



**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn:

**Smita Sumbaly**  
**Weston Solutions (King Georges Post)**  
**1090 King Georges Post Road**  
**Suite 201**  
**Edison, NJ 08837**

10/23/2015

Phone: (732) 585-4400

Fax:

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/16/2015. The results are tabulated on the attached data pages for the following client designated project:

**Project ID: RFP 344**  
**2-101515-174142-0007**

The reference number for these samples is EMSL Order #011506178. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Reviewed and Approved By:

Julie Smith - Laboratory Director



Accreditation #100194 NELAP Certification: NJ 03036,  
NY 10872

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the AIHA, unless specifically indicated. The final results are not field blank corrected. The laboratory is not responsible for final results calculated using air volumes that have been provided by non-laboratory personnel. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

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## **SAMPLE SUMMARY**

SAMPLE SUMMARY  
FOR  
WESTON SOLUTIONS  
1090 King Georges Post Road  
Suite 201  
Edison, NJ 08837

PROJECT: RFP 344, 2-101515-174142-0007

EMSL Project: 011506178

Field Sample No. & Location	Laboratory Sample ID	Matrix	Date & Time of Collection	Date Received
A001-L-10152015	011506178-0001	Cassettes	10/15/15 @ 16:28	10/16/15
A001-P-10152015	011506178-0002	Tubes	10/15/15 @ 16:28	10/16/15
A002-L-10152015	011506178-0003	Cassettes	10/15/15 @ 16:33	10/16/15
A002-P-10152015	011506178-0004	Tubes	10/15/15 @ 16:33	10/16/15
A003-L-10152015	011506178-0005	Cassettes	10/15/15 @ 16:45	10/16/15
A003-P-10152015	011506178-0006	Tubes	10/15/15 @ 16:45	10/16/15
A004-L-10152015	011506178-0007	Cassettes	10/15/15 @ 16:58	10/16/15
A004-P-10152015	011506178-0008	Tubes	10/15/15 @ 16:58	10/16/15
A005-L-10152015	011506178-0009	Cassettes	10/15/15 @ 17:05	10/16/15
A005-P-10152015	011506178-0010	Tubes	10/15/15 @ 17:05	10/16/15
FB-L-10152015	011506178-0011	Cassettes	10/15/15 @ 16:00	10/16/15
FB-P-10152015	011506178-0012	Tubes	10/15/15 @ 16:00	10/16/15

**SAMPLE DATA SUMMARY PACKAGE**

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EMSL Order: 011506178

CustomerID: RFWE53

CustomerPO:

ProjectID: RFP 344

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Phone: (732) 585-4400  
 Fax:  
 Received: 10/16/15 8:30 AM

Project: 2-101515-174142-0007

**Analytical Results****Client Sample Description** A001-L-10152015**Collected:** 10/15/2015 **Lab ID:** 0001

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Lead	0.000072	0.000049	mg/m <sup>3</sup>	10/22/2015	CM	10/23/2015	KB

**Client Sample Description** A001-P-10152015**Collected:** 10/15/2015 **Lab ID:** 0002

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
TO-10A	Aroclor-1016	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1221	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1232	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1242	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1248	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1254	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1260	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1262	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1268	ND	0.051	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH

**Client Sample Description** A002-L-10152015**Collected:** 10/15/2015 **Lab ID:** 0003

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Lead	ND	0.000048	mg/m <sup>3</sup>	10/22/2015	CM	10/22/2015	KB

**Client Sample Description** A002-P-10152015**Collected:** 10/15/2015 **Lab ID:** 0004

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
TO-10A	Aroclor-1016	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1221	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1232	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1242	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1248	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1254	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1260	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1262	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1268	ND	0.046	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH

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EMSL Order: 011506178

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ProjectID: RFP 344

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Fax:

Received: 10/16/15 8:30 AM

Project: 2-101515-174142-0007

**Analytical Results****Client Sample Description** A003-L-10152015**Collected:** 10/15/2015 **Lab ID:** 0005

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Lead	ND	0.000047	mg/m <sup>3</sup>	10/22/2015	CM	10/22/2015	KB

**Client Sample Description** A003-P-10152015**Collected:** 10/15/2015 **Lab ID:** 0006

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
TO-10A	Aroclor-1016	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1221	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1232	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1242	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1248	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1254	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1260	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1262	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1268	ND	0.050	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH

**Client Sample Description** A004-L-10152015**Collected:** 10/15/2015 **Lab ID:** 0007

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Lead	ND	0.000051	mg/m <sup>3</sup>	10/22/2015	CM	10/23/2015	KB

**Client Sample Description** A004-P-10152015**Collected:** 10/15/2015 **Lab ID:** 0008

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
TO-10A	Aroclor-1016	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1221	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1232	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1242	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1248	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1254	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1260	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1262	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1268	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH

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Project: 2-101515-174142-0007

**Analytical Results****Client Sample Description** A005-L-10152015**Collected:** 10/15/2015 **Lab ID:** 0009

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Lead	ND	0.000051	mg/m <sup>3</sup>	10/22/2015	CM	10/23/2015	KB

**Client Sample Description** A005-P-10152015**Collected:** 10/15/2015 **Lab ID:** 0010

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
TO-10A	Aroclor-1016	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1221	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1232	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1242	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1248	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1254	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1260	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1262	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1268	ND	0.053	µg/m <sup>3</sup>	10/19/2015	AB	10/21/2015	EH

**Client Sample Description** FB-L-10152015**Collected:** 10/15/2015 **Lab ID:** 0011

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
7300 Modified	Lead	ND	0.000050	mg/filter	10/22/2015	CM	10/23/2015	KB

**Client Sample Description** FB-P-10152015**Collected:** 10/15/2015 **Lab ID:** 0012



Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
TO-10A	Aroclor-1016	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1221	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1232	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1242	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1248	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1254	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1260	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1262	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH
TO-10A	Aroclor-1268	ND	0.050	µg/tube	10/19/2015	AB	10/21/2015	EH

**Definitions:**

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit

**CHAIN OF CUSTODY**

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All samples		10/15/15	OR WI	10/15/15	
All analyzed				10/16/15 0830	

Client:	WESTON		
Project Number:	01506178		
Temperature Upon Receipt:	4°C	Shipment Method:	WI

						YES	NO	NA
Were custody seals on shipping containers intact? Check 'NA' if no seals, or if containers were hand delivered.								✓
Were Chain of Custody Forms included with the samples?						✓		
Were Chain of Custody Forms filled out completely?						✓		
Were all sample containers received in good condition?						✓		
Is there sufficient amount of sample for each test indicated?						✓		
Was pH of the samples checked at the time of login?						✓		✓
Were the sample containers properly preserved?								✓
HNO <sub>3</sub> pH <2	HCL pH <2	H <sub>2</sub> SO <sub>4</sub> pH <2	Pest/PCBs pH 5 - 9	Sulfide pH >9	Cyanide pH >12			
Were any sample pHs adjusted at the time of login? Document on COC.								✓
Were samples received within holding times?						✓		
If the sample holding time was outside regulatory limits, was the client informed? Date client contacted: _____ Initials: _____ Client comments: _____								✓
Were air bubbles present in any of the VOA bottles?								✓
Were samples in direct contact with ice? _____ wet ✓ blue						✓	✓	
Was the sample cooler temperature 4°C ± 2° upon receipt at the laboratory?						✓		
If the temperature was outside regulatory limits, was the client informed? Date client contacted: _____ Initials: _____ Client comments: _____								✓
Will samples be subcontracted to another lab? Subcontractor: _____ Date sent: _____ Analyses: _____							×	
Sample Custodian: _____								
Additional Comments:								

# Walk-In Refrigerator

EMSL PROJECT No.: C11506178

Client Name: WESTON

(Optional)

1-12

SAMPLE ID No.(s)

(List all alphabetic characters used on this project.)

Shelf Location in Refrigerator:

Auxiliary Storage Location - Not Refrigerator :  
(Samples Not Requiring Refrigeration)

Check appropriate  
[ ]  
Check appropriate  
[ ]

(If custody is transferred to a person, add Signature and Printed Name.)

Sample Container Information:  
(Optional)

EMSL Internal Chain of Custody									
Date	Analysis/Analyses Performed	Sample Number/Numbers Used	letter	Printed Name	Signature	Time (24-Hr. Only) Transfer	Initials Returned	Initials Returned	
login	Transfer to Wet Chemistry for Total Solids.			login					
Wet Chemistry	Receive & Return to Login Possession.			Wet Chemistry					
Date	Analysis/Analyses Performed	Sample Number/Numbers Used	letter	Printed Name	Signature	Time (24-Hr. Only) Sign Out	Initials Returned	Initials Returned	
10/22	1CP.MJ	1-12		P16K		1705			
10/19	05	245, 8, 10, 17		P16K		1200			

Login Personnel Relinquishing samples to the Refrigerator:

Printed Name: E. Zambrano / K. Mac/ T. Albert

Printed Name:

Signature:

Signature:

Date In: 10/16/15 Time In:

Date: \_\_\_\_\_

EMSL Preservations - "dot" color code:  
Y = yellow-Sulfuric, G = green-NaOH, G(Zn)-NaOH + Zinc Acetate, R = red-HNO3, UP = Unpreserved.

## **CASE NARRATIVE**

**Project Number 011506178**

This report contains the analytical data for PCB and lead analysis of twelve air samples. The samples were received by EMSL on October 16, 2015, and analyzed in accordance with EPA Method TO-10A and Niosh 7300 modified.

**Sample Receipt**

The cooler temperature was 4.0°C upon receipt at the laboratory. The samples were received intact and in good condition.

**Hold Times**

All digestions, extractions and analyses were performed within the method specified hold time requirement. No major problems were encountered during the analyses of samples.

**PCB Analysis**

Sample Dilutions: None

Calibrations: The initial and continuing calibration standard recoveries were within control limits.

Surrogates: The recoveries were within control limits.

Blanks: Target analytes were not detected above the reporting limit in the associated blanks.

LCS/LCSD: The percent recoveries and RPD results were within control limits.

Note: all manual integrations associated with this data package for GC and/or GC/MS analysis have been performed due to the improper integration of the targeted peak by the data system.

**Metals Analysis by ICP/MS**

Dilutions: None

Calibrations: The RL, RLVS, ICV and bracketing CCV standards were within control limits.

Blanks: Target analyte was not detected above the reporting limit in the associated blanks.

LCS/LCSD: The laboratory control sample spike recoveries and RPD results were within control limits.

## **METHODOLOGY SUMMARY**

## **METHODOLOGY SUMMARY**

### **PCB's – EPA Method TO-10A**

This method covers the determination of polychlorinated biphenyls (PCB's) in air samples collected on a Polyurethane foam (PUF) cartridge using a low volume sampler. The PUF cartridge is Soxhlet extracted with hexane for a minimum of 16 hours and subsequent qualification/quantification analysis is performed using a gas chromatograph (GC). The GC utilizes a dual electron capture detector (ECD) which is applicable for the determination and confirmation of the 9 Aroclor analytes targeted.

### **Metals in Air by ICP, ICP/MS – 7300 - Modified**

Air samples are collected on MCE filters. The filters are digested using 5.0 ml of HNO<sub>3</sub> and heated on a hotplate or Hot block™ for 30 minutes at 95°C. Digestion vessels are cooled, briefly, and 1.0 ml of 30% Hydrogen Peroxide is added. The digestion is continued for an additional 15 minutes at 95°C. Digests are cooled and diluted to a final volume of 50 ml. Note: The modification is to omit the addition of *perchloric* acid in the digestion. Digestates are analyzed by ICP-AES or ICP/MS. Method reference is NIOSH method 7300 ISSUE 2, Aug. 1994 and SW-846 3050B.

## **METHODOLOGY**

All analyses are adapted from one or more of the following reference methods:

- “Guidelines Establishing Test Procedures for the Analysis of Pollutants”, Code of Federal Regulations Vol. 40, Part 136.
- “Test Methods for Evaluating Solid Waste”, SW846 3<sup>rd</sup> Edition, 1996.
- “Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)”. Code of Federal Regulations Vol. 40, Part 261.
- “Standard Methods for the Examination of Water and Wastewater”, 18<sup>th</sup> and 19<sup>th</sup> edition.
- “Methods for the Chemical Analysis of Water and Wastes”, EPA 600/4-79-020, 1983.
- “Official Methods of Analysis”, Association of Official Analytical Chemists (AOAC), 15<sup>th</sup> Edition, 1990.
- NIOSH Manual of Analytical Methods, 4<sup>th</sup> Edition, 1994, DHHS Pub. No. 94-113.

## **DEFINITIONS OF ABBREVIATIONS**

<b>U:</b>	Not Detected	<b>B:</b>	Compound found in method blank
<b>E:</b>	Estimated Concentration	<b>ND:</b>	Not Detected
<b>NFL:</b>	No Free Liquid	<b>D:</b>	Dilution
<b>NR:</b>	Not Requested	<b>RL:</b>	Reporting limit
<b>NA:</b>	Not Applicable	<b>MS/MSD:</b>	Matrix Spike/Matrix Spike Duplicate
<b>&lt;:</b>	Less than minimum detection limit	<b>RPD:</b>	Relative Percent Difference
<b>NC:</b>	Not calculable	<b>RSD:</b>	Relative Standard Deviation
<b>LCS:</b>	Laboratory Control Sample	<b>ppb</b>	Parts per billion = µg/Kg, µg/L
<b>NTU:</b>	Nephelometric Turbidity Units	<b>ppm</b>	Parts per million = mg/Kg, µg/g
<b>J:</b>	Compound detected below reportable detection limit	<b>µmhos:</b>	Conductivity units; resistance is expressed in ohms
<b>°F:</b>	degrees Fahrenheit	<b>col/3:</b>	Colonies per volume of sample
<b>°C:</b>	degrees Celsius	<b>mg:</b>	milligram (1000 mg = 1 g)
<b>µg:</b>	microgram (1000 µg = 1 mg)	<b>ml:</b>	milliliter (1000 ml = 1L)
<b>g:</b>	gram (1000 g = 1 kg)	<b>L</b>	liter
<b>µl:</b>	microliter (1000 µl= 1 ml)	<b>Kg:</b>	Kilogram

**COMMENTS:** All soil samples are calculated on a dry weight basis except where noted.

**PCB DATA PACKAGE**

**GC PCBs ANALYSIS**  
**CONFORMANCE / NON-CONFORMANCE SUMMARY**

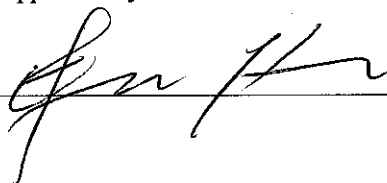
	No	Yes
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. GC Calibration-Initial and Continuing Calibration Meet Method Requirements	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Blank Contamination - If yes, the sample result is qualified with a "B"	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Surrogate Recoveries Meet Criteria (If Applicable) Comments _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (if applicable) Comments _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Extraction Holding Time Met Comments _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Analysis Holding Time Met Comments _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reviewed and Approved By:

Signature



Date:

10/22/15

# EMSL Analytical Inc.

## PCB ORGANICS ANALYSIS DATA SHEET

<b>Lab Name:</b> EMSL Analytical		<b>Customer Sample#:</b> A001-P-10152015
<b>EMSL Sample ID:</b> 011506178-0002	<b>Project:</b> RFP 344	
<b>Lab File ID:</b> G10797.D	<b>Sample Matrix:</b> Tubes	
<b>Instrument ID:</b> GC-ECD-G	<b>Sampling Date:</b> 10/15/2015	
<b>Analyst:</b> EH	<b>Date Extracted:</b> 10/19/2015	
<b>GC Column:</b> CLPest I (0.32 mm)	<b>Analysis Date:</b> 10/21/2015 6:30:00 PM	
<b>GC Column 2:</b> CLPest II (0.32 mm)	<b>Sample Volume:</b> 990 L	
<b>% Moisture:</b>	<b>Dilution Factor:</b> 1	
<b>PH:</b> 0	<b>Concentrated Extract Vol:</b> 10 (mL)	
<b>GPC Cleanup(Y/N):</b> N	<b>Injection Volume:</b> 1 (ul)	
<b>Extraction Type:</b> T0-10a	<b>Sulfur Cleanup:</b> N	
<b>Method:</b> EPA TO-10a		

CAS NO	COMPOUND	Report Limit (ug/m³)	CONC. (ug/m³)	Q
12674-11-2	Aroclor-1016	0.051		U
11104-28-2	Aroclor-1221	0.051		U
11141-16-5	Aroclor-1232	0.051		U
53469-21-9	Aroclor-1242	0.051		U
12672-29-6	Aroclor-1248	0.051		U
11097-69-1	Aroclor-1254	0.051		U
11096-82-5	Aroclor-1260	0.051		U
37324-23-5	Aroclor-1262	0.051		U
1110-14-4	Aroclor-1268	0.051		U

Qualifier Definitions  
 U = Undetected  
 B = Compound detected in method blank  
 E = Estimated value  
 D = Dilution  
 P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10797.D\ECD1A.CH Vial: 12  
 Signal #2 : T:\DATA\ECD-G\G151021\G10797.D\ECD2B.CH  
 Acq On : 21 Oct 2015 6:30 pm Operator: EH  
 Sample : 011506178-2 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;990;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:17:14 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

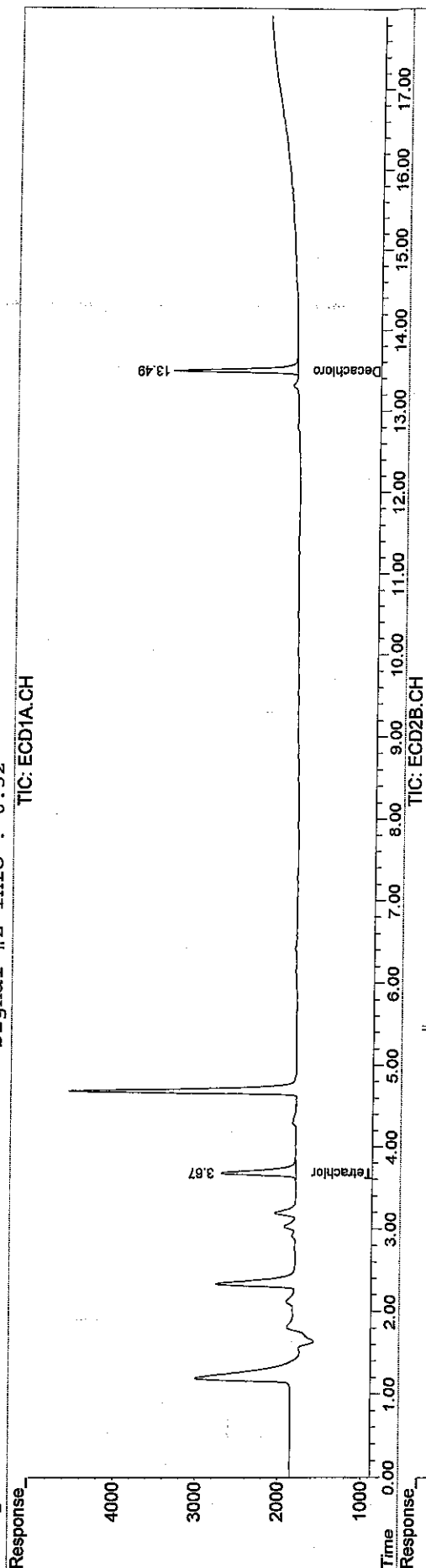
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	37085	234135	9.590m	10.708m
2) SA Decachlorobiphen	13.49	14.66	43369	225435	9.765m	11.022m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

Signal #1 : T:\DATA\ECD-G\G151021\G10797.D\ECD1A.CH Vial: 12  
 Signal #2 : T:\DATA\ECD-G\G151021\G10797.D\ECD2B.CH  
 Acq On : 21 Oct 2015 6:30 pm  
 Sample : 011506178-2 TO-10a  
 Misc : 10/19/15;990;;10;1;1;; 1867-1 AB  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:17 2015 Quant Results File: D151020GL1.RES

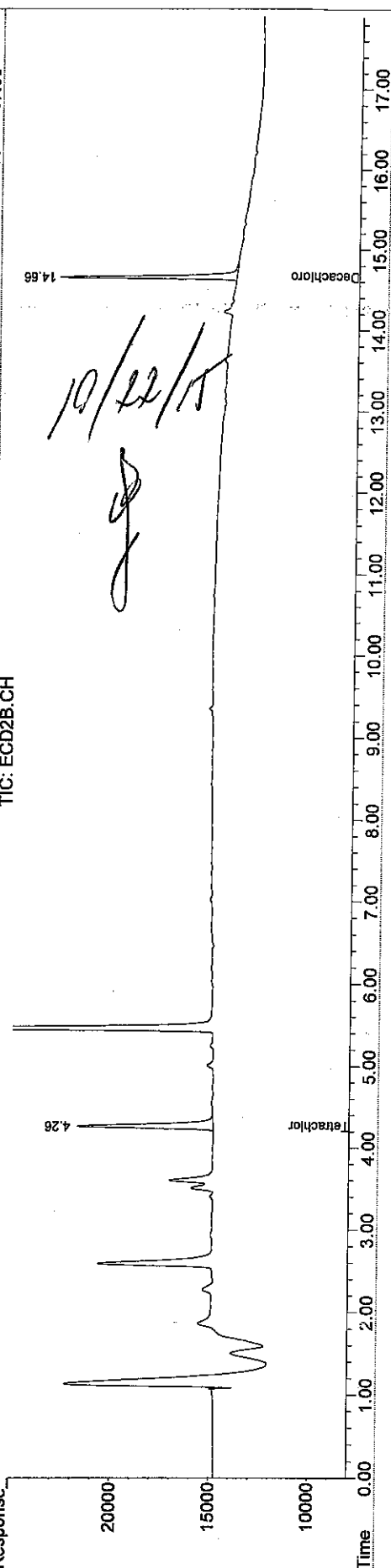
Quant Method : T:\METHODS\ECD-G\G151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Response\_ TIC: ECD1A.CH



Response\_ TIC: ECD2B.CH



# EMSL Analytical Inc.

## PCB ORGANICS ANALYSIS DATA SHEET

<b>Customer Sample#:</b> A002-P-10152015	
<b>Lab Name:</b> EMSL Analytical	<b>Project:</b> RFP 344
<b>EMSL Sample ID:</b> 011506178-0004	<b>Sample Matrix:</b> Tubes
<b>Lab File ID:</b> G10798.D	<b>Sampling Date:</b> 10/15/2015
<b>Instrument ID:</b> GC-ECD-G	<b>Date Extracted:</b> 10/19/2015
<b>Analyst:</b> EH	<b>Analysis Date:</b> 10/21/2015 6:54:00 PM
<b>GC Column:</b> CLPest I (0.32 mm)	<b>Sample Volume:</b> 1092.2 L
<b>GC Column 2:</b> CLPest II (0.32 mm)	<b>Dilution Factor:</b> 1
<b>% Moisture:</b>	<b>Concentrated Extract Vol:</b> 10 (mL)
<b>PH:</b> 0	<b>Injection Volume:</b> 1 (ul)
<b>GPC Cleanup(Y/N):</b> N	<b>Sulfur Cleanup:</b> N
<b>Extraction Type:</b> T0-10a	
<b>Method:</b> EPA TO-10a	

CAS NO	COMPOUND	Report Limit (ug/m³)	CONC. (ug/m³)	Q
12674-11-2	Aroclor-1016	0.046		U
11104-28-2	Aroclor-1221	0.046		U
11141-16-5	Aroclor-1232	0.046		U
53469-21-9	Aroclor-1242	0.046		U
12672-29-6	Aroclor-1248	0.046		U
11097-69-1	Aroclor-1254	0.046		U
11096-82-5	Aroclor-1260	0.046		U
37324-23-5	Aroclor-1262	0.046		U
1110-14-4	Aroclor-1268	0.046		U

Qualifier Definitions  
 U = Undetected  
 B = Compound detected in method blank  
 E = Estimated value  
 D = Dilution  
 P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10798.D\ECD1A.CH Vial: 13  
 Signal #2 : T:\DATA\ECD-G\G151021\G10798.D\ECD2B.CH  
 Acq On : 21 Oct 2015 6:54 pm Operator: EH  
 Sample : 011506178-4 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;1092.2;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:17:40 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.68	4.27	35672	233271	9.225m	10.668m
2) SA Decachlorobiphen	13.49	14.66	43742	227212	9.849m	11.109m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000



# EMSL Analytical Inc.

## PCB ORGANICS ANALYSIS DATA SHEET

<b>Customer Sample#:</b> A003-P-10152015	
<b>Lab Name:</b> EMSL Analytical	<b>Project:</b> RFP 344
<b>EMSL Sample ID:</b> 011506178-0006	<b>Sample Matrix:</b> Tubes
<b>Lab File ID:</b> G10799.D	<b>Sampling Date:</b> 10/15/2015
<b>Instrument ID:</b> GC-ECD-G	<b>Date Extracted:</b> 10/19/2015
<b>Analyst:</b> EH	<b>Analysis Date:</b> 10/21/2015 7:18:00 PM
<b>GC Column:</b> CLPest I (0.32 mm)	<b>Sample Volume:</b> 1008.45 L
<b>GC Column 2:</b> CLPest II (0.32 mm)	<b>Dilution Factor:</b> 1
<b>% Moisture:</b>	<b>Concentrated Extract Vol:</b> 10 (mL)
<b>PH:</b> 0	<b>Injection Volume:</b> 1 (ul)
<b>GPC Cleanup(Y/N):</b> N	<b>Sulfur Cleanup:</b> N
<b>Extraction Type:</b> T0-10a	
<b>Method:</b> EPA TO-10a	

CAS NO	COMPOUND	Report Limit (ug/m³)	CONC. (ug/m³)	Q
12674-11-2	Aroclor-1016	0.050		U
11104-28-2	Aroclor-1221	0.050		U
11141-16-5	Aroclor-1232	0.050		U
53469-21-9	Aroclor-1242	0.050		U
12672-29-6	Aroclor-1248	0.050		U
11097-69-1	Aroclor-1254	0.050		U
11096-82-5	Aroclor-1260	0.050		U
37324-23-5	Aroclor-1262	0.050		U
1110-14-4	Aroclor-1268	0.050		U

### Qualifier Definitions

U = Undetected

B = Compound detected in method blank

E = Estimated value

D = Dilution

P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10799.D\ECD1A.CH Vial: 14  
 Signal #2 : T:\DATA\ECD-G\G151021\G10799.D\ECD2B.CH  
 Acq On : 21 Oct 2015 7:18 pm Operator: EH  
 Sample : 011506178-6 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;1008.45;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:18:06 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	35759	231541	9.247	10.589m
2) SA Decachlorobiphen	13.49	14.66	44238	233058	9.960m	11.394m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

\*\*\*\*\*

Signal #1 : T:\DATA\ECD-G\G151021\G10799.D\ECD1A.CH  
Signal #2 : T:\DATA\ECD-G\G151021\G10799.D\ECD2B.CH  
Acq On : 21 Oct 2015 7:18 pm  
Sample : 011506178-6 TO-10a  
Misc : 10/19/15;1008.45;;10;1;1;; 1867-1 AB  
IntFile Signal #1: events.e IntFile Signal #2: events2.e  
Quant Time: Oct 22 12:18 2015 Quant Results File: D151020GL1.RES

Vial: 14  
Operator: EH  
Inst : GC-ECD-G  
Multiplr: 1.00

Quant Method : T:\METHODS\ECD-G\G151020GL1.M (Chemstation Integrator)

Title : 8082a PCB

Last Update : Wed Oct 21 11:04:14 2015

Response via : Multiple Level Calibration

DataAcq Meth : GACQ2.M

Volume Inj. : 1.0

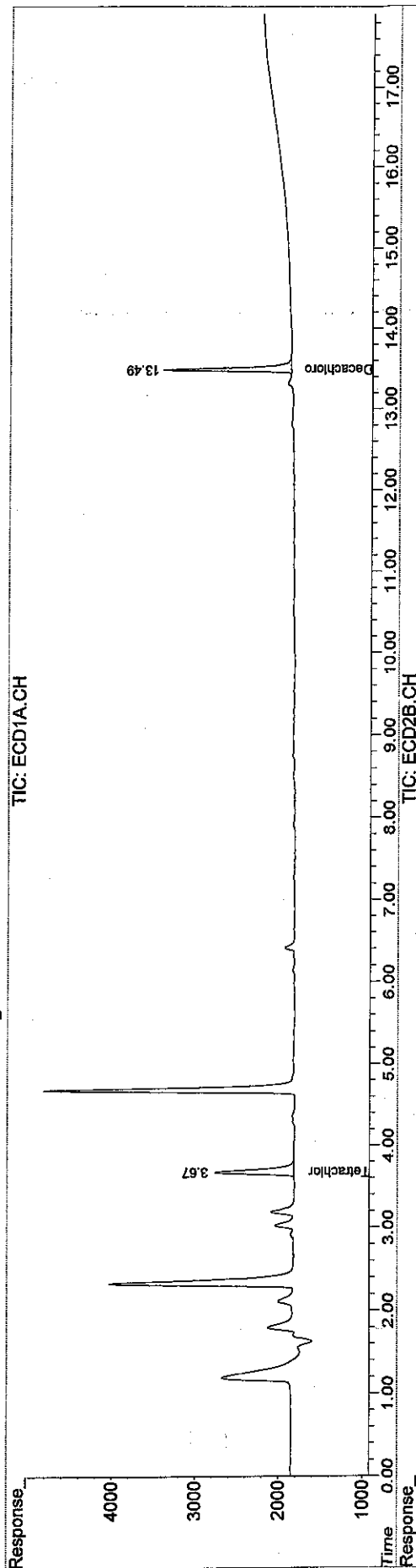
Signal #1 Phase : CLPest I

Signal #1 Info : 0.32

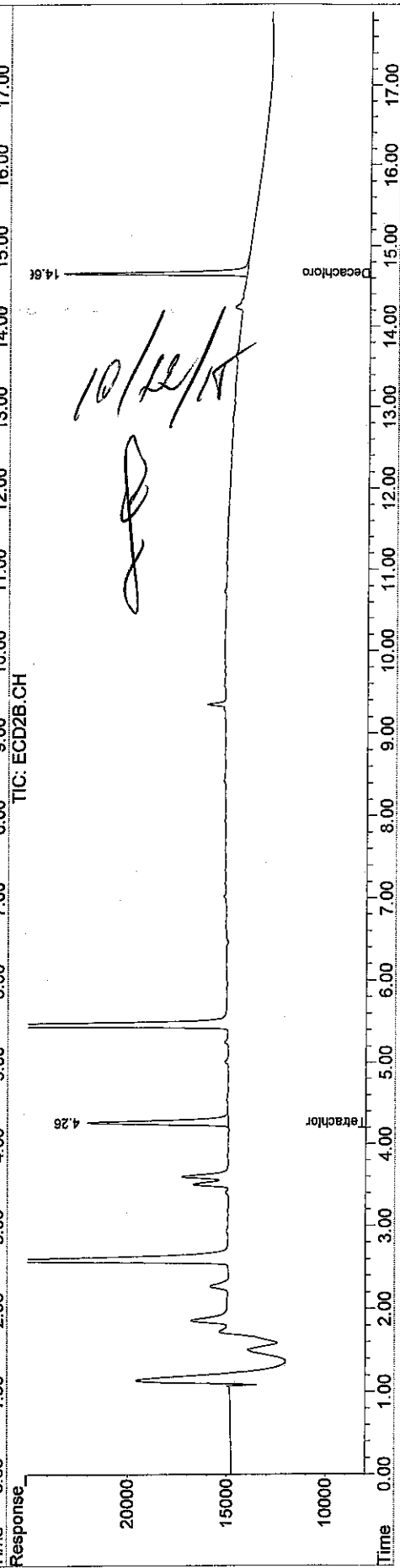
Signal #2 Phase: CLPest II

Signal #2 Info : 0.32

TIC: ECD1A.CH



TIC: ECD2B.CH



# EMSL Analytical Inc.

## PCB ORGANICS ANALYSIS DATA SHEET

<b>Customer Sample#:</b> A004-P-10152015	
<b>Lab Name:</b> EMSL Analytical	<b>Project:</b> RFP 344
<b>EMSL Sample ID:</b> 011506178-0008	<b>Sample Matrix:</b> Tubes
<b>Lab File ID:</b> G10800.D	<b>Sampling Date:</b> 10/15/2015
<b>Instrument ID:</b> GC-ECD-G	<b>Date Extracted:</b> 10/19/2015
<b>Analyst:</b> EH	<b>Analysis Date:</b> 10/21/2015 7:41:00 PM
<b>GC Column:</b> CLPest I (0.32 mm)	<b>Sample Volume:</b> 944 L
<b>GC Column 2:</b> CLPest II (0.32 mm)	<b>Dilution Factor:</b> 1
<b>% Moisture:</b>	<b>Concentrated Extract Vol:</b> 10 (mL)
<b>PH:</b> 0	<b>Injection Volume:</b> 1 (ul)
<b>GPC Cleanup(Y/N):</b> N	<b>Sulfur Cleanup:</b> N
<b>Extraction Type:</b> T0-10a	
<b>Method:</b> EPA TO-10a	

CAS NO	COMPOUND	Report Limit (ug/m³)	CONC. (ug/m³)	Q
12674-11-2	Aroclor-1016	0.053		U
11104-28-2	Aroclor-1221	0.053		U
11141-16-5	Aroclor-1232	0.053		U
53469-21-9	Aroclor-1242	0.053		U
12672-29-6	Aroclor-1248	0.053		U
11097-69-1	Aroclor-1254	0.053		U
11096-82-5	Aroclor-1260	0.053		U
37324-23-5	Aroclor-1262	0.053		U
1110-14-4	Aroclor-1268	0.053		U

Qualifier Definitions  
 U = Undetected  
 B = Compound detected in method blank  
 E = Estimated value  
 D = Dilution  
 P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10800.D\ECD1A.CH Vial: 15  
 Signal #2 : T:\DATA\ECD-G\G151021\G10800.D\ECD2B.CH  
 Acq On : 21 Oct 2015 7:41 pm Operator: EH  
 Sample : 011506178-8 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;944;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:18:31 2015 Quant Results File: D151020GL1.RES

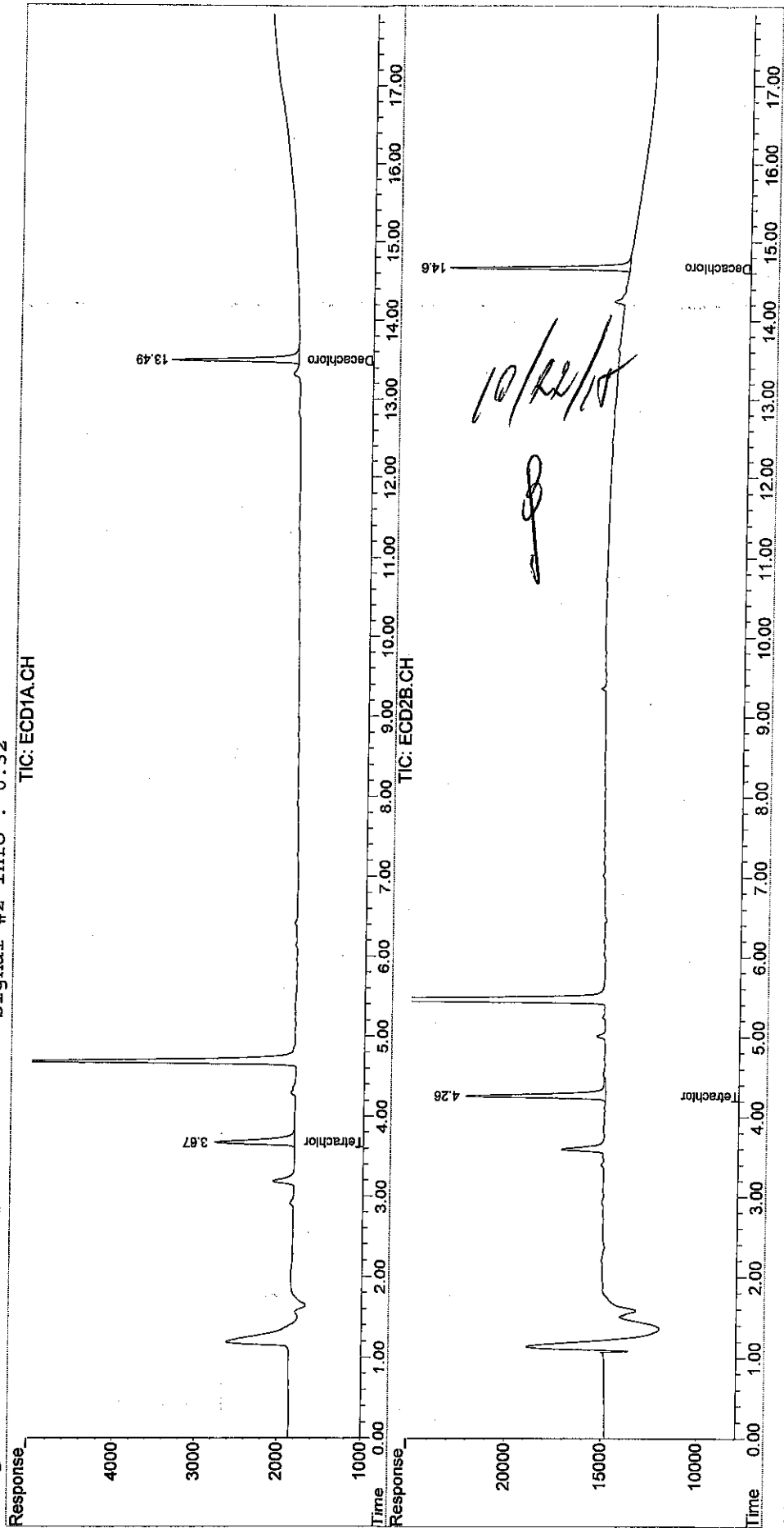
Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	36634	245035	9.474m	11.206
2) SA Decachlorobiphen	13.49	14.66	45062	233630	10.146m	11.422m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

Signal #1 : T:\DATA\ECD-G\G151021\G10800.D\ECD1A.CH Vial: 15  
 Signal #2 : T:\DATA\ECD-G\G151021\G10800.D\ECD2B.CH  
 Acq On : 21 Oct 2015 7:41 pm  
 Sample : 011506178-8 TO-10a  
 Misc : 10/19/15;944;10;1;1; 1867-1 AB  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:18 2015 Quant Results File: D151020GL1.RES  
 Quant Method : T:\METHODS\ECD-G\G151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32



# EMSL Analytical Inc.

## PCB ORGANICS ANALYSIS DATA SHEET

<b>Lab Name:</b> EMSL Analytical		<b>Customer Sample#:</b> A005-P-10152015
<b>EMSL Sample ID:</b> 011506178-0010	<b>Project:</b> RFP 344	
<b>Lab File ID:</b> G10801.D	<b>Sample Matrix:</b> Tubes	
<b>Instrument ID:</b> GC-ECD-G	<b>Sampling Date:</b> 10/15/2015	
<b>Analyst:</b> EH	<b>Date Extracted:</b> 10/19/2015	
<b>GC Column:</b> CLPest I (0.32 mm)	<b>Analysis Date:</b> 10/21/2015 8:05:00 PM	
<b>GC Column 2:</b> CLPest II (0.32 mm)	<b>Sample Volume:</b> 944 L	
<b>% Moisture:</b>	<b>Dilution Factor:</b> 1	
<b>PH:</b> 0	<b>Concentrated Extract Vol:</b> 10 (mL)	
<b>GPC Cleanup(Y/N):</b> N	<b>Injection Volume:</b> 1 (ul)	
<b>Extraction Type:</b> T0-10a	<b>Sulfur Cleanup:</b> N	
<b>Method:</b> EPA TO-10a		

CAS NO	COMPOUND	Report Limit (ug/m³)	CONC. (ug/m³)	Q
12674-11-2	Aroclor-1016	0.053		U
11104-28-2	Aroclor-1221	0.053		U
11141-16-5	Aroclor-1232	0.053		U
53469-21-9	Aroclor-1242	0.053		U
12672-29-6	Aroclor-1248	0.053		U
11097-69-1	Aroclor-1254	0.053		U
11096-82-5	Aroclor-1260	0.053		U
37324-23-5	Aroclor-1262	0.053		U
1110-14-4	Aroclor-1268	0.053		U

### Qualifier Definitions

U = Undetected

B = Compound detected in method blank

E = Estimated value

D = Dilution

P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10801.D\ECD1A.CH Vial: 16  
 Signal #2 : T:\DATA\ECD-G\G151021\G10801.D\ECD2B.CH  
 Acq On : 21 Oct 2015 8:05 pm Operator: EH  
 Sample : 011506178-10 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;944;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:18:54 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

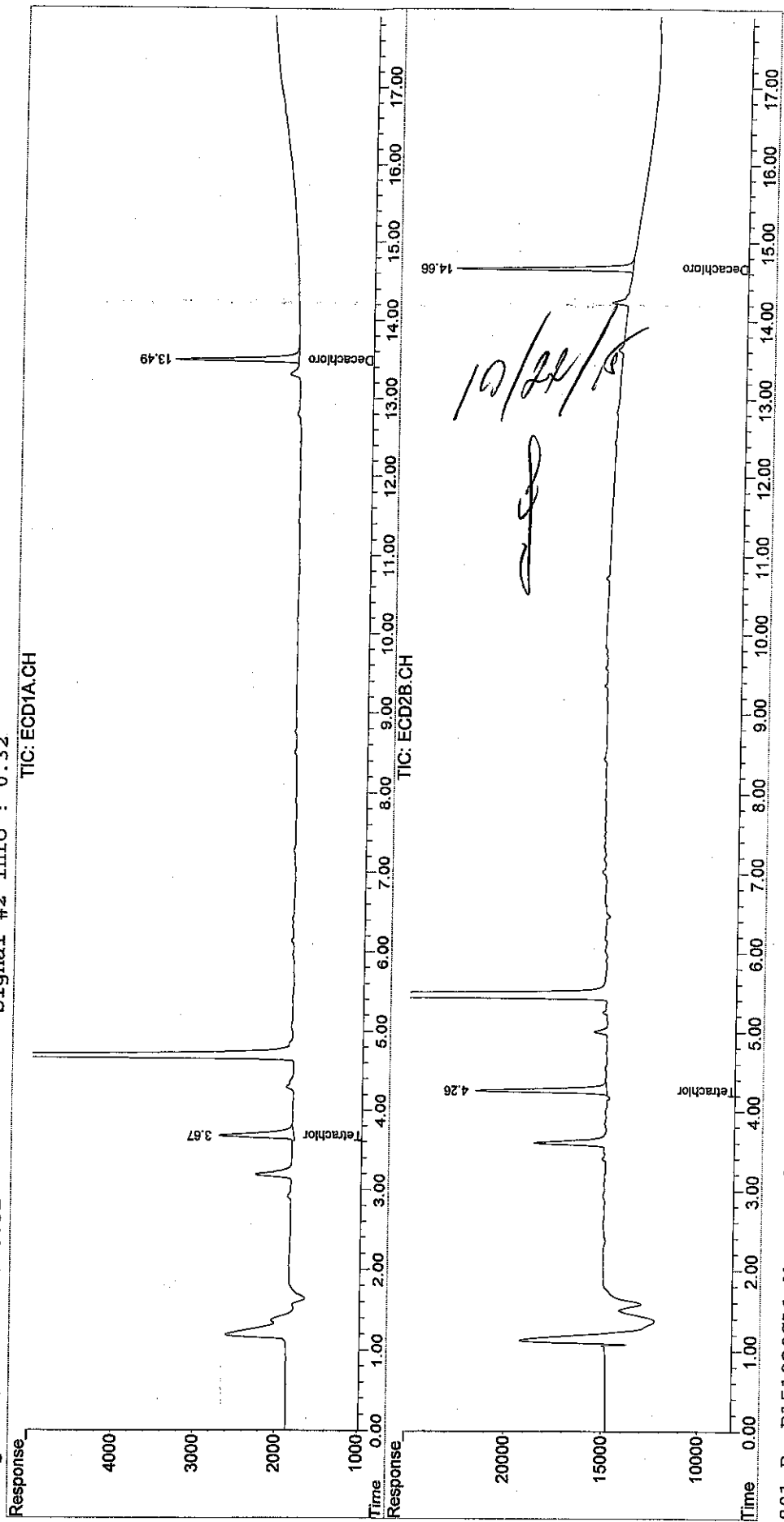
Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	35966	220612	9.301m	10.090m
2) SA Decachlorobiphen	13.49	14.66	42913	224418	9.662m	10.972m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

Signal #1 : T:\DATA\ECD-G\G151021\G10801.D\ECD1A.CH Vial: 16  
Signal #2 : T:\DATA\ECD-G\G151021\G10801.D\ECD2B.CH  
Acq On : 21 Oct 2015 8:05 pm  
Sample : 011506178-10 TO-10a  
Misc : 10/19/15;944;10;1;1; 1867-1 AB  
IntFile Signal #1: events.e IntFile Signal #2: events2.e  
Quant Time: Oct 22 12:19 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
Title : 8082a PCB  
Last Update : Wed Oct 21 11:04:14 2015  
Response via : Multiple Level Calibration  
DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
Signal #1 Phase : CLPest I  
Signal #1 Info : 0.32  
Signal #2 Phase : CLPest II  
Signal #2 Info : 0.32



PCB ORGANICS ANALYSIS DATA SHEET

<b>Lab Name:</b> EMSL Analytical		<b>Customer Sample#:</b>	FB-P-10152015		
<b>EMSL Sample ID:</b>	011506178-0012	<b>Project:</b>	RFP 344		
<b>Lab File ID:</b>	G10802.D	<b>Sample Matrix:</b>	Tubes		
<b>Instrument ID:</b>	GC-ECD-G	<b>Sampling Date:</b>	10/15/2015		
<b>Analyst:</b>	EH	<b>Date Extracted:</b>	10/19/2015		
<b>GC Column:</b>	CLPest I (0.32 mm)	<b>Analysis Date:</b>	10/21/2015 8:29:00 PM		
<b>GC Column 2:</b>	CLPest II (0.32 mm)	<b>Sample Volume:</b>	1 PUF		
<b>% Moisture:</b>		<b>Dilution Factor:</b>	1		
<b>PH:</b>	0	<b>Concentrated Extract Vol:</b>	10 (mL)		
<b>GPC Cleanup(Y/N):</b>	N	<b>Injection Volume:</b>	1 (ul)		
<b>Extraction Type:</b>	TO-10a	<b>Sulfur Cleanup:</b>	N		
<b>Method:</b>	EPA TO-10a				

CAS NO	COMPOUND	Report Limit (ug/PUF)	CONC. (ug/PUF)	Q
12674-11-2	Aroclor-1016	0.050		U
11104-28-2	Aroclor-1221	0.050		U
11141-16-5	Aroclor-1232	0.050		U
53469-21-9	Aroclor-1242	0.050		U
12672-29-6	Aroclor-1248	0.050		U
11097-69-1	Aroclor-1254	0.050		U
11096-82-5	Aroclor-1260	0.050		U
37324-23-5	Aroclor-1262	0.050		U
1110-14-4	Aroclor-1268	0.050		U

Qualifier Definitions  
 U = Undetected  
 B = Compound detected in method blank  
 E = Estimated value  
 D = Dilution  
 P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10802.D\ECD1A.CH Vial: 17  
 Signal #2 : T:\DATA\ECD-G\G151021\G10802.D\ECD2B.CH  
 Acq On : 21 Oct 2015 8:29 pm Operator: EH  
 Sample : 011506178-12 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;1;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:19:39 2015 Quant Results File: D151020GL1.RES

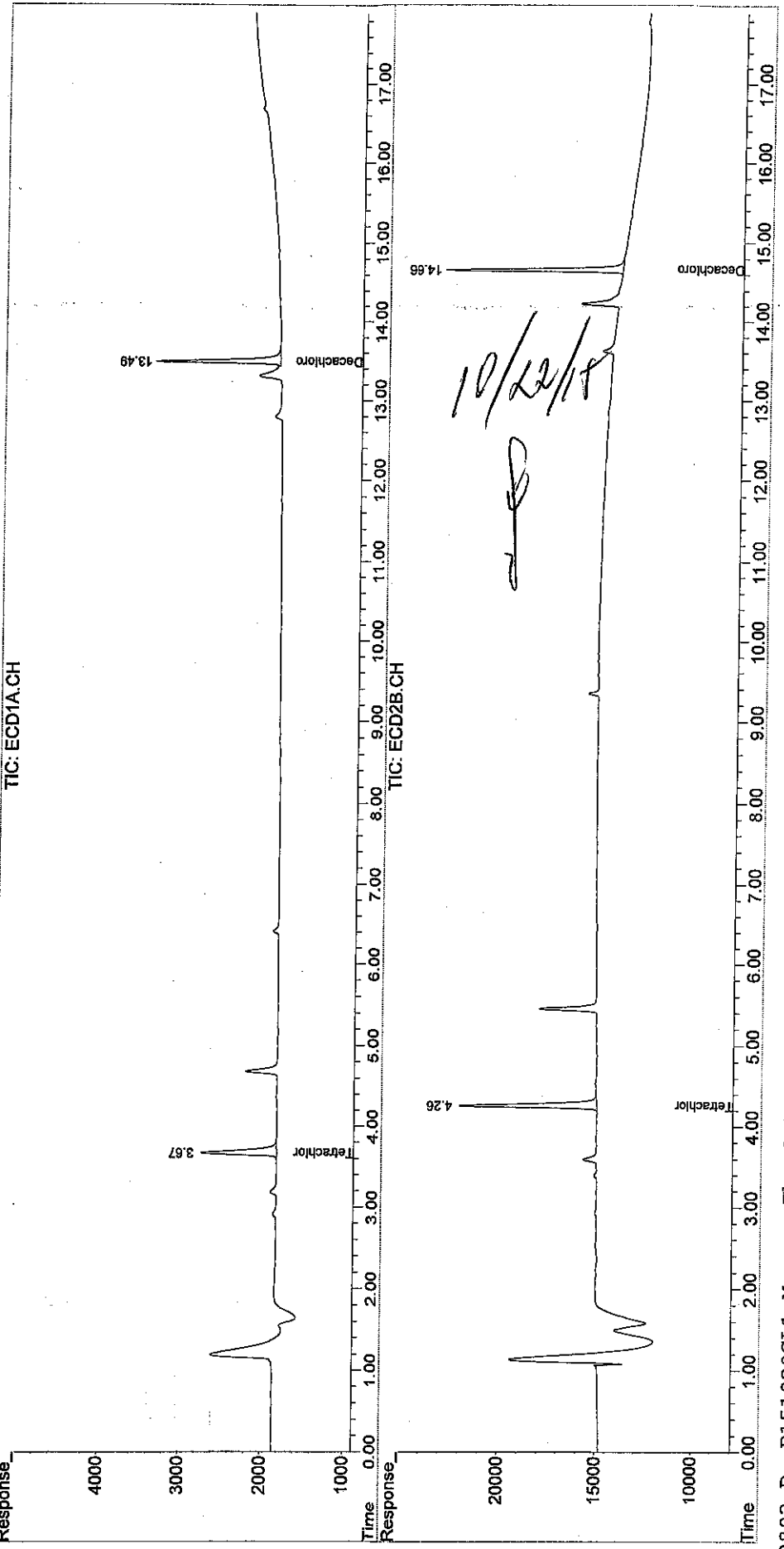
Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	34901	227381	9.025m	10.399m
2) SA Decachlorobiphen	13.49	14.66	44967	227791	10.124m	11.137m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

Signal #1 : T:\DATA\ECD-G\G151021\G10802.D\ECD1A.CH Vial: 17  
 Signal #2 : T:\DATA\ECD-G\G151021\G10802.D\ECD2B.CH  
 Acq On : 21 Oct 2015 8:29 pm  
 Sample : 011506178-12 TO-10a  
 Misc : 10/19/15;1;10;1;1; 1867-1 AB  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:19 2015 Quant Results File: D151020GL1.RES  
 Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32



# EMSL Analytical Inc.

## TUBE PCB SURROGATE RECOVERY

Lab Name: EMSL Analytical

\* : Values outside of QC limits

D: Surrogate diluted out

Compound Name:		TCX	TCX2	DCB	DCB2	Total Out
CAS #:		877-09-8	877-09-8	2051-24-3	2051-24-3	
QC Limits:		(60-120)	(60-120)	(60-120)	(60-120)	
MB 1 GC 1867-1	10/21/15 16:55	92	105	100	111	0
LCS 1 GC 1867-1	10/21/15 17:19	96	105	102	111	0
LCS 2 GC 1867-1	10/21/15 17:42	98	106	102	116	0
SRB 1 GC 1867-1	10/21/15 18:06	77	83	77	84	0
011506178-2	10/21/15 18:30	96	107	98	110	0
011506178-4	10/21/15 18:54	92	107	99	111	0
011506178-6	10/21/15 19:18	93	106	100	114	0
011506178-8	10/21/15 19:41	95	112	102	114	0
011506178-10	10/21/15 20:05	93	101	97	110	0
011506178-12	10/21/15 20:29	90	104	101	111	0

TCX=Tetrachloro-m-xylene

DCB=Decachlorobiphenyl

# EMSL Analytical Inc.

## PCB METHOD BLANK SUMMARY

<b>Sample List Name</b>	QC Batch GC 1867-1				
<b>Lab Name:</b>	EMSL Analytical	<b>Lab FileID:</b>	G10793.D		
<b>EMSL Sample:</b>	MB 1 GC 1867-1 TO-10a	<b>Analysis Date</b>	10/21/2015 4:55:00 PM		
<b>Sulfur Cleanup:</b>	N	<b>Sample Matrix:</b>	Tube		
<b>Date Extracted:</b>	10/19/2015		TO-10a		
<b>THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:</b>					

	Lab Sample ID	Customer Sample No	LAB FILE ID	Analysis Time	Sample Type
1	LCS 1 GC 1867-1 TO-10a	LCS 1 GC 1867-1 TO-10a	G10794.D	10/21/15 17:19	Lab Control Sample
2	LCS 2 GC 1867-1 TO-10a	LCS 2 GC 1867-1 TO-10a	G10795.D	10/21/15 17:42	Lab Control Sample
3	SRB 1 GC 1867-1 TO-10a	SRB 1 GC 1867-1 TO-10a	G10796.D	10/21/15 18:06	Sample
4	011506178-2 TO-10a	A001-P-10152015	G10797.D	10/21/15 18:30	Sample
5	011506178-4 TO-10a	A002-P-10152015	G10798.D	10/21/15 18:54	Sample
6	011506178-6 TO-10a	A003-P-10152015	G10799.D	10/21/15 19:18	Sample
7	011506178-8 TO-10a	A004-P-10152015	G10800.D	10/21/15 19:41	Sample
8	011506178-10 TO-10a	A005-P-10152015	G10801.D	10/21/15 20:05	Sample
9	011506178-12 TO-10a	FB-P-10152015	G10802.D	10/21/15 20:29	Sample

# EMSL Analytical Inc.

## PCB ORGANICS ANALYSIS DATA SHEET

<b>Lab Name:</b> EMSL Analytical		<b>Customer Sample#:</b> MB 1 GC 1867-1 TO-10a
<b>EMSL Sample ID:</b>		<b>Project:</b>
<b>Lab File ID:</b> G10793.D		<b>Sample Matrix:</b> PUF
<b>Instrument ID:</b> GC-ECD-G		<b>Sampling Date:</b> 12:00:00 AM
<b>Analyst:</b> EH		<b>Date Extracted:</b> 10/19/2015
<b>GC Column:</b> CLPest I (0.32 mm)		<b>Analysis Date:</b> 10/21/2015 4:55:00 PM
<b>GC Column 2:</b> CLPest II (0.32 mm)		<b>Sample Volume:</b> 1 PUF
<b>% Moisture:</b> 0		<b>Dilution Factor:</b> 1
<b>PH:</b> 0		<b>Concentrated Extract Vol:</b> 10 (mL)
<b>GPC Cleanup(Y/N):</b> N		<b>Injection Volume:</b> 1 (ul)
<b>Extraction Type:</b> T0-10a		<b>Sulfur Cleanup:</b> N
<b>Method:</b> EPA TO-10a		

CAS NO	COMPOUND	Report Limit (ug/PUF)	CONC. (ug/PUF)	Q
12674-11-2	Aroclor-1016	0.050		U
11104-28-2	Aroclor-1221	0.050		U
11141-16-5	Aroclor-1232	0.050		U
53469-21-9	Aroclor-1242	0.050		U
12672-29-6	Aroclor-1248	0.050		U
11097-69-1	Aroclor-1254	0.050		U
11096-82-5	Aroclor-1260	0.050		U
37324-23-5	Aroclor-1262	0.050		U
1110-14-4	Aroclor-1268	0.050		U

Qualifier Definitions  
 U = Undetected  
 B = Compound detected in method blank  
 E = Estimated value  
 D = Dilution  
 P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10793.D\ECD1A.CH Vial: 8  
 Signal #2 : T:\DATA\ECD-G\G151021\G10793.D\ECD2B.CH  
 Acq On : 21 Oct 2015 4:55 pm Operator: EH  
 Sample : MB 1 GC 1867-1 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;1;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:11:45 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.68	4.27	35500	229687	9.180m	10.505
2) SA Decachlorobiphen	13.49	14.66	44515	227112	10.023	11.104m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

Signal #1 : T:\DATA\ECD-G\G151021\G10793.D\ECD1A.CH Vial: 8  
Signal #2 : T:\DATA\ECD-G\G151021\G10793.D\ECD2B.CH  
Acq On : 21 Oct 2015 4:55 pm  
Sample : MB 1 GC 1867-1 TO-10a  
Misc : 10/19/15;1;10;1;1;; 1867-1 AB  
IntFile Signal #1: events.e IntFile Signal #2: events2.e  
Quant Time: Oct 22 12:11 2015 Quant Results File: D151020GL1.RES  
Operator: EH  
Inst : GC-ECD-G  
Multiplr: 1.00

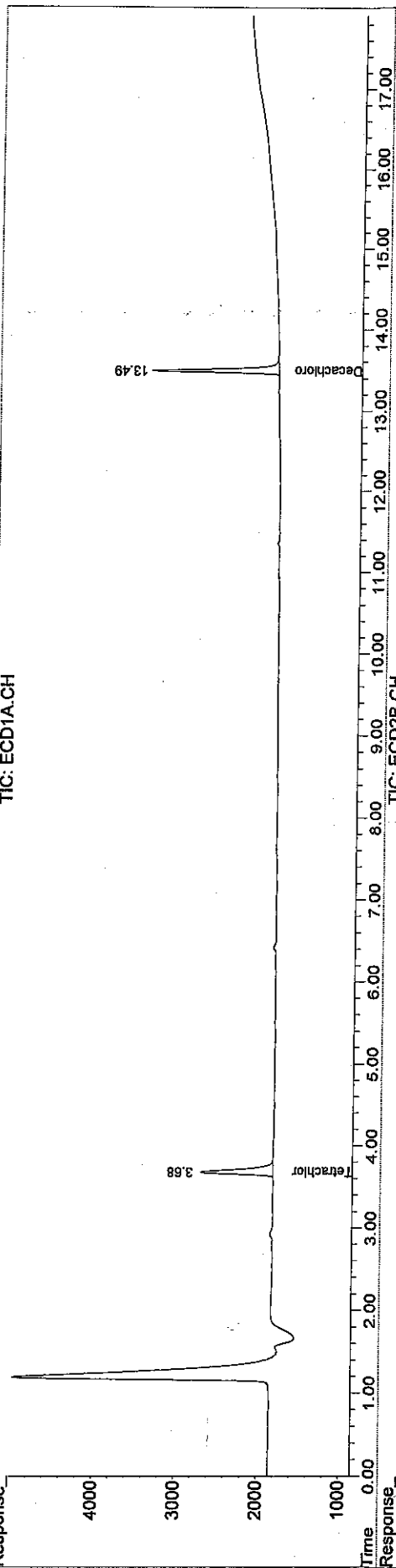
Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
Title : 8082a PCB  
Last Update : Wed Oct 21 11:04:14 2015  
Response via : Multiple Level Calibration  
DataAcq Meth : GACQ2.M

Volume Inj. : 1.0

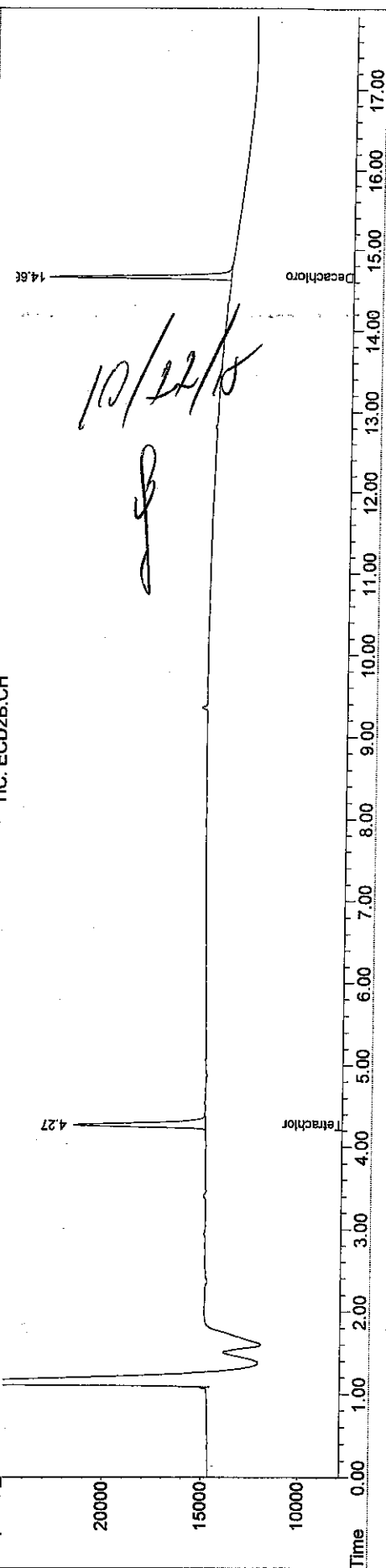
Signal #1 Phase : CLPest I  
Signal #1 Info : 0.32

Signal #2 Phase: CLPest II  
Signal #2 Info : 0.32

Response  
TIC: ECD1A.CH



Response  
TIC: ECD2B.CH



# EMSL Analytical Inc.

## PCB ORGANICS ANALYSIS DATA SHEET

<b>Lab Name:</b> EMSL Analytical		<b>Customer Sample#:</b> SRB 1 GC 1867-1
<b>EMSL Sample ID:</b>		<b>Project:</b>
<b>Lab File ID:</b> G10796.D		<b>Sample Matrix:</b> PUF
<b>Instrument ID:</b> GC-ECD-G		<b>Sampling Date:</b> 12:00:00 AM
<b>Analyst:</b> EH		<b>Date Extracted:</b> 10/19/2015
<b>GC Column:</b> CLPest I (0.32 mm)		<b>Analysis Date:</b> 10/21/2015 6:06:00 PM
<b>GC Column 2:</b> CLPest II (0.32 mm)		<b>Sample Volume:</b> 1 L
<b>% Moisture:</b> 0		<b>Dilution Factor:</b> 1
<b>PH:</b> 0		<b>Concentrated Extract Vol:</b> 10 (mL)
<b>GPC Cleanup(Y/N):</b> N		<b>Injection Volume:</b> 1 (ul)
<b>Extraction Type:</b> T0-10a		<b>Sulfur Cleanup:</b> N
<b>Method:</b> EPA TO-10a		

CAS NO	COMPOUND	Report Limit (ug/L)	CONC. (ug/L)	Q
12674-11-2	Aroclor-1016	0.050		U
11104-28-2	Aroclor-1221	0.050		U
11141-16-5	Aroclor-1232	0.050		U
53469-21-9	Aroclor-1242	0.050		U
12672-29-6	Aroclor-1248	0.050		U
11097-69-1	Aroclor-1254	0.050		U
11096-82-5	Aroclor-1260	0.050		U
37324-23-5	Aroclor-1262	0.050		U
1110-14-4	Aroclor-1268	0.050		U

Qualifier Definitions  
 U = Undetected  
 B = Compound detected in method blank  
 E = Estimated value  
 D = Dilution  
 P = Results between the two columns differ >40%

Signal #1 : T:\DATA\ECD-G\G151021\G10796.D\ECD1A.CH Vial: 11  
 Signal #2 : T:\DATA\ECD-G\G151021\G10796.D\ECD2B.CH  
 Acq On : 21 Oct 2015 6:06 pm Operator: EH  
 Sample : SRB 1 GC 1867-1 TO-10a Inst : GC-ECD-G  
 Misc : 10/19/15;1;;10;1;1;; 1867-1 AB Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:15:06 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

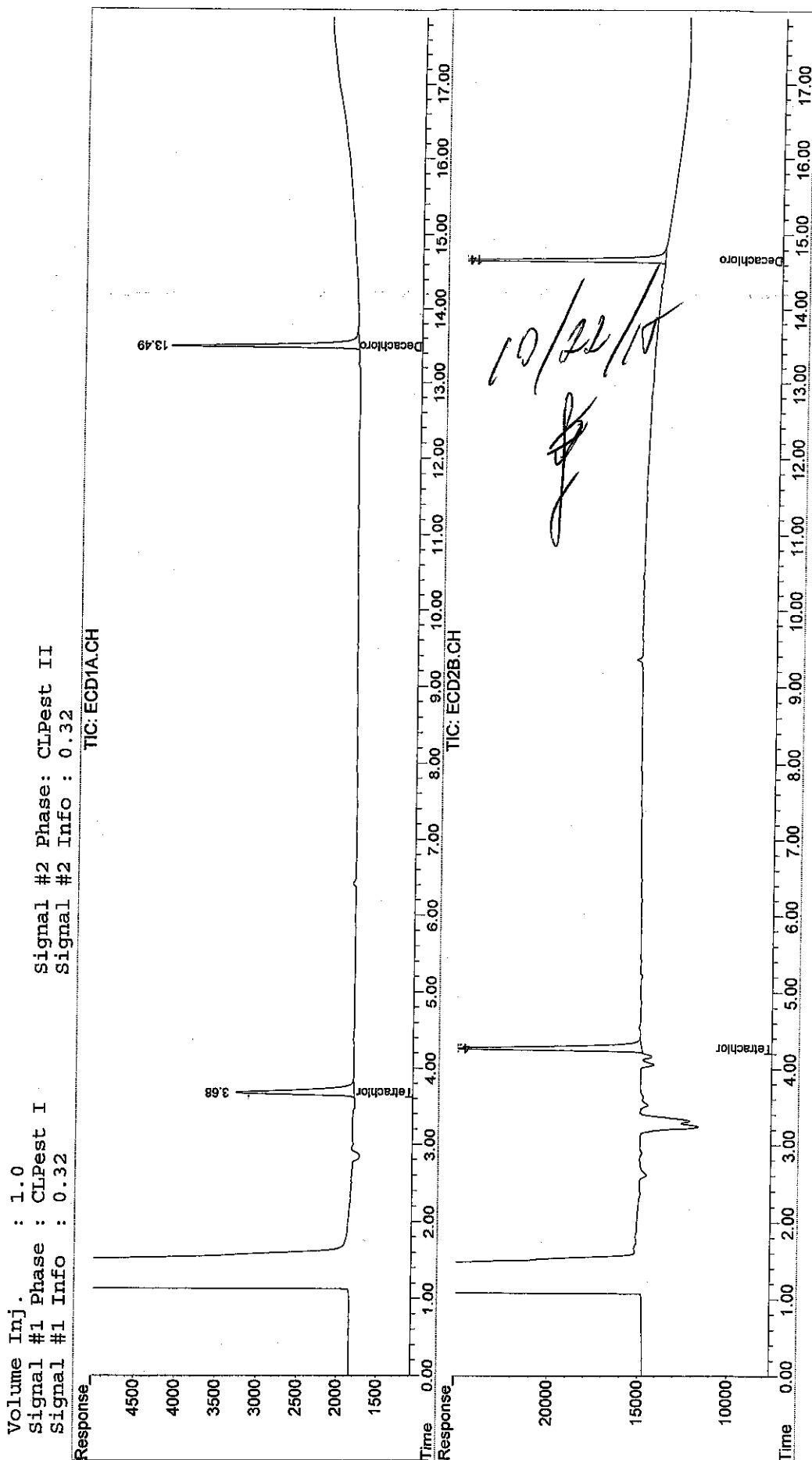
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.68	4.26	59532	364032	15.395	16.649m
2) SA Decachlorobiphen	13.49	14.66	68735	343315	15.476m	16.785m
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000

*2X SUR*

Signal #1 : T:\DATA\ECD-G\G151021\G10796.D\ECD1A.CH  
 Signal #2 : T:\DATA\ECD-G\G151021\G10796.D\ECD2B.CH  
 Acq On : 21 Oct 2015 6:06 pm  
 Sample : SRB 1 GC 1867-1 TO-10a  
 Misc : 10/19/15;1;10;1;1; 1867-1 AB  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:17 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\G151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32



## Injection Log

Directory: T:\DATA\ECD-GIG151020

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	G10739.d	1.	1660 3143-9-11		20 Oct 2015 15:39
2	2	G10740.d	1.	1660 LL 3143-9-10	10/16/15;35;;2;1;...	20 Oct 2015 16:00
3	3	G10741.d	1.	2500 3143-9-1		20 Oct 2015 17:43
4	4	G10742.d	1.	2500 3143-9-1		20 Oct 2015 18:07
5	5	G10743.d	1.	1000 3143-9-2		20 Oct 2015 18:31
6	6	G10744.d	1.	500 3143-9-3		20 Oct 2015 18:55
7	7	G10745.d	1.	250 3143-9-4		20 Oct 2015 19:19
8	8	G10746.d	1.	100 3143-9-5		20 Oct 2015 19:42
9	9	G10747.d	1.	50 3143-9-6		20 Oct 2015 20:06
10	10	G10748.d	1.	25 3143-9-7		20 Oct 2015 20:30
11	11	G10749.d	1.	10 3143-9-8		20 Oct 2015 20:54
12	12	G10750.d	1.	5 3143-9-9		20 Oct 2015 21:18
13	13	G10751.d	1.	ICV 3143-7-5		20 Oct 2015 21:41
14	14	G10752.d	1.	ICV LL 3143-76		20 Oct 2015 22:05
15	15	G10753.d	1.	2154 3143-7-7		20 Oct 2015 22:29
16	16	G10754.d	1.	1232 3143-7-13		20 Oct 2015 22:53
17	17	G10755.d	1.	1242 3143-7-11		20 Oct 2015 23:17
18	18	G10756.d	1.	1248 3143-7-9		20 Oct 2015 23:40
19	19	G10757.d	1.	1262 3143-8-1		21 Oct 2015 00:04
20	20	G10758.d	1.	1268 3143-8-3		21 Oct 2015 00:28
21	21	G10759.d	1.	2154 LL 3143-7-8		21 Oct 2015 00:52
22	22	G10760.d	1.	1232 LL 3143-7-14		21 Oct 2015 01:16
23	23	G10761.d	1.	1242 LL 3143-7-12		21 Oct 2015 01:40
24	24	G10762.d	1.	1248 LL 3143-7-10		21 Oct 2015 02:03
25	25	G10763.d	1.	1262 LL 3143-8-2		21 Oct 2015 02:27
26	26	G10764.d	1.	1268 LL 3143-8-4		21 Oct 2015 02:51
27	27	G10765.d	1.	1660 LL 3143-9-10		21 Oct 2015 03:15
28	28	G10766.d	1.	RL 3143-9-9		21 Oct 2015 03:39
29	29	G10767.d	1.	MB 1 GC 1863	10/20/15;1;;5;1;1...	21 Oct 2015 04:02
30	30	G10768.d	1.	LCS 1 GC 1863	10/20/15;1;;5;1;1...	21 Oct 2015 04:26
31	31	G10769.d	1.	LCS 2 GC 1863	10/20/15;1;;5;1;1...	21 Oct 2015 04:50
32	32	G10770.d	1.	6117-1 F	10/20/15;38.19;;5...	21 Oct 2015 05:14
33	33	G10771.d	1.	6117-2 F	10/20/15;44.95;;5...	21 Oct 2015 05:38
34	34	G10772.d	1.	6117-3 F	10/20/15;47.71;;5...	21 Oct 2015 06:02
35	35	G10773.d	1.	6117-1 B	10/20/15;38.19;;2...	21 Oct 2015 06:25
36	36	G10774.d	1.	6117-2 B	10/20/15;44.95;;2...	21 Oct 2015 06:49
37	37	G10775.d	1.	6117-3 B	10/20/15;47.71;;2...	21 Oct 2015 07:13
38	38	G10776.d	1.	1660 LL 3143-9-10		21 Oct 2015 07:37
39	39	G10777.d	1.	MB 1 3295-44	10/20/15;1000;;10...	21 Oct 2015 08:00
40	40	G10778.d	1.	LCS 1 3295-44	10/20/15;1000;;10...	21 Oct 2015 08:24
41	41	G10779.d	1.	LCS 2 3295-44	10/20/15;1000;;10...	21 Oct 2015 08:48
42	42	G10780.d	1.	6170-1	10/20/15;680;;10;...	21 Oct 2015 09:12
43	43	G10781.d	1.	HEX		21 Oct 2015 09:36
44	44	G10782.d	1.	HEX		21 Oct 2015 09:59
45	45	G10783.d	1.	HEX		21 Oct 2015 10:23
46	46	G10784.d	1.	1660 LL 3143-9-10		21 Oct 2015 10:47
47	47	G10785.d	1.	DDD,DDE,DDT 3143-8-6		21 Oct 2015 11:11

Form 8  
Pesticide/PCB Analytical Sequence

Lab Name: EMSL Analytical, Inc.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

GC Column1: RTX-CLPesticides

ID: 0.32 (mm)

Init. Calib. Date (s)

GC Column2: RTX-CLPesticides2

ID: 0.32 (mm)

Pesticides:

PCBs: 10/20/2015

Herbicides:

Instrument ID: ECD-G

The Analytical sequence of performance evaluation mixtures, blanks, samples and standards is given below:

Surrogate RT from Initial Continuing Calibration Verification in the sequence							
S1A: 3.67		S2A: 13.49					
S1B: 4.26		S2B: 14.66					
Lab File ID	Data File ID	Date Analyzed	Time Analyzed	S1A # RT	S2A # RT	S1B # RT	S2B # RT
1 2500 3143-9-1	G10742.D	10/20/2015	6:07 PM	3.67	13.49	4.26	14.66
2 1000 3143-9-2	G10743.D	10/20/2015	6:31 PM	3.67	13.49	4.26	14.66
3 500 3143-9-3	G10744.D	10/20/2015	6:55 PM	3.67	13.49	4.26	14.66
4 250 3143-9-4	G10745.D	10/20/2015	7:19 PM	3.67	13.49	4.26	14.66
5 100 3143-9-5	G10746.D	10/20/2015	7:42 PM	3.68	13.50	4.27	14.66
6 50 3143-9-6	G10747.D	10/20/2015	8:06 PM	3.67	13.50	4.26	14.67
7 25 3143-9-7	G10748.D	10/20/2015	8:30 PM	3.68	13.50	4.26	14.67
8 10 3143-9-8	G10749.D	10/20/2015	8:54 PM	3.68	13.50	4.26	14.67
9 5 3143-9-9	G10750.D	10/20/2015	9:18 PM	3.68	13.50	4.26	14.67
10 ICV 3143-7-5	G10751.D	10/20/2015	9:41 PM	3.67	13.49	4.26	14.66
11 ICV LL 3143-76	G10752.D	10/20/2015	10:05 PM	3.67	13.50	4.26	14.66
12 2154 3143-7-7	G10753.D	10/20/2015	10:29 PM	3.67	13.49	4.26	14.66
13 1232 3143-7-13	G10754.D	10/20/2015	10:53 PM	3.67	13.49	4.26	14.66
14 1242 3143-7-11	G10755.D	10/20/2015	11:17 PM	3.67	13.49	4.26	14.66
15 1248 3143-7-9	G10756.D	10/20/2015	11:40 PM	3.67	13.49	4.26	14.66
16 1262 3143-8-1	G10757.D	10/21/2015	12:04 AM	3.67	13.49	4.26	14.66
17 1268 3143-8-3	G10758.D	10/21/2015	12:28 AM	3.67	13.49	4.26	14.66
18 2154 LL 3143-7-8	G10759.D	10/21/2015	12:52 AM	3.67	13.50	4.26	14.67
19 1232 LL 3143-7-14	G10760.D	10/21/2015	1:16 AM	3.67	13.50	4.26	14.67
20 1242 LL 3143-7-12	G10761.D	10/21/2015	1:40 AM	3.67	13.50	4.26	14.67
21 1248 LL 3143-7-10	G10762.D	10/21/2015	2:03 AM	3.67	13.50	4.26	14.67
22 1262 LL 3143-8-2	G10763.D	10/21/2015	2:27 AM	3.67	13.50	4.26	14.66
23 1268 LL 3143-8-4	G10764.D	10/21/2015	2:51 AM	3.68	13.50	4.27	14.66
24 1660 LL 3143-9-10	G10765.D	10/21/2015	3:15 AM	3.68	13.50	4.27	14.67
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							

S1 = 2,4,5,6-tetrachloro-m-xylene  
S2 = decachlorobiphenyl

QC limits  
(+/- 0.05 minutes)  
(+/- 0.05 minutes)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC Limits.  
D Surrogate diluted out.

## Response Factor Report GC-ECD-G

Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)

Title : 8082a PCB

Last Update : Wed Oct 21 11:04:14 2015

## Calibration Files

5	=G10750.D	10	=G10749.D	25	=G10748.D
50	=G10747.D	100	=G10746.D	250	=G10745.D

	Compound	5	10	25	50	100	250	Avg		%RSD
1)	SA Tetrachloro-m-xy	3.943	3.971	4.052	3.800	3.762	3.716	3.867	E3	3.25
2)	SA Decachlorobiphen	4.959	4.826	4.619	4.525	4.312	4.147	4.441	E3	7.78
3)	L1 Aroclor-1016{1}	1.693	1.840	1.535	1.377	1.334	1.259	1.507	E2	14.98
4)	L1 Aroclor-1016{2}	3.432	3.232	3.169	3.149	2.935	2.726	3.107	E2	7.90
5)	L1 Aroclor-1016{3}	4.332	4.249	4.139	3.935	3.751	3.699	4.018	E2	6.55
6)	L1 Aroclor-1016{4}	2.426	2.205	2.180	1.963	1.878	1.863	2.086	E2	10.65
7)	L1 Aroclor-1016{5}	2.490	2.222	2.083	2.049	1.942	1.888	2.112	E2	10.35
8)	L7 Aroclor-1260{1}	3.673	3.676	3.505	3.233	3.080	2.880	3.341	E2	9.86
9)	L7 Aroclor-1260{2}	4.959	5.282	5.588	5.226	5.149	4.909	5.185	E2	4.75
10)	L7 Aroclor-1260{3}	2.747	3.303	3.544	3.542	3.538	3.469	3.357	E2	9.32
11)	L7 Aroclor-1260{4}	4.962	4.775	5.084	5.054	4.974	4.818	4.944	E2	2.52
12)	L7 Aroclor-1260{5}	3.562	2.885	3.039	2.980	3.057	3.056	3.097	E2	7.67

## Signal #2 Calibration Files

5	=G10750.D	10	=G10749.D	25	=G10748.D
50	=G10747.D	100	=G10746.D	250	=G10745.D

	Compound	5	10	25	50	100	250	Avg		%RSD
1)	SA Tetrachloro-m-xy	2.495	2.399	2.335	2.278	2.187	2.053	2.187	E4	10.82
2)	SA Decachlorobiphen	2.360	2.348	2.254	2.201	2.074	1.874	2.045	E4	14.93
3)	L1 Aroclor-1016{1}	6.577	5.839	5.788	5.639	5.422	5.077	5.724	E2	8.78
4)	L1 Aroclor-1016{2}	1.214	1.173	1.160	1.149	1.090	1.007	1.132	E3	6.47
5)	L1 Aroclor-1016{3}	2.421	2.378	2.324	2.312	2.191	2.048	2.279	E3	6.04
6)	L1 Aroclor-1016{4}	1.034	0.953	0.922	0.908	0.896	0.846	0.927	E3	6.82
7)	L1 Aroclor-1016{5}	8.289	7.322	6.934	6.866	6.707	6.355	7.079	E2	9.48
8)	L7 Aroclor-1260{1}	1.297	1.372	1.449	1.434	1.403	1.273	1.371	E3	5.28
9)	L7 Aroclor-1260{2}	1.545	1.730	1.803	1.758	1.710	1.571	1.686	E3	6.19
10)	L7 Aroclor-1260{3}	1.314	1.445	1.511	1.375	1.384	1.218	1.374	E3	7.40
11)	L7 Aroclor-1260{4}	2.752	2.949	2.802	2.780	2.731	2.378	2.732	E3	6.94
12)	L7 Aroclor-1260{5}	1.710	1.678	1.654	1.659	1.657	1.581	1.657	E3	2.58

## Compound List Report GC-ECD-G

Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 Total Cpnds : 25

PK#	Type	Compound Name	Exp_RT	Rel_RT	Cal	A/H	ID
1	SA	Tetrachloro-m-xylene	3.67	1.000	A	A	B
2	SA	Decachlorobiphenyl	13.50	1.000	A	A	B
3	L1	Aroclor-1016 {1}	4.36	1.000	A	A	B
4	L1	Aroclor-1016 {2}	5.04	1.000	A	A	B
5	L1	Aroclor-1016 {3}	5.97	1.000	A	A	B
6	L1	Aroclor-1016 {4}	6.24	1.000	A	A	B
7	L1	Aroclor-1016 {5}	7.10	1.000	A	A	B
8	L7	Aroclor-1260 {1}	9.54	1.000	A	A	B
9	L7	Aroclor-1260 {2}	10.02	1.000	A	A	B
10	L7	Aroclor-1260 {3}	10.48	1.000	A	A	B
11	L7	Aroclor-1260 {4}	11.53	1.000	A	A	B
12	L7	Aroclor-1260 {5}	11.99	1.000	A	A	B
13		Column #2	0.00	1.000	A	A	B
14	SA	Tetrachloro-m-xylene #2	4.26	1.000	A	A	B
15	SA	Decachlorobiphenyl #2	14.66	1.000	A	A	B
16	L1	Aroclor-1016 {1} #2	5.31	1.000	A	A	B
17	L1	Aroclor-1016 {2} #2	6.18	1.000	A	A	B
18	L1	Aroclor-1016 {3} #2	7.18	1.000	A	A	B
19	L1	Aroclor-1016 {4} #2	7.48	1.000	A	A	B
20	L1	Aroclor-1016 {5} #2	8.49	1.000	A	A	B
21	L7	Aroclor-1260 {1} #2	10.74	1.000	A	A	B
22	L7	Aroclor-1260 {2} #2	11.08	1.000	A	A	B
23	L7	Aroclor-1260 {3} #2	11.76	1.000	A	A	B
24	L7	Aroclor-1260 {4} #2	12.56	1.000	A	A	B
25	L7	Aroclor-1260 {5} #2	13.07	1.000	A	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin

A/H = Area or Height

ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

D151020GL1.M

Wed Oct 21 11:04:33 2015

Signal #1 : T:\DATA\ECD-G\G151020\G10747.D\ECD1A.CH Vial: 9  
 Signal #2 : T:\DATA\ECD-G\G151020\G10747.D\ECD2B.CH  
 Acq On : 20 Oct 2015 8:06 pm Operator: TL  
 Sample : 50 3143-9-6 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 21 10:01:41 2015 Quant Results File: D151020G1.RES

Quant Method : T:\METHODS\ECD-G\D151020G1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 10:00:58 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	18999	113894	5.089m	5.654m
2) SA Decachlorobiphen	13.50	14.66	22626	110046	5.508m	6.281m
Target Compounds						
3) L1 Aroclor-1016{1}	4.36	5.31	6887	28197	57.736m	56.132m
4) L1 Aroclor-1016{2}	5.04	6.19	15743	57471	63.338m	N.D. m#
5) L1 Aroclor-1016{3}	5.97	7.18	19677	115617	53.646m	N.D. m#
6) L1 Aroclor-1016{4}	6.24	7.48	9814	45386	56.813m	54.907m
7) L1 Aroclor-1016{5}	7.10	8.49	10246	34328	57.931m	55.270
Sum Aroclor-1016			62366	107912	289.464	126.946
Average Aroclor-1016					57.893	42.315
8) L7 Aroclor-1260{1}	9.54	10.74	16164	71711	59.457m	N.D. m#
9) L7 Aroclor-1260{2}	10.02	11.08	26129	87906	56.843m	58.886m
10) L7 Aroclor-1260{3}	10.48	11.76	17711	68752	50.250m	58.755m
11) L7 Aroclor-1260{4}	11.53	12.56	25270	138980	52.591m	59.282m
12) L7 Aroclor-1260{5}	11.99f	13.07	14902	82972	51.593m	53.723
Sum Aroclor-1260			100176	378610	270.734	215.498
Average Aroclor-1260					54.147	53.875

Signal #1 : T:\DATA\ECD-G\G151020\G10747.D\ECD1A.CH  
Signal #2 : T:\DATA\ECD-G\G151020\G10747.D\ECD2B.CH  
Acq On : 20 Oct 2015 8:06 pm  
Sample : 50 3143-9-6

IntFile Signal #1: events.e

Quant Method : T:\METHODS\ECD-G\D151020G1.

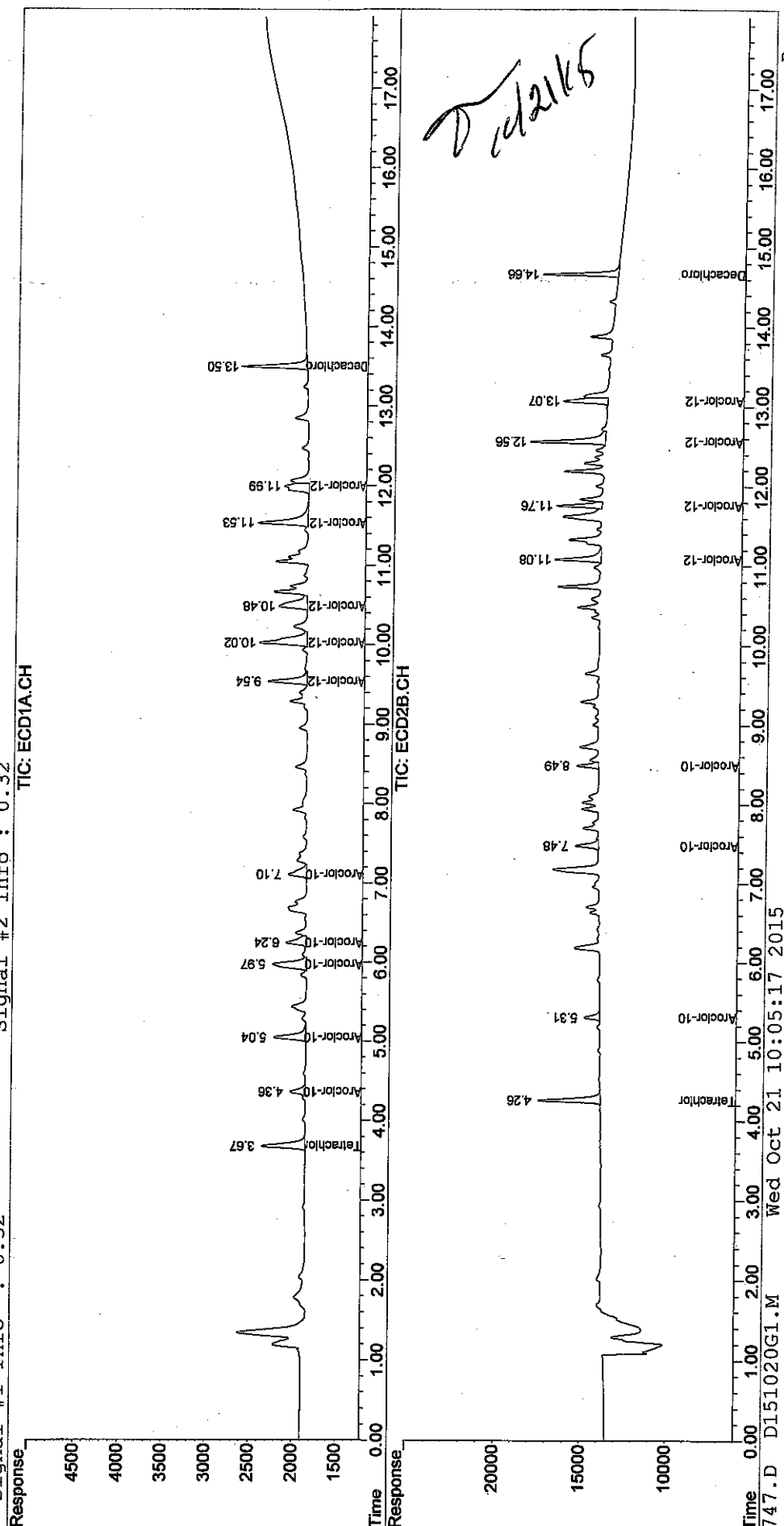
Last Update : Wed Oct 21 10:00:58 2015

DataAcq Meth : GACQ2.M

Volume Inj. : 1.0

Signal #1 Phase : CLPest I      Signal #2 Phase: CT.Pest TT

Signal #1 Info : 0.32



# Evaluate Continuing Calibration Report

Signal #1 : T:\DATA\ECD-G\G151020\G10765.D\ECD1A.CH Vial: 27  
 Signal #2 : T:\DATA\ECD-G\G151020\G10765.D\ECD2B.CH  
 Acq On : 21 Oct 2015 3:15 am Operator: TL  
 Sample : 1660 LL 3143-9-10 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 SA Tetrachloro-m-xylene	5.000	4.825	3.5	98	0.00
2 SA Decachlorobiphenyl	5.000	4.946	1.1	97	0.00
3 L1 Aroclor-1016 {1}	50.000	46.311	7.4	101	0.00
4 L1 Aroclor-1016 {2}	50.000	48.861	2.3	96	0.00
5 L1 Aroclor-1016 {3}	50.000	46.139	7.7	94	0.00
6 L1 Aroclor-1016 {4}	50.000	46.548	6.9	99	0.00
7 L1 Aroclor-1016 {5}	50.000	46.053	7.9	95	0.00
8 L7 Aroclor-1260 {1}	50.000	47.167	5.7	97	0.00
9 L7 Aroclor-1260 {2}	50.000	49.554	0.9	98	0.00
10 L7 Aroclor-1260 {3}	50.000	54.600	-9.2	103	0.00
11 L7 Aroclor-1260 {4}	50.000	50.017	-0.0	98	0.00
12 L7 Aroclor-1260 {5}	50.000	45.623	8.8	95	0.00

## Signal #2

1 SA Tetrachloro-m-xylene	5.000	5.255	-5.1	101	0.00
2 SA Decachlorobiphenyl	5.000	5.600	-12.0	104	0.00
3 L1 Aroclor-1016 {1}	50.000	48.911	2.2	99	0.00
4 L1 Aroclor-1016 {2}	50.000	50.391	-0.8	99	0.00
5 L1 Aroclor-1016 {3}	50.000	51.046	-2.1	101	0.00
6 L1 Aroclor-1016 {4}	50.000	49.675	0.7	101	0.00
7 L1 Aroclor-1016 {5}	50.000	46.935	6.1	97	0.00
8 L7 Aroclor-1260 {1}	50.000	55.448	-10.9	106	0.00
9 L7 Aroclor-1260 {2}	50.000	56.157	-12.3	108	0.00
10 L7 Aroclor-1260 {3}	50.000	55.093	-10.2	110	0.00
11 L7 Aroclor-1260 {4}	50.000	52.681	-5.4	104	0.00
12 L7 Aroclor-1260 {5}	50.000	49.567	0.9	99	0.00

(#) = Out of Range

G10747.D D151020GL1.M

SPCC's out = 0 CCC's out = 0  
 Thu Oct 22 17:18:51 2015

Signal #1 : T:\DATA\ECD-G\G151020\G10752.D\ECD1A.CH Vial: 14  
 Signal #2 : T:\DATA\ECD-G\G151020\G10752.D\ECD2B.CH  
 Acq On : 20 Oct 2015 10:05 pm Operator: TL  
 Sample : ICV LL 3143-76 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 21 11:30:37 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	21640	127199	5.596m	5.817
2) SA Decachlorobiphen	13.50	14.66	25655	127510	5.776	6.234
Target Compounds						
3) L1 Aroclor-1016{1}	4.35	5.31	7559	28645	50.177m	50.046
4) L1 Aroclor-1016{2}	5.04	6.19	15620	58525	50.272m	51.693
5) L1 Aroclor-1016{3}	5.96	7.18	20068	117405	49.952m	51.515
6) L1 Aroclor-1016{4}	6.24	7.48	10221	46960	49.008m	50.678m
7) L1 Aroclor-1016{5}	7.10	8.49	10369	34468	49.090m	48.693
Sum Aroclor-1016			63838	286003	248.499	252.625
Average Aroclor-1016					49.700	50.525
8) L7 Aroclor-1260{1}	9.54	10.74	16141	76714	48.310m	55.941
9) L7 Aroclor-1260{2}	10.03	11.08	25876	92972	49.901m	55.133
10) L7 Aroclor-1260{3}	10.49	11.76	18498	75205	55.099m	54.718
11) L7 Aroclor-1260{4}	11.53	12.56	25393	146613	51.357m	53.670
12) L7 Aroclor-1260{5}	11.99	13.08	14871	83653	48.021m	50.492
Sum Aroclor-1260			100778	475157	252.687	269.954
Average Aroclor-1260					50.537	53.991

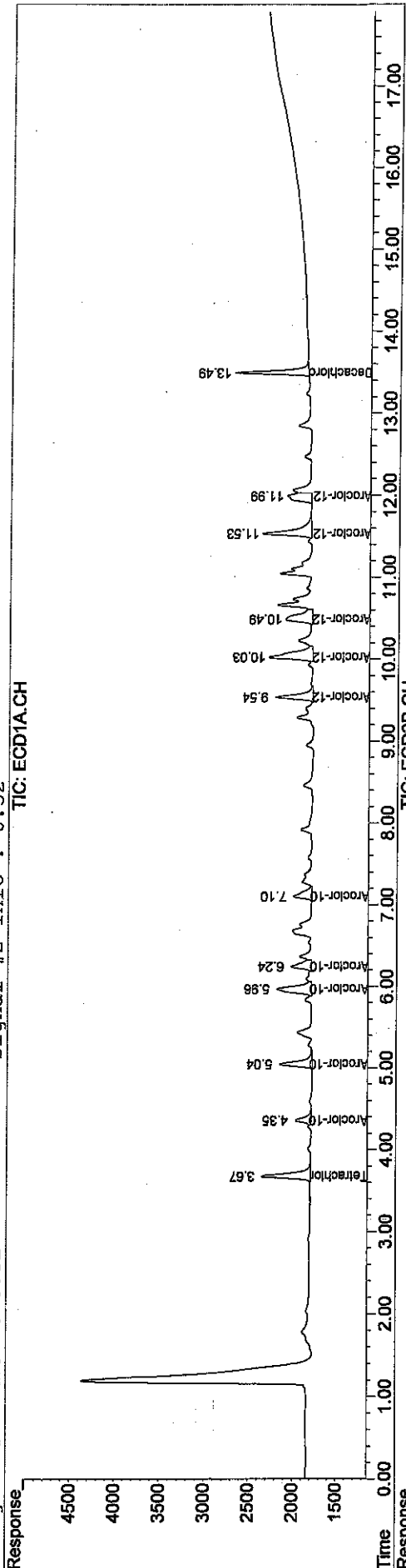
Signal #1 : T:\DATA\ECD-G\G151020\G10752.D\ECD1A.CH Vial: 14  
 Signal #2 : T:\DATA\ECD-G\G151020\G10752.D\ECD2B.CH  
 Acq On : 20 Oct 2015 10:05 pm  
 Sample : ICV LL 3143-76  
 Misc :  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 21 11:31 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\G151020GL1.M (Chemstation Integrator)

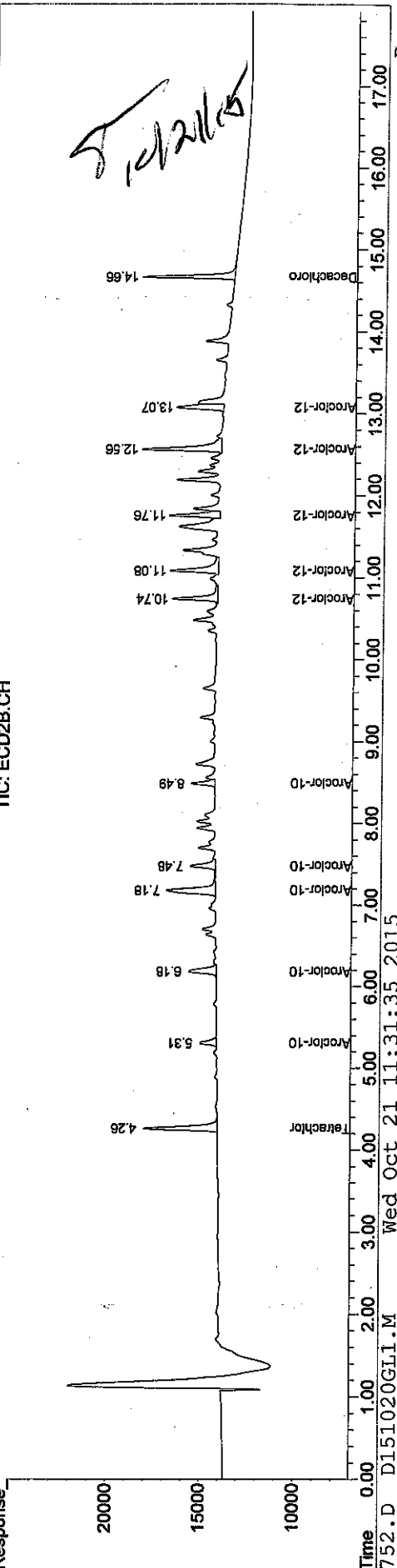
Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

TIC: ECD1A.CH



TIC: ECD2B.CH



# Evaluate Continuing Calibration Report

Signal #1 : T:\DATA\ECD-G\G151020\G10765.D\ECD1A.CH Vial: 27  
 Signal #2 : T:\DATA\ECD-G\G151020\G10765.D\ECD2B.CH  
 Acq On : 21 Oct 2015 3:15 am Operator: TL  
 Sample : 1660 LL 3143-9-10 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 SA	Tetrachloro-m-xylene	5.000	4.825	3.5	98	0.00
2 SA	Decachlorobiphenyl	5.000	4.946	1.1	97	0.00
3 L1	Aroclor-1016{1}	50.000	46.311	7.4	101	0.00
4 L1	Aroclor-1016{2}	50.000	48.861	2.3	96	0.00
5 L1	Aroclor-1016{3}	50.000	46.139	7.7	94	0.00
6 L1	Aroclor-1016{4}	50.000	46.548	6.9	99	0.00
7 L1	Aroclor-1016{5}	50.000	46.053	7.9	95	0.00
8 L7	Aroclor-1260{1}	50.000	47.167	5.7	97	0.00
9 L7	Aroclor-1260{2}	50.000	49.554	0.9	98	0.00
10 L7	Aroclor-1260{3}	50.000	54.600	-9.2	103	0.00
11 L7	Aroclor-1260{4}	50.000	50.017	-0.0	98	0.00
12 L7	Aroclor-1260{5}	50.000	45.623	8.8	95	0.00

## Signal #2

14 SA	Tetrachloro-m-xylene #2	5.000	5.255	-5.1	101	0.00
15 SA	Decachlorobiphenyl #2	5.000	5.600	-12.0	104	0.00
16 L1	Aroclor-1016{1} #2	50.000	48.911	2.2	99	0.00
17 L1	Aroclor-1016{2} #2	50.000	50.391	-0.8	99	0.00
18 L1	Aroclor-1016{3} #2	50.000	51.046	-2.1	101	0.00
19 L1	Aroclor-1016{4} #2	50.000	49.675	0.7	101	0.00
20 L1	Aroclor-1016{5} #2	50.000	46.935	6.1	97	0.00
21 L7	Aroclor-1260{1} #2	50.000	55.448	-10.9	106	0.00
22 L7	Aroclor-1260{2} #2	50.000	56.157	-12.3	108	0.00
23 L7	Aroclor-1260{3} #2	50.000	55.093	-10.2	110	0.00
24 L7	Aroclor-1260{4} #2	50.000	52.681	-5.4	104	0.00
25 L7	Aroclor-1260{5} #2	50.000	49.567	0.9	99	0.00

Signal #1 : T:\DATA\ECD-G\G151020\G10765.D\ECD1A.CH Vial: 27  
 Signal #2 : T:\DATA\ECD-G\G151020\G10765.D\ECD2B.CH  
 Acq On : 21 Oct 2015 3:15 am Operator: TL  
 Sample : 1660 LL 3143-9-10 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 21 11:10:21 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.68	4.27	18656	114901	4.825	5.255
2) SA Decachlorobiphen	13.50	14.67	21969	114549	4.946	5.600
Target Compounds						
3) L1 Aroclor-1016{1}	4.36	5.31	6977	27995	46.311m	48.911
4) L1 Aroclor-1016{2}	5.05	6.19	15181	57051	48.861m	50.391m
5) L1 Aroclor-1016{3}	5.97	7.18	18537	116335	46.139m	51.046
6) L1 Aroclor-1016{4}	6.24	7.48	9708	46031	46.548m	49.675m
7) L1 Aroclor-1016{5}	7.10	8.49	9728	33224	46.053m	46.935
Sum Aroclor-1016			60131	280636	233.913	246.958
Average Aroclor-1016					46.783	49.392
8) L7 Aroclor-1260{1}	9.54	10.74	15760	76038	47.167m	55.448
9) L7 Aroclor-1260{2}	10.03	11.09	25696	94698	49.554m	56.157
10) L7 Aroclor-1260{3}	10.49	11.76	18330	75721	54.600m	55.093
11) L7 Aroclor-1260{4}	11.54	12.56	24731	143910	50.017m	52.681
12) L7 Aroclor-1260{5}	11.99	13.08	14128	82120	45.623m	49.567
Sum Aroclor-1260			98645	472487	246.962	268.946
Average Aroclor-1260					49.392	53.789

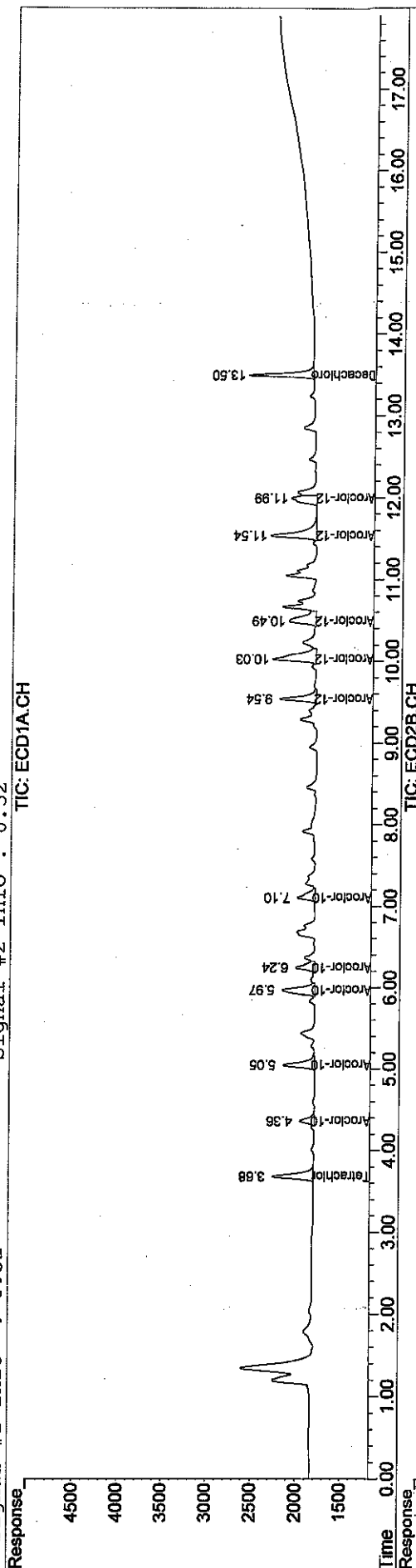
Quantitation Report (QT Reviewed)

Signal #1 : T:\DATA\ECD-G\G151020\G10765.D\ECD1A.CH Vial: 27  
 Signal #2 : T:\DATA\ECD-G\G151020\G10765.D\ECD2B.CH  
 Acq On : 21 Oct 2015 3:15 am  
 Sample : 1660 LL 3143-9-10  
 Misc :  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 21 11:11 2015 Quant Results File: D151020GL1.RES

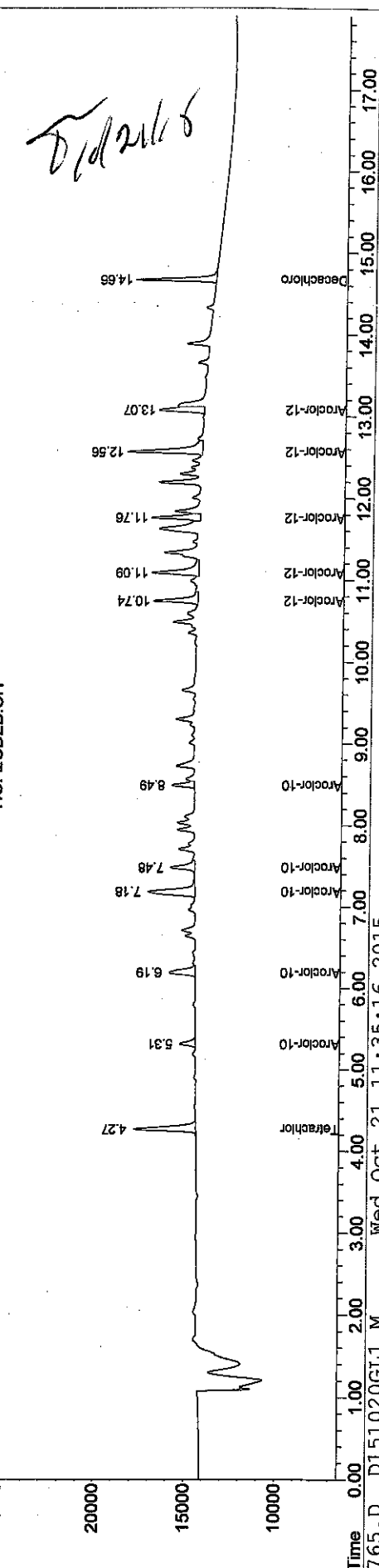
Quant Method : T:\METHODS\ECD-G\G151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

TIC: ECD1A.CH



TIC: ECD2B.CH



## Injection Log

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	G10786.d	1.	1660 LL 3143-9-10		21 Oct 2015 13:49
2	2	G10787.d	1.	LCS 1 3295-44	10/20/15;1000;;10...	21 Oct 2015 14:13
3	3	G10788.d	1.	LCS 2 3295-44	10/20/15;1000;;10...	21 Oct 2015 14:36
4	4	G10789.d	1.	HEX		21 Oct 2015 15:00
5	5	G10790.d	1.	1660 LL 3143-9-10		21 Oct 2015 15:24
6	6	G10791.d	1.	1660 LL 3143-9-10		21 Oct 2015 16:07
7	7	G10792.d	1.	1660 RL 3143-9-14		21 Oct 2015 16:31
8	8	G10793.d	1.	MB 1 GC 1867-1 TO-10a	10/19/15;1;;10;1;...	21 Oct 2015 16:55
9	9	G10794.d	1.	LCS 1 GC 1867-1 TO-10a	10/19/15;1;;10;1;...	21 Oct 2015 17:19
10	10	G10795.d	1.	LCS 2 GC 1867-1 TO-10a	10/19/15;1;;10;1;...	21 Oct 2015 17:42
11	11	G10796.d	1.	SRB 1 GC 1867-1 TO-10a	10/19/15;1;;10;1;...	21 Oct 2015 18:06
12	12	G10797.d	1.	011506178-2 TO-10a	10/19/15;990;;10;...	21 Oct 2015 18:30
13	13	G10798.d	1.	011506178-4 TO-10a	10/19/15;1092.2;;...	21 Oct 2015 18:54
14	14	G10799.d	1.	011506178-6 TO-10a	10/19/15;1008.45;;...	21 Oct 2015 19:18
15	15	G10800.d	1.	011506178-8 TO-10a	10/19/15;944;;10;...	21 Oct 2015 19:41
16	16	G10801.d	1.	011506178-10 TO-10a	10/19/15;944;;10;...	21 Oct 2015 20:05
17	17	G10802.d	1.	011506178-12 TO-10a	10/19/15;1;;10;1;...	21 Oct 2015 20:29
18	18	G10803.d	1.	1660 LL 3143-9-10	50PPB CCV STD	21 Oct 2015 20:53
19	19	G10804.d	1.	011506102-1F 5503	10/20/15;109.67;;...	21 Oct 2015 21:16
20	20	G10805.d	1.	011506102-5F 5503	10/20/15;90.96;;5...	21 Oct 2015 21:40
21	21	G10806.d	1.	011506163-1F 5503	10/20/15;102.48;;...	21 Oct 2015 22:04
22	22	G10807.d	1.	011506163-5F 5503	10/20/15;97.27;;5...	21 Oct 2015 22:28
23	23	G10808.d	1.	011506190-1F 5503	10/20/15;90.69;;5...	21 Oct 2015 22:52
24	24	G10809.d	1.	011506190-5F 5503	10/20/15;96.27;;5...	21 Oct 2015 23:16
25	25	G10810.d	1.	011506258-1F 5503	10/20/15;90.66;;5...	21 Oct 2015 23:39
26	26	G10811.d	1.	011506258-5F 5503	10/20/15;97.79;;5...	22 Oct 2015 00:03
27	27	G10812.d	1.	011506258-9F 5503	10/20/15;73.15;;5...	22 Oct 2015 00:27
28	28	G10813.d	1.	011506258-13F 5503	10/20/15;90.36;;5...	22 Oct 2015 00:51
29	29	G10814.d	1.	1660 LL 3143-9-10	50PPB CCV STD	22 Oct 2015 01:15
30	30	G10815.d	1.	011506102-1B 5503	10/20/15;109.67;;...	22 Oct 2015 01:38
31	31	G10816.d	1.	011506102-5B 5503	10/20/15;90.96;;2...	22 Oct 2015 02:02
32	32	G10817.d	1.	011506163-1B 5503	10/20/15;102.48;;...	22 Oct 2015 02:26
33	33	G10818.d	1.	011506163-5B 5503	10/20/15;97.27;;2...	22 Oct 2015 02:50
34	34	G10819.d	1.	011506190-1B 5503	10/20/15;90.69;;2...	22 Oct 2015 03:14
35	35	G10820.d	1.	011506190-5B 5503	10/20/15;96.27;;2...	22 Oct 2015 03:37
36	36	G10821.d	1.	011506258-1B 5503	10/20/15;90.66;;2...	22 Oct 2015 04:01
37	37	G10822.d	1.	011506258-5B 5503	10/20/15;97.79;;2...	22 Oct 2015 04:25
38	38	G10823.d	1.	011506258-9B 5503	10/20/15;73.15;;2...	22 Oct 2015 04:49
39	39	G10824.d	1.	011506258-13B 5503	10/20/15;90.36;;2...	22 Oct 2015 05:13
40	40	G10825.d	1.	1660 LL 3143-9-10	50PPB CCV STD	22 Oct 2015 05:36

Form 8  
Pesticide/PCB Analytical Sequence

Lab Name: EMSL Analytical, Inc.

Contract:

Lab Code:

Case No.:

SAS No.: SDG No.:

GC Column1: RTX-CLPesticides

ID: 0.32 (mm)

Init. Calib. Date (s)

GC Column2: RTX-CLPesticides2

ID: 0.32 (mm)

Pesticides:

PCBs: 10/20/2015

Instrument ID: ECD-G

Herbicides:

The Analytical sequence of performance evaluation mixtures, blanks, samples and standards is given below:

Surrogate RT from Initial Continuing Calibration Verification in the sequence								
S1A: 3.67		S2A: 13.49						
S1B: 4.26		S2B: 14.66						
Lab File ID	Data File ID	Date Analyzed	Time Analyzed	S1A # RT	S2A # RT	S1B # RT	S2B # RT	
1 1660 LL 3143-9-10	G10791.D	10/21/2015	4:07 PM	3.68	13.50	4.26	14.66	
2 1660 RL 3143-9-14	G10792.D	10/21/2015	4:31 PM	3.68	13.50	4.27	14.66	
3 MB 1 GC 1867-1 TO-10a	G10793.D	10/21/2015	4:55 PM	3.68	13.49	4.27	14.66	
4 LCS 1 GC 1867-1 TO-10	G10794.D	10/21/2015	5:19 PM	3.68	13.49	4.26	14.66	
5 LCS 2 GC 1867-1 TO-10	G10795.D	10/21/2015	5:42 PM	3.67	13.49	4.26	14.66	
6 SRB 1 GC 1867-1 TO-10	G10796.D	10/21/2015	6:06 PM	3.68	13.49	4.26	14.66	
7 011506178-2 TO-10a	G10797.D	10/21/2015	6:30 PM	3.67	13.49	4.26	14.66	
8 011506178-4 TO-10a	G10798.D	10/21/2015	6:54 PM	3.68	13.49	4.27	14.66	
9 011506178-6 TO-10a	G10799.D	10/21/2015	7:18 PM	3.67	13.49	4.26	14.66	
10 011506178-8 TO-10a	G10800.D	10/21/2015	7:41 PM	3.67	13.49	4.26	14.66	
11 011506178-10 TO-10a	G10801.D	10/21/2015	8:05 PM	3.67	13.49	4.26	14.66	
12 011506178-12 TO-10a	G10802.D	10/21/2015	8:29 PM	3.67	13.49	4.26	14.66	
13 1660 LL 3143-9-10	G10803.D	10/21/2015	8:53 PM	3.67	13.50	4.26	14.66	
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S1 = 2,4,5,6-tetrachloro-m-xylene  
S2 = decachlorobiphenyl

QC limits  
(+/- 0.05 minutes)  
(+/- 0.05 minutes)

# Column used to flag retention time values with an asterisk.  
\* Values outside of QC Limits.  
D Surrogate diluted out.

## Evaluate Continuing Calibration Report

Signal #1 : T:\DATA\ECD-G\G151021\G10791.D\ECD1A.CH Vial: 6  
 Signal #2 : T:\DATA\ECD-G\G151021\G10791.D\ECD2B.CH  
 Acq On : 21 Oct 2015 4:07 pm Operator: EH  
 Sample : 1660 LL 3143-9-10 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 SA Tetrachloro-m-xylene	5.000	4.591	8.2	93	0.00
2 SA Decachlorobiphenyl	5.000	4.634	7.3	91	0.00
3 L1 Aroclor-1016 1	50.000	45.947	8.1	101	0.00
4 L1 Aroclor-1016 2	50.000	44.989	10.0	89	0.00
5 L1 Aroclor-1016 3	50.000	44.809	10.4	91	0.00
6 L1 Aroclor-1016 4	50.000	43.926	12.1	93	0.00
7 L1 Aroclor-1016 5	50.000	44.768	10.5	92	0.00
8 L7 Aroclor-1260 1	50.000	44.692	10.6	92	0.00
9 L7 Aroclor-1260 2	50.000	49.124	1.8	97	0.00
10 L7 Aroclor-1260 3	50.000	55.561	-11.1	105	0.00
11 L7 Aroclor-1260 4	50.000	46.492	7.0	91	0.00
12 L7 Aroclor-1260 5	50.000	48.746	2.5	101	0.00

## Signal #2

1 SA Tetrachloro-m-xylene	5.000	5.309	-6.2	102	0.00
2 SA Decachlorobiphenyl	5.000	5.646	-12.9	105	0.00
3 L1 Aroclor-1016 1	50.000	49.744	0.5	101	0.00
4 L1 Aroclor-1016 2	50.000	50.956	-1.9	100	0.00
5 L1 Aroclor-1016 3	50.000	50.780	-1.6	100	0.00
6 L1 Aroclor-1016 4	50.000	51.484	-3.0	105	0.00
7 L1 Aroclor-1016 5	50.000	49.350	1.3	102	0.00
8 L7 Aroclor-1260 1	50.000	54.123	-8.2	103	0.00
9 L7 Aroclor-1260 2	50.000	51.721	-3.4	99	0.00
10 L7 Aroclor-1260 3	50.000	51.939	-3.9	104	0.00
11 L7 Aroclor-1260 4	50.000	54.482	-9.0	107	0.00
12 L7 Aroclor-1260 5	50.000	51.930	-3.9	104	0.00

(#) = Out of Range  
 G10747.D D151020GL1.M

SPCC's out = 0 CCC's out = 0  
 Thu Oct 22 12:09:27 2015

Signal #1 : T:\DATA\ECD-G\G151021\G10791.D\ECD1A.CH Vial: 6  
 Signal #2 : T:\DATA\ECD-G\G151021\G10791.D\ECD2B.CH  
 Acq On : 21 Oct 2015 4:07 pm Operator: EH  
 Sample : 1660 LL 3143-9-10 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:08:03 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.68	4.26	17754	116090	4.591	5.309
2) SA Decachlorobiphen	13.50	14.66	20580	115472	4.634	5.646m
Target Compounds						
3) L1 Aroclor-1016 {1}	4.36	5.30	6922	28472	45.947m	49.744
4) L1 Aroclor-1016 {2}	5.04	6.18	13978	57690	44.989m	50.956
5) L1 Aroclor-1016 {3}	5.97	7.17	18002	115729	44.809m	50.780
6) L1 Aroclor-1016 {4}	6.24	7.47	9161	47707	43.926m	51.484
7) L1 Aroclor-1016 {5}	7.11	8.48	9456	34934	44.768m	49.350
Sum Aroclor-1016			57520	284532	224.438	252.314
Average Aroclor-1016					44.888	50.463
8) L7 Aroclor-1260 {1}	9.54	10.74	14932	74221	44.692m	54.123m
9) L7 Aroclor-1260 {2}	10.03	11.08	25473	87218	49.124m	51.721m
10) L7 Aroclor-1260 {3}	10.49	11.75	18653	71385	55.561m	51.939m
11) L7 Aroclor-1260 {4}	11.54	12.56	22988	148830	46.492	54.482
12) L7 Aroclor-1260 {5}	12.00	13.07	15095	86035	48.746m	51.930
Sum Aroclor-1260			97141	467689	244.615	264.194
Average Aroclor-1260					48.923	52.839

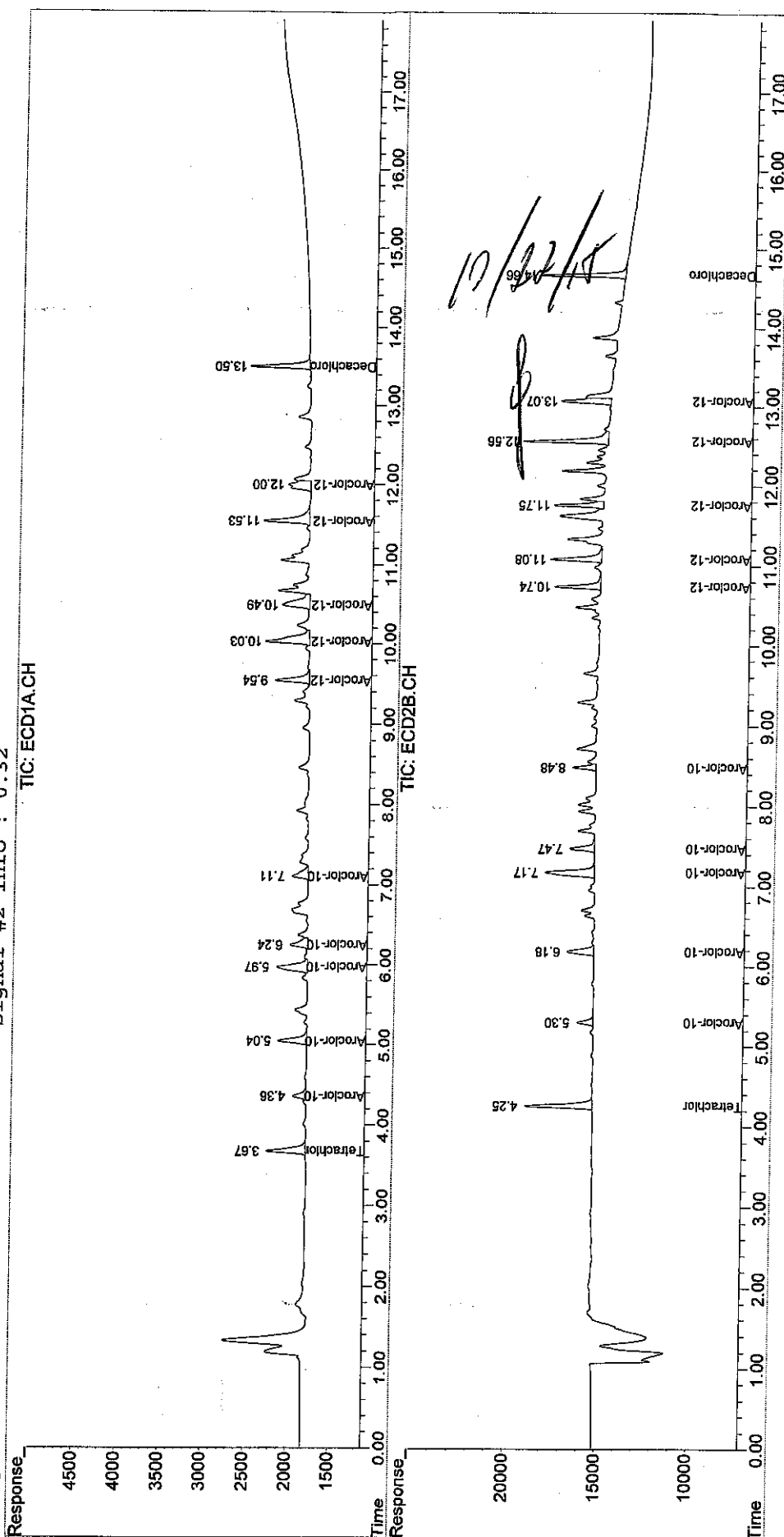
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

G10791.D D151020GL1.M

Thu Oct 22 12:09:40 2015

Signal #1 : T:\DATA\ECD-G\G151021\G10791.D\ECD1A.CH  
 Signal #2 : T:\DATA\ECD-G\G151021\G10791.D\ECD2B.CH  
 Acq On : 21 Oct 2015 4:07 pm  
 Sample : 1660 IL 3143-9-10  
 Misc :  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:09 2015 Quant Results File: D151020GL1.RES  
 Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32



Signal #1 : T:\DATA\ECD-G\G151021\G10792.D\ECD1A.CH Vial: 7  
 Signal #2 : T:\DATA\ECD-G\G151021\G10792.D\ECD2B.CH  
 Acq On : 21 Oct 2015 4:31 pm Operator: EH  
 Sample : 1660 RL 3143-9-14 Inst : GC-ECD-G  
 Misc : Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:09:48 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

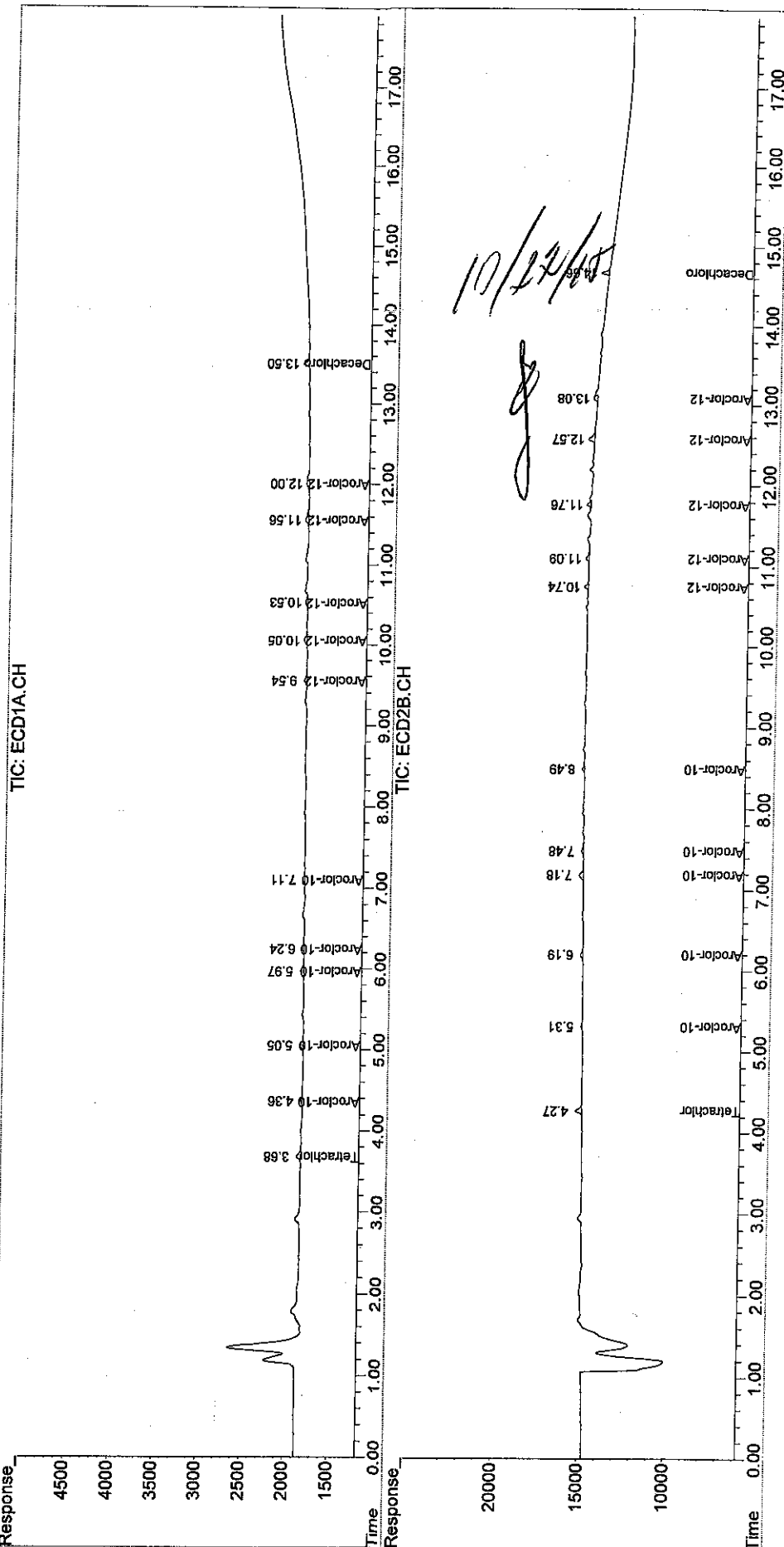
Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.68	4.27	1914	12254	0.495m	0.560m
2) SA Decachlorobiphen	13.50	14.66	2202	11350	0.496m	0.555m
Target Compounds						
3) L1 Aroclor-1016{1}	4.36	5.31	759	2832	5.040m	4.949m
4) L1 Aroclor-1016{2}	5.05	6.19	1579	5949	5.082m	5.255m
5) L1 Aroclor-1016{3}	5.97	7.18	2166	11787	5.390m	5.172m
6) L1 Aroclor-1016{4}	6.24	7.48	997	5030	4.779m	5.429m
7) L1 Aroclor-1016{5}	7.11	8.49	1002	3880	4.745m	5.481m
Sum Aroclor-1016			6503	29479	25.036	26.285
Average Aroclor-1016					5.007	5.257
8) L7 Aroclor-1260{1}	9.54	10.74	1406	7438	4.209m	5.424m#
9) L7 Aroclor-1260{2}	10.05	11.09	2276	9177	4.389m	5.442m
10) L7 Aroclor-1260{3}	10.53f	11.76	1734	7079	5.165m	5.150m
11) L7 Aroclor-1260{4}	11.56	12.57	2561	13958	5.180m	5.110m
12) L7 Aroclor-1260{5}	12.00	13.08	1522	8329	4.915m	5.027m
Sum Aroclor-1260			9500	45982	23.859	26.154
Average Aroclor-1260					4.772	5.231

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : T:\DATA\ECD-G\G151021\G10792.D\ECD1A.CH  
 Signal #2 : T:\DATA\ECD-G\G151021\G10792.D\ECD2B.CH  
 Acq On : 21 Oct 2015 4:31 pm  
 Sample : 1660 RL 3143-9-14  
 Misc :  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:11 2015 Quant Results File: D151020GL1.RES  
 Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I  
 Signal #1 Info : 0.32  
 Signal #2 Phase : CLPest II  
 Signal #2 Info : 0.32



## Evaluate Continuing Calibration Report

Signal #1 : T:\DATA\ECD-G\G151021\G10803.D\ECD1A.CH Vial: 18  
 Signal #2 : T:\DATA\ECD-G\G151021\G10803.D\ECD2B.CH  
 Acq On : 21 Oct 2015 8:53 pm Operator: EH  
 Sample : 1660 LL 3143-9-10 Inst : GC-ECD-G  
 Misc : 50PPB CCV STD Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1 SA Tetrachloro-m-xylene	5.000	4.809	3.8	98	0.00
2 SA Decachlorobiphenyl	5.000	4.911	1.8	96	0.00
3 L1 Aroclor-1016 {1}	50.000	45.775	8.5	100	0.00
4 L1 Aroclor-1016 {2}	50.000	48.128	3.7	95	0.00
5 L1 Aroclor-1016 {3}	50.000	46.029	7.9	94	0.00
6 L1 Aroclor-1016 {4}	50.000	46.097	7.8	98	0.00
7 L1 Aroclor-1016 {5}	50.000	44.540	10.9	92	0.00
8 L7 Aroclor-1260 {1}	50.000	44.713	10.6	92	0.00
9 L7 Aroclor-1260 {2}	50.000	47.936	4.1	95	0.00
10 L7 Aroclor-1260 {3}	50.000	51.379	-2.8	97	0.02
11 L7 Aroclor-1260 {4}	50.000	48.946	2.1	96	0.00
12 L7 Aroclor-1260 {5}	50.000	45.314	9.4	94	0.00

## Signal #2

1 SA Tetrachloro-m-xylene	5.000	5.271	-5.4	101	0.00
2 SA Decachlorobiphenyl	5.000	5.602	-12.0	104	0.00
3 L1 Aroclor-1016 {1}	50.000	49.112	1.8	100	0.00
4 L1 Aroclor-1016 {2}	50.000	50.375	-0.8	99	0.00
5 L1 Aroclor-1016 {3}	50.000	51.202	-2.4	101	0.00
6 L1 Aroclor-1016 {4}	50.000	54.331	-8.7	111	0.00
7 L1 Aroclor-1016 {5}	50.000	49.760	0.5	103	0.00
8 L7 Aroclor-1260 {1}	50.000	53.581	-7.2	102	0.00
9 L7 Aroclor-1260 {2}	50.000	53.104	-6.2	102	0.00
10 L7 Aroclor-1260 {3}	50.000	54.049	-8.1	108	0.00
11 L7 Aroclor-1260 {4}	50.000	52.451	-4.9	103	0.00
12 L7 Aroclor-1260 {5}	50.000	52.662	-5.3	105	0.00

(#) = Out of Range  
 G10747.D D151020GL1.M

SPCC's out = 0 CCC's out = 0  
 Thu Oct 22 12:26:56 2015

Signal #1 : T:\DATA\ECD-G\G151021\G10803.D\ECD1A.CH Vial: 18  
 Signal #2 : T:\DATA\ECD-G\G151021\G10803.D\ECD2B.CH  
 Acq On : 21 Oct 2015 8:53 pm Operator: EH  
 Sample : 1660 LL 3143-9-10 Inst : GC-ECD-G  
 Misc : 50PPB CCV STD Multiplr: 1.00  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:20:05 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\D151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Initial Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I Signal #2 Phase: CLPest II  
 Signal #1 Info : 0.32 Signal #2 Info : 0.32

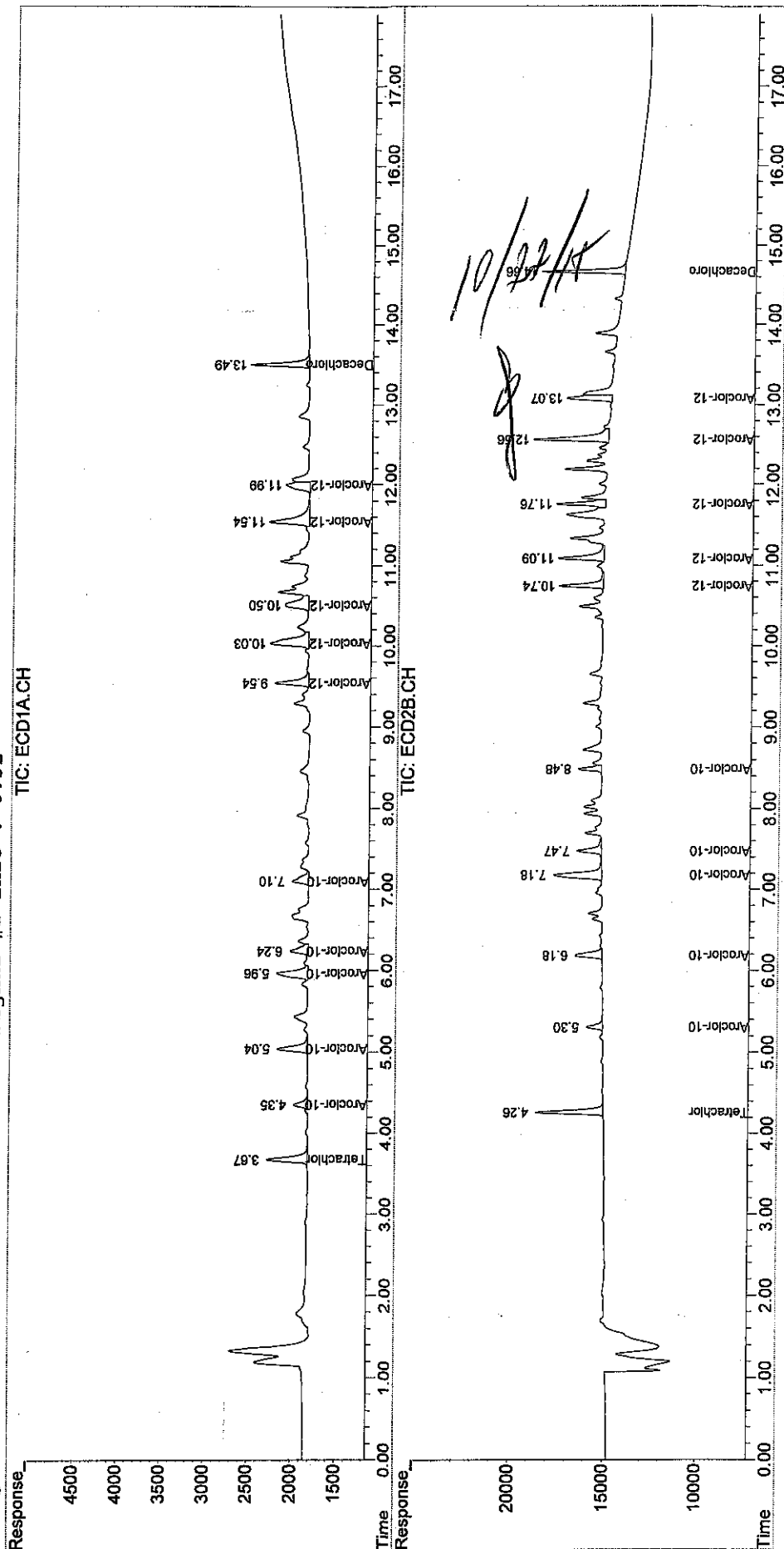
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
-----						
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.67	4.26	18598	115248	4.809m	5.271m
2) SA Decachlorobiphen	13.49	14.66	21814	114591	4.911m	5.602m
Target Compounds						
3) L1 Aroclor-1016 {1}	4.35	5.30	6896	28110	45.775m	49.112m
4) L1 Aroclor-1016 {2}	5.04	6.18	14954	57032	48.128m	50.375m
5) L1 Aroclor-1016 {3}	5.96	7.18	18492	116690	46.029m	51.202
6) L1 Aroclor-1016 {4}	6.24	7.48	9614	50345	46.097m	54.331
7) L1 Aroclor-1016 {5}	7.10	8.48	9408	35223	44.540m	49.760m
Sum Aroclor-1016			59364	287401	230.569	254.779
Average Aroclor-1016					46.114	50.956
8) L7 Aroclor-1260 {1}	9.54	10.74	14940	73478	44.713m	53.581m
9) L7 Aroclor-1260 {2}	10.03	11.09	24857	89551	47.936m	53.104m
10) L7 Aroclor-1260 {3}	10.50	11.76	17249	74286	51.379m	54.049m
11) L7 Aroclor-1260 {4}	11.54	12.56	24201	143281	48.946m	52.451m
12) L7 Aroclor-1260 {5}	11.99	13.07	14032	87247	45.314m	52.662m
Sum Aroclor-1260			95279	467843	238.289	265.847
Average Aroclor-1260					47.658	53.169

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : T:\DATA\ECD-G\G151021\G10803.D\ECD1A.CH Vial: 18  
 Signal #2 : T:\DATA\ECD-G\G151021\G10803.D\ECD2B.CH  
 Acq On : 21 Oct 2015 8:53 pm  
 Sample : 1660 LL 3143-9-10  
 Misc : 50PPB CCV STD  
 IntFile Signal #1: events.e IntFile Signal #2: events2.e  
 Quant Time: Oct 22 12:26 2015 Quant Results File: D151020GL1.RES

Quant Method : T:\METHODS\ECD-G\G151020GL1.M (Chemstation Integrator)  
 Title : 8082a PCB  
 Last Update : Wed Oct 21 11:04:14 2015  
 Response via : Multiple Level Calibration  
 DataAcq Meth : GACQ2.M

Volume Inj. : 1.0  
 Signal #1 Phase : CLPest I  
 Signal #1 Info : 0.32  
 Signal #2 Phase : CLPest II  
 Signal #2 Info : 0.32



## PCB's by TO-10a/8082a

PUF  
1.00000

Analytical Sequence # G151021

**Analytical Batch # GC 1867-1**

**LCS 1 GC 1867-1**

Compound	LCS 1 ug/PUF	LCS 1 RECOVERY	LCS 2 ug/PUF	LCS 2 RECOVERY	Recovery Limits	RPD	RPD Limits
Aroclor 1016	0.983	98	0.992	99	84 - 133	1	20
Aroclor 1260	1.042	104	1.032	103	83 - 131	1	20

D=DILUTED OUT

## Organic Preparation Log (QC includes sample prepared within 24 hours)

Batch Number : <b>GC - 1867</b>		Fraction : <b>PCB Pulp</b>							
Extraction Method: <b>BNA</b>		PCB							
(Check One) <b>TO13A</b>		<b>TO4A 5503 TO10A</b>							
Pesticide <b>S274 5510</b>		Ethylene Oxide <b>OSHA 1010</b>							
EMSL Sample No.	Analysis Type	Amount Filter / Tube	Extraction Date	Final Volume1	Initial Volume2	Final Volume2	Initial By	Clean up Code	Comments
Blank 1	<b>PCB</b>		<b>10/9/5</b>	<b>10.0</b>			<b>ASD</b>		
LCS 1									
LCS 2									
<b>SRB</b>									<b>2 X Surr</b>
<b>51782</b>									
<b>-4</b>									
<b>-6</b>									
<b>-8</b>									
<b>-10</b>									
<b>-12</b>									

Cleanups Code: 1 = H<sub>2</sub>SO<sub>4</sub>, 2 = Florisil 3620B, 3 = Acid/Base 3650B, 4 = Sulfur (TBA Sulfite/Copper) 3660B

## Surrogates, Spikes and Reagents/Solvents Informations

Surrogates	Lot. / Ref. No.	Conc.	Amount	Spikes	Lot. / Ref. No.	Conc.	Amount	Solvents/Reagents	Lot. / Ref. No.
		<b>ug/L</b>	<b>pr mL</b>			<b>ug/L</b>	<b>uL or mL</b>	<b>Sodium Sulfate</b>	
Base/Neutral				<b>BNA</b>				<b>MeCl<sub>2</sub></b>	
Acid				<b>PCB</b>	<b>315758-1</b>	<b>1.0</b>	<b>1.0</b>	<b>Hexane</b>	
PCB	<b>3157522</b>	<b>1.6</b>	<b>100</b>	<b>Pesticides</b>				<b>Toluene</b>	
Pesticides				<b>T-Chlordane</b>				<b>Xad-2</b>	
				<b>2-Bromoethanol</b>				<b>Florisil</b>	
								<b>Chrom102</b>	
								<b>Anasorb 747</b>	

Controlled Document

**METALS DATA PACKAGE**

EMSL Job No. 011506178-0001, -0003, -0005, -0007, -0009, -0011

### Metals Analysis Conformance/Non-Conformance Summary

	<u>NO</u>	<u>YES</u>
1. Method blank levels below reporting limits?	<u>      </u>	<u>  X  </u>
<i>If no, list elements above reporting limits:</i> _____		
2. Spike blank or lab control data within acceptable limits?	<u>      </u>	<u>  X  </u>
<i>If no, list elements outside of acceptable limits:</i> _____		
3. Matrix spike data within acceptable limits?	<u>  N/A  </u>	<u>  N/A  </u>
<i>If no, list elements outside of acceptable limits:</i> _____		
4. Matrix duplicate data within acceptable limits?	<u>  N/A  </u>	<u>  N/A  </u>
<i>If no, list elements outside of acceptable limits:</i> <u>Spike blank duplicate was within acceptable limits.</u>		
5. Serial dilution and/or post spike data within acceptable limits?	<u>  N/A  </u>	<u>  N/A  </u>
<i>If no, list elements outside of acceptable limits:</i> _____		
6. Interference check standard data within acceptable limits?	<u>      </u>	<u>  X  </u>
<i>If no, list elements outside of acceptable limits:</i> _____		
7. Calibration criteria (ICV, ICB, CCV, CCB, CRI, High Std, within acceptable limits?	<u>      </u>	<u>  X  </u>
<i>If no, list elements outside of acceptable limits:</i> _____		
8. Samples digested and analyzed within holding time?	<u>      </u>	<u>  X  </u>
<i>If no, list elements outside of acceptable limits:</i> _____		

Additional Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reviewed by Signature: Karen Brun Date: 10/23/2015

Printed: 10/23/2015

# ICP QC Batch Summary

Batch: 01Q151022-018  
Created: 10/22/2015 1:11:04F  
Instrument: 01-ELAN DRC-e  
Matrix: Cassettes

Samples:

011506019-0001	011506019-0005	011506178-0001	011506178-0009	011506179-0003
011506019-0002	011506019-0006	011506178-0003	011506178-0011	011506179-0004
011506019-0003	011506019-0007	011506178-0005	011506179-0001	011506179-0005
011506019-0004	011506019-0008	011506178-0007	011506179-0002	011506324-0001

Blank/DL		Control					
Method Blank[1]	Method Blank[2]	Method Blank[3]		LCS[1]		LCSD[1]	
10/22/15 22:12		10/22/15 22:18		10/22/15 22:23		10/22/15 22:28	
Result mg/filter	DL mg/filter	Result mg/filter	DL mg/filter	Result ppb	True Conc ppb	% Rec 75-125	% Rec 75-125
<0.000050	0.000050	<0.000050	0.000050	52	50.0	104	95.9
<0.000050	0.000050	<0.000050	0.000050	49	50.0	97.7	93.6
Arsenic						7.73	
Lead						4.23	

# LOQ/RLVS for NIOSH 7300 modified ("Cassettes")

QC Batch: 01Q151022-018  
Instrument: ELAN DRCE ICP-MS  
Date Printed: 10/23/2015  
Date Analyzed: 10/22/2015 22:40  
Analyst: K. Brown

Metals	Mass	STD CONC. ug/L	Result ug/L	% Recovery	Q	Acceptance Limits
As	75	1.00	1.006	100.6		70 - 130
Pb	208	1.00	1.124	112.4		70 - 130

Q - Column to be used to flag recovery with an asterisk

\* - Outside of QC limits

B - Blank corrected

P - Primary mass

Printed: 10/23/2015

# ICP QC Standards

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

ICV[1]		ICB[1]		RL STD[1]		CCV[4]		CCB[4]				
10/22/15 18:00		10/22/15 18:05		10/22/15 18:11		10/22/15 22:01		10/22/15 22:07				
		1.00						1.00				
Result ppb	True Conc ppb	% Rec 80-120	Result ppb	DL ppb	Result ppb	True Conc ppb	% Rec 70-130	Result ppb	True Conc ppb	% Rec 80-120	Result ppb	DL ppb
Arsenic	30	30.0	100	<1.0	1.0	1.0	104	30	30.0	98.5	<1.0	1.0
Lead	30	30.0	100	<1.0	1.0	0.99	98.8	31	30.0	104	<1.0	1.0

Printed: 10/23/2015

# ICP QC Standards

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

011506019-0001		011506019-0002		011506019-0003		CCV[1]		CCB[1]		011506019-0004		
10/22/15 22:50		10/22/15 22:56		10/22/15 23:01		10/22/15 23:07		10/22/15 23:12		10/22/15 23:18		
1.00		1.00		1.00		1.00		1.00		1.00		
376		382		376						372		
DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	Result ppb	True Conc ppb	% Rec 80-120	Result ppb	DL ppb	DL mg/m³	Result mg/m³
0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013	29	30.0	97.6	<1.0	1.0	0.00013	<0.00013
0.00013	0.032	0.00013	0.027	0.00013	0.024	30	30.0	99.4	<1.0	1.0	0.00013	0.053

Arsenic  
 Lead

(\*) Result outside control limits (#) Sample Result > 4 x spike amt (x) No solids data

Printed: 10/23/2015

# ICP QC Standards

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

	011506019-0005		011506019-0006		011506019-0007		011506019-0008		011506178-0001		011506178-0003		011506178-0005	
	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³
Arsenic	0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013	0.000049	<0.000049	0.000048	<0.000048	0.000047	<0.000047
	0.00013	0.019	0.00013	0.035	0.00013	0.048	0.00013	0.061	0.000077	0.000049	0.000048	<0.000048	0.000047	<0.000047
Lead	0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013	0.000049	<0.000049	0.000048	<0.000048	0.000047	<0.000047
	0.00013	0.019	0.00013	0.035	0.00013	0.048	0.00013	0.061	0.000077	0.000049	0.000048	<0.000048	0.000047	<0.000047

Printed: 10/23/2015

## ICP QC Standards

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

	011506178-0007	011506178-0009		CCV[2]		CCB[2]		011506178-0011		011506179-0001			
	10/23/15 0:02	10/23/15 0:07		10/23/15 0:13		10/23/15 0:18		10/23/15 0:24		10/23/15 0:29			
	1.00	1.00				1.00		1.00		1.00			
	972.32	974.68						N/A		1513			
	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	Result ppb	True Conc ppb	% Rec 80-120	Result ppb	DL ppb	DL mg/filter	Result mg/filter	DL mg/m³	Result mg/m³
Arsenic	0.000051	<0.000051	0.000051	<0.000051	29	30.0	98.1	<1.0	1.0	0.000050	<0.000050	0.000017	<0.000017
Lead	0.000051	<0.000051	0.000051	<0.000051	30	30.0	100	<1.0	1.0	0.000050	<0.000050	0.000033	<0.000033

\* see handwritten page for QC recoveries using low DL 10/23/15

## ICP QC Standards

2151022-018

22/2015 1:1-

ELAN DRC-e

**isset**

011506179-0002		011506179-0003		011506179-0004		011506179-0005		011506324-0001		CCV[3]	
10/23/15 0:35		10/23/15 0:40		10/23/15 0:46		10/23/15 0:51		10/23/15 0:57		10/23/15 1:02	
1.00		1.00		1.00		1.00		1.00			
1171.8		1594.7		1376		N/A		1030			
- mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/filter	Result mg/filter	DL mg/m³	Result mg/m³	Result ppb	True Conc ppb	% Rec 80-120	
1.000021	<0.000021	0.000016	<0.000016	0.000018	<0.000025	0.000025	<0.000024	<0.000024	30	30.0	99.8
1.000043	<0.000043	0.000031	<0.000031	0.000036	<0.000050	0.000050	<0.000049	0.000083	30	30.0	99.4

see handwritten page for Qc recoveries using Low DL 13 10/23/15

ol limits	(#) Sample Result	> 4 x spike amt	(x) No solids data
1	0.00	0.00	0.00
2	0.00	0.00	0.00
3	0.00	0.00	0.00
4	0.00	0.00	0.00
5	0.00	0.00	0.00
6	0.00	0.00	0.00
7	0.00	0.00	0.00
8	0.00	0.00	0.00
9	0.00	0.00	0.00
10	0.00	0.00	0.00
11	0.00	0.00	0.00
12	0.00	0.00	0.00
13	0.00	0.00	0.00
14	0.00	0.00	0.00
15	0.00	0.00	0.00
16	0.00	0.00	0.00
17	0.00	0.00	0.00
18	0.00	0.00	0.00
19	0.00	0.00	0.00
20	0.00	0.00	0.00
21	0.00	0.00	0.00
22	0.00	0.00	0.00
23	0.00	0.00	0.00
24	0.00	0.00	0.00
25	0.00	0.00	0.00
26	0.00	0.00	0.00
27	0.00	0.00	0.00
28	0.00	0.00	0.00
29	0.00	0.00	0.00
30	0.00	0.00	0.00
31	0.00	0.00	0.00
32	0.00	0.00	0.00
33	0.00	0.00	0.00
34	0.00	0.00	0.00
35	0.00	0.00	0.00
36	0.00	0.00	0.00
37	0.00	0.00	0.00
38	0.00	0.00	0.00
39	0.00	0.00	0.00
40	0.00	0.00	0.00
41	0.00	0.00	0.00
42	0.00	0.00	0.00
43	0.00	0.00	0.00
44	0.00	0.00	0.00
45	0.00	0.00	0.00
46	0.00	0.00	0.00
47	0.00	0.00	0.00
48	0.00	0.00	0.00
49	0.00	0.00	0.00
50	0.00	0.00	0.00
51	0.00	0.00	0.00
52	0.00	0.00	0.00
53	0.00	0.00	0.00
54	0.00	0.00	0.00
55	0.00	0.00	0.00
56	0.00	0.00	0.00
57	0.00	0.00	0.00
58	0.00	0.00	0.00
59	0.00	0.00	0.00
60	0.00	0.00	0.00
61	0.00	0.00	0.00
62	0.00	0.00	0.00
63	0.00	0.00	0.00
64	0.00	0.00	0.00
65	0.00	0.00	0.00
66	0.00	0.00	0.00
67	0.00	0.00	0.00
68	0.00	0.00	0.00
69	0.00	0.00	0.00
70	0.00	0.00	0.00
71	0.00	0.00	0.00
72	0.00	0.00	0.00
73	0.00	0.00	0.00
74	0.00	0.00	0.00
75	0.00	0.00	0.00
76	0.00	0.00	0.00
77	0.00	0.00	0.00
78	0.00	0.00	0.00
79	0.00	0.00	0.00
80	0.00	0.00	0.00
81	0.00	0.00	0.00
82	0.00	0.00	0.00
83	0.00	0.00	0.00
84	0.00	0.00	0.00
85	0.00	0.00	0.00
86	0.00	0.00	0.00
87	0.00	0.00	0.00
88	0.00	0.00	0.00
89	0.00	0.00	0.00
90	0.00	0.00	0.

Page 5 of 6

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

CCB[3]		CCV[4]		CCB[4]	
10/23/15 1:08		10/23/15 1:29		10/23/15 1:35	
1.00				1.00	
Result ppb	DL ppb	Result ppb	True Conc ppb	% Rec 80-120	DL ppb
Arsenic	<1.0	1.0	30.0	100	<1.0
Lead	<1.0	1.0	30.0	101	<1.0

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

ICSA-1[1]		ICSAB-1[1]		ICSA-1[2]		ICSAB-1[2]			
01Q151022-021		01Q151022-021		01Q151022-021		01Q151022-021			
10/22/15 18:21		10/22/15 18:27		10/23/15 1:13		10/23/15 1:18			
Result ppb	True Conc ppb	% Rec 80-120	Result ppb	True Conc ppb	% Rec 80-120	Result ppb	True Conc ppb	% Rec 80-120	
Arsenic	<1.0*		30	30.0	98.7	<1.0*	29	30.0	96.3
Lead	<1.0†		30	30.0	99.1	<1.0†	30	30.0	99.7

\* 1/3 10/23/2015

## ICP QC Standards

Batch: 01Q151022-018  
Created: 10/22/2015 1:11:04F  
Instrument: 01-ELAN DRC-e  
Matrix: Cassettes

	ICV[1]	ICB[1]	RL STD[1]	CCV[3]	CCB[3]							
	10/23/15 12:02	10/23/15 12:08	10/23/15 12:13	10/23/15 14:30	10/23/15 14:36							
		1.00			1.00							
	Result ppb	True Conc ppb	% Rec 80-120	Result ppb	DL ppb	Result ppb	DL ppb	Result ppb	DL ppb			
Arsenic	29	30.0	97.5	1.0	0.97	1.00	96.6	29	30.0	97.4	<1.0	1.0
Lead	30	30.0	98.4	1.0	0.98	1.00	97.6	30	30.0	99.8	<1.0	1.0

Printed: 10/23/2015

# ICP QC Standards

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

		011506019-0001		011506019-0002		011506019-0003		011506019-0004	
		10/23/15 0:00		10/23/15 0:00		10/23/15 0:00		10/23/15 0:00	
1.00		10.00		1.00		1.00		1.00	
376		376		382		376		372	
DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³
0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013	0.00013	<0.00013
Arsenic		0.0013		0.0013		0.0013		0.0013	
Lead		0.033		0.028		0.0013		0.024	

## ICP QC Standards

Batch: 01Q151022-018  
Created: 10/22/2015 1:11:04F  
Instrument: 01-ELAN DRC-e  
Matrix: Cassettes

Arsenic Lead	011506019-0004		011506019-0005				011506019-0006				011506019-0007			
	10/23/15 0:00		10/23/15 0:00				10/23/15 0:00				10/23/15 0:00			
	10.00		1.00		10.00		1.00		10.00		1.00		10.00	
	372		394		394		390		390		390		390	
	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³
		0.00013		<0.00013		0.00013		<0.00013		0.00013		<0.00013		0.00013
	0.0013	0.054			0.0013	0.020			0.0013	0.036			0.0013	0.049

## ICP QC Standards

Batch: 01Q151022-018  
Created: 10/22/2015 1:11:04F  
Instrument: 01-ELAN DRC-e  
Matrix: Cassettes

011506019-0008		011506178-0001		CCV[1]		CCB[1]		CCV[2]			
10/23/15 0:00		10/23/15 0:00		10/23/15 15:31		10/23/15 15:36		10/23/15 15:58			
1.00		1.00		1.00		1.00					
384		1027.13									
DL mg/m³	Result mg/m³	DL mg/m³	Result mg/m³	Result ppb	True Conc ppb	% Rec 80-120	Result ppb	DL ppb	Result ppb	True Conc ppb	% Rec 80-120
0.00013	<0.00013		0.000049	30	30.0	100	<1.0	1.0	29	30.0	97.2
	0.0026	0.062	0.000049	30	30.0	99.6	<1.0	1.0	30	30.0	100

## ICP QC Standards

Batch: 01Q151022-018  
Created: 10/22/2015 1:11:04F  
Instrument: 01-ELAN DRC-e  
Matrix: Cassettes

	CCB[Z]		011506178-0003		011506178-0005		011506178-0007		011506178-0009		011506178-0011		011506179-0001	
	10/23/15	16:03	10/22/15	23:51	10/22/15	23:56	10/23/15	0:02	10/23/15	0:07	10/23/15	0:24	10/23/15	0:29
	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
			1031.68		1059.48		972.32		974.68		N/A		1513	
	Result ppb	DL ppb	DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>	DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>	DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>	DL mg/m <sup>3</sup>	Result mg/filter	DL mg/filter	Result mg/m <sup>3</sup>	DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>
Arsenic	<1.0	1.0	0.000048	<0.000048	0.000047	<0.000047	0.000051	<0.000051	0.000051	<0.000051	0.000050	<0.000050	0.000017	<0.000017
Lead	<1.0	1.0	0.000048	<0.000048	0.000047	<0.000047	0.000051	<0.000051	0.000051	<0.000051	0.000050	<0.000050	0.000033	<0.000033

Printed: 10/23/2015

# ICP QC Standards

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

011506179-0002		011506179-0003		011506179-0004		011506179-0005		011506324-0001	
10/23/15	0:35	10/23/15	0:40	10/23/15	0:46	10/23/15	0:51	10/23/15	0:57
1.00		1.00		1.00		1.00		1.00	
1171.8		1594.7		1376		N/A		1030	
DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>	DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>	DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>	DL mg/filter	Result mg/filter	DL mg/m <sup>3</sup>	Result mg/m <sup>3</sup>
0.000021	<0.000021	0.000016	<0.000016	0.000018	<0.000018	0.000025	<0.000025	0.000024	<0.000024
0.000043	<0.000043	0.000031	<0.000031	0.000036	<0.000036	0.000050	<0.000050	0.000049	0.000083
Arsenic									
Lead									

(\*) Result outside control limits (#) Sample Result > 4 x spike amt (x) No solids data

Batch: 01Q151022-018  
 Created: 10/22/2015 1:11:04F  
 Instrument: 01-ELAN DRC-e  
 Matrix: Cassettes

ICSA-1[1]		ICSAB-1[1]		ICSA-1[2]		ICSAB-1[2]	
01Q151022-021		01Q151022-021		01Q151022-021		01Q151022-021	
10/23/15 12:30		10/23/15 12:35		10/23/15 15:41		10/23/15 15:47	
Result ppb	True Conc ppb	% Rec 80-120	Result ppb	True Conc ppb	% Rec 80-120	Result ppb	True Conc ppb
29	30	98.8	29	30	95.4	29	30
29	30	95.4	29	30	95.4	29	30

ICP-MS Air Cassette Preparation Log						
NIOSH 7300 Modified						
Date: 10/22/15	Digestion start: 1300	Temp start: 95				
Initials: A	Digestion end: 1400	Temp end: 95				
	HNO <sub>3</sub> Reference # 100215A	Hotblock Reference: A				
	H <sub>2</sub> O <sub>2</sub> Reference # 082515C					
	Custom Blend Reference #					
	ICP-MS CCV Reference # 081315A	081315B				
	Alternate Element:	Spike Reference #				
	Alternate Element:	Spike Reference #				
	Alternate Element:	Spike Reference #				
	Alternate Element:	Spike Reference #				
	HotBlock™ Tube Reference #					
	Blank MCE Reference # 090215K	Blank PVC Reference # 050113B				
Sample	mL Spike	Final Volume mL				Added MCE to wipe inside of cassette
Matrix Blank MCE	0.0	50mL				
Matrix Blank PVC						
LCS	0.05					
LCSD	0.05		Client Volume L	MCE	PVC	
011506019.1			376			
2			382			
3			376			
4			372			
5			394			
6			390			
7			390			
8			384			
011506178.1			1027.13			
3			1031.68/097.2			
5			1059.48/031.68/1010/22/15			
7			1071.32/097.2			
9			1094.68/105			
11						
011506179.1			1513			
2			1171.8			
3			1594.7			
4			1376			
8						
011506324.1			1030			
To each sample add 5 mL HNO <sub>3</sub> (Conc).			1300 - 1345			
To each sample add 1.0 mL of H <sub>2</sub> O <sub>2</sub> .			1420 - 1450			

## ICP-MS RLVS

0.5mL Std#7 (SN: 3292.276.)

0.05mL Cass RL Stock (3220.221)

Cal Mix (3220.124) Ag (3220.168)

F.V. 50 mL

## ICP-MS RLVS Beryllium

0.25mL Std#7 (SN: 3292.276.)

to F.V. 50mL.

Signature of Preparer: 

Controlled Document  
 Confidential Information/ Property of EMSL Analytical, Inc.  
 K:\METALS\ICP Prep Logs\ICP-MS Cassette prep log-REV4  
 Page 68 of 269

Date: 10/22/15

Controlled Document  
Confidential Information/ Property of EMSL Analytical, Inc  
K:\METALS\Standard Ref Sheets\ICPMS\ICP MS STD Cassettes.xls

## Instrument Tuning Report

File Name: Default.tun  
File Path: C:\elandata\Tuning\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
C	12.000	12.025	2736	2143	0.700	
Mg	23.985	23.975	5636	2165	0.666	
Ar2	75.930	75.975	18304	2169	0.683	
In	114.904	114.875	27792	2198	0.679	
Ce	139.905	139.875	33890	2204	0.683	
Pb	207.977	207.975	50484	2246	0.683	
U	238.050	238.075	57811	2273	0.688	

## Daily Performance Report

### Sample ID: Daily Performance Check

Sample Date/Time: Thursday, October 22, 2015 16:50:55

Sample Description:

Method File: C:\Elandata\Method\Daily 20120810.mth

Dataset File: C:\Elandata\DataSet\20151015\Daily Performance Check.939

Tuning File: C:\elandata\Tuning\Default.tun

Optimization File: C:\elandata\Optimize\Default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 55

Current Dead Time (ns): 55

### Summary

Analyte	Mass	Meas. Intens.	Mean	Net Intens.	Mean	Net Intens.	SD	Net Intens.	RSD
Mg	24.0		26168.6		26168.633		735.446		2.8
In	114.9		306346.5		306346.546		2628.832		0.9
U	238.1		277423.8		277423.759		1948.903		0.7
[> Ce	139.9		344303.8		344303.827		1906.859		0.6
[ CeO	155.9		11988.2		0.035		0.001		1.5
[> Ba	137.9		284579.6		284579.570		3071.647		1.1
[ Ba++	69.0		3455.3		0.012		0.000		3.1
Bkgd	220.0		90.3		90.267		1.188		1.3
Bkgd	8.5		298.1		298.105		6.713		2.3

### Current Optimization File Data

Current Value	Description
0.84	Nebulizer Gas Flow [NEB]
1.35	Auxiliary Gas Flow
15.50	Plasma Gas Flow
6.75	Lens Voltage
1000.00	ICP RF Power
-1700.00	Analog Stage Voltage
900.00	Pulse Stage Voltage
-3.00	Quadrupole Rod Offset Std [QRO]
-7.00	Cell Rod Offset Std [CRO]
15.00	Discriminator Threshold
-20.00	Cell Path Voltage Std [CPV]
0.00	RPa
0.25	RPq
1.10	DRC Mode NEB
-5.00	DRC Mode QRO
-0.50	DRC Mode CRO
-16.00	DRC Mode CPV
0.00	Cell Gas A

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	45	5.5	2855.1
Co	59	45	6.0	112939.9
In	115	45	6.8	276989.5
U	238	45	9.5	306907.9

Sample ID: Daily Performance Check

Report Date/Time: Thursday, October 22, 2015 16:54:37

Page 1

	Rinse	10/22/2015 16:59
	Rinse	10/22/2015 17:05
	Cal Blank	10/22/2015 17:10
	STD 1	10/22/2015 17:16
	STD 2	10/22/2015 17:21
	STD 3	10/22/2015 17:27
	STD 4	10/22/2015 17:32
	STD 5	10/22/2015 17:38
	STD 6	10/22/2015 17:43
	STD 7	10/22/2015 17:49
	Rinse	10/22/2015 17:54
	ICV	10/22/2015 18:00
	ICB	10/22/2015 18:05
	RL STD	10/22/2015 18:11
	RL STD beryllium	10/22/2015 18:16
	ICSA-1	10/22/2015 18:21
	ICSAB-1	10/22/2015 18:27
	Rinse	10/22/2015 18:32
	RL STD beryllium rerun	10/22/2015 18:48
	CCV	10/22/2015 19:03
	CCB	10/22/2015 19:09
01Q151022-021 1mce	Method Blank	10/22/2015 19:17
01Q151022-021 2mce	Method Blank	10/22/2015 19:22
01Q151022-021 1pvc	Method Blank	10/22/2015 19:28
01Q151022-021	LCS	10/22/2015 19:33
01Q151022-021	LCSD	10/22/2015 19:39
01Q151022-021	RLVS	10/22/2015 19:44
01Q151022-021	RLVS	10/22/2015 19:50
01Q151022-021	011506102-0002	10/22/2015 19:55
01Q151022-021	011506102-0006	10/22/2015 20:01
01Q151022-021	011506180-0001	10/22/2015 20:06
01Q151022-021	CCV	10/22/2015 20:12
01Q151022-021	CCB	10/22/2015 20:17
01Q151022-021	011506180-0002	10/22/2015 20:23
01Q151022-021	011506180-0003	10/22/2015 20:28
01Q151022-021	011506180-0004	10/22/2015 20:33
01Q151022-021	011506187-0001	10/22/2015 20:39
01Q151022-021	011506187-0002	10/22/2015 20:44
01Q151022-021	011506187-0003	10/22/2015 20:50
01Q151022-021	011506290-0001	10/22/2015 20:55
01Q151022-021	011506290-0002	10/22/2015 21:01
01Q151022-021	011506290-0003	10/22/2015 21:06
01Q151022-021	011506290-0004	10/22/2015 21:12
01Q151022-021	CCV	10/22/2015 21:17
01Q151022-021	CCB	10/22/2015 21:23
01Q151022-021	011506290-0005	10/22/2015 21:28
01Q151022-021	011506290-0006	10/22/2015 21:34
01Q151022-021	011506290-0007	10/22/2015 21:39
01Q151022-021	011506291-0001	10/22/2015 21:45
01Q151022-021	011506291-0002	10/22/2015 21:50
01Q151022-021	011506291-0003	10/22/2015 21:56

01Q151022-021	CCV	10/22/2015 22:01
01Q151022-021	CCB	10/22/2015 22:07
01Q151022-018 1mce	Method Blank	10/22/2015 22:12
01Q151022-018 2mce	Method Blank	10/22/2015 22:18
01Q151022-018 1pvc	Method Blank	10/22/2015 22:23
01Q151022-018	LCS	10/22/2015 22:28
01Q151022-018	LCSD	10/22/2015 22:34
01Q151022-018	RLVS	10/22/2015 22:40
01Q151022-018	RLVS	10/22/2015 22:45
01Q151022-018	011506019-0001	10/22/2015 22:50
01Q151022-018	011506019-0002	10/22/2015 22:56
01Q151022-018	011506019-0003	10/22/2015 23:01
01Q151022-018	CCV	10/22/2015 23:07
01Q151022-018	CCB	10/22/2015 23:12
01Q151022-018	011506019-0004	10/22/2015 23:18
01Q151022-018	011506019-0005	10/22/2015 23:23
01Q151022-018	011506019-0006	10/22/2015 23:29
01Q151022-018	011506019-0007	10/22/2015 23:34
01Q151022-018	011506019-0008	10/22/2015 23:40
01Q151022-018	011506178-0001	10/22/2015 23:45
01Q151022-018	011506178-0003	10/22/2015 23:51
01Q151022-018	011506178-0005	10/22/2015 23:56
01Q151022-018	011506178-0007	10/23/2015 0:02
01Q151022-018	011506178-0009	10/23/2015 0:07
01Q151022-018	CCV	10/23/2015 0:13
01Q151022-018	CCB	10/23/2015 0:18
01Q151022-018	011506178-0011	10/23/2015 0:24
01Q151022-018	011506179-0001	10/23/2015 0:29
01Q151022-018	011506179-0002	10/23/2015 0:35
01Q151022-018	011506179-0003	10/23/2015 0:40
01Q151022-018	011506179-0004	10/23/2015 0:46
01Q151022-018	011506179-0005	10/23/2015 0:51
01Q151022-018	011506324-0001	10/23/2015 0:57
01Q151022-018	CCV	10/23/2015 1:02
01Q151022-018	CCB	10/23/2015 1:08
	ICSA-1	10/23/2015 1:13
	ICSAB-1	10/23/2015 1:18
	Rinse	10/23/2015 1:24
01Q151022-018	CCV	10/23/2015 1:29
01Q151022-018	CCB	10/23/2015 1:35

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Thursday, October 22, 2015 16:59:59

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	16303.352			ug/L
	Be	9	188.002			ug/L
	B	11	971.052			ug/L
	Al	27	4595.830			ug/L
[>	Sc	45	241542.289			ug/L
	Ti	47	552.350			ug/L
	Ti	49	290.005			ug/L
	V	51	3370.098			ug/L
	Cr	52	11588.051			ug/L
	Cr	53	815.703			ug/L
	Mn	55	1903.866			ug/L
	Co	59	245.670			ug/L
	Ni	60	209.336			ug/L
	Cu	63	420.010			ug/L
	Cu	65	308.339			ug/L
	Ga	69	205864.827			ug/L
	Zn	66	1035.726			ug/L
	Zn	68	967.052			ug/L
[>	Ge	74	91577.306			ug/L
	As	75	-106.103			ug/L
	Se	77	359.340			ug/L
	Se	78	14886.958			ug/L
	Se	82	12.221			ug/L
	Sr	88	732.696			ug/L
[>	Y	89	669062.625			ug/L
	Zr	90	4776.105			ug/L
	Mo	98	164.806			ug/L
	Ag	109	157.335			ug/L
	Cd	111	130.001			ug/L
	Cd	114	156.636			ug/L
[>	In	115	490858.973			ug/L
	Sn	118	200.002			ug/L
	Sb	123	264.753			ug/L
	Ba	137	190.335			ug/L
[>	Tb	159	568395.400			ug/L
	Tl	203	108.334			ug/L
	Tl	205	133.668			ug/L
	Pb	206	116.001			ug/L
	Pb	208	399.670			ug/L
[>	Bi	209	346099.798			ug/L
	Th	232	290.338			ug/L
	U	238	129.001			ug/L
	Na	23	4067.246			ug/L
	Mg	24	1280.424			ug/L
	Mg	25	322.672			ug/L
	K	39	620514.873			ug/L
	Ca	44	37347.895			ug/L
	Fe	57	17130.149			ug/L
	Fe	54	283449.950			ug/L
[>	Sc-1	45	241542.289			ug/L
	C	12	312886.089			ug/L
	Kr	83	281.338			ug/L
	Cl	35	19026.900			ug/L

	S	32	77784488.682	ug/L
	P	31	40599.021	ug/L
	Si	28	95416.799	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Thursday, October 22, 2015 17:05:24

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	16265.552			ug/L
	Be	9	166.335			ug/L
L	B	11	920.713			ug/L
[	Al	27	4980.031			ug/L
>	Sc	45	245316.999			ug/L
	Ti	47	578.018			ug/L
	Ti	49	283.671			ug/L
	V	51	3392.925			ug/L
	Cr	52	11495.600			ug/L
	Cr	53	820.370			ug/L
	Mn	55	1903.533			ug/L
	Co	59	229.003			ug/L
	Ni	60	190.002			ug/L
	Cu	63	407.676			ug/L
	Cu	65	284.671			ug/L
L	Ga	69	212159.605			ug/L
[	Zn	66	1117.736			ug/L
	Zn	68	1046.727			ug/L
>	Ge	74	96607.989			ug/L
	As	75	-268.370			ug/L
	Se	77	395.342			ug/L
	Se	78	15001.164			ug/L
L	Se	82	-13.870			ug/L
[	Sr	88	807.703			ug/L
>	Y	89	677419.175			ug/L
	Zr	90	1660.154			ug/L
L	Mo	98	154.947			ug/L
[	Ag	109	153.001			ug/L
	Cd	111	123.334			ug/L
	Cd	114	157.249			ug/L
>	In	115	507706.137			ug/L
	Sn	118	202.002			ug/L
L	Sb	123	268.451			ug/L
[	Ba	137	205.002			ug/L
>	Tb	159	580308.794			ug/L
[	Tl	203	88.000			ug/L
	Tl	205	96.334			ug/L
	Pb	206	115.667			ug/L
	Pb	208	362.002			ug/L
>	Bi	209	353835.374			ug/L
	Th	232	175.335			ug/L
L	U	238	91.000			ug/L
[	Na	23	3752.442			ug/L
	Mg	24	1329.764			ug/L
	Mg	25	344.007			ug/L
	K	39	627274.469			ug/L
	Ca	44	37589.560			ug/L
	Fe	57	17853.180			ug/L
	Fe	54	283204.682			ug/L
>	Sc-1	45	245316.999			ug/L
	C	12	312181.847			ug/L
	Kr	83	291.671			ug/L
	Cl	35	19182.891			ug/L

	S	32	81373069.469	ug/L
	P	31	41540.106	ug/L
	Si	28	97256.805	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: Cal Blank

Sample Date/Time: Thursday, October 22, 2015 17:10:50

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	15571.635			ug/L
	Be	9	176.335			ug/L
	B	11	908.712			ug/L
	Al	27	4276.007			ug/L
[>	Sc	45	229658.569			ug/L
	Ti	47	548.017			ug/L
	Ti	49	273.337			ug/L
	V	51	3153.426			ug/L
	Cr	52	10746.351			ug/L
	Cr	53	757.032			ug/L
	Mn	55	1782.175			ug/L
	Co	59	222.669			ug/L
	Ni	60	195.669			ug/L
	Cu	63	410.676			ug/L
	Cu	65	281.004			ug/L
	Ga	69	194860.149			ug/L
	Zn	66	1003.389			ug/L
	Zn	68	961.051			ug/L
[>	Ge	74	90750.813			ug/L
	As	75	-146.054			ug/L
	Se	77	363.007			ug/L
	Se	78	14650.696			ug/L
	Se	82	24.922			ug/L
	Sr	88	714.028			ug/L
[>	Y	89	628829.919			ug/L
	Zr	90	1075.731			ug/L
	Mo	98	133.214			ug/L
	Ag	109	159.335			ug/L
	Cd	111	118.667			ug/L
	Cd	114	144.126			ug/L
[>	In	115	480208.141			ug/L
	Sn	118	219.003			ug/L
	Sb	123	241.007			ug/L
	Ba	137	159.668			ug/L
[>	Tb	159	561404.303			ug/L
	Tl	203	88.334			ug/L
	Tl	205	89.667			ug/L
	Pb	206	113.001			ug/L
	Pb	208	343.336			ug/L
[>	Bi	209	342119.050			ug/L
	Th	232	146.335			ug/L
	U	238	92.334			ug/L
	Na	23	2868.452			ug/L
	Mg	24	1121.736			ug/L
	Mg	25	323.006			ug/L
	K	39	605392.035			ug/L
	Ca	44	36726.370			ug/L
	Fe	57	15964.339			ug/L
	Fe	54	266673.989			ug/L
[>	Sc-1	45	229658.569			ug/L
	C	12	295544.687			ug/L
	Kr	83	277.338			ug/L
	Cl	35	17287.090			ug/L

	S	32	68058330.223	ug/L
	P	31	36035.629	ug/L
	Si	28	91534.549	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: STD 1

Sample Date/Time: Thursday, October 22, 2015 17:16:17

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14907.323			ug/L
	Be	9	225.003	0.50000	41.40	ug/L
	B	11	866.375			ug/L
	Al	27	5933.270			ug/L
[>	Sc	45	230216.659			ug/L
	Ti	47	862.708			ug/L
	Ti	49	559.351			ug/L
	V	51	7941.821			ug/L
	Cr	52	15459.137			ug/L
	Cr	53	1207.080			ug/L
	Mn	55	7265.903			ug/L
	Co	59	4679.871			ug/L
	Ni	60	1202.746			ug/L
	Cu	63	2632.048			ug/L
	Cu	65	1327.430			ug/L
	Ga	69	192841.588			ug/L
	Zn	66	1692.158			ug/L
	Zn	68	1378.438			ug/L
[>	Ge	74	88252.286			ug/L
	As	75	439.235			ug/L
	Se	77	415.010			ug/L
	Se	78	14861.377			ug/L
	Se	82	42.682			ug/L
	Sr	88	11052.048			ug/L
[>	Y	89	630583.819			ug/L
	Zr	90	6765.851			ug/L
	Mo	98	2705.179			ug/L
	Ag	109	3456.324			ug/L
	Cd	111	905.378			ug/L
	Cd	114	1878.037			ug/L
[>	In	115	471519.224			ug/L
	Sn	118	2690.398			ug/L
	Sb	123	2237.743			ug/L
	Ba	137	1543.798			ug/L
[>	Tb	159	565477.467			ug/L
	Tl	203	2746.748			ug/L
	Tl	205	6496.988			ug/L
	Pb	206	2245.611			ug/L
	Pb	208	8712.941			ug/L
[>	Bi	209	340733.386			ug/L
	Th	232	8831.955			ug/L
	U	238	9108.897			ug/L
	Na	23	115770.052			ug/L
	Mg	24	78502.861			ug/L
	Mg	25	11484.917			ug/L
	K	39	888156.426			ug/L
	Ca	44	45981.665			ug/L
	Fe	57	27027.467			ug/L
	Fe	54	294340.589			ug/L
[>	Sc-1	45	230216.659			ug/L
	C	12	361818.816			ug/L
	Kr	83	266.671			ug/L
	Cl	35	17825.127			ug/L

	S	32	67136972.876	ug/L
	P	31	34981.273	ug/L
	Si	28	92212.741	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 2

Sample Date/Time: Thursday, October 22, 2015 17:21:44

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	15441.379			ug/L
	Be	9	275.004	0.96748	26.07	ug/L
	B	11	941.715			ug/L
	Al	27	9841.324			ug/L
[>	Sc	45	246523.378			ug/L
	Ti	47	1183.410			ug/L
	Ti	49	870.708			ug/L
	V	51	13432.127			ug/L
	Cr	52	19944.859			ug/L
	Cr	53	1643.148			ug/L
	Mn	55	14027.815			ug/L
	Co	59	9740.549			ug/L
	Ni	60	2318.962			ug/L
	Cu	63	5056.740			ug/L
	Cu	65	2453.664			ug/L
	Ga	69	205232.090			ug/L
	Zn	66	2492.342			ug/L
	Zn	68	2002.221			ug/L
[>	Ge	74	95204.455			ug/L
	As	75	1448.898	1.00000	5.49	ug/L
	Se	77	489.680	1.00000	26.75	ug/L
	Se	78	15664.360	1.00000	126.78	ug/L
	Se	82	179.873	1.00000	10.41	ug/L
	Sr	88	22550.612			ug/L
[>	Y	89	659483.402			ug/L
	Zr	90	13528.727			ug/L
	Mo	98	5463.747			ug/L
	Ag	109	7049.399			ug/L
	Cd	111	1743.834	1.00000	1.49	ug/L
	Cd	114	3823.535	1.00000	2.34	ug/L
[>	In	115	498985.923			ug/L
	Sn	118	5243.512			ug/L
	Sb	123	4428.040			ug/L
	Ba	137	2945.811			ug/L
[>	Tb	159	572492.685			ug/L
	Tl	203	5648.422	1.00000	1.52	ug/L
	Tl	205	13276.359	1.00000	1.91	ug/L
	Pb	206	4584.489	1.00000	0.76	ug/L
	Pb	208	17979.213	1.00000	0.44	ug/L
[>	Bi	209	354600.181			ug/L
	Th	232	18598.012	1.00000	1.46	ug/L
	U	238	18786.394	1.00000	1.16	ug/L
	Na	23	252695.927	100.00000	3.29	ug/L
	Mg	24	163373.851	100.00000	2.87	ug/L
	Mg	25	23432.172	100.00000	1.39	ug/L
	K	39	1266661.248	100.00000	2.37	ug/L
	Ca	44	58636.527	100.00000	10.89	ug/L
	Fe	57	41042.796	100.00000	3.70	ug/L
	Fe	54	335515.796	100.00000	19.39	ug/L
[>	Sc-1	45	246523.378			ug/L
	C	12	346279.121			ug/L
	Kr	83	245.337			ug/L
	Cl	35	19399.351			ug/L

	S	32	76283821.223	ug/L
	P	31	38444.502	ug/L
	Si	28	94875.580	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 3

Sample Date/Time: Thursday, October 22, 2015 17:27:12

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	15004.121				ug/L
	Be	9	1056.061		9.98278	2.67	ug/L
	B	11	1898.532		10.00000	0.95	ug/L
	Al	27	35041.081				ug/L
[>	Sc	45	229448.767				ug/L
	Ti	47	7034.722		10.00000	3.30	ug/L
	Ti	49	5929.603		10.00000	1.49	ug/L
	V	51	98042.238		10.00000	1.80	ug/L
	Cr	52	91182.160				ug/L
	Cr	53	9973.136				ug/L
	Mn	55	113814.683		10.00000	1.92	ug/L
	Co	59	90982.850		10.00000	3.20	ug/L
	Ni	60	20496.757		10.00000	1.65	ug/L
	Cu	63	43469.745		10.00000	1.30	ug/L
	Cu	65	21028.964		10.00000	3.38	ug/L
	Ga	69	201811.808				ug/L
	Zn	66	10801.413		10.00000	1.12	ug/L
	Zn	68	8073.256		10.00000	3.73	ug/L
[>	Ge	74	92366.364				ug/L
	As	75	16042.160		10.00393	1.90	ug/L
	Se	77	1463.118		10.00317	2.05	ug/L
	Se	78	18640.891		10.02275	17.66	ug/L
	Se	82	1555.259		10.00245	3.80	ug/L
	Sr	88	217211.948		10.00000	4.38	ug/L
[>	Y	89	641579.913				ug/L
	Zr	90	125764.020		10.00000	3.72	ug/L
	Mo	98	53690.091		10.00000	2.26	ug/L
	Ag	109	68505.914		10.00000	2.20	ug/L
	Cd	111	16053.163		9.99906	0.51	ug/L
	Cd	114	36466.454		9.99961	1.81	ug/L
[>	In	115	495173.309				ug/L
	Sn	118	49527.277				ug/L
	Sb	123	43533.289		10.00000	1.48	ug/L
	Ba	137	27960.934		10.00000	0.80	ug/L
[>	Tb	159	570449.976				ug/L
	Tl	203	55092.514		10.00018	4.88	ug/L
	Tl	205	131583.863		10.00089	1.50	ug/L
	Pb	206	43083.852		9.99726	2.16	ug/L
	Pb	208	174183.118		9.99979	1.36	ug/L
[>	Bi	209	350581.874				ug/L
	Th	232	182132.198		9.99981	0.96	ug/L
	U	238	189578.082		10.00246	2.10	ug/L
	Na	23	1170036.613		500.10872	4.87	ug/L
	Mg	24	795589.147		500.97684	1.06	ug/L
	Mg	25	116227.721		501.42130	3.25	ug/L
	K	39	3620773.491		500.92598	7.26	ug/L
	Ca	44	141637.959		502.85071	4.09	ug/L
	Fe	57	131384.687		500.69988	3.54	ug/L
	Fe	54	555688.689		504.02685	7.11	ug/L
[>	Sc-1	45	229448.767				ug/L
	C	12	339976.601				ug/L
	Kr	83	259.004				ug/L
	Cl	35	26642.343				ug/L

	S	32	72793870.534	ug/L
	P	31	37105.234	ug/L
	Si	28	92689.958	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 4

Sample Date/Time: Thursday, October 22, 2015 17:32:40

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	15212.936			ug/L
	Be	9	1969.880	19.99319	1.46	ug/L
	B	11	2837.776	19.75320	6.63	ug/L
	Al	27	61661.741	20.00000	6.44	ug/L
>	Sc	45	224932.114			ug/L
	Ti	47	13007.968	19.91804	0.65	ug/L
	Ti	49	11205.569	19.94608	1.28	ug/L
	V	51	182733.143	19.85649	0.67	ug/L
	Cr	52	161545.025	20.00000	2.34	ug/L
	Cr	53	19311.827	20.00000	3.49	ug/L
	Mn	55	225163.923	20.06713	4.86	ug/L
	Co	59	178000.355	19.99509	3.49	ug/L
	Ni	60	39701.534	19.97057	4.07	ug/L
	Cu	63	84640.960	19.99195	5.26	ug/L
	Cu	65	40304.822	19.93234	1.46	ug/L
	Ga	69	196258.379			ug/L
	Zn	66	19772.166	19.87436	2.69	ug/L
	Zn	68	14449.809	19.83898	1.35	ug/L
>	Ge	74	91370.681			ug/L
	As	75	30790.933	19.86272	3.63	ug/L
	Se	77	2528.352	20.00037	2.69	ug/L
	Se	78	21616.398	19.70552	1.92	ug/L
	Se	82	3036.081	19.97920	2.09	ug/L
	Sr	88	414465.257	19.85454	4.14	ug/L
>	Y	89	635894.554			ug/L
	Zr	90	244752.298	19.94280	2.12	ug/L
	Mo	98	102169.773	19.83979	1.80	ug/L
	Ag	109	131466.251	20.07654	1.93	ug/L
	Cd	111	31315.179	20.15239	0.76	ug/L
	Cd	114	70418.406	20.10470	0.95	ug/L
>	In	115	466677.035			ug/L
	Sn	118	96319.929	20.00000	0.73	ug/L
	Sb	123	82832.171	20.04939	1.44	ug/L
	Ba	137	53650.186	20.01622	0.59	ug/L
>	Tb	159	546617.733			ug/L
	Tl	203	108489.868	20.04266	1.84	ug/L
	Tl	205	254346.076	19.96924	4.01	ug/L
	Pb	206	85720.982	20.08568	0.63	ug/L
	Pb	208	340792.821	20.01845	1.71	ug/L
>	Bi	209	341684.449			ug/L
	Th	232	362029.677	20.08033	1.63	ug/L
	U	238	370936.902	20.01789	1.86	ug/L
	Na	23	2398842.205	1009.23635	3.96	ug/L
	Mg	24	1490603.831	991.02607	1.71	ug/L
	Mg	25	225835.757	998.93825	2.27	ug/L
	K	39	6513037.659	1000.70114	3.79	ug/L
	Ca	44	243117.390	1002.44890	2.35	ug/L
	Fe	57	238068.060	996.76165	5.31	ug/L
	Fe	54	809327.780	994.27067	3.01	ug/L
>	Sc-1	45	224932.114			ug/L
	C	12	341068.215			ug/L
	Kr	83	250.337			ug/L
	Cl	35	34727.542			ug/L

	S	32	68022376.395	ug/L
	P	31	33988.443	ug/L
	Si	28	90522.809	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 5

Sample Date/Time: Thursday, October 22, 2015 17:38:09

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6		14604.077			ug/L
	Be	9		2777.758	30.09734	2.31	ug/L
	B	11		4027.226	31.15804	4.87	ug/L
	Al	27		96113.412	30.75115	1.61	ug/L
[>	Sc	45		220885.498			ug/L
	Ti	47		19023.576	30.02586	3.45	ug/L
	Ti	49		16010.091	29.72224	1.44	ug/L
	V	51		274688.432	30.20461	0.72	ug/L
	Cr	52		242024.193	30.36976	0.41	ug/L
	Cr	53		27981.338	29.96325	2.75	ug/L
	Mn	55		331012.826	30.03777	0.65	ug/L
	Co	59		268083.769	30.23418	1.27	ug/L
	Ni	60		59553.098	30.19140	0.97	ug/L
	Cu	63		127450.229	30.24217	1.91	ug/L
	Cu	65		59874.050	30.07712	3.63	ug/L
	Ga	69		200655.034			ug/L
	Zn	66		28733.702	29.84649	2.46	ug/L
	Zn	68		21445.275	30.12288	3.15	ug/L
[>	Ge	74		90765.130			ug/L
	As	75		46525.918	30.05553	1.45	ug/L
	Se	77		3560.364	29.91213	0.17	ug/L
	Se	78		24719.056	29.66971	4.61	ug/L
	Se	82		4520.253	30.01073	2.93	ug/L
	Sr	88		625256.254	29.89081	2.27	ug/L
[>	Y	89		641474.564			ug/L
	Zr	90		369049.864	29.94199	0.35	ug/L
	Mo	98		152211.565	29.74523	1.45	ug/L
	Ag	109		201776.778	29.92789	1.54	ug/L
	Cd	111		46787.170	29.68661	2.01	ug/L
	Cd	114		106471.070	29.78618	3.06	ug/L
[>	In	115		482676.665			ug/L
	Sn	118		145291.260	29.74575	0.40	ug/L
	Sb	123		124816.795	29.72426	2.28	ug/L
	Ba	137		81534.546	29.83788	0.86	ug/L
[>	Tb	159		563165.052			ug/L
	Tl	203		161806.076	29.99124	0.32	ug/L
	Tl	205		385131.027	30.11122	0.92	ug/L
	Pb	206		126372.095	29.89243	1.35	ug/L
	Pb	208		504396.342	29.89970	0.44	ug/L
[>	Bi	209		340736.728			ug/L
	Th	232		525788.519	29.72712	2.60	ug/L
	U	238		543224.750	29.77975	2.71	ug/L
	Na	23		4917149.579	2024.54980	0.87	ug/L
	Mg	24		3201540.593	2037.87324	0.43	ug/L
	Mg	25		446668.612	2002.97997	2.49	ug/L
	K	39		12625802.256	2016.79951	1.93	ug/L
	Ca	44		432940.527	1990.01969	2.26	ug/L
	Fe	57		472701.930	2019.84645	0.18	ug/L
	Fe	54		1418407.550	2033.11627	3.71	ug/L
[>	Sc-1	45		220885.498			ug/L
	C	12		346532.391			ug/L
	Kr	83		269.004			ug/L
	Cl	35		43267.070			ug/L

	S	32	69915296.885	ug/L
	P	31	35528.300	ug/L
	Si	28	93232.009	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 6

Sample Date/Time: Thursday, October 22, 2015 17:43:39

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	15399.806			ug/L
	Be	9	4963.689	50.82950	3.93	ug/L
	B	11	6937.313	52.09043	6.88	ug/L
	Al	27	171976.353	50.17245	4.05	ug/L
>	Sc	45	244846.062			ug/L
	Ti	47	34317.363	49.78687	1.34	ug/L
	Ti	49	30035.241	50.23556	3.27	ug/L
	V	51	496248.745	49.80816	3.46	ug/L
	Cr	52	434938.506	50.03701	4.62	ug/L
	Cr	53	50219.159	49.67469	6.98	ug/L
	Mn	55	597621.641	49.65915	4.15	ug/L
	Co	59	464209.369	48.98235	2.42	ug/L
	Ni	60	105231.581	49.33886	2.14	ug/L
	Cu	63	223030.197	49.19913	3.57	ug/L
	Cu	65	105848.902	49.29597	4.57	ug/L
	Ga	69	220057.134			ug/L
	Zn	66	51315.479	51.05074	1.21	ug/L
	Zn	68	37751.246	51.02748	0.60	ug/L
>	Ge	74	92637.335			ug/L
	As	75	82430.036	50.73196	1.35	ug/L
	Se	77	6095.710	50.86659	2.25	ug/L
	Se	78	33002.885	50.73025	0.17	ug/L
	Se	82	7854.344	50.43735	3.58	ug/L
	Sr	88	1083753.104	49.91294	3.04	ug/L
>	Y	89	668293.685			ug/L
	Zr	90	653040.537	50.33421	2.64	ug/L
	Mo	98	272767.140	50.42317	0.70	ug/L
	Ag	109	350381.501	50.03130	1.48	ug/L
	Cd	111	82325.138	50.13580	1.28	ug/L
	Cd	114	186142.894	50.06782	0.79	ug/L
>	In	115	501048.501			ug/L
	Sn	118	253776.758	50.02928	2.02	ug/L
	Sb	123	219617.164	50.14809	1.10	ug/L
	Ba	137	142417.888	50.33466	1.24	ug/L
>	Tb	159	576740.248			ug/L
	Tl	203	279248.791	50.03581	1.92	ug/L
	Tl	205	659257.885	49.95236	0.89	ug/L
	Pb	206	217759.275	49.95019	0.64	ug/L
	Pb	208	876172.523	50.09692	2.07	ug/L
>	Bi	209	352174.317			ug/L
	Th	232	913841.688	49.99223	2.20	ug/L
	U	238	960025.552	50.32475	1.99	ug/L
	Na	23	13723352.255	5017.69383	4.56	ug/L
	Mg	24	8649104.218	4994.48317	1.48	ug/L
	Mg	25	1228440.145	4994.94447	2.15	ug/L
	K	39	33483031.425	4993.76201	3.87	ug/L
	Ca	44	1124345.303	4982.54253	2.54	ug/L
	Fe	57	1155887.189	4913.55809	3.57	ug/L
	Fe	54	3297619.800	4956.14803	2.69	ug/L
>	Sc-1	45	244846.062			ug/L
	C	12	364914.701			ug/L
	Kr	83	261.670			ug/L
	Cl	35	66738.776			ug/L

	S	32	84811518.728	ug/L
	P	31	42752.629	ug/L
	Si	28	98600.164	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 7

Sample Date/Time: Thursday, October 22, 2015 17:49:09

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14763.794			ug/L
	Be	9	9119.238	98.98100	0.65	ug/L
	B	11	12118.071	100.29507	0.76	ug/L
	Al	27	300510.594	98.97352	2.08	ug/L
[>	Sc	45	225515.413			ug/L
	Ti	47	61624.295	99.40081	2.74	ug/L
	Ti	49	51897.798	98.45390	4.34	ug/L
	V	51	869167.403	98.54187	2.05	ug/L
	Cr	52	736740.917	98.01231	2.98	ug/L
	Cr	53	86554.578	98.13776	1.79	ug/L
	Mn	55	1038538.805	98.16866	1.59	ug/L
	Co	59	820713.340	98.24893	2.02	ug/L
	Ni	60	183377.738	98.05543	0.81	ug/L
	Cu	63	387175.260	97.86633	2.69	ug/L
	Cu	65	191433.022	99.10542	1.98	ug/L
	Ga	69	209599.099			ug/L
	Zn	66	89578.191	98.33057	1.13	ug/L
	Zn	68	66257.317	98.55904	2.86	ug/L
[>	Ge	74	88354.483			ug/L
	As	75	151711.507	97.82191	1.60	ug/L
	Se	77	10632.214	95.73431	1.50	ug/L
	Se	78	48203.461	100.02580	3.21	ug/L
	Se	82	14610.529	98.46700	3.66	ug/L
	Sr	88	1929015.635	96.07753	4.10	ug/L
[>	Y	89	618101.696			ug/L
	Zr	90	1152014.013	96.05413	1.35	ug/L
	Mo	98	488451.333	99.32922	1.68	ug/L
	Ag	109	630454.411	98.60927	0.48	ug/L
	Cd	111	150131.218	96.75678	0.79	ug/L
	Cd	114	344356.629	97.98944	0.44	ug/L
[>	In	115	473809.568			ug/L
	Sn	118	467682.766	99.30794	1.22	ug/L
	Sb	123	405220.082	99.40171	1.38	ug/L
	Ba	137	262215.165	99.02157	0.59	ug/L
[>	Tb	159	553589.832			ug/L
	Tl	203	501787.909	96.59442	1.75	ug/L
	Tl	205	1191926.149	97.04133	0.24	ug/L
	Pb	206	395433.569	97.47725	0.75	ug/L
	Pb	208	1583118.591	97.25774	0.53	ug/L
[>	Bi	209	327779.748			ug/L
	Th	232	1651070.706	97.05129	1.96	ug/L
	U	238	1726491.045	97.26522	1.18	ug/L
	Na	23	24449819.696	9927.60486	3.58	ug/L
	Mg	24	16211933.195	10036.97138	2.76	ug/L
	Mg	25	2342009.749	10078.27911	3.84	ug/L
	K	39	59512368.323	9935.27871	5.03	ug/L
	Ca	44	1960593.155	9902.39803	4.53	ug/L
	Fe	57	2148879.460	9997.16671	1.94	ug/L
	Fe	54	5783084.329	9966.29458	1.71	ug/L
[>	Sc-1	45	225515.413			ug/L
	C	12	362186.362			ug/L
	Kr	83	265.671			ug/L
	Cl	35	105182.384			ug/L

	S	32	70714054.916	ug/L
	P	31	36585.988	ug/L
	Si	28	94006.604	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

## Calibration Report

Analyte	Mass	Curve Type	Slope	Intercept	Corr Coeff
Li	6.015	Linear Thru Zero	0.000000	0.000	0.000000
Be	9.012	Linear Thru Zero	0.006126	0.000	0.999748
B	11.009	Linear Thru Zero	0.007602	0.000	0.999436
Al	26.982	Linear Thru Zero	0.013278	0.000	0.999789
Sc	44.956	Linear Thru Zero	0.000000	0.000	0.000000
Ti	46.952	Linear Thru Zero	0.002725	0.000	0.999948
Ti	48.948	Linear Thru Zero	0.002327	0.000	0.999679
V	50.944	Linear Thru Zero	0.038984	0.000	0.999715
Cr	51.941	Linear Thru Zero	0.032869	0.000	0.999463
Cr	52.941	Linear Thru Zero	0.003878	0.000	0.999532
Mn	54.938	Linear Thru Zero	0.046833	0.000	0.999556
Co	58.933	Linear Thru Zero	0.037041	0.000	0.999488
Ni	59.933	Linear Thru Zero	0.008284	0.000	0.999463
Cu	62.930	Linear Thru Zero	0.017531	0.000	0.999339
Cu	64.928	Linear Thru Zero	0.008555	0.000	0.999844
Ga	68.926	Linear Thru Zero	0.000000	0.000	0.000000
Zn	65.926	Linear Thru Zero	0.010199	0.000	0.999517
Zn	67.925	Linear Thru Zero	0.007502	0.000	0.999614
Ge	73.922	Linear Thru Zero	0.000000	0.000	0.000000
As	74.922	Linear Thru Zero	0.017570	0.000	0.999796
Se	76.920	Linear Thru Zero	0.001215	0.000	0.999729
Se	77.917	Linear Thru Zero	0.003840	0.000	0.999711
Se	81.917	Linear Thru Zero	0.001677	0.000	0.999931
Sr	87.906	Linear Thru Zero	0.032482	0.000	0.999979
Y	88.905	Linear Thru Zero	0.000000	0.000	0.000000
Zr	89.904	Linear Thru Zero	0.019388	0.000	0.999957
Mo	97.906	Linear Thru Zero	0.007954	0.000	0.999912
Ag	108.905	Linear Thru Zero	0.013490	0.000	0.999750
Cd	110.904	Linear Thru Zero	0.003272	0.000	0.999943
Cd	113.904	Linear Thru Zero	0.007414	0.000	0.999975
In	114.904	Linear Thru Zero	0.000000	0.000	0.000000
Sn	117.902	Linear Thru Zero	0.009935	0.000	0.999929
Sb	122.904	Linear Thru Zero	0.008599	0.000	0.999944
Ba	136.905	Linear Thru Zero	0.004781	0.000	0.999863
Tb	158.925	Linear Thru Zero	0.000000	0.000	0.000000
Tl	202.972	Linear Thru Zero	0.015845	0.000	0.999998
Tl	204.975	Linear Thru Zero	0.037469	0.000	0.999994
Pb	205.975	Linear Thru Zero	0.012373	0.000	0.999990
Pb	207.977	Linear Thru Zero	0.049650	0.000	0.999993
Bi	208.980	Linear Thru Zero	0.000000	0.000	0.000000
Th	232.038	Linear Thru Zero	0.051893	0.000	0.999969
U	238.050	Linear Thru Zero	0.054154	0.000	0.999945
Na	22.990	Linear Thru Zero	0.010916	0.000	0.999895
Mg	23.985	Linear Thru Zero	0.007161	0.000	0.999953
Mg	24.986	Linear Thru Zero	0.001031	0.000	0.999898
K	38.964	Linear Thru Zero	0.026313	0.000	0.999925
Ca	43.956	Linear Thru Zero	0.000862	0.000	0.999833
Fe	56.935	Linear Thru Zero	0.000946	0.000	0.999827
Fe	53.940	Linear Thru Zero	0.002457	0.000	0.999916
Sc-1	44.956	Linear Thru Zero	0.000000	0.000	0.000000
C	12.000	Linear Thru Zero	0.000000	0.000	0.000000
Kr	82.914	Linear Thru Zero	0.000000	0.000	0.000000
Cl	34.969	Linear Thru Zero	0.000000	0.000	0.000000
S	31.972	Linear Thru Zero	0.000000	0.000	0.000000
P	30.994	Linear Thru Zero	0.000000	0.000	0.000000
Si	27.977	Linear Thru Zero	0.000000	0.000	0.000000

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Thursday, October 22, 2015 17:54:38

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	14891.370				ug/L
	Be	9	182.002		0.14703	103.54	ug/L
	B	11	785.367		-0.73876	8.11	ug/L
	Al	27	4442.419		0.15601	14.34	ug/L
[>	Sc	45	214740.733				ug/L
	Ti	47	566.018		0.09249	70.43	ug/L
	Ti	49	252.670		-0.00536	676.03	ug/L
	V	51	3240.601		0.03460	90.53	ug/L
	Cr	52	10549.790		0.07098	61.51	ug/L
	Cr	53	632.689		-0.09026	47.25	ug/L
	Mn	55	1906.200		0.02392	54.92	ug/L
	Co	59	357.674		0.01884	67.92	ug/L
	Ni	60	234.336		0.02893	43.59	ug/L
	Cu	63	451.011		0.01785	54.61	ug/L
	Cu	65	309.672		0.02556	72.57	ug/L
	Ga	69	185256.418				ug/L
	Zn	66	1004.055		0.05456	76.29	ug/L
	Zn	68	965.718		0.07671	110.39	ug/L
[>	Ge	74	86460.443				ug/L
	As	75	-118.382		0.01415	637.53	ug/L
	Se	77	338.673		-0.06681	274.25	ug/L
	Se	78	14165.386		0.63033	204.59	ug/L
	Se	82	-3.710		-0.18891	31.64	ug/L
	Sr	88	1086.400		0.02006	50.59	ug/L
[>	Y	89	606527.484				ug/L
	Zr	90	2735.147		0.14290	77.97	ug/L
	Mo	98	249.522		0.02485	72.67	ug/L
	Ag	109	443.345		0.04534	38.78	ug/L
	Cd	111	142.668		0.01733	65.21	ug/L
	Cd	114	202.694		0.01765	92.76	ug/L
[>	In	115	469195.438				ug/L
	Sn	118	347.007		0.02835	70.51	ug/L
	Sb	123	274.705		0.00964	127.42	ug/L
	Ba	137	216.336		0.02196	43.70	ug/L
[>	Tb	159	556211.393				ug/L
	Tl	203	163.335		0.01441	63.64	ug/L
	Tl	205	294.672		0.01637	73.62	ug/L
	Pb	206	164.335		0.01290	68.96	ug/L
	Pb	208	603.008		0.01595	72.66	ug/L
[>	Bi	209	334464.695				ug/L
	Th	232	629.027		0.02774	75.35	ug/L
	U	238	378.010		0.01571	86.40	ug/L
	Na	23	6594.341		1.67313	72.54	ug/L
	Mg	24	3670.223		1.71107	78.32	ug/L
	Mg	25	680.694		1.71661	65.36	ug/L
	K	39	596959.527		5.49979	42.97	ug/L
	Ca	44	35711.339		7.45477	48.65	ug/L
	Fe	57	14069.893		-4.22270	57.82	ug/L
	Fe	54	256297.174		13.28789	67.82	ug/L
[>	Sc-1	45	214740.733				ug/L
	C	12	295483.716				ug/L
	Kr	83	273.337				ug/L
	Cl	35	17490.481				ug/L

	S	32	64761428.920	ug/L
	P	31	33387.203	ug/L
	Si	28	89200.549	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	95.631
	Be	9	
	B	11	
	Al	27	
>	Sc	45	93.504
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.272
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	96.453
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	97.707
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.075
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	97.763
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	93.504
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICV

Sample Date/Time: Thursday, October 22, 2015 18:00:07

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	15288.980			ug/L
	Be	9	2924.470	29.37328	1.57	ug/L
	B	11	3995.878	26.70129	2.06	ug/L
	Al	27	93291.414	29.27539	2.43	ug/L
[>	Sc	45	229056.512			ug/L
	Ti	47	19544.338	30.43087	2.75	ug/L
	Ti	49	16710.686	30.84452	1.58	ug/L
	V	51	283901.263	31.44448	2.23	ug/L
	Cr	52	248324.580	31.56323	2.06	ug/L
	Cr	53	29422.557	32.27364	0.62	ug/L
	Mn	55	330453.856	30.64478	1.62	ug/L
	Co	59	274964.927	32.38820	1.62	ug/L
	Ni	60	60576.648	31.81540	1.51	ug/L
	Cu	63	133093.479	33.03792	1.47	ug/L
	Cu	65	65535.842	33.29699	1.41	ug/L
	Ga	69	208218.096			ug/L
	Zn	66	30271.998	31.13048	1.46	ug/L
	Zn	68	22474.413	31.10601	1.73	ug/L
[>	Ge	74	92140.561			ug/L
	As	75	48458.809	30.02041	1.40	ug/L
	Se	77	3690.082	29.67035	2.64	ug/L
	Se	78	25271.918	29.38157	2.79	ug/L
	Se	82	4639.164	29.86797	3.39	ug/L
	Sr	88	648223.124	30.84991	2.06	ug/L
[>	Y	89	646186.861			ug/L
	Zr	90	379919.003	30.23815	1.50	ug/L
	Mo	98	155420.142	30.21413	2.38	ug/L
	Ag	109	210587.298	32.01904	1.39	ug/L
	Cd	111	48986.665	30.65069	0.21	ug/L
	Cd	114	110638.321	30.58727	0.75	ug/L
[>	In	115	487199.086			ug/L
	Sn	118	154767.840	31.93342	1.76	ug/L
	Sb	123	133531.369	31.81668	0.46	ug/L
	Ba	137	84815.485	30.55122	1.23	ug/L
[>	Tb	159	579645.340			ug/L
	Tl	203	163348.316	29.22689	0.49	ug/L
	Tl	205	389433.831	29.47549	0.82	ug/L
	Pb	206	130344.475	29.85733	0.79	ug/L
	Pb	208	525661.916	30.01194	0.91	ug/L
[>	Bi	209	352539.380			ug/L
	Th	232	542608.875	29.65195	0.79	ug/L
	U	238	556356.001	29.14144	1.75	ug/L
	Na	23	732070.891	291.62180	2.15	ug/L
	Mg	24	506855.768	308.40992	1.86	ug/L
	Mg	25	72224.799	304.70711	3.02	ug/L
	K	39	2497465.658	314.06207	2.99	ug/L
	Ca	44	100853.035	325.33969	1.69	ug/L
	Fe	57	86813.771	327.01866	2.29	ug/L
	Fe	54	442138.968	313.22053	5.16	ug/L
[>	Sc-1	45	229056.512			ug/L
	C	12	351633.740			ug/L
	Kr	83	247.003			ug/L
	Cl	35	279084.790			ug/L

	S	32	72543651.321	ug/L
	P	31	35904.820	ug/L
	Si	28	140109.094	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	98.185
	Be	9	
	B	11	
	Al	27	
>	Sc	45	99.738
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	101.531
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	102.760
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	101.456
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	103.249
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	103.046
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	99.738
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICB

Sample Date/Time: Thursday, October 22, 2015 18:05:35

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	15037.275				ug/L
	Be	9	185.669		0.16737	67.84	ug/L
	B	11	767.699		-0.96002	22.60	ug/L
	Al	27	4262.999		0.04596	116.66	ug/L
[>	Sc	45	221875.964				ug/L
	Ti	47	557.684		0.04723	56.32	ug/L
	Ti	49	278.338		0.02776	20.73	ug/L
	V	51	3090.571		0.00501	297.10	ug/L
	Cr	52	10645.901		0.03627	25.89	ug/L
	Cr	53	659.357		-0.08351	9.61	ug/L
	Mn	55	1792.510		0.00695	96.90	ug/L
	Co	59	244.670		0.00357	47.93	ug/L
	Ni	60	204.669		0.00868	84.11	ug/L
	Cu	63	401.342		0.00123	307.39	ug/L
	Cu	65	296.338		0.01332	70.09	ug/L
	Ga	69	193535.330				ug/L
	Zn	66	1033.392		0.04301	81.22	ug/L
	Zn	68	963.718		0.01794	405.38	ug/L
[>	Ge	74	89952.718				ug/L
	As	75	-140.293		0.00205	1773.95	ug/L
	Se	77	353.007		-0.06498	245.63	ug/L
	Se	78	14272.906		-0.71094	63.61	ug/L
	Se	82	-1.704		-0.18125	155.09	ug/L
	Sr	88	834.705		0.00640	52.71	ug/L
[>	Y	89	621803.916				ug/L
	Zr	90	1812.196		0.06199	85.84	ug/L
	Mo	98	170.065		0.00780	65.78	ug/L
	Ag	109	299.338		0.02190	40.10	ug/L
	Cd	111	134.001		0.01031	87.89	ug/L
	Cd	114	161.957		0.00534	112.76	ug/L
[>	In	115	476951.020				ug/L
	Sn	118	225.336		0.00163	388.83	ug/L
	Sb	123	214.921		-0.00598	121.86	ug/L
	Ba	137	219.669		0.02211	56.60	ug/L
[>	Tb	159	562791.949				ug/L
	Tl	203	114.667		0.00502	73.14	ug/L
	Tl	205	142.001		0.00418	46.63	ug/L
	Pb	206	117.667		0.00132	111.40	ug/L
	Pb	208	418.003		0.00460	21.73	ug/L
[>	Bi	209	339387.846				ug/L
	Th	232	382.343		0.01351	84.24	ug/L
	U	238	154.335		0.00341	97.72	ug/L
	Na	23	2753.084		-0.00719	210.53	ug/L
	Mg	24	1231.750		0.09290	12.24	ug/L
	Mg	25	328.339		0.07010	66.43	ug/L
	K	39	591427.685		1.16933	170.25	ug/L
	Ca	44	35760.536		1.67251	525.42	ug/L
	Fe	57	14387.384		-4.92231	23.78	ug/L
	Fe	54	258728.492		2.31222	688.30	ug/L
[>	Sc-1	45	221875.964				ug/L
	C	12	291670.259				ug/L
	Kr	83	272.671				ug/L
	Cl	35	18100.356				ug/L

	S	32	67570038.362	ug/L
	P	31	34691.475	ug/L
	Si	28	89666.038	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	96.568
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	96.611
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	99.121
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	98.883
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.322
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	100.247
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.202
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	96.611
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RL STD

Sample Date/Time: Thursday, October 22, 2015 18:11:01

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14086.376			ug/L
	Be	9	267.004	1.24682	14.87	ug/L
	B	11	1621.812	7.46708	10.97	ug/L
	Al	27	54438.516	18.57925	3.34	ug/L
[>	Sc	45	205321.361			ug/L
	Ti	47	6167.759	10.15447	4.00	ug/L
	Ti	49	5197.154	10.37275	4.72	ug/L
	V	51	81258.219	9.79426	5.57	ug/L
	Cr	52	147791.882	20.46802	1.76	ug/L
	Cr	53	16834.933	20.28840	2.39	ug/L
	Mn	55	99359.797	10.17142	1.99	ug/L
	Co	59	80426.443	10.55376	3.67	ug/L
	Ni	60	17712.577	10.31370	1.21	ug/L
	Cu	63	38322.276	10.55194	3.40	ug/L
	Cu	65	18717.253	10.51681	2.15	ug/L
	Ga	69	182218.527			ug/L
	Zn	66	9478.273	9.83314	3.43	ug/L
	Zn	68	7226.872	9.90336	2.59	ug/L
[>	Ge	74	85152.935			ug/L
	As	75	1424.560	1.04363	5.37	ug/L
	Se	77	413.009	0.70110	36.40	ug/L
	Se	78	13949.264	0.61873	105.06	ug/L
	Se	82	149.118	0.88003	12.79	ug/L
	Sr	88	192962.740	10.05242	0.19	ug/L
[>	Y	89	588928.015			ug/L
	Zr	90	115180.411	10.00826	3.77	ug/L
	Mo	98	47365.992	10.09039	4.49	ug/L
	Ag	109	64307.324	10.35550	2.59	ug/L
	Cd	111	1703.493	1.05806	2.96	ug/L
	Cd	114	3569.487	1.00759	1.15	ug/L
[>	In	115	459381.991			ug/L
	Sn	118	90527.511	19.79285	1.43	ug/L
	Sb	123	38812.319	9.76896	1.83	ug/L
	Ba	137	25515.424	9.67553	1.08	ug/L
[>	Tb	159	548274.438			ug/L
	Tl	203	5149.792	0.96173	0.88	ug/L
	Tl	205	12506.931	0.99746	0.84	ug/L
	Pb	206	4137.275	0.97947	3.05	ug/L
	Pb	208	16636.326	0.98806	1.83	ug/L
[>	Bi	209	332313.804			ug/L
	Th	232	16986.856	0.97682	0.95	ug/L
	U	238	17370.919	0.96025	1.88	ug/L
	Na	23	216783.931	95.71214	6.87	ug/L
	Mg	24	139417.035	94.24692	5.38	ug/L
	Mg	25	20563.566	95.86825	2.48	ug/L
	K	39	1112157.208	105.72359	2.17	ug/L
	Ca	44	54710.471	123.83591	8.68	ug/L
	Fe	57	33608.009	99.61080	4.76	ug/L
	Fe	54	287448.355	97.70028	23.37	ug/L
[>	Sc-1	45	205321.361			ug/L
	C	12	371775.680			ug/L
	Kr	83	255.337			ug/L
	Cl	35	32217.674			ug/L

	S	32	60228169.384	ug/L
	P	31	30188.375	ug/L
	Si	28	87083.133	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	90.462
	Be	9	
	B	11	
	Al	27	
>	Sc	45	89.403
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	93.832
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	93.655
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	95.663
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.661
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	97.134
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	89.403
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RL STD beryllium

Sample Date/Time: Thursday, October 22, 2015 18:16:28

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14648.015			ug/L
	Be	9	212.336	0.51970	56.90	ug/L
	B	11	700.360	-1.38844	16.95	ug/L
	Al	27	5679.775	0.55194	4.73	ug/L
[>	Sc	45	218858.712			ug/L
	Ti	47	896.378	0.62740	5.72	ug/L
	Ti	49	505.347	0.48059	5.76	ug/L
	V	51	7550.764	0.53221	7.24	ug/L
	Cr	52	14776.692	0.62954	11.35	ug/L
	Cr	53	1009.389	0.33912	8.82	ug/L
	Mn	55	6818.223	0.49971	3.27	ug/L
	Co	59	4413.071	0.51827	1.34	ug/L
	Ni	60	1174.743	0.54496	1.67	ug/L
	Cu	63	2669.059	0.59358	3.04	ug/L
	Cu	65	1420.111	0.61560	2.72	ug/L
	Ga	69	191029.204			ug/L
	Zn	66	1577.804	0.69127	12.08	ug/L
	Zn	68	1350.434	0.65405	18.36	ug/L
[>	Ge	74	87179.340			ug/L
	As	75	534.415	0.44055	10.45	ug/L
	Se	77	384.341	0.33613	36.50	ug/L
	Se	78	14061.914	-0.02957	2492.80	ug/L
	Se	82	120.111	0.65956	31.73	ug/L
	Sr	88	11010.330	0.50851	1.36	ug/L
[>	Y	89	623766.368			ug/L
	Zr	90	7059.415	0.49543	7.82	ug/L
	Mo	98	2618.005	0.50094	2.20	ug/L
	Ag	109	3164.551	0.46691	2.68	ug/L
	Cd	111	896.378	0.49850	5.03	ug/L
	Cd	114	1849.794	0.48237	3.27	ug/L
[>	In	115	477117.805			ug/L
	Sn	118	2587.368	0.49989	1.03	ug/L
	Sb	123	2266.210	0.49406	1.13	ug/L
	Ba	137	1539.130	0.51044	3.25	ug/L
[>	Tb	159	564941.759			ug/L
	Tl	203	2699.068	0.48215	1.59	ug/L
	Tl	205	6438.613	0.49600	2.06	ug/L
	Pb	206	2137.585	0.47905	2.30	ug/L
	Pb	208	8750.996	0.49565	1.26	ug/L
[>	Bi	209	341751.577			ug/L
	Th	232	8725.185	0.48397	2.21	ug/L
	U	238	8809.601	0.47115	1.46	ug/L
	Na	23	110152.929	44.95690	1.79	ug/L
	Mg	24	74252.408	46.67963	4.45	ug/L
	Mg	25	10931.578	47.10012	4.01	ug/L
	K	39	853837.937	48.09670	1.59	ug/L
	Ca	44	45137.448	53.81271	9.00	ug/L
	Fe	57	24751.988	46.11919	9.45	ug/L
	Fe	54	271136.645	31.66355	22.78	ug/L
[>	Sc-1	45	218858.712			ug/L
	C	12	388996.928			ug/L
	Kr	83	217.669			ug/L
	Cl	35	17168.867			ug/L

	S	32	62875634.414	ug/L
	P	31	31031.945	ug/L
	Si	28	89232.140	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	94.069
	Be	9	
	B	11	
	Al	27	
>	Sc	45	95.297
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.065
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	99.195
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.356
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.630
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.893
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	95.297
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSA-1

Sample Date/Time: Thursday, October 22, 2015 18:21:54

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13859.325			ug/L
	Be	9	176.335	0.22832	57.99	ug/L
	B	11	675.358	-1.26524	12.81	ug/L
	Al	27	25739098.043	9096.93003	2.31	ug/L
>	Sc	45	213156.981			ug/L
	Ti	47	133048.048	228.10699	2.73	ug/L
	Ti	49	98929.591	198.95087	1.15	ug/L
	V	51	-96.375	-0.36527	19.03	ug/L
	Cr	52	14062.237	0.58187	13.81	ug/L
	Cr	53	6107.390	6.53459	4.07	ug/L
	Mn	55	18670.152	1.70565	3.07	ug/L
	Co	59	585.352	0.04800	4.15	ug/L
	Ni	60	2873.457	1.52268	7.42	ug/L
	Cu	63	3006.164	0.70222	2.94	ug/L
	Cu	65	1319.429	0.58072	1.79	ug/L
	Ga	69	188557.056			ug/L
	Zn	66	1951.543	1.10137	6.64	ug/L
	Zn	68	1135.404	0.31688	14.69	ug/L
>	Ge	74	87578.823			ug/L
	As	75	-366.430	-0.14580	60.05	ug/L
	Se	77	716.028	3.43189	18.97	ug/L
	Se	78	13961.689	-0.53029	94.44	ug/L
	Se	82	-4.200	-0.19162	49.84	ug/L
	Sr	88	3162.550	0.12327	2.13	ug/L
>	Y	89	615352.768			ug/L
	Zr	90	1104.738	0.00403	648.51	ug/L
	Mo	98	968927.500	197.97394	2.04	ug/L
	Ag	109	205.336	0.00852	14.69	ug/L
	Cd	111	1723.497	1.07073	0.58	ug/L
	Cd	114	2752.944	0.76766	3.14	ug/L
>	In	115	459501.839			ug/L
	Sn	118	191.669	-0.00392	13.66	ug/L
	Sb	123	190.884	-0.01007	26.59	ug/L
	Ba	137	172.335	0.00659	21.89	ug/L
>	Tb	159	545484.156			ug/L
	Tl	203	126.668	0.00795	27.12	ug/L
	Tl	205	187.002	0.00815	6.64	ug/L
	Pb	206	382.675	0.06709	2.57	ug/L
	Pb	208	1410.040	0.06590	3.94	ug/L
>	Bi	209	329734.631			ug/L
	Th	232	142.334	0.00008	677.97	ug/L
	U	238	85.000	-0.00022	514.94	ug/L
	Na	23	53875550.092	23165.69155	4.05	ug/L
	Mg	24	14161782.460	9279.49139	1.44	ug/L
	Mg	25	2036041.685	9276.21591	6.13	ug/L
	K	39	55250681.005	9747.25721	1.80	ug/L
	Ca	44	5602097.227	30297.88691	1.23	ug/L
	Fe	57	5320023.247	26307.69613	1.99	ug/L
	Fe	54	13474846.430	25260.86872	1.00	ug/L
>	Sc-1	45	213156.981			ug/L
	C	12	489948.049			ug/L
	Kr	83	253.004			ug/L
	Cl	35	2105868.231			ug/L

	S	32	73515538.373	ug/L
	P	31	1571200.642	ug/L
	Si	28	92813.168	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	89.004
	Be	9	
	B	11	
	Al	27	
>	Sc	45	92.815
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.505
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	97.857
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	95.688
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.164
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.380
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	92.815
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSAB-1

Sample Date/Time: Thursday, October 22, 2015 18:27:21

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13607.549			ug/L
	Be	9	2572.364	29.03410	5.65	ug/L
	B	11	3433.982	25.54128	5.99	ug/L
	Al	27	24555217.938	9126.10297	6.00	ug/L
>	Sc	45	202874.388			ug/L
	Ti	47	142917.713	257.76524	2.56	ug/L
	Ti	49	107748.132	227.94680	3.45	ug/L
	V	51	246880.669	30.89478	4.53	ug/L
	Cr	52	217800.821	31.27477	5.07	ug/L
	Cr	53	29558.643	36.75245	3.40	ug/L
	Mn	55	309026.431	32.37780	2.82	ug/L
	Co	59	239611.698	31.88976	4.66	ug/L
	Ni	60	54181.648	32.16176	3.47	ug/L
	Cu	63	112626.131	31.60016	4.98	ug/L
	Cu	65	54764.492	31.43079	3.34	ug/L
	Ga	69	187097.037			ug/L
	Zn	66	27628.593	30.34322	1.64	ug/L
	Zn	68	20252.203	29.90515	1.64	ug/L
>	Ge	74	86202.059			ug/L
	As	75	44702.908	29.60710	1.39	ug/L
	Se	77	3658.403	31.63233	3.04	ug/L
	Se	78	23472.124	28.86602	1.28	ug/L
	Se	82	4263.067	29.33268	1.48	ug/L
	Sr	88	565657.400	30.15702	4.89	ug/L
>	Y	89	577481.302			ug/L
	Zr	90	342979.293	30.56545	2.97	ug/L
	Mo	98	1072609.882	233.66866	3.34	ug/L
	Ag	109	179138.732	29.77234	1.60	ug/L
	Cd	111	44723.422	30.59471	1.15	ug/L
	Cd	114	101777.530	30.76758	1.32	ug/L
>	In	115	445622.771			ug/L
	Sn	118	135532.232	30.56737	0.61	ug/L
	Sb	123	118680.603	30.91248	0.71	ug/L
	Ba	137	74909.553	29.35963	2.92	ug/L
>	Tb	159	532661.402			ug/L
	Tl	203	145844.275	29.26104	0.90	ug/L
	Tl	205	356028.430	30.22113	3.03	ug/L
	Pb	206	115380.587	29.63591	1.43	ug/L
	Pb	208	464127.785	29.71576	1.93	ug/L
>	Bi	209	314407.506			ug/L
	Th	232	502660.855	30.80608	2.57	ug/L
	U	238	510936.506	30.01057	3.23	ug/L
	Na	23	51900419.074	23472.21583	6.91	ug/L
	Mg	24	13521167.228	9320.93796	7.49	ug/L
	Mg	25	1910417.916	9144.62502	6.64	ug/L
	K	39	50768925.741	9423.18484	6.10	ug/L
	Ca	44	5426731.418	30861.43155	2.62	ug/L
	Fe	57	5033997.073	26177.13217	5.36	ug/L
	Fe	54	12957446.476	25545.57008	4.76	ug/L
>	Sc-1	45	202874.388			ug/L
	C	12	448612.281			ug/L
	Kr	83	235.003			ug/L
	Cl	35	1967075.068			ug/L

	S	32	64082840.894	ug/L
	P	31	1488609.713	ug/L
	Si	28	89089.759	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	87.387
	Be	9	
	B	11	
	Al	27	
>	Sc	45	88.337
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.988
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	91.834
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	92.798
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	94.880
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	91.900
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	88.337
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Thursday, October 22, 2015 18:32:47

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6		14762.882			ug/L
	Be	9		183.335	0.18301	113.75	ug/L
	B	11		622.355	-2.13213	8.61	ug/L
	Al	27		8989.283	1.68415	80.73	ug/L
[>	Sc	45		220866.497			ug/L
	Ti	47		554.684	0.04719	164.02	ug/L
	Ti	49		372.674	0.21443	24.66	ug/L
	V	51		2976.607	-0.00666	707.70	ug/L
	Cr	52		10235.764	-0.01375	201.62	ug/L
	Cr	53		1150.406	0.49496	24.20	ug/L
	Mn	55		1746.835	0.00321	207.34	ug/L
	Co	59		272.004	0.00715	80.15	ug/L
	Ni	60		222.669	0.01899	48.77	ug/L
	Cu	63		382.341	-0.00326	122.61	ug/L
	Cu	65		305.338	0.01871	76.95	ug/L
	Ga	69		193422.069			ug/L
	Zn	66		1017.724	0.03941	156.66	ug/L
	Zn	68		929.047	-0.01768	102.37	ug/L
[>	Ge	74		88835.681			ug/L
	As	75		-65.376	0.04968	104.53	ug/L
	Se	77		390.008	0.32474	94.94	ug/L
	Se	78		14250.199	-0.24764	576.38	ug/L
	Se	82		-5.896	-0.20189	52.57	ug/L
	Sr	88		848.706	0.00761	51.10	ug/L
[>	Y	89		614720.053			ug/L
	Zr	90		1470.459	0.03556	108.97	ug/L
	Mo	98		392.669	0.05403	59.03	ug/L
	Ag	109		282.671	0.01967	54.92	ug/L
	Cd	111		120.001	0.00172	181.70	ug/L
	Cd	114		177.073	0.00982	25.34	ug/L
[>	In	115		475071.373			ug/L
	Sn	118		221.003	0.00100	680.53	ug/L
	Sb	123		203.412	-0.00850	57.61	ug/L
	Ba	137		212.002	0.01957	16.90	ug/L
[>	Tb	159		561179.525			ug/L
	Tl	203		116.001	0.00519	94.59	ug/L
	Tl	205		163.668	0.00582	59.11	ug/L
	Pb	206		139.001	0.00623	20.90	ug/L
	Pb	208		433.670	0.00539	36.10	ug/L
[>	Bi	209		341317.853			ug/L
	Th	232		336.340	0.01081	68.81	ug/L
	U	238		176.002	0.00457	76.90	ug/L
	Na	23		15282.866	5.25624	75.69	ug/L
	Mg	24		3975.383	1.85418	79.90	ug/L
	Mg	25		697.364	1.72238	89.48	ug/L
	K	39		573374.712	-1.47587	192.44	ug/L
	Ca	44		35601.246	1.58371	424.43	ug/L
	Fe	57		14830.097	-2.43234	178.90	ug/L
	Fe	54		263563.498	13.21835	66.78	ug/L
[>	Sc-1	45		220866.497			ug/L
	C	12		292634.627			ug/L
	Kr	83		294.671			ug/L
	Cl	35		21233.136			ug/L

	S	32	63062529.541	ug/L
	P	31	31493.530	ug/L
	Si	28	87784.226	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	94.806
	Be	9	
	B	11	
	Al	27	
>	Sc	45	96.172
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	97.890
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	97.756
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	98.930
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.960
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.766
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	96.172
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RL STD beryllium rerun

Sample Date/Time: Thursday, October 22, 2015 18:48:17

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14470.844			ug/L
	Be	9	241.003	0.87110	12.72	ug/L
	B	11	676.358	-1.52742	5.30	ug/L
	Al	27	5403.939	0.51754	1.27	ug/L
[>	Sc	45	211993.827			ug/L
	Ti	47	843.372	0.58469	8.20	ug/L
	Ti	49	553.017	0.60967	4.58	ug/L
	V	51	7463.486	0.55126	8.12	ug/L
	Cr	52	14289.560	0.62812	13.90	ug/L
	Cr	53	1275.423	0.70256	12.72	ug/L
	Mn	55	6772.857	0.51688	6.74	ug/L
	Co	59	4358.712	0.52913	4.91	ug/L
	Ni	60	1203.080	0.58296	10.55	ug/L
	Cu	63	2619.044	0.60306	5.46	ug/L
	Cu	65	1364.769	0.60954	1.22	ug/L
	Ga	69	191979.430			ug/L
	Zn	66	1562.468	0.71222	3.40	ug/L
	Zn	68	1354.101	0.70458	4.55	ug/L
[>	Ge	74	85307.545			ug/L
	As	75	540.751	0.45157	13.02	ug/L
	Se	77	398.342	0.55116	19.87	ug/L
	Se	78	14421.930	1.99920	49.38	ug/L
	Se	82	66.190	0.29561	74.03	ug/L
	Sr	88	10886.849	0.51126	0.42	ug/L
[>	Y	89	613613.529			ug/L
	Zr	90	6481.643	0.45665	2.14	ug/L
	Mo	98	2592.552	0.50456	1.02	ug/L
	Ag	109	3166.885	0.47941	2.00	ug/L
	Cd	111	820.704	0.46294	3.56	ug/L
	Cd	114	1827.046	0.48856	0.71	ug/L
[>	In	115	465814.696			ug/L
	Sn	118	2565.362	0.50849	2.97	ug/L
	Sb	123	2183.124	0.48671	2.49	ug/L
	Ba	137	1499.124	0.51185	1.95	ug/L
[>	Tb	159	548790.224			ug/L
	Tl	203	2750.416	0.49970	1.68	ug/L
	Tl	205	6315.527	0.49421	4.24	ug/L
	Pb	206	2155.922	0.49146	4.42	ug/L
	Pb	208	8652.266	0.49788	2.72	ug/L
[>	Bi	209	336494.310			ug/L
	Th	232	8843.633	0.49837	2.18	ug/L
	U	238	8895.685	0.48318	0.25	ug/L
	Na	23	107534.631	45.33944	2.45	ug/L
	Mg	24	70235.661	45.60398	3.39	ug/L
	Mg	25	10273.471	45.66765	3.25	ug/L
	K	39	831260.867	48.88471	7.75	ug/L
	Ca	44	44709.679	59.22053	10.67	ug/L
	Fe	57	24179.460	47.12744	10.81	ug/L
	Fe	54	272934.257	51.53282	23.00	ug/L
[>	Sc-1	45	211993.827			ug/L
	C	12	356173.595			ug/L
	Kr	83	246.670			ug/L
	Cl	35	17338.520			ug/L

	S	32	60970081.497	ug/L
	P	31	28818.274	ug/L
	Si	28	88863.893	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	92.931
	Be	9	
	B	11	
	Al	27	
>	Sc	45	92.308
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.002
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	97.580
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	97.003
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.753
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.356
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	92.308
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Thursday, October 22, 2015 19:03:48

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13983.988				ug/L
	Be	9	2585.035		28.32865	4.46	ug/L
	B	11	3450.323		24.77377	6.45	ug/L
	Al	27	78556.375		26.01366	4.31	ug/L
[>	Sc	45	215928.901				ug/L
	Ti	47	17867.551		29.51176	5.29	ug/L
	Ti	49	15346.614		30.03776	0.16	ug/L
	V	51	256773.164		30.16740	3.33	ug/L
	Cr	52	224431.191		30.21706	3.88	ug/L
	Cr	53	26358.500		30.63382	1.09	ug/L
	Mn	55	300711.944		29.58124	2.86	ug/L
	Co	59	254878.906		31.84647	2.31	ug/L
	Ni	60	54626.970		30.44573	1.95	ug/L
	Cu	63	120509.189		31.74781	3.07	ug/L
	Cu	65	57876.352		31.20212	3.44	ug/L
	Ga	69	191958.247				ug/L
	Zn	66	27128.754		29.59368	1.12	ug/L
	Zn	68	20566.239		30.20772	2.37	ug/L
[>	Ge	74	86714.836				ug/L
	As	75	44948.811		29.59905	2.38	ug/L
	Se	77	3321.940		28.23642	3.33	ug/L
	Se	78	23768.790		29.34665	3.86	ug/L
	Se	82	4189.156		28.65776	5.06	ug/L
	Sr	88	590669.420		29.74119	0.66	ug/L
[>	Y	89	610685.692				ug/L
	Zr	90	352997.181		29.72455	1.36	ug/L
	Mo	98	145098.063		29.84146	0.92	ug/L
	Ag	109	193413.244		30.97933	0.46	ug/L
	Cd	111	44607.175		29.41045	1.71	ug/L
	Cd	114	103647.673		30.19562	1.15	ug/L
[>	In	115	462429.285				ug/L
	Sn	118	139867.992		30.40126	1.02	ug/L
	Sb	123	125689.268		31.55414	1.34	ug/L
	Ba	137	78274.578		29.50421	0.44	ug/L
[>	Tb	159	553803.908				ug/L
	Tl	203	156053.339		29.59797	1.36	ug/L
	Tl	205	369973.165		29.68129	0.72	ug/L
	Pb	206	123173.256		29.90966	2.55	ug/L
	Pb	208	497894.941		30.13394	1.87	ug/L
[>	Bi	209	332608.503				ug/L
	Th	232	516562.319		29.92509	2.81	ug/L
	U	238	518099.453		28.76530	2.57	ug/L
	Na	23	646390.219		273.00502	2.55	ug/L
	Mg	24	422294.656		272.49699	2.26	ug/L
	Mg	25	62124.559		277.88227	1.86	ug/L
	K	39	2211434.283		288.99670	0.87	ug/L
	Ca	44	94685.548		323.34124	3.04	ug/L
	Fe	57	76730.263		302.26256	5.52	ug/L
	Fe	54	406739.051		294.35239	6.31	ug/L
[>	Sc-1	45	215928.901				ug/L
	C	12	333228.819				ug/L
	Kr	83	260.337				ug/L
	Cl	35	252594.113				ug/L

	S	32	59818749.210	ug/L
	P	31	28585.544	ug/L
	Si	28	129892.263	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	89.804
	Be	9	
	B	11	
	Al	27	
>	Sc	45	94.022
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.553
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	97.115
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.298
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.646
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	97.220
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	94.022
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Thursday, October 22, 2015 19:09:17

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14200.781			ug/L
	Be	9	171.668	0.12485	4.20	ug/L
	B	11	617.021	-1.94701	25.54	ug/L
	Al	27	4452.090	0.13872	66.35	ug/L
[>	Sc	45	218331.789			ug/L
	Ti	47	546.016	0.04452	102.89	ug/L
	Ti	49	282.338	0.04706	164.10	ug/L
	V	51	3124.308	0.01668	200.85	ug/L
	Cr	52	10505.066	0.04789	279.20	ug/L
	Cr	53	719.362	0.00485	1984.60	ug/L
	Mn	55	1829.851	0.01435	134.79	ug/L
	Co	59	295.005	0.01075	95.21	ug/L
	Ni	60	218.336	0.01886	91.84	ug/L
	Cu	63	425.677	0.00997	132.47	ug/L
	Cu	65	294.005	0.01575	154.05	ug/L
	Ga	69	193582.867			ug/L
	Zn	66	1039.059	0.06065	19.83	ug/L
	Zn	68	986.053	0.06805	146.50	ug/L
[>	Ge	74	89029.041			ug/L
	As	75	-139.395	0.00202	1736.56	ug/L
	Se	77	356.340	0.00739	4152.40	ug/L
	Se	78	14601.884	0.71932	204.12	ug/L
	Se	82	30.856	0.03783	527.16	ug/L
	Sr	88	952.050	0.01338	56.87	ug/L
[>	Y	89	608402.960			ug/L
	Zr	90	1761.850	0.06235	89.31	ug/L
	Mo	98	199.996	0.01488	58.82	ug/L
	Ag	109	381.008	0.03563	49.07	ug/L
	Cd	111	147.335	0.02009	5.61	ug/L
	Cd	114	197.809	0.01633	66.56	ug/L
[>	In	115	470896.582			ug/L
	Sn	118	293.005	0.01691	80.86	ug/L
	Sb	123	264.039	0.00715	309.29	ug/L
	Ba	137	217.336	0.02188	43.60	ug/L
[>	Tb	159	559003.928			ug/L
	Tl	203	137.001	0.00907	33.57	ug/L
	Tl	205	203.669	0.00897	48.03	ug/L
	Pb	206	140.668	0.00668	88.48	ug/L
	Pb	208	498.338	0.00925	62.95	ug/L
[>	Bi	209	341058.914			ug/L
	Th	232	463.347	0.01803	80.76	ug/L
	U	238	246.004	0.00836	54.49	ug/L
	Na	23	2876.790	0.07273	247.69	ug/L
	Mg	24	1435.781	0.24341	62.49	ug/L
	Mg	25	366.674	0.28189	106.69	ug/L
	K	39	567068.755	-1.12145	548.51	ug/L
	Ca	44	34648.570	-0.53508	2876.06	ug/L
	Fe	57	14432.118	-3.35041	134.26	ug/L
	Fe	54	259193.542	12.43027	265.45	ug/L
[>	Sc-1	45	218331.789			ug/L
	C	12	288816.256			ug/L
	Kr	83	246.670			ug/L
	Cl	35	17350.229			ug/L

	S	32	64522060.638	ug/L
	P	31	32491.093	ug/L
	Si	28	91016.373	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	91.196
	Be	9	
	B	11	
	Al	27	
>	Sc	45	95.068
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	98.103
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	96.752
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	98.061
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.572
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.690
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	95.068
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Thursday, October 22, 2015 22:01:35

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12913.071			ug/L
	Be	9	2398.984	28.47772	5.40	ug/L
	B	11	3132.540	24.23267	4.84	ug/L
	Al	27	72639.894	26.76256	5.95	ug/L
>	Sc	45	194457.811			ug/L
	Ti	47	16429.849	30.17544	7.48	ug/L
	Ti	49	14051.861	30.58892	6.52	ug/L
	V	51	239180.466	31.24040	6.21	ug/L
	Cr	52	215549.087	32.33269	4.69	ug/L
	Cr	53	24725.248	31.95949	2.92	ug/L
	Mn	55	289182.271	31.58308	3.49	ug/L
	Co	59	239940.937	33.30759	3.78	ug/L
	Ni	60	52569.588	32.55931	4.29	ug/L
	Cu	63	115916.032	33.91806	2.46	ug/L
	Cu	65	55678.404	33.35499	4.87	ug/L
	Ga	69	183620.260			ug/L
	Zn	66	26252.520	29.92413	2.07	ug/L
	Zn	68	19844.310	30.44810	2.39	ug/L
>	Ge	74	83032.388			ug/L
	As	75	42962.769	29.54656	3.25	ug/L
	Se	77	3225.572	28.68331	3.93	ug/L
	Se	78	23025.184	30.19158	5.58	ug/L
	Se	82	4032.253	28.80243	1.77	ug/L
	Sr	88	552072.655	29.63561	1.40	ug/L
>	Y	89	572869.037			ug/L
	Zr	90	334723.746	30.05384	1.82	ug/L
	Mo	98	136533.634	29.94151	1.92	ug/L
	Ag	109	187726.167	32.04003	3.51	ug/L
	Cd	111	43281.800	30.39315	1.65	ug/L
	Cd	114	99679.530	30.92325	0.88	ug/L
>	In	115	434254.640			ug/L
	Sn	118	136563.762	31.62465	2.63	ug/L
	Sb	123	118528.557	31.70063	3.04	ug/L
	Ba	137	74995.530	29.65703	0.63	ug/L
>	Tb	159	527845.928			ug/L
	Tl	203	153345.304	29.68481	4.37	ug/L
	Tl	205	361813.348	29.61429	1.19	ug/L
	Pb	206	124109.567	30.74215	1.38	ug/L
	Pb	208	503256.275	31.07264	1.23	ug/L
>	Bi	209	326050.552			ug/L
	Th	232	526505.785	31.11305	1.73	ug/L
	U	238	536221.527	30.37305	1.98	ug/L
	Na	23	577070.032	271.03247	5.77	ug/L
	Mg	24	389266.796	278.97188	4.70	ug/L
	Mg	25	56847.647	282.43502	3.82	ug/L
	K	39	2113789.245	313.31990	5.85	ug/L
	Ca	44	87301.202	335.66325	5.24	ug/L
	Fe	57	74435.613	331.09002	0.96	ug/L
	Fe	54	385017.513	333.26620	1.12	ug/L
>	Sc-1	45	194457.811			ug/L
	C	12	314387.629			ug/L
	Kr	83	239.336			ug/L
	Cl	35	235170.511			ug/L

	S	32	55593688.484	ug/L
	P	31	27816.225	ug/L
	Si	28	119553.681	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	82.927
	Be	9	
	B	11	
	Al	27	
>	Sc	45	84.673
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	91.495
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	91.101
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	90.431
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	94.022
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	95.303
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	84.673
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Thursday, October 22, 2015 22:07:03

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14074.383			ug/L
	Be	9	195.335	0.41966	54.60	ug/L
	B	11	657.357	-1.53644	33.05	ug/L
	Al	27	3869.157	-0.05261	91.18	ug/L
[>	Sc	45	215972.596			ug/L
	Ti	47	509.014	-0.01090	153.44	ug/L
	Ti	49	244.670	-0.02475	63.68	ug/L
	V	51	3149.340	0.02180	28.62	ug/L
	Cr	52	10691.619	0.08243	30.12	ug/L
	Cr	53	489.680	-0.26534	4.10	ug/L
	Mn	55	1729.832	0.00527	185.90	ug/L
	Co	59	265.004	0.00693	41.85	ug/L
	Ni	60	203.669	0.01105	66.91	ug/L
	Cu	63	395.675	0.00250	30.90	ug/L
	Cu	65	281.004	0.00901	86.48	ug/L
	Ga	69	194912.527			ug/L
	Zn	66	953.383	-0.02230	72.62	ug/L
	Zn	68	892.377	-0.05978	137.12	ug/L
[>	Ge	74	88015.985			ug/L
	As	75	-170.689	-0.01907	291.28	ug/L
	Se	77	392.008	0.37623	37.68	ug/L
	Se	78	14809.064	1.80570	86.15	ug/L
	Se	82	20.383	-0.02731	493.77	ug/L
	Sr	88	853.707	0.00751	18.19	ug/L
[>	Y	89	618639.465			ug/L
	Zr	90	1541.483	0.03942	145.18	ug/L
	Mo	98	181.578	0.01028	19.28	ug/L
	Ag	109	264.004	0.01852	51.79	ug/L
	Cd	111	141.668	0.01981	30.57	ug/L
	Cd	114	172.501	0.01071	30.74	ug/L
[>	In	115	454534.259			ug/L
	Sn	118	242.337	0.00780	56.09	ug/L
	Sb	123	176.248	-0.01315	83.66	ug/L
	Ba	137	165.668	0.00323	135.87	ug/L
[>	Tb	159	552832.242			ug/L
	Tl	203	119.667	0.00554	49.55	ug/L
	Tl	205	161.335	0.00548	58.40	ug/L
	Pb	206	128.001	0.00316	80.71	ug/L
	Pb	208	457.671	0.00645	47.59	ug/L
[>	Bi	209	346209.277			ug/L
	Th	232	595.021	0.02500	54.16	ug/L
	U	238	197.002	0.00555	45.74	ug/L
	Na	23	1723.830	-0.41295	4.61	ug/L
	Mg	24	1127.403	0.04666	79.56	ug/L
	Mg	25	297.672	-0.02723	264.71	ug/L
	K	39	569807.401	0.10406	2021.36	ug/L
	Ca	44	32728.810	-9.68712	35.25	ug/L
	Fe	57	15678.182	3.24648	42.90	ug/L
	Fe	54	255191.830	8.35678	124.15	ug/L
[>	Sc-1	45	215972.596			ug/L
	C	12	283453.202			ug/L
	Kr	83	262.670			ug/L
	Cl	35	17210.947			ug/L

	S	32	65626912.074	ug/L
	P	31	32466.567	ug/L
	Si	28	84230.098	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	90.385
	Be	9	
	B	11	
	Al	27	
>	Sc	45	94.041
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.986
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	98.379
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.654
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.473
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.196
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	94.041
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Method Blank

Sample Date/Time: Thursday, October 22, 2015 22:12:31

Number of Replicates: 3

Batch ID: 01Q151022-018 1mce

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13935.059				ug/L
	Be	9	176.002		0.21611	99.26	ug/L
	B	11	997.055		1.75105	65.44	ug/L
	Al	27	17807.097		5.01055	5.32	ug/L
[>	Sc	45	209237.234				ug/L
	Ti	47	642.023		0.25047	21.73	ug/L
	Ti	49	348.340		0.20467	41.51	ug/L
	V	51	5967.994		0.37875	14.12	ug/L
	Cr	52	65656.442		8.12140	1.95	ug/L
	Cr	53	5661.432		6.12549	3.16	ug/L
	Mn	55	8517.657		0.70353	1.58	ug/L
	Co	59	328.006		0.01611	21.17	ug/L
	Ni	60	13909.982		7.92093	3.40	ug/L
	Cu	63	31156.692		8.39070	2.83	ug/L
	Cu	65	15369.664		8.44048	2.18	ug/L
	Ga	69	193547.104				ug/L
	Zn	66	16990.205		17.30513	2.64	ug/L
	Zn	68	12417.477		16.86165	2.52	ug/L
[>	Ge	74	90619.051				ug/L
	As	75	-209.600		-0.04096	103.01	ug/L
	Se	77	369.674		0.06762	206.67	ug/L
	Se	78	14797.120		0.49564	132.89	ug/L
	Se	82	-1.502		-0.17574	61.04	ug/L
	Sr	88	4147.614		0.16945	5.61	ug/L
[>	Y	89	624831.370				ug/L
	Zr	90	1652.824		0.04790	74.54	ug/L
	Mo	98	261.068		0.02592	16.67	ug/L
	Ag	109	165.335		0.00173	155.91	ug/L
	Cd	111	109.334		-0.00377	195.10	ug/L
	Cd	114	106.407		-0.00952	214.23	ug/L
[>	In	115	465879.840				ug/L
	Sn	118	30790.075		6.60586	1.16	ug/L
	Sb	123	186.932		-0.01169	20.36	ug/L
	Ba	137	495.013		0.12737	6.07	ug/L
[>	Tb	159	554295.015				ug/L
	Tl	203	94.667		0.00092	28.27	ug/L
	Tl	205	107.667		0.00129	46.50	ug/L
	Pb	206	457.345		0.07985	4.93	ug/L
	Pb	208	1764.066		0.08216	3.50	ug/L
[>	Bi	209	347024.066				ug/L
	Th	232	198.002		0.00274	49.58	ug/L
	U	238	117.667		0.00128	8.85	ug/L
	Na	23	53976.570		22.48494	1.94	ug/L
	Mg	24	10682.618		6.44467	3.74	ug/L
	Mg	25	1759.837		6.79454	2.08	ug/L
	K	39	718474.891		30.33501	4.35	ug/L
	Ca	44	57403.333		132.83869	5.00	ug/L
	Fe	57	16153.031		8.09655	37.04	ug/L
	Fe	54	233083.696		-19.32486	40.26	ug/L
[>	Sc-1	45	209237.234				ug/L
	C	12	1556733.515				ug/L
	Kr	83	249.337				ug/L
	Cl	35	19190.238				ug/L

	S	32	64122843.577	ug/L
	P	31	32423.108	ug/L
	Si	28	131161.311	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	89.490
	Be	9	
	B	11	
	Al	27	
>	Sc	45	91.108
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	99.855
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	99.364
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	97.016
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.734
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.434
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	91.108
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Method Blank

Sample Date/Time: Thursday, October 22, 2015 22:18:00

Number of Replicates: 3

Batch ID: 01Q151022-018 2mce

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13703.263			ug/L
	Be	9	178.668	0.28507	64.73	ug/L
	B	11	1032.392	2.22156	24.91	ug/L
	Al	27	22683.286	7.03517	0.68	ug/L
[>	Sc	45	202451.633			ug/L
	Ti	47	754.365	0.49380	42.45	ug/L
	Ti	49	399.009	0.33569	10.07	ug/L
	V	51	8228.046	0.69073	4.16	ug/L
	Cr	52	148785.146	20.95075	4.02	ug/L
	Cr	53	14533.943	17.67472	3.36	ug/L
	Mn	55	6402.922	0.50971	2.31	ug/L
	Co	59	372.341	0.02352	13.12	ug/L
	Ni	60	3393.967	1.92298	6.01	ug/L
	Cu	63	6287.507	1.67063	3.86	ug/L
	Cu	65	3141.209	1.67129	2.89	ug/L
	Ga	69	186151.409			ug/L
	Zn	66	7412.688	7.51634	3.86	ug/L
	Zn	68	5676.105	7.53952	1.90	ug/L
[>	Ge	74	84538.778			ug/L
	As	75	-215.339	-0.05302	246.03	ug/L
	Se	77	327.673	-0.10287	96.82	ug/L
	Se	78	14686.098	3.20263	14.58	ug/L
	Se	82	-11.884	-0.24734	123.97	ug/L
	Sr	88	5547.025	0.24698	3.65	ug/L
[>	Y	89	606034.678			ug/L
	Zr	90	3354.619	0.19725	1.49	ug/L
	Mo	98	292.768	0.03402	15.59	ug/L
	Ag	109	163.668	0.00146	125.68	ug/L
	Cd	111	112.334	-0.00189	657.61	ug/L
	Cd	114	110.062	-0.00830	159.50	ug/L
[>	In	115	465225.858			ug/L
	Sn	118	38097.695	8.19953	2.51	ug/L
	Sb	123	200.599	-0.00825	45.63	ug/L
	Ba	137	805.369	0.24805	6.99	ug/L
[>	Tb	159	548195.498			ug/L
	Tl	203	84.334	-0.00076	266.16	ug/L
	Tl	205	111.667	0.00169	32.69	ug/L
	Pb	206	733.030	0.14604	2.82	ug/L
	Pb	208	2833.835	0.14622	1.62	ug/L
[>	Bi	209	342913.602			ug/L
	Th	232	171.335	0.00139	68.18	ug/L
	U	238	115.667	0.00124	50.21	ug/L
	Na	23	55484.222	23.98984	5.81	ug/L
	Mg	24	12797.686	8.15878	8.67	ug/L
	Mg	25	1971.881	8.09299	5.11	ug/L
	K	39	686849.877	28.83746	20.97	ug/L
	Ca	44	56280.698	137.08402	4.26	ug/L
	Fe	57	16082.556	10.54335	37.44	ug/L
	Fe	54	230107.816	-9.64401	206.00	ug/L
[>	Sc-1	45	202451.633			ug/L
	C	12	3168783.698			ug/L
	Kr	83	255.004			ug/L
	Cl	35	18567.947			ug/L

	S	32	58813661.550	ug/L
	P	31	29988.088	ug/L
	Si	28	195498.205	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	88.001
	Be	9	
	B	11	
	Al	27	
>	Sc	45	88.153
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	93.155
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	96.375
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.880
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.647
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.232
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	88.153
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Method Blank

Sample Date/Time: Thursday, October 22, 2015 22:23:29

Number of Replicates: 3

Batch ID: 01Q151022-018 1pvc

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13094.490				ug/L
	Be	9	175.335		0.34371	78.68	ug/L
	B	11	874.709		1.13653	58.87	ug/L
	Al	27	23506.067		7.03254	4.83	ug/L
[>	Sc	45	209832.940				ug/L
	Ti	47	1306.428		1.41110	19.08	ug/L
	Ti	49	953.719		1.43793	37.23	ug/L
	V	51	2409.475		-0.05777	62.62	ug/L
	Cr	52	84998.187		10.90155	1.35	ug/L
	Cr	53	9070.193		10.29879	3.94	ug/L
	Mn	55	4508.785		0.29315	2.98	ug/L
	Co	59	270.337		0.00862	22.43	ug/L
	Ni	60	1292.092		0.64031	3.83	ug/L
	Cu	63	1654.151		0.34762	1.88	ug/L
	Cu	65	877.709		0.34603	6.48	ug/L
	Ga	69	189217.787				ug/L
	Zn	66	3666.406		3.09109	1.43	ug/L
	Zn	68	2938.142		3.13643	2.00	ug/L
[>	Ge	74	86108.968				ug/L
	As	75	-218.372		-0.05264	52.58	ug/L
	Se	77	357.340		0.12189	182.75	ug/L
	Se	78	14516.017		1.86467	41.79	ug/L
	Se	82	2.075		-0.15136	169.23	ug/L
	Sr	88	2018.557		0.06948	1.50	ug/L
[>	Y	89	595019.316				ug/L
	Zr	90	1387.773		0.03207	16.88	ug/L
	Mo	98	246.988		0.02555	9.93	ug/L
	Ag	109	129.668		-0.00352	74.52	ug/L
	Cd	111	156.001		0.02910	45.57	ug/L
	Cd	114	212.036		0.02230	50.03	ug/L
[>	In	115	455747.504				ug/L
	Sn	118	36148.065		7.93810	1.61	ug/L
	Sb	123	164.429		-0.01640	26.79	ug/L
	Ba	137	548.350		0.15013	7.65	ug/L
[>	Tb	159	547294.937				ug/L
	Tl	203	69.667		-0.00319	38.28	ug/L
	Tl	205	85.334		-0.00021	190.85	ug/L
	Pb	206	606.354		0.11947	5.29	ug/L
	Pb	208	2334.447		0.12002	4.52	ug/L
[>	Bi	209	335378.909				ug/L
	Th	232	242.670		0.00569	13.80	ug/L
	U	238	188.669		0.00541	2.71	ug/L
	Na	23	67899.691		28.50898	3.40	ug/L
	Mg	24	5660.762		3.08635	3.68	ug/L
	Mg	25	958.717		3.06866	0.16	ug/L
	K	39	627611.136		13.50963	17.28	ug/L
	Ca	44	41493.480		43.89822	3.78	ug/L
	Fe	57	16282.254		8.52352	32.69	ug/L
	Fe	54	234752.517		-17.31096	34.33	ug/L
[>	Sc-1	45	209832.940				ug/L
	C	12	415887.906				ug/L
	Kr	83	259.670				ug/L
	Cl	35	19328.866				ug/L

	S	32	59801905.975	ug/L
	P	31	30614.479	ug/L
	Si	28	105902.701	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	84.092
	Be	9	
	B	11	
	Al	27	
>	Sc	45	91.367
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.885
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.623
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.906
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.487
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.030
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	91.367
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: LCS

Sample Date/Time: Thursday, October 22, 2015 22:28:59

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
>	Li	6	13633.944				ug/L
	Be	9	3968.199		45.73908	4.87	ug/L
	B	11	5211.827		42.66449	4.24	ug/L
	Al	27	142858.770		50.63259	3.12	ug/L
>	Sc	45	206941.443				ug/L
	Ti	47	28066.630		48.94665	5.22	ug/L
	Ti	49	24544.763		50.51602	3.01	ug/L
	V	51	410230.225		50.50712	0.78	ug/L
	Cr	52	411393.633		59.05566	2.29	ug/L
	Cr	53	47689.218		58.60963	3.08	ug/L
	Mn	55	495041.357		50.93453	3.53	ug/L
	Co	59	413894.011		54.01151	2.87	ug/L
	Ni	60	91634.844		53.35204	1.24	ug/L
	Cu	63	199314.765		54.86919	2.12	ug/L
	Cu	65	95936.435		54.11060	4.66	ug/L
	Ga	69	198297.742				ug/L
	Zn	66	47077.962		52.43612	2.72	ug/L
	Zn	68	34558.275		52.00810	4.48	ug/L
>	Ge	74	86271.446				ug/L
	As	75	78395.744		51.80761	0.47	ug/L
	Se	77	5586.383		49.99200	0.15	ug/L
	Se	78	32035.071		54.64130	1.68	ug/L
	Se	82	7417.548		51.12894	1.46	ug/L
	Sr	88	945202.863		49.40641	2.66	ug/L
>	Y	89	588716.022				ug/L
	Zr	90	559118.153		48.89712	1.34	ug/L
	Mo	98	229321.302		48.93449	3.74	ug/L
	Ag	109	315233.390		51.80502	2.83	ug/L
	Cd	111	73458.230		49.71526	2.95	ug/L
	Cd	114	166343.282		49.73154	0.55	ug/L
>	In	115	450772.073				ug/L
	Sn	118	266931.343		59.55260	1.38	ug/L
	Sb	123	201152.046		51.83723	0.74	ug/L
	Ba	137	127253.283		49.14130	0.99	ug/L
>	Tb	159	540999.605				ug/L
	Tl	203	251944.778		46.04808	1.87	ug/L
	Tl	205	612274.619		47.33834	1.02	ug/L
	Pb	206	203613.489		47.65240	1.81	ug/L
	Pb	208	837375.795		48.84176	0.67	ug/L
>	Bi	209	345153.150				ug/L
	Th	232	860191.331		48.01889	0.63	ug/L
	U	238	882344.807		47.20144	1.13	ug/L
	Na	23	994578.862		439.39395	2.30	ug/L
	Mg	24	665020.250		448.29659	1.80	ug/L
	Mg	25	95097.212		444.96289	3.14	ug/L
	K	39	3290221.791		504.62581	3.86	ug/L
	Ca	44	139885.894		600.17023	8.15	ug/L
	Fe	57	120270.142		540.70154	1.95	ug/L
	Fe	54	484384.935		480.48370	3.68	ug/L
>	Sc-1	45	206941.443				ug/L
	C	12	1599392.819				ug/L
	Kr	83	230.003				ug/L
	Cl	35	49409.967				ug/L

	S	32	63630988.723	ug/L
	P	31	31524.658	ug/L
	Si	28	214175.179	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	87.556
	Be	9	
	B	11	
	Al	27	
>	Sc	45	90.108
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.064
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	93.621
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	93.870
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	96.365
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.887
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	90.108
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: LCSD

Sample Date/Time: Thursday, October 22, 2015 22:34:29

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12882.781				ug/L
	Be	9	3855.818		47.00634	2.07	ug/L
	B	11	5234.173		45.78018	2.02	ug/L
	Al	27	121911.032		45.44406	2.07	ug/L
[>	Sc	45	196030.043				ug/L
	Ti	47	27030.139		49.74337	4.09	ug/L
	Ti	49	22746.762		49.38246	3.43	ug/L
	V	51	389715.814		50.66774	4.37	ug/L
	Cr	52	382846.475		58.02208	4.79	ug/L
	Cr	53	43885.722		56.91191	4.35	ug/L
	Mn	55	472502.258		51.30917	3.53	ug/L
	Co	59	383764.757		52.83741	2.75	ug/L
	Ni	60	86714.336		53.31445	3.18	ug/L
	Cu	63	191292.413		55.56657	0.95	ug/L
	Cu	65	91521.620		54.45599	4.46	ug/L
	Ga	69	191290.760				ug/L
	Zn	66	45114.812		50.63606	2.05	ug/L
	Zn	68	33539.778		50.87712	0.37	ug/L
[>	Ge	74	85504.084				ug/L
	As	75	71863.805		47.94972	3.10	ug/L
	Se	77	5244.179		47.20626	3.85	ug/L
	Se	78	30129.635		49.79355	8.71	ug/L
	Se	82	7025.743		48.85562	2.21	ug/L
	Sr	88	909619.398		47.25940	1.12	ug/L
[>	Y	89	592116.670				ug/L
	Zr	90	538158.638		46.78730	2.97	ug/L
	Mo	98	221354.134		46.96967	2.11	ug/L
	Ag	109	298099.278		49.53003	1.17	ug/L
	Cd	111	68607.672		46.94726	2.80	ug/L
	Cd	114	157120.987		47.48654	0.77	ug/L
[>	In	115	445914.384				ug/L
	Sn	118	249855.061		56.35287	2.48	ug/L
	Sb	123	189235.821		49.29411	1.38	ug/L
	Ba	137	122998.300		48.37249	1.40	ug/L
[>	Tb	159	531272.560				ug/L
	Tl	203	243647.751		45.11848	2.86	ug/L
	Tl	205	583476.048		45.69260	2.37	ug/L
	Pb	206	192790.103		45.71133	3.42	ug/L
	Pb	208	792380.124		46.81914	2.22	ug/L
[>	Bi	209	340817.901				ug/L
	Th	232	826434.115		46.73459	2.64	ug/L
	U	238	850208.096		46.07836	3.77	ug/L
	Na	23	957614.288		446.57746	5.19	ug/L
	Mg	24	636273.839		452.77262	3.34	ug/L
	Mg	25	91307.109		450.83798	5.62	ug/L
	K	39	3104936.013		502.05773	5.27	ug/L
	Ca	44	133662.690		605.59215	2.90	ug/L
	Fe	57	109778.310		518.47580	3.61	ug/L
	Fe	54	457008.753		476.58170	6.15	ug/L
[>	Sc-1	45	196030.043				ug/L
	C	12	1562901.119				ug/L
	Kr	83	249.003				ug/L
	Cl	35	45424.926				ug/L

	S	32	56165872.613	ug/L
	P	31	28387.604	ug/L
	Si	28	183364.670	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	82.732
	Be	9	
	B	11	
	Al	27	
>	Sc	45	85.357
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.219
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.162
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	92.859
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	94.633
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.620
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	85.357
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

## EPA 6020- Summary Report

## Sample ID: RLVS

Sample Date/Time: Thursday, October 22, 2015 22:40:00

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13389.323			ug/L
	Be	9	251.670	1.22485	19.13	ug/L
	B	11	1969.213	11.68499	6.33	ug/L
	Al	27	61538.469	21.79286	11.05	ug/L
[>	Sc	45	200518.718			ug/L
	Ti	47	6886.275	11.75146	5.56	ug/L
	Ti	49	5835.875	12.03622	9.08	ug/L
	V	51	91181.055	11.34889	8.56	ug/L
	Cr	52	218723.873	31.90471	11.06	ug/L
	Cr	53	23517.427	29.52041	10.80	ug/L
	Mn	55	104188.132	10.95981	7.15	ug/L
	Co	59	85647.261	11.53855	7.12	ug/L
	Ni	60	19588.427	11.72904	8.55	ug/L
	Cu	63	41558.803	11.75723	7.85	ug/L
	Cu	65	19753.113	11.40510	7.54	ug/L
	Ga	69	185651.779			ug/L
	Zn	66	12807.349	13.59912	2.02	ug/L
	Zn	68	9433.893	13.28980	1.37	ug/L
[>	Ge	74	85546.028			ug/L
	As	75	1373.228	1.00588	5.44	ug/L
	Se	77	456.011	1.09845	39.18	ug/L
	Se	78	15023.864	3.71303	41.38	ug/L
	Se	82	153.182	0.90368	8.22	ug/L
	Sr	88	226542.658	11.61481	0.17	ug/L
[>	Y	89	598687.083			ug/L
	Zr	90	130869.720	11.18477	2.48	ug/L
	Mo	98	48880.341	10.23689	0.92	ug/L
	Ag	109	61771.490	9.88909	2.38	ug/L
	Cd	111	1699.159	1.04870	3.92	ug/L
	Cd	114	3526.543	0.98905	2.51	ug/L
[>	In	115	462044.596			ug/L
	Sn	118	134294.518	29.21318	1.33	ug/L
	Sb	123	40616.803	10.16667	1.75	ug/L
	Ba	137	26574.463	10.06677	2.59	ug/L
[>	Tb	159	548998.577			ug/L
	Tl	203	5633.412	1.02562	2.04	ug/L
	Tl	205	13206.590	1.02564	1.11	ug/L
	Pb	206	4869.305	1.12624	1.81	ug/L
	Pb	208	19388.084	1.12392	0.73	ug/L
[>	Bi	209	341294.921			ug/L
	Th	232	18816.458	1.05452	3.29	ug/L
	U	238	18558.591	0.99928	1.26	ug/L
	Na	23	233385.894	105.85829	8.84	ug/L
	Mg	24	137587.374	95.40411	6.72	ug/L
	Mg	25	20035.081	95.91320	9.19	ug/L
	K	39	1155731.775	119.14370	5.96	ug/L
	Ca	44	62242.125	175.16493	8.69	ug/L
	Fe	57	35359.713	113.44488	13.77	ug/L
	Fe	54	293211.081	124.16594	32.46	ug/L
[>	Sc-1	45	200518.718			ug/L
	C	12	1553534.895			ug/L
	Kr	83	248.003			ug/L
	Cl	35	24403.388			ug/L

	S	32	57827846.438	ug/L
	P	31	29552.381	ug/L
	Si	28	127026.504	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	85.985
	Be	9	
	B	11	
	Al	27	
>	Sc	45	87.312
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.265
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	95.207
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.218
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.790
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.759
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	87.312
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RLVS

Sample Date/Time: Thursday, October 22, 2015 22:45:28

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14105.788			ug/L
	Be	9	229.003	0.80932	41.26	ug/L
	B	11	1115.069	2.71389	12.10	ug/L
	Al	27	22893.850	6.40162	11.38	ug/L
[>	Sc	45	221461.308			ug/L
	Ti	47	1032.392	0.83460	9.93	ug/L
	Ti	49	717.029	0.87725	16.70	ug/L
	V	51	10395.938	0.85543	21.69	ug/L
	Cr	52	94981.520	11.64043	5.91	ug/L
	Cr	53	8965.423	9.60193	6.37	ug/L
	Mn	55	10359.570	0.83338	1.76	ug/L
	Co	59	4657.860	0.54212	3.44	ug/L
	Ni	60	2334.300	1.16923	3.59	ug/L
	Cu	63	3750.107	0.86452	3.23	ug/L
	Cu	65	1890.197	0.85559	4.75	ug/L
	Ga	69	197467.850			ug/L
	Zn	66	17309.131	17.75802	2.89	ug/L
	Zn	68	12529.630	17.13181	3.80	ug/L
[>	Ge	74	90109.670			ug/L
	As	75	556.444	0.44357	10.08	ug/L
	Se	77	408.676	0.44004	18.83	ug/L
	Se	78	15273.279	2.11126	41.02	ug/L
	Se	82	90.609	0.43591	4.47	ug/L
	Sr	88	14808.720	0.68664	1.40	ug/L
[>	Y	89	631904.166			ug/L
	Zr	90	7306.939	0.50801	2.35	ug/L
	Mo	98	2996.226	0.56967	2.52	ug/L
	Ag	109	3467.662	0.51878	2.51	ug/L
	Cd	111	885.376	0.49660	3.80	ug/L
	Cd	114	1808.924	0.47538	5.42	ug/L
[>	In	115	473057.695			ug/L
	Sn	118	43424.162	9.19501	2.55	ug/L
	Sb	123	2247.514	0.49413	1.75	ug/L
	Ba	137	1893.531	0.64309	4.35	ug/L
[>	Tb	159	563624.849			ug/L
	Tl	203	2910.799	0.51226	2.93	ug/L
	Tl	205	6771.188	0.51294	1.34	ug/L
	Pb	206	2917.135	0.65160	3.07	ug/L
	Pb	208	11407.458	0.64082	1.34	ug/L
[>	Bi	209	347578.437			ug/L
	Th	232	9416.210	0.51378	2.57	ug/L
	U	238	9405.531	0.49475	2.47	ug/L
	Na	23	160276.893	65.16692	1.90	ug/L
	Mg	24	79965.051	49.80849	5.93	ug/L
	Mg	25	11974.891	51.17399	6.77	ug/L
	K	39	1020062.802	75.02349	8.73	ug/L
	Ca	44	69139.633	176.92342	6.27	ug/L
	Fe	57	28487.982	62.43545	4.30	ug/L
	Fe	54	278633.659	39.82650	46.93	ug/L
[>	Sc-1	45	221461.308			ug/L
	C	12	1611862.956			ug/L
	Kr	83	237.003			ug/L
	Cl	35	20892.650			ug/L

	S	32	65529415.656	ug/L
	P	31	34108.574	ug/L
	Si	28	139238.388	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	90.586
	Be	9	
	B	11	
	Al	27	
>	Sc	45	96.431
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	99.294
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	100.489
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	98.511
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.396
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.596
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	96.431
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Thursday, October 22, 2015 23:07:22

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
>	Li	6	13364.473			ug/L
	Be	9	2490.675	28.58436	3.66	ug/L
	B	11	3794.792	29.68554	1.73	ug/L
	Al	27	76764.460	27.81832	1.16	ug/L
>	Sc	45	197847.124			ug/L
	Ti	47	17177.884	30.98627	2.38	ug/L
	Ti	49	14768.989	31.57382	1.39	ug/L
	V	51	250916.925	32.18874	5.89	ug/L
	Cr	52	220440.002	32.48493	6.57	ug/L
	Cr	53	25700.631	32.65195	3.15	ug/L
	Mn	55	307070.029	32.97282	3.37	ug/L
	Co	59	252409.462	34.41389	2.21	ug/L
	Ni	60	55170.012	33.55517	2.56	ug/L
	Cu	63	120311.061	34.58015	3.43	ug/L
	Cu	65	58780.092	34.58675	1.48	ug/L
	Ga	69	190271.180			ug/L
	Zn	66	26650.345	29.34838	0.95	ug/L
	Zn	68	20259.551	30.03933	1.07	ug/L
>	Ge	74	85870.225			ug/L
	As	75	44059.925	29.29362	2.02	ug/L
	Se	77	3399.636	29.27701	3.37	ug/L
	Se	78	24296.300	31.66702	9.43	ug/L
	Se	82	4120.574	28.46848	3.86	ug/L
	Sr	88	588891.022	30.47997	3.00	ug/L
>	Y	89	594058.808			ug/L
	Zr	90	345823.811	29.93402	0.50	ug/L
	Mo	98	140096.213	29.62206	0.22	ug/L
	Ag	109	191192.947	32.30764	3.02	ug/L
	Cd	111	43924.200	30.54603	1.41	ug/L
	Cd	114	98572.110	30.29258	3.38	ug/L
>	In	115	438373.203			ug/L
	Sn	118	138349.158	31.72053	0.35	ug/L
	Sb	123	119283.042	31.58578	1.04	ug/L
	Ba	137	75914.038	29.75126	1.54	ug/L
>	Tb	159	532752.638			ug/L
	Tl	203	155700.266	28.54962	1.91	ug/L
	Tl	205	368048.213	28.54684	2.12	ug/L
	Pb	206	123333.003	28.95005	1.20	ug/L
	Pb	208	509580.976	29.81454	0.06	ug/L
>	Bi	209	344008.687			ug/L
	Th	232	531384.996	29.75964	1.95	ug/L
	U	238	552190.639	29.63589	2.49	ug/L
	Na	23	585724.992	270.07516	3.74	ug/L
	Mg	24	402152.682	283.16098	2.19	ug/L
	Mg	25	59596.098	290.89894	1.44	ug/L
	K	39	2097964.409	302.78914	3.08	ug/L
	Ca	44	89284.872	338.05535	7.22	ug/L
	Fe	57	79627.829	351.80873	6.08	ug/L
	Fe	54	409727.420	370.33524	9.51	ug/L
>	Sc-1	45	197847.124			ug/L
	C	12	312571.321			ug/L
	Kr	83	246.003			ug/L
	Cl	35	236718.478			ug/L

	S	32	58967679.978	ug/L
	P	31	29126.934	ug/L
	Si	28	118638.825	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	85.826
	Be	9	
	B	11	
	Al	27	
>	Sc	45	86.148
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.622
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.471
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	91.288
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	94.896
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.552
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	86.148
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Thursday, October 22, 2015 23:12:50

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13640.843				ug/L
	Be	9	190.669		0.43232	13.79	ug/L
	B	11	1388.773		5.71898	3.17	ug/L
	Al	27	3675.077		0.00274	2493.60	ug/L
[>	Sc	45	196979.319				ug/L
	Ti	47	539.683		0.12974	22.94	ug/L
	Ti	49	252.003		0.03820	56.25	ug/L
	V	51	2937.631		0.03031	91.70	ug/L
	Cr	52	9909.068		0.10695	46.21	ug/L
	Cr	53	480.679		-0.22079	6.31	ug/L
	Mn	55	1672.821		0.01567	35.03	ug/L
	Co	59	269.671		0.01081	39.63	ug/L
	Ni	60	212.669		0.02752	29.05	ug/L
	Cu	63	374.341		0.00642	62.69	ug/L
	Cu	65	276.004		0.02086	73.21	ug/L
	Ga	69	189327.070				ug/L
	Zn	66	933.381		-0.03165	91.38	ug/L
	Zn	68	888.710		-0.05008	50.38	ug/L
[>	Ge	74	86987.944				ug/L
	As	75	-143.414		-0.00251	1661.53	ug/L
	Se	77	326.339		-0.20136	181.86	ug/L
	Se	78	14423.258		1.15987	141.86	ug/L
	Se	82	18.615		-0.03676	703.89	ug/L
	Sr	88	837.372		0.00822	29.09	ug/L
[>	Y	89	597072.356				ug/L
	Zr	90	1468.467		0.03856	144.39	ug/L
	Mo	98	184.877		0.01227	35.69	ug/L
	Ag	109	302.672		0.02414	29.73	ug/L
	Cd	111	115.334		0.00110	216.35	ug/L
	Cd	114	174.197		0.01057	33.01	ug/L
[>	In	115	460069.111				ug/L
	Sn	118	253.670		0.00956	78.61	ug/L
	Sb	123	200.047		-0.00781	47.06	ug/L
	Ba	137	171.335		0.00679	75.04	ug/L
[>	Tb	159	540660.476				ug/L
	Tl	203	120.334		0.00565	78.20	ug/L
	Tl	205	175.335		0.00651	32.46	ug/L
	Pb	206	160.001		0.01065	20.71	ug/L
	Pb	208	526.339		0.01040	22.17	ug/L
[>	Bi	209	346330.713				ug/L
	Th	232	667.693		0.02889	40.97	ug/L
	U	238	211.669		0.00631	48.83	ug/L
	Na	23	1641.148		-0.38092	9.08	ug/L
	Mg	24	1161.408		0.14135	21.10	ug/L
	Mg	25	295.338		0.09080	131.56	ug/L
	K	39	553667.941		6.65271	26.24	ug/L
	Ca	44	32168.157		3.92574	38.66	ug/L
	Fe	57	14217.810		2.80509	171.73	ug/L
	Fe	54	245798.336		35.23215	17.00	ug/L
[>	Sc-1	45	196979.319				ug/L
	C	12	277322.377				ug/L
	Kr	83	236.003				ug/L
	Cl	35	15903.567				ug/L

	S	32	57106502.507	ug/L
	P	31	30007.502	ug/L
	Si	28	80067.442	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	87.601
	Be	9	
	B	11	
	Al	27	
>	Sc	45	85.771
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.854
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.950
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	95.806
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	96.305
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.231
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	85.771
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: 011506178-0001

Sample Date/Time: Thursday, October 22, 2015 23:45:45

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13672.394			ug/L
	Be	9	180.002	0.30031	14.01	ug/L
	B	11	1599.141	7.70613	6.05	ug/L
	Al	27	31721.050	9.98069	53.94	ug/L
[>	Sc	45	210136.115			ug/L
	Ti	47	755.365	0.44368	55.04	ug/L
	Ti	49	486.680	0.48213	47.24	ug/L
	V	51	6864.466	0.48580	1.98	ug/L
	Cr	52	37041.658	3.93957	2.14	ug/L
	Cr	53	2217.604	1.87149	3.67	ug/L
	Mn	55	5000.043	0.34246	6.07	ug/L
	Co	59	276.338	0.00933	29.99	ug/L
	Ni	60	1123.736	0.54268	2.77	ug/L
	Cu	63	2039.229	0.45160	1.82	ug/L
	Cu	65	1061.395	0.44738	1.51	ug/L
	Ga	69	188758.991			ug/L
	Zn	66	11470.568	11.74659	1.67	ug/L
	Zn	68	8614.414	11.68877	1.88	ug/L
[>	Ge	74	87652.277			ug/L
	As	75	-315.016	-0.11331	44.19	ug/L
	Se	77	360.340	0.09101	45.72	ug/L
	Se	78	14863.198	2.11965	41.96	ug/L
	Se	82	-12.415	-0.24701	64.84	ug/L
	Sr	88	3588.375	0.14504	3.62	ug/L
[>	Y	89	613865.665			ug/L
	Zr	90	933.381	-0.00976	56.86	ug/L
	Mo	98	302.471	0.03529	6.15	ug/L
	Ag	109	140.668	-0.00138	207.07	ug/L
	Cd	111	119.001	0.00546	171.25	ug/L
	Cd	114	86.381	-0.01459	70.77	ug/L
[>	In	115	449184.882			ug/L
	Sn	118	45952.229	10.25118	2.34	ug/L
	Sb	123	305.190	0.02063	10.44	ug/L
	Ba	137	1419.778	0.48360	2.71	ug/L
[>	Tb	159	546832.928			ug/L
	Tl	203	87.000	-0.00011	1375.36	ug/L
	Tl	205	87.000	-0.00016	588.54	ug/L
	Pb	206	7028.050	1.64751	1.44	ug/L
	Pb	208	26848.083	1.57341	2.15	ug/L
[>	Bi	209	339272.152			ug/L
	Th	232	112.667	-0.00184	45.86	ug/L
	U	238	76.334	-0.00082	68.20	ug/L
	Na	23	45726.118	18.79388	3.83	ug/L
	Mg	24	9249.373	5.46690	4.98	ug/L
	Mg	25	1445.782	5.31293	3.88	ug/L
	K	39	688987.943	24.42533	7.65	ug/L
	Ca	44	47532.949	76.91014	3.69	ug/L
	Fe	57	16238.870	8.19908	66.85	ug/L
	Fe	54	248683.902	9.06793	145.67	ug/L
[>	Sc-1	45	210136.115			ug/L
	C	12	1610923.108			ug/L
	Kr	83	239.336			ug/L
	Cl	35	18345.496			ug/L

	S	32	59953818.998	ug/L
	P	31	31923.049	ug/L
	Si	28	172637.623	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	87.803
	Be	9	
	B	11	
	Al	27	
>	Sc	45	91.499
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.586
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	97.620
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	93.540
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.404
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.168
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	91.499
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: 011506178-0003

Sample Date/Time: Thursday, October 22, 2015 23:51:16

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14237.583			ug/L
	Be	9	175.335	0.15764	147.65	ug/L
	B	11	1428.446	5.53220	9.12	ug/L
	Al	27	23553.239	6.75474	11.17	ug/L
>	Sc	45	218052.580			ug/L
	Ti	47	915.714	0.66481	46.03	ug/L
	Ti	49	661.360	0.77834	53.94	ug/L
	V	51	7599.684	0.54439	12.37	ug/L
	Cr	52	46083.174	5.02310	7.75	ug/L
	Cr	53	3061.849	2.77617	4.35	ug/L
	Mn	55	6582.383	0.48042	7.69	ug/L
	Co	59	279.004	0.00846	30.08	ug/L
	Ni	60	1316.429	0.62844	9.87	ug/L
	Cu	63	5678.107	1.38607	4.82	ug/L
	Cu	65	2849.113	1.38684	4.99	ug/L
	Ga	69	197592.308			ug/L
	Zn	66	21074.073	21.68645	2.57	ug/L
	Zn	68	15414.725	21.23170	1.98	ug/L
>	Ge	74	90758.301			ug/L
	As	75	-264.960	-0.07458	13.15	ug/L
	Se	77	388.675	0.23283	78.78	ug/L
	Se	78	15669.090	2.91866	35.04	ug/L
	Se	82	8.977	-0.10354	130.04	ug/L
	Sr	88	5012.048	0.20847	3.36	ug/L
>	Y	89	634329.052			ug/L
	Zr	90	1365.436	0.02288	18.82	ug/L
	Mo	98	324.327	0.03770	5.85	ug/L
	Ag	109	153.668	-0.00034	439.43	ug/L
	Cd	111	117.334	0.00088	792.90	ug/L
	Cd	114	94.634	-0.01333	25.24	ug/L
>	In	115	469626.889			ug/L
	Sn	118	46601.520	9.94382	3.10	ug/L
	Sb	123	259.776	0.00604	153.99	ug/L
	Ba	137	986.720	0.30503	4.26	ug/L
>	Tb	159	565984.599			ug/L
	Tl	203	86.334	-0.00089	80.72	ug/L
	Tl	205	97.001	0.00032	27.55	ug/L
	Pb	206	2232.608	0.48340	2.63	ug/L
	Pb	208	8537.894	0.46597	0.33	ug/L
>	Bi	209	353698.245			ug/L
	Th	232	130.001	-0.00116	17.05	ug/L
	U	238	95.667	0.00001	2789.06	ug/L
	Na	23	70474.830	28.54369	6.61	ug/L
	Mg	24	13975.737	8.28986	6.11	ug/L
	Mg	25	2272.951	8.76546	7.23	ug/L
	K	39	852546.792	48.76323	17.08	ug/L
	Ca	44	77422.070	227.27884	9.72	ug/L
	Fe	57	17552.596	11.82761	43.20	ug/L
	Fe	54	278272.941	50.70996	205.53	ug/L
>	Sc-1	45	218052.580			ug/L
	C	12	1647627.272			ug/L
	Kr	83	232.670			ug/L
	Cl	35	19176.211			ug/L

	S	32	66388258.688	ug/L
	P	31	34997.927	ug/L
	Si	28	174256.927	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	91.433
	Be	9	
	B	11	
	Al	27	
>	Sc	45	94.946
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	100.008
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	100.875
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	97.797
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.816
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	103.385
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	94.946
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: 011506178-0005

Sample Date/Time: Thursday, October 22, 2015 23:56:47

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14043.052			ug/L
	Be	9	185.669	0.30940	18.50	ug/L
	B	11	1171.076	3.29210	19.87	ug/L
	Al	27	22064.070	6.03184	16.68	ug/L
>	Sc	45	223635.722			ug/L
	Ti	47	964.385	0.70839	28.43	ug/L
	Ti	49	521.349	0.49740	57.01	ug/L
	V	51	6932.099	0.44261	2.76	ug/L
	Cr	52	50315.560	5.42449	2.35	ug/L
	Cr	53	3608.717	3.31163	3.01	ug/L
	Mn	55	6204.117	0.42694	2.66	ug/L
	Co	59	331.339	0.01382	15.83	ug/L
	Ni	60	1700.159	0.81574	4.97	ug/L
	Cu	63	4801.268	1.12431	6.36	ug/L
	Cu	65	2374.643	1.09917	3.87	ug/L
	Ga	69	195991.690			ug/L
	Zn	66	21925.759	22.62914	4.27	ug/L
	Zn	68	15801.068	21.80824	2.98	ug/L
>	Ge	74	90721.921			ug/L
	As	75	-248.689	-0.06408	31.28	ug/L
	Se	77	348.340	-0.12858	204.35	ug/L
	Se	78	15248.547	1.74081	103.92	ug/L
	Se	82	4.165	-0.13813	76.64	ug/L
	Sr	88	4880.977	0.20280	1.47	ug/L
>	Y	89	632008.394			ug/L
	Zr	90	1328.764	0.02031	38.68	ug/L
	Mo	98	336.959	0.04045	9.59	ug/L
	Ag	109	150.001	-0.00101	434.06	ug/L
	Cd	111	112.001	-0.00293	344.72	ug/L
	Cd	114	125.668	-0.00456	35.69	ug/L
>	In	115	471952.570			ug/L
	Sn	118	48601.261	10.32083	2.46	ug/L
	Sb	123	236.855	-0.00001	17694.28	ug/L
	Ba	137	1000.388	0.31112	3.48	ug/L
>	Tb	159	564772.255			ug/L
	Tl	203	88.334	-0.00053	184.58	ug/L
	Tl	205	124.001	0.00234	44.16	ug/L
	Pb	206	1429.446	0.29978	2.51	ug/L
	Pb	208	5602.334	0.29856	2.92	ug/L
>	Bi	209	353919.904			ug/L
	Th	232	146.001	-0.00030	241.77	ug/L
	U	238	97.667	0.00011	60.83	ug/L
	Na	23	66821.407	26.26867	7.53	ug/L
	Mg	24	12740.927	7.27889	3.81	ug/L
	Mg	25	1929.872	7.01332	3.50	ug/L
	K	39	844436.892	43.37850	5.43	ug/L
	Ca	44	67716.014	165.89756	4.02	ug/L
	Fe	57	16735.733	5.63730	10.78	ug/L
	Fe	54	251333.612	-14.71547	144.29	ug/L
>	Sc-1	45	223635.722			ug/L
	C	12	1631416.734			ug/L
	Kr	83	249.337			ug/L
	Cl	35	19905.140			ug/L

	S	32	66899224.136	ug/L
	P	31	36409.031	ug/L
	Si	28	151965.877	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	90.184
	Be	9	
	B	11	
	Al	27	
>	Sc	45	97.377
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	99.968
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	100.505
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	98.281
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.600
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	103.449
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	97.377
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: 011506178-0007

Sample Date/Time: Friday, October 23, 2015 00:02:16

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13455.409				ug/L
	Be	9	189.335		0.44775	59.90	ug/L
	B	11	1118.402		3.25918	15.31	ug/L
	Al	27	17715.717		5.20422	18.11	ug/L
>	Sc	45	202592.451				ug/L
	Ti	47	888.714		0.73538	84.34	ug/L
	Ti	49	405.009		0.34567	41.67	ug/L
	V	51	6317.495		0.44752	10.02	ug/L
	Cr	52	38141.520		4.30836	4.68	ug/L
	Cr	53	2486.007		2.31742	5.79	ug/L
	Mn	55	5083.422		0.37091	10.54	ug/L
	Co	59	255.670		0.00795	42.62	ug/L
	Ni	60	1323.430		0.68640	4.60	ug/L
	Cu	63	3509.677		0.88671	2.76	ug/L
	Cu	65	1672.154		0.82224	3.48	ug/L
	Ga	69	186822.634				ug/L
	Zn	66	6235.805		5.93390	2.88	ug/L
	Zn	68	4646.854		5.69795	1.67	ug/L
>	Ge	74	87135.389				ug/L
	As	75	-211.007		-0.04639	36.95	ug/L
	Se	77	340.340		-0.07722	61.73	ug/L
	Se	78	14615.686		1.64519	42.08	ug/L
	Se	82	-2.351		-0.18008	29.30	ug/L
	Sr	88	3846.153		0.16903	12.63	ug/L
>	Y	89	580351.600				ug/L
	Zr	90	1022.724		0.00267	150.21	ug/L
	Mo	98	323.663		0.04348	1.23	ug/L
	Ag	109	150.001		-0.000029494	84	ug/L
	Cd	111	110.667		-0.000891472	07	ug/L
	Cd	114	128.614		-0.00221	518.65	ug/L
>	In	115	452734.772				ug/L
	Sn	118	45570.952		10.08687	2.29	ug/L
	Sb	123	279.596		0.01348	45.62	ug/L
	Ba	137	801.702		0.25317	6.54	ug/L
>	Tb	159	536494.000				ug/L
	Tl	203	85.667		-0.00049	508.20	ug/L
	Tl	205	100.667		0.00085	78.44	ug/L
	Pb	206	1580.804		0.34652	2.06	ug/L
	Pb	208	6249.170		0.34746	1.88	ug/L
>	Bi	209	342364.578				ug/L
	Th	232	140.001		-0.00036	45.84	ug/L
	U	238	94.000		0.00008	521.27	ug/L
	Na	23	39326.215		16.65514	4.40	ug/L
	Mg	24	8282.773		5.02907	2.15	ug/L
	Mg	25	1369.103		5.19151	5.51	ug/L
	K	39	658697.777		23.47419	19.88	ug/L
	Ca	44	41846.097		54.25376	13.59	ug/L
	Fe	57	15236.456		6.15705	116.46	ug/L
	Fe	54	232864.243		-4.18099	658.23	ug/L
>	Sc-1	45	202592.451				ug/L
	C	12	1573611.167				ug/L
	Kr	83	232.003				ug/L
	Cl	35	17816.110				ug/L

	S	32	60121765.486	ug/L
	P	31	31757.376	ug/L
	Si	28	141406.797	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	86.410
	Be	9	
	B	11	
	Al	27	
>	Sc	45	88.215
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.016
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	92.291
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.279
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	95.563
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.072
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	88.215
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

## EPA 6020- Summary Report

Sample ID: 011506178-0009

Sample Date/Time: Friday, October 23, 2015 00:07:44

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13792.817				ug/L
	Be	9	172.335		0.19093	53.75	ug/L
	B	11	1120.736		3.01325	10.79	ug/L
	Al	27	21156.263		6.00904	4.00	ug/L
[>	Sc	45	215048.168				ug/L
	Ti	47	1065.730		0.94391	29.77	ug/L
	Ti	49	1225.095		1.92598	59.48	ug/L
	V	51	7208.682		0.50796	6.99	ug/L
	Cr	52	41354.520		4.42830	2.96	ug/L
	Cr	53	2562.028		2.22315	4.11	ug/L
	Mn	55	4721.227		0.30298	3.43	ug/L
	Co	59	249.003		0.00509	16.94	ug/L
	Ni	60	1221.082		0.58263	0.61	ug/L
	Cu	63	1808.847		0.37790	3.38	ug/L
	Cu	65	973.052		0.38602	10.98	ug/L
	Ga	69	201046.926				ug/L
	Zn	66	6070.360		5.42190	2.99	ug/L
	Zn	68	4608.169		5.29866	0.27	ug/L
[>	Ge	74	91538.870				ug/L
	As	75	-274.898		-0.07935	37.37	ug/L
	Se	77	332.339		-0.29980	68.41	ug/L
	Se	78	14926.063		0.47470	527.59	ug/L
	Se	82	7.612		-0.11506	36.86	ug/L
	Sr	88	3574.036		0.14116	2.67	ug/L
[>	Y	89	624883.348				ug/L
	Zr	90	956.384		-0.00927	35.45	ug/L
	Mo	98	319.285		0.03759	11.67	ug/L
	Ag	109	147.335		-0.00118	104.79	ug/L
	Cd	111	117.667		0.00155	98.08	ug/L
	Cd	114	99.640		-0.01158	81.51	ug/L
[>	In	115	466639.080				ug/L
	Sn	118	46812.577		10.05169	0.57	ug/L
	Sb	123	207.812		-0.00658	39.69	ug/L
	Ba	137	850.373		0.26173	3.59	ug/L
[>	Tb	159	553608.393				ug/L
	Tl	203	97.334		0.00142	231.05	ug/L
	Tl	205	102.001		0.00081	108.98	ug/L
	Pb	206	1023.724		0.21133	5.57	ug/L
	Pb	208	4109.694		0.21778	2.72	ug/L
[>	Bi	209	347991.210				ug/L
	Th	232	121.001		-0.00154	24.03	ug/L
	U	238	88.000		-0.00033	172.54	ug/L
	Na	23	40800.105		16.23655	3.58	ug/L
	Mg	24	8883.005		5.08683	0.71	ug/L
	Mg	25	1471.786		5.27717	2.02	ug/L
	K	39	671986.235		18.58072	16.17	ug/L
	Ca	44	41756.027		39.79788	16.52	ug/L
	Fe	57	16255.535		6.40595	32.80	ug/L
	Fe	54	254896.286		9.74252	92.11	ug/L
[>	Sc-1	45	215048.168				ug/L
	C	12	1614476.485				ug/L
	Kr	83	236.336				ug/L
	Cl	35	18557.599				ug/L

	S	32	62618127.263	ug/L
	P	31	33316.977	ug/L
	Si	28	145957.516	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	88.577
	Be	9	
	B	11	
	Al	27	
>	Sc	45	93.638
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	100.868
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	99.372
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	97.174
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.611
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.716
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	93.638
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 00:13:13

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13434.796			ug/L
	Be	9	2539.355	29.02027	4.69	ug/L
	B	11	3680.745	28.37061	3.24	ug/L
	Al	27	76780.719	26.11926	3.93	ug/L
>	Sc	45	210165.199			ug/L
	Ti	47	17441.716	29.57907	0.93	ug/L
	Ti	49	15623.422	31.45186	4.27	ug/L
	V	51	255903.432	30.88158	0.54	ug/L
	Cr	52	223430.452	30.92366	1.20	ug/L
	Cr	53	26603.544	31.80351	3.08	ug/L
	Mn	55	309971.797	31.32627	3.31	ug/L
	Co	59	251980.323	32.34230	1.82	ug/L
	Ni	60	55456.000	31.74922	0.63	ug/L
	Cu	63	121722.182	32.93194	1.53	ug/L
	Cu	65	58144.716	32.19623	1.12	ug/L
	Ga	69	193152.082			ug/L
	Zn	66	27461.113	29.69069	2.95	ug/L
	Zn	68	20192.401	29.37361	4.61	ug/L
>	Ge	74	87534.628			ug/L
	As	75	45085.880	29.42679	2.52	ug/L
	Se	77	3354.952	28.29684	6.44	ug/L
	Se	78	24280.636	30.31063	14.51	ug/L
	Se	82	4268.660	28.96975	6.33	ug/L
	Sr	88	586012.028	29.86558	0.68	ug/L
>	Y	89	603342.645			ug/L
	Zr	90	343616.172	29.28624	0.50	ug/L
	Mo	98	143294.582	29.83468	2.27	ug/L
	Ag	109	193647.971	30.86800	2.27	ug/L
	Cd	111	44569.659	29.23782	0.47	ug/L
	Cd	114	102429.695	29.69593	1.45	ug/L
>	In	115	464664.292			ug/L
	Sn	118	141466.210	30.60070	0.95	ug/L
	Sb	123	124072.899	30.99607	1.39	ug/L
	Ba	137	78998.811	29.87197	0.50	ug/L
>	Tb	159	552090.176			ug/L
	Tl	203	157547.854	28.72634	1.53	ug/L
	Tl	205	381971.137	29.45946	2.03	ug/L
	Pb	206	125920.154	29.38924	0.50	ug/L
	Pb	208	516048.666	30.02331	0.59	ug/L
>	Bi	209	345965.822			ug/L
	Th	232	543605.524	30.27053	1.33	ug/L
	U	238	538455.842	28.73513	2.66	ug/L
	Na	23	599906.873	260.37367	2.46	ug/L
	Mg	24	404818.029	268.29784	1.20	ug/L
	Mg	25	58838.560	270.25504	1.40	ug/L
	K	39	2227671.639	302.51965	4.50	ug/L
	Ca	44	93087.012	328.36447	4.17	ug/L
	Fe	57	77074.458	314.04649	1.84	ug/L
	Fe	54	406095.258	313.94354	6.99	ug/L
>	Sc-1	45	210165.199			ug/L
	C	12	315891.344			ug/L
	Kr	83	244.337			ug/L
	Cl	35	242597.325			ug/L

	S	32	63619651.930	ug/L
	P	31	32130.755	ug/L
	Si	28	123032.305	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	86.277
	Be	9	
	B	11	
	Al	27	
>	Sc	45	91.512
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.456
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	95.947
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.763
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.341
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.124
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	91.512
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 00:18:42

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13777.073				ug/L
	Be	9	187.002		0.36667	29.46	ug/L
	B	11	1024.391		2.11393	29.57	ug/L
	Al	27	3740.436		-0.06936	69.91	ug/L
[>	Sc	45	211682.748				ug/L
	Ti	47	518.681		0.02763	348.43	ug/L
	Ti	49	242.337		-0.01880	104.51	ug/L
	V	51	3019.080		0.01455	166.48	ug/L
	Cr	52	10329.202		0.06398	122.83	ug/L
	Cr	53	484.680		-0.25870	8.04	ug/L
	Mn	55	1689.157		0.00493	187.83	ug/L
	Co	59	252.670		0.00598	40.05	ug/L
	Ni	60	206.669		0.01547	82.45	ug/L
	Cu	63	381.008		0.00056	479.11	ug/L
	Cu	65	272.671		0.00833	216.54	ug/L
	Ga	69	188165.705				ug/L
	Zn	66	920.713		-0.04196	95.29	ug/L
	Zn	68	914.713		-0.00392	1186.15	ug/L
[>	Ge	74	86647.127				ug/L
	As	75	-297.166		-0.10286	74.62	ug/L
	Se	77	343.006		-0.03552	589.82	ug/L
	Se	78	14363.255		1.12998	24.94	ug/L
	Se	82	14.403		-0.06407	155.81	ug/L
	Sr	88	795.702		0.00587	25.68	ug/L
[>	Y	89	599442.406				ug/L
	Zr	90	1589.492		0.04676	116.84	ug/L
	Mo	98	185.249		0.01205	56.87	ug/L
	Ag	109	280.338		0.02212	36.75	ug/L
	Cd	111	116.001		0.00493	215.54	ug/L
	Cd	114	157.192		0.00746	30.95	ug/L
[>	In	115	442752.013				ug/L
	Sn	118	229.003		0.00615	22.08	ug/L
	Sb	123	179.755		-0.01128	51.93	ug/L
	Ba	137	149.001		-0.00261	254.25	ug/L
[>	Tb	159	546946.521				ug/L
	Tl	203	110.667		0.00411	75.57	ug/L
	Tl	205	151.335		0.00476	35.74	ug/L
	Pb	206	128.001		0.00349	36.61	ug/L
	Pb	208	451.671		0.00629	30.83	ug/L
[>	Bi	209	342857.491				ug/L
	Th	232	723.698		0.03221	38.64	ug/L
	U	238	216.336		0.00665	22.50	ug/L
	Na	23	1545.132		-0.47499	5.16	ug/L
	Mg	24	1116.735		0.05640	72.22	ug/L
	Mg	25	336.006		0.17931	55.02	ug/L
	K	39	567600.881		1.96446	284.02	ug/L
	Ca	44	32303.626		-7.98279	142.97	ug/L
	Fe	57	14571.070		-0.74980	514.78	ug/L
	Fe	54	254649.643		17.20608	63.64	ug/L
[>	Sc-1	45	211682.748				ug/L
	C	12	284081.346				ug/L
	Kr	83	222.003				ug/L
	Cl	35	16667.632				ug/L

	S	32	62143277.598	ug/L
	P	31	31346.234	ug/L
	Si	28	81140.715	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	88.475
	Be	9	
	B	11	
	Al	27	
>	Sc	45	92.173
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.478
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	95.327
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	92.200
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.425
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.216
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	92.173
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: 011506178-0011

Sample Date/Time: Friday, October 23, 2015 00:24:09

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13804.803				ug/L
	Be	9	190.669		0.41019	47.16	ug/L
	B	11	1176.409		3.55138	17.02	ug/L
	Al	27	18700.392		5.58710	18.81	ug/L
[>	Sc	45	202114.721				ug/L
	Ti	47	868.708		0.70333	12.66	ug/L
	Ti	49	486.346		0.52335	7.21	ug/L
	V	51	6926.488		0.52704	4.13	ug/L
	Cr	52	39988.481		4.59649	2.65	ug/L
	Cr	53	2532.353		2.37994	2.44	ug/L
	Mn	55	4484.774		0.30801	2.31	ug/L
	Co	59	256.337		0.00810	22.78	ug/L
	Ni	60	1169.075		0.59581	4.40	ug/L
	Cu	63	1237.418		0.24766	9.90	ug/L
	Cu	65	649.690		0.23264	3.24	ug/L
	Ga	69	187229.122				ug/L
	Zn	66	4990.037		4.42069	1.90	ug/L
	Zn	68	3775.784		4.25185	2.71	ug/L
[>	Ge	74	88897.358				ug/L
	As	75	-263.135		-0.07660	57.24	ug/L
	Se	77	344.673		-0.09813	192.97	ug/L
	Se	78	14537.691		0.56576	192.81	ug/L
	Se	82	-6.171		-0.20919	113.67	ug/L
	Sr	88	2987.158		0.11870	3.91	ug/L
[>	Y	89	598668.543				ug/L
	Zr	90	1209.090		0.01607	275.17	ug/L
	Mo	98	329.475		0.04260	7.64	ug/L
	Ag	109	163.668		0.00212	76.76	ug/L
	Cd	111	119.334		0.00481	171.85	ug/L
	Cd	114	106.541		-0.00886	149.04	ug/L
[>	In	115	454419.227				ug/L
	Sn	118	47810.537		10.54441	3.16	ug/L
	Sb	123	156.986		-0.01822	21.66	ug/L
	Ba	137	688.693		0.20487	3.06	ug/L
[>	Tb	159	544994.979				ug/L
	Tl	203	90.000		0.00030	1356.00	ug/L
	Tl	205	99.001		0.00072	10.65	ug/L
	Pb	206	1396.774		0.30281	2.29	ug/L
	Pb	208	5400.291		0.29730	1.10	ug/L
[>	Bi	209	342569.224				ug/L
	Th	232	198.336		0.00291	57.68	ug/L
	U	238	92.000		-0.00002	1281.93	ug/L
	Na	23	36920.154		15.59900	2.73	ug/L
	Mg	24	7945.811		4.81641	9.28	ug/L
	Mg	25	1277.090		4.76795	3.32	ug/L
	K	39	650206.670		22.13935	13.60	ug/L
	Ca	44	38998.146		38.42440	14.87	ug/L
	Fe	57	16424.493		12.48193	28.09	ug/L
	Fe	54	255086.697		41.15244	15.29	ug/L
[>	Sc-1	45	202114.721				ug/L
	C	12	1593583.383				ug/L
	Kr	83	249.670				ug/L
	Cl	35	17999.475				ug/L

	S	32	58408614.139	ug/L
	P	31	31595.817	ug/L
	Si	28	164114.645	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	88.654
	Be	9	
	B	11	
	Al	27	
>	Sc	45	88.007
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	97.958
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	95.204
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.630
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.077
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.132
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	88.007
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 01:02:36

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
>	Li	6	13972.921			ug/L
	Be	9	2412.987	26.35388	3.65	ug/L
	B	11	3663.405	26.81651	3.47	ug/L
	Al	27	75814.673	25.74414	2.08	ug/L
>	Sc	45	210313.269			ug/L
	Ti	47	17569.632	29.77870	1.31	ug/L
	Ti	49	15264.477	30.68337	1.82	ug/L
	V	51	252893.879	30.48776	3.44	ug/L
	Cr	52	217818.726	30.08651	3.09	ug/L
	Cr	53	26188.740	31.25267	4.19	ug/L
	Mn	55	306939.959	30.98568	4.01	ug/L
	Co	59	244045.861	31.30850	2.69	ug/L
	Ni	60	54024.434	30.90407	0.90	ug/L
	Cu	63	119490.744	32.30428	0.74	ug/L
	Cu	65	57991.547	32.08056	2.26	ug/L
	Ga	69	191536.155			ug/L
	Zn	66	26706.511	29.57629	1.38	ug/L
	Zn	68	20286.637	30.24999	4.38	ug/L
>	Ge	74	85406.925			ug/L
	As	75	44790.445	29.94044	0.65	ug/L
	Se	77	3349.617	28.98094	2.38	ug/L
	Se	78	24177.426	31.67215	4.67	ug/L
	Se	82	4161.714	28.89892	0.70	ug/L
	Sr	88	575241.327	30.14731	0.97	ug/L
>	Y	89	586707.678			ug/L
	Zr	90	345396.511	30.28241	1.29	ug/L
	Mo	98	141623.956	30.31728	0.43	ug/L
	Ag	109	191449.611	31.14376	3.56	ug/L
	Cd	111	44461.202	29.76248	3.57	ug/L
	Cd	114	100426.186	29.70903	3.26	ug/L
>	In	115	455411.725			ug/L
	Sn	118	138589.849	30.58507	0.69	ug/L
	Sb	123	121820.607	31.05141	1.05	ug/L
	Ba	137	78045.261	29.85626	1.48	ug/L
>	Tb	159	545789.341			ug/L
	Tl	203	155290.776	28.63597	1.69	ug/L
	Tl	205	369948.163	28.85352	1.04	ug/L
	Pb	206	125665.077	29.66046	0.89	ug/L
	Pb	208	506854.194	29.82142	1.00	ug/L
>	Bi	209	342129.720			ug/L
	Th	232	534384.659	30.09499	1.92	ug/L
	U	238	543024.894	29.31018	1.70	ug/L
	Na	23	578163.024	250.69035	1.75	ug/L
	Mg	24	395534.507	261.84968	4.42	ug/L
	Mg	25	57238.748	262.68002	1.90	ug/L
	K	39	2173008.622	292.51236	2.28	ug/L
	Ca	44	91030.534	316.62097	0.49	ug/L
	Fe	57	77436.785	315.61147	0.60	ug/L
	Fe	54	403450.605	308.05738	3.54	ug/L
>	Sc-1	45	210313.269			ug/L
	C	12	311461.053			ug/L
	Kr	83	231.336			ug/L
	Cl	35	239076.819			ug/L

	S	32	57540215.809	ug/L
	P	31	28984.481	ug/L
	Si	28	119833.644	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	89.733
	Be	9	
	B	11	
	Al	27	
>	Sc	45	91.576
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.111
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	93.301
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.836
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.219
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.003
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	91.576
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 01:08:05

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	14111.350			ug/L
	Be	9	178.002	0.21439	134.84	ug/L
	B	11	1053.728	2.14661	16.24	ug/L
	Al	27	4142.611	-0.02151	67.42	ug/L
>	Sc	45	225999.099			ug/L
	Ti	47	514.015	-0.04060	71.31	ug/L
	Ti	49	261.337	-0.01434	98.45	ug/L
	V	51	3204.492	0.01179	144.50	ug/L
	Cr	52	10937.577	0.04941	82.26	ug/L
	Cr	53	469.679	-0.31367	8.35	ug/L
	Mn	55	1774.840	0.00199	20.19	ug/L
	Co	59	272.004	0.00628	35.00	ug/L
	Ni	60	194.335	0.00092	675.05	ug/L
	Cu	63	461.012	0.01434	67.20	ug/L
	Cu	65	309.672	0.01715	48.07	ug/L
	Ga	69	200931.472			ug/L
	Zn	66	995.388	-0.02607	6.16	ug/L
	Zn	68	956.050	-0.02934	277.88	ug/L
>	Ge	74	92246.589			ug/L
	As	75	-276.325	-0.07954	92.57	ug/L
	Se	77	362.007	-0.06322	239.19	ug/L
	Se	78	15741.844	2.40542	29.06	ug/L
	Se	82	-4.461	-0.19413	78.06	ug/L
	Sr	88	935.715	0.00946	23.30	ug/L
>	Y	89	648563.176			ug/L
	Zr	90	1725.186	0.04900	126.42	ug/L
	Mo	98	182.913	0.00882	27.53	ug/L
	Ag	109	307.339	0.02335	46.23	ug/L
	Cd	111	120.001	0.00149	1162.83	ug/L
	Cd	114	154.653	0.00340	218.66	ug/L
>	In	115	475928.545			ug/L
	Sn	118	236.670	0.00418	139.84	ug/L
	Sb	123	199.538	-0.00953	127.29	ug/L
	Ba	137	163.668	0.00036	975.25	ug/L
>	Tb	159	572161.511			ug/L
	Tl	203	103.001	0.00185	42.60	ug/L
	Tl	205	179.335	0.00633	48.60	ug/L
	Pb	206	136.668	0.00411	48.88	ug/L
	Pb	208	474.004	0.00643	33.87	ug/L
>	Bi	209	358396.791			ug/L
	Th	232	754.700	0.03226	38.24	ug/L
	U	238	220.336	0.00635	34.89	ug/L
	Na	23	1688.490	-0.45994	1.91	ug/L
	Mg	24	1242.752	0.08554	26.47	ug/L
	Mg	25	352.007	0.14660	28.78	ug/L
	K	39	575134.269	-3.41245	86.16	ug/L
	Ca	44	31859.066	-21.86503	28.54	ug/L
	Fe	57	16459.228	3.55204	96.40	ug/L
	Fe	54	264162.127	3.13594	232.01	ug/L
>	Sc-1	45	225999.099			ug/L
	C	12	287254.115			ug/L
	Kr	83	244.670			ug/L
	Cl	35	17325.495			ug/L

	S	32	66263230.059	ug/L
	P	31	34083.254	ug/L
	Si	28	83880.571	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	90.622
	Be	9	
	B	11	
	Al	27	
>	Sc	45	98.407
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	101.648
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	103.138
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.109
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	101.916
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	104.758
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	98.407
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSA-1

Sample Date/Time: Friday, October 23, 2015 01:13:30

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13313.917			ug/L
	Be	9	180.335	0.36028	47.59	ug/L
	B	11	1049.061	2.69203	16.42	ug/L
	Al	27	25085227.120	8925.98779	0.76	ug/L
>	Sc	45	211642.739			ug/L
	Ti	47	130443.203	225.35568	2.26	ug/L
	Ti	49	99397.661	201.31347	2.02	ug/L
	V	51	314.742	-0.31511	26.21	ug/L
	Cr	52	14420.102	0.64913	4.79	ug/L
	Cr	53	5624.407	6.00440	2.48	ug/L
	Mn	55	17692.199	1.62002	3.06	ug/L
	Co	59	579.352	0.04781	11.14	ug/L
	Ni	60	2987.825	1.60050	3.50	ug/L
	Cu	63	3117.868	0.73842	1.37	ug/L
	Cu	65	1238.418	0.54091	0.56	ug/L
	Ga	69	186214.646			ug/L
	Zn	66	1930.205	1.08647	6.89	ug/L
	Zn	68	1106.734	0.28039	23.57	ug/L
>	Ge	74	87186.227			ug/L
	As	75	-325.777	-0.12125	73.72	ug/L
	Se	77	697.027	3.28766	12.77	ug/L
	Se	78	15064.670	2.95384	16.53	ug/L
	Se	82	3.626	-0.13943	98.83	ug/L
	Sr	88	3130.206	0.12509	3.96	ug/L
>	Y	89	602173.290			ug/L
	Zr	90	978.387	-0.00454	212.21	ug/L
	Mo	98	952042.214	198.81365	3.76	ug/L
	Ag	109	235.003	0.01450	19.73	ug/L
	Cd	111	1659.485	1.06123	3.79	ug/L
	Cd	114	2642.777	0.75852	4.52	ug/L
>	In	115	446265.862			ug/L
	Sn	118	196.669	-0.00166	385.06	ug/L
	Sb	123	132.561	-0.02388	17.65	ug/L
	Ba	137	180.335	0.01023	60.62	ug/L
>	Tb	159	540877.902			ug/L
	Tl	203	100.334	0.00290	60.33	ug/L
	Tl	205	143.668	0.00463	28.90	ug/L
	Pb	206	374.341	0.06490	8.35	ug/L
	Pb	208	1340.704	0.06157	1.05	ug/L
>	Bi	209	330180.715			ug/L
	Th	232	194.335	0.00310	43.49	ug/L
	U	238	86.334	-0.00015	484.80	ug/L
	Na	23	50739315.542	21970.27857	2.53	ug/L
	Mg	24	13381790.950	8828.82076	1.21	ug/L
	Mg	25	1873952.095	8596.74350	6.22	ug/L
	K	39	54381140.088	9663.51175	3.03	ug/L
	Ca	44	5746605.861	31319.59355	2.13	ug/L
	Fe	57	5225261.602	26015.85752	1.57	ug/L
	Fe	54	13136356.567	24797.27336	2.13	ug/L
>	Sc-1	45	211642.739			ug/L
	C	12	450317.762			ug/L
	Kr	83	234.670			ug/L
	Cl	35	1947984.202			ug/L

	S	32	69522557.992	ug/L
	P	31	1523706.781	ug/L
	Si	28	90478.378	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	85.501
	Be	9	
	B	11	
	Al	27	
>	Sc	45	92.155
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.072
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	95.761
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	92.932
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	96.344
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.510
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	92.155
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSAB-1

Sample Date/Time: Friday, October 23, 2015 01:18:56

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
>	Li	6		13007.806			ug/L
	Be	9		2451.664	28.92231	2.12	ug/L
	B	11		3996.546	32.75316	5.78	ug/L
	Al	27		23441785.231	8809.34451	2.17	ug/L
>	Sc	45		200397.083			ug/L
	Ti	47		139094.035	253.79381	1.53	ug/L
	Ti	49		106772.864	228.49087	1.30	ug/L
	V	51		235410.677	29.77842	1.93	ug/L
	Cr	52		211763.762	30.72485	0.88	ug/L
	Cr	53		28608.006	35.95838	3.96	ug/L
	Mn	55		301029.952	31.90673	2.14	ug/L
	Co	59		244249.065	32.88054	1.12	ug/L
	Ni	60		55477.137	33.31950	2.67	ug/L
	Cu	63		116783.848	33.14425	2.73	ug/L
	Cu	65		56709.431	32.93965	3.60	ug/L
	Ga	69		187899.588			ug/L
	Zn	66		27561.397	30.70495	1.01	ug/L
	Zn	68		20053.775	30.02843	1.78	ug/L
>	Ge	74		85029.317			ug/L
	As	75		42989.583	28.87590	2.17	ug/L
	Se	77		3620.722	31.75205	2.84	ug/L
	Se	78		24241.544	32.25722	8.67	ug/L
	Se	82		4123.928	28.79648	5.53	ug/L
	Sr	88		564888.693	29.35324	1.56	ug/L
>	Y	89		591753.636			ug/L
	Zr	90		339011.498	29.46051	0.94	ug/L
	Mo	98		1048475.649	222.70070	3.46	ug/L
	Ag	109		173731.355	29.09759	2.23	ug/L
	Cd	111		43472.380	29.96275	1.01	ug/L
	Cd	114		100081.234	30.48393	0.70	ug/L
>	In	115		442249.970			ug/L
	Sn	118		133795.732	30.40713	1.09	ug/L
	Sb	123		115356.464	30.27772	1.66	ug/L
	Ba	137		74809.884	29.60444	1.41	ug/L
>	Tb	159		527583.243			ug/L
	Tl	203		151385.790	30.15000	2.37	ug/L
	Tl	205		356601.314	30.04300	2.74	ug/L
	Pb	206		117147.992	29.86298	1.03	ug/L
	Pb	208		470540.908	29.89738	1.53	ug/L
>	Bi	209		316797.110			ug/L
	Th	232		502762.236	30.57769	1.74	ug/L
	U	238		522330.004	30.44351	1.66	ug/L
	Na	23		49823300.208	22779.39837	3.06	ug/L
	Mg	24		12901329.527	8990.44894	1.42	ug/L
	Mg	25		1842300.760	8920.10809	3.78	ug/L
	K	39		50980306.795	9568.33180	1.65	ug/L
	Ca	44		5418565.292	31185.78760	2.35	ug/L
	Fe	57		5083826.126	26733.28715	1.86	ug/L
	Fe	54		12737911.970	25396.15075	1.31	ug/L
>	Sc-1	45		200397.083			ug/L
	C	12		420419.153			ug/L
	Kr	83		243.670			ug/L
	Cl	35		1890333.809			ug/L

	S	32	62084164.321	ug/L
	P	31	1429445.047	ug/L
	Si	28	86682.300	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	83.535
	Be	9	
	B	11	
	Al	27	
>	Sc	45	87.259
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	93.695
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.104
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	92.095
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	93.976
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	92.599
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	87.259
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Friday, October 23, 2015 01:24:22

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	14587.199				ug/L
	Be	9	169.668		0.04944	246.15	ug/L
	B	11	1239.418		3.50081	6.40	ug/L
	Al	27	8508.314		1.49591	106.84	ug/L
[>	Sc	45	224788.436				ug/L
	Ti	47	518.015		-0.02840	191.34	ug/L
	Ti	49	406.009		0.26912	54.81	ug/L
	V	51	3354.201		0.03163	116.58	ug/L
	Cr	52	10860.818		0.04874	166.79	ug/L
	Cr	53	1067.729		0.37771	25.63	ug/L
	Mn	55	1833.518		0.00879	126.89	ug/L
	Co	59	303.338		0.01048	73.10	ug/L
	Ni	60	211.336		0.01090	89.04	ug/L
	Cu	63	411.343		0.00269	384.41	ug/L
	Cu	65	289.671		0.00778	156.81	ug/L
	Ga	69	197558.471				ug/L
	Zn	66	1031.058		0.00563	705.21	ug/L
	Zn	68	940.049		-0.06155	3.47	ug/L
[>	Ge	74	92815.847				ug/L
	As	75	-262.212		-0.06925	38.83	ug/L
	Se	77	364.674		-0.05680	194.43	ug/L
	Se	78	15739.315		2.13673	47.93	ug/L
	Se	82	23.914		-0.00851	1985.86	ug/L
	Sr	88	946.716		0.01100	39.36	ug/L
[>	Y	89	634171.044				ug/L
	Zr	90	1486.802		0.03263	149.61	ug/L
	Mo	98	487.487		0.06994	69.93	ug/L
	Ag	109	311.005		0.02336	39.58	ug/L
	Cd	111	121.001		0.00131	758.21	ug/L
	Cd	114	174.557		0.00849	115.04	ug/L
[>	In	115	481808.149				ug/L
	Sn	118	252.670		0.00686	59.76	ug/L
	Sb	123	171.127		-0.01702	24.60	ug/L
	Ba	137	164.335		0.00164	206.41	ug/L
[>	Tb	159	561978.725				ug/L
	Tl	203	131.334		0.00735	95.92	ug/L
	Tl	205	197.669		0.00805	57.84	ug/L
	Pb	206	140.334		0.00563	40.15	ug/L
	Pb	208	521.005		0.00970	35.81	ug/L
[>	Bi	209	350885.887				ug/L
	Th	232	670.359		0.02858	34.30	ug/L
	U	238	274.004		0.00944	36.99	ug/L
	Na	23	12634.157		4.12550	98.19	ug/L
	Mg	24	3590.235		1.59493	98.04	ug/L
	Mg	25	653.695		1.50670	110.68	ug/L
	K	39	578774.352		-2.18394	223.98	ug/L
	Ca	44	32598.353		-16.96498	63.25	ug/L
	Fe	57	16039.839		2.15347	354.05	ug/L
	Fe	54	269041.535		15.39865	204.13	ug/L
[>	Sc-1	45	224788.436				ug/L
	C	12	290869.856				ug/L
	Kr	83	240.003				ug/L
	Cl	35	25640.883				ug/L

	S	32	67324515.820	ug/L
	P	31	32550.524	ug/L
	Si	28	87096.629	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	93.678
	Be	9	
	B	11	
	Al	27	
>	Sc	45	97.879
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	102.275
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	100.849
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	100.333
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.102
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	102.563
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	97.879
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 01:29:50

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	15355.841			ug/L
	Be	9	2761.420	27.54053	5.72	ug/L
	B	11	4486.775	30.76989	1.27	ug/L
	Al	27	93495.376	27.81992	2.90	ug/L
[>	Sc	45	241029.335			ug/L
	Ti	47	19855.999	29.35866	2.62	ug/L
	Ti	49	17509.858	30.71474	2.90	ug/L
	V	51	295218.055	31.06588	1.76	ug/L
	Cr	52	259444.697	31.31957	2.59	ug/L
	Cr	53	30218.185	31.47462	2.12	ug/L
	Mn	55	341645.502	30.10038	0.44	ug/L
	Co	59	276894.507	30.98621	1.47	ug/L
	Ni	60	61477.858	30.68979	1.00	ug/L
	Cu	63	135082.644	31.86321	4.62	ug/L
	Cu	65	64253.929	31.01470	4.05	ug/L
	Ga	69	214714.162			ug/L
	Zn	66	29708.798	29.89781	1.63	ug/L
	Zn	68	22406.582	30.36027	3.39	ug/L
[>	Ge	74	94043.832			ug/L
	As	75	49487.613	30.04381	0.92	ug/L
	Se	77	3793.125	29.88855	2.37	ug/L
	Se	78	26531.721	31.41295	3.12	ug/L
	Se	82	4690.156	29.57109	2.72	ug/L
	Sr	88	658039.241	31.03598	1.49	ug/L
[>	Y	89	652027.056			ug/L
	Zr	90	378530.929	29.85419	1.84	ug/L
	Mo	98	152853.474	29.44285	2.14	ug/L
	Ag	109	208502.658	31.87086	2.80	ug/L
	Cd	111	47311.484	29.75388	1.85	ug/L
	Cd	114	108666.092	30.20408	2.37	ug/L
[>	In	115	484791.794			ug/L
	Sn	118	151805.321	31.47450	0.49	ug/L
	Sb	123	130136.797	31.16367	0.98	ug/L
	Ba	137	83678.892	30.77973	2.00	ug/L
[>	Tb	159	567663.706			ug/L
	Tl	203	167493.818	29.29433	0.17	ug/L
	Tl	205	400647.828	29.63646	2.37	ug/L
	Pb	206	132542.131	29.67604	1.33	ug/L
	Pb	208	544990.359	30.41470	0.52	ug/L
[>	Bi	209	360649.324			ug/L
	Th	232	575565.839	30.73871	2.37	ug/L
	U	238	587983.398	30.10237	0.61	ug/L
	Na	23	712183.856	269.61756	2.41	ug/L
	Mg	24	479912.851	277.41364	2.10	ug/L
	Mg	25	69467.804	278.29818	1.07	ug/L
	K	39	2476467.012	290.26907	1.60	ug/L
	Ca	44	97772.881	285.01464	1.72	ug/L
	Fe	57	87820.522	311.57651	1.19	ug/L
	Fe	54	453188.728	292.60698	4.97	ug/L
[>	Sc-1	45	241029.335			ug/L
	C	12	309696.038			ug/L
	Kr	83	251.337			ug/L
	Cl	35	263913.383			ug/L

	S	32	72062647.397	ug/L
	P	31	35621.246	ug/L
	Si	28	135981.209	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	98.614
	Be	9	
	B	11	
	Al	27	
>	Sc	45	104.951
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	103.629
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	103.689
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	100.955
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	101.115
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	105.416
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	104.951
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 01:35:18

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	14361.593				ug/L
	Be	9	176.002		0.15130	94.01	ug/L
	B	11	1332.098		4.52724	10.64	ug/L
	Al	27	4185.298		-0.00261	2240.87	ug/L
[>	Sc	45	225195.429				ug/L
	Ti	47	510.681		-0.04353	101.75	ug/L
	Ti	49	301.338		0.06354	73.27	ug/L
	V	51	3232.612		0.01598	157.85	ug/L
	Cr	52	10777.060		0.03230	206.32	ug/L
	Cr	53	828.038		0.09814	24.48	ug/L
	Mn	55	1841.520		0.00891	92.46	ug/L
	Co	59	285.338		0.00803	47.85	ug/L
	Ni	60	219.003		0.01454	56.40	ug/L
	Cu	63	391.675		-0.00279	151.70	ug/L
	Cu	65	270.004		-0.00288	145.89	ug/L
	Ga	69	203632.679				ug/L
	Zn	66	1011.056		-0.00826	137.40	ug/L
	Zn	68	924.047		-0.07438	88.04	ug/L
[>	Ge	74	92157.981				ug/L
	As	75	-295.621		-0.09138	90.94	ug/L
	Se	77	380.008		0.10314	174.58	ug/L
	Se	78	15862.525		2.79137	52.78	ug/L
	Se	82	-3.186		-0.18507	108.05	ug/L
	Sr	88	933.048		0.01107	14.70	ug/L
[>	Y	89	623993.148				ug/L
	Zr	90	1816.872		0.06155	104.93	ug/L
	Mo	98	215.175		0.01671	9.73	ug/L
	Ag	109	344.340		0.02941	21.58	ug/L
	Cd	111	124.001		0.00469	215.15	ug/L
	Cd	114	165.852		0.00686	17.11	ug/L
[>	In	115	472515.737				ug/L
	Sn	118	241.670		0.00555	189.35	ug/L
	Sb	123	199.557		-0.00927	106.93	ug/L
	Ba	137	162.001		0.00164	759.34	ug/L
[>	Tb	159	553177.365				ug/L
	Tl	203	123.668		0.00616	59.41	ug/L
	Tl	205	195.669		0.00802	64.49	ug/L
	Pb	206	156.335		0.00966	31.27	ug/L
	Pb	208	515.339		0.00964	32.13	ug/L
[>	Bi	209	347516.875				ug/L
	Th	232	712.697		0.03124	41.04	ug/L
	U	238	240.670		0.00780	33.50	ug/L
	Na	23	2360.310		-0.18416	67.50	ug/L
	Mg	24	1280.424		0.11189	41.95	ug/L
	Mg	25	349.340		0.14039	87.51	ug/L
	K	39	571883.320		-3.66921	16.95	ug/L
	Ca	44	31726.937		-22.07582	8.48	ug/L
	Fe	57	16249.560		2.79073	194.61	ug/L
	Fe	54	274051.080		22.67112	126.08	ug/L
[>	Sc-1	45	225195.429				ug/L
	C	12	280362.753				ug/L
	Kr	83	251.337				ug/L
	Cl	35	20769.408				ug/L

	S	32	66565598.519	ug/L
	P	31	33417.980	ug/L
	Si	28	85315.124	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	92.229
	Be	9	
	B	11	
	Al	27	
>	Sc	45	98.057
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	101.551
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	99.231
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	98.398
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.535
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.578
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	98.057
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

## Instrument Tuning Report

File Name: Default.tun  
File Path: C:\elandata\Tuning\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
C	12.000	11.975	2724	2142	0.704	
Mg	23.985	23.975	5642	2156	0.693	
Ar2	75.930	75.925	18288	2165	0.693	
In	114.904	114.925	27802	2194	0.701	
Ce	139.905	139.925	33898	2201	0.697	
Pb	207.977	207.975	50482	2241	0.692	
U	238.050	238.075	57810	2271	0.688	

## Daily Performance Report

### Sample ID: Daily Performance Check

Sample Date/Time: Friday, October 23, 2015 10:50:36

Sample Description:

Method File: C:\elandata\Method\Daily 20120810.mth

Dataset File: C:\elandata\DataSet\20151015\Daily Performance Check.1044

Tuning File: C:\elandata\Tuning\Default.tun

Optimization File: C:\elandata\Optimize\Default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 55

Current Dead Time (ns): 55

### Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Mg	24.0	24979.5	24979.476	310.055	1.2
In	114.9	297661.1	297661.133	2994.085	1.0
U	238.1	267420.5	267420.487	1623.881	0.6
[> Ce	139.9	337701.9	337701.874	2051.999	0.6
[ CeO	155.9	11421.8	0.034	0.000	1.3
[> Ba	137.9	278294.9	278294.889	2536.208	0.9
[ Ba++	69.0	3271.8	0.012	0.000	0.8
Bkgd	220.0	83.2	83.167	4.760	5.7
Bkgd	8.5	189.6	189.602	5.324	2.8

### Current Optimization File Data

Current Value	Description
0.84	Nebulizer Gas Flow [NEB]
1.35	Auxiliary Gas Flow
15.50	Plasma Gas Flow
6.75	Lens Voltage
1000.00	ICP RF Power
-1700.00	Analog Stage Voltage
900.00	Pulse Stage Voltage
-3.00	Quadrupole Rod Offset Std [QRO]
-7.00	Cell Rod Offset Std [CRO]
15.00	Discriminator Threshold
-20.00	Cell Path Voltage Std [CPV]
0.00	RPa
0.25	RPq
1.10	DRC Mode NEB
-5.00	DRC Mode QRO
-0.50	DRC Mode CRO
-16.00	DRC Mode CPV
0.00	Cell Gas A

### Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	45	5.5	2855.1
Co	59	45	6.0	112939.9
In	115	45	6.8	276989.5
U	238	45	9.5	306907.9

Sample ID: Daily Performance Check

Report Date/Time: Friday, October 23, 2015 10:54:20

Page 1

	Rinse	10/23/2015 11:08
	Cal Blank	10/23/2015 11:13
	STD 1	10/23/2015 11:18
	STD 2	10/23/2015 11:24
	STD 3	10/23/2015 11:29
	STD 4	10/23/2015 11:35
	STD 5	10/23/2015 11:40
	STD 6	10/23/2015 11:46
	STD 7	10/23/2015 11:51
	Rinse	10/23/2015 11:57
	ICV	10/23/2015 12:02
	ICB	10/23/2015 12:08
	RL STD	10/23/2015 12:13
	RL STD beryllium	10/23/2015 12:19
	RL STD beryllium rerun	10/23/2015 12:25
	ICSA-1	10/23/2015 12:30
	ICSAB-1	10/23/2015 12:35
	Rinse	10/23/2015 12:41
01Q151022-021	CCV	10/23/2015 12:46
01Q151022-021	CCB	10/23/2015 12:52
01Q151022-021 1mce	Method Blank rerun	10/23/2015 12:57
01Q151022-021 2mce	Method Blank rerun	10/23/2015 13:03
01Q151022-021 1pvc	Method Blank rerun	10/23/2015 13:08
01Q151022-021	LCS rerun	10/23/2015 13:14
01Q151022-021	LCSD rerun	10/23/2015 13:19
01Q151022-021	RLVS rerun	10/23/2015 13:25
01Q151022-021	011506102-0002 rerun	10/23/2015 13:30
01Q151022-021	011506102-0006 rerun	10/23/2015 13:36
01Q151022-021	011506187-0001 2x	10/23/2015 13:41
01Q151022-021	011506290-0001 2x	10/23/2015 13:47
01Q151022-021	CCV	10/23/2015 13:52
01Q151022-021	CCB	10/23/2015 13:57
01Q151022-021	011506290-0002 2x	10/23/2015 14:03
01Q151022-021	011506290-0003 5x	10/23/2015 14:08
01Q151022-021	011506290-0004 10x	10/23/2015 14:14
01Q151022-021	011506290-0005 2x	10/23/2015 14:19
01Q151022-021	011506290-0006 rerun	10/23/2015 14:25
01Q151022-021	CCV	10/23/2015 14:30
01Q151022-021	CCB	10/23/2015 14:36
01Q151022-018	011506019-0001 10x	10/23/2015 14:41
01Q151022-018	011506019-0002 10x	10/23/2015 14:47
01Q151022-018	011506019-0003 10x	10/23/2015 14:52
01Q151022-018	011506019-0004 10x	10/23/2015 14:58
01Q151022-018	011506019-0005 10x	10/23/2015 15:03
01Q151022-018	011506019-0006 10x	10/23/2015 15:09
01Q151022-018	011506019-0007 10x	10/23/2015 15:14
01Q151022-018	011506019-0008 20x	10/23/2015 15:20
01Q151022-018	011506178-0001 rerun	10/23/2015 15:25
01Q151022-018	CCV	10/23/2015 15:31
01Q151022-018	CCB	10/23/2015 15:36
	ICSA-1	10/23/2015 15:41
	ICSAB-1	10/23/2015 15:47
	Rinse	10/23/2015 15:52
01Q151022-018	CCV	10/23/2015 15:58
01Q151022-018	CCB	10/23/2015 16:03

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Friday, October 23, 2015 11:08:03

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12465.521			ug/L
	Be	9	174.002			ug/L
	B	11	1039.728			ug/L
	Al	27	6669.478			ug/L
[>	Sc	45	207134.303			ug/L
	Ti	47	542.016			ug/L
	Ti	49	256.004			ug/L
	V	51	2918.001			ug/L
	Cr	52	10087.929			ug/L
	Cr	53	688.359			ug/L
	Mn	55	1615.477			ug/L
	Co	59	217.003			ug/L
	Ni	60	184.335			ug/L
	Cu	63	397.675			ug/L
	Cu	65	291.671			ug/L
	Ga	69	182524.600			ug/L
	Zn	66	1446.782			ug/L
	Zn	68	1175.743			ug/L
[>	Ge	74	82606.190			ug/L
	As	75	-160.591			ug/L
	Se	77	313.339			ug/L
	Se	78	13225.519			ug/L
	Se	82	-12.221			ug/L
	Sr	88	892.044			ug/L
[>	Y	89	566662.651			ug/L
	Zr	90	458.679			ug/L
	Mo	98	126.323			ug/L
	Ag	109	135.001			ug/L
	Cd	111	103.001			ug/L
	Cd	114	148.497			ug/L
[>	In	115	458953.616			ug/L
	Sn	118	180.335			ug/L
	Sb	123	323.118			ug/L
	Ba	137	154.001			ug/L
[>	Tb	159	541761.267			ug/L
	Tl	203	83.334			ug/L
	Tl	205	85.000			ug/L
	Pb	206	98.334			ug/L
	Pb	208	343.002			ug/L
[>	Bi	209	338329.757			ug/L
	Th	232	151.335			ug/L
	U	238	91.667			ug/L
	Na	23	1686.823			ug/L
	Mg	24	3113.215			ug/L
	Mg	25	573.685			ug/L
	K	39	582753.157			ug/L
	Ca	44	39959.970			ug/L
	Fe	57	13800.472			ug/L
	Fe	54	233780.992			ug/L
[>	Sc-1	45	207134.303			ug/L
	C	12	289405.999			ug/L
	Kr	83	255.337			ug/L
	Cl	35	17870.215			ug/L

	S	32	60150755.285	ug/L
	P	31	28291.626	ug/L
	Si	28	82799.695	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: Cal Blank

Sample Date/Time: Friday, October 23, 2015 11:13:29

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12206.268			ug/L
	Be	9	177.668			ug/L
	B	11	690.360			ug/L
	Al	27	4151.289			ug/L
[>	Sc	45	205297.296			ug/L
	Ti	47	573.351			ug/L
	Ti	49	244.670			ug/L
	V	51	2889.900			ug/L
	Cr	52	9799.947			ug/L
	Cr	53	714.361			ug/L
	Mn	55	1615.810			ug/L
	Co	59	203.336			ug/L
	Ni	60	168.002			ug/L
	Cu	63	376.674			ug/L
	Cu	65	246.003			ug/L
	Ga	69	180088.051			ug/L
	Zn	66	1107.734			ug/L
	Zn	68	1001.389			ug/L
[>	Ge	74	81544.028			ug/L
	As	75	-123.565			ug/L
	Se	77	307.339			ug/L
	Se	78	12817.444			ug/L
	Se	82	-11.264			ug/L
	Sr	88	778.034			ug/L
[>	Y	89	568046.972			ug/L
	Zr	90	309.005			ug/L
	Mo	98	122.763			ug/L
	Ag	109	138.001			ug/L
	Cd	111	105.001			ug/L
	Cd	114	152.506			ug/L
[>	In	115	448152.626			ug/L
	Sn	118	180.002			ug/L
	Sb	123	280.214			ug/L
	Ba	137	130.668			ug/L
[>	Tb	159	531249.919			ug/L
	Tl	203	78.000			ug/L
	Tl	205	89.334			ug/L
	Pb	206	104.334			ug/L
	Pb	208	348.002			ug/L
[>	Bi	209	334162.445			ug/L
	Th	232	108.667			ug/L
	U	238	76.334			ug/L
	Na	23	1277.090			ug/L
	Mg	24	1329.764			ug/L
	Mg	25	338.673			ug/L
	K	39	576171.586			ug/L
	Ca	44	39044.337			ug/L
	Fe	57	13370.166			ug/L
	Fe	54	223734.796			ug/L
[>	Sc-1	45	205297.296			ug/L
	C	12	277099.025			ug/L
	Kr	83	260.337			ug/L
	Cl	35	17063.335			ug/L

	S	32	58269819.404	ug/L
	P	31	27977.701	ug/L
	Si	28	83315.720	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: STD 1

Sample Date/Time: Friday, October 23, 2015 11:18:55

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	11791.853				ug/L
	Be	9	206.336		0.50000	30.09	ug/L
	B	11	627.688				ug/L
	Al	27	4766.917				ug/L
[>	Sc	45	188687.443				ug/L
	Ti	47	857.040				ug/L
	Ti	49	470.012				ug/L
	V	51	6580.522				ug/L
	Cr	52	12878.449				ug/L
	Cr	53	1053.394				ug/L
	Mn	55	6309.191				ug/L
	Co	59	4169.624				ug/L
	Ni	60	1110.068				ug/L
	Cu	63	2309.960				ug/L
	Cu	65	1190.745				ug/L
	Ga	69	165949.477				ug/L
	Zn	66	1545.798				ug/L
	Zn	68	1312.428				ug/L
[>	Ge	74	75698.389				ug/L
	As	75	583.887				ug/L
	Se	77	347.340				ug/L
	Se	78	12554.204				ug/L
	Se	82	61.060				ug/L
	Sr	88	9748.561				ug/L
[>	Y	89	540128.218				ug/L
	Zr	90	5794.181				ug/L
	Mo	98	2441.131				ug/L
	Ag	109	3142.877				ug/L
	Cd	111	823.371				ug/L
	Cd	114	1805.922				ug/L
[>	In	115	427705.615				ug/L
	Sn	118	2507.679				ug/L
	Sb	123	2259.008				ug/L
	Ba	137	1437.780				ug/L
[>	Tb	159	518722.620				ug/L
	Tl	203	2752.417				ug/L
	Tl	205	6401.586				ug/L
	Pb	206	2194.932				ug/L
	Pb	208	8644.267				ug/L
[>	Bi	209	325551.522				ug/L
	Th	232	8543.681				ug/L
	U	238	8795.921				ug/L
	Na	23	93987.395				ug/L
	Mg	24	62352.567				ug/L
	Mg	25	9084.878				ug/L
	K	39	815166.815				ug/L
	Ca	44	46443.333				ug/L
	Fe	57	22433.986				ug/L
	Fe	54	241314.793				ug/L
[>	Sc-1	45	188687.443				ug/L
	C	12	315335.827				ug/L
	Kr	83	223.336				ug/L
	Cl	35	16582.444				ug/L

	S	32	53131822.949	ug/L
	P	31	25123.047	ug/L
	Si	28	82149.530	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: STD 2

Sample Date/Time: Friday, October 23, 2015 11:24:22

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	11622.688			ug/L
	Be	9	239.670	1.00659	12.49	ug/L
	B	11	600.020			ug/L
	Al	27	8603.427			ug/L
[>	Sc	45	190486.207			ug/L
	Ti	47	1080.064			ug/L
	Ti	49	660.691			ug/L
	V	51	10697.015			ug/L
	Cr	52	16630.539			ug/L
	Cr	53	1417.444			ug/L
	Mn	55	11250.626			ug/L
	Co	59	8217.046			ug/L
	Ni	60	1962.212			ug/L
	Cu	63	4151.615			ug/L
	Cu	65	2127.916			ug/L
	Ga	69	169777.990			ug/L
	Zn	66	2150.588			ug/L
	Zn	68	1714.828			ug/L
[>	Ge	74	78348.681			ug/L
	As	75	1225.935	1.00000	8.14	ug/L
	Se	77	384.675	1.00000	20.59	ug/L
	Se	78	12708.519	1.00000	39.34	ug/L
	Se	82	96.041	1.00000	17.33	ug/L
	Sr	88	19166.211			ug/L
[>	Y	89	547630.967			ug/L
	Zr	90	11054.721			ug/L
	Mo	98	4818.598			ug/L
	Ag	109	6258.487			ug/L
	Cd	111	1551.799	1.00000	2.58	ug/L
	Cd	114	3501.682	1.00000	2.06	ug/L
[>	In	115	440943.519			ug/L
	Sn	118	4748.240			ug/L
	Sb	123	4255.091			ug/L
	Ba	137	2705.069			ug/L
[>	Tb	159	513539.120			ug/L
	Tl	203	5358.246	1.00000	4.16	ug/L
	Tl	205	12848.074	1.00000	3.25	ug/L
	Pb	206	4236.321	1.00000	2.86	ug/L
	Pb	208	17058.302	1.00000	1.24	ug/L
[>	Bi	209	330268.597			ug/L
	Th	232	17145.823	1.00000	1.64	ug/L
	U	238	17360.230	1.00000	1.46	ug/L
	Na	23	181181.404	100.00000	0.58	ug/L
	Mg	24	122034.009	100.00000	2.33	ug/L
	Mg	25	17978.436	100.00000	2.71	ug/L
	K	39	1061496.553	100.00000	2.62	ug/L
	Ca	44	55039.491	100.00000	3.05	ug/L
	Fe	57	31942.687	100.00000	2.04	ug/L
	Fe	54	267462.433	100.00000	12.74	ug/L
[>	Sc-1	45	190486.207			ug/L
	C	12	303249.598			ug/L
	Kr	83	264.004			ug/L
	Cl	35	16978.509			ug/L

	S	32	53315640.946	ug/L
	P	31	25769.847	ug/L
	Si	28	82638.922	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 3

Sample Date/Time: Friday, October 23, 2015 11:29:50

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12302.321			ug/L
	Be	9	942.382	10.00346	1.32	ug/L
	B	11	1445.448	10.00000	10.68	ug/L
	Al	27	30085.383			ug/L
[>	Sc	45	194027.372			ug/L
	Ti	47	6091.040	10.00000	1.83	ug/L
	Ti	49	5038.730	10.00000	4.21	ug/L
	V	51	83018.441	10.00000	4.06	ug/L
	Cr	52	81306.156			ug/L
	Cr	53	9088.207			ug/L
	Mn	55	104872.340	10.00000	3.15	ug/L
	Co	59	83516.601	10.00000	1.61	ug/L
	Ni	60	19199.927	10.00000	1.70	ug/L
	Cu	63	40340.644	10.00000	1.55	ug/L
	Cu	65	19291.115	10.00000	1.65	ug/L
	Ga	69	177350.562			ug/L
	Zn	66	10213.735	10.00000	5.06	ug/L
	Zn	68	7610.184	10.00000	4.06	ug/L
[>	Ge	74	82333.601			ug/L
	As	75	14937.926	10.00615	3.59	ug/L
	Se	77	1310.761	10.00657	1.53	ug/L
	Se	78	16289.257	9.97636	10.67	ug/L
	Se	82	1435.723	10.02213	8.04	ug/L
	Sr	88	191288.334	10.00000	3.07	ug/L
[>	Y	89	555012.869			ug/L
	Zr	90	114625.101	10.00000	2.25	ug/L
	Mo	98	48877.422	10.00000	3.09	ug/L
	Ag	109	65643.870	10.00000	0.82	ug/L
	Cd	111	15390.684	10.00188	1.68	ug/L
	Cd	114	34856.488	10.00003	2.48	ug/L
[>	In	115	456479.156			ug/L
	Sn	118	48009.780			ug/L
	Sb	123	41850.608	10.00000	2.16	ug/L
	Ba	137	26467.484	10.00000	0.29	ug/L
[>	Tb	159	531575.602			ug/L
	Tl	203	54804.035	10.00287	2.17	ug/L
	Tl	205	131609.918	10.00237	2.58	ug/L
	Pb	206	42518.869	10.00195	1.22	ug/L
	Pb	208	171294.511	10.00162	1.55	ug/L
[>	Bi	209	332232.711			ug/L
	Th	232	174301.434	10.00159	1.15	ug/L
	U	238	180288.615	10.00350	2.41	ug/L
	Na	23	963098.621	500.90816	2.83	ug/L
	Mg	24	653740.689	501.10022	1.85	ug/L
	Mg	25	93699.127	500.70098	2.26	ug/L
	K	39	3083562.106	498.90436	0.33	ug/L
	Ca	44	127894.718	498.99055	1.65	ug/L
	Fe	57	116196.513	500.74809	3.99	ug/L
	Fe	54	482091.604	497.57060	7.82	ug/L
[>	Sc-1	45	194027.372			ug/L
	C	12	313174.395			ug/L
	Kr	83	241.003			ug/L
	Cl	35	24579.189			ug/L

	S	32	57032165.537	ug/L
	P	31	27254.528	ug/L
	Si	28	84448.789	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 4

Sample Date/Time: Friday, October 23, 2015 11:35:18

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12084.816				ug/L
	Be	9	1670.487		19.98775	3.11	ug/L
	B	11	2325.964		20.41839	5.84	ug/L
	Al	27	49118.725		20.00000	2.43	ug/L
[>	Sc	45	190881.487				ug/L
	Ti	47	11229.268		19.91675	2.75	ug/L
	Ti	49	9525.990		19.92958	2.34	ug/L
	V	51	161686.080		20.02447	3.57	ug/L
	Cr	52	144105.681		20.00000	1.60	ug/L
	Cr	53	16496.961		20.00000	2.58	ug/L
	Mn	55	193617.503		19.76937	0.74	ug/L
	Co	59	161511.702		19.93474	1.57	ug/L
	Ni	60	35858.602		19.80428	1.82	ug/L
	Cu	63	76659.007		19.87617	2.51	ug/L
	Cu	65	36588.193		19.87473	2.87	ug/L
	Ga	69	169217.993				ug/L
	Zn	66	18110.022		19.96702	0.74	ug/L
	Zn	68	13311.746		19.96317	4.02	ug/L
[>	Ge	74	77742.293				ug/L
	As	75	28002.797		19.95310	2.23	ug/L
	Se	77	2122.248		19.87029	1.30	ug/L
	Se	78	18484.346		19.94527	5.85	ug/L
	Se	82	2598.740		19.81202	1.43	ug/L
	Sr	88	360303.074		19.92732	1.85	ug/L
[>	Y	89	533241.962				ug/L
	Zr	90	212350.519		19.85839	2.63	ug/L
	Mo	98	91769.427		19.91073	2.17	ug/L
	Ag	109	124201.360		19.97279	0.91	ug/L
	Cd	111	28732.006		19.92838	1.34	ug/L
	Cd	114	67334.591		20.06093	1.34	ug/L
[>	In	115	435210.663				ug/L
	Sn	118	92066.185		20.00000	1.26	ug/L
	Sb	123	81181.728		20.08171	0.88	ug/L
	Ba	137	52395.250		20.09015	1.76	ug/L
[>	Tb	159	515730.086				ug/L
	Tl	203	105834.549		19.91619	1.64	ug/L
	Tl	205	252482.974		19.88728	1.35	ug/L
	Pb	206	82608.651		19.94279	0.77	ug/L
	Pb	208	332009.868		19.93226	0.30	ug/L
[>	Bi	209	327757.475				ug/L
	Th	232	341007.187		19.96714	0.82	ug/L
	U	238	345479.894		19.88246	0.60	ug/L
	Na	23	1823677.513		992.48275	0.58	ug/L
	Mg	24	1231755.264		991.56578	1.39	ug/L
	Mg	25	175881.961		990.83572	3.00	ug/L
	K	39	5647153.540		1004.25491	2.05	ug/L
	Ca	44	210975.955		994.41836	1.72	ug/L
	Fe	57	209141.680		993.00732	1.28	ug/L
	Fe	54	711846.788		987.19866	6.76	ug/L
[>	Sc-1	45	190881.487				ug/L
	C	12	302392.884				ug/L
	Kr	83	233.670				ug/L
	Cl	35	31618.912				ug/L

	S	32	54282669.373	ug/L
	P	31	25881.870	ug/L
	Si	28	83110.929	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 5

Sample Date/Time: Friday, October 23, 2015 11:40:48

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
>	Li	6	11805.636			ug/L
	Be	9	2476.004	30.53476	3.02	ug/L
	B	11	3392.633	31.52269	4.73	ug/L
	Al	27	80311.046	31.00958	0.87	ug/L
>	Sc	45	192177.494			ug/L
	Ti	47	16732.395	29.98499	1.33	ug/L
	Ti	49	14420.429	30.08229	3.14	ug/L
	V	51	239380.927	29.86195	1.69	ug/L
	Cr	52	209698.721	29.85225	4.71	ug/L
	Cr	53	24328.894	29.91180	6.52	ug/L
	Mn	55	296557.572	30.05847	2.97	ug/L
	Co	59	240461.978	29.82063	4.16	ug/L
	Ni	60	53969.096	29.88369	4.54	ug/L
	Cu	63	114487.436	29.83714	3.07	ug/L
	Cu	65	56106.624	30.12932	4.12	ug/L
	Ga	69	174214.722			ug/L
	Zn	66	26760.335	29.96649	3.23	ug/L
	Zn	68	19602.445	29.97862	4.21	ug/L
>	Ge	74	78276.587			ug/L
	As	75	42352.261	29.97564	1.80	ug/L
	Se	77	3041.509	29.87669	3.54	ug/L
	Se	78	21930.253	30.17614	8.29	ug/L
	Se	82	4031.611	30.18081	3.11	ug/L
	Sr	88	555152.467	29.83744	2.49	ug/L
>	Y	89	554661.590			ug/L
	Zr	90	328854.597	29.85397	4.49	ug/L
	Mo	98	140096.172	29.73110	3.44	ug/L
	Ag	109	186417.123	29.85504	3.34	ug/L
	Cd	111	44069.901	30.07256	1.98	ug/L
	Cd	114	99619.690	29.74983	0.65	ug/L
>	In	115	440992.726			ug/L
	Sn	118	137214.194	29.82270	0.93	ug/L
	Sb	123	122571.852	29.98385	2.34	ug/L
	Ba	137	76911.754	29.65184	1.24	ug/L
>	Tb	159	524085.579			ug/L
	Tl	203	155167.071	29.86448	2.27	ug/L
	Tl	205	371068.688	29.87224	1.25	ug/L
	Pb	206	122403.254	29.99363	1.42	ug/L
	Pb	208	490941.394	29.96508	1.25	ug/L
>	Bi	209	323226.210			ug/L
	Th	232	504482.095	29.98620	1.14	ug/L
	U	238	508304.319	29.88159	1.36	ug/L
	Na	23	4145043.770	2053.26732	3.03	ug/L
	Mg	24	2622883.539	2022.86068	2.71	ug/L
	Mg	25	378070.641	2027.23431	2.98	ug/L
	K	39	10735942.686	1997.66038	1.18	ug/L
	Ca	44	393486.109	2004.58479	2.62	ug/L
	Fe	57	413822.115	2003.09833	4.26	ug/L
	Fe	54	1199078.032	1981.92696	7.62	ug/L
>	Sc-1	45	192177.494			ug/L
	C	12	315219.964			ug/L
	Kr	83	236.336			ug/L
	Cl	35	39552.896			ug/L

	S	32	55467688.130	ug/L
	P	31	26764.054	ug/L
	Si	28	83495.380	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 6

Sample Date/Time: Friday, October 23, 2015 11:46:17

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13052.802			ug/L
	Be	9	4329.031	49.85668	0.45	ug/L
	B	11	5245.181	48.92136	1.95	ug/L
	Al	27	133152.329	50.26695	4.89	ug/L
[>	Sc	45	198279.638			ug/L
	Ti	47	29551.685	50.71897	5.83	ug/L
	Ti	49	25065.848	50.34988	2.35	ug/L
	V	51	417411.334	50.25152	3.82	ug/L
	Cr	52	362000.136	50.29027	3.88	ug/L
	Cr	53	42694.385	50.48302	3.74	ug/L
	Mn	55	516431.361	50.29830	3.32	ug/L
	Co	59	425488.943	50.40241	0.41	ug/L
	Ni	60	93688.645	50.10856	2.06	ug/L
	Cu	63	198821.449	50.08924	0.40	ug/L
	Cu	65	95918.881	49.99579	5.40	ug/L
	Ga	69	185194.397			ug/L
	Zn	66	47167.087	50.57359	3.07	ug/L
	Zn	68	34287.884	50.51321	3.86	ug/L
[>	Ge	74	81447.242			ug/L
	As	75	74312.266	50.19475	3.68	ug/L
	Se	77	5216.163	50.48750	6.43	ug/L
	Se	78	29190.311	49.79349	8.42	ug/L
	Se	82	7226.593	50.70276	6.24	ug/L
	Sr	88	952920.734	50.11049	1.11	ug/L
[>	Y	89	564856.181			ug/L
	Zr	90	575614.181	50.45946	1.29	ug/L
	Mo	98	248143.279	50.59494	2.84	ug/L
	Ag	109	331944.314	50.66919	2.62	ug/L
	Cd	111	77390.708	50.56121	0.41	ug/L
	Cd	114	179408.433	50.81275	1.41	ug/L
[>	In	115	451776.446			ug/L
	Sn	118	239181.873	50.26036	0.77	ug/L
	Sb	123	212190.744	50.25446	1.50	ug/L
	Ba	137	134839.355	50.38869	0.57	ug/L
[>	Tb	159	533472.405			ug/L
	Tl	203	268490.539	50.42647	1.99	ug/L
	Tl	205	635177.250	50.23812	1.17	ug/L
	Pb	206	211298.094	50.46579	1.54	ug/L
	Pb	208	844635.391	50.38665	0.45	ug/L
[>	Bi	209	326187.424			ug/L
	Th	232	871754.407	50.47428	0.74	ug/L
	U	238	885203.395	50.54913	1.20	ug/L
	Na	23	10578097.299	5013.42946	5.04	ug/L
	Mg	24	6879341.132	5024.26524	3.73	ug/L
	Mg	25	969211.875	5006.49959	3.72	ug/L
	K	39	26974845.544	5003.08585	5.34	ug/L
	Ca	44	940284.896	4984.23661	0.14	ug/L
	Fe	57	1024859.529	4981.51637	3.97	ug/L
	Fe	54	2896983.979	5034.23122	2.38	ug/L
[>	Sc-1	45	198279.638			ug/L
	C	12	331996.175			ug/L
	Kr	83	246.337			ug/L
	Cl	35	59223.374			ug/L

	S	32	60346719.846	ug/L
	P	31	29572.050	ug/L
	Si	28	86617.120	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: STD 7

Sample Date/Time: Friday, October 23, 2015 11:51:48

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12479.327			ug/L
	Be	9	8310.465	102.41273	2.56	ug/L
	B	11	10028.531	101.58135	2.98	ug/L
	Al	27	261214.458	99.32694	5.30	ug/L
[>	Sc	45	203550.140			ug/L
	Ti	47	58240.047	99.50689	2.42	ug/L
	Ti	49	49684.755	99.35678	3.84	ug/L
	V	51	823138.128	99.11169	3.66	ug/L
	Cr	52	694024.346	98.62738	5.35	ug/L
	Cr	53	80630.005	98.16417	4.23	ug/L
	Mn	55	970589.784	97.72029	5.38	ug/L
	Co	59	806495.922	98.01309	7.10	ug/L
	Ni	60	178741.011	98.04577	7.22	ug/L
	Cu	63	370774.973	97.37509	6.64	ug/L
	Cu	65	178810.350	97.31387	8.03	ug/L
	Ga	69	190527.197			ug/L
	Zn	66	88209.593	99.43155	1.65	ug/L
	Zn	68	63027.407	98.97722	2.48	ug/L
[>	Ge	74	79435.068			ug/L
	As	75	145232.558	100.36776	0.47	ug/L
	Se	77	9948.115	101.49181	2.85	ug/L
	Se	78	45501.376	102.54543	0.78	ug/L
	Se	82	13829.306	99.21559	1.59	ug/L
	Sr	88	1808385.595	95.70874	2.53	ug/L
[>	Y	89	561632.086			ug/L
	Zr	90	1110907.495	97.95734	0.32	ug/L
	Mo	98	476400.837	99.35712	3.04	ug/L
	Ag	109	624048.966	99.36130	2.56	ug/L
	Cd	111	149411.937	100.21503	1.44	ug/L
	Cd	114	340906.783	99.10491	2.18	ug/L
[>	In	115	440413.053			ug/L
	Sn	118	469332.117	100.33238	0.63	ug/L
	Sb	123	412505.434	100.06962	2.20	ug/L
	Ba	137	261388.534	99.65687	1.94	ug/L
[>	Tb	159	527615.760			ug/L
	Tl	203	500268.738	99.66096	3.29	ug/L
	Tl	205	1198536.978	100.54775	0.58	ug/L
	Pb	206	391910.605	99.30371	1.25	ug/L
	Pb	208	1553989.183	98.34887	1.25	ug/L
[>	Bi	209	307521.633			ug/L
	Th	232	1585268.068	97.36242	1.55	ug/L
	U	238	1613085.282	97.71547	1.65	ug/L
	Na	23	22657458.982	10107.49833	8.76	ug/L
	Mg	24	14278106.296	10039.05253	5.86	ug/L
	Mg	25	2072215.889	10100.72361	10.87	ug/L
	K	39	55000975.425	10010.64194	3.66	ug/L
	Ca	44	1915970.739	10023.81561	4.69	ug/L
	Fe	57	1949998.440	9828.34873	6.59	ug/L
	Fe	54	5441040.041	9893.45523	4.65	ug/L
[>	Sc-1	45	203550.140			ug/L
	C	12	346685.328			ug/L
	Kr	83	261.337			ug/L
	Cl	35	101955.657			ug/L

	S	32	64040246.943	ug/L
	P	31	29684.051	ug/L
	Si	28	88923.156	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# Calibration Report

Analyte	Mass	Curve Type	Slope	Intercept	Corr Coeff
Li	6.015	Linear Thru Zero	0.000000	0.000	0.000000
Be	9.012	Linear Thru Zero	0.006361	0.000	0.999889
B	11.009	Linear Thru Zero	0.007354	0.000	0.999315
Al	26.982	Linear Thru Zero	0.012733	0.000	0.999811
Sc	44.956	Linear Thru Zero	0.000000	0.000	0.000000
Ti	46.952	Linear Thru Zero	0.002849	0.000	0.999914
Ti	48.948	Linear Thru Zero	0.002447	0.000	0.999933
V	50.944	Linear Thru Zero	0.040701	0.000	0.999890
Cr	51.941	Linear Thru Zero	0.034135	0.000	0.999740
Cr	52.941	Linear Thru Zero	0.004004	0.000	0.999529
Mn	54.938	Linear Thru Zero	0.048788	0.000	0.999314
Co	58.933	Linear Thru Zero	0.040492	0.000	0.999472
Ni	59.933	Linear Thru Zero	0.008966	0.000	0.999500
Cu	62.930	Linear Thru Zero	0.018722	0.000	0.999111
Cu	64.928	Linear Thru Zero	0.009035	0.000	0.999071
Ga	68.926	Linear Thru Zero	0.000000	0.000	0.000000
Zn	65.926	Linear Thru Zero	0.011034	0.000	0.999924
Zn	67.925	Linear Thru Zero	0.007895	0.000	0.999838
Ge	73.922	Linear Thru Zero	0.000000	0.000	0.000000
As	74.922	Linear Thru Zero	0.018230	0.000	0.999984
Se	76.920	Linear Thru Zero	0.001196	0.000	0.999899
Se	77.917	Linear Thru Zero	0.004053	0.000	0.999964
Se	81.917	Linear Thru Zero	0.001757	0.000	0.999785
Sr	87.906	Linear Thru Zero	0.033644	0.000	0.999983
Y	88.905	Linear Thru Zero	0.000000	0.000	0.000000
Zr	89.904	Linear Thru Zero	0.020187	0.000	0.999905
Mo	97.906	Linear Thru Zero	0.008538	0.000	0.999902
Ag	108.905	Linear Thru Zero	0.014262	0.000	0.999899
Cd	110.904	Linear Thru Zero	0.003383	0.000	0.999883
Cd	113.904	Linear Thru Zero	0.007809	0.000	0.999741
In	114.904	Linear Thru Zero	0.000000	0.000	0.000000
Sn	117.902	Linear Thru Zero	0.010618	0.000	0.999975
Sb	122.904	Linear Thru Zero	0.009351	0.000	0.999992
Ba	136.905	Linear Thru Zero	0.004968	0.000	0.999956
Tb	158.925	Linear Thru Zero	0.000000	0.000	0.000000
Tl	202.972	Linear Thru Zero	0.016320	0.000	0.999924
Tl	204.975	Linear Thru Zero	0.038758	0.000	0.999966
Pb	205.975	Linear Thru Zero	0.012831	0.000	0.999921
Pb	207.977	Linear Thru Zero	0.051372	0.000	0.999943
Bi	208.980	Linear Thru Zero	0.000000	0.000	0.000000
Th	232.038	Linear Thru Zero	0.052943	0.000	0.999919
U	238.050	Linear Thru Zero	0.053682	0.000	0.999879
Na	22.990	Linear Thru Zero	0.011037	0.000	0.999763
Mg	23.985	Linear Thru Zero	0.006996	0.000	0.999953
Mg	24.986	Linear Thru Zero	0.001010	0.000	0.999819
K	38.964	Linear Thru Zero	0.026739	0.000	0.999997
Ca	43.956	Linear Thru Zero	0.000921	0.000	0.999984
Fe	56.935	Linear Thru Zero	0.000970	0.000	0.999504
Fe	53.940	Linear Thru Zero	0.002595	0.000	0.999776
Sc-1	44.956	Linear Thru Zero	0.000000	0.000	0.000000
C	12.000	Linear Thru Zero	0.000000	0.000	0.000000
Kr	82.914	Linear Thru Zero	0.000000	0.000	0.000000
Cl	34.969	Linear Thru Zero	0.000000	0.000	0.000000
S	31.972	Linear Thru Zero	0.000000	0.000	0.000000
P	30.994	Linear Thru Zero	0.000000	0.000	0.000000
Si	27.977	Linear Thru Zero	0.000000	0.000	0.000000

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Friday, October 23, 2015 11:57:16

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12559.455			ug/L
	Be	9	183.669	0.01310	1894.75	ug/L
	B	11	833.038	1.33731	42.15	ug/L
	Al	27	5996.661	0.75216	39.48	ug/L
>	Sc	45	201461.554			ug/L
	Ti	47	620.688	0.10092	35.92	ug/L
	Ti	49	281.671	0.08371	64.91	ug/L
	V	51	3026.780	0.02324	30.52	ug/L
	Cr	52	10048.553	0.06269	29.79	ug/L
	Cr	53	649.023	-0.06480	49.56	ug/L
	Mn	55	1753.170	0.01698	56.64	ug/L
	Co	59	343.674	0.01754	66.61	ug/L
	Ni	60	225.670	0.03355	52.22	ug/L
	Cu	63	407.676	0.01000	80.54	ug/L
	Cu	65	272.671	0.01714	26.92	ug/L
	Ga	69	171324.202			ug/L
	Zn	66	992.054	-0.10099	47.80	ug/L
	Zn	68	943.716	-0.05292	102.47	ug/L
>	Ge	74	79606.036			ug/L
	As	75	-1.165	0.08243	39.93	ug/L
	Se	77	312.672	0.13637	226.80	ug/L
	Se	78	13010.266	1.57478	117.09	ug/L
	Se	82	17.798	0.20540	23.96	ug/L
	Sr	88	1225.083	0.02520	20.96	ug/L
>	Y	89	552540.866			ug/L
	Zr	90	1952.599	0.14783	73.90	ug/L
	Mo	98	219.441	0.02118	55.50	ug/L
	Ag	109	442.011	0.04760	42.08	ug/L
	Cd	111	141.668	0.02426	28.36	ug/L
	Cd	114	214.329	0.01775	72.52	ug/L
>	In	115	447648.572			ug/L
	Sn	118	323.340	0.03004	81.60	ug/L
	Sb	123	272.239	-0.00188	748.20	ug/L
	Ba	137	181.668	0.01877	28.43	ug/L
>	Tb	159	535644.818			ug/L
	Tl	203	186.335	0.02217	77.50	ug/L
	Tl	205	284.006	0.01656	89.26	ug/L
	Pb	206	182.669	0.02110	84.97	ug/L
	Pb	208	620.675	0.01828	81.04	ug/L
>	Bi	209	314981.516			ug/L
	Th	232	519.685	0.02529	80.69	ug/L
	U	238	364.676	0.01748	74.95	ug/L
	Na	23	5609.706	1.94570	64.42	ug/L
	Mg	24	3736.881	1.71253	69.65	ug/L
	Mg	25	691.695	1.75351	65.00	ug/L
	K	39	616823.749	9.55038	5.99	ug/L
	Ca	44	38311.226	0.02751	15948.94	ug/L
	Fe	57	12518.955	-3.09095	39.82	ug/L
	Fe	54	230004.114	20.14604	75.63	ug/L
>	Sc-1	45	201461.554			ug/L
	C	12	298518.468			ug/L
	Kr	83	253.337			ug/L
	Cl	35	17670.493			ug/L

	S	32	60500900.229	ug/L
	P	31	29688.750	ug/L
	Si	28	87012.513	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	102.893
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	98.132
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	97.623
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	97.270
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.888
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	100.827
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	94.260
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	98.132
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICV

Sample Date/Time: Friday, October 23, 2015 12:02:45

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13186.519				ug/L
	Be	9	2621.711		28.96720	1.49	ug/L
	B	11	3558.030		29.00064	2.95	ug/L
	Al	27	88137.570		31.86323	5.65	ug/L
[>	Sc	45	207047.361				ug/L
	Ti	47	17801.082		29.19842	0.23	ug/L
	Ti	49	15716.579		30.53232	1.69	ug/L
	V	51	267687.639		31.42727	2.77	ug/L
	Cr	52	237053.028		32.15727	3.90	ug/L
	Cr	53	27685.494		32.54873	6.83	ug/L
	Mn	55	312524.732		30.78672	2.58	ug/L
	Co	59	254352.200		30.32101	2.39	ug/L
	Ni	60	56958.685		30.60858	5.07	ug/L
	Cu	63	123267.315		31.71122	3.05	ug/L
	Cu	65	58842.825		31.33134	2.25	ug/L
	Ga	69	184135.749				ug/L
	Zn	66	27850.935		29.71864	0.48	ug/L
	Zn	68	20723.929		30.63415	1.92	ug/L
[>	Ge	74	81560.036				ug/L
	As	75	43381.159		29.26400	1.51	ug/L
	Se	77	3266.254		30.33454	4.58	ug/L
	Se	78	22261.519		28.57091	4.43	ug/L
	Se	82	4117.509		28.82324	1.89	ug/L
	Sr	88	570491.685		29.33739	0.65	ug/L
[>	Y	89	577178.495				ug/L
	Zr	90	346721.323		29.73267	1.77	ug/L
	Mo	98	145348.610		29.46670	1.38	ug/L
	Ag	109	201847.330		30.06340	2.48	ug/L
	Cd	111	47173.750		29.56678	2.27	ug/L
	Cd	114	106745.730		29.00858	0.71	ug/L
[>	In	115	470568.335				ug/L
	Sn	118	145429.001		29.07341	1.77	ug/L
	Sb	123	129833.644		29.44257	1.83	ug/L
	Ba	137	81633.905		30.68265	2.27	ug/L
[>	Tb	159	534858.026				ug/L
	Tl	203	154535.437		28.62414	0.73	ug/L
	Tl	205	367950.125		28.70357	2.21	ug/L
	Pb	206	122395.293		28.82579	1.97	ug/L
	Pb	208	501716.212		29.51743	0.69	ug/L
[>	Bi	209	330643.614				ug/L
	Th	232	512225.241		29.25490	0.47	ug/L
	U	238	517630.922		29.15822	0.83	ug/L
	Na	23	681958.453		298.01773	4.51	ug/L
	Mg	24	458047.947		315.43576	3.41	ug/L
	Mg	25	67639.718		321.94490	2.62	ug/L
	K	39	2341397.009		318.10724	4.77	ug/L
	Ca	44	97617.869		305.52697	1.60	ug/L
	Fe	57	76545.703		314.22193	5.10	ug/L
	Fe	54	396991.315		319.00592	4.89	ug/L
[>	Sc-1	45	207047.361				ug/L
	C	12	333124.096				ug/L
	Kr	83	253.670				ug/L
	Cl	35	262114.214				ug/L

	S	32	62783320.529	ug/L
	P	31	30450.245	ug/L
	Si	28	133724.347	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	108.031
	Be	9	
	B	11	
	Al	27	
[>	Sc	45	100.852
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
[>	Ge	74	100.020
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
[>	Y	89	101.608
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
[>	In	115	105.002
	Sn	118	
	Sb	123	
	Ba	137	
[>	Tb	159	100.679
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
[>	Bi	209	98.947
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
[>	Sc-1	45	100.852
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICB

Sample Date/Time: Friday, October 23, 2015 12:08:14

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12234.386				ug/L
	Be	9	186.002		0.10205	191.80	ug/L
	B	11	612.021		-0.88748	29.11	ug/L
	Al	27	5087.090		0.47505	1.20	ug/L
>	Sc	45	193639.813				ug/L
	Ti	47	588.019		0.08638	74.95	ug/L
	Ti	49	271.004		0.08463	38.25	ug/L
	V	51	2759.115		0.00456	554.65	ug/L
	Cr	52	9680.821		0.06667	84.03	ug/L
	Cr	53	658.024		-0.02021	145.29	ug/L
	Mn	55	1636.147		0.01181	38.37	ug/L
	Co	59	268.337		0.00974	59.62	ug/L
	Ni	60	219.003		0.03496	36.32	ug/L
	Cu	63	376.008		0.00573	54.24	ug/L
	Cu	65	283.338		0.02928	16.89	ug/L
	Ga	69	172146.473				ug/L
	Zn	66	995.721		-0.07388	28.12	ug/L
	Zn	68	875.709		-0.13334	18.32	ug/L
>	Ge	74	77993.720				ug/L
	As	75	-130.883		-0.00770	1693.12	ug/L
	Se	77	304.672		0.11530	102.47	ug/L
	Se	78	12831.192		1.82593	63.64	ug/L
	Se	82	-11.247		-0.00705	4281.30	ug/L
	Sr	88	915.046		0.00753	37.03	ug/L
>	Y	89	562883.317				ug/L
	Zr	90	1153.419		0.07333	62.51	ug/L
	Mo	98	155.031		0.00683	92.91	ug/L
	Ag	109	308.672		0.02686	45.00	ug/L
	Cd	111	117.001		0.00830	76.32	ug/L
	Cd	114	172.082		0.00583	63.70	ug/L
>	In	115	445752.647				ug/L
	Sn	118	220.669		0.00881	17.10	ug/L
	Sb	123	227.588		-0.01232	46.50	ug/L
	Ba	137	152.001		0.00841	71.39	ug/L
>	Tb	159	527756.836				ug/L
	Tl	203	104.334		0.00564	73.34	ug/L
	Tl	205	144.668		0.00474	80.30	ug/L
	Pb	206	133.334		0.00805	57.21	ug/L
	Pb	208	450.004		0.00703	55.85	ug/L
>	Bi	209	321007.030				ug/L
	Th	232	290.672		0.01100	79.06	ug/L
	U	238	161.335		0.00512	65.69	ug/L
	Na	23	1668.154		0.21639	25.03	ug/L
	Mg	24	1340.766		0.06360	112.77	ug/L
	Mg	25	348.340		0.14846	33.22	ug/L
	K	39	602167.388		11.35827	12.06	ug/L
	Ca	44	37878.416		5.97201	90.57	ug/L
	Fe	57	12891.813		1.47545	120.68	ug/L
	Fe	54	231056.574		39.91526	24.06	ug/L
>	Sc-1	45	193639.813				ug/L
	C	12	288185.713				ug/L
	Kr	83	258.337				ug/L
	Cl	35	17653.802				ug/L

	S	32	58883301.849	ug/L
	P	31	29165.454	ug/L
	Si	28	86052.029	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	100.230
	Be	9	
	B	11	
	Al	27	
>	Sc	45	94.322
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.646
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	99.091
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.464
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.342
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.063
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	94.322
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RL STD

Sample Date/Time: Friday, October 23, 2015 12:13:40

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12550.757			ug/L
	Be	9	263.337	1.00954	15.86	ug/L
	B	11	1534.130	8.92464	5.08	ug/L
	Al	27	54946.222	20.28133	0.69	ug/L
[>	Sc	45	197314.021			ug/L
	Ti	47	5967.625	9.63588	0.67	ug/L
	Ti	49	4998.708	9.86473	1.92	ug/L
	V	51	80170.942	9.63554	4.56	ug/L
	Cr	52	143422.856	19.89578	0.03	ug/L
	Cr	53	16598.807	20.13825	0.46	ug/L
	Mn	55	98544.276	10.07521	0.78	ug/L
	Co	59	79780.294	9.96058	1.59	ug/L
	Ni	60	17318.481	9.69813	0.31	ug/L
	Cu	63	37895.205	10.16031	3.07	ug/L
	Cu	65	17914.970	9.91687	1.35	ug/L
	Ga	69	170969.007			ug/L
	Zn	66	9096.215	9.22619	0.54	ug/L
	Zn	68	6885.273	9.50703	0.57	ug/L
[>	Ge	74	78833.895			ug/L
	As	75	1268.560	0.96588	4.81	ug/L
	Se	77	384.341	0.92448	13.29	ug/L
	Se	78	13196.333	2.52077	27.52	ug/L
	Se	82	125.601	0.98557	5.67	ug/L
	Sr	88	183874.197	9.66626	1.07	ug/L
[>	Y	89	563035.831			ug/L
	Zr	90	110052.799	9.65543	2.40	ug/L
	Mo	98	45817.445	9.50471	3.14	ug/L
	Ag	109	62107.116	9.70776	2.24	ug/L
	Cd	111	1643.149	1.01589	4.55	ug/L
	Cd	114	3590.243	0.98344	2.40	ug/L
[>	In	115	447664.799			ug/L
	Sn	118	89206.685	18.73264	3.13	ug/L
	Sb	123	39101.667	9.27559	2.85	ug/L
	Ba	137	25379.381	9.58472	1.11	ug/L
[>	Tb	159	530321.552			ug/L
	Tl	203	5174.473	0.96897	4.70	ug/L
	Tl	205	12252.919	0.97319	1.73	ug/L
	Pb	206	4107.261	0.96791	0.46	ug/L
	Pb	208	16505.192	0.97582	1.90	ug/L
[>	Bi	209	322605.114			ug/L
	Th	232	15950.314	0.92793	2.01	ug/L
	U	238	16842.255	0.96854	2.73	ug/L
	Na	23	204923.202	93.53902	1.46	ug/L
	Mg	24	136056.635	97.64420	1.23	ug/L
	Mg	25	19952.545	98.50422	2.62	ug/L
	K	39	1109071.090	105.24944	0.87	ug/L
	Ca	44	55588.125	99.43263	3.10	ug/L
	Fe	57	32036.349	100.25759	0.49	ug/L
	Fe	54	273503.881	114.18309	5.79	ug/L
[>	Sc-1	45	197314.021			ug/L
	C	12	388610.058			ug/L
	Kr	83	238.003			ug/L
	Cl	35	31727.607			ug/L

	S	32	55653935.440	ug/L
	P	31	27196.972	ug/L
	Si	28	86431.637	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	102.822
	Be	9	
	B	11	
	Al	27	
>	Sc	45	96.111
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.676
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	99.118
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.891
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.825
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.541
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	96.111
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RL STD beryllium

Sample Date/Time: Friday, October 23, 2015 12:19:06

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	13243.090			ug/L
	Be	9	223.336	0.36406	28.91	ug/L
	B	11	604.020	-1.48830	6.99	ug/L
	Al	27	6258.823	0.77849	12.97	ug/L
[>	Sc	45	207723.552			ug/L
	Ti	47	939.049	0.60605	18.73	ug/L
	Ti	49	511.681	0.51984	8.99	ug/L
	V	51	7578.751	0.55058	3.99	ug/L
	Cr	52	14597.382	0.66040	8.23	ug/L
	Cr	53	1078.064	0.42697	7.52	ug/L
	Mn	55	6722.818	0.50210	1.55	ug/L
	Co	59	4442.086	0.50364	4.06	ug/L
	Ni	60	1116.735	0.50852	6.87	ug/L
	Cu	63	2557.026	0.55954	2.54	ug/L
	Cu	65	1329.764	0.57597	3.68	ug/L
	Ga	69	177651.676			ug/L
	Zn	66	1596.140	0.48761	6.90	ug/L
	Zn	68	1329.097	0.44479	6.57	ug/L
[>	Ge	74	84162.399			ug/L
	As	75	580.553	0.46153	5.10	ug/L
	Se	77	361.007	0.43499	62.55	ug/L
	Se	78	13489.563	0.76416	91.17	ug/L
	Se	82	75.066	0.58677	42.73	ug/L
	Sr	88	10498.398	0.49894	2.80	ug/L
[>	Y	89	578122.005			ug/L
	Zr	90	6750.512	0.55195	8.39	ug/L
	Mo	98	2558.056	0.49311	4.17	ug/L
	Ag	109	3257.917	0.48229	3.08	ug/L
	Cd	111	872.709	0.49994	8.63	ug/L
	Cd	114	1854.545	0.48022	2.67	ug/L
[>	In	115	453428.307			ug/L
	Sn	118	2596.704	0.50153	1.02	ug/L
	Sb	123	2309.718	0.47798	2.87	ug/L
	Ba	137	1511.792	0.51888	1.61	ug/L
[>	Tb	159	535308.794			ug/L
	Tl	203	2644.051	0.47621	4.06	ug/L
	Tl	205	6360.891	0.48991	1.45	ug/L
	Pb	206	2238.609	0.50389	4.27	ug/L
	Pb	208	8734.963	0.49449	2.80	ug/L
[>	Bi	209	330372.577			ug/L
	Th	232	8613.748	0.48639	3.46	ug/L
	U	238	8587.388	0.47994	0.47	ug/L
	Na	23	109861.845	47.36699	4.56	ug/L
	Mg	24	73014.338	49.31584	3.60	ug/L
	Mg	25	10768.375	49.70443	2.17	ug/L
	K	39	890824.714	55.44550	6.33	ug/L
	Ca	44	47651.562	42.62151	7.91	ug/L
	Fe	57	24125.001	52.61813	9.88	ug/L
	Fe	54	260139.706	62.70336	38.04	ug/L
[>	Sc-1	45	207723.552			ug/L
	C	12	349003.309			ug/L
	Kr	83	222.669			ug/L
	Cl	35	18268.004			ug/L

	S	32	63212823.023	ug/L
	P	31	30287.045	ug/L
	Si	28	88626.915	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	108.494
	Be	9	
	B	11	
	Al	27	
>	Sc	45	101.182
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	103.211
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	101.774
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	101.177
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.764
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.866
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	101.182
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RL STD beryllium rerun

Sample Date/Time: Friday, October 23, 2015 12:25:02

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12896.587				ug/L
	Be	9	220.003		0.39346	17.86	ug/L
	B	11	750.364		0.22161	84.09	ug/L
	Al	27	5474.983		0.51707	4.82	ug/L
>	Sc	45	204309.385				ug/L
	Ti	47	871.375		0.51645	1.99	ug/L
	Ti	49	479.013		0.47105	2.49	ug/L
	V	51	7083.476		0.50673	9.08	ug/L
	Cr	52	13897.293		0.59496	8.87	ug/L
	Cr	53	1006.389		0.36256	12.90	ug/L
	Mn	55	6547.357		0.49632	5.29	ug/L
	Co	59	4307.354		0.49642	1.59	ug/L
	Ni	60	1102.400		0.51164	7.67	ug/L
	Cu	63	2543.022		0.56808	7.16	ug/L
	Cu	65	1301.426		0.57339	5.99	ug/L
	Ga	69	171068.237				ug/L
	Zn	66	1538.130		0.52551	7.91	ug/L
	Zn	68	1281.090		0.48946	12.70	ug/L
>	Ge	74	79368.452				ug/L
	As	75	618.725		0.51134	13.09	ug/L
	Se	77	350.673		0.54291	4.90	ug/L
	Se	78	13036.050		1.75020	47.41	ug/L
	Se	82	75.918		0.62328	4.27	ug/L
	Sr	88	9964.467		0.49050	2.81	ug/L
>	Y	89	557319.748				ug/L
	Zr	90	5968.964		0.50329	3.90	ug/L
	Mo	98	2492.634		0.49871	2.62	ug/L
	Ag	109	3094.860		0.45235	3.06	ug/L
	Cd	111	852.040		0.48057	5.49	ug/L
	Cd	114	1802.985		0.46043	6.61	ug/L
>	In	115	457977.661				ug/L
	Sn	118	2555.026		0.48760	3.25	ug/L
	Sb	123	2166.489		0.43927	8.39	ug/L
	Ba	137	1483.788		0.50839	5.85	ug/L
>	Tb	159	535081.187				ug/L
	Tl	203	2665.724		0.49060	3.69	ug/L
	Tl	205	6220.794		0.48920	1.32	ug/L
	Pb	206	2152.255		0.49414	2.19	ug/L
	Pb	208	8451.855		0.48826	1.54	ug/L
>	Bi	209	323564.130				ug/L
	Th	232	8185.018		0.47167	2.60	ug/L
	U	238	8390.539		0.47875	1.94	ug/L
	Na	23	106001.864		46.44484	2.35	ug/L
	Mg	24	70784.029		48.56371	2.38	ug/L
	Mg	25	10331.233		48.39140	6.50	ug/L
	K	39	866317.490		53.66899	3.45	ug/L
	Ca	44	46592.435		41.39083	20.58	ug/L
	Fe	57	23023.137		49.08433	3.10	ug/L
	Fe	54	252244.818		55.95060	16.52	ug/L
>	Sc-1	45	204309.385				ug/L
	C	12	333012.539				ug/L
	Kr	83	239.670				ug/L
	Cl	35	17979.113				ug/L

	S	32	59598005.658	ug/L
	P	31	28469.623	ug/L
	Si	28	85589.471	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	105.655
	Be	9	
	B	11	
	Al	27	
>	Sc	45	99.519
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	97.332
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	98.112
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	102.192
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.721
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.828
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	99.519
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSA-1

Sample Date/Time: Friday, October 23, 2015 12:30:28

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12186.449				ug/L
	Be	9	186.002		0.11687	213.34	ug/L
	B	11	852.707		1.82846	11.63	ug/L
	Al	27	22707214.002		9679.71977	4.01	ug/L
[>	Sc	45	184337.818				ug/L
	Ti	47	115423.508		218.88788	2.01	ug/L
	Ti	49	87467.252		193.35819	1.36	ug/L
	V	51	253.523		-0.31286	13.26	ug/L
	Cr	52	12712.555		0.62173	1.71	ug/L
	Cr	53	4814.943		5.65840	5.90	ug/L
	Mn	55	15580.006		1.57193	2.94	ug/L
	Co	59	511.014		0.04406	7.99	ug/L
	Ni	60	2316.629		1.30998	1.96	ug/L
	Cu	63	2689.065		0.68148	5.24	ug/L
	Cu	65	1057.728		0.50294	9.20	ug/L
	Ga	69	159997.209				ug/L
	Zn	66	1743.501		0.80674	8.50	ug/L
	Zn	68	1002.389		0.08095	73.58	ug/L
[>	Ge	74	77560.693				ug/L
	As	75	-144.119		-0.01854	133.44	ug/L
	Se	77	531.682		2.57810	6.18	ug/L
	Se	78	12483.145		0.92708	34.48	ug/L
	Se	82	-8.455		0.01778	684.36	ug/L
	Sr	88	2804.099		0.11736	4.04	ug/L
[>	Y	89	527555.204				ug/L
	Zr	90	606.022		0.02968	57.68	ug/L
	Mo	98	879887.543		195.35830	1.37	ug/L
	Ag	109	204.002		0.01163	23.08	ug/L
	Cd	111	1448.449		0.92573	2.87	ug/L
	Cd	114	2359.330		0.65887	2.19	ug/L
[>	In	115	430055.315				ug/L
	Sn	118	198.002		0.00554	13.81	ug/L
	Sb	123	151.011		-0.02932	8.39	ug/L
	Ba	137	174.335		0.01982	32.78	ug/L
[>	Tb	159	506465.883				ug/L
	Tl	203	112.001		0.00798	21.66	ug/L
	Tl	205	150.668		0.00573	7.76	ug/L
	Pb	206	345.007		0.06298	5.89	ug/L
	Pb	208	1271.700		0.06012	2.02	ug/L
[>	Bi	209	307924.499				ug/L
	Th	232	114.001		0.00085	131.11	ug/L
	U	238	83.000		0.00077	20.47	ug/L
	Na	23	48477118.302		23859.58036	7.27	ug/L
	Mg	24	12727677.907		9879.77721	5.80	ug/L
	Mg	25	1738578.797		9347.63613	5.84	ug/L
	K	39	48322117.654		9705.27997	3.60	ug/L
	Ca	44	5028547.842		29435.58806	2.07	ug/L
	Fe	57	4701590.362		26246.47113	4.61	ug/L
	Fe	54	12272704.941		25249.99940	3.11	ug/L
[>	Sc-1	45	184337.818				ug/L
	C	12	461818.993				ug/L
	Kr	83	244.003				ug/L
	Cl	35	1872409.860				ug/L

	S	32	57191690.408	ug/L
	P	31	1435506.440	ug/L
	Si	28	86161.155	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	99.838
	Be	9	
	B	11	
	Al	27	
>	Sc	45	89.791
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.115
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	92.872
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	95.962
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	95.335
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	92.148
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	89.791
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSAB-1

Sample Date/Time: Friday, October 23, 2015 12:35:55

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6		12678.096			ug/L
	Be	9		2581.367	29.74385	1.99	ug/L
	B	11		3749.106	32.63185	9.57	ug/L
	Al	27		24545295.769	9762.35269	1.10	ug/L
[>	Sc	45		197428.109			ug/L
	Ti	47		137484.478	243.45853	0.20	ug/L
	Ti	49		104289.179	215.38865	3.57	ug/L
	V	51		234935.500	28.89230	1.17	ug/L
	Cr	52		205254.864	29.05885	1.49	ug/L
	Cr	53		27779.750	34.27183	4.06	ug/L
	Mn	55		294623.378	30.42862	3.65	ug/L
	Co	59		230743.624	28.84068	2.25	ug/L
	Ni	60		52742.564	29.70563	1.31	ug/L
	Cu	63		109850.222	29.62350	2.37	ug/L
	Cu	65		53224.692	29.70623	0.71	ug/L
	Ga	69		172980.281			ug/L
	Zn	66		27642.973	30.06474	2.50	ug/L
	Zn	68		19727.047	29.65702	1.63	ug/L
[>	Ge	74		80066.893			ug/L
	As	75		43145.270	29.64534	1.18	ug/L
	Se	77		3406.638	32.41726	3.07	ug/L
	Se	78		21850.424	28.57551	7.67	ug/L
	Se	82		4183.361	29.82684	0.89	ug/L
	Sr	88		549940.446	29.32678	0.86	ug/L
[>	Y	89		556660.984			ug/L
	Zr	90		323948.114	28.80764	2.50	ug/L
	Mo	98		1023285.338	215.35864	3.55	ug/L
	Ag	109		176163.191	28.58185	2.42	ug/L
	Cd	111		44419.256	30.32752	1.35	ug/L
	Cd	114		99897.056	29.57703	2.62	ug/L
[>	In	115		431960.559			ug/L
	Sn	118		134472.438	29.28104	0.92	ug/L
	Sb	123		119483.984	29.51065	0.91	ug/L
	Ba	137		76758.074	29.58293	2.29	ug/L
[>	Tb	159		521466.029			ug/L
	Tl	203		148412.722	28.64058	1.24	ug/L
	Tl	205		354734.285	28.83625	2.41	ug/L
	Pb	206		116858.121	28.67144	1.48	ug/L
	Pb	208		467114.249	28.62642	0.10	ug/L
[>	Bi	209		317412.195			ug/L
	Th	232		494963.813	29.44423	2.26	ug/L
	U	238		500164.682	29.35121	2.17	ug/L
	Na	23		50535339.844	23193.52195	2.60	ug/L
	Mg	24		13237258.205	9583.52526	0.72	ug/L
	Mg	25		1829463.184	9174.61934	3.15	ug/L
	K	39		53300729.110	9992.39311	2.60	ug/L
	Ca	44		5345819.073	29208.95032	1.47	ug/L
	Fe	57		4911134.805	25582.86002	3.79	ug/L
	Fe	54		12237292.299	23467.44110	3.23	ug/L
[>	Sc-1	45		197428.109			ug/L
	C	12		504752.832			ug/L
	Kr	83		235.003			ug/L
	Cl	35		2031733.395			ug/L

	S	32	62047076.813	ug/L
	P	31	1513908.571	ug/L
	Si	28	90712.716	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	103.865
	Be	9	
	B	11	
	Al	27	
>	Sc	45	96.167
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	98.189
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	97.996
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.387
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.158
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	94.987
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	96.167
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Friday, October 23, 2015 12:41:22

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

### Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13841.362				ug/L
	Be	9	191.002		-0.11801	125.55	ug/L
	B	11	1079.064		2.91156	6.37	ug/L
	Al	27	8657.903		1.73667	76.53	ug/L
>	Sc	45	204361.950				ug/L
	Ti	47	565.684		-0.00877	289.13	ug/L
	Ti	49	465.679		0.44416	6.48	ug/L
	V	51	3034.973		0.01900	49.68	ug/L
	Cr	52	9765.919		0.001464	922.58	ug/L
	Cr	53	1240.418		0.64660	16.07	ug/L
	Mn	55	1634.481		0.00261	419.29	ug/L
	Co	59	250.337		0.00578	33.74	ug/L
	Ni	60	198.336		0.01698	49.72	ug/L
	Cu	63	379.341		0.00120	781.33	ug/L
	Cu	65	278.671		0.01824	86.96	ug/L
	Ga	69	183807.728				ug/L
	Zn	66	1016.724		-0.11602	16.56	ug/L
	Zn	68	927.047		-0.13414	12.77	ug/L
>	Ge	74	82622.106				ug/L
	As	75	-101.158		0.01629	175.31	ug/L
	Se	77	326.339		0.15183	68.84	ug/L
	Se	78	13086.346		0.29825	183.40	ug/L
	Se	82	-10.783		0.005732	304.47	ug/L
	Sr	88	849.707		0.00212	172.19	ug/L
>	Y	89	587719.287				ug/L
	Zr	90	1052.736		0.06048	58.54	ug/L
	Mo	98	377.216		0.04893	49.25	ug/L
	Ag	109	273.338		0.01976	36.16	ug/L
	Cd	111	115.334		0.00447	101.16	ug/L
	Cd	114	171.523		0.00383	170.63	ug/L
>	In	115	462545.473				ug/L
	Sn	118	216.669		0.00625	65.46	ug/L
	Sb	123	190.054		-0.02295	8.52	ug/L
	Ba	137	141.334		0.00319	210.77	ug/L
>	Tb	159	539630.935				ug/L
	Tl	203	100.334		0.00377	71.95	ug/L
	Tl	205	160.668		0.00529	73.34	ug/L
	Pb	206	122.001		0.00360	126.22	ug/L
	Pb	208	443.004		0.00508	43.75	ug/L
>	Bi	209	340102.279				ug/L
	Th	232	299.339		0.01050	57.03	ug/L
	U	238	176.669		0.00543	67.27	ug/L
	Na	23	14058.103		5.66267	65.09	ug/L
	Mg	24	3598.183		1.58887	84.64	ug/L
	Mg	25	669.694		1.60847	86.52	ug/L
	K	39	608705.191		6.43690	31.35	ug/L
	Ca	44	37609.645		-6.67183	44.19	ug/L
	Fe	57	12858.810		-2.27289	269.78	ug/L
	Fe	54	235070.888		23.36602	72.29	ug/L
>	Sc-1	45	204361.950				ug/L
	C	12	305935.332				ug/L
	Kr	83	243.337				ug/L
	Cl	35	27684.620				ug/L

	S	32	62273812.670	ug/L
	P	31	29838.904	ug/L
	Si	28	87174.999	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	113.396
	Be	9	
	B	11	
	Al	27	
>	Sc	45	99.544
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	101.322
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	103.463
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	103.212
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	101.578
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.778
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	99.544
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 12:46:50

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
>	Li	6	12955.574				ug/L
	Be	9	2519.349		28.28415	3.46	ug/L
	B	11	3483.001		28.87973	5.11	ug/L
	Al	27	76340.968		30.17274	5.35	ug/L
>	Sc	45	188963.079				ug/L
	Ti	47	16227.141		29.17806	3.08	ug/L
	Ti	49	14092.919		30.02520	5.49	ug/L
	V	51	236331.565		30.41286	5.38	ug/L
	Cr	52	209303.447		31.08489	5.25	ug/L
	Cr	53	25518.160		32.89535	7.31	ug/L
	Mn	55	289838.763		31.29501	2.56	ug/L
	Co	59	236789.117		30.93582	3.27	ug/L
	Ni	60	51515.579		30.32919	2.45	ug/L
	Cu	63	113212.746		31.91703	2.22	ug/L
	Cu	65	55484.186		32.37489	1.24	ug/L
	Ga	69	176121.282				ug/L
	Zn	66	26161.955		28.74749	3.48	ug/L
	Zn	68	19559.025		29.76979	2.76	ug/L
>	Ge	74	79091.117				ug/L
	As	75	41782.303		29.06106	0.88	ug/L
	Se	77	3140.209		30.03526	0.94	ug/L
	Se	78	21843.763		29.36145	3.74	ug/L
	Se	82	3896.899		28.12571	2.68	ug/L
	Sr	88	537537.537		29.57821	1.80	ug/L
>	Y	89	539489.571				ug/L
	Zr	90	325141.401		29.83700	2.24	ug/L
	Mo	98	135972.989		29.48869	1.18	ug/L
	Ag	109	184486.515		29.99999	1.63	ug/L
	Cd	111	43368.542		29.67843	1.07	ug/L
	Cd	114	99580.559		29.55311	2.09	ug/L
>	In	115	430879.152				ug/L
	Sn	118	134015.860		29.25357	1.93	ug/L
	Sb	123	120032.856		29.72379	1.18	ug/L
	Ba	137	75011.321		29.67369	1.63	ug/L
>	Tb	159	507925.351				ug/L
	Tl	203	151844.836		28.16011	3.18	ug/L
	Tl	205	366099.262		28.59536	2.93	ug/L
	Pb	206	119668.631		28.21030	1.64	ug/L
	Pb	208	492746.232		29.01788	0.85	ug/L
>	Bi	209	330347.030				ug/L
	Th	232	511860.785		29.26470	1.35	ug/L
	U	238	522141.629		29.44465	1.80	ug/L
	Na	23	585711.346		280.41031	2.10	ug/L
	Mg	24	402942.544		304.03969	2.56	ug/L
	Mg	25	58973.356		307.63141	3.79	ug/L
	K	39	2122590.579		315.18636	2.79	ug/L
	Ca	44	89911.792		310.59128	4.52	ug/L
	Fe	57	71154.087		321.27326	2.76	ug/L
	Fe	54	359992.168		314.80332	9.18	ug/L
>	Sc-1	45	188963.079				ug/L
	C	12	311684.960				ug/L
	Kr	83	234.336				ug/L
	Cl	35	242335.975				ug/L

	S	32	53441641.301	ug/L
	P	31	25380.064	ug/L
	Si	28	121501.653	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	106.139
	Be	9	
	B	11	
	Al	27	
>	Sc	45	92.044
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.992
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.973
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.146
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	95.609
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.858
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	92.044
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 12:52:18

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	13153.751				ug/L
	Be	9	182.002		-0.11290	21.61	ug/L
	B	11	1191.412		4.61925	18.64	ug/L
	Al	27	4435.082		0.19842	11.89	ug/L
[>	Sc	45	194965.339				ug/L
	Ti	47	524.348		-0.03591	128.81	ug/L
	Ti	49	315.339		0.17462	49.35	ug/L
	V	51	2596.819		-0.01844	106.71	ug/L
	Cr	52	9273.063		-0.00461	1160.21	ug/L
	Cr	53	966.718		0.36958	9.51	ug/L
	Mn	55	1576.470		0.00445	219.37	ug/L
	Co	59	233.336		0.00511	115.98	ug/L
	Ni	60	199.002		0.02260	13.06	ug/L
	Cu	63	368.007		0.00280	125.35	ug/L
	Cu	65	264.004		0.01730	39.12	ug/L
	Ga	69	174539.395				ug/L
	Zn	66	975.719		-0.13518	20.60	ug/L
	Zn	68	885.710		-0.16528	22.81	ug/L
[>	Ge	74	80693.880				ug/L
	As	75	-82.584		0.02724	100.67	ug/L
	Se	77	306.338		0.02369	409.82	ug/L
	Se	78	12768.820		0.27043	314.40	ug/L
	Se	82	-10.566		0.00374	3951.80	ug/L
	Sr	88	818.370		0.00231	81.59	ug/L
[>	Y	89	565416.092				ug/L
	Zr	90	1280.102		0.08514	59.89	ug/L
	Mo	98	171.361		0.01027	50.61	ug/L
	Ag	109	307.339		0.02602	44.69	ug/L
	Cd	111	123.668		0.01150	88.74	ug/L
	Cd	114	178.671		0.00696	49.47	ug/L
[>	In	115	452882.565				ug/L
	Sn	118	236.003		0.01127	52.89	ug/L
	Sb	123	212.794		-0.01661	66.86	ug/L
	Ba	137	158.001		0.01127	76.10	ug/L
[>	Tb	159	522698.537				ug/L
	Tl	203	117.667		0.00768	48.00	ug/L
	Tl	205	145.001		0.00452	69.90	ug/L
	Pb	206	118.667		0.00384	46.17	ug/L
	Pb	208	433.670		0.00546	37.91	ug/L
[>	Bi	209	328289.666				ug/L
	Th	232	359.675		0.01461	67.41	ug/L
	U	238	174.002		0.00564	52.63	ug/L
	Na	23	2319.297		0.51454	17.63	ug/L
	Mg	24	1285.424		0.01684	354.15	ug/L
	Mg	25	352.340		0.15588	38.81	ug/L
	K	39	582278.208		6.74332	18.04	ug/L
	Ca	44	36127.654		-5.29908	39.10	ug/L
	Fe	57	12217.550		-2.53786	115.75	ug/L
	Fe	54	229968.093		34.63280	31.01	ug/L
[>	Sc-1	45	194965.339				ug/L
	C	12	284640.920				ug/L
	Kr	83	256.670				ug/L
	Cl	35	19475.178				ug/L

	S	32	58090050.261	ug/L
	P	31	27843.580	ug/L
	Si	28	84388.226	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	107.762
	Be	9	
	B	11	
	Al	27	
>	Sc	45	94.967
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	98.957
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	99.537
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	101.055
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.390
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.243
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	94.967
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: Method Blank rerun

Sample Date/Time: Friday, October 23, 2015 12:57:45

Number of Replicates: 3

Batch ID: 01Q151022-021 1mce

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12999.265				ug/L
	Be	9	185.669		-0.04205	333.84	ug/L
	B	11	1207.747		4.94947	24.65	ug/L
	Al	27	29494.826		9.93402	3.75	ug/L
>	Sc	45	200998.705				ug/L
	Ti	47	776.367		0.37744	53.29	ug/L
	Ti	49	458.012		0.44346	16.23	ug/L
	V	51	5392.041		0.31329	15.78	ug/L
	Cr	52	104440.526		13.82615	3.73	ug/L
	Cr	53	10812.760		12.56648	1.33	ug/L
	Mn	55	5562.034		0.40590	1.37	ug/L
	Co	59	283.338		0.01035	28.76	ug/L
	Ni	60	1530.796		0.75862	6.65	ug/L
	Cu	63	2712.071		0.62290	3.15	ug/L
	Cu	65	1396.107		0.63585	6.17	ug/L
	Ga	69	176428.335				ug/L
	Zn	66	5789.845		5.24320	1.89	ug/L
	Zn	68	4326.030		5.20662	4.01	ug/L
>	Ge	74	81038.288				ug/L
	As	75	-48.907		0.04903	102.80	ug/L
	Se	77	313.005		0.08708	518.14	ug/L
	Se	78	13055.047		0.99351	146.23	ug/L
	Se	82	10.241		0.14870	69.68	ug/L
	Sr	88	6338.876		0.28901	1.99	ug/L
>	Y	89	571485.503				ug/L
	Zr	90	2031.919		0.14882	46.74	ug/L
	Mo	98	249.475		0.02580	12.84	ug/L
	Ag	109	193.335		0.00857	7.48	ug/L
	Cd	111	114.334		0.00586	84.93	ug/L
	Cd	114	133.937		-0.00532	159.54	ug/L
>	In	115	449602.157				ug/L
	Sn	118	27526.955		5.73114	3.71	ug/L
	Sb	123	284.700		0.00084	535.37	ug/L
	Ba	137	967.718		0.31536	5.42	ug/L
>	Tb	159	533687.801				ug/L
	Tl	203	85.667		0.00120	152.65	ug/L
	Tl	205	110.334		0.00151	25.95	ug/L
	Pb	206	3468.662		0.77401	2.76	ug/L
	Pb	208	13342.166		0.74674	0.24	ug/L
>	Bi	209	338611.568				ug/L
	Th	232	145.335		0.00196	34.60	ug/L
	U	238	98.667		0.00117	43.55	ug/L
	Na	23	51285.593		22.55683	0.76	ug/L
	Mg	24	7609.185		4.48577	2.93	ug/L
	Mg	25	1288.758		4.71633	2.26	ug/L
	K	39	681417.488		21.84268	8.43	ug/L
	Ca	44	46970.363		47.28649	6.90	ug/L
	Fe	57	14869.827		9.16322	40.37	ug/L
	Fe	54	218980.749		-0.08697	6646.33	ug/L
>	Sc-1	45	200998.705				ug/L
	C	12	1722405.287				ug/L
	Kr	83	240.670				ug/L
	Cl	35	21476.011				ug/L

	S	32	56795226.568	ug/L
	P	31	27649.699	ug/L
	Si	28	257362.443	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	106.497
	Be	9	
	B	11	
	Al	27	
>	Sc	45	97.906
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	99.380
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	100.605
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	100.323
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	100.459
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	101.331
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	97.906
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: Method Blank rerun

Sample Date/Time: Friday, October 23, 2015 13:03:13

Number of Replicates: 3

Batch ID: 01Q151022-021 2mce

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
>	Li	6	12877.683				ug/L
	Be	9	171.002		-0.19995	28.75	ug/L
	B	11	1226.416		5.26247	6.53	ug/L
	Al	27	17636.476		5.53265	8.77	ug/L
>	Sc	45	194516.729				ug/L
	Ti	47	738.363		0.35178	33.74	ug/L
	Ti	49	385.008		0.32190	20.52	ug/L
	V	51	5400.627		0.33649	11.84	ug/L
	Cr	52	87862.985		11.83493	2.36	ug/L
	Cr	53	8810.267		10.44184	0.70	ug/L
	Mn	55	3265.587		0.18281	5.15	ug/L
	Co	59	274.004		0.01032	17.36	ug/L
	Ni	60	1038.393		0.50430	7.22	ug/L
	Cu	63	2676.394		0.63697	1.35	ug/L
	Cu	65	1389.773		0.65825	4.09	ug/L
	Ga	69	169028.466				ug/L
	Zn	66	2733.411		1.96283	3.04	ug/L
	Zn	68	2136.251		1.93303	1.96	ug/L
>	Ge	74	77567.191				ug/L
	As	75	-99.525		0.01275	95.26	ug/L
	Se	77	302.672		0.11075	70.09	ug/L
	Se	78	12371.933		0.57117	122.52	ug/L
	Se	82	-9.044		0.01214	349.82	ug/L
	Sr	88	3160.550		0.13515	2.83	ug/L
>	Y	89	533943.757				ug/L
	Zr	90	1175.416		0.08153	44.60	ug/L
	Mo	98	310.065		0.04283	12.86	ug/L
	Ag	109	153.335		0.00315	48.31	ug/L
	Cd	111	118.667		0.01136	58.23	ug/L
	Cd	114	94.811		-0.01571	24.47	ug/L
>	In	115	434748.138				ug/L
	Sn	118	38827.768		8.37832	4.25	ug/L
	Sb	123	201.696		-0.01715	49.72	ug/L
	Ba	137	647.690		0.20274	5.46	ug/L
>	Tb	159	516857.966				ug/L
	Tl	203	83.334		0.00123	82.39	ug/L
	Tl	205	92.667		0.00040	364.09	ug/L
	Pb	206	14408.416		3.39522	0.36	ug/L
	Pb	208	52682.581		3.10316	0.91	ug/L
>	Bi	209	328385.082				ug/L
	Th	232	118.334		0.00066	13.43	ug/L
	U	238	89.667		0.00083	41.66	ug/L
	Na	23	33324.446		14.96192	6.66	ug/L
	Mg	24	9913.079		6.35917	6.25	ug/L
	Mg	25	1540.464		6.21066	9.71	ug/L
	K	39	627139.433		15.62382	11.15	ug/L
	Ca	44	49037.910		67.27887	5.91	ug/L
	Fe	57	14263.196		8.45764	41.03	ug/L
	Fe	54	205860.292		-12.11369	39.60	ug/L
>	Sc-1	45	194516.729				ug/L
	C	12	1552872.544				ug/L
	Kr	83	235.003				ug/L
	Cl	35	19580.732				ug/L

	S	32	52212571.006	ug/L
	P	31	24992.661	ug/L
	Si	28	126722.145	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	105.501
	Be	9	
	B	11	
	Al	27	
>	Sc	45	94.749
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.123
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	93.996
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	97.009
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.291
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.271
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	94.749
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: Method Blank rerun

Sample Date/Time: Friday, October 23, 2015 13:08:41

Number of Replicates: 3

Batch ID: 01Q151022-021 1pvc

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12366.373				ug/L
	Be	9	174.335		-0.07402	232.63	ug/L
	B	11	1160.741		5.06887	9.25	ug/L
	Al	27	11264.317		3.33764	3.79	ug/L
[>	Sc	45	179559.382				ug/L
	Ti	47	979.720		0.93501	6.05	ug/L
	Ti	49	668.358		1.03460	5.22	ug/L
	V	51	1935.726		-0.08004	77.01	ug/L
	Cr	52	47508.484		6.35692	3.86	ug/L
	Cr	53	5334.565		6.55386	3.35	ug/L
	Mn	55	3294.264		0.21493	6.52	ug/L
	Co	59	253.670		0.01046	18.62	ug/L
	Ni	60	1500.124		0.84095	3.30	ug/L
	Cu	63	766.699		0.13018	5.16	ug/L
	Cu	65	453.678		0.14713	6.64	ug/L
	Ga	69	168050.684				ug/L
	Zn	66	5203.156		4.91785	1.68	ug/L
	Zn	68	3849.816		4.80150	3.81	ug/L
[>	Ge	74	76701.711				ug/L
	As	75	-80.295		0.02524	158.79	ug/L
	Se	77	300.338		0.12133	54.46	ug/L
	Se	78	12491.399		1.41769	70.28	ug/L
	Se	82	18.948		0.21848	50.24	ug/L
	Sr	88	1446.782		0.03781	5.03	ug/L
[>	Y	89	547614.566				ug/L
	Zr	90	1166.075		0.07855	3.29	ug/L
	Mo	98	265.174		0.03140	2.49	ug/L
	Ag	109	154.335		0.00403	70.70	ug/L
	Cd	111	141.001		0.02953	13.21	ug/L
	Cd	114	147.640		0.00115	921.40	ug/L
[>	In	115	421952.970				ug/L
	Sn	118	35056.469		7.78693	1.03	ug/L
	Sb	123	174.811		-0.02254	18.75	ug/L
	Ba	137	358.340		0.09070	6.29	ug/L
[>	Tb	159	514391.555				ug/L
	Tl	203	90.334		0.00288	83.58	ug/L
	Tl	205	82.000		-0.00033	70.20	ug/L
	Pb	206	1187.078		0.26273	5.15	ug/L
	Pb	208	4287.384		0.23863	3.44	ug/L
[>	Bi	209	322364.039				ug/L
	Th	232	190.335		0.00501	8.61	ug/L
	U	238	147.335		0.00426	20.53	ug/L
	Na	23	44760.681		22.02125	1.85	ug/L
	Mg	24	2960.482		1.43253	6.94	ug/L
	Mg	25	576.685		1.54598	15.18	ug/L
	K	39	616955.867		23.58777	13.02	ug/L
	Ca	44	37747.886		21.81261	11.18	ug/L
	Fe	57	13165.861		8.47285	16.03	ug/L
	Fe	54	200408.203		10.30737	120.78	ug/L
[>	Sc-1	45	179559.382				ug/L
	C	12	414057.445				ug/L
	Kr	83	236.003				ug/L
	Cl	35	18357.853				ug/L

	S	32	51576738.884	ug/L
	P	31	24847.916	ug/L
	Si	28	87812.201	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	101.312
	Be	9	
	B	11	
	Al	27	
>	Sc	45	87.463
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.062
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	96.403
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.154
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	96.827
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.469
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	87.463
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: LCS rerun

Sample Date/Time: Friday, October 23, 2015 13:14:09

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
>	Li	6	12564.486			ug/L
	Be	9	4270.003	51.17686	4.78	ug/L
	B	11	5676.773	53.78496	5.54	ug/L
	Al	27	142449.892	56.87251	3.22	ug/L
>	Sc	45	191305.914			ug/L
	Ti	47	27917.806	50.24685	0.84	ug/L
	Ti	49	24297.098	51.41297	0.78	ug/L
	V	51	418434.121	53.40196	2.12	ug/L
	Cr	52	433881.441	65.06046	3.05	ug/L
	Cr	53	51218.273	65.99818	2.90	ug/L
	Mn	55	518362.067	55.38137	2.30	ug/L
	Co	59	421959.517	54.45467	3.27	ug/L
	Ni	60	96182.724	55.98244	2.04	ug/L
	Cu	63	205481.346	57.26548	3.92	ug/L
	Cu	65	98376.944	56.78253	1.37	ug/L
	Ga	69	183708.482			ug/L
	Zn	66	46752.948	51.93109	2.69	ug/L
	Zn	68	34334.437	52.98092	1.21	ug/L
>	Ge	74	79769.834			ug/L
	As	75	78304.752	53.92019	1.05	ug/L
	Se	77	5591.057	55.41819	4.11	ug/L
	Se	78	29571.841	52.71135	2.49	ug/L
	Se	82	7357.773	52.58220	0.58	ug/L
	Sr	88	945545.437	50.78896	2.68	ug/L
>	Y	89	552994.010			ug/L
	Zr	90	571083.483	51.13476	4.17	ug/L
	Mo	98	234461.832	49.63382	1.52	ug/L
	Ag	109	326400.567	51.11225	2.08	ug/L
	Cd	111	76755.044	50.62787	2.36	ug/L
	Cd	114	177610.807	50.78353	1.96	ug/L
>	In	115	447565.674			ug/L
	Sn	118	281298.809	59.15974	1.00	ug/L
	Sb	123	220670.760	52.67065	1.88	ug/L
	Ba	137	131819.012	50.30556	1.94	ug/L
>	Tb	159	526995.066			ug/L
	Tl	203	270233.600	50.42305	1.32	ug/L
	Tl	205	631206.670	49.60764	2.58	ug/L
	Pb	206	217435.308	51.58387	1.59	ug/L
	Pb	208	880940.215	52.21993	1.17	ug/L
>	Bi	209	328303.011			ug/L
	Th	232	888178.997	51.09589	0.91	ug/L
	U	238	891900.754	50.61180	1.60	ug/L
	Na	23	1076021.089	509.05968	3.50	ug/L
	Mg	24	712154.785	531.21642	1.91	ug/L
	Mg	25	101115.868	521.64619	3.10	ug/L
	K	39	3212955.287	523.08694	1.29	ug/L
	Ca	44	136086.515	566.15413	0.41	ug/L
	Fe	57	123638.682	599.24142	3.45	ug/L
	Fe	54	487177.186	561.53058	4.25	ug/L
>	Sc-1	45	191305.914			ug/L
	C	12	1710595.828			ug/L
	Kr	83	238.003			ug/L
	Cl	35	50318.307			ug/L

	S	32	54115208.748	ug/L
	P	31	26611.250	ug/L
	Si	28	219247.405	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	102.935
	Be	9	
	B	11	
	Al	27	
>	Sc	45	93.185
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	97.824
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	97.350
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.869
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.199
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.247
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	93.185
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: LCSD rerun

Sample Date/Time: Friday, October 23, 2015 13:19:37

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
>	Li	6	12191.983				ug/L
	Be	9	4150.948		51.27638	3.43	ug/L
	B	11	4827.615		46.22382	5.38	ug/L
	Al	27	137722.384		57.07145	2.76	ug/L
>	Sc	45	184312.705				ug/L
	Ti	47	28237.134		52.80026	1.40	ug/L
	Ti	49	24217.218		53.22239	2.52	ug/L
	V	51	406165.803		53.82176	2.80	ug/L
	Cr	52	416589.794		64.85366	3.59	ug/L
	Cr	53	47156.105		63.08559	6.27	ug/L
	Mn	55	471180.969		52.27425	5.24	ug/L
	Co	59	391866.527		52.49670	1.81	ug/L
	Ni	60	90808.700		54.89542	4.01	ug/L
	Cu	63	197166.976		57.07760	4.31	ug/L
	Cu	65	96950.651		58.09453	0.78	ug/L
	Ga	69	174290.927				ug/L
	Zn	66	50661.141		58.71925	2.86	ug/L
	Zn	68	37854.367		61.02610	1.78	ug/L
>	Ge	74	76608.904				ug/L
	As	75	73643.928		52.81784	0.84	ug/L
	Se	77	5178.478		53.32734	4.10	ug/L
	Se	78	28254.331		52.25607	5.50	ug/L
	Se	82	7015.081		52.22920	2.57	ug/L
	Sr	88	882824.783		51.08984	1.97	ug/L
>	Y	89	513170.531				ug/L
	Zr	90	544973.271		52.58580	2.09	ug/L
	Mo	98	230935.256		52.70102	2.83	ug/L
	Ag	109	318581.815		52.28111	3.10	ug/L
	Cd	111	75515.427		52.18471	2.81	ug/L
	Cd	114	177632.599		53.21657	2.65	ug/L
>	In	115	427200.879				ug/L
	Sn	118	279254.311		61.53460	2.25	ug/L
	Sb	123	216040.397		54.01534	1.97	ug/L
	Ba	137	131533.114		50.93963	0.40	ug/L
>	Tb	159	519228.565				ug/L
	Tl	203	262771.600		50.17878	1.12	ug/L
	Tl	205	628198.852		50.52145	1.89	ug/L
	Pb	206	227068.231		55.14454	2.07	ug/L
	Pb	208	914750.188		55.48969	1.46	ug/L
>	Bi	209	320804.174				ug/L
	Th	232	882587.288		51.95827	0.38	ug/L
	U	238	879774.733		51.08149	0.29	ug/L
	Na	23	1035453.333		508.28258	2.18	ug/L
	Mg	24	681193.547		527.39790	1.19	ug/L
	Mg	25	98018.807		525.05396	2.46	ug/L
	K	39	3201947.632		544.61195	2.94	ug/L
	Ca	44	140588.693		622.22650	3.27	ug/L
	Fe	57	112618.039		563.22982	4.30	ug/L
	Fe	54	447673.526		516.75570	9.38	ug/L
>	Sc-1	45	184312.705				ug/L
	C	12	1660681.025				ug/L
	Kr	83	247.337				ug/L
	Cl	35	47839.881				ug/L

	S	32	49117302.661	ug/L
	P	31	24523.082	ug/L
	Si	28	190424.554	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	99.883
	Be	9	
	B	11	
	Al	27	
>	Sc	45	89.778
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	93.948
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	90.339
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	95.325
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.737
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.002
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	89.778
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: RLVS rerun

Sample Date/Time: Friday, October 23, 2015 13:25:06

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12665.293			ug/L
	Be	9	216.669	0.40180	72.06	ug/L
	B	11	595.353	-1.29738	21.00	ug/L
	Al	27	15068.162	4.42445	10.17	ug/L
[>	Sc	45	197113.694			ug/L
	Ti	47	899.378	0.62203	7.42	ug/L
	Ti	49	638.356	0.83795	11.37	ug/L
	V	51	9798.564	0.87116	24.41	ug/L
	Cr	52	74108.991	9.61308	3.04	ug/L
	Cr	53	6925.971	7.90990	3.57	ug/L
	Mn	55	9159.950	0.79189	6.18	ug/L
	Co	59	4467.764	0.53567	3.46	ug/L
	Ni	60	2102.910	1.09937	6.55	ug/L
	Cu	63	3013.499	0.71898	2.84	ug/L
	Cu	65	1533.130	0.72822	4.96	ug/L
	Ga	69	172656.243			ug/L
	Zn	66	9626.100	9.65836	1.56	ug/L
	Zn	68	7182.170	9.80860	3.23	ug/L
[>	Ge	74	80097.556			ug/L
	As	75	630.146	0.51569	9.11	ug/L
	Se	77	337.340	0.37343	42.78	ug/L
	Se	78	13058.890	1.47729	104.28	ug/L
	Se	82	58.196	0.49068	47.02	ug/L
	Sr	88	12558.669	0.62619	5.57	ug/L
[>	Y	89	560627.519			ug/L
	Zr	90	7007.034	0.59256	2.35	ug/L
	Mo	98	2669.899	0.53274	1.80	ug/L
	Ag	109	3510.011	0.51506	2.03	ug/L
	Cd	111	861.708	0.48613	5.27	ug/L
	Cd	114	1842.975	0.47112	1.35	ug/L
[>	In	115	458596.490			ug/L
	Sn	118	43372.908	8.87240	3.28	ug/L
	Sb	123	2323.219	0.47500	2.89	ug/L
	Ba	137	1785.842	0.63170	1.96	ug/L
[>	Tb	159	527745.152			ug/L
	Tl	203	2852.781	0.51746	4.76	ug/L
	Tl	205	6686.792	0.51779	2.81	ug/L
	Pb	206	3251.582	0.74654	4.52	ug/L
	Pb	208	12539.001	0.72195	1.33	ug/L
[>	Bi	209	328883.688			ug/L
	Th	232	9355.494	0.53123	7.08	ug/L
	U	238	8946.069	0.50252	3.42	ug/L
	Na	23	138680.776	63.22580	3.23	ug/L
	Mg	24	72983.155	52.03709	3.58	ug/L
	Mg	25	10760.032	52.44985	3.18	ug/L
	K	39	935567.763	72.61218	4.54	ug/L
	Ca	44	56384.686	104.22997	4.31	ug/L
	Fe	57	23610.961	56.42859	7.42	ug/L
	Fe	54	243319.792	56.10244	33.32	ug/L
[>	Sc-1	45	197113.694			ug/L
	C	12	1600540.862			ug/L
	Kr	83	246.003			ug/L
	Cl	35	21851.241			ug/L

	S	32	53876974.145	ug/L
	P	31	27684.168	ug/L
	Si	28	129901.801	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	103.761
	Be	9	
	B	11	
	Al	27	
>	Sc	45	96.014
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	98.226
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	98.694
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	102.330
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.340
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.420
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	96.014
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 13:52:29

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12037.728			ug/L
	Be	9	2452.331	29.75546	5.58	ug/L
	B	11	2907.132	25.13682	3.64	ug/L
	Al	27	71846.350	29.95083	1.99	ug/L
[>	Sc	45	178871.006			ug/L
	Ti	47	15691.222	29.80436	4.24	ug/L
	Ti	49	13771.442	30.97923	5.41	ug/L
	V	51	228057.608	30.98387	1.14	ug/L
	Cr	52	203245.960	31.89808	2.27	ug/L
	Cr	53	23965.220	32.60394	3.72	ug/L
	Mn	55	278960.655	31.80549	1.21	ug/L
	Co	59	231417.385	31.93351	3.81	ug/L
	Ni	60	50212.174	31.21121	3.69	ug/L
	Cu	63	109927.754	32.72556	1.98	ug/L
	Cu	65	52872.413	32.58621	2.98	ug/L
	Ga	69	174086.136			ug/L
	Zn	66	25640.444	28.62797	0.89	ug/L
	Zn	68	19282.443	29.82598	3.33	ug/L
[>	Ge	74	77825.600			ug/L
	As	75	41678.368	29.45835	3.61	ug/L
	Se	77	3030.172	29.39284	0.94	ug/L
	Se	78	21186.946	28.38934	3.88	ug/L
	Se	82	3781.533	27.74096	2.46	ug/L
	Sr	88	517026.236	29.38204	1.16	ug/L
[>	Y	89	522316.299			ug/L
	Zr	90	311450.534	29.51241	1.79	ug/L
	Mo	98	131330.255	29.42481	2.06	ug/L
	Ag	109	183636.058	29.76745	3.22	ug/L
	Cd	111	43308.614	29.54380	3.31	ug/L
	Cd	114	98043.307	28.99894	1.01	ug/L
[>	In	115	432351.666			ug/L
	Sn	118	135596.895	29.50467	2.55	ug/L
	Sb	123	122505.897	30.23783	1.74	ug/L
	Ba	137	75294.279	29.05476	0.59	ug/L
[>	Tb	159	520741.418			ug/L
	Tl	203	152410.699	28.86284	3.91	ug/L
	Tl	205	365316.186	29.13915	4.75	ug/L
	Pb	206	122787.388	29.56701	5.18	ug/L
	Pb	208	494360.064	29.73609	4.07	ug/L
[>	Bi	209	323480.282			ug/L
	Th	232	501574.980	29.28500	1.99	ug/L
	U	238	508320.038	29.27050	1.44	ug/L
	Na	23	579512.019	293.04262	1.86	ug/L
	Mg	24	386258.830	307.76308	5.21	ug/L
	Mg	25	55193.059	304.00826	2.90	ug/L
	K	39	2011682.817	315.68625	3.92	ug/L
	Ca	44	85664.152	313.52248	3.79	ug/L
	Fe	57	70091.180	336.90724	5.05	ug/L
	Fe	54	358891.548	353.27188	4.43	ug/L
[>	Sc-1	45	178871.006			ug/L
	C	12	307560.343			ug/L
	Kr	83	232.003			ug/L
	Cl	35	230242.932			ug/L

	S	32	50273655.527	ug/L
	P	31	25073.887	ug/L
	Si	28	119893.127	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	98.619
	Be	9	
	B	11	
	Al	27	
>	Sc	45	87.128
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.440
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	91.949
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.474
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.022
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	96.803
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	87.128
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 13:57:58

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12132.733				ug/L
	Be	9	180.335		0.05006	257.97	ug/L
	B	11	579.685		-1.19607	10.55	ug/L
	Al	27	4126.603		0.14264	42.20	ug/L
[>	Sc	45	187350.418				ug/L
	Ti	47	516.681		-0.01167	610.27	ug/L
	Ti	49	242.003		0.04087	49.62	ug/L
	V	51	2662.090		0.00335	244.00	ug/L
	Cr	52	9107.895		0.02575	14.48	ug/L
	Cr	53	565.018		-0.11560	24.60	ug/L
	Mn	55	1497.790		0.00257	209.23	ug/L
	Co	59	250.337		0.00855	58.46	ug/L
	Ni	60	202.002		0.02911	30.78	ug/L
	Cu	63	341.340		-0.00077	761.84	ug/L
	Cu	65	260.337		0.02116	14.33	ug/L
	Ga	69	166080.427				ug/L
	Zn	66	964.718		-0.08422	62.50	ug/L
	Zn	68	852.373		-0.13791	82.60	ug/L
[>	Ge	74	76337.066				ug/L
	As	75	-86.206		0.02021	287.94	ug/L
	Se	77	290.005		0.02579	580.03	ug/L
	Se	78	12571.287		1.88835	66.70	ug/L
	Se	82	6.980		0.12329	214.16	ug/L
	Sr	88	848.373		0.00500	114.31	ug/L
[>	Y	89	552344.452				ug/L
	Zr	90	1324.775		0.09233	58.14	ug/L
	Mo	98	156.912		0.00802	74.07	ug/L
	Ag	109	285.005		0.02450	35.47	ug/L
	Cd	111	121.001		0.01316	69.52	ug/L
	Cd	114	171.008		0.00689	88.47	ug/L
[>	In	115	434504.743				ug/L
	Sn	118	211.003		0.00803	124.20	ug/L
	Sb	123	182.636		-0.02184	34.83	ug/L
	Ba	137	153.335		0.01006	73.38	ug/L
[>	Tb	159	519392.224				ug/L
	Tl	203	116.667		0.00806	47.64	ug/L
	Tl	205	140.001		0.00441	55.83	ug/L
	Pb	206	119.001		0.00460	52.49	ug/L
	Pb	208	431.337		0.00599	68.27	ug/L
[>	Bi	209	320690.756				ug/L
	Th	232	489.348		0.02291	53.57	ug/L
	U	238	155.001		0.00479	55.95	ug/L
	Na	23	1465.785		0.14534	29.33	ug/L
	Mg	24	1133.404		-0.06023	103.37	ug/L
	Mg	25	320.672		0.06084	56.51	ug/L
	K	39	559792.216		6.81176	32.29	ug/L
	Ca	44	34398.644		-7.07800	90.64	ug/L
	Fe	57	11730.899		-2.56297	86.33	ug/L
	Fe	54	217564.894		27.62834	36.53	ug/L
[>	Sc-1	45	187350.418				ug/L
	C	12	275691.860				ug/L
	Kr	83	232.336				ug/L
	Cl	35	16073.531				ug/L

	S	32	51254450.059	ug/L
	P	31	25874.440	ug/L
	Si	28	81095.101	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	99.398
	Be	9	
	B	11	
[	Al	27	
>	Sc	45	91.258
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
[	Zn	66	
	Zn	68	
>	Ge	74	93.615
	As	75	
	Se	77	
	Se	78	
	Se	82	
[	Sr	88	
>	Y	89	97.236
	Zr	90	
	Mo	98	
[	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.955
	Sn	118	
	Sb	123	
[	Ba	137	
>	Tb	159	97.768
[	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	95.969
	Th	232	
	U	238	
[	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	91.258
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 14:30:46

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
>	Li	6	12194.990				ug/L
	Be	9	2342.969		27.92181	4.50	ug/L
	B	11	3152.213		27.45987	2.89	ug/L
	Al	27	69389.484		28.52109	2.26	ug/L
>	Sc	45	181038.323				ug/L
	Ti	47	15799.059		29.66604	4.56	ug/L
	Ti	49	13466.634		29.91925	2.41	ug/L
	V	51	228730.454		30.70785	4.04	ug/L
	Cr	52	201554.119		31.22131	2.17	ug/L
	Cr	53	23398.409		31.41370	2.07	ug/L
	Mn	55	277148.015		31.22204	1.63	ug/L
	Co	59	227111.866		30.97692	5.10	ug/L
	Ni	60	49268.904		30.28317	5.17	ug/L
	Cu	63	109376.815		32.19275	4.91	ug/L
	Cu	65	52778.992		32.16346	6.71	ug/L
	Ga	69	164648.098				ug/L
	Zn	66	24886.020		28.15110	3.35	ug/L
	Zn	68	18657.127		29.22673	2.83	ug/L
>	Ge	74	76806.441				ug/L
	As	75	40801.913		29.23113	1.79	ug/L
	Se	77	2987.158		29.37067	4.49	ug/L
	Se	78	20804.012		28.08568	7.17	ug/L
	Se	82	3798.375		28.24881	2.84	ug/L
	Sr	88	515312.702		29.10217	3.73	ug/L
>	Y	89	525911.926				ug/L
	Zr	90	307847.576		28.97788	2.28	ug/L
	Mo	98	128781.335		28.65817	0.80	ug/L
	Ag	109	181292.448		29.99520	5.27	ug/L
	Cd	111	41948.253		29.18324	0.53	ug/L
	Cd	114	97332.401		29.37038	1.38	ug/L
>	In	115	423854.076				ug/L
	Sn	118	133829.324		29.70450	1.49	ug/L
	Sb	123	119281.260		30.03404	1.20	ug/L
	Ba	137	74433.512		28.68305	1.88	ug/L
>	Tb	159	521476.357				ug/L
	Tl	203	153673.363		29.41871	2.08	ug/L
	Tl	205	369897.167		29.82094	1.30	ug/L
	Pb	206	120601.740		29.35240	1.12	ug/L
	Pb	208	492461.342		29.93892	1.61	ug/L
>	Bi	209	319980.734				ug/L
	Th	232	498419.966		29.42003	1.92	ug/L
	U	238	503226.635		29.29601	1.96	ug/L
	Na	23	556270.141		277.89633	3.10	ug/L
	Mg	24	376232.300		296.26482	3.03	ug/L
	Mg	25	52872.646		287.61386	1.62	ug/L
	K	39	1972016.490		302.70196	7.97	ug/L
	Ca	44	84108.556		298.43938	8.77	ug/L
	Fe	57	68300.692		322.05598	4.99	ug/L
	Fe	54	345491.738		315.49528	1.46	ug/L
>	Sc-1	45	181038.323				ug/L
	C	12	299585.747				ug/L
	Kr	83	211.669				ug/L
	Cl	35	227913.871				ug/L

	S	32	46912134.505	ug/L
	P	31	23025.156	ug/L
	Si	28	114556.755	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	99.908
	Be	9	
	B	11	
	Al	27	
>	Sc	45	88.183
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.190
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	92.582
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.578
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.160
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	95.756
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	88.183
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 14:36:15

Number of Replicates: 3

Batch ID: 01Q151022-021

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12427.979				ug/L
	Be	9	182.002		0.01663	1092.32	ug/L
	B	11	650.690		-0.56817	82.13	ug/L
	Al	27	4164.621		0.13877	56.46	ug/L
[>	Sc	45	189491.009				ug/L
	Ti	47	520.682		-0.01598	140.11	ug/L
	Ti	49	254.004		0.06065	14.25	ug/L
	V	51	2758.522		0.01164	126.03	ug/L
	Cr	52	9302.758		0.04000	71.27	ug/L
	Cr	53	528.682		-0.17216	26.85	ug/L
	Mn	55	1508.125		0.00184	291.03	ug/L
	Co	59	255.004		0.00872	57.38	ug/L
	Ni	60	186.335		0.01836	74.84	ug/L
	Cu	63	348.007		0.00018	3530.51	ug/L
	Cu	65	263.337		0.02128	55.52	ug/L
	Ga	69	170918.998				ug/L
	Zn	66	954.717		-0.11021	28.68	ug/L
	Zn	68	909.712		-0.06244	117.97	ug/L
[>	Ge	74	77190.279				ug/L
	As	75	-101.547		0.01140	847.82	ug/L
	Se	77	297.338		0.06907	96.16	ug/L
	Se	78	12724.408		1.89175	19.86	ug/L
	Se	82	20.050		0.22704	95.04	ug/L
	Sr	88	832.038		0.00504	82.06	ug/L
[>	Y	89	541485.779				ug/L
	Zr	90	1428.457		0.10464	52.20	ug/L
	Mo	98	171.097		0.01179	40.05	ug/L
	Ag	109	300.005		0.02666	45.60	ug/L
	Cd	111	117.334		0.01023	44.61	ug/L
	Cd	114	154.742		0.00184	214.18	ug/L
[>	In	115	436400.842				ug/L
	Sn	118	233.336		0.01255	33.08	ug/L
	Sb	123	191.987		-0.01978	52.77	ug/L
	Ba	137	136.668		0.00351	39.05	ug/L
[>	Tb	159	518846.804				ug/L
	Tl	203	92.000		0.00292	145.24	ug/L
	Tl	205	134.334		0.00367	67.99	ug/L
	Pb	206	118.334		0.00376	177.86	ug/L
	Pb	208	413.337		0.00425	109.16	ug/L
[>	Bi	209	328256.263				ug/L
	Th	232	523.350		0.02404	52.91	ug/L
	U	238	176.335		0.00576	67.00	ug/L
	Na	23	1428.779		0.11919	36.53	ug/L
	Mg	24	1144.739		-0.06216	36.20	ug/L
	Mg	25	318.006		0.02796	145.94	ug/L
	K	39	566549.474		6.87659	22.92	ug/L
	Ca	44	34339.403		-9.68509	44.82	ug/L
	Fe	57	11980.561		-1.93431	139.91	ug/L
	Fe	54	218383.884		24.07886	22.16	ug/L
[>	Sc-1	45	189491.009				ug/L
	C	12	276408.582				ug/L
	Kr	83	224.336				ug/L
	Cl	35	16454.216				ug/L

	S	32	54304857.096	ug/L
	P	31	26782.406	ug/L
	Si	28	81394.492	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	101.816
	Be	9	
	B	11	
	Al	27	
>	Sc	45	92.301
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.661
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	95.324
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	97.378
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.665
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.233
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	92.301
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: 011506178-0001 rerun

Sample Date/Time: Friday, October 23, 2015 15:25:32

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12820.455			ug/L
	Be	9	181.002	-0.06635	214.68	ug/L
	B	11	730.696	0.06554	1450.01	ug/L
	Al	27	21119.869	6.96055	8.03	ug/L
[>	Sc	45	194220.447			ug/L
	Ti	47	691.026	0.26866	36.34	ug/L
	Ti	49	367.007	0.28571	31.30	ug/L
	V	51	6470.798	0.47315	8.71	ug/L
	Cr	52	35087.585	3.89653	3.59	ug/L
	Cr	53	2211.936	1.97555	1.57	ug/L
	Mn	55	4613.505	0.32558	3.22	ug/L
	Co	59	274.671	0.01048	20.89	ug/L
	Ni	60	1059.062	0.51696	2.00	ug/L
	Cu	63	1870.859	0.41706	7.33	ug/L
	Cu	65	965.718	0.41789	2.28	ug/L
	Ga	69	172058.267			ug/L
	Zn	66	9041.161	9.09728	1.46	ug/L
	Zn	68	6776.525	9.26353	1.20	ug/L
[>	Ge	74	79342.892			ug/L
	As	75	-104.199	0.01087	249.85	ug/L
	Se	77	296.005	-0.02917	1396.64	ug/L
	Se	78	13036.722	1.75609	30.12	ug/L
	Se	82	4.012	0.10778	40.32	ug/L
	Sr	88	3220.571	0.13313	4.99	ug/L
[>	Y	89	550943.115			ug/L
	Zr	90	866.041	0.05090	2.18	ug/L
	Mo	98	285.215	0.03526	8.00	ug/L
	Ag	109	153.001	0.00223	117.43	ug/L
	Cd	111	119.667	0.00932	141.75	ug/L
	Cd	114	137.674	-0.00443	131.89	ug/L
[>	In	115	450348.629			ug/L
	Sn	118	46823.945	9.75404	0.06	ug/L
	Sb	123	327.185	0.01082	20.43	ug/L
	Ba	137	1420.111	0.49897	1.15	ug/L
[>	Tb	159	521230.001			ug/L
	Tl	203	91.667	0.00273	36.03	ug/L
	Tl	205	85.000	-0.00025	96.74	ug/L
	Pb	206	6604.065	1.53573	0.56	ug/L
	Pb	208	25393.803	1.47820	2.59	ug/L
[>	Bi	209	329919.658			ug/L
	Th	232	115.334	0.00046	88.14	ug/L
	U	238	92.667	0.00098	46.20	ug/L
	Na	23	39653.296	17.94467	2.92	ug/L
	Mg	24	8276.100	5.16770	3.13	ug/L
	Mg	25	1303.093	5.01345	5.31	ug/L
	K	39	680206.907	26.08440	13.74	ug/L
	Ca	44	45764.908	49.51254	15.71	ug/L
	Fe	57	13673.276	5.46354	25.88	ug/L
	Fe	54	217696.018	12.02925	26.99	ug/L
[>	Sc-1	45	194220.447			ug/L
	C	12	1613955.007			ug/L
	Kr	83	228.670			ug/L
	Cl	35	18465.742			ug/L

	S	32	54184039.275	ug/L
	P	31	27172.238	ug/L
	Si	28	139309.028	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	105.032
	Be	9	
	B	11	
	Al	27	
>	Sc	45	94.604
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	97.301
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	96.989
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	100.490
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.114
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.730
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	94.604
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 15:31:01

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12314.488				ug/L
	Be	9	2404.985		28.42163	3.88	ug/L
	B	11	2936.808		24.74216	4.63	ug/L
	Al	27	76184.671		30.00243	2.06	ug/L
[>	Sc	45	189430.526				ug/L
	Ti	47	16626.871		29.82396	1.08	ug/L
	Ti	49	13914.320		29.52043	1.78	ug/L
	V	51	233573.215		29.95042	2.27	ug/L
	Cr	52	206290.201		30.50944	1.14	ug/L
	Cr	53	24521.371		31.48550	5.05	ug/L
	Mn	55	285237.644		30.72982	6.04	ug/L
	Co	59	240618.426		31.34222	2.26	ug/L
	Ni	60	52724.461		30.96319	2.14	ug/L
	Cu	63	114365.023		32.15503	0.89	ug/L
	Cu	65	56254.209		32.74236	1.09	ug/L
	Ga	69	177112.087				ug/L
	Zn	66	26177.311		29.20409	2.43	ug/L
	Zn	68	19700.657		30.47070	4.16	ug/L
[>	Ge	74	78004.798				ug/L
	As	75	42543.339		29.99686	0.50	ug/L
	Se	77	3163.551		30.73529	1.32	ug/L
	Se	78	21715.389		29.95368	6.43	ug/L
	Se	82	4010.023		29.34856	0.92	ug/L
	Sr	88	550808.442		30.13026	1.80	ug/L
[>	Y	89	542600.958				ug/L
	Zr	90	326929.867		29.81988	0.98	ug/L
	Mo	98	135379.228		29.19284	2.89	ug/L
	Ag	109	191698.037		29.73151	0.55	ug/L
	Cd	111	44903.320		29.31118	2.46	ug/L
	Cd	114	101902.977		28.84268	0.32	ug/L
[>	In	115	451789.693				ug/L
	Sn	118	141594.114		29.47954	1.42	ug/L
	Sb	123	125144.613		29.55903	1.22	ug/L
	Ba	137	76662.912		29.11935	3.70	ug/L
[>	Tb	159	529378.276				ug/L
	Tl	203	157424.125		29.22358	0.74	ug/L
	Tl	205	377807.813		29.54084	1.79	ug/L
	Pb	206	123773.656		29.20961	1.23	ug/L
	Pb	208	506776.241		29.87979	0.61	ug/L
[>	Bi	209	329934.810				ug/L
	Th	232	513649.344		29.40841	2.72	ug/L
	U	238	529088.436		29.87714	2.68	ug/L
	Na	23	586039.900		279.80665	2.08	ug/L
	Mg	24	399769.136		300.71028	0.63	ug/L
	Mg	25	57680.471		299.89808	0.54	ug/L
	K	39	2068763.249		303.60325	2.62	ug/L
	Ca	44	86953.003		292.08488	0.83	ug/L
	Fe	57	72690.189		328.64880	3.29	ug/L
	Fe	54	364400.562		321.56143	6.01	ug/L
[>	Sc-1	45	189430.526				ug/L
	C	12	303255.499				ug/L
	Kr	83	225.669				ug/L
	Cl	35	235295.730				ug/L

	S	32	52761757.641	ug/L
	P	31	25932.612	ug/L
	Si	28	122948.014	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	100.887
	Be	9	
	B	11	
	Al	27	
>	Sc	45	92.271
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	95.660
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	95.520
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	100.812
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	99.648
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	98.735
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	92.271
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 15:36:30

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12048.199				ug/L
	Be	9	177.668		0.03110	555.77	ug/L
	B	11	495.013		-2.10232	13.26	ug/L
	Al	27	3923.180		0.14343	27.92	ug/L
[>	Sc	45	178019.537				ug/L
	Ti	47	497.680		0.00286	3305.41	ug/L
	Ti	49	236.003		0.05415	92.79	ug/L
	V	51	2606.884		0.01389	22.74	ug/L
	Cr	52	8815.606		0.05278	47.95	ug/L
	Cr	53	462.345		-0.22038	7.70	ug/L
	Mn	55	1483.788		0.00955	30.69	ug/L
	Co	59	251.670		0.01046	43.36	ug/L
	Ni	60	207.669		0.03865	23.65	ug/L
	Cu	63	337.340		0.00316	162.88	ug/L
	Cu	65	268.004		0.03385	25.80	ug/L
	Ga	69	160906.807				ug/L
	Zn	66	947.383		-0.10360	20.57	ug/L
	Zn	68	838.039		-0.16127	12.08	ug/L
[>	Ge	74	76145.052				ug/L
	As	75	-59.067		0.04048	114.12	ug/L
	Se	77	290.005		0.03432	426.59	ug/L
	Se	78	12411.390		1.43400	11.18	ug/L
	Se	82	6.644		0.12886	53.19	ug/L
	Sr	88	812.370		0.00506	66.62	ug/L
[>	Y	89	527825.793				ug/L
	Zr	90	1475.131		0.11201	48.71	ug/L
	Mo	98	169.207		0.01233	25.95	ug/L
	Ag	109	290.671		0.02654	19.58	ug/L
	Cd	111	119.001		0.01381	38.48	ug/L
	Cd	114	159.782		0.00478	197.80	ug/L
[>	In	115	423563.624				ug/L
	Sn	118	207.002		0.00821	31.23	ug/L
	Sb	123	196.624		-0.01719	29.28	ug/L
	Ba	137	151.001		0.01061	8.27	ug/L
[>	Tb	159	505579.273				ug/L
	Tl	203	107.667		0.00632	53.67	ug/L
	Tl	205	146.335		0.00491	55.61	ug/L
	Pb	206	129.001		0.00713	133.09	ug/L
	Pb	208	440.671		0.00655	69.33	ug/L
[>	Bi	209	320232.038				ug/L
	Th	232	569.686		0.02756	44.79	ug/L
	U	238	193.002		0.00700	57.00	ug/L
	Na	23	1383.772		0.14081	5.82	ug/L
	Mg	24	1168.409		0.01165	434.00	ug/L
	Mg	25	331.006		0.21227	116.49	ug/L
	K	39	548627.420		10.35170	25.70	ug/L
	Ca	44	33261.071		-3.50938	174.31	ug/L
	Fe	57	11197.569		-2.22139	200.77	ug/L
	Fe	54	210395.459		35.78181	43.28	ug/L
[>	Sc-1	45	178019.537				ug/L
	C	12	269170.117				ug/L
	Kr	83	232.670				ug/L
	Cl	35	14752.980				ug/L

	S	32	48124037.657	ug/L
	P	31	24371.985	ug/L
	Si	28	79161.525	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	98.705
	Be	9	
	B	11	
	Al	27	
>	Sc	45	86.713
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	93.379
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	92.919
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	94.513
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	95.168
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	95.831
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	86.713
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSA-1

Sample Date/Time: Friday, October 23, 2015 15:41:56

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	11905.679			ug/L
	Be	9	167.002	-0.07959	231.30	ug/L
	B	11	407.342	-3.02989	14.59	ug/L
	Al	27	20883850.118	9078.29359	2.68	ug/L
[>	Sc	45	180605.715			ug/L
	Ti	47	112648.767	218.00610	1.94	ug/L
	Ti	49	86496.675	195.22667	3.52	ug/L
	V	51	-663.036	-0.43609	12.89	ug/L
	Cr	52	11940.171	0.53871	4.97	ug/L
	Cr	53	4474.438	5.31339	5.31	ug/L
	Mn	55	15481.505	1.59615	2.02	ug/L
	Co	59	485.013	0.04188	9.65	ug/L
	Ni	60	2353.305	1.36143	2.85	ug/L
	Cu	63	2586.702	0.66685	1.59	ug/L
	Cu	65	1056.061	0.51461	3.46	ug/L
	Ga	69	158570.059			ug/L
	Zn	66	1709.828	0.80545	5.98	ug/L
	Zn	68	1016.390	0.13721	47.05	ug/L
[>	Ge	74	76088.535			ug/L
	As	75	-188.323	-0.05242	92.57	ug/L
	Se	77	532.682	2.70017	15.42	ug/L
	Se	78	12176.142	0.71076	126.78	ug/L
	Se	82	-3.003	0.05666	307.55	ug/L
	Sr	88	2935.141	0.12817	1.81	ug/L
[>	Y	89	516557.321			ug/L
	Zr	90	741.364	0.04419	27.40	ug/L
	Mo	98	867955.560	196.76169	0.38	ug/L
	Ag	109	214.003	0.01446	21.32	ug/L
	Cd	111	1409.109	0.93177	3.41	ug/L
	Cd	114	2331.501	0.67398	3.98	ug/L
[>	In	115	416068.285			ug/L
	Sn	118	191.335	0.00543	103.86	ug/L
	Sb	123	146.192	-0.02923	25.10	ug/L
	Ba	137	168.335	0.01805	22.89	ug/L
[>	Tb	159	501568.290			ug/L
	Tl	203	112.334	0.00795	20.98	ug/L
	Tl	205	144.001	0.00513	24.15	ug/L
	Pb	206	368.007	0.06850	10.03	ug/L
	Pb	208	1317.701	0.06270	3.48	ug/L
[>	Bi	209	309248.933			ug/L
	Th	232	186.335	0.00521	46.37	ug/L
	U	238	92.000	0.00129	44.13	ug/L
	Na	23	45202255.290	22674.71628	1.14	ug/L
	Mg	24	11981961.739	9478.48295	2.74	ug/L
	Mg	25	1648699.057	9036.53829	1.87	ug/L
	K	39	45836985.042	9389.70002	2.12	ug/L
	Ca	44	4970340.365	29692.81818	1.23	ug/L
	Fe	57	4824412.494	27476.67088	1.73	ug/L
	Fe	54	11872579.702	24898.93083	3.34	ug/L
[>	Sc-1	45	180605.715			ug/L
	C	12	427792.108			ug/L
	Kr	83	230.336			ug/L
	Cl	35	1766458.812			ug/L

	S	32	53025419.050	ug/L
	P	31	1338547.213	ug/L
	Si	28	82576.705	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	97.537
	Be	9	
	B	11	
	Al	27	
>	Sc	45	87.973
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	93.310
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	90.936
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	92.841
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	94.413
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	92.544
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	87.973
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: ICSAB-1

Sample Date/Time: Friday, October 23, 2015 15:47:23

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
>	Li	6	12373.239			ug/L
	Be	9	2476.338	29.22142	7.76	ug/L
	B	11	2931.807	24.51839	3.44	ug/L
	Al	27	21989345.090	9440.50673	1.74	ug/L
>	Sc	45	182937.569			ug/L
	Ti	47	130420.919	249.36065	2.69	ug/L
	Ti	49	100381.675	223.77300	2.06	ug/L
	V	51	226168.087	30.03872	2.09	ug/L
	Cr	52	202033.541	30.95746	1.11	ug/L
	Cr	53	27681.103	36.91511	1.28	ug/L
	Mn	55	284796.633	31.74820	0.14	ug/L
	Co	59	226711.975	30.58632	1.17	ug/L
	Ni	60	52481.948	31.89493	2.74	ug/L
	Cu	63	107394.394	31.25644	1.70	ug/L
	Cu	65	51191.433	30.84395	1.86	ug/L
	Ga	69	169669.440			ug/L
	Zn	66	27052.897	29.94046	1.61	ug/L
	Zn	68	19082.342	29.18410	0.98	ug/L
>	Ge	74	78638.762			ug/L
	As	75	41983.161	29.37293	1.18	ug/L
	Se	77	3372.626	32.70735	2.49	ug/L
	Se	78	22078.713	30.50631	4.77	ug/L
	Se	82	4005.297	29.06839	1.70	ug/L
	Sr	88	545017.310	30.09587	2.38	ug/L
>	Y	89	537678.733			ug/L
	Zr	90	322487.497	29.68946	1.71	ug/L
	Mo	98	1008346.616	219.64498	0.97	ug/L
	Ag	109	176817.687	28.66889	1.45	ug/L
	Cd	111	44665.840	30.48614	3.00	ug/L
	Cd	114	102573.373	30.35699	1.61	ug/L
>	In	115	432090.742			ug/L
	Sn	118	136078.239	29.62268	0.58	ug/L
	Sb	123	122471.936	30.24603	1.48	ug/L
	Ba	137	73743.902	29.13796	0.41	ug/L
>	Tb	159	508556.731			ug/L
	Tl	203	152551.039	29.35970	1.22	ug/L
	Tl	205	363038.852	29.42790	1.12	ug/L
	Pb	206	121094.229	29.63229	0.99	ug/L
	Pb	208	481048.469	29.40571	0.97	ug/L
>	Bi	209	318230.880			ug/L
	Th	232	507158.907	30.09613	1.33	ug/L
	U	238	516722.976	30.24355	1.83	ug/L
	Na	23	46870845.743	23225.28491	3.25	ug/L
	Mg	24	12290802.376	9607.83190	3.62	ug/L
	Mg	25	1700427.911	9205.22710	3.58	ug/L
	K	39	47523434.528	9612.39017	2.76	ug/L
	Ca	44	5055616.266	29821.29892	2.69	ug/L
	Fe	57	4765556.170	26790.61957	1.08	ug/L
	Fe	54	12175252.757	25223.68356	2.32	ug/L
>	Sc-1	45	182937.569			ug/L
	C	12	475632.247			ug/L
	Kr	83	232.670			ug/L
	Cl	35	1841940.425			ug/L

	S	32	56403621.353	ug/L
	P	31	1374247.262	ug/L
	Si	28	86782.605	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	101.368
	Be	9	
	B	11	
	Al	27	
>	Sc	45	89.109
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.437
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.654
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.416
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	95.728
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	95.232
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	89.109
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

## Sample ID: Rinse

Sample Date/Time: Friday, October 23, 2015 15:52:50

Number of Replicates: 3

Batch ID:

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12499.338				ug/L
	Be	9	196.002		0.17799	120.06	ug/L
	B	11	567.018		-1.52363	22.27	ug/L
	Al	27	8680.600		2.08919	68.96	ug/L
[>	Sc	45	184652.772				ug/L
	Ti	47	531.682		0.02972	247.64	ug/L
	Ti	49	414.343		0.42958	7.74	ug/L
	V	51	2628.015		0.00373	470.12	ug/L
	Cr	52	8630.767		-0.02908	201.51	ug/L
	Cr	53	1076.064		0.58526	17.34	ug/L
	Mn	55	1495.790		0.00471	45.44	ug/L
	Co	59	252.670		0.00932	25.45	ug/L
	Ni	60	198.002		0.02844	38.10	ug/L
	Cu	63	336.006		-0.00084	351.03	ug/L
	Cu	65	258.004		0.02194	35.78	ug/L
	Ga	69	161942.153				ug/L
	Zn	66	935.382		-0.13358	43.42	ug/L
	Zn	68	887.043		-0.10044	56.55	ug/L
[>	Ge	74	77236.728				ug/L
	As	75	-38.366		0.05602	63.37	ug/L
	Se	77	302.672		0.12639	174.57	ug/L
	Se	78	12324.788		0.59322	157.85	ug/L
	Se	82	8.934		0.14491	46.63	ug/L
	Sr	88	866.042		0.00861	42.64	ug/L
[>	Y	89	521206.445				ug/L
	Zr	90	1307.770		0.09677	47.04	ug/L
	Mo	98	410.406		0.06654	58.91	ug/L
	Ag	109	319.006		0.03010	29.46	ug/L
	Cd	111	126.001		0.01685	50.80	ug/L
	Cd	114	169.657		0.00663	105.68	ug/L
[>	In	115	432194.728				ug/L
	Sn	118	211.669		0.00828	28.49	ug/L
	Sb	123	159.822		-0.02735	14.54	ug/L
	Ba	137	145.001		0.00600	75.83	ug/L
[>	Tb	159	525864.991				ug/L
	Tl	203	115.667		0.00743	43.90	ug/L
	Tl	205	179.002		0.00725	61.57	ug/L
	Pb	206	158.001		0.01343	47.33	ug/L
	Pb	208	527.339		0.01120	49.68	ug/L
[>	Bi	209	325833.398				ug/L
	Th	232	490.347		0.02223	39.59	ug/L
	U	238	222.003		0.00841	42.48	ug/L
	Na	23	14185.615		6.35691	62.59	ug/L
	Mg	24	3721.261		1.93885	82.43	ug/L
	Mg	25	711.698		2.16620	76.19	ug/L
	K	39	557938.837		8.02943	16.82	ug/L
	Ca	44	34331.412		-4.65328	79.94	ug/L
	Fe	57	11541.714		-2.75703	222.53	ug/L
	Fe	54	214010.399		26.64973	15.37	ug/L
[>	Sc-1	45	184652.772				ug/L
	C	12	275714.251				ug/L
	Kr	83	237.670				ug/L
	Cl	35	21421.514				ug/L

	S	32	51634394.573	ug/L
	P	31	24538.162	ug/L
	Si	28	82062.443	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	102.401
	Be	9	
	B	11	
	Al	27	
>	Sc	45	89.944
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.718
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	91.754
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.439
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.986
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	97.507
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	89.944
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCV

Sample Date/Time: Friday, October 23, 2015 15:58:19

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Concentration	RSD	Units
[>	Li	6	12808.568			ug/L
	Be	9	2497.676	28.38509	3.51	ug/L
	B	11	2892.127	22.99921	3.32	ug/L
	Al	27	70537.638	28.17488	1.14	ug/L
[>	Sc	45	186155.429			ug/L
	Ti	47	16355.374	29.87478	4.23	ug/L
	Ti	49	14230.798	30.77144	3.98	ug/L
	V	51	229546.060	29.97381	5.30	ug/L
	Cr	52	206584.711	31.12806	3.55	ug/L
	Cr	53	24354.613	31.82295	5.41	ug/L
	Mn	55	284986.113	31.24280	5.23	ug/L
	Co	59	233586.489	30.98330	3.92	ug/L
	Ni	60	51027.147	30.49243	2.34	ug/L
	Cu	63	113542.768	32.49720	4.21	ug/L
	Cu	65	54574.328	32.32427	1.63	ug/L
	Ga	69	175750.149			ug/L
	Zn	66	25999.799	28.68292	1.91	ug/L
	Zn	68	19873.032	30.40288	2.26	ug/L
[>	Ge	74	78788.488			ug/L
	As	75	41772.010	29.16965	1.25	ug/L
	Se	77	3051.846	29.23568	2.41	ug/L
	Se	78	21567.352	28.74611	3.07	ug/L
	Se	82	3848.607	27.89193	2.06	ug/L
	Sr	88	542134.920	29.87840	1.81	ug/L
[>	Y	89	538608.124			ug/L
	Zr	90	322159.051	29.60551	2.38	ug/L
	Mo	98	134843.540	29.30086	3.04	ug/L
	Ag	109	186052.878	30.29719	0.09	ug/L
	Cd	111	43708.835	29.96128	2.09	ug/L
	Cd	114	100346.362	29.82030	0.46	ug/L
[>	In	115	430282.590			ug/L
	Sn	118	138552.679	30.27254	3.36	ug/L
	Sb	123	124904.476	30.96850	2.61	ug/L
	Ba	137	76387.341	29.28958	1.93	ug/L
[>	Tb	159	524052.592			ug/L
	Tl	203	159868.162	29.45218	1.93	ug/L
	Tl	205	381748.147	29.62318	1.90	ug/L
	Pb	206	125942.446	29.50315	1.55	ug/L
	Pb	208	512553.487	29.99454	1.55	ug/L
[>	Bi	209	332433.831			ug/L
	Th	232	520368.974	29.56262	2.29	ug/L
	U	238	528304.626	29.60180	2.02	ug/L
	Na	23	572279.710	278.20938	4.93	ug/L
	Mg	24	377274.407	289.00456	4.86	ug/L
	Mg	25	55543.518	293.96976	3.44	ug/L
	K	39	2010788.571	299.16599	5.85	ug/L
	Ca	44	86194.390	296.58091	4.20	ug/L
	Fe	57	70594.722	324.05627	3.84	ug/L
	Fe	54	353660.644	312.38006	7.71	ug/L
[>	Sc-1	45	186155.429			ug/L
	C	12	290860.823			ug/L
	Kr	83	226.670			ug/L
	Cl	35	231160.707			ug/L

	S	32	50761785.435	ug/L
	P	31	24233.599	ug/L
	Si	28	118392.271	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	104.934
	Be	9	
	B	11	
	Al	27	
>	Sc	45	90.676
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	96.621
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	94.818
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	96.013
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	98.645
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	99.483
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	90.676
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

# EPA 6020- Summary Report

Sample ID: CCB

Sample Date/Time: Friday, October 23, 2015 16:03:48

Number of Replicates: 3

Batch ID: 01Q151022-018

Method File: C:\elandata\Method\epa200cass.mth

ICP-MS ELAN DRC-e

## Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Concentration	RSD	Units
[>	Li	6	12533.260				ug/L
	Be	9	172.335		-0.12741	85.46	ug/L
	B	11	436.677		-2.95462	12.87	ug/L
	Al	27	4258.997		0.18771	8.97	ug/L
>	Sc	45	188365.964				ug/L
	Ti	47	503.681		-0.04152	66.92	ug/L
	Ti	49	299.672		0.16299	44.84	ug/L
	V	51	2749.034		0.01271	94.57	ug/L
	Cr	52	9371.161		0.05908	32.63	ug/L
	Cr	53	865.375		0.27815	19.33	ug/L
	Mn	55	1569.802		0.00945	75.48	ug/L
	Co	59	256.337		0.00913	62.47	ug/L
	Ni	60	184.335		0.01783	81.23	ug/L
	Cu	63	372.674		0.00766	167.66	ug/L
	Cu	65	246.337		0.01207	60.28	ug/L
	Ga	69	167893.767				ug/L
	Zn	66	964.051		-0.10172	59.22	ug/L
	Zn	68	858.041		-0.15106	32.54	ug/L
>	Ge	74	77395.178				ug/L
	As	75	-61.919		0.03928	70.83	ug/L
	Se	77	307.672		0.17318	48.33	ug/L
	Se	78	12690.704		1.68278	50.70	ug/L
	Se	82	1.957		0.09249	80.81	ug/L
	Sr	88	891.377		0.00745	37.97	ug/L
>	Y	89	549910.877				ug/L
	Zr	90	1582.152		0.11537	48.72	ug/L
	Mo	98	199.908		0.01727	39.96	ug/L
	Ag	109	337.673		0.03169	30.16	ug/L
	Cd	111	115.667		0.00771	96.11	ug/L
	Cd	114	169.219		0.00522	82.98	ug/L
>	In	115	444040.969				ug/L
	Sn	118	228.003		0.01050	61.29	ug/L
	Sb	123	204.854		-0.01756	38.48	ug/L
	Ba	137	146.668		0.00721	52.20	ug/L
>	Tb	159	520571.834				ug/L
	Tl	203	105.667		0.00504	40.57	ug/L
	Tl	205	159.335		0.00540	48.80	ug/L
	Pb	206	135.668		0.00725	49.78	ug/L
	Pb	208	478.338		0.00755	38.99	ug/L
>	Bi	209	335002.796				ug/L
	Th	232	521.682		0.02336	37.00	ug/L
	U	238	210.336		0.00746	28.96	ug/L
	Na	23	2458.334		0.61830	16.05	ug/L
	Mg	24	1224.749		0.00317	1610.52	ug/L
	Mg	25	326.673		0.08377	86.12	ug/L
	K	39	557931.508		5.81930	15.46	ug/L
	Ca	44	33797.388		-11.68102	29.82	ug/L
	Fe	57	11759.936		-2.77303	50.36	ug/L
	Fe	54	215553.214		20.98664	57.15	ug/L
>	Sc-1	45	188365.964				ug/L
	C	12	274500.391				ug/L
	Kr	83	235.003				ug/L
	Cl	35	18058.922				ug/L

	S	32	52811153.666	ug/L
	P	31	25723.689	ug/L
	Si	28	82361.453	ug/L

#### QC Calculated Values

	Analyte	Mass	Int Std % Recovery
[>	Li	6	102.679
	Be	9	
	B	11	
	Al	27	
>	Sc	45	91.753
	Ti	47	
	Ti	49	
	V	51	
	Cr	52	
	Cr	53	
	Mn	55	
	Co	59	
	Ni	60	
	Cu	63	
	Cu	65	
	Ga	69	
	Zn	66	
	Zn	68	
>	Ge	74	94.912
	As	75	
	Se	77	
	Se	78	
	Se	82	
	Sr	88	
>	Y	89	96.807
	Zr	90	
	Mo	98	
	Ag	109	
	Cd	111	
	Cd	114	
>	In	115	99.083
	Sn	118	
	Sb	123	
	Ba	137	
>	Tb	159	97.990
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	208	
>	Bi	209	100.251
	Th	232	
	U	238	
	Na	23	
	Mg	24	
	Mg	25	
	K	39	
	Ca	44	
	Fe	57	
	Fe	54	
>	Sc-1	45	91.753
	C	12	
	Kr	83	
	Cl	35	
	S	32	
	P	31	
	Si	28	

New Jersey Department of Environmental Protection  
Division of Water Resources  
Bureau of Underground Storage Tanks  
CN-029, Trenton, New Jersey 08625

**LABORATORY AUTHENTICATION STATEMENT**

I certify under penalty of law, where applicable, this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18, 40 CFR Part 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analyses. I have personally examined and am familiar with the information contained in this report, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, complete, and meets the standards specified in N.J.A.C. 7:18, 40 CFR Part 136, and/or SW 846. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.



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Laboratory Manager (as defined in N.J.A.C. 7:18 )

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