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Supplemental Report 1

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

WORK ORDER NUMBER: 17-03-1383

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

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

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Work Order Number: 17-03-1383

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Work Order Narrative

Work Order: 17-03-1383 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 03/17/17. They were assigned to Work Order 17-03-1383.

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:	17-03-1383
		Project Name:	Burbank Airport / 9836002041
		PO Number:	
		Date/Time Received:	03/17/17 18:25
		Number of Containers:	3
Attn:	Brian Martasin		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
D-DU2-S-SG-08-15S	17-03-1383-1	03/17/17 14:38	1	Solid
D-DU2-S-SG-09-15S	17-03-1383-2	03/17/17 14:52	1	Solid
D-DU2-S-SG-10-15S	17-03-1383-3	03/17/17 15:07	1	Solid

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Detections Summary

Client:	Andersen Environmental 5261 West Imperial Highway Los Angeles, CA 90045-6231	Work Order: Project Name: Received:	17-03-1383 Burbank Airport / 9836002041 03/17/17
Attn:	Brian Martasin		

Client SampleID Analyte	Result	Qualifiers	RL	Units	Method	Extraction
D-DU2-S-SG-08-15S (17-03-1383-1)						
Moisture	3.5		0.10	%	ASTM D-2216 (M)	N/A
Barium	36.6		0.503	mg/kg	EPA 6010B	EPA 3050B
Chromium	3.82		0.252	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.78		0.252	mg/kg	EPA 6010B	EPA 3050B
Copper	4.59		0.503	mg/kg	EPA 6010B	EPA 3050B
Lead	0.939		0.503	mg/kg	EPA 6010B	EPA 3050B
Nickel	2.68		0.252	mg/kg	EPA 6010B	EPA 3050B
Vanadium	11.1		0.252	mg/kg	EPA 6010B	EPA 3050B
Zinc	18.8		1.01	mg/kg	EPA 6010B	EPA 3050B
D-DU2-S-SG-09-15S (17-03-1383-2)						
Moisture	5.0		0.10	%	ASTM D-2216 (M)	N/A
Barium	58.7		0.521	mg/kg	EPA 6010B	EPA 3050B
Chromium	11.0		0.261	mg/kg	EPA 6010B	EPA 3050B
Cobalt	5.99		0.261	mg/kg	EPA 6010B	EPA 3050B
Copper	9.66		0.521	mg/kg	EPA 6010B	EPA 3050B
Lead	2.12		0.521	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.14		0.261	mg/kg	EPA 6010B	EPA 3050B
Vanadium	32.6		0.261	mg/kg	EPA 6010B	EPA 3050B
Zinc	25.6		1.04	mg/kg	EPA 6010B	EPA 3050B
D-DU2-S-SG-10-15S (17-03-1383-3)						
Moisture	4.2		0.10	%	ASTM D-2216 (M)	N/A
Barium	42.9		0.512	mg/kg	EPA 6010B	EPA 3050B
Chromium	5.02		0.256	mg/kg	EPA 6010B	EPA 3050B
Cobalt	3.34		0.256	mg/kg	EPA 6010B	EPA 3050B
Copper	5.61		0.512	mg/kg	EPA 6010B	EPA 3050B
Lead	1.06		0.512	mg/kg	EPA 6010B	EPA 3050B
Nickel	3.52		0.256	mg/kg	EPA 6010B	EPA 3050B
Vanadium	13.2		0.256	mg/kg	EPA 6010B	EPA 3050B
Zinc	16.4		1.02	mg/kg	EPA 6010B	EPA 3050B

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

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* MDL is shown

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Analytical Report

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	N/A
		Method:	ASTM D-2216 (M)
		Units:	%
Project: Burbank Airport / 9836002041			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU2-S-SG-08-15S	**17-03-1383-1-A**	**03/17/17 14:38**	**Solid**	**N/A**	**03/21/17**	**03/21/17 21:00**	**H0321MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	3.5	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU2-S-SG-09-15S	**17-03-1383-2-A**	**03/17/17 14:52**	**Solid**	**N/A**	**03/21/17**	**03/21/17 21:00**	**H0321MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	5.0	0.10	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU2-S-SG-10-15S	**17-03-1383-3-A**	**03/17/17 15:07**	**Solid**	**N/A**	**03/21/17**	**03/21/17 21:00**	**H0321MOIB2**

Parameter	Result	RL	DF	Qualifiers
Moisture	4.2	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	**099-05-014-6781**	**N/A**	**Solid**	**N/A**	**03/21/17**	**03/21/17 21:00**	**H0321MOIB2**

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:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
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
D-DU2-S-SG-08-15S	**17-03-1383-1-A**	**03/17/17 14:38**	**Solid**	**GC 47**	**03/21/17**	**03/22/17 03:10**	**170321B08B**

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	103	61-145	

D-DU2-S-SG-09-15S	**17-03-1383-2-A**	**03/17/17 14:52**	**Solid**	**GC 47**	**03/21/17**	**03/22/17 03:31**	**170321B08B**

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

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	100	61-145	

D-DU2-S-SG-10-15S	**17-03-1383-3-A**	**03/17/17 15:07**	**Solid**	**GC 47**	**03/21/17**	**03/22/17 03:52**	**170321B08B**

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

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.2	1.00	
TPH as Motor Oil	ND	5.2	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		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
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	**099-14-353-11**	**N/A**	**Solid**	**GC 47**	**03/21/17**	**03/21/17 22:19**	**170321B08B**

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	97	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:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: Burbank Airport / 9836002041			Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU2-S-SG-08-15S	**17-03-1383-1-A**	**03/17/17 14:38**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 12:37**	**170324L16**

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

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.755	0.971	
Arsenic	ND	0.755	0.971	
Barium	36.6	0.503	0.971	
Beryllium	ND	0.252	0.971	
Cadmium	ND	0.503	0.971	
Chromium	3.82	0.252	0.971	
Cobalt	2.78	0.252	0.971	
Copper	4.59	0.503	0.971	
Lead	0.939	0.503	0.971	
Molybdenum	ND	0.252	0.971	
Nickel	2.68	0.252	0.971	
Selenium	ND	0.755	0.971	
Silver	ND	0.252	0.971	
Thallium	ND	0.755	0.971	
Vanadium	11.1	0.252	0.971	
Zinc	18.8	1.01	0.971	

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

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Analytical Report

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: Burbank Airport / 9836002041			Page 2 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU2-S-SG-09-15S	**17-03-1383-2-A**	**03/17/17 14:52**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 12:39**	**170324L16**

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

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.782	0.990	
Arsenic	ND	0.782	0.990	
Barium	58.7	0.521	0.990	
Beryllium	ND	0.261	0.990	
Cadmium	ND	0.521	0.990	
Chromium	11.0	0.261	0.990	
Cobalt	5.99	0.261	0.990	
Copper	9.66	0.521	0.990	
Lead	2.12	0.521	0.990	
Molybdenum	ND	0.261	0.990	
Nickel	5.14	0.261	0.990	
Selenium	ND	0.782	0.990	
Silver	ND	0.261	0.990	
Thallium	ND	0.782	0.990	
Vanadium	32.6	0.261	0.990	
Zinc	25.6	1.04	0.990	

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

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Analytical Report

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: Burbank Airport / 9836002041			Page 3 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU2-S-SG-10-15S	**17-03-1383-3-A**	**03/17/17 15:07**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 12:40**	**170324L16**

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

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.768	0.980	
Arsenic	ND	0.768	0.980	
Barium	42.9	0.512	0.980	
Beryllium	ND	0.256	0.980	
Cadmium	ND	0.512	0.980	
Chromium	5.02	0.256	0.980	
Cobalt	3.34	0.256	0.980	
Copper	5.61	0.512	0.980	
Lead	1.06	0.512	0.980	
Molybdenum	ND	0.256	0.980	
Nickel	3.52	0.256	0.980	
Selenium	ND	0.768	0.980	
Silver	ND	0.256	0.980	
Thallium	ND	0.768	0.980	
Vanadium	13.2	0.256	0.980	
Zinc	16.4	1.02	0.980	

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

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Analytical Report

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3050B
		Method:	EPA 6010B
		Units:	mg/kg
Project: Burbank Airport / 9836002041			Page 4 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-24503**	**N/A**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 11:01**	**170324L16**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.728	0.971	
Arsenic	ND	0.728	0.971	
Barium	ND	0.485	0.971	
Beryllium	ND	0.243	0.971	
Cadmium	ND	0.485	0.971	
Chromium	ND	0.243	0.971	
Cobalt	ND	0.243	0.971	
Copper	ND	0.485	0.971	
Lead	ND	0.485	0.971	
Molybdenum	ND	0.243	0.971	
Nickel	ND	0.243	0.971	
Selenium	ND	0.728	0.971	
Silver	ND	0.243	0.971	
Thallium	ND	0.728	0.971	
Vanadium	ND	0.243	0.971	
Zinc	ND	0.971	0.971	

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

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Analytical Report

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
		Units:	mg/kg
Project: Burbank Airport / 9836002041			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
D-DU2-S-SG-08-15S	**17-03-1383-1-A**	**03/17/17 14:38**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:43**	**170324L04**

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

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0849	1.00	

D-DU2-S-SG-09-15S	**17-03-1383-2-A**	**03/17/17 14:52**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:50**	**170324L04**

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

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0877	1.00	

D-DU2-S-SG-10-15S	**17-03-1383-3-A**	**03/17/17 15:07**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:52**	**170324L04**

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

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0856	1.00	

Method Blank	**099-16-272-2901**	**N/A**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:38**	**170324L04**

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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Quality Control - Spike/Spike Duplicate

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Burbank Airport / 9836002041			Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-03-1451-2	**Sample**	**Solid**	**GC 47**	**03/21/17**	**03/22/17 01:05**	**170321S08**
17-03-1451-2	**Matrix Spike**	**Solid**	**GC 47**	**03/21/17**	**03/21/17 23:21**	**170321S08**
17-03-1451-2	**Matrix Spike Duplicate**	**Solid**	**GC 47**	**03/21/17**	**03/21/17 23:42**	**170321S08**

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	369.8	92	362.4	91	64-130	2	0-15	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Burbank Airport / 9836002041			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
D-DU2-S-SG-08-15S	**Sample**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 12:37**	**170324S16**
D-DU2-S-SG-08-15S	**Matrix Spike**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 12:37**	**170324S16**
D-DU2-S-SG-08-15S	**Matrix Spike Duplicate**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 12:38**	**170324S16**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	15.03	60	16.51	66	50-115	9	0-20	
Arsenic	ND	25.00	23.32	93	24.83	99	75-125	6	0-20	
Barium	35.30	25.00	67.15	127	67.09	127	75-125	0	0-20	3
Beryllium	ND	25.00	23.79	95	24.60	98	75-125	3	0-20	
Cadmium	ND	25.00	23.50	94	24.76	99	75-125	5	0-20	
Chromium	3.687	25.00	27.60	96	30.06	105	75-125	9	0-20	
Cobalt	2.686	25.00	26.83	97	28.71	104	75-125	7	0-20	
Copper	4.426	25.00	29.45	100	31.22	107	75-125	6	0-20	
Lead	0.9060	25.00	25.28	97	26.53	102	75-125	5	0-20	
Molybdenum	ND	25.00	23.17	93	24.67	99	75-125	6	0-20	
Nickel	2.583	25.00	25.76	93	27.64	100	75-125	7	0-20	
Selenium	ND	25.00	23.57	94	24.21	97	75-125	3	0-20	
Silver	ND	12.50	12.15	97	12.73	102	75-125	5	0-20	
Thallium	ND	25.00	22.79	91	24.28	97	75-125	6	0-20	
Vanadium	10.71	25.00	35.63	100	37.99	109	75-125	6	0-20	
Zinc	18.12	25.00	43.22	100	47.39	117	75-125	9	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:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Burbank Airport / 9836002041			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
D-DU2-S-SG-08-15S	**Sample**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:43**	**170324S04**
D-DU2-S-SG-08-15S	**Matrix Spike**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:45**	**170324S04**
D-DU2-S-SG-08-15S	**Matrix Spike Duplicate**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:47**	**170324S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.8098	97	0.7868	94	71-137	3	0-14	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
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
D-DU2-S-SG-08-15S	**Sample**	**Solid**	**N/A**	**03/21/17 00:00**	**03/21/17 21:00**	**H0321MOID2**
D-DU2-S-SG-08-15S	**Sample Duplicate**	**Solid**	**N/A**	**03/21/17 00:00**	**03/21/17 21:00**	**H0321MOID2**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Moisture	3.500	3.300	6	0-10	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Burbank Airport / 9836002041			Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-353-11	**LCS**	**Solid**	**GC 47**	**03/21/17**	**03/21/17 22:40**	**170321B08B**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	358.7	90	61-145	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Burbank Airport / 9836002041			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
097-01-002-24503	**LCS**	**Solid**	**ICP 7300**	**03/24/17**	**03/27/17 11:02**	**170324L16**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Antimony	25.00	22.32	89	80-120	73-127	
Arsenic	25.00	22.42	90	80-120	73-127	
Barium	25.00	25.88	104	80-120	73-127	
Beryllium	25.00	23.44	94	80-120	73-127	
Cadmium	25.00	24.36	97	80-120	73-127	
Chromium	25.00	24.68	99	80-120	73-127	
Cobalt	25.00	24.70	99	80-120	73-127	
Copper	25.00	25.04	100	80-120	73-127	
Lead	25.00	24.85	99	80-120	73-127	
Molybdenum	25.00	23.68	95	80-120	73-127	
Nickel	25.00	24.44	98	80-120	73-127	
Selenium	25.00	22.92	92	80-120	73-127	
Silver	12.50	12.07	97	80-120	73-127	
Thallium	25.00	24.12	96	80-120	73-127	
Vanadium	25.00	23.63	95	80-120	73-127	
Zinc	25.00	24.03	96	80-120	73-127	

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

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Andersen Environmental		Date Received:	03/17/17
5261 West Imperial Highway		Work Order:	17-03-1383
Los Angeles, CA 90045-6231		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Burbank Airport / 9836002041			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-2901	**LCS**	**Solid**	**Mercury 08**	**03/24/17**	**03/24/17 19:41**	**170324L04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.9045	108	85-121	

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 17-03-1383

Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D-2216 (M)	N/A	1009	N/A	1
EPA 6010B	EPA 3050B	935	ICP 7300	1
EPA 7471A	EPA 7471A Total	868	Mercury 08	1
EPA 8015B (M)	EPA 3550B	682	GC 47	1

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Glossary of Terms and Qualifiers

Work Order: 17-03-1383 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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5261 West Imperial Highway, Los Angeles [illegible]0045
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Chain-of-Custody Record

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17-03-1383

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	Method: OCPs, EPA Method 8081A	Method: PAHs, EPA Method 8270C SIM	Method: Metals, EPA Method 6010B/7471A	Method: Lead, EPA Method 6010B	Method: Arsenic, EPA Method 6010B	Method: STLC Lead EPA Method	Method: TCLP Lead EPA Method	Method: PCBs, EPA Method 8082	Method: TPH full chain, EPA Method 8015M	Method: TPHd, TPHmo, EPA Method 8015M	Method: Composite	Method: Hold	Container: 4- or 8-ounce Glass	Container: 250-ml Poly Bottle	Container: EZ Draw (EPA 5035)	Container: Acetate Liner	Container: 1-l Amber Bottle	Turnaround Time: 24 hours	Turnaround Time: 48 hours	Turnaround Time: Normal
1	D-D42-S-S6-08-15S			X		X			X				3/17/17	14:38												X				X				X
2	D-D42-S-S6-09-15S			X		X			X				3/17/17	14:52												X				X				
3	D-D42-S-S6-10-15S			X		X			X				3/17/17	15:07												X				X				

Relinquished by	Date	Time	Received by	Date	Time
[signature]	3/17/17	1520	[signature]	3/17/17	1520
[signature]	3/17/17	1825	[signature] ECI	031717	1825

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.

Hold 15' Samples

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WORK ORDER NUMBER: 17-03- 1383

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: 689

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, **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: 689

Reviewed by: 681.

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Stephen Nowak

From: Baader, Gabriele <Gabriele_Baader@EFIGLOBAL.COM>
Sent: Saturday, March 18, 2017 12:26 AM
To: Stephen Nowak
Cc: Martasin, Brian; Jake Sneider; Robert Cheung
Subject: Burbank Airport Additional Soil Samples
Attachments: 2017-03-17 COCs Soil D-DU2 revised.pdf

Hello Stephen,

Please go ahead and complete the remaining discrete analyses (moisture, T22 metals and TPH) of D-DU2-S-SG-08-15S, D-DU2-S-SG-09-15S and D-DU2-S-SG-10-15S soil samples for which you did not have enough sample. They were marked on hold on the COC.

Thank you,

Gabriele Baader, PG#7015
Geologist
Andersen Environmental, an EFI Global Company

Tel: 310-854-6300 / **Cell:** 626-712-0589 / **Fax:** 310-854-0199 / **Toll Free:** 888-705-6300
Address: 5261 West Imperial Highway, Los Angeles, CA 90045
Websites: www.AndersenEnviro.com; www.efiglobal.com
Email: Gabriele_Baader@EFIGlobal.com
CSLB License # 885902 – B / CSLB License #: 937239 – A, B, HAZ, ASB

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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	Method: OCPs, EPA Method 8081A	Method: PAHs, EPA Method 8270C SIM	Method: Metals, EPA Method 6010B/7471A	Method: Lead, EPA Method 6010B	Method: Arsenic, EPA Method 6010B	Method: STLC Lead EPA Method	Method: TCLP Lead EPA Method	Method: PCBs, EPA Method 8082	Method: TPH full chain, EPA Method 8015M	Method: TPHd, TPHmo, EPA Method 8015M	Method: Composite	Method: Hold	Container: 4- or 8-ounce Glass	Container: 250-ml Poly Bottle	Container: EZ Draw (EPA 5035)	Container: Acetate Liner	Container: 1-l Amber Bottle	Turnaround Time: 24 hours	Turnaround Time: 48 hours	Turnaround Time: Normal
1	D-D42-S-S6-08-15S			X		X			X				3/17/17	14:38			X							X		~~X~~				X				X
2	D-D42-S-S6-09-15S			X		X			X				3/17/17	14:52			X							X		~~X~~				X				
3	D-D42-S-S6-10-15S			X		X			X				3/17/17	15:07			X							X		~~X~~				X				

3/17

Relinquished by	Date	Time	Received by	Date	Time
	3/17/17			3/17/17	

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.~~

~~Hold 15' samples~~

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1383

CONDITION UPON RECEIPT:

Eurofins Calscience, Inc. received (3) solid samples on March 17, 2017. A total of (3) containers were received in good condition and at a temperature of 1.8°C, which was within the recommended temperature of 0°C – 6°C.

Client Sample ID	Lab Sample ID	Date & Time Sampled	Date & Time Received
D-DU2-S-SG-08-15S	17-03-1383-1	03/17/17 14:38	03/17/17 18:25
D-DU2-S-SG-09-15S	17-03-1383-2	03/17/17 14:52	03/17/17 18:25
D-DU2-S-SG-10-15S	17-03-1383-3	03/17/17 15:07	03/17/17 18:25

DATA SUMMARY:

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

- ASTM D-2216 (M) Moisture Content (Solid)
- EPA 6010B Title 22 Metals (Solid)
- EPA 7471A Mercury (Solid)
- EPA 8015B (M) Diesel and Motor Oil Ranges (Solid)

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.

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1383

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

Samples -1 through -3 were analyzed for % Moisture by ASTM D-2216 (M). The samples were prepared and analyzed on 03/21/17 in batch #s H0321MOIB2 / H0321MOID2.

Balance Calibration/Verification:

All values were within acceptance criteria.

Sample and QC:

Sample -1 was used as the sample duplicate for quality control. The method blank was non-detect and the duplicate analysis was within acceptance criteria.

EPA 6010B Title 22 Metals (Solid):

Samples -1 through -3 were analyzed for Metals by EPA 6010B. The samples were prepared on 03/24/17 and analyzed on 03/27/17 in batch #s 170324L16 / 170324S16 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:

Sample -1 was used for the MS/MSD. The method blank was non-detect; the LCS and MS/MSD were within acceptance criteria for project-specific analytes except for the MS/MSD % recoveries for Barium, which were above the method control limits.

EPA 7471A Mercury (Solid):

Samples -1 through -3 were analyzed for Mercury by EPA 7471A. The samples were prepared and analyzed on 03/24/17 in batch #s 170324L04 / 170324S04 on Mercury 08.

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Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-1383

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:

Sample -1 was used for the MS/MSD. The method blank was non-detect; the LCS and MS/MSD were within acceptance criteria.

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

Samples -1 through -3 were analyzed for Diesel and Motor Oil Ranges by EPA 8015B (M). The samples were prepared on 03/21/17 and analyzed on 03/22/17 in batch #s 170321B08B / 170321S08 on GC 47.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 03/13/17 on GC 47. The ICAL was within the 20% RSD acceptance criteria and the ICV was within the 30% D acceptance criteria.

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

Continuing Calibration Verification:

All values were within the 20% D acceptance criteria.

Sample and QC:

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

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

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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: **17-03-1383**
INSTRUMENT: N/A
EXTRACTION : N/A
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-21 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-28 16:08

DATA FILE: NONE

 # 1 **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-08-15S**

LCS/MB BATCH: H0321MOIB2
MS/MSD BATCH: H0321MOID2
UNITS: %

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

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	3.50	1.00	3.50	0.10	

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

WORK ORDER: **17-03-1383**
INSTRUMENT: N/A
EXTRACTION : N/A
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-21 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-28 16:08

DATA FILE: NONE

 # 2 **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-09-15S**

LCS/MB BATCH: H0321MOIB2
MS/MSD BATCH: H0321MOID2
UNITS: %

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

COMMENT:

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

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

WORK ORDER: **17-03-1383**
INSTRUMENT: N/A
EXTRACTION : N/A
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-21 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-28 16:08

DATA FILE: NONE

 # 3 **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-10-15S**

LCS/MB BATCH: H0321MOIB2
MS/MSD BATCH: H0321MOID2
UNITS: %

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

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Moisture	4.20	1.00	4.20	0.10	

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

MB SAMPLE ID: **099-05-014-6793**
MB BATCH ID: H0321MOIB2
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-21 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-31 12:30
MATRIX: Soil

DATA FILE: NONE

CLIENT WORK ORDER: 17-03-1383

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
1		D-DU2-S-SG-08-15S	2017-03-21 21:00	NONE
2		D-DU2-S-SG-09-15S	2017-03-21 21:00	NONE
3		D-DU2-S-SG-10-15S	2017-03-21 21:00	NONE

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

WORK ORDER: **099-05-014**
INSTRUMENT: N/A
EXTRACTION : N/A
D/T EXTRACTED: 2017-03-21 00:00

DATA FILE: NONE

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-21 21:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-28 16:08

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

LCS/MB BATCH: H0321MOIB2
MS/MSD BATCH:
UNITS: %

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

COMMENT:

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

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

DUP SAMPLE ID: 17-03-1383-1
DUP BATCH : H0321MOID2
INSTRUMENTS:
SAMPLE: N/A
DUP SAMPLE: N/A

EXTRACTION : N/A
D/T EXTRACTED :
SAMPLE: 2017-03-21 00:00
DUP SAMPLE: 2017-03-21 00:00

ANALYZED BY: 1,009
D/T ANALYZED
SAMPLE: 2017-03-21 21:00
DUP SAMPLE: 2017-03-21 21:00
REVIEWED BY: 1,009
D/T REVIEWED 2017-03-28 16:08

COMPOUND	SAMPLE CONC	DUP CONC	% RPD	CONTROL LIMIT	STATUS	QUALIFIERS
Moisture	3.500	3.300	6	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: 3/21/17	1050	MB: H0321 MoIB2
		Analysis: ↓	↓	Sample Duplicate: ↓ D2

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

CEL ID #	% MOISTURE	RPD	CONTROL LIMIT	OVEN ID	THERMOMETER ID / CF (°C)		OVEN TEMP (°C)	BATCH PREP TIME (hh:mm)
Sample 17-03-1383-1A	3.5	6	0 – 10	☑ IO 07	☑ TSS IO7A	CF: -2	Start: 103	Start: 1300
Duplicate ↓	3.3			☐ 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 17-03-1383-1A	1.87	12.68	10.81	12.32	0.36	3.3		63	0.10		
17-03-1383-1A	1.87	12.73	10.86	12.35	0.38	3.5		↓	↓		
-2A	1.86	12.41	10.55	11.88	0.53	5.0					
↓ -3A	1.85	12.44	10.59	12.00	0.44	4.2					
17-03-1417-25A	1.87	12.36	10.49	11.99	0.37	3.5					
-26A	1.87	12.40	10.53	12.01	0.39	3.7					
↓ -27A	1.85	12.41	10.56	12.00	0.41	3.9					
17-03-1418-25A	1.84	12.08	10.24	11.79	0.29	2.8					
-26A	1.86	12.51	10.65	12.22	0.29	2.7					
↓ -27A	1.87	12.21	10.34	11.94	0.27	2.6					
17-03-1419-25A	1.86	12.72	10.86	11.51	1.21	11.1					
-26A	1.88	12.38	10.5	12.08	0.3	2.9					
↓ -27A	1.87	12.57	10.7	12.28	0.29	2.7		↓	↓		

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			
☑ ASTM D2216(M)	☐ EPA 160.4	☐ SM 2540 C	☐ WET (STLC)
☐ EPA 160.1	☐ EPA 1311	☐ SM 2540 D	☐ Other
☐ EPA 160.2	☐ EPA 1312	☐ SM 2540 E	
☐ EPA 160.3	☐ SM 2540 B	☐ SOP-M489	

MASS CHANGE CONTROL LIMIT
Moisture/Solids Content: < 0.1% of previous mass
TDS/TSS/VS/VSS: < 4% of previous mass or 0.5 mg, whichever is less
TCLP/SPLP/STLC: within ± 1% of previous mass

COMMENTS

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

MATRIX	DATE	ANALYST(S)	BATCH NUMBER		COMMENTS
Soil	Preparation: 3/21/17	1050/1009	MB: H0321 MDI B2	LCS/LCSD: NA	
	Analysis: ↓	↓	Sample Duplicate: ↓ 784 3/22/17 D2	Sample Duplicate or MS/MSD: NA	

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	1.87	1400	1800	1.87	1900	2000				Y N	63	
LCS											Y N		
LCSD											Y N		
MS											Y N		
MSD/Duplicate											Y N		
Duplicate 17-03-1383-1A	10-07	12.32	1400	1800	12.32	1900	2000				Y N	63	
17-03-1383-1A	↓	12.35	↓	↓	12.35	↓	↓				Y N	↓	
↓ -2A		11.88			11.88						Y N		
↓ -3A		12.00			12.00						Y N		
17-03-1417-25A		11.99			11.99						Y N		
↓ 26A		12.01			12.01						Y N		
↓ 27A		12.00			12.00						Y N		
17-03-1418-25A		11.79			11.79						Y N		
↓ -26A		12.22			12.22						Y N		
↓ -27A		11.94			11.94						Y N		
17-03-1419-25A		11.51			11.51						Y N		
↓ -26A		12.08			12.08						Y N		
↓ -27A	↓	12.28	↓	↓	12.28	↓	↓				Y N	↓	
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		
											Y N		

BALANCE CALIBRATION CHECK LOG

Eurofins Calscience

Date performed: 03/21/17 Initials: 735/685

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	100.02	98.00 - 102.00	Y N	
	500	500.09	498.00 - 502.00	Y N	
62	0.002	0.0020	0.00180 - 0.00220	Y N	IO Lab
	1	0.9992	0.99900 - 1.00100	Y N	
	100	99.9959	99.90000 - 100.10000	Y N	
26	1	1.00	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	99.98	98.00 - 102.00	Y N	
	500	499.90	498.00 - 502.00	Y N	
11	1	1.00	0.98 - 1.02	Y N	IO Lab
	100	100.00	98.00 - 102.00	Y N	
66	0.002	0.0020	0.00180 - 0.00220	Y N	Metals
	1	~~1.0~~ 0.9995	0.99900 - 1.00100	Y N	
	100	100.~~85~~ 0006	99.90000 - 100.10000	Y N	
53	0.1	0.10	0.09 - 0.11	Y N	Extractions
	1	1.00	0.98 - 1.02	Y N	
	100	100.00	98.00 - 102.00	Y N	
	500	500.01	498 - 502	Y N	
~~20~~ 70	1	0.99	0.98 - 1.02	Y N	Extractions
	100	99.81	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	0.0019	0.0018 - 0.0022	Y N	Extractions
	1	0.99996	0.9990 - 1.0010	Y N	
	100	99.99667	99.9000 - 100.1000	Y N	
71	0.002	0.0018	0.0018 - 0.0022	Y N	BOD Room
	1	1.0003	0.9990 - 1.0010	Y N	
	100	99.9980	99.9000 - 100.1000	Y N	
63	0.1	0.10	0.09 - 0.11	Y N	BOD Room
	100	90.95	98.00 - 102.00	Y N	
64	1	1.02	0.98 - 1.02	Y N	Metals Clean Room
	10	10.01	9.8 - 10.2	Y N	
	100	100.05	98.00 - 102.00	Y N	
72	0.002	0.0019	0.0018 - 0.0022	Y N	Oil & Grease Room
	1	1.0010	0.9990 - 1.0010	Y N	
	100	100.0027	99.9000 - 100.1000	Y N	
30	1	1.01	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

Return to Contents

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: 099-14-354-36-5901
ICAL BATCH ID: 170313I008
INSTRUMENT: GC 47

ANALYZED BY: 1,027
ICAL D/T ANALYZED: 2017-03-13 13:22
REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 14:43

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	957.840	867.749	857.547	844.399	867.606					879.028	0.00	5	0-20			PASS

Data Files:

Level #	D/T Analyzed	Data File
1	2017-03-13 13:22	T:\GC_47\GC_47_data\2017\170313\17031305.d\Report.txt17031305
2	2017-03-13 13:43	T:\GC_47\GC_47_data\2017\170313\17031306.d\Report.txt17031306
3	2017-03-13 14:04	T:\GC_47\GC_47_data\2017\170313\17031307.d\Report.txt17031307
4	2017-03-13 14:25	T:\GC_47\GC_47_data\2017\170313\17031308.d\Report.txt17031308
5	2017-03-13 14:45	T:\GC_47\GC_47_data\2017\170313\17031309.d\Report.txt17031309

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)

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

ICV WORK ORDER: **099-14-354-36-5901**
INITIAL BATCH: 170313I008
INSTRUMENT: GC 47

DATA FILE: T:\GC_47\GC_47_data\2017\170313\17031310.d\Report.txt17031310

ANALYZED BY: 1027
D/T ANALYZED:
INITIAL: 2017-03-13 13:22
ICV: 2017-03-13 15:06
REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 14:43

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	879.028	847.702			4	0-30	PASS

MIN RF: Method Specified Minimum Response Factor

Report Date : 14-Mar-2017 11:19 Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 14:39
End Cal Date : 13-MAR-2017 17:12
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Cal Date : 13-Mar-2017 18:42 d2ef
Curve Type : Average

Calibration File Names:
Level 1: /chem1/SVOA/GC_47.i/170228.b/17022829.d
Level 2: /chem1/SVOA/GC_47.i/170228.b/17022830.d
Level 3: /chem1/SVOA/GC_47.i/170228.b/17022831.d
Level 4: /chem1/SVOA/GC_47.i/170228.b/17022832.d
Level 5: /chem1/SVOA/GC_47.i/170228.b/17022833.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 5 TPH as JP5 rf	1136528	959265	851171	828283	975207	950091	13
S 8 TPH Gas/Diesel rf	591780	649189	665035	645455	610996	632491	5
S 15 TPH as Diesel rf	957840	867749	857547	844399	867606	879028	5

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Report Date : 14-Mar-2017 11:19 Page 2

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 14:39
End Cal Date : 13-MAR-2017 17:12
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Cal Date : 13-Mar-2017 18:42 d2ef
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	851761	797322	788534	776714	810300	804926	4
S 276 Diesel Range Organics BP	851761	797322	788534	776714	810300	804926	4
S 32 Oil Range Organics rf	553687	622085	601778	595073	613163	597157	4
S 36 TPH as Motor Oil rf	560814	623995	603333	596587	614719	599890	4

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INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 14:39
End Cal Date : 13-MAR-2017 17:12
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Cal Date : 13-Mar-2017 18:42 d2ef
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
$ 93 n-Octacosane	965963	835334	810491	808377	836944	851422	8

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031310.d
Report Date: 03/14/2017 11:15

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: ICV D400 C28 50 L102516G
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170313.b/8015d.m

Injection Date and Time: 13-MAR-2017 15:06
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	879028.259	847702.295	0.00	4	15	Averaged
Diesel Range Organics	804926.336	805423.718	0.00	0	15	Averaged

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	851421.884	831883.120	0.00	2	20	Averaged

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031305.d Page 1
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031305.d
Lab Smp Id:
Inj Date : 13-MAR-2017 13:22
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D5 C28 0.625 L102516B
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 02:19 Cal File: 17022829.d
Als bottle: 5 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppm)	AMOUNTS ON-COL (ppm)
$ 93 n-Octacosane	7.850	7.850	0.000	603727	0.62500	0.709
S 15 TPH as Diesel	0.803-8.046			4789201	5.00000	5.448
S 27 Diesel Range Organics	2.406-8.046			4258807	5.00000	5.290
S 276 Diesel Range Organics (C10-C28	2.406-8.046			4258807	5.00000	5.290

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031305.d

Page 1

Date : 13-MAR-2017 13:22

Client ID:

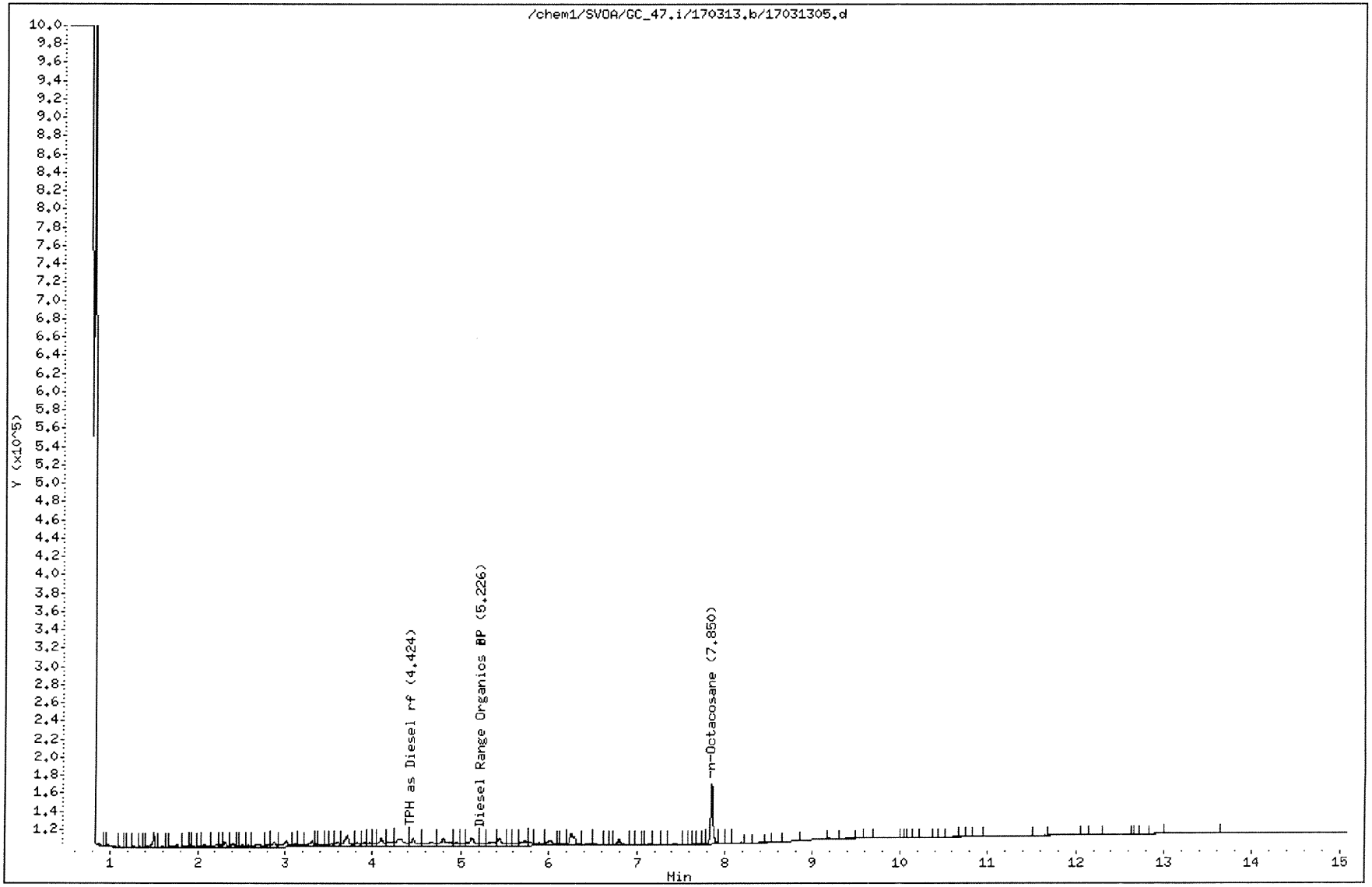
Instrument: GC_47.i

Sample Info: ICAL D5 C28 0.625 L102516B

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031306.d Page 1
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031306.d
Lab Smp Id:
Inj Date : 13-MAR-2017 13:43
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D200 C28 25 L102516C
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 02:40 Cal File: 17022830.d
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppm)	AMOUNTS ON-COL (ppm)
$ 93 n-Octacosane	7.853	7.853	0.000	20883355	25.0000	24.527
S 15 TPH as Diesel	0.803-8.046			173549727	200.000	197.433
S 27 Diesel Range Organics	2.406-8.046			159464469	200.000	198.110
S 276 Diesel Range Organics (C10-C28	2.406-8.046			159464469	200.000	198.110

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031306.d

Date : 13-MAR-2017 13:43

Client ID:

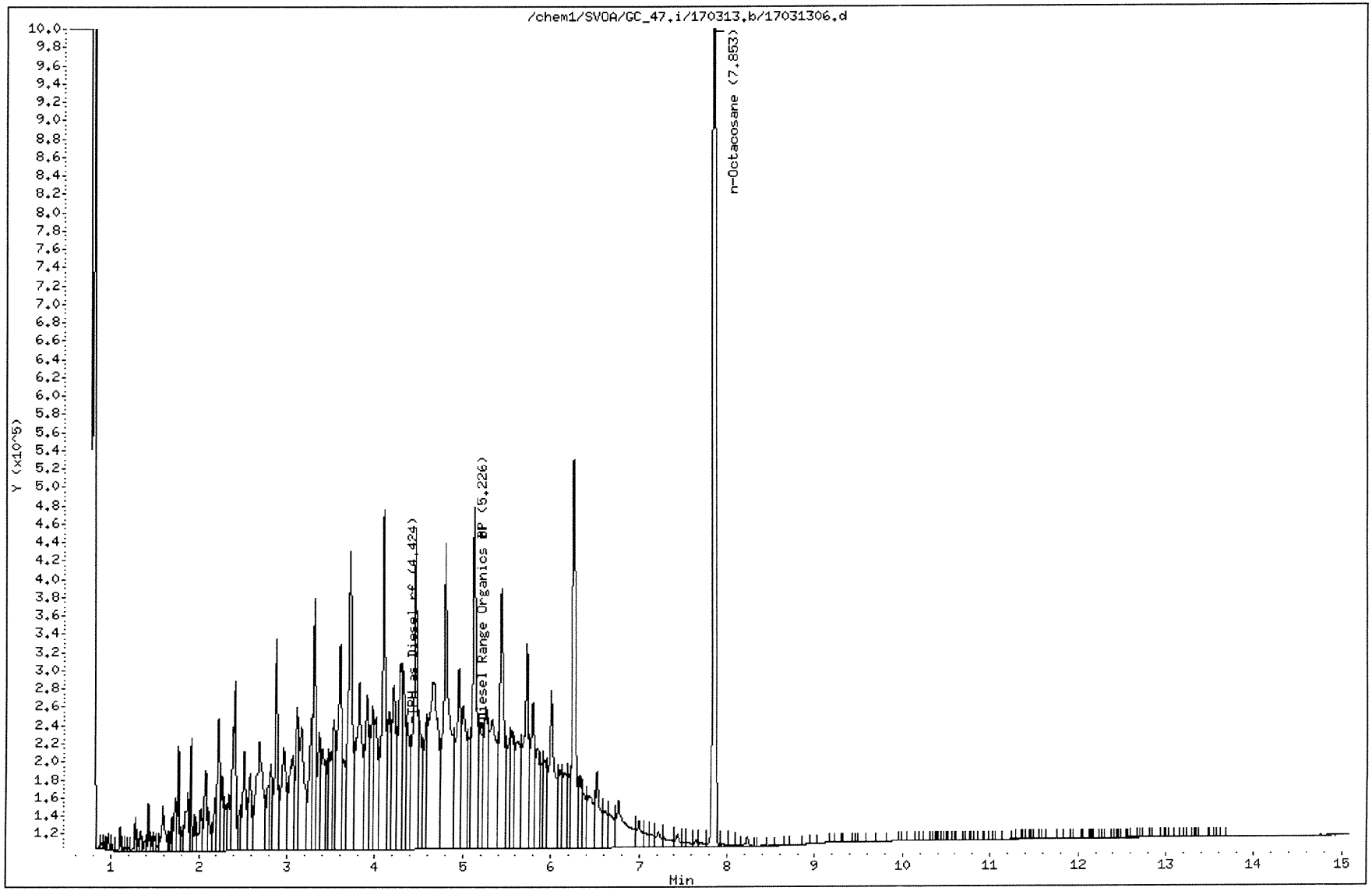
Sample Info: ICAL D200 C28 25 L102516C

Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031307.d Page 1
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031307.d
Lab Smp Id:
Inj Date : 13-MAR-2017 14:04
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:02 Cal File: 17022831.d
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppm)	AMOUNTS ON-COL (ppm)
$ 93 n-Octacosane	7.856	7.856	0.000	40524559	50.0000	47.596
S 15 TPH as Diesel	0.803-8.046			343018706	400.000	390.224
S 27 Diesel Range Organics	2.406-8.046			315413593	400.000	391.853
S 276 Diesel Range Organics (C10-C28	2.406-8.046			315413593	400.000	391.853

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031307.d

Page 1

Date : 13-MAR-2017 14:04

Client ID:

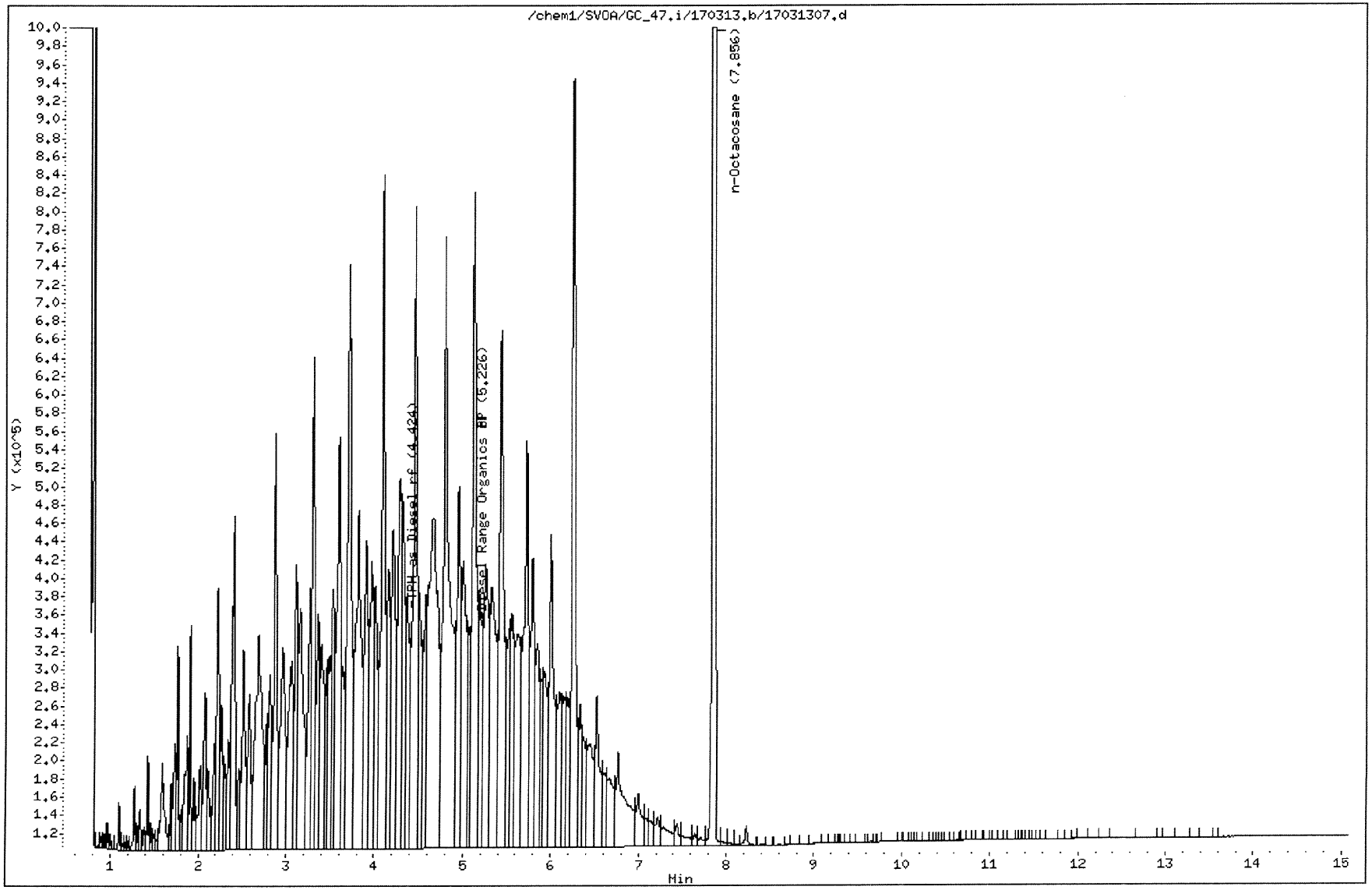
Instrument: GC_47.i

Sample Info: ICAL D400 C28 50 L102516D

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031308.d
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031308.d
Lab Smp Id:
Inj Date : 13-MAR-2017 14:25
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D800 C28 100 L102516E
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:23 Cal File: 17022832.d
Als bottle: 8 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppm)	AMOUNTS ON-COL (ppm)
$ 93 n-Octacosane	7.862	7.862	0.000	80837705	100.000	94.944
S 15 TPH as Diesel	0.803	-8.046		675519412	800.000	768.484
S 27 Diesel Range Organics	2.406	-8.046		621371159	800.000	771.960
S 276 Diesel Range Organics (C10-C28	2.406	-8.046		621371159	800.000	771.960

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031308.d

Date : 13-MAR-2017 14:25

Client ID:

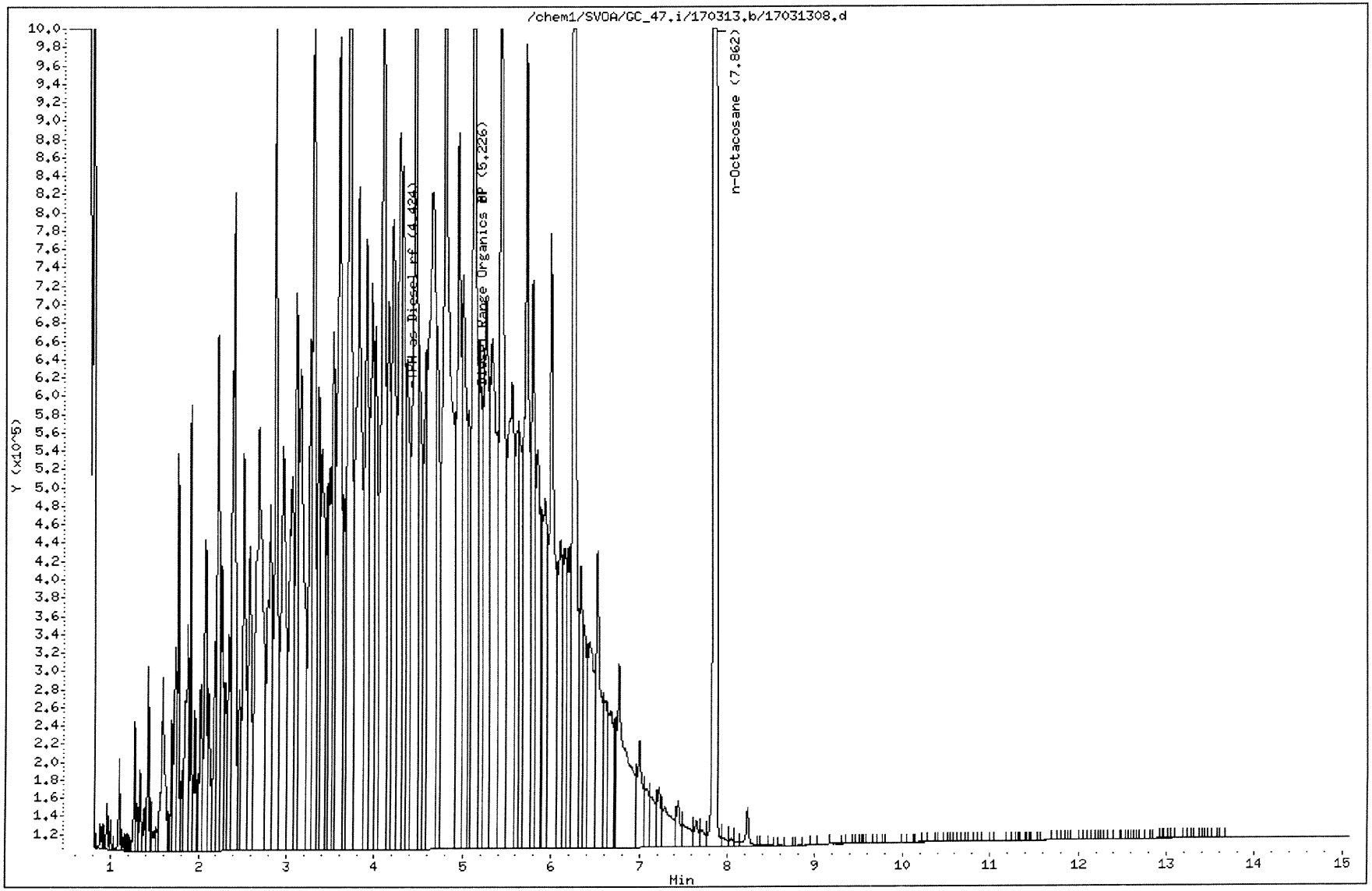
Sample Info: ICAL D800 C28 100 L102516E

Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031309.d
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031309.d
Lab Smp Id:
Inj Date : 13-MAR-2017 14:45
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL 1600 C28 200 L102516F
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 9 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ppm)	AMOUNTS ON-COL (ppm)
$ 93 n-Octacosane	7.873	7.873	0.000	167388758	200.000	196.599
S 15 TPH as Diesel	0.803-8.046			1388170291	1600.00	1579.210
S 27 Diesel Range Organics	2.406-8.046			1296480009	1600.00	1610.681(A)
S 276 Diesel Range Organics (C10-C28	2.406-8.046			1296480009	1600.00	1610.681(A)

QC Flag Legend

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

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031309.d

Page 1

Date : 13-MAR-2017 14:45

Client ID:

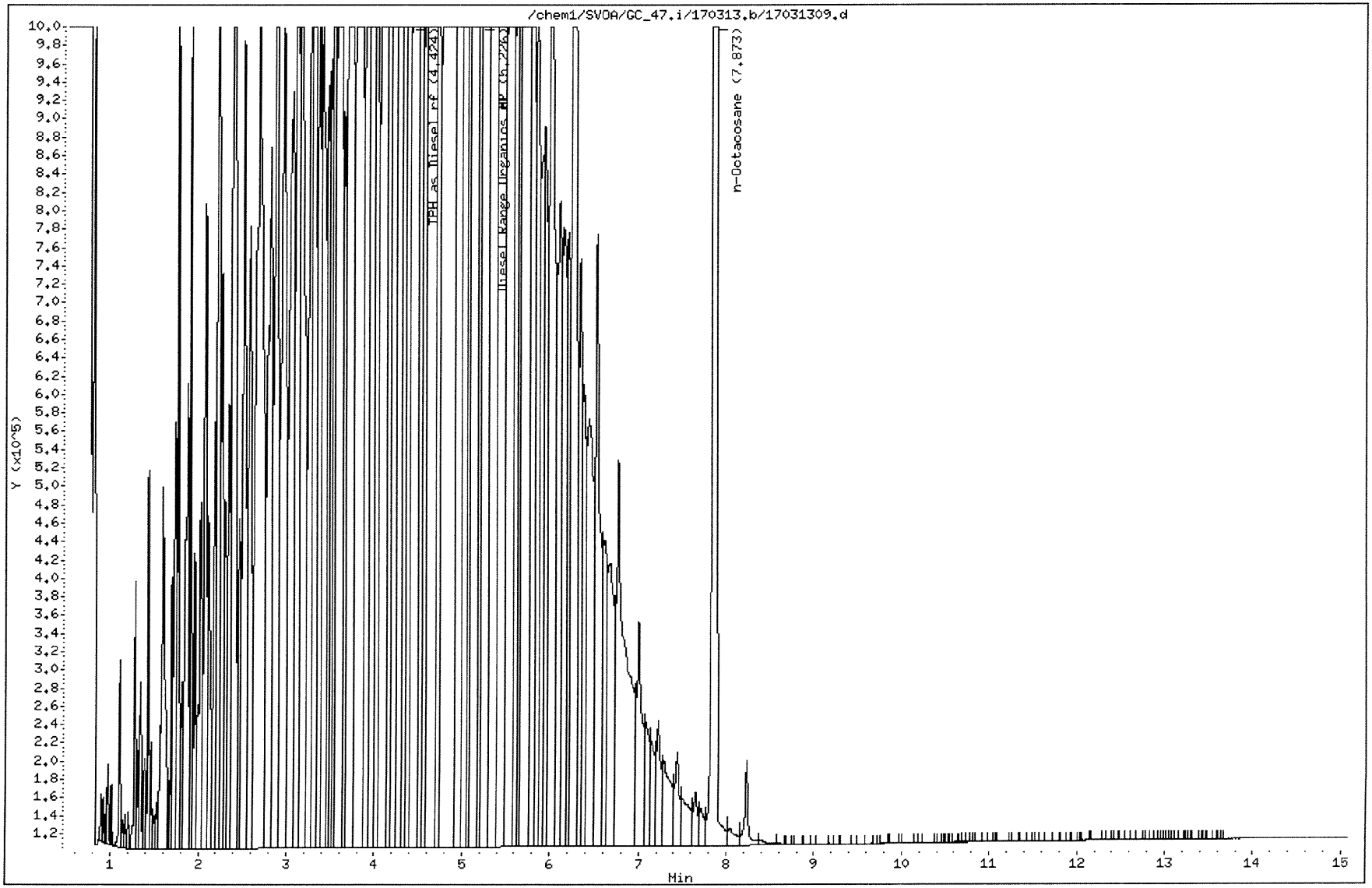
Instrument: GC_47.i

Sample Info: ICAL 1600 C28 200 L102516F

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031310.d Page 1
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031310.d
Lab Smp Id:
Inj Date : 13-MAR-2017 15:06
Operator : 972 Inst ID: GC_47.i
Smp Info : ICV D400 C28 50 L102516G
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 10 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	0.803-8.046			339080918	400.000	385.745
S 27 Diesel Range Organics	2.406-8.046			322169487	400.000	400.247
$ 93 n-Octacosane	7.856	7.856	0.000	41594156	50.0000	48.852

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031310.d

Page 1

Date : 13-MAR-2017 15:06

Client ID:

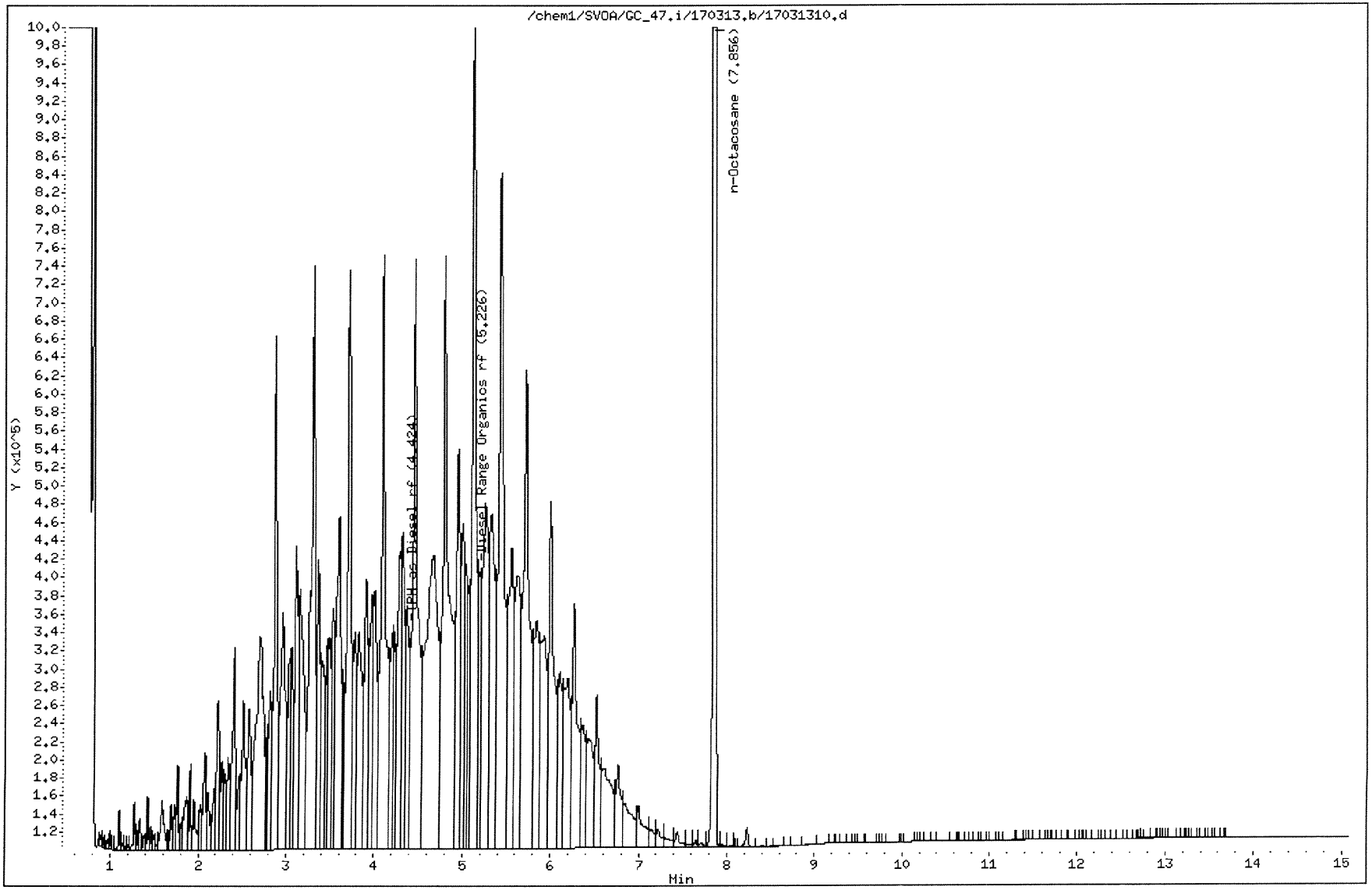
Instrument: GC_47.i

Sample Info: ICV D400 C28 50 L102516G

Operator: 972

Column phase:

Column diameter: 2.00



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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170313/17031302.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : C6-C44 L110816A

Acquired on : 13 MAR 17 11:58
Report Created on: 13-MAR-17 17:29
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_47.i/170313.b/17031302.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.803	8.706	7.903	1934739.00	0.00	C6-Hexane
1.000	8.706	7.706	3927872.00	0.00	C7-Heptane
1.423	8.706	7.283	5334578.00	0.00	C8-Octane
1.908	8.706	6.798	5564091.00	0.00	C9-Nonane
2.406	8.706	6.300	5750675.00	0.00	C10-Decane
2.874	8.706	5.832	5858911.00	0.00	C11-Undecane
3.309	8.706	5.397	5838402.00	0.00	C12-Dodecane
3.716	8.706	4.990	6310691.00	0.00	C13-Tridecane
4.098	8.706	4.608	6621534.00	0.00	C14-Tetradecane
4.459	8.706	4.247	7834103.00	0.00	C15-pentadecane
4.800	8.706	3.906	8604251.00	0.00	C16-Hexadecane
5.123	8.706	3.583	9066279.00	0.00	C17-Heptadecane
5.430	8.706	3.276	9190150.00	0.00	C18-Octadecane
5.722	8.706	2.984	9333081.00	0.00	C19-Nonadecane
6.000	8.706	2.706	9606872.00	0.00	C20-Eicosane
6.266	8.706	2.440	9599689.00	0.00	C21-Heneicosane
6.521	8.706	2.185	9705243.00	0.00	C22-Docosane
6.766	8.706	1.940	9633143.00	0.00	C23-Tricosane
7.000	8.706	1.706	9554797.00	0.00	C24-Tetracosane
7.225	8.706	1.481	9492563.00	0.00	C25-Pentacosane
7.442	8.706	1.264	9792664.00	0.00	C26-Hexacosane
7.651	8.706	1.055	9214415.00	0.00	C27-Heptacosane
7.852	8.706	0.854	9308808.00	17.90	n-Octacosane
8.046	8.706	0.660	8650203.00	0.00	C29-Nonacosane
8.234	8.706	0.472	7987089.00	0.00	C30-Triacontane
8.416	8.706	0.290	6713349.00	0.00	C31-Hentriacontane
8.591	8.706	0.114	5305850.00	0.00	C32-Dotricacontane
8.762	8.706	-0.056	3754718.00	0.00	C33-Tritriacontane
8.928	8.706	-0.222	2306823.00	0.00	C34-Tetratriacontane
9.089	8.706	-0.383	1269781.00	0.00	C35-Pentatriacontane
9.258	8.706	-0.552	702175.00	0.00	C36-Hexatriacontane
9.454	8.706	-0.748	359158.00	0.00	C37-Heptatriacontane
9.684	8.706	-0.978	223358.00	0.00	C38-Octatriacontane
9.953	8.706	-1.247	174894.00	0.00	C39-Nonatriacontane
10.268	8.706	-1.562	109751.00	0.00	C40-Tetracontane
12.224	8.706	-3.518	334869.00	0.00	C44-Tetratetracontane

End of File

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031302.d

Date : 13-MAR-2017 11:58

Client ID:

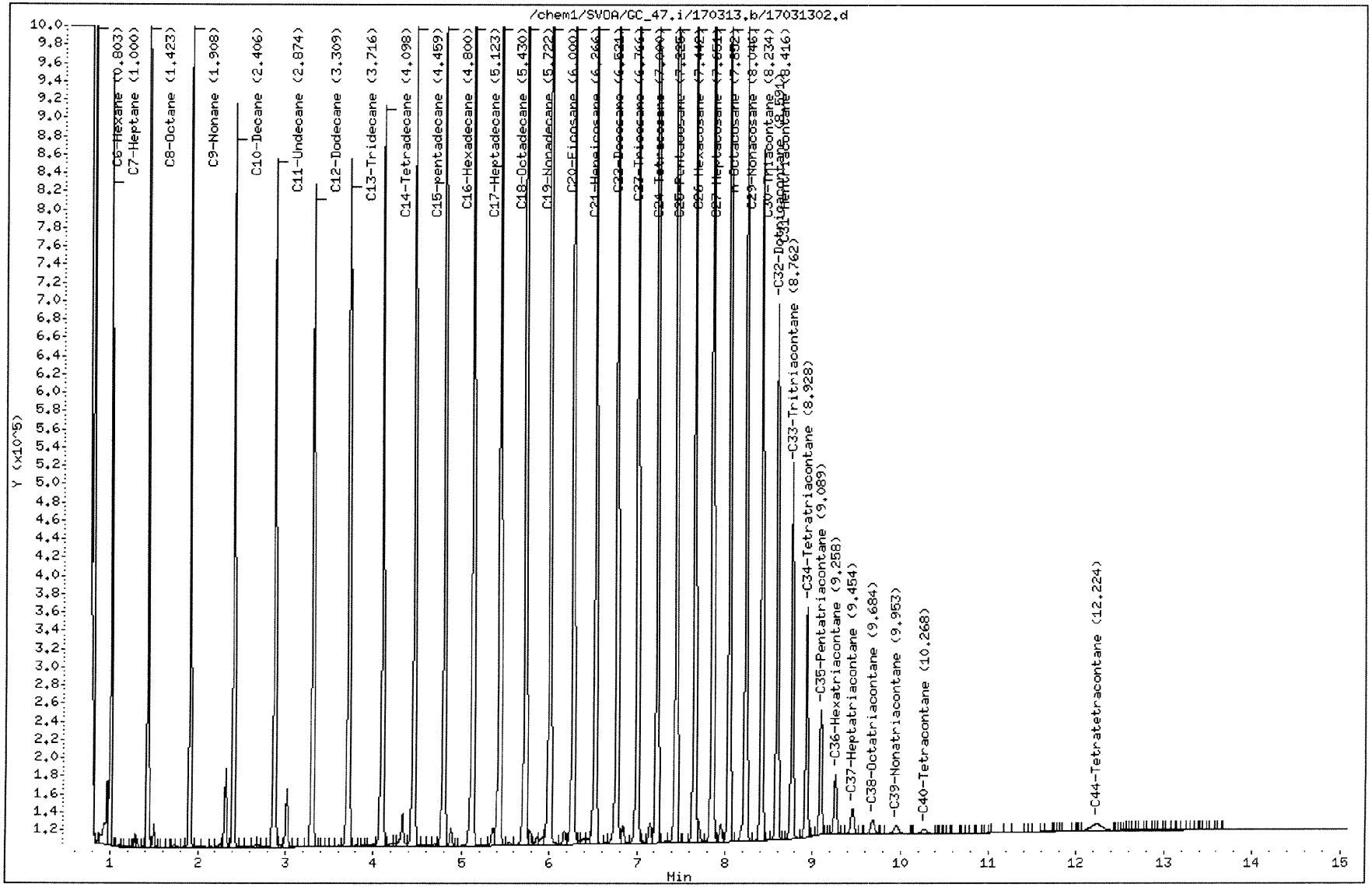
Sample Info: C6-C44 L110816A

Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00



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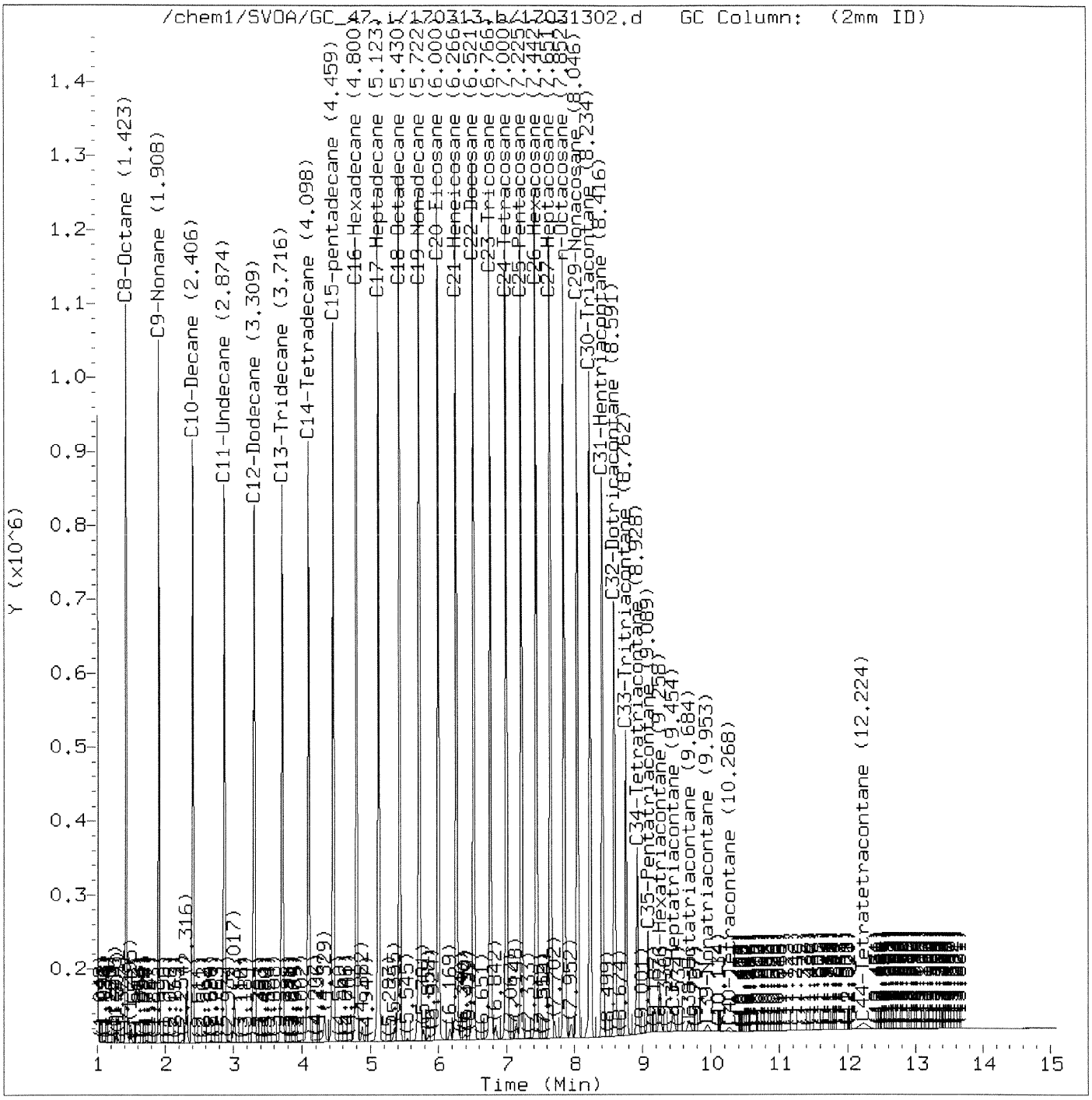
Manually Integrated Data File



Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Jennie Dinh on 03/13/2017 at 17:29. Target 3.5 esignature user ID: d2ef

Audit/management approval: _____

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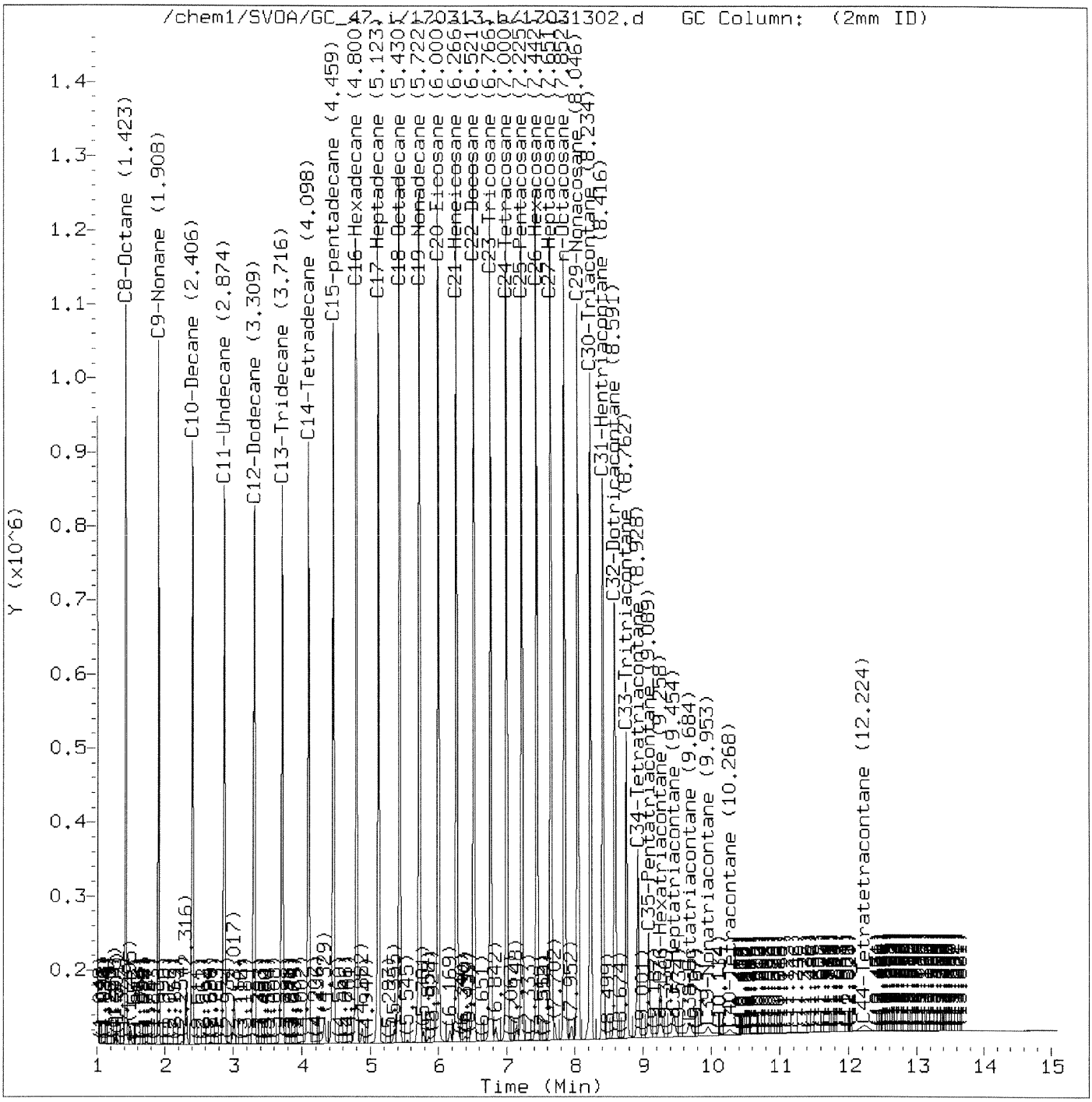
Original Data File



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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: **17-03-1383**
INSTRUMENT: GC 47
EXTRACTION : EPA 3550B
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 682
D/T ANALYZED: 2017-03-22 03:10
REVIEWED BY:
D/T REVIEWED:

DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032129.d\Report.txt17032129

 # 1 **CLIENT SAMPLE NUMBER: D-DU2-S-SG-08-15S**

LCS/MB BATCH: 170321B08B
MS/MSD BATCH: 170321S08
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.20 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 0.98

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.900	1.00	ND	4.9	
TPH as Motor Oil	0.760	1.00	ND	4.9	

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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170321/17032129.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : 17-03-1383-1

Acquired on : 22 MAR 17 03:10
Report Created on: 22-MAR-17 11:38
Software Revision: Target 3.50

Vial Number : Vial 29
Injection Number : 29
Sequence Line : 0
Instrument Method: 8015d.m

Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170321.b/17032129.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.851	8.706	0.855	43861419.00	51.52	n-Octacosane
2.400- 8.041			788347.99	0.90	TPH as Diesel
5.117-12.199			669778.71	0.76	TPH as Motor Oil

End of File

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Data File: /chem1/SVOA/GC_47.i/170321.b/17032129.d

Page 1

Date : 22-MAR-2017 03:10

Client ID:

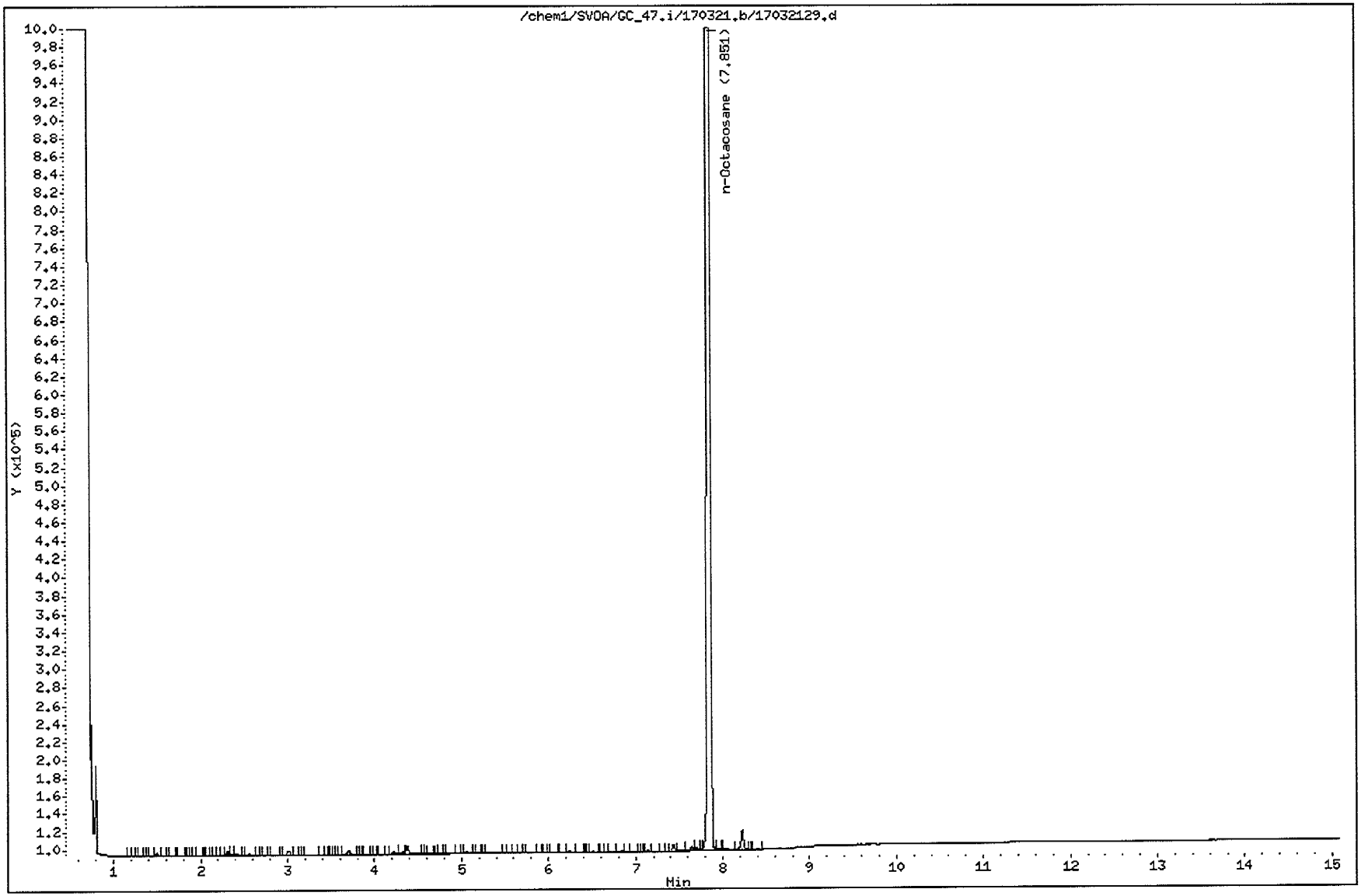
Instrument: GC_47.i

Sample Info: 17-03-1383-1

Operator: 972

Column phase:

Column diameter: 2.00



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

WORK ORDER: **17-03-1383**
INSTRUMENT: GC 47
EXTRACTION : EPA 3550B
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 682
D/T ANALYZED: 2017-03-22 03:31
REVIEWED BY:
D/T REVIEWED:

DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032130.d\Report.txt17032130

 # 2 **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-15S**

LCS/MB BATCH: 170321B08B
MS/MSD BATCH: 170321S08
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.10 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
TPH as Diesel	1.26	1.00	ND	5.0	
TPH as Motor Oil	1.02	1.00	ND	5.0	

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

Data File Name    : /chem1/SVOA/GC_47/170321/17032130.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 30
Instrument        : GC 47                        Injection Number : 30
Sample Name       : 17-03-1383-2                 Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 22 MAR 17  03:31
Report Created on: 22-MAR-17  11:38              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170321.b/17032130.d
RT Range       Exp RT    DLT RT    Response           ppm                Compound
|-------------|---------|---------|------------------|----------------|---------------------|
        7.851     8.706     0.855        42585206.00           50.02  n-Octacosane
 2.400- 8.041                            1106527.86            1.26  TPH as Diesel
 5.117-12.199                             894215.74            1.02  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170321.b/17032130.d

Page 1

Date : 22-MAR-2017 03:31

Client ID:

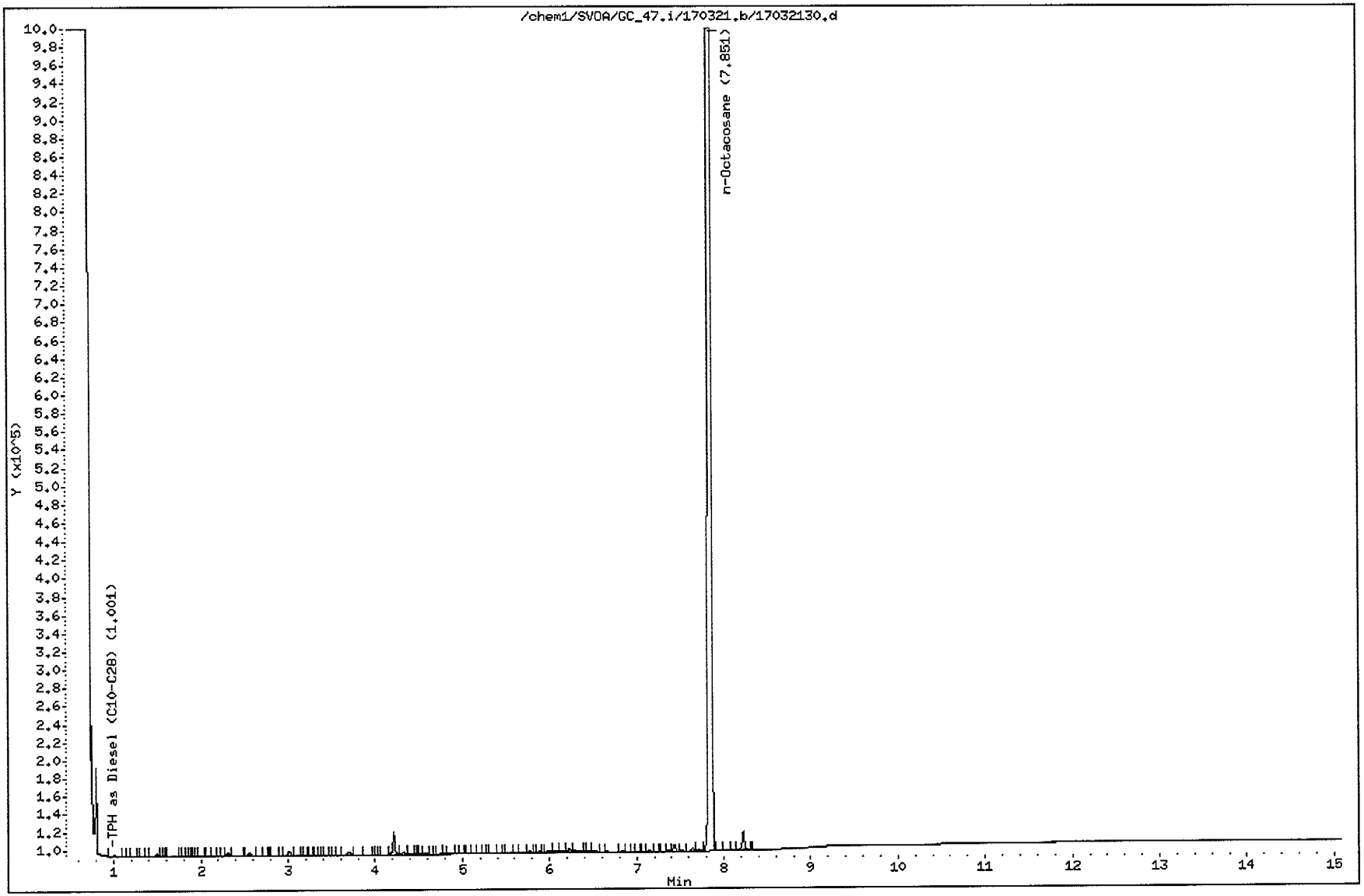
Instrument: GC_47.i

Sample Info: 17-03-1383-2

Operator: 972

Column phase:

Column diameter: 2.00



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

WORK ORDER:	**17-03-1383**	ANALYZED BY:	682
INSTRUMENT:	GC 47	D/T ANALYZED:	2017-03-22 03:52
EXTRACTION :	EPA 3550B	REVIEWED BY:	
D/T EXTRACTED:	2017-03-21 00:00	D/T REVIEWED:	

DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032131.d\Report.txt17032131

 # 3 **CLIENT SAMPLE NUMBER: D-DU2-S-SG-10-15S**

LCS/MB BATCH:	170321B08B	SAMPLE VOLUME / WEIGHT:	DEFAULT: 10.00 g / ACTUAL: 10.10 g
MS/MSD BATCH:	170321S08	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	0.840	1.00	ND	5.0	
TPH as Motor Oil	0.610	1.00	ND	5.0	

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

Data File Name    : /chem1/SVOA/GC_47/170321/17032131.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 31
Instrument        : GC 47                        Injection Number : 31
Sample Name       : 17-03-1383-3                 Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 22 MAR 17  03:52
Report Created on: 22-MAR-17  11:38              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170321.b/17032131.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|----------------|---------------------|
        7.852     8.706     0.854        43906363.00           51.57  n-Octacosane
 2.400- 8.041                              741233.86            0.84  TPH as Diesel
 5.117-12.199                              535936.27            0.61  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170321.b/17032131.d

Page 1

Date : 22-MAR-2017 03:52

Client ID:

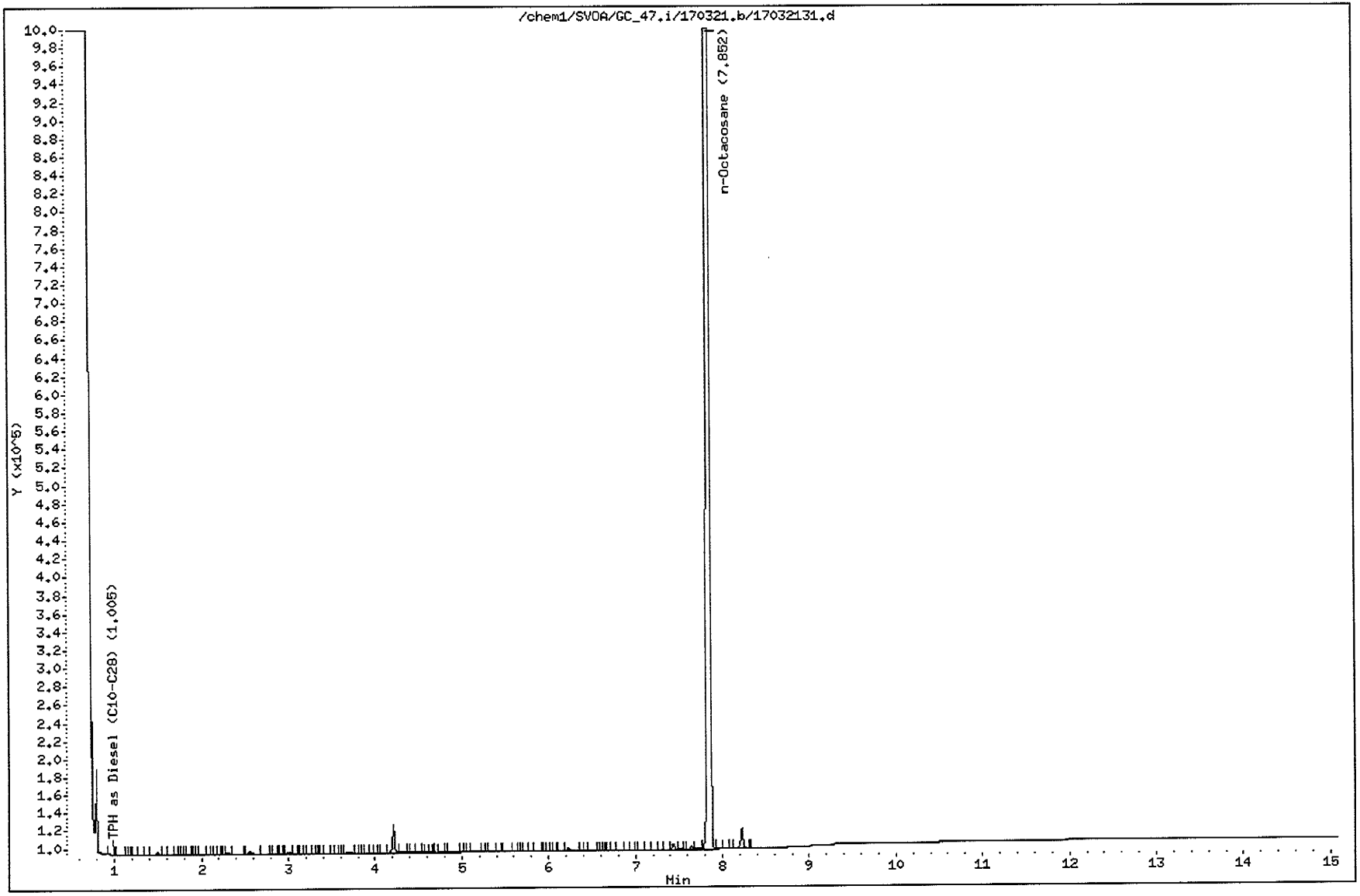
Instrument: GC_47.i

Sample Info: 17-03-1383-3

Operator: 972

Column phase:

Column diameter: 2.00



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EPA 8015B (M)

Diesel + Motor Oil

QUALITY CONTROL

Method Blank
LCS/LCSD
MS/MSD

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

MB SAMPLE ID:	**099-14-353-11**	ANALYZED BY:	682
MB BATCH ID:	170321B08B	D/T ANALYZED:	2017-03-21 22:19
INSTRUMENT:	GC 47	REVIEWED BY:	
EXTRACTION:	EPA 3550B	D/T REVIEWED:	
D/T EXTRACTED:	2017-03-21 00:00	MATRIX:	Soil

DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032115.d\ReportDMOsd.txt17032115

CLIENT WORK ORDER: 17-03-1383

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
1		D-DU2-S-SG-08-15S	2017-03-22 03:10	S:\GC_47\GC_47_data\2017\170321\17032129.d\Report.txt17032129
2		D-DU2-S-SG-09-15S	2017-03-22 03:31	S:\GC_47\GC_47_data\2017\170321\17032130.d\Report.txt17032130
3		D-DU2-S-SG-10-15S	2017-03-22 03:52	S:\GC_47\GC_47_data\2017\170321\17032131.d\Report.txt17032131

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

WORK ORDER: **099-14-353**
INSTRUMENT: GC 47
EXTRACTION : EPA 3550B
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 682
D/T ANALYZED: 2017-03-21 22:19
REVIEWED BY:
D/T REVIEWED:

DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032115.d\ReportDMOsd.txt17032115

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

LCS/MB BATCH: 170321B08B
MS/MSD BATCH:
UNITS: mg/kg

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

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
TPH as Diesel	0.360	1.00	ND	5.0	
TPH as Motor Oil	0.470	1.00	ND	5.0	

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

LCS SAMPLE ID: **099-14-353- 11**
LCS/MB BATCH ID: 170321B08B
INSTRUMENT: GC 47

EXTRACTION : EPA 3550B
D/T EXTRACTED: 2017-03-21 00:00

ANALYZED BY: 682
D/T ANALYZED: 2017-03-21 22:40
REVIEWED BY:
D/T REVIEWED:

DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032116.d\Report.txt17032116

COMPOUND NAME	CONC ADDED	CONC REC	%RECOVERY	%REC CONTROL LIMIT	STATUS	QUALIFIERS
TPH as Diesel	400.0	358.7	90	61-145	PASS	

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

SPIKED SAMPLE ID: **17-03-1451-2**
MS/MSD BATCH: 170321S08
INSTRUMENTS:
SAMPLE: GC 47
MS: GC 47
MSD: GC 47

EXTRACTION: EPA 3550B
D/T EXTRACTED:
SAMPLE: 2017-03-21 00:00
MS: 2017-03-21 00:00
MSD: 2017-03-21 00:00

ANALYZED BY: 682
D/T ANALYZED:
SAMPLE: 2017-03-22 01:05
MS: 2017-03-21 23:21
MSD: 2017-03-21 23:42
REVIEWED BY: 1,027
D/T REVIEWED: 2017-03-22 12:53

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	369.8	92	362.4	91	64-130	2	0-15	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17032118	S:\GC_47\GC_47_data\2017\170321\17032118.d\Report.txt
MSD	17032119	S:\GC_47\GC_47_data\2017\170321\17032119.d\Report.txt

SURROGATE RECOVERIES
FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-1383
BATCH ID:
LCS/MB: **170321B08B**
MS: **170321S08**
EXTRACTION : EPA 3550B

REVIEWED BY: 1,027
D/T REVIEWED: 2017-03-24 11:54

1 CLIENT SAMPLE NUMBER : D-DU2-S-SG-08-15S

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-21 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032129.d\Report.txt17032129

ANALYZED BY: 682
D/T ANALYZED 2017-03-22 03:10

COMMENT:

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

2 CLIENT SAMPLE NUMBER : D-DU2-S-SG-09-15S

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-21 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032130.d\Report.txt17032130

ANALYZED BY: 682
D/T ANALYZED 2017-03-22 03:31

COMMENT:

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

3 CLIENT SAMPLE NUMBER : D-DU2-S-SG-10-15S

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-21 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032131.d\Report.txt17032131

ANALYZED BY: 682
D/T ANALYZED 2017-03-22 03:52

COMMENT:

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

MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-21 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032115.d\ReportDMOsd.txt17032115

ANALYZED BY: 682
D/T ANALYZED 2017-03-21 22:19

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	97	61-145	PASS	

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SURROGATE RECOVERIES
FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-1383
BATCH ID:
LCS/MB: **170321B08B**
MS:
EXTRACTION : EPA 3550B

REVIEWED BY:
D/T REVIEWED:

LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-21 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032116.d\Report.txt17032116

ANALYZED BY: 682
D/T ANALYZED 2017-03-21 22:40

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	97	61-145	PASS	

MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-21 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032118.d\Report.txt17032118

ANALYZED BY: 682
D/T ANALYZED 2017-03-21 23:21

COMMENT:

COMPOUND	% REC	% REC CL	STATUS	QUALIFIERS
n-Octacosane	94	61-145	PASS	

MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-21 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032119.d\Report.txt17032119

ANALYZED BY: 682
D/T ANALYZED 2017-03-21 23:42

COMMENT:

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

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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170321/17032115.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : MB 17032108/09

Acquired on : 21 MAR 17 22:19
Report Created on: 22-MAR-17 11:52
Software Revision: Target 3.50

Vial Number : Vial 15
Injection Number : 15
Sequence Line : 0
Instrument Method: 8015d.m

Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170321.b/17032115.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.851	8.706	0.855	41328644.00	48.54	n-Octacosane
2.400- 8.041			315172.89	0.36	TPH as Diesel
5.117-12.199			409948.67	0.47	TPH as Motor Oil

End of File

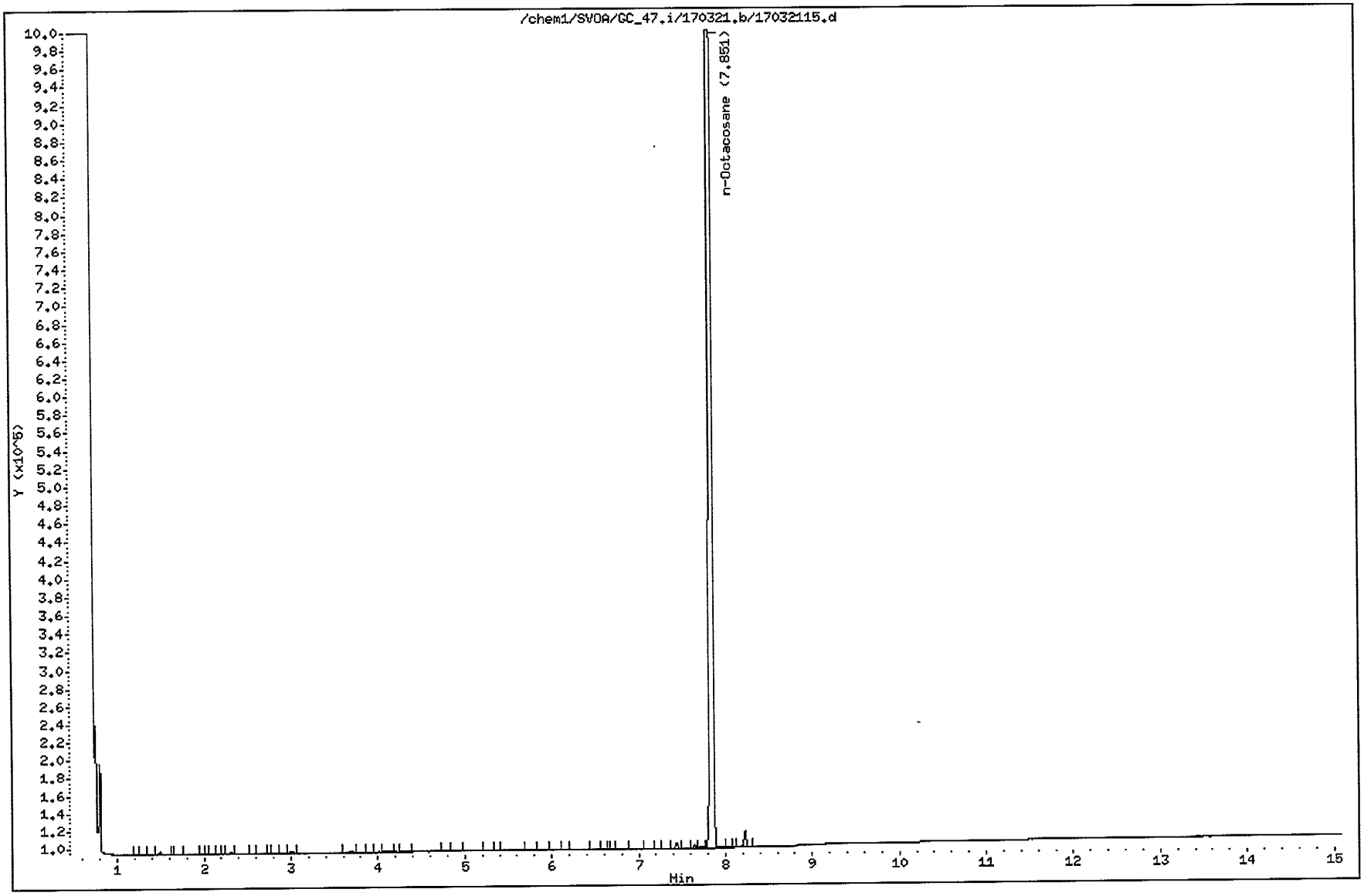
Return to Contents

Data File: /chem1/SVOA/GC_47.i/170321.b/17032115.d
Date : 21-MAR-2017 22:19
Client ID:
Sample Info: MB 17032108/09

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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

Data File Name    : /chem1/SVOA/GC_47/170321/17032116.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 16
Instrument        : GC 47                        Injection Number  : 16
Sample Name       : LCS 17032108                 Sequence Line     : 0
                                                 Instrument Method: 8015d.m

Acquired on       : 21 MAR 17  22:40
Report Created on: 22-MAR-17  11:35              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170321.b/17032116.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|---------------|--------------------|
        7.852     8.706     0.854        41190793.00           48.38  n-Octacosane
 0.797- 8.041                          315272908.39          358.66  TPH as Diesel
 2.400- 8.041                          302100995.15          375.32  Diesel Range Organics
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170321.b/17032116.d

Page 1

Date : 21-MAR-2017 22:40

Client ID:

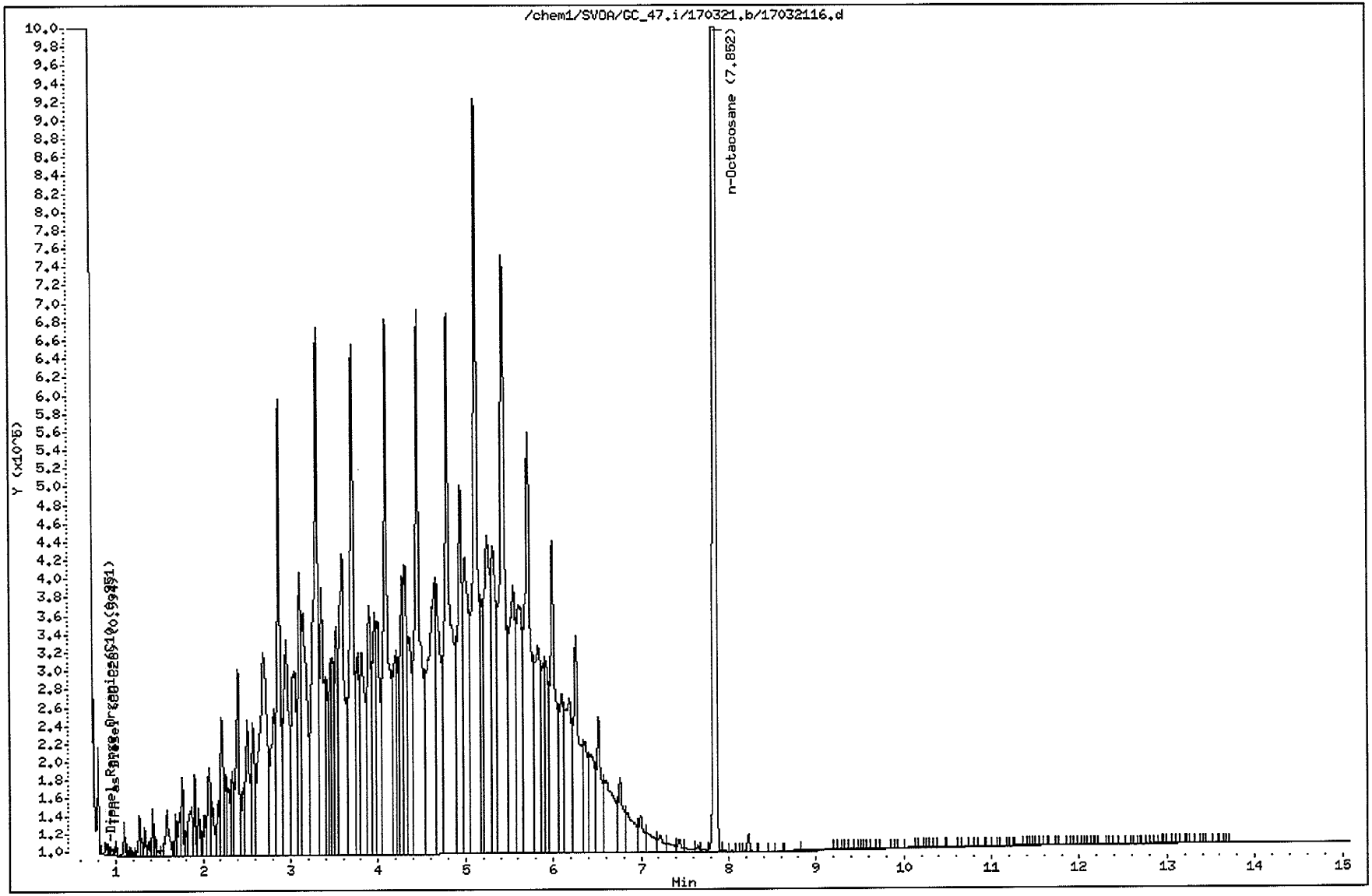
Instrument: GC_47.i

Sample Info: LCS 17032108

Operator: 972

Column phase:

Column diameter: 2.00



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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170321/17032118.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : MS 17-03-1451-2

Acquired on : 21 MAR 17 23:21
Report Created on: 22-MAR-17 11:35
Software Revision: Target 3.50

Vial Number : Vial 18
Injection Number : 18
Sequence Line : 0
Instrument Method: 8015d.m

Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170321.b/17032118.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.851	8.706	0.855	40035627.00	47.02	n-Octacosane
0.797- 8.041			328289170.20	373.47	TPH as Diesel
5.117-12.199			123831003.04	206.42	TPH as Motor Oil
5.117-12.199			123831003.04	206.42	TPH as Motor Oil Range
5.424-10.254			89779553.06	150.34	Oil Range Organics

End of File

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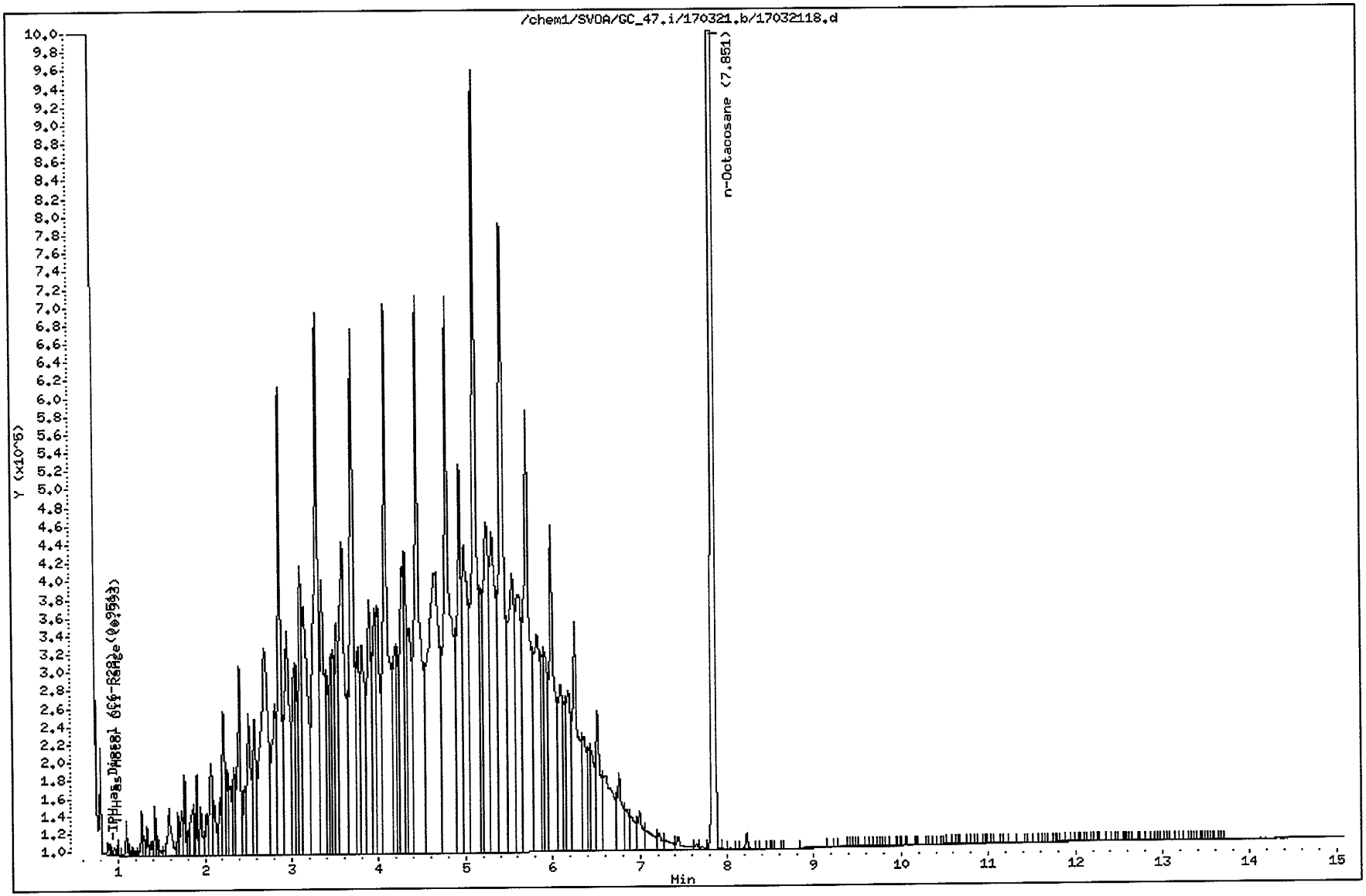
Data File: /chem1/SVOA/GC_47.i/170321.b/17032118.d
Date : 21-MAR-2017 23:21
Client ID:
Sample Info: MS 17-03-1451-2

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170321/17032119.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : MSD 17-03-1451-2

Acquired on : 21 MAR 17 23:42
Report Created on: 22-MAR-17 11:36
Software Revision: Target 3.50

Vial Number : Vial 19
Injection Number : 19
Sequence Line : 0
Instrument Method: 8015d.m

Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170321.b/17032119.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.851	8.706	0.855	40883908.00	48.02	n-Octacosane
0.797- 8.041			324969398.00	369.69	TPH as Diesel
5.117-12.199			121072495.78	201.82	TPH as Motor Oil
5.117-12.199			121072495.78	201.82	TPH as Motor Oil Range
5.424-10.254			88150867.93	147.62	Oil Range Organics

End of File

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Data File: /chem1/SVOA/GC_47.i/170321.b/17032119.d

Date : 21-MAR-2017 23:42

Client ID:

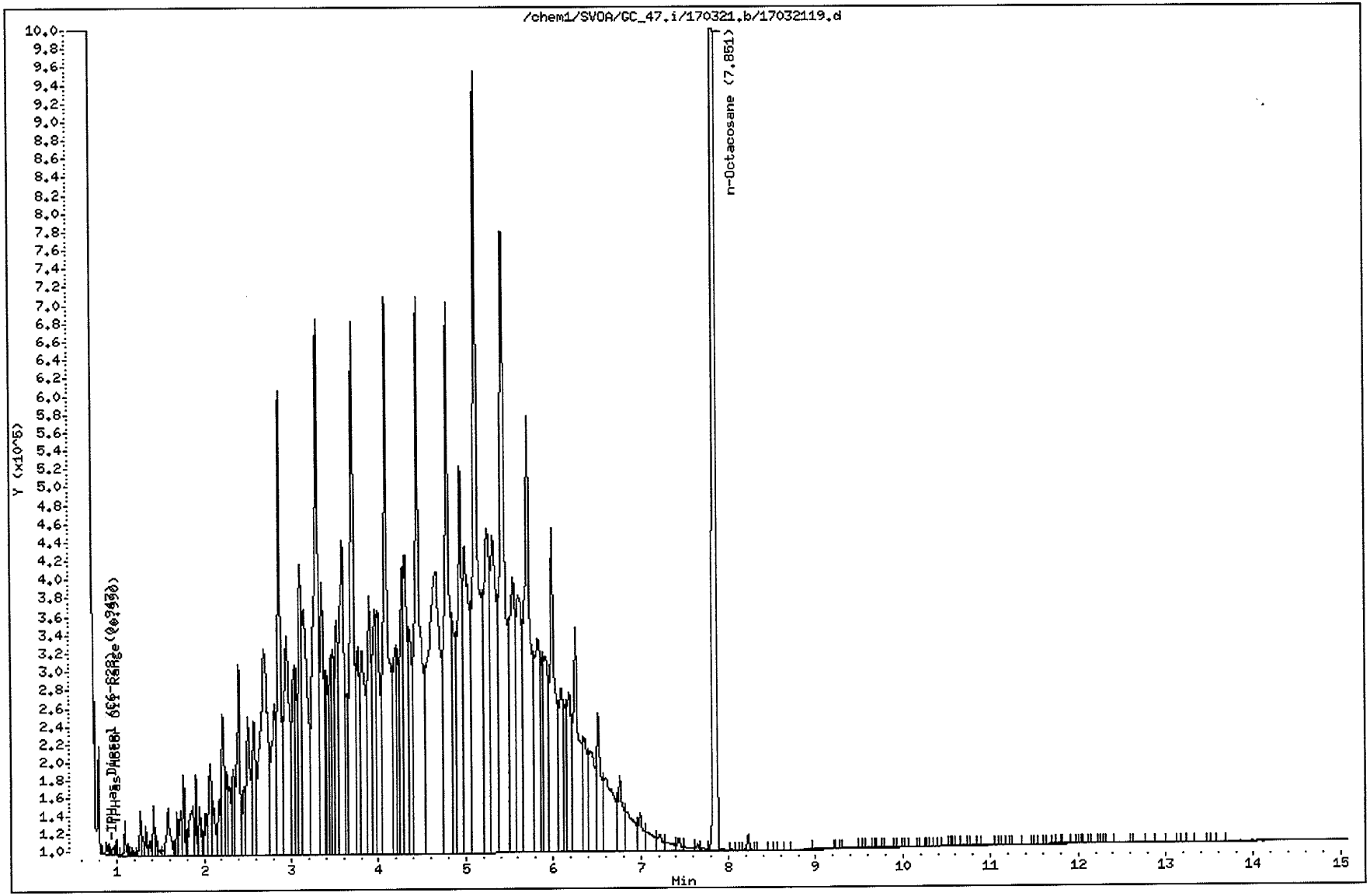
Sample Info: MSD 17-03-1451-2

Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00



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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170321/17032123.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : 17-03-1451-2

Acquired on : 22 MAR 17 01:05
Report Created on: 22-MAR-17 11:37
Software Revision: Target 3.50

Vial Number : Vial 23
Injection Number : 23
Sequence Line : 0
Instrument Method: 8015d.m

Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170321.b/17032123.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
7.852	8.706	0.854	41600964.00	48.86	n-Octacosane
0.797- 8.041			811989.40	0.92	TPH as Diesel
5.117-12.199			557760.06	0.93	TPH as Motor Oil
5.117-12.199			557760.06	0.93	TPH as Motor Oil Range
5.424-10.254			501799.78	0.84	Oil Range Organics

End of File

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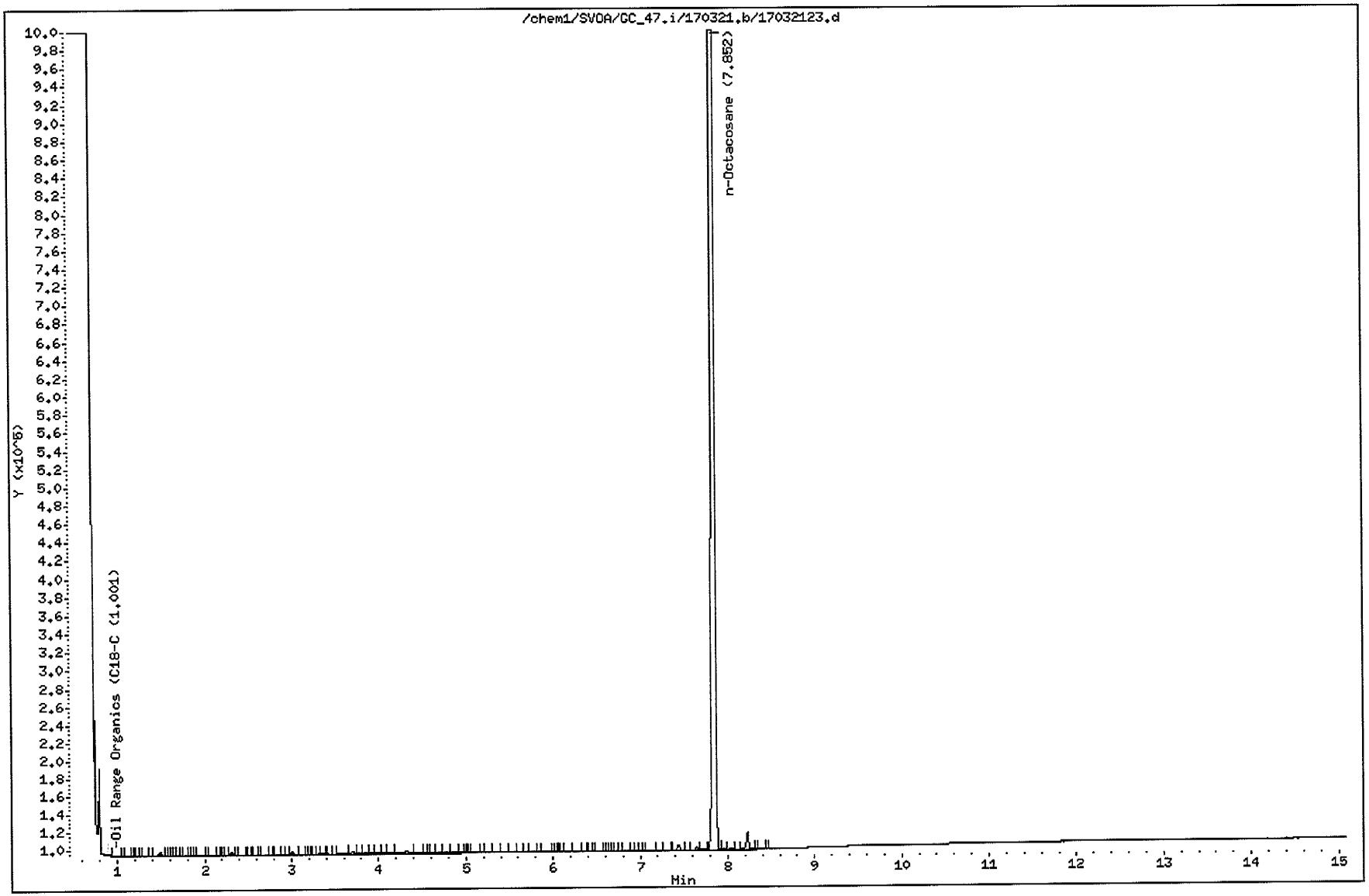
Data File: /chem1/SVOA/GC_47.i/170321.b/17032123.d
Date : 22-MAR-2017 01:05
Client ID:
Sample Info: 17-03-1451-2

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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EPA 8015B (M)

Diesel + Motor Oil

CONTINUING CALIBRATION

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

BATCH ID: **170321A056**
INSTRUMENT: GC 47

ANALYZED BY: 682

WORK ORDER: **099-14-354**
MATRIX: Water

REVIEWED BY: 1,027
D/T REVIEWED: 2017-03-24 11:51

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
45	Daily Calibration	2017-03-21 21:37	S:\GC_47\GC_47_data\2017\170321\17032113.d\Report.txt17032113

WORK ORDER: **17-03-1383**
MATRIX: Soil

REVIEWED BY: 1,027
D/T REVIEWED: 2017-03-24 11:54

CEL SAMPLE #	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
1	D-DU2-S-SG-08-15S	2017-03-22 03:10	S:\GC_47\GC_47_data\2017\170321\17032129.d\Report.txt17032129
2	D-DU2-S-SG-09-15S	2017-03-22 03:31	S:\GC_47\GC_47_data\2017\170321\17032130.d\Report.txt17032130
3	D-DU2-S-SG-10-15S	2017-03-22 03:52	S:\GC_47\GC_47_data\2017\170321\17032131.d\Report.txt17032131

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

CCV WORK ORDER: **099-14-354-45-5901**
BATCH ID:
INITIAL: 170313I008
CCV: 170321A056
INSTRUMENT: GC 47

DATA FILE: S:\GC_47\GC_47_data\2017\170321\17032113.d\Report.txt17032113

ANALYZED BY: 682
D/T ANALYZED:
INITIAL: 2017-03-13 13:22
CCV: 2017-03-21 21:37
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	879.028	814.876			7	0-20	PASS

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_47.i/170321.b/17032113.d
Report Date: 03/22/2017 11:35

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170321.b/8015d.m

Injection Date and Time: 21-MAR-2017 21:37
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	879028.259	814876.038	0.00	7	15	Averaged
Diesel Range Organics	804926.336	748122.815	0.00	7	15	Averaged

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	851421.884	840552.520	0.00	1	20	Averaged

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Data File: /chem1/SVOA/GC_47.i/170321.b/17032113.d
Report Date: 22-Mar-2017 10:59

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170321.b/17032113.d
Lab Smp Id:
Inj Date : 21-MAR-2017 21:37
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170321.b/8015d.m
Meth Date : 22-Mar-2017 10:59 umd6 Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 13 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	0.797	8.041		325950415	400.000	370.807
S 27 Diesel Range Organics	2.400	8.041		299249126	400.000	371.772
$ 93 n-Octacosane	7.852	7.852	0.000	42027626	50.0000	49.361

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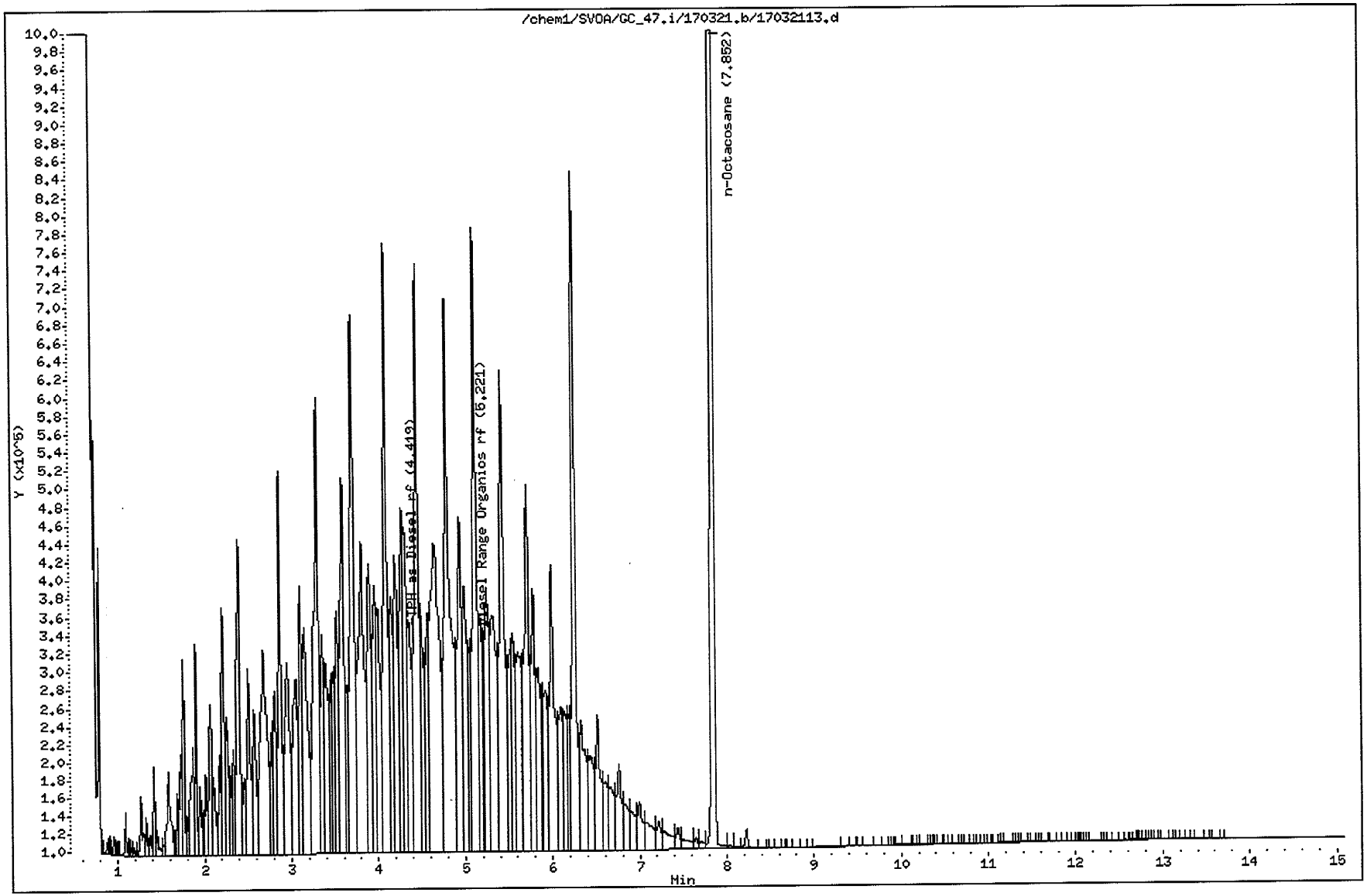
Data File: /chem1/SVOA/GC_47.i/170321.b/17032113.d
Date : 21-MAR-2017 21:37
Client ID:
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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Data File: /chem1/SVOA/GC_47.i/170321.b/17032132.d
Report Date: 03/22/2017 11:38

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170321.b/8015d.m

Injection Date and Time: 22-MAR-2017 04:12
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

Target Compounds	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
TPH as Diesel	879028.259	828365.140	0.00	6	15	Averaged
Diesel Range Organics	804926.336	772658.043	0.00	4	15	Averaged

Surrogate Standards	ICAL RRF or Amount	ICV RRF	Min. RRF	%D / %Drift	Max%D /Drift	Curve Type
n-Octacosane	851421.884	877250.320	0.00	-3	20	Averaged

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Data File: /chem1/SVOA/GC_47.i/170321.b/17032132.d
Report Date: 22-Mar-2017 11:04

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170321.b/17032132.d
Lab Smp Id:
Inj Date : 22-MAR-2017 04:12
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170321.b/8015d.m
Meth Date : 22-Mar-2017 11:04 umd6 Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 32 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	0.797-8.041			331346056	400.000	376.945
S 27 Diesel Range Organics	2.400-8.041			309063217	400.000	383.964
$ 93 n-Octacosane	7.851	7.851	0.000	43862516	50.0000	51.516

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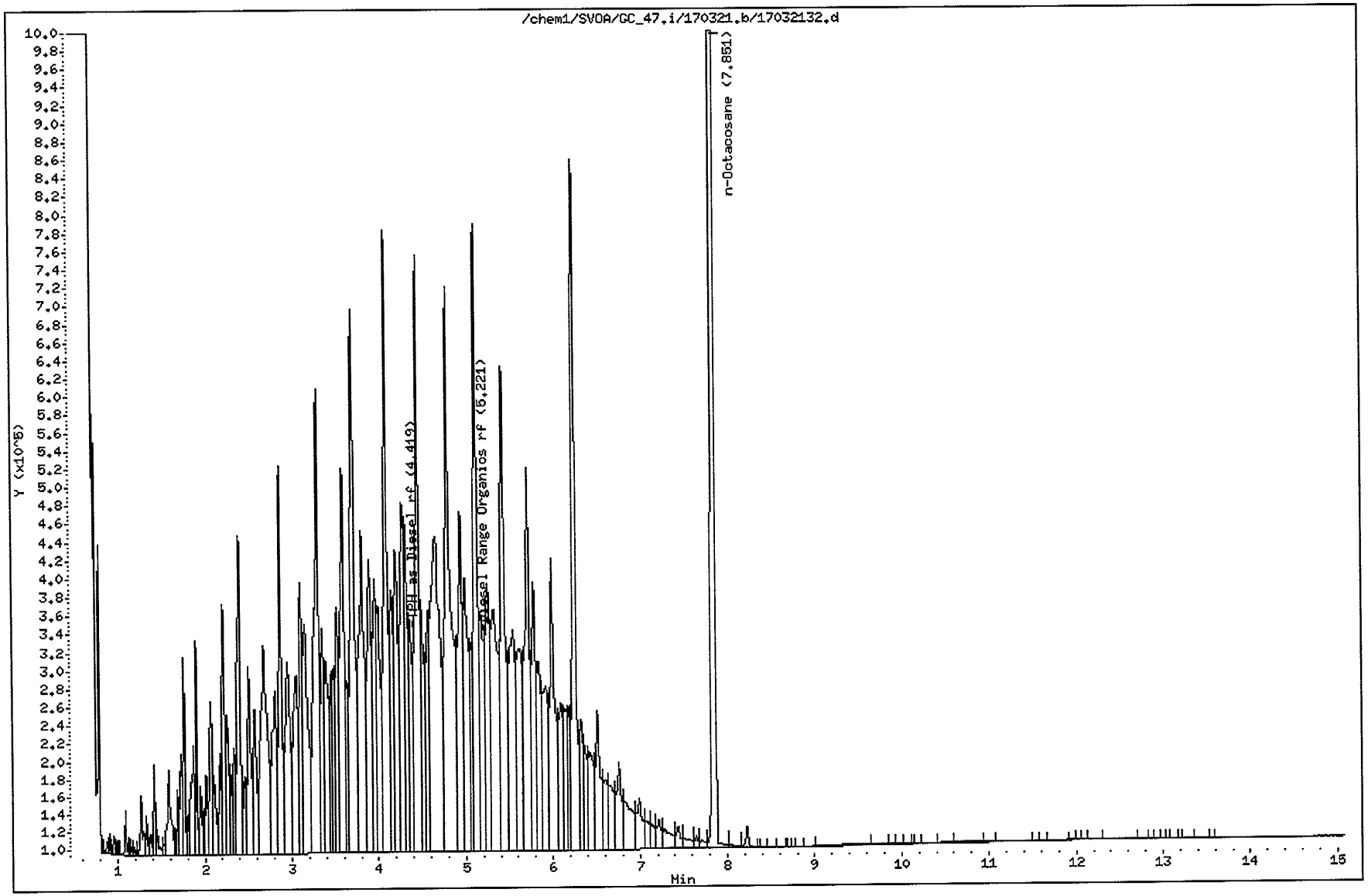
Data File: /chem1/SVOA/GC_47.i/170321.b/17032132.d
Date : 22-MAR-2017 04:12
Client ID:
Sample Info: CCV D400 C28 50 L102516D

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170321/17032102.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : C6-C44 L110816A

Acquired on : 21 MAR 17 14:39
Report Created on: 22-MAR-17 10:53
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_47.i/170321.b/17032102.d

RT Range	Exp RT	DLT RT	Response	ppm	Compound
0.797	8.706	7.909	1684406.00	0.00	C6-Hexane
0.993	8.706	7.713	4973245.00	0.00	C7-Heptane
1.415	8.706	7.291	10813206.00	0.00	C8-Octane
1.899	8.706	6.807	14825874.00	0.00	C9-Nonane
2.400	8.706	6.306	17573138.00	0.00	C10-Decane
2.867	8.706	5.839	18823826.00	0.00	C11-Undecane
3.303	8.706	5.403	18982202.00	0.00	C12-Dodecane
3.710	8.706	4.996	21388876.00	0.00	C13-Tridecane
4.093	8.706	4.613	19445473.00	0.00	C14-Tetradecane
4.453	8.706	4.252	20386073.00	0.00	C15-pentadecane
4.794	8.706	3.912	20989895.00	0.00	C16-Hexadecane
5.117	8.706	3.589	21450700.00	0.00	C17-Heptadecane
5.424	8.706	3.282	21442365.00	0.00	C18-Octadecane
5.716	8.706	2.990	21652615.00	0.00	C19-Nonadecane
5.995	8.706	2.711	22265635.00	0.00	C20-Eicosane
6.260	8.706	2.446	21943756.00	0.00	C21-Heneicosane
6.515	8.706	2.191	22488522.00	0.00	C22-Docosane
6.760	8.706	1.946	22436893.00	0.00	C23-Tricosane
6.994	8.706	1.712	22610251.00	0.00	C24-Tetracosane
7.220	8.706	1.486	22421737.00	0.00	C25-Pentacosane
7.436	8.706	1.270	23280810.00	0.00	C26-Hexacosane
7.645	8.706	1.061	22469057.00	0.00	C27-Heptacosane
7.846	8.706	0.860	22832233.00	26.82	n-Octacosane
8.041	8.706	0.665	22243244.00	0.00	C29-Nonacosane
8.229	8.706	0.477	21764434.00	0.00	C30-Triacontane
8.411	8.706	0.295	19986173.00	0.00	C31-Hentriacontane
8.587	8.706	0.119	17825986.00	0.00	C32-Dotricacontane
8.758	8.706	-0.052	14691501.00	0.00	C33-Tritriacontane
8.923	8.706	-0.217	10776388.00	0.00	C34-Tetratriacontane
9.083	8.706	-0.377	7097042.00	0.00	C35-Pentatriacontane
9.251	8.706	-0.545	4591730.00	0.00	C36-Hexatriacontane
9.446	8.706	-0.740	2523671.00	0.00	C37-Heptatriacontane
9.672	8.706	-0.966	1492035.00	0.00	C38-Octatriacontane
9.939	8.706	-1.233	876361.00	0.00	C39-Nonatriacontane
10.254	8.706	-1.548	601526.00	0.00	C40-Tetracontane
12.199	8.706	-3.493	1068336.00	0.00	C44-Tetratetracontane

End of File

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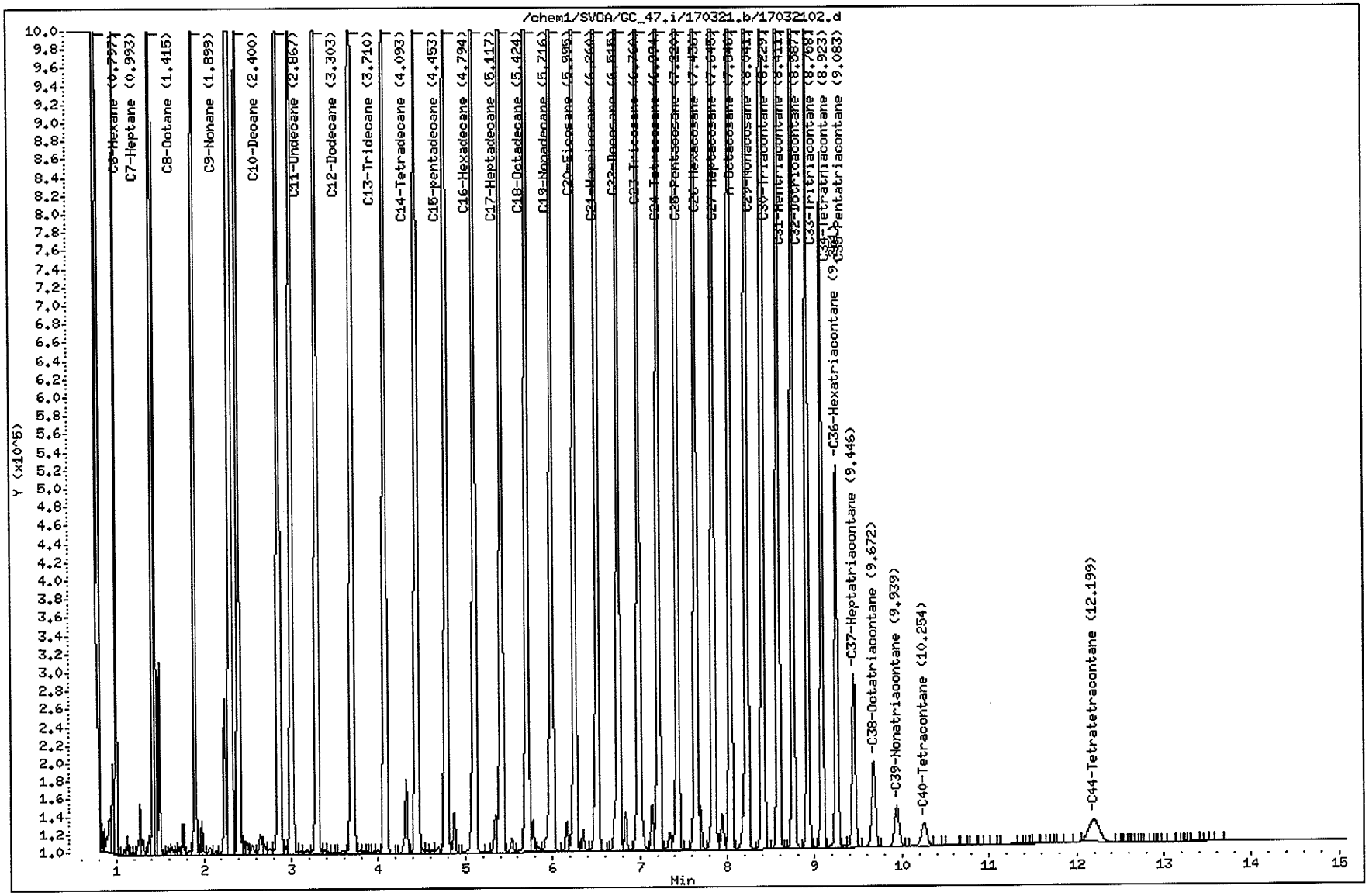
Data File: /chem1/SVOA/GC_47.i/170321.b/17032102.d
Date : 21-MAR-2017 14:39
Client ID:
Sample Info: C6-C44 L110816A

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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EPA 8015B (M)

Diesel + Motor Oil

RUN LOGS

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Line	Vial	File	Name	Method	Acquired
1	1	17031301	BLANK	8015D	13-Mar-17, 11:37:22
2	2	17031302	C6-C44 L110816A	8015D	13-Mar-17, 11:58:26
3	3	17031303	CCV D400 C28 50 L102516D	8015D	13-Mar-17, 12:19:38
4	4	17031304	CCV MO400 L030317D	8015D	13-Mar-17, 12:40:41
5	1	1703130101	BLANK	8015D	13-Mar-17, 13:01:30
6	5	17031305	ICAL D5 C28 0.625 L102516B	8015D	13-Mar-17, 13:22:11
7	6	17031306	ICAL D200 C28 25 L102516C	8015D	13-Mar-17, 13:43:01
8	7	17031307	ICAL D400 C28 50 L102516D	8015D	13-Mar-17, 14:04:12
9	8	17031308	ICAL D800 C28 100 L102516E	8015D	13-Mar-17, 14:25:03
10	9	17031309	ICAL 1600 C28 200 L102516F	8015D	13-Mar-17, 14:45:44
11	10	17031310	ICV D400 C28 50 L102516G	8015D	13-Mar-17, 15:06:29
12	11	17031311	CCV D400 C28 50 L102516D	8015D	13-Mar-17, 15:27:38
13	54	17031354	ICAL MO25 L030317B	8015D	13-Mar-17, 15:48:28
14	55	17031355	ICAL MO200 L030317C	8015D	13-Mar-17, 16:09:14
15	56	17031356	ICAL MO400 L030317D	8015D	13-Mar-17, 16:30:23
16	57	17031357	ICAL MO600 L030317E	8015D	13-Mar-17, 16:51:38
17	58	17031358	ICAL MO800 L030317F	8015D	13-Mar-17, 17:12:21
18	59	17031359	X ICV MO400 L030317G ©F	8015D	13-Mar-17, 17:33:05
19	60	17031360	ICV MO400 L030317G	8015D	13-Mar-17, 17:54:19
20	61	17031361	CCV MO400 L030317D	8015D	13-Mar-17, 18:15:12
21	12	17031312	MB 17031008 BP RB	8015D	13-Mar-17, 18:35:57
22	13	17031313	LCS 17031008 RB	8015D	13-Mar-17, 18:56:50
23	14	17031314	LCSD 17031008 RB	8015D	13-Mar-17, 19:18:01
24	15	17031315	17-03-0677-1 RB	8015D	13-Mar-17, 19:38:43
25	16	17031316	17-03-0677-2 RB	8015D	13-Mar-17, 19:59:25
26	17	17031317	17-03-0677-3 RB	8015D	13-Mar-17, 20:20:19
27	18	17031318	17-03-0677-4 RB	8015D	13-Mar-17, 20:41:35
28	19	17031319	17-03-0677-5 2X RB	8015D	13-Mar-17, 21:02:15
29	20	17031320	17-03-0677-6 RB	8015D	13-Mar-17, 21:22:58
30	21	17031321	17-03-0677-7 RB	8015D	13-Mar-17, 21:44:02
31	22	17031322	CCV D400 C28 50 L102516D	8015D	13-Mar-17, 22:05:15
32	23	17031323	17-03-0677-8 RB	8015D	13-Mar-17, 22:25:56
33	24	17031324	17-03-0677-9 RB	8015D	13-Mar-17, 22:46:25
34	25	17031325	17-03-0677-10 RB	8015D	13-Mar-17, 23:07:04
35	26	17031326	17-03-0677-11 RB	8015D	13-Mar-17, 23:27:50
36	27	17031327	17-03-0677-12 RB	8015D	13-Mar-17, 23:48:34
37	28	17031328	17-03-0677-13 RB	8015D	14-Mar-17, 00:09:33
38	29	17031329	17-03-0677-14 RB	8015D	14-Mar-17, 00:30:38
39	30	17031330	17-03-0677-15 RB	8015D	14-Mar-17, 00:51:20
40	31	17031331	17-03-0677-16 RB	8015D	14-Mar-17, 01:11:53
41	32	17031332	17-03-0677-17 RB	8015D	14-Mar-17, 01:32:29
42	33	17031333	CCV D400 C28 50 L102516D	8015D	14-Mar-17, 01:53:11
43	34	17031334	CCV MO400 L030317D	8015D	14-Mar-17, 02:14:08
44	35	17031335	17-03-0677-18 RB	8015D	14-Mar-17, 02:35:05
45	36	17031336	17-03-0677-19 RB	8015D	14-Mar-17, 02:56:05
46	37	17031337	17-03-0677-20 RB	8015D	14-Mar-17, 03:16:43
47	38	17031338	17-03-0756-15 RB	8015D	14-Mar-17, 03:37:16
48	39	17031339	17-03-0756-16 RB	8015D	14-Mar-17, 03:57:46
49	40	17031340	17-03-0756-17 RB	8015D	14-Mar-17, 04:18:19
50	41	17031341	17-03-0756-18 RB	8015D	14-Mar-17, 04:38:59
51	42	17031342	17-03-0756-19 RB	8015D	14-Mar-17, 04:59:40
52	43	17031343	17-03-0756-20 RB	8015D	14-Mar-17, 05:20:31
53	44	17031344	17-03-0756-21 RB	8015D	14-Mar-17, 05:41:23
54	45	17031345	CCV D400 C28 50 L102516D	8015D	14-Mar-17, 06:02:19
55	46	17031346	CCV MO400 L030317D	8015D	14-Mar-17, 06:23:12
56	47	17031347	MB 17031009/10	8015D	14-Mar-17, 06:44:05
57	48	17031348	17-03-0756-22 RB	8015D	14-Mar-17, 07:05:05
58	49	17031349	17-03-0756-23 RB	8015D	14-Mar-17, 07:26:02
59	50	17031350	17-03-0756-24 RB	8015D	14-Mar-17, 07:46:56
60	51	17031351	17-03-0756-11 RB	8015D	14-Mar-17, 08:08:09

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Sequence: C:\CHEM32\1\SEQUENCE\170321.S
Table: Rear DataPath: W:\GC_47\2017\170321\

Line	Vial	File	Name	Method	Acquired
1	1	17032101	BLANK	8015D	21-Mar-17, 14:19:00
2	2	17032102	C6-C44 L110816A	8015D	21-Mar-17, 14:39:31
3	3	17032103	CCV D400 C28 50 L102516D A055	8015D	21-Mar-17, 15:00:21
4	4	17032104	CCV MO400 L030317D	8015D	21-Mar-17, 15:20:59
5	5	17032105	MB 17032102/03	8015D	21-Mar-17, 18:37:09
6	6	17032106	LCS 17032102	8015D	21-Mar-17, 18:57:32
7	7	17032107	LCSD 17032102	8015D	21-Mar-17, 19:18:02
8	8	17032108	MOLCS 17032103	8015D	21-Mar-17, 19:38:45
9	9	17032109	MOLCSD 17032103	8015D	21-Mar-17, 20:15:06
10	10	17032110	17-03-1455-1	8015D	21-Mar-17, 20:35:31
11	11	17032111	17-03-1455-2	8015D	21-Mar-17, 20:56:08
12	12	17032112	17-03-1455-3	8015D	21-Mar-17, 21:16:59
13	13	17032113	CCV D400 C28 50 L102516D A056	8015D	21-Mar-17, 21:37:40
14	14	17032114	CCV MO400 L030317D	8015D	21-Mar-17, 21:58:21
15	15	17032115	MB 17032108/09	8015D	21-Mar-17, 22:19:43
16	16	17032116	LCS 17032108	8015D	21-Mar-17, 22:40:16
17	17	17032117	MOLCS 17032109	8015D	21-Mar-17, 23:00:57
18	18	17032118	MS 17-03-1451-2	8015D	21-Mar-17, 23:21:55
19	19	17032119	MSD 17-03-1451-2	8015D	21-Mar-17, 23:42:47
20	20	17032120	MOMS 17-03-1451-2	8015D	22-Mar-17, 00:03:25
21	21	17032121	MOMSD 17-03-1451-2	8015D	22-Mar-17, 00:24:12
22	22	17032122	17-03-1451-1	8015D	22-Mar-17, 00:45:06
23	23	17032123	17-03-1451-2	8015D	22-Mar-17, 01:05:52
24	24	17032124	17-03-1451-3	8015D	22-Mar-17, 01:26:28
25	25	17032125	17-03-1528-1 2X	8015D	22-Mar-17, 01:47:26
26	26	17032126	17-03-1528-2	8015D	22-Mar-17, 02:08:20
27	27	17032127	17-03-1528-3 20X	8015D	22-Mar-17, 02:29:02
28	28	17032128	17-03-1528-4 2X	8015D	22-Mar-17, 02:49:45
29	29	17032129	17-03-1383-1	8015D	22-Mar-17, 03:10:34
30	30	17032130	17-03-1383-2	8015D	22-Mar-17, 03:31:31
31	31	17032131	17-03-1383-3	8015D	22-Mar-17, 03:52:07
32	32	17032132	CCV D400 C28 50 L102516D A057	8015D	22-Mar-17, 04:12:55
33	33	17032133	CCV MO400 L030317D	8015D	22-Mar-17, 04:33:47
34	34	17032134	17-03-1495-1 2X	8015D	22-Mar-17, 04:54:37
35	35	17032135	17-03-1495-2 2X	8015D	22-Mar-17, 05:15:10
36	36	17032136	17-03-1495-3 2X	8015D	22-Mar-17, 05:35:58
37	37	17032137	17-03-1495-4 2X	8015D	22-Mar-17, 05:56:51
38	38	17032138	17-03-1495-5 2X	8015D	22-Mar-17, 06:17:53
39	39	17032139	17-03-1495-6 2X	8015D	22-Mar-17, 06:38:37
40	40	17032140	CCV D400 C28 50 L102516D	8015D	22-Mar-17, 06:59:12

Reviewed/Assign to Logbook Date: 3/22/17
Chemist ID: 682
Analysis: 8015
Instrument ID: 47
Logbook Page: 95

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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- 972 Blow Down- Clean Up-

Matrix: ☑ Solid ☐ Aqueous ☐ Oil ☐ Wipe / Filter | Balance ID#: 15 Sand or Filter ID#: L6-19-20 3/21/17 972

Extraction Start Date & Time: 3/21/17 12:00 Extractions End Date & Time: 3/21/17 ~~2000~~ 2045

Drying Agent & ID#: ☑ Na_2SO_4 L6-23-20 | Spike Added to: ☑ LCS ☐ LCSD ☑ MS ☑ MSD

Surrogate Std ID# & Volume Added (mL): L011717A 0.5

Spike Std ID# & Volume Added (mL): ☑ D: L102416B 0.2 ☑ MO: L030317A 0.2 ☐ ☐ ☐

Extraction Solvent & ID#: ☑ $MeCl_2$ S07-55-01 | Elution Solvent ID# & Volume (mL): 10.0

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 #: 17032108/09 Cel ID#:	Test Analyte	Sample W (g) / V (mL) Initial	Final	SCG Clean Up	Comments
MB	D/MO	10.0	10.0	☐ NA ☐ 1 ☐ 2 ☐ 3	
LCS	D	10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
LCS	MO	10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
MS 17-03-1451-2A	D	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
MSD	↓	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
MS	MO	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
MSD	↓	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1451-1A	D/MO	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
2	↓	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
3	↓	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1383-1A	D	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
2	↓	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
3	↓	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1495-1A	CC	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
2	↓	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
3	↓	10.2		☐ NA ☐ 1 ☐ 2 ☐ 3	
4	↓	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
5	↓	10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
6	↓	10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1528-1A	CC	10.0	10.0	☐ NA ☐ 1 ☐ 2 ☐ 3	
-2	↓	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
-3	↓	10.0		☐ NA ☐ 1 ☐ 2 ☐ 3	
-4	↓	10.1		☐ NA ☐ 1 ☐ 2 ☐ 3	
17-03-1548-1A	CC	10.1	10.0	☐ NA ☐ 1 ☐ 2 ☐ 3	
2A	↓	9.97		☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	
				☐ NA ☐ 1 ☐ 2 ☐ 3	

Peer Reviewed by: 972 Peer Reviewed Date: 3/21/17 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

Work Order No: 17-03-1383

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte Name	Initial Calibration Verification				
	True	ICV-1		Control Limit	Comment
		Observed	%D		
Silver	0.500000	0.500357	0	+/-10	
Arsenic	5.000000	4.834695	3	+/-10	
Barium	1.000000	1.005901	-1	+/-10	
Beryllium	0.500000	0.490830	2	+/-10	
Cadmium	1.500000	1.494008	0	+/-10	
Cobalt	1.000000	1.033697	-3	+/-10	
Chromium	0.400000	0.399803	0	+/-10	
Copper	1.000000	1.002841	0	+/-10	
Molybdenum	2.500000	2.416513	3	+/-10	
Nickel	0.400000	0.400544	0	+/-10	
Lead	5.000000	5.026459	-1	+/-10	
Antimony	2.000000	1.911162	4	+/-10	
Selenium	2.000000	1.935959	3	+/-10	
Thallium	2.000000	1.964579	2	+/-10	
Vanadium	1.000000	0.991621	1	+/-10	
Zinc	1.500000	1.519846	-1	+/-10	

Report Time: 3/27/2017 2:51:20 PM

ICV-1 File: ICV-M072816C Analysis Time: 3/27/2017 10:28:54 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: 17-03-1383

Instrument ID: ICP 7300

Concentration Unit: mg/L

	Initial Calibration Blank		
Analyte	ICB-1	RL	Comment
Silver	-0.000044	0.005000	
Arsenic	0.004998	0.010000	
Barium	0.000400	0.010000	
Beryllium	0.000083	0.010000	
Cadmium	0.000778	0.010000	
Cobalt	0.000304	0.010000	
Chromium	-0.001059	0.010000	
Copper	0.000816	0.010000	
Molybdenum	0.002511	0.010000	
Nickel	0.000718	0.010000	
Lead	0.002367	0.010000	
Antimony	-0.004058	0.015000	
Selenium	0.002176	0.015000	
Thallium	0.008088	0.015000	
Vanadium	0.000317	0.010000	
Zinc	0.000888	0.010000	

Report Time: 3/27/2017 2:51:20 PM

ICB-1 File: ICB-R12091601 Analysis Time: 3/27/2017 10:29:52 AM

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Interference Check

Work Order No: 17-03-1383

Instrument ID: ICP 7300

Concentration Unit: mg/L

Analyte	Interference Check						
	ICS-A-1		ICS-AB-1				Comment
	Observed	Control Limit	True	Observed	%D	Control Limit	
Silver	-0.000318	0.005000	0.300000	0.313916	-5	+/-20	
Arsenic	0.006482	0.010000	1.000000	1.039814	-4	+/-20	
Barium	0.002535	0.010000	0.300000	0.312295	-4	+/-20	
Beryllium	-0.000066	0.010000	0.100000	0.104752	-5	+/-20	
Cadmium	0.001642	0.010000	0.300000	0.302166	-1	+/-20	
Cobalt	0.000204	0.010000	0.300000	0.309391	-3	+/-20	
Chromium	-0.001434	0.010000	0.300000	0.307472	-2	+/-20	
Copper	-0.000989	0.010000	0.300000	0.316121	-5	+/-20	
Molybdenum	0.000784	0.010000	0.300000	0.306430	-2	+/-20	
Nickel	0.000938	0.010000	0.300000	0.310928	-4	+/-20	
Lead	-0.006614	0.010000	1.000000	1.001134	0	+/-20	
Antimony	-0.006608	0.015000	1.000000	0.974164	3	+/-20	
Selenium	-0.012261	0.015000	0.500000	0.524749	-5	+/-20	
Thallium	-0.011331	0.015000	1.000000	1.022944	-2	+/-20	
Vanadium	0.000617	0.010000	0.300000	0.302776	-1	+/-20	
Zinc	0.001299	0.010000	0.300000	0.309852	-3	+/-20	

Report Time: 3/27/2017 2:51:20 PM

ICS-A-1 File: ICS_A - M110116B Analysis Time: 3/27/2017 10:30:53 AM

ICS-AB-1 File: ICS_AB - M110116A Analysis Time: 3/27/2017 10:31:44 AM

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Verification

ACCREDITED IN ACCORDANCE WITH nelac

Work Order No: 17-03-1383

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	0.360686	4	0.361753	4	+/-10	
Arsenic	3.750000	3.456497	8	3.514828	6	+/-10	
Barium	7.500000	7.364745	2	7.368384	2	+/-10	
Beryllium	0.562500	0.542875	3	0.536913	5	+/-10	
Cadmium	0.750000	0.716185	5	0.715595	5	+/-10	
Cobalt	1.875000	1.824814	3	1.829645	2	+/-10	
Chromium	0.600000	0.579874	3	0.579980	3	+/-10	
Copper	0.937500	0.914106	2	0.912098	3	+/-10	
Molybdenum	0.600000	0.578555	4	0.585786	2	+/-10	
Nickel	0.600000	0.568468	5	0.578262	4	+/-10	
Lead	3.750000	3.579487	5	3.575267	5	+/-10	
Antimony	4.500000	4.219215	6	4.282683	5	+/-10	
Selenium	1.500000	1.393474	7	1.426390	5	+/-10	
Thallium	1.500000	1.435172	4	1.470187	2	+/-10	
Vanadium	1.875000	1.818270	3	1.815687	3	+/-10	
Zinc	2.500000	2.362966	5	2.345537	6	+/-10	

Report Time: 3/27/2017 2:51:20 PM

CCV-1 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 10:54:30 AM

CCV-2 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 11:05:40 AM

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

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Blank

Work Order No: 17-03-1383

Instrument ID: ICP 7300

Concentration Unit: mg/L

	Continuing Calibration Blank			
Analyte	CCB-1	CCB-2	RL	Qualifier
Silver	0.000346	0.000551	0.005000	
Arsenic	0.002122	-0.000239	0.010000	
Barium	0.002855	0.002591	0.010000	
Beryllium	0.000207	0.000204	0.010000	
Cadmium	0.000521	0.000666	0.010000	
Cobalt	0.001174	0.000537	0.010000	
Chromium	-0.000427	-0.000231	0.010000	
Copper	0.000850	0.001447	0.010000	
Molybdenum	0.000422	0.000027	0.010000	
Nickel	0.000864	0.000938	0.010000	
Lead	0.002686	0.002320	0.010000	
Antimony	-0.003083	0.004534	0.015000	
Selenium	0.007717	0.006429	0.015000	
Thallium	0.007041	0.001058	0.015000	
Vanadium	0.001205	0.000559	0.010000	
Zinc	0.002026	0.002075	0.010000	

Report Time: 3/27/2017 2:51:20 PM

CCB-1 File: CCB-R12091601 Analysis Time: 3/27/2017 10:55:23 AM

CCB-2 File: CCB-R12091601 Analysis Time: 3/27/2017 11:06:32 AM

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Verification

Work Order No: 17-03-1383

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	0.364344	3	0.361576	4	+/-10	
Arsenic	3.750000	3.586629	4	3.586006	4	+/-10	
Barium	7.500000	7.459059	1	7.429100	1	+/-10	
Beryllium	0.562500	0.547914	3	0.542505	4	+/-10	
Cadmium	0.750000	0.733845	2	0.729189	3	+/-10	
Cobalt	1.875000	1.858174	1	1.855606	1	+/-10	
Chromium	0.600000	0.590739	2	0.583828	3	+/-10	
Copper	0.937500	0.922924	2	0.916513	2	+/-10	
Molybdenum	0.600000	0.591550	1	0.591171	1	+/-10	
Nickel	0.600000	0.584444	3	0.582053	3	+/-10	
Lead	3.750000	3.660567	2	3.666566	2	+/-10	
Antimony	4.500000	4.335250	4	4.318157	4	+/-10	
Selenium	1.500000	1.452382	3	1.452041	3	+/-10	
Thallium	1.500000	1.481222	1	1.486628	1	+/-10	
Vanadium	1.875000	1.841368	2	1.831115	2	+/-10	
Zinc	2.500000	2.426880	3	2.402540	4	+/-10	

Report Time: 3/27/2017 2:51:20 PM

CCV-3 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 12:32:36 PM

CCV-4 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 12:43:04 PM

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

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

EPA Method 6010B

Continuing Calibration Blank

Work Order No: 17-03-1383

Instrument ID: ICP 7300

Concentration Unit: mg/L

	Continuing Calibration Blank			
Analyte	CCB-3	CCB-4	RL	Qualifier
Silver	-0.000753	-0.000768	0.005000	
Arsenic	0.000050	0.002682	0.010000	
Barium	0.005385	0.002984	0.010000	
Beryllium	0.000354	0.000226	0.010000	
Cadmium	0.000719	0.000517	0.010000	
Cobalt	0.001009	0.000573	0.010000	
Chromium	0.000524	-0.000546	0.010000	
Copper	0.001406	0.000841	0.010000	
Molybdenum	0.000996	0.001496	0.010000	
Nickel	0.001171	0.000650	0.010000	
Lead	0.003976	0.002046	0.010000	
Antimony	0.007511	0.005012	0.015000	
Selenium	0.004016	0.003946	0.015000	
Thallium	0.001829	-0.003525	0.015000	
Vanadium	0.001322	0.000545	0.010000	
Zinc	0.005686	0.003539	0.010000	

Report Time: 3/27/2017 2:51:20 PM

CCB-3 File: CCB-R12091601 Analysis Time: 3/27/2017 12:33:29 PM

CCB-4 File: CCB-R12091601 Analysis Time: 3/27/2017 12:44:02 PM

01/22/2014 Revision

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX:(714) 894-7501

==========

Analysis Begun

Start Time: 3/27/2017 10:26:48 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/27/2017 10:23:22 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032701.sif
Batch ID:
Results Data Set: 170327C 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: 3/27/2017 10:27:02 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	81813.0	1234.30	1.51%	100.0	%
Tb 350	132490.7	2416.94	1.82%	100.0	%
Ag 328.068*†	-1204.5	95.00	7.89%	[0.00]	mg/L
Al 308.215*†	-2124.7	17.57	0.83%	[0.00]	mg/L
As 188.979†	4.3	3.02	69.57%	[0.00]	mg/L
As 193.696*†	1.8	4.62	262.03%	[0.00]	mg/L
B 249.677*†	-1109.7	19.70	1.77%	[0.00]	mg/L
Ba 233.527*†	-374.8	0.19	0.05%	[0.00]	mg/L
Be 313.042*†	-1124.4	225.51	20.06%	[0.00]	mg/L
Ca 317.933*†	112.9	9.46	8.38%	[0.00]	mg/L
Cd 226.502*†	2.8	8.71	306.51%	[0.00]	mg/L
Cd 228.802†	-1.0	16.86	>999.9%	[0.00]	mg/L
Co 228.616*†	-94.4	11.85	12.55%	[0.00]	mg/L
Cr 267.716*†	549.9	292.14	53.12%	[0.00]	mg/L
Cu 324.752*†	1900.6	42.57	2.24%	[0.00]	mg/L
Fe 273.955*†	-411.4	13.28	3.23%	[0.00]	mg/L
K 766.490*†	1063.2	301.90	28.39%	[0.00]	mg/L
Mg 279.077*†	-8390.3	98.50	1.17%	[0.00]	mg/L
Mn 257.610*†	-333.9	49.30	14.77%	[0.00]	mg/L
Mo 202.031*†	-53.6	2.56	4.78%	[0.00]	mg/L
Na 589.592*†	430.3	18.71	4.35%	[0.00]	mg/L
Ni 231.604*†	-84.6	0.86	1.02%	[0.00]	mg/L
P 213.617*†	-183.9	11.95	6.50%	[0.00]	mg/L
P 214.914†	-41.8	7.73	18.52%	[0.00]	mg/L
Pb 220.353*†	-59.1	1.53	2.59%	[0.00]	mg/L
Sb 206.836†	27.0	4.94	18.33%	[0.00]	mg/L
Sb 217.582*†	-4.9	5.78	117.10%	[0.00]	mg/L
Se 196.026*†	-3.1	7.46	237.28%	[0.00]	mg/L
Si 251.611*†	1367.3	30.73	2.25%	[0.00]	mg/L
Sn 189.927*†	-127.0	10.64	8.37%	[0.00]	mg/L
Sn 242.170†	-435.8	24.78	5.69%	[0.00]	mg/L
Sr 407.771*†	341.9	24.93	7.29%	[0.00]	mg/L
Ti 334.940†	30324.3	45.17	0.15%	[0.00]	mg/L
Ti 336.121*†	-1461.3	263.87	18.06%	[0.00]	mg/L
Tl 190.801*†	-0.8	1.23	154.78%	[0.00]	mg/L
V 292.402*†	214.4	132.02	61.58%	[0.00]	mg/L
Zn 206.200*†	-310.4	12.13	3.91%	[0.00]	mg/L
Zn 213.857*†	-169.0	0.81	0.48%	[0.00]	mg/L

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Method: iCal-6010b+200.7 EPA Page 2 Date: 3/27/2017 10:28:33 AM

Sequence No.: 2
Sample ID: STD3-M111116A_935_ICP7300
Analyst:
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 2
Date Collected: 3/27/2017 10:28:08 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: STD3-M111116A_935_ICP7300

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Tb 384	71544.9	1069.11	1.49%	87.45	%
Tb 350	118783.4	1768.57	1.49%	89.65	%
Ag 328.068*†	149764.9	158.69	0.11%	[0.75]	mg/L
Al 308.215*†	484848.9	2652.57	0.55%	[27.0]	mg/L
As 188.979†	17497.8	25.21	0.14%	[7.50]	mg/L
As 193.696*†	12071.3	45.40	0.38%	[7.50]	mg/L
B 249.677*†	404078.6	1434.93	0.36%	[7.50]	mg/L
Ba 233.527*†	2403539.6	9865.89	0.41%	[15.0]	mg/L
Be 313.042*†	4601823.8	6557.74	0.14%	[1.125]	mg/L
Ca 317.933*†	131233.9	3632.03	2.77%	[60.0]	mg/L
Cd 226.502*†	126272.6	295.33	0.23%	[1.50]	mg/L
Cd 228.802†	62069.2	71.83	0.12%	[1.50]	mg/L
Co 228.616*†	112236.4	10.27	0.01%	[3.75]	mg/L
Cr 267.716*†	144813.4	715.31	0.49%	[1.20]	mg/L
Cu 324.752*†	494167.2	605.56	0.12%	[1.875]	mg/L
Fe 273.955*†	187223.3	193.64	0.10%	[7.50]	mg/L
K 766.490*†	173880.8	4074.80	2.34%	[54.0]	mg/L
Mg 279.077*†	311224.0	890.09	0.29%	[15.0]	mg/L
Mn 257.610*†	1033577.5	2913.66	0.28%	[1.50]	mg/L
Mo 202.031*†	11648.3	39.74	0.34%	[1.20]	mg/L
Na 589.592*†	335556.7	8368.81	2.49%	[72.0]	mg/L
Ni 231.604*†	31720.4	407.34	1.28%	[1.20]	mg/L
P 213.617*†	26475.4	247.85	0.94%	[12.0]	mg/L
P 214.914†	16566.4	18.69	0.11%	[12.0]	mg/L
Pb 220.353*†	65005.8	324.59	0.50%	[7.50]	mg/L
Sb 206.836†	18354.1	102.18	0.56%	[9.0]	mg/L
Sb 217.582*†	18244.4	76.32	0.42%	[9.0]	mg/L
Se 196.026*†	7245.6	17.47	0.24%	[3.0]	mg/L
Si 251.611*†	507080.3	1921.09	0.38%	[12.0]	mg/L
Sn 189.927*†	39695.4	122.46	0.31%	[6.0]	mg/L
Sn 242.170†	11293.9	99.32	0.88%	[6.0]	mg/L
Sr 407.771*†	205542.3	5502.00	2.68%	[0.60]	mg/L
Ti 334.940†	1053293.2	1598.17	0.15%	[1.20]	mg/L
Ti 336.121*†	739330.1	1972.93	0.27%	[1.20]	mg/L
Tl 190.801*†	5867.0	47.61	0.81%	[3.0]	mg/L
V 292.402*†	537361.0	2115.10	0.39%	[3.75]	mg/L
Zn 206.200*†	227052.8	61.98	0.03%	[5.0]	mg/L
Zn 213.857*†	381553.9	1041.11	0.27%	[5.0]	mg/L

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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: 3/27/2017 10:28:54 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICV-M072816C

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	76783.0	93.85	%	0.519				0.55%
Tb 350	126785.6	95.69	%	0.136				0.14%
Ag 328.068*†	99914.5	0.5004	mg/L	0.00157	0.5004	mg/L	0.00157	0.31%
QC value within limits for Ag 328.068* Recovery = 100.07%								
Al 308.215*†	74751.5	4.163	mg/L	0.0088	4.163	mg/L	0.0088	0.21%
QC value within limits for Al 308.215* Recovery = 104.07%								
As 188.979†	11259.4	4.826	mg/L	0.0430	4.826	mg/L	0.0430	0.89%
QC value within limits for As 188.979 Recovery = 96.52%								
As 193.696*†	7781.5	4.835	mg/L	0.0582	4.835	mg/L	0.0582	1.20%
QC value within limits for As 193.696* Recovery = 96.69%								
B 249.677*†	135971.2	2.524	mg/L	0.0196	2.524	mg/L	0.0196	0.78%
QC value within limits for B 249.677* Recovery = 100.95%								
Ba 233.527*†	161181.6	1.006	mg/L	0.0024	1.006	mg/L	0.0024	0.24%
QC value within limits for Ba 233.527* Recovery = 100.59%								
Be 313.042*†	2007745.3	0.4908	mg/L	0.00326	0.4908	mg/L	0.00326	0.66%
QC value within limits for Be 313.042* Recovery = 98.17%								
Ca 317.933*†	41715.2	19.07	mg/L	0.244	19.07	mg/L	0.244	1.28%
QC value within limits for Ca 317.933* Recovery = 95.36%								
Cd 226.502*†	125768.2	1.494	mg/L	0.0036	1.494	mg/L	0.0036	0.24%
QC value within limits for Cd 226.502* Recovery = 99.60%								
Cd 228.802†	61138.0	1.477	mg/L	0.0022	1.477	mg/L	0.0022	0.15%
Co 228.616*†	30938.3	1.034	mg/L	0.0028	1.034	mg/L	0.0028	0.27%
QC value within limits for Co 228.616* Recovery = 103.37%								
Cr 267.716*†	48247.4	0.3998	mg/L	0.00126	0.3998	mg/L	0.00126	0.32%
QC value within limits for Cr 267.716* Recovery = 99.95%								
Cu 324.752*†	264304.6	1.003	mg/L	0.0008	1.003	mg/L	0.0008	0.08%
QC value within limits for Cu 324.752* Recovery = 100.28%								
Fe 273.955*†	2540048.1	101.8	mg/L	0.20	101.8	mg/L	0.20	0.19%
QC value within limits for Fe 273.955* Recovery = 101.75%								
K 766.490*†	25623.0	7.957	mg/L	0.1168	7.957	mg/L	0.1168	1.47%
QC value within limits for K 766.490* Recovery = 99.47%								
Mg 279.077*†	208280.1	10.04	mg/L	0.005	10.04	mg/L	0.005	0.05%
QC value within limits for Mg 279.077* Recovery = 100.38%								
Mn 257.610*†	686099.2	0.9957	mg/L	0.00033	0.9957	mg/L	0.00033	0.03%
QC value within limits for Mn 257.610* Recovery = 99.57%								
Mo 202.031*†	23456.9	2.417	mg/L	0.0201	2.417	mg/L	0.0201	0.83%
QC value within limits for Mo 202.031* Recovery = 96.66%								
Na 589.592*†	248124.0	53.24	mg/L	0.135	53.24	mg/L	0.135	0.25%
QC value within limits for Na 589.592* Recovery = 98.59%								
Ni 231.604*†	10587.8	0.4005	mg/L	0.00310	0.4005	mg/L	0.00310	0.77%
QC value within limits for Ni 231.604* Recovery = 100.14%								
P 213.617*†	10547.3	4.781	mg/L	0.0452	4.781	mg/L	0.0452	0.94%
QC value within limits for P 213.617* Recovery = 95.61%								
P 214.914†	6808.9	4.932	mg/L	0.0453	4.932	mg/L	0.0453	0.92%
Pb 220.353*†	43566.5	5.026	mg/L	0.0090	5.026	mg/L	0.0090	0.18%
QC value within limits for Pb 220.353* Recovery = 100.53%								
Sb 206.836†	3888.8	1.907	mg/L	0.0066	1.907	mg/L	0.0066	0.35%
QC value within limits for Sb 206.836 Recovery = 95.34%								
Sb 217.582*†	3874.2	1.911	mg/L	0.0201	1.911	mg/L	0.0201	1.05%
QC value within limits for Sb 217.582* Recovery = 95.56%								
Se 196.026*†	4675.7	1.936	mg/L	0.0258	1.936	mg/L	0.0258	1.33%
QC value within limits for Se 196.026* Recovery = 96.80%								
Si 251.611*†	404350.0	9.569	mg/L	0.0483	9.569	mg/L	0.0483	0.51%
QC value within limits for Si 251.611* Recovery = 95.69%								
Sn 189.927*†	16319.9	2.467	mg/L	0.0304	2.467	mg/L	0.0304	1.23%
QC value within limits for Sn 189.927* Recovery = 98.67%								
Sn 242.170†	5136.4	2.729	mg/L	0.0007	2.729	mg/L	0.0007	0.02%
Sr 407.771*†	67450.0	0.1969	mg/L	0.00207	0.1969	mg/L	0.00207	1.05%
QC value within limits for Sr 407.771* Recovery = 98.45%								

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Ti 334.940†	4186048.0	4.769 mg/L	0.0080	4.769 mg/L	0.0080	0.17%
Ti 336.121*†	2964423.7	4.812 mg/L	0.0080	4.812 mg/L	0.0080	0.17%
QC value within limits for Ti 336.121* Recovery = 96.23%						
Tl 190.801*†	3842.1	1.965 mg/L	0.0126	1.965 mg/L	0.0126	0.64%
QC value within limits for Tl 190.801* Recovery = 98.23%						
V 292.402*†	142334.7	0.9916 mg/L	0.00750	0.9916 mg/L	0.00750	0.76%
QC value within limits for V 292.402* Recovery = 99.16%						
Zn 206.200*†	69017.1	1.520 mg/L	0.0082	1.520 mg/L	0.0082	0.54%
QC value within limits for Zn 206.200* Recovery = 101.32%						
Zn 213.857*†	115634.5	1.507 mg/L	0.0047	1.507 mg/L	0.0047	0.31%
QC value within limits for Zn 213.857* Recovery = 100.46%						

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: 3/27/2017 10:29:52 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	85719.5	104.8	%	2.98				2.85%
Tb 350	138269.7	104.4	%	2.51				2.41%
Ag 328.068*†	-8.7	-0.0000	mg/L	0.00057	-0.0000	mg/L	0.00057	>999.9%
Al 308.215*†	-56.0	-0.0031	mg/L	0.00052	-0.0031	mg/L	0.00052	16.66%
As 188.979†	12.8	0.0055	mg/L	0.00200	0.0055	mg/L	0.00200	36.54%
As 193.696*†	8.0	0.0050	mg/L	0.00297	0.0050	mg/L	0.00297	59.48%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	2027.6	0.0376	mg/L	0.00177	0.0376	mg/L	0.00177	4.71%
QC value within limits for B 249.677* Recovery = Not calculated								
Ba 233.527*†	64.0	0.0004	mg/L	0.00007	0.0004	mg/L	0.00007	17.33%
Be 313.042*†	341.2	0.0001	mg/L	0.00000	0.0001	mg/L	0.00000	2.85%
Ca 317.933*†	12.7	0.0058	mg/L	0.00059	0.0058	mg/L	0.00059	10.21%
Cd 226.502*†	65.5	0.0008	mg/L	0.00015	0.0008	mg/L	0.00015	18.72%
Cd 228.802†	33.2	0.0008	mg/L	0.00003	0.0008	mg/L	0.00003	3.58%
Co 228.616*†	9.1	0.0003	mg/L	0.00002	0.0003	mg/L	0.00002	5.77%
Cr 267.716*†	-127.7	-0.0011	mg/L	0.00143	-0.0011	mg/L	0.00143	135.50%
Cu 324.752*†	214.9	0.0008	mg/L	0.00001	0.0008	mg/L	0.00001	0.87%
Fe 273.955*†	853.7	0.0342	mg/L	0.00427	0.0342	mg/L	0.00427	12.49%
K 766.490*†	-88.0	-0.0273	mg/L	0.02079	-0.0273	mg/L	0.02079	76.11%
Mg 279.077*†	241.7	0.0116	mg/L	0.00670	0.0116	mg/L	0.00670	57.53%
Mn 257.610*†	191.7	0.0003	mg/L	0.00002	0.0003	mg/L	0.00002	8.15%
Mo 202.031*†	24.4	0.0025	mg/L	0.00109	0.0025	mg/L	0.00109	43.57%
Na 589.592*†	135.6	0.0291	mg/L	0.00247	0.0291	mg/L	0.00247	8.48%
Ni 231.604*†	19.0	0.0007	mg/L	0.00002	0.0007	mg/L	0.00002	2.66%
P 213.617*†	27.6	0.0125	mg/L	0.01026	0.0125	mg/L	0.01026	82.03%
P 214.914†	4.0	0.0029	mg/L	0.01077	0.0029	mg/L	0.01077	367.93%
Pb 220.353*†	20.5	0.0024	mg/L	0.00115	0.0024	mg/L	0.00115	48.50%
QC value within limits for Pb 220.353* Recovery = Not calculated								
Sb 206.836†	0.3	0.0001	mg/L	0.00064	0.0001	mg/L	0.00064	439.16%
Sb 217.582*†	-8.2	-0.0041	mg/L	0.00154	-0.0041	mg/L	0.00154	37.92%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	5.3	0.0022	mg/L	0.00130	0.0022	mg/L	0.00130	59.68%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	288.1	0.0068	mg/L	0.00274	0.0068	mg/L	0.00274	40.22%
QC value within limits for Si 251.611* Recovery = Not calculated								
Sn 189.927*†	50.4	0.0076	mg/L	0.00072	0.0076	mg/L	0.00072	9.50%
Sn 242.170†	28.6	0.0152	mg/L	0.00319	0.0152	mg/L	0.00319	21.03%
Sr 407.771*†	-23.1	-0.0001	mg/L	0.00002	-0.0001	mg/L	0.00002	29.35%
Ti 334.940†	2590.0	0.0030	mg/L	0.00015	0.0030	mg/L	0.00015	5.04%
Ti 336.121*†	1752.5	0.0028	mg/L	0.00048	0.0028	mg/L	0.00048	16.85%
Tl 190.801*†	15.8	0.0081	mg/L	0.00139	0.0081	mg/L	0.00139	17.16%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	45.5	0.0003	mg/L	0.00122	0.0003	mg/L	0.00122	383.74%
Zn 206.200*†	40.3	0.0009	mg/L	0.00027	0.0009	mg/L	0.00027	29.97%
Zn 213.857*†	91.1	0.0012	mg/L	0.00012	0.0012	mg/L	0.00012	9.83%

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: 3/27/2017 10:30:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICS_A - M110116B

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	72361.8	88.45	%	1.494				1.69%
Tb 350	120832.4	91.20	%	1.751				1.92%
Ag 328.068*†	-63.6	-0.0003	mg/L	0.00032	-0.0003	mg/L	0.00032	101.60%
Al 308.215*†	449893.7	25.05	mg/L	0.200	25.05	mg/L	0.200	0.80%
As 188.979†	7.4	0.0032	mg/L	0.00262	0.0032	mg/L	0.00262	82.48%
As 193.696*†	10.4	0.0065	mg/L	0.00118	0.0065	mg/L	0.00118	18.20%
B 249.677*†	950.9	0.0176	mg/L	0.00109	0.0176	mg/L	0.00109	6.17%
Ba 233.527*†	406.2	0.0025	mg/L	0.00002	0.0025	mg/L	0.00002	0.89%
Be 313.042*†	-271.8	-0.0001	mg/L	0.00000	-0.0001	mg/L	0.00000	6.80%
Ca 317.933*†	268255.7	122.6	mg/L	3.52	122.6	mg/L	3.52	2.87%
Cd 226.502*†	138.2	0.0016	mg/L	0.00007	0.0016	mg/L	0.00007	4.05%
Cd 228.802†	-1.8	-0.0000	mg/L	0.00033	-0.0000	mg/L	0.00033	734.55%
Co 228.616*†	6.1	0.0002	mg/L	0.00008	0.0002	mg/L	0.00008	39.44%
Cr 267.716*†	-173.0	-0.0014	mg/L	0.00054	-0.0014	mg/L	0.00054	37.72%
Cu 324.752*†	-260.7	-0.0010	mg/L	0.00056	-0.0010	mg/L	0.00056	56.45%
Fe 273.955*†	2434532.5	97.53	mg/L	2.130	97.53	mg/L	2.130	2.18%
K 766.490*†	447.2	0.1389	mg/L	0.06435	0.1389	mg/L	0.06435	46.33%
Mg 279.077*†	1259738.1	60.72	mg/L	1.612	60.72	mg/L	1.612	2.66%
Mn 257.610*†	-62.8	-0.0001	mg/L	0.00033	-0.0001	mg/L	0.00033	359.64%
Mo 202.031*†	7.6	0.0008	mg/L	0.00034	0.0008	mg/L	0.00034	43.82%
Na 589.592*†	104875.8	22.50	mg/L	0.547	22.50	mg/L	0.547	2.43%
Ni 231.604*†	24.8	0.0009	mg/L	0.00111	0.0009	mg/L	0.00111	117.76%
P 213.617*†	-291.6	-0.1322	mg/L	0.00554	-0.1322	mg/L	0.00554	4.19%
P 214.914†	50.7	0.0367	mg/L	0.00083	0.0367	mg/L	0.00083	2.25%
Pb 220.353*†	-57.3	-0.0066	mg/L	0.00036	-0.0066	mg/L	0.00036	5.40%
Sb 206.836†	24.5	0.0120	mg/L	0.00443	0.0120	mg/L	0.00443	36.86%
Sb 217.582*†	-13.4	-0.0066	mg/L	0.00297	-0.0066	mg/L	0.00297	44.93%
Se 196.026*†	-29.6	-0.0123	mg/L	0.00865	-0.0123	mg/L	0.00865	70.53%
Si 251.611*†	204.5	0.0048	mg/L	0.00254	0.0048	mg/L	0.00254	52.48%
Sn 189.927*†	-3.0	-0.0005	mg/L	0.00339	-0.0005	mg/L	0.00339	747.19%
Sn 242.170†	482.6	0.2564	mg/L	0.00437	0.2564	mg/L	0.00437	1.70%
Sr 407.771*†	936.3	0.0027	mg/L	0.00027	0.0027	mg/L	0.00027	9.76%
Ti 334.940†	-1679.2	-0.0019	mg/L	0.00063	-0.0019	mg/L	0.00063	32.92%
Ti 336.121*†	-688.9	-0.0011	mg/L	0.00039	-0.0011	mg/L	0.00039	35.16%
Tl 190.801*†	-22.2	-0.0113	mg/L	0.00085	-0.0113	mg/L	0.00085	7.53%
V 292.402*†	317.7	0.0006	mg/L	0.00024	0.0006	mg/L	0.00024	38.88%
Zn 206.200*†	59.0	0.0013	mg/L	0.00018	0.0013	mg/L	0.00018	13.84%
Zn 213.857*†	585.6	-0.0004	mg/L	0.00001	-0.0004	mg/L	0.00001	3.29%

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Sequence No.: 6
Sample ID: ICS_AB - M110116A
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 9
Date Collected: 3/27/2017 10:31:44 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICS_AB - M110116A

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Tb 384	72219.9	88.27	%	1.082				1.23%
Tb 350	120904.4	91.26	%	1.486				1.63%
Ag 328.068*†	62684.9	0.3139	mg/L	0.00089	0.3139	mg/L	0.00089	0.28%
Al 308.215*†	448504.0	24.98	mg/L	0.039	24.98	mg/L	0.039	0.16%
As 188.979†	2428.8	1.041	mg/L	0.0141	1.041	mg/L	0.0141	1.35%
As 193.696*†	1673.6	1.040	mg/L	0.0002	1.040	mg/L	0.0002	0.02%
B 249.677*†	27298.2	0.5067	mg/L	0.01056	0.5067	mg/L	0.01056	2.08%
Ba 233.527*†	50040.9	0.3123	mg/L	0.00084	0.3123	mg/L	0.00084	0.27%
Be 313.042*†	428489.0	0.1048	mg/L	0.00039	0.1048	mg/L	0.00039	0.37%
Ca 317.933*†	254311.2	116.3	mg/L	7.41	116.3	mg/L	7.41	6.38%
Cd 226.502*†	25436.9	0.3022	mg/L	0.00210	0.3022	mg/L	0.00210	0.69%
Cd 228.802†	12512.0	0.3024	mg/L	0.00258	0.3024	mg/L	0.00258	0.85%
Co 228.616*†	9260.0	0.3094	mg/L	0.00291	0.3094	mg/L	0.00291	0.94%
Cr 267.716*†	37105.1	0.3075	mg/L	0.00014	0.3075	mg/L	0.00014	0.05%
Cu 324.752*†	83315.5	0.3161	mg/L	0.00028	0.3161	mg/L	0.00028	0.09%
Fe 273.955*†	2426198.3	97.19	mg/L	0.397	97.19	mg/L	0.397	0.41%
K 766.490*†	69042.9	21.44	mg/L	1.089	21.44	mg/L	1.089	5.08%
Mg 279.077*†	1248264.2	60.16	mg/L	0.420	60.16	mg/L	0.420	0.70%
Mn 257.610*†	140717.3	0.2042	mg/L	0.00075	0.2042	mg/L	0.00075	0.37%
Mo 202.031*†	2974.5	0.3064	mg/L	0.00194	0.3064	mg/L	0.00194	0.63%
Na 589.592*†	98835.5	21.21	mg/L	1.079	21.21	mg/L	1.079	5.09%
Ni 231.604*†	8219.0	0.3109	mg/L	0.00221	0.3109	mg/L	0.00221	0.71%
P 213.617*†	-217.3	-0.0985	mg/L	0.00665	-0.0985	mg/L	0.00665	6.75%
P 214.914†	45.5	0.0329	mg/L	0.00685	0.0329	mg/L	0.00685	20.79%
Pb 220.353*†	8677.3	1.001	mg/L	0.0069	1.001	mg/L	0.0069	0.69%
Sb 206.836†	2061.4	1.011	mg/L	0.0088	1.011	mg/L	0.0088	0.87%
Sb 217.582*†	1974.8	0.9742	mg/L	0.01375	0.9742	mg/L	0.01375	1.41%
Se 196.026*†	1267.4	0.5247	mg/L	0.00488	0.5247	mg/L	0.00488	0.93%
Si 251.611*†	8745.3	0.2070	mg/L	0.00042	0.2070	mg/L	0.00042	0.20%
Sn 189.927*†	-44.9	-0.0068	mg/L	0.00168	-0.0068	mg/L	0.00168	24.80%
Sn 242.170†	508.5	0.2702	mg/L	0.00850	0.2702	mg/L	0.00850	3.14%
Sr 407.771*†	709.8	0.0021	mg/L	0.00028	0.0021	mg/L	0.00028	13.70%
Ti 334.940†	881994.6	1.005	mg/L	0.0011	1.005	mg/L	0.0011	0.11%
Ti 336.121*†	622374.8	1.010	mg/L	0.0009	1.010	mg/L	0.0009	0.09%
Tl 190.801*†	2000.5	1.023	mg/L	0.0050	1.023	mg/L	0.0050	0.49%
V 292.402*†	43615.1	0.3028	mg/L	0.00126	0.3028	mg/L	0.00126	0.42%
Zn 206.200*†	14070.6	0.3099	mg/L	0.00356	0.3099	mg/L	0.00356	1.15%
Zn 213.857*†	24062.2	0.3072	mg/L	0.00333	0.3072	mg/L	0.00333	1.08%

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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: 3/27/2017 10:54:30 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	74248.7	90.75	%	0.491				0.54%
Tb 350	122614.9	92.55	%	0.922				1.00%
Ag 328.068*†	72024.2	0.3607	mg/L	0.00126	0.3607	mg/L	0.00126	0.35%
QC value within limits for Ag 328.068* Recovery = 96.18%								
Al 308.215*†	240519.7	13.39	mg/L	0.036	13.39	mg/L	0.036	0.27%
QC value within limits for Al 308.215* Recovery = 99.21%								
As 188.979†	8088.9	3.467	mg/L	0.0551	3.467	mg/L	0.0551	1.59%
QC value within limits for As 188.979 Recovery = 92.46%								
As 193.696*†	5563.3	3.456	mg/L	0.0726	3.456	mg/L	0.0726	2.10%
QC value within limits for As 193.696* Recovery = 92.17%								
B 249.677*†	191953.4	3.563	mg/L	0.0495	3.563	mg/L	0.0495	1.39%
QC value within limits for B 249.677* Recovery = 95.01%								
Ba 233.527*†	1180097.1	7.365	mg/L	0.0113	7.365	mg/L	0.0113	0.15%
QC value within limits for Ba 233.527* Recovery = 98.20%								
Be 313.042*†	2220637.3	0.5429	mg/L	0.00086	0.5429	mg/L	0.00086	0.16%
QC value within limits for Be 313.042* Recovery = 96.51%								
Ca 317.933*†	60099.3	27.48	mg/L	0.602	27.48	mg/L	0.602	2.19%
QC value within limits for Ca 317.933* Recovery = 91.59%								
Cd 226.502*†	60289.7	0.7162	mg/L	0.00200	0.7162	mg/L	0.00200	0.28%
QC value within limits for Cd 226.502* Recovery = 95.49%								
Cd 228.802†	29994.8	0.7249	mg/L	0.00350	0.7249	mg/L	0.00350	0.48%
Co 228.616*†	54616.2	1.825	mg/L	0.0009	1.825	mg/L	0.0009	0.05%
QC value within limits for Co 228.616* Recovery = 97.32%								
Cr 267.716*†	69977.9	0.5799	mg/L	0.00165	0.5799	mg/L	0.00165	0.29%
QC value within limits for Cr 267.716* Recovery = 96.65%								
Cu 324.752*†	240918.0	0.9141	mg/L	0.00074	0.9141	mg/L	0.00074	0.08%
QC value within limits for Cu 324.752* Recovery = 97.50%								
Fe 273.955*†	91052.5	3.647	mg/L	0.0083	3.647	mg/L	0.0083	0.23%
QC value within limits for Fe 273.955* Recovery = 97.27%								
K 766.490*†	80565.8	25.02	mg/L	0.499	25.02	mg/L	0.499	1.99%
QC value within limits for K 766.490* Recovery = 92.67%								
Mg 279.077*†	150775.5	7.267	mg/L	0.0156	7.267	mg/L	0.0156	0.21%
QC value within limits for Mg 279.077* Recovery = 96.89%								
Mn 257.610*†	501772.4	0.7282	mg/L	0.00174	0.7282	mg/L	0.00174	0.24%
QC value within limits for Mn 257.610* Recovery = 97.09%								
Mo 202.031*†	5616.0	0.5786	mg/L	0.00938	0.5786	mg/L	0.00938	1.62%
QC value within limits for Mo 202.031* Recovery = 96.43%								
Na 589.592*†	160952.4	34.54	mg/L	0.621	34.54	mg/L	0.621	1.80%
QC value within limits for Na 589.592* Recovery = 95.93%								
Ni 231.604*†	15026.7	0.5685	mg/L	0.00924	0.5685	mg/L	0.00924	1.63%
QC value within limits for Ni 231.604* Recovery = 94.74%								
P 213.617*†	12068.4	5.470	mg/L	0.1103	5.470	mg/L	0.1103	2.02%
QC value within limits for P 213.617* Recovery = 91.17%								
P 214.914†	7662.5	5.550	mg/L	0.1332	5.550	mg/L	0.1332	2.40%
Pb 220.353*†	31025.0	3.579	mg/L	0.0066	3.579	mg/L	0.0066	0.18%
QC value within limits for Pb 220.353* Recovery = 95.45%								
Sb 206.836†	8660.2	4.247	mg/L	0.0930	4.247	mg/L	0.0930	2.19%
QC value within limits for Sb 206.836 Recovery = 94.37%								
Sb 217.582*†	8553.0	4.219	mg/L	0.0746	4.219	mg/L	0.0746	1.77%
QC value within limits for Sb 217.582* Recovery = 93.76%								
Se 196.026*†	3365.5	1.393	mg/L	0.0350	1.393	mg/L	0.0350	2.51%
QC value within limits for Se 196.026* Recovery = 92.90%								
Si 251.611*†	241006.1	5.703	mg/L	0.0499	5.703	mg/L	0.0499	0.88%
QC value within limits for Si 251.611* Recovery = 95.06%								
Sn 189.927*†	18703.2	2.827	mg/L	0.0512	2.827	mg/L	0.0512	1.81%
QC value within limits for Sn 189.927* Recovery = 94.23%								
Sn 242.170†	5365.5	2.850	mg/L	0.0326	2.850	mg/L	0.0326	1.14%
Sr 407.771*†	97195.2	0.2837	mg/L	0.00585	0.2837	mg/L	0.00585	2.06%
QC value within limits for Sr 407.771* Recovery = 94.57%								

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Ti 334.940†	512430.1	0.5838	mg/L	0.00089	0.5838	mg/L	0.00089	0.15%
Ti 336.121*†	361183.0	0.5862	mg/L	0.00109	0.5862	mg/L	0.00109	0.19%
QC value within limits for Ti 336.121* Recovery = 97.71%								
Tl 190.801*†	2806.7	1.435	mg/L	0.0305	1.435	mg/L	0.0305	2.13%
QC value within limits for Tl 190.801* Recovery = 95.68%								
V 292.402*†	260559.8	1.818	mg/L	0.0043	1.818	mg/L	0.0043	0.24%
QC value within limits for V 292.402* Recovery = 96.97%								
Zn 206.200*†	107303.6	2.363	mg/L	0.0088	2.363	mg/L	0.0088	0.37%
QC value within limits for Zn 206.200* Recovery = 94.52%								

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: 3/27/2017 10:55:23 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	82343.1	100.6	%	0.71				0.70%
Tb 350	132623.8	100.1	%	0.72				0.72%
Ag 328.068*†	69.2	0.0003	mg/L	0.00010	0.0003	mg/L	0.00010	27.68%
Al 308.215*†	50.8	0.0028	mg/L	0.00577	0.0028	mg/L	0.00577	204.19%
As 188.979†	9.1	0.0039	mg/L	0.00088	0.0039	mg/L	0.00088	22.38%
As 193.696*†	3.4	0.0021	mg/L	0.00007	0.0021	mg/L	0.00007	3.07%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	2089.1	0.0388	mg/L	0.00285	0.0388	mg/L	0.00285	7.34%
Ba 233.527*†	457.4	0.0029	mg/L	0.00006	0.0029	mg/L	0.00006	2.20%
Be 313.042*†	846.2	0.0002	mg/L	0.00004	0.0002	mg/L	0.00004	18.45%
Ca 317.933*†	13.3	0.0061	mg/L	0.00559	0.0061	mg/L	0.00559	91.64%
Cd 226.502*†	43.9	0.0005	mg/L	0.00007	0.0005	mg/L	0.00007	13.01%
Cd 228.802†	23.3	0.0006	mg/L	0.00008	0.0006	mg/L	0.00008	14.77%
Co 228.616*†	35.1	0.0012	mg/L	0.00018	0.0012	mg/L	0.00018	15.14%
Cr 267.716*†	-51.6	-0.0004	mg/L	0.00001	-0.0004	mg/L	0.00001	1.75%
Cu 324.752*†	224.2	0.0009	mg/L	0.00034	0.0009	mg/L	0.00034	40.31%
Fe 273.955*†	47.0	0.0019	mg/L	0.00104	0.0019	mg/L	0.00104	55.53%
K 766.490*†	89.5	0.0278	mg/L	0.04087	0.0278	mg/L	0.04087	147.02%
Mg 279.077*†	312.2	0.0150	mg/L	0.00862	0.0150	mg/L	0.00862	57.29%
Mn 257.610*†	219.9	0.0003	mg/L	0.00002	0.0003	mg/L	0.00002	5.93%
Mo 202.031*†	4.1	0.0004	mg/L	0.00017	0.0004	mg/L	0.00017	39.56%
Na 589.592*†	196.8	0.0422	mg/L	0.01329	0.0422	mg/L	0.01329	31.47%
Ni 231.604*†	22.8	0.0009	mg/L	0.00015	0.0009	mg/L	0.00015	17.09%
P 213.617*†	61.2	0.0277	mg/L	0.01208	0.0277	mg/L	0.01208	43.57%
P 214.914†	10.9	0.0079	mg/L	0.00870	0.0079	mg/L	0.00870	110.56%
Pb 220.353*†	23.3	0.0027	mg/L	0.00046	0.0027	mg/L	0.00046	17.19%
Sb 206.836†	2.0	0.0010	mg/L	0.00064	0.0010	mg/L	0.00064	64.00%
Sb 217.582*†	-6.2	-0.0031	mg/L	0.00279	-0.0031	mg/L	0.00279	90.39%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	18.6	0.0077	mg/L	0.00421	0.0077	mg/L	0.00421	54.54%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	262.7	0.0062	mg/L	0.00178	0.0062	mg/L	0.00178	28.61%
Sn 189.927*†	41.5	0.0063	mg/L	0.00008	0.0063	mg/L	0.00008	1.24%
Sn 242.170†	51.5	0.0273	mg/L	0.01194	0.0273	mg/L	0.01194	43.66%
Sr 407.771*†	9.5	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	41.69%
Ti 334.940†	565.1	0.0006	mg/L	0.00050	0.0006	mg/L	0.00050	77.28%
Ti 336.121*†	360.7	0.0006	mg/L	0.00002	0.0006	mg/L	0.00002	3.27%
Tl 190.801*†	13.8	0.0070	mg/L	0.00200	0.0070	mg/L	0.00200	28.42%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	172.7	0.0012	mg/L	0.00034	0.0012	mg/L	0.00034	28.03%
Zn 206.200*†	92.0	0.0020	mg/L	0.00022	0.0020	mg/L	0.00022	10.96%
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: 3/27/2017 11:05:40 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	71714.7	87.66	%	0.414				0.47%
Tb 350	119066.1	89.87	%	0.048				0.05%
Ag 328.068*†	72237.2	0.3618	mg/L	0.00204	0.3618	mg/L	0.00204	0.56%
QC value within limits for Ag 328.068* Recovery = 96.47%								
Al 308.215*†	242190.3	13.49	mg/L	0.009	13.49	mg/L	0.009	0.06%
QC value within limits for Al 308.215* Recovery = 99.90%								
As 188.979†	8188.6	3.510	mg/L	0.0303	3.510	mg/L	0.0303	0.86%
QC value within limits for As 188.979 Recovery = 93.60%								
As 193.696*†	5657.2	3.515	mg/L	0.0463	3.515	mg/L	0.0463	1.32%
QC value within limits for As 193.696* Recovery = 93.73%								
B 249.677*†	190186.8	3.530	mg/L	0.0374	3.530	mg/L	0.0374	1.06%
QC value within limits for B 249.677* Recovery = 94.13%								
Ba 233.527*†	1180680.2	7.368	mg/L	0.0064	7.368	mg/L	0.0064	0.09%
QC value within limits for Ba 233.527* Recovery = 98.25%								
Be 313.042*†	2196246.8	0.5369	mg/L	0.00301	0.5369	mg/L	0.00301	0.56%
QC value within limits for Be 313.042* Recovery = 95.45%								
Ca 317.933*†	61265.4	28.01	mg/L	0.063	28.01	mg/L	0.063	0.23%
QC value within limits for Ca 317.933* Recovery = 93.37%								
Cd 226.502*†	60240.0	0.7156	mg/L	0.00287	0.7156	mg/L	0.00287	0.40%
QC value within limits for Cd 226.502* Recovery = 95.41%								
Cd 228.802†	29888.1	0.7223	mg/L	0.00308	0.7223	mg/L	0.00308	0.43%
Co 228.616*†	54760.8	1.830	mg/L	0.0017	1.830	mg/L	0.0017	0.09%
QC value within limits for Co 228.616* Recovery = 97.58%								
Cr 267.716*†	69990.8	0.5800	mg/L	0.00094	0.5800	mg/L	0.00094	0.16%
QC value within limits for Cr 267.716* Recovery = 96.66%								
Cu 324.752*†	240388.8	0.9121	mg/L	0.00286	0.9121	mg/L	0.00286	0.31%
QC value within limits for Cu 324.752* Recovery = 97.29%								
Fe 273.955*†	91029.3	3.647	mg/L	0.0033	3.647	mg/L	0.0033	0.09%
QC value within limits for Fe 273.955* Recovery = 97.24%								
K 766.490*†	82683.2	25.68	mg/L	0.147	25.68	mg/L	0.147	0.57%
QC value within limits for K 766.490* Recovery = 95.10%								
Mg 279.077*†	149899.7	7.225	mg/L	0.0037	7.225	mg/L	0.0037	0.05%
QC value within limits for Mg 279.077* Recovery = 96.33%								
Mn 257.610*†	501260.6	0.7275	mg/L	0.00146	0.7275	mg/L	0.00146	0.20%
QC value within limits for Mn 257.610* Recovery = 97.00%								
Mo 202.031*†	5686.2	0.5858	mg/L	0.00397	0.5858	mg/L	0.00397	0.68%
QC value within limits for Mo 202.031* Recovery = 97.63%								
Na 589.592*†	166645.9	35.76	mg/L	0.142	35.76	mg/L	0.142	0.40%
QC value within limits for Na 589.592* Recovery = 99.33%								
Ni 231.604*†	15285.6	0.5783	mg/L	0.00296	0.5783	mg/L	0.00296	0.51%
QC value within limits for Ni 231.604* Recovery = 96.38%								
P 213.617*†	12252.3	5.553	mg/L	0.0418	5.553	mg/L	0.0418	0.75%
QC value within limits for P 213.617* Recovery = 92.56%								
P 214.914†	7801.0	5.651	mg/L	0.0423	5.651	mg/L	0.0423	0.75%
Pb 220.353*†	30988.4	3.575	mg/L	0.0175	3.575	mg/L	0.0175	0.49%
QC value within limits for Pb 220.353* Recovery = 95.34%								
Sb 206.836†	8789.4	4.310	mg/L	0.0359	4.310	mg/L	0.0359	0.83%
QC value within limits for Sb 206.836 Recovery = 95.78%								
Sb 217.582*†	8681.7	4.283	mg/L	0.0275	4.283	mg/L	0.0275	0.64%
QC value within limits for Sb 217.582* Recovery = 95.17%								
Se 196.026*†	3445.0	1.426	mg/L	0.0199	1.426	mg/L	0.0199	1.39%
QC value within limits for Se 196.026* Recovery = 95.09%								
Si 251.611*†	239788.2	5.675	mg/L	0.0180	5.675	mg/L	0.0180	0.32%
QC value within limits for Si 251.611* Recovery = 94.58%								
Sn 189.927*†	19013.3	2.874	mg/L	0.0219	2.874	mg/L	0.0219	0.76%
QC value within limits for Sn 189.927* Recovery = 95.80%								
Sn 242.170†	5373.6	2.855	mg/L	0.0313	2.855	mg/L	0.0313	1.10%
Sr 407.771*†	100734.3	0.2941	mg/L	0.00136	0.2941	mg/L	0.00136	0.46%
QC value within limits for Sr 407.771* Recovery = 98.02%								

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Ti 334.940†	513131.9	0.5846 mg/L	0.00018	0.5846 mg/L	0.00018	0.03%
Ti 336.121*†	362369.5	0.5882 mg/L	0.00079	0.5882 mg/L	0.00079	0.13%
QC value within limits for Ti 336.121* Recovery = 98.03%						
Tl 190.801*†	2875.2	1.470 mg/L	0.0158	1.470 mg/L	0.0158	1.07%
QC value within limits for Tl 190.801* Recovery = 98.01%						
V 292.402*†	260189.7	1.816 mg/L	0.0091	1.816 mg/L	0.0091	0.50%
QC value within limits for V 292.402* Recovery = 96.84%						
Zn 206.200*†	106512.2	2.346 mg/L	0.0082	2.346 mg/L	0.0082	0.35%
QC value within limits for Zn 206.200* Recovery = 93.82%						

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: 3/27/2017 11:06:32 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Tb 384	81299.1	99.37	%	1.618				1.63%
Tb 350	129913.7	98.05	%	1.578				1.61%
Ag 328.068*†	110.0	0.0006	mg/L	0.00049	0.0006	mg/L	0.00049	88.11%
Al 308.215*†	-15.0	-0.0008	mg/L	0.00251	-0.0008	mg/L	0.00251	301.08%
As 188.979†	5.6	0.0024	mg/L	0.00094	0.0024	mg/L	0.00094	39.08%
As 193.696*†	-0.4	-0.0002	mg/L	0.00186	-0.0002	mg/L	0.00186	778.50%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	2231.1	0.0414	mg/L	0.00290	0.0414	mg/L	0.00290	7.01%
Ba 233.527*†	415.2	0.0026	mg/L	0.00013	0.0026	mg/L	0.00013	5.21%
Be 313.042*†	832.6	0.0002	mg/L	0.00002	0.0002	mg/L	0.00002	8.37%
Ca 317.933*†	19.2	0.0088	mg/L	0.00273	0.0088	mg/L	0.00273	31.11%
Cd 226.502*†	56.1	0.0007	mg/L	0.00016	0.0007	mg/L	0.00016	24.44%
Cd 228.802†	18.5	0.0004	mg/L	0.00023	0.0004	mg/L	0.00023	51.08%
Co 228.616*†	16.1	0.0005	mg/L	0.00028	0.0005	mg/L	0.00028	52.84%
Cr 267.716*†	-27.8	-0.0002	mg/L	0.00068	-0.0002	mg/L	0.00068	294.51%
Cu 324.752*†	381.4	0.0014	mg/L	0.00009	0.0014	mg/L	0.00009	6.01%
Fe 273.955*†	184.6	0.0074	mg/L	0.00236	0.0074	mg/L	0.00236	31.86%
K 766.490*†	-135.7	-0.0422	mg/L	0.07252	-0.0422	mg/L	0.07252	172.03%
Mg 279.077*†	124.2	0.0060	mg/L	0.00317	0.0060	mg/L	0.00317	52.94%
Mn 257.610*†	270.0	0.0004	mg/L	0.00004	0.0004	mg/L	0.00004	11.48%
Mo 202.031*†	0.3	0.0000	mg/L	0.00066	0.0000	mg/L	0.00066	>999.9%
Na 589.592*†	139.3	0.0299	mg/L	0.01601	0.0299	mg/L	0.01601	53.56%
Ni 231.604*†	24.8	0.0009	mg/L	0.00094	0.0009	mg/L	0.00094	100.27%
P 213.617*†	18.7	0.0085	mg/L	0.00021	0.0085	mg/L	0.00021	2.51%
P 214.914†	8.2	0.0060	mg/L	0.00165	0.0060	mg/L	0.00165	27.70%
Pb 220.353*†	20.1	0.0023	mg/L	0.00104	0.0023	mg/L	0.00104	45.00%
Sb 206.836†	15.8	0.0078	mg/L	0.00441	0.0078	mg/L	0.00441	56.88%
Sb 217.582*†	9.2	0.0045	mg/L	0.00177	0.0045	mg/L	0.00177	39.08%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	15.5	0.0064	mg/L	0.00265	0.0064	mg/L	0.00265	41.15%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	236.7	0.0056	mg/L	0.00146	0.0056	mg/L	0.00146	25.99%
Sn 189.927*†	48.4	0.0073	mg/L	0.00204	0.0073	mg/L	0.00204	27.95%
Sn 242.170†	46.2	0.0245	mg/L	0.02213	0.0245	mg/L	0.02213	90.18%
Sr 407.771*†	15.3	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	14.73%
Ti 334.940†	426.9	0.0005	mg/L	0.00010	0.0005	mg/L	0.00010	19.63%
Ti 336.121*†	498.7	0.0008	mg/L	0.00047	0.0008	mg/L	0.00047	58.51%
Tl 190.801*†	2.1	0.0011	mg/L	0.00174	0.0011	mg/L	0.00174	164.03%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	80.1	0.0006	mg/L	0.00091	0.0006	mg/L	0.00091	162.41%
Zn 206.200*†	94.2	0.0021	mg/L	0.00006	0.0021	mg/L	0.00006	3.07%
QC value within limits for Zn 206.200* Recovery = Not calculated								

All analyte(s) passed QC.

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Sequence No.: 47
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/27/2017 12:32:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	73716.3	90.10	%	0.398				0.44%
Tb 350	122124.2	92.18	%	0.519				0.56%
Ag 328.068*†	72754.5	0.3643	mg/L	0.00324	0.3643	mg/L	0.00324	0.89%
QC value within limits for Ag 328.068* Recovery = 97.16%								
Al 308.215*†	244952.1	13.64	mg/L	0.013	13.64	mg/L	0.013	0.10%
QC value within limits for Al 308.215* Recovery = 101.04%								
As 188.979†	8378.0	3.591	mg/L	0.0012	3.591	mg/L	0.0012	0.03%
QC value within limits for As 188.979 Recovery = 95.76%								
As 193.696*†	5772.7	3.587	mg/L	0.0033	3.587	mg/L	0.0033	0.09%
QC value within limits for As 193.696* Recovery = 95.64%								
B 249.677*†	195347.3	3.626	mg/L	0.0373	3.626	mg/L	0.0373	1.03%
QC value within limits for B 249.677* Recovery = 96.69%								
Ba 233.527*†	1195209.5	7.459	mg/L	0.0029	7.459	mg/L	0.0029	0.04%
QC value within limits for Ba 233.527* Recovery = 99.45%								
Be 313.042*†	2241246.9	0.5479	mg/L	0.00023	0.5479	mg/L	0.00023	0.04%
QC value within limits for Be 313.042* Recovery = 97.41%								
Ca 317.933*†	61970.3	28.33	mg/L	0.758	28.33	mg/L	0.758	2.68%
QC value within limits for Ca 317.933* Recovery = 94.44%								
Cd 226.502*†	61776.3	0.7338	mg/L	0.00022	0.7338	mg/L	0.00022	0.03%
QC value within limits for Cd 226.502* Recovery = 97.85%								
Cd 228.802†	30534.0	0.7379	mg/L	0.00178	0.7379	mg/L	0.00178	0.24%
Co 228.616*†	55614.6	1.858	mg/L	0.0034	1.858	mg/L	0.0034	0.19%
QC value within limits for Co 228.616* Recovery = 99.10%								
Cr 267.716*†	71289.1	0.5907	mg/L	0.00018	0.5907	mg/L	0.00018	0.03%
QC value within limits for Cr 267.716* Recovery = 98.46%								
Cu 324.752*†	243242.0	0.9229	mg/L	0.00077	0.9229	mg/L	0.00077	0.08%
QC value within limits for Cu 324.752* Recovery = 98.45%								
Fe 273.955*†	95534.7	3.827	mg/L	0.0063	3.827	mg/L	0.0063	0.17%
QC value within limits for Fe 273.955* Recovery = 102.05%								
K 766.490*†	82579.0	25.65	mg/L	0.343	25.65	mg/L	0.343	1.34%
QC value within limits for K 766.490* Recovery = 94.98%								
Mg 279.077*†	154222.1	7.433	mg/L	0.0163	7.433	mg/L	0.0163	0.22%
QC value within limits for Mg 279.077* Recovery = 99.11%								
Mn 257.610*†	510852.4	0.7414	mg/L	0.00065	0.7414	mg/L	0.00065	0.09%
QC value within limits for Mn 257.610* Recovery = 98.85%								
Mo 202.031*†	5742.1	0.5915	mg/L	0.00043	0.5915	mg/L	0.00043	0.07%
QC value within limits for Mo 202.031* Recovery = 98.59%								
Na 589.592*†	165085.9	35.42	mg/L	0.601	35.42	mg/L	0.601	1.70%
QC value within limits for Na 589.592* Recovery = 98.40%								
Ni 231.604*†	15449.0	0.5844	mg/L	0.00146	0.5844	mg/L	0.00146	0.25%
QC value within limits for Ni 231.604* Recovery = 97.41%								
P 213.617*†	12486.5	5.660	mg/L	0.0156	5.660	mg/L	0.0156	0.28%
QC value within limits for P 213.617* Recovery = 94.33%								
P 214.914†	7961.9	5.767	mg/L	0.0020	5.767	mg/L	0.0020	0.03%
Pb 220.353*†	31727.7	3.661	mg/L	0.0124	3.661	mg/L	0.0124	0.34%
QC value within limits for Pb 220.353* Recovery = 97.62%								
Sb 206.836†	8908.5	4.368	mg/L	0.0028	4.368	mg/L	0.0028	0.06%
QC value within limits for Sb 206.836 Recovery = 97.07%								
Sb 217.582*†	8788.2	4.335	mg/L	0.0006	4.335	mg/L	0.0006	0.01%
QC value within limits for Sb 217.582* Recovery = 96.34%								
Se 196.026*†	3507.8	1.452	mg/L	0.0106	1.452	mg/L	0.0106	0.73%
QC value within limits for Se 196.026* Recovery = 96.83%								
Si 251.611*†	245333.8	5.806	mg/L	0.0213	5.806	mg/L	0.0213	0.37%
QC value within limits for Si 251.611* Recovery = 96.76%								
Sn 189.927*†	19382.6	2.930	mg/L	0.0093	2.930	mg/L	0.0093	0.32%
QC value within limits for Sn 189.927* Recovery = 97.66%								
Sn 242.170†	5498.8	2.921	mg/L	0.0023	2.921	mg/L	0.0023	0.08%
Sr 407.771*†	99172.4	0.2895	mg/L	0.00451	0.2895	mg/L	0.00451	1.56%
QC value within limits for Sr 407.771* Recovery = 96.50%								

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Ti 334.940†	523513.8	0.5964	mg/L	0.00107	0.5964	mg/L	0.00107	0.18%
Ti 336.121*†	369385.9	0.5995	mg/L	0.00159	0.5995	mg/L	0.00159	0.27%
QC value within limits for Ti 336.121* Recovery = 99.92%								
Tl 190.801*†	2896.8	1.481	mg/L	0.0012	1.481	mg/L	0.0012	0.08%
QC value within limits for Tl 190.801* Recovery = 98.75%								
V 292.402*†	263870.2	1.841	mg/L	0.0029	1.841	mg/L	0.0029	0.16%
QC value within limits for V 292.402* Recovery = 98.21%								
Zn 206.200*†	110206.0	2.427	mg/L	0.0038	2.427	mg/L	0.0038	0.16%
QC value within limits for Zn 206.200* Recovery = 97.08%								

All analyte(s) passed QC.

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

Autosampler Location: 1
Date Collected: 3/27/2017 12:33:29 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	82015.0	100.2	%	0.62				0.62%
Tb 350	133012.9	100.4	%	0.53				0.53%
Ag 328.068*†	-150.3	-0.0008	mg/L	0.00006	-0.0008	mg/L	0.00006	8.03%
Al 308.215*†	288.0	0.0160	mg/L	0.00294	0.0160	mg/L	0.00294	18.35%
As 188.979†	8.0	0.0034	mg/L	0.00383	0.0034	mg/L	0.00383	112.09%
As 193.696*†	0.1	0.0001	mg/L	0.00351	0.0001	mg/L	0.00351	>999.9%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	1997.1	0.0371	mg/L	0.00217	0.0371	mg/L	0.00217	5.86%
Ba 233.527*†	862.8	0.0054	mg/L	0.00055	0.0054	mg/L	0.00055	10.18%
Be 313.042*†	1449.5	0.0004	mg/L	0.00002	0.0004	mg/L	0.00002	5.42%
Ca 317.933*†	50.2	0.0230	mg/L	0.00458	0.0230	mg/L	0.00458	19.96%
Cd 226.502*†	60.6	0.0007	mg/L	0.00011	0.0007	mg/L	0.00011	14.63%
Cd 228.802†	33.9	0.0008	mg/L	0.00022	0.0008	mg/L	0.00022	26.30%
Co 228.616*†	30.2	0.0010	mg/L	0.00040	0.0010	mg/L	0.00040	39.85%
Cr 267.716*†	63.3	0.0005	mg/L	0.00139	0.0005	mg/L	0.00139	265.54%
Cu 324.752*†	370.5	0.0014	mg/L	0.00003	0.0014	mg/L	0.00003	2.06%
Fe 273.955*†	793.2	0.0318	mg/L	0.00362	0.0318	mg/L	0.00362	11.38%
K 766.490*†	-89.3	-0.0277	mg/L	0.02153	-0.0277	mg/L	0.02153	77.65%
Mg 279.077*†	78.6	0.0038	mg/L	0.01070	0.0038	mg/L	0.01070	282.41%
Mn 257.610*†	807.1	0.0012	mg/L	0.00008	0.0012	mg/L	0.00008	7.17%
Mo 202.031*†	9.7	0.0010	mg/L	0.00117	0.0010	mg/L	0.00117	117.77%
Na 589.592*†	81.7	0.0175	mg/L	0.01702	0.0175	mg/L	0.01702	97.10%
Ni 231.604*†	31.0	0.0012	mg/L	0.00048	0.0012	mg/L	0.00048	40.81%
P 213.617*†	49.1	0.0223	mg/L	0.00968	0.0223	mg/L	0.00968	43.48%
P 214.914†	2.1	0.0015	mg/L	0.00705	0.0015	mg/L	0.00705	461.01%
Pb 220.353*†	34.5	0.0040	mg/L	0.00251	0.0040	mg/L	0.00251	63.05%
Sb 206.836†	8.2	0.0040	mg/L	0.00283	0.0040	mg/L	0.00283	70.14%
Sb 217.582*†	15.2	0.0075	mg/L	0.00482	0.0075	mg/L	0.00482	64.20%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	9.7	0.0040	mg/L	0.00008	0.0040	mg/L	0.00008	2.10%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	895.1	0.0212	mg/L	0.00043	0.0212	mg/L	0.00043	2.05%
Sn 189.927*†	44.6	0.0067	mg/L	0.00081	0.0067	mg/L	0.00081	12.01%
Sn 242.170†	9.6	0.0051	mg/L	0.00247	0.0051	mg/L	0.00247	48.32%
Sr 407.771*†	66.9	0.0002	mg/L	0.00005	0.0002	mg/L	0.00005	28.17%
Ti 334.940†	1317.2	0.0015	mg/L	0.00015	0.0015	mg/L	0.00015	10.15%
Ti 336.121*†	1082.5	0.0018	mg/L	0.00002	0.0018	mg/L	0.00002	1.37%
Tl 190.801*†	3.6	0.0018	mg/L	0.00716	0.0018	mg/L	0.00716	391.46%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	189.6	0.0013	mg/L	0.00098	0.0013	mg/L	0.00098	74.00%
Zn 206.200*†	258.2	0.0057	mg/L	0.00030	0.0057	mg/L	0.00030	5.29%
QC value within limits for Zn 206.200* Recovery = Not calculated								

All analyte(s) passed QC.

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Sequence No.: 59
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 3
Date Collected: 3/27/2017 12:43:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	72928.9	89.14	%	2.066				2.32%
Tb 350	122179.5	92.22	%	0.836				0.91%
Ag 328.068*†	72201.8	0.3616	mg/L	0.00299	0.3616	mg/L	0.00299	0.83%
QC value within limits for Ag 328.068* Recovery = 96.42%								
Al 308.215*†	244967.2	13.64	mg/L	0.043	13.64	mg/L	0.043	0.32%
QC value within limits for Al 308.215* Recovery = 101.05%								
As 188.979†	8352.6	3.580	mg/L	0.0425	3.580	mg/L	0.0425	1.19%
QC value within limits for As 188.979 Recovery = 95.47%								
As 193.696*†	5771.7	3.586	mg/L	0.0348	3.586	mg/L	0.0348	0.97%
QC value within limits for As 193.696* Recovery = 95.63%								
B 249.677*†	194773.1	3.615	mg/L	0.0123	3.615	mg/L	0.0123	0.34%
QC value within limits for B 249.677* Recovery = 96.40%								
Ba 233.527*†	1190409.0	7.429	mg/L	0.0424	7.429	mg/L	0.0424	0.57%
QC value within limits for Ba 233.527* Recovery = 99.05%								
Be 313.042*†	2219120.4	0.5425	mg/L	0.00886	0.5425	mg/L	0.00886	1.63%
QC value within limits for Be 313.042* Recovery = 96.45%								
Ca 317.933*†	62672.8	28.65	mg/L	1.070	28.65	mg/L	1.070	3.73%
QC value within limits for Ca 317.933* Recovery = 95.51%								
Cd 226.502*†	61384.4	0.7292	mg/L	0.00717	0.7292	mg/L	0.00717	0.98%
QC value within limits for Cd 226.502* Recovery = 97.23%								
Cd 228.802†	30471.7	0.7364	mg/L	0.00355	0.7364	mg/L	0.00355	0.48%
Co 228.616*†	55537.8	1.856	mg/L	0.0119	1.856	mg/L	0.0119	0.64%
QC value within limits for Co 228.616* Recovery = 98.97%								
Cr 267.716*†	70455.0	0.5838	mg/L	0.00644	0.5838	mg/L	0.00644	1.10%
QC value within limits for Cr 267.716* Recovery = 97.30%								
Cu 324.752*†	241552.4	0.9165	mg/L	0.00599	0.9165	mg/L	0.00599	0.65%
QC value within limits for Cu 324.752* Recovery = 97.76%								
Fe 273.955*†	95428.6	3.823	mg/L	0.0091	3.823	mg/L	0.0091	0.24%
QC value within limits for Fe 273.955* Recovery = 101.94%								
K 766.490*†	83193.1	25.84	mg/L	0.863	25.84	mg/L	0.863	3.34%
QC value within limits for K 766.490* Recovery = 95.69%								
Mg 279.077*†	153638.9	7.405	mg/L	0.0547	7.405	mg/L	0.0547	0.74%
QC value within limits for Mg 279.077* Recovery = 98.73%								
Mn 257.610*†	508006.7	0.7373	mg/L	0.00418	0.7373	mg/L	0.00418	0.57%
QC value within limits for Mn 257.610* Recovery = 98.30%								
Mo 202.031*†	5738.4	0.5912	mg/L	0.00617	0.5912	mg/L	0.00617	1.04%
QC value within limits for Mo 202.031* Recovery = 98.53%								
Na 589.592*†	165973.7	35.61	mg/L	1.232	35.61	mg/L	1.232	3.46%
QC value within limits for Na 589.592* Recovery = 98.92%								
Ni 231.604*†	15385.8	0.5821	mg/L	0.00345	0.5821	mg/L	0.00345	0.59%
QC value within limits for Ni 231.604* Recovery = 97.01%								
P 213.617*†	12409.3	5.625	mg/L	0.0485	5.625	mg/L	0.0485	0.86%
QC value within limits for P 213.617* Recovery = 93.74%								
P 214.914†	7943.1	5.754	mg/L	0.0554	5.754	mg/L	0.0554	0.96%
Pb 220.353*†	31779.7	3.667	mg/L	0.0230	3.667	mg/L	0.0230	0.63%
QC value within limits for Pb 220.353* Recovery = 97.78%								
Sb 206.836†	8906.6	4.367	mg/L	0.0456	4.367	mg/L	0.0456	1.04%
QC value within limits for Sb 206.836 Recovery = 97.05%								
Sb 217.582*†	8753.6	4.318	mg/L	0.0309	4.318	mg/L	0.0309	0.71%
QC value within limits for Sb 217.582* Recovery = 95.96%								
Se 196.026*†	3507.0	1.452	mg/L	0.0074	1.452	mg/L	0.0074	0.51%
QC value within limits for Se 196.026* Recovery = 96.80%								
Si 251.611*†	245065.6	5.799	mg/L	0.0114	5.799	mg/L	0.0114	0.20%
QC value within limits for Si 251.611* Recovery = 96.66%								
Sn 189.927*†	19305.2	2.918	mg/L	0.0306	2.918	mg/L	0.0306	1.05%
QC value within limits for Sn 189.927* Recovery = 97.27%								
Sn 242.170†	5520.5	2.933	mg/L	0.0067	2.933	mg/L	0.0067	0.23%
Sr 407.771*†	100449.5	0.2932	mg/L	0.01109	0.2932	mg/L	0.01109	3.78%
QC value within limits for Sr 407.771* Recovery = 97.74%								

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Ti 334.940†	518958.1	0.5912	mg/L	0.00174	0.5912	mg/L	0.00174	0.29%
Ti 336.121*†	366301.8	0.5945	mg/L	0.00242	0.5945	mg/L	0.00242	0.41%
QC value within limits for Ti 336.121* Recovery = 99.09%								
Tl 190.801*†	2907.3	1.487	mg/L	0.0077	1.487	mg/L	0.0077	0.52%
QC value within limits for Tl 190.801* Recovery = 99.11%								
V 292.402*†	262401.0	1.831	mg/L	0.0209	1.831	mg/L	0.0209	1.14%
QC value within limits for V 292.402* Recovery = 97.66%								
Zn 206.200*†	109100.7	2.403	mg/L	0.0355	2.403	mg/L	0.0355	1.48%
QC value within limits for Zn 206.200* Recovery = 96.10%								

All analyte(s) passed QC.

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

Autosampler Location: 1
Date Collected: 3/27/2017 12:44:02 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	82088.4	100.3	%	0.71				0.71%
Tb 350	132435.4	99.96	%	1.347				1.35%
Ag 328.068*†	-153.4	-0.0008	mg/L	0.00032	-0.0008	mg/L	0.00032	41.81%
Al 308.215*†	-5.7	-0.0003	mg/L	0.00429	-0.0003	mg/L	0.00429	>999.9%
As 188.979†	2.8	0.0012	mg/L	0.00034	0.0012	mg/L	0.00034	28.06%
As 193.696*†	4.3	0.0027	mg/L	0.00158	0.0027	mg/L	0.00158	58.81%
QC value within limits for As 193.696* Recovery = Not calculated								
B 249.677*†	2196.5	0.0408	mg/L	0.00249	0.0408	mg/L	0.00249	6.10%
Ba 233.527*†	478.1	0.0030	mg/L	0.00032	0.0030	mg/L	0.00032	10.75%
Be 313.042*†	924.2	0.0002	mg/L	0.00000	0.0002	mg/L	0.00000	2.03%
Ca 317.933*†	29.0	0.0133	mg/L	0.00224	0.0133	mg/L	0.00224	16.86%
Cd 226.502*†	43.5	0.0005	mg/L	0.00003	0.0005	mg/L	0.00003	5.59%
Cd 228.802†	26.0	0.0006	mg/L	0.00022	0.0006	mg/L	0.00022	35.25%
Co 228.616*†	17.2	0.0006	mg/L	0.00005	0.0006	mg/L	0.00005	8.93%
Cr 267.716*†	-65.8	-0.0005	mg/L	0.00133	-0.0005	mg/L	0.00133	243.68%
Cu 324.752*†	221.5	0.0008	mg/L	0.00012	0.0008	mg/L	0.00012	14.59%
Fe 273.955*†	176.7	0.0071	mg/L	0.00144	0.0071	mg/L	0.00144	20.35%
K 766.490*†	257.6	0.0800	mg/L	0.00279	0.0800	mg/L	0.00279	3.48%
Mg 279.077*†	-107.4	-0.0052	mg/L	0.00461	-0.0052	mg/L	0.00461	89.07%
Mn 257.610*†	355.9	0.0005	mg/L	0.00008	0.0005	mg/L	0.00008	15.47%
Mo 202.031*†	14.5	0.0015	mg/L	0.00031	0.0015	mg/L	0.00031	20.67%
Na 589.592*†	96.6	0.0207	mg/L	0.00739	0.0207	mg/L	0.00739	35.64%
Ni 231.604*†	17.2	0.0006	mg/L	0.00006	0.0006	mg/L	0.00006	10.00%
P 213.617*†	43.8	0.0199	mg/L	0.00273	0.0199	mg/L	0.00273	13.76%
P 214.914†	2.2	0.0016	mg/L	0.00170	0.0016	mg/L	0.00170	105.85%
Pb 220.353*†	17.7	0.0020	mg/L	0.00123	0.0020	mg/L	0.00123	60.23%
Sb 206.836†	2.9	0.0014	mg/L	0.00208	0.0014	mg/L	0.00208	147.33%
Sb 217.582*†	10.2	0.0050	mg/L	0.00553	0.0050	mg/L	0.00553	110.42%
QC value within limits for Sb 217.582* Recovery = Not calculated								
Se 196.026*†	9.5	0.0039	mg/L	0.00398	0.0039	mg/L	0.00398	100.97%
QC value within limits for Se 196.026* Recovery = Not calculated								
Si 251.611*†	691.9	0.0164	mg/L	0.00144	0.0164	mg/L	0.00144	8.77%
Sn 189.927*†	48.2	0.0073	mg/L	0.00004	0.0073	mg/L	0.00004	0.61%
Sn 242.170†	44.2	0.0235	mg/L	0.00855	0.0235	mg/L	0.00855	36.42%
Sr 407.771*†	19.1	0.0001	mg/L	0.00013	0.0001	mg/L	0.00013	224.69%
Ti 334.940†	720.2	0.0008	mg/L	0.00013	0.0008	mg/L	0.00013	15.37%
Ti 336.121*†	499.4	0.0008	mg/L	0.00024	0.0008	mg/L	0.00024	30.21%
Tl 190.801*†	-6.9	-0.0035	mg/L	0.00147	-0.0035	mg/L	0.00147	41.81%
QC value within limits for Tl 190.801* Recovery = Not calculated								
V 292.402*†	78.1	0.0005	mg/L	0.00060	0.0005	mg/L	0.00060	110.01%
Zn 206.200*†	160.7	0.0035	mg/L	0.00005	0.0035	mg/L	0.00005	1.40%
QC value within limits for Zn 206.200* 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: **17-03-1383**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 12:37
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170327C 1\17-03-1383-1.icp

 # 1 **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-08-15S**

LCS/MB BATCH: 170324L16
MS/MSD BATCH: 170324S16
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	0.00172	0.971	ND	0.728	
Arsenic	0.0100	0.971	ND	0.728	
Barium	0.727	0.971	35.3	0.485	
Beryllium	0.00169	0.971	ND	0.243	
Cadmium	0.00240	0.971	ND	0.485	
Chromium	0.0759	0.971	3.69	0.243	
Cobalt	0.0553	0.971	2.69	0.243	
Copper	0.0912	0.971	4.43	0.485	
Lead	0.0187	0.971	0.906	0.485	
Molybdenum	0.00367	0.971	ND	0.243	
Nickel	0.0532	0.971	2.58	0.243	
Selenium	-0.0141	0.971	ND	0.728	
Silver	-0.000215	0.971	ND	0.243	
Thallium	-0.0130	0.971	ND	0.728	
Vanadium	0.221	0.971	10.7	0.243	
Zinc	0.373	0.971	18.1	0.971	

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Sequence No.: 52
Sample ID: 17-03-1383-1
Analyst: 935 icp 7300
Initial Sample Wt: 2.06 g
Dilution:
Wash Time: 15

Autosampler Location: 344
Date Collected: 3/27/2017 12:37:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1383-1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	68483.9	83.71	%	1.650				1.97%
Tb 350	122165.5	92.21	%	1.015				1.10%
Ag 328.068*†	-42.9	-0.0002	mg/L	0.00059	-0.0104	mg/kg	0.02844	272.54%
Al 308.215*†	1243397.4	69.24	mg/L	0.042	3361	mg/kg	2.02	0.06%
As 188.979†	30.8	0.0132	mg/L	0.00207	0.6419	mg/kg	0.10056	15.67%
As 193.696*†	16.1	0.0100	mg/L	0.00155	0.4853	mg/kg	0.07547	15.55%
B 249.677*†	408.2	0.0076	mg/L	0.00240	0.3678	mg/kg	0.11628	31.62%
Ba 233.527*†	116508.7	0.7271	mg/L	0.00271	35.30	mg/kg	0.132	0.37%
Be 313.042*†	6917.7	0.0017	mg/L	0.00004	0.0821	mg/kg	0.00187	2.28%
Ca 317.933*†	92475.4	42.28	mg/L	0.583	2052	mg/kg	28.29	1.38%
Cd 226.502*†	202.2	0.0024	mg/L	0.00007	0.1166	mg/kg	0.00357	3.06%
Cd 228.802†	8.3	0.0002	mg/L	0.00028	0.0097	mg/kg	0.01370	140.85%
Co 228.616*†	1655.8	0.0553	mg/L	0.00095	2.686	mg/kg	0.0462	1.72%
Cr 267.716*†	9164.8	0.0759	mg/L	0.00208	3.687	mg/kg	0.1010	2.74%
Cu 324.752*†	24032.6	0.0912	mg/L	0.00152	4.426	mg/kg	0.0737	1.66%
Fe 273.955*†	2983253.7	119.5	mg/L	0.60	5801	mg/kg	29.09	0.50%
K 766.490*†	60447.4	18.77	mg/L	0.356	911.3	mg/kg	17.27	1.89%
Mg 279.077*†	639832.1	30.84	mg/L	0.184	1497	mg/kg	8.94	0.60%
Mn 257.610*†	1117490.1	1.622	mg/L	0.0081	78.73	mg/kg	0.394	0.50%
Mo 202.031*†	35.7	0.0037	mg/L	0.00057	0.1784	mg/kg	0.02755	15.45%
Na 589.592*†	15686.8	3.366	mg/L	0.0505	163.4	mg/kg	2.45	1.50%
Ni 231.604*†	1406.4	0.0532	mg/L	0.00080	2.583	mg/kg	0.0386	1.50%
P 213.617*†	17284.2	7.834	mg/L	0.1988	380.3	mg/kg	9.65	2.54%
P 214.914†	11380.5	8.244	mg/L	0.2121	400.2	mg/kg	10.30	2.57%
Pb 220.353*†	161.8	0.0187	mg/L	0.00271	0.9060	mg/kg	0.13140	14.50%
Sb 206.836†	-2.6	-0.0013	mg/L	0.00582	-0.0619	mg/kg	0.28268	456.78%
Sb 217.582*†	3.5	0.0017	mg/L	0.00400	0.0835	mg/kg	0.19399	232.44%
Se 196.026*†	-34.0	-0.0141	mg/L	0.00052	-0.6836	mg/kg	0.02508	3.67%
Si 251.611*†	560531.9	13.26	mg/L	0.050	643.9	mg/kg	2.41	0.37%
Sn 189.927*†	-208.6	-0.0315	mg/L	0.00149	-1.531	mg/kg	0.0722	4.72%
Sn 242.170†	657.5	0.3493	mg/L	0.01328	16.96	mg/kg	0.645	3.80%
Sr 407.771*†	146097.3	0.4265	mg/L	0.00615	20.70	mg/kg	0.298	1.44%
Ti 334.940†	5344384.4	6.089	mg/L	0.0307	295.6	mg/kg	1.49	0.50%
Ti 336.121*†	3803634.3	6.174	mg/L	0.0272	299.7	mg/kg	1.32	0.44%
Tl 190.801*†	-25.4	-0.0130	mg/L	0.00321	-0.6314	mg/kg	0.15559	24.64%
V 292.402*†	31900.1	0.2207	mg/L	0.00109	10.71	mg/kg	0.053	0.49%
Zn 206.200*†	16948.2	0.3732	mg/L	0.01056	18.12	mg/kg	0.512	2.83%

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RAW DATA SHEET
FOR METHOD: EPA 6010B

WORK ORDER: **17-03-1383**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 12:39
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170327C 1\17-03-1383-2.icp

 # 2 **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-09-15S**

LCS/MB BATCH: 170324L16
MS/MSD BATCH: 170324S16
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	-0.00253	0.990	ND	0.743	
Arsenic	0.0127	0.990	ND	0.743	
Barium	1.13	0.990	55.8	0.495	
Beryllium	0.00311	0.990	ND	0.248	
Cadmium	0.00499	0.990	ND	0.495	
Chromium	0.212	0.990	10.5	0.248	
Cobalt	0.115	0.990	5.69	0.248	
Copper	0.185	0.990	9.18	0.495	
Lead	0.0408	0.990	2.02	0.495	
Molybdenum	0.00225	0.990	ND	0.248	
Nickel	0.0986	0.990	4.88	0.248	
Selenium	-0.00840	0.990	ND	0.743	
Silver	-0.00479	0.990	ND	0.248	
Thallium	-0.0159	0.990	ND	0.743	
Vanadium	0.626	0.990	31.0	0.248	
Zinc	0.492	0.990	24.4	0.990	

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Sequence No.: 55
Sample ID: 17-03-1383-2
Analyst: 935 icp 7300
Initial Sample Wt: 2.02 g
Dilution:
Wash Time: 15

Autosampler Location: 347
Date Collected: 3/27/2017 12:39:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1383-2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	52615.4	64.31	%	0.368				0.57%
Tb 350	118250.7	89.25	%	0.121				0.14%
Ag 328.068*†	-957.1	-0.0048	mg/L	0.00025	-0.2373	mg/kg	0.01224	5.16%
Al 308.215*†	2064341.2	115.0	mg/L	0.20	5691	mg/kg	9.78	0.17%
As 188.979†	87.2	0.0374	mg/L	0.00279	1.850	mg/kg	0.1380	7.46%
As 193.696*†	20.4	0.0127	mg/L	0.00234	0.6290	mg/kg	0.11581	18.41%
B 249.677*†	154.3	0.0029	mg/L	0.00169	0.1418	mg/kg	0.08353	58.92%
Ba 233.527*†	180595.7	1.127	mg/L	0.0007	55.80	mg/kg	0.033	0.06%
Be 313.042*†	12727.2	0.0031	mg/L	0.00006	0.1540	mg/kg	0.00278	1.81%
Ca 317.933*†	156083.4	71.36	mg/L	1.257	3533	mg/kg	62.22	1.76%
Cd 226.502*†	420.0	0.0050	mg/L	0.00040	0.2470	mg/kg	0.01980	8.02%
Cd 228.802†	-2.3	-0.0001	mg/L	0.00034	-0.0027	mg/kg	0.01702	624.47%
Co 228.616*†	3443.0	0.1150	mg/L	0.00164	5.695	mg/kg	0.0811	1.42%
Cr 267.716*†	25552.9	0.2117	mg/L	0.00048	10.48	mg/kg	0.024	0.22%
Cu 324.752*†	48863.2	0.1854	mg/L	0.00016	9.178	mg/kg	0.0078	0.08%
Fe 273.955*†	7415119.7	297.0	mg/L	1.78	14710	mg/kg	88.05	0.60%
K 766.490*†	101099.2	31.40	mg/L	0.499	1554	mg/kg	24.70	1.59%
Mg 279.077*†	1159428.9	55.88	mg/L	0.091	2766	mg/kg	4.52	0.16%
Mn 257.610*†	2206558.0	3.202	mg/L	0.0008	158.5	mg/kg	0.04	0.03%
Mo 202.031*†	21.8	0.0022	mg/L	0.00072	0.1112	mg/kg	0.03576	32.15%
Na 589.592*†	22424.5	4.812	mg/L	0.0649	238.2	mg/kg	3.21	1.35%
Ni 231.604*†	2605.4	0.0986	mg/L	0.00149	4.879	mg/kg	0.0738	1.51%
P 213.617*†	35560.9	16.12	mg/L	0.074	797.9	mg/kg	3.64	0.46%
P 214.914†	23406.1	16.95	mg/L	0.114	839.3	mg/kg	5.64	0.67%
Pb 220.353*†	353.3	0.0408	mg/L	0.00048	2.018	mg/kg	0.0239	1.18%
Sb 206.836†	18.2	0.0089	mg/L	0.00442	0.4420	mg/kg	0.21888	49.52%
Sb 217.582*†	-5.1	-0.0025	mg/L	0.00852	-0.1252	mg/kg	0.42203	336.97%
Se 196.026*†	-20.3	-0.0084	mg/L	0.00036	-0.4156	mg/kg	0.01806	4.35%
Si 251.611*†	781830.5	18.50	mg/L	0.039	915.9	mg/kg	1.95	0.21%
Sn 189.927*†	-394.4	-0.0596	mg/L	0.00188	-2.951	mg/kg	0.0928	3.15%
Sn 242.170†	1422.5	0.7557	mg/L	0.03101	37.41	mg/kg	1.535	4.10%
Sr 407.771*†	322867.8	0.9425	mg/L	0.01487	46.66	mg/kg	0.736	1.58%
Ti 334.940†	10274630.7	11.71	mg/L	0.049	579.5	mg/kg	2.41	0.42%
Ti 336.121*†	7316928.7	11.88	mg/L	0.063	587.9	mg/kg	3.11	0.53%
Tl 190.801*†	-31.1	-0.0159	mg/L	0.00637	-0.7881	mg/kg	0.31516	39.99%
V 292.402*†	90368.2	0.6258	mg/L	0.00012	30.98	mg/kg	0.006	0.02%
Zn 206.200*†	22348.1	0.4921	mg/L	0.00242	24.36	mg/kg	0.120	0.49%

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RAW DATA SHEET
FOR METHOD: EPA 6010B

WORK ORDER: **17-03-1383**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 12:40
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170327C 1\17-03-1383-3.icp

 # 3 **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-10-15S**

LCS/MB BATCH: 170324L16
MS/MSD BATCH: 170324S16
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	0.000165	0.980	ND	0.735	
Arsenic	0.00952	0.980	ND	0.735	
Barium	0.838	0.980	41.1	0.490	
Beryllium	0.00191	0.980	ND	0.245	
Cadmium	0.00306	0.980	ND	0.490	
Chromium	0.0982	0.980	4.81	0.245	
Cobalt	0.0652	0.980	3.20	0.245	
Copper	0.110	0.980	5.37	0.490	
Lead	0.0206	0.980	1.01	0.490	
Molybdenum	0.000458	0.980	ND	0.245	
Nickel	0.0687	0.980	3.37	0.245	
Selenium	-0.00143	0.980	ND	0.735	
Silver	-0.00127	0.980	ND	0.245	
Thallium	-0.0140	0.980	ND	0.735	
Vanadium	0.258	0.980	12.6	0.245	
Zinc	0.321	0.980	15.7	0.980	

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Sequence No.: 56
Sample ID: 17-03-1383-3
Analyst: 935 icp 7300
Initial Sample Wt: 2.04 g
Dilution:
Wash Time: 15

Autosampler Location: 348
Date Collected: 3/27/2017 12:40:28 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1383-3

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Tb 384	66423.8	81.19	%	0.153				0.19%
Tb 350	117807.1	88.92	%	0.198				0.22%
Ag 328.068*†	-254.6	-0.0013	mg/L	0.00041	-0.0625	mg/kg	0.02021	32.34%
Al 308.215*†	1908443.8	106.3	mg/L	0.89	5210	mg/kg	43.70	0.84%
As 188.979†	35.6	0.0152	mg/L	0.00185	0.7475	mg/kg	0.09076	12.14%
As 193.696*†	15.3	0.0095	mg/L	0.00263	0.4666	mg/kg	0.12914	27.68%
B 249.677*†	264.8	0.0049	mg/L	0.00250	0.2409	mg/kg	0.12272	50.94%
Ba 233.527*†	134216.8	0.8376	mg/L	0.00284	41.06	mg/kg	0.139	0.34%
Be 313.042*†	7792.9	0.0019	mg/L	0.00004	0.0934	mg/kg	0.00200	2.15%
Ca 317.933*†	152572.4	69.76	mg/L	0.149	3419	mg/kg	7.32	0.21%
Cd 226.502*†	258.0	0.0031	mg/L	0.00028	0.1502	mg/kg	0.01379	9.18%
Cd 228.802†	5.3	0.0001	mg/L	0.00017	0.0063	mg/kg	0.00831	132.88%
Co 228.616*†	1951.7	0.0652	mg/L	0.00080	3.197	mg/kg	0.0391	1.22%
Cr 267.716*†	11846.9	0.0982	mg/L	0.00112	4.812	mg/kg	0.0549	1.14%
Cu 324.752*†	28883.9	0.1096	mg/L	0.00110	5.372	mg/kg	0.0538	1.00%
Fe 273.955*†	3429242.9	137.4	mg/L	1.54	6734	mg/kg	75.68	1.12%
K 766.490*†	72249.5	22.44	mg/L	0.031	1100	mg/kg	1.50	0.14%
Mg 279.077*†	761618.8	36.71	mg/L	0.206	1799	mg/kg	10.08	0.56%
Mn 257.610*†	1263886.0	1.834	mg/L	0.0201	89.91	mg/kg	0.985	1.10%
Mo 202.031*†	4.4	0.0005	mg/L	0.00075	0.0225	mg/kg	0.03697	164.62%
Na 589.592*†	16079.0	3.450	mg/L	0.0095	169.1	mg/kg	0.47	0.28%
Ni 231.604*†	1816.9	0.0687	mg/L	0.00139	3.369	mg/kg	0.0681	2.02%
P 213.617*†	18275.0	8.283	mg/L	0.0965	406.0	mg/kg	4.73	1.16%
P 214.914†	12078.8	8.749	mg/L	0.1050	428.9	mg/kg	5.14	1.20%
Pb 220.353*†	178.8	0.0206	mg/L	0.00019	1.011	mg/kg	0.0093	0.92%
Sb 206.836†	7.4	0.0036	mg/L	0.00510	0.1768	mg/kg	0.25020	141.50%
Sb 217.582*†	0.3	0.0002	mg/L	0.00433	0.0081	mg/kg	0.21207	>999.9%
Se 196.026*†	-3.5	-0.0014	mg/L	0.00222	-0.0701	mg/kg	0.10883	155.34%
Si 251.611*†	824383.9	19.51	mg/L	0.289	956.3	mg/kg	14.18	1.48%
Sn 189.927*†	-272.9	-0.0412	mg/L	0.00109	-2.022	mg/kg	0.0533	2.64%
Sn 242.170†	715.0	0.3799	mg/L	0.01680	18.62	mg/kg	0.823	4.42%
Sr 407.771*†	176832.6	0.5162	mg/L	0.00189	25.30	mg/kg	0.093	0.37%
Ti 334.940†	6781531.5	7.726	mg/L	0.0621	378.7	mg/kg	3.04	0.80%
Ti 336.121*†	4826984.4	7.835	mg/L	0.0629	384.1	mg/kg	3.09	0.80%
Tl 190.801*†	-27.3	-0.0140	mg/L	0.00325	-0.6838	mg/kg	0.15917	23.28%
V 292.402*†	37231.4	0.2576	mg/L	0.00087	12.63	mg/kg	0.043	0.34%
Zn 206.200*†	14588.6	0.3213	mg/L	0.00390	15.75	mg/kg	0.191	1.21%

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EPA 6010B ICP Metals

(Solid)

Quality Control

Method Blank
LCS/LCSD
MS/MSD
PDS/PDSD

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METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 6010B

MB SAMPLE ID: **097-01-002-24503**
MB BATCH ID: 170324L16
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 11:01
REVIEWED BY: 309
D/T REVIEWED: 2017-03-27 13:15
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170327C 1\170324-b-16__30.icp

CLIENT WORK ORDER: 17-03-1383

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
1		D-DU2-S-SG-08-15S	2017-03-27 12:37	W:\ICP-DATA\170327C 1\17-03-1383-1.icp
2		D-DU2-S-SG-09-15S	2017-03-27 12:39	W:\ICP-DATA\170327C 1\17-03-1383-2.icp
3		D-DU2-S-SG-10-15S	2017-03-27 12:40	W:\ICP-DATA\170327C 1\17-03-1383-3.icp

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RAW DATA SHEET
FOR METHOD: EPA 6010B

WORK ORDER: **097-01-002**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 11:01
REVIEWED BY: 309
D/T REVIEWED: 2017-03-27 13:15

DATA FILE: W:\ICP-DATA\170327C 1\170324-b-16__30.icp

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

LCS/MB BATCH: 170324L16
MS/MSD BATCH:
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	-0.00477	0.971	ND	0.728	
Arsenic	0.00511	0.971	ND	0.728	
Barium	0.000522	0.971	ND	0.485	
Beryllium	0.000191	0.971	ND	0.243	
Cadmium	0.000418	0.971	ND	0.485	
Chromium	0.000424	0.971	ND	0.243	
Cobalt	0.000445	0.971	ND	0.243	
Copper	0.00134	0.971	ND	0.485	
Lead	0.000360	0.971	ND	0.485	
Molybdenum	0.000632	0.971	ND	0.243	
Nickel	0.000585	0.971	ND	0.243	
Selenium	0.000695	0.971	ND	0.728	
Silver	0.0000777	0.971	ND	0.243	
Thallium	-0.00639	0.971	ND	0.728	
Vanadium	0.000943	0.971	ND	0.243	
Zinc	0.00227	0.971	ND	0.971	

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: **097-01-002-24503**
LCS/MB BATCH ID: 170324L16
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 11:02
REVIEWED BY: 309
D/T REVIEWED: 2017-03-27 13:15

DATA FILE: W:\ICP-DATA\170327C 1\170324-l-16__31.icp

COMPOUND	CONC	CONC REC	%REC	%REC CL	ME CL	STATUS	QUALIFIERS
Antimony	25.00	22.32	89	80-120	73-127	PASS	
Arsenic	25.00	22.42	90	80-120	73-127	PASS	
Barium	25.00	25.88	104	80-120	73-127	PASS	
Beryllium	25.00	23.44	94	80-120	73-127	PASS	
Cadmium	25.00	24.36	97	80-120	73-127	PASS	
Chromium	25.00	24.68	99	80-120	73-127	PASS	
Cobalt	25.00	24.70	99	80-120	73-127	PASS	
Copper	25.00	25.04	100	80-120	73-127	PASS	
Lead	25.00	24.85	99	80-120	73-127	PASS	
Molybdenum	25.00	23.68	95	80-120	73-127	PASS	
Nickel	25.00	24.44	98	80-120	73-127	PASS	
Phosphorus	25.00	23.62	94	80-120	73-127	PASS	
Selenium	25.00	22.92	92	80-120	73-127	PASS	
Silver	12.50	12.07	97	80-120	73-127	PASS	
Thallium	25.00	24.12	96	80-120	73-127	PASS	
Vanadium	25.00	23.63	95	80-120	73-127	PASS	
Zinc	25.00	24.03	96	80-120	73-127	PASS	
Aluminum	25.00	25.40	102	80-120	73-127	PASS	
Calcium	25.00	20.68	83	80-120	73-127	PASS	
Iron	25.00	24.54	98	80-120	73-127	PASS	
Magnesium	25.00	24.08	96	80-120	73-127	PASS	
Manganese	25.00	24.33	97	80-120	73-127	PASS	
Potassium	250.0	225.8	90	80-120	73-127	PASS	
Sodium	250.0	245.4	98	80-120	73-127	PASS	
Strontium	25.00	24.49	98	80-120	73-127	PASS	
Tin	25.00	23.42	94	80-120	73-127	PASS	
Titanium	25.00	24.13	97	80-120	73-127	PASS	
Boron	25.00	23.28	93	80-120	73-127	PASS	
Silicon	25.00	23.71	95	80-120	73-127	PASS	

Compounds listed in bold are required to be reported.

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 6010B

LCS SAMPLE ID: **097-01-002-24503**
LCS/MB BATCH ID: 170324L16
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 11:02
REVIEWED BY: 309
D/T REVIEWED: 2017-03-27 13:15

DATA FILE: W:\ICP-DATA\170327C 1\170324-l-16__31.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.

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

SPIKED SAMPLE ID: **17-03-1383-1**
MS/MSD BATCH: 170324S16
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-24 00:00
MS: 2017-03-24 00:00
MSD: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-27 12:37
MS: 2017-03-27 12:37
MSD: 2017-03-27 12:38
REVIEWED BY: 309
D/T REVIEWED: 2017-03-27 13:16

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	15.03	60	16.51	66	50-115	9	0-20	PASS	
Arsenic	ND	0.5000	25.00	23.32	93	24.83	99	75-125	6	0-20	PASS	
Barium	**35.30**	**0.5000**	**25.00**	**67.15**	**127**	**67.09**	**127**	**75-125**	**0**	**0-20**	**FAIL**	**3F**
Beryllium	ND	0.5000	25.00	23.79	95	24.60	98	75-125	3	0-20	PASS	
Cadmium	ND	0.5000	25.00	23.50	94	24.76	99	75-125	5	0-20	PASS	
Chromium	3.687	0.5000	25.00	27.60	96	30.06	105	75-125	9	0-20	PASS	
Cobalt	2.686	0.5000	25.00	26.83	97	28.71	104	75-125	7	0-20	PASS	
Copper	4.426	0.5000	25.00	29.45	100	31.22	107	75-125	6	0-20	PASS	
Lead	0.9060	0.5000	25.00	25.28	97	26.53	102	75-125	5	0-20	PASS	
Molybdenum	ND	0.5000	25.00	23.17	93	24.67	99	75-125	6	0-20	PASS	
Nickel	2.583	0.5000	25.00	25.76	93	27.64	100	75-125	7	0-20	PASS	
Phosphorus	380.3	0.5000	25.00	513.8	4x	526.3	4x	75-125	4x	0-20	PASS	Q
Selenium	ND	0.5000	25.00	23.57	94	24.21	97	75-125	3	0-20	PASS	
Silver	ND	0.2500	12.50	12.15	97	12.73	102	75-125	5	0-20	PASS	
Thallium	ND	0.5000	25.00	22.79	91	24.28	97	75-125	6	0-20	PASS	
Vanadium	10.71	0.5000	25.00	35.63	100	37.99	109	75-125	6	0-20	PASS	
Zinc	18.12	0.5000	25.00	43.22	100	47.39	117	75-125	9	0-20	PASS	
Aluminum	3361	0.5000	25.00	4274	4x	4283	4x	75-125	4x	0-20	PASS	Q
Calcium	2052	0.5000	25.00	2446	4x	2623	4x	75-125	4x	0-20	PASS	Q
Iron	5801	0.5000	25.00	7689	4x	7530	4x	75-125	4x	0-20	PASS	Q
Magnesium	1497	0.5000	25.00	2033	4x	1951	4x	75-125	4x	0-20	PASS	Q
Manganese	**78.73**	**0.5000**	**25.00**	**128.2**	**198**	**128.1**	**198**	**75-125**	**0**	**0-20**	**FAIL**	**3F**
Potassium	**911.3**	**5.000**	**250.0**	**1407**	**198**	**1436**	**210**	**75-125**	**2**	**0-20**	**FAIL**	**3F**
Sodium	**163.4**	**5.000**	**250.0**	**438.5**	**110**	**491.5**	**131**	**75-125**	**11**	**0-20**	**FAIL**	**3F**
Strontium	20.70	0.5000	25.00	46.70	104	47.53	107	75-125	2	0-20	PASS	
Tin	ND	0.5000	25.00	21.28	85	22.84	91	75-125	7	0-20	PASS	
Titanium	299.7	0.5000	25.00	406.3	4x	429.6	4x	75-125	4x	0-20	PASS	Q
Boron	ND	0.5000	25.00	23.58	94	25.14	101	75-125	6	0-20	PASS	

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

SPIKED SAMPLE ID: **17-03-1383-1**
MS/MSD BATCH: 170324S16
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-24 00:00
MS: 2017-03-24 00:00
MSD: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-27 12:37
MS: 2017-03-27 12:37
MSD: 2017-03-27 12:38
REVIEWED BY: 309
D/T REVIEWED: 2017-03-27 13:16

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Silicon	643.9	0.5000	25.00	1015	4x	1061	4x	75-125	4x	0-20	PASS	Q

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-1383-1 ms.icp	W:\ICP-DATA\170327C 1\
MSD	17-03-1383-1 msd.icp	W:\ICP-DATA\170327C 1\

Sequence No.: 19
Sample ID: 170324-b-16
Analyst: 935 icp 7300
Initial Sample Wt: 2.06 g
Dilution:
Wash Time: 15

Autosampler Location: 123
Date Collected: 3/27/2017 11:01:58 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170324-b-16

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Tb 384	81527.4	99.65	%	0.504				0.51%
Tb 350	131855.9	99.52	%	0.054				0.05%
Ag 328.068*†	15.5	0.0001	mg/L	0.00036	0.0038	mg/kg	0.01764	467.41%
Al 308.215*†	-240.9	-0.0134	mg/L	0.00420	-0.6513	mg/kg	0.20398	31.32%
As 188.979†	6.5	0.0028	mg/L	0.00412	0.1347	mg/kg	0.19995	148.47%
As 193.696*†	8.2	0.0051	mg/L	0.00317	0.2482	mg/kg	0.15368	61.91%
B 249.677*†	660.0	0.0122	mg/L	0.00018	0.5947	mg/kg	0.00873	1.47%
Ba 233.527*†	83.7	0.0005	mg/L	0.00037	0.0254	mg/kg	0.01815	71.57%
Be 313.042*†	779.9	0.0002	mg/L	0.00000	0.0093	mg/kg	0.00012	1.29%
Ca 317.933*†	-34.5	-0.0158	mg/L	0.00028	-0.7653	mg/kg	0.01374	1.80%
Cd 226.502*†	35.2	0.0004	mg/L	0.00014	0.0203	mg/kg	0.00695	34.24%
Cd 228.802†	22.1	0.0005	mg/L	0.00023	0.0259	mg/kg	0.01119	43.17%
Co 228.616*†	13.3	0.0004	mg/L	0.00007	0.0216	mg/kg	0.00318	14.72%
Cr 267.716*†	51.2	0.0004	mg/L	0.00066	0.0206	mg/kg	0.03225	156.51%
Cu 324.752*†	352.5	0.0013	mg/L	0.00052	0.0649	mg/kg	0.02519	38.80%
Fe 273.955*†	305.1	0.0122	mg/L	0.00217	0.5934	mg/kg	0.10510	17.71%
K 766.490*†	-187.7	-0.0583	mg/L	0.02991	-2.830	mg/kg	1.4520	51.31%
Mg 279.077*†	133.4	0.0064	mg/L	0.00283	0.3121	mg/kg	0.13751	44.06%
Mn 257.610*†	310.6	0.0005	mg/L	0.00003	0.0219	mg/kg	0.00137	6.28%
Mo 202.031*†	6.1	0.0006	mg/L	0.00034	0.0307	mg/kg	0.01663	54.23%
Na 589.592*†	34.2	0.0073	mg/L	0.02869	0.3558	mg/kg	1.39255	391.44%
Ni 231.604*†	15.5	0.0006	mg/L	0.00023	0.0284	mg/kg	0.01139	40.15%
P 213.617*†	25.3	0.0114	mg/L	0.00439	0.5558	mg/kg	0.21297	38.32%
P 214.914†	2.2	0.0016	mg/L	0.00113	0.0756	mg/kg	0.05465	72.26%
Pb 220.353*†	3.1	0.0004	mg/L	0.00045	0.0175	mg/kg	0.02161	123.56%
Sb 206.836†	10.5	0.0051	mg/L	0.00475	0.2491	mg/kg	0.23081	92.65%
Sb 217.582*†	-9.7	-0.0048	mg/L	0.00555	-0.2317	mg/kg	0.26921	116.18%
Se 196.026*†	1.7	0.0007	mg/L	0.00615	0.0337	mg/kg	0.29859	885.12%
Si 251.611*†	-211.3	-0.0050	mg/L	0.00005	-0.2428	mg/kg	0.00258	1.06%
Sn 189.927*†	12.0	0.0018	mg/L	0.00178	0.0878	mg/kg	0.08661	98.66%
Sn 242.170†	29.8	0.0158	mg/L	0.00109	0.7680	mg/kg	0.05289	6.89%
Sr 407.771*†	-45.1	-0.0001	mg/L	0.00002	-0.0064	mg/kg	0.00115	18.03%
Ti 334.940†	257.9	0.0003	mg/L	0.00025	0.0143	mg/kg	0.01194	83.70%
Ti 336.121*†	648.1	0.0011	mg/L	0.00061	0.0511	mg/kg	0.02982	58.39%
Tl 190.801*†	-12.5	-0.0064	mg/L	0.00086	-0.3101	mg/kg	0.04158	13.41%
V 292.402*†	135.1	0.0009	mg/L	0.00047	0.0458	mg/kg	0.02263	49.46%
Zn 206.200*†	103.0	0.0023	mg/L	0.00036	0.1101	mg/kg	0.01764	16.03%

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Sequence No.: 20
Sample ID: 170324-1-16
Analyst: 935 icp 7300
Initial Sample Wt: 2.05 g
Dilution:
Wash Time: 15

Autosampler Location: 124
Date Collected: 3/27/2017 11:02:57 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170324-1-16

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Tb 384	79298.9	96.93	%	0.618				0.64%
Tb 350	129350.7	97.63	%	1.223				1.25%
Ag 328.068*†	49423.6	0.2475	mg/L	0.00051	12.07	mg/kg	0.025	0.21%
Al 308.215*†	9350.4	0.5207	mg/L	0.00088	25.40	mg/kg	0.043	0.17%
As 188.979†	1076.9	0.4616	mg/L	0.00997	22.52	mg/kg	0.486	2.16%
As 193.696*†	739.7	0.4596	mg/L	0.01553	22.42	mg/kg	0.758	3.38%
B 249.677*†	25716.2	0.4773	mg/L	0.00695	23.28	mg/kg	0.339	1.46%
Ba 233.527*†	85021.6	0.5306	mg/L	0.00122	25.88	mg/kg	0.059	0.23%
Be 313.042*†	1965810.5	0.4806	mg/L	0.00078	23.44	mg/kg	0.038	0.16%
Ca 317.933*†	927.2	0.4239	mg/L	0.00944	20.68	mg/kg	0.460	2.23%
Cd 226.502*†	42046.3	0.4995	mg/L	0.00128	24.36	mg/kg	0.063	0.26%
Cd 228.802†	20026.5	0.4840	mg/L	0.00810	23.61	mg/kg	0.395	1.67%
Co 228.616*†	15155.6	0.5064	mg/L	0.00840	24.70	mg/kg	0.410	1.66%
Cr 267.716*†	61062.4	0.5060	mg/L	0.00262	24.68	mg/kg	0.128	0.52%
Cu 324.752*†	135282.8	0.5133	mg/L	0.00151	25.04	mg/kg	0.074	0.29%
Fe 273.955*†	12555.7	0.5030	mg/L	0.00872	24.54	mg/kg	0.425	1.73%
K 766.490*†	14903.0	4.628	mg/L	0.0232	225.8	mg/kg	1.13	0.50%
Mg 279.077*†	10242.6	0.4937	mg/L	0.00179	24.08	mg/kg	0.087	0.36%
Mn 257.610*†	343637.9	0.4987	mg/L	0.00008	24.33	mg/kg	0.004	0.02%
Mo 202.031*†	4712.6	0.4855	mg/L	0.00544	23.68	mg/kg	0.265	1.12%
Na 589.592*†	23442.1	5.030	mg/L	0.1225	245.4	mg/kg	5.97	2.43%
Ni 231.604*†	13245.5	0.5011	mg/L	0.00617	24.44	mg/kg	0.301	1.23%
P 213.617*†	1068.5	0.4843	mg/L	0.01055	23.62	mg/kg	0.515	2.18%
P 214.914†	608.9	0.4411	mg/L	0.00445	21.52	mg/kg	0.217	1.01%
Pb 220.353*†	4415.4	0.5094	mg/L	0.00984	24.85	mg/kg	0.480	1.93%
Sb 206.836†	967.7	0.4745	mg/L	0.01232	23.15	mg/kg	0.601	2.60%
Sb 217.582*†	927.7	0.4576	mg/L	0.00349	22.32	mg/kg	0.170	0.76%
Se 196.026*†	1135.0	0.4700	mg/L	0.00565	22.92	mg/kg	0.276	1.20%
Si 251.611*†	20537.5	0.4860	mg/L	0.00626	23.71	mg/kg	0.306	1.29%
Sn 189.927*†	3176.2	0.4801	mg/L	0.00387	23.42	mg/kg	0.189	0.81%
Sn 242.170†	904.3	0.4804	mg/L	0.01342	23.43	mg/kg	0.654	2.79%
Sr 407.771*†	171968.8	0.5020	mg/L	0.01267	24.49	mg/kg	0.618	2.52%
Ti 334.940†	430558.3	0.4905	mg/L	0.00026	23.93	mg/kg	0.013	0.05%
Ti 336.121*†	304777.4	0.4947	mg/L	0.00072	24.13	mg/kg	0.035	0.15%
Tl 190.801*†	966.8	0.4944	mg/L	0.00507	24.12	mg/kg	0.247	1.02%
V 292.402*†	69420.8	0.4844	mg/L	0.00300	23.63	mg/kg	0.147	0.62%
Zn 206.200*†	22370.9	0.4926	mg/L	0.00844	24.03	mg/kg	0.412	1.71%

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Sequence No.: 53
Sample ID: 17-03-1383-1 ms
Analyst: 935 icp 7300
Initial Sample Wt: 2.01 g
Dilution:
Wash Time: 15

Autosampler Location: 345
Date Collected: 3/27/2017 12:37:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1383-1 ms

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	65393.7	79.93	%	0.078				0.10%
Tb 350	119782.2	90.41	%	0.533				0.59%
Ag 328.068*†	48782.6	0.2443	mg/L	0.00047	12.15	mg/kg	0.023	0.19%
Al 308.215*†	1542678.5	85.91	mg/L	2.251	4274	mg/kg	111.97	2.62%
As 188.979†	1111.9	0.4766	mg/L	0.00049	23.71	mg/kg	0.024	0.10%
As 193.696*†	754.3	0.4686	mg/L	0.00841	23.32	mg/kg	0.418	1.79%
B 249.677*†	25537.3	0.4740	mg/L	0.00172	23.58	mg/kg	0.086	0.36%
Ba 233.527*†	216274.7	1.350	mg/L	0.0049	67.15	mg/kg	0.242	0.36%
Be 313.042*†	1955960.4	0.4782	mg/L	0.01933	23.79	mg/kg	0.962	4.04%
Ca 317.933*†	107514.9	49.16	mg/L	1.437	2446	mg/kg	71.47	2.92%
Cd 226.502*†	39763.7	0.4724	mg/L	0.00132	23.50	mg/kg	0.066	0.28%
Cd 228.802†	19573.4	0.4730	mg/L	0.00230	23.53	mg/kg	0.114	0.49%
Co 228.616*†	16141.4	0.5393	mg/L	0.00209	26.83	mg/kg	0.104	0.39%
Cr 267.716*†	66947.5	0.5548	mg/L	0.00007	27.60	mg/kg	0.003	0.01%
Cu 324.752*†	156020.9	0.5920	mg/L	0.00268	29.45	mg/kg	0.133	0.45%
Fe 273.955*†	3857904.8	154.5	mg/L	5.50	7689	mg/kg	273.83	3.56%
K 766.490*†	91064.8	28.28	mg/L	0.673	1407	mg/kg	33.47	2.38%
Mg 279.077*†	847856.6	40.86	mg/L	1.609	2033	mg/kg	80.05	3.94%
Mn 257.610*†	1775589.9	2.577	mg/L	0.0879	128.2	mg/kg	4.37	3.41%
Mo 202.031*†	4519.8	0.4656	mg/L	0.00038	23.17	mg/kg	0.019	0.08%
Na 589.592*†	41081.0	8.815	mg/L	0.2093	438.5	mg/kg	10.42	2.37%
Ni 231.604*†	13688.3	0.5178	mg/L	0.00028	25.76	mg/kg	0.014	0.05%
P 213.617*†	22784.3	10.33	mg/L	0.019	513.8	mg/kg	0.95	0.18%
P 214.914†	14994.0	10.86	mg/L	0.019	540.4	mg/kg	0.95	0.18%
Pb 220.353*†	4404.0	0.5081	mg/L	0.00209	25.28	mg/kg	0.104	0.41%
Sb 206.836†	642.5	0.3150	mg/L	0.00051	15.67	mg/kg	0.026	0.16%
Sb 217.582*†	612.3	0.3021	mg/L	0.00391	15.03	mg/kg	0.195	1.30%
Se 196.026*†	1144.0	0.4737	mg/L	0.00216	23.57	mg/kg	0.107	0.46%
Si 251.611*†	862186.3	20.40	mg/L	0.757	1015	mg/kg	37.68	3.71%
Sn 189.927*†	2830.0	0.4278	mg/L	0.00278	21.28	mg/kg	0.138	0.65%
Sn 242.170†	1611.3	0.8560	mg/L	0.03248	42.59	mg/kg	1.616	3.79%
Sr 407.771*†	321575.9	0.9387	mg/L	0.01733	46.70	mg/kg	0.862	1.85%
Ti 334.940†	7070539.2	8.055	mg/L	0.2442	400.8	mg/kg	12.15	3.03%
Ti 336.121*†	5032112.0	8.168	mg/L	0.2509	406.3	mg/kg	12.48	3.07%
Tl 190.801*†	895.9	0.4581	mg/L	0.00743	22.79	mg/kg	0.369	1.62%
V 292.402*†	102993.5	0.7162	mg/L	0.00146	35.63	mg/kg	0.073	0.20%
Zn 206.200*†	39444.6	0.8686	mg/L	0.00009	43.22	mg/kg	0.005	0.01%

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Sequence No.: 54
Sample ID: 17-03-1383-1 msd
Analyst: 935 icp 7300
Initial Sample Wt: 2.02 g
Dilution:
Wash Time: 15

Autosampler Location: 346
Date Collected: 3/27/2017 12:38:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1383-1 msd

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Tb 384	66870.6	81.74	%	1.457				1.78%
Tb 350	119126.8	89.91	%	1.065				1.18%
Ag 328.068*†	51336.5	0.2571	mg/L	0.00032	12.73	mg/kg	0.016	0.12%
Al 308.215*†	1553716.3	86.52	mg/L	0.273	4283	mg/kg	13.49	0.31%
As 188.979†	1199.5	0.5141	mg/L	0.01131	25.45	mg/kg	0.560	2.20%
As 193.696*†	807.2	0.5015	mg/L	0.00596	24.83	mg/kg	0.295	1.19%
B 249.677*†	27356.8	0.5078	mg/L	0.00412	25.14	mg/kg	0.204	0.81%
Ba 233.527*†	217152.0	1.355	mg/L	0.0046	67.09	mg/kg	0.227	0.34%
Be 313.042*†	2032803.3	0.4970	mg/L	0.00021	24.60	mg/kg	0.010	0.04%
Ca 317.933*†	115902.9	52.99	mg/L	1.112	2623	mg/kg	55.05	2.10%
Cd 226.502*†	42098.2	0.5001	mg/L	0.00051	24.76	mg/kg	0.025	0.10%
Cd 228.802†	20882.9	0.5047	mg/L	0.00387	24.98	mg/kg	0.192	0.77%
Co 228.616*†	17359.2	0.5800	mg/L	0.00547	28.71	mg/kg	0.271	0.94%
Cr 267.716*†	73268.6	0.6071	mg/L	0.00256	30.06	mg/kg	0.126	0.42%
Cu 324.752*†	166204.4	0.6306	mg/L	0.00202	31.22	mg/kg	0.100	0.32%
Fe 273.955*†	3796825.9	152.1	mg/L	6.37	7530	mg/kg	315.49	4.19%
K 766.490*†	93409.6	29.01	mg/L	0.328	1436	mg/kg	16.22	1.13%
Mg 279.077*†	817535.1	39.40	mg/L	0.117	1951	mg/kg	5.81	0.30%
Mn 257.610*†	1783375.7	2.588	mg/L	0.0064	128.1	mg/kg	0.32	0.25%
Mo 202.031*†	4837.9	0.4984	mg/L	0.00395	24.67	mg/kg	0.196	0.79%
Na 589.592*†	46269.9	9.928	mg/L	0.1329	491.5	mg/kg	6.58	1.34%
Ni 231.604*†	14760.1	0.5584	mg/L	0.00622	27.64	mg/kg	0.308	1.11%
P 213.617*†	23453.6	10.63	mg/L	0.162	526.3	mg/kg	8.01	1.52%
P 214.914†	15287.3	11.07	mg/L	0.135	548.2	mg/kg	6.67	1.22%
Pb 220.353*†	4644.6	0.5359	mg/L	0.00503	26.53	mg/kg	0.249	0.94%
Sb 206.836†	685.3	0.3360	mg/L	0.01073	16.64	mg/kg	0.531	3.19%
Sb 217.582*†	676.0	0.3335	mg/L	0.00232	16.51	mg/kg	0.115	0.70%
Se 196.026*†	1181.0	0.4890	mg/L	0.01050	24.21	mg/kg	0.520	2.15%
Si 251.611*†	905594.1	21.43	mg/L	0.061	1061	mg/kg	3.04	0.29%
Sn 189.927*†	3052.5	0.4614	mg/L	0.00613	22.84	mg/kg	0.304	1.33%
Sn 242.170†	1710.2	0.9086	mg/L	0.01274	44.98	mg/kg	0.631	1.40%
Sr 407.771*†	328899.7	0.9601	mg/L	0.01484	47.53	mg/kg	0.735	1.55%
Ti 334.940†	7518029.5	8.565	mg/L	0.3207	424.0	mg/kg	15.88	3.74%
Ti 336.121*†	5345939.9	8.677	mg/L	0.3222	429.6	mg/kg	15.95	3.71%
Tl 190.801*†	959.1	0.4904	mg/L	0.00341	24.28	mg/kg	0.169	0.69%
V 292.402*†	110313.0	0.7673	mg/L	0.00155	37.99	mg/kg	0.077	0.20%
Zn 206.200*†	43470.8	0.9573	mg/L	0.00199	47.39	mg/kg	0.099	0.21%

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EPA 6010B ICP Metals (Solid)

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170327C 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	3/27/2017	10:17:52 AM	935 icp 7300	1	
2	Cal blankR12091601_935	3/27/2017	10:19:28 AM	935 icp 7300	1	
3	Cal blankR12091601_935	3/27/2017	10:25:50 AM	935 icp 7300	1	
4	Cal blankR12091601_935	3/27/2017	10:27:02 AM	935 icp 7300	1	
5	STD3-M111116A_935_ICP7300	3/27/2017	10:28:08 AM	935 icp 7300	2	
6	ICV-M072816C	3/27/2017	10:28:54 AM	935 icp 7300	10	
7	ICB-R12091601	3/27/2017	10:29:52 AM	935 icp 7300	1	
8	ICS_A - M110116B	3/27/2017	10:30:53 AM	935 icp 7300	8	
9	ICS_AB - M110116A	3/27/2017	10:31:44 AM	935 icp 7300	9	
10	CCV= STD3x0.5	3/27/2017	10:32:35 AM	935 icp 7300	3	
11	CCB-R12091601	3/27/2017	10:33:27 AM	935 icp 7300	1	
12	LLCV-M082616A	3/27/2017	10:45:04 AM	935 icp 7300	101	T/out
13	LLCV--M082616A	3/27/2017	10:46:10 AM	935 icp 7300	102	
14	170324-b-07	3/27/2017	10:47:09 AM	935 icp 7300	109	
15	170324-l-07	3/27/2017	10:48:10 AM	935 icp 7300	110	
16	170324-b-08	3/27/2017	10:49:01 AM	935 icp 7300	111	
17	170324-l-08	3/27/2017	10:50:00 AM	935 icp 7300	112	
18	170324-b-09	3/27/2017	10:50:51 AM	935 icp 7300	113	
19	170324-l-09	3/27/2017	10:51:50 AM	935 icp 7300	114	
20	170324-b-10	3/27/2017	10:52:40 AM	935 icp 7300	115	
21	170324-l-10	3/27/2017	10:53:39 AM	935 icp 7300	116	
22	CCV= STD3x0.5	3/27/2017	10:54:30 AM	935 icp 7300	3	
23	CCB-R12091601	3/27/2017	10:55:23 AM	935 icp 7300	1	
24	170324-b-11	3/27/2017	10:56:24 AM	935 icp 7300	117	

Reviewed/Assign to Logbook Date: 3/28/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 41 Instrument ID: 1017

No.	File Name	Date	Time	Analyst Name	A/S Location
25	170324-l-11	3/27/2017	10:57:25 AM	935 icp 7300	118
26	170324-b-12	3/27/2017	10:58:17 AM	935 icp 7300	119
27	170324-l-12	3/27/2017	10:59:16 AM	935 icp 7300	120
28	170324-b-15	3/27/2017	11:00:07 AM	935 icp 7300	121
29	170324-l-15	3/27/2017	11:01:06 AM	935 icp 7300	122
30	170324-b-16	3/27/2017	11:01:58 AM	935 icp 7300	123
31	170324-l-16	3/27/2017	11:02:57 AM	935 icp 7300	124
32	170325-b-01	3/27/2017	11:03:49 AM	935 icp 7300	125
33	170325-l-01	3/27/2017	11:04:48 AM	935 icp 7300	126
34	CCV= STD3x0.5	3/27/2017	11:05:40 AM	935 icp 7300	3
35	CCB-R12091601	3/27/2017	11:06:32 AM	935 icp 7300	1
36	17-03-1799-1	3/27/2017	11:07:32 AM	935 icp 7300	127
37	17-03-1799-1 ms	3/27/2017	11:08:25 AM	935 icp 7300	128
38	17-03-1799-1 msd	3/27/2017	11:09:16 AM	935 icp 7300	129
39	17-03-1799-2	3/27/2017	11:10:07 AM	935 icp 7300	130
40	17-03-1799-3	3/27/2017	11:10:58 AM	935 icp 7300	131
41	17-03-1801-1	3/27/2017	11:11:49 AM	935 icp 7300	132
42	17-03-1804-1	3/27/2017	11:12:40 AM	935 icp 7300	133
43	17-03-1804-2	3/27/2017	11:13:31 AM	935 icp 7300	134
44	17-03-1807-1	3/27/2017	11:14:22 AM	935 icp 7300	135
45	17-03-1808-1 ms	3/27/2017	11:15:13 AM	935 icp 7300	136
46	CCV= STD3x0.5	3/27/2017	11:16:04 AM	935 icp 7300	3
47	CCB-R12091601	3/27/2017	11:16:56 AM	935 icp 7300	1
48	17-03-1808-1 msd	3/27/2017	11:17:57 AM	935 icp 7300	137
49	17-03-1808-21 ms	3/27/2017	11:18:50 AM	935 icp 7300	138
50	17-03-1808-21 msd	3/27/2017	11:19:41 AM	935 icp 7300	139
51	17-03-1808-1	3/27/2017	11:20:32 AM	935 icp 7300	140
52	17-03-1808-2	3/27/2017	11:21:23 AM	935 icp 7300	141
53	17-03-1808-3	3/27/2017	11:22:14 AM	935 icp 7300	142
54	17-03-1808-4	3/27/2017	11:23:05 AM	935 icp 7300	143
55	17-03-1808-5	3/27/2017	11:23:56 AM	935 icp 7300	144
56	17-03-1808-6	3/27/2017	11:24:47 AM	935 icp 7300	145

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Reviewed/Assign to Logbook Date: 3/28/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 42 Instrument ID: ICP7

No.	File Name	Date	Time	Analyst Name	A/S Location
121	17-03-1380-1	3/27/2017	12:30:03 PM	935 icp 7300	338
122	17-03-1380-2	3/27/2017	12:30:54 PM	935 icp 7300	339
123	17-03-1380-3	3/27/2017	12:31:45 PM	935 icp 7300	340
124	CCV= STD3x0.5	3/27/2017	12:32:36 PM	935 icp 7300	3
125	CCB-R12091601	3/27/2017	12:33:29 PM	935 icp 7300	1
126	17-03-1380-4	3/27/2017	12:34:29 PM	935 icp 7300	341
127	17-03-1380-5	3/27/2017	12:35:22 PM	935 icp 7300	342
128	17-03-1380-6	3/27/2017	12:36:13 PM	935 icp 7300	343
129	17-03-1383-1	3/27/2017	12:37:04 PM	935 icp 7300	344
130	17-03-1383-1 ms	3/27/2017	12:37:55 PM	935 icp 7300	345
131	17-03-1383-1 msd	3/27/2017	12:38:46 PM	935 icp 7300	346
132	17-03-1383-2	3/27/2017	12:39:37 PM	935 icp 7300	347
133	17-03-1383-3	3/27/2017	12:40:28 PM	935 icp 7300	348
134	17-03-1084-1	3/27/2017	12:41:19 PM	935 icp 7300	357
135	17-03-1084-1 ms	3/27/2017	12:42:18 PM	935 icp 7300	358
136	CCV= STD3x0.5	3/27/2017	12:43:04 PM	935 icp 7300	3
137	CCB-R12091601	3/27/2017	12:44:02 PM	935 icp 7300	1
138	17-03-1084-1 msd	3/27/2017	12:46:42 PM	935 icp 7300	359
139	17-03-1084-2	3/27/2017	12:47:35 PM	935 icp 7300	360
140	17-03-1084-3	3/27/2017	12:48:31 PM	935 icp 7300	201
141	17-03-1084-4	3/27/2017	12:49:29 PM	935 icp 7300	202
142	17-03-1084-6	3/27/2017	12:50:26 PM	935 icp 7300	203
143	17-03-1084-7	3/27/2017	12:51:13 PM	935 icp 7300	204
144	17-03-1084-8	3/27/2017	12:52:11 PM	935 icp 7300	205
145	17-03-1084-9	3/27/2017	12:53:09 PM	935 icp 7300	206
146	17-03-1114-1	3/27/2017	12:54:06 PM	935 icp 7300	207
147	17-03-1114-1 ms	3/27/2017	12:54:58 PM	935 icp 7300	208
148	CCV= STD3x0.5	3/27/2017	12:55:50 PM	935 icp 7300	3
149	CCB-R12091601	3/27/2017	12:56:44 PM	935 icp 7300	1
150	17-03-1114-1 msd	3/27/2017	12:57:44 PM	935 icp 7300	209
151	17-03-1115-1	3/27/2017	12:58:40 PM	935 icp 7300	210
152	17-03-1115-1 ms	3/27/2017	12:59:30 PM	935 icp 7300	211

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Analysis: 200-7/6010 Chemist ID: 1012
Logbook Page: 45 Instrument ID: 1017

EPA 6010B ICP Metals (Solid)

Preparation Logs

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Metals Sample Preparation Logbook (Solid / Other)

METHOD	MATRIX	EQUIPMENT ID #	REAGENT ID #	STANDARD ID #
☑ EPA 3050B	☑ Solid	Thermometer GD4 (CF -2.0 °C)	HNO_3 R0371170 20 mL	Spike 1 M0250617A
☐ EPA 200.7	☐ Other (Specify)	Block Digester 3	HCl R1301602 15 mL	Spike 2 M0250617C
☐ EPA 200.8		Pipetter / Dispenser P-072/D-027/D-028	H_2O M006-040-13 30 mL	Spike 3

BATCH NUMBER	SUPPLY LOT #	BALANCE ID #	QUALITY SYSTEM MATRIX ID #	SAMPLE HANDLING
MS/MSD 170324-S16	Tube / Container 170104	65	Teflon Chip M006-035-15	1 = Composite 2 = Subsample
(Specify)	Filter		(Specify)	3 = Homogenize 4 = None

DIGESTION											SAMPLE		SPIKE STANDARD		
	START			END											
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)	INITIAL (g)	FINAL (mL)	1 (µL)	2 (µL)	3 (µL)
3/24/17	16:50	95	1080	18:20	95	1080	4	MS 17-03-1383-1A	metals	2.01	100	500	500	
								MSD		2.02				
								LCS 17-0324-L16		2.05				
								LCSD / MB -B16		2.06				
								17-03-1383-1A		2.06				
								-2A		2.02				
								-3A		2.04				
								17-03-1393-1A		2.07				
								17-03-1380-1A		2.00				
								-2A		2.05				
								-3A		1.92				
								-4A		2.01				
								-5A		1.92				
								-6A		2.03				

COMMENTS:

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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

PDS/PDSD

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Calscience Environmental Laboratories, Inc.

EPA Method 7471A
Initial Calibration Verification

Work Order No.: 17-03-1383

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

Test Method: EPA 7471A

Analyte	Initial Calibration Verification			
		ICV-1		Control
	True	Observed	%D	Limit
Mercury	5.000000	5.248996	5	0 – 10

03/25/2017 11:54

ICV-1 File: ICV M030617B 03/24/2017 01:20:14 PM

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Calscience Environmental Laboratories, Inc.

EPA Method 7471A
Continuing Calibration Verification

Work Order No.: 17-03-1383
Instrument ID: HG 8 (H)
Concentration Unit: µg/L
Test Method: EPA 7471A

Analyte	Continuing Calibration Verification					
		CCV-1		CCV-2		Control
	True	Observed	%D	Observed	%D	Limit
Mercury	2.000000	2.094703	5	2.092168	5	0 – 20

03/25/2017 11:54

CCV-1 File: CCV 0.2x10ppb 03/24/2017 07:31:59 PM
CCV-2 File: CCV 0.2x10ppb 03/24/2017 07:59:17 PM

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Calscience Environmental Laboratories, Inc.

EPA Method 7471A
Initial and Continuing Calibration Blanks

Work Order No.: 17-03-1383
Instrument ID: HG 8 (H)
Concentration Unit: µg/L
Test Method: EPA 7471A

Analyte	Initial and Continuing Calibration Blanks			
	ICB-1	CCB-1	CCB-2	RL (No PF)
Mercury	-0.015976	-0.007739	-0.000427	0.500000

03/25/2017 11:54

ICB-1 File: ICB 03/24/2017 01:22:28 PM
CCB-1 File: CCB 03/24/2017 07:34:16 PM
CCB-2 File: CCB 03/24/2017 08:01:33 PM
Note: Preparation factor (PF) = 167 L/kg

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER: **17-03-1383**
INSTRUMENT: Mercury 08
EXTRACTION : EPA 7471A Total
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-24 19:43
REVIEWED BY: 309
D/T REVIEWED: 2017-03-25 11:43

DATA FILE: W:\MERCURY_DATA\FINAL\170324H1\17-03-1383-1.icp

 # 1 **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-08-15S**

LCS/MB BATCH: 170324L04
MS/MSD BATCH: 170324S04
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.61 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml
ADJUSTMENT RATIO TO PF: 0.98

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	0.000129	1.00	ND	0.0820	

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER: **17-03-1383**
INSTRUMENT: Mercury 08
EXTRACTION : EPA 7471A Total
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-24 19:50
REVIEWED BY: 309
D/T REVIEWED: 2017-03-25 11:43

DATA FILE: W:\MERCURY_DATA\FINAL\170324H1\17-03-1383-2.icp

 # 2 **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-15S**

LCS/MB BATCH: 170324L04
MS/MSD BATCH: 170324S04
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.60 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	0.000132	1.00	ND	0.0833	

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER: **17-03-1383**
INSTRUMENT: Mercury 08
EXTRACTION : EPA 7471A Total
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-24 19:52
REVIEWED BY: 309
D/T REVIEWED: 2017-03-25 11:43

DATA FILE: W:\MERCURY_DATA\FINAL\170324H1\17-03-1383-3.icp

 # 3 **CLIENT SAMPLE NUMBER: D-DU2-S-SG-10-15S**

LCS/MB BATCH: 170324L04
MS/MSD BATCH: 170324S04
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.61 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml
ADJUSTMENT RATIO TO PF: 0.98

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	0.0000674	1.00	ND	0.0820	

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METHOD BLANK ASSOCIATION SUMMARY
FOR METHOD: EPA 7471A

MB SAMPLE ID:	**099-16-272-2901**	ANALYZED BY:	868
MB BATCH ID:	170324L04	D/T ANALYZED:	2017-03-24 19:38
INSTRUMENT:	Mercury 08	REVIEWED BY:	309
EXTRACTION:	EPA 7471A Total	D/T REVIEWED:	2017-03-25 11:42
D/T EXTRACTED:	2017-03-24 00:00	MATRIX:	Soil

DATA FILE: W:\MERCURY_DATA\FINAL\170324H1\170324-B-04.icp

CLIENT WORK ORDER: 17-03-1383

S#	RUN TYPE	CLIENT SAMPLE ID	D/T ANALYZED	DATA FILE
1		D-DU2-S-SG-08-15S	2017-03-24 19:43	W:\MERCURY_DATA\FINAL\170324H1\17-03-1383-1.icp
2		D-DU2-S-SG-09-15S	2017-03-24 19:50	W:\MERCURY_DATA\FINAL\170324H1\17-03-1383-2.icp
3		D-DU2-S-SG-10-15S	2017-03-24 19:52	W:\MERCURY_DATA\FINAL\170324H1\17-03-1383-3.icp

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RAW DATA SHEET
FOR METHOD: EPA 7471A

WORK ORDER: **099-16-272**
INSTRUMENT: Mercury 08
EXTRACTION : EPA 7471A Total
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-24 19:38
REVIEWED BY: 309
D/T REVIEWED: 2017-03-25 11:42

DATA FILE: W:\MERCURY_DATA\FINAL\170324H1\170324-B-04.icp

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

LCS/MB BATCH: 170324L04
MS/MSD BATCH:
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 0.60 g / ACTUAL: 0.60 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

COMPOUND	ON COL CONC	DF	CONC	RL	QUAL
Mercury	-0.00000992	1.00	ND	0.0833	

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LCS QUALITY CONTROL SHEET
FOR METHOD: EPA 7471A

LCS SAMPLE ID: **099-16-272- 2901**
LCS/MB BATCH ID: 170324L04
INSTRUMENT: Mercury 08

EXTRACTION : EPA 7471A Total
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 868
D/T ANALYZED: 2017-03-24 19:41
REVIEWED BY: 309
D/T REVIEWED: 2017-03-25 11:45

DATA FILE: W:\MERCURY_DATA\FINAL\170324H1\170324-L-04.icp

COMPOUND NAME	CONC ADDED	CONC REC	%RECOVERY	%REC CONTROL LIMIT	STATUS	QUALIFIERS
Mercury	0.8350	0.9045	108	85-121	PASS	

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

SPIKED SAMPLE ID: **17-03-1383-1**
MS/MSD BATCH: 170324S04
INSTRUMENTS:
SAMPLE: Mercury 08
MS: Mercury 08
MSD: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED:
SAMPLE: 2017-03-24 00:00
MS: 2017-03-24 00:00
MSD: 2017-03-24 00:00

ANALYZED BY: 868
D/T ANALYZED:
SAMPLE: 2017-03-24 19:43
MS: 2017-03-24 19:45
MSD: 2017-03-24 19:47
REVIEWED BY: 309
D/T REVIEWED: 2017-03-25 11:43

COMMENT:

COMPOUND NAME	SAMPLE	INITIAL	FINAL	MS CONC	% MS.REC	MSD CONC	% MSD.REC	% REC CL	RPD	RPD CL	STATUS	QUALIFIERS
Mercury	ND	0.005000	0.8350	0.8098	97	0.7868	94	71-137	3	0-14	PASS	

Data Files:

TYPE	DATA FILE	DATA FILE PATH
MS	17-03-1383-1 MS.icp	W:\MERCURY_DATA\FINAL\170324H1\
MSD	17-03-1383-1 MSD.icp	W:\MERCURY_DATA\FINAL\170324H1\

==========

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\170324H1.sifx
Batch ID:
Results Data Set: 170324H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

==========

Sequence No.: 1
Autosampler Location: 1
Sample ID: Calib blank_868
Date Collected: 3/24/2017 1:00:20 PM
Analyst: 868
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: Calib blank_868
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0001	0.0007	0.0001	1:01:23 PM	Yes
2		[0.00]	0.0002	0.0008	0.0002	1:02:08 PM	Yes
Mean:		[0.00]	0.0002				
SD:		0.0000	0.0000				
%RSD:		0.00%	17.99				

Auto-zero performed.

==========

Sequence No.: 2
Autosampler Location: 2
Sample ID: 0.025ppb 0.005x5ppb
Date Collected: 3/24/2017 1:02:33 PM
Analyst: 868
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 0.025ppb 0.005x5ppb
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.025]	0.0004	0.0041	0.0006	1:03:37 PM	Yes
2		[0.025]	0.0004	0.0048	0.0005	1:04:22 PM	Yes
Mean:		[0.025]	0.0004				
SD:		0.00000	0.0000				
%RSD:		0.00%	12.43				

Standard number 1 applied. [0.025]
Correlation Coef.: 1.000000 Slope: 0.01548 Intercept: 0.00000

==========

Sequence No.: 3
Autosampler Location: 3
Sample ID: 0.10ppb M030617AX0.0001
Date Collected: 3/24/2017 1:04:48 PM
Analyst: 868
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 0.10ppb M030617AX0.0001
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.100]	0.0011	0.0044	0.0013	1:05:52 PM	Yes
2		[0.100]	0.0011	0.0082	0.0012	1:06:36 PM	Yes
Mean:		[0.100]	0.0011				
SD:		0.00000	0.0000				
%RSD:		0.00%	2.51				

Standard number 2 applied. [0.100]
Correlation Coef.: 0.993954 Slope: 0.01070 Intercept: 0.00005

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Sequence No.: 4
Sample ID: 1.00ppb M030617AX0.001
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 4
Date Collected: 3/24/2017 1:07:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

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

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[1.000]	0.0106	0.0323	0.0108	1:08:08 PM	Yes
2		[1.000]	0.0095	0.0207	0.0097	1:08:53 PM	Yes
Mean:		[1.000]	0.0101				
SD:		0.00000	0.0008				
%RSD:		0.00%	7.77				

Standard number 3 applied. [1.000]
Correlation Coef.: 0.999925 Slope: 0.00998 Intercept: 0.00008

Sequence No.: 5
Sample ID: 2.00ppb M030617AX0.002
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/24/2017 1:09:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

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

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.000]	0.0210	0.0608	0.0211	1:10:25 PM	Yes
2		[2.000]	0.0191	0.0507	0.0192	1:11:10 PM	Yes
Mean:		[2.000]	0.0200				
SD:		0.00000	0.0013				
%RSD:		0.00%	6.67				

Standard number 4 applied. [2.000]
Correlation Coef.: 0.999983 Slope: 0.00997 Intercept: 0.00008

Sequence No.: 6
Sample ID: 5.00ppb M030617AX0.005
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 6
Date Collected: 3/24/2017 1:11:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

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

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.000]	0.0523	0.1577	0.0524	1:12:40 PM	Yes
2		[5.000]	0.0476	0.1288	0.0477	1:13:25 PM	Yes
Mean:		[5.000]	0.0499				
SD:		0.00000	0.0033				
%RSD:		0.00%	6.67				

Standard number 5 applied. [5.000]
Correlation Coef.: 0.999997 Slope: 0.00997 Intercept: 0.00008

Sequence No.: 7
Sample ID: 10.0ppb M030617AX0.01
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 7
Date Collected: 3/24/2017 1:13:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

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

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

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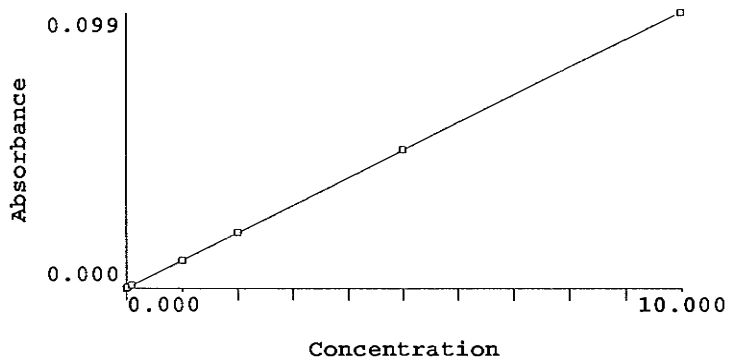
1	[10.00]	0.1041	0.3242	0.1042	1:14:54 PM	Yes
2	[10.00]	0.0945	0.2624	0.0947	1:15:40 PM	Yes
Mean:	[10.00]	0.0993				
SD:	0.0000	0.0068				
%RSD:	0.00%	6.80				

Standard number 6 applied. [10.00]
Correlation Coef.: 0.999997 Slope: 0.00993 Intercept: 0.00012



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	-0.012174	0.00	17.99
0.025ppb 0.005x5ppb	0.0004	0.025	0.026805	0.00	12.43
0.10ppb M030617AX0.0001	0.0011	0.100	0.099055	0.00	2.51
1.00ppb M030617AX0.001	0.0101	1.000	1.000543	0.00	7.77
2.00ppb M030617AX0.002	0.0200	2.000	2.003810	0.00	6.67
5.00ppb M030617AX0.005	0.0499	5.000	5.015545	0.00	6.67
10.0ppb M030617AX0.01	0.0993	10.00	9.991416	0.01	6.80

Correlation Coef.: 0.999997 Slope: 0.00993 Intercept: 0.00012

Return to Contents

==========

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\170324H1.sifx
Batch ID:
Results Data Set: 170324H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

==========

Sequence No.: 1
Sample ID: ICV M030617B
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 8
Date Collected: 3/24/2017 1:18:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: ICV M030617B
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00548	5.48	0.0545	0.1689	0.0547	1:19:29 PM	Yes
2	0.00502	5.02	0.0499	0.1376	0.0501	1:20:14 PM	Yes
Mean:	0.00525	5.25	0.0522				
SD:	0.000329	0.329	0.0033				
%RSD:	6.27%	6.27%	6.26				

QC value within limits for Hg 253.7 Recovery = 104.98%
All analyte(s) passed QC.

==========

Sequence No.: 2
Sample ID: ICB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/24/2017 1:20:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: ICB
Analyte: Hg 253.7

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.000016	-0.0164	-0.0000	-0.0010	0.0001	1:21:44 PM	Yes
2	-0.000016	-0.0155	-0.0000	0.0005	0.0001	1:22:28 PM	Yes
Mean:	-0.000016	-0.0160	-0.0000				
SD:	0.0000006	0.00064	0.0000				
%RSD:	3.98%	3.98%	16.73				

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

==========

Sequence No.: 3
Sample ID: CRQL 0.25
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 9
Date Collected: 3/24/2017 1:22:54 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	0.0489	0.293	0.0030	0.0097	0.0032	1:23:59 PM	Yes
2	0.0424	0.254	0.0026	0.0055	0.0028	1:24:43 PM	Yes
Mean:	0.0456	0.274	0.0028				
SD:	0.00459	0.0276	0.0003				
%RSD:	10.07%	10.07%	9.64				

==========

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SD:	0.0076	0.0465	0.0005
%RSD:	7.04%	7.04%	6.92

==========

Sequence No.: 20
Sample ID: 17-03-1353-2
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 35
Date Collected: 3/24/2017 7:22:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1353-2 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0960	0.595	0.0060	0.0193	0.0062	7:23:11 PM	Yes
2	0.0869	0.539	0.0055	0.0169	0.0056	7:23:56 PM	Yes
Mean:	0.0915	0.567	0.0058				
SD:	0.00645	0.0400	0.0004				
%RSD:	7.05%	7.05%	6.91				

User canceled analysis.

==========

Analysis Begun

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

Technique: AA FIMS-MHS
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170324H1.sifx
Batch ID:
Results Data Set: 170324H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

==========

Sequence No.: 21
Sample ID: 17-03-1353-3
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 36
Date Collected: 3/24/2017 7:25:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1353-3 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0205	0.123	0.0013	0.0036	0.0015	7:26:38 PM	Yes
2	0.0191	0.114	0.0013	0.0047	0.0014	7:27:22 PM	Yes
Mean:	0.0198	0.119	0.0013				
SD:	0.00098	0.0059	0.0001				
%RSD:	4.97%	4.97%	4.51				

==========

Sequence No.: 22
Sample ID: 17-03-1353-4
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 37
Date Collected: 3/24/2017 7:27:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1353-4 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0923	0.554	0.0056	0.0136	0.0058	7:28:55 PM	Yes
2	0.0852	0.511	0.0052	0.0140	0.0053	7:29:40 PM	Yes
Mean:	0.0888	0.533	0.0054				
SD:	0.00504	0.0302	0.0003				
%RSD:	5.68%	5.68%	5.55				

==========

Sequence No.: 23 Autosampler Location: 5

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Method: EPA 7470A+7471A-Hg-8 Page 7 Date: 3/24/2017 7:38:51 PM

Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Date Collected: 3/24/2017 7:30:08 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	0.00216	2.16	0.0216	0.0633	0.0217	7:31:13 PM	Yes
2	0.00203	2.03	0.0203	0.0588	0.0204	7:31:59 PM	Yes
Mean:	0.00209	2.09	0.0209				
SD:	0.000094	0.094	0.0009				
%RSD:	4.48%	4.48%	4.45				

QC value within limits for Hg 253.7 Recovery = 104.74%
All analyte(s) passed QC.

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

Autosampler Location: 1
Date Collected: 3/24/2017 7:32:26 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	-0.000012	-0.0118	0.0000	-0.0069	0.0002	7:33:30 PM	Yes
2	-0.000004	-0.00371	0.0001	0.0018	0.0002	7:34:16 PM	Yes
Mean:	-0.000008	-0.00774	0.0000				
SD:	0.0000057	0.005692	0.0001				
%RSD:	73.56%	73.56%	128.35				

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

Sequence No.: 25
Sample ID: 17-03-1353-5
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 38
Date Collected: 3/24/2017 7:34:41 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1353-5 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.116	0.718	0.0072	0.0226	0.0074	7:35:46 PM	Yes
2	0.103	0.637	0.0064	0.0165	0.0066	7:36:32 PM	Yes
Mean:	0.109	0.678	0.0068				
SD:	0.0092	0.0571	0.0006				
%RSD:	8.42%	8.42%	8.28				

Sequence No.: 26
Sample ID: 170324-B-0~~3~~4
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

SDG
03/24/17

Autosampler Location: 39
Date Collected: 3/24/2017 7:36:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170324-B-0~~3~~4 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.00477	-0.0286	-0.0002	-0.0045	-0.0000	7:38:03 PM	Yes
2	0.00146	0.00877	0.0002	0.0043	0.0004	7:38:48 PM	Yes
Mean:	-0.00165	-0.00992	0.0000				
SD:	0.004406	0.026435	0.0003				

Return to Contents

%RSD: 266.54% 266.54% >999.9%

==========

Sequence No.: 27
Sample ID: 170324-L-03 H
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

309
03/24/17

Autosampler Location: 40
Date Collected: 3/24/2017 7:39:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170324-L-03 H
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.944	5.66	0.0563	0.1716	0.0565	7:40:20 PM	Yes
2	0.865	5.19	0.0517	0.1460	0.0518	7:41:05 PM	Yes
Mean:	0.904	5.43	0.0540				
SD:	0.0556	0.334	0.0033				
%RSD:	6.15%	6.15%	6.13				

==========

Sequence No.: 28
Sample ID: 17-03-1383-1
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 41
Date Collected: 3/24/2017 7:41:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1383-1
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0216	0.132	0.0014	0.0043	0.0016	7:42:36 PM	Yes
2	0.0208	0.127	0.0014	0.0045	0.0015	7:43:21 PM	Yes
Mean:	0.0212	0.129	0.0014				
SD:	0.00055	0.0034	0.0000				
%RSD:	2.60%	2.60%	2.37				

==========

Sequence No.: 29
Sample ID: 17-03-1383-1 MS
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 42
Date Collected: 3/24/2017 7:43:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1383-1 MS
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.845	5.15	0.0513	0.1583	0.0514	7:44:52 PM	Yes
2	0.775	4.73	0.0471	0.1359	0.0472	7:45:38 PM	Yes
Mean:	0.810	4.94	0.0492				
SD:	0.0492	0.300	0.0030				
%RSD:	6.08%	6.08%	6.06				

==========

Sequence No.: 30
Sample ID: 17-03-1383-1 MSD
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 43
Date Collected: 3/24/2017 7:46:04 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1383-1 MSD
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.817	5.06	0.0504	0.1512	0.0505	7:47:09 PM	Yes
2	0.757	4.69	0.0467	0.1328	0.0469	7:47:55 PM	Yes
Mean:	0.787	4.88	0.0485				
SD:	0.0424	0.263	0.0026				

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%RSD: 5.39% 5.39% 5.37

Sequence No.: 31
Sample ID: 17-03-1383-2
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 44
Date Collected: 3/24/2017 7:48:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1383-2 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0192	0.115	0.0013	0.0031	0.0014	7:49:26 PM	Yes
2	0.0247	0.148	0.0016	0.0141	0.0017	7:50:11 PM	Yes
Mean:	0.0219	0.132	0.0014				
SD:	0.00389	0.0234	0.0002				
%RSD:	17.74%	17.74%	16.23				

Sequence No.: 32
Sample ID: 17-03-1383-3
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 45
Date Collected: 3/24/2017 7:50:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1383-3 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0114	0.0694	0.0008	0.0026	0.0010	7:51:43 PM	Yes
2	0.0107	0.0654	0.0008	0.0024	0.0009	7:52:27 PM	Yes
Mean:	0.0110	0.0674	0.0008				
SD:	0.00047	0.00286	0.0000				
%RSD:	4.25%	4.25%	3.60				

Sequence No.: 33
Sample ID: 17-03-1274-1
Analyst: 868 HG-8
Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 46
Date Collected: 3/24/2017 7:52:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1274-1 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0917	0.541	0.0055	0.0169	0.0056	7:53:59 PM	Yes
2	0.0843	0.498	0.0051	0.0152	0.0052	7:54:43 PM	Yes
Mean:	0.0880	0.519	0.0053				
SD:	0.00522	0.0308	0.0003				
%RSD:	5.93%	5.93%	5.80				

Sequence No.: 34
Sample ID: 17-03-1274-2
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 47
Date Collected: 3/24/2017 7:55:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1274-2 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.0392	0.235	0.0025	0.0097	0.0026	7:56:14 PM	Yes
2	0.0357	0.214	0.0022	0.0072	0.0024	7:57:00 PM	Yes
Mean:	0.0375	0.225	0.0024				
SD:	0.00249	0.0149	0.0001				

Return to Contents

%RSD: 6.65% 6.65% 6.31

==========

Sequence No.: 35
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/24/2017 7:57:27 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	0.00217	2.17	0.0217	0.0661	0.0218	7:58:32 PM	Yes
2	0.00202	2.02	0.0201	0.0590	0.0203	7:59:17 PM	Yes
Mean:	0.00209	2.09	0.0209				
SD:	0.000109	0.109	0.0011				
%RSD:	5.21%	5.21%	5.18				

QC value within limits for Hg 253.7 Recovery = 104.61%
All analyte(s) passed QC.

==========

Sequence No.: 36
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/24/2017 7:59:44 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	0.000002	0.00182	0.0001	0.0028	0.0003	8:00:48 PM	Yes
2	-0.000003	-0.00268	0.0001	0.0020	0.0002	8:01:33 PM	Yes
Mean:	-0.000000	-0.000427	0.0001				
SD:	0.0000032	0.0031797	0.0000				
%RSD:	744.44%	744.44%	27.07				

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

==========

Sequence No.: 37
Sample ID: 17-03-1274-3
Analyst: 868 HG-8
Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 48
Date Collected: 3/24/2017 8:01:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1274-3
Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.00544	0.0321	0.0004	0.0008	0.0006	8:03:03 PM	Yes
2	0.00700	0.0413	0.0005	0.0027	0.0007	8:03:48 PM	Yes
Mean:	0.00622	0.0367	0.0005				
SD:	0.001105	0.00652	0.0001				
%RSD:	17.76%	17.76%	13.33				

==========

Sequence No.: 38
Sample ID: 17-03-1274-4
Analyst: 868 HG-8
Initial Sample Wt: 0.58 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 49
Date Collected: 3/24/2017 8:04:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1274-4
Analyte: Hg 253.7

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

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1	0.0889	0.516	0.0052	0.0206	0.0054	8:05:20 PM	Yes
2	0.0789	0.457	0.0047	0.0146	0.0048	8:06:05 PM	Yes
Mean:	0.0839	0.487	0.0050				
SD:	0.00712	0.0413	0.0004				
%RSD:	8.49%	8.49%	8.28				

==========

Sequence No.: 39
Sample ID: 17-03-1274-5
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 50
Date Collected: 3/24/2017 8:06:33 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1274-5 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.364	2.22	0.0222	0.0692	0.0223	8:07:38 PM	Yes
2	0.331	2.02	0.0202	0.0599	0.0203	8:08:22 PM	Yes
Mean:	0.348	2.12	0.0212				
SD:	0.0236	0.144	0.0014				
%RSD:	6.80%	6.80%	6.76				

==========

Sequence No.: 40
Sample ID: 17-03-1274-6
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 51
Date Collected: 3/24/2017 8:08:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1274-6 Analyte: Hg 253.7

Repl #	SampleConc mg/kg	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.221	1.33	0.0133	0.0393	0.0135	8:09:54 PM	Yes
2	0.205	1.23	0.0124	0.0359	0.0125	8:10:38 PM	Yes
Mean:	0.213	1.28	0.0128				
SD:	0.0113	0.068	0.0007				
%RSD:	5.29%	5.29%	5.24				

==========

Sequence No.: 41
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/24/2017 8:11:05 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	0.00216	2.16	0.0215	0.0651	0.0217	8:12:11 PM	Yes
2	0.00199	1.99	0.0199	0.0578	0.0200	8:12:56 PM	Yes
Mean:	0.00207	2.07	0.0207				
SD:	0.000119	0.119	0.0012				
%RSD:	5.72%	5.72%	5.68				

QC value within limits for Hg 253.7 Recovery = 103.68%
All analyte(s) passed QC.

==========

Sequence No.: 42
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/24/2017 8:13:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

Replicate Data: CCB Analyte: Hg 253.7

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Method: EPA 7470A+7471A-Hg-8 Page 12 Date: 3/24/2017 8:15:38 PM

Repl #	SampleConc mg/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.000000	0.000018	0.0001	0.0005	0.0003	8:14:27 PM	Yes
2	-0.000011	-0.0114	0.0000	-0.0002	0.0002	8:15:12 PM	Yes
Mean:	-0.000006	-0.00569	0.0001				
SD:	0.0000081	0.008069	0.0001				
%RSD:	141.87%	141.87%	124.39				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

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EPA 7471A Mercury (Solid)

Run Logs

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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	3/24/2017	1:02:08 PM		ug/L		mg/L	
0.025ppb 0.005x5ppb	868 HG-8		Hg 253.7	3/24/2017	1:04:22 PM		ug/L		mg/L	
0.10ppb M030617AX0.0001	868 HG-8		Hg 253.7	3/24/2017	1:06:36 PM		ug/L		mg/L	
1.00ppb M030617AX0.001	868 HG-8		Hg 253.7	3/24/2017	1:08:53 PM		ug/L		mg/L	
2.00ppb M030617AX0.002	868 HG-8		Hg 253.7	3/24/2017	1:11:10 PM		ug/L		mg/L	
5.00ppb M030617AX0.005	868 HG-8		Hg 253.7	3/24/2017	1:13:25 PM		ug/L		mg/L	
10.0ppb M030617AX0.01	868 HG-8		Hg 253.7	3/24/2017	1:15:40 PM		ug/L		mg/L	
ICV M030617B *	868 HG-8		Hg 253.7	3/24/2017	1:18:07 PM	2.879011	ug/L	0.002879	mg/L	0.999997
ICV M030617B *	868 HG-8		Hg 253.7	3/24/2017	1:20:14 PM	5.248996	ug/L	0.005249	mg/L	0.999997
ICB	868 HG-8		Hg 253.7	3/24/2017	1:22:28 PM	-0.01598	ug/L	-1.60E-05	mg/L	0.999997
CRQL 0.25	868 HG-8	0.6	Hg 253.7	3/24/2017	1:24:43 PM	0.273765	ug/L	0.045628	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	1:27:00 PM	2.055905	ug/L	0.002056	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	1:29:16 PM	-0.00807	ug/L	-8.07E-06	mg/L	0.999997
17-03-1723-1	868 HG-8	0.61	Hg 253.7	3/24/2017	2:25:25 PM	0.393879	ug/L	0.06457	mg/kg	0.999997
17-03-1723-2	868 HG-8	0.6	Hg 253.7	3/24/2017	2:27:43 PM	1.525546	ug/L	0.254258	mg/kg	0.999997
17-03-1724-1	868 HG-8	0.6	Hg 253.7	3/24/2017	2:30:01 PM	1.140785	ug/L	0.190131	mg/kg	0.999997
17-03-1732-1	868 HG-8	0.6	Hg 253.7	3/24/2017	2:32:19 PM	1.035963	ug/L	0.172661	mg/kg	0.999997
17-03-1751-1	868 HG-8	0.58	Hg 253.7	3/24/2017	2:34:38 PM	0.660985	ug/L	0.113963	mg/kg	0.999997
17-03-1751-2	868 HG-8	0.61	Hg 253.7	3/24/2017	2:36:56 PM	0.626727	ug/L	0.102742	mg/kg	0.999997
17-03-1701-1	868 HG-8	0.61	Hg 253.7	3/24/2017	2:39:13 PM	0.79128	ug/L	0.129718	mg/kg	0.999997
170324-B-01	868 HG-8	0.6	Hg 253.7	3/24/2017	2:41:32 PM	-0.02249	ug/L	-0.00375	mg/kg	0.999997
170324-L-01	868 HG-8	0.6	Hg 253.7	3/24/2017	2:43:50 PM	5.384723	ug/L	0.897454	mg/kg	0.999997
17-03-0865-1	868 HG-8	0.6	Hg 253.7	3/24/2017	2:46:08 PM	0.096697	ug/L	0.016116	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	2:48:26 PM	2.07908	ug/L	0.002079	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	2:50:42 PM	-0.00964	ug/L	-9.64E-06	mg/L	0.999997

* ICV failed, rerun - passed

Reviewed/Assign to Logbook Date: 03-25-17
Analysis Hg Chemist ID: 309
Logbook Page: 73 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
17-03-0865-1 MS	868 HG-8	0.62	Hg 253.7	3/24/2017	2:52:57 PM	5.005211	ug/L	0.807292	mg/kg	0.999997
17-03-0865-1 MSD	868 HG-8	0.63	Hg 253.7	3/24/2017	2:55:16 PM	5.033914	ug/L	0.799034	mg/kg	0.999997
17-03-1236-1	868 HG-8	0.61	Hg 253.7	3/24/2017	2:57:33 PM	0.787566	ug/L	0.129109	mg/kg	0.999997
17-03-1031-6	868 HG-8	0.61	Hg 253.7	3/24/2017	2:59:52 PM	0.494462	ug/L	0.081059	mg/kg	0.999997
17-03-1031-8	868 HG-8	0.6	Hg 253.7	3/24/2017	3:02:11 PM	0.287975	ug/L	0.047996	mg/kg	0.999997
17-03-0865-2	868 HG-8	0.62	Hg 253.7	3/24/2017	3:04:29 PM	0.005063	ug/L	0.000817	mg/kg	0.999997
17-03-0865-3	868 HG-8	0.6	Hg 253.7	3/24/2017	3:06:47 PM	0.042386	ug/L	0.007064	mg/kg	0.999997
17-03-0865-4	868 HG-8	0.6	Hg 253.7	3/24/2017	3:09:06 PM	0.001397	ug/L	0.000233	mg/kg	0.999997
17-03-0865-5	868 HG-8	0.61	Hg 253.7	3/24/2017	3:11:24 PM	-0.00065	ug/L	-0.00011	mg/kg	0.999997
17-03-0865-6	868 HG-8	0.62	Hg 253.7	3/24/2017	3:13:43 PM	-0.00598	ug/L	-0.00096	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	3:16:00 PM	2.082654	ug/L	0.002083	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	3:18:16 PM	-0.00971	ug/L	-9.71E-06	mg/L	0.999997
17-03-0865-7	868 HG-8	0.62	Hg 253.7	3/24/2017	3:20:32 PM	-0.00066	ug/L	-0.00011	mg/kg	0.999997
17-03-0865-8	868 HG-8	0.62	Hg 253.7	3/24/2017	3:22:50 PM	0.000161	ug/L	2.60E-05	mg/kg	0.999997
17-03-0865-9	868 HG-8	0.61	Hg 253.7	3/24/2017	3:25:08 PM	0.029506	ug/L	0.004837	mg/kg	0.999997
17-03-0865-10	868 HG-8	0.62	Hg 253.7	3/24/2017	3:27:27 PM	-0.00858	ug/L	-0.00138	mg/kg	0.999997
17-03-0865-11	868 HG-8	0.6	Hg 253.7	3/24/2017	3:29:45 PM	0.013484	ug/L	0.002247	mg/kg	0.999997
17-03-0865-12	868 HG-8	0.62	Hg 253.7	3/24/2017	3:32:04 PM	0.012277	ug/L	0.00198	mg/kg	0.999997
17-03-0865-13	868 HG-8	0.6	Hg 253.7	3/24/2017	3:34:21 PM	0.009739	ug/L	0.001623	mg/kg	0.999997
17-03-0865-14	868 HG-8	0.62	Hg 253.7	3/24/2017	3:36:40 PM	0.000865	ug/L	0.00014	mg/kg	0.999997
17-03-0865-15	868 HG-8	0.61	Hg 253.7	3/24/2017	3:38:59 PM	-0.00343	ug/L	-0.00056	mg/kg	0.999997
17-03-0865-16	868 HG-8	0.61	Hg 253.7	3/24/2017	3:41:18 PM	0.007082	ug/L	0.001161	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	3:43:36 PM	2.048166	ug/L	0.002048	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	3:45:52 PM	-0.00957	ug/L	-9.57E-06	mg/L	0.999997
17-03-0865-17	868 HG-8	0.6	Hg 253.7	3/24/2017	3:48:09 PM	-0.001	ug/L	-0.00017	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	3:50:27 PM	2.060531	ug/L	0.002061	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	3:52:44 PM	-0.0104	ug/L	-1.04E-05	mg/L	0.999997
CCV 0.2x10ppb *	868 HG-8		Hg 253.7	3/24/2017	6:02:41 PM	2.085405	ug/L	0.002085	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	6:04:57 PM	-0.00427	ug/L	-4.27E-06	mg/L	0.999997

*time gap.

Reviewed/Assign to Logbook Date: 03-25-17
Analysis Hg Chemist ID: 309
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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
17-03-1549-ST-1	868 HG-8		Hg 253.7	3/24/2017	6:07:11 PM	-0.0211	ug/L	-0.00021	mg/L	0.999997
17-03-1549-ST-2	868 HG-8		Hg 253.7	3/24/2017	6:09:25 PM	0.065286	ug/L	0.000653	mg/L	0.999997
170324-B-A1	868 HG-8		Hg 253.7	3/24/2017	6:11:41 PM	-0.02224	ug/L	-0.00022	mg/L	0.999997
170324-L-A1	868 HG-8		Hg 253.7	3/24/2017	6:13:57 PM	5.246835	ug/L	0.052468	mg/L	0.999997
17-03-0838-ST-1	868 HG-8		Hg 253.7	3/24/2017	6:16:14 PM	0.882771	ug/L	0.008828	mg/L	0.999997
17-03-0838-ST-1 MS	868 HG-8		Hg 253.7	3/24/2017	6:18:31 PM	5.04749	ug/L	0.050475	mg/L	0.999997
17-03-0838-ST-1 MSD	868 HG-8		Hg 253.7	3/24/2017	6:20:47 PM	4.823451	ug/L	0.048235	mg/L	0.999997
17-03-1515-ST-1	868 HG-8		Hg 253.7	3/24/2017	6:23:02 PM	-0.01155	ug/L	-0.00012	mg/L	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	6:25:17 PM	2.055938	ug/L	0.002056	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	6:27:33 PM	-0.01449	ug/L	-1.45E-05	mg/L	0.999997
170324-B-03	868 HG-8	0.6	Hg 253.7	3/24/2017	6:40:52 PM	-0.0239	ug/L	-0.00398	mg/kg	0.999997
170324-L-03	868 HG-8	0.6	Hg 253.7	3/24/2017	6:43:07 PM	5.281252	ug/L	0.880209	mg/kg	0.999997
17-03-1005-1	868 HG-8	0.6	Hg 253.7	3/24/2017	6:45:23 PM	2.347858	ug/L	0.39131	mg/kg	0.999997
17-03-1005-1 MS	868 HG-8	0.61	Hg 253.7	3/24/2017	6:47:39 PM	6.421637	ug/L	1.052727	mg/kg	0.999997
17-03-1005-1 MSD	868 HG-8	0.57	Hg 253.7	3/24/2017	6:49:55 PM	6.211207	ug/L	1.089685	mg/kg	0.999997
17-03-1005-2	868 HG-8	0.61	Hg 253.7	3/24/2017	6:52:12 PM	2.616198	ug/L	0.428885	mg/kg	0.999997
17-03-1005-3	868 HG-8	0.63	Hg 253.7	3/24/2017	6:54:29 PM	1.624717	ug/L	0.257892	mg/kg	0.999997
17-03-1005-4	868 HG-8	0.63	Hg 253.7	3/24/2017	6:56:47 PM	1.517249	ug/L	0.240833	mg/kg	0.999997
17-03-1005-6	868 HG-8	0.64	Hg 253.7	3/24/2017	6:59:04 PM	6.523271	ug/L	1.019261	mg/kg	0.999997
17-03-1005-7	868 HG-8	0.62	Hg 253.7	3/24/2017	7:01:19 PM	10.72028	ug/L	1.729078	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	7:03:35 PM	2.104173	ug/L	0.002104	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	7:05:51 PM	-0.01143	ug/L	-1.14E-05	mg/L	0.999997
17-03-1005-8	868 HG-8	0.58	Hg 253.7	3/24/2017	7:08:06 PM	4.418118	ug/L	0.761744	mg/kg	0.999997
17-03-1005-10	868 HG-8	0.62	Hg 253.7	3/24/2017	7:10:20 PM	3.358445	ug/L	0.541685	mg/kg	0.999997
17-03-1005-11	868 HG-8	0.58	Hg 253.7	3/24/2017	7:12:36 PM	2.370596	ug/L	0.408723	mg/kg	0.999997
17-03-1005-12	868 HG-8	0.59	Hg 253.7	3/24/2017	7:14:51 PM	0.800009	ug/L	0.135595	mg/kg	0.999997
17-03-1005-13	868 HG-8	0.59	Hg 253.7	3/24/2017	7:17:07 PM	0.238097	ug/L	0.040355	mg/kg	0.999997
17-03-1005-15	868 HG-8	0.61	Hg 253.7	3/24/2017	7:19:23 PM	35.37742	ug/L	5.799578	mg/kg	0.999997
17-03-1353-1	868 HG-8	0.61	Hg 253.7	3/24/2017	7:21:39 PM	0.66096	ug/L	0.108354	mg/kg	0.999997

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Analysis: Hg Chemist ID: 309
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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
17-03-1353-2	868 HG-8	0.62	Hg 253.7	3/24/2017	7:23:56 PM	0.567108	ug/L	0.091469	mg/kg	0.999997
17-03-1353-3	868 HG-8	0.6	Hg 253.7	3/24/2017	7:27:22 PM	0.118645	ug/L	0.019774	mg/kg	0.999997
17-03-1353-4	868 HG-8	0.6	Hg 253.7	3/24/2017	7:29:40 PM	0.532653	ug/L	0.088775	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	7:31:59 PM	2.094703	ug/L	0.002095	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	7:34:16 PM	-0.00774	ug/L	-7.74E-06	mg/L	0.999997
17-03-1353-5	868 HG-8	0.62	Hg 253.7	3/24/2017	7:36:32 PM	0.677562	ug/L	0.109284	mg/kg	0.999997
170324-B-04	868 HG-8	0.6	Hg 253.7	3/24/2017	7:38:48 PM	-0.00992	ug/L	-0.00165	mg/kg	0.999997
170324-L-04	868 HG-8	0.6	Hg 253.7	3/24/2017	7:41:05 PM	5.426961	ug/L	0.904493	mg/kg	0.999997
17-03-1383-1	868 HG-8	0.61	Hg 253.7	3/24/2017	7:43:21 PM	0.129354	ug/L	0.021205	mg/kg	0.999997
17-03-1383-1 MS	868 HG-8	0.61	Hg 253.7	3/24/2017	7:45:38 PM	4.93987	ug/L	0.809815	mg/kg	0.999997
17-03-1383-1 MSD	868 HG-8	0.62	Hg 253.7	3/24/2017	7:47:55 PM	4.878057	ug/L	0.786783	mg/kg	0.999997
17-03-1383-2	868 HG-8	0.6	Hg 253.7	3/24/2017	7:50:11 PM	0.131691	ug/L	0.021949	mg/kg	0.999997
17-03-1383-3	868 HG-8	0.61	Hg 253.7	3/24/2017	7:52:27 PM	0.067402	ug/L	0.011049	mg/kg	0.999997
17-03-1274-1	868 HG-8	0.59	Hg 253.7	3/24/2017	7:54:43 PM	0.519343	ug/L	0.088024	mg/kg	0.999997
17-03-1274-2	868 HG-8	0.6	Hg 253.7	3/24/2017	7:57:00 PM	0.224824	ug/L	0.037471	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	7:59:17 PM	2.092168	ug/L	0.002092	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	8:01:33 PM	-0.00043	ug/L	-4.27E-07	mg/L	0.999997
17-03-1274-3	868 HG-8	0.59	Hg 253.7	3/24/2017	8:03:48 PM	0.036697	ug/L	0.00622	mg/kg	0.999997
17-03-1274-4	868 HG-8	0.58	Hg 253.7	3/24/2017	8:06:05 PM	0.486632	ug/L	0.083902	mg/kg	0.999997
17-03-1274-5	868 HG-8	0.61	Hg 253.7	3/24/2017	8:08:22 PM	2.120518	ug/L	0.347626	mg/kg	0.999997
17-03-1274-6	868 HG-8	0.6	Hg 253.7	3/24/2017	8:10:38 PM	1.28036	ug/L	0.213393	mg/kg	0.999997
CCV 0.2x10ppb	868 HG-8		Hg 253.7	3/24/2017	8:12:56 PM	2.073556	ug/L	0.002074	mg/L	0.999997
CCB	868 HG-8		Hg 253.7	3/24/2017	8:15:12 PM	-0.00569	ug/L	-5.69E-06	mg/L	0.999997
17-03-1380-1	868 HG-8	0.61	Hg 253.7	3/24/2017	8:28:09 PM	0.257367	ug/L	0.042191	mg/kg	0.999997
17-03-1380-2	868 HG-8	0.6	Hg 253.7	3/24/2017	8:30:25 PM	0.577592	ug/L	0.096265	mg/kg	0.999997
17-03-1380-3	868 HG-8	0.6	Hg 253.7	3/24/2017	8:32:41 PM	0.228758	ug/L	0.038126	mg/kg	0.999997
17-03-1380-4	868 HG-8	0.61	Hg 253.7	3/24/2017	8:34:57 PM	0.300793	ug/L	0.04931	mg/kg	0.999997
17-03-1380-5	868 HG-8	0.58	Hg 253.7	3/24/2017	8:37:13 PM	0.070669	ug/L	0.012184	mg/kg	0.999997
17-03-1380-6	868 HG-8	0.59	Hg 253.7	3/24/2017	8:39:29 PM	0.174215	ug/L	0.029528	mg/kg	0.999997

Reviewed/Assign to Logbook Date: 03-25-17
Analysis Hg Chemist ID: 309
Logbook Page: 76 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	R0429160/ 10 mL	Spike	M030617 A
☐ EPA 7471B	☐ Other (Specify) 868 03/24/17	Block Digester	3	5% $KMnO_4$	R1006160/	IC	D
		Pipetter / Dispenser	P071/*	$NaCl-H_3NO\cdot HCl$	R1026160/ 6 mL	ICV	B

BATCH NUMBER	SUPPLY LOT #	BALANCE ID #	QUALITY SYSTEM MATRIX ID #	SAMPLE HANDLING
MS/MSD 170324-LCS4	Tube / Container 160975	36	Teflon Chip M006-35-15	1 = Composite 2 = Subsample
(Specify)	Filter		(Specify)	3 = Homogenize 4 = None

DIGESTION DATE	START TIME	START TEMP W/O CF (°C)	START PREP TECH ID #	END TIME	END TEMP W/O CF (°C)	END PREP TECH ID #	SAMPLE HANDLING	ECI ID #	SAMPLE INITIAL (g)	SAMPLE FINAL (mL)	5% $KMnO_4$ V (mL)	SPIKE OR IC/ICV V (µL)
3/24/17	13:30	95	868	14:15	95	868	4	MS 17-03-1383-1A	0.61	100	15	500
								MSD	0.62			
								LCS 170324-LCS4	0.60			
								LCSD / MB 170324-BLK4	0.60			
								17-03-1383-1A	0.61			
								2	0.60			
								3	0.61			
								17-03-1274-1A	0.59			
								2	0.60			
								3	0.59			
								4	0.58			
								5	0.61			
								6	0.60			
								17-03-1380-1A	0.61			
								2	0.66			
								3	0.66			
								4	0.61			
								5	0.58			
								6	0.59			
								17-03-1393-1A	0.61			
								17-03-1114-1A	0.62			
								17-03-1115-1A	0.60			
								17-03-1523-1A	0.63			
								IC				
								ICV				
								CB				

COMMENTS: * D003/MD043/D058