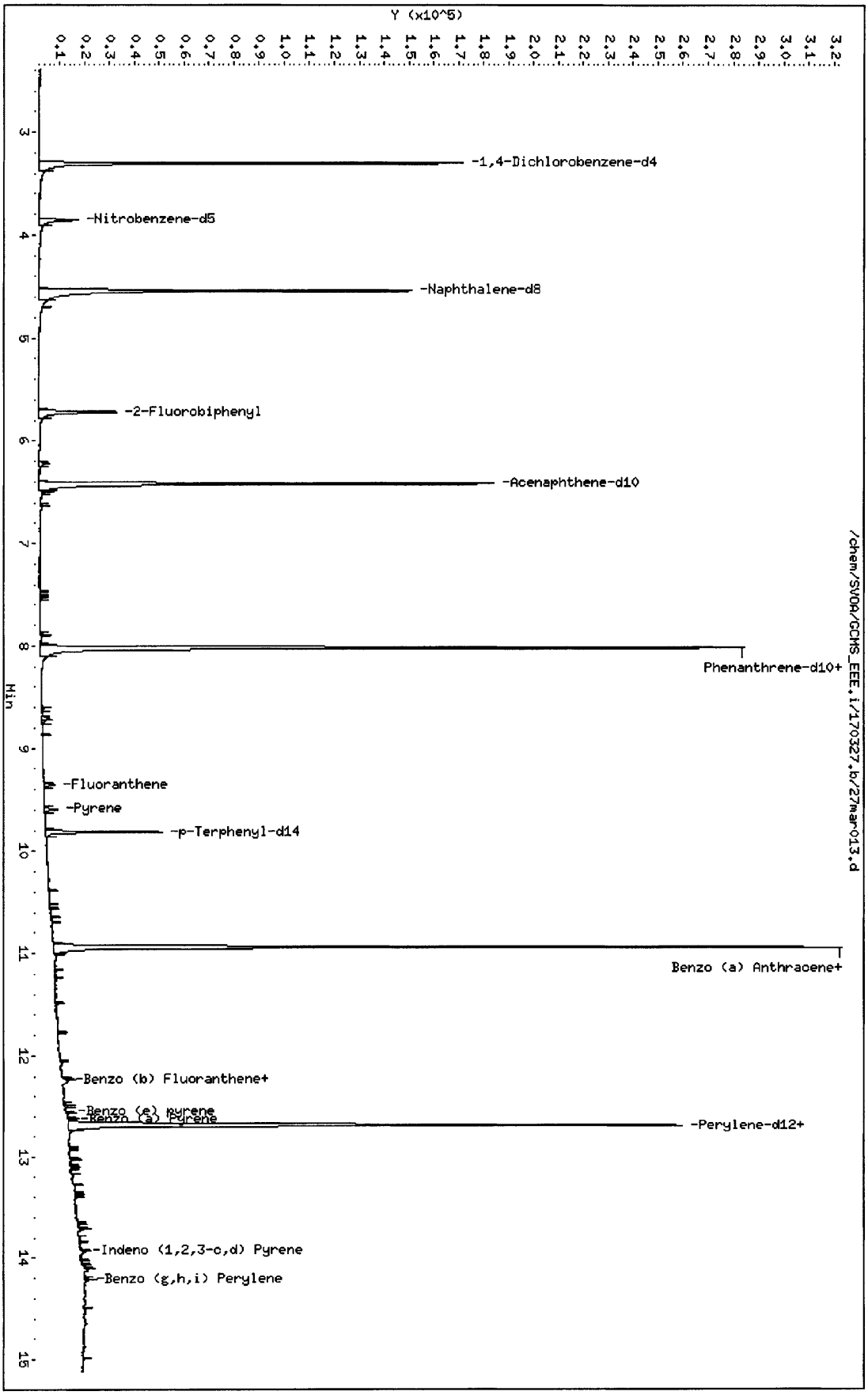
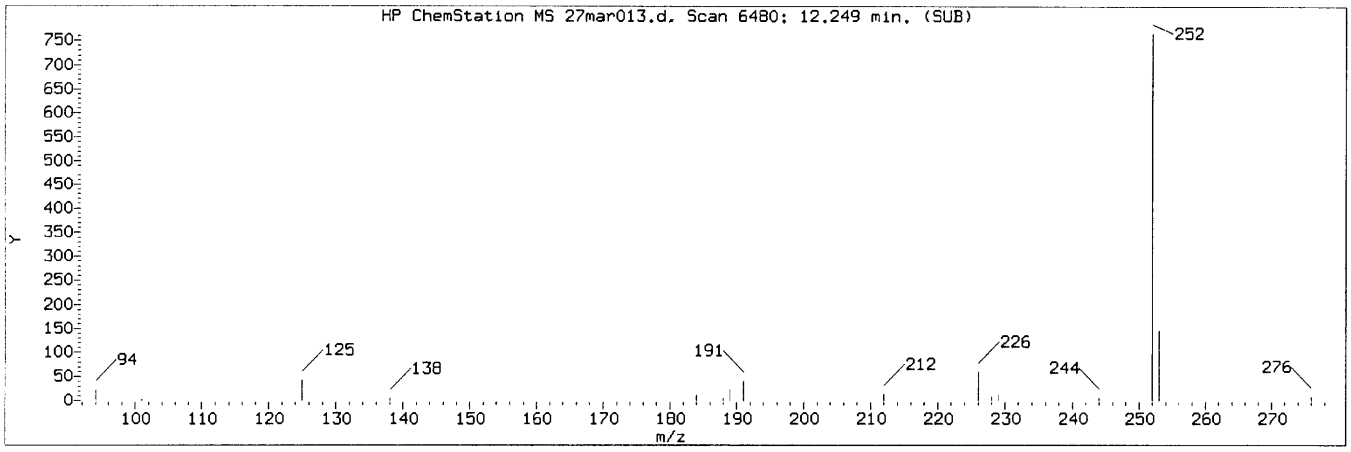
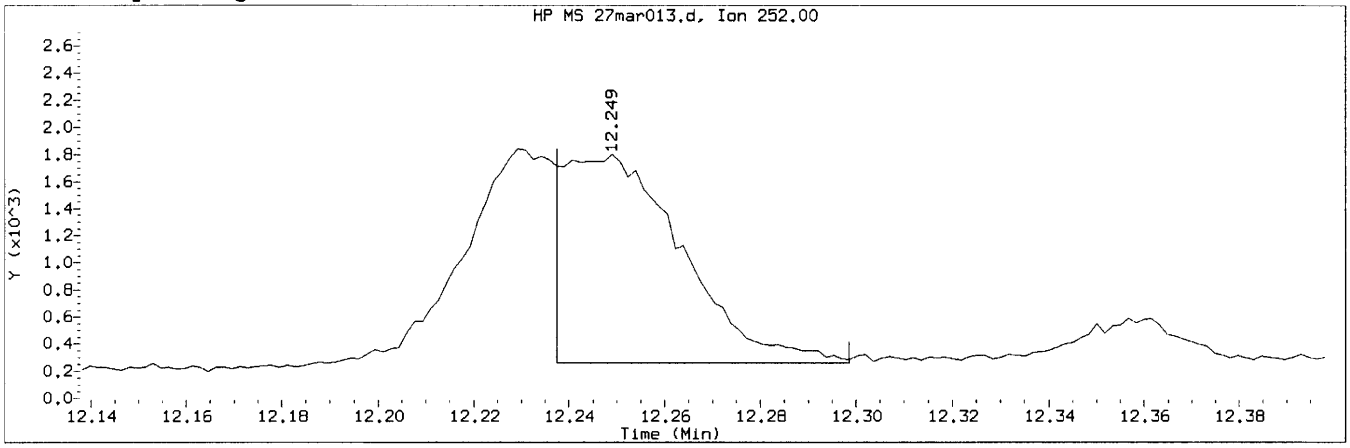


Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:38 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 15:03 ev7p

Sample Name: 17-03-1557-27

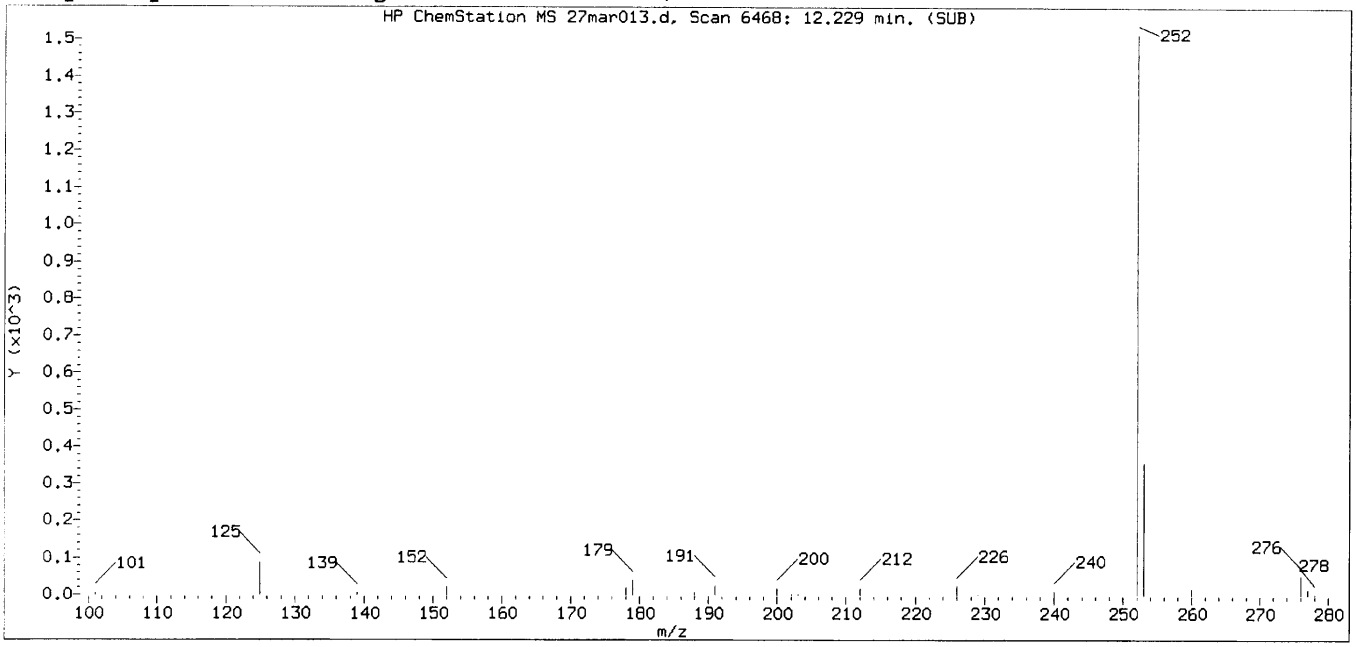
Compound Number : 28
Compound Name : Benzo (k) Fluoranthene
Scan Number : 6480
Retention Time (minutes): 12.249
Quant Ion : 252.00
Area (flag) : 2719M
On-Column Amount (mg/L) : 0.0371
Integration start scan : 6472 Integration stop scan: 6509
Y at integration start : 259 Y at integration end: 259

Reason for manual integration: improper integration

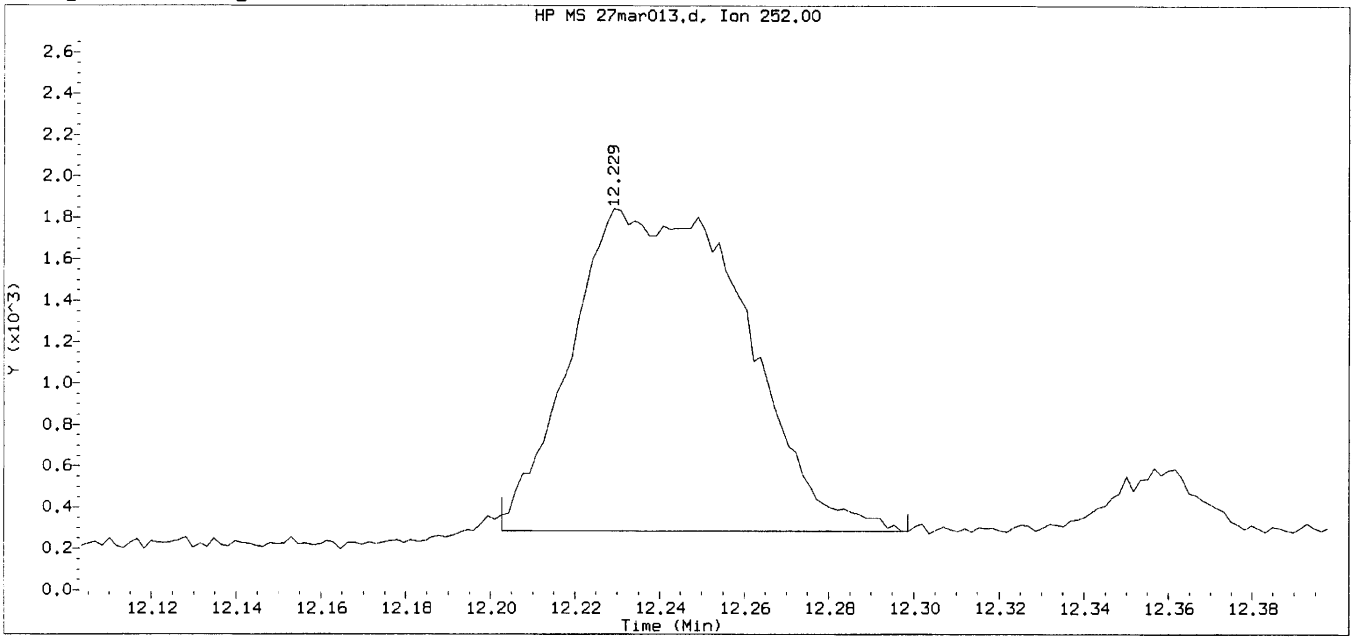
Analyst responsible for change: Digitally signed by Jeremy Huynh
on 03/28/2017 at 09:12.
Target 3.5 esignature user ID: ev7p

GC/MS audit/management approval: 3/28/17

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:38 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 15:00 Unknown

Sample Name: 17-03-1557-27

Compound Number	: 28		
Compound Name	: Benzo (k) Fluoranthene		
Scan Number	: 6468		
Retention Time (minutes)	: 12.229		
Quant Ion	: 252.00		
Area	: 4454		
On-column Amount (mg/L)	: 0.0608		
Integration start scan	: 6451	Integration stop scan:	6509
Y at integration start	: 286	Y at integration end:	286

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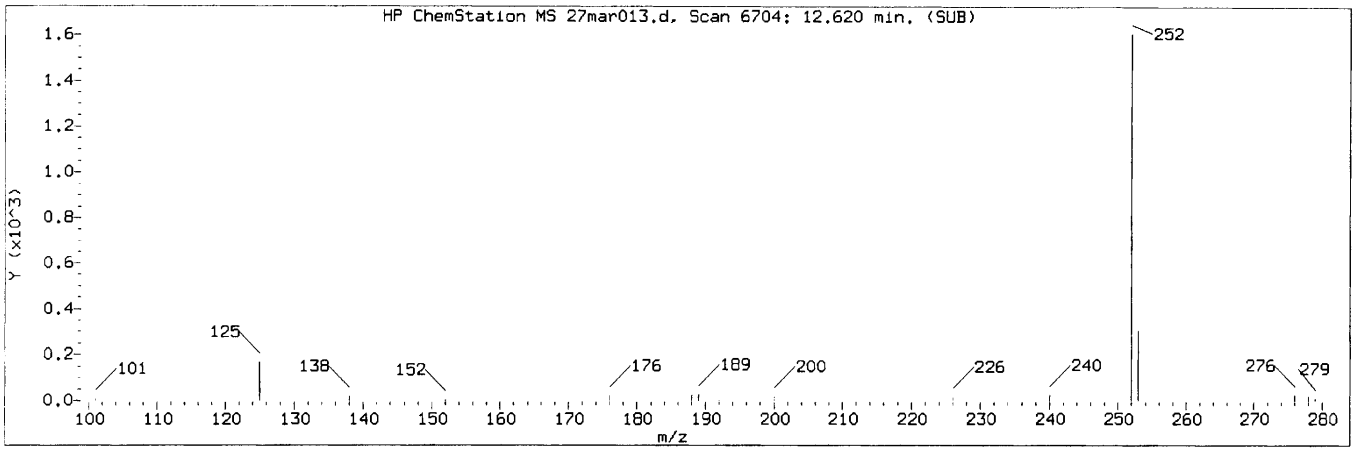
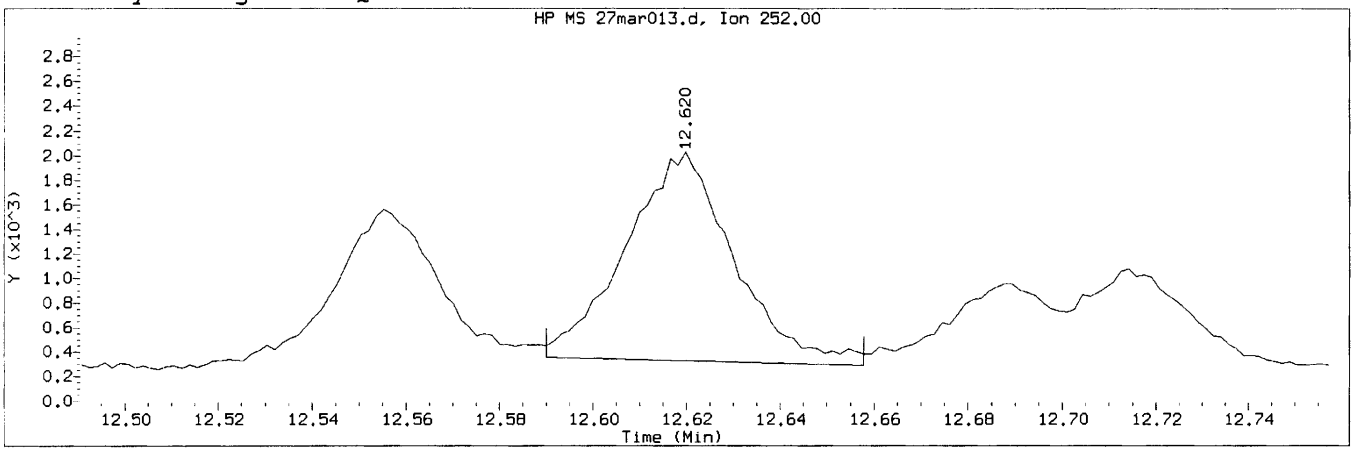
Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:38 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 15:03 ev7p

Sample Name: 17-03-1557-27

Compound Number : 30
Compound Name : Benzo (a) Pyrene
Scan Number : 6704
Retention Time (minutes): 12.620
Quant Ion : 252.00
Area (flag) : 2733A
On-Column Amount (mg/L) : 0.0406
Integration start scan : 6685 Integration stop scan: 6726
Y at integration start : 359 Y at integration end: 288

Reason for manual integration: improper integration

Analyst responsible for change: Digitally signed by Jeremy Huynh
on 03/28/2017 at 09:12.
Target 3.5 esignature user ID: ev7p

GC/MS audit/management approval: 3/28/17

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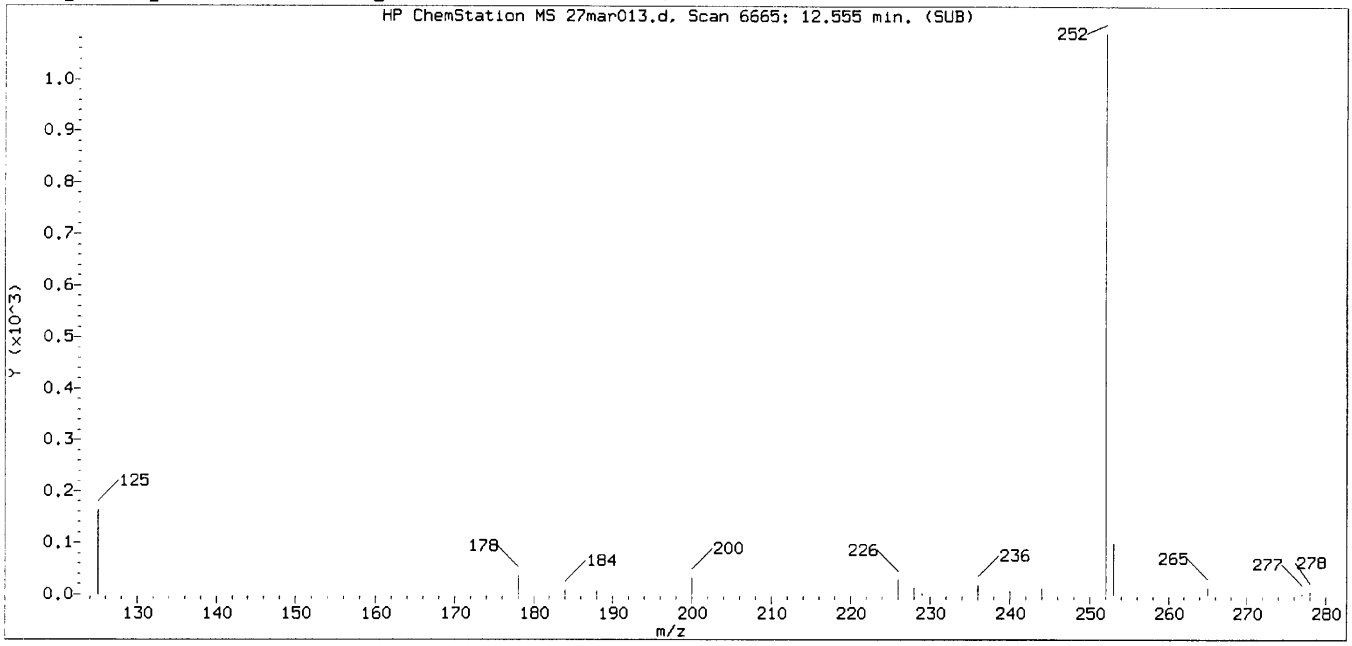
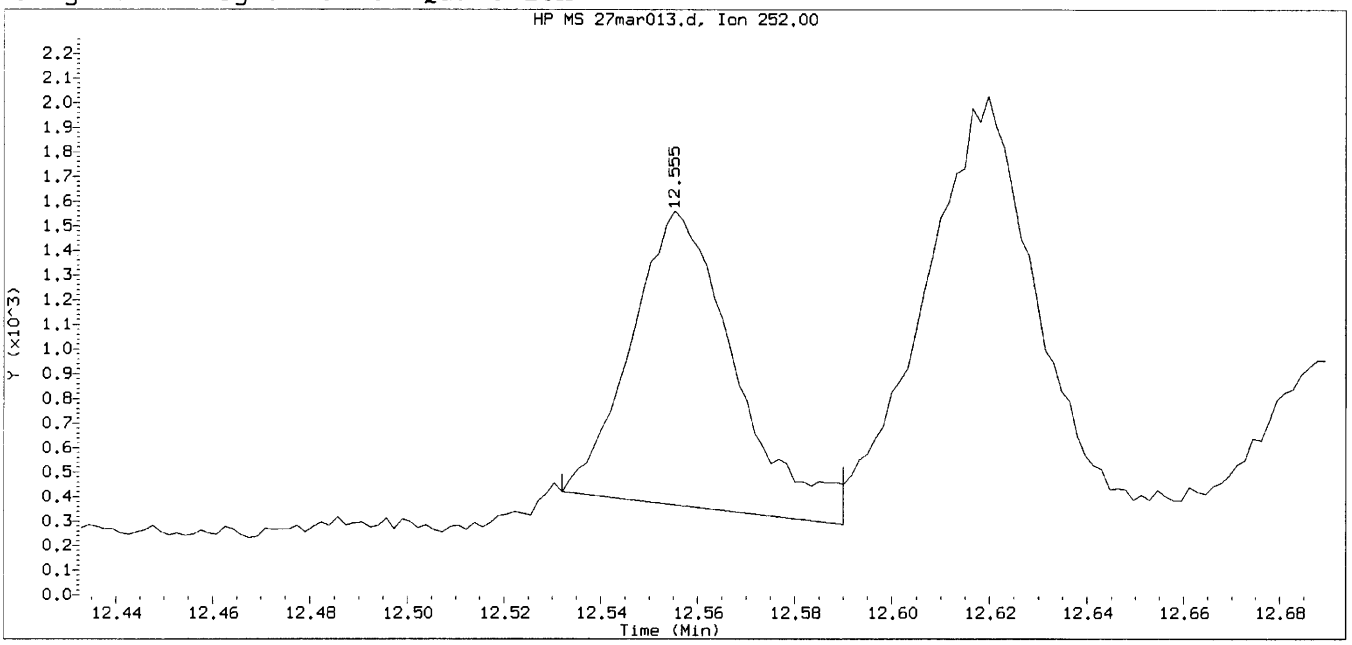
Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 14:38 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 15:00 Unknown

Sample Name: 17-03-1557-27

Compound Number	: 30		
Compound Name	: Benzo (a) Pyrene		
Scan Number	: 6665		
Retention Time (minutes)	: 12.555		
Quant Ion	: 252.00		
Area	: 1785		
On-column Amount (mg/L)	: 0.0265		
Integration start scan	: 6650	Integration stop scan:	6685
Y at integration start	: 420	Y at integration end:	288

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EPA METHOD 8270C
PAHSIM

Quality Control

Method Blank
LCS/LCSD
MS/MSD

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METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 8270C SIM PAHs

MB SAMPLE ID:	**099-14-035-386**	ANALYZED BY:	907
MB BATCH ID:	170324L17	D/T ANALYZED:	2017-03-27 11:15
INSTRUMENT:	GC/MS EEE	REVIEWED BY:	262
EXTRACTION:	EPA 3545	D/T REVIEWED:	2017-03-27 13:13
D/T EXTRACTED:	2017-03-24 00:00	MATRIX:	Soil

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar003.d\27mar003.rr

CLIENT WORK ORDER: 17-03-1557

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
25		B-DU1-ISM1-8	2017-03-27 13:57	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar011.d\27mar011.rr
26		B-DU1-ISM2-8	2017-03-27 14:17	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar012.d\27mar012.rr
27		B-DU1-ISM3-8	2017-03-27 14:38	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar013.d\27mar013.rr

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RAW DATA SHEET
FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER:	**099-14-035**	ANALYZED BY:	907
INSTRUMENT:	GC/MS EEE	D/T ANALYZED:	2017-03-27 11:15
EXTRACTION :	EPA 3545	REVIEWED BY:	262
D/T EXTRACTED:	2017-03-24 00:00	D/T REVIEWED:	2017-03-27 13:13

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar003.d\27mar003.rr

 # MB **CLIENT SAMPLE NUMBER: Method Blank**

LCS/MB BATCH:	170324L17	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: **099-14-035-386**
LCS/MB BATCH ID: 170324L17
INSTRUMENT: GC/MS EEE

EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-27 11:35
REVIEWED BY: 262
D/T REVIEWED: 2017-03-27 13:13

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar004.d\27mar004.rr

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Naphthalene	0.1000	0.09899	99	51-129	38-142	PASS	
2-Methylnaphthalene	0.1000	0.1132	113	50-127	37-140	PASS	
1-Methylnaphthalene	0.1000	0.1008	101	54-132	41-145	PASS	
Acenaphthylene	0.1000	0.09919	99	50-123	38-135	PASS	
Acenaphthene	0.1000	0.1036	104	53-125	41-137	PASS	
Fluorene	0.1000	0.1041	104	55-127	43-139	PASS	
Phenanthrene	0.1000	0.1044	104	50-122	38-134	PASS	
Anthracene	0.1000	0.1059	106	50-132	36-146	PASS	
Fluoranthene	0.1000	0.1039	104	55-127	43-139	PASS	
Pyrene	0.1000	0.1021	102	50-134	36-148	PASS	
Benzo (a) Anthracene	0.1000	0.09779	98	50-133	36-147	PASS	
Chrysene	0.1000	0.1023	102	51-129	38-142	PASS	
Benzo (k) Fluoranthene	0.1000	0.09607	96	49-150	32-167	PASS	
Benzo (b) Fluoranthene	0.1000	0.1068	107	50-142	35-157	PASS	
Benzo (a) Pyrene	0.1000	0.09631	96	50-134	36-148	PASS	
Indeno (1,2,3-c,d) Pyrene	0.1000	0.09683	97	50-148	34-164	PASS	
Dibenz (a,h) Anthracene	0.1000	0.1004	100	50-133	36-147	PASS	
Benzo (g,h,i) Perylene	0.1000	0.1028	103	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

Compounds listed in bold are required to be reported.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
FOR METHOD: EPA 8270C SIM PAHs

SPIKED SAMPLE ID: **17-03-1753-6**
MS/MSD BATCH: 170324S17
INSTRUMENTS:
SAMPLE: GC/MS EEE
MS: GC/MS EEE
MSD: GC/MS EEE

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-24 00:00
MS: 2017-03-24 00:00
MSD: 2017-03-24 00:00

ANALYZED BY: 907
D/T ANALYZED:
SAMPLE: 2017-03-27 12:36
MS: 2017-03-27 11:56
MSD: 2017-03-27 12:16
REVIEWED BY: 262
D/T REVIEWED: 2017-03-27 13:13

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	0.1123	112	0.1093	109	20-150	3	0-33	PASS	
2-Methylnaphthalene	**ND**	**1.000**	**0.1000**	**0.1381**	**138**	**0.1341**	**134**	**29-137**	**3**	**0-31**	**FAIL**	**3F**
1-Methylnaphthalene	0.01270	1.000	0.1000	0.1196	107	0.1189	106	34-136	1	0-29	PASS	
Acenaphthylene	ND	1.000	0.1000	0.1041	104	0.1049	105	29-131	1	0-32	PASS	
Acenaphthene	ND	1.000	0.1000	0.1076	108	0.1064	106	29-137	1	0-28	PASS	
Fluorene	ND	1.000	0.1000	0.1148	115	0.1155	115	36-132	1	0-27	PASS	
Phenanthrene	ND	1.000	0.1000	0.1057	106	0.1076	108	20-144	2	0-27	PASS	
Anthracene	ND	1.000	0.1000	0.1124	112	0.1092	109	26-134	3	0-27	PASS	
Fluoranthene	ND	1.000	0.1000	0.1066	107	0.1059	106	20-151	1	0-26	PASS	
Pyrene	ND	1.000	0.1000	0.1054	105	0.1084	108	20-150	3	0-32	PASS	
Benzo (a) Anthracene	ND	1.000	0.1000	0.1010	101	0.1040	104	24-150	3	0-24	PASS	
Chrysene	ND	1.000	0.1000	0.1012	101	0.09957	100	25-145	2	0-28	PASS	
Benzo (k) Fluoranthene	ND	1.000	0.1000	0.08966	90	0.08590	86	28-148	4	0-26	PASS	
Benzo (b) Fluoranthene	ND	1.000	0.1000	0.1132	113	0.1146	115	21-153	1	0-26	PASS	
Benzo (a) Pyrene	ND	1.000	0.1000	0.09968	100	0.09760	98	29-149	2	0-22	PASS	
Indeno (1,2,3-c,d) Pyrene	ND	1.000	0.1000	0.1004	100	0.09966	100	20-154	1	0-25	PASS	
Dibenz (a,h) Anthracene	ND	1.000	0.1000	0.1039	104	0.1048	105	20-132	1	0-26	PASS	
Benzo (g,h,i) Perylene	ND	1.000	0.1000	0.1071	107	0.1078	108	20-148	1	0-27	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	27mar005.rr	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar005.d\
MSD	27mar006.rr	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar006.d\

SURROGATE RECOVERIES
FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-1557
BATCH ID:
LCS/MB: **170324L17**
MS: **170324S17**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

25 CLIENT SAMPLE NUMBER : B-DU1-ISM1-8

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar011.d\27mar011.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-27 13:57

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
2-Fluorobiphenyl	83	13-127	PASS	
Nitrobenzene-d5	79	17-137	PASS	
p-Terphenyl-d14	94	4-160	PASS	

26 CLIENT SAMPLE NUMBER : B-DU1-ISM2-8

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar012.d\27mar012.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-27 14:17

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
p-Terphenyl-d14	98	4-160	PASS	
Nitrobenzene-d5	86	17-137	PASS	
2-Fluorobiphenyl	91	13-127	PASS	

27 CLIENT SAMPLE NUMBER : B-DU1-ISM3-8

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar013.d\27mar013.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-27 14:38

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
2-Fluorobiphenyl	99	13-127	PASS	
Nitrobenzene-d5	101	17-137	PASS	
p-Terphenyl-d14	90	4-160	PASS	

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SURROGATE RECOVERIES
FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-1557
BATCH ID:
LCS/MB: 170324L17
MS:
EXTRACTION : EPA 3545

REVIEWED BY: 262
D/T REVIEWED: 2017-03-27 13:13

MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar003.d\27mar003.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-27 11:15

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
2-Fluorobiphenyl	107	13-127	PASS	
Nitrobenzene-d5	109	17-137	PASS	
p-Terphenyl-d14	104	4-160	PASS	

LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar004.d\27mar004.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-27 11:35

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
p-Terphenyl-d14	100	4-160	PASS	
Nitrobenzene-d5	111	17-137	PASS	
2-Fluorobiphenyl	97	13-127	PASS	

MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar005.d\27mar005.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-27 11:56

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
p-Terphenyl-d14	99	4-160	PASS	
Nitrobenzene-d5	117	17-137	PASS	
2-Fluorobiphenyl	90	13-127	PASS	

MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-24 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar006.d\27mar006.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-27 12:16

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
2-Fluorobiphenyl	93	13-127	PASS	
Nitrobenzene-d5	115	17-137	PASS	
p-Terphenyl-d14	102	4-160	PASS	

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar003.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 11:15 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 11:58 ev7p

Sample Name: MB 170324 L17 Misc Info: S032317A 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)	3.297	152	53792	5.000	-0.01
3)*Naphthalene-d8	(2)	4.531	136	151636	5.000	0.00
11)*Acenaphthene-d10	(3)	6.411	164	71653	5.000	0.00
17)*Phenanthrene-d10	(4)	8.004	188	255973	5.000	0.00
31)*Perylene-d12	(6)	12.651	264	249943	5.000	0.00
25)*Chrysene-d12	(5)	10.919	240	264101	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.848	82	10990	1.094	0.00
SpikedAmount 1.000	Recovery = 109.418					
7)$2-Fluorobiphenyl	(3)	5.710	172	27608	1.067	0.00
SpikedAmount 1.000	Recovery = 106.732					
23)$p-Terphenyl-d14	(5)	9.800	244	42587	1.041	0.00
SpikedAmount 1.000	Recovery = 104.053					
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		0	N.D.	
26) Chrysene	(5)	0.000		0D	N.D.	
27) Benzo (b) Fluoranthene	(6)	0.000		0	N.D.	
28) Benzo (k) Fluoranthene	(6)	0.000		0	N.D.	
30) Benzo (a) Pyrene	(6)	0.000		0	N.D.	
33) Indeno (1,2,3-c,d) Pyrene	(6)	0.000		0	N.D.	
34) Dibenz (a,h) Anthracene	(6)	0.000		0	N.D.	
35) Benzo (g,h,i) Perylene	(6)	0.000		0	N.D.	
8) Biphenyl	(3)	0.000		0	N.D.	
9) 2,6-Dimethylnaphthalene	(3)	0.000		0	N.D.	
14) 1,6,7-Trimethylnaphthalene	(3)	0.000		0	N.D.	
16) Dibenzothiophene	(3)	0.000		0	N.D.	

D = Compound was deleted.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar003.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 11:15 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 11:58 ev7p

Sample Name: MB 170324 L17 Misc Info: S032317A 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.	

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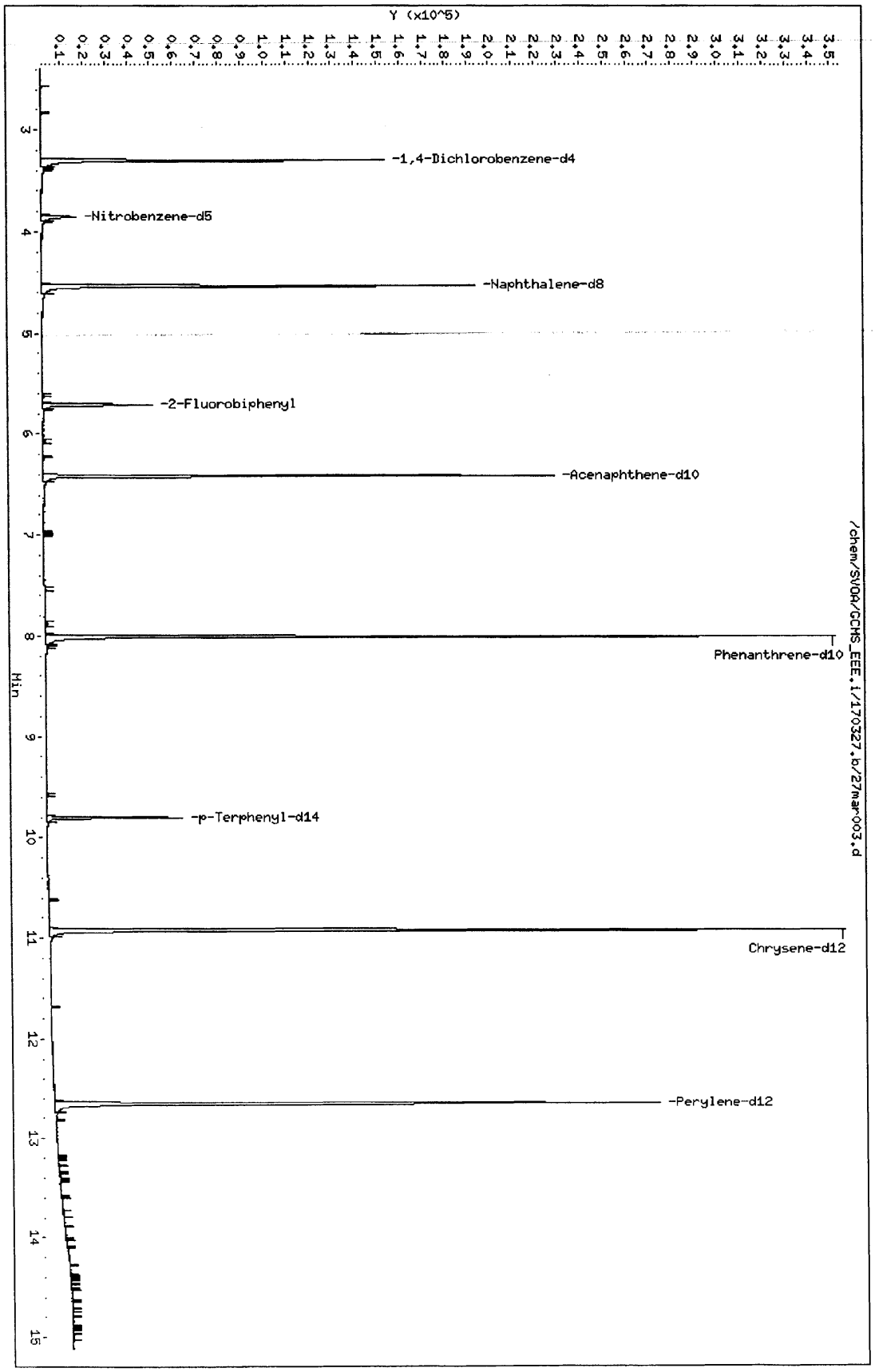

Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar004.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 11:35 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 11:57 Unknown

Sample Name: LCS 170324 L17 Misc Info: S032317A 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)	3.296	152	59177	5.000	0.00
3) *Naphthalene-d8	(2)	4.530	136	161558	5.000	0.00
11) *Acenaphthene-d10	(3)	6.411	164	75915	5.000	0.00
17) *Phenanthrene-d10	(4)	8.006	188	258057	5.000	0.00
31) *Perylene-d12	(6)	12.651	264	264968	5.000	0.00
25) *Chrysene-d12	(5)	10.918	240	273070	5.000	0.00
System Monitoring Compounds						
2) $Nitrobenzene-d5	(2)	3.846	82	11840	1.106	0.00
SpikedAmount 1.000	Recovery = 110.648					
7) $2-Fluorobiphenyl	(3)	5.708	172	26532	0.968	0.00
SpikedAmount 1.000	Recovery = 96.815					
23) $p-Terphenyl-d14	(5)	9.800	244	42412	1.002	0.00
SpikedAmount 1.000	Recovery = 100.223					
Target Compounds						QValue
4) Naphthalene	(2)	4.551	128	34688	0.990	99
5) 2-Methylnaphthalene	(2)	5.279	142	24194	1.132	100
6) 1-Methylnaphthalene	(2)	5.391	142	21604	1.008	98
10) Acenaphthylene	(3)	6.242	152	38079	0.992	99
12) Acenaphthene	(3)	6.445	153	23876	1.036	100
15) Fluorene	(3)	6.996	166	26694	1.041	97
18) Phenanthrene	(4)	8.029	178	57171	1.044	99
19) Anthracene	(4)	8.079	178	56701	1.059	99
21) Fluoranthene	(4)	9.335	202	73166	1.039	99
22) Pyrene	(5)	9.572	202	75887	1.021	100
24) Benzo (a) Anthracene	(5)	10.901	228	70352	0.978	100
26) Chrysene	(5)	10.944	228	66849	1.023	100
27) Benzo (b) Fluoranthene	(6)	12.194	252	73767	1.068	95
28) Benzo (k) Fluoranthene	(6)	12.221	252	69552	0.961	95
30) Benzo (a) Pyrene	(6)	12.582	252	64106	0.963	99
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.889	276	77051	0.968	99
34) Dibenz (a,h) Anthracene	(6)	13.912	278	60607	1.004	99
35) Benzo (g,h,i) Perylene	(6)	14.158	276	65733	1.028	99
8) Biphenyl	(3)	5.796	154	31974	0.940	99
9) 2,6-Dimethylnaphthalene	(3)	5.956	156	21642	0.907	100
14) 1,6,7-Trimethylnaphthalene	(3)	6.876	170	21756	0.912	100
16) Dibenzothiophene	(3)	7.893	184	70317	1.002	99

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar004.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 11:35 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 11:57 Unknown

Sample Name: LCS 170324 L17 Misc Info: S032317A 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.716	192	52870	0.971	100
29) Benzo (e) pyrene	(6)	12.519	252	78369	0.950	99
32) Perylene	(6)	12.679	252	73990	0.935	98
13) Dibenzofuran	(3)	6.623	168	34622	1.039	100

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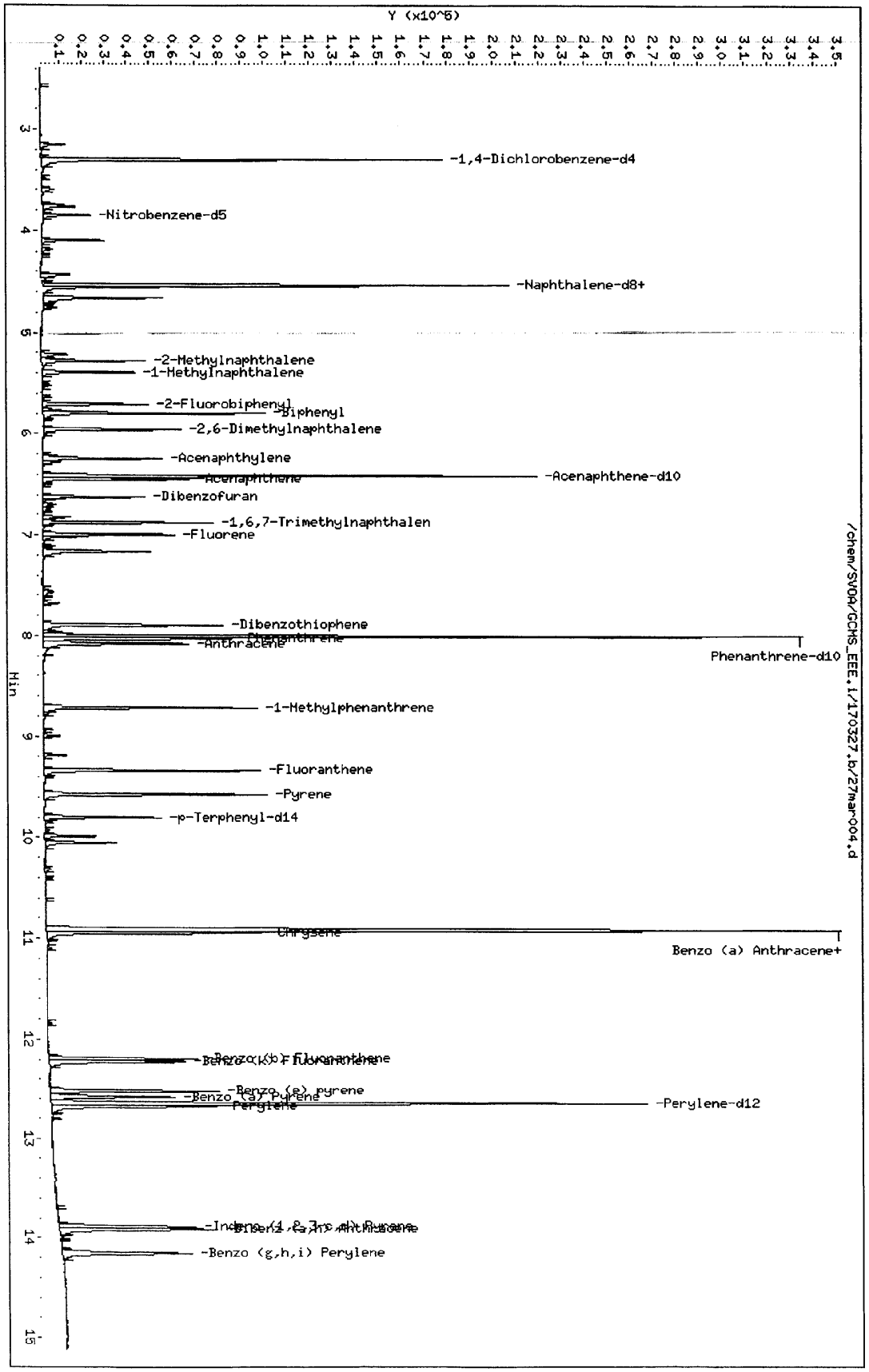

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar004.d
Date : 27-MAR-2017 11:35
Client ID:
Sample Info: LCS 170324 L17
Column phase: J&W DB-5MS

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

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar005.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 11:56 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 12:49 ev7p

Sample Name: 17-03-1753-6 MS Misc Info: S032317A 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)	3.299	152	57973	5.000	-0.01
3)*Naphthalene-d8	(2)	4.532	136	150857	5.000	0.00
11)*Acenaphthene-d10	(3)	6.416	164	71434	5.000	-0.01
17)*Phenanthrene-d10	(4)	8.009	188	252691	5.000	0.00
31)*Perylene-d12	(6)	12.661	264	256493	5.000	-0.01
25)*Chrysene-d12	(5)	10.922	240	265492	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.845	82	11711	1.172	0.00
SpikedAmount 1.000	Recovery = 117.202					
7)$2-Fluorobiphenyl	(3)	5.712	172	23148	0.898	0.00
SpikedAmount 1.000	Recovery = 89.764					
23)$p-Terphenyl-d14	(5)	9.803	244	40645	0.988	0.00
SpikedAmount 1.000	Recovery = 98.788					
Target Compounds						QValue
4) Naphthalene	(2)	4.552	128	36731	1.123	85
5) 2-Methylnaphthalene	(2)	5.283	142	27560	1.381	100
6) 1-Methylnaphthalene	(2)	5.395	142	23933	1.196	95
10) Acenaphthylene	(3)	6.248	152	37605	1.041	87
12) Acenaphthene	(3)	6.449	153	23317	1.076	98
15) Fluorene	(3)	6.998	166	27707	1.148	100
18) Phenanthrene	(4)	8.032	178	56669	1.057	99
19) Anthracene	(4)	8.082	178	58947	1.124	98
21) Fluoranthene	(4)	9.340	202	73523	1.066	98
22) Pyrene	(5)	9.577	202	76232	1.054	100
24) Benzo (a) Anthracene	(5)	10.908	228	70603	1.009	99
26) Chrysene	(5)	10.951	228	64286	1.012	99
27) Benzo (b) Fluoranthene	(6)	12.202	252	75658	1.132	97
28) Benzo (k) Fluoranthene	(6)	12.232	252	62835	0.897	95
30) Benzo (a) Pyrene	(6)	12.591	252	64226	0.997	98
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.899	276	77376	1.005	97
34) Dibenz (a,h) Anthracene	(6)	13.924	278	60692	1.039	99
35) Benzo (g,h,i) Perylene	(6)	14.172	276	66307	1.071	96
8) Biphenyl	(3)	5.800	154	34323	1.073	97
9) 2,6-Dimethylnaphthalene	(3)	5.962	156	30916	1.377	99
14) 1,6,7-Trimethylnaphthalene	(3)	6.878	170	32486	1.448	99
16) Dibenzothiophene	(3)	7.895	184	70477	1.067	99

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar005.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 11:56 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 12:49 ev7p

Sample Name: 17-03-1753-6 MS Misc Info: S032317A 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.721	192	53620	1.013	100
29) Benzo (e) pyrene	(6)	12.532	252	77418	0.969	97
32) Perylene	(6)	12.692	252	76413	0.997	98
13) Dibenzofuran	(3)	6.626	168	36035	1.150	96

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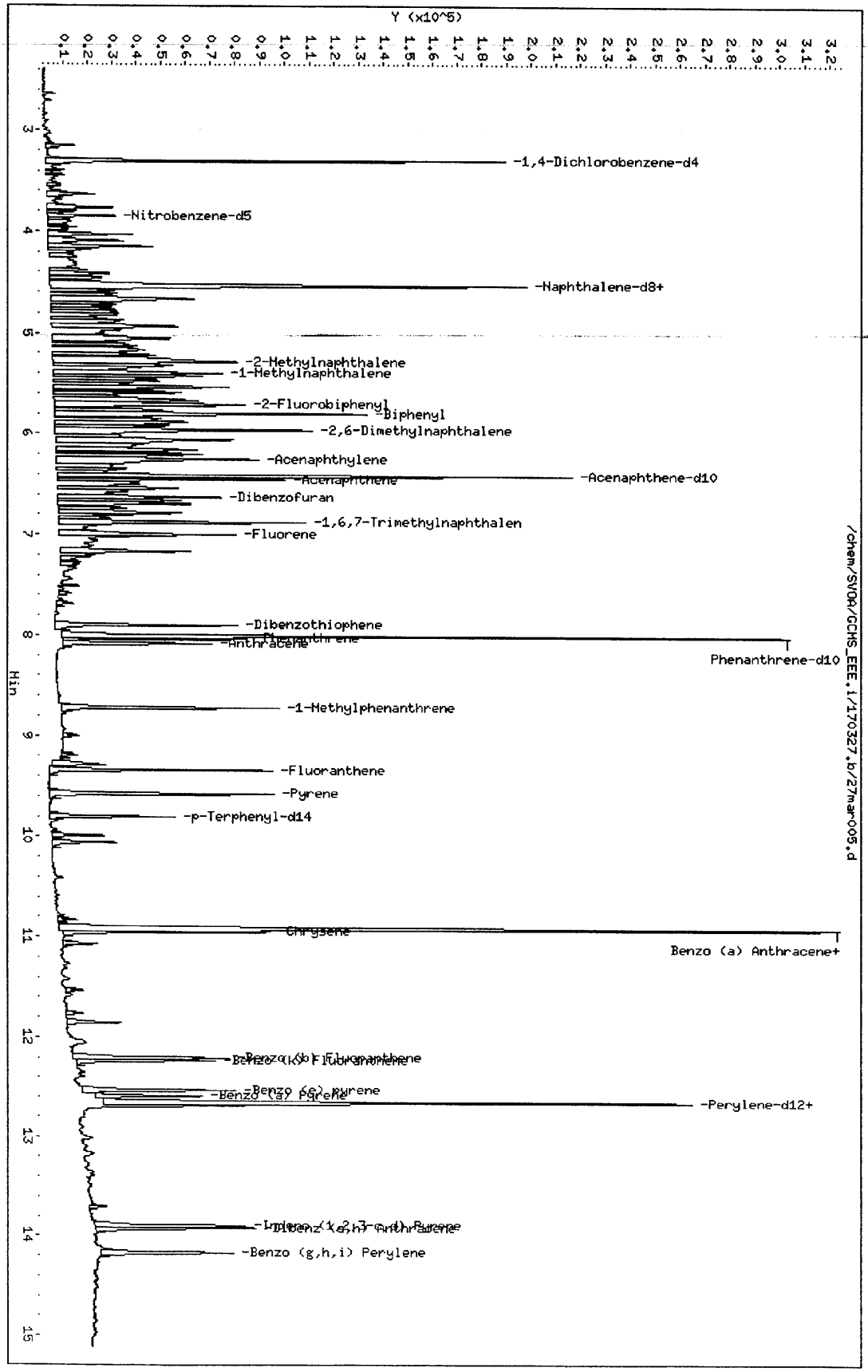

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar006.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 12:16 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 12:49 ev7p

Sample Name: 17-03-1753-6 MSD Misc Info: S032317A 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)	3.300	152	58479	5.000	-0.01
3)*Naphthalene-d8	(2)	4.534	136	152866	5.000	0.00
11)*Acenaphthene-d10	(3)	6.418	164	72569	5.000	-0.01
17)*Phenanthrene-d10	(4)	8.011	188	255933	5.000	-0.01
31)*Perylene-d12	(6)	12.671	264	255038	5.000	-0.02
25)*Chrysene-d12	(5)	10.928	240	257728	5.000	-0.01
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.846	82	11596	1.145	0.00
SpikedAmount 1.000	Recovery = 114.523					
7)$2-Fluorobiphenyl	(3)	5.714	172	24339	0.929	-0.01
SpikedAmount 1.000	Recovery = 92.907					
23)$p-Terphenyl-d14	(5)	9.805	244	40891	1.024	0.00
SpikedAmount 1.000	Recovery = 102.381					
Target Compounds						QValue
4) Naphthalene	(2)	4.554	128	36254	1.093	82
5) 2-Methylnaphthalene	(2)	5.285	142	27117	1.341	97
6) 1-Methylnaphthalene	(2)	5.397	142	24102	1.189	95
10) Acenaphthylene	(3)	6.249	152	38508	1.049	81
12) Acenaphthene	(3)	6.450	153	23432	1.064	97
15) Fluorene	(3)	7.000	166	28303	1.155	99
18) Phenanthrene	(4)	8.034	178	58419	1.076	100
19) Anthracene	(4)	8.084	178	57960	1.092	99
21) Fluoranthene	(4)	9.343	202	73969	1.059	99
22) Pyrene	(5)	9.580	202	76041	1.084	99
24) Benzo (a) Anthracene	(5)	10.909	228	70638	1.040	100
26) Chrysene	(5)	10.954	228	61424	0.996	98
27) Benzo (b) Fluoranthene	(6)	12.211	252	76123	1.145	94
28) Benzo (k) Fluoranthene	(6)	12.237	252	59864	0.859	96
30) Benzo (a) Pyrene	(6)	12.600	252	62531	0.976	96
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.911	276	76328	0.997	96
34) Dibenz (a,h) Anthracene	(6)	13.936	278	60882	1.048	99
35) Benzo (g,h,i) Perylene	(6)	14.184	276	66337	1.078	98
8) Biphenyl	(3)	5.802	154	35389	1.089	96
9) 2,6-Dimethylnaphthalene	(3)	5.963	156	31736	1.391	95
14) 1,6,7-Trimethylnaphthalene	(3)	6.881	170	33039	1.449	99
16) Dibenzothiophene	(3)	7.900	184	70636	1.053	99

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar006.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 12:16 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 12:49 ev7p

Sample Name: 17-03-1753-6 MSD Misc Info: S032317A 10UL
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.724	192	54048	1.052	99
29) Benzo (e) pyrene	(6)	12.540	252	78269	0.985	91
32) Perylene	(6)	12.701	252	75577	0.992	99
13) Dibenzofuran	(3)	6.626	168	37097	1.165	98

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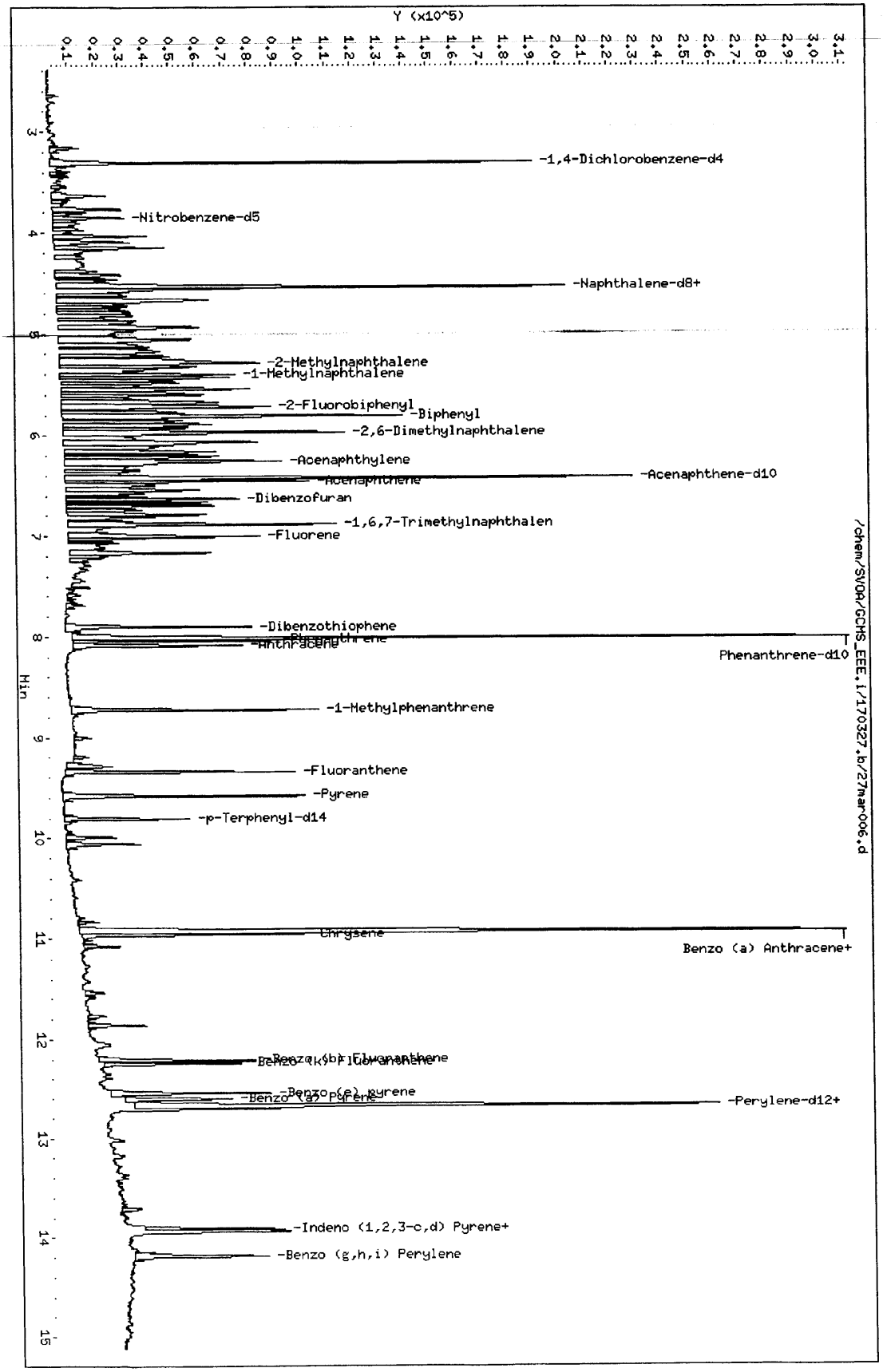

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar007.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 12:36 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 13:02 ev7p

Sample Name: 17-03-1753-6 Misc Info: S032317A 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)	3.301	152	59052	5.000	-0.01
3) *Naphthalene-d8	(2)	4.536	136	155982	5.000	-0.01
11) *Acenaphthene-d10	(3)	6.421	164	73544	5.000	-0.01
17) *Phenanthrene-d10	(4)	8.013	188	259932	5.000	-0.01
31) *Perylene-d12	(6)	12.676	264	264839	5.000	-0.02
25) *Chrysene-d12	(5)	10.933	240	269341	5.000	-0.01
System Monitoring Compounds						
2) $Nitrobenzene-d5	(2)	3.850	82	9955	0.964	-0.01
SpikedAmount 1.000	Recovery = 96.353					
7) $2-Fluorobiphenyl	(3)	5.716	172	24362	0.918	-0.01
SpikedAmount 1.000	Recovery = 91.762					
23) $p-Terphenyl-d14	(5)	9.807	244	43951	1.053	-0.01
SpikedAmount 1.000	Recovery = 105.298					
Target Compounds						QValue
4) Naphthalene	(2)	4.570	128	2881	0.085	1
5) 2-Methylnaphthalene	(2)	5.287	142	1073	0.052	42
6) 1-Methylnaphthalene	(2)	5.400	142	2640	0.128	74
10) Acenaphthylene	(3)	0.000		0D	N.D.	
12) Acenaphthene	(3)	0.000		0D	N.D.	
15) Fluorene	(3)	7.005	166	2153	0.087	88
18) Phenanthrene	(4)	8.036	178	920	0.017	94
19) Anthracene	(4)	0.000		0D	N.D.	
21) Fluoranthene	(4)	0.000		0	N.D.	
22) Pyrene	(5)	9.582	202	1126	0.015	73
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)	5.805	154	3337	0.101	75
9) 2,6-Dimethylnaphthalene	(3)	5.968	156	9498	0.411	91
14) 1,6,7-Trimethylnaphthalene	(3)	6.880	170	11105	0.481	98
16) Dibenzothiophene	(3)	0.000		0	N.D.	

D = Compound was deleted.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar007.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 12:36 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 13:02 ev7p

Sample Name: 17-03-1753-6 Misc Info: S032317A 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)	6.631	168	2167	0.067	10

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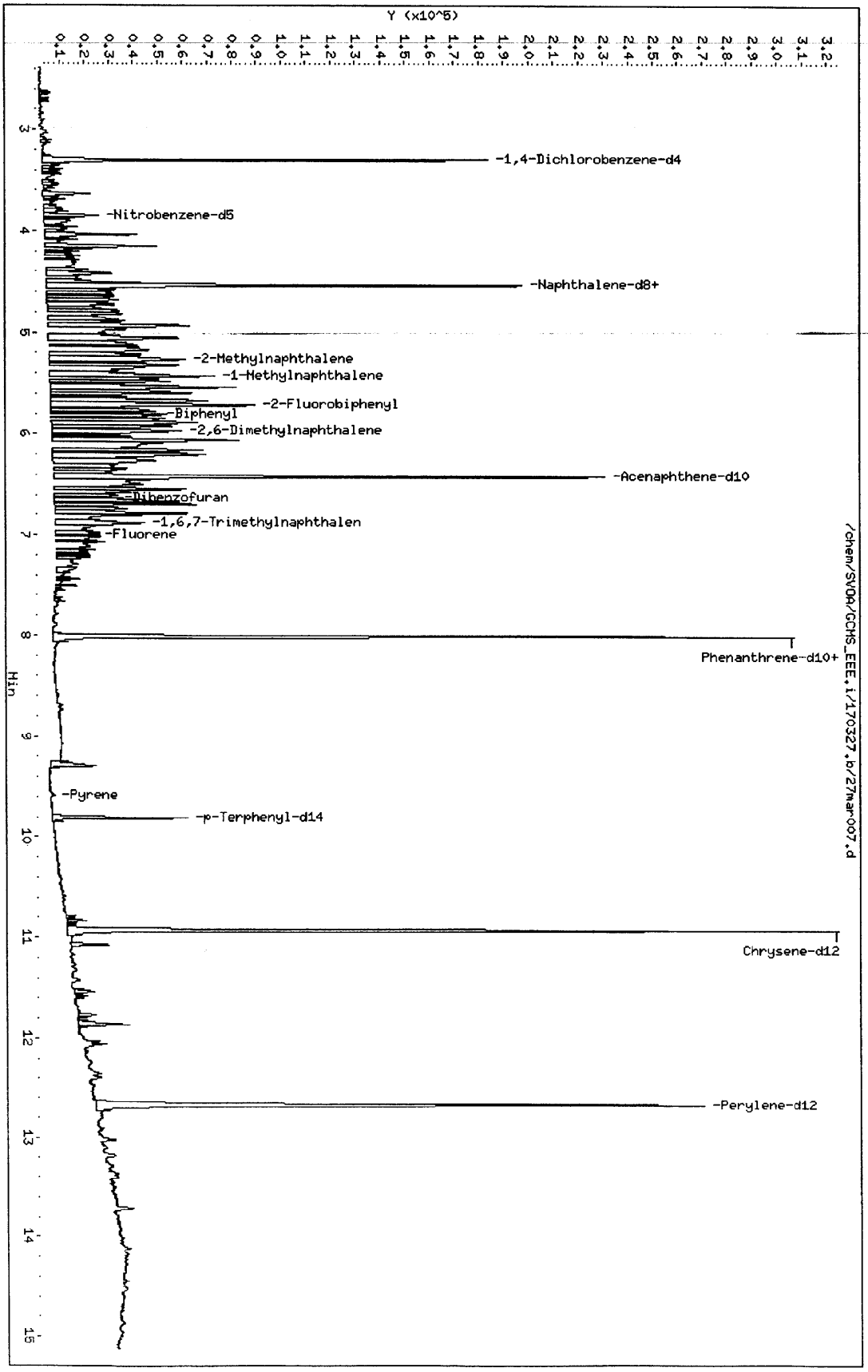

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar007.d
Date : 27-MAR-2017 12:36
Client ID:
Sample Info: 17-03-1783-6
Column phase: J&W DB-5MS

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

EPA METHOD 8270C
PAHSIM

Continuing Calibration

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CCV ASSOCIATION SUMMARY
FOR METHOD: EPA 8270C SIM PAHs

BATCH ID: **170327A010** ANALYZED BY: 907
INSTRUMENT: GC/MS EEE

WORK ORDER: **099-06-009** REVIEWED BY: 262
MATRIX: Water D/T REVIEWED: 2017-03-27 13:13

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
4997	Daily Calibration	2017-03-27 10:55	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar002.d\27mar002.r

WORK ORDER: **17-03-1557** REVIEWED BY:
MATRIX: Soil D/T REVIEWED:

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
25	B-DU1-ISM1-8	2017-03-27 13:57	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar011.d\27mar011.r
26	B-DU1-ISM2-8	2017-03-27 14:17	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar012.d\27mar012.r
27	B-DU1-ISM3-8	2017-03-27 14:38	Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar013.d\27mar013.r

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CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
FOR METHOD: EPA 8270C SIM PAHs

CCV WORK ORDER: **099-06-009-4997-4741**
INSTRUMENT: GC/MS EEE
BATCH ID:
INITIAL: 170313I001
CCV: 170327A010

ANALYZED BY: 907
D/T ANALYZED:
INITIAL: 2017-03-13 14:13
CCV: 2017-03-27 10:55
REVIEWED BY: 262
D/T REVIEWED: 2017-03-27 13:13

Data File: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar002.d\27mar002.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	1.085	1.196			-10	0-20	PASS
2-Methylnaphthalene		Avg Resp	0.00	0.661	0.759			-15	0-20	PASS
1-Methylnaphthalene		Avg Resp	0.00	0.663	0.699			-5	0-20	PASS
Acenaphthylene		Avg Resp	0.00	2.528	2.700			-7	0-20	PASS
Acenaphthene	C	Avg Resp	0.00	1.517	1.630			-7	0-20	PASS
Fluorene		Avg Resp	0.00	1.689	1.784			-6	0-20	PASS
Phenanthrene		Avg Resp	0.00	1.061	1.111			-5	0-20	PASS
Anthracene		Avg Resp	0.00	1.037	1.121			-8	0-20	PASS
Fluoranthene	C	Avg Resp	0.00	1.365	1.448			-6	0-20	PASS
Pyrene		Avg Resp	0.00	1.362	1.469			-8	0-20	PASS
Benzo (a) Anthracene		Avg Resp	0.00	1.317	1.349			-2	0-20	PASS
Chrysene		Avg Resp	0.00	1.197	1.323			-11	0-20	PASS
Benzo (k) Fluoranthene		Avg Resp	0.00	1.366	1.436			-5	0-20	PASS
Benzo (b) Fluoranthene		Avg Resp	0.00	1.303	1.437			-10	0-20	PASS
Benzo (a) Pyrene	C	Avg Resp	0.00	1.256	1.339			-7	0-20	PASS
Indeno (1,2,3-c,d) Pyrene		Avg Resp	0.00	1.502	1.558			-4	0-20	PASS
Dibenz (a,h) Anthracene		Avg Resp	0.00	1.139	1.237			-9	0-20	PASS
Benzo (g,h,i) Perylene		Avg Resp	0.00	1.207	1.261			-4	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

INTERNAL STANDARD COMPOUNDS AREA REPORT
FOR METHOD: EPA 8270C SIM PAHs

ICAL BATCH ID: 170313I001 **CCV BATCH ID:** 170327A010

ICAL MIDPOINT

SAMPLE ID: 099-06-009-4979 D/T ANALYZED: 2017-03-13 13:33

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar008.d\13mar008.rr

COMPOUND	AREA	RETENTION TIME
1,4-Dichlorobenzene-d4	46489	3.41
Naphthalene-d8	140022	4.66
Acenaphthene-d10	63153	6.54
Phenanthrene-d10	210133	8.14
Chrysene-d12	220711	11.06
Perylene-d12	208071	12.82

ICV

SAMPLE ID 099-06-009-4979 D/T ANALYZED: 2017-03-13 14:34

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar011.d\13mar011.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	44664	23244	92978	3.42	PASS
Naphthalene-d8	134376	70011	280044	4.65	PASS
Acenaphthene-d10	61082	31576	126306	6.54	PASS
Phenanthrene-d10	200519	105066	420266	8.14	PASS
Chrysene-d12	207148	110356	441422	11.06	PASS
Perylene-d12	200860	104036	416142	12.82	PASS

CCV

SAMPLE ID 099-06-009-4997 D/T ANALYZED: 2017-03-27 10:55

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar002.d\27mar002.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	55771	23244	92978	3.29	PASS
Naphthalene-d8	153732	70011	280044	4.53	PASS
Acenaphthene-d10	70535	31576	126306	6.41	PASS
Phenanthrene-d10	237225	105066	420266	8.00	PASS
Chrysene-d12	244953	110356	441422	10.92	PASS
Perylene-d12	230206	104036	416142	12.65	PASS

MB

SAMPLE ID 099-14-035-386 D/T ANALYZED: 2017-03-27 11:15

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar003.d\27mar003.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	53792	27886	111542	3.30	PASS
Naphthalene-d8	151636	76866	307464	4.53	PASS
Acenaphthene-d10	71653	35268	141070	6.41	PASS
Phenanthrene-d10	255973	118612	474450	8.00	PASS
Chrysene-d12	264101	122476	489906	10.92	PASS
Perylene-d12	249943	115103	460412	12.65	PASS

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LCS

SAMPLE ID 099-14-035-386 D/T ANALYZED: 2017-03-27 11:35

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar004.d\27mar004.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	59177	27886	111542	3.30	PASS
Naphthalene-d8	161558	76866	307464	4.53	PASS
Acenaphthene-d10	75915	35268	141070	6.41	PASS
Phenanthrene-d10	258057	118612	474450	8.01	PASS
Chrysene-d12	273070	122476	489906	10.92	PASS
Perylene-d12	264968	115103	460412	12.65	PASS

MS

SAMPLE ID 17-03-1753-6 D/T ANALYZED: 2017-03-27 11:56

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar005.d\27mar005.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	57973	27886	111542	3.30	PASS
Naphthalene-d8	150857	76866	307464	4.53	PASS
Acenaphthene-d10	71434	35268	141070	6.42	PASS
Phenanthrene-d10	252691	118612	474450	8.01	PASS
Chrysene-d12	265492	122476	489906	10.92	PASS
Perylene-d12	256493	115103	460412	12.66	PASS

MSD

SAMPLE ID 17-03-1753-6 D/T ANALYZED: 2017-03-27 12:16

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar006.d\27mar006.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	58479	27886	111542	3.30	PASS
Naphthalene-d8	152866	76866	307464	4.53	PASS
Acenaphthene-d10	72569	35268	141070	6.42	PASS
Phenanthrene-d10	255933	118612	474450	8.01	PASS
Chrysene-d12	257728	122476	489906	10.93	PASS
Perylene-d12	255038	115103	460412	12.67	PASS

CS

SAMPLE ID 17-03-1557-25 D/T ANALYZED: 2017-03-27 13:57

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar011.d\27mar011.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	59986	27886	111542	3.30	PASS
Naphthalene-d8	169237	76866	307464	4.54	PASS
Acenaphthene-d10	80719	35268	141070	6.42	PASS
Phenanthrene-d10	267245	118612	474450	8.02	PASS
Chrysene-d12	260860	122476	489906	10.93	PASS
Perylene-d12	254564	115103	460412	12.68	PASS

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CS

SAMPLE ID 17-03-1557-26 D/T ANALYZED: 2017-03-27 14:17

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar012.d\27mar012.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	60589	27886	111542	3.30	PASS
Naphthalene-d8	171804	76866	307464	4.53	PASS
Acenaphthene-d10	81274	35268	141070	6.42	PASS
Phenanthrene-d10	274687	118612	474450	8.02	PASS
Chrysene-d12	279862	122476	489906	10.94	PASS
Perylene-d12	271055	115103	460412	12.68	PASS

CS

SAMPLE ID 17-03-1557-27 D/T ANALYZED: 2017-03-27 14:38

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170327\27mar013.d\27mar013.rr

COMPOUND	AREA	LOWER AREA LIMIT	UPPER AREA LIMIT	RETENTION TIME	STATUS
1,4-Dichlorobenzene-d4	61080	27886	111542	3.30	PASS
Naphthalene-d8	171171	76866	307464	4.54	PASS
Acenaphthene-d10	82099	35268	141070	6.42	PASS
Phenanthrene-d10	275585	118612	474450	8.02	PASS
Chrysene-d12	277786	122476	489906	10.94	PASS
Perylene-d12	268126	115103	460412	12.69	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.

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Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar002.d
Report Date: 03/27/2017 13:02

Eurofins CalScience
Calibration Verification Report

Instrument ID: GCMS_EEE.i
Sample Name: CCV S010317F 1PPM
Sublist used: all.sub
Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m

Injection Date and Time: 27-MAR-2017 10:55
Initial Calibration Date(s): 03-JAN-2017 13-MAR-2017
Initial Calibration Time(s): 11:59 14:13

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Naphthalene	1.085	1.196	0.00	-10	20	Averaged
2-Methylnaphthalene	0.661	0.759	0.00	-15	20	Averaged
1-Methylnaphthalene	0.663	0.699	0.00	-5	20	Averaged
Acenaphthylene	2.528	2.700	0.00	-7	20	Averaged
Acenaphthene	1.517	1.630	0.00	-7	20	Averaged
Fluorene	1.689	1.784	0.00	-6	20	Averaged
Phenanthrene	1.061	1.111	0.00	-5	20	Averaged
Anthracene	1.037	1.121	0.00	-8	20	Averaged
Fluoranthene	1.365	1.448	0.00	-6	20	Averaged
Pyrene	1.362	1.469	0.00	-8	20	Averaged
Benzo (a) Anthracene	1.317	1.349	0.00	-2	20	Averaged
Chrysene	1.197	1.323	0.00	-11	20	Averaged
Benzo (b) Fluoranthene	1.303	1.437	0.00	-10	20	Averaged
Benzo (k) Fluoranthene	1.366	1.436	0.00	-5	20	Averaged
Benzo (a) Pyrene	1.256	1.339	0.00	-7	20	Averaged
Indeno (1,2,3-c,d) Pyrene	1.502	1.558	0.00	-4	20	Averaged
Dibenz (a,h) Anthracene	1.139	1.237	0.00	-9	20	Averaged
Benzo (g,h,i) Perylene	1.207	1.261	0.00	-4	20	Averaged
Biphenyl	2.240	2.370	0.00	-6	20	Averaged
2,6-Dimethylnaphthalene	1.572	1.656	0.00	-5	20	Averaged
1,6,7-Trimethylnaphthalene	1.571	1.650	0.00	-5	20	Averaged
Dibenzothiophene	4.622	4.970	0.00	-8	20	Averaged
1-Methylphenanthrene	0.997	1.065	0.00	-7	20	Averaged
Benzo (e) pyrene	1.557	1.644	0.00	-6	20	Averaged
Perylene	1.493	1.583	0.00	-6	20	Averaged
Dibenzofuran	2.194	2.370	0.00	-8	20	Averaged

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
Nitrobenzene-d5	0.331	0.379	0.00	-15	20	Averaged
2-Fluorobiphenyl	1.805	1.918	0.00	-6	20	Averaged
p-Terphenyl-d14	0.775	0.813	0.00	-5	20	Averaged

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar002.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 10:55 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 11:23 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170327A010
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)	3.292	152	55771	5.000	0.00
3)*Naphthalene-d8	(2)	4.530	136	153732	5.000	0.00
11)*Acenaphthene-d10	(3)	6.411	164	70535	5.000	0.00
17)*Phenanthrene-d10	(4)	8.004	188	237225	5.000	0.00
31)*Perylene-d12	(6)	12.655	264	230206	5.000	0.00
25)*Chrysene-d12	(5)	10.920	240	244953	5.000	0.00
System Monitoring Compounds						
2)$Nitrobenzene-d5	(2)	3.845	82	11664	1.145	0.00
SpikedAmount 1.000	Recovery =	0.000				
7)$2-Fluorobiphenyl	(3)	5.709	172	27056	1.063	0.00
SpikedAmount 1.000	Recovery =	0.000				
23)$p-Terphenyl-d14	(5)	9.801	244	39849	1.050	0.00
SpikedAmount 1.000	Recovery =	0.000				
Target Compounds						QValue
4) Naphthalene	(2)	4.551	128	36766	1.103	100
5) 2-Methylnaphthalene	(2)	5.279	142	23323	1.147	100
6) 1-Methylnaphthalene	(2)	5.391	142	21477	1.053	100
10) Acenaphthylene	(3)	6.243	152	38084	1.068	100
12) Acenaphthene	(3)	6.444	153	22989	1.074	100
15) Fluorene	(3)	6.995	166	25168	1.056	100
18) Phenanthrene	(4)	8.029	178	52735	1.048	100
19) Anthracene	(4)	8.079	178	53189	1.081	100
21) Fluoranthene	(4)	9.337	202	68699	1.061	100
22) Pyrene	(5)	9.574	202	71943	1.079	100
24) Benzo (a) Anthracene	(5)	10.903	228	66098	1.024	100
26) Chrysene	(5)	10.946	228	64808	1.105	100
27) Benzo (b) Fluoranthene	(6)	12.196	252	66156	1.103	100
28) Benzo (k) Fluoranthene	(6)	12.224	252	66131	1.051	100
30) Benzo (a) Pyrene	(6)	12.583	252	61661	1.066	100
33) Indeno (1,2,3-c,d) Pyrene	(6)	13.888	276	71745	1.038	100
34) Dibenz (a,h) Anthracene	(6)	13.918	278	56952	1.086	100
35) Benzo (g,h,i) Perylene	(6)	14.159	276	58066	1.045	100
8) Biphenyl	(3)	5.796	154	33437	1.058	100
9) 2,6-Dimethylnaphthalene	(3)	5.955	156	23361	1.053	100
14) 1,6,7-Trimethylnaphthalene	(3)	6.876	170	23270	1.050	100
16) Dibenzothiophene	(3)	7.893	184	70117	1.075	100

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170327.b/27mar002.d Instrument ID: GCMS_EEE.i
Injection date and time: 27-MAR-2017 10:55 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170327.b/simpah-extra.m Sublist used: all
Calibration date and time: 27-MAR-2017 11:23
Date, time and analyst ID of latest file update: 27-Mar-2017 11:23 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170327A010
Response via Initial Calibration

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (mg/L)	QValue
20) 1-Methylphenanthrene	(5)	8.718	192	52168	1.068	100
29) Benzo (e) pyrene	(6)	12.522	252	75681	1.056	100
32) Perylene	(6)	12.683	252	72865	1.060	100
13) Dibenzofuran	(3)	6.621	168	33429	1.080	100

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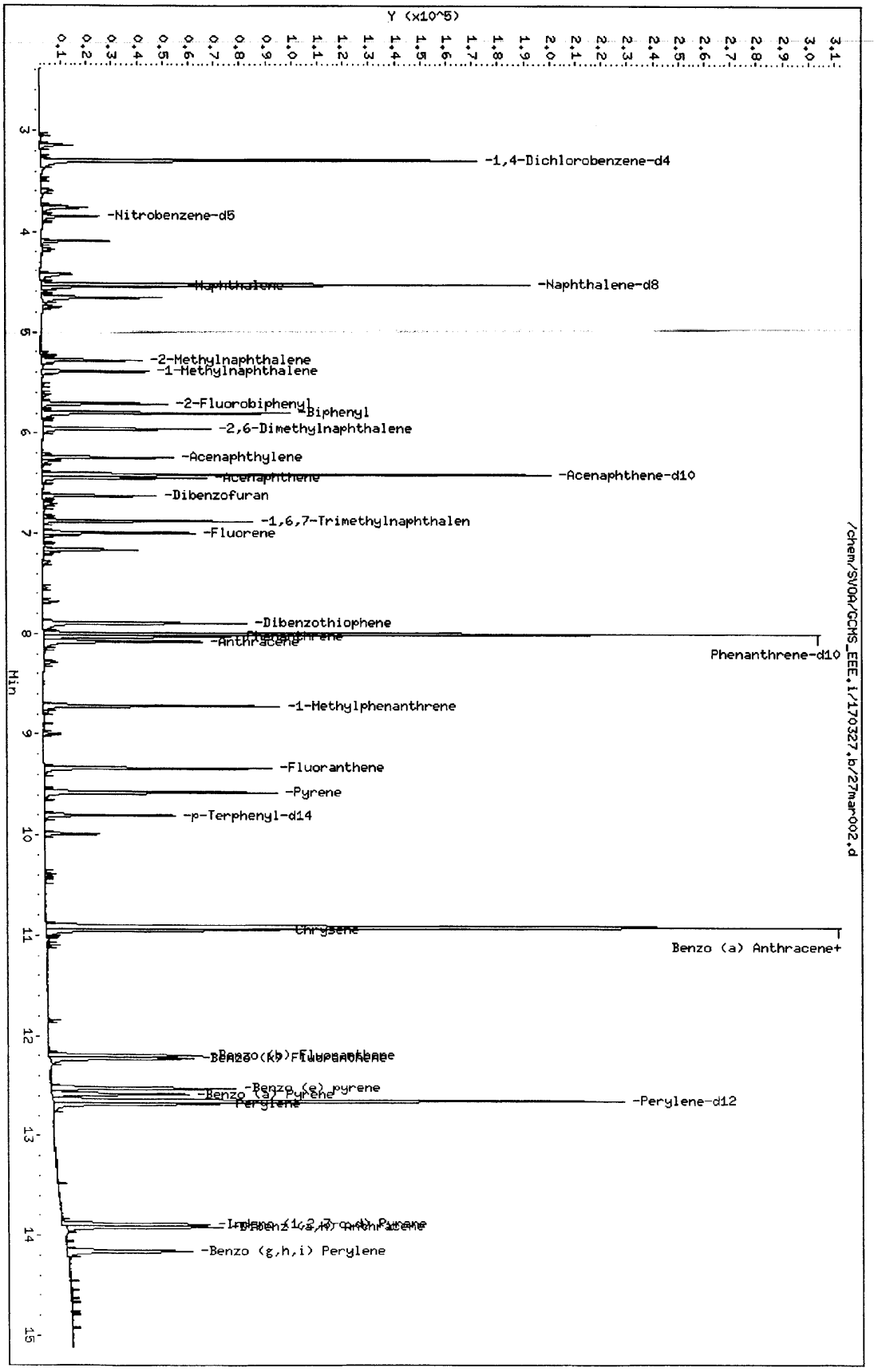

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EPA METHOD 8270C
PAHSIM

Tuning Reports

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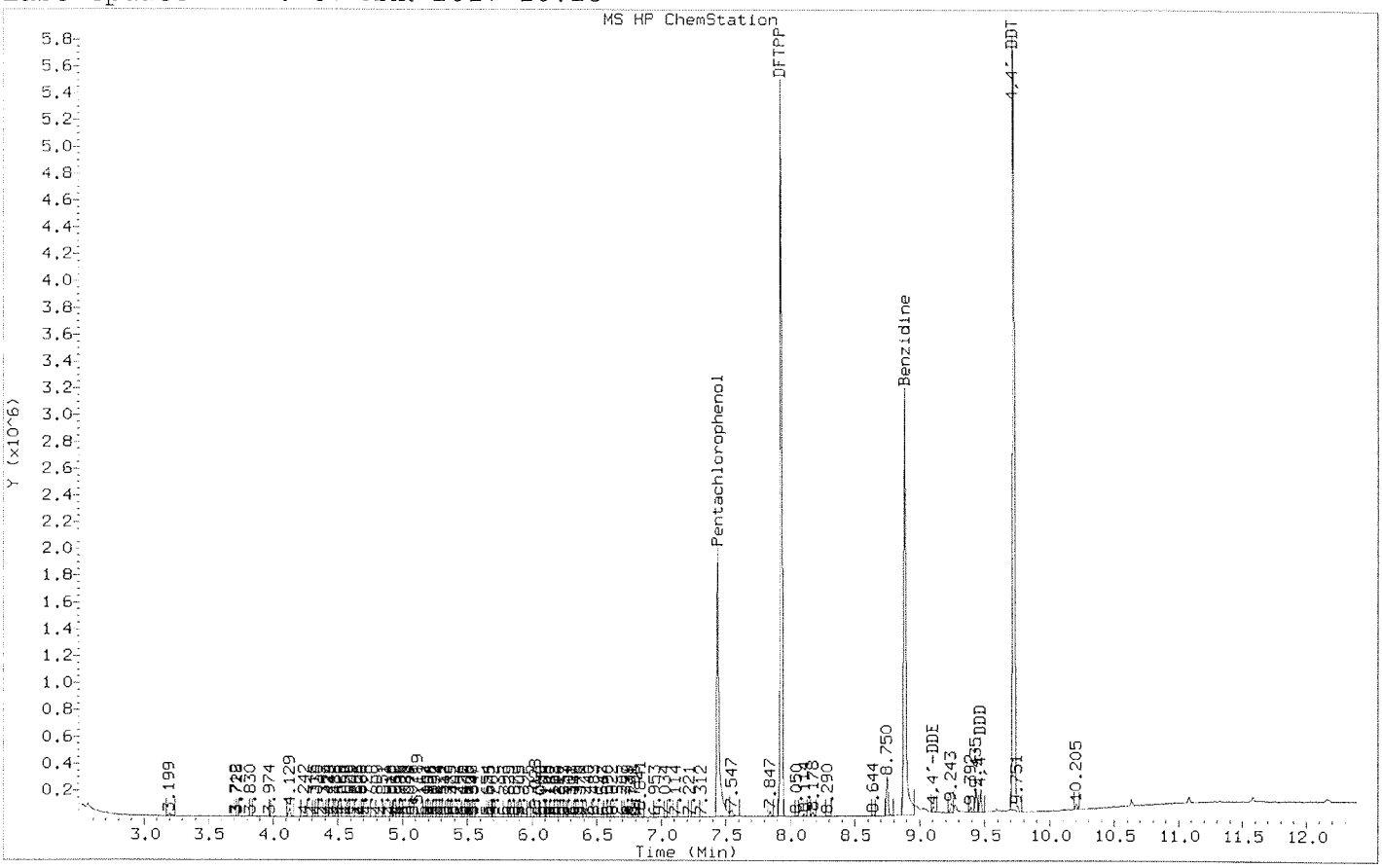
DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 1
Acq on : 13-MAR-2017 11:49 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Last Update : 07-MAR-2017 10:28



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

Tuning Sample, /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d ,* PASSED ***

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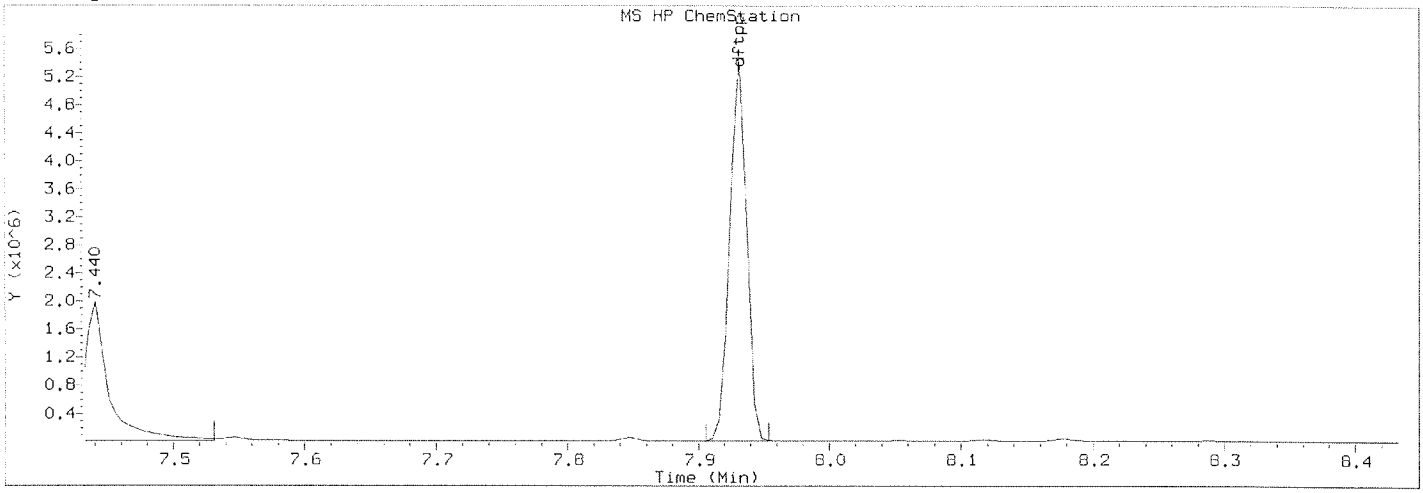
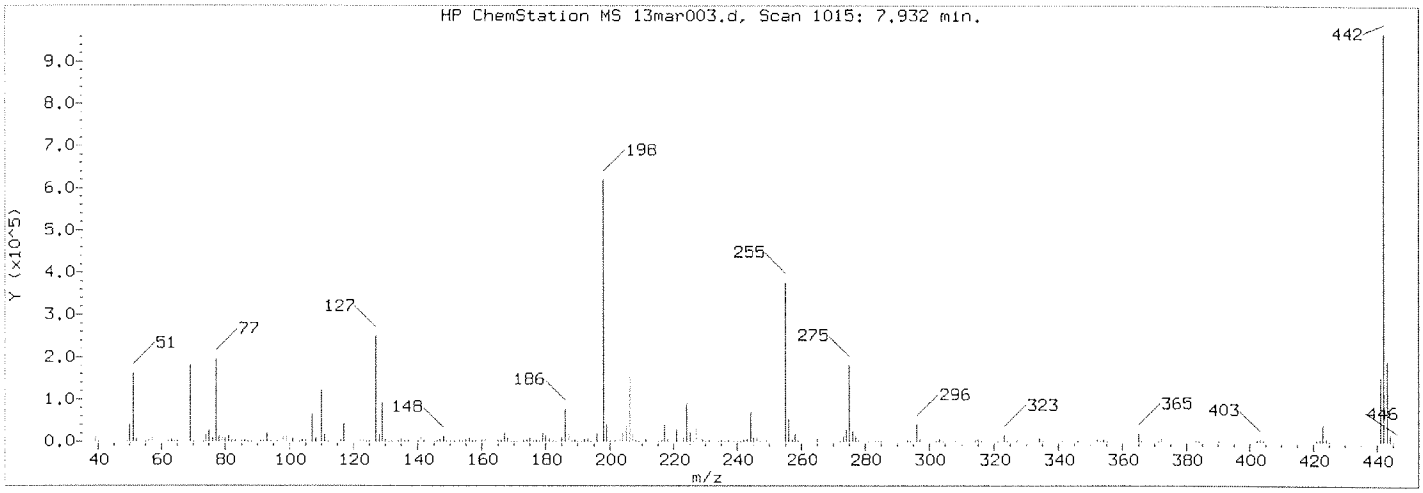
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 1
Acq on : 13-MAR-2017 11:49 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/dftpptune.m
Last Update : 07-MAR-2017 10:28





Spectrum: Avg. Scans 1014-1016 (7.93), Background Scan 1009

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Response	Test
198	Base Peak, 100% relative abundance	100.00	461312	PASS
51	30 - 60% of mass 198	33.56	154816	PASS
68	Less than 2% of mass 69	0.00	0	PASS
69	Less than mass 198	36.32	167552	PASS
70	Less than 2% of mass 69	0.62	1045	PASS
127	40 - 60% of mass 198	44.77	206528	PASS
197	0 - 1% of mass 198	0.00	0	PASS
199	5 - 9% of mass 198	6.99	32256	PASS
275	10 - 30% of mass 198	25.66	118368	PASS
365	1 - 100% of mass 198	2.66	12269	PASS
441	Present, but less than mass 443	74.01	76992	PASS
442	40 - 200% of mass 198	109.96	507264	PASS
443	17 - 23% of mass 442	20.51	104024	PASS

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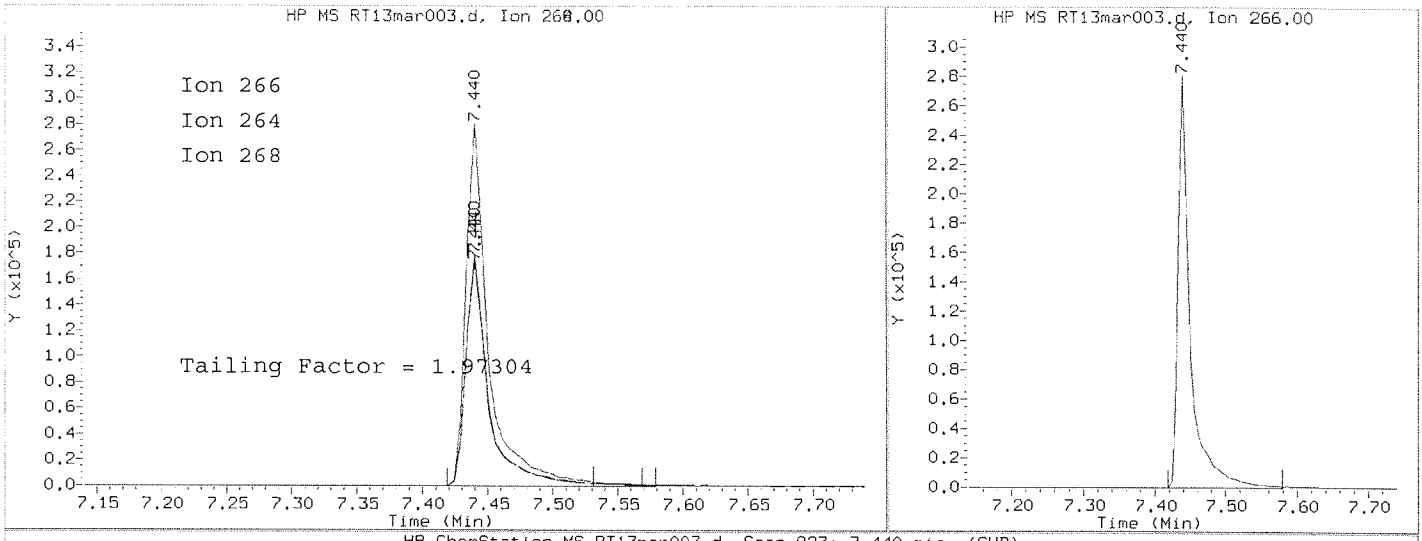
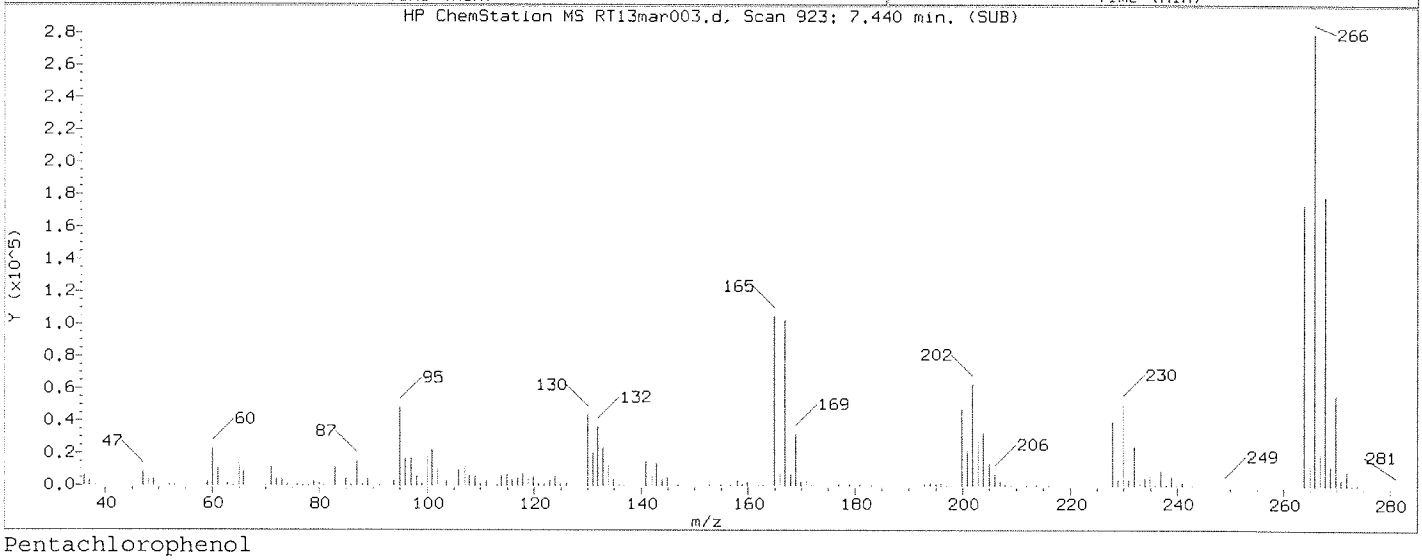
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08





Pentachlorophenol
==========
Exp. RT = 7.467
Found RT = 7.440

Mass	Area	Ratio
266	343885	100.00
264	216440	62.94
268	218874	63.65

Peak baseline front width (sec) : 0.816
Peak baseline tail width (sec) : 1.610
Tail Factor = 1.610/ 0.816

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.973 Maximum Allowed = 3.0

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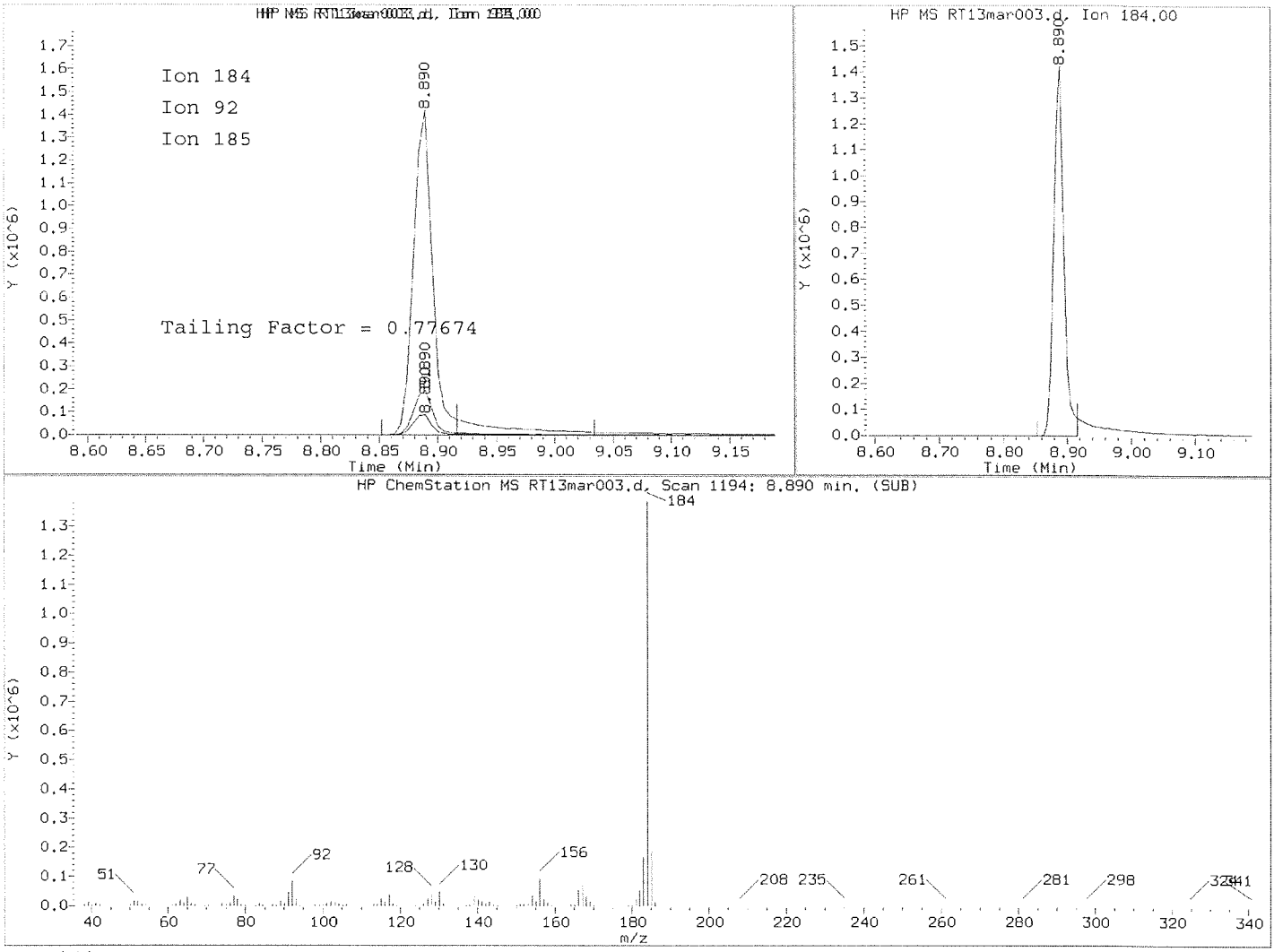
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08



Benzidine
=========
Exp. RT = 8.911
Found RT = 8.890

Mass	Area	Ratio
184	1603178	100.00
92	113552	7.08
185	222697	13.89

Peak baseline front width (sec) : 1.066
Peak baseline tail width (sec) : 0.828
Tail Factor = 0.828/ 1.066

Tailing factor for Benzidine OK

Tail Factor = 0.777 Maximum Allowed = 3.0

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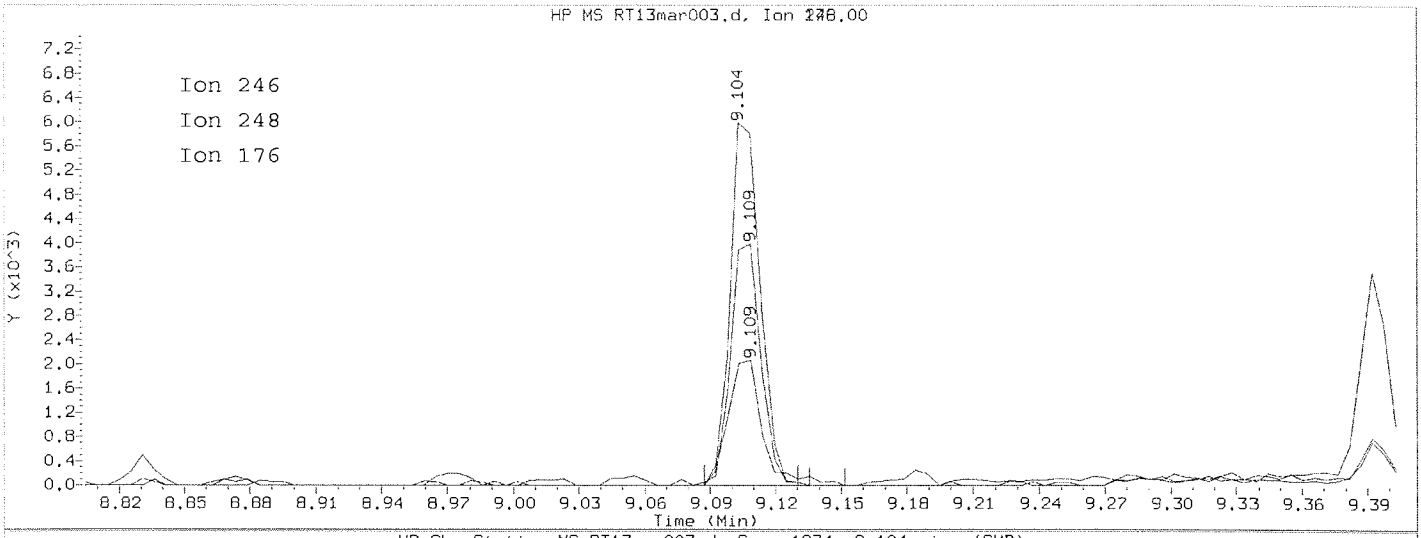
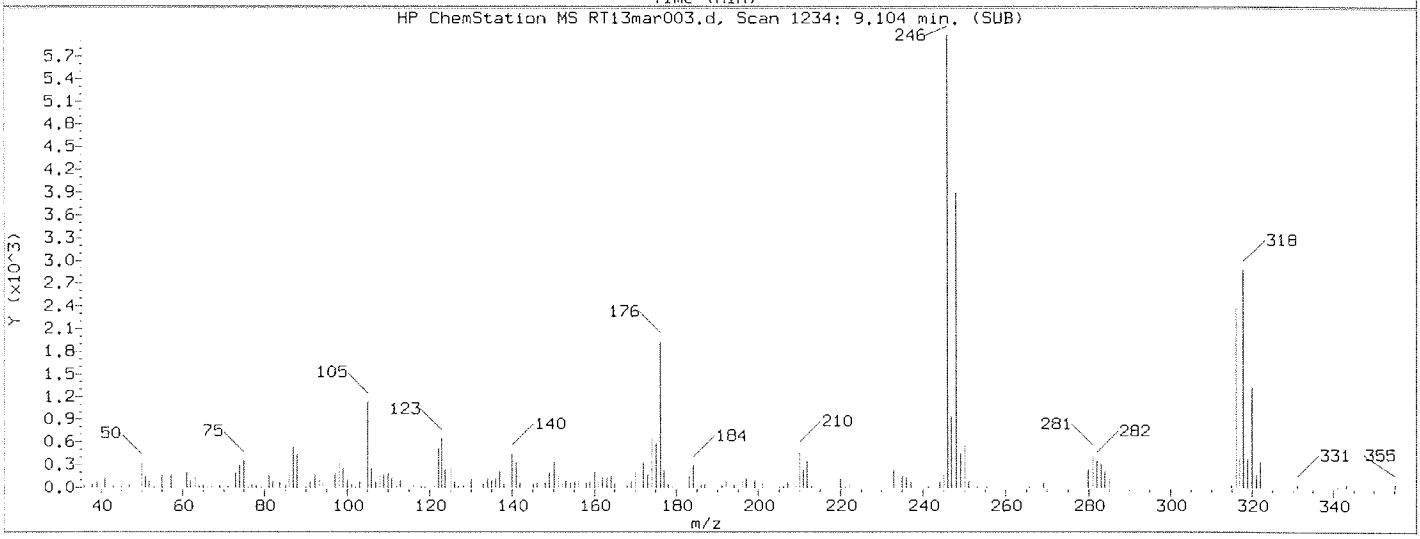
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08





4,4'-DDE
========
Exp. RT = 9.344
Found RT = 9.104

Mass	Area	Ratio
246	5722	100.00
248	3838	67.08
176	2263	39.55

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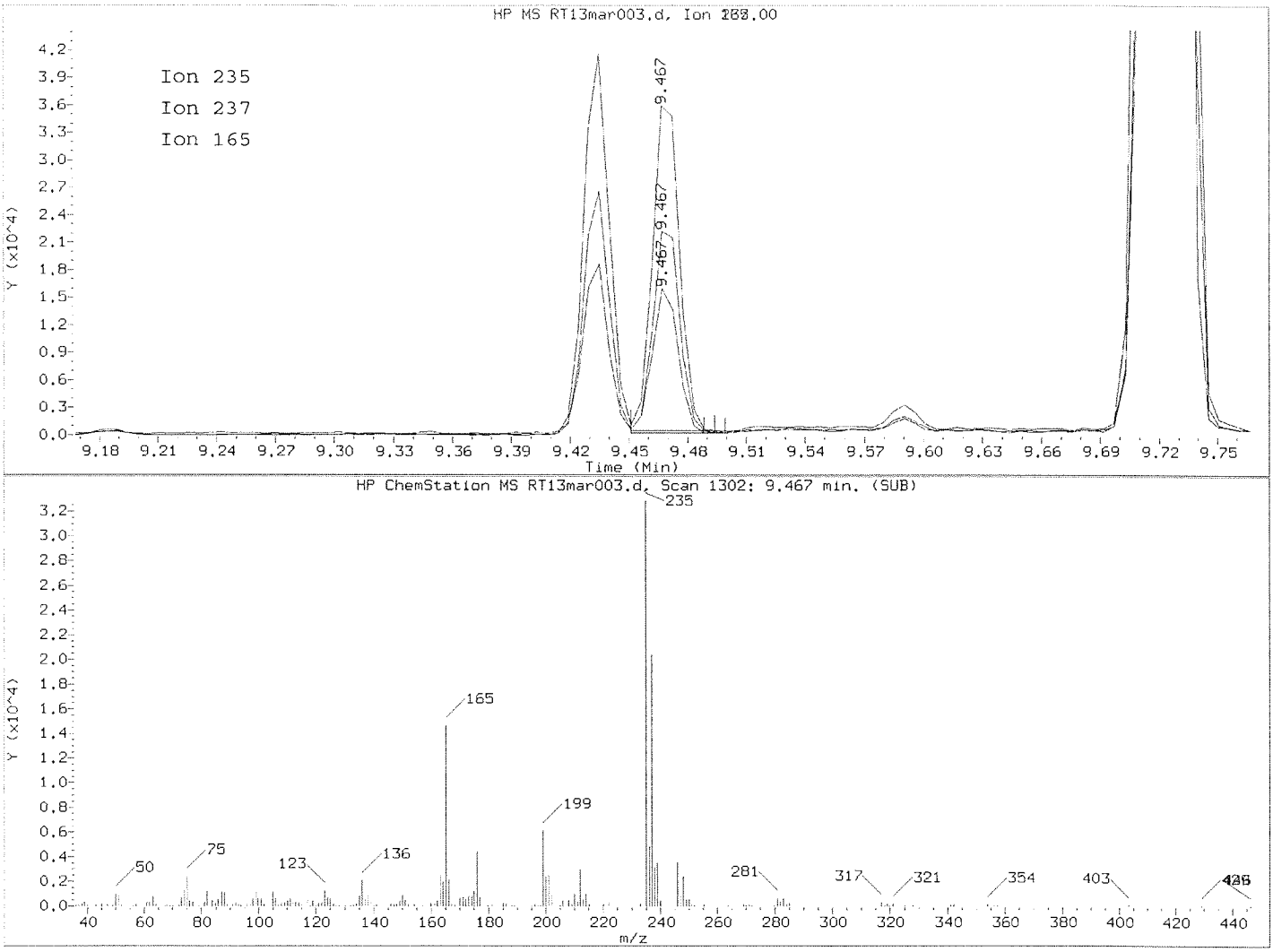
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08



4,4'-DDD
========
Exp. RT = 9.499
Found RT = 9.467

Mass	Area	Ratio
235	34099	100.00
237	21311	62.50
165	14557	42.69

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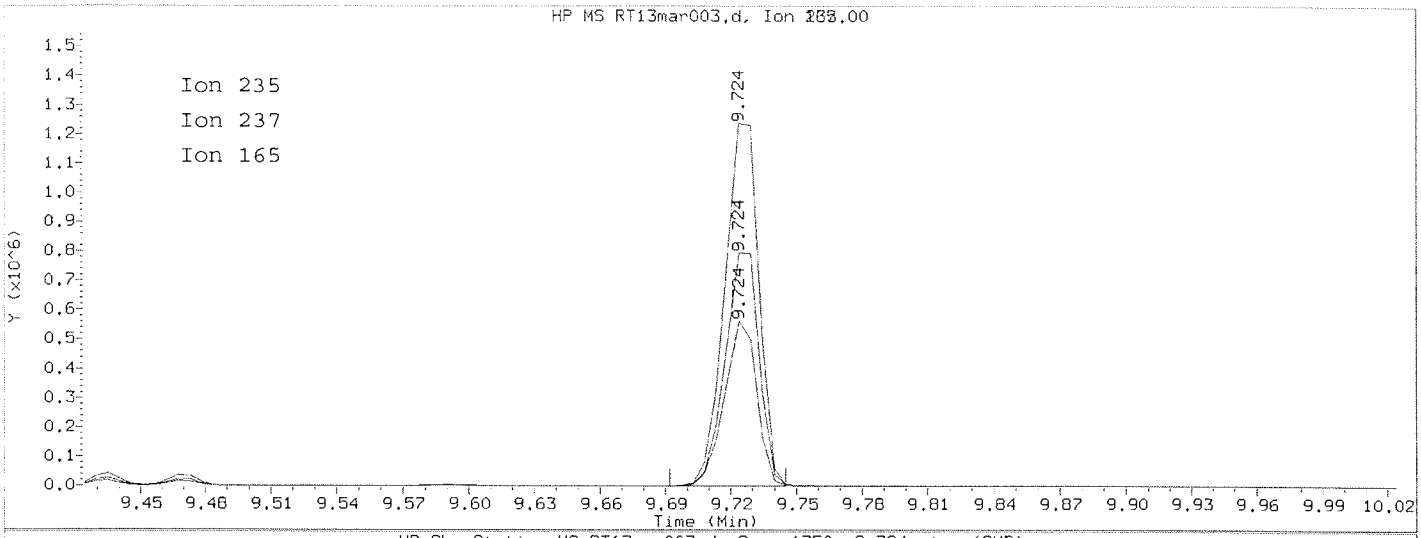
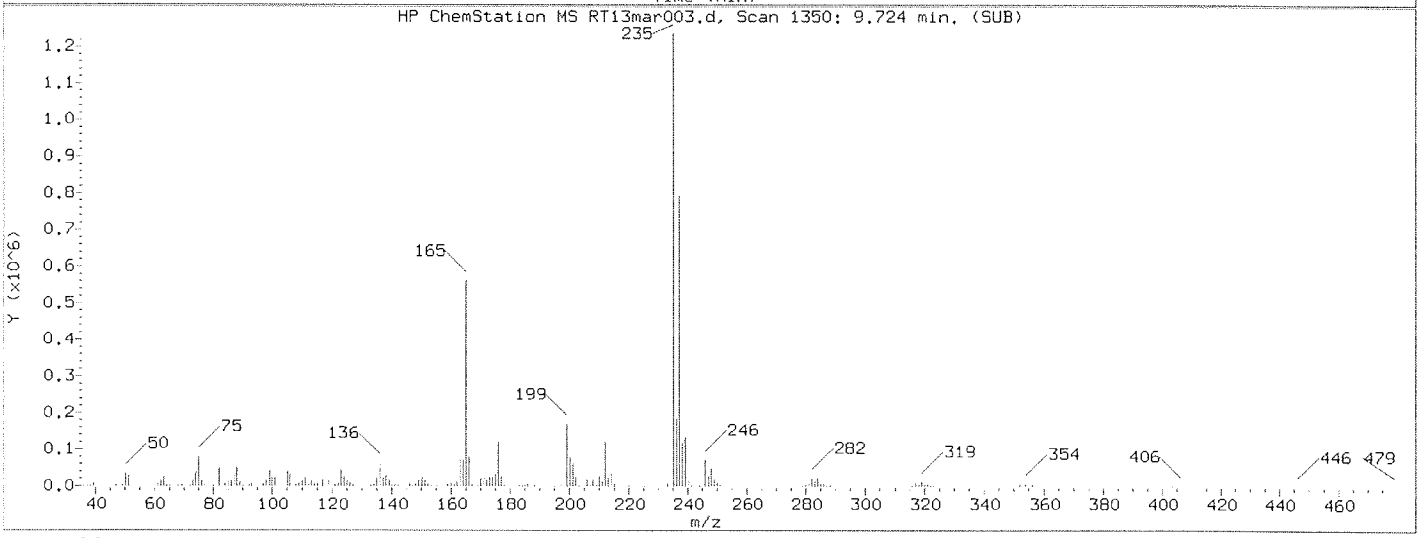
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08





4,4'-DDT
========
Exp. RT = 9.756
Found RT = 9.724

Mass	Area	Ratio
235	1352361	100.00
237	866214	64.05
165	581673	43.01

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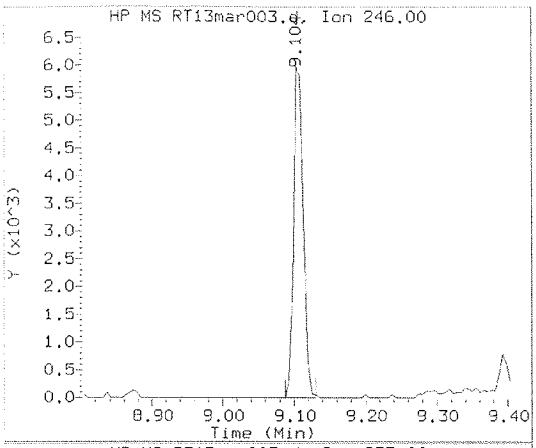
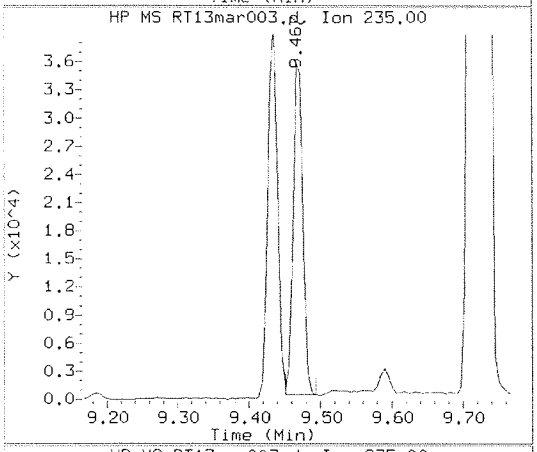
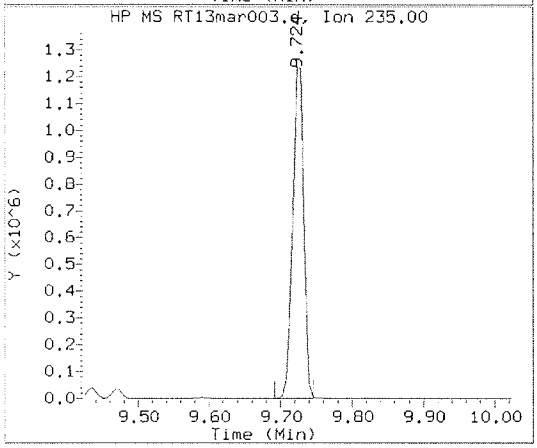


Compound: 4,4'-DDE
Quant Mass: 246
RT: 9.104
Area: 5722



Compound: 4,4'-DDD
Quant Mass: 235
RT: 9.467
Area: 34099



Compound: 4,4'-DDT
Quant Mass: 235
RT: 9.724
Area: 1352361

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	1352361			N/A
4,4-DDE	5722	0.42	20.0	PASS
4,4-DDD	34099	2.46	20.0	PASS
4,4-DDD + DDE	39821	2.9	20.0	PASS

****
TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST
****

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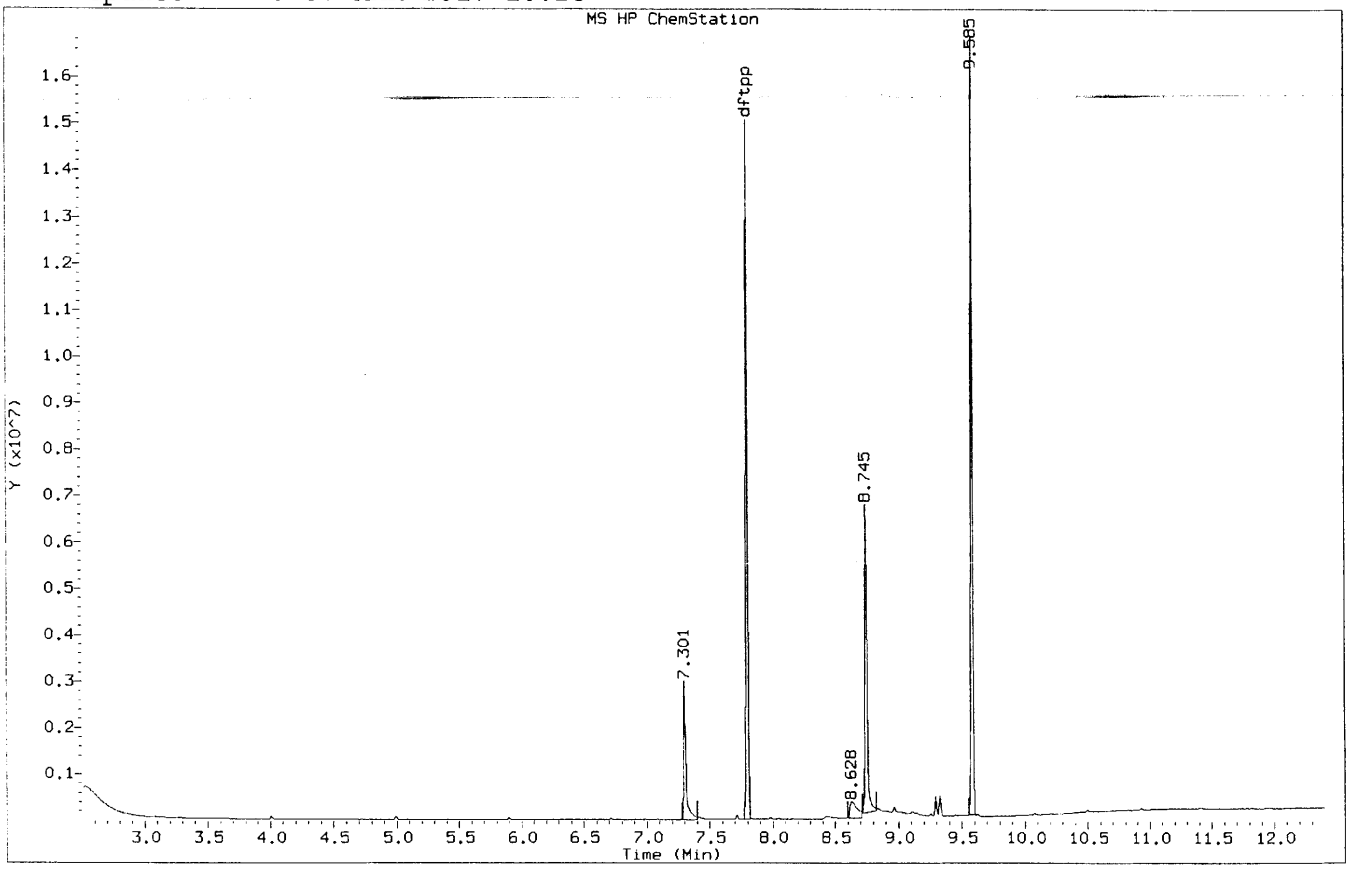
DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Mon Mar 27 10:55:20 2017

Data File : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d
ALS Vial : 1
Acq on : 27-MAR-2017 10:33 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Last Update : 07-MAR-2017 10:28



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

Tuning Sample, /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d ,* PASSED ***

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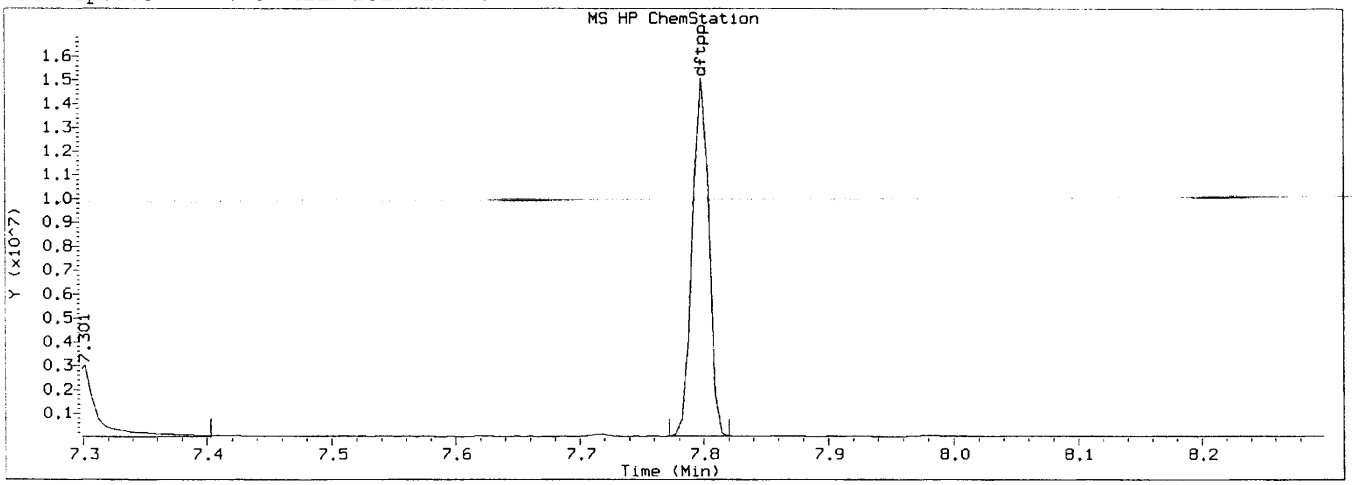
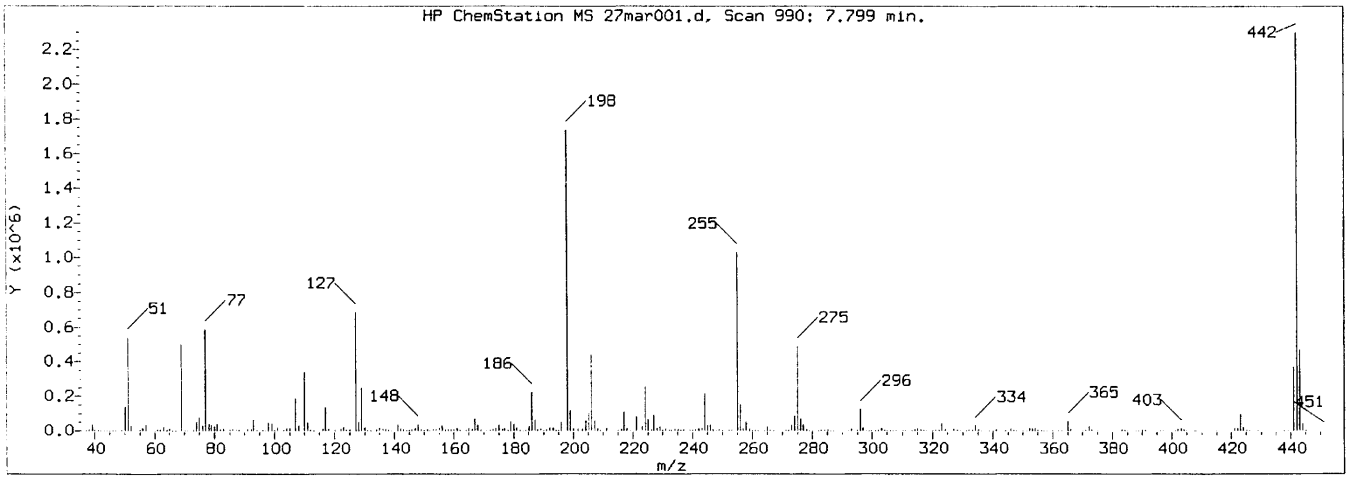
Report Generated Time Mon Mar 27 10:55:20 2017

Data File : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d
ALS Vial : 1
Acq on : 27-MAR-2017 10:33 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170327.b/dftpptune.m
Last Update : 07-MAR-2017 10:28





Spectrum: Avg. Scans 989-991 (7.80), Background Scan 984

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Response	Test
198	Base Peak, 100% relative abundance	100.00	1337856	PASS
51	30 - 60% of mass 198	38.86	519936	PASS
68	Less than 2% of mass 69	0.00	0	PASS
69	Less than mass 198	34.78	465344	PASS
70	Less than 2% of mass 69	0.58	2710	PASS
127	40 - 60% of mass 198	43.81	586176	PASS
197	0 - 1% of mass 198	0.00	0	PASS
199	5 - 9% of mass 198	7.03	94072	PASS
275	10 - 30% of mass 198	23.51	314560	PASS
365	1 - 100% of mass 198	2.44	32632	PASS
441	Present, but less than mass 443	77.72	156736	PASS
442	40 - 200% of mass 198	74.63	998400	PASS
443	17 - 23% of mass 442	20.20	201664	PASS

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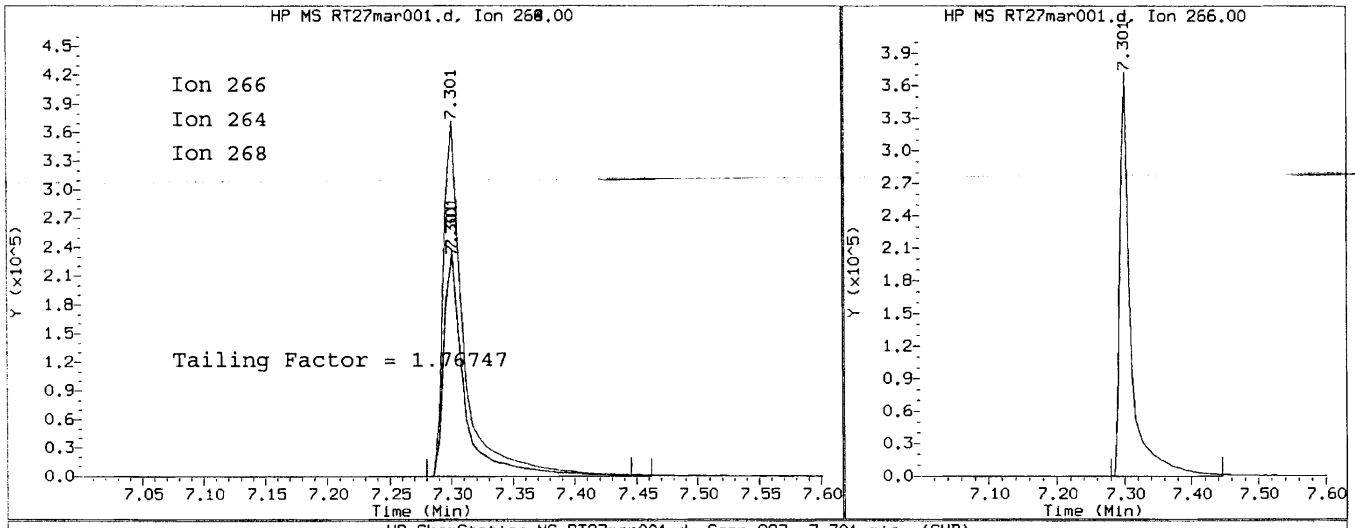
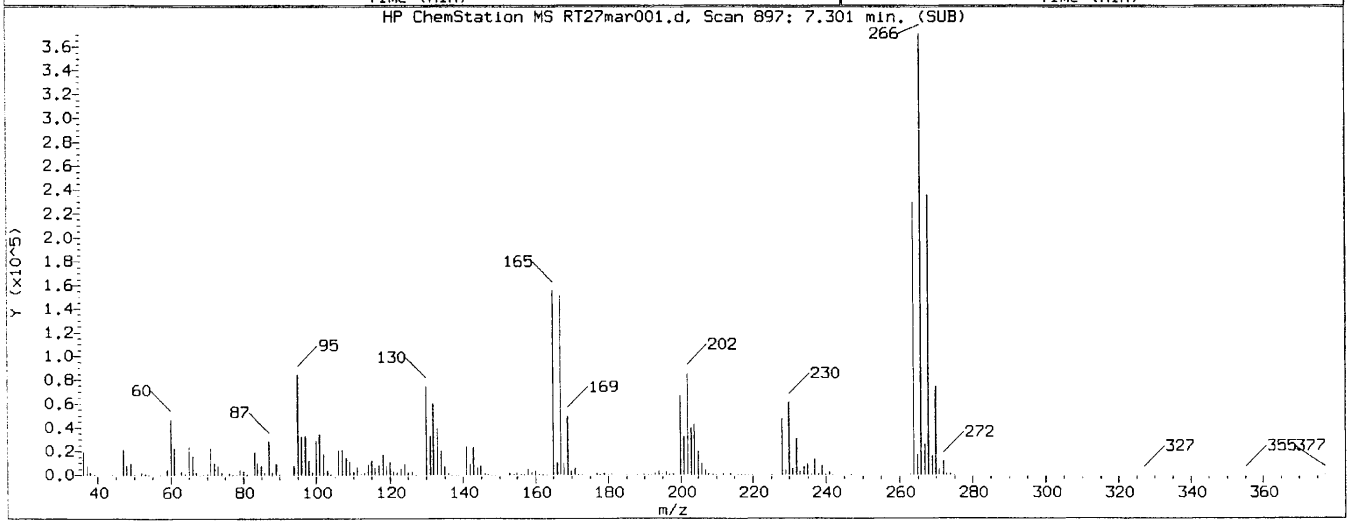
Report Generated Time Mon Mar 27 10:55:20 2017

Data File : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d
ALS Vial : 3
Acq on : 27-MAR-2017 10:33 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d/resolut.m
Last Update : 27-MAR-2017 10:53





Pentachlorophenol
==========
Exp. RT = 7.467
Found RT = 7.301

Mass	Area	Ratio
266	435189	100.00
264	274310	63.03
268	276302	63.49

Peak baseline front width (sec) : 0.787
Peak baseline tail width (sec) : 1.391
Tail Factor = 1.391/ 0.787

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.767 Maximum Allowed = 3.0

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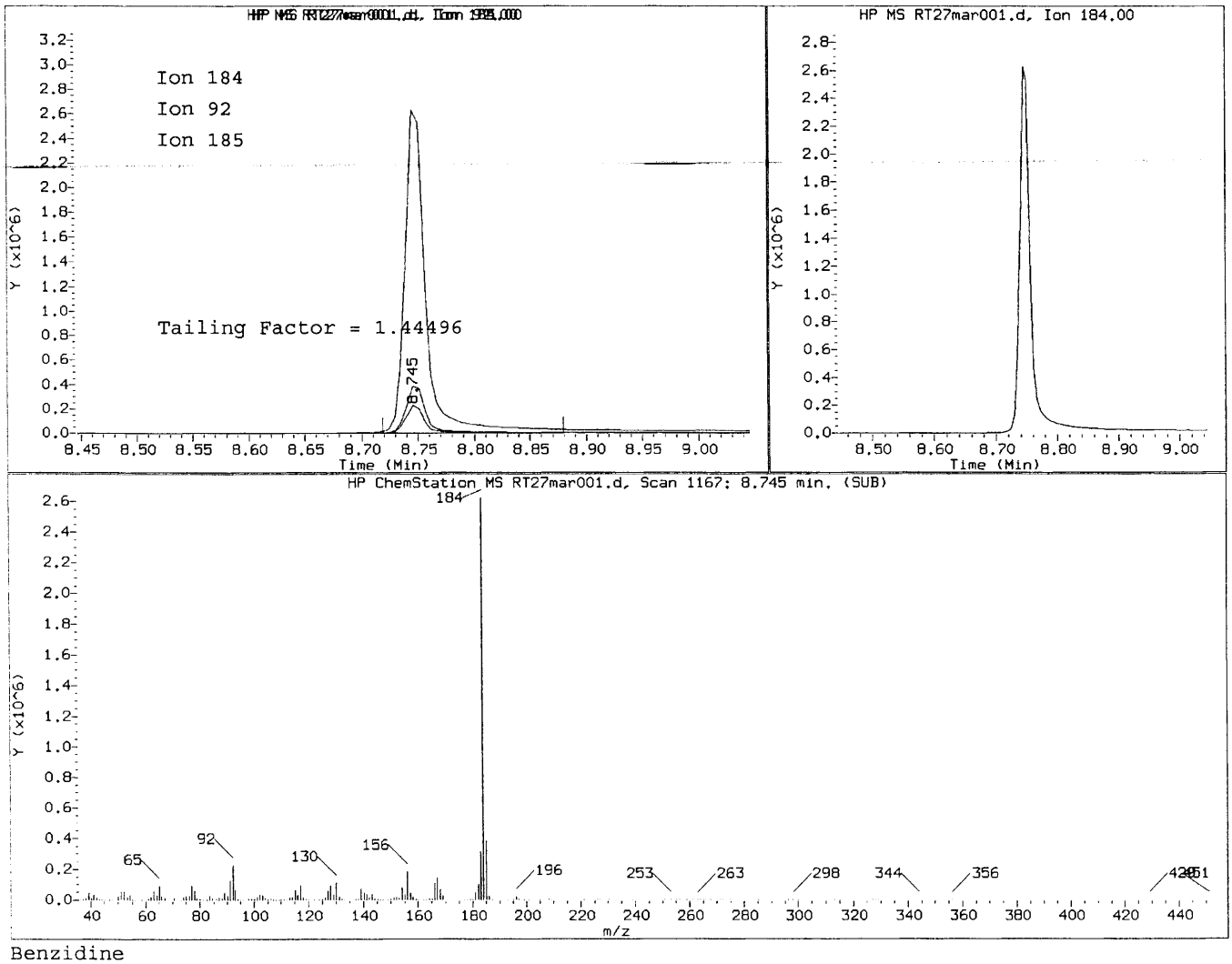
Report Generated Time Mon Mar 27 10:55:20 2017

Data File : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d
ALS Vial : 3
Acq on : 27-MAR-2017 10:33 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d/resolut.m
Last Update : 27-MAR-2017 10:53



Benzidine
=========
Exp. RT = 8.911
Found RT = 8.745

Mass	Area	Ratio
184	3677779	100.00
92	265404	7.22
185	484808	13.18

Peak baseline front width (sec) : 0.854
Peak baseline tail width (sec) : 1.234
Tail Factor = 1.234/ 0.854

Tailing factor for Benzidine OK

Tail Factor = 1.445 Maximum Allowed = 3.0

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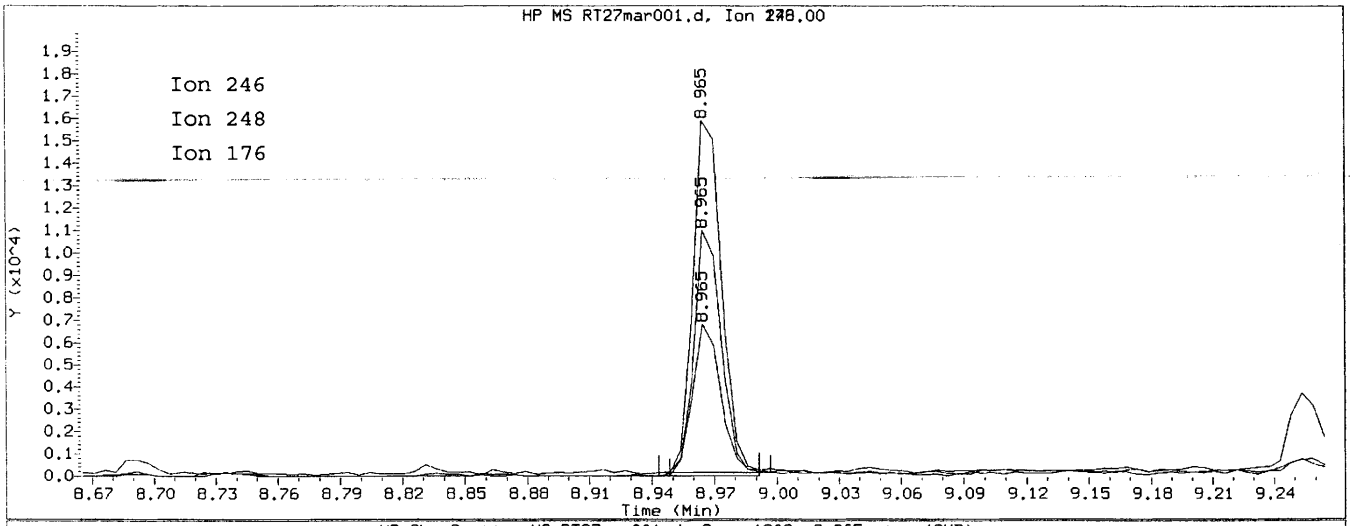
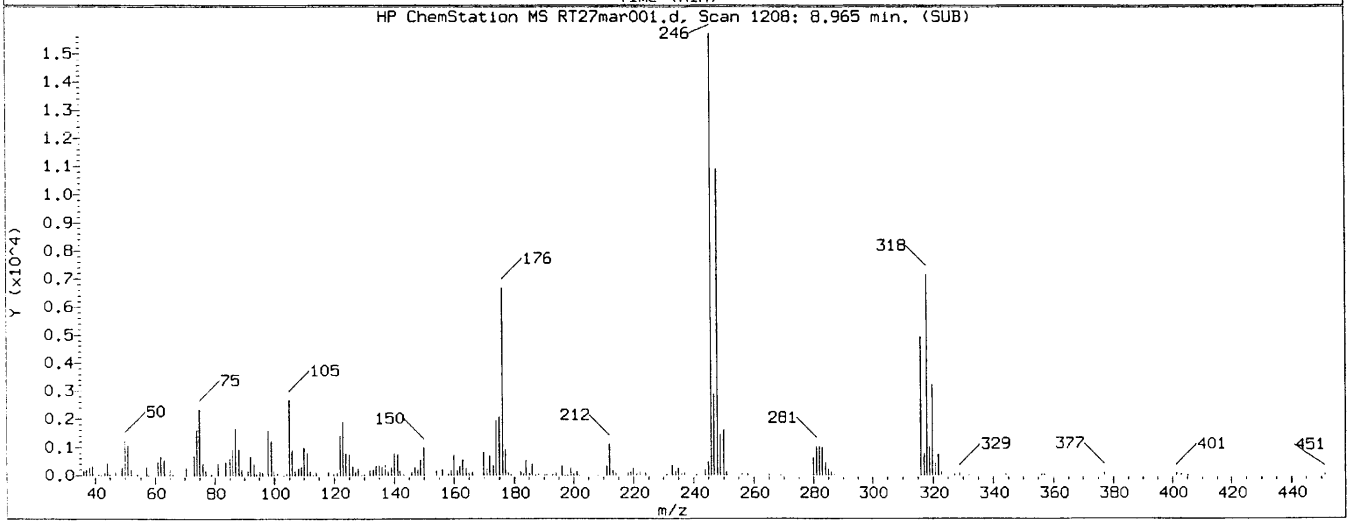
Report Generated Time Mon Mar 27 10:55:20 2017

Data File : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d
ALS Vial : 3
Acq on : 27-MAR-2017 10:33 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d/resolut.m
Last Update : 27-MAR-2017 10:53





4,4'-DDE
========
Exp. RT = 9.029
Found RT = 8.965

Mass	Area	Ratio
246	15374	100.00
248	10139	65.95
176	6269	40.78

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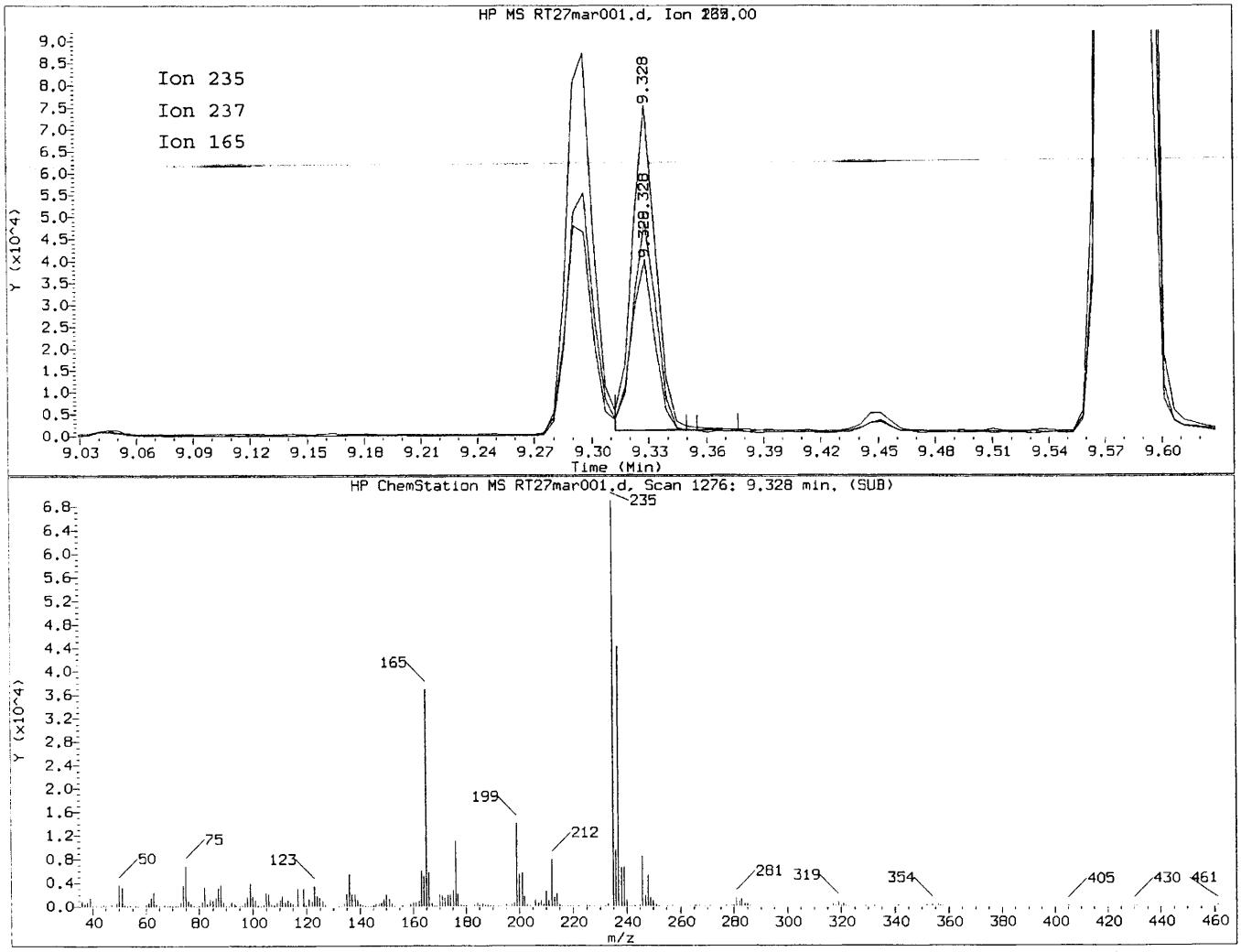
Report Generated Time Mon Mar 27 10:55:20 2017

Data File : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d
ALS Vial : 3
Acq on : 27-MAR-2017 10:33 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d/resolut.m
Last Update : 27-MAR-2017 10:53



4,4'-DDD
========
Exp. RT = 9.380
Found RT = 9.328

Mass	Area	Ratio
235	64320	100.00
237	40933	63.64
165	33791	52.54

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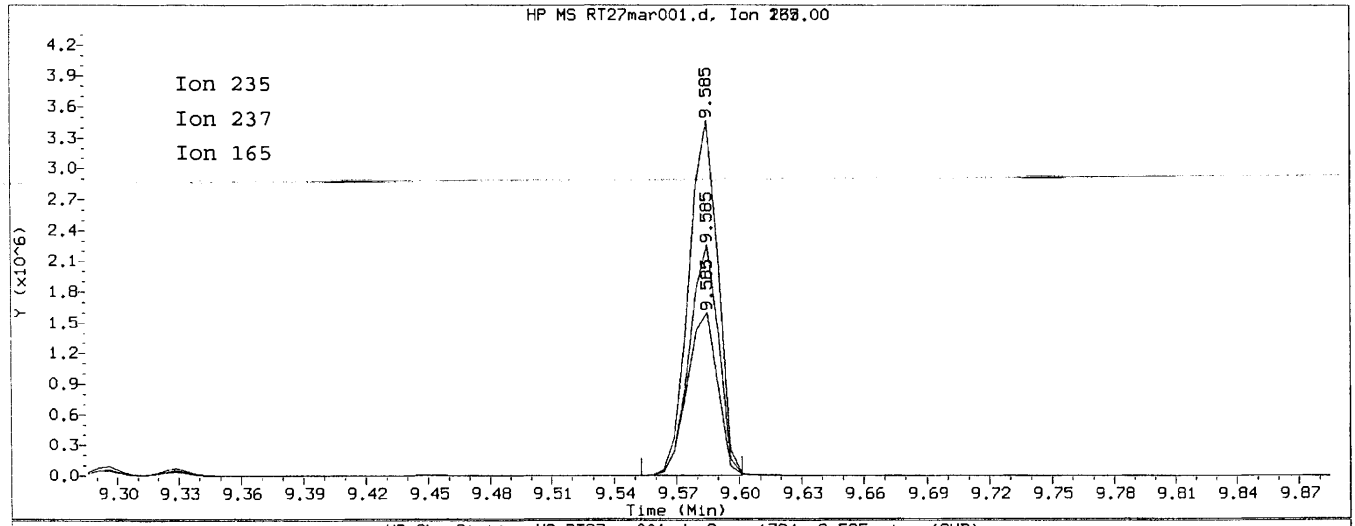
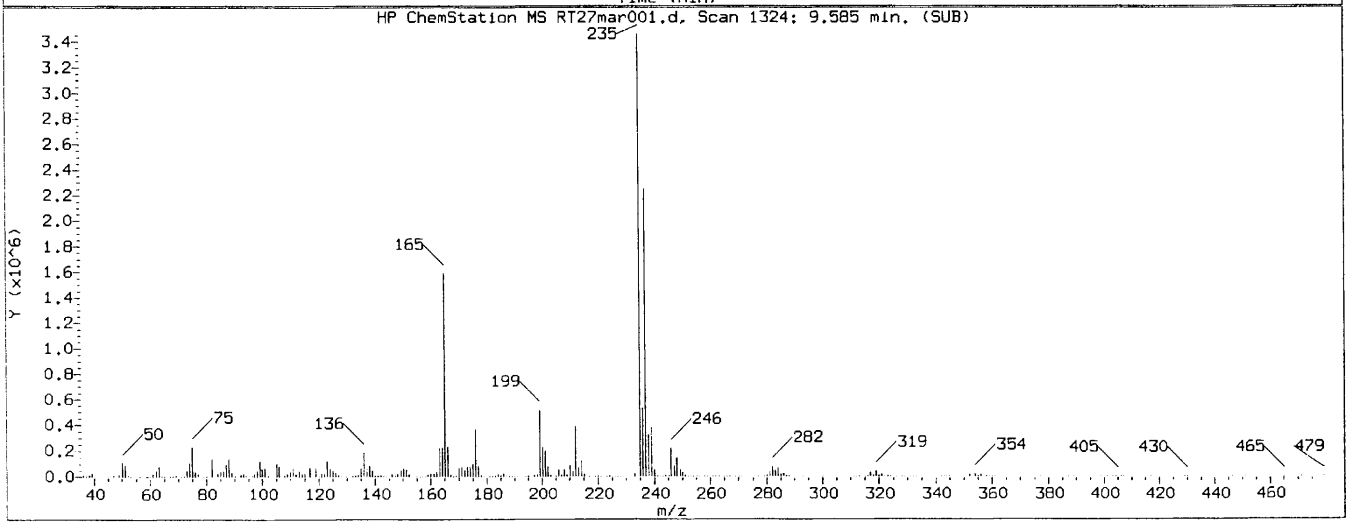
Report Generated Time Mon Mar 27 10:55:20 2017

Data File : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d
ALS Vial : 3
Acq on : 27-MAR-2017 10:33 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170327.b/27mar001.d/resolut.m
Last Update : 27-MAR-2017 10:53





4,4'-DDT
========
Exp. RT = 9.756
Found RT = 9.585

Mass	Area	Ratio
235	3360569	100.00
237	2171871	64.63
165	1603931	47.73

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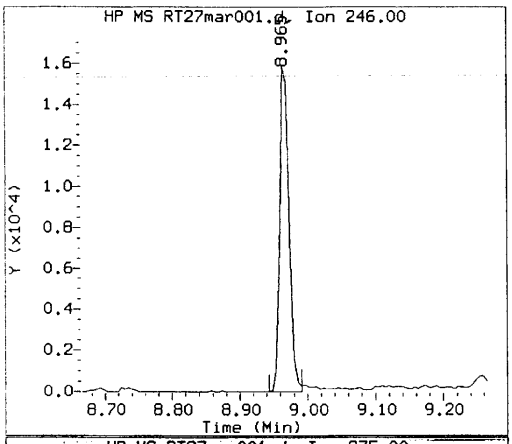
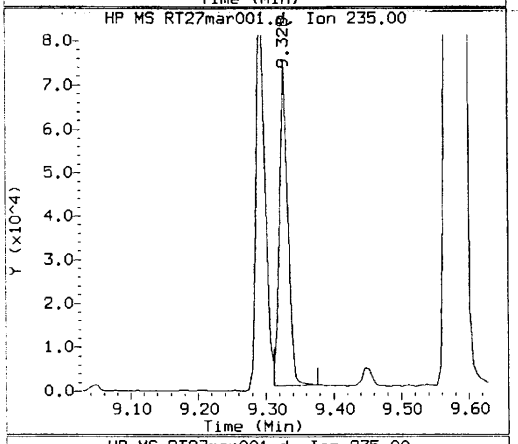
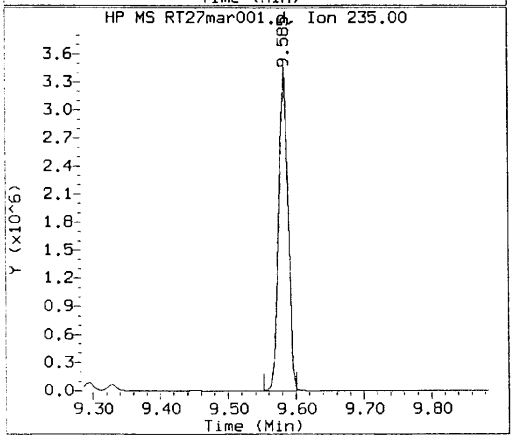


Compound: 4,4'-DDE
Quant Mass: 246
RT: 8.965
Area: 15374



Compound: 4,4'-DDD
Quant Mass: 235
RT: 9.328
Area: 64320



Compound: 4,4'-DDT
Quant Mass: 235
RT: 9.585
Area: 3360569

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	3360569			N/A
4,4-DDE	15374	0.46	20.0	PASS
4,4-DDD	64320	1.88	20.0	PASS
4,4-DDD + DDE	79694	2.3	20.0	PASS

****
TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST
****

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EPA METHOD 8270C
PAHSIM

Run Logs

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Injection Log

Directory: W:\GCMS_EEE\GCMS_EEE_DATA\2017\170313

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	13mar001.d	1.	TUNE S101716A DFTPP	leaking change new column	13 Mar 2017 09:34
2	1	13mar002.d	1.	TUNE S101716A DFTPP		13 Mar 2017 10:04
3	1	13mar003.d	1.	TUNE S101716A DFTPP		13 Mar 2017 11:49
4	2	13mar004.d	1.	CCV S010317F 1PPM ~ dev > 30%	170313A001	13 Mar 2017 12:10
5	3	13mar005.d	1.	BLANK	S101716B 10UL	13 Mar 2017 12:32
6	28	13mar006.d	1.	ICAL-1 S010317D 5PPM	170313I001	13 Mar 2017 12:52
7	29	13mar007.d	1.	ICAL-2 S010317E 2PPM		13 Mar 2017 13:13
8	30	13mar008.d	1.	ICAL-3 S010317F 1PPM		13 Mar 2017 13:33
9	31	13mar009.d	1.	ICAL-4 S010317G 0.5PPM		13 Mar 2017 13:53
10	32	13mar010.d	1.	ICAL-5 S010317H 0.1PPM		13 Mar 2017 14:13
11	33	13mar011.d	1.	ICV S010317I 1PPM		13 Mar 2017 14:34
12	1	13mar012.d	1.	TUNE S101716A DFTPP		13 Mar 2017 14:59
13	2	13mar013.d	1.	CCV S010317F 1PPM	170313A001	13 Mar 2017 15:19
14	24	13mar014.d	1.	17-03-0323-3 10X	S101716B 10UL	13 Mar 2017 15:40
15		13mar015.d	1.	No MS or GC data present		

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Injection Log

Directory: W:\GCMS_EEE\GCMS_EEE_DATA\2017\170327

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	27mar001.d	1.	TUNE S101716A DFTPP		27 Mar 2017 10:33
2	2	27mar002.d	1.	CCV S010317F 1PPM	170327A010	27 Mar 2017 10:55
3	3	27mar003.d	1.	MB 170324 L17	S032317A 10UL	27 Mar 2017 11:15
4	4	27mar004.d	1.	LCS 170324 L17	S032317A 10UL	27 Mar 2017 11:35
5	5	27mar005.d	1.	17-03-1753-6 MS	S032317A 10UL	27 Mar 2017 11:56
6	6	27mar006.d	1.	17-03-1753-6 MSD	S032317A 10UL	27 Mar 2017 12:16
7	7	27mar007.d	1.	17-03-1753-6	S032317A 10UL	27 Mar 2017 12:36
8	8	27mar008.d	1.	17-03-1556-25	S032317A 10UL	27 Mar 2017 12:56
9	9	27mar009.d	1.	17-03-1556-26	S032317A 10UL	27 Mar 2017 13:16
10	10	27mar010.d	1.	17-03-1556-27	S032317A 10UL	27 Mar 2017 13:37
11	11	27mar011.d	1.	17-03-1557-25	S032317A 10UL	27 Mar 2017 13:57
12	12	27mar012.d	1.	17-03-1557-26	S032317A 10UL	27 Mar 2017 14:17
13	13	27mar013.d	1.	17-03-1557-27	S032317A 10UL	27 Mar 2017 14:38
14	14	27mar014.d	1.	MB 170325 L01	S032317A 10UL	27 Mar 2017 14:58
15	15	27mar015.d	1.	LCS 170325 L01	S032317A 10UL	27 Mar 2017 15:18
16	16	27mar016.d	1.	LCSD 170325 L01	S032317A 10UL	27 Mar 2017 15:38
17	17	27mar017.d	1.	17-03-1795-2 – 10x, 100x	S032317A 10UL	27 Mar 2017 15:58
18	18	27mar018.d	1.	17-03-1795-3	S032317A 10UL	27 Mar 2017 16:19
19	19	27mar019.d	1.	17-03-1795-4] 10x, 100x	S032317A 10UL	27 Mar 2017 16:39
20	20	27mar020.d	1.	17-03-1795-5]	S032317A 10UL	27 Mar 2017 16:59
21	21	27mar021.d	1.	17-03-1795-6	S032317A 10UL	27 Mar 2017 17:19
22	22	27mar022.d	1.	17-03-1795-7] 10x	S032317A 10UL	27 Mar 2017 17:40
23	23	27mar023.d	1.	17-03-1795-8]	S032317A 10UL	27 Mar 2017 18:00
24	24	27mar024.d	1.	17-03-1795-9	S032317A 10UL	27 Mar 2017 18:20
25	25	27mar025.d	1.	17-03-1795-11	S032317A 10UL	27 Mar 2017 18:41
26	26	27mar026.d	1.	17-03-1795-12	S032317A 10UL	27 Mar 2017 19:01
27	27	27mar027.d	1.	17-03-1795-13 – 10x	S032317A 10UL	27 Mar 2017 19:21
28	28	27mar028.d	1.	17-03-1795-14	S032317A 10UL	27 Mar 2017 19:41
29	29	27mar029.d	1.	17-03-1795-15	S032317A 10UL	27 Mar 2017 20:01
30	30	27mar030.d	1.	17-03-1795-16	S032317A 10UL	27 Mar 2017 20:21
31	31	27mar031.d	1.	17-03-1795-17] 10x	S032317A 10UL	27 Mar 2017 20:42
32	32	27mar032.d	1.	17-03-1795-18]	S032317A 10UL	27 Mar 2017 21:02
33	33	27mar033.d	1.	MB 170327 L12	S032317A 10UL	27 Mar 2017 21:22
34	34	27mar034.d	1.	LCS 170327 L12	S032317A 10UL	27 Mar 2017 21:42
35	35	27mar035.d	1.	17-03-1930-1 MS	S032317A 10UL	27 Mar 2017 22:02
36	36	27mar036.d	1.	17-03-1930-1 MSD	S032317A 10UL	27 Mar 2017 22:23
37	37	27mar037.d	1.	17-03-1930-1 – over 12 hour	S032317A 10UL	27 Mar 2017 22:43

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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- 1107 Start Extraction- 787/785 Blow Down- 787/785 Clean Up-

Matrix: ☑ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air

Balance ID#: 70 Filter ID#: 507-17-17 ASE ID#: 9 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:

Ext. Start Date/Time: 03/24/17 - 14:00/20:00 Ext. End Date/Time: 03/24/17 - 16:00/22:30

Sand or Wipe ID#: 507-19-19

Drying Agent: ☑ Na_2SO_4 ☑ Diatomaceous Earth

Drying Agent(s) ID#: 507-44-18 / 507-22-03

Surrogate Std ID# & Volume Added (mL): 502017C - 0.5 ml

Spike Std ID# & Volume Added (mL): 502101 7A - 0.5 ml Spike Added to: ☑ LCS ☐ LCSD ☑ MS ☑ MSD

Extraction Solvent: ☐ $MeCl_2$ ☐ 1:1 Hexane-Acetone ☑ 1:1 $MeCl_2$-Acetone ☐ 9:1 Hexane-Diethyl-ether ☐ Acetonitrile

Extraction Solvent ID#: 507-55-01 / 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 #: 170324 L17

Cel ID#:	Sample W (g) / V (mL) Initial	Final	Clean Up Performed	Comments
MB	20.0	2	☐	
LCS	20.1	2	☐	
LCSD NA	/	/	☐	
MS 17-03-1753-6A	20.0	2	☐	
MSD ↓ -1753-6A	20.0	2	☐	
17-03-1753-6A	20.1	2	☐	
17-03-1556-25D	20.1	2	☐	
↓ ↓ 26D	20.2	2	☐	
↓ ↓ 27D	20.1	2	☐	
17-03-1557-25D	20.0	2	☐	
↓ ↓ 26D	20.2	2	☐	
↓ ↓ 27D	20.2	2	☐	
17-03-1558-25D	20.1	2	☐	Extract & Hold
↓ ↓ 26D	20.0	2	☐	↓
↓ ↓ 27D	20.0	2	☐	
			☐	
			☐	
			☐	
			☐	
			☐	
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			☐	
			☐	
			☐	

Peer Reviewed by: 787 Peer Reviewed Date: 03/25/17 Revision Date: 10/20/16