

## TECHNICAL MEMORANDUM

34110008

DATE: August 8, 2011

TO: Carey Cossaboom  
US Army Corps of Engineers, Alaska District  
CEPOA CT (W911KB)  
PO Box 6898  
JBER, Alaska 99506-6898

FROM: Molly Welker, Project Manager  
Bristol Environmental Remediation Services, LLC

RE: Background Arsenic Sampling for Site 21  
W911KB-06-D-0007, Task Order 0007  
2011 Northeast Cape HTRW Remedial Actions

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Bristol Environmental Remediation Services, LLC (Bristol) has prepared this Technical Memorandum (Tech Memo) at the request of the US Army Corps of Engineers, Alaska District (USACE) under Contract W911KB-06-D-0007 for the 2011 Remedial Actions at Northeast Cape, Alaska. The Tech Memo provides results from July 2011 background sampling for arsenic near Site 21, and presents a discussion of the data.

### **Site Background**

In 2010, Bristol excavated 16.7 tons of soil at Site 21, centered around historical sample location 94NE2116722. The excavation area was roughly 17 feet wide, 17 feet long, and 2 feet deep. Eight confirmation samples were collected from the excavation and the results indicated concentrations were still above the cleanup level of 11 milligrams per kilogram (mg/kg). Figure 1 presents a map of the 2010 sample locations and results. The 2010 sample results for arsenic ranged from 4 mg/kg to 180 mg/kg. Table 1 includes the sample results from 2010.

**Table 1 Arsenic Results for Site 21  
 NE Cape, St. Lawrence Island, Alaska**

Background Sample Results (collected 7/22/2011)		Sample Depth (feet)	Sample Description	Site 21 Excavation Soil Sample Results (collected August 17, 2010)		Sample Depth (feet)	Sample Description
Sample ID	Arsenic (mg/kg)			Sample ID	Arsenic (mg/kg)		
11NC21SS01	5.4	1	Brown peat with organic silt, wet	10NC21SB01	12	2	Brown silty gravel, wet
11NC21SS02	3.1	2.5	Brown organic silt, wet	10NC21SB02	180	1.5	Brown silty gravel, wet
11NC21SS03	3.5	1.5	Brown peat with organic silt, wet	10NC21SB03	4	1.5	Brown silty gravel, wet
11NC21SS10*	2.9	1.5	<i>Brown peat with organic silt, wet</i>	10NC21SB08**	4	1.5	<i>Brown silty gravel, wet</i>
11NC21SS04	6	2	Brown organic silt, frozen	10NC21SB04	4.9	1.5	Brown gravelly peat with silt, wet
11NC21SS05	6	0.5	Brown peat with organic silt, wet	10NC21SB05	170	0.7	Reddish brown silty peat with clay, wet
11NC21SS06	10	1	Reddish-brown peat with organic silt, wet	10NC21SB06	120	0.5	Brown silty peat, wet
11NC21SS07	6.3	0.5	Brown peat with organic silt, wet	10NC21SB07	54	1	Brown silty peat, wet
11NC21SS08	3.6	1	Brown clayey peat, wet	10NC21SB42	11	3	Grayish brown silty gravel, wet
11NC21SS09	22	1	Brown peat, wet	10NC21SB43***	17	3	<i>Grayish brown silty gravel, wet</i>

Notes:

\*duplicate sample of 10NC21SS03

\*\*duplicate sample of 10NC21SB03

\*\*\*duplicate sample of 10NC21SB42

mg/kg = milligrams per kilogram

NE Cape = Northeast Cape

## **2011 Field Activities**

The scope of work for 2011 was to collect nine background soil samples in the vicinity of Site 21. The nine soil samples were collected on July 22, 2011, from locations upgradient of the 2010 Site 21 soil excavation. The locations were from areas with no known or suspected anthropogenic sources and from vegetative cover and soil type similar to those observed from the 2010 Site 21 excavation. One duplicate and one matrix spike (MS)/matrix spike duplicate (MSD) sample were collected along with the nine primary samples. Figure 2 shows the locations of the background samples. Table 1 includes the soil sample descriptions from 2010 and 2011.

## **Sample Results**

The results for the nine background samples and one duplicate are included in Table 1. The background sample results ranged from 2.9 to 22 mg/kg. Attachment 1 contains the laboratory report for the 2011 arsenic samples. Also included in Attachment 1 is the laboratory report for the 2010 excavation samples.

The samples collected from background locations in 2011 were all organic silts ranging from brown to dark reddish brown immediately below the active organic layer (some were frozen). Table 1 provides the sample descriptions for each sample collected in 2011. The soil type from the 2010 Site 21 excavation was gravelly or silty peat, with the exception of three samples that were silty gravels. Table 1 includes sample descriptions from the 2010 samples.

## **Data Evaluation**

Statistical analysis, including both estimation and hypotheses testing approaches, are routinely used to estimate background level threshold values for contaminants of concern (COC), or to compare contaminant concentrations from an area of concern (AOC) with background concentrations.

The EPA supports several exposure and risk management and cleanup decisions based on the mean concentration of the COC. A 95% upper confidence limit (UCL95) of the COC values from an unknown population (e.g., background area) can be used to estimate background level mean contaminant concentrations. The background mean contaminant concentration level can

be used to compare the mean concentration of an AOC (e.g., Site 21 arsenic values) (EPA, 2010).

The site background mean concentration was determined by calculating the UCL95 for the background results. ProUCL Version 4. 1 was used to process the data (EPA, 2010). All results from the background study had detectable results and none of the results were qualified as estimated; therefore, all data were included in the analysis. For the duplicate sample result, the primary sample result was used.

Prior to performing the UCL95 calculation, ProUCL was used to perform general statistics for the data set. Attachment 2 includes the ProUCL program input and output data. The analysis by ProUCL determined that the background arsenic data is not normally distributed. Also computed were the Site 21 excavation results. The statistics for both sets are included in Table 2.

**Table 2 Summary Statistics for Site 21 Arsenic Soil Samples  
 NE Cape, St. Lawrence Island, Alaska**

	2011 Background Samples	2010 Excavation Samples
Number of Observations	10	8
Minimum	3.1	4
Maximum	22	180
Mean	7.322	69.49
Median	6	33
Standard Deviation	5.886	75.87
Standard Error of Mean	1.962	26.82
Coefficient of Variation	0.804	1.092
Skewness	2.354	0.676
UCL95 <sup>1</sup>	11.49	198.5

Notes:

<sup>1</sup>UCL95 calculated using gamma distribution

NE Cape = Northeast Cape

Statistics calculated using EPA ProUCL Version 4.1, 2010

UCL95 = mean concentration using a 95% upper confidence limit

Based on simulation studies, the software recommends a method for calculating the UCL95. Since the data was not normally distributed, the program suggests using the UCL95 calculated from the distribution that best fits the data. The ProUCL manual notes that the use of lognormal

distribution yields unrealistic and highly unstable upper confidence limit values, and, subsequently, the value calculated for the gamma distribution was selected over lognormal distribution. The background mean arsenic concentration using a UCL95 calculated by ProUCL and using a gamma distribution is 11.49 mg/kg.

Table 3 compares the estimated background concentration to the Site 21 results. As shown in Table 3, six of the ten sample results (including the duplicate result) exceed the mean background arsenic concentration of 11.49 mg/kg.

**Table 3 Comparison of Site 21 Arsenic Results to Background Concentration**

Site 21 Arsenic Sample Identification, July 2010	Site 21 Excavation Sample Results, July 2010	Mean Background Concentration using a 95% Upper Confidence Limit (UCL95) <sup>1</sup>	Sample Concentration Above Background?
10NC21SB01	12	11.49	yes
10NC21SB02	180		yes
10NC21SB03	4		no
10NC21SB08**	4		no
10NC21SB04	4.9		no
10NC21SB05	170		yes
10NC21SB06	120		yes
10NC21SB07	54		yes
10NC21SB42	11		no
10NC21SB43***	17		yes

Notes:

<sup>1</sup>Statistics calculated using EPA ProUCL Version 4.1, May 2010

UCL95 calculated using gamma distribution

\*\*duplicate sample of 10NC21SB03

\*\*\*duplicate sample of 10NC21SB42

ProUCL is also capable of performing two-sample hypotheses testing. Specifically, two-sample hypotheses testing approaches are used to compare the average contaminant concentrations of two or more populations such as the background population and the potentially contaminated site areas (EPA, 2010).

The ProUCL two-sample hypothesis testing was used to compare the population of the Site 21 excavation samples and background sample concentrations. Using, the Student's two-sample t-test, the hypothesis testing found that the two populations were not similar and that the site excavation levels were greater than the site background levels. Attachment 2 includes the output for the t-test hypothesis testing. Table 4 summarizes the results from the hypothesis testing.

### **Conclusions**

The data evaluation has indicated that the 2010 Site 21 excavation results are above the background arsenic level. Further excavation at Site 21, in areas above the cleanup level concentration of 11 mg/kg, is recommended. The results also determined that the mean background concentration using the UCL95 (11.49 mg/kg) is in agreement or similar to the cleanup level of 11 mg/kg.

### **References**

EPA, 2010. ProUCL Version 4.1.00 Technical Guide (Draft) and ProUCL User's Guide (Draft), May 2010. U.S. EPA, Office of Research and Development, National Exposure Research Laboratory, Environmental Sciences Division, Characterization and Monitoring Branch.

**Table 4 Student's t-Test Site Verses Background Hypothesis Testing Results<sup>1</sup>**

Method	DF	t-Test Value	Critical t(0.050)	P-Value
Pooled (Equal Variance)	15	2.46	1.753	0.013
Welch-Satterthwaite (Unequal Variance)	7.1	2.311	1.895	0.027

Notes:

\*Student's t-Test (pooled): Reject hypothesis, Conclude Site > Background

<sup>1</sup>Statistics calculated using EPA ProUCL Version 4.1, May 2010

Conclusion with Alpha = 0.050

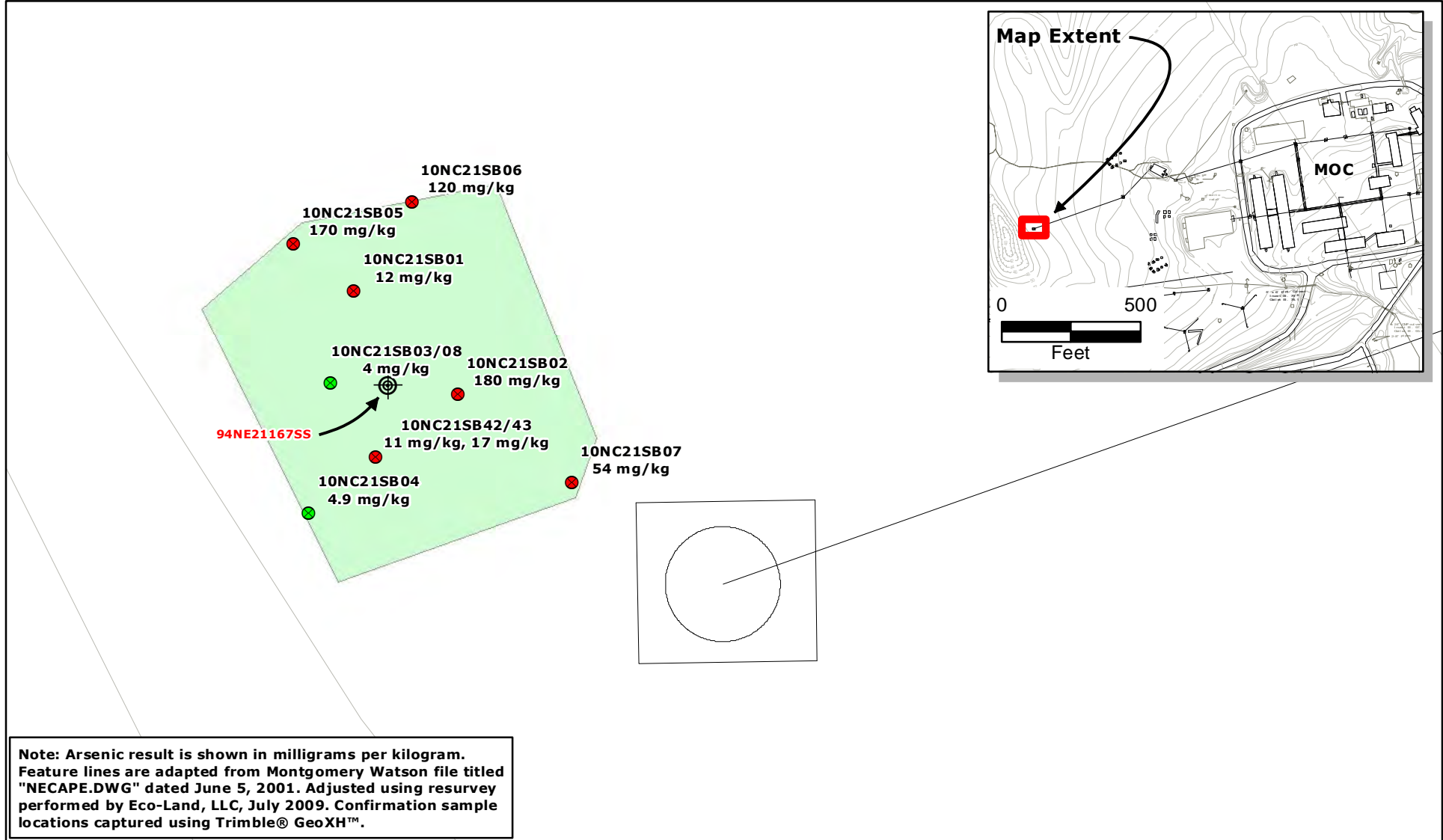
Pooled SD 52.006

DF = degrees of freedom

SD = standard deviation

## **FIGURES**





Note: Arsenic result is shown in milligrams per kilogram. Feature lines are adapted from Montgomery Watson file titled "NECAPE.DWG" dated June 5, 2001. Adjusted using resurvey performed by Eco-Land, LLC, July 2009. Confirmation sample locations captured using Trimble® GeoXH™.

**Legend**

- Arsenic Result Above Cleanup Level
- Arsenic Result Below Cleanup Level
- Previous Sample Location
- Excavation

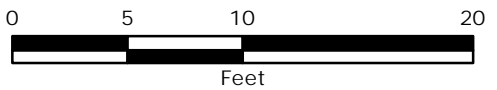
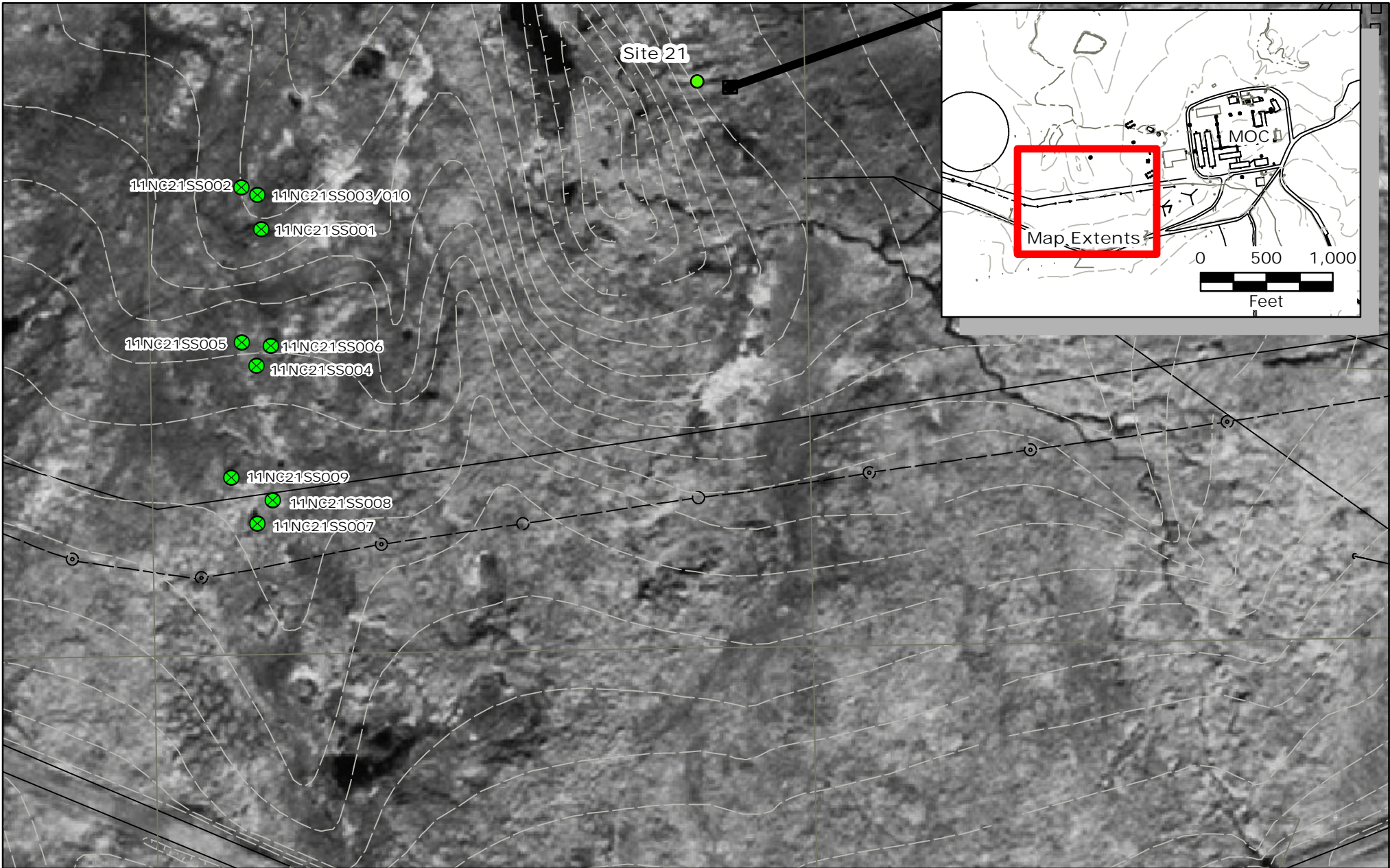


Figure 1  
 Northeast Cape, St. Lawrence Island, Alaska  
 Northeast Cape HTRW Removal Actions  
**Site 21 Confirmation Samples and Excavation Extents**

 ENVIRONMENTAL REMEDIATION SERVICES, LLC Phone (907)563-0013 Fax (907)563-6713 Project No. 410026	DATUM:	DATE	08-05-11	SHEET
	NAD83	DWN.	BI-ME	1
	PROJECTION:	SCALE	1:100	of
	Alaska State Plane Zone 9	APPRVD.	BERS-MW	1



**Legend**

⊗ Site 21 Background Samples

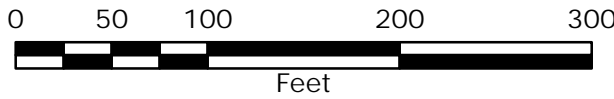


Figure 2  
 Northeast Cape, St. Lawrence Island, Alaska  
 Northeast Cape HTRW Remedial Actions  
 Site 21 Background Sample Location Map

**Bristol**  
 ENVIRONMENTAL  
 REMEDIATION SERVICES, LLC  
 Phone (907)563-0013 Fax (907)563-6713  
 Project No. 34110008

DATUM:	DATE	08/08/11	SHEET
NAD83	DWN.	BERS-RJ	1
PROJECTION:	SCALE	1:1,200	of
Alaska State Plane Zone 9 (Feet)	APPRVD.	BERS-MW	1

**ATTACHMENT 1**

**Analytical Reports**

2010 Arsenic Results

2011 Arsenic Results

**Analytical Data Report for Site 21 Background Arsenic Samples Collected in 2011**

## ANALYTICAL REPORT

Job Number: 580-27633-1  
Job Description: NE Cape HTRW  
Contract Number: W911KB-06-D-0007

For:  
Bristol Env. Remediation Services LLC  
111 W 16th Ave  
Suite 301  
Anchorage, AK 99501  
Attention: Molly Welker



Approved for release.  
Terri L. Torres  
Project Manager II  
7/29/2011 2:47 PM

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Project Manager II  
terri.torres@testamericainc.com  
07/29/2011

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC and the DOD QSM V4.1 (4/22/09). All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

**TestAmerica Laboratories, Inc.**

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# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	4
Report Narrative . . . . .	4
Sample Summary . . . . .	5
Method Summary . . . . .	6
Sample Datasheets . . . . .	7
QC Data Summary . . . . .	27
Data Qualifiers . . . . .	31
QC Association Summary . . . . .	32
Reagent Traceability . . . . .	34
Certification Summary . . . . .	35
Inorganic Sample Data . . . . .	36
Metals Data . . . . .	36
Met Cover Page . . . . .	37
Met Sample Data . . . . .	38
Met QC Data . . . . .	48
Met ICV/CCV . . . . .	48
Met CRQL . . . . .	50
Met Blanks . . . . .	51
Met ICSA/ICSAB . . . . .	54
Met MS/MSD/PDS . . . . .	57
Met Dup/Trip . . . . .	60
Met LCS/LCSD . . . . .	61
Met Serial Dilution . . . . .	64
Met MDL . . . . .	65
Met Linear Ranges . . . . .	67

# Table of Contents

Met Preparation Log .....	68
Met Analysis Run Log .....	69
Met ICP/MS Int Stds .....	72
Met Raw Data .....	74
Met Prep Data .....	201
<b>General Chemistry Data .....</b>	<b>203</b>
Gen Chem Cover Page .....	204
Gen Chem MDL .....	205
Gen Chem Analysis Run Log .....	206
Gen Chem Prep Data .....	207
<b>Shipping and Receiving Documents .....</b>	<b>208</b>
Client Chain of Custody .....	209

## CASE NARRATIVE

**Client: Bristol Env. Remediation Services LLC**

**Project: NE Cape HTRW**

**Report Number: 580-27633-1**

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

Following DoD QSM guidelines, manual integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure, Acceptable Manual Integration Practices, SOP No.: Q-S-002. The reason(s) for manual integration have been documented on the affected chromatogram(s), which is/are provided in the raw data package. The raw data also includes the original chromatogram(s) prior to any manual integration being performed. Manual integrations are detailed in the manual integration summary forms following this narrative.

It should be noted that samples with elevated Limits of Quantitation (LOQs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the LOQs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 07/27/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 6.3 C. The following sample containers were received on gel ice, but outside correct temperature range.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

### **TOTAL METALS (ICPMS)**

Samples 11NC21SS01 (580-27633-1), 11NC21SS02 (580-27633-2), 11NC21SS03 (580-27633-3), 11NC21SS04 (580-27633-4), 11NC21SS05 (580-27633-5), 11NC21SS06 (580-27633-6), 11NC21SS07 (580-27633-7), 11NC21SS08 (580-27633-8), 11NC21SS09 (580-27633-9) and 11NC21SS10 (580-27633-10) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 07/28/2011 and analyzed on 07/28/2011 and 07/29/2011.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

### **PERCENT SOLIDS**

Samples 11NC21SS01 (580-27633-1), 11NC21SS02 (580-27633-2), 11NC21SS03 (580-27633-3), 11NC21SS04 (580-27633-4), 11NC21SS05 (580-27633-5), 11NC21SS06 (580-27633-6), 11NC21SS07 (580-27633-7), 11NC21SS08 (580-27633-8), 11NC21SS09 (580-27633-9) and 11NC21SS10 (580-27633-10) were analyzed for percent solids in accordance with EPA SW846 3550C. The samples were analyzed on 07/27/2011.

No difficulties were encountered during the % solids analyses.

All quality control parameters were within the acceptance limits.



## SAMPLE SUMMARY

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
580-27633-1	11NC21SS01	Solid	07/22/2011 0845	07/27/2011 1005
580-27633-2	11NC21SS02	Solid	07/22/2011 0900	07/27/2011 1005
580-27633-3	11NC21SS03	Solid	07/22/2011 0915	07/27/2011 1005
580-27633-4	11NC21SS04	Solid	07/22/2011 0930	07/27/2011 1005
580-27633-5	11NC21SS05	Solid	07/22/2011 0940	07/27/2011 1005
580-27633-6	11NC21SS06	Solid	07/22/2011 0950	07/27/2011 1005
580-27633-7	11NC21SS07	Solid	07/22/2011 1000	07/27/2011 1005
580-27633-7MS	11NC21SS07	Solid	07/22/2011 1000	07/27/2011 1005
580-27633-7MSD	11NC21SS07	Solid	07/22/2011 1000	07/27/2011 1005
580-27633-8	11NC21SS08	Solid	07/22/2011 1015	07/27/2011 1005
580-27633-9	11NC21SS09	Solid	07/18/2011 1030	07/27/2011 1005
580-27633-10	11NC21SS10	Solid	07/18/2011 0920	07/27/2011 1005

## METHOD SUMMARY

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix: Solid</b>			
Metals (ICP/MS)	TAL SEA	SW846 6020	
Preparation, Metals	TAL SEA		SW846 3050B
Percent Moisture	TAL SEA	EPA Moisture	

### Lab References:

TAL SEA = TestAmerica Seattle

### Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID:** 11NC21SS01

Lab Sample ID: 580-27633-1

Date Sampled: 07/22/2011 0845

Client Matrix: Solid

% Moisture: 78.7

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 132SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.0982 g

Analysis Date: 07/29/2011 0059

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		5.4	D	0.77	2.1

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID:** 11NC21SS02

Lab Sample ID: 580-27633-2

Date Sampled: 07/22/2011 0900

Client Matrix: Solid

% Moisture: 70.4

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 131SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.0054 g

Analysis Date: 07/29/2011 0054

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		3.1	D	0.60	1.7

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID:** 11NC21SS03

Lab Sample ID: 580-27633-3

Date Sampled: 07/22/2011 0915

Client Matrix: Solid

% Moisture: 79.6

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 130SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.0681 g

Analysis Date: 07/29/2011 0049

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		3.5	D	0.83	2.3

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID: 11NC21SS04**

Lab Sample ID: 580-27633-4

Date Sampled: 07/22/2011 0930

Client Matrix: Solid

% Moisture: 73.0

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 129SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.1489 g

Analysis Date: 07/29/2011 0044

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		6.0	D	0.58	1.6

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID:** 11NC21SS05

Lab Sample ID: 580-27633-5

Date Sampled: 07/22/2011 0940

Client Matrix: Solid

% Moisture: 89.0

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 128SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.0666 g

Analysis Date: 07/29/2011 0039

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		6.0	D	1.5	4.3

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID: 11NC21SS06**

Lab Sample ID: 580-27633-6

Date Sampled: 07/22/2011 0950

Client Matrix: Solid

% Moisture: 83.0

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 127SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.1500 g

Analysis Date: 07/29/2011 0035

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		10	D	0.92	2.6

---



**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID:** 11NC21SS07

Lab Sample ID: 580-27633-7

Date Sampled: 07/22/2011 1000

Client Matrix: Solid

% Moisture: 60.7

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 117SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.0686 g

Analysis Date: 07/28/2011 2347

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		6.3	D	0.43	1.2

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID:** 11NC21SS08

Lab Sample ID: 580-27633-8

Date Sampled: 07/22/2011 1015

Client Matrix: Solid

% Moisture: 57.7

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 126SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.0568 g

Analysis Date: 07/29/2011 0030

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		3.6	D	0.40	1.1

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID: 11NC21SS09**

Lab Sample ID: 580-27633-9

Date Sampled: 07/18/2011 1030

Client Matrix: Solid

% Moisture: 89.0

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 125SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.2630 g

Analysis Date: 07/29/2011 0025

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		22	D	1.3	3.6

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Client Sample ID:** 11NC21SS10

Lab Sample ID: 580-27633-10

Date Sampled: 07/18/2011 0920

Client Matrix: Solid

% Moisture: 84.5

Date Received: 07/27/2011 1005

---

**6020 Metals (ICP/MS)**

Analysis Method: 6020

Analysis Batch: 580-91557

Instrument ID: SEA044

Prep Method: 3050B

Prep Batch: 580-91441

Lab File ID: 124SMPL.D#.raw

Dilution: 10

Initial Weight/Volume: 1.2223 g

Analysis Date: 07/29/2011 0020

Final Weight/Volume: 50 mL

Prep Date: 07/28/2011 0845

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		2.9	D	0.95	2.6

---

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

General Chemistry

Client Sample ID: 11NC21SS01

Lab Sample ID: 580-27633-1

Date Sampled: 07/22/2011 0845

Client Matrix: Solid

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	21		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1744					DryWt Corrected: N
Percent Moisture	79		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1744					DryWt Corrected: N

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

General Chemistry

Client Sample ID: 11NC21SS02

Lab Sample ID: 580-27633-2

Client Matrix: Solid

Date Sampled: 07/22/2011 0900

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	30		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1744					DryWt Corrected: N
Percent Moisture	70		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1744					DryWt Corrected: N

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

General Chemistry

Client Sample ID: 11NC21SS03

Lab Sample ID: 580-27633-3

Client Matrix: Solid

Date Sampled: 07/22/2011 0915

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	20		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	80		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

**General Chemistry**

**Client Sample ID:** 11NC21SS04

Lab Sample ID: 580-27633-4

Client Matrix: Solid

Date Sampled: 07/22/2011 0930

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	27		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	73		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N



Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

General Chemistry

Client Sample ID: 11NC21SS05

Lab Sample ID: 580-27633-5

Client Matrix: Solid

Date Sampled: 07/22/2011 0940

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	11		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	89		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

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**General Chemistry**

**Client Sample ID:** 11NC21SS06

Lab Sample ID: 580-27633-6

Client Matrix: Solid

Date Sampled: 07/22/2011 0950

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	17		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	83		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

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**General Chemistry**

**Client Sample ID:** 11NC21SS07

Lab Sample ID: 580-27633-7

Client Matrix: Solid

Date Sampled: 07/22/2011 1000

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	39		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	61		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

General Chemistry

Client Sample ID: 11NC21SS08

Lab Sample ID: 580-27633-8

Client Matrix: Solid

Date Sampled: 07/22/2011 1015

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	42		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	58		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

**General Chemistry**

**Client Sample ID:** 11NC21SS09

Lab Sample ID: 580-27633-9

Client Matrix: Solid

Date Sampled: 07/18/2011 1030

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	11		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	89		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

---

General Chemistry

Client Sample ID: 11NC21SS10

Lab Sample ID: 580-27633-10

Client Matrix: Solid

Date Sampled: 07/18/2011 0920

Date Received: 07/27/2011 1005

Analyte	Result	Qual	Units	DL	LOQ	Dil	Method
Percent Solids	15		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N
Percent Moisture	85		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-91442	Analysis Date: 07/27/2011 1742					DryWt Corrected: N

**Quality Control Results**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Method Blank - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

Lab Sample ID:	MB 580-91441/14-A	Analysis Batch:	580-91557	Instrument ID:	SEA044
Client Matrix:	Solid	Prep Batch:	580-91441	Lab File ID:	110SMPL.D#.raw
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	07/28/2011 2313	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/28/2011 0845				
Leach Date:	N/A				

Analyte	Result	Qual	DL	LOQ
Arsenic	0.40	U	0.18	0.50

**LCS-Certified Reference Material - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

Lab Sample ID:	LCSSRM	Analysis Batch:	580-91557	Instrument ID:	SEA044
Client Matrix:	Solid	Prep Batch:	580-91441	Lab File ID:	113SMPL.D#.raw
Dilution:	20	Leach Batch:	N/A	Initial Weight/Volume:	0.5062 g
Analysis Date:	07/28/2011 2328	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/28/2011 0845				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	109	108	99	71.1 - 128.9	D

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

LCS Lab Sample ID:	LCS 580-91441/15-A	Analysis Batch:	580-91557	Instrument ID:	SEA044
Client Matrix:	Solid	Prep Batch:	580-91441	Lab File ID:	111SMPL.D#.raw
Dilution:	50	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	07/28/2011 2318	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/28/2011 0845				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 580-91441/16-A	Analysis Batch:	580-91557	Instrument ID:	SEA044
Client Matrix:	Solid	Prep Batch:	580-91441	Lab File ID:	112SMPL.D#.raw
Dilution:	50	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	07/28/2011 2323	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	07/28/2011 0845				
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Arsenic	97	96	80 - 120	0	20	D	D

**Quality Control Results**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

LCS Lab Sample ID: LCS 580-91441/15-A Units: mg/Kg  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/28/2011 2318  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

LCSD Lab Sample ID: LCSD 580-91441/16-A  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/28/2011 2323  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Arsenic	200	200	194 D	193 D

**Post Digestion Spike - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

Lab Sample ID: 580-27633-7  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/29/2011 0006  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

Analysis Batch: 580-91557  
 Prep Batch: 580-91441  
 Leach Batch: N/A  
 Units: mg/Kg

Instrument ID: SEA044  
 Lab File ID: 1  
 Initial Weight/Volume: 1.0686 g  
 Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	6.3	476	486	101	75 - 125	D

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

MS Lab Sample ID: 580-27633-7  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/28/2011 2356  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

Analysis Batch: 580-91557  
 Prep Batch: 580-91441  
 Leach Batch: N/A

Instrument ID: SEA044  
 Lab File ID: 119SMPL.D#.raw  
 Initial Weight/Volume: 1.1752 g  
 Final Weight/Volume: 50 mL

MSD Lab Sample ID: 580-27633-7  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/29/2011 0001  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

Analysis Batch: 580-91557  
 Prep Batch: 580-91441  
 Leach Batch: N/A

Instrument ID: SEA044  
 Lab File ID: 120SMPL.D#.raw  
 Initial Weight/Volume: 1.1130 g  
 Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Arsenic	101	100	80 - 120	5	20	D	D



**Quality Control Results**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

MS Lab Sample ID: 580-27633-7 Units: mg/Kg  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/28/2011 2356  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

MSD Lab Sample ID: 580-27633-7  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/29/2011 0001  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Arsenic	6.3	433	457	443 D	465 D

**Serial Dilution - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

Lab Sample ID: 580-27633-7  
 Client Matrix: Solid  
 Dilution: 50  
 Analysis Date: 07/28/2011 2342  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

Analysis Batch: 580-91557  
 Prep Batch: 580-91441  
 Leach Batch: N/A  
 Units: mg/Kg

Instrument ID: SEA044  
 Lab File ID: 11  
 Initial Weight/Volume: 1.0686 g  
 Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	%Diff	Limit	Qual
Arsenic	6.3	6.43	NC	10	D

**Duplicate - Batch: 580-91441**

**Method: 6020  
Preparation: 3050B**

Lab Sample ID: 580-27633-7  
 Client Matrix: Solid  
 Dilution: 10  
 Analysis Date: 07/28/2011 2351  
 Prep Date: 07/28/2011 0845  
 Leach Date: N/A

Analysis Batch: 580-91557  
 Prep Batch: 580-91441  
 Leach Batch: N/A  
 Units: mg/Kg

Instrument ID: SEA044  
 Lab File ID: 118SMPL.D#.raw  
 Initial Weight/Volume: 1.0837 g  
 Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	6.3	5.74	9	20	D

## Quality Control Results

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

### Duplicate - Batch: 580-91442

### Method: Moisture Preparation: N/A

Lab Sample ID:	580-27633-10	Analysis Batch:	580-91442	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	07/27/2011 1742	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	15	16	4	20	
Percent Moisture	85	84	0.7	20	

## DATA REPORTING QUALIFIERS

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
Metals		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	D	The reported value is from a dilution.
	U	Undetected at the Limit of Detection.

## Quality Control Results

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report		Method	Prep Batch
		Basis	Client Matrix		
<b>Metals</b>					
<b>Prep Batch: 580-91441</b>					
LCS 580-91441/15-A	Lab Control Sample	T	Solid	3050B	
LCSD 580-91441/16-A	Lab Control Sample Duplicate	T	Solid	3050B	
LCSSRM 580-91441/17-A	LCS-Certified Reference Material	T	Solid	3050B	
MB 580-91441/14-A	Method Blank	T	Solid	3050B	
580-27633-1	11NC21SS01	T	Solid	3050B	
580-27633-2	11NC21SS02	T	Solid	3050B	
580-27633-3	11NC21SS03	T	Solid	3050B	
580-27633-4	11NC21SS04	T	Solid	3050B	
580-27633-5	11NC21SS05	T	Solid	3050B	
580-27633-6	11NC21SS06	T	Solid	3050B	
580-27633-7	11NC21SS07	T	Solid	3050B	
580-27633-7DU	Duplicate	T	Solid	3050B	
580-27633-7MS	Matrix Spike	T	Solid	3050B	
580-27633-7MSD	Matrix Spike Duplicate	T	Solid	3050B	
580-27633-8	11NC21SS08	T	Solid	3050B	
580-27633-9	11NC21SS09	T	Solid	3050B	
580-27633-10	11NC21SS10	T	Solid	3050B	
<b>Analysis Batch:580-91557</b>					
LCS 580-91441/15-A	Lab Control Sample	T	Solid	6020	580-91441
LCSD 580-91441/16-A	Lab Control Sample Duplicate	T	Solid	6020	580-91441
LCSSRM 580-91441/17-A	LCS-Certified Reference Material	T	Solid	6020	580-91441
MB 580-91441/14-A	Method Blank	T	Solid	6020	580-91441
580-27633-1	11NC21SS01	T	Solid	6020	580-91441
580-27633-2	11NC21SS02	T	Solid	6020	580-91441
580-27633-3	11NC21SS03	T	Solid	6020	580-91441
580-27633-4	11NC21SS04	T	Solid	6020	580-91441
580-27633-5	11NC21SS05	T	Solid	6020	580-91441
580-27633-6	11NC21SS06	T	Solid	6020	580-91441
580-27633-7	11NC21SS07	T	Solid	6020	580-91441
580-27633-7DU	Duplicate	T	Solid	6020	580-91441
580-27633-7MS	Matrix Spike	T	Solid	6020	580-91441
580-27633-7MSD	Matrix Spike Duplicate	T	Solid	6020	580-91441
580-27633-8	11NC21SS08	T	Solid	6020	580-91441
580-27633-9	11NC21SS09	T	Solid	6020	580-91441
580-27633-10	11NC21SS10	T	Solid	6020	580-91441

**Report Basis**

T = Total

## Quality Control Results

Client: Bristol Env. Remediation Services LLC

Job Number: 580-27633-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:580-91442</b>					
580-27633-1	11NC21SS01	T	Solid	Moisture	
580-27633-2	11NC21SS02	T	Solid	Moisture	
580-27633-3	11NC21SS03	T	Solid	Moisture	
580-27633-4	11NC21SS04	T	Solid	Moisture	
580-27633-5	11NC21SS05	T	Solid	Moisture	
580-27633-6	11NC21SS06	T	Solid	Moisture	
580-27633-7	11NC21SS07	T	Solid	Moisture	
580-27633-7MS	Matrix Spike	T	Solid	Moisture	
580-27633-7MSD	Matrix Spike Duplicate	T	Solid	Moisture	
580-27633-8	11NC21SS08	T	Solid	Moisture	
580-27633-9	11NC21SS09	T	Solid	Moisture	
580-27633-10	11NC21SS10	T	Solid	Moisture	
580-27633-10DU	Duplicate	T	Solid	Moisture	

#### Report Basis

T = Total

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration	
					Reagent ID	Volume Added			
ICPMS- ICSA_00002	12/01/11		Inorganic Ventures, Lot d2-meb329124			(Purchased Reagent)	Al	1000 ug/mL	
							Ca	3000 ug/mL	
							Fe	2500 ug/mL	
							K	1000 ug/mL	
							Mg	1000 ug/mL	
							Mo	20 ug/mL	
							Na	2500 ug/mL	
Ti	20 ug/mL								
ICPMS-ICSB_00002	12/01/11		Inorganic Ventures, Lot d2-meb324099			(Purchased Reagent)	Ag	5 ug/mL	
							Arsenic	10 ug/mL	
							Cd	10 ug/mL	
							Co	20 ug/mL	
							Cr	20 ug/mL	
							Cu	20 ug/mL	
							Mn	20 ug/mL	
							Ni	20 ug/mL	
							Se	10 ug/mL	
V	20 ug/mL								
Zn	10 ug/mL								
ICPMS CAL WOR 00007	09/22/11	06/30/11	H2O, Lot 123010	1000 mL	ICPMS_CAL_00001	10 mL	Arsenic	100 ug/L	
.ICPMS CAL 00001	09/22/11		CPI, Lot 10C166				(Purchased Reagent)	Arsenic	10 mg/L
ICPMS ICV WOR 00009	08/15/11	05/16/11	H2O, Lot 021511	1000 mL	ICPMS_ICV_00003	4 mL	Arsenic	40 ug/L	
.ICPMS ICV 00003	01/30/12		SPEX, Lot 5-236cr				(Purchased Reagent)	Arsenic	10 mg/L
m-GPS-1_00021	12/29/12		CPI, Lot 11F316				(Purchased Reagent)	Arsenic	200 ppm
SRMsolid_00006	01/31/14		ERA, Lot D069-540				(Purchased Reagent)	Arsenic	109 mg/Kg

# Certification Summary

Client: Bristol Env. Remediation Services LLC  
Project/Site: NE Cape HTRW

TestAmerica Job ID: 580-27633-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Seattle	Alaska	Alaska UST	10	UST-022
TestAmerica Seattle	Alaska	TA-Port Heiden Mobile Lab	10	UST-093
TestAmerica Seattle	California	NELAC	9	1115CA
TestAmerica Seattle	Florida	NELAC	4	E871074
TestAmerica Seattle	L-A-B	DoD ELAP		L2236
TestAmerica Seattle	L-A-B	ISO/IEC 17025		L2236
TestAmerica Seattle	Louisiana	NELAC	6	05016
TestAmerica Seattle	Montana	MT DEQ UST	8	N/A
TestAmerica Seattle	Oregon	NELAC	10	WA100007
TestAmerica Seattle	USDA	USDA		P330-11-00222
TestAmerica Seattle	Washington	State Program	10	C553

Accreditation may not be offered or required for all methods and analytes reported in this package Please contact your project manager for the laboratory's current list of certified methods and analytes.

# **METALS**



COVER PAGE  
METALS

Lab Name: TestAmerica Seattle Job Number: 580-27633-1

SDG No.: \_\_\_\_\_

Project: NE Cape HTRW

Client Sample ID	Lab Sample ID
<u>11NC21SS01</u>	<u>580-27633-1</u>
<u>11NC21SS02</u>	<u>580-27633-2</u>
<u>11NC21SS03</u>	<u>580-27633-3</u>
<u>11NC21SS04</u>	<u>580-27633-4</u>
<u>11NC21SS05</u>	<u>580-27633-5</u>
<u>11NC21SS06</u>	<u>580-27633-6</u>
<u>11NC21SS07</u>	<u>580-27633-7</u>
<u>11NC21SS08</u>	<u>580-27633-8</u>
<u>11NC21SS09</u>	<u>580-27633-9</u>
<u>11NC21SS10</u>	<u>580-27633-10</u>

Comments:

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS01

Lab Sample ID: 580-27633-1

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

SDG ID.: \_\_\_\_\_

Matrix: Solid

Date Sampled: 07/22/2011 08:45

Reporting Basis: DRY

Date Received: 07/27/2011 10:05

% Solids: 21.3

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	5.4	2.1	1.7	0.77	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS02

Lab Sample ID: 580-27633-2

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

SDG ID.: \_\_\_\_\_

Matrix: Solid

Date Sampled: 07/22/2011 09:00

Reporting Basis: DRY

Date Received: 07/27/2011 10:05

% Solids: 29.6

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	3.1	1.7	1.3	0.60	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS03 Lab Sample ID: 580-27633-3  
 Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 07/22/2011 09:15  
 Reporting Basis: DRY Date Received: 07/27/2011 10:05  
 % Solids: 20.4

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	3.5	2.3	1.8	0.83	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS04

Lab Sample ID: 580-27633-4

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

SDG ID.: \_\_\_\_\_

Matrix: Solid

Date Sampled: 07/22/2011 09:30

Reporting Basis: DRY

Date Received: 07/27/2011 10:05

% Solids: 27.0

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	6.0	1.6	1.3	0.58	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS05 Lab Sample ID: 580-27633-5  
 Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 07/22/2011 09:40  
 Reporting Basis: DRY Date Received: 07/27/2011 10:05  
 % Solids: 11.0

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	6.0	4.3	3.4	1.5	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS06 Lab Sample ID: 580-27633-6  
 Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 07/22/2011 09:50  
 Reporting Basis: DRY Date Received: 07/27/2011 10:05  
 % Solids: 16.9

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	10	2.6	2.1	0.92	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS07 Lab Sample ID: 580-27633-7  
 Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 07/22/2011 10:00  
 Reporting Basis: DRY Date Received: 07/27/2011 10:05  
 % Solids: 39.3

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	6.3	1.2	0.95	0.43	mg/Kg		D	10	6020



1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS08 Lab Sample ID: 580-27633-8  
 Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 07/22/2011 10:15  
 Reporting Basis: DRY Date Received: 07/27/2011 10:05  
 % Solids: 42.3

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	3.6	1.1	0.90	0.40	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS09 Lab Sample ID: 580-27633-9  
 Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 07/18/2011 10:30  
 Reporting Basis: DRY Date Received: 07/27/2011 10:05  
 % Solids: 11.0

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	22	3.6	2.9	1.3	mg/Kg		D	10	6020

1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 11NC21SS10 Lab Sample ID: 580-27633-10  
 Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 07/18/2011 09:20  
 Reporting Basis: DRY Date Received: 07/27/2011 10:05  
 % Solids: 15.5

Analyte	Result	LOQ	LOD	DL	Units	C	Q	DIL	Method
Arsenic	2.9	2.6	2.1	0.95	mg/Kg		D	10	6020

2A-IN  
 CALIBRATION VERIFICATIONS  
 METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

ICV Source: ICPMS\_ICV\_WOR\_00009 Concentration Units: mg/L

CCV Source: ICPMS\_CAL\_WOR\_00007

Analyte	ICV 580-91557/7 07/28/2011 15:14				CCV 580-91557/77 07/28/2011 23:03				CCV 580-91557/83 07/28/2011 23:32			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
<b>Arsenic</b>	0.0403		0.0400	101	0.0482		0.0500	96	0.0488		0.0500	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Italicized analytes were not requested for this sequence.

2A-IN  
 CALIBRATION VERIFICATIONS  
 METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

ICV Source: ICPMS\_ICV\_WOR\_00009 Concentration Units: mg/L

CCV Source: ICPMS\_CAL\_WOR\_00007

Analyte	CCV 580-91557/91 07/29/2011 00:11				CCV 580-91557/102 07/29/2011 01:03							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
<b>Arsenic</b>	0.0483		0.0500	97	0.0485		0.0500	97				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Italicized analytes were not requested for this sequence.

2B-IN  
CRQL CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
 SDG No.: \_\_\_\_\_  
 Method: 6020 Instrument ID: SEA044  
 Lab Sample ID: CRI 580-91557/9 Concentration Units: mg/L  
 CRQL Check Standard Source: ICPMS\_CAL\_WOR\_00007

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Arsenic	0.00200	0.00206		103	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Concentration Units: mg/L

Analyte	RL	ICB 580-91557/8 07/28/2011 15:18		CCB 580-91557/78 07/28/2011 23:08		CCB 580-91557/84 07/28/2011 23:37		CCB 580-91557/92 07/29/2011 00:15	
		Found	C	Found	C	Found	C	Found	C
<b>Arsenic</b>	0.0010	0.00080	U	0.00080	U	0.00080	U	0.00080	U

Italicized analytes were not requested for this sequence.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Concentration Units: mg/L

Analyte	RL	CCB 580-91557/103 07/29/2011 01:08		Found	C	Found	C	Found	C
		Found	C						
<b>Arsenic</b>	0.0010	0.00080	U						

Italicized analytes were not requested for this sequence.



3-IN  
METHOD BLANK  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1  
SDG No.: \_\_\_\_\_  
Concentration Units: mg/Kg Lab Sample ID: MB 580-91441/14-A  
Instrument Code: SEA044 Batch No.: 91557

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	0.40	U		6020

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSA 580-91557/10

Instrument ID: SEA044

Lab File ID: 013SMPL.D

ICS Source: ICPMS- ICSA\_00002

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution A	Solution A	
<b>Arsenic</b>		<b>0.0000</b>	
Aluminum	20.0	18.6	93
Antimony		0.0001	
Barium		0.0001	
Beryllium		0.0000	
Cadmium		0.0001	
Calcium	60.0	58.1	97
Chromium		0.0012	
Cobalt		0.0000	
Copper		0.0001	
Iron	50.0	50.2	100
Lead		0.0001	
Magnesium	20.0	19.6	98
Manganese		0.0005	
Mercury		0.0000	
Molybdenum	0.400	0.426	107
Nickel		0.0005	
Potassium	20.0	19.5	98
Selenium		0.0000	
Silver		0.0000	
Sodium	50.0	49.4	99
Strontium		0.0000	
Thallium		0.0001	
Tin		0.0002	
Titanium	0.400	0.396	99
Uranium		0.0000	
Vanadium		-0.0001	
Zinc		0.0009	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSAB 580-91557/11

Instrument ID: SEA044

Lab File ID: 014SMPL.D

ICS Source: ICPMS- ICSA\_00002

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
<b>Arsenic</b>	<b>0.0200</b>	<b>0.0206</b>	<b>103</b>
Aluminum	20.0	18.8	94
Antimony		0.0001	
Barium		0.0001	
Beryllium		0.0000	
Cadmium	0.0200	0.0211	106
Calcium	60.0	57.3	96
Chromium	0.0400	0.0412	103
Cobalt	0.0400	0.0401	100
Copper	0.0400	0.0395	99
Iron	50.0	49.6	99
Lead		0.0000	
Magnesium	20.0	20.1	101
Manganese	0.0400	0.0402	101
Mercury		0.0000	
Molybdenum	0.400	0.431	108
Nickel	0.0400	0.0403	101
Potassium	20.0	19.7	98
Selenium	0.0200	0.0197	98
Silver	0.0100	0.0106	106
Sodium	50.0	50.6	101
Strontium		0.0000	
Thallium		0.0000	
Tin		0.0001	
Titanium	0.400	0.399	100
Uranium		0.0000	
Vanadium	0.0400	0.0412	103
Zinc	0.0200	0.0206	103

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSAB 580-91557/11

Instrument ID: SEA044

Lab File ID: 014SMPL.D

ICS Source: ICPMS-ICSB\_00002

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
<b>Arsenic</b>	<b>0.0200</b>	<b>0.0206</b>	<b>103</b>
Aluminum	20.0	18.8	94
Antimony		0.0001	
Barium		0.0001	
Beryllium		0.0000	
Cadmium	0.0200	0.0211	106
Calcium	60.0	57.3	96
Chromium	0.0400	0.0412	103
Cobalt	0.0400	0.0401	100
Copper	0.0400	0.0395	99
Iron	50.0	49.6	99
Lead		0.0000	
Magnesium	20.0	20.1	101
Manganese	0.0400	0.0402	101
Mercury		0.0000	
Molybdenum	0.400	0.431	108
Nickel	0.0400	0.0403	101
Potassium	20.0	19.7	98
Selenium	0.0200	0.0197	98
Silver	0.0100	0.0106	106
Sodium	50.0	50.6	101
Strontium		0.0000	
Thallium		0.0000	
Tin		0.0001	
Titanium	0.400	0.399	100
Uranium		0.0000	
Vanadium	0.0400	0.0412	103
Zinc	0.0200	0.0206	103

Calculations are performed before rounding to avoid round-off errors in calculated results.

5A-IN  
 MATRIX SPIKE SAMPLE RECOVERY  
 METALS

Client ID: 11NC21SS07 MS                      Lab ID: 580-27633-7 MS  
 Lab Name: TestAmerica Seattle                      Job No.: 580-27633-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid                      Concentration Units: mg/Kg  
 % Solids: 39.3

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Arsenic	443	6.3	433	101	80-120	D	6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.

5A-IN  
 MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
 METALS

Client ID: 11NC21SS07 MSD                      Lab ID: 580-27633-7 MSD  
 Lab Name: TestAmerica Seattle                      Job No.: 580-27633-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid                      Concentration Units: mg/Kg  
 % Solids: 39.3

Analyte	(SDR) C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	465	457	100	80-120	5	20	D	6020

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.

5B-IN  
 POST DIGESTION SPIKE SAMPLE RECOVERY  
 METALS

Client ID: 11NC21SS07 PDS Lab ID: 580-27633-7 PDS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Matrix: Solid Concentration Units: mg/Kg

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Arsenic	486	6.3	476	101	75-125	D	6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.

6-IN  
 DUPLICATES  
 METALS

Client ID: 11NC21SS07 DU                      Lab ID: 580-27633-7 DU  
 Lab Name: TestAmerica Seattle                      Job No.: 580-27633-1  
 SDG No.: \_\_\_\_\_  
 % Solids for Sample: 39.3                      % Solids for Duplicate: 39.3  
 Matrix: Solid                      Concentration Units: mg/Kg

Analyte	Control Limit	Sample (S) C	Duplicate (D) C	RPD	Q	Method
Arsenic	1.2	6.3	5.74	9	D	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
LAB CONTROL SAMPLE  
METALS

Lab ID: LCS 580-91441/15-A

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

Sample Matrix: Solid

LCS Source: m-GPS-1\_00021

Analyte	Solid(mg/Kg)						
	True	Found	C	%R	Limits	Q	Method
Arsenic	200	194		97	80 120	D	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN  
 LAB CONTROL SAMPLE DUPLICATE  
 METALS

Lab ID: LCSD 580-91441/16-A

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

Sample Matrix: Solid

LCS Source: m-GPS-1\_00021

Analyte	(SDR) C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	193	200	96	80-120	0	20	D	6020

SDR = Spike Duplicate Results

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN  
 LCS-CERTIFIED REFERENCE MATERIAL  
 METALS

Lab ID: LCSSRM 580-91441/17-A

Lab Name: TestAmerica Seattle

Job No.: 580-27633-1

Sample Matrix: Solid

LCS Source: SRMsolid\_00006

Analyte	Solid(mg/Kg)						
	True	Found	C	%R	Limits	Q	Method
Arsenic	109	108		99	71.1    128.9	D	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN  
 ICP-AES AND ICP-MS SERIAL DILUTIONS  
 METALS

Lab ID: 580-27633-7

SDG No: \_\_\_\_\_

Lab Name: TestAmerica Seattle

Job No: 580-27633-1

Matrix: Solid

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	Method
Arsenic	6.3	6.43	NC	D	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN  
DETECTION LIMITS  
METALS

Lab Name: TestAmerica Seattle Job Number: 580-27633-1  
SDG Number: \_\_\_\_\_  
Matrix: Solid Instrument ID: SEA044  
Method: 6020 DL Date: 06/10/2011 10:12  
Prep Method: 3050B

Analyte	Wavelength/ Mass	LOQ (mg/Kg)	DL (mg/Kg)
Arsenic		0.5	0.18

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS

Lab Name: TestAmerica Seattle Job Number: 580-27633-1  
SDG Number: \_\_\_\_\_  
Matrix: Solid Instrument ID: SEA044  
Method: 6020 XMDL Date: 06/24/2011 10:09

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Arsenic		0.001	0.00075

11-IN  
LINEAR RANGES  
METALS

Lab Name: TestAmerica Seattle

Job No: 580-27633-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044

Date: 03/01/2010 06:51

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Arsenic		5	6020

12-IN  
PREPARATION LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Prep Method: 3050B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
580-27633-7	07/28/2011 08:45	91441	1.0686		50
580-27633-7 DU	07/28/2011 08:45	91441	1.0837		50
580-27633-7 MS	07/28/2011 08:45	91441	1.1752		50
580-27633-7 MSD	07/28/2011 08:45	91441	1.1130		50
580-27633-10	07/28/2011 08:45	91441	1.2223		50
580-27633-9	07/28/2011 08:45	91441	1.2630		50
580-27633-8	07/28/2011 08:45	91441	1.0568		50
580-27633-6	07/28/2011 08:45	91441	1.1500		50
580-27633-5	07/28/2011 08:45	91441	1.0666		50
580-27633-4	07/28/2011 08:45	91441	1.1489		50
580-27633-3	07/28/2011 08:45	91441	1.0681		50
580-27633-2	07/28/2011 08:45	91441	1.0054		50
580-27633-1	07/28/2011 08:45	91441	1.0982		50
MB 580-91441/14-A	07/28/2011 08:45	91441	1.0		50
LCS 580-91441/15-A	07/28/2011 08:45	91441	1.0		50
LCSD 580-91441/16-A	07/28/2011 08:45	91441	1.0		50
LCSSRM 580-91441/17-A	07/28/2011 08:45	91441	0.5062		50



13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 07/28/2011 14:45 End Date: 07/29/2011 01:08

Lab Sample ID	D / F	Type	Time	Analytes															
				A	S														
STD0 580-91557/1 IC	1		14:45	X															
STD1 580-91557/2 IC	1		14:50	X															
STD2 580-91557/3 IC	1		14:55	X															
STD3 580-91557/4 IC	1		14:59	X															
STD4 580-91557/5 IC	1		15:04	X															
STD5 580-91557/6 IC	1		15:09	X															
ICV 580-91557/7	1		15:14	X															
ICB 580-91557/8	1		15:18	X															
CRI 580-91557/9	1		15:23	X															
ICSA 580-91557/10	1		15:28	X															
ICSAB 580-91557/11	1		15:33	X															
ZZZZZZ			16:06																
ZZZZZZ			16:11																
ZZZZZZ			16:16																
ZZZZZZ			16:30																
ZZZZZZ			16:35																
ZZZZZZ			16:40																
ZZZZZZ			16:44																
ZZZZZZ			16:49																
ZZZZZZ			16:54																
ZZZZZZ			17:08																
ZZZZZZ			17:13																
ZZZZZZ			17:18																
ZZZZZZ			17:22																
ZZZZZZ			17:27																
ZZZZZZ			17:32																
ZZZZZZ			17:36																
ZZZZZZ			17:41																
ZZZZZZ			17:56																
ZZZZZZ			18:00																
ZZZZZZ			18:05																
ZZZZZZ			18:20																
ZZZZZZ			18:24																
ZZZZZZ			18:29																
ZZZZZZ			18:34																
ZZZZZZ			18:39																
ZZZZZZ			18:43																
ZZZZZZ			18:58																
ZZZZZZ			19:02																
ZZZZZZ			19:07																
ZZZZZZ			19:12																
ZZZZZZ			19:17																

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 07/28/2011 14:45 End Date: 07/29/2011 01:08

Lab Sample ID	D / F	T y p e	Time	Analytes															
				A	S														
ZZZZZZ			19:22																
ZZZZZZ			19:27																
ZZZZZZ			19:31																
ZZZZZZ			19:36																
ZZZZZZ			19:41																
ZZZZZZ			19:55																
ZZZZZZ			20:00																
ZZZZZZ			20:05																
ZZZZZZ			20:10																
ZZZZZZ			20:15																
ZZZZZZ			20:19																
ZZZZZZ			20:43																
ZZZZZZ			20:48																
ZZZZZZ			20:53																
ZZZZZZ			21:08																
ZZZZZZ			21:12																
ZZZZZZ			21:17																
ZZZZZZ			21:22																
ZZZZZZ			21:27																
ZZZZZZ			21:32																
ZZZZZZ			21:46																
ZZZZZZ			21:51																
ZZZZZZ			21:56																
ZZZZZZ			22:01																
ZZZZZZ			22:15																
ZZZZZZ			22:20																
ZZZZZZ			22:25																
ZZZZZZ			22:29																
ZZZZZZ			22:34																
ZZZZZZ			22:39																
ZZZZZZ			22:44																
ZZZZZZ			22:49																
ZZZZZZ			22:54																
ZZZZZZ			22:59																
CCV 580-91557/77	1		23:03	X															
CCB 580-91557/78	1		23:08	X															
MB 580-91441/14-A	10	T	23:13	X															
LCS 580-91441/15-A	50	T	23:18	X															
LCSD 580-91441/16-A	50	T	23:23	X															
LCSSRM 580-91441/17-A	20	T	23:28	X															
CCV 580-91557/83	1		23:32	X															
CCB 580-91557/84	1		23:37	X															

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 07/28/2011 14:45 End Date: 07/29/2011 01:08

Lab Sample ID	D / F	T y p e	Time	Analytes																
				A	S															
580-27633-7 SD	50	T	23:42	X																
580-27633-7	10	T	23:47	X																
580-27633-7 DU	10	T	23:51	X																
580-27633-7 MS	50	T	23:56	X																
580-27633-7 MSD	50	T	00:01	X																
580-27633-7 PDS	50	T	00:06	X																
CCV 580-91557/91	1		00:11	X																
CCB 580-91557/92	1		00:15	X																
580-27633-10	10	T	00:20	X																
580-27633-9	10	T	00:25	X																
580-27633-8	10	T	00:30	X																
580-27633-6	10	T	00:35	X																
580-27633-5	10	T	00:39	X																
580-27633-4	10	T	00:44	X																
580-27633-3	10	T	00:49	X																
580-27633-2	10	T	00:54	X																
580-27633-1	10	T	00:59	X																
CCV 580-91557/102	1		01:03	X																
CCB 580-91557/103	1		01:08	X																

Prep Types  
T = Total/NA

15-IN  
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: SEA044 Start Date: 07/28/2011 End Date: 07/29/2011

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Li-6	Q	Element Sc	Q	Element Ge	Q	Element Rh	Q
STD0 580-91557/1 IC	14:45	100		100		100		100		100	
STD1 580-91557/2 IC	14:50	98		104		98		99		97	
STD2 580-91557/3 IC	14:55	99		100		100		99		98	
STD3 580-91557/4 IC	14:59	98		94		99		101		99	
STD4 580-91557/5 IC	15:04	96		95		99		100		97	
STD5 580-91557/6 IC	15:09	94		98		100		98		96	
ICV 580-91557/7	15:14	96		95		99		99		96	
ICB 580-91557/8	15:18	99		98		100		99		98	
CRI 580-91557/9	15:23	97		99		99				99	
ICSA 580-91557/10	15:28	96		99		102		97		89	
ICSAB 580-91557/11	15:33	95		95		100		98		88	
CCV 580-91557/77	23:03	101		101		105		105		100	
CCB 580-91557/78	23:08	96		102		103		104		105	
MB 580-91441/14-A	23:13					105				103	
LCS 580-91441/15-A	23:18					101				102	
LCSD 580-91441/16-A	23:23					103				102	
LCSSRM	23:28					103				100	
CCV 580-91557/83	23:32	101		99		107		105		101	
CCB 580-91557/84	23:37	97		98		103		105		104	
580-27633-7 SD	23:42	112		136		114				104	
580-27633-7	23:47					104				100	
580-27633-7 DU	23:51					103				100	
580-27633-7 MS	23:56					109				101	
580-27633-7 MSD	00:01					109				101	
580-27633-7 PDS	00:06	105		128		107				101	
CCV 580-91557/91	00:11	100		103		108		107		101	
CCB 580-91557/92	00:15	96		97		102		107		104	
580-27633-10	00:20					101				105	
580-27633-9	00:25					102				102	
580-27633-8	00:30					100				100	
580-27633-6	00:35					95				96	
580-27633-5	00:39					101				102	
580-27633-4	00:44					100				101	
580-27633-3	00:49					97				102	
580-27633-2	00:54					98				103	
580-27633-1	00:59					101				102	
CCV 580-91557/102	01:03	92		96		107		106		103	
CCB 580-91557/103	01:08	91		93		101		106		106	

15-IN  
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: SEA044 Start Date: 07/28/2011 End Date: 07/29/2011

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ho	Q	Element Lu	Q	Element Bi	Q	Element	Q	Element	Q
STD0 580-91557/1 IC	14:45	100		100		100					
STD1 580-91557/2 IC	14:50	98		100		99					
STD2 580-91557/3 IC	14:55	100		100		99					
STD3 580-91557/4 IC	14:59	100		101		99					
STD4 580-91557/5 IC	15:04	100		101		96					
STD5 580-91557/6 IC	15:09	99		100		95					
ICV 580-91557/7	15:14	99		99		97					
ICB 580-91557/8	15:18	100		99		99					
CRI 580-91557/9	15:23	101		101							
ICSA 580-91557/10	15:28	95		95		88					
ICSAB 580-91557/11	15:33	95		97		88					
CCV 580-91557/77	23:03	104		105		99					
CCB 580-91557/78	23:08	105		107		102					
MB 580-91441/14-A	23:13	106		106							
LCS 580-91441/15-A	23:18	104		104							
LCSD 580-91441/16-A	23:23	103		106							
LCSSRM	23:28	105		105							
CCV 580-91557/83	23:32	105		106		99					
CCB 580-91557/84	23:37	105		106		104					
580-27633-7 SD	23:42	105		106							
580-27633-7	23:47	105		106							
580-27633-7 DU	23:51	104		106							
580-27633-7 MS	23:56	104		104							
580-27633-7 MSD	00:01	104		106							
580-27633-7 PDS	00:06	104		105							
CCV 580-91557/91	00:11	104		105		100					
CCB 580-91557/92	00:15	106		107		103					
580-27633-10	00:20	106		108							
580-27633-9	00:25	106		105							
580-27633-8	00:30	105		106							
580-27633-6	00:35	102		102							
580-27633-5	00:39	106		107							
580-27633-4	00:44	106		107							
580-27633-3	00:49	107		108							
580-27633-2	00:54	107		105							
580-27633-1	00:59	107		107							
CCV 580-91557/102	01:03	105		107		100					
CCB 580-91557/103	01:08	108		107		105					

Step	Mass	Element	r	b(blank)	DL	BEC	Unit
1	6	Li	0.0000	---	---	---	ug/l
1	7	Li	0.0000	---	---	---	ug/l
1	9	Be	1.0000	3.527E-04	7.290E-03	1.403E-03	ug/l
1	23	Na	0.9999	4.226 7.532	102.0	ug/l	
1	24	Mg	0.9999	4.976E-03	1.231E-01	2.087E-01	ug/l
1	27	Al	1.0000	1.515E-02	4.394E-01	1.143	ug/l
1	31	P	1.0000	2.391E-02	6.391 21.51	ug/l	
1	39	K	0.9999	2.882 10.55	104.3	ug/l	
1	44	Ca	1.0000	2.112E-02	2.113 14.71	ug/l	
1	45	Sc	0.0000	---	---	---	ug/l
1	47	Ti	1.0000	1.563E-04	4.618E-02	1.806E-02	ug/l
1	51	V	1.0000	1.381E-02	6.923E-02	1.693E-01	ug/l
1	52	Cr	1.0000	1.095E-02	8.651E-03	1.131E-01	ug/l
1	55	Mn	1.0000	1.470E-02	2.636E-02	2.165E-01	ug/l
1	56	Fe	1.0000	1.010E-01	3.290E-02	1.189	ug/l
1	59	Co	1.0000	4.722E-04	4.487E-03	3.166E-03	ug/l
1	60	Ni	1.0000	2.548E-03	4.799E-02	6.570E-02	ug/l
1	63	Cu	1.0000	3.808E-03	1.779E-02	3.701E-02	ug/l
1	66	Zn	1.0000	4.389E-03	2.089E-02	1.994E-01	ug/l
1	74	Ge	0.0000	---	---	---	ug/l
1	75	As	1.0000	1.308E-03	5.350E-02	7.777E-02	ug/l
1	78	Se	1.0000	7.275E-04	6.166E-02	4.898E-01	ug/l
1	88	Sr	1.0000	3.346E-03	6.714E-03	6.312E-02	ug/l
1	95	Mo	1.0000	4.525E-04	2.432E-02	1.508E-02	ug/l
1	103	Rh	0.0000	---	---	---	ug/l
1	109	Ag	0.9999	2.916E-04	4.512E-03	3.118E-03	ug/l
1	111	Cd	1.0000	7.730E-05	2.797E-02	4.643E-03	ug/l
1	118	Sn	1.0000	3.323E-03	1.222E-02	9.571E-02	ug/l
1	123	Sb	1.0000	5.840E-04	2.147E-02	1.417E-02	ug/l
1	135	Ba	1.0000	1.895E-04	5.640E-02	2.021E-02	ug/l
1	165	Ho	0.0000	---	---	---	ug/l
1	175	Lu	0.0000	---	---	---	ug/l
1	200	Hg	1.0000	3.379E-04	4.519E-03	6.761E-03	ug/l
1	205	Tl	1.0000	1.489E-02	1.879E-02	3.893E-02	ug/l
1	208	Pb	0.9999	2.199E-01	4.208E-02	4.132E-01	ug/l
1	209	Bi	0.0000	---	---	---	ug/l
1	238	U	0.9998	5.816E-04	1.349E-03	1.070E-03	ug/l

**TA Seattle Calibration Blank QC Report 200.8/6020 ICP-MS 7500ce**

Data File: C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D#  
 Date Acquired: Jul 28 2011 02:45 pm Acq. Method: 00He\_ALL.M  
 Sample Name: STD0 Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711  
 Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Tune # Name  
 Operator: FCW ICP-MS ID#SEA44 1 c:\icpchem\1\7500\he.u  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 2 C:\ICPCHEM\1\7500\  
 Last Cal. Update: Jul 29 2011 07:21 am 3 C:\ICPCHEM\1\7500\  
 ISTD Ref File : --- Sample Type: CalBlk

**QC&ISTD Elements**

Element	Tune	CPS Mean	SD	RSD(%)	
6	Li	1	46988.6 P	377.30	0.80
7	Li	1	3884.0 P	182.50	4.70
9	Be	1	0.3 P	0.58	173.22
23	Na	1	100254.1 P	311.00	0.31
24	Mg	1	118.3 P	25.17	21.27
27	Al	1	360.0 P	52.68	14.63
31	P	1	566.7 P	46.46	8.20
39	K	1	68351.9 P	822.80	1.20
44	Ca	1	500.8 P	12.82	2.56
45	Sc	1	1186532.0 A	25760.00	2.17
47	Ti	1	3.7 P	3.06	83.32
51	V	1	921.7 P	110.10	11.95
52	Cr	1	731.7 P	5.77	0.79
55	Mn	1	983.4 P	54.85	5.58
56	Fe	1	6751.9 P	58.98	0.87
57	Fe	1	P		
59	Co	1	31.7 P	15.28	48.25
60	Ni	1	170.0 P	39.05	22.97
63	Cu	1	255.0 P	44.44	17.43
66	Zn	1	293.3 P	5.77	1.97
74	Ge	1	3343133.0 A	60230.00	1.80
75	As	1	87.3 P	19.22	22.01
78	Se	1	48.7 P	2.93	6.02
88	Sr	1	382.6 P	15.20	3.97
95	Mo	1	51.7 P	27.54	53.30
99	(Mo)	1	P		
103	Rh	1	5717084.0 A	28530.00	0.50
106	(Cd)	1	P		
108	(Cd)	1	P		
109	Ag	1	33.3 P	16.07	48.21
111	Cd	1	8.8 P	17.66	201.13
118	Sn	1	380.0 P	17.32	4.56
123	Sb	1	66.7 P	33.29	49.93
135	Ba	1	21.7 P	20.21	93.28
165	Ho	1	2591248.0 A	12580.00	0.49
175	Lu	1	2069703.0 A	32920.00	1.59
200	Hg	1	19.3 P	4.51	23.32
205	Tl	1	851.7 P	144.60	16.98
206	Pb	1	P		
207	Pb	1	P		
208	Pb	1	12559.6 P	298.20	2.37
209	Bi	1	2856676.0 A	32690.00	1.14
238	U	1	33.3 P	14.43	43.29

**TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce**

Data File: C:\ICPCHEM\1\DATA\072811P.B\005CAL.S.D\005CAL.S.D#  
 Date Acquired: Jul 28 2011 02:50 pm Acq. Method: 00He\_ALL.M  
 Sample Name: STD1 Vial Number: 1305  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711 Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 icpchem\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 C:\ICPCHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 C:\ICPCHEM\1\7500\  
 Sample Type: CalStd

**QC&ISTD Elements**

Element	IS	T#	CPS Mean	SD	RSD(%)
9	Be	6	23.3 P	4.93	21.14
23	Na	45	124576.1 P	1563.00	1.25
24	Mg	45	6350.1 P	79.80	1.26
27	Al	45	723.4 P	23.10	3.19
31	P	45	831.7 P	60.49	7.27
39	K	45	77101.1 P	158.30	0.21
44	Ca	45	922.5 P	14.68	1.59
47	Ti	45	23.0 P	1.00	4.35
51	V	74	1448.4 P	72.87	5.03
52	Cr	74	1500.1 P	76.98	5.13
55	Mn	74	741.7 P	98.67	13.30
56	Fe	74	71711.5 P	708.70	0.99
59	Co	74	1018.4 P	107.70	10.58
60	Ni	74	590.0 P	39.05	6.62
63	Cu	74	1723.5 P	58.60	3.40
66	Zn	74	933.4 P	40.11	4.30
75	As	74	212.7 P	19.73	9.28
78	Se	74	55.0 P	5.57	10.12
88	Sr	103	1070.9 P	36.92	3.45
95	Mo	103	363.3 P	35.12	9.67
109	Ag	103	1106.7 P	37.53	3.39
111	Cd	103	186.2 P	51.46	27.63
118	Sn	103	766.7 P	10.41	1.36
123	Sb	103	560.0 P	66.15	11.81
135	Ba	103	136.7 P	20.21	14.79
200	Hg	209	32.3 P	6.66	20.59
205	Tl	209	3062.1 P	229.90	7.51
208	Pb	209	15656.2 P	209.00	1.33
238	U	209	3152.2 P	98.30	3.12

**ISTD Elements**

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46188	1.72	46990	98.3	30 - 125
45	Sc	1	1165811	1.83	1187000	98.2	30 - 125
74	Ge	1	3322375	0.30	3343000	99.4	30 - 125
103	Rh	1	5602646	0.91	5717000	98.0	30 - 125
165	Ho	1	2555758	0.87	2591000	98.6	30 - 125
175	Lu	1	2077839	2.66	2070000	100.4	30 - 125
209	Bi	1	2840906	2.03	2857000	99.4	30 - 125

**Analytes:** Pass **ISTD:** Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed



TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\072811P.B\006CAL.S.D\006CAL.S.D#  
 Date Acquired: Jul 28 2011 02:55 pm Acq. Method: 00He\_ALL.M  
 Sample Name: STD2 Vial Number: 1304  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711 Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 icpchem\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 C:\ICPCHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 C:\ICPCHEM\1\7500\  
 Sample Type: CalStd

QC&ISTD Elements

Element	IS	T#	CPS Mean	SD	RSD(%)
9	Be	6	230.7 P	15.63	6.78
23	Na	45	210850.0 P	571.40	0.27
24	Mg	45	61845.6 P	404.30	0.65
27	Al	45	4147.4 P	95.08	2.29
31	P	45	3213.8 P	56.88	1.77
39	K	45	138815.4 P	845.80	0.61
44	Ca	45	4021.3 P	109.00	2.71
47	Ti	45	199.3 P	14.57	7.31
51	V	74	6543.5 P	330.50	5.05
52	Cr	74	7475.7 P	311.60	4.17
55	Mn	74	4937.7 P	350.00	7.09
56	Fe	74	627895.5 P	6281.00	1.00
59	Co	74	10201.0 P	197.90	1.94
60	Ni	74	2805.4 P	140.00	4.99
63	Cu	74	7986.0 P	66.64	0.83
66	Zn	74	2051.9 P	92.52	4.51
75	As	74	1292.1 P	31.18	2.41
78	Se	74	151.3 P	2.47	1.63
88	Sr	103	6468.8 P	112.20	1.73
95	Mo	103	3318.8 P	77.69	2.34
109	Ag	103	11075.2 P	156.70	1.41
111	Cd	103	1917.2 P	111.50	5.82
118	Sn	103	4210.8 P	182.20	4.33
123	Sb	103	4579.3 P	145.00	3.17
135	Ba	103	1046.7 P	33.29	3.18
200	Hg	209	169.3 P	7.64	4.51
205	Tl	209	23512.4 P	401.20	1.71
208	Pb	209	43973.5 P	900.70	2.05
238	U	209	31012.5 P	78.19	0.25

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46584	3.87	46990	99.1	30 - 125
45	Sc	1	1188645	2.39	1187000	100.1	30 - 125
74	Ge	1	3321836	0.16	3343000	99.4	30 - 125
103	Rh	1	5651445	0.76	5717000	98.9	30 - 125
165	Ho	1	2601601	0.82	2591000	100.4	30 - 125
175	Lu	1	2075728	0.69	2070000	100.3	30 - 125
209	Bi	1	2854844	1.45	2857000	99.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\072811P.B\007CAL.S.D\007CAL.S.D#  
 Date Acquired: Jul 28 2011 02:59 pm Acq. Method: 00He\_ALL.M  
 Sample Name: STD3 Vial Number: 1303  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711 Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 icpchem\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 C:\ICPCHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 C:\ICPCHEM\1\7500\  
 Sample Type: CalStd

QC&ISTD Elements

Element	IS	T#	CPS Mean	SD	RSD(%)
9	Be	6	2280.9 P	45.01	1.97
23	Na	45	1144320.0 A	12010.00	1.05
24	Mg	45	610362.1 P	2035.00	0.33
27	Al	45	32735.4 P	564.70	1.73
31	P	45	26990.4 P	63.78	0.24
39	K	45	758238.1 A	18220.00	2.40
44	Ca	45	34936.8 P	323.20	0.93
47	Ti	45	2042.2 P	9.17	0.45
51	V	74	55637.4 P	824.50	1.48
52	Cr	74	66496.4 P	103.60	0.16
55	Mn	74	46810.3 P	357.40	0.76
56	Fe	74	5794335.0 A	96010.00	1.66
59	Co	74	101274.8 P	1200.00	1.18
60	Ni	74	26942.5 P	185.20	0.69
63	Cu	74	73718.7 P	833.50	1.13
66	Zn	74	15503.2 P	427.60	2.76
75	As	74	11399.9 P	224.40	1.97
78	Se	74	1034.0 P	32.64	3.16
88	Sr	103	61570.2 P	565.70	0.92
95	Mo	103	33880.1 P	805.20	2.38
109	Ag	103	110659.6 P	2305.00	2.08
111	Cd	103	18943.7 P	256.20	1.35
118	Sn	103	39062.9 P	112.30	0.29
123	Sb	103	45987.1 P	252.20	0.55
135	Ba	103	11053.6 P	98.37	0.89
200	Hg	209	1477.1 P	19.70	1.33
205	Tl	209	219674.6 P	4192.00	1.91
208	Pb	209	320894.9 P	1427.00	0.44
238	U	209	312097.4 P	1425.00	0.46

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46266	2.01	46990	98.5	30 - 125
45	Sc	1	1186350	1.48	1187000	99.9	30 - 125
74	Ge	1	3396453	0.68	3343000	101.6	30 - 125
103	Rh	1	5692425	1.24	5717000	99.6	30 - 125
165	Ho	1	2597809	0.67	2591000	100.3	30 - 125
175	Lu	1	2108504	1.20	2070000	101.9	30 - 125
209	Bi	1	2850669	0.18	2857000	99.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\072811P.B\008CAL.S.D\008CAL.S.D#  
 Date Acquired: Jul 28 2011 03:04 pm Acq. Method: 00He\_ALL.M  
 Sample Name: STD4 Vial Number: 1302  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711 Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 icpchem\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 C:\ICPCHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 C:\ICPCHEM\1\7500\  
 Sample Type: CalStd

QC&ISTD Elements

Element	IS	T#	CPS Mean	SD	RSD(%)
9	Be	6	11212.5 P	132.90	1.19
23	Na	45	5096512.0 A	74990.00	1.47
24	Mg	45	2878775.0 A	41730.00	1.45
27	Al	45	158091.0 P	3396.00	2.15
31	P	45	132024.1 P	2149.00	1.63
39	K	45	3394432.0 A	84000.00	2.47
44	Ca	45	172384.7 P	2683.00	1.56
47	Ti	45	10357.9 P	89.14	0.86
51	V	74	274451.5 P	2120.00	0.77
52	Cr	74	326432.8 P	3772.00	1.16
55	Mn	74	228164.6 P	2385.00	1.05
56	Fe	74	28417920.0 A	227600.00	0.80
59	Co	74	502264.5 P	1172.00	0.23
60	Ni	74	131360.1 P	1331.00	1.01
63	Cu	74	350940.1 P	2067.00	0.59
66	Zn	74	74150.1 P	894.50	1.21
75	As	74	56549.3 P	419.70	0.74
78	Se	74	5079.4 P	120.40	2.37
88	Sr	103	296234.5 P	3682.00	1.24
95	Mo	103	167371.8 P	1606.00	0.96
109	Ag	103	533112.1 P	1843.00	0.35
111	Cd	103	92603.8 P	283.30	0.31
118	Sn	103	192376.8 P	1014.00	0.53
123	Sb	103	229953.6 P	2350.00	1.02
135	Ba	103	52301.6 P	677.10	1.29
200	Hg	209	6958.4 P	83.69	1.20
205	Tl	209	1065500.0 A	52220.00	4.90
208	Pb	209	1502279.0 P	5417.00	0.36
238	U	209	1538555.0 A	26660.00	1.73

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45196	1.54	46990	96.2	30 - 125
45	Sc	1	1184112	3.44	1187000	99.8	30 - 125
74	Ge	1	3355869	1.34	3343000	100.4	30 - 125
103	Rh	1	5555868	2.12	5717000	97.2	30 - 125
165	Ho	1	2616860	2.23	2591000	101.0	30 - 125
175	Lu	1	2103814	1.01	2070000	101.6	30 - 125
209	Bi	1	2747823	0.46	2857000	96.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\072811P.B\009CAL.S.D\009CAL.S.D#  
 Date Acquired: Jul 28 2011 03:09 pm Acq. Method: 00He\_ALL.M  
 Sample Name: STD5 Vial Number: 1301  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711 Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 icpchem\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 C:\ICPCHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 C:\ICPCHEM\1\7500\  
 Sample Type: CalStd

QC&ISTD Elements

Element	IS	T#	CPS Mean	SD	RSD(%)
9	Be	6	22290.7 P	308.60	1.38
23	Na	45	9885482.0 A	118300.00	1.20
24	Mg	45	5627495.0 A	52600.00	0.93
27	Al	45	314505.0 P	2470.00	0.79
31	P	45	264501.5 P	2355.00	0.89
39	K	45	6595715.0 A	38870.00	0.59
44	Ca	45	340490.5 P	1531.00	0.45
47	Ti	45	20512.9 P	131.40	0.64
51	V	74	539107.8 P	5392.00	1.00
52	Cr	74	638576.5 P	2234.00	0.35
55	Mn	74	449206.2 P	4897.00	1.09
56	Fe	74	56060192.0 A	799000.00	1.43
59	Co	74	982928.6 A	11320.00	1.15
60	Ni	74	255373.8 P	1673.00	0.66
63	Cu	74	675849.0 P	4625.00	0.68
66	Zn	74	145449.3 P	1253.00	0.86
75	As	74	111063.9 P	181.20	0.16
78	Se	74	9823.5 P	73.61	0.75
88	Sr	103	583133.1 P	2143.00	0.37
95	Mo	103	330012.6 P	1528.00	0.46
109	Ag	103	1022287.0 A	5816.00	0.57
111	Cd	103	183211.5 P	1647.00	0.90
118	Sn	103	383036.6 P	4990.00	1.30
123	Sb	103	453201.9 P	2383.00	0.53
135	Ba	103	103086.5 P	681.50	0.66
200	Hg	209	13679.4 P	187.30	1.37
205	Tl	209	2091372.0 A	66880.00	3.20
208	Pb	209	2915463.0 A	10050.00	0.34
238	U	209	2958306.0 A	19120.00	0.65

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44183	0.92	46990	94.0	30 - 125
45	Sc	1	1187682	2.03	1187000	100.1	30 - 125
74	Ge	1	3297825	0.70	3343000	98.6	30 - 125
103	Rh	1	5503851	0.90	5717000	96.3	30 - 125
165	Ho	1	2572742	0.74	2591000	99.3	30 - 125
175	Lu	1	2082218	0.54	2070000	100.6	30 - 125
209	Bi	1	2741524	0.70	2857000	96.0	30 - 125

Analytes:

0 :Element Failures  
 0 :ISTD Failures

Pass

ISTD:

Pass

:Max. Number of Failures Allowed  
 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\010SMPL.D\010SMPL.D#  
 Date Acquired: Jul 28 2011 03:14 pm Acq. Method: 00He\_ALL.M  
 Sample Name: ICV Vial Number: 1105  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	39.220 ug/l	39.22	1.0	900	6	P
23	Na	1	4148.000 ug/l	4,148.00	1.6	450000	45	A
24	Mg	1	4152.000 ug/l	4,152.00	1.1	450000	45	A
27	Al	1	409.900 ug/l	409.90	1.7	450000	45	P
31	P	1	4081.000 ug/l	4,081.00	0.5	450000	45	P
39	K	1	4109.000 ug/l	4,109.00	0.6	450000	45	A
44	Ca	1	4088.000 ug/l	4,088.00	0.8	450000	45	P
47	Ti	1	40.910 ug/l	40.91	1.6	4500	45	P
51	V	1	40.240 ug/l	40.24	0.4	4500	74	P
52	Cr	1	40.840 ug/l	40.84	0.3	4500	74	P
55	Mn	1	40.530 ug/l	40.53	2.0	4500	74	P
56	Fe	1	4107.000 ug/l	4,107.00	1.0	450000	74	A
59	Co	1	40.130 ug/l	40.13	1.0	4500	74	P
60	Ni	1	40.510 ug/l	40.51	0.5	4500	74	P
63	Cu	1	41.530 ug/l	41.53	0.3	4500	74	P
66	Zn	1	40.830 ug/l	40.83	0.6	4500	74	P
75	As	1	40.320 ug/l	40.32	0.3	4500	74	P
78	Se	1	40.480 ug/l	40.48	0.3	4500	74	P
88	Sr	1	41.010 ug/l	41.01	0.9	4500	103	P
95	Mo	1	40.370 ug/l	40.37	0.5	4500	103	P
109	Ag	1	41.860 ug/l	41.86	0.7	4500	103	P
111	Cd	1	40.800 ug/l	40.80	0.3	4500	103	P
118	Sn	1	40.510 ug/l	40.51	0.9	4500	103	P
123	Sb	1	40.290 ug/l	40.29	0.8	4500	103	P
135	Ba	1	40.870 ug/l	40.87	1.1	4500	103	P
200	Hg	1	2.074 ug/l	2.07	2.1	45	209	P
205	Tl	1	40.810 ug/l	40.81	2.3	4500	209	P
208	Pb	1	40.270 ug/l	40.27	0.6	4500	209	P
238	U	1	39.950 ug/l	39.95	1.6	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45331	0.56	46990	96.5	30 - 125
45	Sc	1	1176323	0.78	1187000	99.1	30 - 125
74	Ge	1	3334914	0.63	3343000	99.8	30 - 125
103	Rh	1	5535555	0.46	5717000	96.8	30 - 125
165	Ho	1	2580297	0.29	2591000	99.6	30 - 125
175	Lu	1	2063929	0.60	2070000	99.7	30 - 125
209	Bi	1	2797347	0.50	2857000	97.9	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\011SMPL.D\011SMPL.D#  
 Date Acquired: Jul 28 2011 03:18 pm Acq. Method: 00He\_ALL.M  
 Sample Name: ICB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.00	152.2	900	6	P
23	Na	1	-0.185 ug/l	-0.19	1658.4	450000	45	P
24	Mg	1	0.015 ug/l	0.02	437.6	450000	45	P
27	Al	1	-0.013 ug/l	-0.01	457.2	450000	45	P
31	P	1	-1.663 ug/l	-1.66	37.5	450000	45	P
39	K	1	-1.621 ug/l	-1.62	190.6	450000	45	P
44	Ca	1	-0.604 ug/l	-0.60	49.7	450000	45	P
47	Ti	1	0.008 ug/l	0.01	142.4	4500	45	P
51	V	1	-0.020 ug/l	-0.02	90.5	4500	74	P
52	Cr	1	0.015 ug/l	0.02	58.0	4500	74	P
55	Mn	1	0.003 ug/l	0.00	433.5	4500	74	P
56	Fe	1	1.591 ug/l	1.59	11.7	450000	74	P
59	Co	1	0.002 ug/l	0.00	124.9	4500	74	P
60	Ni	1	-0.020 ug/l	-0.02	18.4	4500	74	P
63	Cu	1	0.001 ug/l	0.00	440.0	4500	74	P
66	Zn	1	-0.046 ug/l	-0.05	79.6	4500	74	P
75	As	1	0.027 ug/l	0.03	55.5	4500	74	P
78	Se	1	0.005 ug/l	0.01	345.1	4500	74	P
88	Sr	1	0.019 ug/l	0.02	52.2	4500	103	P
95	Mo	1	0.040 ug/l	0.04	8.1	4500	103	P
109	Ag	1	0.000 ug/l	0.00	330.3	4500	103	P
111	Cd	1	-0.002 ug/l	0.00	185.3	4500	103	P
118	Sn	1	0.166 ug/l	0.17	29.2	4500	103	P
123	Sb	1	0.058 ug/l	0.06	25.6	4500	103	P
135	Ba	1	0.016 ug/l	0.02	62.9	4500	103	P
200	Hg	1	0.014 ug/l	0.01	28.9	45	209	P
205	Tl	1	0.153 ug/l	0.15	11.3	4500	209	P
208	Pb	1	0.007 ug/l	0.01	168.6	4500	209	P
238	U	1	0.011 ug/l	0.01	10.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46609	1.15	46990	99.2	30 - 125
45	Sc	1	1189856	2.21	1187000	100.2	30 - 125
74	Ge	1	3342925	0.67	3343000	100.0	30 - 125
103	Rh	1	5646915	0.67	5717000	98.8	30 - 125
165	Ho	1	2604231	1.64	2591000	100.5	30 - 125
175	Lu	1	2060843	0.47	2070000	99.6	30 - 125
209	Bi	1	2850834	0.78	2857000	99.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\012SMPL.D\012SMPL.D#  
 Date Acquired: Jul 28 2011 03:23 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CRI (2 PPB) ( RL ) Vial Number: 1107  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.908 ug/l	1.91	3.3	900	6	P
23	Na	1	221.400 ug/l	221.40	4.0	450000	45	P
24	Mg	1	223.000 ug/l	223.00	1.9	450000	45	P
27	Al	1	22.750 ug/l	22.75	2.1	450000	45	P
31	P	1	208.200 ug/l	208.20	4.4	450000	45	P
39	K	1	219.700 ug/l	219.70	2.4	450000	45	P
44	Ca	1	209.900 ug/l	209.90	1.6	450000	45	P
47	Ti	1	2.156 ug/l	2.16	5.5	4500	45	P
51	V	1	2.010 ug/l	2.01	2.0	4500	74	P
52	Cr	1	2.107 ug/l	2.11	1.1	4500	74	P
55	Mn	1	1.936 ug/l	1.94	3.8	4500	74	P
56	Fe	1	214.400 ug/l	214.40	1.5	450000	74	A
59	Co	1	2.088 ug/l	2.09	0.5	4500	74	P
60	Ni	1	2.141 ug/l	2.14	1.2	4500	74	P
63	Cu	1	2.157 ug/l	2.16	0.5	4500	74	P
66	Zn	1	2.080 ug/l	2.08	5.2	4500	74	P
75	As	1	2.062 ug/l	2.06	5.3	4500	74	P
78	Se	1	2.052 ug/l	2.05	12.0	4500	74	P
88	Sr	1	2.093 ug/l	2.09	1.4	4500	103	P
95	Mo	1	2.047 ug/l	2.05	1.3	4500	103	P
109	Ag	1	2.208 ug/l	2.21	2.4	4500	103	P
111	Cd	1	1.997 ug/l	2.00	10.2	4500	103	P
118	Sn	1	2.124 ug/l	2.12	5.7	4500	103	P
123	Sb	1	2.048 ug/l	2.05	1.6	4500	103	P
135	Ba	1	2.078 ug/l	2.08	2.7	4500	103	P
200	Hg	1	0.125 ug/l	0.12	2.4	45	209	P
205	Tl	1	2.083 ug/l	2.08	4.4	4500	209	P
208	Pb	1	2.080 ug/l	2.08	2.4	4500	209	P
238	U	1	2.061 ug/l	2.06	1.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45991	1.87	46990	97.9	30 - 125
45	Sc	1	1177582	2.31	1187000	99.2	30 - 125
74	Ge	1	3342615	1.62	3343000	100.0	30 - 125
103	Rh	1	5689931	1.26	5717000	99.5	30 - 125
165	Ho	1	2641451	0.29	2591000	101.9	30 - 125
175	Lu	1	2090645	0.81	2070000	101.0	30 - 125
209	Bi	1	2864612	1.84	2857000	100.3	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\013SMPL.D\013SMPL.D#  
 Date Acquired: Jul 28 2011 03:28 pm Acq. Method: 00He\_ALL.M  
 Sample Name: ICSA Vial Number: 1101  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.00	55.0	900	6	P
23	Na	1	49380.000 ug/l	49,380.00	4.1	450000	45	A
24	Mg	1	19590.000 ug/l	19,590.00	3.3	450000	45	A
27	Al	1	18610.000 ug/l	18,610.00	3.9	450000	45	A
31	P	1	20310.000 ug/l	20,310.00	3.7	450000	45	P
39	K	1	19540.000 ug/l	19,540.00	4.6	450000	45	A
44	Ca	1	58080.000 ug/l	58,080.00	2.4	450000	45	A
47	Ti	1	395.700 ug/l	395.70	3.6	4500	45	P
51	V	1	-0.108 ug/l	-0.11	7.9	4500	74	P
52	Cr	1	1.238 ug/l	1.24	2.8	4500	74	P
55	Mn	1	0.540 ug/l	0.54	4.2	4500	74	P
56	Fe	1	50220.000 ug/l	50,220.00	0.9	450000	74	A
59	Co	1	0.013 ug/l	0.01	18.2	4500	74	P
60	Ni	1	0.452 ug/l	0.45	4.9	4500	74	P
63	Cu	1	0.148 ug/l	0.15	9.2	4500	74	P
66	Zn	1	0.896 ug/l	0.90	6.0	4500	74	P
75	As	1	0.009 ug/l	0.01	138.8	4500	74	P
78	Se	1	0.014 ug/l	0.01	295.5	4500	74	P
88	Sr	1	0.002 ug/l	0.00	5294.6	4500	103	P
95	Mo	1	426.000 ug/l	426.00	1.1	4500	103	A
109	Ag	1	0.024 ug/l	0.02	13.7	4500	103	P
111	Cd	1	0.067 ug/l	0.07	12.0	4500	103	P
118	Sn	1	0.153 ug/l	0.15	17.4	4500	103	P
123	Sb	1	0.146 ug/l	0.15	13.7	4500	103	P
135	Ba	1	0.093 ug/l	0.09	22.9	4500	103	P
200	Hg	1	0.015 ug/l	0.01	8.5	45	209	P
205	Tl	1	0.053 ug/l	0.05	21.0	4500	209	P
208	Pb	1	0.057 ug/l	0.06	15.4	4500	209	P
238	U	1	0.004 ug/l	0.00	15.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45307	1.77	46990	96.4	30 - 125
45	Sc	1	1221554	3.68	1187000	102.9	30 - 125
74	Ge	1	3253418	0.90	3343000	97.3	30 - 125
103	Rh	1	5102353	0.88	5717000	89.2	30 - 125
165	Ho	1	2463935	1.15	2591000	95.1	30 - 125
175	Lu	1	1966644	2.18	2070000	95.0	30 - 125
209	Bi	1	2530862	1.53	2857000	88.6	30 - 125

**Analytes:**

**Pass**

**ISTD:**

**Pass**

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\014SMPL.D\014SMPL.D#  
 Date Acquired: Jul 28 2011 03:33 pm Acq. Method: 00He\_ALL.M  
 Sample Name: ICSAB Vial Number: 1102  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.006 ug/l	0.01	43.2	900	6	P
23	Na	1	50550.000 ug/l	50,550.00	0.9	450000	45	A
24	Mg	1	20120.000 ug/l	20,120.00	2.2	450000	45	A
27	Al	1	18780.000 ug/l	18,780.00	2.3	450000	45	A
31	P	1	20470.000 ug/l	20,470.00	2.2	450000	45	P
39	K	1	19680.000 ug/l	19,680.00	1.9	450000	45	A
44	Ca	1	57300.000 ug/l	57,300.00	2.0	450000	45	A
47	Ti	1	398.500 ug/l	398.50	2.6	4500	45	P
51	V	1	41.230 ug/l	41.23	1.4	4500	74	P
52	Cr	1	41.170 ug/l	41.17	1.6	4500	74	P
55	Mn	1	40.220 ug/l	40.22	1.3	4500	74	P
56	Fe	1	49570.000 ug/l	49,570.00	0.6	450000	74	A
59	Co	1	40.100 ug/l	40.10	2.1	4500	74	P
60	Ni	1	40.320 ug/l	40.32	1.8	4500	74	P
63	Cu	1	39.500 ug/l	39.50	1.4	4500	74	P
66	Zn	1	20.590 ug/l	20.59	1.1	4500	74	P
75	As	1	20.560 ug/l	20.56	2.3	4500	74	P
78	Se	1	19.680 ug/l	19.68	2.9	4500	74	P
88	Sr	1	0.019 ug/l	0.02	263.8	4500	103	P
95	Mo	1	431.300 ug/l	431.30	1.8	4500	103	A
109	Ag	1	10.630 ug/l	10.63	1.8	4500	103	P
111	Cd	1	21.140 ug/l	21.14	3.3	4500	103	P
118	Sn	1	0.066 ug/l	0.07	44.0	4500	103	P
123	Sb	1	0.131 ug/l	0.13	9.6	4500	103	P
135	Ba	1	0.131 ug/l	0.13	30.9	4500	103	P
200	Hg	1	0.008 ug/l	0.01	37.9	45	209	P
205	Tl	1	0.031 ug/l	0.03	22.5	4500	209	P
208	Pb	1	0.044 ug/l	0.04	27.3	4500	209	P
238	U	1	0.002 ug/l	0.00	59.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44739	0.72	46990	95.2	30 - 125
45	Sc	1	1195535	2.31	1187000	100.7	30 - 125
74	Ge	1	3296512	1.38	3343000	98.6	30 - 125
103	Rh	1	5058003	0.18	5717000	88.5	30 - 125
165	Ho	1	2475515	0.77	2591000	95.5	30 - 125
175	Lu	1	2014799	0.03	2070000	97.3	30 - 125
209	Bi	1	2523240	1.47	2857000	88.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Jul 28 2011 03:37 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 5000 PPB ( As, Pb ) LDR STD Vial Number: 1202  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.006 ug/l	0.01	112.6	900	6	P
23	Na	1	4.828 ug/l	4.83	42.3	450000	45	P
24	Mg	1	0.204 ug/l	0.20	32.5	450000	45	P
27	Al	1	0.279 ug/l	0.28	60.1	450000	45	P
31	P	1	-1.476 ug/l	-1.48	92.1	450000	45	P
39	K	1	-3.488 ug/l	-3.49	57.0	450000	45	P
44	Ca	1	6.364 ug/l	6.36	5.6	450000	45	P
47	Ti	1	0.174 ug/l	0.17	21.6	4500	45	P
51	V	1	-0.046 ug/l	-0.05	18.5	4500	74	P
52	Cr	1	0.214 ug/l	0.21	5.5	4500	74	P
55	Mn	1	-0.195 ug/l	-0.19	2.5	4500	74	P
56	Fe	1	6.710 ug/l	6.71	1.0	450000	74	P
59	Co	1	-0.002 ug/l	0.00	32.9	4500	74	P
60	Ni	1	-0.021 ug/l	-0.02	32.8	4500	74	P
63	Cu	1	0.002 ug/l	0.00	211.2	4500	74	P
66	Zn	1	0.387 ug/l	0.39	11.4	4500	74	P
75	As	1	4753.000 ug/l	4,753.00	0.3	4500	74	A Fail
78	Se	1	-0.019 ug/l	-0.02	69.0	4500	74	P
88	Sr	1	-0.001 ug/l	0.00	624.9	4500	103	P
95	Mo	1	0.240 ug/l	0.24	14.5	4500	103	P
109	Ag	1	0.002 ug/l	0.00	91.2	4500	103	P
111	Cd	1	0.005 ug/l	0.00	141.1	4500	103	P
118	Sn	1	-0.008 ug/l	-0.01	84.7	4500	103	P
123	Sb	1	0.014 ug/l	0.01	25.4	4500	103	P
135	Ba	1	0.003 ug/l	0.00	252.3	4500	103	P
200	Hg	1	0.003 ug/l	0.00	53.8	45	209	P
205	Tl	1	0.201 ug/l	0.20	5.3	4500	209	P
208	Pb	1	4867.000 ug/l	4,867.00	0.2	4500	209	A Fail
238	U	1	0.000 ug/l	0.00	367.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44287	0.80	46990	94.2	30 - 125
45	Sc	1	1133415	1.13	1187000	95.5	30 - 125
74	Ge	1	3314766	0.96	3343000	99.2	30 - 125
103	Rh	1	5681355	2.02	5717000	99.4	30 - 125
165	Ho	1	2619495	1.10	2591000	101.1	30 - 125
175	Lu	1	2092206	0.59	2070000	101.1	30 - 125
209	Bi	1	2860915	0.28	2857000	100.1	30 - 125

Analytes: Fail

ISTD: Pass

2 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\019SMPL.D\019SMPL.D#  
 Date Acquired: Jul 28 2011 03:57 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	48.910 ug/l	48.91	1.7	900	6	P
23	Na	1	4928.000 ug/l	4,928.00	2.4	450000	45	A
24	Mg	1	4999.000 ug/l	4,999.00	0.9	450000	45	A
27	Al	1	494.000 ug/l	494.00	0.8	450000	45	P
31	P	1	4960.000 ug/l	4,960.00	0.5	450000	45	P
39	K	1	5045.000 ug/l	5,045.00	2.0	450000	45	A
44	Ca	1	5019.000 ug/l	5,019.00	0.7	450000	45	P
47	Ti	1	50.450 ug/l	50.45	1.2	4500	45	P
51	V	1	48.290 ug/l	48.29	1.1	4500	74	P
52	Cr	1	48.700 ug/l	48.70	0.9	4500	74	P
55	Mn	1	48.510 ug/l	48.51	1.6	4500	74	P
56	Fe	1	4875.000 ug/l	4,875.00	1.5	450000	74	A
59	Co	1	48.600 ug/l	48.60	1.5	4500	74	P
60	Ni	1	48.810 ug/l	48.81	1.5	4500	74	P
63	Cu	1	49.850 ug/l	49.85	0.5	4500	74	P
66	Zn	1	48.940 ug/l	48.94	1.2	4500	74	P
75	As	1	49.110 ug/l	49.11	1.4	4500	74	P
78	Se	1	49.790 ug/l	49.79	0.9	4500	74	P
88	Sr	1	50.070 ug/l	50.07	0.7	4500	103	P
95	Mo	1	49.590 ug/l	49.59	1.0	4500	103	P
109	Ag	1	51.130 ug/l	51.13	0.8	4500	103	P
111	Cd	1	49.910 ug/l	49.91	2.1	4500	103	P
118	Sn	1	49.310 ug/l	49.31	0.6	4500	103	P
123	Sb	1	50.130 ug/l	50.13	0.3	4500	103	P
135	Ba	1	50.070 ug/l	50.07	1.1	4500	103	P
200	Hg	1	2.445 ug/l	2.45	2.1	45	209	P
205	Tl	1	50.870 ug/l	50.87	2.1	4500	209	A
208	Pb	1	49.700 ug/l	49.70	2.1	4500	209	P
238	U	1	49.080 ug/l	49.08	1.0	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43137	1.05	46990	91.8	30 - 125
45	Sc	1	1170965	0.57	1187000	98.6	30 - 125
74	Ge	1	3373599	0.98	3343000	100.9	30 - 125
103	Rh	1	5524230	0.53	5717000	96.6	30 - 125
165	Ho	1	2619334	1.11	2591000	101.1	30 - 125
175	Lu	1	2120440	0.45	2070000	102.4	30 - 125
209	Bi	1	2784483	2.32	2857000	97.5	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\020SMPL.D\020SMPL.D#  
 Date Acquired: Jul 28 2011 04:01 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.002 ug/l	0.00	158.3	900	6	P
23	Na	1	8.732 ug/l	8.73	5.5	450000	45	P
24	Mg	1	0.075 ug/l	0.08	57.4	450000	45	P
27	Al	1	-0.010 ug/l	-0.01	1006.4	450000	45	P
31	P	1	-0.903 ug/l	-0.90	364.3	450000	45	P
39	K	1	-0.077 ug/l	-0.08	2678.4	450000	45	P
44	Ca	1	-0.950 ug/l	-0.95	50.1	450000	45	P
47	Ti	1	0.028 ug/l	0.03	79.3	4500	45	P
51	V	1	-0.021 ug/l	-0.02	44.4	4500	74	P
52	Cr	1	0.001 ug/l	0.00	1025.6	4500	74	P
55	Mn	1	-0.024 ug/l	-0.02	45.5	4500	74	P
56	Fe	1	1.633 ug/l	1.63	9.9	450000	74	P
59	Co	1	-0.001 ug/l	0.00	127.6	4500	74	P
60	Ni	1	-0.008 ug/l	-0.01	215.0	4500	74	P
63	Cu	1	0.005 ug/l	0.00	73.0	4500	74	P
66	Zn	1	0.008 ug/l	0.01	237.3	4500	74	P
75	As	1	0.009 ug/l	0.01	34.9	4500	74	P
78	Se	1	0.004 ug/l	0.00	1068.8	4500	74	P
88	Sr	1	0.008 ug/l	0.01	147.7	4500	103	P
95	Mo	1	0.039 ug/l	0.04	29.2	4500	103	P
109	Ag	1	0.000 ug/l	0.00	86.7	4500	103	P
111	Cd	1	-0.002 ug/l	0.00	70.9	4500	103	P
118	Sn	1	0.171 ug/l	0.17	35.0	4500	103	P
123	Sb	1	0.021 ug/l	0.02	53.9	4500	103	P
135	Ba	1	0.016 ug/l	0.02	141.2	4500	103	P
200	Hg	1	0.011 ug/l	0.01	19.3	45	209	P
205	Tl	1	0.117 ug/l	0.12	10.4	4500	209	P
208	Pb	1	0.007 ug/l	0.01	69.5	4500	209	P
238	U	1	0.010 ug/l	0.01	14.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	42553	1.51	46990	90.6	30 - 125
45	Sc	1	1131677	0.57	1187000	95.3	30 - 125
74	Ge	1	3321697	1.76	3343000	99.4	30 - 125
103	Rh	1	5665758	0.78	5717000	99.1	30 - 125
165	Ho	1	2641917	1.23	2591000	102.0	30 - 125
175	Lu	1	2113704	0.20	2070000	102.1	30 - 125
209	Bi	1	2863433	0.36	2857000	100.2	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\021SMPL.D\021SMPL.D#  
 Date Acquired: Jul 28 2011 04:06 pm Acq. Method: 00He\_ALL.M  
 Sample Name: MB 580-91421/14-A Vial Number: 2101  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.002 ug/l	0.02	161.8	900	6	P
23	Na	1	4.342 ug/l	43.42	27.3	450000	45	P
24	Mg	1	0.663 ug/l	6.63	6.3	450000	45	P
27	Al	1	1.651 ug/l	16.51	12.8	450000	45	P
31	P	1	0.941 ug/l	9.41	312.0	450000	45	P
39	K	1	-3.506 ug/l	-35.06	60.8	450000	45	P
44	Ca	1	-1.297 ug/l	-12.97	20.5	450000	45	P
47	Ti	1	0.015 ug/l	0.15	151.8	4500	45	P
51	V	1	-0.037 ug/l	-0.37	5.6	4500	74	P
52	Cr	1	0.052 ug/l	0.52	34.0	4500	74	P
55	Mn	1	-0.175 ug/l	-1.75	3.7	4500	74	P
56	Fe	1	1.018 ug/l	10.18	5.6	450000	74	P
59	Co	1	0.004 ug/l	0.04	67.9	4500	74	P
60	Ni	1	0.030 ug/l	0.30	27.5	4500	74	P
63	Cu	1	0.019 ug/l	0.19	9.8	4500	74	P
66	Zn	1	-0.031 ug/l	-0.31	79.4	4500	74	P
75	As	1	0.017 ug/l	0.17	34.2	4500	74	P
78	Se	1	-0.053 ug/l	-0.53	36.6	4500	74	P
88	Sr	1	0.016 ug/l	0.16	41.6	4500	103	P
95	Mo	1	0.017 ug/l	0.17	54.5	4500	103	P
109	Ag	1	0.001 ug/l	0.01	90.5	4500	103	P
111	Cd	1	0.002 ug/l	0.02	165.5	4500	103	P
118	Sn	1	0.065 ug/l	0.65	44.9	4500	103	P
123	Sb	1	0.016 ug/l	0.16	21.2	4500	103	P
135	Ba	1	0.018 ug/l	0.18	12.7	4500	103	P
200	Hg	1	0.005 ug/l	0.05	32.2	45	209	P
205	Tl	1	0.053 ug/l	0.53	17.2	4500	209	P
208	Pb	1	0.000 ug/l	0.00	31614.0	4500	209	P
238	U	1	0.003 ug/l	0.03	18.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44103	0.73	46990	93.9	30 - 125
45	Sc	1	1179623	0.72	1187000	99.4	30 - 125
74	Ge	1	3363160	1.41	3343000	100.6	30 - 125
103	Rh	1	5764323	1.06	5717000	100.8	30 - 125
165	Ho	1	2644313	0.80	2591000	102.1	30 - 125
175	Lu	1	2125944	0.48	2070000	102.7	30 - 125
209	Bi	1	2887710	0.85	2857000	101.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\022SMPL.D\022SMPL.D#  
 Date Acquired: Jul 28 2011 04:11 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCS 580-91421/15-A Vial Number: 2102  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.009 ug/l	100.45	4.4	900	6	P
23	Na	1	418.500 ug/l	20,925.00	4.0	450000	45	P
24	Mg	1	409.500 ug/l	20,475.00	3.7	450000	45	P
27	Al	1	78.600 ug/l	3,930.00	5.3	450000	45	P
31	P	1	367.900 ug/l	18,395.00	6.3	450000	45	P
39	K	1	416.500 ug/l	20,825.00	5.9	450000	45	P
44	Ca	1	406.600 ug/l	20,330.00	2.8	450000	45	P
47	Ti	1	98.440 ug/l	4,922.00	3.7	4500	45	P
51	V	1	19.510 ug/l	975.50	1.7	4500	74	P
52	Cr	1	7.866 ug/l	393.30	2.0	4500	74	P
55	Mn	1	19.230 ug/l	961.50	1.5	4500	74	P
56	Fe	1	440.100 ug/l	22,005.00	2.1	450000	74	A
59	Co	1	19.640 ug/l	982.00	1.9	4500	74	P
60	Ni	1	19.800 ug/l	990.00	1.8	4500	74	P
63	Cu	1	10.180 ug/l	509.00	1.4	4500	74	P
66	Zn	1	21.070 ug/l	1,053.50	1.1	4500	74	P
75	As	1	78.980 ug/l	3,949.00	1.1	4500	74	P
78	Se	1	78.540 ug/l	3,927.00	1.4	4500	74	P
88	Sr	1	0.015 ug/l	0.75	52.5	4500	103	P
95	Mo	1	95.950 ug/l	4,797.50	2.9	4500	103	P
109	Ag	1	12.400 ug/l	620.00	2.2	4500	103	P
111	Cd	1	2.002 ug/l	100.10	2.2	4500	103	P
118	Sn	1	98.340 ug/l	4,917.00	2.4	4500	103	P
123	Sb	1	56.740 ug/l	2,837.00	2.8	4500	103	P
135	Ba	1	78.740 ug/l	3,937.00	2.1	4500	103	P
200	Hg	1	0.942 ug/l	47.08	0.3	45	209	P
205	Tl	1	76.520 ug/l	3,826.00	6.0	4500	209	A
208	Pb	1	19.750 ug/l	987.50	1.1	4500	209	P
238	U	1	0.001 ug/l	0.05	76.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41941	0.64	46990	89.3	30 - 125
45	Sc	1	1126133	3.17	1187000	94.9	30 - 125
74	Ge	1	3322533	0.74	3343000	99.4	30 - 125
103	Rh	1	5717372	1.62	5717000	100.0	30 - 125
165	Ho	1	2635505	0.83	2591000	101.7	30 - 125
175	Lu	1	2103147	0.24	2070000	101.6	30 - 125
209	Bi	1	2906655	0.57	2857000	101.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\023SMPL.D\023SMPL.D#  
 Date Acquired: Jul 28 2011 04:16 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCSD 580-91421/16-A Vial Number: 2103  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.970 ug/l	98.50	10.7	900	6	P
23	Na	1	407.800 ug/l	20,390.00	2.0	450000	45	P
24	Mg	1	404.300 ug/l	20,215.00	1.4	450000	45	P
27	Al	1	77.150 ug/l	3,857.50	2.2	450000	45	P
31	P	1	373.200 ug/l	18,660.00	2.1	450000	45	P
39	K	1	406.100 ug/l	20,305.00	2.1	450000	45	P
44	Ca	1	393.500 ug/l	19,675.00	2.3	450000	45	P
47	Ti	1	96.560 ug/l	4,828.00	1.1	4500	45	P
51	V	1	19.470 ug/l	973.50	1.2	4500	74	P
52	Cr	1	7.852 ug/l	392.60	2.0	4500	74	P
55	Mn	1	19.430 ug/l	971.50	1.5	4500	74	P
56	Fe	1	445.500 ug/l	22,275.00	2.6	450000	74	A
59	Co	1	19.700 ug/l	985.00	1.5	4500	74	P
60	Ni	1	20.130 ug/l	1,006.50	2.7	4500	74	P
63	Cu	1	10.340 ug/l	517.00	1.7	4500	74	P
66	Zn	1	19.600 ug/l	980.00	0.4	4500	74	P
75	As	1	79.860 ug/l	3,993.00	0.9	4500	74	P
78	Se	1	79.560 ug/l	3,978.00	0.2	4500	74	P
88	Sr	1	0.020 ug/l	0.98	31.1	4500	103	P
95	Mo	1	95.630 ug/l	4,781.50	1.3	4500	103	P
109	Ag	1	12.380 ug/l	619.00	0.6	4500	103	P
111	Cd	1	1.913 ug/l	95.65	3.6	4500	103	P
118	Sn	1	98.890 ug/l	4,944.50	1.2	4500	103	P
123	Sb	1	56.890 ug/l	2,844.50	0.5	4500	103	P
135	Ba	1	79.050 ug/l	3,952.50	0.6	4500	103	P
200	Hg	1	0.949 ug/l	47.43	1.4	45	209	P
205	Tl	1	76.890 ug/l	3,844.50	6.8	4500	209	A
208	Pb	1	19.840 ug/l	992.00	1.4	4500	209	P
238	U	1	0.000 ug/l	0.01	303.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41471	1.36	46990	88.3	30 - 125
45	Sc	1	1138026	1.24	1187000	95.9	30 - 125
74	Ge	1	3265628	0.88	3343000	97.7	30 - 125
103	Rh	1	5672521	0.82	5717000	99.2	30 - 125
165	Ho	1	2625269	1.57	2591000	101.3	30 - 125
175	Lu	1	2128059	1.35	2070000	102.8	30 - 125
209	Bi	1	2874092	1.39	2857000	100.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\024SMPL.D\024SMPL.D#  
 Date Acquired: Jul 28 2011 04:21 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	49.220 ug/l	49.22	1.0	900	6	P
23	Na	1	4877.000 ug/l	4,877.00	1.9	450000	45	A
24	Mg	1	4903.000 ug/l	4,903.00	1.2	450000	45	A
27	Al	1	492.200 ug/l	492.20	1.1	450000	45	P
31	P	1	4971.000 ug/l	4,971.00	2.0	450000	45	P
39	K	1	5003.000 ug/l	5,003.00	1.5	450000	45	A
44	Ca	1	5005.000 ug/l	5,005.00	1.7	450000	45	P
47	Ti	1	49.790 ug/l	49.79	1.6	4500	45	P
51	V	1	49.060 ug/l	49.06	1.4	4500	74	P
52	Cr	1	49.170 ug/l	49.17	1.3	4500	74	P
55	Mn	1	49.430 ug/l	49.43	1.0	4500	74	P
56	Fe	1	4949.000 ug/l	4,949.00	0.5	450000	74	A
59	Co	1	49.290 ug/l	49.29	1.5	4500	74	P
60	Ni	1	49.610 ug/l	49.61	0.9	4500	74	P
63	Cu	1	50.300 ug/l	50.30	1.5	4500	74	P
66	Zn	1	49.410 ug/l	49.41	1.7	4500	74	P
75	As	1	49.850 ug/l	49.85	1.2	4500	74	P
78	Se	1	49.000 ug/l	49.00	2.2	4500	74	P
88	Sr	1	49.830 ug/l	49.83	1.0	4500	103	P
95	Mo	1	48.850 ug/l	48.85	1.0	4500	103	P
109	Ag	1	50.950 ug/l	50.95	0.1	4500	103	P
111	Cd	1	49.270 ug/l	49.27	0.4	4500	103	P
118	Sn	1	48.850 ug/l	48.85	0.3	4500	103	P
123	Sb	1	49.100 ug/l	49.10	0.4	4500	103	P
135	Ba	1	50.430 ug/l	50.43	1.0	4500	103	P
200	Hg	1	2.471 ug/l	2.47	1.8	45	209	P
205	Tl	1	50.870 ug/l	50.87	2.7	4500	209	A
208	Pb	1	49.700 ug/l	49.70	1.3	4500	209	P
238	U	1	49.090 ug/l	49.09	0.3	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43658	1.02	46990	92.9	30 - 125
45	Sc	1	1188600	1.49	1187000	100.1	30 - 125
74	Ge	1	3384006	1.07	3343000	101.2	30 - 125
103	Rh	1	5621672	0.36	5717000	98.3	30 - 125
165	Ho	1	2633591	1.86	2591000	101.6	30 - 125
175	Lu	1	2085880	0.40	2070000	100.8	30 - 125
209	Bi	1	2787554	1.46	2857000	97.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\025SMPL.D\025SMPL.D#  
 Date Acquired: Jul 28 2011 04:25 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.006 ug/l	0.01	42.0	900	6	P
23	Na	1	11.040 ug/l	11.04	26.5	450000	45	P
24	Mg	1	0.013 ug/l	0.01	343.3	450000	45	P
27	Al	1	-0.022 ug/l	-0.02	625.6	450000	45	P
31	P	1	-2.478 ug/l	-2.48	116.6	450000	45	P
39	K	1	1.904 ug/l	1.90	203.5	450000	45	P
44	Ca	1	3.590 ug/l	3.59	30.4	450000	45	P
47	Ti	1	0.017 ug/l	0.02	103.4	4500	45	P
51	V	1	-0.026 ug/l	-0.03	42.8	4500	74	P
52	Cr	1	-0.002 ug/l	0.00	718.1	4500	74	P
55	Mn	1	-0.038 ug/l	-0.04	16.0	4500	74	P
56	Fe	1	1.355 ug/l	1.36	4.7	450000	74	P
59	Co	1	0.001 ug/l	0.00	239.7	4500	74	P
60	Ni	1	-0.010 ug/l	-0.01	45.0	4500	74	P
63	Cu	1	0.006 ug/l	0.01	145.5	4500	74	P
66	Zn	1	-0.004 ug/l	0.00	690.6	4500	74	P
75	As	1	0.006 ug/l	0.01	232.8	4500	74	P
78	Se	1	0.030 ug/l	0.03	132.4	4500	74	P
88	Sr	1	0.016 ug/l	0.02	95.9	4500	103	P
95	Mo	1	0.043 ug/l	0.04	6.2	4500	103	P
109	Ag	1	0.000 ug/l	0.00	366.7	4500	103	P
111	Cd	1	0.003 ug/l	0.00	266.5	4500	103	P
118	Sn	1	0.290 ug/l	0.29	12.6	4500	103	P
123	Sb	1	0.045 ug/l	0.04	41.6	4500	103	P
135	Ba	1	0.000 ug/l	0.00	2749.8	4500	103	P
200	Hg	1	0.010 ug/l	0.01	15.2	45	209	P
205	Tl	1	0.240 ug/l	0.24	8.2	4500	209	P
208	Pb	1	0.002 ug/l	0.00	70.2	4500	209	P
238	U	1	0.010 ug/l	0.01	10.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	42189	0.19	46990	89.8	30 - 125
45	Sc	1	1152209	2.39	1187000	97.1	30 - 125
74	Ge	1	3384403	2.39	3343000	101.2	30 - 125
103	Rh	1	5748110	1.60	5717000	100.5	30 - 125
165	Ho	1	2633935	0.70	2591000	101.7	30 - 125
175	Lu	1	2136381	0.37	2070000	103.2	30 - 125
209	Bi	1	2869649	1.04	2857000	100.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\026SMPL.D\026SMPL.D#  
 Date Acquired: Jul 28 2011 04:30 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-1-A SD Vial Number: 2201  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.196 ug/l	9.82	18.0	900	6	P
23	Na	1	129.700 ug/l	6,485.00	3.0	450000	45	P
24	Mg	1	1733.000 ug/l	86,650.00	0.8	450000	45	A
27	Al	1	9851.000 ug/l	492,550.00	2.0	450000	45	A
31	P	1	191.500 ug/l	9,575.00	3.8	450000	45	P
39	K	1	573.500 ug/l	28,675.00	1.9	450000	45	P
44	Ca	1	3085.000 ug/l	154,250.00	2.2	450000	45	P
47	Ti	1	739.200 ug/l	36,960.00	1.8	4500	45	P
51	V	1	26.280 ug/l	1,314.00	0.7	4500	74	P
52	Cr	1	0.623 ug/l	31.15	0.3	4500	74	P
55	Mn	1	364.500 ug/l	18,225.00	1.2	4500	74	A
56	Fe	1	11660.000 ug/l	583,000.00	0.5	450000	74	A
59	Co	1	4.774 ug/l	238.70	0.9	4500	74	P
60	Ni	1	0.946 ug/l	47.29	3.9	4500	74	P
63	Cu	1	27.250 ug/l	1,362.50	1.3	4500	74	P
66	Zn	1	19.370 ug/l	968.50	1.0	4500	74	P
75	As	1	0.723 ug/l	36.13	2.5	4500	74	P
78	Se	1	0.242 ug/l	12.12	17.6	4500	74	P
88	Sr	1	30.050 ug/l	1,502.50	0.4	4500	103	P
95	Mo	1	0.258 ug/l	12.92	6.3	4500	103	P
109	Ag	1	0.013 ug/l	0.64	34.8	4500	103	P
111	Cd	1	0.052 ug/l	2.60	19.2	4500	103	P
118	Sn	1	0.489 ug/l	24.43	5.4	4500	103	P
123	Sb	1	0.036 ug/l	1.79	17.7	4500	103	P
135	Ba	1	77.530 ug/l	3,876.50	0.4	4500	103	P
200	Hg	1	0.016 ug/l	0.78	15.6	45	209	P
205	Tl	1	0.175 ug/l	8.76	8.1	4500	209	P
208	Pb	1	3.388 ug/l	169.40	1.8	4500	209	P
238	U	1	0.349 ug/l	17.43	1.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46565	1.09	46990	99.1	30 - 125
45	Sc	1	1265210	1.53	1187000	106.6	30 - 125
74	Ge	1	3463499	1.05	3343000	103.6	30 - 125
103	Rh	1	5698360	0.12	5717000	99.7	30 - 125
165	Ho	1	2654083	1.37	2591000	102.4	30 - 125
175	Lu	1	2105984	0.81	2070000	101.7	30 - 125
209	Bi	1	2783797	1.13	2857000	97.4	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\027SMPL.D\027SMPL.D#  
 Date Acquired: Jul 28 2011 04:35 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-1-A Vial Number: 2202  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.992 ug/l	9.92	14.4	900	6	P
23	Na	1	611.700 ug/l	6,117.00	0.5	450000	45	A
24	Mg	1	7458.000 ug/l	74,580.00	0.5	450000	45	A
27	Al	1	43310.000 ug/l	433,100.00	0.7	450000	45	A
31	P	1	858.900 ug/l	8,589.00	1.7	450000	45	P
39	K	1	2630.000 ug/l	26,300.00	1.5	450000	45	A
44	Ca	1	14250.000 ug/l	142,500.00	0.7	450000	45	P
47	Ti	1	3445.000 ug/l	34,450.00	1.0	4500	45	A
51	V	1	124.600 ug/l	1,246.00	2.9	4500	74	P
52	Cr	1	3.107 ug/l	31.07	2.1	4500	74	P
55	Mn	1	1656.000 ug/l	16,560.00	0.8	4500	74	A
56	Fe	1	55800.000 ug/l	558,000.00	3.1	450000	74	A
59	Co	1	22.570 ug/l	225.70	2.4	4500	74	P
60	Ni	1	4.649 ug/l	46.49	6.6	4500	74	P
63	Cu	1	125.100 ug/l	1,251.00	3.6	4500	74	A
66	Zn	1	90.930 ug/l	909.30	2.1	4500	74	P
75	As	1	3.601 ug/l	36.01	4.9	4500	74	P
78	Se	1	1.223 ug/l	12.23	7.5	4500	74	P
88	Sr	1	142.500 ug/l	1,425.00	1.1	4500	103	M
95	Mo	1	1.250 ug/l	12.50	2.7	4500	103	P
109	Ag	1	0.066 ug/l	0.66	6.4	4500	103	P
111	Cd	1	0.403 ug/l	4.03	14.8	4500	103	P
118	Sn	1	2.036 ug/l	20.36	2.0	4500	103	P
123	Sb	1	0.090 ug/l	0.90	8.0	4500	103	P
135	Ba	1	379.400 ug/l	3,794.00	0.6	4500	103	P
200	Hg	1	0.060 ug/l	0.60	13.3	45	209	P
205	Tl	1	0.305 ug/l	3.05	10.5	4500	209	P
208	Pb	1	16.380 ug/l	163.80	0.9	4500	209	P
238	U	1	1.668 ug/l	16.68	1.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	39420	0.07	46990	83.9	30 - 125
45	Sc	1	1191720	0.62	1187000	100.4	30 - 125
74	Ge	1	3289402	1.77	3343000	98.4	30 - 125
103	Rh	1	5418468	0.46	5717000	94.8	30 - 125
165	Ho	1	2621053	0.44	2591000	101.2	30 - 125
175	Lu	1	2096565	1.58	2070000	101.3	30 - 125
209	Bi	1	2682196	0.83	2857000	93.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\028SMPL.D\028SMPL.D#  
 Date Acquired: Jul 28 2011 04:40 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-1-B DU Vial Number: 2203  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.184 ug/l	11.84	9.8	900	6	P
23	Na	1	667.200 ug/l	6,672.00	1.2	450000	45	A
24	Mg	1	8036.000 ug/l	80,360.00	0.8	450000	45	A
27	Al	1	47600.000 ug/l	476,000.00	1.1	450000	45	A
31	P	1	911.100 ug/l	9,111.00	2.5	450000	45	P
39	K	1	2704.000 ug/l	27,040.00	1.1	450000	45	A
44	Ca	1	31620.000 ug/l	316,200.00	1.5	450000	45	A
47	Ti	1	3912.000 ug/l	39,120.00	2.3	4500	45	A
51	V	1	133.300 ug/l	1,333.00	2.1	4500	74	M
52	Cr	1	3.327 ug/l	33.27	1.7	4500	74	P
55	Mn	1	1716.000 ug/l	17,160.00	1.9	4500	74	A
56	Fe	1	58570.000 ug/l	585,700.00	1.2	450000	74	A
59	Co	1	24.350 ug/l	243.50	0.1	4500	74	P
60	Ni	1	5.056 ug/l	50.56	2.4	4500	74	P
63	Cu	1	129.900 ug/l	1,299.00	1.7	4500	74	A
66	Zn	1	96.310 ug/l	963.10	0.6	4500	74	P
75	As	1	3.962 ug/l	39.62	2.2	4500	74	P
78	Se	1	1.419 ug/l	14.19	6.8	4500	74	P
88	Sr	1	165.500 ug/l	1,655.00	1.2	4500	103	A
95	Mo	1	1.484 ug/l	14.84	3.3	4500	103	P
109	Ag	1	0.068 ug/l	0.68	6.5	4500	103	P
111	Cd	1	0.465 ug/l	4.65	0.8	4500	103	P
118	Sn	1	1.978 ug/l	19.78	1.1	4500	103	P
123	Sb	1	0.099 ug/l	0.99	11.8	4500	103	P
135	Ba	1	397.400 ug/l	3,974.00	0.1	4500	103	P
200	Hg	1	0.063 ug/l	0.63	5.9	45	209	P
205	Tl	1	0.337 ug/l	3.37	6.4	4500	209	P
208	Pb	1	16.800 ug/l	168.00	0.7	4500	209	P
238	U	1	1.829 ug/l	18.29	0.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38817	0.60	46990	82.6	30 - 125
45	Sc	1	1150523	1.06	1187000	96.9	30 - 125
74	Ge	1	3201292	0.32	3343000	95.8	30 - 125
103	Rh	1	5383051	0.29	5717000	94.2	30 - 125
165	Ho	1	2582256	2.15	2591000	99.7	30 - 125
175	Lu	1	2041645	1.19	2070000	98.6	30 - 125
209	Bi	1	2623441	0.35	2857000	91.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\029SMPL.D\029SMPL.D#  
 Date Acquired: Jul 28 2011 04:44 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-1-C MS Vial Number: 2204  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.464 ug/l	123.20	2.9	900	6	P
23	Na	1	651.400 ug/l	32,570.00	1.6	450000	45	A
24	Mg	1	2413.000 ug/l	120,650.00	2.1	450000	45	A
27	Al	1	13320.000 ug/l	666,000.00	0.5	450000	45	A
31	P	1	666.600 ug/l	33,330.00	3.8	450000	45	P
39	K	1	1099.000 ug/l	54,950.00	0.7	450000	45	A
44	Ca	1	6511.000 ug/l	325,550.00	1.9	450000	45	P
47	Ti	1	1112.000 ug/l	55,600.00	1.9	4500	45	P
51	V	1	54.780 ug/l	2,739.00	2.6	4500	74	P
52	Cr	1	9.921 ug/l	496.05	4.2	4500	74	P
55	Mn	1	414.000 ug/l	20,700.00	1.9	4500	74	A
56	Fe	1	15000.000 ug/l	750,000.00	1.0	450000	74	A
59	Co	1	28.490 ug/l	1,424.50	2.7	4500	74	P
60	Ni	1	24.690 ug/l	1,234.50	2.4	4500	74	P
63	Cu	1	41.780 ug/l	2,089.00	2.8	4500	74	P
66	Zn	1	45.320 ug/l	2,266.00	2.1	4500	74	P
75	As	1	91.860 ug/l	4,593.00	3.1	4500	74	P
78	Se	1	89.790 ug/l	4,489.50	2.8	4500	74	P
88	Sr	1	37.090 ug/l	1,854.50	0.4	4500	103	P
95	Mo	1	109.800 ug/l	5,490.00	1.0	4500	103	P
109	Ag	1	14.100 ug/l	705.00	1.2	4500	103	P
111	Cd	1	2.427 ug/l	121.35	3.8	4500	103	P
118	Sn	1	112.400 ug/l	5,620.00	1.4	4500	103	P
123	Sb	1	36.360 ug/l	1,818.00	0.9	4500	103	P
135	Ba	1	181.100 ug/l	9,055.00	0.4	4500	103	P
200	Hg	1	1.136 ug/l	56.80	3.1	45	209	P
205	Tl	1	96.140 ug/l	4,807.00	1.4	4500	209	A
208	Pb	1	26.850 ug/l	1,342.50	1.9	4500	209	P
238	U	1	0.369 ug/l	18.44	1.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44911	0.43	46990	95.6	30 - 125
45	Sc	1	1230475	1.28	1187000	103.7	30 - 125
74	Ge	1	3455458	1.85	3343000	103.4	30 - 125
103	Rh	1	5696998	0.30	5717000	99.7	30 - 125
165	Ho	1	2647467	1.47	2591000	102.2	30 - 125
175	Lu	1	2136051	0.62	2070000	103.2	30 - 125
209	Bi	1	2759327	0.89	2857000	96.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\030SMPL.D\030SMPL.D#  
 Date Acquired: Jul 28 2011 04:49 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-1-D MSD Vial Number: 2205  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.444 ug/l	122.20	8.1	900	6	P
23	Na	1	617.600 ug/l	30,880.00	2.7	450000	45	A
24	Mg	1	2399.000 ug/l	119,950.00	1.4	450000	45	A
27	Al	1	12550.000 ug/l	627,500.00	2.5	450000	45	A
31	P	1	810.800 ug/l	40,540.00	2.8	450000	45	P
39	K	1	1109.000 ug/l	55,450.00	1.6	450000	45	A
44	Ca	1	6550.000 ug/l	327,500.00	1.9	450000	45	P
47	Ti	1	1065.000 ug/l	53,250.00	2.7	4500	45	P
51	V	1	60.230 ug/l	3,011.50	1.6	4500	74	P
52	Cr	1	9.399 ug/l	469.95	1.6	4500	74	P
55	Mn	1	2186.000 ug/l	109,300.00	1.8	4500	74	A
56	Fe	1	16390.000 ug/l	819,500.00	1.2	450000	74	A
59	Co	1	28.940 ug/l	1,447.00	1.4	4500	74	P
60	Ni	1	23.320 ug/l	1,166.00	1.9	4500	74	P
63	Cu	1	40.650 ug/l	2,032.50	2.0	4500	74	P
66	Zn	1	43.930 ug/l	2,196.50	1.7	4500	74	P
75	As	1	90.280 ug/l	4,514.00	2.1	4500	74	P
78	Se	1	85.620 ug/l	4,281.00	2.9	4500	74	P
88	Sr	1	43.850 ug/l	2,192.50	1.1	4500	103	P
95	Mo	1	105.400 ug/l	5,270.00	1.3	4500	103	P
109	Ag	1	13.650 ug/l	682.50	2.5	4500	103	P
111	Cd	1	2.389 ug/l	119.45	7.2	4500	103	P
118	Sn	1	108.200 ug/l	5,410.00	2.1	4500	103	P
123	Sb	1	34.420 ug/l	1,721.00	2.2	4500	103	P
135	Ba	1	284.400 ug/l	14,220.00	2.6	4500	103	P
200	Hg	1	1.130 ug/l	56.50	2.5	45	209	P
205	Tl	1	91.040 ug/l	4,552.00	3.9	4500	209	A
208	Pb	1	25.570 ug/l	1,278.50	1.2	4500	209	P
238	U	1	0.376 ug/l	18.80	1.0	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44372	0.40	46990	94.4	30 - 125	
45	Sc	1	1222763	1.97	1187000	103.0	30 - 125	
74	Ge	1	3426745	1.14	3343000	102.5	30 - 125	
103	Rh	1	5614735	2.01	5717000	98.2	30 - 125	
165	Ho	1	2585701	2.06	2591000	99.8	30 - 125	
175	Lu	1	2100552	0.99	2070000	101.5	30 - 125	
209	Bi	1	2744056	1.06	2857000	96.0	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\031SMPL.D\031SMPL.D#  
 Date Acquired: Jul 28 2011 04:54 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-1-A PDS Vial Number: 2206  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.137 ug/l	106.85	0.8	900	6	P
23	Na	1	505.300 ug/l	25,265.00	2.0	450000	45	A
24	Mg	1	1834.000 ug/l	91,700.00	2.7	450000	45	A
27	Al	1	8314.000 ug/l	415,700.00	1.8	450000	45	A
31	P	1	544.100 ug/l	27,205.00	3.6	450000	45	P
39	K	1	894.700 ug/l	44,735.00	1.4	450000	45	M
44	Ca	1	2978.000 ug/l	148,900.00	1.5	450000	45	P
47	Ti	1	714.000 ug/l	35,700.00	1.1	4500	45	P
51	V	1	42.060 ug/l	2,103.00	1.2	4500	74	P
52	Cr	1	8.666 ug/l	433.30	1.5	4500	74	P
55	Mn	1	330.400 ug/l	16,520.00	2.9	4500	74	A
56	Fe	1	10150.000 ug/l	507,500.00	1.4	450000	74	A
59	Co	1	24.250 ug/l	1,212.50	1.7	4500	74	P
60	Ni	1	21.600 ug/l	1,080.00	1.7	4500	74	P
63	Cu	1	33.200 ug/l	1,660.00	0.9	4500	74	P
66	Zn	1	35.760 ug/l	1,788.00	1.0	4500	74	P
75	As	1	82.150 ug/l	4,107.50	1.4	4500	74	P
78	Se	1	81.200 ug/l	4,060.00	1.7	4500	74	P
88	Sr	1	24.700 ug/l	1,235.00	0.9	4500	103	P
95	Mo	1	99.610 ug/l	4,980.50	1.6	4500	103	P
109	Ag	1	12.460 ug/l	623.00	1.9	4500	103	P
111	Cd	1	1.995 ug/l	99.75	4.5	4500	103	P
118	Sn	1	98.890 ug/l	4,944.50	1.3	4500	103	P
123	Sb	1	46.670 ug/l	2,333.50	2.3	4500	103	P
135	Ba	1	143.100 ug/l	7,155.00	1.4	4500	103	P
200	Hg	1	1.017 ug/l	50.85	0.7	45	209	P
205	Tl	1	82.810 ug/l	4,140.50	1.4	4500	209	A
208	Pb	1	23.410 ug/l	1,170.50	2.6	4500	209	P
238	U	1	0.288 ug/l	14.42	1.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46090	1.67	46990	98.1	30 - 125
45	Sc	1	1250857	1.31	1187000	105.4	30 - 125
74	Ge	1	3438357	1.09	3343000	102.9	30 - 125
103	Rh	1	5694620	0.96	5717000	99.6	30 - 125
165	Ho	1	2626464	1.55	2591000	101.4	30 - 125
175	Lu	1	2097963	0.59	2070000	101.4	30 - 125
209	Bi	1	2712446	1.40	2857000	94.9	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\032SMPL.D\032SMPL.D#  
 Date Acquired: Jul 28 2011 04:59 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	49.350 ug/l	49.35	1.6	900	6	P
23	Na	1	4751.000 ug/l	4,751.00	3.0	450000	45	A
24	Mg	1	4818.000 ug/l	4,818.00	1.8	450000	45	A
27	Al	1	481.900 ug/l	481.90	0.9	450000	45	P
31	P	1	4889.000 ug/l	4,889.00	1.9	450000	45	P
39	K	1	5018.000 ug/l	5,018.00	0.9	450000	45	A
44	Ca	1	4947.000 ug/l	4,947.00	1.0	450000	45	P
47	Ti	1	50.280 ug/l	50.28	1.2	4500	45	P
51	V	1	47.930 ug/l	47.93	1.3	4500	74	P
52	Cr	1	48.280 ug/l	48.28	1.0	4500	74	P
55	Mn	1	48.370 ug/l	48.37	1.1	4500	74	P
56	Fe	1	4830.000 ug/l	4,830.00	1.8	450000	74	A
59	Co	1	48.100 ug/l	48.10	1.6	4500	74	P
60	Ni	1	48.830 ug/l	48.83	1.1	4500	74	P
63	Cu	1	49.470 ug/l	49.47	1.2	4500	74	P
66	Zn	1	48.370 ug/l	48.37	2.1	4500	74	P
75	As	1	49.650 ug/l	49.65	1.1	4500	74	P
78	Se	1	49.370 ug/l	49.37	1.9	4500	74	P
88	Sr	1	49.310 ug/l	49.31	1.9	4500	103	P
95	Mo	1	48.750 ug/l	48.75	1.6	4500	103	P
109	Ag	1	50.260 ug/l	50.26	1.4	4500	103	P
111	Cd	1	49.000 ug/l	49.00	1.3	4500	103	P
118	Sn	1	48.580 ug/l	48.58	1.2	4500	103	P
123	Sb	1	49.420 ug/l	49.42	1.6	4500	103	P
135	Ba	1	49.320 ug/l	49.32	2.7	4500	103	P
200	Hg	1	2.501 ug/l	2.50	1.2	45	209	P
205	Tl	1	50.920 ug/l	50.92	3.0	4500	209	A
208	Pb	1	49.910 ug/l	49.91	0.3	4500	209	P
238	U	1	49.210 ug/l	49.21	0.9	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41789	2.63	46990	88.9	30 - 125
45	Sc	1	1202142	1.84	1187000	101.3	30 - 125
74	Ge	1	3480295	1.36	3343000	104.1	30 - 125
103	Rh	1	5783220	1.19	5717000	101.2	30 - 125
165	Ho	1	2646185	0.59	2591000	102.1	30 - 125
175	Lu	1	2119756	0.97	2070000	102.4	30 - 125
209	Bi	1	2759449	0.64	2857000	96.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\033SMPL.D\033SMPL.D#  
 Date Acquired: Jul 28 2011 05:03 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.007 ug/l	0.01	84.4	900	6	P
23	Na	1	12.560 ug/l	12.56	16.7	450000	45	P
24	Mg	1	0.061 ug/l	0.06	64.3	450000	45	P
27	Al	1	-0.099 ug/l	-0.10	99.0	450000	45	P
31	P	1	-3.225 ug/l	-3.23	76.6	450000	45	P
39	K	1	0.780 ug/l	0.78	164.1	450000	45	P
44	Ca	1	3.802 ug/l	3.80	16.5	450000	45	P
47	Ti	1	0.165 ug/l	0.16	29.0	4500	45	P
51	V	1	-0.036 ug/l	-0.04	35.3	4500	74	P
52	Cr	1	-0.008 ug/l	-0.01	57.5	4500	74	P
55	Mn	1	-0.029 ug/l	-0.03	20.8	4500	74	P
56	Fe	1	2.525 ug/l	2.53	3.9	450000	74	P
59	Co	1	0.002 ug/l	0.00	128.7	4500	74	P
60	Ni	1	-0.016 ug/l	-0.02	71.9	4500	74	P
63	Cu	1	0.010 ug/l	0.01	47.8	4500	74	P
66	Zn	1	0.005 ug/l	0.01	708.5	4500	74	P
75	As	1	0.014 ug/l	0.01	120.9	4500	74	P
78	Se	1	0.070 ug/l	0.07	26.4	4500	74	P
88	Sr	1	0.012 ug/l	0.01	30.1	4500	103	P
95	Mo	1	0.060 ug/l	0.06	30.7	4500	103	P
109	Ag	1	0.002 ug/l	0.00	139.7	4500	103	P
111	Cd	1	-0.004 ug/l	0.00	138.6	4500	103	P
118	Sn	1	0.439 ug/l	0.44	12.7	4500	103	P
123	Sb	1	0.386 ug/l	0.39	16.4	4500	103	P
135	Ba	1	0.015 ug/l	0.01	47.5	4500	103	P
200	Hg	1	0.009 ug/l	0.01	17.8	45	209	P
205	Tl	1	0.193 ug/l	0.19	13.6	4500	209	P
208	Pb	1	0.009 ug/l	0.01	104.3	4500	209	P
238	U	1	0.006 ug/l	0.01	18.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41119	0.66	46990	87.5	30 - 125
45	Sc	1	1156102	0.98	1187000	97.4	30 - 125
74	Ge	1	3431218	1.70	3343000	102.6	30 - 125
103	Rh	1	5870465	0.28	5717000	102.7	30 - 125
165	Ho	1	2672252	1.68	2591000	103.1	30 - 125
175	Lu	1	2134159	1.40	2070000	103.1	30 - 125
209	Bi	1	2911689	0.98	2857000	101.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\034SMPL.D\034SMPL.D#  
 Date Acquired: Jul 28 2011 05:08 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-2-A Vial Number: 2301  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.593 ug/l	0.59	10.4	900	6	P
23	Na	1	890.600 ug/l	890.60	0.7	450000	45	A
24	Mg	1	4126.000 ug/l	4,126.00	3.3	450000	45	A
27	Al	1	27560.000 ug/l	27,560.00	0.9	450000	45	A
31	P	1	285.500 ug/l	285.50	2.2	450000	45	P
39	K	1	2357.000 ug/l	2,357.00	0.2	450000	45	A
44	Ca	1	7689.000 ug/l	7,689.00	1.0	450000	45	P
47	Ti	1	2412.000 ug/l	2,412.00	1.7	4500	45	P
51	V	1	265.700 ug/l	265.70	1.2	4500	74	A
52	Cr	1	3.380 ug/l	3.38	0.8	4500	74	P
55	Mn	1	305.100 ug/l	305.10	0.8	4500	74	A
56	Fe	1	33530.000 ug/l	33,530.00	1.0	450000	74	A
59	Co	1	17.570 ug/l	17.57	1.2	4500	74	P
60	Ni	1	3.370 ug/l	3.37	1.1	4500	74	P
63	Cu	1	82.690 ug/l	82.69	1.1	4500	74	P
66	Zn	1	62.290 ug/l	62.29	2.0	4500	74	P
75	As	1	16.670 ug/l	16.67	1.2	4500	74	P
78	Se	1	3.410 ug/l	3.41	7.5	4500	74	P
88	Sr	1	96.730 ug/l	96.73	1.2	4500	103	P
95	Mo	1	3.509 ug/l	3.51	0.7	4500	103	P
109	Ag	1	0.045 ug/l	0.05	17.4	4500	103	P
111	Cd	1	0.297 ug/l	0.30	5.2	4500	103	P
118	Sn	1	1.792 ug/l	1.79	4.0	4500	103	P
123	Sb	1	0.358 ug/l	0.36	8.7	4500	103	P
135	Ba	1	78.430 ug/l	78.43	1.6	4500	103	P
200	Hg	1	0.036 ug/l	0.04	19.1	45	209	P
205	Tl	1	0.323 ug/l	0.32	11.3	4500	209	P
208	Pb	1	9.346 ug/l	9.35	0.3	4500	209	P
238	U	1	6.568 ug/l	6.57	0.1	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	37828		1.21	46990	80.5	30 - 125	
45	Sc	1	1156885		0.44	1187000	97.5	30 - 125	
74	Ge	1	3260118		0.28	3343000	97.5	30 - 125	
103	Rh	1	5500696		1.07	5717000	96.2	30 - 125	
165	Ho	1	2612883		2.20	2591000	100.8	30 - 125	
175	Lu	1	2088612		1.37	2070000	100.9	30 - 125	
209	Bi	1	2711136		0.75	2857000	94.9	30 - 125	

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\035SMPL.D\035SMPL.D#  
 Date Acquired: Jul 28 2011 05:13 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-3-A Vial Number: 2302  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.026 ug/l	1.03	5.2	900	6	P
23	Na	1	888.100 ug/l	888.10	4.1	450000	45	A
24	Mg	1	6743.000 ug/l	6,743.00	3.9	450000	45	A
27	Al	1	46180.000 ug/l	46,180.00	3.2	450000	45	A
31	P	1	1000.000 ug/l	1,000.00	5.0	450000	45	P
39	K	1	3136.000 ug/l	3,136.00	1.5	450000	45	A
44	Ca	1	13220.000 ug/l	13,220.00	2.4	450000	45	P
47	Ti	1	3974.000 ug/l	3,974.00	3.7	4500	45	A
51	V	1	136.500 ug/l	136.50	3.0	4500	74	A
52	Cr	1	3.330 ug/l	3.33	2.2	4500	74	P
55	Mn	1	959.500 ug/l	959.50	1.6	4500	74	A
56	Fe	1	62780.000 ug/l	62,780.00	1.8	450000	74	A
59	Co	1	22.810 ug/l	22.81	2.7	4500	74	P
60	Ni	1	5.437 ug/l	5.44	4.7	4500	74	P
63	Cu	1	132.100 ug/l	132.10	4.1	4500	74	A
66	Zn	1	99.280 ug/l	99.28	2.5	4500	74	P
75	As	1	4.509 ug/l	4.51	3.8	4500	74	P
78	Se	1	1.186 ug/l	1.19	2.5	4500	74	P
88	Sr	1	144.100 ug/l	144.10	1.5	4500	103	M
95	Mo	1	0.492 ug/l	0.49	4.6	4500	103	P
109	Ag	1	0.059 ug/l	0.06	9.7	4500	103	P
111	Cd	1	0.447 ug/l	0.45	14.1	4500	103	P
118	Sn	1	2.153 ug/l	2.15	1.0	4500	103	P
123	Sb	1	0.244 ug/l	0.24	8.6	4500	103	P
135	Ba	1	422.700 ug/l	422.70	1.9	4500	103	P
200	Hg	1	0.047 ug/l	0.05	20.3	45	209	P
205	Tl	1	0.312 ug/l	0.31	6.3	4500	209	P
208	Pb	1	15.540 ug/l	15.54	3.0	4500	209	P
238	U	1	1.139 ug/l	1.14	3.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	37105	0.85	46990	79.0	30 - 125
45	Sc	1	1167654	2.11	1187000	98.4	30 - 125
74	Ge	1	3277816	1.67	3343000	98.1	30 - 125
103	Rh	1	5417721	1.88	5717000	94.8	30 - 125
165	Ho	1	2603246	1.13	2591000	100.5	30 - 125
175	Lu	1	2113034	1.87	2070000	102.1	30 - 125
209	Bi	1	2668837	2.56	2857000	93.4	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\036SMPL.D\036SMPL.D#  
 Date Acquired: Jul 28 2011 05:18 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-4-A Vial Number: 2303  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.145 ug/l	1.15	6.6	900	6	P
23	Na	1	799.400 ug/l	799.40	8.0	450000	45	A
24	Mg	1	4779.000 ug/l	4,779.00	7.9	450000	45	A
27	Al	1	48100.000 ug/l	48,100.00	8.1	450000	45	A
31	P	1	756.800 ug/l	756.80	8.5	450000	45	P
39	K	1	3116.000 ug/l	3,116.00	7.2	450000	45	A
44	Ca	1	10850.000 ug/l	10,850.00	7.2	450000	45	P
47	Ti	1	4339.000 ug/l	4,339.00	6.7	4500	45	A
51	V	1	149.900 ug/l	149.90	5.0	4500	74	A
52	Cr	1	2.962 ug/l	2.96	7.0	4500	74	P
55	Mn	1	492.800 ug/l	492.80	5.0	4500	74	A
56	Fe	1	53560.000 ug/l	53,560.00	4.2	450000	74	A
59	Co	1	29.560 ug/l	29.56	6.0	4500	74	P
60	Ni	1	5.250 ug/l	5.25	5.7	4500	74	P
63	Cu	1	145.800 ug/l	145.80	5.7	4500	74	A
66	Zn	1	114.200 ug/l	114.20	5.7	4500	74	P
75	As	1	5.359 ug/l	5.36	4.5	4500	74	P
78	Se	1	2.142 ug/l	2.14	16.5	4500	74	P
88	Sr	1	125.700 ug/l	125.70	7.5	4500	103	P
95	Mo	1	0.934 ug/l	0.93	5.2	4500	103	P
109	Ag	1	0.080 ug/l	0.08	10.9	4500	103	P
111	Cd	1	0.663 ug/l	0.66	4.4	4500	103	P
118	Sn	1	2.080 ug/l	2.08	5.9	4500	103	P
123	Sb	1	0.227 ug/l	0.23	12.8	4500	103	P
135	Ba	1	311.400 ug/l	311.40	7.9	4500	103	P
200	Hg	1	0.050 ug/l	0.05	13.2	45	209	P
205	Tl	1	0.361 ug/l	0.36	3.3	4500	209	P
208	Pb	1	16.640 ug/l	16.64	6.6	4500	209	P
238	U	1	2.588 ug/l	2.59	5.1	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	36684	5.65	46990	78.1	30 - 125	
45	Sc	1	1204202	7.81	1187000	101.4	30 - 125	
74	Ge	1	3362832	5.80	3343000	100.6	30 - 125	
103	Rh	1	5707086	7.14	5717000	99.8	30 - 125	
165	Ho	1	2700415	6.18	2591000	104.2	30 - 125	
175	Lu	1	2162976	5.78	2070000	104.5	30 - 125	
209	Bi	1	2748915	6.10	2857000	96.2	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\037SMPL.D\037SMPL.D#  
 Date Acquired: Jul 28 2011 05:22 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-5-A Vial Number: 2304  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.591 ug/l	0.59	16.0	900	6	P
23	Na	1	1364.000 ug/l	1,364.00	2.0	450000	45	A
24	Mg	1	5038.000 ug/l	5,038.00	1.1	450000	45	A
27	Al	1	32370.000 ug/l	32,370.00	0.4	450000	45	A
31	P	1	372.400 ug/l	372.40	1.5	450000	45	P
39	K	1	2537.000 ug/l	2,537.00	2.0	450000	45	A
44	Ca	1	10520.000 ug/l	10,520.00	1.4	450000	45	P
47	Ti	1	2856.000 ug/l	2,856.00	1.9	4500	45	P
51	V	1	1075.000 ug/l	1,075.00	0.7	4500	74	A
52	Cr	1	4.393 ug/l	4.39	1.1	4500	74	P
55	Mn	1	468.900 ug/l	468.90	1.0	4500	74	A
56	Fe	1	40330.000 ug/l	40,330.00	1.0	450000	74	A
59	Co	1	16.320 ug/l	16.32	1.9	4500	74	P
60	Ni	1	3.914 ug/l	3.91	3.5	4500	74	P
63	Cu	1	93.440 ug/l	93.44	1.8	4500	74	P
66	Zn	1	72.690 ug/l	72.69	2.7	4500	74	P
75	As	1	33.370 ug/l	33.37	2.4	4500	74	P
78	Se	1	14.240 ug/l	14.24	1.7	4500	74	P
88	Sr	1	137.000 ug/l	137.00	0.9	4500	103	P
95	Mo	1	11.230 ug/l	11.23	2.6	4500	103	P
109	Ag	1	0.044 ug/l	0.04	2.1	4500	103	P
111	Cd	1	0.421 ug/l	0.42	3.8	4500	103	P
118	Sn	1	1.614 ug/l	1.61	6.2	4500	103	P
123	Sb	1	0.264 ug/l	0.26	11.4	4500	103	P
135	Ba	1	77.300 ug/l	77.30	0.8	4500	103	P
200	Hg	1	0.039 ug/l	0.04	3.9	45	209	P
205	Tl	1	0.436 ug/l	0.44	9.0	4500	209	P
208	Pb	1	8.994 ug/l	8.99	1.2	4500	209	P
238	U	1	17.190 ug/l	17.19	0.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	36124	2.11	46990	76.9	30 - 125
45	Sc	1	1103329	1.99	1187000	93.0	30 - 125
74	Ge	1	3216505	1.50	3343000	96.2	30 - 125
103	Rh	1	5449488	0.91	5717000	95.3	30 - 125
165	Ho	1	2596812	0.66	2591000	100.2	30 - 125
175	Lu	1	2090759	1.08	2070000	101.0	30 - 125
209	Bi	1	2731781	0.87	2857000	95.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\038SMPL.D\038SMPL.D#  
 Date Acquired: Jul 28 2011 05:27 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-6-A Vial Number: 2305  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.209 ug/l	0.21	19.9	900	6	P
23	Na	1	540.000 ug/l	540.00	3.9	450000	45	P
24	Mg	1	2862.000 ug/l	2,862.00	4.0	450000	45	A
27	Al	1	8642.000 ug/l	8,642.00	2.5	450000	45	A
31	P	1	129.900 ug/l	129.90	3.9	450000	45	P
39	K	1	1342.000 ug/l	1,342.00	1.3	450000	45	A
44	Ca	1	82530.000 ug/l	82,530.00	4.3	450000	45	A
47	Ti	1	244.100 ug/l	244.10	3.1	4500	45	P
51	V	1	29.770 ug/l	29.77	0.7	4500	74	P
52	Cr	1	9.623 ug/l	9.62	0.3	4500	74	P
55	Mn	1	179.400 ug/l	179.40	1.9	4500	74	A
56	Fe	1	10020.000 ug/l	10,020.00	0.4	450000	74	A
59	Co	1	2.479 ug/l	2.48	0.5	4500	74	P
60	Ni	1	15.360 ug/l	15.36	1.6	4500	74	P
63	Cu	1	10.670 ug/l	10.67	1.0	4500	74	P
66	Zn	1	67.610 ug/l	67.61	0.5	4500	74	P
75	As	1	3.687 ug/l	3.69	2.8	4500	74	P
78	Se	1	0.807 ug/l	0.81	8.0	4500	74	P
88	Sr	1	135.100 ug/l	135.10	1.2	4500	103	M
95	Mo	1	1.951 ug/l	1.95	3.3	4500	103	P
109	Ag	1	0.062 ug/l	0.06	25.0	4500	103	P
111	Cd	1	0.396 ug/l	0.40	17.5	4500	103	P
118	Sn	1	1.708 ug/l	1.71	4.5	4500	103	P
123	Sb	1	0.350 ug/l	0.35	1.5	4500	103	P
135	Ba	1	75.640 ug/l	75.64	2.1	4500	103	P
200	Hg	1	0.057 ug/l	0.06	11.7	45	209	P
205	Tl	1	0.071 ug/l	0.07	16.1	4500	209	P
208	Pb	1	6.196 ug/l	6.20	0.6	4500	209	P
238	U	1	0.754 ug/l	0.75	0.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	35993	3.03	46990	76.6	30 - 125
45	Sc	1	1093782	2.80	1187000	92.1	30 - 125
74	Ge	1	3327479	0.74	3343000	99.5	30 - 125
103	Rh	1	5449926	0.62	5717000	95.3	30 - 125
165	Ho	1	2619480	1.43	2591000	101.1	30 - 125
175	Lu	1	2092373	0.71	2070000	101.1	30 - 125
209	Bi	1	2695353	0.24	2857000	94.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\039SMPL.D\039SMPL.D#  
 Date Acquired: Jul 28 2011 05:32 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-7-A Vial Number: 2306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.046 ug/l	1.05	16.6	900	6	P
23	Na	1	853.000 ug/l	853.00	4.0	450000	45	A
24	Mg	1	6584.000 ug/l	6,584.00	3.0	450000	45	A
27	Al	1	42670.000 ug/l	42,670.00	2.0	450000	45	A
31	P	1	794.600 ug/l	794.60	2.4	450000	45	P
39	K	1	2925.000 ug/l	2,925.00	2.4	450000	45	A
44	Ca	1	12130.000 ug/l	12,130.00	2.7	450000	45	P
47	Ti	1	3518.000 ug/l	3,518.00	2.4	4500	45	M
51	V	1	125.300 ug/l	125.30	1.8	4500	74	P
52	Cr	1	3.561 ug/l	3.56	4.0	4500	74	P
55	Mn	1	822.400 ug/l	822.40	2.4	4500	74	A
56	Fe	1	53210.000 ug/l	53,210.00	0.9	450000	74	A
59	Co	1	19.750 ug/l	19.75	1.7	4500	74	P
60	Ni	1	6.447 ug/l	6.45	2.0	4500	74	P
63	Cu	1	114.900 ug/l	114.90	0.7	4500	74	M
66	Zn	1	92.880 ug/l	92.88	1.7	4500	74	P
75	As	1	3.264 ug/l	3.26	4.8	4500	74	P
78	Se	1	1.348 ug/l	1.35	6.2	4500	74	P
88	Sr	1	132.100 ug/l	132.10	0.5	4500	103	P
95	Mo	1	0.528 ug/l	0.53	5.5	4500	103	P
109	Ag	1	0.074 ug/l	0.07	11.6	4500	103	P
111	Cd	1	0.404 ug/l	0.40	8.5	4500	103	P
118	Sn	1	1.914 ug/l	1.91	0.8	4500	103	P
123	Sb	1	0.126 ug/l	0.13	4.3	4500	103	P
135	Ba	1	297.800 ug/l	297.80	0.5	4500	103	P
200	Hg	1	0.055 ug/l	0.06	4.2	45	209	P
205	Tl	1	0.227 ug/l	0.23	13.8	4500	209	P
208	Pb	1	15.100 ug/l	15.10	0.9	4500	209	P
238	U	1	1.142 ug/l	1.14	0.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	35344	0.74	46990	75.2	30 - 125
45	Sc	1	1150653	1.97	1187000	96.9	30 - 125
74	Ge	1	3235391	1.66	3343000	96.8	30 - 125
103	Rh	1	5461064	0.19	5717000	95.5	30 - 125
165	Ho	1	2623793	0.02	2591000	101.3	30 - 125
175	Lu	1	2069529	0.67	2070000	100.0	30 - 125
209	Bi	1	2678102	0.50	2857000	93.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\040SMPL.D\040SMPL.D#  
 Date Acquired: Jul 28 2011 05:36 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-8-A Vial Number: 2307  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.904 ug/l	0.90	9.5	900	6	P
23	Na	1	666.500 ug/l	666.50	1.4	450000	45	A
24	Mg	1	6296.000 ug/l	6,296.00	1.4	450000	45	A
27	Al	1	39380.000 ug/l	39,380.00	1.4	450000	45	A
31	P	1	694.700 ug/l	694.70	2.1	450000	45	P
39	K	1	2662.000 ug/l	2,662.00	2.3	450000	45	A
44	Ca	1	44090.000 ug/l	44,090.00	1.5	450000	45	A
47	Ti	1	3159.000 ug/l	3,159.00	0.7	4500	45	P
51	V	1	163.400 ug/l	163.40	1.1	4500	74	A
52	Cr	1	9.663 ug/l	9.66	0.9	4500	74	P
55	Mn	1	1357.000 ug/l	1,357.00	0.8	4500	74	A
56	Fe	1	49160.000 ug/l	49,160.00	0.5	450000	74	A
59	Co	1	21.120 ug/l	21.12	0.7	4500	74	P
60	Ni	1	13.250 ug/l	13.25	1.0	4500	74	P
63	Cu	1	113.200 ug/l	113.20	1.4	4500	74	P
66	Zn	1	106.600 ug/l	106.60	1.8	4500	74	P
75	As	1	20.440 ug/l	20.44	2.0	4500	74	P
78	Se	1	1.463 ug/l	1.46	12.9	4500	74	P
88	Sr	1	166.000 ug/l	166.00	1.6	4500	103	A
95	Mo	1	3.673 ug/l	3.67	4.9	4500	103	P
109	Ag	1	0.082 ug/l	0.08	3.8	4500	103	P
111	Cd	1	0.680 ug/l	0.68	8.5	4500	103	P
118	Sn	1	1.940 ug/l	1.94	6.2	4500	103	P
123	Sb	1	0.374 ug/l	0.37	7.4	4500	103	P
135	Ba	1	393.000 ug/l	393.00	1.3	4500	103	P
200	Hg	1	0.130 ug/l	0.13	4.8	45	209	P
205	Tl	1	0.281 ug/l	0.28	9.2	4500	209	P
208	Pb	1	16.270 ug/l	16.27	0.9	4500	209	P
238	U	1	1.662 ug/l	1.66	0.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	35335	0.95	46990	75.2	30 - 125
45	Sc	1	1126839	1.66	1187000	94.9	30 - 125
74	Ge	1	3193458	0.98	3343000	95.5	30 - 125
103	Rh	1	5409048	0.65	5717000	94.6	30 - 125
165	Ho	1	2599496	1.41	2591000	100.3	30 - 125
175	Lu	1	2061184	0.53	2070000	99.6	30 - 125
209	Bi	1	2646458	0.13	2857000	92.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\041SMPL.D\041SMPL.D#  
 Date Acquired: Jul 28 2011 05:41 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27640-A-9-A Vial Number: 2308  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.795 ug/l	0.79	8.7	900	6	P
23	Na	1	1045.000 ug/l	1,045.00	2.1	450000	45	A
24	Mg	1	4483.000 ug/l	4,483.00	3.0	450000	45	A
27	Al	1	35750.000 ug/l	35,750.00	3.2	450000	45	A
31	P	1	595.000 ug/l	595.00	6.6	450000	45	P
39	K	1	2910.000 ug/l	2,910.00	5.2	450000	45	A
44	Ca	1	8749.000 ug/l	8,749.00	4.3	450000	45	P
47	Ti	1	3085.000 ug/l	3,085.00	3.8	4500	45	P
51	V	1	203.100 ug/l	203.10	2.3	4500	74	A
52	Cr	1	4.194 ug/l	4.19	0.2	4500	74	P
55	Mn	1	487.700 ug/l	487.70	1.0	4500	74	A
56	Fe	1	44660.000 ug/l	44,660.00	1.2	450000	74	A
59	Co	1	19.830 ug/l	19.83	1.1	4500	74	P
60	Ni	1	15.550 ug/l	15.55	2.1	4500	74	P
63	Cu	1	97.390 ug/l	97.39	1.1	4500	74	P
66	Zn	1	79.780 ug/l	79.78	1.9	4500	74	P
75	As	1	7.800 ug/l	7.80	1.7	4500	74	P
78	Se	1	2.259 ug/l	2.26	2.5	4500	74	P
88	Sr	1	113.100 ug/l	113.10	0.3	4500	103	P
95	Mo	1	2.318 ug/l	2.32	2.9	4500	103	P
109	Ag	1	0.046 ug/l	0.05	9.6	4500	103	P
111	Cd	1	0.371 ug/l	0.37	16.7	4500	103	P
118	Sn	1	1.762 ug/l	1.76	3.2	4500	103	P
123	Sb	1	0.142 ug/l	0.14	7.7	4500	103	P
135	Ba	1	205.500 ug/l	205.50	1.0	4500	103	P
200	Hg	1	0.048 ug/l	0.05	13.1	45	209	P
205	Tl	1	0.226 ug/l	0.23	9.0	4500	209	P
208	Pb	1	12.840 ug/l	12.84	0.5	4500	209	P
238	U	1	4.172 ug/l	4.17	1.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	34759	2.28	46990	74.0	30 - 125
45	Sc	1	1108109	4.00	1187000	93.4	30 - 125
74	Ge	1	3259435	0.86	3343000	97.5	30 - 125
103	Rh	1	5502850	0.41	5717000	96.3	30 - 125
165	Ho	1	2604651	2.35	2591000	100.5	30 - 125
175	Lu	1	2076235	1.80	2070000	100.3	30 - 125
209	Bi	1	2656902	1.04	2857000	93.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\042SMPL.D\042SMPL.D#  
 Date Acquired: Jul 28 2011 05:46 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	50.590 ug/l	50.59	0.8	900	6	P
23	Na	1	4701.000 ug/l	4,701.00	3.1	450000	45	A
24	Mg	1	4712.000 ug/l	4,712.00	3.4	450000	45	A
27	Al	1	474.900 ug/l	474.90	1.3	450000	45	P
31	P	1	4847.000 ug/l	4,847.00	2.3	450000	45	P
39	K	1	5026.000 ug/l	5,026.00	2.1	450000	45	A
44	Ca	1	4979.000 ug/l	4,979.00	1.2	450000	45	P
47	Ti	1	51.890 ug/l	51.89	2.9	4500	45	P
51	V	1	48.220 ug/l	48.22	0.8	4500	74	P
52	Cr	1	48.440 ug/l	48.44	0.8	4500	74	P
55	Mn	1	48.510 ug/l	48.51	0.6	4500	74	P
56	Fe	1	4865.000 ug/l	4,865.00	0.6	450000	74	A
59	Co	1	48.900 ug/l	48.90	1.0	4500	74	P
60	Ni	1	49.580 ug/l	49.58	1.0	4500	74	P
63	Cu	1	50.110 ug/l	50.11	1.5	4500	74	P
66	Zn	1	49.070 ug/l	49.07	0.9	4500	74	P
75	As	1	50.510 ug/l	50.51	0.4	4500	74	P
78	Se	1	49.230 ug/l	49.23	1.4	4500	74	P
88	Sr	1	49.650 ug/l	49.65	1.0	4500	103	P
95	Mo	1	48.610 ug/l	48.61	1.7	4500	103	P
109	Ag	1	50.370 ug/l	50.37	0.6	4500	103	P
111	Cd	1	49.220 ug/l	49.22	1.2	4500	103	P
118	Sn	1	48.290 ug/l	48.29	0.2	4500	103	P
123	Sb	1	48.850 ug/l	48.85	0.2	4500	103	P
135	Ba	1	49.650 ug/l	49.65	1.3	4500	103	P
200	Hg	1	2.435 ug/l	2.44	1.5	45	209	P
205	Tl	1	50.060 ug/l	50.06	3.6	4500	209	A
208	Pb	1	49.800 ug/l	49.80	0.7	4500	209	P
238	U	1	48.560 ug/l	48.56	0.7	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	37747	0.60	46990	80.3	30 - 125
45	Sc	1	1159421	1.53	1187000	97.7	30 - 125
74	Ge	1	3432866	0.94	3343000	102.7	30 - 125
103	Rh	1	5824141	1.10	5717000	101.9	30 - 125
165	Ho	1	2644326	1.03	2591000	102.1	30 - 125
175	Lu	1	2139477	1.62	2070000	103.4	30 - 125
209	Bi	1	2769781	0.16	2857000	96.9	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\043SMPL.D\043SMPL.D#  
 Date Acquired: Jul 28 2011 05:51 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	-0.001 ug/l	0.00	0.0	900	6	P
23	Na	1	16.200 ug/l	16.20	12.7	450000	45	P
24	Mg	1	0.072 ug/l	0.07	128.4	450000	45	P
27	Al	1	-0.122 ug/l	-0.12	71.8	450000	45	P
31	P	1	-2.345 ug/l	-2.35	97.2	450000	45	P
39	K	1	-3.328 ug/l	-3.33	42.7	450000	45	P
44	Ca	1	-1.859 ug/l	-1.86	35.0	450000	45	P
47	Ti	1	0.318 ug/l	0.32	25.0	4500	45	P
51	V	1	-0.034 ug/l	-0.03	34.7	4500	74	P
52	Cr	1	0.001 ug/l	0.00	805.9	4500	74	P
55	Mn	1	-0.031 ug/l	-0.03	43.5	4500	74	P
56	Fe	1	3.169 ug/l	3.17	1.9	450000	74	P
59	Co	1	0.001 ug/l	0.00	92.0	4500	74	P
60	Ni	1	-0.019 ug/l	-0.02	67.5	4500	74	P
63	Cu	1	-0.004 ug/l	0.00	72.6	4500	74	P
66	Zn	1	-0.004 ug/l	0.00	516.6	4500	74	P
75	As	1	0.003 ug/l	0.00	352.1	4500	74	P
78	Se	1	0.031 ug/l	0.03	99.4	4500	74	P
88	Sr	1	0.012 ug/l	0.01	34.5	4500	103	P
95	Mo	1	0.030 ug/l	0.03	36.4	4500	103	P
109	Ag	1	0.000 ug/l	0.00	565.7	4500	103	P
111	Cd	1	0.006 ug/l	0.01	143.1	4500	103	P
118	Sn	1	0.139 ug/l	0.14	24.9	4500	103	P
123	Sb	1	0.042 ug/l	0.04	20.9	4500	103	P
135	Ba	1	0.016 ug/l	0.02	97.7	4500	103	P
200	Hg	1	0.007 ug/l	0.01	24.4	45	209	P
205	Tl	1	0.119 ug/l	0.12	5.7	4500	209	P
208	Pb	1	0.000 ug/l	0.00	902.9	4500	209	P
238	U	1	0.007 ug/l	0.01	13.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	36858	1.08	46990	78.4	30 - 125
45	Sc	1	1145733	0.70	1187000	96.5	30 - 125
74	Ge	1	3417013	0.72	3343000	102.2	30 - 125
103	Rh	1	5886693	0.22	5717000	103.0	30 - 125
165	Ho	1	2649122	1.36	2591000	102.2	30 - 125
175	Lu	1	2143339	1.23	2070000	103.5	30 - 125
209	Bi	1	2898662	1.51	2857000	101.5	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\044SMPL.D\044SMPL.D#  
 Date Acquired: Jul 28 2011 05:56 pm Acq. Method: 00He\_ALL.M  
 Sample Name: MB 580-91398/21-A Vial Number: 2401  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.02	136.6	900	6	P
23	Na	1	19.500 ug/l	97.50	6.5	450000	45	P
24	Mg	1	0.106 ug/l	0.53	58.4	450000	45	P
27	Al	1	-0.282 ug/l	-1.41	22.5	450000	45	P
31	P	1	-3.839 ug/l	-19.20	27.8	450000	45	P
39	K	1	-1.656 ug/l	-8.28	56.3	450000	45	P
44	Ca	1	1.136 ug/l	5.68	68.7	450000	45	P
47	Ti	1	0.190 ug/l	0.95	31.0	4500	45	P
51	V	1	-0.028 ug/l	-0.14	73.8	4500	74	P
52	Cr	1	-0.001 ug/l	0.00	1177.6	4500	74	P
55	Mn	1	-0.136 ug/l	-0.68	8.1	4500	74	P
56	Fe	1	1.798 ug/l	8.99	2.9	450000	74	P
59	Co	1	-0.001 ug/l	-0.01	104.0	4500	74	P
60	Ni	1	0.031 ug/l	0.15	106.5	4500	74	P
63	Cu	1	0.039 ug/l	0.19	18.9	4500	74	P
66	Zn	1	0.086 ug/l	0.43	58.4	4500	74	P
75	As	1	-0.002 ug/l	-0.01	812.7	4500	74	P
78	Se	1	0.062 ug/l	0.31	123.5	4500	74	P
88	Sr	1	0.009 ug/l	0.05	157.6	4500	103	P
95	Mo	1	0.012 ug/l	0.06	71.0	4500	103	P
109	Ag	1	0.000 ug/l	0.00	1413.8	4500	103	P
111	Cd	1	0.011 ug/l	0.05	114.4	4500	103	P
118	Sn	1	0.044 ug/l	0.22	42.5	4500	103	P
123	Sb	1	0.024 ug/l	0.12	20.9	4500	103	P
135	Ba	1	0.011 ug/l	0.06	103.9	4500	103	P
200	Hg	1	0.004 ug/l	0.02	40.6	45	209	P
205	Tl	1	0.026 ug/l	0.13	27.8	4500	209	P
208	Pb	1	0.002 ug/l	0.01	111.6	4500	209	P
238	U	1	0.001 ug/l	0.01	29.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	36817	2.41	46990	78.4	30 - 125
45	Sc	1	1133423	1.22	1187000	95.5	30 - 125
74	Ge	1	3422638	1.54	3343000	102.4	30 - 125
103	Rh	1	5916203	0.61	5717000	103.5	30 - 125
165	Ho	1	2664928	1.91	2591000	102.9	30 - 125
175	Lu	1	2119684	0.72	2070000	102.4	30 - 125
209	Bi	1	2881785	1.54	2857000	100.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\045SMPL.D\045SMPL.D#  
 Date Acquired: Jul 28 2011 06:00 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCS 580-91398/22-A Vial Number: 2402  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.031 ug/l	101.55	1.4	900	6	P
23	Na	1	394.200 ug/l	19,710.00	4.9	450000	45	P
24	Mg	1	384.100 ug/l	19,205.00	3.7	450000	45	P
27	Al	1	74.960 ug/l	3,748.00	5.0	450000	45	P
31	P	1	371.100 ug/l	18,555.00	5.3	450000	45	P
39	K	1	407.200 ug/l	20,360.00	3.9	450000	45	P
44	Ca	1	408.700 ug/l	20,435.00	3.6	450000	45	P
47	Ti	1	98.340 ug/l	4,917.00	4.5	4500	45	P
51	V	1	18.790 ug/l	939.50	1.8	4500	74	P
52	Cr	1	7.562 ug/l	378.10	0.4	4500	74	P
55	Mn	1	19.050 ug/l	952.50	0.3	4500	74	P
56	Fe	1	428.700 ug/l	21,435.00	0.9	450000	74	A
59	Co	1	19.350 ug/l	967.50	0.3	4500	74	P
60	Ni	1	19.630 ug/l	981.50	0.8	4500	74	P
63	Cu	1	10.190 ug/l	509.50	0.6	4500	74	P
66	Zn	1	20.010 ug/l	1,000.50	0.3	4500	74	P
75	As	1	79.950 ug/l	3,997.50	0.0	4500	74	P
78	Se	1	79.300 ug/l	3,965.00	0.6	4500	74	P
88	Sr	1	0.002 ug/l	0.11	676.9	4500	103	P
95	Mo	1	96.400 ug/l	4,820.00	1.6	4500	103	P
109	Ag	1	12.360 ug/l	618.00	2.7	4500	103	P
111	Cd	1	2.027 ug/l	101.35	3.8	4500	103	P
118	Sn	1	99.020 ug/l	4,951.00	2.3	4500	103	P
123	Sb	1	56.760 ug/l	2,838.00	2.0	4500	103	P
135	Ba	1	78.590 ug/l	3,929.50	1.2	4500	103	P
200	Hg	1	0.956 ug/l	47.78	4.0	45	209	P
205	Tl	1	74.000 ug/l	3,700.00	6.0	4500	209	A
208	Pb	1	19.840 ug/l	992.00	1.0	4500	209	P
238	U	1	0.000 ug/l	0.00	1018.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	35387	1.84	46990	75.3	30 - 125
45	Sc	1	1116369	3.45	1187000	94.0	30 - 125
74	Ge	1	3379147	0.58	3343000	101.1	30 - 125
103	Rh	1	5854073	1.85	5717000	102.4	30 - 125
165	Ho	1	2658276	0.69	2591000	102.6	30 - 125
175	Lu	1	2146134	1.79	2070000	103.7	30 - 125
209	Bi	1	2879418	1.22	2857000	100.8	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\046SMPL.D\046SMPL.D#  
 Date Acquired: Jul 28 2011 06:05 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCSD 580-91398/23-A Vial Number: 2403  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.934 ug/l	96.70	2.7	900	6	P
23	Na	1	389.300 ug/l	19,465.00	4.5	450000	45	P
24	Mg	1	374.600 ug/l	18,730.00	3.7	450000	45	P
27	Al	1	72.580 ug/l	3,629.00	3.4	450000	45	P
31	P	1	359.700 ug/l	17,985.00	0.2	450000	45	P
39	K	1	398.700 ug/l	19,935.00	3.6	450000	45	P
44	Ca	1	391.900 ug/l	19,595.00	3.2	450000	45	P
47	Ti	1	96.660 ug/l	4,833.00	2.7	4500	45	P
51	V	1	18.730 ug/l	936.50	2.3	4500	74	P
52	Cr	1	7.636 ug/l	381.80	2.2	4500	74	P
55	Mn	1	19.060 ug/l	953.00	1.3	4500	74	P
56	Fe	1	432.300 ug/l	21,615.00	1.8	450000	74	A
59	Co	1	19.100 ug/l	955.00	0.7	4500	74	P
60	Ni	1	19.760 ug/l	988.00	1.7	4500	74	P
63	Cu	1	10.150 ug/l	507.50	0.6	4500	74	P
66	Zn	1	19.440 ug/l	972.00	1.6	4500	74	P
75	As	1	80.320 ug/l	4,016.00	0.5	4500	74	P
78	Se	1	79.210 ug/l	3,960.50	1.1	4500	74	P
88	Sr	1	0.003 ug/l	0.14	281.0	4500	103	P
95	Mo	1	95.820 ug/l	4,791.00	1.9	4500	103	P
109	Ag	1	12.370 ug/l	618.50	1.5	4500	103	P
111	Cd	1	2.032 ug/l	101.60	5.9	4500	103	P
118	Sn	1	99.000 ug/l	4,950.00	1.2	4500	103	P
123	Sb	1	56.920 ug/l	2,846.00	0.5	4500	103	P
135	Ba	1	78.680 ug/l	3,934.00	1.2	4500	103	P
200	Hg	1	0.941 ug/l	47.05	1.0	45	209	P
205	Tl	1	74.230 ug/l	3,711.50	8.8	4500	209	A
208	Pb	1	19.640 ug/l	982.00	1.7	4500	209	P
238	U	1	0.000 ug/l	0.00	1225.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	36156	1.21	46990	76.9	30 - 125
45	Sc	1	1131559	3.27	1187000	95.3	30 - 125
74	Ge	1	3370996	1.09	3343000	100.8	30 - 125
103	Rh	1	5837144	0.75	5717000	102.1	30 - 125
165	Ho	1	2665572	1.61	2591000	102.9	30 - 125
175	Lu	1	2097550	0.76	2070000	101.3	30 - 125
209	Bi	1	2868701	2.66	2857000	100.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\047SMPL.D\047SMPL.D#  
 Date Acquired: Jul 28 2011 06:10 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	50.260 ug/l	50.26	0.6	900	6	P
23	Na	1	4612.000 ug/l	4,612.00	0.8	450000	45	A
24	Mg	1	4747.000 ug/l	4,747.00	1.3	450000	45	A
27	Al	1	472.400 ug/l	472.40	0.6	450000	45	P
31	P	1	4878.000 ug/l	4,878.00	1.5	450000	45	P
39	K	1	5034.000 ug/l	5,034.00	2.1	450000	45	A
44	Ca	1	4968.000 ug/l	4,968.00	1.2	450000	45	P
47	Ti	1	50.040 ug/l	50.04	2.0	4500	45	P
51	V	1	48.140 ug/l	48.14	1.5	4500	74	P
52	Cr	1	48.350 ug/l	48.35	0.5	4500	74	P
55	Mn	1	48.330 ug/l	48.33	1.8	4500	74	P
56	Fe	1	4832.000 ug/l	4,832.00	1.5	450000	74	A
59	Co	1	48.730 ug/l	48.73	0.9	4500	74	P
60	Ni	1	49.140 ug/l	49.14	0.5	4500	74	P
63	Cu	1	50.210 ug/l	50.21	0.5	4500	74	P
66	Zn	1	48.910 ug/l	48.91	1.4	4500	74	P
75	As	1	50.450 ug/l	50.45	1.1	4500	74	P
78	Se	1	50.630 ug/l	50.63	2.7	4500	74	P
88	Sr	1	50.470 ug/l	50.47	1.4	4500	103	P
95	Mo	1	49.440 ug/l	49.44	1.2	4500	103	P
109	Ag	1	50.800 ug/l	50.80	1.5	4500	103	P
111	Cd	1	49.560 ug/l	49.56	1.1	4500	103	P
118	Sn	1	49.070 ug/l	49.07	0.7	4500	103	P
123	Sb	1	49.780 ug/l	49.78	0.8	4500	103	P
135	Ba	1	50.260 ug/l	50.26	0.9	4500	103	P
200	Hg	1	2.430 ug/l	2.43	2.0	45	209	P
205	Tl	1	49.580 ug/l	49.58	4.4	4500	209	A
208	Pb	1	49.420 ug/l	49.42	1.3	4500	209	P
238	U	1	48.200 ug/l	48.20	2.7	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38644	0.86	46990	82.2	30 - 125
45	Sc	1	1172101	1.29	1187000	98.7	30 - 125
74	Ge	1	3419301	0.90	3343000	102.3	30 - 125
103	Rh	1	5717473	1.10	5717000	100.0	30 - 125
165	Ho	1	2615308	0.47	2591000	100.9	30 - 125
175	Lu	1	2093499	0.90	2070000	101.1	30 - 125
209	Bi	1	2755200	1.55	2857000	96.4	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\048SMPL.D\048SMPL.D#  
 Date Acquired: Jul 28 2011 06:15 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.011 ug/l	0.01	100.6	900	6	P
23	Na	1	14.760 ug/l	14.76	13.5	450000	45	P
24	Mg	1	0.073 ug/l	0.07	86.1	450000	45	P
27	Al	1	-0.060 ug/l	-0.06	235.6	450000	45	P
31	P	1	-1.245 ug/l	-1.25	203.9	450000	45	P
39	K	1	-2.524 ug/l	-2.52	97.5	450000	45	P
44	Ca	1	-0.870 ug/l	-0.87	108.8	450000	45	P
47	Ti	1	0.120 ug/l	0.12	12.6	4500	45	P
51	V	1	-0.025 ug/l	-0.02	69.9	4500	74	P
52	Cr	1	-0.004 ug/l	0.00	291.4	4500	74	P
55	Mn	1	-0.025 ug/l	-0.02	35.3	4500	74	P
56	Fe	1	1.580 ug/l	1.58	2.2	450000	74	P
59	Co	1	0.002 ug/l	0.00	39.3	4500	74	P
60	Ni	1	-0.024 ug/l	-0.02	19.1	4500	74	P
63	Cu	1	-0.004 ug/l	0.00	96.2	4500	74	P
66	Zn	1	0.036 ug/l	0.04	14.7	4500	74	P
75	As	1	0.014 ug/l	0.01	133.6	4500	74	P
78	Se	1	0.016 ug/l	0.02	789.5	4500	74	P
88	Sr	1	0.001 ug/l	0.00	348.0	4500	103	P
95	Mo	1	0.050 ug/l	0.05	7.1	4500	103	P
109	Ag	1	0.002 ug/l	0.00	77.7	4500	103	P
111	Cd	1	0.004 ug/l	0.00	120.0	4500	103	P
118	Sn	1	0.267 ug/l	0.27	14.9	4500	103	P
123	Sb	1	0.040 ug/l	0.04	26.0	4500	103	P
135	Ba	1	0.006 ug/l	0.01	125.7	4500	103	P
200	Hg	1	0.008 ug/l	0.01	39.8	45	209	P
205	Tl	1	0.243 ug/l	0.24	6.3	4500	209	P
208	Pb	1	-0.002 ug/l	0.00	545.1	4500	209	P
238	U	1	0.009 ug/l	0.01	13.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	37640	0.31	46990	80.1	30 - 125
45	Sc	1	1142623	1.44	1187000	96.3	30 - 125
74	Ge	1	3381619	0.81	3343000	101.2	30 - 125
103	Rh	1	5841701	1.10	5717000	102.2	30 - 125
165	Ho	1	2652137	1.44	2591000	102.4	30 - 125
175	Lu	1	2120960	1.61	2070000	102.5	30 - 125
209	Bi	1	2850215	0.79	2857000	99.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\049SMPL.D\049SMPL.D#  
 Date Acquired: Jul 28 2011 06:20 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27635-A-1-A SD Vial Number: 2501  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 25.00 Final Dil Factor: 25.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.006 ug/l	0.14	143.2	900	6	P
23	Na	1	191800.000 ug/l	4,795,000.00	3.2	450000	45	A
24	Mg	1	23160.000 ug/l	579,000.00	2.2	450000	45	A
27	Al	1	9.367 ug/l	234.18	5.3	450000	45	P
31	P	1	13.250 ug/l	331.25	27.3	450000	45	P
39	K	1	7561.000 ug/l	189,025.00	2.1	450000	45	A
44	Ca	1	8266.000 ug/l	206,650.00	2.7	450000	45	P
47	Ti	1	0.405 ug/l	10.12	11.9	4500	45	P
51	V	1	0.183 ug/l	4.57	22.2	4500	74	P
52	Cr	1	-0.010 ug/l	-0.25	78.9	4500	74	P
55	Mn	1	0.905 ug/l	22.63	8.3	4500	74	P
56	Fe	1	8.097 ug/l	202.43	3.8	450000	74	P
59	Co	1	0.009 ug/l	0.21	22.5	4500	74	P
60	Ni	1	0.008 ug/l	0.20	35.4	4500	74	P
63	Cu	1	0.091 ug/l	2.28	22.9	4500	74	P
66	Zn	1	0.562 ug/l	14.06	6.7	4500	74	P
75	As	1	0.077 ug/l	1.93	21.4	4500	74	P
78	Se	1	0.082 ug/l	2.06	89.3	4500	74	P
88	Sr	1	152.900 ug/l	3,822.50	1.8	4500	103	A
95	Mo	1	0.261 ug/l	6.52	3.2	4500	103	P
109	Ag	1	0.001 ug/l	0.03	99.8	4500	103	P
111	Cd	1	0.000 ug/l	0.01	1226.6	4500	103	P
118	Sn	1	0.101 ug/l	2.54	17.2	4500	103	P
123	Sb	1	0.041 ug/l	1.02	30.6	4500	103	P
135	Ba	1	0.913 ug/l	22.84	1.9	4500	103	P
200	Hg	1	0.007 ug/l	0.16	27.2	45	209	P
205	Tl	1	0.113 ug/l	2.84	21.2	4500	209	P
208	Pb	1	0.007 ug/l	0.18	108.5	4500	209	P
238	U	1	0.069 ug/l	1.72	9.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38214	2.61	46990	81.3	30 - 125
45	Sc	1	1131023	2.55	1187000	95.3	30 - 125
74	Ge	1	3299074	1.59	3343000	98.7	30 - 125
103	Rh	1	5226218	1.08	5717000	91.4	30 - 125
165	Ho	1	2465558	0.60	2591000	95.2	30 - 125
175	Lu	1	1976633	1.09	2070000	95.5	30 - 125
209	Bi	1	2461839	0.65	2857000	86.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\050SMPL.D\050SMPL.D#  
 Date Acquired: Jul 28 2011 06:24 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27635-A-1-A Vial Number: 2502  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.019 ug/l	0.10	61.4	900	6	P
23	Na	1	989800.000 ug/l	4,949,000.00	0.9	450000	45	A Fail
24	Mg	1	117200.000 ug/l	586,000.00	0.8	450000	45	A
27	Al	1	40.980 ug/l	204.90	9.3	450000	45	P
31	P	1	55.930 ug/l	279.65	14.1	450000	45	P
39	K	1	37880.000 ug/l	189,400.00	0.7	450000	45	A
44	Ca	1	40810.000 ug/l	204,050.00	0.8	450000	45	A
47	Ti	1	1.767 ug/l	8.84	7.2	4500	45	P
51	V	1	1.764 ug/l	8.82	3.1	4500	74	P
52	Cr	1	0.096 ug/l	0.48	8.1	4500	74	P
55	Mn	1	5.306 ug/l	26.53	0.3	4500	74	P
56	Fe	1	37.470 ug/l	187.35	1.9	450000	74	P
59	Co	1	0.048 ug/l	0.24	4.2	4500	74	P
60	Ni	1	0.169 ug/l	0.85	24.5	4500	74	P
63	Cu	1	0.563 ug/l	2.82	2.6	4500	74	P
66	Zn	1	0.861 ug/l	4.30	7.1	4500	74	P
75	As	1	0.462 ug/l	2.31	7.2	4500	74	P
78	Se	1	0.106 ug/l	0.53	109.7	4500	74	P
88	Sr	1	786.000 ug/l	3,930.00	1.3	4500	103	A
95	Mo	1	1.415 ug/l	7.08	5.2	4500	103	P
109	Ag	1	0.009 ug/l	0.04	35.9	4500	103	P
111	Cd	1	0.003 ug/l	0.02	545.3	4500	103	P
118	Sn	1	0.139 ug/l	0.70	26.1	4500	103	P
123	Sb	1	0.093 ug/l	0.47	29.5	4500	103	P
135	Ba	1	5.072 ug/l	25.36	2.5	4500	103	P
200	Hg	1	0.004 ug/l	0.02	14.1	45	209	P
205	Tl	1	0.051 ug/l	0.26	28.6	4500	209	P
208	Pb	1	0.079 ug/l	0.40	2.3	4500	209	P
238	U	1	0.363 ug/l	1.82	2.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	34996	0.55	46990	74.5	30 - 125
45	Sc	1	1031156	1.48	1187000	86.9	30 - 125
74	Ge	1	2857634	1.37	3343000	85.5	30 - 125
103	Rh	1	4442843	0.87	5717000	77.7	30 - 125
165	Ho	1	2122638	0.95	2591000	81.9	30 - 125
175	Lu	1	1696447	1.01	2070000	82.0	30 - 125
209	Bi	1	2037592	0.90	2857000	71.3	30 - 125

Analytes: Fail ISTD: Pass  
 1 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\051SMPL.D\051SMPL.D#  
 Date Acquired: Jul 28 2011 06:29 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27635-A-1-B DU Vial Number: 2503  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.006 ug/l	0.03	56.2	900	6	P
23	Na	1	1019000.000 ug/l	5,095,000.00	1.5	450000	45	A Fail
24	Mg	1	118700.000 ug/l	593,500.00	0.9	450000	45	A
27	Al	1	47.380 ug/l	236.90	0.5	450000	45	P
31	P	1	62.350 ug/l	311.75	9.7	450000	45	P
39	K	1	37610.000 ug/l	188,050.00	0.3	450000	45	A
44	Ca	1	40550.000 ug/l	202,750.00	2.0	450000	45	A
47	Ti	1	1.929 ug/l	9.65	4.1	4500	45	P
51	V	1	1.807 ug/l	9.04	1.9	4500	74	P
52	Cr	1	0.126 ug/l	0.63	7.4	4500	74	P
55	Mn	1	5.378 ug/l	26.89	2.3	4500	74	P
56	Fe	1	38.960 ug/l	194.80	0.5	450000	74	P
59	Co	1	0.051 ug/l	0.26	10.5	4500	74	P
60	Ni	1	0.136 ug/l	0.68	16.3	4500	74	P
63	Cu	1	0.593 ug/l	2.97	2.6	4500	74	P
66	Zn	1	1.069 ug/l	5.35	4.9	4500	74	P
75	As	1	0.418 ug/l	2.09	2.0	4500	74	P
78	Se	1	0.141 ug/l	0.70	30.9	4500	74	P
88	Sr	1	774.500 ug/l	3,872.50	1.3	4500	103	A
95	Mo	1	1.359 ug/l	6.80	3.4	4500	103	P
109	Ag	1	0.006 ug/l	0.03	14.1	4500	103	P
111	Cd	1	0.010 ug/l	0.05	70.5	4500	103	P
118	Sn	1	0.092 ug/l	0.46	29.4	4500	103	P
123	Sb	1	0.086 ug/l	0.43	15.1	4500	103	P
135	Ba	1	5.012 ug/l	25.06	2.9	4500	103	P
200	Hg	1	0.004 ug/l	0.02	71.7	45	209	P
205	Tl	1	0.032 ug/l	0.16	20.4	4500	209	P
208	Pb	1	0.061 ug/l	0.31	17.3	4500	209	P
238	U	1	0.356 ug/l	1.78	0.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	37251	1.77	46990	79.3	30 - 125
45	Sc	1	1046341	2.14	1187000	88.2	30 - 125
74	Ge	1	2853566	2.12	3343000	85.4	30 - 125
103	Rh	1	4418695	1.03	5717000	77.3	30 - 125
165	Ho	1	2130983	0.95	2591000	82.2	30 - 125
175	Lu	1	1709900	0.64	2070000	82.6	30 - 125
209	Bi	1	2028182	1.46	2857000	71.0	30 - 125

**Analytes: Fail ISTD: Pass**  
 1 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\052SMPL.D\052SMPL.D#  
 Date Acquired: Jul 28 2011 06:34 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27635-A-1-C MS Vial Number: 2504  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.198 ug/l	109.90	7.3	900	6	P
23	Na	1	104600.000 ug/l	5,230,000.00	0.4	450000	45	A
24	Mg	1	13000.000 ug/l	650,000.00	2.6	450000	45	A
27	Al	1	98.180 ug/l	4,909.00	2.3	450000	45	P
31	P	1	467.100 ug/l	23,355.00	0.4	450000	45	P
39	K	1	4459.000 ug/l	222,950.00	2.5	450000	45	A
44	Ca	1	4558.000 ug/l	227,900.00	2.1	450000	45	P
47	Ti	1	108.300 ug/l	5,415.00	1.8	4500	45	P
51	V	1	22.650 ug/l	1,132.50	1.4	4500	74	P
52	Cr	1	8.814 ug/l	440.70	0.9	4500	74	P
55	Mn	1	22.300 ug/l	1,115.00	1.2	4500	74	P
56	Fe	1	491.900 ug/l	24,595.00	1.7	450000	74	A
59	Co	1	21.530 ug/l	1,076.50	0.8	4500	74	P
60	Ni	1	21.870 ug/l	1,093.50	2.0	4500	74	P
63	Cu	1	11.110 ug/l	555.50	1.3	4500	74	P
66	Zn	1	21.990 ug/l	1,099.50	0.7	4500	74	P
75	As	1	89.760 ug/l	4,488.00	0.5	4500	74	P
78	Se	1	86.460 ug/l	4,323.00	0.3	4500	74	P
88	Sr	1	81.140 ug/l	4,057.00	0.1	4500	103	P
95	Mo	1	113.600 ug/l	5,680.00	0.4	4500	103	P
109	Ag	1	13.360 ug/l	668.00	0.4	4500	103	P
111	Cd	1	2.267 ug/l	113.35	3.7	4500	103	P
118	Sn	1	108.100 ug/l	5,405.00	0.4	4500	103	P
123	Sb	1	67.550 ug/l	3,377.50	0.7	4500	103	P
135	Ba	1	90.500 ug/l	4,525.00	0.7	4500	103	P
200	Hg	1	1.127 ug/l	56.35	1.1	45	209	P
205	Tl	1	89.510 ug/l	4,475.50	3.3	4500	209	A
208	Pb	1	22.250 ug/l	1,112.50	2.2	4500	209	P
238	U	1	0.034 ug/l	1.72	5.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46316	1.08	46990	98.6	30 - 125
45	Sc	1	1211499	1.87	1187000	102.1	30 - 125
74	Ge	1	3314247	1.93	3343000	99.1	30 - 125
103	Rh	1	5141786	1.22	5717000	89.9	30 - 125
165	Ho	1	2422904	1.61	2591000	93.5	30 - 125
175	Lu	1	1951357	0.53	2070000	94.3	30 - 125
209	Bi	1	2442220	1.24	2857000	85.5	30 - 125

Analytes: Pass

ISTD: Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\053SMPL.D\053SMPL.D#  
 Date Acquired: Jul 28 2011 06:39 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27635-A-1-D MSD Vial Number: 2505  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.366 ug/l	118.30	4.6	900	6	P
23	Na	1	112200.000 ug/l	5,610,000.00	2.0	450000	45	A
24	Mg	1	13790.000 ug/l	689,500.00	2.2	450000	45	A
27	Al	1	103.700 ug/l	5,185.00	2.4	450000	45	P
31	P	1	502.300 ug/l	25,115.00	3.2	450000	45	P
39	K	1	4586.000 ug/l	229,300.00	2.2	450000	45	A
44	Ca	1	4790.000 ug/l	239,500.00	2.1	450000	45	P
47	Ti	1	112.800 ug/l	5,640.00	2.9	4500	45	P
51	V	1	23.250 ug/l	1,162.50	1.1	4500	74	P
52	Cr	1	9.049 ug/l	452.45	0.2	4500	74	P
55	Mn	1	22.970 ug/l	1,148.50	1.1	4500	74	P
56	Fe	1	505.000 ug/l	25,250.00	0.3	450000	74	A
59	Co	1	22.290 ug/l	1,114.50	0.9	4500	74	P
60	Ni	1	22.640 ug/l	1,132.00	1.5	4500	74	P
63	Cu	1	11.340 ug/l	567.00	1.7	4500	74	P
66	Zn	1	23.140 ug/l	1,157.00	0.8	4500	74	P
75	As	1	92.190 ug/l	4,609.50	1.0	4500	74	P
78	Se	1	89.990 ug/l	4,499.50	0.8	4500	74	P
88	Sr	1	83.900 ug/l	4,195.00	0.4	4500	103	P
95	Mo	1	119.400 ug/l	5,970.00	0.3	4500	103	P
109	Ag	1	13.870 ug/l	693.50	1.5	4500	103	P
111	Cd	1	2.350 ug/l	117.50	6.5	4500	103	P
118	Sn	1	114.700 ug/l	5,735.00	0.7	4500	103	P
123	Sb	1	71.350 ug/l	3,567.50	0.3	4500	103	P
135	Ba	1	94.890 ug/l	4,744.50	0.4	4500	103	P
200	Hg	1	1.181 ug/l	59.05	4.5	45	209	P
205	Tl	1	95.950 ug/l	4,797.50	2.1	4500	209	A
208	Pb	1	23.340 ug/l	1,167.00	3.4	4500	209	P
238	U	1	0.035 ug/l	1.74	12.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47081	0.52	46990	100.2	30 - 125
45	Sc	1	1202823	3.26	1187000	101.3	30 - 125
74	Ge	1	3312875	1.42	3343000	99.1	30 - 125
103	Rh	1	5111981	0.85	5717000	89.4	30 - 125
165	Ho	1	2430303	2.08	2591000	93.8	30 - 125
175	Lu	1	1966265	0.90	2070000	95.0	30 - 125
209	Bi	1	2473642	2.75	2857000	86.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\054SMPL.D\054SMPL.D#  
 Date Acquired: Jul 28 2011 06:43 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27635-A-1-A PDS Vial Number: 2506  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.193 ug/l	109.65	1.4	900	6	P
23	Na	1	105000.000 ug/l	5,250,000.00	1.7	450000	45	A
24	Mg	1	12890.000 ug/l	644,500.00	1.4	450000	45	A
27	Al	1	96.770 ug/l	4,838.50	2.6	450000	45	P
31	P	1	450.500 ug/l	22,525.00	1.9	450000	45	P
39	K	1	4271.000 ug/l	213,550.00	2.0	450000	45	A
44	Ca	1	4462.000 ug/l	223,100.00	1.6	450000	45	P
47	Ti	1	106.000 ug/l	5,300.00	2.4	4500	45	P
51	V	1	22.480 ug/l	1,124.00	1.5	4500	74	P
52	Cr	1	8.753 ug/l	437.65	1.5	4500	74	P
55	Mn	1	21.950 ug/l	1,097.50	1.3	4500	74	P
56	Fe	1	492.100 ug/l	24,605.00	1.1	450000	74	A
59	Co	1	21.340 ug/l	1,067.00	1.2	4500	74	P
60	Ni	1	21.220 ug/l	1,061.00	2.1	4500	74	P
63	Cu	1	10.900 ug/l	545.00	0.8	4500	74	P
66	Zn	1	21.500 ug/l	1,075.00	2.2	4500	74	P
75	As	1	87.370 ug/l	4,368.50	1.5	4500	74	P
78	Se	1	85.860 ug/l	4,293.00	0.6	4500	74	P
88	Sr	1	78.920 ug/l	3,946.00	2.1	4500	103	P
95	Mo	1	112.100 ug/l	5,605.00	2.2	4500	103	P
109	Ag	1	13.090 ug/l	654.50	2.4	4500	103	P
111	Cd	1	2.168 ug/l	108.40	2.7	4500	103	P
118	Sn	1	108.900 ug/l	5,445.00	2.5	4500	103	P
123	Sb	1	67.440 ug/l	3,372.00	2.4	4500	103	P
135	Ba	1	89.870 ug/l	4,493.50	3.0	4500	103	P
200	Hg	1	1.116 ug/l	55.80	2.8	45	209	P
205	Tl	1	88.980 ug/l	4,449.00	2.9	4500	209	A
208	Pb	1	21.920 ug/l	1,096.00	2.1	4500	209	P
238	U	1	0.032 ug/l	1.60	6.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47702	0.44	46990	101.5	30 - 125
45	Sc	1	1235343	1.82	1187000	104.1	30 - 125
74	Ge	1	3302382	1.08	3343000	98.8	30 - 125
103	Rh	1	5169818	1.95	5717000	90.4	30 - 125
165	Ho	1	2493021	1.43	2591000	96.2	30 - 125
175	Lu	1	1997919	1.34	2070000	96.5	30 - 125
209	Bi	1	2534256	1.30	2857000	88.7	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\055SMPL.D\055SMPL.D#  
 Date Acquired: Jul 28 2011 06:48 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.630 ug/l	47.63	0.8	900	6	P
23	Na	1	5016.000 ug/l	5,016.00	1.6	450000	45	A
24	Mg	1	5038.000 ug/l	5,038.00	1.7	450000	45	A
27	Al	1	499.700 ug/l	499.70	1.4	450000	45	P
31	P	1	4963.000 ug/l	4,963.00	2.1	450000	45	P
39	K	1	4934.000 ug/l	4,934.00	0.5	450000	45	A
44	Ca	1	4915.000 ug/l	4,915.00	1.0	450000	45	P
47	Ti	1	49.160 ug/l	49.16	0.3	4500	45	P
51	V	1	49.130 ug/l	49.13	1.1	4500	74	P
52	Cr	1	49.210 ug/l	49.21	0.9	4500	74	P
55	Mn	1	49.430 ug/l	49.43	0.1	4500	74	P
56	Fe	1	4946.000 ug/l	4,946.00	0.9	450000	74	A
59	Co	1	49.020 ug/l	49.02	1.7	4500	74	P
60	Ni	1	49.360 ug/l	49.36	0.3	4500	74	P
63	Cu	1	49.840 ug/l	49.84	1.0	4500	74	P
66	Zn	1	48.790 ug/l	48.79	2.7	4500	74	P
75	As	1	49.210 ug/l	49.21	1.4	4500	74	P
78	Se	1	49.420 ug/l	49.42	1.7	4500	74	P
88	Sr	1	50.300 ug/l	50.30	1.2	4500	103	P
95	Mo	1	49.320 ug/l	49.32	1.8	4500	103	P
109	Ag	1	50.600 ug/l	50.60	1.1	4500	103	P
111	Cd	1	49.200 ug/l	49.20	1.5	4500	103	P
118	Sn	1	49.800 ug/l	49.80	1.1	4500	103	P
123	Sb	1	49.540 ug/l	49.54	0.8	4500	103	P
135	Ba	1	50.000 ug/l	50.00	2.7	4500	103	P
200	Hg	1	2.408 ug/l	2.41	4.4	45	209	P
205	Tl	1	49.960 ug/l	49.96	3.4	4500	209	A
208	Pb	1	48.830 ug/l	48.83	1.7	4500	209	P
238	U	1	48.490 ug/l	48.49	2.0	4500	209	A

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45774	1.57	46990	97.4	30 - 125	
45	Sc	1	1207141	2.00	1187000	101.7	30 - 125	
74	Ge	1	3349768	1.32	3343000	100.2	30 - 125	
103	Rh	1	5468603	1.13	5717000	95.7	30 - 125	
165	Ho	1	2534369	1.07	2591000	97.8	30 - 125	
175	Lu	1	2083075	1.54	2070000	100.6	30 - 125	
209	Bi	1	2738050	1.44	2857000	95.8	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\056SMPL.D\056SMPL.D#  
 Date Acquired: Jul 28 2011 06:53 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9 Be	1	0.005 ug/l	0.00	150.4	900	6	P	
23 Na	1	9.113 ug/l	9.11	24.6	450000	45	P	
24 Mg	1	0.090 ug/l	0.09	53.3	450000	45	P	
27 Al	1	-0.066 ug/l	-0.07	307.2	450000	45	P	
31 P	1	1.117 ug/l	1.12	388.0	450000	45	P	
39 K	1	-1.664 ug/l	-1.66	158.9	450000	45	P	
44 Ca	1	-1.581 ug/l	-1.58	32.1	450000	45	P	
47 Ti	1	0.055 ug/l	0.05	16.3	4500	45	P	
51 V	1	-0.009 ug/l	-0.01	54.9	4500	74	P	
52 Cr	1	0.007 ug/l	0.01	100.4	4500	74	P	
55 Mn	1	-0.029 ug/l	-0.03	45.9	4500	74	P	
56 Fe	1	1.567 ug/l	1.57	4.2	450000	74	P	
59 Co	1	0.001 ug/l	0.00	283.4	4500	74	P	
60 Ni	1	-0.029 ug/l	-0.03	10.4	4500	74	P	
63 Cu	1	0.022 ug/l	0.02	8.6	4500	74	P	
66 Zn	1	0.001 ug/l	0.00	2437.2	4500	74	P	
75 As	1	0.017 ug/l	0.02	43.8	4500	74	P	
78 Se	1	0.048 ug/l	0.05	32.8	4500	74	P	
88 Sr	1	0.012 ug/l	0.01	56.1	4500	103	P	
95 Mo	1	0.071 ug/l	0.07	24.3	4500	103	P	
109 Ag	1	0.001 ug/l	0.00	196.7	4500	103	P	
111 Cd	1	-0.001 ug/l	0.00	320.4	4500	103	P	
118 Sn	1	0.600 ug/l	0.60	11.2	4500	103	P	
123 Sb	1	0.046 ug/l	0.05	46.1	4500	103	P	
135 Ba	1	0.015 ug/l	0.02	44.1	4500	103	P	
200 Hg	1	0.013 ug/l	0.01	13.3	45	209	P	
205 Tl	1	0.264 ug/l	0.26	11.9	4500	209	P	
208 Pb	1	0.010 ug/l	0.01	61.9	4500	209	P	
238 U	1	0.008 ug/l	0.01	5.9	4500	209	P	

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	45067	1.52	46990	95.9	30 - 125	
45 Sc	1	1185372	1.70	1187000	99.9	30 - 125	
74 Ge	1	3377054	0.38	3343000	101.0	30 - 125	
103 Rh	1	5725165	1.39	5717000	100.1	30 - 125	
165 Ho	1	2577642	1.84	2591000	99.5	30 - 125	
175 Lu	1	2073689	0.67	2070000	100.2	30 - 125	
209 Bi	1	2838371	0.73	2857000	99.3	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\057SMPL.D\057SMPL.D#  
 Date Acquired: Jul 28 2011 06:58 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27635-A-2-A Vial Number: 3101  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.007 ug/l	0.04	41.4	900	6	P
23	Na	1	973900.000 ug/l	4,869,500.00	0.9	450000	45	A Fail
24	Mg	1	115700.000 ug/l	578,500.00	0.1	450000	45	A
27	Al	1	49.880 ug/l	249.40	1.2	450000	45	P
31	P	1	66.400 ug/l	332.00	3.4	450000	45	P
39	K	1	36400.000 ug/l	182,000.00	0.9	450000	45	A
44	Ca	1	38980.000 ug/l	194,900.00	1.2	450000	45	A
47	Ti	1	2.231 ug/l	11.16	4.1	4500	45	P
51	V	1	1.835 ug/l	9.18	3.8	4500	74	P
52	Cr	1	0.146 ug/l	0.73	11.3	4500	74	P
55	Mn	1	5.855 ug/l	29.28	2.1	4500	74	P
56	Fe	1	54.720 ug/l	273.60	2.7	450000	74	P
59	Co	1	0.055 ug/l	0.28	8.8	4500	74	P
60	Ni	1	0.188 ug/l	0.94	16.9	4500	74	P
63	Cu	1	0.650 ug/l	3.25	3.4	4500	74	P
66	Zn	1	1.347 ug/l	6.74	9.0	4500	74	P
75	As	1	0.438 ug/l	2.19	5.8	4500	74	P
78	Se	1	0.135 ug/l	0.67	30.2	4500	74	P
88	Sr	1	747.600 ug/l	3,738.00	0.6	4500	103	A
95	Mo	1	1.328 ug/l	6.64	3.7	4500	103	P
109	Ag	1	0.015 ug/l	0.07	39.0	4500	103	P
111	Cd	1	0.010 ug/l	0.05	103.3	4500	103	P
118	Sn	1	0.477 ug/l	2.39	20.0	4500	103	P
123	Sb	1	0.089 ug/l	0.44	21.2	4500	103	P
135	Ba	1	4.769 ug/l	23.85	1.8	4500	103	P
200	Hg	1	0.010 ug/l	0.05	23.9	45	209	P
205	Tl	1	0.097 ug/l	0.49	12.0	4500	209	P
208	Pb	1	0.187 ug/l	0.93	9.0	4500	209	P
238	U	1	0.343 ug/l	1.72	2.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38855	1.74	46990	82.7	30 - 125
45	Sc	1	1068362	2.85	1187000	90.0	30 - 125
74	Ge	1	2873233	0.63	3343000	85.9	30 - 125
103	Rh	1	4544736	1.45	5717000	79.5	30 - 125
165	Ho	1	2194342	1.09	2591000	84.7	30 - 125
175	Lu	1	1778021	1.42	2070000	85.9	30 - 125
209	Bi	1	2130948	1.04	2857000	74.6	30 - 125

Analytes: Fail

ISTD: Pass

1 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\058SMPL.D\058SMPL.D#  
 Date Acquired: Jul 28 2011 07:02 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27634-A-1-A Vial Number: 3102  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.02	138.9	900	6	P
23	Na	1	133100.000 ug/l	665,500.00	1.9	450000	45	A
24	Mg	1	15890.000 ug/l	79,450.00	1.1	450000	45	A
27	Al	1	16.610 ug/l	83.05	2.7	450000	45	P
31	P	1	457.600 ug/l	2,288.00	1.4	450000	45	P
39	K	1	6599.000 ug/l	32,995.00	2.2	450000	45	A
44	Ca	1	8793.000 ug/l	43,965.00	1.5	450000	45	P
47	Ti	1	0.461 ug/l	2.30	33.2	4500	45	P
51	V	1	0.924 ug/l	4.62	2.2	4500	74	P
52	Cr	1	0.133 ug/l	0.66	4.7	4500	74	P
55	Mn	1	6.236 ug/l	31.18	0.8	4500	74	P
56	Fe	1	108.100 ug/l	540.50	0.9	450000	74	P
59	Co	1	0.014 ug/l	0.07	6.2	4500	74	P
60	Ni	1	0.324 ug/l	1.62	5.1	4500	74	P
63	Cu	1	0.637 ug/l	3.19	1.5	4500	74	P
66	Zn	1	5.060 ug/l	25.30	1.1	4500	74	P
75	As	1	0.206 ug/l	1.03	9.4	4500	74	P
78	Se	1	0.074 ug/l	0.37	54.2	4500	74	P
88	Sr	1	110.400 ug/l	552.00	1.3	4500	103	P
95	Mo	1	0.173 ug/l	0.87	7.1	4500	103	P
109	Ag	1	0.005 ug/l	0.02	50.9	4500	103	P
111	Cd	1	0.014 ug/l	0.07	45.9	4500	103	P
118	Sn	1	0.346 ug/l	1.73	9.2	4500	103	P
123	Sb	1	0.063 ug/l	0.32	14.0	4500	103	P
135	Ba	1	2.740 ug/l	13.70	5.0	4500	103	P
200	Hg	1	0.005 ug/l	0.02	15.1	45	209	P
205	Tl	1	0.066 ug/l	0.33	22.5	4500	209	P
208	Pb	1	0.075 ug/l	0.37	5.2	4500	209	P
238	U	1	0.007 ug/l	0.04	7.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38942	1.60	46990	82.9	30 - 125
45	Sc	1	1093150	1.59	1187000	92.1	30 - 125
74	Ge	1	3124890	1.55	3343000	93.5	30 - 125
103	Rh	1	5019682	1.26	5717000	87.8	30 - 125
165	Ho	1	2449470	1.36	2591000	94.5	30 - 125
175	Lu	1	1953475	0.73	2070000	94.4	30 - 125
209	Bi	1	2466572	1.68	2857000	86.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\059SMPL.D\059SMPL.D#  
 Date Acquired: Jul 28 2011 07:07 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27630-A-2-A Vial Number: 3103  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.005 ug/l	0.02	146.8	900	6	P
23	Na	1	720.200 ug/l	3,601.00	2.6	450000	45	A
24	Mg	1	404.000 ug/l	2,020.00	1.2	450000	45	P
27	Al	1	23.400 ug/l	117.00	5.2	450000	45	P
31	P	1	132.000 ug/l	660.00	3.2	450000	45	P
39	K	1	465.200 ug/l	2,326.00	1.4	450000	45	P
44	Ca	1	2437.000 ug/l	12,185.00	0.8	450000	45	P
47	Ti	1	1.101 ug/l	5.51	12.0	4500	45	P
51	V	1	1.289 ug/l	6.45	2.3	4500	74	P
52	Cr	1	0.288 ug/l	1.44	5.5	4500	74	P
55	Mn	1	8.881 ug/l	44.41	1.2	4500	74	P
56	Fe	1	74.310 ug/l	371.55	0.8	450000	74	P
59	Co	1	0.056 ug/l	0.28	14.4	4500	74	P
60	Ni	1	0.316 ug/l	1.58	7.7	4500	74	P
63	Cu	1	3.072 ug/l	15.36	1.1	4500	74	P
66	Zn	1	25.580 ug/l	127.90	0.7	4500	74	P
75	As	1	0.401 ug/l	2.01	8.3	4500	74	P
78	Se	1	0.015 ug/l	0.07	241.2	4500	74	P
88	Sr	1	15.650 ug/l	78.25	1.7	4500	103	P
95	Mo	1	0.364 ug/l	1.82	4.2	4500	103	P
109	Ag	1	0.004 ug/l	0.02	21.0	4500	103	P
111	Cd	1	0.035 ug/l	0.18	55.1	4500	103	P
118	Sn	1	0.196 ug/l	0.98	15.0	4500	103	P
123	Sb	1	0.487 ug/l	2.43	6.7	4500	103	P
135	Ba	1	3.595 ug/l	17.98	3.8	4500	103	P
200	Hg	1	0.004 ug/l	0.02	59.0	45	209	P
205	Tl	1	0.040 ug/l	0.20	25.2	4500	209	P
208	Pb	1	1.495 ug/l	7.48	1.1	4500	209	P
238	U	1	0.003 ug/l	0.01	29.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41976	1.28	46990	89.3	30 - 125
45	Sc	1	1107854	0.31	1187000	93.3	30 - 125
74	Ge	1	3259349	0.91	3343000	97.5	30 - 125
103	Rh	1	5614088	0.90	5717000	98.2	30 - 125
165	Ho	1	2551904	0.30	2591000	98.5	30 - 125
175	Lu	1	2075119	0.76	2070000	100.2	30 - 125
209	Bi	1	2802822	1.10	2857000	98.1	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\060SMPL.D\060SMPL.D#  
 Date Acquired: Jul 28 2011 07:12 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27630-A-3-A Vial Number: 3104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.002 ug/l	0.01	153.9	900	6	P
23	Na	1	681.900 ug/l	3,409.50	3.9	450000	45	A
24	Mg	1	162.000 ug/l	810.00	4.0	450000	45	P
27	Al	1	13.010 ug/l	65.05	14.5	450000	45	P
31	P	1	49.230 ug/l	246.15	11.5	450000	45	P
39	K	1	330.400 ug/l	1,652.00	2.6	450000	45	P
44	Ca	1	1886.000 ug/l	9,430.00	2.3	450000	45	P
47	Ti	1	0.332 ug/l	1.66	15.4	4500	45	P
51	V	1	0.537 ug/l	2.68	3.4	4500	74	P
52	Cr	1	0.095 ug/l	0.47	11.5	4500	74	P
55	Mn	1	8.818 ug/l	44.09	1.5	4500	74	P
56	Fe	1	56.170 ug/l	280.85	1.7	450000	74	P
59	Co	1	0.047 ug/l	0.23	10.4	4500	74	P
60	Ni	1	0.286 ug/l	1.43	6.0	4500	74	P
63	Cu	1	3.302 ug/l	16.51	1.3	4500	74	P
66	Zn	1	65.510 ug/l	327.55	2.1	4500	74	P
75	As	1	0.317 ug/l	1.58	2.0	4500	74	P
78	Se	1	0.013 ug/l	0.07	187.0	4500	74	P
88	Sr	1	7.197 ug/l	35.99	0.9	4500	103	P
95	Mo	1	0.195 ug/l	0.98	8.1	4500	103	P
109	Ag	1	0.004 ug/l	0.02	74.6	4500	103	P
111	Cd	1	0.025 ug/l	0.12	15.8	4500	103	P
118	Sn	1	0.122 ug/l	0.61	12.4	4500	103	P
123	Sb	1	0.458 ug/l	2.29	3.8	4500	103	P
135	Ba	1	5.858 ug/l	29.29	3.1	4500	103	P
200	Hg	1	0.004 ug/l	0.02	57.3	45	209	P
205	Tl	1	0.031 ug/l	0.15	29.8	4500	209	P
208	Pb	1	0.973 ug/l	4.87	1.5	4500	209	P
238	U	1	0.003 ug/l	0.01	36.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41227	1.11	46990	87.7	30 - 125
45	Sc	1	1109061	2.38	1187000	93.4	30 - 125
74	Ge	1	3291177	0.89	3343000	98.4	30 - 125
103	Rh	1	5565180	0.73	5717000	97.3	30 - 125
165	Ho	1	2592881	0.06	2591000	100.1	30 - 125
175	Lu	1	2083674	1.60	2070000	100.7	30 - 125
209	Bi	1	2786002	0.71	2857000	97.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\061SMPL.D\061SMPL.D#  
 Date Acquired: Jul 28 2011 07:17 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27630-A-4-A Vial Number: 3105  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.02	139.4	900	6	P
23	Na	1	963.500 ug/l	4,817.50	4.5	450000	45	A
24	Mg	1	753.500 ug/l	3,767.50	3.7	450000	45	P
27	Al	1	36.230 ug/l	181.15	2.2	450000	45	P
31	P	1	334.800 ug/l	1,674.00	4.8	450000	45	P
39	K	1	9010.000 ug/l	45,050.00	4.1	450000	45	A
44	Ca	1	3689.000 ug/l	18,445.00	3.2	450000	45	P
47	Ti	1	2.479 ug/l	12.40	4.4	4500	45	P
51	V	1	2.985 ug/l	14.93	1.6	4500	74	P
52	Cr	1	0.250 ug/l	1.25	9.6	4500	74	P
55	Mn	1	11.900 ug/l	59.50	1.5	4500	74	P
56	Fe	1	87.190 ug/l	435.95	1.3	450000	74	P
59	Co	1	0.146 ug/l	0.73	2.5	4500	74	P
60	Ni	1	1.099 ug/l	5.50	2.0	4500	74	P
63	Cu	1	4.205 ug/l	21.03	0.8	4500	74	P
66	Zn	1	24.160 ug/l	120.80	2.4	4500	74	P
75	As	1	1.060 ug/l	5.30	4.9	4500	74	P
78	Se	1	0.076 ug/l	0.38	78.0	4500	74	P
88	Sr	1	24.490 ug/l	122.45	2.7	4500	103	P
95	Mo	1	2.426 ug/l	12.13	2.2	4500	103	P
109	Ag	1	0.006 ug/l	0.03	53.6	4500	103	P
111	Cd	1	0.038 ug/l	0.19	20.5	4500	103	P
118	Sn	1	0.183 ug/l	0.92	18.4	4500	103	P
123	Sb	1	0.855 ug/l	4.27	10.2	4500	103	P
135	Ba	1	7.423 ug/l	37.12	1.0	4500	103	P
200	Hg	1	0.009 ug/l	0.05	19.5	45	209	P
205	Tl	1	0.017 ug/l	0.09	53.9	4500	209	P
208	Pb	1	1.627 ug/l	8.14	0.7	4500	209	P
238	U	1	0.013 ug/l	0.06	15.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	39352	1.53	46990	83.7	30 - 125
45	Sc	1	1094788	3.79	1187000	92.2	30 - 125
74	Ge	1	3245454	0.46	3343000	97.1	30 - 125
103	Rh	1	5470023	2.07	5717000	95.7	30 - 125
165	Ho	1	2561094	1.43	2591000	98.8	30 - 125
175	Lu	1	2067457	2.08	2070000	99.9	30 - 125
209	Bi	1	2742921	0.63	2857000	96.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\062SMPL.D\062SMPL.D#  
 Date Acquired: Jul 28 2011 07:22 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27630-G-5-A Vial Number: 3106  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.000 ug/l	0.00	935.4	900	6	P
23	Na	1	895.500 ug/l	4,477.50	3.7	450000	45	A
24	Mg	1	708.800 ug/l	3,544.00	2.1	450000	45	P
27	Al	1	33.540 ug/l	167.70	0.1	450000	45	P
31	P	1	316.100 ug/l	1,580.50	6.8	450000	45	P
39	K	1	8461.000 ug/l	42,305.00	2.4	450000	45	A
44	Ca	1	3503.000 ug/l	17,515.00	1.4	450000	45	P
47	Ti	1	2.140 ug/l	10.70	2.1	4500	45	P
51	V	1	2.757 ug/l	13.79	1.1	4500	74	P
52	Cr	1	0.217 ug/l	1.09	17.2	4500	74	P
55	Mn	1	11.130 ug/l	55.65	0.7	4500	74	P
56	Fe	1	82.760 ug/l	413.80	2.8	450000	74	P
59	Co	1	0.131 ug/l	0.65	9.1	4500	74	P
60	Ni	1	1.074 ug/l	5.37	3.8	4500	74	P
63	Cu	1	3.967 ug/l	19.84	1.4	4500	74	P
66	Zn	1	18.180 ug/l	90.90	1.1	4500	74	P
75	As	1	0.963 ug/l	4.81	4.4	4500	74	P
78	Se	1	0.030 ug/l	0.15	315.6	4500	74	P
88	Sr	1	23.130 ug/l	115.65	0.8	4500	103	P
95	Mo	1	2.279 ug/l	11.40	1.6	4500	103	P
109	Ag	1	0.004 ug/l	0.02	30.0	4500	103	P
111	Cd	1	0.046 ug/l	0.23	32.0	4500	103	P
118	Sn	1	0.135 ug/l	0.67	2.9	4500	103	P
123	Sb	1	0.781 ug/l	3.91	4.4	4500	103	P
135	Ba	1	6.987 ug/l	34.94	3.4	4500	103	P
200	Hg	1	0.009 ug/l	0.05	41.9	45	209	P
205	Tl	1	0.014 ug/l	0.07	60.8	4500	209	P
208	Pb	1	1.483 ug/l	7.42	1.0	4500	209	P
238	U	1	0.011 ug/l	0.05	11.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38747	2.27	46990	82.5	30 - 125
45	Sc	1	1091621	2.15	1187000	92.0	30 - 125
74	Ge	1	3229417	1.13	3343000	96.6	30 - 125
103	Rh	1	5548077	0.65	5717000	97.0	30 - 125
165	Ho	1	2568578	0.96	2591000	99.1	30 - 125
175	Lu	1	2084564	0.55	2070000	100.7	30 - 125
209	Bi	1	2759209	0.76	2857000	96.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\063SMPL.D\063SMPL.D#  
 Date Acquired: Jul 28 2011 07:27 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27584-C-1-B Vial Number: 3107  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.018 ug/l	0.09	50.8	900	6	P
23	Na	1	305100.000 ug/l	1,525,500.00	2.0	450000	45	A
24	Mg	1	46880.000 ug/l	234,400.00	1.1	450000	45	A
27	Al	1	4.338 ug/l	21.69	4.9	450000	45	P
31	P	1	42.490 ug/l	212.45	3.4	450000	45	P
39	K	1	8809.000 ug/l	44,045.00	2.1	450000	45	A
44	Ca	1	42590.000 ug/l	212,950.00	1.4	450000	45	A
47	Ti	1	0.184 ug/l	0.92	25.2	4500	45	P
51	V	1	0.996 ug/l	4.98	6.6	4500	74	P
52	Cr	1	0.088 ug/l	0.44	22.0	4500	74	P
55	Mn	1	1659.000 ug/l	8,295.00	1.1	4500	74	A
56	Fe	1	3.546 ug/l	17.73	2.4	450000	74	P
59	Co	1	3.208 ug/l	16.04	2.5	4500	74	P
60	Ni	1	5.284 ug/l	26.42	3.5	4500	74	P
63	Cu	1	0.480 ug/l	2.40	1.6	4500	74	P
66	Zn	1	2.014 ug/l	10.07	3.9	4500	74	P
75	As	1	2.283 ug/l	11.42	3.1	4500	74	P
78	Se	1	0.137 ug/l	0.69	46.4	4500	74	P
88	Sr	1	420.500 ug/l	2,102.50	0.5	4500	103	A
95	Mo	1	12.670 ug/l	63.35	1.4	4500	103	P
109	Ag	1	0.002 ug/l	0.01	40.7	4500	103	P
111	Cd	1	0.025 ug/l	0.12	67.0	4500	103	P
118	Sn	1	0.107 ug/l	0.54	36.2	4500	103	P
123	Sb	1	0.040 ug/l	0.20	23.1	4500	103	P
135	Ba	1	20.890 ug/l	104.45	0.7	4500	103	P
200	Hg	1	0.004 ug/l	0.02	22.0	45	209	P
205	Tl	1	0.063 ug/l	0.31	21.5	4500	209	P
208	Pb	1	0.031 ug/l	0.15	28.3	4500	209	P
238	U	1	9.916 ug/l	49.58	0.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	34913	1.17	46990	74.3	30 - 125
45	Sc	1	1038176	1.21	1187000	87.5	30 - 125
74	Ge	1	2954165	0.75	3343000	88.4	30 - 125
103	Rh	1	4778142	0.24	5717000	83.6	30 - 125
165	Ho	1	2347059	1.07	2591000	90.6	30 - 125
175	Lu	1	1903942	0.89	2070000	92.0	30 - 125
209	Bi	1	2348458	1.64	2857000	82.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\064SMPL.D\064SMPL.D#  
 Date Acquired: Jul 28 2011 07:31 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27584-C-2-B Vial Number: 3108  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.077 ug/l	0.39	14.1	900	6	P
23	Na	1	951900.000 ug/l	4,759,500.00	1.3	450000	45	A Fail
24	Mg	1	185900.000 ug/l	929,500.00	1.0	450000	45	A
27	Al	1	3.911 ug/l	19.56	5.0	450000	45	P
31	P	1	53.300 ug/l	266.50	6.6	450000	45	P
39	K	1	24540.000 ug/l	122,700.00	0.6	450000	45	A
44	Ca	1	156300.000 ug/l	781,500.00	1.4	450000	45	A
47	Ti	1	0.186 ug/l	0.93	9.3	4500	45	P
51	V	1	0.448 ug/l	2.24	8.1	4500	74	P
52	Cr	1	0.236 ug/l	1.18	10.5	4500	74	P
55	Mn	1	5229.000 ug/l	26,145.00	1.4	4500	74	A Fail
56	Fe	1	14.280 ug/l	71.40	1.6	450000	74	P
59	Co	1	11.070 ug/l	55.35	0.6	4500	74	P
60	Ni	1	7.313 ug/l	36.57	1.5	4500	74	P
63	Cu	1	0.680 ug/l	3.40	4.5	4500	74	P
66	Zn	1	2.943 ug/l	14.72	8.8	4500	74	P
75	As	1	4.337 ug/l	21.69	2.5	4500	74	P
78	Se	1	0.228 ug/l	1.14	36.8	4500	74	P
88	Sr	1	1533.000 ug/l	7,665.00	1.0	4500	103	A
95	Mo	1	18.000 ug/l	90.00	0.4	4500	103	P
109	Ag	1	0.002 ug/l	0.01	18.2	4500	103	P
111	Cd	1	0.026 ug/l	0.13	41.2	4500	103	P
118	Sn	1	0.088 ug/l	0.44	15.3	4500	103	P
123	Sb	1	0.072 ug/l	0.36	21.0	4500	103	P
135	Ba	1	73.070 ug/l	365.35	2.2	4500	103	P
200	Hg	1	0.004 ug/l	0.02	90.8	45	209	P
205	Tl	1	0.105 ug/l	0.52	14.4	4500	209	P
208	Pb	1	0.069 ug/l	0.34	11.1	4500	209	P
238	U	1	7.286 ug/l	36.43	1.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	36135	0.75	46990	76.9	30 - 125
45	Sc	1	1015762	1.91	1187000	85.6	30 - 125
74	Ge	1	2787550	1.80	3343000	83.4	30 - 125
103	Rh	1	4318806	1.19	5717000	75.5	30 - 125
165	Ho	1	2150745	1.58	2591000	83.0	30 - 125
175	Lu	1	1723735	1.31	2070000	83.3	30 - 125
209	Bi	1	2031771	1.52	2857000	71.1	30 - 125

**Analytes: Fail ISTD: Pass**  
 2 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\065SMPL.D\065SMPL.D#  
 Date Acquired: Jul 28 2011 07:36 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27584-C-3-B Vial Number: 3109  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.014 ug/l	0.07	63.5	900	6	P
23	Na	1	319500.000 ug/l	1,597,500.00	3.0	450000	45	A
24	Mg	1	49630.000 ug/l	248,150.00	2.4	450000	45	A
27	Al	1	4.355 ug/l	21.78	10.0	450000	45	P
31	P	1	48.060 ug/l	240.30	1.9	450000	45	P
39	K	1	9098.000 ug/l	45,490.00	3.2	450000	45	A
44	Ca	1	43480.000 ug/l	217,400.00	2.3	450000	45	A
47	Ti	1	0.144 ug/l	0.72	30.6	4500	45	P
51	V	1	1.207 ug/l	6.04	6.7	4500	74	P
52	Cr	1	0.089 ug/l	0.44	28.8	4500	74	P
55	Mn	1	1665.000 ug/l	8,325.00	1.3	4500	74	A
56	Fe	1	2.543 ug/l	12.72	2.7	450000	74	P
59	Co	1	3.103 ug/l	15.52	2.2	4500	74	P
60	Ni	1	5.033 ug/l	25.17	3.2	4500	74	P
63	Cu	1	0.547 ug/l	2.73	5.0	4500	74	P
66	Zn	1	1.772 ug/l	8.86	4.4	4500	74	P
75	As	1	2.288 ug/l	11.44	4.2	4500	74	P
78	Se	1	0.128 ug/l	0.64	55.5	4500	74	P
88	Sr	1	425.500 ug/l	2,127.50	2.5	4500	103	A
95	Mo	1	12.920 ug/l	64.60	0.4	4500	103	P
109	Ag	1	0.003 ug/l	0.01	22.4	4500	103	P
111	Cd	1	0.019 ug/l	0.09	37.3	4500	103	P
118	Sn	1	0.093 ug/l	0.47	20.3	4500	103	P
123	Sb	1	0.044 ug/l	0.22	1.4	4500	103	P
135	Ba	1	22.150 ug/l	110.75	1.2	4500	103	P
200	Hg	1	0.006 ug/l	0.03	27.4	45	209	P
205	Tl	1	0.078 ug/l	0.39	15.0	4500	209	P
208	Pb	1	0.095 ug/l	0.48	2.5	4500	209	P
238	U	1	10.310 ug/l	51.55	1.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38083	0.38	46990	81.0	30 - 125
45	Sc	1	1072763	3.77	1187000	90.4	30 - 125
74	Ge	1	3053412	1.18	3343000	91.3	30 - 125
103	Rh	1	4847445	0.30	5717000	84.8	30 - 125
165	Ho	1	2389029	0.67	2591000	92.2	30 - 125
175	Lu	1	1925368	1.18	2070000	93.0	30 - 125
209	Bi	1	2360375	0.58	2857000	82.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\066SMPL.D\066SMPL.D#  
 Date Acquired: Jul 28 2011 07:41 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27584-C-4-B Vial Number: 3110  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.012 ug/l	0.06	85.1	900	6	P
23	Na	1	449300.000 ug/l	2,246,500.00	0.7	450000	45	A
24	Mg	1	52280.000 ug/l	261,400.00	1.3	450000	45	A
27	Al	1	3.993 ug/l	19.97	8.2	450000	45	P
31	P	1	49.830 ug/l	249.15	15.4	450000	45	P
39	K	1	13190.000 ug/l	65,950.00	1.1	450000	45	A
44	Ca	1	54170.000 ug/l	270,850.00	0.7	450000	45	A
47	Ti	1	0.191 ug/l	0.96	18.5	4500	45	P
51	V	1	0.549 ug/l	2.75	6.8	4500	74	P
52	Cr	1	0.083 ug/l	0.41	21.0	4500	74	P
55	Mn	1	1077.000 ug/l	5,385.00	0.8	4500	74	A
56	Fe	1	5.149 ug/l	25.75	3.9	450000	74	P
59	Co	1	0.993 ug/l	4.96	1.6	4500	74	P
60	Ni	1	6.758 ug/l	33.79	2.7	4500	74	P
63	Cu	1	0.359 ug/l	1.80	7.9	4500	74	P
66	Zn	1	1.950 ug/l	9.75	4.2	4500	74	P
75	As	1	4.811 ug/l	24.06	1.1	4500	74	P
78	Se	1	0.110 ug/l	0.55	13.0	4500	74	P
88	Sr	1	450.200 ug/l	2,251.00	1.3	4500	103	A
95	Mo	1	46.910 ug/l	234.55	0.4	4500	103	P
109	Ag	1	0.003 ug/l	0.02	82.9	4500	103	P
111	Cd	1	0.015 ug/l	0.08	90.3	4500	103	P
118	Sn	1	0.111 ug/l	0.55	33.2	4500	103	P
123	Sb	1	0.043 ug/l	0.21	12.8	4500	103	P
135	Ba	1	29.850 ug/l	149.25	2.0	4500	103	P
200	Hg	1	0.004 ug/l	0.02	84.2	45	209	P
205	Tl	1	0.078 ug/l	0.39	14.8	4500	209	P
208	Pb	1	0.107 ug/l	0.54	11.2	4500	209	P
238	U	1	6.247 ug/l	31.24	1.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	38371	2.39	46990	81.7	30 - 125
45	Sc	1	1055355	2.70	1187000	88.9	30 - 125
74	Ge	1	2981515	0.53	3343000	89.2	30 - 125
103	Rh	1	4676593	0.28	5717000	81.8	30 - 125
165	Ho	1	2314706	1.18	2591000	89.3	30 - 125
175	Lu	1	1860938	1.56	2070000	89.9	30 - 125
209	Bi	1	2285789	1.17	2857000	80.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\067SMPL.D\067SMPL.D#  
 Date Acquired: Jul 28 2011 07:46 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.460 ug/l	47.46	2.0	900	6	P
23	Na	1	5109.000 ug/l	5,109.00	1.9	450000	45	A
24	Mg	1	5116.000 ug/l	5,116.00	1.9	450000	45	A
27	Al	1	513.300 ug/l	513.30	3.0	450000	45	P
31	P	1	5046.000 ug/l	5,046.00	2.7	450000	45	P
39	K	1	5062.000 ug/l	5,062.00	3.3	450000	45	A
44	Ca	1	4995.000 ug/l	4,995.00	2.6	450000	45	P
47	Ti	1	49.400 ug/l	49.40	0.6	4500	45	P
51	V	1	49.230 ug/l	49.23	0.3	4500	74	P
52	Cr	1	49.390 ug/l	49.39	1.0	4500	74	P
55	Mn	1	49.520 ug/l	49.52	0.8	4500	74	P
56	Fe	1	4956.000 ug/l	4,956.00	1.2	450000	74	A
59	Co	1	48.800 ug/l	48.80	0.7	4500	74	P
60	Ni	1	49.370 ug/l	49.37	1.1	4500	74	P
63	Cu	1	49.680 ug/l	49.68	0.6	4500	74	P
66	Zn	1	49.150 ug/l	49.15	0.8	4500	74	P
75	As	1	49.040 ug/l	49.04	0.9	4500	74	P
78	Se	1	49.190 ug/l	49.19	0.7	4500	74	P
88	Sr	1	50.750 ug/l	50.75	1.7	4500	103	P
95	Mo	1	49.570 ug/l	49.57	1.2	4500	103	P
109	Ag	1	50.910 ug/l	50.91	2.2	4500	103	P
111	Cd	1	49.370 ug/l	49.37	1.6	4500	103	P
118	Sn	1	49.000 ug/l	49.00	2.9	4500	103	P
123	Sb	1	50.040 ug/l	50.04	1.9	4500	103	P
135	Ba	1	50.280 ug/l	50.28	2.0	4500	103	P
200	Hg	1	2.426 ug/l	2.43	1.4	45	209	P
205	Tl	1	48.670 ug/l	48.67	3.1	4500	209	A
208	Pb	1	48.930 ug/l	48.93	2.1	4500	209	P
238	U	1	48.580 ug/l	48.58	1.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47735	2.45	46990	101.6	30 - 125
45	Sc	1	1236327	3.09	1187000	104.2	30 - 125
74	Ge	1	3441184	0.98	3343000	102.9	30 - 125
103	Rh	1	5584925	1.45	5717000	97.7	30 - 125
165	Ho	1	2613371	2.14	2591000	100.9	30 - 125
175	Lu	1	2082961	1.22	2070000	100.6	30 - 125
209	Bi	1	2785406	1.73	2857000	97.5	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\068SMPL.D\068SMPL.D#  
 Date Acquired: Jul 28 2011 07:50 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.007 ug/l	0.01	120.7	900	6	P
23	Na	1	7.673 ug/l	7.67	3.8	450000	45	P
24	Mg	1	0.182 ug/l	0.18	26.8	450000	45	P
27	Al	1	0.043 ug/l	0.04	320.5	450000	45	P
31	P	1	2.955 ug/l	2.96	87.4	450000	45	P
39	K	1	0.209 ug/l	0.21	1435.0	450000	45	P
44	Ca	1	-1.317 ug/l	-1.32	87.9	450000	45	P
47	Ti	1	0.021 ug/l	0.02	46.0	4500	45	P
51	V	1	0.013 ug/l	0.01	83.3	4500	74	P
52	Cr	1	0.012 ug/l	0.01	92.7	4500	74	P
55	Mn	1	0.081 ug/l	0.08	7.1	4500	74	P
56	Fe	1	1.432 ug/l	1.43	3.0	450000	74	P
59	Co	1	0.001 ug/l	0.00	242.1	4500	74	P
60	Ni	1	-0.018 ug/l	-0.02	19.6	4500	74	P
63	Cu	1	0.028 ug/l	0.03	26.0	4500	74	P
66	Zn	1	-0.014 ug/l	-0.01	100.1	4500	74	P
75	As	1	0.010 ug/l	0.01	135.2	4500	74	P
78	Se	1	-0.006 ug/l	-0.01	141.8	4500	74	P
88	Sr	1	0.007 ug/l	0.01	19.9	4500	103	P
95	Mo	1	0.052 ug/l	0.05	20.9	4500	103	P
109	Ag	1	0.002 ug/l	0.00	61.8	4500	103	P
111	Cd	1	0.004 ug/l	0.00	217.8	4500	103	P
118	Sn	1	0.215 ug/l	0.22	8.1	4500	103	P
123	Sb	1	0.027 ug/l	0.03	27.0	4500	103	P
135	Ba	1	0.015 ug/l	0.01	71.4	4500	103	P
200	Hg	1	0.008 ug/l	0.01	22.6	45	209	P
205	Tl	1	0.139 ug/l	0.14	10.9	4500	209	P
208	Pb	1	0.001 ug/l	0.00	700.6	4500	209	P
238	U	1	0.011 ug/l	0.01	14.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47847	1.54	46990	101.8	30 - 125
45	Sc	1	1235979	1.29	1187000	104.1	30 - 125
74	Ge	1	3445553	1.29	3343000	103.1	30 - 125
103	Rh	1	5818324	0.43	5717000	101.8	30 - 125
165	Ho	1	2639136	0.12	2591000	101.9	30 - 125
175	Lu	1	2132775	1.54	2070000	103.0	30 - 125
209	Bi	1	2856939	0.72	2857000	100.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\069SMPL.D\069SMPL.D#  
 Date Acquired: Jul 28 2011 07:55 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-1-A Vial Number: 3201  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.007 ug/l	0.07	104.1	900	6	P
23	Na	1	832.800 ug/l	8,328.00	0.0	450000	45	A
24	Mg	1	38.220 ug/l	382.20	2.6	450000	45	P
27	Al	1	43.320 ug/l	433.20	1.5	450000	45	P
31	P	1	418.000 ug/l	4,180.00	1.4	450000	45	P
39	K	1	7404.000 ug/l	74,040.00	0.9	450000	45	A
44	Ca	1	108.500 ug/l	1,085.00	0.6	450000	45	P
47	Ti	1	0.314 ug/l	3.14	18.0	4500	45	P
51	V	1	0.428 ug/l	4.28	5.6	4500	74	P
52	Cr	1	0.120 ug/l	1.20	15.8	4500	74	P
55	Mn	1	0.844 ug/l	8.44	4.3	4500	74	P
56	Fe	1	38.410 ug/l	384.10	2.0	450000	74	P
59	Co	1	0.005 ug/l	0.05	61.8	4500	74	P
60	Ni	1	0.066 ug/l	0.66	18.0	4500	74	P
63	Cu	1	0.859 ug/l	8.59	1.4	4500	74	P
66	Zn	1	4.776 ug/l	47.76	3.0	4500	74	P
75	As	1	97.200 ug/l	972.00	1.6	4500	74	P
78	Se	1	-0.025 ug/l	-0.25	140.7	4500	74	P
88	Sr	1	0.528 ug/l	5.28	5.4	4500	103	P
95	Mo	1	0.246 ug/l	2.46	4.4	4500	103	P
109	Ag	1	0.001 ug/l	0.01	234.8	4500	103	P
111	Cd	1	0.004 ug/l	0.04	49.7	4500	103	P
118	Sn	1	0.087 ug/l	0.87	15.2	4500	103	P
123	Sb	1	0.289 ug/l	2.89	7.2	4500	103	P
135	Ba	1	0.170 ug/l	1.70	16.3	4500	103	P
200	Hg	1	0.004 ug/l	0.04	44.1	45	209	P
205	Tl	1	0.030 ug/l	0.30	39.6	4500	209	P
208	Pb	1	0.567 ug/l	5.67	2.0	4500	209	P
238	U	1	0.007 ug/l	0.07	13.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	48028	1.67	46990	102.2	30 - 125
45	Sc	1	1212844	0.53	1187000	102.2	30 - 125
74	Ge	1	3442594	2.31	3343000	103.0	30 - 125
103	Rh	1	5650821	1.15	5717000	98.8	30 - 125
165	Ho	1	2620911	0.34	2591000	101.2	30 - 125
175	Lu	1	2119700	0.56	2070000	102.4	30 - 125
209	Bi	1	2819218	0.30	2857000	98.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\070SMPL.D\070SMPL.D#  
 Date Acquired: Jul 28 2011 08:00 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-2-A Vial Number: 3202  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.04	59.5	900	6	P
23	Na	1	911.000 ug/l	9,110.00	0.9	450000	45	A
24	Mg	1	34.430 ug/l	344.30	1.3	450000	45	P
27	Al	1	44.880 ug/l	448.80	2.3	450000	45	P
31	P	1	419.600 ug/l	4,196.00	1.3	450000	45	P
39	K	1	7541.000 ug/l	75,410.00	2.6	450000	45	A
44	Ca	1	88.060 ug/l	880.60	2.7	450000	45	P
47	Ti	1	0.235 ug/l	2.35	10.3	4500	45	P
51	V	1	0.438 ug/l	4.38	2.3	4500	74	P
52	Cr	1	0.095 ug/l	0.95	12.1	4500	74	P
55	Mn	1	0.749 ug/l	7.49	4.4	4500	74	P
56	Fe	1	31.660 ug/l	316.60	2.1	450000	74	P
59	Co	1	0.004 ug/l	0.04	55.4	4500	74	P
60	Ni	1	0.104 ug/l	1.04	14.4	4500	74	P
63	Cu	1	0.711 ug/l	7.11	4.0	4500	74	P
66	Zn	1	3.937 ug/l	39.37	4.3	4500	74	P
75	As	1	220.400 ug/l	2,204.00	2.2	4500	74	P
78	Se	1	-0.005 ug/l	-0.05	1395.4	4500	74	P
88	Sr	1	0.465 ug/l	4.65	2.8	4500	103	P
95	Mo	1	0.253 ug/l	2.53	5.6	4500	103	P
109	Ag	1	0.001 ug/l	0.01	247.7	4500	103	P
111	Cd	1	0.001 ug/l	0.01	182.1	4500	103	P
118	Sn	1	0.063 ug/l	0.63	42.8	4500	103	P
123	Sb	1	0.193 ug/l	1.93	7.3	4500	103	P
135	Ba	1	0.153 ug/l	1.53	11.4	4500	103	P
200	Hg	1	0.003 ug/l	0.03	31.2	45	209	P
205	Tl	1	0.014 ug/l	0.14	45.5	4500	209	P
208	Pb	1	0.516 ug/l	5.16	1.4	4500	209	P
238	U	1	0.006 ug/l	0.06	35.2	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46940		1.43	46990	99.9	30 - 125	
45	Sc	1	1223953		2.23	1187000	103.1	30 - 125	
74	Ge	1	3436930		1.95	3343000	102.8	30 - 125	
103	Rh	1	5703042		1.07	5717000	99.8	30 - 125	
165	Ho	1	2639588		1.63	2591000	101.9	30 - 125	
175	Lu	1	2136014		0.63	2070000	103.2	30 - 125	
209	Bi	1	2863009		0.08	2857000	100.2	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\071SMPL.D\071SMPL.D#  
 Date Acquired: Jul 28 2011 08:05 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-3-A Vial Number: 3203  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.000 ug/l	0.00	58638.0	900	6	P
23	Na	1	909.400 ug/l	9,094.00	1.6	450000	45	A
24	Mg	1	35.110 ug/l	351.10	2.9	450000	45	P
27	Al	1	51.960 ug/l	519.60	3.3	450000	45	P
31	P	1	417.600 ug/l	4,176.00	3.0	450000	45	P
39	K	1	7467.000 ug/l	74,670.00	1.6	450000	45	A
44	Ca	1	89.980 ug/l	899.80	3.1	450000	45	P
47	Ti	1	0.239 ug/l	2.39	12.7	4500	45	P
51	V	1	0.467 ug/l	4.67	3.3	4500	74	P
52	Cr	1	0.122 ug/l	1.22	10.1	4500	74	P
55	Mn	1	0.748 ug/l	7.48	7.7	4500	74	P
56	Fe	1	31.550 ug/l	315.50	2.7	450000	74	P
59	Co	1	0.006 ug/l	0.06	7.7	4500	74	P
60	Ni	1	0.061 ug/l	0.61	21.6	4500	74	P
63	Cu	1	0.760 ug/l	7.60	3.0	4500	74	P
66	Zn	1	3.645 ug/l	36.45	0.7	4500	74	P
75	As	1	275.900 ug/l	2,759.00	2.4	4500	74	P
78	Se	1	-0.034 ug/l	-0.34	63.7	4500	74	P
88	Sr	1	0.493 ug/l	4.93	1.6	4500	103	P
95	Mo	1	0.210 ug/l	2.10	9.2	4500	103	P
109	Ag	1	0.015 ug/l	0.15	18.9	4500	103	P
111	Cd	1	0.006 ug/l	0.06	30.3	4500	103	P
118	Sn	1	0.031 ug/l	0.31	60.5	4500	103	P
123	Sb	1	0.206 ug/l	2.06	7.4	4500	103	P
135	Ba	1	0.147 ug/l	1.47	29.9	4500	103	P
200	Hg	1	0.003 ug/l	0.03	48.1	45	209	P
205	Tl	1	0.003 ug/l	0.03	309.6	4500	209	P
208	Pb	1	0.544 ug/l	5.44	4.5	4500	209	P
238	U	1	0.004 ug/l	0.04	16.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47872	1.37	46990	101.9	30 - 125
45	Sc	1	1214644	2.25	1187000	102.3	30 - 125
74	Ge	1	3429039	2.00	3343000	102.6	30 - 125
103	Rh	1	5744620	0.42	5717000	100.5	30 - 125
165	Ho	1	2652554	1.11	2591000	102.4	30 - 125
175	Lu	1	2136506	1.90	2070000	103.2	30 - 125
209	Bi	1	2832382	1.46	2857000	99.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\072SMPL.D\072SMPL.D#  
 Date Acquired: Jul 28 2011 08:10 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-4-A Vial Number: 3204  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.000 ug/l	0.00	8375.0	900	6	P
23	Na	1	1007.000 ug/l	10,070.00	1.2	450000	45	A
24	Mg	1	40.790 ug/l	407.90	0.8	450000	45	P
27	Al	1	45.380 ug/l	453.80	3.2	450000	45	P
31	P	1	440.600 ug/l	4,406.00	1.5	450000	45	P
39	K	1	7802.000 ug/l	78,020.00	0.7	450000	45	A
44	Ca	1	108.000 ug/l	1,080.00	5.0	450000	45	P
47	Ti	1	0.421 ug/l	4.21	25.9	4500	45	P
51	V	1	0.506 ug/l	5.06	2.3	4500	74	P
52	Cr	1	0.113 ug/l	1.13	12.4	4500	74	P
55	Mn	1	1.176 ug/l	11.76	5.5	4500	74	P
56	Fe	1	53.290 ug/l	532.90	1.1	450000	74	P
59	Co	1	0.010 ug/l	0.10	26.3	4500	74	P
60	Ni	1	0.099 ug/l	0.99	5.5	4500	74	P
63	Cu	1	1.231 ug/l	12.31	5.3	4500	74	P
66	Zn	1	5.683 ug/l	56.83	3.7	4500	74	P
75	As	1	414.400 ug/l	4,144.00	1.4	4500	74	P
78	Se	1	0.020 ug/l	0.20	193.5	4500	74	P
88	Sr	1	0.621 ug/l	6.21	3.5	4500	103	P
95	Mo	1	0.248 ug/l	2.48	5.3	4500	103	P
109	Ag	1	0.001 ug/l	0.01	165.9	4500	103	P
111	Cd	1	0.001 ug/l	0.01	188.0	4500	103	P
118	Sn	1	0.052 ug/l	0.52	41.6	4500	103	P
123	Sb	1	0.248 ug/l	2.48	5.4	4500	103	P
135	Ba	1	0.202 ug/l	2.02	15.5	4500	103	P
200	Hg	1	0.003 ug/l	0.03	25.9	45	209	P
205	Tl	1	-0.005 ug/l	-0.05	105.0	4500	209	P
208	Pb	1	0.647 ug/l	6.47	3.5	4500	209	P
238	U	1	0.004 ug/l	0.04	18.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47948	1.28	46990	102.0	30 - 125
45	Sc	1	1213988	0.99	1187000	102.3	30 - 125
74	Ge	1	3409203	1.09	3343000	102.0	30 - 125
103	Rh	1	5749127	1.06	5717000	100.6	30 - 125
165	Ho	1	2667155	0.64	2591000	102.9	30 - 125
175	Lu	1	2146484	0.99	2070000	103.7	30 - 125
209	Bi	1	2863726	1.08	2857000	100.2	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\073SMPL.D\073SMPL.D#  
 Date Acquired: Jul 28 2011 08:15 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-6-A Vial Number: 3205  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.007 ug/l	0.07	61.0	900	6	P
23	Na	1	983.200 ug/l	9,832.00	2.1	450000	45	A
24	Mg	1	30.580 ug/l	305.80	1.8	450000	45	P
27	Al	1	41.980 ug/l	419.80	4.3	450000	45	P
31	P	1	418.900 ug/l	4,189.00	0.5	450000	45	P
39	K	1	7504.000 ug/l	75,040.00	0.7	450000	45	A
44	Ca	1	80.030 ug/l	800.30	2.6	450000	45	P
47	Ti	1	0.276 ug/l	2.76	14.9	4500	45	P
51	V	1	0.482 ug/l	4.82	2.0	4500	74	P
52	Cr	1	0.092 ug/l	0.92	2.8	4500	74	P
55	Mn	1	0.709 ug/l	7.09	4.2	4500	74	P
56	Fe	1	30.840 ug/l	308.40	1.1	450000	74	P
59	Co	1	0.004 ug/l	0.04	48.8	4500	74	P
60	Ni	1	0.051 ug/l	0.51	30.2	4500	74	P
63	Cu	1	0.638 ug/l	6.38	5.0	4500	74	P
66	Zn	1	3.116 ug/l	31.16	4.6	4500	74	P
75	As	1	595.000 ug/l	5,950.00	1.2	4500	74	P
78	Se	1	0.017 ug/l	0.17	382.1	4500	74	P
88	Sr	1	0.435 ug/l	4.35	1.3	4500	103	P
95	Mo	1	0.217 ug/l	2.17	11.8	4500	103	P
109	Ag	1	0.001 ug/l	0.01	193.8	4500	103	P
111	Cd	1	0.005 ug/l	0.05	54.7	4500	103	P
118	Sn	1	0.000 ug/l	0.00	4621.4	4500	103	P
123	Sb	1	0.314 ug/l	3.14	3.5	4500	103	P
135	Ba	1	0.143 ug/l	1.43	16.1	4500	103	P
200	Hg	1	0.002 ug/l	0.02	96.4	45	209	P
205	Tl	1	-0.009 ug/l	-0.09	69.0	4500	209	P
208	Pb	1	0.470 ug/l	4.70	3.4	4500	209	P
238	U	1	0.004 ug/l	0.04	4.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47895	1.40	46990	101.9	30 - 125
45	Sc	1	1205386	1.80	1187000	101.5	30 - 125
74	Ge	1	3472779	1.09	3343000	103.9	30 - 125
103	Rh	1	5721553	0.82	5717000	100.1	30 - 125
165	Ho	1	2673159	0.90	2591000	103.2	30 - 125
175	Lu	1	2159121	2.01	2070000	104.3	30 - 125
209	Bi	1	2878866	0.10	2857000	100.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\074SMPL.D\074SMPL.D#  
 Date Acquired: Jul 28 2011 08:19 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-5-A Vial Number: 3206  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	-0.001 ug/l	-0.01	0.0	900	6	P
23	Na	1	1056.000 ug/l	10,560.00	2.7	450000	45	A
24	Mg	1	79.010 ug/l	790.10	2.6	450000	45	P
27	Al	1	93.060 ug/l	930.60	2.0	450000	45	P
31	P	1	453.700 ug/l	4,537.00	2.7	450000	45	P
39	K	1	7737.000 ug/l	77,370.00	2.2	450000	45	A
44	Ca	1	222.800 ug/l	2,228.00	1.4	450000	45	P
47	Ti	1	1.393 ug/l	13.93	6.1	4500	45	P
51	V	1	0.519 ug/l	5.19	5.7	4500	74	P
52	Cr	1	0.501 ug/l	5.01	28.7	4500	74	P
55	Mn	1	4.016 ug/l	40.16	2.6	4500	74	P
56	Fe	1	260.200 ug/l	2,602.00	1.3	450000	74	A
59	Co	1	0.036 ug/l	0.36	1.6	4500	74	P
60	Ni	1	0.432 ug/l	4.32	27.1	4500	74	P
63	Cu	1	5.026 ug/l	50.26	2.0	4500	74	P
66	Zn	1	19.880 ug/l	198.80	1.7	4500	74	P
75	As	1	495.300 ug/l	4,953.00	2.2	4500	74	P
78	Se	1	-0.036 ug/l	-0.36	100.3	4500	74	P
88	Sr	1	1.535 ug/l	15.35	3.0	4500	103	P
95	Mo	1	0.212 ug/l	2.12	11.9	4500	103	P
109	Ag	1	0.004 ug/l	0.04	18.4	4500	103	P
111	Cd	1	0.008 ug/l	0.08	59.8	4500	103	P
118	Sn	1	0.113 ug/l	1.13	5.5	4500	103	P
123	Sb	1	0.294 ug/l	2.94	3.3	4500	103	P
135	Ba	1	0.477 ug/l	4.77	10.0	4500	103	P
200	Hg	1	0.014 ug/l	0.14	8.1	45	209	P
205	Tl	1	-0.007 ug/l	-0.07	71.0	4500	209	P
208	Pb	1	1.539 ug/l	15.39	2.9	4500	209	P
238	U	1	0.005 ug/l	0.05	60.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47543	1.28	46990	101.2	30 - 125
45	Sc	1	1203325	1.51	1187000	101.4	30 - 125
74	Ge	1	3410304	1.86	3343000	102.0	30 - 125
103	Rh	1	5661523	2.08	5717000	99.0	30 - 125
165	Ho	1	2672094	1.65	2591000	103.1	30 - 125
175	Lu	1	2131364	1.40	2070000	103.0	30 - 125
209	Bi	1	2857857	0.73	2857000	100.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\077SMPL.D\077SMPL.D#  
 Date Acquired: Jul 28 2011 08:34 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	48.190 ug/l	48.19	0.9	900	6	P
23	Na	1	4998.000 ug/l	4,998.00	1.8	450000	45	A
24	Mg	1	5165.000 ug/l	5,165.00	1.3	450000	45	A
27	Al	1	512.200 ug/l	512.20	0.9	450000	45	P
31	P	1	5073.000 ug/l	5,073.00	0.9	450000	45	P
39	K	1	5134.000 ug/l	5,134.00	0.6	450000	45	A
44	Ca	1	4978.000 ug/l	4,978.00	0.6	450000	45	P
47	Ti	1	49.160 ug/l	49.16	0.4	4500	45	P
51	V	1	49.360 ug/l	49.36	1.4	4500	74	P
52	Cr	1	49.820 ug/l	49.82	1.1	4500	74	P
55	Mn	1	50.010 ug/l	50.01	1.0	4500	74	P
56	Fe	1	4987.000 ug/l	4,987.00	1.5	450000	74	A
59	Co	1	48.940 ug/l	48.94	1.5	4500	74	P
60	Ni	1	49.160 ug/l	49.16	0.6	4500	74	P
63	Cu	1	49.760 ug/l	49.76	0.4	4500	74	P
66	Zn	1	48.920 ug/l	48.92	0.5	4500	74	P
75	As	1	48.800 ug/l	48.80	0.7	4500	74	P
78	Se	1	49.640 ug/l	49.64	1.2	4500	74	P
88	Sr	1	50.660 ug/l	50.66	1.0	4500	103	P
95	Mo	1	49.260 ug/l	49.26	1.9	4500	103	P
109	Ag	1	50.210 ug/l	50.21	1.1	4500	103	P
111	Cd	1	49.150 ug/l	49.15	0.6	4500	103	P
118	Sn	1	48.580 ug/l	48.58	0.8	4500	103	P
123	Sb	1	48.900 ug/l	48.90	0.8	4500	103	P
135	Ba	1	49.970 ug/l	49.97	1.4	4500	103	P
200	Hg	1	2.438 ug/l	2.44	2.1	45	209	P
205	Tl	1	49.060 ug/l	49.06	2.6	4500	209	A
208	Pb	1	49.650 ug/l	49.65	1.7	4500	209	P
238	U	1	49.090 ug/l	49.09	1.3	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	50535	0.95	46990	107.5	30 - 125
45	Sc	1	1287407	0.84	1187000	108.5	30 - 125
74	Ge	1	3505945	0.99	3343000	104.9	30 - 125
103	Rh	1	5688773	0.70	5717000	99.5	30 - 125
165	Ho	1	2647846	1.07	2591000	102.2	30 - 125
175	Lu	1	2136778	2.22	2070000	103.2	30 - 125
209	Bi	1	2788712	1.38	2857000	97.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\078SMPL.D\078SMPL.D#  
 Date Acquired: Jul 28 2011 08:39 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.007 ug/l	0.01	160.0	900	6	P
23	Na	1	-3.002 ug/l	-3.00	84.8	450000	45	P
24	Mg	1	0.075 ug/l	0.07	83.6	450000	45	P
27	Al	1	0.033 ug/l	0.03	442.0	450000	45	P
31	P	1	0.269 ug/l	0.27	718.8	450000	45	P
39	K	1	-4.211 ug/l	-4.21	81.9	450000	45	P
44	Ca	1	-1.216 ug/l	-1.22	59.1	450000	45	P
47	Ti	1	0.016 ug/l	0.02	63.0	4500	45	P
51	V	1	0.037 ug/l	0.04	63.0	4500	74	P
52	Cr	1	0.002 ug/l	0.00	276.9	4500	74	P
55	Mn	1	0.028 ug/l	0.03	37.3	4500	74	P
56	Fe	1	1.426 ug/l	1.43	11.0	450000	74	P
59	Co	1	0.001 ug/l	0.00	84.3	4500	74	P
60	Ni	1	-0.029 ug/l	-0.03	21.9	4500	74	P
63	Cu	1	-0.003 ug/l	0.00	227.8	4500	74	P
66	Zn	1	-0.013 ug/l	-0.01	40.1	4500	74	P
75	As	1	0.021 ug/l	0.02	39.5	4500	74	P
78	Se	1	-0.063 ug/l	-0.06	109.4	4500	74	P
88	Sr	1	0.010 ug/l	0.01	35.5	4500	103	P
95	Mo	1	0.033 ug/l	0.03	37.6	4500	103	P
109	Ag	1	0.000 ug/l	0.00	310.7	4500	103	P
111	Cd	1	0.005 ug/l	0.01	169.3	4500	103	P
118	Sn	1	0.189 ug/l	0.19	8.9	4500	103	P
123	Sb	1	0.021 ug/l	0.02	33.0	4500	103	P
135	Ba	1	0.000 ug/l	0.00	566.3	4500	103	P
200	Hg	1	0.005 ug/l	0.01	19.2	45	209	P
205	Tl	1	0.129 ug/l	0.13	10.7	4500	209	P
208	Pb	1	-0.003 ug/l	0.00	486.6	4500	209	P
238	U	1	0.009 ug/l	0.01	7.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	48986	2.15	46990	104.2	30 - 125
45	Sc	1	1248396	1.92	1187000	105.2	30 - 125
74	Ge	1	3495322	2.21	3343000	104.6	30 - 125
103	Rh	1	5846760	1.58	5717000	102.3	30 - 125
165	Ho	1	2707092	0.46	2591000	104.5	30 - 125
175	Lu	1	2157108	3.59	2070000	104.2	30 - 125
209	Bi	1	2922179	0.84	2857000	102.3	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\079SMPL.D\079SMPL.D#  
 Date Acquired: Jul 28 2011 08:43 pm Acq. Method: 00He\_ALL.M  
 Sample Name: MB 580-91461/21-A Vial Number: 3301  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.01	151.1	900	6	P
23	Na	1	-0.547 ug/l	-2.73	144.6	450000	45	P
24	Mg	1	0.096 ug/l	0.48	20.9	450000	45	P
27	Al	1	0.012 ug/l	0.06	803.4	450000	45	P
31	P	1	-2.609 ug/l	-13.05	39.1	450000	45	P
39	K	1	-4.778 ug/l	-23.89	32.5	450000	45	P
44	Ca	1	-1.296 ug/l	-6.48	71.3	450000	45	P
47	Ti	1	0.009 ug/l	0.04	222.2	4500	45	P
51	V	1	0.030 ug/l	0.15	14.1	4500	74	P
52	Cr	1	-0.002 ug/l	-0.01	201.1	4500	74	P
55	Mn	1	0.024 ug/l	0.12	51.0	4500	74	P
56	Fe	1	0.489 ug/l	2.44	22.5	450000	74	P
59	Co	1	-0.001 ug/l	0.00	250.2	4500	74	P
60	Ni	1	-0.010 ug/l	-0.05	97.9	4500	74	P
63	Cu	1	0.003 ug/l	0.01	328.5	4500	74	P
66	Zn	1	0.021 ug/l	0.11	101.0	4500	74	P
75	As	1	0.012 ug/l	0.06	164.1	4500	74	P
78	Se	1	-0.044 ug/l	-0.22	85.8	4500	74	P
88	Sr	1	0.013 ug/l	0.06	60.8	4500	103	P
95	Mo	1	0.011 ug/l	0.05	49.4	4500	103	P
109	Ag	1	0.002 ug/l	0.01	184.2	4500	103	P
111	Cd	1	0.009 ug/l	0.05	62.7	4500	103	P
118	Sn	1	0.026 ug/l	0.13	65.6	4500	103	P
123	Sb	1	0.007 ug/l	0.04	33.5	4500	103	P
135	Ba	1	0.029 ug/l	0.14	52.5	4500	103	P
200	Hg	1	0.002 ug/l	0.01	22.4	45	209	P
205	Tl	1	0.024 ug/l	0.12	42.7	4500	209	P
208	Pb	1	-0.007 ug/l	-0.04	112.9	4500	209	P
238	U	1	0.002 ug/l	0.01	36.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	48256	0.81	46990	102.7	30 - 125
45	Sc	1	1226308	1.40	1187000	103.3	30 - 125
74	Ge	1	3486869	1.44	3343000	104.3	30 - 125
103	Rh	1	5811181	0.98	5717000	101.6	30 - 125
165	Ho	1	2672447	0.92	2591000	103.1	30 - 125
175	Lu	1	2160980	1.70	2070000	104.4	30 - 125
209	Bi	1	2933259	1.38	2857000	102.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\080SMPL.D\080SMPL.D#  
 Date Acquired: Jul 28 2011 08:48 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCS 580-91461/22-A Vial Number: 3302  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.917 ug/l	95.85	7.5	900	6	P
23	Na	1	420.800 ug/l	21,040.00	3.8	450000	45	P
24	Mg	1	423.000 ug/l	21,150.00	2.9	450000	45	P
27	Al	1	79.940 ug/l	3,997.00	3.8	450000	45	P
31	P	1	390.000 ug/l	19,500.00	0.5	450000	45	P
39	K	1	413.200 ug/l	20,660.00	3.0	450000	45	P
44	Ca	1	398.200 ug/l	19,910.00	2.3	450000	45	P
47	Ti	1	96.550 ug/l	4,827.50	3.0	4500	45	P
51	V	1	19.430 ug/l	971.50	2.4	4500	74	P
52	Cr	1	7.880 ug/l	394.00	3.7	4500	74	P
55	Mn	1	19.430 ug/l	971.50	2.6	4500	74	P
56	Fe	1	439.700 ug/l	21,985.00	0.9	450000	74	A
59	Co	1	19.550 ug/l	977.50	1.8	4500	74	P
60	Ni	1	19.380 ug/l	969.00	3.2	4500	74	P
63	Cu	1	10.040 ug/l	502.00	2.8	4500	74	P
66	Zn	1	19.370 ug/l	968.50	4.1	4500	74	P
75	As	1	77.650 ug/l	3,882.50	3.0	4500	74	P
78	Se	1	78.550 ug/l	3,927.50	2.6	4500	74	P
88	Sr	1	0.005 ug/l	0.27	76.3	4500	103	P
95	Mo	1	96.220 ug/l	4,811.00	1.1	4500	103	P
109	Ag	1	12.280 ug/l	614.00	0.9	4500	103	P
111	Cd	1	2.024 ug/l	101.20	4.6	4500	103	P
118	Sn	1	98.710 ug/l	4,935.50	1.2	4500	103	P
123	Sb	1	56.470 ug/l	2,823.50	1.2	4500	103	P
135	Ba	1	78.100 ug/l	3,905.00	2.5	4500	103	P
200	Hg	1	0.932 ug/l	46.58	1.6	45	209	P
205	Tl	1	70.440 ug/l	3,522.00	8.5	4500	209	A
208	Pb	1	19.660 ug/l	983.00	1.2	4500	209	P
238	U	1	0.001 ug/l	0.05	14.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46692	0.68	46990	99.4	30 - 125
45	Sc	1	1201817	2.74	1187000	101.2	30 - 125
74	Ge	1	3435054	2.89	3343000	102.8	30 - 125
103	Rh	1	5788401	1.06	5717000	101.2	30 - 125
165	Ho	1	2686646	0.25	2591000	103.7	30 - 125
175	Lu	1	2172990	1.29	2070000	105.0	30 - 125
209	Bi	1	2919650	0.69	2857000	102.2	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\081SMPL.D\081SMPL.D#  
 Date Acquired: Jul 28 2011 08:53 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCSD 580-91461/23-A Vial Number: 3303  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.909 ug/l	95.45	2.9	900	6	P
23	Na	1	411.800 ug/l	20,590.00	2.7	450000	45	P
24	Mg	1	418.600 ug/l	20,930.00	2.0	450000	45	P
27	Al	1	79.350 ug/l	3,967.50	1.5	450000	45	P
31	P	1	379.400 ug/l	18,970.00	4.4	450000	45	P
39	K	1	407.700 ug/l	20,385.00	2.1	450000	45	P
44	Ca	1	395.900 ug/l	19,795.00	1.4	450000	45	P
47	Ti	1	95.530 ug/l	4,776.50	1.3	4500	45	P
51	V	1	19.310 ug/l	965.50	1.1	4500	74	P
52	Cr	1	7.866 ug/l	393.30	1.6	4500	74	P
55	Mn	1	19.470 ug/l	973.50	0.8	4500	74	P
56	Fe	1	439.300 ug/l	21,965.00	1.7	450000	74	A
59	Co	1	19.480 ug/l	974.00	1.6	4500	74	P
60	Ni	1	19.780 ug/l	989.00	0.9	4500	74	P
63	Cu	1	10.040 ug/l	502.00	1.5	4500	74	P
66	Zn	1	19.340 ug/l	967.00	0.7	4500	74	P
75	As	1	78.010 ug/l	3,900.50	1.6	4500	74	P
78	Se	1	78.510 ug/l	3,925.50	1.9	4500	74	P
88	Sr	1	0.006 ug/l	0.28	176.3	4500	103	P
95	Mo	1	95.300 ug/l	4,765.00	1.0	4500	103	P
109	Ag	1	12.230 ug/l	611.50	1.3	4500	103	P
111	Cd	1	1.921 ug/l	96.05	3.3	4500	103	P
118	Sn	1	98.420 ug/l	4,921.00	1.7	4500	103	P
123	Sb	1	56.270 ug/l	2,813.50	1.4	4500	103	P
135	Ba	1	77.800 ug/l	3,890.00	1.0	4500	103	P
200	Hg	1	0.922 ug/l	46.09	3.7	45	209	P
205	Tl	1	69.940 ug/l	3,497.00	7.7	4500	209	A
208	Pb	1	19.440 ug/l	972.00	1.4	4500	209	P
238	U	1	0.000 ug/l	0.01	210.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45869	2.54	46990	97.6	30 - 125
45	Sc	1	1207370	2.20	1187000	101.7	30 - 125
74	Ge	1	3410066	1.30	3343000	102.0	30 - 125
103	Rh	1	5781016	1.36	5717000	101.1	30 - 125
165	Ho	1	2670931	2.07	2591000	103.1	30 - 125
175	Lu	1	2156522	0.73	2070000	104.2	30 - 125
209	Bi	1	2963892	0.97	2857000	103.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\082SMPL.D\082SMPL.D#  
 Date Acquired: Jul 28 2011 08:58 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.120 ug/l	47.12	0.5	900	6	P
23	Na	1	5068.000 ug/l	5,068.00	2.2	450000	45	A
24	Mg	1	5136.000 ug/l	5,136.00	1.5	450000	45	A
27	Al	1	504.900 ug/l	504.90	2.6	450000	45	P
31	P	1	5017.000 ug/l	5,017.00	1.6	450000	45	P
39	K	1	4941.000 ug/l	4,941.00	1.6	450000	45	A
44	Ca	1	4931.000 ug/l	4,931.00	2.2	450000	45	P
47	Ti	1	49.070 ug/l	49.07	2.1	4500	45	P
51	V	1	48.920 ug/l	48.92	1.2	4500	74	P
52	Cr	1	49.200 ug/l	49.20	1.0	4500	74	P
55	Mn	1	49.320 ug/l	49.32	1.2	4500	74	P
56	Fe	1	4938.000 ug/l	4,938.00	0.9	450000	74	A
59	Co	1	48.380 ug/l	48.38	1.7	4500	74	P
60	Ni	1	48.880 ug/l	48.88	1.5	4500	74	P
63	Cu	1	49.370 ug/l	49.37	1.7	4500	74	P
66	Zn	1	48.630 ug/l	48.63	1.0	4500	74	P
75	As	1	48.710 ug/l	48.71	0.2	4500	74	P
78	Se	1	49.430 ug/l	49.43	1.1	4500	74	P
88	Sr	1	50.730 ug/l	50.73	1.8	4500	103	P
95	Mo	1	49.180 ug/l	49.18	2.1	4500	103	P
109	Ag	1	50.420 ug/l	50.42	2.2	4500	103	P
111	Cd	1	49.720 ug/l	49.72	2.0	4500	103	P
118	Sn	1	49.170 ug/l	49.17	2.5	4500	103	P
123	Sb	1	49.080 ug/l	49.08	2.1	4500	103	P
135	Ba	1	49.680 ug/l	49.68	1.8	4500	103	P
200	Hg	1	2.427 ug/l	2.43	0.4	45	209	P
205	Tl	1	48.970 ug/l	48.97	1.7	4500	209	A
208	Pb	1	48.970 ug/l	48.97	1.7	4500	209	P
238	U	1	48.450 ug/l	48.45	1.4	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	49025	1.01	46990	104.3	30 - 125
45	Sc	1	1263639	1.92	1187000	106.5	30 - 125
74	Ge	1	3492818	0.94	3343000	104.5	30 - 125
103	Rh	1	5666845	2.59	5717000	99.1	30 - 125
165	Ho	1	2699574	0.73	2591000	104.2	30 - 125
175	Lu	1	2154558	1.52	2070000	104.1	30 - 125
209	Bi	1	2830389	1.92	2857000	99.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\083SMPL.D\083SMPL.D#  
 Date Acquired: Jul 28 2011 09:03 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.00	150.7	900	6	P
23	Na	1	-2.651 ug/l	-2.65	151.3	450000	45	P
24	Mg	1	0.182 ug/l	0.18	15.0	450000	45	P
27	Al	1	0.008 ug/l	0.01	455.5	450000	45	P
31	P	1	-0.351 ug/l	-0.35	1106.3	450000	45	P
39	K	1	-7.201 ug/l	-7.20	43.3	450000	45	P
44	Ca	1	-2.377 ug/l	-2.38	32.6	450000	45	P
47	Ti	1	0.034 ug/l	0.03	65.7	4500	45	P
51	V	1	0.004 ug/l	0.00	328.9	4500	74	P
52	Cr	1	-0.004 ug/l	0.00	238.8	4500	74	P
55	Mn	1	0.014 ug/l	0.01	118.0	4500	74	P
56	Fe	1	1.340 ug/l	1.34	10.6	450000	74	P
59	Co	1	-0.001 ug/l	0.00	94.6	4500	74	P
60	Ni	1	-0.011 ug/l	-0.01	79.4	4500	74	P
63	Cu	1	-0.002 ug/l	0.00	167.1	4500	74	P
66	Zn	1	0.017 ug/l	0.02	106.9	4500	74	P
75	As	1	0.002 ug/l	0.00	429.8	4500	74	P
78	Se	1	-0.036 ug/l	-0.04	198.9	4500	74	P
88	Sr	1	0.007 ug/l	0.01	119.2	4500	103	P
95	Mo	1	0.051 ug/l	0.05	53.6	4500	103	P
109	Ag	1	0.000 ug/l	0.00	559.9	4500	103	P
111	Cd	1	-0.006 ug/l	-0.01	57.4	4500	103	P
118	Sn	1	0.312 ug/l	0.31	13.7	4500	103	P
123	Sb	1	0.041 ug/l	0.04	30.6	4500	103	P
135	Ba	1	0.013 ug/l	0.01	137.9	4500	103	P
200	Hg	1	0.009 ug/l	0.01	27.1	45	209	P
205	Tl	1	0.271 ug/l	0.27	12.7	4500	209	P
208	Pb	1	-0.005 ug/l	0.00	55.6	4500	209	P
238	U	1	0.009 ug/l	0.01	15.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46718	1.96	46990	99.4	30 - 125
45	Sc	1	1246365	2.69	1187000	105.0	30 - 125
74	Ge	1	3445323	1.38	3343000	103.1	30 - 125
103	Rh	1	5835388	1.26	5717000	102.1	30 - 125
165	Ho	1	2679379	2.48	2591000	103.4	30 - 125
175	Lu	1	2102168	2.19	2070000	101.6	30 - 125
209	Bi	1	2980487	0.80	2857000	104.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\084SMPL.D\084SMPL.D#  
 Date Acquired: Jul 28 2011 09:08 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27450-D-3-A SD Vial Number: 3401  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 25.00 Final Dil Factor: 25.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.001 ug/l	0.03	194.7	900	6	P
23	Na	1	-4.007 ug/l	-100.18	88.8	450000	45	P
24	Mg	1	1.851 ug/l	46.28	12.3	450000	45	P
27	Al	1	3.303 ug/l	82.58	9.7	450000	45	P
31	P	1	3.600 ug/l	90.00	51.4	450000	45	P
39	K	1	-7.117 ug/l	-177.93	53.1	450000	45	P
44	Ca	1	2.270 ug/l	56.75	13.5	450000	45	P
47	Ti	1	0.019 ug/l	0.47	43.9	4500	45	P
51	V	1	-0.081 ug/l	-2.02	4.0	4500	74	P
52	Cr	1	-0.012 ug/l	-0.31	30.0	4500	74	P
55	Mn	1	-0.096 ug/l	-2.39	13.8	4500	74	P
56	Fe	1	0.866 ug/l	21.64	8.8	450000	74	P
59	Co	1	-0.001 ug/l	-0.04	66.6	4500	74	P
60	Ni	1	-0.026 ug/l	-0.65	43.1	4500	74	P
63	Cu	1	0.105 ug/l	2.63	2.5	4500	74	P
66	Zn	1	0.333 ug/l	8.32	9.1	4500	74	P
75	As	1	-0.006 ug/l	-0.16	215.2	4500	74	P
78	Se	1	0.017 ug/l	0.44	156.1	4500	74	P
88	Sr	1	0.034 ug/l	0.84	6.3	4500	103	P
95	Mo	1	0.017 ug/l	0.42	100.0	4500	103	P
109	Ag	1	-0.001 ug/l	-0.01	104.8	4500	103	P
111	Cd	1	0.003 ug/l	0.07	143.3	4500	103	P
118	Sn	1	0.077 ug/l	1.92	23.3	4500	103	P
123	Sb	1	0.014 ug/l	0.34	43.4	4500	103	P
135	Ba	1	0.023 ug/l	0.56	77.9	4500	103	P
200	Hg	1	0.007 ug/l	0.17	37.8	45	209	P
205	Tl	1	0.126 ug/l	3.16	9.8	4500	209	P
208	Pb	1	-0.001 ug/l	-0.02	777.6	4500	209	P
238	U	1	0.001 ug/l	0.03	40.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	52392	0.82	46990	111.5	30 - 125
45	Sc	1	1307339	3.86	1187000	110.1	30 - 125
74	Ge	1	3573118	1.00	3343000	106.9	30 - 125
103	Rh	1	5829588	0.83	5717000	102.0	30 - 125
165	Ho	1	2716217	1.77	2591000	104.8	30 - 125
175	Lu	1	2219440	2.97	2070000	107.2	30 - 125
209	Bi	1	2881094	1.92	2857000	100.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\085SMPL.D\085SMPL.D#  
 Date Acquired: Jul 28 2011 09:12 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27450-D-3-A Vial Number: 3402  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.005 ug/l	0.02	58.9	900	6	P
23	Na	1	43.260 ug/l	216.30	9.3	450000	45	P
24	Mg	1	8.971 ug/l	44.86	0.9	450000	45	P
27	Al	1	3.959 ug/l	19.80	3.8	450000	45	P
31	P	1	24.710 ug/l	123.55	13.9	450000	45	P
39	K	1	-2.541 ug/l	-12.71	187.8	450000	45	P
44	Ca	1	24.400 ug/l	122.00	4.5	450000	45	P
47	Ti	1	0.025 ug/l	0.12	34.1	4500	45	P
51	V	1	0.183 ug/l	0.91	8.3	4500	74	P
52	Cr	1	0.068 ug/l	0.34	13.2	4500	74	P
55	Mn	1	0.117 ug/l	0.59	8.5	4500	74	P
56	Fe	1	3.104 ug/l	15.52	6.0	450000	74	P
59	Co	1	0.002 ug/l	0.01	58.1	4500	74	P
60	Ni	1	-0.002 ug/l	-0.01	238.3	4500	74	P
63	Cu	1	0.501 ug/l	2.51	4.5	4500	74	P
66	Zn	1	1.998 ug/l	9.99	4.5	4500	74	P
75	As	1	0.048 ug/l	0.24	24.8	4500	74	P
78	Se	1	0.037 ug/l	0.19	23.3	4500	74	P
88	Sr	1	0.076 ug/l	0.38	7.0	4500	103	P
95	Mo	1	0.019 ug/l	0.09	19.1	4500	103	P
109	Ag	1	0.001 ug/l	0.00	133.0	4500	103	P
111	Cd	1	0.004 ug/l	0.02	64.3	4500	103	P
118	Sn	1	0.086 ug/l	0.43	22.4	4500	103	P
123	Sb	1	0.016 ug/l	0.08	48.8	4500	103	P
135	Ba	1	0.046 ug/l	0.23	54.7	4500	103	P
200	Hg	1	0.000 ug/l	0.00	160.7	45	209	P
205	Tl	1	0.056 ug/l	0.28	35.2	4500	209	P
208	Pb	1	0.019 ug/l	0.09	90.2	4500	209	P
238	U	1	0.001 ug/l	0.00	21.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44936	1.43	46990	95.6	30 - 125
45	Sc	1	1171404	3.37	1187000	98.7	30 - 125
74	Ge	1	3354869	2.59	3343000	100.4	30 - 125
103	Rh	1	5778123	0.83	5717000	101.1	30 - 125
165	Ho	1	2696510	2.75	2591000	104.1	30 - 125
175	Lu	1	2161081	2.79	2070000	104.4	30 - 125
209	Bi	1	2945483	0.44	2857000	103.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\086SMPL.D\086SMPL.D#  
 Date Acquired: Jul 28 2011 09:17 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27450-D-3-B DU Vial Number: 3403  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	-0.001 ug/l	-0.01	0.0	900	6	P
23	Na	1	37.900 ug/l	189.50	9.2	450000	45	P
24	Mg	1	8.619 ug/l	43.10	6.4	450000	45	P
27	Al	1	3.750 ug/l	18.75	4.0	450000	45	P
31	P	1	21.160 ug/l	105.80	20.3	450000	45	P
39	K	1	-6.488 ug/l	-32.44	34.3	450000	45	P
44	Ca	1	22.690 ug/l	113.45	6.6	450000	45	P
47	Ti	1	0.039 ug/l	0.20	69.1	4500	45	P
51	V	1	0.230 ug/l	1.15	5.0	4500	74	P
52	Cr	1	0.063 ug/l	0.31	4.4	4500	74	P
55	Mn	1	0.097 ug/l	0.48	13.2	4500	74	P
56	Fe	1	2.889 ug/l	14.45	3.9	450000	74	P
59	Co	1	0.000 ug/l	0.00	635.9	4500	74	P
60	Ni	1	0.010 ug/l	0.05	63.3	4500	74	P
63	Cu	1	0.525 ug/l	2.63	2.9	4500	74	P
66	Zn	1	1.988 ug/l	9.94	9.6	4500	74	P
75	As	1	0.040 ug/l	0.20	5.8	4500	74	P
78	Se	1	0.015 ug/l	0.08	545.1	4500	74	P
88	Sr	1	0.080 ug/l	0.40	27.2	4500	103	P
95	Mo	1	0.019 ug/l	0.09	8.1	4500	103	P
109	Ag	1	0.001 ug/l	0.00	374.0	4500	103	P
111	Cd	1	0.006 ug/l	0.03	95.0	4500	103	P
118	Sn	1	0.080 ug/l	0.40	38.4	4500	103	P
123	Sb	1	0.011 ug/l	0.05	124.9	4500	103	P
135	Ba	1	0.056 ug/l	0.28	12.1	4500	103	P
200	Hg	1	0.001 ug/l	0.01	132.1	45	209	P
205	Tl	1	0.039 ug/l	0.19	25.2	4500	209	P
208	Pb	1	0.012 ug/l	0.06	46.3	4500	209	P
238	U	1	0.001 ug/l	0.00	109.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45133	1.08	46990	96.0	30 - 125
45	Sc	1	1214221	2.87	1187000	102.3	30 - 125
74	Ge	1	3386106	0.98	3343000	101.3	30 - 125
103	Rh	1	5800365	0.39	5717000	101.5	30 - 125
165	Ho	1	2676089	2.74	2591000	103.3	30 - 125
175	Lu	1	2156417	0.75	2070000	104.2	30 - 125
209	Bi	1	2951197	0.21	2857000	103.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\087SMPL.D\087SMPL.D#  
 Date Acquired: Jul 28 2011 09:22 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27450-D-3-C MS Vial Number: 3404  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.018 ug/l	100.90	0.6	900	6	P
23	Na	1	458.300 ug/l	22,915.00	2.2	450000	45	P
24	Mg	1	468.100 ug/l	23,405.00	1.0	450000	45	P
27	Al	1	93.580 ug/l	4,679.00	1.2	450000	45	P
31	P	1	437.500 ug/l	21,875.00	4.3	450000	45	P
39	K	1	452.500 ug/l	22,625.00	2.8	450000	45	P
44	Ca	1	431.500 ug/l	21,575.00	2.0	450000	45	P
47	Ti	1	103.900 ug/l	5,195.00	1.6	4500	45	P
51	V	1	21.210 ug/l	1,060.50	2.2	4500	74	P
52	Cr	1	8.620 ug/l	431.00	2.9	4500	74	P
55	Mn	1	21.700 ug/l	1,085.00	1.4	4500	74	P
56	Fe	1	479.100 ug/l	23,955.00	1.3	450000	74	A
59	Co	1	21.460 ug/l	1,073.00	2.5	4500	74	P
60	Ni	1	21.630 ug/l	1,081.50	2.3	4500	74	P
63	Cu	1	11.110 ug/l	555.50	3.1	4500	74	P
66	Zn	1	21.760 ug/l	1,088.00	1.2	4500	74	P
75	As	1	83.690 ug/l	4,184.50	2.3	4500	74	P
78	Se	1	83.670 ug/l	4,183.50	1.2	4500	74	P
88	Sr	1	0.005 ug/l	0.26	103.2	4500	103	P
95	Mo	1	102.000 ug/l	5,100.00	1.0	4500	103	P
109	Ag	1	12.690 ug/l	634.50	1.9	4500	103	P
111	Cd	1	2.013 ug/l	100.65	3.5	4500	103	P
118	Sn	1	99.920 ug/l	4,996.00	1.0	4500	103	P
123	Sb	1	61.670 ug/l	3,083.50	1.2	4500	103	P
135	Ba	1	83.550 ug/l	4,177.50	1.7	4500	103	P
200	Hg	1	1.016 ug/l	50.80	1.4	45	209	P
205	Tl	1	86.630 ug/l	4,331.50	0.8	4500	209	A
208	Pb	1	21.260 ug/l	1,063.00	2.8	4500	209	P
238	U	1	0.000 ug/l	-0.01	560.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	53080	0.81	46990	113.0	30 - 125
45	Sc	1	1297586	1.87	1187000	109.3	30 - 125
74	Ge	1	3542810	1.85	3343000	106.0	30 - 125
103	Rh	1	5874280	1.47	5717000	102.8	30 - 125
165	Ho	1	2641257	0.19	2591000	101.9	30 - 125
175	Lu	1	2170179	2.38	2070000	104.8	30 - 125
209	Bi	1	2858851	1.97	2857000	100.1	30 - 125

**Analytes:**

**Pass**

**ISTD:**

**Pass**

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\088SMPL.D\088SMPL.D#  
 Date Acquired: Jul 28 2011 09:27 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27450-D-3-D MSD Vial Number: 3405  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.113 ug/l	105.65	4.5	900	6	P
23	Na	1	477.200 ug/l	23,860.00	2.3	450000	45	P
24	Mg	1	490.100 ug/l	24,505.00	2.1	450000	45	P
27	Al	1	97.290 ug/l	4,864.50	0.9	450000	45	P
31	P	1	444.500 ug/l	22,225.00	3.3	450000	45	P
39	K	1	469.900 ug/l	23,495.00	1.3	450000	45	P
44	Ca	1	453.500 ug/l	22,675.00	1.6	450000	45	P
47	Ti	1	108.300 ug/l	5,415.00	0.5	4500	45	P
51	V	1	22.150 ug/l	1,107.50	0.7	4500	74	P
52	Cr	1	9.002 ug/l	450.10	1.6	4500	74	P
55	Mn	1	22.500 ug/l	1,125.00	1.1	4500	74	P
56	Fe	1	503.900 ug/l	25,195.00	2.2	450000	74	A
59	Co	1	22.100 ug/l	1,105.00	1.9	4500	74	P
60	Ni	1	22.620 ug/l	1,131.00	0.3	4500	74	P
63	Cu	1	11.660 ug/l	583.00	1.4	4500	74	P
66	Zn	1	22.160 ug/l	1,108.00	1.4	4500	74	P
75	As	1	87.580 ug/l	4,379.00	0.7	4500	74	P
78	Se	1	87.110 ug/l	4,355.50	1.8	4500	74	P
88	Sr	1	0.008 ug/l	0.41	95.9	4500	103	P
95	Mo	1	106.900 ug/l	5,345.00	1.2	4500	103	P
109	Ag	1	13.480 ug/l	674.00	0.6	4500	103	P
111	Cd	1	2.195 ug/l	109.75	2.8	4500	103	P
118	Sn	1	106.000 ug/l	5,300.00	1.7	4500	103	P
123	Sb	1	65.010 ug/l	3,250.50	1.1	4500	103	P
135	Ba	1	87.990 ug/l	4,399.50	1.9	4500	103	P
200	Hg	1	1.091 ug/l	54.55	2.6	45	209	P
205	Tl	1	91.220 ug/l	4,561.00	1.9	4500	209	A
208	Pb	1	22.120 ug/l	1,106.00	2.3	4500	209	P
238	U	1	0.000 ug/l	-0.02	49.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	52829	2.09	46990	112.4	30 - 125
45	Sc	1	1291556	1.77	1187000	108.8	30 - 125
74	Ge	1	3524931	0.62	3343000	105.4	30 - 125
103	Rh	1	5813916	0.43	5717000	101.7	30 - 125
165	Ho	1	2672298	1.22	2591000	103.1	30 - 125
175	Lu	1	2154944	1.20	2070000	104.1	30 - 125
209	Bi	1	2867311	1.42	2857000	100.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\089SMPL.D\089SMPL.D#  
 Date Acquired: Jul 28 2011 09:32 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27450-D-3-A PDS Vial Number: 3406  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.067 ug/l	103.35	2.3	900	6	P
23	Na	1	468.100 ug/l	23,405.00	3.1	450000	45	P
24	Mg	1	481.400 ug/l	24,070.00	1.8	450000	45	P
27	Al	1	96.570 ug/l	4,828.50	2.2	450000	45	P
31	P	1	448.300 ug/l	22,415.00	3.9	450000	45	P
39	K	1	462.700 ug/l	23,135.00	2.7	450000	45	P
44	Ca	1	437.600 ug/l	21,880.00	3.1	450000	45	P
47	Ti	1	107.100 ug/l	5,355.00	2.0	4500	45	P
51	V	1	21.990 ug/l	1,099.50	2.1	4500	74	P
52	Cr	1	8.966 ug/l	448.30	1.1	4500	74	P
55	Mn	1	22.540 ug/l	1,127.00	0.8	4500	74	P
56	Fe	1	497.600 ug/l	24,880.00	0.7	450000	74	A
59	Co	1	22.050 ug/l	1,102.50	2.2	4500	74	P
60	Ni	1	22.520 ug/l	1,126.00	2.6	4500	74	P
63	Cu	1	11.490 ug/l	574.50	2.3	4500	74	P
66	Zn	1	22.060 ug/l	1,103.00	2.3	4500	74	P
75	As	1	86.900 ug/l	4,345.00	1.4	4500	74	P
78	Se	1	86.430 ug/l	4,321.50	0.4	4500	74	P
88	Sr	1	0.002 ug/l	0.11	349.2	4500	103	P
95	Mo	1	107.200 ug/l	5,360.00	0.4	4500	103	P
109	Ag	1	13.460 ug/l	673.00	2.1	4500	103	P
111	Cd	1	2.133 ug/l	106.65	5.3	4500	103	P
118	Sn	1	106.200 ug/l	5,310.00	0.9	4500	103	P
123	Sb	1	64.360 ug/l	3,218.00	0.7	4500	103	P
135	Ba	1	87.810 ug/l	4,390.50	1.1	4500	103	P
200	Hg	1	1.059 ug/l	52.95	4.3	45	209	P
205	Tl	1	90.840 ug/l	4,542.00	1.7	4500	209	A
208	Pb	1	22.040 ug/l	1,102.00	3.4	4500	209	P
238	U	1	0.000 ug/l	-0.02	41.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	52756	0.81	46990	112.3	30 - 125
45	Sc	1	1310093	1.82	1187000	110.4	30 - 125
74	Ge	1	3526320	1.30	3343000	105.5	30 - 125
103	Rh	1	5781588	0.84	5717000	101.1	30 - 125
165	Ho	1	2661955	1.06	2591000	102.7	30 - 125
175	Lu	1	2158381	0.40	2070000	104.3	30 - 125
209	Bi	1	2856174	2.16	2857000	100.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\090SMPL.D\090SMPL.D#  
 Date Acquired: Jul 28 2011 09:37 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.200 ug/l	47.20	1.7	900	6	P
23	Na	1	5022.000 ug/l	5,022.00	1.0	450000	45	A
24	Mg	1	5156.000 ug/l	5,156.00	1.0	450000	45	A
27	Al	1	508.400 ug/l	508.40	1.2	450000	45	P
31	P	1	5030.000 ug/l	5,030.00	1.0	450000	45	P
39	K	1	5043.000 ug/l	5,043.00	2.4	450000	45	A
44	Ca	1	4969.000 ug/l	4,969.00	1.0	450000	45	P
47	Ti	1	49.720 ug/l	49.72	1.2	4500	45	P
51	V	1	48.960 ug/l	48.96	0.9	4500	74	P
52	Cr	1	49.140 ug/l	49.14	0.9	4500	74	P
55	Mn	1	49.250 ug/l	49.25	0.7	4500	74	P
56	Fe	1	4928.000 ug/l	4,928.00	0.6	450000	74	A
59	Co	1	48.470 ug/l	48.47	1.1	4500	74	P
60	Ni	1	48.560 ug/l	48.56	1.7	4500	74	P
63	Cu	1	49.020 ug/l	49.02	1.8	4500	74	P
66	Zn	1	48.060 ug/l	48.06	0.2	4500	74	P
75	As	1	48.450 ug/l	48.45	0.3	4500	74	P
78	Se	1	48.710 ug/l	48.71	2.8	4500	74	P
88	Sr	1	50.190 ug/l	50.19	1.4	4500	103	P
95	Mo	1	48.520 ug/l	48.52	2.0	4500	103	P
109	Ag	1	49.860 ug/l	49.86	0.2	4500	103	P
111	Cd	1	48.970 ug/l	48.97	2.3	4500	103	P
118	Sn	1	49.130 ug/l	49.13	0.7	4500	103	P
123	Sb	1	48.710 ug/l	48.71	1.4	4500	103	P
135	Ba	1	49.880 ug/l	49.88	0.9	4500	103	P
200	Hg	1	2.430 ug/l	2.43	0.5	45	209	P
205	Tl	1	48.330 ug/l	48.33	4.6	4500	209	A
208	Pb	1	48.940 ug/l	48.94	0.3	4500	209	P
238	U	1	48.480 ug/l	48.48	1.6	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	48816	2.22	46990	103.9	30 - 125
45	Sc	1	1253562	0.40	1187000	105.6	30 - 125
74	Ge	1	3493036	0.44	3343000	104.5	30 - 125
103	Rh	1	5691706	0.98	5717000	99.6	30 - 125
165	Ho	1	2653283	1.06	2591000	102.4	30 - 125
175	Lu	1	2173347	0.64	2070000	105.0	30 - 125
209	Bi	1	2809275	0.62	2857000	98.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\091SMPL.D\091SMPL.D#  
 Date Acquired: Jul 28 2011 09:41 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.00	259.6	900	6	P
23	Na	1	0.777 ug/l	0.78	65.6	450000	45	P
24	Mg	1	0.111 ug/l	0.11	54.6	450000	45	P
27	Al	1	-0.009 ug/l	-0.01	1182.5	450000	45	P
31	P	1	-0.180 ug/l	-0.18	1404.9	450000	45	P
39	K	1	-3.524 ug/l	-3.52	48.4	450000	45	P
44	Ca	1	-1.989 ug/l	-1.99	19.1	450000	45	P
47	Ti	1	0.054 ug/l	0.05	50.4	4500	45	P
51	V	1	0.011 ug/l	0.01	73.9	4500	74	P
52	Cr	1	0.004 ug/l	0.00	257.3	4500	74	P
55	Mn	1	-0.014 ug/l	-0.01	128.9	4500	74	P
56	Fe	1	1.336 ug/l	1.34	2.9	450000	74	P
59	Co	1	-0.001 ug/l	0.00	38.4	4500	74	P
60	Ni	1	-0.017 ug/l	-0.02	64.4	4500	74	P
63	Cu	1	-0.001 ug/l	0.00	539.8	4500	74	P
66	Zn	1	-0.023 ug/l	-0.02	90.9	4500	74	P
75	As	1	0.019 ug/l	0.02	97.7	4500	74	P
78	Se	1	-0.030 ug/l	-0.03	311.4	4500	74	P
88	Sr	1	0.005 ug/l	0.00	177.7	4500	103	P
95	Mo	1	0.068 ug/l	0.07	2.3	4500	103	P
109	Ag	1	-0.001 ug/l	0.00	258.6	4500	103	P
111	Cd	1	0.004 ug/l	0.00	144.8	4500	103	P
118	Sn	1	0.623 ug/l	0.62	6.8	4500	103	P
123	Sb	1	0.041 ug/l	0.04	39.5	4500	103	P
135	Ba	1	0.001 ug/l	0.00	381.9	4500	103	P
200	Hg	1	0.010 ug/l	0.01	16.1	45	209	P
205	Tl	1	0.249 ug/l	0.25	10.4	4500	209	P
208	Pb	1	-0.009 ug/l	-0.01	117.4	4500	209	P
238	U	1	0.009 ug/l	0.01	20.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47179	0.71	46990	100.4	30 - 125
45	Sc	1	1202799	0.70	1187000	101.3	30 - 125
74	Ge	1	3422944	1.92	3343000	102.4	30 - 125
103	Rh	1	5751813	1.13	5717000	100.6	30 - 125
165	Ho	1	2679441	0.69	2591000	103.4	30 - 125
175	Lu	1	2168176	1.32	2070000	104.7	30 - 125
209	Bi	1	2913947	0.65	2857000	102.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\092SMPL.D\092SMPL.D#  
 Date Acquired: Jul 28 2011 09:46 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27643-A-1-A Vial Number: 3501  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.223 ug/l	1.11	4.3	900	6	P
23	Na	1	608500.000 ug/l	3,042,500.00	4.1	450000	45	A Fail
24	Mg	1	27750.000 ug/l	138,750.00	3.9	450000	45	A
27	Al	1	102.500 ug/l	512.50	2.6	450000	45	P
31	P	1	3547.000 ug/l	17,735.00	3.2	450000	45	P
39	K	1	165100.000 ug/l	825,500.00	2.4	450000	45	A
44	Ca	1	16190.000 ug/l	80,950.00	3.4	450000	45	P
47	Ti	1	211.600 ug/l	1,058.00	3.6	4500	45	P
51	V	1	54.410 ug/l	272.05	1.2	4500	74	P
52	Cr	1	118.800 ug/l	594.00	0.7	4500	74	P
55	Mn	1	165.700 ug/l	828.50	1.5	4500	74	P
56	Fe	1	8802.000 ug/l	44,010.00	1.9	450000	74	A
59	Co	1	8.561 ug/l	42.81	1.9	4500	74	P
60	Ni	1	128.400 ug/l	642.00	1.7	4500	74	P
63	Cu	1	60.780 ug/l	303.90	1.9	4500	74	P
66	Zn	1	127.400 ug/l	637.00	2.5	4500	74	P
75	As	1	22.630 ug/l	113.15	1.0	4500	74	P
78	Se	1	0.660 ug/l	3.30	12.7	4500	74	P
88	Sr	1	404.500 ug/l	2,022.50	0.6	4500	103	A
95	Mo	1	15.650 ug/l	78.25	2.5	4500	103	P
109	Ag	1	0.024 ug/l	0.12	2.0	4500	103	P
111	Cd	1	0.421 ug/l	2.10	3.6	4500	103	P
118	Sn	1	62.550 ug/l	312.75	1.1	4500	103	P
123	Sb	1	3.998 ug/l	19.99	1.2	4500	103	P
135	Ba	1	65.000 ug/l	325.00	1.4	4500	103	P
200	Hg	1	0.418 ug/l	2.09	3.1	45	209	P
205	Tl	1	0.152 ug/l	0.76	5.7	4500	209	P
208	Pb	1	9.466 ug/l	47.33	1.9	4500	209	P
238	U	1	0.183 ug/l	0.91	1.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	36664	1.56	46990	78.0	30 - 125
45	Sc	1	1062728	3.80	1187000	89.5	30 - 125
74	Ge	1	2973091	1.42	3343000	88.9	30 - 125
103	Rh	1	4696861	0.97	5717000	82.2	30 - 125
165	Ho	1	2331978	0.65	2591000	90.0	30 - 125
175	Lu	1	1859262	1.27	2070000	89.8	30 - 125
209	Bi	1	2264454	0.78	2857000	79.3	30 - 125

**Analytes: Fail**

**ISTD: Pass**

1 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\093SMPL.D\093SMPL.D#  
 Date Acquired: Jul 28 2011 09:51 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27628-C-1-A Vial Number: 3502  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.137 ug/l	0.69	19.1	900	6	P
23	Na	1	382500.000 ug/l	1,912,500.00	2.6	450000	45	A
24	Mg	1	18550.000 ug/l	92,750.00	2.0	450000	45	A
27	Al	1	91.980 ug/l	459.90	3.0	450000	45	P
31	P	1	1447.000 ug/l	7,235.00	3.9	450000	45	P
39	K	1	106400.000 ug/l	532,000.00	1.7	450000	45	A
44	Ca	1	13950.000 ug/l	69,750.00	2.4	450000	45	P
47	Ti	1	176.000 ug/l	880.00	1.9	4500	45	P
51	V	1	42.510 ug/l	212.55	0.4	4500	74	P
52	Cr	1	81.800 ug/l	409.00	0.9	4500	74	P
55	Mn	1	122.200 ug/l	611.00	0.7	4500	74	P
56	Fe	1	1254.000 ug/l	6,270.00	0.3	450000	74	A
59	Co	1	5.212 ug/l	26.06	0.9	4500	74	P
60	Ni	1	78.970 ug/l	394.85	1.0	4500	74	P
63	Cu	1	5.736 ug/l	28.68	2.3	4500	74	P
66	Zn	1	54.620 ug/l	273.10	2.2	4500	74	P
75	As	1	16.790 ug/l	83.95	1.3	4500	74	P
78	Se	1	0.320 ug/l	1.60	17.7	4500	74	P
88	Sr	1	366.300 ug/l	1,831.50	2.0	4500	103	A
95	Mo	1	9.575 ug/l	47.88	3.3	4500	103	P
109	Ag	1	0.016 ug/l	0.08	28.4	4500	103	P
111	Cd	1	0.215 ug/l	1.07	18.0	4500	103	P
118	Sn	1	41.820 ug/l	209.10	0.6	4500	103	P
123	Sb	1	2.782 ug/l	13.91	1.2	4500	103	P
135	Ba	1	147.700 ug/l	738.50	0.7	4500	103	P
200	Hg	1	0.095 ug/l	0.47	4.8	45	209	P
205	Tl	1	0.081 ug/l	0.40	25.1	4500	209	P
208	Pb	1	6.626 ug/l	33.13	1.8	4500	209	P
238	U	1	0.117 ug/l	0.59	6.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	37322	1.69	46990	79.4	30 - 125
45	Sc	1	1078783	2.68	1187000	90.9	30 - 125
74	Ge	1	3069550	0.79	3343000	91.8	30 - 125
103	Rh	1	4881778	0.60	5717000	85.4	30 - 125
165	Ho	1	2419196	0.31	2591000	93.4	30 - 125
175	Lu	1	1940816	1.40	2070000	93.8	30 - 125
209	Bi	1	2359321	0.66	2857000	82.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\094SMPL.D\094SMPL.D#  
 Date Acquired: Jul 28 2011 09:56 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-7-A Vial Number: 3503  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.000 ug/l	0.00	34133.0	900	6	P
23	Na	1	1040.000 ug/l	10,400.00	2.2	450000	45	A
24	Mg	1	41.410 ug/l	414.10	1.0	450000	45	P
27	Al	1	46.350 ug/l	463.50	3.6	450000	45	P
31	P	1	411.700 ug/l	4,117.00	1.5	450000	45	P
39	K	1	7433.000 ug/l	74,330.00	0.7	450000	45	A
44	Ca	1	153.300 ug/l	1,533.00	2.3	450000	45	P
47	Ti	1	0.340 ug/l	3.40	12.7	4500	45	P
51	V	1	0.427 ug/l	4.27	3.2	4500	74	P
52	Cr	1	0.164 ug/l	1.64	5.2	4500	74	P
55	Mn	1	0.741 ug/l	7.41	4.1	4500	74	P
56	Fe	1	35.790 ug/l	357.90	1.0	450000	74	P
59	Co	1	0.011 ug/l	0.11	14.7	4500	74	P
60	Ni	1	0.067 ug/l	0.67	18.6	4500	74	P
63	Cu	1	0.757 ug/l	7.57	3.7	4500	74	P
66	Zn	1	5.838 ug/l	58.38	3.8	4500	74	P
75	As	1	665.400 ug/l	6,654.00	1.2	4500	74	A
78	Se	1	0.019 ug/l	0.19	181.3	4500	74	P
88	Sr	1	0.604 ug/l	6.04	0.7	4500	103	P
95	Mo	1	0.234 ug/l	2.34	2.8	4500	103	P
109	Ag	1	0.005 ug/l	0.05	34.2	4500	103	P
111	Cd	1	0.009 ug/l	0.09	37.1	4500	103	P
118	Sn	1	0.173 ug/l	1.73	26.8	4500	103	P
123	Sb	1	0.227 ug/l	2.27	14.3	4500	103	P
135	Ba	1	0.160 ug/l	1.60	18.5	4500	103	P
200	Hg	1	0.005 ug/l	0.05	7.1	45	209	P
205	Tl	1	0.033 ug/l	0.33	28.6	4500	209	P
208	Pb	1	0.609 ug/l	6.09	4.4	4500	209	P
238	U	1	0.004 ug/l	0.04	48.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46690	1.52	46990	99.4	30 - 125
45	Sc	1	1215558	0.85	1187000	102.4	30 - 125
74	Ge	1	3504792	0.78	3343000	104.8	30 - 125
103	Rh	1	5859927	0.70	5717000	102.5	30 - 125
165	Ho	1	2721146	1.17	2591000	105.0	30 - 125
175	Lu	1	2189596	0.71	2070000	105.8	30 - 125
209	Bi	1	2915674	0.23	2857000	102.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\095SMPL.D\095SMPL.D#  
 Date Acquired: Jul 28 2011 10:01 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-8-A Vial Number: 3504  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.04	114.4	900	6	P
23	Na	1	1053.000 ug/l	10,530.00	1.9	450000	45	A
24	Mg	1	37.780 ug/l	377.80	2.6	450000	45	P
27	Al	1	41.280 ug/l	412.80	1.5	450000	45	P
31	P	1	431.700 ug/l	4,317.00	2.1	450000	45	P
39	K	1	7543.000 ug/l	75,430.00	1.0	450000	45	A
44	Ca	1	102.900 ug/l	1,029.00	2.7	450000	45	P
47	Ti	1	0.247 ug/l	2.47	9.5	4500	45	P
51	V	1	0.474 ug/l	4.74	4.6	4500	74	P
52	Cr	1	0.113 ug/l	1.13	5.3	4500	74	P
55	Mn	1	0.674 ug/l	6.74	3.1	4500	74	P
56	Fe	1	32.410 ug/l	324.10	1.6	450000	74	P
59	Co	1	0.006 ug/l	0.06	5.2	4500	74	P
60	Ni	1	0.065 ug/l	0.65	28.7	4500	74	P
63	Cu	1	0.795 ug/l	7.95	5.8	4500	74	P
66	Zn	1	4.085 ug/l	40.85	3.6	4500	74	P
75	As	1	816.900 ug/l	8,169.00	0.4	4500	74	A
78	Se	1	0.005 ug/l	0.05	830.9	4500	74	P
88	Sr	1	0.545 ug/l	5.45	4.3	4500	103	P
95	Mo	1	0.246 ug/l	2.46	7.4	4500	103	P
109	Ag	1	0.001 ug/l	0.01	93.3	4500	103	P
111	Cd	1	0.003 ug/l	0.03	156.2	4500	103	P
118	Sn	1	0.121 ug/l	1.21	52.5	4500	103	P
123	Sb	1	0.291 ug/l	2.91	4.8	4500	103	P
135	Ba	1	0.218 ug/l	2.18	15.9	4500	103	P
200	Hg	1	0.003 ug/l	0.03	105.3	45	209	P
205	Tl	1	0.022 ug/l	0.22	50.1	4500	209	P
208	Pb	1	0.552 ug/l	5.52	1.8	4500	209	P
238	U	1	0.003 ug/l	0.03	6.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46386	1.79	46990	98.7	30 - 125
45	Sc	1	1221295	0.99	1187000	102.9	30 - 125
74	Ge	1	3506046	0.54	3343000	104.9	30 - 125
103	Rh	1	5915239	2.07	5717000	103.5	30 - 125
165	Ho	1	2720146	1.55	2591000	105.0	30 - 125
175	Lu	1	2177615	0.61	2070000	105.2	30 - 125
209	Bi	1	2944426	0.49	2857000	103.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\096SMPL.D\096SMPL.D#  
 Date Acquired: Jul 28 2011 10:05 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.660 ug/l	47.66	1.9	900	6	P
23	Na	1	4799.000 ug/l	4,799.00	3.6	450000	45	A
24	Mg	1	4947.000 ug/l	4,947.00	2.0	450000	45	A
27	Al	1	490.100 ug/l	490.10	3.0	450000	45	P
31	P	1	4862.000 ug/l	4,862.00	2.5	450000	45	P
39	K	1	4941.000 ug/l	4,941.00	2.0	450000	45	A
44	Ca	1	4896.000 ug/l	4,896.00	2.5	450000	45	P
47	Ti	1	48.370 ug/l	48.37	3.7	4500	45	P
51	V	1	48.310 ug/l	48.31	1.3	4500	74	P
52	Cr	1	48.930 ug/l	48.93	1.1	4500	74	P
55	Mn	1	48.930 ug/l	48.93	1.0	4500	74	P
56	Fe	1	4872.000 ug/l	4,872.00	1.3	450000	74	A
59	Co	1	48.060 ug/l	48.06	1.5	4500	74	P
60	Ni	1	48.780 ug/l	48.78	0.8	4500	74	P
63	Cu	1	49.160 ug/l	49.16	1.3	4500	74	P
66	Zn	1	48.340 ug/l	48.34	1.5	4500	74	P
75	As	1	48.950 ug/l	48.95	1.8	4500	74	P
78	Se	1	49.090 ug/l	49.09	1.3	4500	74	P
88	Sr	1	49.950 ug/l	49.95	1.2	4500	103	P
95	Mo	1	48.400 ug/l	48.40	1.7	4500	103	P
109	Ag	1	49.900 ug/l	49.90	1.7	4500	103	P
111	Cd	1	48.830 ug/l	48.83	1.5	4500	103	P
118	Sn	1	48.030 ug/l	48.03	1.4	4500	103	P
123	Sb	1	48.710 ug/l	48.71	1.6	4500	103	P
135	Ba	1	49.270 ug/l	49.27	0.6	4500	103	P
200	Hg	1	2.358 ug/l	2.36	3.6	45	209	P
205	Tl	1	48.120 ug/l	48.12	2.2	4500	209	A
208	Pb	1	48.510 ug/l	48.51	1.7	4500	209	P
238	U	1	47.400 ug/l	47.40	0.9	4500	209	A

ISTD Elements

IS	Mass	Tune	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46503		1.35	46990	99.0	30 - 125	
45	Sc	1	1272143		2.73	1187000	107.2	30 - 125	
74	Ge	1	3526871		1.69	3343000	105.5	30 - 125	
103	Rh	1	5804699		1.02	5717000	101.5	30 - 125	
165	Ho	1	2681209		1.30	2591000	103.5	30 - 125	
175	Lu	1	2155151		1.21	2070000	104.1	30 - 125	
209	Bi	1	2854168		0.72	2857000	99.9	30 - 125	

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\097SMPL.D\097SMPL.D#  
 Date Acquired: Jul 28 2011 10:10 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.00	255.8	900	6	P
23	Na	1	2.388 ug/l	2.39	105.4	450000	45	P
24	Mg	1	0.097 ug/l	0.10	31.3	450000	45	P
27	Al	1	-0.165 ug/l	-0.16	80.2	450000	45	P
31	P	1	-0.452 ug/l	-0.45	245.8	450000	45	P
39	K	1	-6.375 ug/l	-6.38	44.3	450000	45	P
44	Ca	1	-2.760 ug/l	-2.76	31.4	450000	45	P
47	Ti	1	0.032 ug/l	0.03	37.9	4500	45	P
51	V	1	0.008 ug/l	0.01	211.4	4500	74	P
52	Cr	1	0.001 ug/l	0.00	349.6	4500	74	P
55	Mn	1	-0.021 ug/l	-0.02	88.9	4500	74	P
56	Fe	1	1.337 ug/l	1.34	6.4	450000	74	P
59	Co	1	0.000 ug/l	0.00	268.1	4500	74	P
60	Ni	1	-0.023 ug/l	-0.02	17.8	4500	74	P
63	Cu	1	-0.001 ug/l	0.00	302.7	4500	74	P
66	Zn	1	-0.014 ug/l	-0.01	154.9	4500	74	P
75	As	1	0.026 ug/l	0.03	107.8	4500	74	P
78	Se	1	-0.044 ug/l	-0.04	63.3	4500	74	P
88	Sr	1	0.014 ug/l	0.01	26.9	4500	103	P
95	Mo	1	0.043 ug/l	0.04	29.3	4500	103	P
109	Ag	1	0.004 ug/l	0.00	43.0	4500	103	P
111	Cd	1	0.003 ug/l	0.00	224.1	4500	103	P
118	Sn	1	0.247 ug/l	0.25	16.7	4500	103	P
123	Sb	1	0.026 ug/l	0.03	19.2	4500	103	P
135	Ba	1	0.014 ug/l	0.01	45.4	4500	103	P
200	Hg	1	0.008 ug/l	0.01	33.5	45	209	P
205	Tl	1	0.148 ug/l	0.15	11.8	4500	209	P
208	Pb	1	-0.005 ug/l	-0.01	69.5	4500	209	P
238	U	1	0.008 ug/l	0.01	14.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46207	0.95	46990	98.3	30 - 125
45	Sc	1	1222116	2.48	1187000	103.0	30 - 125
74	Ge	1	3490402	0.61	3343000	104.4	30 - 125
103	Rh	1	5935291	1.41	5717000	103.8	30 - 125
165	Ho	1	2724287	1.11	2591000	105.1	30 - 125
175	Lu	1	2185964	1.05	2070000	105.6	30 - 125
209	Bi	1	2955536	1.52	2857000	103.4	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\098SMPL.D\098SMPL.D#  
 Date Acquired: Jul 28 2011 10:15 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-9-A Vial Number: 4101  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.000 ug/l	0.00	3797.7	900	6	P
23	Na	1	135.900 ug/l	1,359.00	2.6	450000	45	P
24	Mg	1	12.460 ug/l	124.60	3.8	450000	45	P
27	Al	1	5.165 ug/l	51.65	10.3	450000	45	P
31	P	1	19.820 ug/l	198.20	11.7	450000	45	P
39	K	1	763.800 ug/l	7,638.00	0.5	450000	45	P
44	Ca	1	36.960 ug/l	369.60	2.3	450000	45	P
47	Ti	1	0.240 ug/l	2.40	8.7	4500	45	P
51	V	1	0.049 ug/l	0.49	41.8	4500	74	P
52	Cr	1	0.096 ug/l	0.96	65.5	4500	74	P
55	Mn	1	0.102 ug/l	1.02	33.7	4500	74	P
56	Fe	1	17.910 ug/l	179.10	1.5	450000	74	P
59	Co	1	0.004 ug/l	0.04	12.9	4500	74	P
60	Ni	1	0.039 ug/l	0.39	44.3	4500	74	P
63	Cu	1	0.283 ug/l	2.83	1.2	4500	74	P
66	Zn	1	1.351 ug/l	13.51	2.7	4500	74	P
75	As	1	97.690 ug/l	976.90	1.6	4500	74	P
78	Se	1	0.025 ug/l	0.25	300.9	4500	74	P
88	Sr	1	0.149 ug/l	1.49	17.5	4500	103	P
95	Mo	1	0.034 ug/l	0.34	14.1	4500	103	P
109	Ag	1	0.000 ug/l	0.00	1704.6	4500	103	P
111	Cd	1	0.000 ug/l	0.00	202.1	4500	103	P
118	Sn	1	0.100 ug/l	1.00	37.0	4500	103	P
123	Sb	1	0.124 ug/l	1.24	6.9	4500	103	P
135	Ba	1	0.119 ug/l	1.19	14.4	4500	103	P
200	Hg	1	0.004 ug/l	0.04	50.9	45	209	P
205	Tl	1	0.046 ug/l	0.46	12.3	4500	209	P
208	Pb	1	0.030 ug/l	0.30	30.8	4500	209	P
238	U	1	0.003 ug/l	0.03	7.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45064	0.42	46990	95.9	30 - 125
45	Sc	1	1207069	1.21	1187000	101.7	30 - 125
74	Ge	1	3486163	1.09	3343000	104.3	30 - 125
103	Rh	1	5861221	0.54	5717000	102.5	30 - 125
165	Ho	1	2720472	0.72	2591000	105.0	30 - 125
175	Lu	1	2195441	0.48	2070000	106.1	30 - 125
209	Bi	1	2938063	1.20	2857000	102.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\099SMPL.D\099SMPL.D#  
 Date Acquired: Jul 28 2011 10:20 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-10-A Vial Number: 4102  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.006 ug/l	0.06	84.9	900	6	P
23	Na	1	156.700 ug/l	1,567.00	4.3	450000	45	P
24	Mg	1	13.550 ug/l	135.50	3.0	450000	45	P
27	Al	1	12.050 ug/l	120.50	11.8	450000	45	P
31	P	1	19.940 ug/l	199.40	18.5	450000	45	P
39	K	1	809.600 ug/l	8,096.00	2.9	450000	45	P
44	Ca	1	39.410 ug/l	394.10	5.5	450000	45	P
47	Ti	1	0.287 ug/l	2.87	15.5	4500	45	P
51	V	1	0.047 ug/l	0.47	25.2	4500	74	P
52	Cr	1	0.149 ug/l	1.49	31.4	4500	74	P
55	Mn	1	0.161 ug/l	1.61	24.4	4500	74	P
56	Fe	1	23.480 ug/l	234.80	1.7	450000	74	P
59	Co	1	0.010 ug/l	0.10	6.1	4500	74	P
60	Ni	1	0.049 ug/l	0.49	6.6	4500	74	P
63	Cu	1	0.164 ug/l	1.64	3.1	4500	74	P
66	Zn	1	2.605 ug/l	26.05	2.6	4500	74	P
75	As	1	191.500 ug/l	1,915.00	1.3	4500	74	P
78	Se	1	0.020 ug/l	0.20	226.1	4500	74	P
88	Sr	1	0.170 ug/l	1.70	9.9	4500	103	P
95	Mo	1	0.024 ug/l	0.24	31.9	4500	103	P
109	Ag	1	0.002 ug/l	0.02	29.7	4500	103	P
111	Cd	1	0.002 ug/l	0.02	644.2	4500	103	P
118	Sn	1	0.065 ug/l	0.65	43.7	4500	103	P
123	Sb	1	0.148 ug/l	1.48	5.7	4500	103	P
135	Ba	1	0.095 ug/l	0.95	16.7	4500	103	P
200	Hg	1	0.006 ug/l	0.06	78.3	45	209	P
205	Tl	1	0.023 ug/l	0.23	16.4	4500	209	P
208	Pb	1	0.076 ug/l	0.76	7.6	4500	209	P
238	U	1	0.001 ug/l	0.01	58.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43992	2.50	46990	93.6	30 - 125
45	Sc	1	1199333	2.55	1187000	101.0	30 - 125
74	Ge	1	3487659	1.17	3343000	104.3	30 - 125
103	Rh	1	5870521	1.66	5717000	102.7	30 - 125
165	Ho	1	2684234	0.51	2591000	103.6	30 - 125
175	Lu	1	2184867	1.91	2070000	105.5	30 - 125
209	Bi	1	2930687	0.47	2857000	102.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\100SMPL.D\100SMPL.D#  
 Date Acquired: Jul 28 2011 10:25 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-11-A Vial Number: 4103  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.005 ug/l	0.05	56.4	900	6	P
23	Na	1	198.100 ug/l	1,981.00	2.0	450000	45	P
24	Mg	1	16.980 ug/l	169.80	3.4	450000	45	P
27	Al	1	12.520 ug/l	125.20	9.8	450000	45	P
31	P	1	23.220 ug/l	232.20	5.2	450000	45	P
39	K	1	857.200 ug/l	8,572.00	1.4	450000	45	P
44	Ca	1	46.650 ug/l	466.50	0.7	450000	45	P
47	Ti	1	0.991 ug/l	9.91	8.5	4500	45	P
51	V	1	0.102 ug/l	1.02	9.1	4500	74	P
52	Cr	1	0.558 ug/l	5.58	59.9	4500	74	P
55	Mn	1	0.645 ug/l	6.45	5.2	4500	74	P
56	Fe	1	101.800 ug/l	1,018.00	2.1	450000	74	P
59	Co	1	0.007 ug/l	0.07	12.8	4500	74	P
60	Ni	1	0.106 ug/l	1.06	16.5	4500	74	P
63	Cu	1	0.380 ug/l	3.80	6.5	4500	74	P
66	Zn	1	2.509 ug/l	25.09	1.1	4500	74	P
75	As	1	306.700 ug/l	3,067.00	2.3	4500	74	P
78	Se	1	-0.049 ug/l	-0.49	116.8	4500	74	P
88	Sr	1	0.229 ug/l	2.29	4.8	4500	103	P
95	Mo	1	0.043 ug/l	0.43	18.7	4500	103	P
109	Ag	1	0.001 ug/l	0.01	50.4	4500	103	P
111	Cd	1	0.007 ug/l	0.07	132.5	4500	103	P
118	Sn	1	0.067 ug/l	0.67	30.4	4500	103	P
123	Sb	1	0.199 ug/l	1.99	3.1	4500	103	P
135	Ba	1	0.152 ug/l	1.52	22.4	4500	103	P
200	Hg	1	0.004 ug/l	0.04	53.9	45	209	P
205	Tl	1	0.011 ug/l	0.11	41.6	4500	209	P
208	Pb	1	0.096 ug/l	0.96	6.0	4500	209	P
238	U	1	0.001 ug/l	0.01	46.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44807	1.39	46990	95.4	30 - 125
45	Sc	1	1205056	1.24	1187000	101.5	30 - 125
74	Ge	1	3461311	1.86	3343000	103.5	30 - 125
103	Rh	1	5867607	1.26	5717000	102.6	30 - 125
165	Ho	1	2715806	1.20	2591000	104.8	30 - 125
175	Lu	1	2200020	0.91	2070000	106.3	30 - 125
209	Bi	1	2972646	0.93	2857000	104.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\101SMPL.D\101SMPL.D#  
 Date Acquired: Jul 28 2011 10:29 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-12-A Vial Number: 4104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.03	147.7	900	6	P
23	Na	1	235.400 ug/l	2,354.00	4.5	450000	45	P
24	Mg	1	14.190 ug/l	141.90	4.6	450000	45	P
27	Al	1	13.730 ug/l	137.30	5.7	450000	45	P
31	P	1	17.890 ug/l	178.90	15.8	450000	45	P
39	K	1	791.100 ug/l	7,911.00	3.3	450000	45	P
44	Ca	1	43.980 ug/l	439.80	3.3	450000	45	P
47	Ti	1	0.254 ug/l	2.54	12.0	4500	45	P
51	V	1	0.079 ug/l	0.79	24.8	4500	74	P
52	Cr	1	0.134 ug/l	1.34	15.7	4500	74	P
55	Mn	1	0.190 ug/l	1.90	5.5	4500	74	P
56	Fe	1	20.610 ug/l	206.10	1.2	450000	74	P
59	Co	1	0.002 ug/l	0.02	101.9	4500	74	P
60	Ni	1	0.027 ug/l	0.27	65.7	4500	74	P
63	Cu	1	0.222 ug/l	2.22	13.6	4500	74	P
66	Zn	1	3.349 ug/l	33.49	7.0	4500	74	P
75	As	1	391.100 ug/l	3,911.00	1.4	4500	74	P
78	Se	1	-0.001 ug/l	-0.01	3558.2	4500	74	P
88	Sr	1	0.162 ug/l	1.62	16.0	4500	103	P
95	Mo	1	0.020 ug/l	0.20	20.3	4500	103	P
109	Ag	1	0.002 ug/l	0.02	134.6	4500	103	P
111	Cd	1	0.006 ug/l	0.06	118.8	4500	103	P
118	Sn	1	0.028 ug/l	0.28	78.6	4500	103	P
123	Sb	1	0.143 ug/l	1.43	19.8	4500	103	P
135	Ba	1	0.128 ug/l	1.28	28.0	4500	103	P
200	Hg	1	0.004 ug/l	0.04	69.0	45	209	P
205	Tl	1	0.005 ug/l	0.05	71.0	4500	209	P
208	Pb	1	0.073 ug/l	0.73	21.7	4500	209	P
238	U	1	0.001 ug/l	0.01	146.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45179	1.60	46990	96.1	30 - 125
45	Sc	1	1210256	2.80	1187000	102.0	30 - 125
74	Ge	1	3466776	0.97	3343000	103.7	30 - 125
103	Rh	1	5960604	1.95	5717000	104.3	30 - 125
165	Ho	1	2737408	1.23	2591000	105.7	30 - 125
175	Lu	1	2215035	0.90	2070000	107.0	30 - 125
209	Bi	1	2973238	1.62	2857000	104.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\102SMPL.D\102SMPL.D#  
 Date Acquired: Jul 28 2011 10:34 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-13-A Vial Number: 4105  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.005 ug/l	0.05	226.7	900	6	P
23	Na	1	240.400 ug/l	2,404.00	6.6	450000	45	P
24	Mg	1	12.070 ug/l	120.70	7.3	450000	45	P
27	Al	1	5.480 ug/l	54.80	9.8	450000	45	P
31	P	1	21.080 ug/l	210.80	15.5	450000	45	P
39	K	1	715.100 ug/l	7,151.00	5.5	450000	45	P
44	Ca	1	30.340 ug/l	303.40	6.0	450000	45	P
47	Ti	1	0.143 ug/l	1.43	26.2	4500	45	P
51	V	1	0.056 ug/l	0.56	9.3	4500	74	P
52	Cr	1	0.076 ug/l	0.76	59.3	4500	74	P
55	Mn	1	0.105 ug/l	1.05	21.0	4500	74	P
56	Fe	1	15.210 ug/l	152.10	2.2	450000	74	P
59	Co	1	0.004 ug/l	0.04	12.3	4500	74	P
60	Ni	1	0.039 ug/l	0.39	40.7	4500	74	P
63	Cu	1	0.140 ug/l	1.40	9.2	4500	74	P
66	Zn	1	1.185 ug/l	11.85	2.7	4500	74	P
75	As	1	470.700 ug/l	4,707.00	1.8	4500	74	P
78	Se	1	0.015 ug/l	0.15	645.3	4500	74	P
88	Sr	1	0.141 ug/l	1.41	9.6	4500	103	P
95	Mo	1	0.025 ug/l	0.25	21.4	4500	103	P
109	Ag	1	0.002 ug/l	0.02	34.2	4500	103	P
111	Cd	1	0.003 ug/l	0.03	248.4	4500	103	P
118	Sn	1	0.017 ug/l	0.17	154.1	4500	103	P
123	Sb	1	0.137 ug/l	1.37	3.1	4500	103	P
135	Ba	1	0.177 ug/l	1.77	26.1	4500	103	P
200	Hg	1	0.003 ug/l	0.03	52.9	45	209	P
205	Tl	1	-0.001 ug/l	-0.01	305.7	4500	209	P
208	Pb	1	0.045 ug/l	0.45	22.4	4500	209	P
238	U	1	0.000 ug/l	0.00	1142.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44599	0.36	46990	94.9	30 - 125
45	Sc	1	1213312	4.14	1187000	102.2	30 - 125
74	Ge	1	3438111	1.20	3343000	102.8	30 - 125
103	Rh	1	5874351	0.47	5717000	102.8	30 - 125
165	Ho	1	2688476	1.26	2591000	103.8	30 - 125
175	Lu	1	2158620	2.28	2070000	104.3	30 - 125
209	Bi	1	2936585	0.84	2857000	102.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\103SMPL.D\103SMPL.D#  
 Date Acquired: Jul 28 2011 10:39 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-14-A Vial Number: 4106  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.000 ug/l	0.00	3208.8	900	6	P
23	Na	1	280.000 ug/l	2,800.00	3.1	450000	45	P
24	Mg	1	13.880 ug/l	138.80	2.7	450000	45	P
27	Al	1	9.135 ug/l	91.35	2.6	450000	45	P
31	P	1	19.500 ug/l	195.00	10.4	450000	45	P
39	K	1	742.100 ug/l	7,421.00	3.4	450000	45	P
44	Ca	1	34.080 ug/l	340.80	3.1	450000	45	P
47	Ti	1	0.305 ug/l	3.05	43.9	4500	45	P
51	V	1	0.058 ug/l	0.58	4.2	4500	74	P
52	Cr	1	0.199 ug/l	1.99	34.3	4500	74	P
55	Mn	1	0.107 ug/l	1.07	22.7	4500	74	P
56	Fe	1	13.440 ug/l	134.40	2.3	450000	74	P
59	Co	1	0.002 ug/l	0.02	47.9	4500	74	P
60	Ni	1	0.037 ug/l	0.37	43.9	4500	74	P
63	Cu	1	0.169 ug/l	1.69	3.5	4500	74	P
66	Zn	1	2.370 ug/l	23.70	1.6	4500	74	P
75	As	1	586.700 ug/l	5,867.00	1.8	4500	74	P
78	Se	1	-0.032 ug/l	-0.32	152.3	4500	74	P
88	Sr	1	0.167 ug/l	1.67	8.5	4500	103	P
95	Mo	1	0.030 ug/l	0.30	18.1	4500	103	P
109	Ag	1	0.002 ug/l	0.02	30.6	4500	103	P
111	Cd	1	-0.004 ug/l	-0.04	169.6	4500	103	P
118	Sn	1	0.018 ug/l	0.18	144.4	4500	103	P
123	Sb	1	0.147 ug/l	1.47	6.6	4500	103	P
135	Ba	1	0.099 ug/l	0.99	10.4	4500	103	P
200	Hg	1	0.003 ug/l	0.03	66.3	45	209	P
205	Tl	1	-0.002 ug/l	-0.02	260.6	4500	209	P
208	Pb	1	0.039 ug/l	0.39	16.5	4500	209	P
238	U	1	0.000 ug/l	0.00	24.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44376	0.71	46990	94.4	30 - 125
45	Sc	1	1207074	2.51	1187000	101.7	30 - 125
74	Ge	1	3448135	1.08	3343000	103.1	30 - 125
103	Rh	1	5819932	1.49	5717000	101.8	30 - 125
165	Ho	1	2704563	0.54	2591000	104.4	30 - 125
175	Lu	1	2190116	0.78	2070000	105.8	30 - 125
209	Bi	1	2937871	1.66	2857000	102.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\104SMPL.D\104SMPL.D#  
 Date Acquired: Jul 28 2011 10:44 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-15-A Vial Number: 4107  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.03	145.7	900	6	P
23	Na	1	330.200 ug/l	3,302.00	5.1	450000	45	P
24	Mg	1	13.680 ug/l	136.80	4.7	450000	45	P
27	Al	1	7.763 ug/l	77.63	16.1	450000	45	P
31	P	1	18.770 ug/l	187.70	18.8	450000	45	P
39	K	1	739.300 ug/l	7,393.00	3.2	450000	45	P
44	Ca	1	43.030 ug/l	430.30	4.4	450000	45	P
47	Ti	1	0.255 ug/l	2.55	17.1	4500	45	P
51	V	1	0.091 ug/l	0.91	16.0	4500	74	P
52	Cr	1	0.599 ug/l	5.99	115.6	4500	74	P
55	Mn	1	0.172 ug/l	1.72	15.9	4500	74	P
56	Fe	1	27.390 ug/l	273.90	1.6	450000	74	P
59	Co	1	0.002 ug/l	0.02	112.3	4500	74	P
60	Ni	1	0.042 ug/l	0.42	22.4	4500	74	P
63	Cu	1	0.176 ug/l	1.76	9.6	4500	74	P
66	Zn	1	3.374 ug/l	33.74	0.7	4500	74	P
75	As	1	729.800 ug/l	7,298.00	1.1	4500	74	A
78	Se	1	-0.027 ug/l	-0.27	123.8	4500	74	P
88	Sr	1	0.165 ug/l	1.65	4.5	4500	103	P
95	Mo	1	0.032 ug/l	0.32	32.7	4500	103	P
109	Ag	1	0.000 ug/l	0.00	332.4	4500	103	P
111	Cd	1	0.011 ug/l	0.11	49.7	4500	103	P
118	Sn	1	0.011 ug/l	0.11	185.7	4500	103	P
123	Sb	1	0.203 ug/l	2.03	4.8	4500	103	P
135	Ba	1	0.206 ug/l	2.06	13.8	4500	103	P
200	Hg	1	0.007 ug/l	0.07	62.4	45	209	P
205	Tl	1	-0.002 ug/l	-0.02	443.7	4500	209	P
208	Pb	1	0.187 ug/l	1.87	5.1	4500	209	P
238	U	1	0.000 ug/l	0.00	2708.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44392	1.37	46990	94.5	30 - 125
45	Sc	1	1206536	3.28	1187000	101.6	30 - 125
74	Ge	1	3446176	1.52	3343000	103.1	30 - 125
103	Rh	1	5829044	0.17	5717000	102.0	30 - 125
165	Ho	1	2735242	1.47	2591000	105.6	30 - 125
175	Lu	1	2197588	1.91	2070000	106.2	30 - 125
209	Bi	1	2954199	0.60	2857000	103.4	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\105SMPL.D\105SMPL.D#  
 Date Acquired: Jul 28 2011 10:49 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-16-A Vial Number: 4108  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.000 ug/l	0.00	4486.1	900	6	P
23	Na	1	342.000 ug/l	3,420.00	1.5	450000	45	P
24	Mg	1	12.090 ug/l	120.90	2.6	450000	45	P
27	Al	1	9.165 ug/l	91.65	4.8	450000	45	P
31	P	1	21.160 ug/l	211.60	17.0	450000	45	P
39	K	1	698.300 ug/l	6,983.00	1.6	450000	45	P
44	Ca	1	42.960 ug/l	429.60	3.9	450000	45	P
47	Ti	1	0.171 ug/l	1.71	10.7	4500	45	P
51	V	1	0.091 ug/l	0.91	14.3	4500	74	P
52	Cr	1	0.090 ug/l	0.90	78.6	4500	74	P
55	Mn	1	0.044 ug/l	0.44	9.1	4500	74	P
56	Fe	1	11.550 ug/l	115.50	1.0	450000	74	P
59	Co	1	0.002 ug/l	0.02	99.1	4500	74	P
60	Ni	1	0.027 ug/l	0.27	61.3	4500	74	P
63	Cu	1	0.069 ug/l	0.69	1.4	4500	74	P
66	Zn	1	1.738 ug/l	17.38	1.7	4500	74	P
75	As	1	804.500 ug/l	8,045.00	1.9	4500	74	A
78	Se	1	-0.010 ug/l	-0.10	482.6	4500	74	P
88	Sr	1	0.171 ug/l	1.71	3.7	4500	103	P
95	Mo	1	0.024 ug/l	0.24	42.0	4500	103	P
109	Ag	1	0.000 ug/l	0.00	766.2	4500	103	P
111	Cd	1	0.004 ug/l	0.04	174.7	4500	103	P
118	Sn	1	0.006 ug/l	0.06	301.6	4500	103	P
123	Sb	1	0.197 ug/l	1.97	2.6	4500	103	P
135	Ba	1	0.114 ug/l	1.14	7.0	4500	103	P
200	Hg	1	0.002 ug/l	0.02	38.2	45	209	P
205	Tl	1	-0.006 ug/l	-0.06	108.3	4500	209	P
208	Pb	1	0.076 ug/l	0.76	8.2	4500	209	P
238	U	1	0.000 ug/l	0.00	247.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45463	0.15	46990	96.8	30 - 125
45	Sc	1	1212344	1.67	1187000	102.1	30 - 125
74	Ge	1	3451977	0.99	3343000	103.3	30 - 125
103	Rh	1	5948681	0.19	5717000	104.1	30 - 125
165	Ho	1	2734536	0.17	2591000	105.5	30 - 125
175	Lu	1	2228934	0.15	2070000	107.7	30 - 125
209	Bi	1	2966596	0.36	2857000	103.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\106SMPL.D\106SMPL.D#  
 Date Acquired: Jul 28 2011 10:54 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-17-A Vial Number: 4109  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.001 ug/l	0.01	169.0	900	6	P
23	Na	1	108.000 ug/l	1,080.00	2.9	450000	45	P
24	Mg	1	8.727 ug/l	87.27	0.7	450000	45	P
27	Al	1	4.389 ug/l	43.89	5.3	450000	45	P
31	P	1	20.990 ug/l	209.90	12.0	450000	45	P
39	K	1	370.000 ug/l	3,700.00	1.7	450000	45	P
44	Ca	1	27.630 ug/l	276.30	4.1	450000	45	P
47	Ti	1	0.062 ug/l	0.62	79.9	4500	45	P
51	V	1	0.075 ug/l	0.75	50.1	4500	74	P
52	Cr	1	0.026 ug/l	0.26	5.6	4500	74	P
55	Mn	1	-0.095 ug/l	-0.95	7.5	4500	74	P
56	Fe	1	1.873 ug/l	18.73	2.6	450000	74	P
59	Co	1	0.001 ug/l	0.01	100.0	4500	74	P
60	Ni	1	0.010 ug/l	0.10	140.9	4500	74	P
63	Cu	1	0.088 ug/l	0.88	6.9	4500	74	P
66	Zn	1	1.461 ug/l	14.61	3.5	4500	74	P
75	As	1	101.900 ug/l	1,019.00	0.5	4500	74	P
78	Se	1	-0.065 ug/l	-0.65	88.4	4500	74	P
88	Sr	1	0.112 ug/l	1.12	10.7	4500	103	P
95	Mo	1	0.043 ug/l	0.43	17.7	4500	103	P
109	Ag	1	0.000 ug/l	0.00	189.3	4500	103	P
111	Cd	1	0.003 ug/l	0.03	52.5	4500	103	P
118	Sn	1	-0.003 ug/l	-0.03	355.6	4500	103	P
123	Sb	1	0.124 ug/l	1.24	9.5	4500	103	P
135	Ba	1	0.126 ug/l	1.26	20.0	4500	103	P
200	Hg	1	0.002 ug/l	0.02	26.9	45	209	P
205	Tl	1	-0.010 ug/l	-0.10	81.3	4500	209	P
208	Pb	1	0.024 ug/l	0.24	24.3	4500	209	P
238	U	1	0.000 ug/l	0.00	534.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46158	1.27	46990	98.2	30 - 125
45	Sc	1	1230236	0.98	1187000	103.6	30 - 125
74	Ge	1	3476004	0.30	3343000	104.0	30 - 125
103	Rh	1	5879621	0.50	5717000	102.8	30 - 125
165	Ho	1	2707717	1.16	2591000	104.5	30 - 125
175	Lu	1	2194989	0.58	2070000	106.0	30 - 125
209	Bi	1	2972905	1.50	2857000	104.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\107SMPL.D\107SMPL.D#  
 Date Acquired: Jul 28 2011 10:59 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27637-A-18-A Vial Number: 4110  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.03	1.6	900	6	P
23	Na	1	154.100 ug/l	1,541.00	4.4	450000	45	P
24	Mg	1	10.770 ug/l	107.70	4.4	450000	45	P
27	Al	1	4.458 ug/l	44.58	5.4	450000	45	P
31	P	1	20.670 ug/l	206.70	28.3	450000	45	P
39	K	1	403.400 ug/l	4,034.00	3.4	450000	45	P
44	Ca	1	32.000 ug/l	320.00	5.4	450000	45	P
47	Ti	1	0.069 ug/l	0.69	19.9	4500	45	P
51	V	1	0.085 ug/l	0.85	36.8	4500	74	P
52	Cr	1	0.078 ug/l	0.78	6.7	4500	74	P
55	Mn	1	-0.071 ug/l	-0.71	34.4	4500	74	P
56	Fe	1	2.424 ug/l	24.24	0.8	450000	74	P
59	Co	1	0.000 ug/l	0.00	449.3	4500	74	P
60	Ni	1	0.025 ug/l	0.25	13.0	4500	74	P
63	Cu	1	0.084 ug/l	0.84	10.3	4500	74	P
66	Zn	1	1.915 ug/l	19.15	3.0	4500	74	P
75	As	1	208.800 ug/l	2,088.00	2.2	4500	74	P
78	Se	1	-0.005 ug/l	-0.05	714.1	4500	74	P
88	Sr	1	0.145 ug/l	1.45	17.2	4500	103	P
95	Mo	1	0.032 ug/l	0.32	9.6	4500	103	P
109	Ag	1	0.002 ug/l	0.02	50.8	4500	103	P
111	Cd	1	0.000 ug/l	0.00	486.3	4500	103	P
118	Sn	1	-0.005 ug/l	-0.05	520.9	4500	103	P
123	Sb	1	0.142 ug/l	1.42	9.2	4500	103	P
135	Ba	1	0.127 ug/l	1.27	29.3	4500	103	P
200	Hg	1	0.002 ug/l	0.02	115.2	45	209	P
205	Tl	1	-0.012 ug/l	-0.12	28.4	4500	209	P
208	Pb	1	0.140 ug/l	1.40	6.5	4500	209	P
238	U	1	0.000 ug/l	0.00	92.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45509	1.06	46990	96.8	30 - 125
45	Sc	1	1219776	2.57	1187000	102.8	30 - 125
74	Ge	1	3477500	2.12	3343000	104.0	30 - 125
103	Rh	1	5899985	1.35	5717000	103.2	30 - 125
165	Ho	1	2755759	1.54	2591000	106.4	30 - 125
175	Lu	1	2210437	1.70	2070000	106.8	30 - 125
209	Bi	1	2947126	0.98	2857000	103.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\108SMPL.D\108SMPL.D#  
 Date Acquired: Jul 28 2011 11:03 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	46.540 ug/l	46.54	1.3	900	6	P
23	Na	1	4895.000 ug/l	4,895.00	3.2	450000	45	A
24	Mg	1	5054.000 ug/l	5,054.00	2.8	450000	45	A
27	Al	1	497.000 ug/l	497.00	1.8	450000	45	P
31	P	1	4932.000 ug/l	4,932.00	2.4	450000	45	P
39	K	1	5034.000 ug/l	5,034.00	2.0	450000	45	A
44	Ca	1	4928.000 ug/l	4,928.00	2.0	450000	45	P
47	Ti	1	49.160 ug/l	49.16	2.3	4500	45	P
51	V	1	48.260 ug/l	48.26	0.5	4500	74	P
52	Cr	1	48.840 ug/l	48.84	0.9	4500	74	P
55	Mn	1	48.650 ug/l	48.65	0.4	4500	74	P
56	Fe	1	4828.000 ug/l	4,828.00	1.0	450000	74	A
59	Co	1	47.690 ug/l	47.69	1.3	4500	74	P
60	Ni	1	48.570 ug/l	48.57	1.7	4500	74	P
63	Cu	1	48.690 ug/l	48.69	2.0	4500	74	P
66	Zn	1	47.650 ug/l	47.65	2.2	4500	74	P
75	As	1	48.190 ug/l	48.19	1.0	4500	74	P
78	Se	1	48.580 ug/l	48.58	1.2	4500	74	P
88	Sr	1	50.270 ug/l	50.27	0.7	4500	103	P
95	Mo	1	48.340 ug/l	48.34	0.3	4500	103	P
109	Ag	1	49.830 ug/l	49.83	0.7	4500	103	P
111	Cd	1	48.940 ug/l	48.94	0.6	4500	103	P
118	Sn	1	47.840 ug/l	47.84	1.0	4500	103	P
123	Sb	1	48.930 ug/l	48.93	0.1	4500	103	P
135	Ba	1	49.260 ug/l	49.26	1.3	4500	103	P
200	Hg	1	2.421 ug/l	2.42	2.2	45	209	P
205	Tl	1	47.590 ug/l	47.59	3.5	4500	209	A
208	Pb	1	49.170 ug/l	49.17	1.5	4500	209	P
238	U	1	48.850 ug/l	48.85	2.3	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47513	0.86	46990	101.1	30 - 125
45	Sc	1	1256882	2.46	1187000	105.9	30 - 125
74	Ge	1	3536295	1.00	3343000	105.8	30 - 125
103	Rh	1	5751079	1.07	5717000	100.6	30 - 125
165	Ho	1	2717095	1.00	2591000	104.9	30 - 125
175	Lu	1	2179618	1.04	2070000	105.3	30 - 125
209	Bi	1	2828456	1.08	2857000	99.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\109SMPL.D\109SMPL.D#  
 Date Acquired: Jul 28 2011 11:08 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.00	151.6	900	6	P
23	Na	1	-0.879 ug/l	-0.88	318.0	450000	45	P
24	Mg	1	0.016 ug/l	0.02	333.2	450000	45	P
27	Al	1	-0.184 ug/l	-0.18	109.7	450000	45	P
31	P	1	-0.962 ug/l	-0.96	256.3	450000	45	P
39	K	1	-6.126 ug/l	-6.13	28.1	450000	45	P
44	Ca	1	-2.343 ug/l	-2.34	30.5	450000	45	P
47	Ti	1	0.020 ug/l	0.02	94.5	4500	45	P
51	V	1	0.030 ug/l	0.03	116.0	4500	74	P
52	Cr	1	0.003 ug/l	0.00	142.2	4500	74	P
55	Mn	1	-0.012 ug/l	-0.01	113.3	4500	74	P
56	Fe	1	1.334 ug/l	1.33	2.1	450000	74	P
59	Co	1	0.001 ug/l	0.00	118.3	4500	74	P
60	Ni	1	-0.023 ug/l	-0.02	45.9	4500	74	P
63	Cu	1	-0.007 ug/l	-0.01	75.0	4500	74	P
66	Zn	1	0.005 ug/l	0.01	62.5	4500	74	P
75	As	1	0.029 ug/l	0.03	40.7	4500	74	P
78	Se	1	0.026 ug/l	0.03	129.8	4500	74	P
88	Sr	1	0.002 ug/l	0.00	237.9	4500	103	P
95	Mo	1	0.025 ug/l	0.03	63.0	4500	103	P
109	Ag	1	-0.001 ug/l	0.00	114.0	4500	103	P
111	Cd	1	0.002 ug/l	0.00	207.4	4500	103	P
118	Sn	1	0.184 ug/l	0.18	10.9	4500	103	P
123	Sb	1	0.019 ug/l	0.02	22.1	4500	103	P
135	Ba	1	0.012 ug/l	0.01	81.1	4500	103	P
200	Hg	1	0.009 ug/l	0.01	25.0	45	209	P
205	Tl	1	0.152 ug/l	0.15	10.6	4500	209	P
208	Pb	1	0.001 ug/l	0.00	1437.7	4500	209	P
238	U	1	0.012 ug/l	0.01	7.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45533	1.34	46990	96.9	30 - 125
45	Sc	1	1228084	2.44	1187000	103.5	30 - 125
74	Ge	1	3479860	0.66	3343000	104.1	30 - 125
103	Rh	1	6044281	1.33	5717000	105.7	30 - 125
165	Ho	1	2735621	0.58	2591000	105.6	30 - 125
175	Lu	1	2218665	1.04	2070000	107.2	30 - 125
209	Bi	1	2937019	1.75	2857000	102.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\110SMPL.D\110SMPL.D#  
 Date Acquired: Jul 28 2011 11:13 pm Acq. Method: 00He\_ALL.M  
 Sample Name: MB 580-91441/14-A Vial Number: 4201  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.04	114.9	900	6	P
23	Na	1	-2.894 ug/l	-28.94	100.4	450000	45	P
24	Mg	1	0.406 ug/l	4.06	17.4	450000	45	P
27	Al	1	2.491 ug/l	24.91	7.4	450000	45	P
31	P	1	1.502 ug/l	15.02	112.2	450000	45	P
39	K	1	-9.020 ug/l	-90.20	33.4	450000	45	P
44	Ca	1	-3.179 ug/l	-31.79	20.2	450000	45	P
47	Ti	1	0.091 ug/l	0.91	18.8	4500	45	P
51	V	1	0.030 ug/l	0.30	23.5	4500	74	P
52	Cr	1	0.045 ug/l	0.45	17.7	4500	74	P
55	Mn	1	-0.171 ug/l	-1.71	3.4	4500	74	P
56	Fe	1	0.775 ug/l	7.75	5.4	450000	74	P
59	Co	1	0.001 ug/l	0.01	196.1	4500	74	P
60	Ni	1	-0.017 ug/l	-0.17	90.2	4500	74	P
63	Cu	1	0.081 ug/l	0.81	27.3	4500	74	P
66	Zn	1	-0.066 ug/l	-0.66	54.7	4500	74	P
75	As	1	0.014 ug/l	0.14	64.7	4500	74	P
78	Se	1	0.008 ug/l	0.08	625.9	4500	74	P
88	Sr	1	0.022 ug/l	0.22	19.7	4500	103	P
95	Mo	1	0.018 ug/l	0.18	44.9	4500	103	P
109	Ag	1	0.001 ug/l	0.01	87.4	4500	103	P
111	Cd	1	0.001 ug/l	0.01	309.5	4500	103	P
118	Sn	1	0.072 ug/l	0.72	19.7	4500	103	P
123	Sb	1	0.016 ug/l	0.16	16.4	4500	103	P
135	Ba	1	0.014 ug/l	0.14	119.3	4500	103	P
200	Hg	1	0.006 ug/l	0.06	44.9	45	209	P
205	Tl	1	0.040 ug/l	0.40	38.1	4500	209	P
208	Pb	1	-0.013 ug/l	-0.13	52.4	4500	209	P
238	U	1	0.003 ug/l	0.03	49.2	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	46965		1.95	46990	99.9	30 - 125	
45	Sc	1	1247936		2.17	1187000	105.1	30 - 125	
74	Ge	1	3519303		0.67	3343000	105.3	30 - 125	
103	Rh	1	5937356		0.15	5717000	103.9	30 - 125	
165	Ho	1	2753644		1.47	2591000	106.3	30 - 125	
175	Lu	1	2200730		1.07	2070000	106.3	30 - 125	
209	Bi	1	2996287		1.49	2857000	104.9	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\111SMPL.D\111SMPL.D#  
 Date Acquired: Jul 28 2011 11:18 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCS 580-91441/15-A Vial Number: 4202  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.749 ug/l	87.45	3.3	900	6	P
23	Na	1	402.300 ug/l	20,115.00	2.2	450000	45	P
24	Mg	1	407.800 ug/l	20,390.00	2.5	450000	45	P
27	Al	1	79.290 ug/l	3,964.50	2.4	450000	45	P
31	P	1	370.400 ug/l	18,520.00	0.6	450000	45	P
39	K	1	403.300 ug/l	20,165.00	1.4	450000	45	P
44	Ca	1	400.300 ug/l	20,015.00	1.2	450000	45	P
47	Ti	1	94.920 ug/l	4,746.00	1.2	4500	45	P
51	V	1	18.930 ug/l	946.50	2.7	4500	74	P
52	Cr	1	7.639 ug/l	381.95	0.0	4500	74	P
55	Mn	1	19.230 ug/l	961.50	0.1	4500	74	P
56	Fe	1	435.900 ug/l	21,795.00	1.4	450000	74	A
59	Co	1	19.320 ug/l	966.00	0.5	4500	74	P
60	Ni	1	19.510 ug/l	975.50	1.9	4500	74	P
63	Cu	1	9.940 ug/l	497.00	1.1	4500	74	P
66	Zn	1	20.670 ug/l	1,033.50	0.8	4500	74	P
75	As	1	77.440 ug/l	3,872.00	0.4	4500	74	P
78	Se	1	78.150 ug/l	3,907.50	0.5	4500	74	P
88	Sr	1	0.006 ug/l	0.32	57.1	4500	103	P
95	Mo	1	94.410 ug/l	4,720.50	0.7	4500	103	P
109	Ag	1	12.260 ug/l	613.00	1.9	4500	103	P
111	Cd	1	1.964 ug/l	98.20	4.0	4500	103	P
118	Sn	1	97.910 ug/l	4,895.50	1.7	4500	103	P
123	Sb	1	56.140 ug/l	2,807.00	1.1	4500	103	P
135	Ba	1	77.620 ug/l	3,881.00	1.4	4500	103	P
200	Hg	1	0.920 ug/l	45.98	3.4	45	209	P
205	Tl	1	67.100 ug/l	3,355.00	7.5	4500	209	A
208	Pb	1	19.430 ug/l	971.50	2.0	4500	209	P
238	U	1	0.001 ug/l	0.03	132.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44759	1.09	46990	95.3	30 - 125
45	Sc	1	1202715	1.54	1187000	101.3	30 - 125
74	Ge	1	3469551	0.61	3343000	103.8	30 - 125
103	Rh	1	5873738	1.16	5717000	102.7	30 - 125
165	Ho	1	2715194	1.38	2591000	104.8	30 - 125
175	Lu	1	2159778	1.70	2070000	104.3	30 - 125
209	Bi	1	2974787	1.18	2857000	104.1	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\112SMPL.D\112SMPL.D#  
 Date Acquired: Jul 28 2011 11:23 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCSD 580-91441/16-A Vial Number: 4203  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.991 ug/l	99.55	2.1	900	6	P
23	Na	1	394.300 ug/l	19,715.00	2.3	450000	45	P
24	Mg	1	392.800 ug/l	19,640.00	2.1	450000	45	P
27	Al	1	75.710 ug/l	3,785.50	1.8	450000	45	P
31	P	1	364.000 ug/l	18,200.00	3.1	450000	45	P
39	K	1	389.900 ug/l	19,495.00	1.9	450000	45	P
44	Ca	1	393.300 ug/l	19,665.00	2.2	450000	45	P
47	Ti	1	92.700 ug/l	4,635.00	1.3	4500	45	P
51	V	1	18.950 ug/l	947.50	1.9	4500	74	P
52	Cr	1	7.743 ug/l	387.15	0.2	4500	74	P
55	Mn	1	19.090 ug/l	954.50	2.8	4500	74	P
56	Fe	1	433.400 ug/l	21,670.00	2.4	450000	74	A
59	Co	1	19.290 ug/l	964.50	1.0	4500	74	P
60	Ni	1	19.420 ug/l	971.00	1.4	4500	74	P
63	Cu	1	9.976 ug/l	498.80	0.9	4500	74	P
66	Zn	1	19.530 ug/l	976.50	0.9	4500	74	P
75	As	1	77.070 ug/l	3,853.50	0.4	4500	74	P
78	Se	1	77.540 ug/l	3,877.00	1.8	4500	74	P
88	Sr	1	0.010 ug/l	0.52	59.1	4500	103	P
95	Mo	1	93.760 ug/l	4,688.00	0.8	4500	103	P
109	Ag	1	12.080 ug/l	604.00	1.2	4500	103	P
111	Cd	1	1.970 ug/l	98.50	4.9	4500	103	P
118	Sn	1	97.390 ug/l	4,869.50	0.9	4500	103	P
123	Sb	1	56.080 ug/l	2,804.00	1.3	4500	103	P
135	Ba	1	77.690 ug/l	3,884.50	1.5	4500	103	P
200	Hg	1	0.919 ug/l	45.95	1.0	45	209	P
205	Tl	1	67.500 ug/l	3,375.00	6.0	4500	209	A
208	Pb	1	19.390 ug/l	969.50	1.5	4500	209	P
238	U	1	0.000 ug/l	0.02	144.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43217	1.12	46990	92.0	30 - 125
45	Sc	1	1223501	1.73	1187000	103.1	30 - 125
74	Ge	1	3452894	1.26	3343000	103.3	30 - 125
103	Rh	1	5868580	0.79	5717000	102.7	30 - 125
165	Ho	1	2691157	0.45	2591000	103.9	30 - 125
175	Lu	1	2214482	1.14	2070000	107.0	30 - 125
209	Bi	1	2970053	0.93	2857000	104.0	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\113SMPL.D\113SMPL.D#  
 Date Acquired: Jul 28 2011 11:28 pm Acq. Method: 00He\_ALL.M  
 Sample Name: LCSSRM 580-91441/17-A Vial Number: 4204  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 20.00 Final Dil Factor: 20.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	43.540 ug/l	870.80	0.8	900	6	P
23	Na	1	373.400 ug/l	7,468.00	4.3	450000	45	P
24	Mg	1	1459.000 ug/l	29,180.00	3.4	450000	45	A
27	Al	1	3949.000 ug/l	78,980.00	1.8	450000	45	A
31	P	1	242.200 ug/l	4,844.00	1.0	450000	45	P
39	K	1	1312.000 ug/l	26,240.00	1.8	450000	45	A
44	Ca	1	3370.000 ug/l	67,400.00	2.4	450000	45	P
47	Ti	1	109.500 ug/l	2,190.00	2.3	4500	45	P
51	V	1	55.020 ug/l	1,100.40	1.0	4500	74	P
52	Cr	1	46.280 ug/l	925.60	1.0	4500	74	P
55	Mn	1	231.000 ug/l	4,620.00	3.5	4500	74	A
56	Fe	1	6954.000 ug/l	139,080.00	1.1	450000	74	A
59	Co	1	69.530 ug/l	1,390.60	1.1	4500	74	P
60	Ni	1	56.150 ug/l	1,123.00	0.4	4500	74	P
63	Cu	1	36.810 ug/l	736.20	1.2	4500	74	P
66	Zn	1	151.500 ug/l	3,030.00	0.6	4500	74	P
75	As	1	54.680 ug/l	1,093.60	0.1	4500	74	P
78	Se	1	108.100 ug/l	2,162.00	1.6	4500	74	P
88	Sr	1	59.040 ug/l	1,180.80	1.6	4500	103	P
95	Mo	1	46.430 ug/l	928.60	0.5	4500	103	P
109	Ag	1	26.820 ug/l	536.40	0.2	4500	103	P
111	Cd	1	56.570 ug/l	1,131.40	0.7	4500	103	P
118	Sn	1	70.320 ug/l	1,406.40	1.0	4500	103	P
123	Sb	1	110.400 ug/l	2,208.00	1.6	4500	103	P
135	Ba	1	168.100 ug/l	3,362.00	1.8	4500	103	P
200	Hg	1	8.093 ug/l	161.86	1.7	45	209	P
205	Tl	1	81.020 ug/l	1,620.40	6.4	4500	209	A
208	Pb	1	82.270 ug/l	1,645.40	1.7	4500	209	A
238	U	1	0.530 ug/l	10.60	2.3	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44981	0.27	46990	95.7	30 - 125	
45	Sc	1	1230726	3.07	1187000	103.7	30 - 125	
74	Ge	1	3502604	1.29	3343000	104.8	30 - 125	
103	Rh	1	5757701	1.09	5717000	100.7	30 - 125	
165	Ho	1	2736961	1.08	2591000	105.6	30 - 125	
175	Lu	1	2192440	1.16	2070000	105.9	30 - 125	
209	Bi	1	2914708	1.30	2857000	102.0	30 - 125	

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\114SMPL.D\114SMPL.D#  
 Date Acquired: Jul 28 2011 11:32 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.900 ug/l	47.90	1.0	900	6	P
23	Na	1	4986.000 ug/l	4,986.00	2.1	450000	45	A
24	Mg	1	4965.000 ug/l	4,965.00	2.3	450000	45	A
27	Al	1	499.800 ug/l	499.80	3.5	450000	45	P
31	P	1	4975.000 ug/l	4,975.00	3.1	450000	45	P
39	K	1	4987.000 ug/l	4,987.00	3.4	450000	45	A
44	Ca	1	4927.000 ug/l	4,927.00	2.8	450000	45	P
47	Ti	1	49.250 ug/l	49.25	3.6	4500	45	P
51	V	1	48.590 ug/l	48.59	2.5	4500	74	P
52	Cr	1	48.780 ug/l	48.78	2.0	4500	74	P
55	Mn	1	48.990 ug/l	48.99	1.8	4500	74	P
56	Fe	1	5001.000 ug/l	5,001.00	1.1	450000	74	A
59	Co	1	48.380 ug/l	48.38	1.7	4500	74	P
60	Ni	1	48.950 ug/l	48.95	1.4	4500	74	P
63	Cu	1	49.290 ug/l	49.29	1.3	4500	74	P
66	Zn	1	48.170 ug/l	48.17	1.0	4500	74	P
75	As	1	48.830 ug/l	48.83	1.7	4500	74	P
78	Se	1	49.400 ug/l	49.40	1.7	4500	74	P
88	Sr	1	50.200 ug/l	50.20	1.5	4500	103	P
95	Mo	1	48.380 ug/l	48.38	1.4	4500	103	P
109	Ag	1	49.900 ug/l	49.90	1.8	4500	103	P
111	Cd	1	48.730 ug/l	48.73	1.7	4500	103	P
118	Sn	1	47.970 ug/l	47.97	1.5	4500	103	P
123	Sb	1	48.390 ug/l	48.39	1.7	4500	103	P
135	Ba	1	49.060 ug/l	49.06	2.3	4500	103	P
200	Hg	1	2.456 ug/l	2.46	0.8	45	209	P
205	Tl	1	48.560 ug/l	48.56	4.8	4500	209	A
208	Pb	1	48.740 ug/l	48.74	2.0	4500	209	P
238	U	1	48.400 ug/l	48.40	2.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47476	0.72	46990	101.0	30 - 125
45	Sc	1	1272471	2.90	1187000	107.2	30 - 125
74	Ge	1	3536874	1.34	3343000	105.8	30 - 125
103	Rh	1	5830566	1.76	5717000	102.0	30 - 125
165	Ho	1	2724452	1.74	2591000	105.2	30 - 125
175	Lu	1	2199133	1.26	2070000	106.2	30 - 125
209	Bi	1	2851824	1.46	2857000	99.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\115SMPL.D\115SMPL.D#  
 Date Acquired: Jul 28 2011 11:37 pm Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.004 ug/l	0.00	59.2	900	6	P
23	Na	1	-1.221 ug/l	-1.22	106.7	450000	45	P
24	Mg	1	0.065 ug/l	0.06	45.1	450000	45	P
27	Al	1	0.045 ug/l	0.04	324.0	450000	45	P
31	P	1	-2.144 ug/l	-2.14	45.8	450000	45	P
39	K	1	-4.842 ug/l	-4.84	42.4	450000	45	P
44	Ca	1	-2.506 ug/l	-2.51	25.6	450000	45	P
47	Ti	1	0.040 ug/l	0.04	75.6	4500	45	P
51	V	1	0.026 ug/l	0.03	89.0	4500	74	P
52	Cr	1	-0.001 ug/l	0.00	1789.4	4500	74	P
55	Mn	1	-0.022 ug/l	-0.02	14.0	4500	74	P
56	Fe	1	1.634 ug/l	1.63	9.6	450000	74	P
59	Co	1	0.003 ug/l	0.00	63.3	4500	74	P
60	Ni	1	-0.022 ug/l	-0.02	60.3	4500	74	P
63	Cu	1	-0.009 ug/l	-0.01	6.9	4500	74	P
66	Zn	1	0.013 ug/l	0.01	368.5	4500	74	P
75	As	1	-0.004 ug/l	0.00	237.4	4500	74	P
78	Se	1	0.010 ug/l	0.01	173.8	4500	74	P
88	Sr	1	0.013 ug/l	0.01	20.8	4500	103	P
95	Mo	1	0.048 ug/l	0.05	28.6	4500	103	P
109	Ag	1	0.001 ug/l	0.00	81.1	4500	103	P
111	Cd	1	0.004 ug/l	0.00	56.0	4500	103	P
118	Sn	1	0.298 ug/l	0.30	15.8	4500	103	P
123	Sb	1	0.044 ug/l	0.04	13.3	4500	103	P
135	Ba	1	0.005 ug/l	0.01	263.9	4500	103	P
200	Hg	1	0.018 ug/l	0.02	4.3	45	209	P
205	Tl	1	0.320 ug/l	0.32	13.6	4500	209	P
208	Pb	1	0.003 ug/l	0.00	367.7	4500	209	P
238	U	1	0.009 ug/l	0.01	16.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45881	1.82	46990	97.6	30 - 125
45	Sc	1	1227363	1.93	1187000	103.4	30 - 125
74	Ge	1	3516833	0.29	3343000	105.2	30 - 125
103	Rh	1	5954578	1.18	5717000	104.2	30 - 125
165	Ho	1	2730647	0.75	2591000	105.4	30 - 125
175	Lu	1	2213039	0.63	2070000	106.9	30 - 125
209	Bi	1	2974279	0.31	2857000	104.1	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\116SMPL.D\116SMPL.D#  
 Date Acquired: Jul 28 2011 11:42 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-7-A SD Vial Number: 4301  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.202 ug/l	10.10	7.9	900	6	P
23	Na	1	37.580 ug/l	1,879.00	5.6	450000	45	P
24	Mg	1	782.800 ug/l	39,140.00	1.5	450000	45	P
27	Al	1	4595.000 ug/l	229,750.00	1.9	450000	45	A
31	P	1	175.000 ug/l	8,750.00	4.3	450000	45	P
39	K	1	150.000 ug/l	7,500.00	4.7	450000	45	P
44	Ca	1	364.900 ug/l	18,245.00	2.1	450000	45	P
47	Ti	1	222.000 ug/l	11,100.00	4.3	4500	45	P
51	V	1	8.299 ug/l	414.95	1.6	4500	74	P
52	Cr	1	2.483 ug/l	124.15	1.9	4500	74	P
55	Mn	1	34.910 ug/l	1,745.50	0.7	4500	74	P
56	Fe	1	5732.000 ug/l	286,600.00	1.1	450000	74	A
59	Co	1	0.936 ug/l	46.79	3.1	4500	74	P
60	Ni	1	1.444 ug/l	72.20	2.2	4500	74	P
63	Cu	1	3.252 ug/l	162.60	1.5	4500	74	P
66	Zn	1	17.240 ug/l	862.00	2.6	4500	74	P
75	As	1	1.081 ug/l	54.05	5.4	4500	74	P
78	Se	1	0.609 ug/l	30.47	22.8	4500	74	P
88	Sr	1	5.409 ug/l	270.45	1.5	4500	103	P
95	Mo	1	1.921 ug/l	96.05	3.1	4500	103	P
109	Ag	1	0.089 ug/l	4.47	10.7	4500	103	P
111	Cd	1	0.046 ug/l	2.28	34.2	4500	103	P
118	Sn	1	0.363 ug/l	18.15	5.0	4500	103	P
123	Sb	1	0.040 ug/l	1.99	22.5	4500	103	P
135	Ba	1	18.610 ug/l	930.50	2.7	4500	103	P
200	Hg	1	0.037 ug/l	1.84	7.4	45	209	P
205	Tl	1	0.221 ug/l	11.03	5.5	4500	209	P
208	Pb	1	12.130 ug/l	606.50	2.4	4500	209	P
238	U	1	1.764 ug/l	88.20	4.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	52791	1.77	46990	112.3	30 - 125
45	Sc	1	1358949	0.99	1187000	114.5	30 - 125
74	Ge	1	3623509	0.23	3343000	108.4	30 - 125
103	Rh	1	5948602	1.77	5717000	104.1	30 - 125
165	Ho	1	2743360	1.12	2591000	105.9	30 - 125
175	Lu	1	2207295	1.17	2070000	106.6	30 - 125
209	Bi	1	2890569	1.49	2857000	101.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\117SMPL.D\117SMPL.D#  
 Date Acquired: Jul 28 2011 11:47 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-7-A Vial Number: 4302  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	1.065 ug/l	10.65	1.3	900	6	P
23	Na	1	254.100 ug/l	2,541.00	3.4	450000	45	P
24	Mg	1	3461.000 ug/l	34,610.00	1.8	450000	45	A
27	Al	1	20460.000 ug/l	204,600.00	1.0	450000	45	A
31	P	1	800.300 ug/l	8,003.00	3.8	450000	45	P
39	K	1	742.200 ug/l	7,422.00	1.1	450000	45	P
44	Ca	1	1741.000 ug/l	17,410.00	1.6	450000	45	P
47	Ti	1	1054.000 ug/l	10,540.00	0.7	4500	45	P
51	V	1	39.340 ug/l	393.40	1.0	4500	74	P
52	Cr	1	11.660 ug/l	116.60	2.1	4500	74	P
55	Mn	1	163.500 ug/l	1,635.00	0.5	4500	74	A
56	Fe	1	27170.000 ug/l	271,700.00	0.2	450000	74	A
59	Co	1	4.484 ug/l	44.84	0.9	4500	74	P
60	Ni	1	6.868 ug/l	68.68	2.4	4500	74	P
63	Cu	1	15.590 ug/l	155.90	1.7	4500	74	P
66	Zn	1	81.830 ug/l	818.30	1.6	4500	74	P
75	As	1	5.255 ug/l	52.55	3.5	4500	74	P
78	Se	1	2.732 ug/l	27.32	0.7	4500	74	P
88	Sr	1	25.690 ug/l	256.90	1.4	4500	103	P
95	Mo	1	9.298 ug/l	92.98	2.5	4500	103	P
109	Ag	1	0.396 ug/l	3.96	0.5	4500	103	P
111	Cd	1	0.300 ug/l	3.00	13.2	4500	103	P
118	Sn	1	1.367 ug/l	13.67	5.1	4500	103	P
123	Sb	1	0.121 ug/l	1.21	4.0	4500	103	P
135	Ba	1	88.370 ug/l	883.70	0.6	4500	103	P
200	Hg	1	0.110 ug/l	1.10	9.1	45	209	P
205	Tl	1	0.336 ug/l	3.36	11.6	4500	209	P
208	Pb	1	56.140 ug/l	561.40	1.6	4500	209	P
238	U	1	8.363 ug/l	83.63	1.3	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44029		1.73	46990	93.7	30 - 125	
45	Sc	1	1241705		1.38	1187000	104.6	30 - 125	
74	Ge	1	3437570		0.48	3343000	102.8	30 - 125	
103	Rh	1	5760305		0.78	5717000	100.8	30 - 125	
165	Ho	1	2740287		0.94	2591000	105.8	30 - 125	
175	Lu	1	2197271		0.96	2070000	106.1	30 - 125	
209	Bi	1	2989782		1.84	2857000	104.6	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\118SMPL.D\118SMPL.D#  
 Date Acquired: Jul 28 2011 11:51 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-7-B DU Vial Number: 4303  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.978 ug/l	9.78	9.2	900	6	P
23	Na	1	254.000 ug/l	2,540.00	1.3	450000	45	P
24	Mg	1	3362.000 ug/l	33,620.00	2.6	450000	45	A
27	Al	1	18660.000 ug/l	186,600.00	0.9	450000	45	A
31	P	1	777.400 ug/l	7,774.00	1.7	450000	45	P
39	K	1	784.400 ug/l	7,844.00	2.3	450000	45	P
44	Ca	1	1901.000 ug/l	19,010.00	1.7	450000	45	P
47	Ti	1	1013.000 ug/l	10,130.00	0.8	4500	45	P
51	V	1	36.680 ug/l	366.80	0.1	4500	74	P
52	Cr	1	10.670 ug/l	106.70	1.5	4500	74	P
55	Mn	1	157.300 ug/l	1,573.00	0.4	4500	74	M
56	Fe	1	25420.000 ug/l	254,200.00	2.4	450000	74	A
59	Co	1	4.306 ug/l	43.06	2.0	4500	74	P
60	Ni	1	6.191 ug/l	61.91	0.7	4500	74	P
63	Cu	1	14.410 ug/l	144.10	0.8	4500	74	P
66	Zn	1	78.230 ug/l	782.30	1.1	4500	74	P
75	As	1	4.890 ug/l	48.90	2.6	4500	74	P
78	Se	1	2.765 ug/l	27.65	4.7	4500	74	P
88	Sr	1	25.680 ug/l	256.80	1.8	4500	103	P
95	Mo	1	8.764 ug/l	87.64	1.3	4500	103	P
109	Ag	1	0.364 ug/l	3.64	3.9	4500	103	P
111	Cd	1	0.292 ug/l	2.92	8.4	4500	103	P
118	Sn	1	1.308 ug/l	13.08	3.6	4500	103	P
123	Sb	1	0.102 ug/l	1.02	19.6	4500	103	P
135	Ba	1	85.730 ug/l	857.30	1.7	4500	103	P
200	Hg	1	0.105 ug/l	1.05	12.0	45	209	P
205	Tl	1	0.305 ug/l	3.05	13.5	4500	209	P
208	Pb	1	50.900 ug/l	509.00	1.5	4500	209	P
238	U	1	7.571 ug/l	75.71	0.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	44089	1.73	46990	93.8	30 - 125
45	Sc	1	1229280	0.74	1187000	103.6	30 - 125
74	Ge	1	3460236	1.15	3343000	103.5	30 - 125
103	Rh	1	5769501	0.86	5717000	100.9	30 - 125
165	Ho	1	2720482	0.78	2591000	105.0	30 - 125
175	Lu	1	2194685	1.25	2070000	106.0	30 - 125
209	Bi	1	2969023	1.55	2857000	103.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\119SMPL.D\119SMPL.D#  
 Date Acquired: Jul 28 2011 11:56 pm Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-7-C MS Vial Number: 4304  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.223 ug/l	111.15	4.4	900	6	P
23	Na	1	488.900 ug/l	24,445.00	4.5	450000	45	M
24	Mg	1	1244.000 ug/l	62,200.00	1.2	450000	45	A
27	Al	1	5024.000 ug/l	251,200.00	2.6	450000	45	A
31	P	1	567.000 ug/l	28,350.00	4.2	450000	45	P
39	K	1	620.700 ug/l	31,035.00	5.4	450000	45	P
44	Ca	1	817.100 ug/l	40,855.00	1.4	450000	45	P
47	Ti	1	340.300 ug/l	17,015.00	2.0	4500	45	P
51	V	1	29.410 ug/l	1,470.50	0.8	4500	74	P
52	Cr	1	11.080 ug/l	554.00	0.6	4500	74	P
55	Mn	1	56.540 ug/l	2,827.00	1.0	4500	74	P
56	Fe	1	6066.000 ug/l	303,300.00	1.9	450000	74	A
59	Co	1	21.620 ug/l	1,081.00	1.1	4500	74	P
60	Ni	1	22.650 ug/l	1,132.50	1.1	4500	74	P
63	Cu	1	13.930 ug/l	696.50	1.0	4500	74	P
66	Zn	1	37.610 ug/l	1,880.50	0.9	4500	74	P
75	As	1	81.820 ug/l	4,091.00	1.5	4500	74	P
78	Se	1	82.590 ug/l	4,129.50	1.8	4500	74	P
88	Sr	1	5.793 ug/l	289.65	2.0	4500	103	P
95	Mo	1	101.900 ug/l	5,095.00	2.5	4500	103	P
109	Ag	1	12.530 ug/l	626.50	2.7	4500	103	P
111	Cd	1	2.086 ug/l	104.30	4.5	4500	103	P
118	Sn	1	93.350 ug/l	4,667.50	2.5	4500	103	P
123	Sb	1	31.730 ug/l	1,586.50	2.9	4500	103	P
135	Ba	1	101.600 ug/l	5,080.00	1.5	4500	103	P
200	Hg	1	1.008 ug/l	50.40	4.5	45	209	P
205	Tl	1	81.920 ug/l	4,096.00	3.1	4500	209	A
208	Pb	1	32.200 ug/l	1,610.00	1.9	4500	209	P
238	U	1	1.746 ug/l	87.30	2.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	51170	1.55	46990	108.9	30 - 125
45	Sc	1	1298823	2.12	1187000	109.4	30 - 125
74	Ge	1	3526975	0.40	3343000	105.5	30 - 125
103	Rh	1	5829646	2.17	5717000	102.0	30 - 125
165	Ho	1	2713148	1.36	2591000	104.7	30 - 125
175	Lu	1	2172169	1.07	2070000	104.9	30 - 125
209	Bi	1	2908227	1.25	2857000	101.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\120SMPL.D\120SMPL.D#  
 Date Acquired: Jul 29 2011 12:01 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-7-D MSD Vial Number: 4305  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.215 ug/l	110.75	3.6	900	6	P
23	Na	1	483.600 ug/l	24,180.00	3.0	450000	45	A
24	Mg	1	1232.000 ug/l	61,600.00	1.0	450000	45	A
27	Al	1	4899.000 ug/l	244,950.00	2.4	450000	45	A
31	P	1	554.700 ug/l	27,735.00	2.3	450000	45	P
39	K	1	607.200 ug/l	30,360.00	3.0	450000	45	P
44	Ca	1	823.500 ug/l	41,175.00	3.0	450000	45	P
47	Ti	1	335.900 ug/l	16,795.00	1.1	4500	45	P
51	V	1	29.360 ug/l	1,468.00	1.5	4500	74	P
52	Cr	1	10.860 ug/l	543.00	0.5	4500	74	P
55	Mn	1	55.310 ug/l	2,765.50	0.8	4500	74	P
56	Fe	1	6031.000 ug/l	301,550.00	1.0	450000	74	A
59	Co	1	21.300 ug/l	1,065.00	0.6	4500	74	P
60	Ni	1	22.200 ug/l	1,110.00	1.0	4500	74	P
63	Cu	1	13.830 ug/l	691.50	1.0	4500	74	P
66	Zn	1	37.680 ug/l	1,884.00	0.3	4500	74	P
75	As	1	81.410 ug/l	4,070.50	0.5	4500	74	P
78	Se	1	82.920 ug/l	4,146.00	1.1	4500	74	P
88	Sr	1	5.772 ug/l	288.60	1.3	4500	103	P
95	Mo	1	101.900 ug/l	5,095.00	1.0	4500	103	P
109	Ag	1	12.580 ug/l	629.00	1.0	4500	103	P
111	Cd	1	2.082 ug/l	104.10	5.3	4500	103	P
118	Sn	1	92.740 ug/l	4,637.00	1.7	4500	103	P
123	Sb	1	31.580 ug/l	1,579.00	1.9	4500	103	P
135	Ba	1	101.400 ug/l	5,070.00	0.9	4500	103	P
200	Hg	1	1.003 ug/l	50.15	3.3	45	209	P
205	Tl	1	81.610 ug/l	4,080.50	3.3	4500	209	A
208	Pb	1	31.860 ug/l	1,593.00	1.9	4500	209	P
238	U	1	1.708 ug/l	85.40	2.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	50812	0.23	46990	108.1	30 - 125
45	Sc	1	1297569	1.78	1187000	109.3	30 - 125
74	Ge	1	3520475	0.20	3343000	105.3	30 - 125
103	Rh	1	5794090	0.54	5717000	101.3	30 - 125
165	Ho	1	2698265	0.68	2591000	104.1	30 - 125
175	Lu	1	2197019	0.74	2070000	106.1	30 - 125
209	Bi	1	2886966	0.76	2857000	101.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\121SMPL.D\121SMPL.D#  
 Date Acquired: Jul 29 2011 12:06 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-7-A PDS Vial Number: 4306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	2.094 ug/l	104.70	0.4	900	6	P
23	Na	1	484.000 ug/l	24,200.00	2.9	450000	45	M
24	Mg	1	1233.000 ug/l	61,650.00	5.3	450000	45	A
27	Al	1	4924.000 ug/l	246,200.00	1.9	450000	45	A
31	P	1	563.700 ug/l	28,185.00	3.5	450000	45	P
39	K	1	615.800 ug/l	30,790.00	1.3	450000	45	P
44	Ca	1	831.000 ug/l	41,550.00	1.1	450000	45	P
47	Ti	1	339.800 ug/l	16,990.00	1.8	4500	45	P
51	V	1	29.290 ug/l	1,464.50	1.1	4500	74	P
52	Cr	1	10.940 ug/l	547.00	1.0	4500	74	P
55	Mn	1	55.570 ug/l	2,778.50	2.0	4500	74	P
56	Fe	1	6092.000 ug/l	304,600.00	1.4	450000	74	A
59	Co	1	21.500 ug/l	1,075.00	1.0	4500	74	P
60	Ni	1	22.270 ug/l	1,113.50	1.1	4500	74	P
63	Cu	1	14.010 ug/l	700.50	0.9	4500	74	P
66	Zn	1	37.310 ug/l	1,865.50	1.3	4500	74	P
75	As	1	81.710 ug/l	4,085.50	0.8	4500	74	P
78	Se	1	82.610 ug/l	4,130.50	0.5	4500	74	P
88	Sr	1	5.734 ug/l	286.70	2.1	4500	103	P
95	Mo	1	102.000 ug/l	5,100.00	1.8	4500	103	P
109	Ag	1	12.560 ug/l	628.00	1.5	4500	103	P
111	Cd	1	2.142 ug/l	107.10	2.5	4500	103	P
118	Sn	1	92.940 ug/l	4,647.00	1.6	4500	103	P
123	Sb	1	31.490 ug/l	1,574.50	1.5	4500	103	P
135	Ba	1	101.700 ug/l	5,085.00	0.5	4500	103	P
200	Hg	1	1.005 ug/l	50.25	1.0	45	209	P
205	Tl	1	81.420 ug/l	4,071.00	4.5	4500	209	A
208	Pb	1	31.740 ug/l	1,587.00	0.8	4500	209	P
238	U	1	1.697 ug/l	84.85	0.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	49475	0.69	46990	105.3	30 - 125
45	Sc	1	1279614	2.10	1187000	107.8	30 - 125
74	Ge	1	3522983	1.05	3343000	105.4	30 - 125
103	Rh	1	5796810	1.12	5717000	101.4	30 - 125
165	Ho	1	2714203	0.26	2591000	104.8	30 - 125
175	Lu	1	2177134	0.52	2070000	105.2	30 - 125
209	Bi	1	2874062	0.61	2857000	100.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\122SMPL.D\122SMPL.D#  
 Date Acquired: Jul 29 2011 12:11 am Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.100 ug/l	47.10	1.0	900	6	P
23	Na	1	4784.000 ug/l	4,784.00	3.4	450000	45	A
24	Mg	1	4896.000 ug/l	4,896.00	4.6	450000	45	A
27	Al	1	492.300 ug/l	492.30	3.2	450000	45	P
31	P	1	4860.000 ug/l	4,860.00	3.2	450000	45	P
39	K	1	4977.000 ug/l	4,977.00	2.6	450000	45	A
44	Ca	1	4893.000 ug/l	4,893.00	3.5	450000	45	P
47	Ti	1	48.590 ug/l	48.59	3.4	4500	45	P
51	V	1	47.830 ug/l	47.83	1.0	4500	74	P
52	Cr	1	48.170 ug/l	48.17	1.1	4500	74	P
55	Mn	1	48.500 ug/l	48.50	0.9	4500	74	P
56	Fe	1	4848.000 ug/l	4,848.00	0.8	450000	74	A
59	Co	1	47.730 ug/l	47.73	0.5	4500	74	P
60	Ni	1	47.810 ug/l	47.81	0.9	4500	74	P
63	Cu	1	48.490 ug/l	48.49	0.8	4500	74	P
66	Zn	1	47.880 ug/l	47.88	1.0	4500	74	P
75	As	1	48.290 ug/l	48.29	1.1	4500	74	P
78	Se	1	48.780 ug/l	48.78	1.8	4500	74	P
88	Sr	1	50.110 ug/l	50.11	1.8	4500	103	P
95	Mo	1	48.580 ug/l	48.58	0.4	4500	103	P
109	Ag	1	49.700 ug/l	49.70	0.4	4500	103	P
111	Cd	1	48.650 ug/l	48.65	1.1	4500	103	P
118	Sn	1	48.790 ug/l	48.79	0.3	4500	103	P
123	Sb	1	48.680 ug/l	48.68	0.2	4500	103	P
135	Ba	1	49.170 ug/l	49.17	1.1	4500	103	P
200	Hg	1	2.380 ug/l	2.38	1.7	45	209	P
205	Tl	1	47.760 ug/l	47.76	3.7	4500	209	A
208	Pb	1	48.360 ug/l	48.36	2.0	4500	209	P
238	U	1	47.960 ug/l	47.96	2.8	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	47188	0.83	46990	100.4	30 - 125
45	Sc	1	1284223	3.35	1187000	108.2	30 - 125
74	Ge	1	3587453	0.42	3343000	107.3	30 - 125
103	Rh	1	5816859	0.29	5717000	101.7	30 - 125
165	Ho	1	2712371	0.36	2591000	104.7	30 - 125
175	Lu	1	2186958	1.63	2070000	105.7	30 - 125
209	Bi	1	2877102	1.88	2857000	100.7	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\123SMPL.D\123SMPL.D#  
 Date Acquired: Jul 29 2011 12:15 am Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711  
 Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.00	146.7	900	6	P
23	Na	1	1.248 ug/l	1.25	136.1	450000	45	P
24	Mg	1	0.083 ug/l	0.08	106.5	450000	45	P
27	Al	1	-0.023 ug/l	-0.02	570.0	450000	45	P
31	P	1	-2.022 ug/l	-2.02	45.9	450000	45	P
39	K	1	-7.223 ug/l	-7.22	17.0	450000	45	P
44	Ca	1	-2.706 ug/l	-2.71	9.0	450000	45	P
47	Ti	1	0.110 ug/l	0.11	33.3	4500	45	P
51	V	1	-0.012 ug/l	-0.01	45.8	4500	74	P
52	Cr	1	0.001 ug/l	0.00	346.5	4500	74	P
55	Mn	1	-0.040 ug/l	-0.04	36.5	4500	74	P
56	Fe	1	2.129 ug/l	2.13	7.8	450000	74	P
59	Co	1	0.001 ug/l	0.00	113.4	4500	74	P
60	Ni	1	-0.020 ug/l	-0.02	62.5	4500	74	P
63	Cu	1	-0.004 ug/l	0.00	21.6	4500	74	P
66	Zn	1	0.004 ug/l	0.00	1518.8	4500	74	P
75	As	1	0.011 ug/l	0.01	192.7	4500	74	P
78	Se	1	0.032 ug/l	0.03	126.7	4500	74	P
88	Sr	1	0.005 ug/l	0.00	67.0	4500	103	P
95	Mo	1	0.064 ug/l	0.06	17.8	4500	103	P
109	Ag	1	0.001 ug/l	0.00	176.8	4500	103	P
111	Cd	1	0.000 ug/l	0.00	634.8	4500	103	P
118	Sn	1	0.408 ug/l	0.41	14.6	4500	103	P
123	Sb	1	0.070 ug/l	0.07	13.4	4500	103	P
135	Ba	1	0.014 ug/l	0.01	35.3	4500	103	P
200	Hg	1	0.012 ug/l	0.01	20.4	45	209	P
205	Tl	1	0.276 ug/l	0.28	13.8	4500	209	P
208	Pb	1	0.009 ug/l	0.01	57.7	4500	209	P
238	U	1	0.008 ug/l	0.01	39.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	45251	3.09	46990	96.3	30 - 125
45	Sc	1	1219860	1.21	1187000	102.8	30 - 125
74	Ge	1	3581899	1.03	3343000	107.1	30 - 125
103	Rh	1	5969611	1.18	5717000	104.4	30 - 125
165	Ho	1	2752113	0.45	2591000	106.2	30 - 125
175	Lu	1	2220697	1.21	2070000	107.3	30 - 125
209	Bi	1	2950702	0.76	2857000	103.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\124SMPL.D\124SMPL.D#  
 Date Acquired: Jul 29 2011 12:20 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-B-10-A Vial Number: 4401  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.307 ug/l	3.07	4.4	900	6	P
23	Na	1	111.300 ug/l	1,113.00	3.2	450000	45	P
24	Mg	1	659.000 ug/l	6,590.00	2.5	450000	45	P
27	Al	1	6024.000 ug/l	60,240.00	1.9	450000	45	A
31	P	1	342.100 ug/l	3,421.00	5.7	450000	45	P
39	K	1	143.600 ug/l	1,436.00	2.5	450000	45	P
44	Ca	1	586.500 ug/l	5,865.00	1.3	450000	45	P
47	Ti	1	263.600 ug/l	2,636.00	1.6	4500	45	P
51	V	1	6.598 ug/l	65.98	1.9	4500	74	P
52	Cr	1	3.520 ug/l	35.20	2.0	4500	74	P
55	Mn	1	22.710 ug/l	227.10	1.3	4500	74	P
56	Fe	1	3637.000 ug/l	36,370.00	1.6	450000	74	A
59	Co	1	0.638 ug/l	6.38	1.9	4500	74	P
60	Ni	1	1.796 ug/l	17.96	3.5	4500	74	P
63	Cu	1	9.724 ug/l	97.24	1.4	4500	74	P
66	Zn	1	15.500 ug/l	155.00	1.7	4500	74	P
75	As	1	1.107 ug/l	11.07	4.0	4500	74	P
78	Se	1	1.367 ug/l	13.67	5.5	4500	74	P
88	Sr	1	8.664 ug/l	86.64	0.8	4500	103	P
95	Mo	1	3.530 ug/l	35.30	0.9	4500	103	P
109	Ag	1	0.191 ug/l	1.91	2.6	4500	103	P
111	Cd	1	0.688 ug/l	6.88	3.3	4500	103	P
118	Sn	1	1.151 ug/l	11.51	7.1	4500	103	P
123	Sb	1	0.099 ug/l	0.99	17.0	4500	103	P
135	Ba	1	25.180 ug/l	251.80	0.0	4500	103	P
200	Hg	1	0.051 ug/l	0.51	14.2	45	209	P
205	Tl	1	0.214 ug/l	2.14	15.2	4500	209	P
208	Pb	1	17.250 ug/l	172.50	0.8	4500	209	P
238	U	1	4.132 ug/l	41.32	1.5	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43719	3.34	46990	93.0	30 - 125	
45	Sc	1	1207509	0.80	1187000	101.7	30 - 125	
74	Ge	1	3506668	1.07	3343000	104.9	30 - 125	
103	Rh	1	6022245	1.05	5717000	105.3	30 - 125	
165	Ho	1	2766643	1.24	2591000	106.8	30 - 125	
175	Lu	1	2248086	1.69	2070000	108.6	30 - 125	
209	Bi	1	3013703	0.44	2857000	105.5	30 - 125	

**Analytes:**

**Pass**

**ISTD:**

**Pass**

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\125SMPL.D\125SMPL.D#  
 Date Acquired: Jul 29 2011 12:25 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-B-9-A Vial Number: 4402  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.533 ug/l	5.33	3.0	900	6	P
23	Na	1	155.200 ug/l	1,552.00	1.6	450000	45	P
24	Mg	1	1004.000 ug/l	10,040.00	0.8	450000	45	P
27	Al	1	7344.000 ug/l	73,440.00	0.7	450000	45	A
31	P	1	473.000 ug/l	4,730.00	0.9	450000	45	P
39	K	1	284.600 ug/l	2,846.00	2.5	450000	45	P
44	Ca	1	1023.000 ug/l	10,230.00	0.2	450000	45	P
47	Ti	1	343.700 ug/l	3,437.00	1.0	4500	45	P
51	V	1	21.340 ug/l	213.40	2.0	4500	74	P
52	Cr	1	4.440 ug/l	44.40	1.7	4500	74	P
55	Mn	1	55.050 ug/l	550.50	1.6	4500	74	P
56	Fe	1	21620.000 ug/l	216,200.00	0.8	450000	74	A
59	Co	1	3.129 ug/l	31.29	0.2	4500	74	P
60	Ni	1	2.711 ug/l	27.11	1.6	4500	74	P
63	Cu	1	9.450 ug/l	94.50	1.7	4500	74	P
66	Zn	1	33.870 ug/l	338.70	1.6	4500	74	P
75	As	1	6.080 ug/l	60.80	3.3	4500	74	P
78	Se	1	1.919 ug/l	19.19	5.2	4500	74	P
88	Sr	1	14.690 ug/l	146.90	3.4	4500	103	P
95	Mo	1	5.949 ug/l	59.49	3.4	4500	103	P
109	Ag	1	0.173 ug/l	1.73	2.8	4500	103	P
111	Cd	1	0.309 ug/l	3.09	17.5	4500	103	P
118	Sn	1	1.058 ug/l	10.58	3.9	4500	103	P
123	Sb	1	0.160 ug/l	1.60	6.0	4500	103	P
135	Ba	1	30.900 ug/l	309.00	2.3	4500	103	P
200	Hg	1	0.059 ug/l	0.59	2.5	45	209	P
205	Tl	1	0.148 ug/l	1.48	15.5	4500	209	P
208	Pb	1	21.040 ug/l	210.40	0.9	4500	209	P
238	U	1	4.151 ug/l	41.51	1.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43569	1.94	46990	92.7	30 - 125
45	Sc	1	1211404	0.33	1187000	102.1	30 - 125
74	Ge	1	3475075	0.80	3343000	104.0	30 - 125
103	Rh	1	5847296	1.64	5717000	102.3	30 - 125
165	Ho	1	2752295	1.43	2591000	106.2	30 - 125
175	Lu	1	2187024	1.61	2070000	105.7	30 - 125
209	Bi	1	2944739	0.64	2857000	103.1	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\126SMPL.D\126SMPL.D#  
 Date Acquired: Jul 29 2011 12:30 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-B-8-A Vial Number: 4403  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.533 ug/l	5.33	9.1	900	6	P
23	Na	1	372.000 ug/l	3,720.00	0.6	450000	45	P
24	Mg	1	2572.000 ug/l	25,720.00	2.2	450000	45	A
27	Al	1	13240.000 ug/l	132,400.00	1.2	450000	45	A
31	P	1	540.300 ug/l	5,403.00	1.3	450000	45	P
39	K	1	744.600 ug/l	7,446.00	1.6	450000	45	P
44	Ca	1	2240.000 ug/l	22,400.00	1.0	450000	45	P
47	Ti	1	860.500 ug/l	8,605.00	0.6	4500	45	P
51	V	1	23.190 ug/l	231.90	0.4	4500	74	P
52	Cr	1	7.756 ug/l	77.56	2.0	4500	74	P
55	Mn	1	120.800 ug/l	1,208.00	0.4	4500	74	P
56	Fe	1	11670.000 ug/l	116,700.00	1.0	450000	74	A
59	Co	1	4.237 ug/l	42.37	2.2	4500	74	P
60	Ni	1	4.840 ug/l	48.40	0.3	4500	74	P
63	Cu	1	11.450 ug/l	114.50	1.0	4500	74	P
66	Zn	1	63.060 ug/l	630.60	1.0	4500	74	P
75	As	1	3.212 ug/l	32.12	3.3	4500	74	P
78	Se	1	1.270 ug/l	12.70	17.7	4500	74	P
88	Sr	1	26.190 ug/l	261.90	1.0	4500	103	P
95	Mo	1	4.211 ug/l	42.11	1.2	4500	103	P
109	Ag	1	0.273 ug/l	2.73	4.6	4500	103	P
111	Cd	1	0.307 ug/l	3.07	17.8	4500	103	P
118	Sn	1	1.278 ug/l	12.78	3.8	4500	103	P
123	Sb	1	0.112 ug/l	1.12	6.7	4500	103	P
135	Ba	1	68.940 ug/l	689.40	3.2	4500	103	P
200	Hg	1	0.066 ug/l	0.66	7.6	45	209	P
205	Tl	1	0.217 ug/l	2.17	16.1	4500	209	P
208	Pb	1	36.910 ug/l	369.10	0.8	4500	209	P
238	U	1	5.041 ug/l	50.41	0.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43424	0.60	46990	92.4	30 - 125
45	Sc	1	1198315	0.54	1187000	101.0	30 - 125
74	Ge	1	3471174	0.15	3343000	103.8	30 - 125
103	Rh	1	5718531	0.99	5717000	100.0	30 - 125
165	Ho	1	2729718	1.78	2591000	105.4	30 - 125
175	Lu	1	2201673	1.40	2070000	106.4	30 - 125
209	Bi	1	2939046	1.09	2857000	102.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\127SMPL.D\127SMPL.D#  
 Date Acquired: Jul 29 2011 12:35 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-6-A Vial Number: 4404  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.203 ug/l	2.03	2.9	900	6	P
23	Na	1	69.030 ug/l	690.30	2.9	450000	45	P
24	Mg	1	514.700 ug/l	5,147.00	1.6	450000	45	P
27	Al	1	1709.000 ug/l	17,090.00	1.9	450000	45	P
31	P	1	316.500 ug/l	3,165.00	4.0	450000	45	P
39	K	1	77.780 ug/l	777.80	2.7	450000	45	P
44	Ca	1	1802.000 ug/l	18,020.00	1.7	450000	45	P
47	Ti	1	42.030 ug/l	420.30	1.6	4500	45	P
51	V	1	5.938 ug/l	59.38	1.8	4500	74	P
52	Cr	1	1.781 ug/l	17.81	2.3	4500	74	P
55	Mn	1	528.600 ug/l	5,286.00	0.8	4500	74	A
56	Fe	1	101600.000 ug/l	1,016,000.00	0.6	450000	74	A
59	Co	1	4.098 ug/l	40.98	1.4	4500	74	P
60	Ni	1	1.023 ug/l	10.23	7.4	4500	74	P
63	Cu	1	3.280 ug/l	32.80	1.6	4500	74	P
66	Zn	1	23.090 ug/l	230.90	1.2	4500	74	P
75	As	1	4.002 ug/l	40.02	1.3	4500	74	P
78	Se	1	1.156 ug/l	11.56	13.5	4500	74	P
88	Sr	1	22.070 ug/l	220.70	2.8	4500	103	P
95	Mo	1	2.741 ug/l	27.41	3.1	4500	103	P
109	Ag	1	0.056 ug/l	0.56	13.5	4500	103	P
111	Cd	1	0.228 ug/l	2.28	18.7	4500	103	P
118	Sn	1	1.113 ug/l	11.13	1.5	4500	103	P
123	Sb	1	0.160 ug/l	1.60	5.0	4500	103	P
135	Ba	1	32.810 ug/l	328.10	2.3	4500	103	P
200	Hg	1	0.049 ug/l	0.49	14.7	45	209	P
205	Tl	1	0.075 ug/l	0.75	18.5	4500	209	P
208	Pb	1	8.349 ug/l	83.49	0.8	4500	209	P
238	U	1	1.424 ug/l	14.24	1.8	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	42865		1.28	46990	91.2	30 - 125	
45	Sc	1	1137491		1.10	1187000	95.8	30 - 125	
74	Ge	1	3217557		1.18	3343000	96.2	30 - 125	
103	Rh	1	5514543		1.66	5717000	96.5	30 - 125	
165	Ho	1	2657046		0.39	2591000	102.5	30 - 125	
175	Lu	1	2122623		0.34	2070000	102.5	30 - 125	
209	Bi	1	2834937		1.20	2857000	99.2	30 - 125	

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\072811P.B\128SMPL.D\128SMPL.D#  
 Date Acquired: Jul 29 2011 12:39 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-5-A Vial Number: 4405  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.245 ug/l	2.45	7.4	900	6	P
23	Na	1	101.800 ug/l	1,018.00	3.5	450000	45	P
24	Mg	1	729.400 ug/l	7,294.00	1.8	450000	45	P
27	Al	1	4287.000 ug/l	42,870.00	2.7	450000	45	A
31	P	1	220.500 ug/l	2,205.00	1.9	450000	45	P
39	K	1	235.900 ug/l	2,359.00	2.5	450000	45	P
44	Ca	1	811.900 ug/l	8,119.00	1.0	450000	45	P
47	Ti	1	244.900 ug/l	2,449.00	1.4	4500	45	P
51	V	1	8.941 ug/l	89.41	1.5	4500	74	P
52	Cr	1	2.317 ug/l	23.17	0.4	4500	74	P
55	Mn	1	231.400 ug/l	2,314.00	1.3	4500	74	A
56	Fe	1	26720.000 ug/l	267,200.00	1.1	450000	74	A
59	Co	1	1.395 ug/l	13.95	0.7	4500	74	P
60	Ni	1	1.212 ug/l	12.12	5.2	4500	74	P
63	Cu	1	2.920 ug/l	29.20	2.7	4500	74	P
66	Zn	1	18.730 ug/l	187.30	0.6	4500	74	P
75	As	1	1.415 ug/l	14.15	3.8	4500	74	P
78	Se	1	0.676 ug/l	6.76	14.6	4500	74	P
88	Sr	1	10.810 ug/l	108.10	0.9	4500	103	P
95	Mo	1	1.655 ug/l	16.55	3.4	4500	103	P
109	Ag	1	0.077 ug/l	0.77	10.0	4500	103	P
111	Cd	1	0.102 ug/l	1.02	29.1	4500	103	P
118	Sn	1	0.829 ug/l	8.29	0.9	4500	103	P
123	Sb	1	0.063 ug/l	0.63	12.7	4500	103	P
135	Ba	1	24.630 ug/l	246.30	2.1	4500	103	P
200	Hg	1	0.029 ug/l	0.29	12.4	45	209	P
205	Tl	1	0.077 ug/l	0.77	14.2	4500	209	P
208	Pb	1	13.440 ug/l	134.40	1.8	4500	209	P
238	U	1	1.817 ug/l	18.17	3.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43571	0.36	46990	92.7	30 - 125
45	Sc	1	1208577	1.33	1187000	101.8	30 - 125
74	Ge	1	3433124	0.87	3343000	102.7	30 - 125
103	Rh	1	5872013	0.76	5717000	102.7	30 - 125
165	Ho	1	2760005	0.80	2591000	106.5	30 - 125
175	Lu	1	2215111	1.27	2070000	107.0	30 - 125
209	Bi	1	2960115	1.41	2857000	103.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\129SMPL.D\129SMPL.D#  
 Date Acquired: Jul 29 2011 12:44 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-4-A Vial Number: 4406  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.889 ug/l	8.89	2.2	900	6	P
23	Na	1	234.800 ug/l	2,348.00	2.0	450000	45	P
24	Mg	1	2148.000 ug/l	21,480.00	1.3	450000	45	A
27	Al	1	15300.000 ug/l	153,000.00	2.3	450000	45	A
31	P	1	569.400 ug/l	5,694.00	3.0	450000	45	P
39	K	1	576.100 ug/l	5,761.00	1.9	450000	45	P
44	Ca	1	1190.000 ug/l	11,900.00	0.8	450000	45	P
47	Ti	1	789.900 ug/l	7,899.00	1.6	4500	45	P
51	V	1	27.410 ug/l	274.10	0.4	4500	74	P
52	Cr	1	9.131 ug/l	91.31	1.5	4500	74	P
55	Mn	1	126.700 ug/l	1,267.00	1.3	4500	74	P
56	Fe	1	24980.000 ug/l	249,800.00	1.1	450000	74	A
59	Co	1	3.398 ug/l	33.98	1.3	4500	74	P
60	Ni	1	5.073 ug/l	50.73	3.2	4500	74	P
63	Cu	1	19.210 ug/l	192.10	1.2	4500	74	P
66	Zn	1	64.720 ug/l	647.20	1.2	4500	74	P
75	As	1	3.720 ug/l	37.20	1.6	4500	74	P
78	Se	1	2.786 ug/l	27.86	4.2	4500	74	P
88	Sr	1	17.920 ug/l	179.20	2.6	4500	103	P
95	Mo	1	10.550 ug/l	105.50	3.0	4500	103	P
109	Ag	1	0.446 ug/l	4.46	2.7	4500	103	P
111	Cd	1	0.887 ug/l	8.87	5.0	4500	103	P
118	Sn	1	1.305 ug/l	13.05	0.6	4500	103	P
123	Sb	1	0.100 ug/l	1.00	10.0	4500	103	P
135	Ba	1	62.620 ug/l	626.20	1.5	4500	103	P
200	Hg	1	0.082 ug/l	0.82	4.2	45	209	P
205	Tl	1	0.222 ug/l	2.22	7.9	4500	209	P
208	Pb	1	46.840 ug/l	468.40	1.2	4500	209	P
238	U	1	8.658 ug/l	86.58	1.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41243	0.90	46990	87.8	30 - 125
45	Sc	1	1192832	1.33	1187000	100.5	30 - 125
74	Ge	1	3443094	0.36	3343000	103.0	30 - 125
103	Rh	1	5775933	1.26	5717000	101.0	30 - 125
165	Ho	1	2768518	1.61	2591000	106.9	30 - 125
175	Lu	1	2214904	2.18	2070000	107.0	30 - 125
209	Bi	1	2973278	1.02	2857000	104.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\130SMPL.D\130SMPL.D#  
 Date Acquired: Jul 29 2011 12:49 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-3-A Vial Number: 4407  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.373 ug/l	3.73	4.7	900	6	P
23	Na	1	135.700 ug/l	1,357.00	7.9	450000	45	P
24	Mg	1	813.700 ug/l	8,137.00	3.1	450000	45	P
27	Al	1	6573.000 ug/l	65,730.00	2.0	450000	45	A
31	P	1	398.000 ug/l	3,980.00	2.1	450000	45	P
39	K	1	220.700 ug/l	2,207.00	4.5	450000	45	P
44	Ca	1	715.800 ug/l	7,158.00	1.8	450000	45	P
47	Ti	1	307.500 ug/l	3,075.00	2.4	4500	45	P
51	V	1	10.100 ug/l	101.00	3.3	4500	74	P
52	Cr	1	4.525 ug/l	45.25	1.1	4500	74	P
55	Mn	1	30.560 ug/l	305.60	1.5	4500	74	P
56	Fe	1	5043.000 ug/l	50,430.00	0.9	450000	74	A
59	Co	1	0.793 ug/l	7.93	0.3	4500	74	P
60	Ni	1	2.375 ug/l	23.75	4.7	4500	74	P
63	Cu	1	9.830 ug/l	98.30	1.7	4500	74	P
66	Zn	1	28.150 ug/l	281.50	0.9	4500	74	P
75	As	1	1.538 ug/l	15.38	1.1	4500	74	P
78	Se	1	1.594 ug/l	15.94	7.9	4500	74	P
88	Sr	1	10.360 ug/l	103.60	1.9	4500	103	P
95	Mo	1	4.091 ug/l	40.91	1.8	4500	103	P
109	Ag	1	0.210 ug/l	2.10	3.5	4500	103	P
111	Cd	1	0.792 ug/l	7.92	5.1	4500	103	P
118	Sn	1	0.977 ug/l	9.77	1.6	4500	103	P
123	Sb	1	0.081 ug/l	0.81	18.1	4500	103	P
135	Ba	1	30.690 ug/l	306.90	1.4	4500	103	P
200	Hg	1	0.050 ug/l	0.50	21.4	45	209	P
205	Tl	1	0.120 ug/l	1.20	7.4	4500	209	P
208	Pb	1	16.620 ug/l	166.20	2.5	4500	209	P
238	U	1	4.210 ug/l	42.10	3.0	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41987	1.37	46990	89.4	30 - 125	
45	Sc	1	1158070	2.07	1187000	97.6	30 - 125	
74	Ge	1	3420454	1.11	3343000	102.3	30 - 125	
103	Rh	1	5839858	0.57	5717000	102.1	30 - 125	
165	Ho	1	2778757	1.67	2591000	107.2	30 - 125	
175	Lu	1	2239816	0.67	2070000	108.2	30 - 125	
209	Bi	1	2990836	1.36	2857000	104.7	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\131SMPL.D\131SMPL.D#  
 Date Acquired: Jul 29 2011 12:54 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-2-A Vial Number: 4408  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.506 ug/l	5.06	14.8	900	6	P
23	Na	1	459.800 ug/l	4,598.00	1.6	450000	45	P
24	Mg	1	349.800 ug/l	3,498.00	0.7	450000	45	P
27	Al	1	8408.000 ug/l	84,080.00	1.3	450000	45	A
31	P	1	642.000 ug/l	6,420.00	0.6	450000	45	P
39	K	1	118.600 ug/l	1,186.00	4.2	450000	45	P
44	Ca	1	846.800 ug/l	8,468.00	1.8	450000	45	P
47	Ti	1	484.500 ug/l	4,845.00	0.6	4500	45	P
51	V	1	13.620 ug/l	136.20	2.7	4500	74	P
52	Cr	1	2.936 ug/l	29.36	1.1	4500	74	P
55	Mn	1	15.170 ug/l	151.70	1.9	4500	74	P
56	Fe	1	2314.000 ug/l	23,140.00	1.1	450000	74	A
59	Co	1	0.554 ug/l	5.54	4.9	4500	74	P
60	Ni	1	1.989 ug/l	19.89	7.2	4500	74	P
63	Cu	1	6.590 ug/l	65.90	1.6	4500	74	P
66	Zn	1	7.840 ug/l	78.40	1.7	4500	74	P
75	As	1	1.835 ug/l	18.35	2.7	4500	74	P
78	Se	1	1.820 ug/l	18.20	4.0	4500	74	P
88	Sr	1	12.970 ug/l	129.70	2.1	4500	103	P
95	Mo	1	3.076 ug/l	30.76	2.5	4500	103	P
109	Ag	1	0.086 ug/l	0.86	5.4	4500	103	P
111	Cd	1	0.571 ug/l	5.71	10.2	4500	103	P
118	Sn	1	0.727 ug/l	7.27	3.5	4500	103	P
123	Sb	1	0.094 ug/l	0.94	6.2	4500	103	P
135	Ba	1	39.220 ug/l	392.20	2.2	4500	103	P
200	Hg	1	0.061 ug/l	0.61	10.7	45	209	P
205	Tl	1	0.129 ug/l	1.29	6.0	4500	209	P
208	Pb	1	4.742 ug/l	47.42	1.3	4500	209	P
238	U	1	3.862 ug/l	38.62	1.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	41699	1.30	46990	88.7	30 - 125
45	Sc	1	1173216	0.90	1187000	98.8	30 - 125
74	Ge	1	3467309	2.08	3343000	103.7	30 - 125
103	Rh	1	5891703	1.31	5717000	103.1	30 - 125
165	Ho	1	2778889	0.63	2591000	107.3	30 - 125
175	Lu	1	2192404	1.86	2070000	105.9	30 - 125
209	Bi	1	2923108	1.43	2857000	102.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\132SMPL.D\132SMPL.D#  
 Date Acquired: Jul 29 2011 12:59 am Acq. Method: 00He\_ALL.M  
 Sample Name: 580-27633-A-1-A Vial Number: 4409  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.556 ug/l	5.56	6.9	900	6	P
23	Na	1	197.800 ug/l	1,978.00	4.4	450000	45	P
24	Mg	1	1106.000 ug/l	11,060.00	2.6	450000	45	A
27	Al	1	9774.000 ug/l	97,740.00	4.7	450000	45	A
31	P	1	565.200 ug/l	5,652.00	4.0	450000	45	P
39	K	1	308.600 ug/l	3,086.00	3.4	450000	45	P
44	Ca	1	1104.000 ug/l	11,040.00	3.0	450000	45	P
47	Ti	1	675.700 ug/l	6,757.00	4.1	4500	45	P
51	V	1	15.260 ug/l	152.60	0.6	4500	74	P
52	Cr	1	5.513 ug/l	55.13	0.5	4500	74	P
55	Mn	1	61.930 ug/l	619.30	1.7	4500	74	P
56	Fe	1	10570.000 ug/l	105,700.00	1.3	450000	74	A
59	Co	1	1.140 ug/l	11.40	1.9	4500	74	P
60	Ni	1	3.337 ug/l	33.37	1.5	4500	74	P
63	Cu	1	13.120 ug/l	131.20	2.2	4500	74	P
66	Zn	1	31.970 ug/l	319.70	1.8	4500	74	P
75	As	1	2.514 ug/l	25.14	7.0	4500	74	P
78	Se	1	2.114 ug/l	21.14	4.4	4500	74	P
88	Sr	1	14.590 ug/l	145.90	0.3	4500	103	P
95	Mo	1	4.500 ug/l	45.00	2.3	4500	103	P
109	Ag	1	0.253 ug/l	2.53	5.8	4500	103	P
111	Cd	1	0.650 ug/l	6.50	2.9	4500	103	P
118	Sn	1	0.967 ug/l	9.67	6.5	4500	103	P
123	Sb	1	0.097 ug/l	0.97	10.2	4500	103	P
135	Ba	1	43.100 ug/l	431.00	0.9	4500	103	P
200	Hg	1	0.088 ug/l	0.88	3.7	45	209	P
205	Tl	1	0.137 ug/l	1.37	4.5	4500	209	P
208	Pb	1	20.210 ug/l	202.10	1.8	4500	209	P
238	U	1	5.730 ug/l	57.30	2.1	4500	209	P

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	42150	2.42	46990	89.7	30 - 125	
45	Sc	1	1209649	3.52	1187000	101.9	30 - 125	
74	Ge	1	3457326	1.17	3343000	103.4	30 - 125	
103	Rh	1	5853451	0.57	5717000	102.4	30 - 125	
165	Ho	1	2775545	0.93	2591000	107.1	30 - 125	
175	Lu	1	2220913	0.45	2070000	107.3	30 - 125	
209	Bi	1	2994728	1.48	2857000	104.8	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\133SMPL.D\133SMPL.D#  
 Date Acquired: Jul 29 2011 01:03 am Acq. Method: 00He\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	47.950 ug/l	47.95	1.7	900	6	P
23	Na	1	4584.000 ug/l	4,584.00	3.7	450000	45	A
24	Mg	1	4652.000 ug/l	4,652.00	3.8	450000	45	A
27	Al	1	468.800 ug/l	468.80	3.5	450000	45	P
31	P	1	4718.000 ug/l	4,718.00	2.9	450000	45	P
39	K	1	4856.000 ug/l	4,856.00	2.2	450000	45	A
44	Ca	1	4776.000 ug/l	4,776.00	2.8	450000	45	P
47	Ti	1	48.220 ug/l	48.22	2.2	4500	45	P
51	V	1	47.660 ug/l	47.66	0.9	4500	74	P
52	Cr	1	47.840 ug/l	47.84	0.9	4500	74	P
55	Mn	1	48.140 ug/l	48.14	0.7	4500	74	P
56	Fe	1	4849.000 ug/l	4,849.00	1.4	450000	74	A
59	Co	1	47.710 ug/l	47.71	0.9	4500	74	P
60	Ni	1	48.430 ug/l	48.43	1.1	4500	74	P
63	Cu	1	49.120 ug/l	49.12	1.4	4500	74	P
66	Zn	1	48.260 ug/l	48.26	1.7	4500	74	P
75	As	1	48.520 ug/l	48.52	1.0	4500	74	P
78	Se	1	49.540 ug/l	49.54	0.7	4500	74	P
88	Sr	1	49.420 ug/l	49.42	1.6	4500	103	P
95	Mo	1	47.810 ug/l	47.81	1.9	4500	103	P
109	Ag	1	49.190 ug/l	49.19	1.4	4500	103	P
111	Cd	1	48.480 ug/l	48.48	1.8	4500	103	P
118	Sn	1	47.940 ug/l	47.94	1.4	4500	103	P
123	Sb	1	48.270 ug/l	48.27	1.4	4500	103	P
135	Ba	1	49.080 ug/l	49.08	1.4	4500	103	P
200	Hg	1	2.381 ug/l	2.38	0.5	45	209	P
205	Tl	1	47.940 ug/l	47.94	2.3	4500	209	A
208	Pb	1	48.630 ug/l	48.63	1.8	4500	209	P
238	U	1	47.740 ug/l	47.74	1.9	4500	209	A

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	43542	1.22	46990	92.7	30 - 125	
45	Sc	1	1274465	3.40	1187000	107.4	30 - 125	
74	Ge	1	3547431	0.89	3343000	106.1	30 - 125	
103	Rh	1	5897919	1.54	5717000	103.2	30 - 125	
165	Ho	1	2745643	0.74	2591000	106.0	30 - 125	
175	Lu	1	2222923	1.73	2070000	107.4	30 - 125	
209	Bi	1	2867924	1.87	2857000	100.4	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\072811P.B\134SMPL.D\134SMPL.D#  
 Date Acquired: Jul 29 2011 01:08 am Acq. Method: 00He\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info: STDS&RL&CCV 00007,ICV 00009,ICSA&ICSAB 072711

Current Method: C:\ICPCHEM\1\METHODS\00He\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00He\_REP.C 1 \\1\7500\he.u  
 Last Cal. Update: Jul 29 2011 07:21 am 2 \CHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\072811P.B\004CALB.D\004CALB.D# 3 \CHEM\1\7500\  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	1	0.003 ug/l	0.00	143.4	900	6	P
23	Na	1	2.253 ug/l	2.25	33.0	450000	45	P
24	Mg	1	0.115 ug/l	0.12	16.3	450000	45	P
27	Al	1	0.008 ug/l	0.01	896.6	450000	45	P
31	P	1	-2.703 ug/l	-2.70	65.2	450000	45	P
39	K	1	-7.747 ug/l	-7.75	20.9	450000	45	P
44	Ca	1	-2.560 ug/l	-2.56	24.7	450000	45	P
47	Ti	1	0.124 ug/l	0.12	5.5	4500	45	P
51	V	1	-0.035 ug/l	-0.03	5.3	4500	74	P
52	Cr	1	-0.009 ug/l	-0.01	161.3	4500	74	P
55	Mn	1	-0.028 ug/l	-0.03	23.2	4500	74	P
56	Fe	1	2.025 ug/l	2.03	4.3	450000	74	P
59	Co	1	-0.001 ug/l	0.00	247.4	4500	74	P
60	Ni	1	-0.027 ug/l	-0.03	29.1	4500	74	P
63	Cu	1	-0.010 ug/l	-0.01	42.7	4500	74	P
66	Zn	1	-0.020 ug/l	-0.02	267.2	4500	74	P
75	As	1	0.022 ug/l	0.02	82.0	4500	74	P
78	Se	1	0.004 ug/l	0.00	201.3	4500	74	P
88	Sr	1	0.002 ug/l	0.00	609.0	4500	103	P
95	Mo	1	0.026 ug/l	0.03	15.5	4500	103	P
109	Ag	1	0.001 ug/l	0.00	244.8	4500	103	P
111	Cd	1	-0.001 ug/l	0.00	250.8	4500	103	P
118	Sn	1	0.144 ug/l	0.14	14.8	4500	103	P
123	Sb	1	0.031 ug/l	0.03	24.2	4500	103	P
135	Ba	1	0.012 ug/l	0.01	154.1	4500	103	P
200	Hg	1	0.010 ug/l	0.01	48.8	45	209	P
205	Tl	1	0.145 ug/l	0.14	11.7	4500	209	P
208	Pb	1	-0.004 ug/l	0.00	406.4	4500	209	P
238	U	1	0.009 ug/l	0.01	7.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	42779	0.58	46990	91.0	30 - 125
45	Sc	1	1207580	0.92	1187000	101.7	30 - 125
74	Ge	1	3544494	2.65	3343000	106.0	30 - 125
103	Rh	1	6099806	0.23	5717000	106.7	30 - 125
165	Ho	1	2808451	1.85	2591000	108.4	30 - 125
175	Lu	1	2228405	0.98	2070000	107.7	30 - 125
209	Bi	1	3015009	1.32	2857000	105.5	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

METALS BATCH WORKSHEET

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Batch Number: 91441 Batch Start Date: 07/28/11 08:45 Batch Analyst: Froyland, Zoe

Batch Method: 3050B Batch End Date: 07/28/11 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	m-GPS-1 00021	m-GPS-2 00018	m-GPS-3 00018	m-GPS-4 00020
580-27633-A-7	11NC21SS07	3050B, 6020	T	1.0686 g	50 mL				
580-27633-A-7 DU	11NC21SS07	3050B, 6020	T	1.0837 g	50 mL				
580-27633-A-7 MS	11NC21SS07	3050B, 6020	T	1.1752 g	50 mL	1 mL	1 mL	1 mL	1 mL
580-27633-A-7 MSD	11NC21SS07	3050B, 6020	T	1.1130 g	50 mL	1 mL	1 mL	1 mL	1 mL
580-27633-B-10	11NC21SS10	3050B, 6020	T	1.2223 g	50 mL				
580-27633-B-9	11NC21SS09	3050B, 6020	T	1.2630 g	50 mL				
580-27633-B-8	11NC21SS08	3050B, 6020	T	1.0568 g	50 mL				
580-27633-A-6	11NC21SS06	3050B, 6020	T	1.1500 g	50 mL				
580-27633-A-5	11NC21SS05	3050B, 6020	T	1.0666 g	50 mL				
580-27633-A-4	11NC21SS04	3050B, 6020	T	1.1489 g	50 mL				
580-27633-A-3	11NC21SS03	3050B, 6020	T	1.0681 g	50 mL				
580-27633-A-2	11NC21SS02	3050B, 6020	T	1.0054 g	50 mL				
580-27633-A-1	11NC21SS01	3050B, 6020	T	1.0982 g	50 mL				
MB 580-91441/14		3050B, 6020		1.0 g	50 mL				
LCS 580-91441/15		3050B, 6020		1.0 g	50 mL	1 mL	1 mL	1 mL	1 mL
LCSD 580-91441/16		3050B, 6020		1.0 g	50 mL	1 mL	1 mL	1 mL	1 mL
LCSSRM 580-91441/17		3050B, 6020		0.5062 g	50 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HgSpk 00011	SRMsolid 00006				
580-27633-A-7	11NC21SS07	3050B, 6020	T						
580-27633-A-7 DU	11NC21SS07	3050B, 6020	T						
580-27633-A-7 MS	11NC21SS07	3050B, 6020	T	1 mL					
580-27633-A-7 MSD	11NC21SS07	3050B, 6020	T	1 mL					
580-27633-B-10	11NC21SS10	3050B, 6020	T						
580-27633-B-9	11NC21SS09	3050B, 6020	T						
580-27633-B-8	11NC21SS08	3050B, 6020	T						
580-27633-A-6	11NC21SS06	3050B, 6020	T						
580-27633-A-5	11NC21SS05	3050B, 6020	T						

METALS BATCH WORKSHEET

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Batch Number: 91441 Batch Start Date: 07/28/11 08:45 Batch Analyst: Froyland, Zoe

Batch Method: 3050B Batch End Date: 07/28/11 10:45

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HgSpk 00011	SRMsolid 00006				
580-27633-A-4	11NC21SS04	3050B, 6020	T						
580-27633-A-3	11NC21SS03	3050B, 6020	T						
580-27633-A-2	11NC21SS02	3050B, 6020	T						
580-27633-A-1	11NC21SS01	3050B, 6020	T						
MB 580-91441/14		3050B, 6020							
LCS 580-91441/15		3050B, 6020		1 mL					
LCSD 580-91441/16		3050B, 6020		1 mL					
LCSSRM 580-91441/17		3050B, 6020			0.5062 g				

Batch Notes	
Balance ID	SEA 220
Hydrogen peroxide lot number	609987
Lot # of hydrochloric acid	733839
Logbook ID for diluted Nitric	747194
Lot # of Nitric Acid	744520
Hood ID or number	06
Hot Block ID number	38008
Oven, Bath or Block Temperature 1	93.5 CORRECTED-TEMP Degrees C
Pipette ID	20051014
ID number of the thermometer	15-041-1A-A
Digestion Tube/Cup Lot #	745282
Uncorrected Temperature	95 Celsius

Basis	Basis Description
T	Total/NA

# **GENERAL CHEMISTRY**

COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-27633-1

SDG No.: \_\_\_\_\_

Project: NE Cape HTRW

Client Sample ID	Lab Sample ID
<u>11NC21SS01</u>	<u>580-27633-1</u>
<u>11NC21SS02</u>	<u>580-27633-2</u>
<u>11NC21SS03</u>	<u>580-27633-3</u>
<u>11NC21SS04</u>	<u>580-27633-4</u>
<u>11NC21SS05</u>	<u>580-27633-5</u>
<u>11NC21SS06</u>	<u>580-27633-6</u>
<u>11NC21SS07</u>	<u>580-27633-7</u>
<u>11NC21SS08</u>	<u>580-27633-8</u>
<u>11NC21SS09</u>	<u>580-27633-9</u>
<u>11NC21SS10</u>	<u>580-27633-10</u>

Comments:



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-27633-1  
SDG Number: \_\_\_\_\_  
Matrix: Solid Instrument ID: NOEQUIP  
Method: Moisture LOQ Date: 01/01/2005 13:13

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Method: Moisture

Start Date: 07/27/2011 17:42 End Date: 07/27/2011 17:44

Lab Sample ID	D / F	Type	Time	Analytes																			
				% Sol	Moist																		
580-27633-10	1	T	17:42	X	X																		
580-27633-10 DU	1	T	17:42	X	X																		
580-27633-9	1	T	17:42	X	X																		
580-27633-8	1	T	17:42	X	X																		
580-27633-7	1	T	17:42	X	X																		
580-27633-7 MS	1	T	17:42	X	X																		
580-27633-7 MSD	1	T	17:42	X	X																		
580-27633-6	1	T	17:42	X	X																		
580-27633-5	1	T	17:42	X	X																		
580-27633-4	1	T	17:42	X	X																		
580-27633-3	1	T	17:42	X	X																		
580-27633-2	1	T	17:44	X	X																		
580-27633-1	1	T	17:44	X	X																		

Prep Types

T = Total/NA

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Seattle Job No.: 580-27633-1

SDG No.: \_\_\_\_\_

Batch Number: 91442 Batch Start Date: 07/27/11 17:42 Batch Analyst: Froyland, Zoe

Batch Method: Moisture Batch End Date: 07/28/11 08:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
580-27633-B-10	11NC21SS10	Moisture	T	0.8031 g	5.6665 g	1.5552 g			
580-27633-B-10 DU	11NC21SS10	Moisture	T	0.7575 g	5.7455 g	1.5587 g			
580-27633-B-9	11NC21SS09	Moisture	T	0.7993 g	4.6498 g	1.2214 g			
580-27633-B-8	11NC21SS08	Moisture	T	0.7938 g	5.9695 g	2.9821 g			
580-27633-A-7	11NC21SS07	Moisture	T	0.7712 g	6.3837 g	2.9782 g			
580-27633-A-7 MS	11NC21SS07	Moisture	T	0.7712 g	6.3837 g	2.9782 g			
580-27633-A-7 MSD	11NC21SS07	Moisture	T	0.7712 g	6.3837 g	2.9782 g			
580-27633-A-6	11NC21SS06	Moisture	T	0.7663 g	4.6024 g	1.4165 g			
580-27633-A-5	11NC21SS05	Moisture	T	0.7655 g	10.3165 g	1.8147 g			
580-27633-A-4	11NC21SS04	Moisture	T	0.7656 g	7.5697 g	2.6019 g			
580-27633-A-3	11NC21SS03	Moisture	T	0.7523 g	5.1075 g	1.6419 g			
580-27633-A-2	11NC21SS02	Moisture	T	0.7600 g	4.5056 g	1.8689 g			
580-27633-A-1	11NC21SS01	Moisture	T	0.7699 g	5.9038 g	1.8648 g			

Batch Notes	
Balance ID	SEA 220 No Unit
Date samples were placed in the oven	7/27/11
Oven Temp when samples are put in oven	110 CORRECTED-TEMP Degrees C
Time samples were place in the oven	1600
Date samples were removed from oven	7/27/11
Oven Temp when samples removed from oven	107 CORRECTED-TEMP Degrees C
Time Samples were removed from oven	0830
Oven ID	SEA304
ID number of the thermometer	14-985-C-1
Uncorrected In Temperature	111 Celsius
Uncorrected Out Temperature	108 Celsius

Basis	Basis Description
T	Total/NA

Moisture

# Shipping and Receiving Documents

Tacoma

5755 8th Street East

Tacoma, WA 98424

phone 253.922.2310 fax 253.922.5047

### Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

<b>Client Contact</b>		<b>Project Manager: Molly Welker</b>			<b>Site Contact: Marty Hannah</b>			<b>Date: July 25, 2011</b>			<b>COC No: 11NC-02-1</b>			
Bristol Environmental		Tel/Fax: (907) 563-0013			Lab Contact: Terri Torres			Carrier: Alaska Airlines			1 of 1 COCs			
111 West 16th Ave, Third Floor		<b>Analysis Turnaround Time</b>			Filtered Sample DRO/RRO (AK 102/103) PAH (8270C-SIM) Metals: Arsenic (SW 6020A)						34110008			
Anchorage Alaska, 99504		Calendar (C) or Work Days (W)												
(907) 563-0013		TAT if different from Below : see comments below												
(907) 563-6713		<input type="checkbox"/> 2 weeks												
Project Name: NE Cape HTRW		<input type="checkbox"/> 1 week												
Site: St. Lawrence Island		<input type="checkbox"/> 2 days									SDG No.			
P O # 34110008-40-34		<input type="checkbox"/> 1 day									Sample Specific Notes:			
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.								
11NC21SS01		7/22/2011	8:45	grab	soil	1				Loc ID: 21-01				
11NC21SS02		7/22/2011	9:00	grab	soil	1				Loc ID: 21-02				
11NC21SS03		7/22/2011	9:15	grab	soil	1				Loc ID: 21-03				
11NC21SS04		7/22/2011	9:30	grab	soil	1				Loc ID: 21-04				
11NC21SS05		7/22/2011	9:40	grab	soil	1				Loc ID: 21-05				
11NC21SS06		7/22/2011	9:50	grab	soil	1				Loc ID: 21-06				
11NC21SS07		7/22/2011	10:00	grab	soil	1				Loc ID: 21-07 MS/MSD				
11NC21SS08		7/22/2011	10:15	grab	soil	1				Loc ID: 21-08				
11NC21SS09		7/18/11	10:30	grab	soil	1				Loc ID: 21-09				
11NC21SS10		7/18/11	9:20	grab	soil	1				Loc ID: 21-03				
11NC08WA01		7/23/11	16:00	surface	water	12	X	X				Loc ID: 8-01 MS/MSD		
11NC08WA02		7/23/11	17:00	surface	water	4	X	X				Loc ID 8-02		
11NC08WA03		7/23/11	17:15	surface	water	4	X	X				Loc ID 8-02		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1,2														
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For 1 Months								
<b>Special Instructions/QC Requirements &amp; Comments:</b> NPDL # 11-072; TestAmerica Work Authorization 3411008-001-031811 Number <u>Soil samples have a 2 day TAT, water samples 2 week TAT</u>														
Relinquished by: <u>Eric Benhill</u>		Company: Bristol Environmental		Date/Time: 7/25/2011		Received by: <u>[Signature]</u>		Company: TA-SEA		Date/Time: 7/27/11 1005				
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:				
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:				

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Cooler ID No.

1 of 3

TAL Work Order

27433

### COOLER RECEIPT FORM

Project NE Cape HTRW

Cooler received on 7/27 and opened on 7/27 by Francisco Luna, Jr.

[Signature]  
(signature)

Temperature upon receipt:

Cooler: Corr 6.3 °C, Uncorr 6.0 °C Therm ID: 102137859

Temp. Blank: Corr 6.6 °C, Uncorr 6.3 °C Therm ID: 102137859

1. Were custody seals on outside of cooler and intact?  YES  NO
  - a. If yes, how many and where: 2 Front + Back
  - b. Were signature and date correct? Yes
2. Were custody papers taped to lid inside cooler?  YES  NO
3. Were custody papers properly filled out (ink, signed, etc)?  YES  NO
4. Did you sign custody papers in the appropriate place?  YES  NO
5. Did you attach shipper's packing slip to this form?  YES  NO
6. What kind of packing material was used? Bubble wrap
7. Was sufficient ice used? Shut  YES  NO
8. Were all bottles sealed in separate plastic bags?  YES  NO
9. Did all bottles arrive in good condition (unbroken)?  YES  NO
10. Were all bottle labels complete (no., date, signed, pres, etc)?  YES  NO
11. Did all bottle labels and tags agree with custody papers?  YES  NO
12. Were correct bottles used for the test indicated?  YES  NO
13. If present, were vov vials checked for absence of airbubbles and noted if found? NA  YES  NO
14. Adequate volume of vov vials received per sample?  YES  NO
15. Was sufficient amount of sample sent in each bottle?  YES  NO
16. Were correct preservatives used?  YES  NO
17. Were extra labels added to pre-tared containers? NA  YES  NO
18. Corrective action taken, if necessary:
  - a. Name of person contacted: \_\_\_\_\_
  - b. Date: \_\_\_\_\_

1 of 3

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
146107

**Custody Seal**

DATE

11-22-11

SIGNATURE

*[Signature]*

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
146107

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
146108

**Custody Seal**

DATE

11-22-11

SIGNATURE

*[Signature]*

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
80108

Cooler ID No. 2 of 3

TAL Work Order 27433

### COOLER RECEIPT FORM

Project NE Cape HTRW

Cooler received on 7/27 and opened on 7/27 by Francisco Luna, Jr.

[Signature]  
(signature)

Temperature upon receipt:

Cooler: Corr 3.8 °C, Uncorr 3.5 °C Therm ID: 102137859  
Temp. Blank: Corr 5.1 °C, Uncorr 4.8 °C Therm ID: 102137854

1. Were custody seals on outside of cooler and intact?  YES  NO
  - a. If yes, how many and where: 2 Front + Back
  - b. Were signature and date correct? Yes
2. Were custody papers taped to lid inside cooler?  YES  NO
3. Were custody papers properly filled out (ink, signed, etc)?  YES  NO
4. Did you sign custody papers in the appropriate place?  YES  NO
5. Did you attach shipper's packing slip to this form?  YES  NO
6. What kind of packing material was used? Bubble Wrap
7. Was sufficient ice used? Blue  YES  NO
8. Were all bottles sealed in separate plastic bags?  YES  NO
9. Did all bottles arrive in good condition (unbroken)?  YES  NO
10. Were all bottle labels complete (no., date, signed, pres, etc)?  YES  NO
11. Did all bottle labels and tags agree with custody papers?  YES  NO
12. Were correct bottles used for the test indicated?  YES  NO
13. If present, were voa vials checked for absence of airbubbles and noted if found? NA  YES  NO
14. Adequate volume of voa vials received per sample?  YES  NO
15. Was sufficient amount of sample sent in each bottle?  YES  NO
16. Were correct preservatives used?  YES  NO
17. Were extra labels added to pre-tared containers? NA  YES  NO
18. Corrective action taken, if necessary:
  - a. Name of person contacted: \_\_\_\_\_
  - b. Date: \_\_\_\_\_



20f3

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
146110

**Custody Seal**

DATE

7-25-11

SIGNATURE

*[Handwritten Signature]*

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
146110

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
146109

**Custody Seal**

DATE

7-25-11

SIGNATURE

*[Handwritten Signature]*

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING  
146109

# Alaska Air Cargo™

ALASKA AIRLINES & HORIZON AIR

P.O. BOX 68900 SEATTLE, WA 98168  
800-225-2752 ALASKACARGO.COM

### SHIPPER

BRISTOL ENVIRONMENTAL  
111 W 16th Ave  
Anchorage, AK 99501

### CONSIGNEE

Test America Laboratories Inc  
5755 8TH STREET E  
TACOMA, WA 98498

AWB Number	Pieces	Weight	Origin / Dest	Nature of Goods	Arriving Flight Details	Customs
027-77755856	3	126.0 Lb	OME-SEA	WATER SAMPLES	AS 094 26-Jul-2011	

Storage Locations: MED 3

LOCAL CHARGES :

Bonded Warehouse

Total Local Charges:	USD	0.00
VAT 0.00%:	USD	0.00
Grand Total:	USD	<b>0.00</b>

PO Number

### RECEIPT STATEMENT

The undersigned acknowledge the receipt of above mentioned consignment complete and in good condition.

Date: 27-Jul-2011

Time: 09:24

Driver: Francisco

Registration: \_\_\_\_\_

Signature: 

Shipper's Name and Address <b>BRISTOL ENVIRONMENT</b> 111 W 16th Ave Anchorage, AK 99501 USA Tel: 9075630013		Shipper's Account Number 27442295111 Customer's ID Number 10189		Not Negotiable <b>Air Waybill</b> Issued By <i>Alaska Air Cargo</i> ALASKA AIRLINES & HORIZON AIR P.O. BOX 68900 SEATTLE, WA 98168 800-225-2752 ALASKACARGO.COM					
Consignee's Name and Address Test America-Laboratories 5755 8TH STREET E TACOMA, WA 98498 USA Tel: 2539222310		Consignee's Account Number 27442464535		Also notify <i>NYC NYFD</i> Tel:					
Issuing Carrier's Agent and City None		Accounting Information BRISTOL ENVIRONMENTAL 111 W 16th Ave Anchorage, AK 99501 USA GoldStreak		10189					
Agent's IATA Code		Account No.							
Airport of Departure (Addr. of First Carrier) and Requested Routing None		Airport of Destination Seattle		Amount of Insurance XXX					
To By First Carrier ANC Alaska Airlines		To / By SEA AS		Currency USD PX					
Flight/Date AS 152/26		Flight/Date AS 094/26		Declared Value For Carriage NVD					
Declared Value For Customs NCV		WT/VAL X		Other X					
Handling Information									
					SCI				
No of Pieces	Gross Weight	kg	lb	Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions or Volume)	
3	126.0	L	Q		126.0		AS AGREED	WATER SAMPLES	
3	126.0						AS AGREED	GSX Volume: 0.000	
Prepaid		Weight Charge		Collect		Other Charges			
AS AGREED						MYC 22.68 SCC 2.52			
Valuation Charge									
Tax									
Total Other Charges Due Agent						Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo.			
Total Other Charges Due Carrier						For: BRISTOL ENVIRONMENTAL Signature of Shipper or his Agent <i>[Signature]</i>			
Total Prepaid		Total Collect				<input checked="" type="checkbox"/> THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS <input type="checkbox"/> THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS			
AS AGREED						26 Jul 2011 11:26 Nome Alaska Airlines			
						Executed On (Date) at (Place) Signature of Issuing Carrier or its Agent			
						027-7775 5856			

**Analytical Data Report for Site 21 Excavation Samples Collected in 2010**

## ANALYTICAL REPORT

Job Number: 580-21446-1

Job Description: NE Cape Landfill, St. Lawrence Island

For:  
Bristol Env. Remediation Services LLC  
111 W 16th Ave  
Suite 301  
Anchorage, AK 99501  
Attention: Molly Welker



Approved for release.  
Terri L. Torres  
Project Manager II  
10/12/2010 5:58 PM

---

Terri L. Torres  
Project Manager II  
terri.torres@testamericainc.com  
10/12/2010  
Revision: 1

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC and the DOD QSM V4.1 (4/22/09). All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.

**TestAmerica Laboratories, Inc.**

TestAmerica Seattle 5755 8th Street East, Tacoma, WA 98424  
Tel (253) 922-2310 Fax (253) 922-5047 [www.testamericainc.com](http://www.testamericainc.com)



# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	4
Report Narrative . . . . .	4
Sample Summary . . . . .	5
Method Summary . . . . .	6
Sample Datasheets . . . . .	7
QC Data Summary . . . . .	11
Data Qualifiers . . . . .	16
QC Association Summary . . . . .	17
Inorganic Sample Data . . . . .	18
Metals Data . . . . .	18
Met Cover Page . . . . .	19
Met Sample Data . . . . .	20
Met QC Data . . . . .	22
Met ICV/CCV . . . . .	22
Met CRQL . . . . .	24
Met Blanks . . . . .	25
Met ICSA/ICSAB . . . . .	27
Met MS/MSD/PDS . . . . .	33
Met Dup/Trip . . . . .	36
Met LCS/LCSD . . . . .	37
Met Serial Dilution . . . . .	40
Met MDL . . . . .	41
Met Linear Ranges . . . . .	43
Met Preparation Log . . . . .	44
Met Analysis Run Log . . . . .	45

# Table of Contents

Met ICP/MS Int Stds .....	51
Met Raw Data .....	54
Met Prep Data .....	273
General Chemistry Data .....	275
Gen Chem Cover Page .....	276
Gen Chem MDL .....	277
Gen Chem Analysis Run Log .....	278
Gen Chem Prep Data .....	279
Shipping and Receiving Documents .....	280
Client Chain of Custody .....	281

## CASE NARRATIVE

**Client: Bristol Env. Remediation Services LLC**

**Project: NE Cape Landfill, St. Lawrence Island**

**Report Number: 580-21446-1**

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

Following DoD QSM guidelines, manual integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure, Acceptable Manual Integration Practices, SOP No.: Q-S-002. The reason(s) for manual integration have been documented on the affected chromatogram(s), which is/are provided in the raw data package. The raw data also includes the original chromatogram(s) prior to any manual integration being performed. Manual integrations are detailed in the manual integration summary forms following this narrative.

It should be noted that samples with elevated Limits of Quantitation (LOQs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the LOQs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 09/08/2010; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.5 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

### **TOTAL METALS (ICPMS)**

Samples 10NC21SB42 (580-21446-1) and 10NC21SB43 (580-21446-2) were analyzed for total metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 09/11/2010 and analyzed on 09/13/2010.

For Arsenic, the ICP-MS ICESA standard contains trace impurities derived from the manufacturing process, which may cause these standards to fail method QC criteria. Regrettably corrective action can not be performed for any outliers other than to note deficiencies in the laboratory's QC report section. The data was qualified "Q" and reported.

The RPD for Arsenic in the duplicate analysis of sample 10NC21SB42DU (580-21446-1) was outside advisory QC limits. The sample matrix may be non-homogeneous.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

### **PERCENT SOLIDS**

Samples 10NC21SB42 (580-21446-1) and 10NC21SB43 (580-21446-2) were analyzed for percent solids in accordance with EPA SW846 3550C. The samples were analyzed on 09/11/2010.

No difficulties were encountered during the % solids analyses.

All quality control parameters were within the acceptance limits.



## SAMPLE SUMMARY

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
580-21446-1	10NC21SB42	Solid	08/31/2010 1330	09/08/2010 1000
580-21446-1MS	10NC21SB42	Solid	08/31/2010 1330	09/08/2010 1000
580-21446-1MSD	10NC21SB42	Solid	08/31/2010 1330	09/08/2010 1000
580-21446-2	10NC21SB43	Solid	08/31/2010 1340	09/08/2010 1000

## METHOD SUMMARY

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix: Solid</b>			
Metals (ICP/MS)	TAL SEA	SW846 6020	
Preparation, Metals	TAL SEA		SW846 3050B
Percent Moisture	TAL SEA	EPA Moisture	

### Lab References:

TAL SEA = TestAmerica Seattle

### Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

**Client Sample ID:** 10NC21SB42

Lab Sample ID: 580-21446-1

Date Sampled: 08/31/2010 1330

Client Matrix: Solid

% Moisture: 24.5

Date Received: 09/08/2010 1000

---

**6020 Metals (ICP/MS)**

Method: 6020

Analysis Batch: 580-71525

Instrument ID: SEA044

Preparation: 3050B

Prep Batch: 580-71358

Lab File ID: 057SMPL

Dilution: 10

Initial Weight/Volume: 1.1114 g

Date Analyzed: 09/13/2010 1637

Final Weight/Volume: 50 mL

Date Prepared: 09/11/2010 1218

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		11	Q J	0.0048	0.24

---

**Analytical Data**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

**Client Sample ID: 10NC21SB43**

Lab Sample ID: 580-21446-2

Date Sampled: 08/31/2010 1340

Client Matrix: Solid

% Moisture: 29.2

Date Received: 09/08/2010 1000

---

**6020 Metals (ICP/MS)**

Method: 6020

Analysis Batch: 580-71525

Instrument ID: SEA044

Preparation: 3050B

Prep Batch: 580-71358

Lab File ID: 067SMPL

Dilution: 10

Initial Weight/Volume: 1.0936 g

Date Analyzed: 09/13/2010 1746

Final Weight/Volume: 50 mL

Date Prepared: 09/11/2010 1218

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	DL	LOQ
Arsenic		17	Q	0.0052	0.26

---

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

---

General Chemistry

Client Sample ID: 10NC21SB42

Lab Sample ID: 580-21446-1

Client Matrix: Solid

Date Sampled: 08/31/2010 1330

Date Received: 09/08/2010 1000

Analyte	Result	Qual	Units	LOQ	LOQ	Dil	Method
Percent Solids	76		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-71361	Date Analyzed: 09/11/2010 1342					DryWt Corrected: N
Percent Moisture	24		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-71361	Date Analyzed: 09/11/2010 1342					DryWt Corrected: N

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

---

General Chemistry

Client Sample ID: 10NC21SB43

Lab Sample ID: 580-21446-2

Client Matrix: Solid

Date Sampled: 08/31/2010 1340

Date Received: 09/08/2010 1000

Analyte	Result	Qual	Units	LOQ	LOQ	Dil	Method
Percent Solids	71		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-71361	Date Analyzed: 09/11/2010 1342					DryWt Corrected: N
Percent Moisture	29		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 580-71361	Date Analyzed: 09/11/2010 1342					DryWt Corrected: N

**Quality Control Results**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

**Method Blank - Batch: 580-71358**

**Method: 6020**  
**Preparation: 3050B**

Lab Sample ID: MB 580-71358/16-A  
Client Matrix: Solid  
Dilution: 10  
Date Analyzed: 09/13/2010 1623  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358  
Units: mg/Kg

Instrument ID: SEA044  
Lab File ID: 055SMPL.D  
Initial Weight/Volume: 1.0 g  
Final Weight/Volume: 50 mL

Analyte	Result	Qual	DL	LOQ
Arsenic	0.0040	U Q	0.0040	0.20

**LCS-Certified Reference Material - Batch:**

**Method: 6020**  
**Preparation: 3050B**

Lab Sample ID: LCSSRM 580-71358/19-A  
Client Matrix: Solid  
Dilution: 20  
Date Analyzed: 09/13/2010 1726  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358  
Units: mg/Kg

Instrument ID: SEA044  
Lab File ID: 064SM  
Initial Weight/Volume: 0.4960 g  
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	225	219	97	71.1 - 128.9	Q

**Lab Control Sample/  
Lab Control Sample Duplicate Recovery Report - Batch: 580-71358**

**Method: 6020**  
**Preparation: 3050B**

LCS Lab Sample ID: LCS 580-71358/17-A  
Client Matrix: Solid  
Dilution: 50  
Date Analyzed: 09/13/2010 1712  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358  
Units: mg/Kg

Instrument ID: SEA044  
Lab File ID: 062SMPL.D  
Initial Weight/Volume: 1.0 g  
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 580-71358/18-A  
Client Matrix: Solid  
Dilution: 50  
Date Analyzed: 09/13/2010 1719  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358  
Units: mg/Kg

Instrument ID: SEA044  
Lab File ID: 063SMPL.D  
Initial Weight/Volume: 1.0 g  
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Arsenic	106	106	80 - 120	0.3	20	Q	Q

**Quality Control Results**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

**Laboratory Control/  
Laboratory Duplicate Data Report - Batch: 580-71358**

**Method: 6020  
Preparation: 3050B**

LCS Lab Sample ID: LCS 580-71358/17-A                      Units: mg/Kg  
 Client Matrix: Solid  
 Dilution: 50  
 Date Analyzed: 09/13/2010 1712  
 Date Prepared: 09/11/2010 1218

LCSD Lab Sample ID: LCSD 580-71358/18-A  
 Client Matrix: Solid  
 Dilution: 50  
 Date Analyzed: 09/13/2010 1719  
 Date Prepared: 09/11/2010 1218

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Arsenic	200	200	212 Q	212 Q

**Post Digestion Spike - Batch: 580-71358**

**Method: 6020  
Preparation: 3050B**

Lab Sample ID: 580-21446-1  
 Client Matrix: Solid  
 Dilution: 50  
 Date Analyzed: 09/13/2010 1705  
 Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
 Prep Batch: 580-71358  
 Units: mg/Kg

Instrument ID: SEA044  
 Lab File ID: 061SMPL.D  
 Initial Weight/Volume: 1.1114 g  
 Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	11	238	255	102	75 - 125	Q



**Quality Control Results**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 580-71358**

**Method: 6020  
Preparation: 3050B**

MS Lab Sample ID: 580-21446-1  
Client Matrix: Solid  
Dilution: 50  
Date Analyzed: 09/13/2010 1651  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358

Instrument ID: SEA044  
Lab File ID: 059SM  
Initial Weight/Volume: 1.0724 g  
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 580-21446-1  
Client Matrix: Solid  
Dilution: 50  
Date Analyzed: 09/13/2010 1658  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358

Instrument ID: SEA044  
Lab File ID: 060SM  
Initial Weight/Volume: 1.1714 g  
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Arsenic	104	103	80 - 120	10	20	Q	Q

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 580-71358**

**Method: 6020  
Preparation: 3050B**

MS Lab Sample ID: 580-21446-1  
Client Matrix: Solid  
Dilution: 50  
Date Analyzed: 09/13/2010 1651  
Date Prepared: 09/11/2010 1218

Units: mg/Kg

MSD Lab Sample ID: 580-21446-1  
Client Matrix: Solid  
Dilution: 50  
Date Analyzed: 09/13/2010 1658  
Date Prepared: 09/11/2010 1218

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Arsenic	11	247	226	268 Q	243 Q

**Quality Control Results**

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

**Serial Dilution - Batch: 580-71358**

**Method: 6020**  
**Preparation: 3050B**

Lab Sample ID: 580-21446-1  
Client Matrix: Solid  
Dilution: 50  
Date Analyzed: 09/13/2010 1630  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358  
Units: mg/Kg

Instrument ID: SEA044  
Lab File ID: 056SMPL.D  
Initial Weight/Volume: 1.1114 g  
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	%Diff	Limit	Qual
Arsenic	11	10.2	7.2	10	Q

**Duplicate - Batch: 580-71358**

**Method: 6020**  
**Preparation: 3050B**

Lab Sample ID: 580-21446-1  
Client Matrix: Solid  
Dilution: 10  
Date Analyzed: 09/13/2010 1644  
Date Prepared: 09/11/2010 1218

Analysis Batch: 580-71525  
Prep Batch: 580-71358  
Units: mg/Kg

Instrument ID: SEA044  
Lab File ID: 058SMPL  
Initial Weight/Volume: 1.2070 g  
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	11	17.0	43	20	Q J

## Quality Control Results

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

### Duplicate - Batch: 580-71361

**Method: Moisture**  
**Preparation: N/A**

Lab Sample ID: 580-21446-1  
Client Matrix: Solid  
Dilution: 1.0  
Date Analyzed: 09/11/2010 1342  
Date Prepared: N/A

Analysis Batch: 580-71361  
Prep Batch: N/A  
Units: %

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Solids	76	76	0	20	
Percent Moisture	24	24	1	20	

## DATA REPORTING QUALIFIERS

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
Metals		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
	Q	One or more quality control criteria failed.
	U	Undetected at the Limit of Detection.

## Quality Control Results

Client: Bristol Env. Remediation Services LLC

Job Number: 580-21446-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Prep Batch: 580-71358</b>					
LCS 580-71358/17-A	Lab Control Sample	T	Solid	3050B	
LCSD 580-71358/18-A	Lab Control Sample Duplicate	T	Solid	3050B	
LCSSRM 580-71358/19-A	LCS-Certified Reference Material	T	Solid	3050B	
MB 580-71358/16-A	Method Blank	T	Solid	3050B	
580-21446-1	10NC21SB42	T	Solid	3050B	
580-21446-1DU	Duplicate	T	Solid	3050B	
580-21446-1MS	Matrix Spike	T	Solid	3050B	
580-21446-1MSD	Matrix Spike Duplicate	T	Solid	3050B	
580-21446-2	10NC21SB43	T	Solid	3050B	
<b>Analysis Batch:580-71525</b>					
LCS 580-71358/17-A	Lab Control Sample	T	Solid	6020	580-71358
LCSD 580-71358/18-A	Lab Control Sample Duplicate	T	Solid	6020	580-71358
LCSSRM 580-71358/19-A	LCS-Certified Reference Material	T	Solid	6020	580-71358
MB 580-71358/16-A	Method Blank	T	Solid	6020	580-71358
580-21446-1	10NC21SB42	T	Solid	6020	580-71358
580-21446-1DU	Duplicate	T	Solid	6020	580-71358
580-21446-1MS	Matrix Spike	T	Solid	6020	580-71358
580-21446-1MSD	Matrix Spike Duplicate	T	Solid	6020	580-71358
580-21446-2	10NC21SB43	T	Solid	6020	580-71358

**Report Basis**

T = Total

**General Chemistry**

<b>Analysis Batch:580-71361</b>					
580-21446-1	10NC21SB42	T	Solid	Moisture	
580-21446-1DU	Duplicate	T	Solid	Moisture	
580-21446-1MS	Matrix Spike	T	Solid	Moisture	
580-21446-1MSD	Matrix Spike Duplicate	T	Solid	Moisture	
580-21446-2	10NC21SB43	T	Solid	Moisture	

**Report Basis**

T = Total

# **METALS**

COVER PAGE  
METALS

Lab Name: TestAmerica Seattle Job Number: 580-21446-1

SDG No.: \_\_\_\_\_

Project: NE Cape Landfill, St. Lawrence Island

Client Sample ID	Lab Sample ID
<u>10NC21SB42</u>	<u>580-21446-1</u>
<u>10NC21SB43</u>	<u>580-21446-2</u>

Comments:

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1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 10NC21SB42 Lab Sample ID: 580-21446-1  
 Lab Name: TestAmerica Seattle Job No.: 580-21446-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 08/31/2010 13:30  
 Reporting Basis: DRY Date Received: 09/08/2010 10:00  
 % Solids: 75.5

CAS No.	Analyte	Conc.	LOQ	DL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	11	0.24	0.0048	mg/Kg		Q J	10	6020



1A-IN  
 INORGANIC ANALYSIS DATA SHEET  
 METALS

Client Sample ID: 10NC21SB43 Lab Sample ID: 580-21446-2  
 Lab Name: TestAmerica Seattle Job No.: 580-21446-1  
 SDG ID.: \_\_\_\_\_  
 Matrix: Solid Date Sampled: 08/31/2010 13:40  
 Reporting Basis: DRY Date Received: 09/08/2010 10:00  
 % Solids: 70.8

CAS No.	Analyte	Conc.	LOQ	DL	Units	C	Q	DIL	Method
7440-38-2	Arsenic	17	0.26	0.0052	mg/Kg		Q	10	6020

2A-IN  
 CALIBRATION VERIFICATIONS  
 METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

ICV Source: ICPMS\_CAL\_WOR\_00003 Concentration Units: mg/L

CCV Source: ICPMS\_CAL\_WOR\_00003

Analyte	ICV 580-71525/7 09/13/2010 11:47				CCV 580-71525/42 09/13/2010 16:09				CCV 580-71525/54 09/13/2010 17:33			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
<b>Arsenic</b>	0.0414		0.0400	104	0.0493		0.0500	99	0.0495		0.0500	99
<i>Barium</i>	0.0404		0.0400	101	0.0520		0.0500	104	0.0504		0.0500	101
<i>Cadmium</i>	0.0405		0.0400	101	0.0516		0.0500	103	0.0505		0.0500	101
<i>Chromium</i>	0.0408		0.0400	102	0.0492		0.0500	98	0.0486		0.0500	97
<i>Lead</i>	0.0409		0.0400	102	0.0505		0.0500	101	0.0506		0.0500	101
<i>Selenium</i>	0.0396		0.0400	99	0.0487		0.0500	97	0.0490		0.0500	98
<i>Silver</i>	0.0412		0.0400	103	0.0506		0.0500	101	0.0501		0.0500	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Italicized analytes were not requested for this sequence.

2A-IN  
 CALIBRATION VERIFICATIONS  
 METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

ICV Source: ICPMS\_CAL\_WOR\_00003 Concentration Units: mg/L

CCV Source: ICPMS\_CAL\_WOR\_00003

Analyte	CCV 580-71525/66 09/13/2010 18:55											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
<b>Arsenic</b>	0.0486		0.0500	97								
<i>Barium</i>	0.0513		0.0500	103								
<i>Cadmium</i>	0.0502		0.0500	100								
<i>Chromium</i>	0.0479		0.0500	96								
<i>Lead</i>	0.0505		0.0500	101								
<i>Selenium</i>	0.0500		0.0500	100								
<i>Silver</i>	0.0502		0.0500	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Italicized analytes were not requested for this sequence.

2B-IN  
CRQL CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1  
 SDG No.: \_\_\_\_\_  
 Analysis Method: 6020 Instrument ID: SEA044  
 Lab Sample ID: CRI 580-71525/9 Concentration Units: mg/L  
 CRQL Check Standard Source: ICPMS\_CAL\_WOR\_00003

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Arsenic	0.00200	0.00175		88	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Concentration Units: mg/L

Analyte	RL	ICB 580-71525/8 09/13/2010 11:54		CCB 580-71525/43 09/13/2010 16:16		CCB 580-71525/55 09/13/2010 17:39		CCB 580-71525/67 09/13/2010 19:02	
		Found	C	Found	C	Found	C	Found	C
<b>Arsenic</b>	0.00040	0.00040	U	0.00040	U	0.00040	U	0.00040	U
<i>Barium</i>	0.00040	0.00040	U	0.00040	U	0.00040	U	0.00040	U
<i>Cadmium</i>	0.00040	0.00040	U	0.00040	U	0.00040	U	0.00040	U
<i>Chromium</i>	0.00040	0.00040	U	0.00040	U	0.00040	U	0.00040	U
<i>Lead</i>	0.00040	0.00040	U	0.00040	U	0.00040	U	0.00040	U
<i>Selenium</i>	0.00040	0.00040	U	0.00040	U	0.00040	U	0.00040	U
<i>Silver</i>	0.00040	0.00040	U	0.00040	U	0.00040	U	0.00040	U

Italicized analytes were not requested for this sequence.

3-IN  
METHOD BLANK  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1  
SDG No.: \_\_\_\_\_  
Concentration Units: mg/Kg Lab Sample ID: MB 580-71358/16-A  
Instrument Code: SEA044 Batch No.: 71525

CAS No.	Analyte	Concentration	C	Q	Method
7440-38-2	Arsenic	0.0040	U	Q	6020

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSA 580-71525/10

Instrument ID: SEA044

Lab File ID: 019SMPL.D

ICS Source: ICPMS- ICSA\_00001

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution A	Solution A	
<b>Arsenic</b>		<b>0.0004</b>	
<i>Antimony</i>		0.0007	
<i>Barium</i>		0.0003	
<i>Beryllium</i>		0.0000	
<i>Cadmium</i>		0.0004	
<i>Chromium</i>		0.0011	
<i>Cobalt</i>		0.0037	
<i>Copper</i>		0.0036	
<i>Iron</i>	250	248	99
<i>Lead</i>		0.0003	
<i>Manganese</i>		0.0057	
<i>Mercury</i>		0.0000	
<i>Molybdenum</i>	2.00	2.06	103
<i>Nickel</i>		0.0029	
<i>Selenium</i>		-0.0001	
<i>Silver</i>		0.0002	
<i>Strontium</i>		0.0171	
<i>Thallium</i>		0.0001	
<i>Tin</i>		0.0001	
<i>Titanium</i>	2.00	2.13	106
<i>Uranium</i>		0.0000	
<i>Vanadium</i>		-0.0005	
<i>Zinc</i>		0.0034	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSAB 580-71525/11

Instrument ID: SEA044

Lab File ID: 020SMPL.D

ICS Source: ICPMS- ICSA\_00001

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
<b>Arsenic</b>	<b>0.100</b>	<b>0.105</b>	<b>105</b>
<i>Antimony</i>		<i>0.0008</i>	
<i>Barium</i>		<i>0.0003</i>	
<i>Beryllium</i>		<i>0.0000</i>	
<i>Cadmium</i>	<i>0.100</i>	<i>0.109</i>	<i>109</i>
<i>Chromium</i>	<i>0.200</i>	<i>0.205</i>	<i>103</i>
<i>Cobalt</i>	<i>0.200</i>	<i>0.200</i>	<i>100</i>
<i>Copper</i>	<i>0.200</i>	<i>0.185</i>	<i>93</i>
<i>Iron</i>	<i>250</i>	<i>246</i>	<i>98</i>
<i>Lead</i>		<i>0.0003</i>	
<i>Manganese</i>	<i>0.200</i>	<i>0.204</i>	<i>102</i>
<i>Mercury</i>		<i>0.0000</i>	
<i>Molybdenum</i>	<i>2.00</i>	<i>2.03</i>	<i>101</i>
<i>Nickel</i>	<i>0.200</i>	<i>0.192</i>	<i>96</i>
<i>Selenium</i>	<i>0.100</i>	<i>0.106</i>	<i>106</i>
<i>Silver</i>	<i>0.0500</i>	<i>0.0516</i>	<i>103</i>
<i>Strontium</i>		<i>0.0164</i>	
<i>Thallium</i>		<i>0.0000</i>	
<i>Tin</i>		<i>0.0001</i>	
<i>Titanium</i>	<i>2.00</i>	<i>2.05</i>	<i>102</i>
<i>Uranium</i>		<i>0.0000</i>	
<i>Vanadium</i>	<i>0.200</i>	<i>0.209</i>	<i>104</i>
<i>Zinc</i>	<i>0.100</i>	<i>0.0973</i>	<i>97</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.



4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSAB 580-71525/11

Instrument ID: SEA044

Lab File ID: 020SMPL.D

ICS Source: ICPMS-ICSB\_00001

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
<b>Arsenic</b>	<b>0.100</b>	<b>0.105</b>	<b>105</b>
<i>Antimony</i>		<i>0.0008</i>	
<i>Barium</i>		<i>0.0003</i>	
<i>Beryllium</i>		<i>0.0000</i>	
<i>Cadmium</i>	<i>0.100</i>	<i>0.109</i>	<i>109</i>
<i>Chromium</i>	<i>0.200</i>	<i>0.205</i>	<i>103</i>
<i>Cobalt</i>	<i>0.200</i>	<i>0.200</i>	<i>100</i>
<i>Copper</i>	<i>0.200</i>	<i>0.185</i>	<i>93</i>
<i>Iron</i>	<i>250</i>	<i>246</i>	<i>98</i>
<i>Lead</i>		<i>0.0003</i>	
<i>Manganese</i>	<i>0.200</i>	<i>0.204</i>	<i>102</i>
<i>Mercury</i>		<i>0.0000</i>	
<i>Molybdenum</i>	<i>2.00</i>	<i>2.03</i>	<i>101</i>
<i>Nickel</i>	<i>0.200</i>	<i>0.192</i>	<i>96</i>
<i>Selenium</i>	<i>0.100</i>	<i>0.106</i>	<i>106</i>
<i>Silver</i>	<i>0.0500</i>	<i>0.0516</i>	<i>103</i>
<i>Strontium</i>		<i>0.0164</i>	
<i>Thallium</i>		<i>0.0000</i>	
<i>Tin</i>		<i>0.0001</i>	
<i>Titanium</i>	<i>2.00</i>	<i>2.05</i>	<i>102</i>
<i>Uranium</i>		<i>0.0000</i>	
<i>Vanadium</i>	<i>0.200</i>	<i>0.209</i>	<i>104</i>
<i>Zinc</i>	<i>0.100</i>	<i>0.0973</i>	<i>97</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSA 580-71525/75

Instrument ID: SEA044

Lab File ID: 086SMPL.D

ICS Source: ICPMS- ICSA\_00001

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution A	Solution A	
<b>Arsenic</b>		<b>0.0004</b>	
<i>Antimony</i>		<i>0.0008</i>	
<i>Barium</i>		<i>0.0003</i>	
<i>Beryllium</i>		<i>0.0000</i>	
<i>Cadmium</i>		<i>0.0003</i>	
<i>Chromium</i>		<i>0.0010</i>	
<i>Cobalt</i>		<i>0.0036</i>	
<i>Copper</i>		<i>0.0035</i>	
<i>Iron</i>	250	241	96
<i>Lead</i>		<i>0.0003</i>	
<i>Manganese</i>		<i>0.0056</i>	
<i>Mercury</i>		<i>0.0000</i>	
<i>Molybdenum</i>	2.00	2.01	100
<i>Nickel</i>		<i>0.0025</i>	
<i>Selenium</i>		<i>-0.0001</i>	
<i>Silver</i>		<i>0.0002</i>	
<i>Strontium</i>		<i>0.0165</i>	
<i>Thallium</i>		<i>0.0001</i>	
<i>Tin</i>		<i>0.0002</i>	
<i>Titanium</i>	2.00	2.07	103
<i>Uranium</i>		<i>0.0000</i>	
<i>Vanadium</i>		<i>-0.0005</i>	
<i>Zinc</i>		<i>0.0033</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSAB 580-71525/76

Instrument ID: SEA044

Lab File ID: 087SMPL.D

ICS Source: ICPMS- ICSA\_00001

Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
<b>Arsenic</b>	<b>0.100</b>	<b>0.104</b>	<b>104</b>
<i>Antimony</i>		0.0008	
<i>Barium</i>		0.0003	
<i>Beryllium</i>		0.0000	
<i>Cadmium</i>	0.100	0.105	105
<i>Chromium</i>	0.200	0.193	97
<i>Cobalt</i>	0.200	0.190	95
<i>Copper</i>	0.200	0.176	88
<i>Iron</i>	250	240	96
<i>Lead</i>		0.0003	
<i>Manganese</i>	0.200	0.197	99
<i>Mercury</i>		0.0000	
<i>Molybdenum</i>	2.00	1.99	99
<i>Nickel</i>	0.200	0.184	92
<i>Selenium</i>	0.100	0.103	103
<i>Silver</i>	0.0500	0.0502	100
<i>Strontium</i>		0.0161	
<i>Thallium</i>		0.0001	
<i>Tin</i>		0.0001	
<i>Titanium</i>	2.00	1.98	99
<i>Uranium</i>		0.0000	
<i>Vanadium</i>	0.200	0.200	100
<i>Zinc</i>	0.100	0.0943	94

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICSAB 580-71525/76 Instrument ID: SEA044  
 Lab File ID: 087SMPL.D ICS Source: ICPMS-ICSB\_00001  
 Concentration Units: mg/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
<b>Arsenic</b>	<b>0.100</b>	<b>0.104</b>	<b>104</b>
<i>Antimony</i>		0.0008	
<i>Barium</i>		0.0003	
<i>Beryllium</i>		0.0000	
<i>Cadmium</i>	0.100	0.105	105
<i>Chromium</i>	0.200	0.193	97
<i>Cobalt</i>	0.200	0.190	95
<i>Copper</i>	0.200	0.176	88
<i>Iron</i>	250	240	96
<i>Lead</i>		0.0003	
<i>Manganese</i>	0.200	0.197	99
<i>Mercury</i>		0.0000	
<i>Molybdenum</i>	2.00	1.99	99
<i>Nickel</i>	0.200	0.184	92
<i>Selenium</i>	0.100	0.103	103
<i>Silver</i>	0.0500	0.0502	100
<i>Strontium</i>		0.0161	
<i>Thallium</i>		0.0001	
<i>Tin</i>		0.0001	
<i>Titanium</i>	2.00	1.98	99
<i>Uranium</i>		0.0000	
<i>Vanadium</i>	0.200	0.200	100
<i>Zinc</i>	0.100	0.0943	94

Calculations are performed before rounding to avoid round-off errors in calculated results.

5A-IN  
 MATRIX SPIKE SAMPLE RECOVERY  
 METALS

Client ID: 10NC21SB42 MS                      Lab ID: 580-21446-1 MS  
 Lab Name: TestAmerica Seattle                      Job No.: 580-21446-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid                      Concentration Units: mg/Kg  
 % Solids: 75.5

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Arsenic	268	11	247	104	80-120	Q	6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.

5A-IN  
 MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
 METALS

Client ID: 10NC21SB42 MSD Lab ID: 580-21446-1 MSD  
 Lab Name: TestAmerica Seattle Job No.: 580-21446-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid Concentration Units: mg/Kg  
 % Solids: 75.5

Analyte	(SDR) C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	243	226	103	80-120	10	20	Q	6020

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.

5B-IN  
 POST DIGESTION SPIKE SAMPLE RECOVERY  
 METALS

Client ID: 10NC21SB42 PDS                      Lab ID: 580-21446-1 PDS  
 Lab Name: TestAmerica Seattle                      Job No.: 580-21446-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid                      Concentration Units: mg/Kg

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Arsenic	255	11	238	102	75-125	Q	6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.

6-IN  
 DUPLICATES  
 METALS

Client ID: 10NC21SB42 DU                      Lab ID: 580-21446-1 DU  
 Lab Name: TestAmerica Seattle                      Job No.: 580-21446-1  
 SDG No.: \_\_\_\_\_  
 % Solids for Sample: 75.5                      % Solids for Duplicate: 75.5  
 Matrix: Solid                      Concentration Units: mg/Kg

Analyte	Control Limit	Sample (S) C	Duplicate (D) C	RPD	Q	Method
Arsenic	0.22	11	17.0	43	Q J	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
 LAB CONTROL SAMPLE  
 METALS

Lab ID: LCS 580-71358/17-A

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

Sample Matrix: Solid

LCS Source: m-GPS-1\_00017

Analyte	Solid(mg/Kg)						
	True	Found	C	%R	Limits	Q	Method
Arsenic	200	212		106	80 120	Q	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN  
 LAB CONTROL SAMPLE DUPLICATE  
 METALS

Lab ID: LCSD 580-71358/18-A

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

Sample Matrix: Solid

LCS Source: m-GPS-1\_00017

Analyte	(SDR) C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Arsenic	212	200	106	80-120	0.3	20	Q	6020

SDR = Spike Duplicate Results

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN  
 LCS-CERTIFIED REFERENCE MATERIAL  
 METALS

Lab ID: LCSSRM 580-71358/19-A

Lab Name: TestAmerica Seattle

Job No.: 580-21446-1

Sample Matrix: Solid

LCS Source: SRMsolid\_00004

Analyte	Solid(mg/Kg)						
	True	Found	C	%R	Limits	Q	Method
Arsenic	225	219		97	71.1    128.9	Q	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN  
 ICP-AES AND ICP-MS SERIAL DILUTIONS  
 METALS

Lab ID: 580-21446-1

SDG No: \_\_\_\_\_

Lab Name: TestAmerica Seattle

Job No: 580-21446-1

Matrix: Solid

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	Method
Arsenic	11	10.2	7.2	Q	6020

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN  
DETECTION LIMITS  
METALS

Lab Name: TestAmerica Seattle Job Number: 580-21446-1  
SDG Number: \_\_\_\_\_  
Matrix: Solid Instrument ID: SEA044  
Analysis Method: 6020 DL Date: 05/07/2010 09:23  
Prep Method: 3050B  
Leach Method: \_\_\_\_\_

Analyte	Wavelength/ Mass	LOQ (mg/Kg)	DL (mg/Kg)
Arsenic		0.2	0.004

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS

Lab Name: TestAmerica Seattle Job Number: 580-21446-1  
SDG Number: \_\_\_\_\_  
Matrix: Solid Instrument ID: SEA044  
Analysis Method: 6020 XMDL Date: 10/02/2008 10:31

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Arsenic		0.0004	0.00024

11-IN  
ICP-AES AND ICP-MS LINEAR RANGES  
METALS

Lab Name: TestAmerica Seattle

Job No: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044

Date: 03/01/2010 06:51

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Arsenic		5	6020

12-IN  
PREPARATION LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Preparation Method: 3050B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
580-21446-1	09/11/2010 12:18	71358	1.1114		50
580-21446-1 DU	09/11/2010 12:18	71358	1.2070		50
580-21446-1 MS	09/11/2010 12:18	71358	1.0724		50
580-21446-1 MSD	09/11/2010 12:18	71358	1.1714		50
580-21446-2	09/11/2010 12:18	71358	1.0936		50
MB 580-71358/16-A	09/11/2010 12:18	71358	1.0		50
LCS 580-71358/17-A	09/11/2010 12:18	71358	1.0		50
LCSD 580-71358/18-A	09/11/2010 12:18	71358	1.0		50
LCSSRM 580-71358/19-A	09/11/2010 12:18	71358	0.4960		50



13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 09/13/2010 10:30 End Date: 09/14/2010 11:48

Lab Sample ID	D / F	Type	Time	Analytes															
				A	S														
STD0 580-71525/1 IC	1		10:30	X															
STD1 580-71525/2 IC	1		10:37	X															
STD2 580-71525/3 IC	1		10:44	X															
STD3 580-71525/4 IC	1		10:51	X															
STD4 580-71525/5 IC	1		10:58	X															
STD5 580-71525/6 IC	1		11:05	X															
ICV 580-71525/7	1		11:47	X															
ICB 580-71525/8	1		11:54	X															
CRI 580-71525/9	1		12:07	X															
ICSA 580-71525/10	1		12:14	X															
ICSAB 580-71525/11	1		12:21	X															
CCV 580-71525/12			12:42																
CCB 580-71525/13			12:49																
ZZZZZZ			12:56																
ZZZZZZ			13:03																
ZZZZZZ			13:10																
ZZZZZZ			13:16																
ZZZZZZ			13:23																
ZZZZZZ			13:30																
ZZZZZZ			13:37																
ZZZZZZ			13:44																
ZZZZZZ			13:51																
CCV 580-71525/23			13:58																
CCB 580-71525/24			14:05																
ZZZZZZ			14:12																
ZZZZZZ			14:19																
ZZZZZZ			14:26																
ZZZZZZ			14:32																
ZZZZZZ			14:39																
ZZZZZZ			14:46																
ZZZZZZ			14:53																
ZZZZZZ			15:00																
ZZZZZZ			15:07																
ZZZZZZ			15:14																
CCV 580-71525/35			15:21																
CCB 580-71525/36			15:28																
ZZZZZZ			15:35																
ZZZZZZ			15:42																
ZZZZZZ			15:49																
ZZZZZZ			15:56																
ZZZZZZ			16:02																
CCV 580-71525/42	1		16:09	X															

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 09/13/2010 10:30 End Date: 09/14/2010 11:48

Lab Sample ID	D / F	T y p e	Time	Analytes															
				A	S														
CCB 580-71525/43	1		16:16	X															
MB 580-71358/16-A	10	T	16:23	X															
580-21446-1 SD	50	T	16:30	X															
580-21446-1	10	T	16:37	X															
580-21446-1 DU	10	T	16:44	X															
580-21446-1 MS	50	T	16:51	X															
580-21446-1 MSD	50	T	16:58	X															
580-21446-1 PDS	50	T	17:05	X															
LCS 580-71358/17-A	50	T	17:12	X															
LCSD 580-71358/18-A	50	T	17:19	X															
LCSSRM 580-71358/19-A	20	T	17:26	X															
CCV 580-71525/54	1		17:33	X															
CCB 580-71525/55	1		17:39	X															
580-21446-2	10	T	17:46	X															
ZZZZZZ			17:53																
ZZZZZZ			18:00																
ZZZZZZ			18:07																
ZZZZZZ			18:14																
ZZZZZZ			18:21																
ZZZZZZ			18:28																
ZZZZZZ			18:35																
ZZZZZZ			18:41																
ZZZZZZ			18:48																
CCV 580-71525/66	1		18:55	X															
CCB 580-71525/67	1		19:02	X															
ZZZZZZ			19:09																
ZZZZZZ			19:16																
ZZZZZZ			19:23																
ZZZZZZ			19:30																
ZZZZZZ			19:37																
CCV 580-71525/73			19:44																
CCB 580-71525/74			19:51																
ICSA 580-71525/75	1		19:57	X															
ICSAB 580-71525/76	1		20:04	X															
CCV 580-71525/77			20:11																
CCB 580-71525/78			20:18																
ZZZZZZ			20:25																
ZZZZZZ			20:32																
ZZZZZZ			20:39																
ZZZZZZ			20:46																
ZZZZZZ			20:53																
ZZZZZZ			21:00																

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 09/13/2010 10:30 End Date: 09/14/2010 11:48

Lab Sample ID	D / F	Type	Time	Analytes															
				A	S														
ZZZZZZ			21:07																
ZZZZZZ			21:14																
ZZZZZZ			21:21																
CCV 580-71525/88			21:28																
CCB 580-71525/89			21:34																
ZZZZZZ			21:41																
ZZZZZZ			21:48																
ZZZZZZ			21:55																
ZZZZZZ			22:02																
ZZZZZZ			22:09																
ZZZZZZ			22:16																
CCV 580-71525/96			22:23																
CCB 580-71525/97			22:30																
ICSA 580-71525/98			22:36																
ICSAB 580-71525/99			22:43																
CCV 580-71525/100			22:50																
CCB 580-71525/101			22:57																
ZZZZZZ			23:04																
ZZZZZZ			23:11																
ZZZZZZ			23:18																
ZZZZZZ			23:25																
ZZZZZZ			23:32																
CCV 580-71525/107			23:39																
CCB 580-71525/108			23:46																
ZZZZZZ			23:53																
ZZZZZZ			00:00																
ZZZZZZ			00:06																
ZZZZZZ			00:13																
ZZZZZZ			00:20																
ZZZZZZ			00:27																
ZZZZZZ			00:34																
ZZZZZZ			00:41																
ZZZZZZ			00:48																
ZZZZZZ			00:55																
CCV 580-71525/119			01:02																
CCB 580-71525/120			01:09																
ZZZZZZ			01:16																
ZZZZZZ			01:23																
ZZZZZZ			01:30																
ZZZZZZ			01:37																
ZZZZZZ			01:43																
ZZZZZZ			01:50																

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 09/13/2010 10:30 End Date: 09/14/2010 11:48

Lab Sample ID	D / F	Type	Time	Analytes															
				A	S														
ZZZZZZ			01:57																
ZZZZZZ			02:04																
ZZZZZZ			02:11																
ZZZZZZ			02:18																
CCV 580-71525/131			02:25																
CCB 580-71525/132			02:32																
ZZZZZZ			02:39																
ZZZZZZ			02:46																
ZZZZZZ			02:53																
ZZZZZZ			03:00																
ZZZZZZ			03:07																
ZZZZZZ			03:14																
CCV 580-71525/139			03:20																
CCB 580-71525/140			03:27																
ZZZZZZ			03:34																
ZZZZZZ			03:41																
ZZZZZZ			03:48																
ZZZZZZ			03:55																
ZZZZZZ			04:02																
ZZZZZZ			04:09																
ZZZZZZ			04:16																
ZZZZZZ			04:23																
ZZZZZZ			04:30																
ZZZZZZ			04:37																
CCV 580-71525/151			04:44																
CCB 580-71525/152			04:51																
ZZZZZZ			04:58																
ZZZZZZ			05:05																
ZZZZZZ			05:12																
ZZZZZZ			05:19																
ZZZZZZ			05:26																
ZZZZZZ			05:33																
ZZZZZZ			05:40																
ZZZZZZ			05:47																
CCV 580-71525/161			06:07																
CCB 580-71525/162			06:14																
ICSA 580-71525/163			06:21																
ICSAB 580-71525/164			06:28																
CCV 580-71525/165			06:35																
CCB 580-71525/166			06:42																
ZZZZZZ			06:49																
ZZZZZZ			06:56																

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 09/13/2010 10:30 End Date: 09/14/2010 11:48

Lab Sample ID	D / F	Type	Time	Analytes															
				A	S														
ZZZZZZ			07:03																
ZZZZZZ			07:10																
ZZZZZZ			07:17																
ZZZZZZ			07:24																
ZZZZZZ			07:31																
ZZZZZZ			07:38																
ZZZZZZ			07:45																
CCV 580-71525/176			07:51																
CCB 580-71525/177			07:58																
ZZZZZZ			08:05																
ZZZZZZ			08:12																
ZZZZZZ			08:19																
ZZZZZZ			08:26																
ZZZZZZ			08:33																
ZZZZZZ			08:40																
ZZZZZZ			08:47																
ZZZZZZ			08:54																
ZZZZZZ			09:01																
ZZZZZZ			09:08																
CCV 580-71525/188			09:13																
CCB 580-71525/189			09:18																
ZZZZZZ			09:23																
ZZZZZZ			09:28																
ZZZZZZ			09:33																
ZZZZZZ			09:38																
ZZZZZZ			09:43																
CCV 580-71525/195			09:48																
CCB 580-71525/196			09:53																
ZZZZZZ			09:58																
ZZZZZZ			10:03																
ZZZZZZ			10:08																
ZZZZZZ			10:13																
ZZZZZZ			10:18																
ZZZZZZ			10:23																
ZZZZZZ			10:28																
ZZZZZZ			10:33																
ZZZZZZ			10:38																
CCV 580-71525/206			10:43																
CCB 580-71525/207			10:48																
ZZZZZZ			10:53																
ZZZZZZ			10:58																
ZZZZZZ			11:03																

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: SEA044 Method: 6020

Start Date: 09/13/2010 10:30 End Date: 09/14/2010 11:48

Lab Sample ID	D / F	Type	Time	Analytes															
				A	S														
ZZZZZZ			11:08																
ZZZZZZ			11:13																
ZZZZZZ			11:18																
ZZZZZZ			11:22																
ZZZZZZ			11:27																
ZZZZZZ			11:33																
CCV 580-71525/217			11:43																
CCB 580-71525/218			11:48																

Prep Types  
T = Total/NA

15-IN  
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: SEA044 Start Date: 09/13/2010 End Date: 09/13/2010

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Li-6	Q	Element Sc	Q	Element Sc	Q	Element Ge	Q
STD0 580-71525/1 IC	10:30	100		100		100		100		100	
STD1 580-71525/2 IC	10:37	103		101		102		102		103	
STD2 580-71525/3 IC	10:44	101		103		102		103		102	
STD3 580-71525/4 IC	10:51	102		100		102		103		102	
STD4 580-71525/5 IC	10:58	101		102		103		105		103	
STD5 580-71525/6 IC	11:05	99		100		103		104		104	
ICV 580-71525/7	11:47	100		101		101		105		104	
ICB 580-71525/8	11:54	104		106		102		109		103	
CRI 580-71525/9	12:07	102		104		109		109			
ICSA 580-71525/10	12:14	88		91		95		96		91	
ICSAB 580-71525/11	12:21	82		87		87		91		83	
CCV 580-71525/42	16:09	93		94		91		100		94	
CCB 580-71525/43	16:16	94		97		93		99		94	
MB 580-71358/16-A	16:23					94		101			
580-21446-1 SD	16:30	96		112		95		107			
580-21446-1	16:37					95		106			
580-21446-1 DU	16:44					96		108			
580-21446-1 MS	16:51					95		111			
580-21446-1 MSD	16:58					98		111			
580-21446-1 PDS	17:05	100		112		96		110			
LCS 580-71358/17-A	17:12					92		108			
LCSD 580-71358/18-A	17:19					93		104			
LCSSRM	17:26					94		107			
CCV 580-71525/54	17:33	98		98		96		109		98	
CCB 580-71525/55	17:39	100		104		95		107		98	
580-21446-2	17:46					95		109			
CCV 580-71525/66	18:55	92		93		81		99		84	
CCB 580-71525/67	19:02	97		99		81		105		85	
ICSA 580-71525/75	19:57	87		88		78		100		78	
ICSAB 580-71525/76	20:04	84		87		73		95		73	

15-IN  
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: SEA044 Start Date: 09/13/2010 End Date: 09/13/2010

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge	Q	Element Ge	Q	Element Rh	Q	Element Rh	Q	Element Ho	Q
STD0 580-71525/1 IC	10:30	100		100		100		100		100	
STD1 580-71525/2 IC	10:37	102		102		101		100		101	
STD2 580-71525/3 IC	10:44	102		101		101		100		101	
STD3 580-71525/4 IC	10:51	102		103		102		102		102	
STD4 580-71525/5 IC	10:58	104		103		100		100		102	
STD5 580-71525/6 IC	11:05	103		103		99		99		102	
ICV 580-71525/7	11:47	106		104		103		102		104	
ICB 580-71525/8	11:54	109		107		106		107		106	
CRI 580-71525/9	12:07					105		106		105	
ICSA 580-71525/10	12:14	90		85		78		77		87	
ICSAB 580-71525/11	12:21	85		83		76		75		87	
CCV 580-71525/42	16:09	100		98		96		96		104	
CCB 580-71525/43	16:16	101		95		98		96		103	
MB 580-71358/16-A	16:23					98		96		102	
580-21446-1 SD	16:30					103		102		105	
580-21446-1	16:37					100		101		104	
580-21446-1 DU	16:44					100		103		107	
580-21446-1 MS	16:51					106		106		109	
580-21446-1 MSD	16:58					107		107		108	
580-21446-1 PDS	17:05					105		107		108	
LCS 580-71358/17-A	17:12					104		103		107	
LCSD 580-71358/18-A	17:19					102		103		105	
LCSSRM	17:26					103		102		106	
CCV 580-71525/54	17:33	108		106		103		103		106	
CCB 580-71525/55	17:39	109		104		106		106		107	
580-21446-2	17:46					103		104		107	
CCV 580-71525/66	18:55	100		99		96		97		102	
CCB 580-71525/67	19:02	107		103		103		104		106	
ICSA 580-71525/75	19:57	94		91		81		83		91	
ICSAB 580-71525/76	20:04	91		90		79		81		90	



15-IN  
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
METALS

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: SEA044 Start Date: 09/13/2010 End Date: 09/13/2010

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Lu	Q	Element Bi	Q	Element	Q	Element	Q	Element	Q
STD0 580-71525/1 IC	10:30	100		100							
STD1 580-71525/2 IC	10:37	100		100							
STD2 580-71525/3 IC	10:44	101		101							
STD3 580-71525/4 IC	10:51	102		102							
STD4 580-71525/5 IC	10:58	103		99							
STD5 580-71525/6 IC	11:05	101		98							
ICV 580-71525/7	11:47	103		101							
ICB 580-71525/8	11:54	105		105							
CRI 580-71525/9	12:07	104									
ICSA 580-71525/10	12:14	88		77							
ICSAB 580-71525/11	12:21	87		77							
CCV 580-71525/42	16:09	104		101							
CCB 580-71525/43	16:16	103		103							
MB 580-71358/16-A	16:23	103									
580-21446-1 SD	16:30	107									
580-21446-1	16:37	105									
580-21446-1 DU	16:44	106									
580-21446-1 MS	16:51	107									
580-21446-1 MSD	16:58	108									
580-21446-1 PDS	17:05	107									
LCS 580-71358/17-A	17:12	106									
LCSD 580-71358/18-A	17:19	106									
LCSSRM	17:26	106									
CCV 580-71525/54	17:33	105		103							
CCB 580-71525/55	17:39	108		108							
580-21446-2	17:46	107									
CCV 580-71525/66	18:55	103		100							
CCB 580-71525/67	19:02	106		106							
ICSA 580-71525/75	19:57	90		81							
ICSAB 580-71525/76	20:04	90		80							

Step	Mass	Element	r	b(blank)	DL	BEC	Unit
2	6	Li	0.0000	---	---	---	ug/l
2	7	Li	0.0000	---	---	---	ug/l
2	9	Be	1.0000	1.260E-03	4.939E-04	1.424E-02	ug/l
2	23	Na	0.9999	1.241 1.922	36.19	ug/l	
2	24	Mg	0.9998	6.310E-03	2.017E-01	3.315E-01	ug/l
2	27	Al	0.9999	1.015E-01	6.414E-01	10.85	ug/l
2	31	P	0.9999	1.787E-02	6.747 31.76	ug/l	
2	39	K	0.9999	1.783 3.813	124.3	ug/l	
1	40	Ca	0.9999	1.633E-01	7.358E-01	6.339	ug/l
1	45	Sc	0.0000	---	---	---	ug/l
2	45	Sc	0.0000	---	---	---	ug/l
2	47	Ti	1.0000	7.662E-05	7.527E-02	3.689E-02	ug/l
2	51	V	1.0000	4.936E-02	6.020E-02	1.025	ug/l
2	52	Cr	1.0000	1.218E-02	6.476E-03	2.112E-01	ug/l
2	55	Mn	1.0000	2.484E-03	1.466E-02	5.898E-02	ug/l
1	56	Fe	0.9999	2.444E-02	8.981E-03	5.306E-01	ug/l
2	59	Co	1.0000	2.905E-04	3.494E-03	3.799E-03	ug/l
2	60	Ni	0.9999	3.036E-03	1.576E-01	1.580E-01	ug/l
2	63	Cu	0.9999	2.785E-03	3.135E-02	5.638E-02	ug/l
2	66	Zn	0.9999	5.516E-03	1.804E-01	5.333E-01	ug/l
1	74	Ge	0.0000	---	---	---	ug/l
2	74	Ge	0.0000	---	---	---	ug/l
3	74	Ge	0.0000	---	---	---	ug/l
2	75	As	1.0000	4.643E-03	8.134E-01	7.566E-01	ug/l
1	78	Se	1.0000	2.714E-04	1.365E-01	1.731E-01	ug/l
3	88	Sr	1.0000	1.102E-02	9.920E-03	1.864E-01	ug/l
3	95	Mo	0.9999	2.135E-04	1.900E-02	1.912E-02	ug/l
2	103	Rh	0.0000	---	---	---	ug/l
3	103	Rh	0.0000	---	---	---	ug/l
3	109	Ag	0.9999	5.619E-04	6.529E-03	1.194E-02	ug/l
3	111	Cd	0.9999	-1.029E-05	1.072E-02	-8.824E-04	ug/l
3	118	Sn	1.0000	9.891E-04	7.327E-03	3.158E-02	ug/l
3	121	Sb	1.0000	4.271E-04	2.645E-03	9.679E-03	ug/l
3	135	Ba	1.0000	2.540E-03	1.572E-01	3.047E-01	ug/l
3	165	Ho	0.0000	---	---	---	ug/l
3	175	Lu	0.0000	---	---	---	ug/l
3	200	Hg	1.0000	4.072E-04	1.438E-02	2.078E-02	ug/l
3	205	Tl	0.9999	8.307E-04	2.632E-03	4.359E-03	ug/l
3	208	Pb	0.9999	9.351E-03	7.742E-03	3.610E-02	ug/l
3	209	Bi	0.0000	---	---	---	ug/l
3	238	U	0.9999	1.610E-04	1.911E-03	4.812E-04	ug/l

**TA Seattle Calibration Blank QC Report 200.8/6020 ICP-MS 7500ce**

Data File: C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D#  
 Date Acquired: Sep 13 2010 10:30 am Acq. Method: OSEA\_ALL.M  
 Sample Name: STD0 Vial Number: 1306  
 Misc Info:  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Tune # Name  
 Operator: FCW ICP-MS ID#SEA44 1 c:\icpchem\1\7500\h2.u  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 2 c:\icpchem\1\7500\he.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 3 c:\icpchem\1\7500\nogas.u  
 ISTD Ref File : --- Sample Type: CalBlk

QC&ISTD	Elements	Element	Tune	CPS Mean	SD	RSD(%)
6	Li	2		198399.4 P	2298.00	1.16
6	Li	3		A		
7	Li	2		37210.8 P	1241.00	3.34
7	Li	3		A		
9	Be	2		5.0 P	0.00	0.00
9	Be	3		P		
23	Na	2		35446.1 P	483.40	1.36
24	Mg	2		180.0 P	34.64	19.24
25	Mg	2		P		
26	Mg	2		P		
27	Al	2		2898.7 P	70.08	2.42
31	P	2		510.0 P	30.00	5.88
39	K	2		50922.6 P	444.00	0.87
40	Ca	1		12266.3 P	180.50	1.47
44	Ca	2		P		
45	Sc	1		3759605.0 A	128600.00	3.42
45	Sc	2		1428208.0 A	17500.00	1.23
45	Sc	3		A		
47	Ti	2		4.0 P	2.65	66.15
50	V	2		P		
51	V	2		2593.7 P	92.92	3.58
52	Cr	2		640.0 P	20.01	3.13
53	Cr	2		P		
54	Fe	1		P		
54	Fe	2		P		
55	Mn	2		130.7 P	14.19	10.86
56	Fe	1		1800.2 P	43.59	2.42
59	Co	2		15.3 P	5.03	32.82
60	Ni	2		160.0 P	55.68	34.80
61	Ni	2		P		
63	Cu	2		146.7 P	30.55	20.83
65	Cu	2		P		
66	Zn	2		290.0 P	36.06	12.43
67	Zn	2		P		
68	Zn	2		P		
74	Ge	1		3682765.0 A	68490.00	1.86
74	Ge	2		2627061.0 A	67240.00	2.56
74	Ge	3		10936910.0 A	68270.00	0.62
75	As	2		242.7 P	81.84	33.73
78	Se	1		20.0 P	5.29	26.46
78	Se	2		P		
82	Se	2		P		
88	Sr	2		P		
88	Sr	3		2410.3 P	55.70	2.31
95	Mo	3		46.7 P	15.28	32.74
98	Mo	3		P		
99	(Mo)	3		P		
103	Rh	2		3841671.0 A	44890.00	1.17
103	Rh	3		7414264.0 A	11770.00	0.16
106	(Cd)	3		P		
107	Ag	3		P		
108	(Cd)	3		P		
109	Ag	3		83.3 P	15.28	18.34
111	Cd	3		-1.5 P	6.18	404.85
114	Cd	3		P		
118	Sn	2		P		
118	Sn	3		146.7 P	11.55	7.87
120	Sn	3		P		
121	Sb	3		63.3 P	5.77	9.12
123	Sb	3		P		
135	Ba	3		376.7 P	65.07	17.27
137	Ba	3		P		
165	Ho	3		5459492.0 A	59920.00	1.10
175	Lu	3		6180409.0 A	30080.00	0.49
200	Hg	3		50.7 P	11.72	23.13
201	Hg	3		P		
202	Hg	3		P		
203	Tl	3		P		
205	Tl	3		103.3 P	20.82	20.15
206	Pb	3		P		
207	Pb	3		P		
208	Pb	3		1163.4 P	85.06	7.31
209	Bi	3		6220261.0 A	10610.00	0.17
238	U	3		20.0 P	26.46	132.29

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\091310A.B\005CAL.S.D\005CAL.S.D#  
 Date Acquired: Sep 13 2010 10:37 am Acq. Method: OSEA\_ALL.M  
 Sample Name: STD1 Vial Number: 1305  
 Misc Info: Hg(0.005PPB),Al(1PPB),Na(10PPB) Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 icpchem\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 icpchem\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 chem\1\7500\nogas.u

QC&ISTD Elements Sample Type: CalStd

Element	IS	T#	CPS Mean	SD	RSD(%)	
9	Be	6	2	38.3 P	18.93	49.38
23	Na	45	2	44948.7 P	332.90	0.74
24	Mg	45	2	6201.8 P	272.40	4.39
27	Al	45	2	1188.4 P	105.40	8.87
31	P	45	2	623.4 P	90.75	14.56
39	K	45	2	56331.8 P	395.80	0.70
40	Ca	45	1	35400.8 P	998.60	2.82
47	Ti	74	2	16.3 P	2.08	12.75
51	V	74	2	2753.7 P	102.70	3.73
52	Cr	74	2	936.7 P	100.20	10.70
55	Mn	74	2	381.3 P	32.33	8.48
56	Fe	74	1	40054.5 P	612.10	1.53
59	Co	74	2	454.7 P	21.94	4.83
60	Ni	74	2	263.3 P	37.86	14.38
63	Cu	74	2	476.7 P	55.08	11.56
66	Zn	74	2	273.3 P	45.10	16.50
75	As	74	2	232.0 P	78.08	33.65
78	Se	74	1	15.3 P	3.06	19.92
88	Sr	74	3	3460.6 P	232.70	6.72
95	Mo	74	3	376.7 P	40.42	10.73
109	Ag	103	3	933.4 P	15.28	1.64
111	Cd	103	3	193.9 P	65.12	33.59
118	Sn	103	3	573.4 P	45.09	7.86
121	Sb	103	3	663.4 P	50.34	7.59
135	Ba	103	3	480.0 P	95.40	19.87
200	Hg	209	3	56.0 P	10.00	17.86
205	Tl	209	3	2553.7 P	217.40	8.51
208	Pb	209	3	3897.1 P	117.20	3.01
238	U	209	3	4194.3 P	167.50	3.99

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	205037	0.77	198400	103.3	30 - 125	
45	Sc	1	3868546	2.80	3760000	102.9	30 - 125	
45	Sc	2	1469833	0.72	1428000	102.9	30 - 125	
74	Ge	1	3814247	2.35	3683000	103.6	30 - 125	
74	Ge	2	2681145	0.92	2627000	102.1	30 - 125	
74	Ge	3	11174702	0.90	10940000	102.1	30 - 125	
103	Rh	2	3897832	1.23	3842000	101.5	30 - 125	
103	Rh	3	7448635	0.31	7414000	100.5	30 - 125	
165	Ho	3	5542311	0.69	5459000	101.5	30 - 125	
175	Lu	3	6207984	0.29	6180000	100.5	30 - 125	
209	Bi	3	6274109	0.19	6220000	100.9	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\091310A.B\006CAL.S.D\006CAL.S.D#  
 Date Acquired: Sep 13 2010 10:44 am Acq. Method: OSEA\_ALL.M  
 Sample Name: STD2 Vial Number: 1304  
 Misc Info: Hg(0.05PPB),Al(10PPB),Na(100PPB) Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 icpchem\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 icpchem\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 chem\1\7500\nogas.u

QC&ISTD Elements Sample Type: CalStd

Element	IS	T#	CPS Mean	SD	RSD(%)	
9	Be	6	2	400.0 P	37.75	9.44
23	Na	45	2	143862.6 P	1780.00	1.24
24	Mg	45	2	60037.2 P	713.60	1.19
27	Al	45	2	3814.0 P	292.90	7.68
31	P	45	2	2156.9 P	243.80	11.30
39	K	45	2	98847.8 P	1275.00	1.29
40	Ca	45	1	226581.9 P	4797.00	2.12
47	Ti	74	2	115.3 P	11.01	9.55
51	V	74	2	4971.2 P	301.30	6.06
52	Cr	74	2	3854.1 P	246.70	6.40
55	Mn	74	2	2711.6 P	41.50	1.53
56	Fe	74	1	386602.8 P	6859.00	1.77
59	Co	74	2	4451.5 P	86.52	1.94
60	Ni	74	2	1100.1 P	112.70	10.25
63	Cu	74	2	3273.9 P	116.80	3.57
66	Zn	74	2	873.4 P	149.80	17.15
75	As	74	2	518.7 P	103.40	19.94
78	Se	74	1	117.3 P	9.87	8.41
88	Sr	74	3	15023.0 P	240.30	1.60
95	Mo	74	3	2480.4 P	98.52	3.97
109	Ag	103	3	7452.5 P	145.40	1.95
111	Cd	103	3	1680.9 P	186.90	11.12
118	Sn	103	3	4937.9 P	171.60	3.48
121	Sb	103	3	6655.4 P	80.85	1.21
135	Ba	103	3	1576.8 P	76.39	4.84
200	Hg	209	3	183.3 P	25.79	14.07
205	Tl	209	3	24196.0 P	522.70	2.16
208	Pb	209	3	34871.9 P	1296.00	3.72
238	U	209	3	43922.0 P	950.20	2.16

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	201850	0.88	198400	101.7	30 - 125
45	Sc	1	3860757	3.04	3760000	102.7	30 - 125
45	Sc	2	1471497	0.69	1428000	103.0	30 - 125
74	Ge	1	3780009	1.43	3683000	102.6	30 - 125
74	Ge	2	2698674	1.28	2627000	102.7	30 - 125
74	Ge	3	11100241	0.84	10940000	101.5	30 - 125
103	Rh	2	3901312	0.97	3842000	101.5	30 - 125
103	Rh	3	7471535	0.60	7414000	100.8	30 - 125
165	Ho	3	5558051	0.47	5459000	101.8	30 - 125
175	Lu	3	6278140	0.38	6180000	101.6	30 - 125
209	Bi	3	6308261	1.12	6220000	101.4	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\091310A.B\007CAL.S.D\007CAL.S.D#  
 Date Acquired: Sep 13 2010 10:51 am Acq. Method: OSEA\_ALL.M  
 Sample Name: STD3 Vial Number: 1303  
 Misc Info: Hg(0.5PPB),Al(100PPB),Na(1,000PPB) Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 icpchem\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 icpchem\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 chem\1\7500\nogas.u

QC&ISTD Elements Sample Type: CalStd

Element	IS	T#	CPS Mean	SD	RSD(%)	
9	Be	6	2	3510.5 P	243.50	6.94
23	Na	45	2	1100340.0 A	22970.00	2.09
24	Mg	45	2	603855.8 P	5990.00	0.99
27	Al	45	2	29465.7 P	361.40	1.23
31	P	45	2	16501.2 P	60.82	0.37
39	K	45	2	508486.2 P	6362.00	1.25
40	Ca	45	1	2051019.0 A	25940.00	1.26
47	Ti	74	2	1158.4 P	29.14	2.52
51	V	74	2	28636.4 P	415.70	1.45
52	Cr	74	2	32639.5 P	446.80	1.37
55	Mn	74	2	23417.6 P	439.30	1.88
56	Fe	74	1	3550959.0 A	18540.00	0.52
59	Co	74	2	42571.3 P	23.16	0.05
60	Ni	74	2	11011.9 P	567.80	5.16
63	Cu	74	2	28463.0 P	207.20	0.73
66	Zn	74	2	6011.7 P	69.34	1.15
75	As	74	2	3600.5 P	59.65	1.66
78	Se	74	1	1178.1 P	96.28	8.17
88	Sr	74	3	135606.8 P	4428.00	3.27
95	Mo	74	3	25690.9 P	211.40	0.82
109	Ag	103	3	73648.0 P	473.90	0.64
111	Cd	103	3	17882.8 P	707.30	3.96
118	Sn	103	3	48293.3 P	655.80	1.36
121	Sb	103	3	66498.7 P	1578.00	2.37
135	Ba	103	3	13231.0 P	551.50	4.17
200	Hg	209	3	1396.8 P	32.40	2.32
205	Tl	209	3	242035.6 P	7905.00	3.27
208	Pb	209	3	340721.5 P	3907.00	1.15
238	U	209	3	433163.0 P	10970.00	2.53

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	203418	1.46	198400	102.5	30 - 125
45	Sc	1	3845777	3.46	3760000	102.3	30 - 125
45	Sc	2	1481326	1.70	1428000	103.7	30 - 125
74	Ge	1	3787287	0.80	3683000	102.8	30 - 125
74	Ge	2	2695103	0.88	2627000	102.6	30 - 125
74	Ge	3	11308509	2.23	10940000	103.4	30 - 125
103	Rh	2	3947422	1.18	3842000	102.7	30 - 125
103	Rh	3	7621408	1.21	7414000	102.8	30 - 125
165	Ho	3	5611109	0.88	5459000	102.8	30 - 125
175	Lu	3	6324660	0.66	6180000	102.3	30 - 125
209	Bi	3	6345124	1.56	6220000	102.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\091310A.B\008CAL.S.D\008CAL.S.D#  
 Date Acquired: Sep 13 2010 10:58 am Acq. Method: OSEA\_ALL.M  
 Sample Name: STD4 Vial Number: 1302  
 Misc Info: Hg(2.5PPB),Al(500PPB),Na(5.000PPB) Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 icpchem\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 icpchem\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 chem\1\7500\nogas.u

QC&ISTD Elements Sample Type: CalStd

Element	IS	T#	CPS Mean	SD	RSD(%)	
9	Be	6	2	17997.7 P	268.20	1.49
23	Na	45	2	5292598.0 A	57090.00	1.08
24	Mg	45	2	2963732.0 A	65440.00	2.21
27	Al	45	2	145536.3 P	2642.00	1.82
31	P	45	2	86645.6 P	1553.00	1.79
39	K	45	2	2258804.0 A	44820.00	1.98
40	Ca	45	1	10199100.0 A	247100.00	2.42
47	Ti	74	2	5744.6 P	50.10	0.87
51	V	74	2	135354.0 P	1866.00	1.38
52	Cr	74	2	161652.0 P	615.40	0.38
55	Mn	74	2	116951.0 P	704.40	0.60
56	Fe	74	1	17978890.0 A	106300.00	0.59
59	Co	74	2	212689.4 P	428.50	0.20
60	Ni	74	2	53962.7 P	235.80	0.44
63	Cu	74	2	138891.1 P	689.90	0.50
66	Zn	74	2	29335.1 P	360.20	1.23
75	As	74	2	17171.8 P	144.40	0.84
78	Se	74	1	6056.8 P	150.20	2.48
88	Sr	74	3	664270.6 P	12850.00	1.93
95	Mo	74	3	128292.7 P	2867.00	2.23
109	Ag	103	3	360643.7 P	1932.00	0.54
111	Cd	103	3	89510.6 P	2608.00	2.91
118	Sn	103	3	235233.0 P	3796.00	1.61
121	Sb	103	3	333964.5 P	2891.00	0.87
135	Ba	103	3	63282.6 P	1748.00	2.76
200	Hg	209	3	6199.0 P	129.00	2.08
205	Tl	209	3	1209637.0 P	36640.00	3.03
208	Pb	209	3	1645542.0 P	27060.00	1.64
238	U	209	3	2133249.0 A	22880.00	1.07

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	200885	1.08	198400	101.3	30 - 125	
45	Sc	1	3874198	4.62	3760000	103.0	30 - 125	
45	Sc	2	1505828	0.82	1428000	105.5	30 - 125	
74	Ge	1	3810376	1.93	3683000	103.5	30 - 125	
74	Ge	2	2748131	1.15	2627000	104.6	30 - 125	
74	Ge	3	11272306	0.94	10940000	103.0	30 - 125	
103	Rh	2	3873881	0.46	3842000	100.8	30 - 125	
103	Rh	3	7488163	1.07	7414000	101.0	30 - 125	
165	Ho	3	5593423	0.95	5459000	102.5	30 - 125	
175	Lu	3	6386036	1.35	6180000	103.3	30 - 125	
209	Bi	3	6217953	0.81	6220000	100.0	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed

TA Seattle Calibration Standard QC Report 200.8/6020 ICP-MS 7500ce

Data File: C:\ICPCHEM\1\DATA\091310A.B\009CAL.S.D\009CAL.S.D#  
 Date Acquired: Sep 13 2010 11:05 am Acq. Method: OSEA\_ALL.M  
 Sample Name: STD5 Vial Number: 1301  
 Misc Info: Hg(5PPB) Al(1,000PPB)Na(10,000PPB) Operator: FCW ICP-MS ID#SEA44  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 icpchem\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 icpchem\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 chem\1\7500\nogas.u

QC&ISTD Elements Sample Type: CalStd

Element	IS	T#	CPS Mean	SD	RSD(%)	
9	Be	6	2	34739.8 P	37.53	0.11
23	Na	45	2	10251920.0 A	309900.00	3.02
24	Mg	45	2	5645657.0 A	91620.00	1.62
27	Al	45	2	282378.8 P	2202.00	0.78
31	P	45	2	168268.0 P	3022.00	1.80
39	K	45	2	4319840.0 A	73230.00	1.70
40	Ca	45	1	19885800.0 A	52110.00	0.26
47	Ti	74	2	11233.3 P	80.42	0.72
51	V	74	2	263388.9 P	1087.00	0.41
52	Cr	74	2	311763.8 P	1878.00	0.60
55	Mn	74	2	227579.4 P	846.30	0.37
56	Fe	74	1	35124232.0 A	447200.00	1.27
59	Co	74	2	412768.2 P	1517.00	0.37
60	Ni	74	2	103735.3 P	319.90	0.31
63	Cu	74	2	266000.4 P	258.10	0.10
66	Zn	74	2	56005.5 P	578.90	1.03
75	As	74	2	33462.5 P	445.20	1.33
78	Se	74	1	12017.2 P	107.10	0.89
88	Sr	74	3	1339907.0 A	23540.00	1.76
95	Mo	74	3	251075.0 P	7548.00	3.01
109	Ag	103	3	693073.0 P	4022.00	0.58
111	Cd	103	3	171790.7 P	3117.00	1.81
118	Sn	103	3	464057.2 P	17410.00	3.75
121	Sb	103	3	652450.2 P	16440.00	2.52
135	Ba	103	3	123692.8 P	2364.00	1.91
200	Hg	209	3	12042.9 P	104.00	0.86
205	Tl	209	3	2327701.0 A	94720.00	4.07
208	Pb	209	3	3163164.0 A	34120.00	1.08
238	U	209	3	4080722.0 A	127700.00	3.13

ISTD Elements

IS	Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	196813	1.09	198400	99.2	30 - 125	
45	Sc	1	3884720	3.80	3760000	103.3	30 - 125	
45	Sc	2	1496759	1.48	1428000	104.8	30 - 125	
74	Ge	1	3838789	3.01	3683000	104.2	30 - 125	
74	Ge	2	2708274	0.59	2627000	103.1	30 - 125	
74	Ge	3	11289969	1.10	10940000	103.2	30 - 125	
103	Rh	2	3840703	0.18	3842000	100.0	30 - 125	
103	Rh	3	7411064	0.62	7414000	100.0	30 - 125	
165	Ho	3	5577650	1.61	5459000	102.2	30 - 125	
175	Lu	3	6299298	0.69	6180000	101.9	30 - 125	
209	Bi	3	6138215	1.19	6220000	98.7	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures :Max. Number of Failures Allowed  
 0 :ISTD Failures :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Sep 13 2010 11:47 am Acq. Method: OSEA\_ALL.M  
 Sample Name: ICV Vial Number: 1105  
 Misc Info: Hg(2 PPB),Al(400 PPB),Na(4,000 PPB)

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	41.430 ug/l	41.43	3.0	900	6	P
23	Na	2	4119.000 ug/l	4,119.00	1.1	450000	45	A
24	Mg	2	4164.000 ug/l	4,164.00	0.5	450000	45	A
27	Al	2	407.500 ug/l	407.50	0.4	450000	45	P
31	P	2	4108.000 ug/l	4,108.00	1.4	450000	45	P
39	K	2	4163.000 ug/l	4,163.00	1.0	450000	45	A
40	Ca	1	3989.000 ug/l	3,989.00	2.8	450000	45	A
47	Ti	2	41.000 ug/l	41.00	0.4	4500	74	P
51	V	2	40.010 ug/l	40.01	0.9	4500	74	P
52	Cr	2	40.770 ug/l	40.77	1.6	4500	74	P
55	Mn	2	40.670 ug/l	40.67	1.4	4500	74	P
56	Fe	1	3993.000 ug/l	3,993.00	3.3	450000	74	A
59	Co	2	40.750 ug/l	40.75	0.9	4500	74	P
60	Ni	2	40.820 ug/l	40.82	2.1	4500	74	P
63	Cu	2	40.700 ug/l	40.70	3.1	4500	74	P
66	Zn	2	41.180 ug/l	41.18	0.8	4500	74	P
75	As	2	41.430 ug/l	41.43	0.9	4500	74	P
78	Se	1	39.640 ug/l	39.64	4.3	4500	74	P
88	Sr	3	39.550 ug/l	39.55	1.5	4500	74	P
95	Mo	3	40.350 ug/l	40.35	2.9	4500	74	P
109	Ag	3	41.200 ug/l	41.20	1.4	900	103	P
111	Cd	3	40.520 ug/l	40.52	1.9	4500	103	P
118	Sn	3	40.300 ug/l	40.30	2.2	4500	103	P
121	Sb	3	40.460 ug/l	40.46	1.9	4500	103	P
135	Ba	3	40.350 ug/l	40.35	1.9	4500	103	P
200	Hg	3	2.061 ug/l	2.06	4.0	45	209	P
205	Tl	3	40.890 ug/l	40.89	3.5	4500	209	P
208	Pb	3	40.870 ug/l	40.87	1.9	4500	209	P
238	U	3	40.230 ug/l	40.23	3.5	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	199422	1.74	198400	100.5	30 - 125
45	Sc	1	3831711	2.92	3760000	101.9	30 - 125
45	Sc	2	1506685	1.07	1428000	105.5	30 - 125
74	Ge	1	3840102	2.36	3683000	104.3	30 - 125
74	Ge	2	2791603	1.21	2627000	106.3	30 - 125
74	Ge	3	11459036	0.19	10940000	104.7	30 - 125
103	Rh	2	3970349	1.13	3842000	103.3	30 - 125
103	Rh	3	7564191	0.30	7414000	102.0	30 - 125
165	Ho	3	5680827	1.57	5459000	104.1	30 - 125
175	Lu	3	6389525	0.91	6180000	103.4	30 - 125
209	Bi	3	6305425	1.25	6220000	101.4	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\016SMPL.D\016SMPL.D#  
 Date Acquired: Sep 13 2010 11:54 am Acq. Method: OSEA\_ALL.M  
 Sample Name: ICB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.010 ug/l	-0.01	82.2	900	6	P
23	Na	2	-0.327 ug/l	-0.33	370.3	450000	45	P
24	Mg	2	0.182 ug/l	0.18	48.6	450000	45	P
27	Al	2	0.620 ug/l	0.62	172.2	450000	45	P
31	P	2	-4.682 ug/l	-4.68	87.8	450000	45	P
39	K	2	4.564 ug/l	4.56	52.9	450000	45	P
40	Ca	1	-0.165 ug/l	-0.17	98.5	450000	45	P
47	Ti	2	0.022 ug/l	0.02	36.5	4500	74	P
51	V	2	-0.324 ug/l	-0.32	12.1	4500	74	P
52	Cr	2	-0.053 ug/l	-0.05	57.9	4500	74	P
55	Mn	2	0.014 ug/l	0.01	72.6	4500	74	P
56	Fe	1	0.314 ug/l	0.31	7.2	450000	74	P
59	Co	2	0.017 ug/l	0.02	7.0	4500	74	P
60	Ni	2	-0.016 ug/l	-0.02	29.9	4500	74	P
63	Cu	2	0.007 ug/l	0.01	83.3	4500	74	P
66	Zn	2	0.055 ug/l	0.06	207.9	4500	74	P
75	As	2	-0.135 ug/l	-0.13	140.0	4500	74	P
78	Se	1	-0.089 ug/l	-0.09	19.3	4500	74	P
88	Sr	3	-0.017 ug/l	-0.02	23.2	4500	74	P
95	Mo	3	0.005 ug/l	0.00	161.8	4500	74	P
109	Ag	3	0.001 ug/l	0.00	356.4	900	103	P
111	Cd	3	0.008 ug/l	0.01	126.7	4500	103	P
118	Sn	3	0.022 ug/l	0.02	70.0	4500	103	P
121	Sb	3	0.011 ug/l	0.01	81.7	4500	103	P
135	Ba	3	-0.040 ug/l	-0.04	147.5	4500	103	P
200	Hg	3	0.001 ug/l	0.00	303.8	45	209	P
205	Tl	3	0.197 ug/l	0.20	4.9	4500	209	P
208	Pb	3	0.001 ug/l	0.00	430.0	4500	209	P
238	U	3	0.001 ug/l	0.00	35.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	207260	0.81	198400	104.5	30 - 125
45	Sc	1	3838969	3.78	3760000	102.1	30 - 125
45	Sc	2	1566908	1.43	1428000	109.7	30 - 125
74	Ge	1	3815533	1.68	3683000	103.6	30 - 125
74	Ge	2	2874124	0.86	2627000	109.4	30 - 125
74	Ge	3	11802525	0.42	10940000	107.9	30 - 125
103	Rh	2	4090098	0.63	3842000	106.5	30 - 125
103	Rh	3	7995338	1.01	7414000	107.8	30 - 125
165	Ho	3	5834185	2.38	5459000	106.9	30 - 125
175	Lu	3	6493690	0.72	6180000	105.1	30 - 125
209	Bi	3	6547520	0.09	6220000	105.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\018SMPL.D\018SMPL.D#  
 Date Acquired: Sep 13 2010 12:07 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CRI (2 PPB) ( RL ) Vial Number: 1107  
 Misc Info: Hg(0.1 PPB),Al(20 PPB),Na(200 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.989 ug/l	1.99	7.9	900	6	P
23	Na	2	212.000 ug/l	212.00	1.5	450000	45	P
24	Mg	2	214.100 ug/l	214.10	0.3	450000	45	P
27	Al	2	19.050 ug/l	19.05	3.3	450000	45	P
31	P	2	184.800 ug/l	184.80	8.0	450000	45	P
39	K	2	217.600 ug/l	217.60	0.7	450000	45	P
40	Ca	1	215.700 ug/l	215.70	3.6	450000	45	P
47	Ti	2	2.155 ug/l	2.16	3.0	4500	74	P
51	V	2	1.623 ug/l	1.62	8.0	4500	74	P
52	Cr	2	2.014 ug/l	2.01	4.0	4500	74	P
55	Mn	2	2.071 ug/l	2.07	2.5	4500	74	P
56	Fe	1	221.300 ug/l	221.30	3.4	450000	74	P
59	Co	2	2.057 ug/l	2.06	0.6	4500	74	P
60	Ni	2	2.179 ug/l	2.18	8.5	4500	74	P
63	Cu	2	2.211 ug/l	2.21	2.6	4500	74	P
66	Zn	2	1.946 ug/l	1.95	3.1	4500	74	P
75	As	2	1.754 ug/l	1.75	13.0	4500	74	P
78	Se	1	1.709 ug/l	1.71	5.8	4500	74	P
88	Sr	3	2.013 ug/l	2.01	2.5	4500	74	P
95	Mo	3	2.054 ug/l	2.05	4.2	4500	74	P
109	Ag	3	2.044 ug/l	2.04	0.2	900	103	P
111	Cd	3	2.194 ug/l	2.19	3.0	4500	103	P
118	Sn	3	2.033 ug/l	2.03	6.3	4500	103	P
121	Sb	3	2.019 ug/l	2.02	4.8	4500	103	P
135	Ba	3	2.087 ug/l	2.09	3.8	4500	103	P
200	Hg	3	0.124 ug/l	0.12	6.4	45	209	P
205	Tl	3	2.093 ug/l	2.09	2.9	4500	209	P
208	Pb	3	2.093 ug/l	2.09	1.0	4500	209	P
238	U	3	2.071 ug/l	2.07	1.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	203992	0.55	198400	102.8	30 - 125
45	Sc	1	4116287	3.73	3760000	109.5	30 - 125
45	Sc	2	1558560	1.14	1428000	109.1	30 - 125
74	Ge	1	4024485	2.56	3683000	109.3	30 - 125
74	Ge	2	2840024	1.01	2627000	108.1	30 - 125
74	Ge	3	11641636	0.72	10940000	106.4	30 - 125
103	Rh	2	4061531	0.77	3842000	105.7	30 - 125
103	Rh	3	7899075	0.81	7414000	106.5	30 - 125
165	Ho	3	5774438	0.37	5459000	105.8	30 - 125
175	Lu	3	6485583	0.52	6180000	104.9	30 - 125
209	Bi	3	6542296	0.51	6220000	105.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\019SMPL.D\019SMPL.D#  
 Date Acquired: Sep 13 2010 12:14 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSA Vial Number: 1101  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	252300.000 ug/l	252,300.00	1.5	450000	45	A
24	Mg	2	97970.000 ug/l	97,970.00	0.9	450000	45	A
27	Al	2	96140.000 ug/l	96,140.00	2.7	450000	45	A
31	P	2	98710.000 ug/l	98,710.00	2.3	450000	45	A
39	K	2	98260.000 ug/l	98,260.00	2.2	450000	45	A
40	Ca	1	302300.000 ug/l	302,300.00	2.7	450000	45	A
47	Ti	2	2130.000 ug/l	2,130.00	0.3	4500	74	P
51	V	2	-0.507 ug/l	-0.51	5.2	4500	74	P
52	Cr	2	1.134 ug/l	1.13	6.1	4500	74	P
55	Mn	2	5.705 ug/l	5.71	1.1	4500	74	P
56	Fe	1	248400.000 ug/l	248,400.00	2.0	450000	74	A
59	Co	2	3.665 ug/l	3.67	0.6	4500	74	P
60	Ni	2	2.897 ug/l	2.90	5.5	4500	74	P
63	Cu	2	3.630 ug/l	3.63	2.9	4500	74	P
66	Zn	2	3.434 ug/l	3.43	4.9	4500	74	P
75	As	2	0.403 ug/l	0.40	67.7	4500	74	P
78	Se	1	-0.097 ug/l	-0.10	39.7	4500	74	P
88	Sr	3	17.120 ug/l	17.12	1.6	4500	74	P
95	Mo	3	2057.000 ug/l	2,057.00	1.8	4500	74	A
109	Ag	3	0.216 ug/l	0.22	6.4	900	103	P
111	Cd	3	0.374 ug/l	0.37	7.7	4500	103	P
118	Sn	3	0.114 ug/l	0.11	14.4	4500	103	P
121	Sb	3	0.735 ug/l	0.73	4.8	4500	103	P
135	Ba	3	0.267 ug/l	0.27	44.5	4500	103	P
200	Hg	3	0.010 ug/l	0.01	69.2	45	209	P
205	Tl	3	0.070 ug/l	0.07	5.9	4500	209	P
208	Pb	3	0.260 ug/l	0.26	0.9	4500	209	P
238	U	3	0.002 ug/l	0.00	26.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	175277	198400	88.3	30 - 125	
45	Sc	1	3591334	3760000	95.5	30 - 125	
45	Sc	2	1385333	1428000	97.0	30 - 125	
74	Ge	1	3366589	3683000	91.4	30 - 125	
74	Ge	2	2384601	2627000	90.8	30 - 125	
74	Ge	3	9391226	10940000	85.8	30 - 125	
103	Rh	2	3023786	3842000	78.7	30 - 125	
103	Rh	3	5731776	7414000	77.3	30 - 125	
165	Ho	3	4799303	5459000	87.9	30 - 125	
175	Lu	3	5467999	6180000	88.5	30 - 125	
209	Bi	3	4824196	6220000	77.6	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\020SMPL.D\020SMPL.D#  
 Date Acquired: Sep 13 2010 12:21 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSAB Vial Number: 1102  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	116.1	900	6	P
23	Na	2	253300.000 ug/l	253,300.00	1.3	450000	45	A
24	Mg	2	98680.000 ug/l	98,680.00	2.2	450000	45	A
27	Al	2	95010.000 ug/l	95,010.00	1.1	450000	45	A
31	P	2	97530.000 ug/l	97,530.00	0.1	450000	45	A
39	K	2	96490.000 ug/l	96,490.00	1.1	450000	45	A
40	Ca	1	289600.000 ug/l	289,600.00	3.0	450000	45	A
47	Ti	2	2049.000 ug/l	2,049.00	0.9	4500	74	P
51	V	2	208.800 ug/l	208.80	1.6	4500	74	P
52	Cr	2	205.300 ug/l	205.30	1.7	4500	74	P
55	Mn	2	204.200 ug/l	204.20	1.2	4500	74	P
56	Fe	1	246200.000 ug/l	246,200.00	1.3	450000	74	A
59	Co	2	199.500 ug/l	199.50	1.3	4500	74	P
60	Ni	2	192.200 ug/l	192.20	1.9	4500	74	P
63	Cu	2	185.400 ug/l	185.40	2.9	4500	74	P
66	Zn	2	97.300 ug/l	97.30	2.5	4500	74	P
75	As	2	104.700 ug/l	104.70	1.5	4500	74	P
78	Se	1	106.300 ug/l	106.30	2.0	4500	74	P
88	Sr	3	16.440 ug/l	16.44	1.8	4500	74	P
95	Mo	3	2027.000 ug/l	2,027.00	1.7	4500	74	A
109	Ag	3	51.570 ug/l	51.57	1.0	900	103	P
111	Cd	3	108.600 ug/l	108.60	2.0	4500	103	P
118	Sn	3	0.107 ug/l	0.11	4.7	4500	103	P
121	Sb	3	0.778 ug/l	0.78	2.0	4500	103	P
135	Ba	3	0.270 ug/l	0.27	34.8	4500	103	P
200	Hg	3	0.009 ug/l	0.01	38.2	45	209	P
205	Tl	3	0.050 ug/l	0.05	19.9	4500	209	P
208	Pb	3	0.262 ug/l	0.26	1.6	4500	209	P
238	U	3	0.001 ug/l	0.00	14.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	164413	1.03	198400	82.9	30 - 125
45	Sc	1	3290920	2.49	3760000	87.5	30 - 125
45	Sc	2	1307011	2.37	1428000	91.5	30 - 125
74	Ge	1	3066731	1.62	3683000	83.3	30 - 125
74	Ge	2	2246630	1.37	2627000	85.5	30 - 125
74	Ge	3	9123679	0.26	10940000	83.4	30 - 125
103	Rh	2	2922949	0.55	3842000	76.1	30 - 125
103	Rh	3	5597730	0.63	7414000	75.5	30 - 125
165	Ho	3	4750141	0.77	5459000	87.0	30 - 125
175	Lu	3	5401264	0.40	6180000	87.4	30 - 125
209	Bi	3	4798431	0.18	6220000	77.1	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle

Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\023SMPL.D\023SMPL.D#  
 Date Acquired: Sep 13 2010 12:42 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	51.400 ug/l	51.40	2.2	900	6	P
23	Na	2	5131.000 ug/l	5,131.00	1.3	450000	45	A
24	Mg	2	5121.000 ug/l	5,121.00	1.2	450000	45	A
27	Al	2	499.700 ug/l	499.70	0.6	450000	45	P
31	P	2	4885.000 ug/l	4,885.00	2.1	450000	45	P
39	K	2	5097.000 ug/l	5,097.00	1.3	450000	45	A
40	Ca	1	4909.000 ug/l	4,909.00	3.2	450000	45	A
47	Ti	2	49.620 ug/l	49.62	0.5	4500	74	P
51	V	2	49.090 ug/l	49.09	0.5	4500	74	P
52	Cr	2	49.760 ug/l	49.76	1.2	4500	74	P
55	Mn	2	49.990 ug/l	49.99	0.5	4500	74	P
56	Fe	1	5089.000 ug/l	5,089.00	1.1	450000	74	A
59	Co	2	49.430 ug/l	49.43	0.6	4500	74	P
60	Ni	2	49.760 ug/l	49.76	2.2	4500	74	P
63	Cu	2	49.290 ug/l	49.29	1.5	4500	74	P
66	Zn	2	50.710 ug/l	50.71	1.2	4500	74	P
75	As	2	48.770 ug/l	48.77	1.5	4500	74	P
78	Se	1	50.760 ug/l	50.76	3.1	4500	74	P
88	Sr	3	50.380 ug/l	50.38	1.6	4500	74	P
95	Mo	3	50.950 ug/l	50.95	1.3	4500	74	P
109	Ag	3	50.640 ug/l	50.64	0.6	900	103	P
111	Cd	3	51.900 ug/l	51.90	2.6	4500	103	P
118	Sn	3	51.270 ug/l	51.27	2.7	4500	103	P
121	Sb	3	51.730 ug/l	51.73	1.3	4500	103	P
135	Ba	3	51.120 ug/l	51.12	3.0	4500	103	P
200	Hg	3	2.547 ug/l	2.55	1.9	45	209	P
205	Tl	3	50.970 ug/l	50.97	3.9	4500	209	P
208	Pb	3	51.200 ug/l	51.20	2.2	4500	209	P
238	U	3	50.520 ug/l	50.52	2.7	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185573	0.28	198400	93.5	30 - 125
45	Sc	1	3408054	0.71	3760000	90.6	30 - 125
45	Sc	2	1445555	1.44	1428000	101.2	30 - 125
74	Ge	1	3379004	2.32	3683000	91.7	30 - 125
74	Ge	2	2666674	1.21	2627000	101.5	30 - 125
74	Ge	3	10741489	0.11	10940000	98.2	30 - 125
103	Rh	2	3786016	1.15	3842000	98.5	30 - 125
103	Rh	3	7220808	0.81	7414000	97.4	30 - 125
165	Ho	3	5619449	1.54	5459000	102.9	30 - 125
175	Lu	3	6417066	1.16	6180000	103.8	30 - 125
209	Bi	3	6264965	0.48	6220000	100.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\024SMPL.D\024SMPL.D#  
 Date Acquired: Sep 13 2010 12:49 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	10.050 ug/l	10.05	4.9	450000	45	P
24	Mg	2	0.405 ug/l	0.40	59.7	450000	45	P
27	Al	2	0.310 ug/l	0.31	57.6	450000	45	P
31	P	2	-7.033 ug/l	-7.03	62.4	450000	45	P
39	K	2	8.162 ug/l	8.16	34.8	450000	45	P
40	Ca	1	-0.172 ug/l	-0.17	58.5	450000	45	P
47	Ti	2	-0.013 ug/l	-0.01	149.1	4500	74	P
51	V	2	-0.527 ug/l	-0.53	5.0	4500	74	P
52	Cr	2	-0.077 ug/l	-0.08	19.7	4500	74	P
55	Mn	2	-0.018 ug/l	-0.02	35.9	4500	74	P
56	Fe	1	0.280 ug/l	0.28	32.6	450000	74	P
59	Co	2	0.000 ug/l	0.00	655.8	4500	74	P
60	Ni	2	-0.027 ug/l	-0.03	152.2	4500	74	P
63	Cu	2	0.030 ug/l	0.03	21.5	4500	74	P
66	Zn	2	-0.019 ug/l	-0.02	660.7	4500	74	P
75	As	2	-0.161 ug/l	-0.16	126.6	4500	74	P
78	Se	1	-0.009 ug/l	-0.01	1095.9	4500	74	P
88	Sr	3	-0.026 ug/l	-0.03	34.9	4500	74	P
95	Mo	3	0.009 ug/l	0.01	72.1	4500	74	P
109	Ag	3	0.000 ug/l	0.00	2087.1	900	103	P
111	Cd	3	-0.001 ug/l	0.00	1027.7	4500	103	P
118	Sn	3	0.028 ug/l	0.03	49.3	4500	103	P
121	Sb	3	0.011 ug/l	0.01	41.3	4500	103	P
135	Ba	3	-0.074 ug/l	-0.07	77.1	4500	103	P
200	Hg	3	0.005 ug/l	0.01	28.8	45	209	P
205	Tl	3	0.230 ug/l	0.23	10.6	4500	209	P
208	Pb	3	0.003 ug/l	0.00	108.6	4500	209	P
238	U	3	0.001 ug/l	0.00	15.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186509	1.64	198400	94.0	30 - 125
45	Sc	1	3424249	5.60	3760000	91.1	30 - 125
45	Sc	2	1448561	0.90	1428000	101.4	30 - 125
74	Ge	1	3388627	3.97	3683000	92.0	30 - 125
74	Ge	2	2664160	1.72	2627000	101.4	30 - 125
74	Ge	3	10634360	0.58	10940000	97.2	30 - 125
103	Rh	2	3858967	1.07	3842000	100.4	30 - 125
103	Rh	3	7292840	0.82	7414000	98.4	30 - 125
165	Ho	3	5622272	0.79	5459000	103.0	30 - 125
175	Lu	3	6434308	0.75	6180000	104.1	30 - 125
209	Bi	3	6521746	1.35	6220000	104.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\025SMPL.D\025SMPL.D#  
 Date Acquired: Sep 13 2010 12:56 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: MB 580-70831/1-C Vial Number: 2101  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	9.749 ug/l	48.75	1.5	450000	45	P
24	Mg	2	0.432 ug/l	2.16	23.1	450000	45	P
27	Al	2	0.006 ug/l	0.03	12246.0	450000	45	P
31	P	2	-7.729 ug/l	-38.65	66.0	450000	45	P
39	K	2	5.489 ug/l	27.45	46.0	450000	45	P
40	Ca	1	0.380 ug/l	1.90	100.2	450000	45	P
47	Ti	2	0.008 ug/l	0.04	387.3	4500	74	P
51	V	2	-0.438 ug/l	-2.19	9.4	4500	74	P
52	Cr	2	-0.042 ug/l	-0.21	36.6	4500	74	P
55	Mn	2	-0.015 ug/l	-0.08	46.8	4500	74	P
56	Fe	1	0.176 ug/l	0.88	43.4	450000	74	P
59	Co	2	0.000 ug/l	0.00	277.4	4500	74	P
60	Ni	2	-0.006 ug/l	-0.03	791.7	4500	74	P
63	Cu	2	0.010 ug/l	0.05	55.7	4500	74	P
66	Zn	2	-0.028 ug/l	-0.14	188.1	4500	74	P
75	As	2	-0.126 ug/l	-0.63	71.6	4500	74	P
78	Se	1	-0.059 ug/l	-0.29	54.0	4500	74	P
88	Sr	3	-0.021 ug/l	-0.11	36.3	4500	74	P
95	Mo	3	-0.005 ug/l	-0.03	192.4	4500	74	P
109	Ag	3	0.003 ug/l	0.01	244.5	900	103	P
111	Cd	3	0.009 ug/l	0.05	67.6	4500	103	P
118	Sn	3	0.009 ug/l	0.05	66.7	4500	103	P
121	Sb	3	0.005 ug/l	0.02	135.2	4500	103	P
135	Ba	3	-0.116 ug/l	-0.58	19.2	4500	103	P
200	Hg	3	0.001 ug/l	0.00	418.0	45	209	P
205	Tl	3	0.098 ug/l	0.49	3.4	4500	209	P
208	Pb	3	-0.001 ug/l	0.00	195.2	4500	209	P
238	U	3	0.001 ug/l	0.01	38.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	187501	1.00	198400	94.5	30 - 125
45	Sc	1	3359851	2.80	3760000	89.4	30 - 125
45	Sc	2	1468051	1.39	1428000	102.8	30 - 125
74	Ge	1	3334829	1.19	3683000	90.5	30 - 125
74	Ge	2	2677772	0.45	2627000	101.9	30 - 125
74	Ge	3	10628155	0.45	10940000	97.1	30 - 125
103	Rh	2	3881118	1.13	3842000	101.0	30 - 125
103	Rh	3	7307705	0.41	7414000	98.6	30 - 125
165	Ho	3	5721635	1.89	5459000	104.8	30 - 125
175	Lu	3	6430373	0.67	6180000	104.1	30 - 125
209	Bi	3	6465830	0.69	6220000	104.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\026SMPL.D\026SMPL.D#  
 Date Acquired: Sep 13 2010 01:03 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-1-B SD Vial Number: 2102

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 25.00 Final Dil Factor: 25.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.23	97.4	900	6	P
23	Na	2	904.400 ug/l	22,610.00	3.2	450000	45	A
24	Mg	2	1325.000 ug/l	33,125.00	1.0	450000	45	P
27	Al	2	7.416 ug/l	185.40	6.3	450000	45	P
31	P	2	0.177 ug/l	4.44	5036.1	450000	45	P
39	K	2	152.800 ug/l	3,820.00	1.1	450000	45	P
40	Ca	1	1549.000 ug/l	38,725.00	1.5	450000	45	A
47	Ti	2	0.036 ug/l	0.91	85.4	4500	74	P
51	V	2	-0.732 ug/l	-18.29	4.0	4500	74	P
52	Cr	2	-0.075 ug/l	-1.88	14.6	4500	74	P
55	Mn	2	275.200 ug/l	6,880.00	1.2	4500	74	P
56	Fe	1	369.900 ug/l	9,247.50	3.3	450000	74	A
59	Co	2	0.002 ug/l	0.06	21.9	4500	74	P
60	Ni	2	0.083 ug/l	2.07	123.2	4500	74	P
63	Cu	2	0.017 ug/l	0.43	179.8	4500	74	P
66	Zn	2	0.032 ug/l	0.79	494.6	4500	74	P
75	As	2	0.524 ug/l	13.10	32.1	4500	74	P
78	Se	1	-0.142 ug/l	-3.55	7.9	4500	74	P
88	Sr	3	10.140 ug/l	253.50	1.7	4500	74	P
95	Mo	3	0.021 ug/l	0.52	71.3	4500	74	P
109	Ag	3	-0.007 ug/l	-0.18	12.2	900	103	P
111	Cd	3	0.000 ug/l	0.01	1205.2	4500	103	P
118	Sn	3	-0.012 ug/l	-0.30	37.6	4500	103	P
121	Sb	3	0.025 ug/l	0.63	35.5	4500	103	P
135	Ba	3	0.343 ug/l	8.58	28.8	4500	103	P
200	Hg	3	-0.006 ug/l	-0.15	28.8	45	209	P
205	Tl	3	0.051 ug/l	1.28	12.4	4500	209	P
208	Pb	3	-0.002 ug/l	-0.06	228.2	4500	209	P
238	U	3	0.001 ug/l	0.01	23.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186344	1.54	198400	93.9	30 - 125
45	Sc	1	3408969	1.29	3760000	90.7	30 - 125
45	Sc	2	1480945	1.40	1428000	103.7	30 - 125
74	Ge	1	3418516	2.20	3683000	92.8	30 - 125
74	Ge	2	2740720	1.62	2627000	104.3	30 - 125
74	Ge	3	10885737	0.90	10940000	99.5	30 - 125
103	Rh	2	4018961	1.44	3842000	104.6	30 - 125
103	Rh	3	7367892	1.10	7414000	99.4	30 - 125
165	Ho	3	5690055	1.25	5459000	104.2	30 - 125
175	Lu	3	6505978	1.37	6180000	105.3	30 - 125
209	Bi	3	6475457	0.87	6220000	104.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\027SMPL.D\027SMPL.D#  
 Date Acquired: Sep 13 2010 01:10 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-1-B Vial Number: 2103

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.04	105.3	900	6	P
23	Na	2	4017.000 ug/l	20,085.00	1.8	450000	45	A
24	Mg	2	5661.000 ug/l	28,305.00	1.7	450000	45	A
27	Al	2	10.180 ug/l	50.90	5.5	450000	45	P
31	P	2	4.786 ug/l	23.93	128.2	450000	45	P
39	K	2	691.200 ug/l	3,456.00	0.3	450000	45	P
40	Ca	1	6746.000 ug/l	33,730.00	2.3	450000	45	A
47	Ti	2	0.122 ug/l	0.61	35.3	4500	74	P
51	V	2	0.023 ug/l	0.12	289.5	4500	74	P
52	Cr	2	0.036 ug/l	0.18	158.4	4500	74	P
55	Mn	2	1188.000 ug/l	5,940.00	1.1	4500	74	A
56	Fe	1	1613.000 ug/l	8,065.00	2.4	450000	74	A
59	Co	2	0.010 ug/l	0.05	32.3	4500	74	P
60	Ni	2	0.240 ug/l	1.20	12.8	4500	74	P
63	Cu	2	0.024 ug/l	0.12	45.0	4500	74	P
66	Zn	2	0.447 ug/l	2.23	35.4	4500	74	P
75	As	2	3.917 ug/l	19.59	2.7	4500	74	P
78	Se	1	-0.148 ug/l	-0.74	7.0	4500	74	P
88	Sr	3	45.670 ug/l	228.35	0.5	4500	74	P
95	Mo	3	0.076 ug/l	0.38	14.6	4500	74	P
109	Ag	3	0.001 ug/l	0.01	478.5	900	103	P
111	Cd	3	0.010 ug/l	0.05	105.7	4500	103	P
118	Sn	3	0.008 ug/l	0.04	83.8	4500	103	P
121	Sb	3	0.142 ug/l	0.71	6.8	4500	103	P
135	Ba	3	2.175 ug/l	10.88	6.7	4500	103	P
200	Hg	3	0.002 ug/l	0.01	266.3	45	209	P
205	Tl	3	0.041 ug/l	0.21	11.9	4500	209	P
208	Pb	3	0.040 ug/l	0.20	14.5	4500	209	P
238	U	3	0.002 ug/l	0.01	47.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177610	1.40	198400	89.5	30 - 125
45	Sc	1	3356357	2.49	3760000	89.3	30 - 125
45	Sc	2	1416852	1.27	1428000	99.2	30 - 125
74	Ge	1	3337910	2.57	3683000	90.6	30 - 125
74	Ge	2	2614253	1.25	2627000	99.5	30 - 125
74	Ge	3	10345502	0.45	10940000	94.6	30 - 125
103	Rh	2	3745400	0.66	3842000	97.5	30 - 125
103	Rh	3	7008461	1.09	7414000	94.5	30 - 125
165	Ho	3	5550895	0.43	5459000	101.7	30 - 125
175	Lu	3	6384271	1.02	6180000	103.3	30 - 125
209	Bi	3	6309008	1.06	6220000	101.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\028SMPL.D\028SMPL.D#  
 Date Acquired: Sep 13 2010 01:16 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-1-C DU Vial Number: 2104  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	4058.000 ug/l	20,290.00	2.3	450000	45	A
24	Mg	2	5734.000 ug/l	28,670.00	0.7	450000	45	A
27	Al	2	10.730 ug/l	53.65	4.2	450000	45	P
31	P	2	5.276 ug/l	26.38	62.9	450000	45	P
39	K	2	702.200 ug/l	3,511.00	2.1	450000	45	P
40	Ca	1	7123.000 ug/l	35,615.00	4.7	450000	45	A
47	Ti	2	0.125 ug/l	0.63	46.2	4500	74	P
51	V	2	-0.007 ug/l	-0.04	704.4	4500	74	P
52	Cr	2	0.088 ug/l	0.44	40.8	4500	74	P
55	Mn	2	1196.000 ug/l	5,980.00	1.7	4500	74	A
56	Fe	1	1597.000 ug/l	7,985.00	0.4	450000	74	A
59	Co	2	0.011 ug/l	0.06	18.8	4500	74	P
60	Ni	2	0.272 ug/l	1.36	17.3	4500	74	P
63	Cu	2	0.023 ug/l	0.12	65.1	4500	74	P
66	Zn	2	0.424 ug/l	2.12	28.0	4500	74	P
75	As	2	3.662 ug/l	18.31	4.5	4500	74	P
78	Se	1	-0.137 ug/l	-0.69	13.7	4500	74	P
88	Sr	3	45.380 ug/l	226.90	1.2	4500	74	P
95	Mo	3	0.062 ug/l	0.31	18.7	4500	74	P
109	Ag	3	-0.005 ug/l	-0.03	63.1	900	103	P
111	Cd	3	0.008 ug/l	0.04	104.9	4500	103	P
118	Sn	3	0.015 ug/l	0.08	53.0	4500	103	P
121	Sb	3	0.132 ug/l	0.66	8.5	4500	103	P
135	Ba	3	2.211 ug/l	11.06	6.7	4500	103	P
200	Hg	3	0.002 ug/l	0.01	57.9	45	209	P
205	Tl	3	0.034 ug/l	0.17	15.9	4500	209	P
208	Pb	3	0.042 ug/l	0.21	7.5	4500	209	P
238	U	3	0.002 ug/l	0.01	6.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178590	0.74	198400	90.0	30 - 125
45	Sc	1	3598510	2.98	3760000	95.7	30 - 125
45	Sc	2	1409841	2.20	1428000	98.7	30 - 125
74	Ge	1	3576221	2.39	3683000	97.1	30 - 125
74	Ge	2	2625157	1.06	2627000	99.9	30 - 125
74	Ge	3	10341720	0.85	10940000	94.5	30 - 125
103	Rh	2	3740843	1.21	3842000	97.4	30 - 125
103	Rh	3	7020408	1.06	7414000	94.7	30 - 125
165	Ho	3	5589583	1.52	5459000	102.4	30 - 125
175	Lu	3	6342621	0.74	6180000	102.6	30 - 125
209	Bi	3	6272855	0.63	6220000	100.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\029SMPL.D\029SMPL.D#  
 Date Acquired: Sep 13 2010 01:23 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-1-D MS Vial Number: 2105

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.236 ug/l	111.80	5.9	900	6	P
23	Na	2	827.600 ug/l	41,380.00	1.4	450000	45	P
24	Mg	2	983.500 ug/l	49,175.00	1.6	450000	45	P
27	Al	2	91.950 ug/l	4,597.50	1.1	450000	45	P
31	P	2	403.400 ug/l	20,170.00	3.9	450000	45	P
39	K	2	510.300 ug/l	25,515.00	2.5	450000	45	P
40	Ca	1	1086.000 ug/l	54,300.00	2.2	450000	45	A
47	Ti	2	100.400 ug/l	5,020.00	1.0	4500	74	P
51	V	2	19.550 ug/l	977.50	2.9	4500	74	P
52	Cr	2	8.247 ug/l	412.35	0.5	4500	74	P
55	Mn	2	132.400 ug/l	6,620.00	1.0	4500	74	P
56	Fe	1	632.600 ug/l	31,630.00	0.7	450000	74	A
59	Co	2	20.660 ug/l	1,033.00	1.0	4500	74	P
60	Ni	2	20.750 ug/l	1,037.50	1.2	4500	74	P
63	Cu	2	10.420 ug/l	521.00	1.8	4500	74	P
66	Zn	2	20.700 ug/l	1,035.00	5.7	4500	74	P
75	As	2	81.430 ug/l	4,071.50	0.9	4500	74	P
78	Se	1	83.900 ug/l	4,195.00	2.5	4500	74	P
88	Sr	3	3.953 ug/l	197.65	2.0	4500	74	P
95	Mo	3	106.300 ug/l	5,315.00	2.4	4500	74	P
109	Ag	3	12.830 ug/l	641.50	1.1	900	103	P
111	Cd	3	2.147 ug/l	107.35	4.0	4500	103	P
118	Sn	3	106.600 ug/l	5,330.00	1.8	4500	103	P
121	Sb	3	58.030 ug/l	2,901.50	1.6	4500	103	P
135	Ba	3	84.590 ug/l	4,229.50	3.0	4500	103	P
200	Hg	3	1.072 ug/l	53.60	1.2	45	209	P
205	Tl	3	80.760 ug/l	4,038.00	1.0	4500	209	A
208	Pb	3	21.340 ug/l	1,067.00	2.1	4500	209	P
238	U	3	0.000 ug/l	0.00	4.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	191201	0.55	198400	96.4	30 - 125
45	Sc	1	3856912	2.87	3760000	102.6	30 - 125
45	Sc	2	1493715	1.66	1428000	104.6	30 - 125
74	Ge	1	3831450	1.01	3683000	104.0	30 - 125
74	Ge	2	2778043	0.73	2627000	105.7	30 - 125
74	Ge	3	10999231	1.05	10940000	100.5	30 - 125
103	Rh	2	3955564	1.01	3842000	103.0	30 - 125
103	Rh	3	7581677	0.55	7414000	102.3	30 - 125
165	Ho	3	5771200	0.56	5459000	105.7	30 - 125
175	Lu	3	6530656	1.22	6180000	105.7	30 - 125
209	Bi	3	6513246	0.23	6220000	104.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\030SMPL.D\030SMPL.D#  
 Date Acquired: Sep 13 2010 01:30 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-1-E MSD Vial Number: 2106  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.246 ug/l	112.30	6.5	900	6	P
23	Na	2	818.700 ug/l	40,935.00	1.3	450000	45	P
24	Mg	2	970.600 ug/l	48,530.00	1.4	450000	45	P
27	Al	2	88.960 ug/l	4,448.00	0.6	450000	45	P
31	P	2	387.400 ug/l	19,370.00	4.9	450000	45	P
39	K	2	504.400 ug/l	25,220.00	2.1	450000	45	P
40	Ca	1	1111.000 ug/l	55,550.00	3.1	450000	45	A
47	Ti	2	100.500 ug/l	5,025.00	1.9	4500	74	P
51	V	2	19.630 ug/l	981.50	1.4	4500	74	P
52	Cr	2	7.957 ug/l	397.85	2.7	4500	74	P
55	Mn	2	132.400 ug/l	6,620.00	1.3	4500	74	P
56	Fe	1	632.600 ug/l	31,630.00	2.3	450000	74	A
59	Co	2	20.630 ug/l	1,031.50	1.0	4500	74	P
60	Ni	2	20.920 ug/l	1,046.00	4.0	4500	74	P
63	Cu	2	10.510 ug/l	525.50	1.9	4500	74	P
66	Zn	2	21.090 ug/l	1,054.50	3.0	4500	74	P
75	As	2	80.740 ug/l	4,037.00	1.8	4500	74	P
78	Se	1	84.580 ug/l	4,229.00	2.1	4500	74	P
88	Sr	3	3.983 ug/l	199.15	0.4	4500	74	P
95	Mo	3	106.600 ug/l	5,330.00	1.1	4500	74	P
109	Ag	3	12.920 ug/l	646.00	1.4	900	103	P
111	Cd	3	2.055 ug/l	102.75	14.9	4500	103	P
118	Sn	3	108.800 ug/l	5,440.00	2.5	4500	103	P
121	Sb	3	58.730 ug/l	2,936.50	0.4	4500	103	P
135	Ba	3	85.080 ug/l	4,254.00	0.4	4500	103	P
200	Hg	3	1.033 ug/l	51.65	1.2	45	209	P
205	Tl	3	81.160 ug/l	4,058.00	1.2	4500	209	A
208	Pb	3	21.360 ug/l	1,068.00	2.1	4500	209	P
238	U	3	0.000 ug/l	0.00	736.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	189983	0.76	198400	95.8	30 - 125
45	Sc	1	3994029	2.70	3760000	106.2	30 - 125
45	Sc	2	1524325	1.19	1428000	106.7	30 - 125
74	Ge	1	3976446	1.29	3683000	108.0	30 - 125
74	Ge	2	2812269	0.73	2627000	107.1	30 - 125
74	Ge	3	11204750	0.45	10940000	102.4	30 - 125
103	Rh	2	3983985	0.43	3842000	103.7	30 - 125
103	Rh	3	7608583	0.62	7414000	102.6	30 - 125
165	Ho	3	5797797	1.59	5459000	106.2	30 - 125
175	Lu	3	6552450	0.74	6180000	106.0	30 - 125
209	Bi	3	6624953	0.91	6220000	106.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\031SMPL.D\031SMPL.D#  
 Date Acquired: Sep 13 2010 01:37 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-1-B PDS Vial Number: 2107  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.157 ug/l	107.85	11.0	900	6	P
23	Na	2	821.800 ug/l	41,090.00	0.5	450000	45	P
24	Mg	2	974.100 ug/l	48,705.00	0.9	450000	45	P
27	Al	2	93.950 ug/l	4,697.50	2.6	450000	45	P
31	P	2	407.300 ug/l	20,365.00	1.8	450000	45	P
39	K	2	511.200 ug/l	25,560.00	1.1	450000	45	P
40	Ca	1	1091.000 ug/l	54,550.00	1.6	450000	45	A
47	Ti	2	100.200 ug/l	5,010.00	0.4	4500	74	P
51	V	2	19.590 ug/l	979.50	1.1	4500	74	P
52	Cr	2	8.063 ug/l	403.15	1.7	4500	74	P
55	Mn	2	132.000 ug/l	6,600.00	0.8	4500	74	P
56	Fe	1	622.000 ug/l	31,100.00	0.8	450000	74	A
59	Co	2	20.430 ug/l	1,021.50	0.6	4500	74	P
60	Ni	2	20.170 ug/l	1,008.50	3.5	4500	74	P
63	Cu	2	10.390 ug/l	519.50	1.0	4500	74	P
66	Zn	2	20.830 ug/l	1,041.50	2.5	4500	74	P
75	As	2	81.080 ug/l	4,054.00	1.8	4500	74	P
78	Se	1	81.830 ug/l	4,091.50	0.3	4500	74	P
88	Sr	3	3.897 ug/l	194.85	2.6	4500	74	P
95	Mo	3	106.600 ug/l	5,330.00	2.1	4500	74	P
109	Ag	3	12.520 ug/l	626.00	2.1	900	103	P
111	Cd	3	2.197 ug/l	109.85	6.9	4500	103	P
118	Sn	3	107.100 ug/l	5,355.00	2.2	4500	103	P
121	Sb	3	58.540 ug/l	2,927.00	0.5	4500	103	P
135	Ba	3	84.060 ug/l	4,203.00	1.0	4500	103	P
200	Hg	3	0.988 ug/l	49.40	1.6	45	209	P
205	Tl	3	79.960 ug/l	3,998.00	0.8	4500	209	A
208	Pb	3	21.270 ug/l	1,063.50	0.4	4500	209	P
238	U	3	0.000 ug/l	0.01	297.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	192353	1.53	198400	97.0	30 - 125
45	Sc	1	3924709	3.23	3760000	104.4	30 - 125
45	Sc	2	1490549	0.06	1428000	104.4	30 - 125
74	Ge	1	3901412	1.95	3683000	105.9	30 - 125
74	Ge	2	2784783	0.66	2627000	106.0	30 - 125
74	Ge	3	11036474	0.52	10940000	100.9	30 - 125
103	Rh	2	3924206	1.37	3842000	102.1	30 - 125
103	Rh	3	7609283	0.51	7414000	102.6	30 - 125
165	Ho	3	5768686	1.52	5459000	105.7	30 - 125
175	Lu	3	6516392	0.96	6180000	105.4	30 - 125
209	Bi	3	6559119	0.64	6220000	105.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\032SMPL.D\032SMPL.D#  
 Date Acquired: Sep 13 2010 01:44 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCS 580-71337/21-A Vial Number: 2108

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.352 ug/l	117.60	12.8	900	6	P
23	Na	2	458.400 ug/l	22,920.00	1.0	450000	45	P
24	Mg	2	454.300 ug/l	22,715.00	0.5	450000	45	P
27	Al	2	76.240 ug/l	3,812.00	1.8	450000	45	P
31	P	2	388.500 ug/l	19,425.00	3.7	450000	45	P
39	K	2	451.900 ug/l	22,595.00	1.5	450000	45	P
40	Ca	1	459.900 ug/l	22,995.00	3.6	450000	45	P
47	Ti	2	100.800 ug/l	5,040.00	0.9	4500	74	P
51	V	2	20.500 ug/l	1,025.00	2.1	4500	74	P
52	Cr	2	8.245 ug/l	412.25	1.2	4500	74	P
55	Mn	2	21.200 ug/l	1,060.00	0.8	4500	74	P
56	Fe	1	485.400 ug/l	24,270.00	1.8	450000	74	A
59	Co	2	21.090 ug/l	1,054.50	1.1	4500	74	P
60	Ni	2	21.190 ug/l	1,059.50	2.0	4500	74	P
63	Cu	2	10.620 ug/l	531.00	2.9	4500	74	P
66	Zn	2	21.330 ug/l	1,066.50	5.4	4500	74	P
75	As	2	83.540 ug/l	4,177.00	1.8	4500	74	P
78	Se	1	83.270 ug/l	4,163.50	3.2	4500	74	P
88	Sr	3	-0.068 ug/l	-3.41	14.9	4500	74	P
95	Mo	3	107.800 ug/l	5,390.00	2.4	4500	74	P
109	Ag	3	13.260 ug/l	663.00	0.9	900	103	P
111	Cd	3	2.176 ug/l	108.80	3.6	4500	103	P
118	Sn	3	109.700 ug/l	5,485.00	1.5	4500	103	P
121	Sb	3	64.470 ug/l	3,223.50	2.1	4500	103	P
135	Ba	3	86.680 ug/l	4,334.00	1.3	4500	103	P
200	Hg	3	1.059 ug/l	52.95	1.6	45	209	P
205	Tl	3	84.310 ug/l	4,215.50	2.8	4500	209	A
208	Pb	3	21.740 ug/l	1,087.00	2.0	4500	209	P
238	U	3	0.000 ug/l	-0.01	82.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181224	0.81	198400	91.3	30 - 125
45	Sc	1	3714840	4.80	3760000	98.8	30 - 125
45	Sc	2	1417861	1.25	1428000	99.3	30 - 125
74	Ge	1	3710923	3.34	3683000	100.8	30 - 125
74	Ge	2	2638003	0.70	2627000	100.4	30 - 125
74	Ge	3	10377222	0.51	10940000	94.9	30 - 125
103	Rh	2	3845936	1.01	3842000	100.1	30 - 125
103	Rh	3	7142360	1.01	7414000	96.3	30 - 125
165	Ho	3	5617771	1.14	5459000	102.9	30 - 125
175	Lu	3	6438813	0.76	6180000	104.2	30 - 125
209	Bi	3	6396375	1.39	6220000	102.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\033SMPL.D\033SMPL.D#  
 Date Acquired: Sep 13 2010 01:51 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71337/22-A Vial Number: 2109  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.053 ug/l	102.65	9.7	900	6	P
23	Na	2	452.500 ug/l	22,625.00	0.3	450000	45	P
24	Mg	2	444.700 ug/l	22,235.00	0.6	450000	45	P
27	Al	2	74.430 ug/l	3,721.50	1.6	450000	45	P
31	P	2	377.000 ug/l	18,850.00	8.3	450000	45	P
39	K	2	449.400 ug/l	22,470.00	1.0	450000	45	P
40	Ca	1	456.100 ug/l	22,805.00	2.6	450000	45	P
47	Ti	2	100.600 ug/l	5,030.00	0.4	4500	74	P
51	V	2	20.300 ug/l	1,015.00	1.8	4500	74	P
52	Cr	2	8.299 ug/l	414.95	2.5	4500	74	P
55	Mn	2	21.150 ug/l	1,057.50	0.9	4500	74	P
56	Fe	1	486.800 ug/l	24,340.00	3.2	450000	74	A
59	Co	2	20.930 ug/l	1,046.50	0.3	4500	74	P
60	Ni	2	20.430 ug/l	1,021.50	2.4	4500	74	P
63	Cu	2	10.400 ug/l	520.00	2.4	4500	74	P
66	Zn	2	21.500 ug/l	1,075.00	1.8	4500	74	P
75	As	2	83.720 ug/l	4,186.00	1.8	4500	74	P
78	Se	1	83.520 ug/l	4,176.00	4.5	4500	74	P
88	Sr	3	-0.062 ug/l	-3.08	9.4	4500	74	P
95	Mo	3	107.400 ug/l	5,370.00	2.3	4500	74	P
109	Ag	3	13.260 ug/l	663.00	1.9	900	103	P
111	Cd	3	2.188 ug/l	109.40	4.9	4500	103	P
118	Sn	3	109.800 ug/l	5,490.00	3.5	4500	103	P
121	Sb	3	63.960 ug/l	3,198.00	3.0	4500	103	P
135	Ba	3	86.480 ug/l	4,324.00	2.9	4500	103	P
200	Hg	3	1.033 ug/l	51.65	1.4	45	209	P
205	Tl	3	84.040 ug/l	4,202.00	5.4	4500	209	A
208	Pb	3	21.420 ug/l	1,071.00	2.3	4500	209	P
238	U	3	0.000 ug/l	0.00	500.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179877	0.83	198400	90.7	30 - 125
45	Sc	1	3732233	1.37	3760000	99.3	30 - 125
45	Sc	2	1435341	0.54	1428000	100.5	30 - 125
74	Ge	1	3718289	2.86	3683000	101.0	30 - 125
74	Ge	2	2644188	0.32	2627000	100.7	30 - 125
74	Ge	3	10375069	0.50	10940000	94.8	30 - 125
103	Rh	2	3808625	0.94	3842000	99.1	30 - 125
103	Rh	3	7096655	0.99	7414000	95.7	30 - 125
165	Ho	3	5640491	1.08	5459000	103.3	30 - 125
175	Lu	3	6402560	0.41	6180000	103.6	30 - 125
209	Bi	3	6470657	0.34	6220000	104.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\034SMPL.D\034SMPL.D#  
 Date Acquired: Sep 13 2010 01:58 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	51.830 ug/l	51.83	1.3	900	6	P
23	Na	2	5033.000 ug/l	5,033.00	2.0	450000	45	A
24	Mg	2	5117.000 ug/l	5,117.00	2.1	450000	45	A
27	Al	2	501.700 ug/l	501.70	1.5	450000	45	P
31	P	2	4823.000 ug/l	4,823.00	2.3	450000	45	P
39	K	2	5117.000 ug/l	5,117.00	0.1	450000	45	A
40	Ca	1	5163.000 ug/l	5,163.00	2.5	450000	45	A
47	Ti	2	49.280 ug/l	49.28	0.5	4500	74	P
51	V	2	48.600 ug/l	48.60	0.8	4500	74	P
52	Cr	2	49.150 ug/l	49.15	2.6	4500	74	P
55	Mn	2	49.640 ug/l	49.64	1.3	4500	74	P
56	Fe	1	4992.000 ug/l	4,992.00	1.0	450000	74	A
59	Co	2	48.950 ug/l	48.95	1.2	4500	74	P
60	Ni	2	48.910 ug/l	48.91	2.1	4500	74	P
63	Cu	2	48.080 ug/l	48.08	1.3	4500	74	P
66	Zn	2	50.200 ug/l	50.20	0.3	4500	74	P
75	As	2	49.140 ug/l	49.14	1.3	4500	74	P
78	Se	1	49.920 ug/l	49.92	1.2	4500	74	P
88	Sr	3	50.220 ug/l	50.22	1.3	4500	74	P
95	Mo	3	50.480 ug/l	50.48	1.8	4500	74	P
109	Ag	3	51.230 ug/l	51.23	1.8	900	103	P
111	Cd	3	51.930 ug/l	51.93	3.7	4500	103	P
118	Sn	3	51.750 ug/l	51.75	3.5	4500	103	P
121	Sb	3	52.370 ug/l	52.37	3.5	4500	103	P
135	Ba	3	51.230 ug/l	51.23	1.0	4500	103	P
200	Hg	3	2.504 ug/l	2.50	1.0	45	209	P
205	Tl	3	50.550 ug/l	50.55	3.8	4500	209	P
208	Pb	3	50.540 ug/l	50.54	1.9	4500	209	P
238	U	3	50.190 ug/l	50.19	3.4	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	184036	1.84	198400	92.8	30 - 125
45	Sc	1	3761703	2.17	3760000	100.0	30 - 125
45	Sc	2	1451137	2.62	1428000	101.6	30 - 125
74	Ge	1	3781057	0.16	3683000	102.7	30 - 125
74	Ge	2	2691834	1.98	2627000	102.5	30 - 125
74	Ge	3	10762420	0.45	10940000	98.4	30 - 125
103	Rh	2	3783309	0.58	3842000	98.5	30 - 125
103	Rh	3	7183234	0.64	7414000	96.9	30 - 125
165	Ho	3	5691783	0.45	5459000	104.3	30 - 125
175	Lu	3	6522585	2.27	6180000	105.5	30 - 125
209	Bi	3	6398560	0.78	6220000	102.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\035SMPL.D\035SMPL.D#  
 Date Acquired: Sep 13 2010 02:05 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.004 ug/l	0.00	208.3	900	6	P
23	Na	2	6.536 ug/l	6.54	8.1	450000	45	P
24	Mg	2	0.341 ug/l	0.34	27.1	450000	45	P
27	Al	2	-0.454 ug/l	-0.45	100.1	450000	45	P
31	P	2	-7.587 ug/l	-7.59	26.4	450000	45	P
39	K	2	4.112 ug/l	4.11	32.3	450000	45	P
40	Ca	1	0.251 ug/l	0.25	71.8	450000	45	P
47	Ti	2	-0.013 ug/l	-0.01	80.8	4500	74	P
51	V	2	-0.341 ug/l	-0.34	10.5	4500	74	P
52	Cr	2	-0.076 ug/l	-0.08	17.4	4500	74	P
55	Mn	2	-0.009 ug/l	-0.01	15.3	4500	74	P
56	Fe	1	0.153 ug/l	0.15	27.8	450000	74	P
59	Co	2	0.000 ug/l	0.00	5806.9	4500	74	P
60	Ni	2	-0.083 ug/l	-0.08	24.6	4500	74	P
63	Cu	2	0.013 ug/l	0.01	317.9	4500	74	P
66	Zn	2	-0.002 ug/l	0.00	5642.5	4500	74	P
75	As	2	-0.230 ug/l	-0.23	35.6	4500	74	P
78	Se	1	-0.072 ug/l	-0.07	24.3	4500	74	P
88	Sr	3	-0.033 ug/l	-0.03	42.6	4500	74	P
95	Mo	3	0.007 ug/l	0.01	64.1	4500	74	P
109	Ag	3	0.000 ug/l	0.00	1185.6	900	103	P
111	Cd	3	0.026 ug/l	0.03	41.5	4500	103	P
118	Sn	3	0.069 ug/l	0.07	24.6	4500	103	P
121	Sb	3	0.092 ug/l	0.09	6.7	4500	103	P
135	Ba	3	-0.077 ug/l	-0.08	78.6	4500	103	P
200	Hg	3	0.010 ug/l	0.01	69.1	45	209	P
205	Tl	3	0.410 ug/l	0.41	3.1	4500	209	P
208	Pb	3	0.000 ug/l	0.00	2089.4	4500	209	P
238	U	3	0.001 ug/l	0.00	43.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186832	1.84	198400	94.2	30 - 125
45	Sc	1	3792286	3.50	3760000	100.9	30 - 125
45	Sc	2	1459154	0.89	1428000	102.2	30 - 125
74	Ge	1	3797116	1.12	3683000	103.1	30 - 125
74	Ge	2	2670321	0.28	2627000	101.6	30 - 125
74	Ge	3	10678415	0.36	10940000	97.6	30 - 125
103	Rh	2	3866930	1.15	3842000	100.6	30 - 125
103	Rh	3	7273586	1.20	7414000	98.1	30 - 125
165	Ho	3	5676016	0.68	5459000	104.0	30 - 125
175	Lu	3	6511978	0.83	6180000	105.4	30 - 125
209	Bi	3	6545663	0.83	6220000	105.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\036SMPL.D\036SMPL.D#  
 Date Acquired: Sep 13 2010 02:12 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-2-B Vial Number: 2201  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	3508.000 ug/l	17,540.00	1.6	450000	45	A
24	Mg	2	4576.000 ug/l	22,880.00	1.9	450000	45	A
27	Al	2	5.543 ug/l	27.72	9.3	450000	45	P
31	P	2	9.524 ug/l	47.62	23.5	450000	45	P
39	K	2	607.000 ug/l	3,035.00	2.0	450000	45	P
40	Ca	1	4376.000 ug/l	21,880.00	3.5	450000	45	A
47	Ti	2	0.064 ug/l	0.32	29.5	4500	74	P
51	V	2	0.669 ug/l	3.34	14.9	4500	74	P
52	Cr	2	0.184 ug/l	0.92	17.2	4500	74	P
55	Mn	2	40.930 ug/l	204.65	0.4	4500	74	P
56	Fe	1	1.761 ug/l	8.81	6.1	450000	74	P
59	Co	2	0.053 ug/l	0.27	4.7	4500	74	P
60	Ni	2	5.845 ug/l	29.23	1.6	4500	74	P
63	Cu	2	0.137 ug/l	0.69	21.8	4500	74	P
66	Zn	2	0.502 ug/l	2.51	21.8	4500	74	P
75	As	2	0.095 ug/l	0.47	305.7	4500	74	P
78	Se	1	-0.132 ug/l	-0.66	20.0	4500	74	P
88	Sr	3	32.190 ug/l	160.95	1.2	4500	74	P
95	Mo	3	0.025 ug/l	0.13	8.4	4500	74	P
109	Ag	3	0.004 ug/l	0.02	75.4	900	103	P
111	Cd	3	0.019 ug/l	0.10	125.9	4500	103	P
118	Sn	3	0.055 ug/l	0.28	31.2	4500	103	P
121	Sb	3	0.104 ug/l	0.52	8.1	4500	103	P
135	Ba	3	2.840 ug/l	14.20	3.7	4500	103	P
200	Hg	3	0.014 ug/l	0.07	26.1	45	209	P
205	Tl	3	0.203 ug/l	1.02	4.8	4500	209	P
208	Pb	3	-0.011 ug/l	-0.06	22.2	4500	209	P
238	U	3	0.040 ug/l	0.20	4.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181127	1.68	198400	91.3	30 - 125
45	Sc	1	3593432	2.23	3760000	95.6	30 - 125
45	Sc	2	1420458	2.30	1428000	99.5	30 - 125
74	Ge	1	3585299	2.34	3683000	97.3	30 - 125
74	Ge	2	2629724	0.86	2627000	100.1	30 - 125
74	Ge	3	10416620	0.78	10940000	95.2	30 - 125
103	Rh	2	3738762	1.34	3842000	97.3	30 - 125
103	Rh	3	6995371	0.31	7414000	94.4	30 - 125
165	Ho	3	5606269	0.17	5459000	102.7	30 - 125
175	Lu	3	6436656	0.50	6180000	104.2	30 - 125
209	Bi	3	6372052	0.49	6220000	102.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\037SMPL.D\037SMPL.D#  
 Date Acquired: Sep 13 2010 02:19 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-3-B Vial Number: 2202  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	3023.000 ug/l	15,115.00	1.4	450000	45	A
24	Mg	2	4258.000 ug/l	21,290.00	0.3	450000	45	A
27	Al	2	6.275 ug/l	31.38	4.8	450000	45	P
31	P	2	11.450 ug/l	57.25	58.8	450000	45	P
39	K	2	590.500 ug/l	2,952.50	2.3	450000	45	P
40	Ca	1	4509.000 ug/l	22,545.00	3.1	450000	45	A
47	Ti	2	0.080 ug/l	0.40	61.3	4500	74	P
51	V	2	1.173 ug/l	5.87	7.6	4500	74	P
52	Cr	2	0.351 ug/l	1.75	23.6	4500	74	P
55	Mn	2	0.161 ug/l	0.80	1.1	4500	74	P
56	Fe	1	0.707 ug/l	3.53	5.6	450000	74	P
59	Co	2	0.013 ug/l	0.06	39.2	4500	74	P
60	Ni	2	0.464 ug/l	2.32	5.0	4500	74	P
63	Cu	2	0.101 ug/l	0.51	14.8	4500	74	P
66	Zn	2	0.650 ug/l	3.25	36.9	4500	74	P
75	As	2	0.073 ug/l	0.37	337.3	4500	74	P
78	Se	1	-0.074 ug/l	-0.37	48.7	4500	74	P
88	Sr	3	33.870 ug/l	169.35	3.3	4500	74	P
95	Mo	3	0.028 ug/l	0.14	46.3	4500	74	P
109	Ag	3	0.006 ug/l	0.03	42.0	900	103	P
111	Cd	3	-0.002 ug/l	-0.01	631.1	4500	103	P
118	Sn	3	0.047 ug/l	0.23	45.2	4500	103	P
121	Sb	3	0.097 ug/l	0.49	9.8	4500	103	P
135	Ba	3	2.522 ug/l	12.61	2.4	4500	103	P
200	Hg	3	0.006 ug/l	0.03	85.6	45	209	P
205	Tl	3	0.122 ug/l	0.61	5.6	4500	209	P
208	Pb	3	0.262 ug/l	1.31	3.1	4500	209	P
238	U	3	0.003 ug/l	0.01	26.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179564	1.50	198400	90.5	30 - 125
45	Sc	1	3696232	1.99	3760000	98.3	30 - 125
45	Sc	2	1375994	2.13	1428000	96.4	30 - 125
74	Ge	1	3662458	0.22	3683000	99.4	30 - 125
74	Ge	2	2595246	2.13	2627000	98.8	30 - 125
74	Ge	3	10186806	0.51	10940000	93.1	30 - 125
103	Rh	2	3645189	1.36	3842000	94.9	30 - 125
103	Rh	3	6867806	0.07	7414000	92.6	30 - 125
165	Ho	3	5560106	0.44	5459000	101.9	30 - 125
175	Lu	3	6354910	0.88	6180000	102.8	30 - 125
209	Bi	3	6295806	0.58	6220000	101.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\038SMPL.D\038SMPL.D#  
 Date Acquired: Sep 13 2010 02:26 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-4-B Vial Number: 2203

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	1419.000 ug/l	7,095.00	0.9	450000	45	A
24	Mg	2	5306.000 ug/l	26,530.00	1.7	450000	45	A
27	Al	2	5.677 ug/l	28.39	4.9	450000	45	P
31	P	2	4.868 ug/l	24.34	243.6	450000	45	P
39	K	2	487.000 ug/l	2,435.00	1.3	450000	45	P
40	Ca	1	4555.000 ug/l	22,775.00	3.4	450000	45	A
47	Ti	2	0.104 ug/l	0.52	10.0	4500	74	P
51	V	2	1.030 ug/l	5.15	11.0	4500	74	P
52	Cr	2	0.072 ug/l	0.36	36.1	4500	74	P
55	Mn	2	516.700 ug/l	2,583.50	1.1	4500	74	P
56	Fe	1	2.947 ug/l	14.74	4.4	450000	74	P
59	Co	2	0.370 ug/l	1.85	2.8	4500	74	P
60	Ni	2	3.901 ug/l	19.51	9.4	4500	74	P
63	Cu	2	0.155 ug/l	0.77	4.2	4500	74	P
66	Zn	2	0.822 ug/l	4.11	34.8	4500	74	P
75	As	2	0.218 ug/l	1.09	78.5	4500	74	P
78	Se	1	-0.150 ug/l	-0.75	13.2	4500	74	P
88	Sr	3	29.810 ug/l	149.05	0.7	4500	74	P
95	Mo	3	0.046 ug/l	0.23	13.5	4500	74	P
109	Ag	3	0.004 ug/l	0.02	211.5	900	103	P
111	Cd	3	0.008 ug/l	0.04	346.1	4500	103	P
118	Sn	3	0.585 ug/l	2.92	4.5	4500	103	P
121	Sb	3	0.067 ug/l	0.34	8.0	4500	103	P
135	Ba	3	1.609 ug/l	8.05	0.7	4500	103	P
200	Hg	3	0.005 ug/l	0.03	152.6	45	209	P
205	Tl	3	0.105 ug/l	0.52	5.0	4500	209	P
208	Pb	3	0.013 ug/l	0.07	14.8	4500	209	P
238	U	3	0.013 ug/l	0.06	12.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178405	1.48	198400	89.9	30 - 125
45	Sc	1	3756363	3.58	3760000	99.9	30 - 125
45	Sc	2	1373791	1.19	1428000	96.2	30 - 125
74	Ge	1	3685281	1.51	3683000	100.1	30 - 125
74	Ge	2	2559012	0.82	2627000	97.4	30 - 125
74	Ge	3	10106959	1.04	10940000	92.4	30 - 125
103	Rh	2	3649768	0.52	3842000	95.0	30 - 125
103	Rh	3	6812961	1.10	7414000	91.9	30 - 125
165	Ho	3	5558179	1.06	5459000	101.8	30 - 125
175	Lu	3	6360918	0.89	6180000	102.9	30 - 125
209	Bi	3	6315216	0.58	6220000	101.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\039SMPL.D\039SMPL.D#  
 Date Acquired: Sep 13 2010 02:32 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-5-B Vial Number: 2204

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	6189.000 ug/l	30,945.00	1.9	450000	45	A
24	Mg	2	5181.000 ug/l	25,905.00	2.1	450000	45	A
27	Al	2	5.434 ug/l	27.17	15.2	450000	45	P
31	P	2	9.115 ug/l	45.58	32.3	450000	45	P
39	K	2	1219.000 ug/l	6,095.00	1.7	450000	45	P
40	Ca	1	6147.000 ug/l	30,735.00	3.6	450000	45	A
47	Ti	2	0.051 ug/l	0.25	112.2	4500	74	P
51	V	2	1.755 ug/l	8.78	7.0	4500	74	P
52	Cr	2	0.061 ug/l	0.31	39.2	4500	74	P
55	Mn	2	18.860 ug/l	94.30	0.4	4500	74	P
56	Fe	1	1.882 ug/l	9.41	2.8	450000	74	P
59	Co	2	0.097 ug/l	0.49	8.8	4500	74	P
60	Ni	2	0.739 ug/l	3.70	5.4	4500	74	P
63	Cu	2	0.106 ug/l	0.53	7.7	4500	74	P
66	Zn	2	0.579 ug/l	2.90	21.6	4500	74	P
75	As	2	0.449 ug/l	2.25	34.2	4500	74	P
78	Se	1	-0.120 ug/l	-0.60	28.7	4500	74	P
88	Sr	3	43.610 ug/l	218.05	0.3	4500	74	P
95	Mo	3	0.186 ug/l	0.93	9.6	4500	74	P
109	Ag	3	0.001 ug/l	0.00	607.3	900	103	P
111	Cd	3	0.032 ug/l	0.16	30.4	4500	103	P
118	Sn	3	0.058 ug/l	0.29	30.5	4500	103	P
121	Sb	3	0.071 ug/l	0.36	32.7	4500	103	P
135	Ba	3	1.634 ug/l	8.17	3.9	4500	103	P
200	Hg	3	0.005 ug/l	0.03	20.3	45	209	P
205	Tl	3	0.072 ug/l	0.36	12.3	4500	209	P
208	Pb	3	-0.008 ug/l	-0.04	46.9	4500	209	P
238	U	3	0.020 ug/l	0.10	15.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177197	1.37	198400	89.3	30 - 125
45	Sc	1	3619255	3.85	3760000	96.3	30 - 125
45	Sc	2	1384140	1.93	1428000	96.9	30 - 125
74	Ge	1	3603968	2.04	3683000	97.9	30 - 125
74	Ge	2	2551978	1.47	2627000	97.1	30 - 125
74	Ge	3	10176772	0.63	10940000	93.0	30 - 125
103	Rh	2	3604976	0.95	3842000	93.8	30 - 125
103	Rh	3	6827219	1.06	7414000	92.1	30 - 125
165	Ho	3	5571001	1.01	5459000	102.1	30 - 125
175	Lu	3	6350690	0.84	6180000	102.8	30 - 125
209	Bi	3	6247857	1.04	6220000	100.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\040SMPL.D\040SMPL.D#  
 Date Acquired: Sep 13 2010 02:39 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-B-6-B Vial Number: 2205  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	2718.000 ug/l	13,590.00	2.5	450000	45	A
24	Mg	2	3454.000 ug/l	17,270.00	2.5	450000	45	A
27	Al	2	7.855 ug/l	39.28	10.0	450000	45	P
31	P	2	5.212 ug/l	26.06	43.6	450000	45	P
39	K	2	626.800 ug/l	3,134.00	2.0	450000	45	P
40	Ca	1	4505.000 ug/l	22,525.00	3.5	450000	45	A
47	Ti	2	0.077 ug/l	0.38	56.0	4500	74	P
51	V	2	1.601 ug/l	8.01	8.8	4500	74	P
52	Cr	2	0.047 ug/l	0.23	88.1	4500	74	P
55	Mn	2	412.300 ug/l	2,061.50	0.8	4500	74	P
56	Fe	1	1.906 ug/l	9.53	1.5	450000	74	P
59	Co	2	0.260 ug/l	1.30	2.8	4500	74	P
60	Ni	2	1.470 ug/l	7.35	8.1	4500	74	P
63	Cu	2	0.099 ug/l	0.50	18.5	4500	74	P
66	Zn	2	0.923 ug/l	4.62	24.7	4500	74	P
75	As	2	0.274 ug/l	1.37	77.3	4500	74	P
78	Se	1	-0.102 ug/l	-0.51	45.7	4500	74	P
88	Sr	3	31.380 ug/l	156.90	1.4	4500	74	P
95	Mo	3	0.164 ug/l	0.82	29.0	4500	74	P
109	Ag	3	-0.002 ug/l	-0.01	342.4	900	103	P
111	Cd	3	0.023 ug/l	0.12	112.8	4500	103	P
118	Sn	3	0.009 ug/l	0.04	167.2	4500	103	P
121	Sb	3	0.058 ug/l	0.29	10.2	4500	103	P
135	Ba	3	1.537 ug/l	7.69	4.5	4500	103	P
200	Hg	3	0.011 ug/l	0.06	34.6	45	209	P
205	Tl	3	0.055 ug/l	0.27	9.8	4500	209	P
208	Pb	3	0.016 ug/l	0.08	37.8	4500	209	P
238	U	3	0.007 ug/l	0.03	25.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	174028	1.18	198400	87.7	30 - 125
45	Sc	1	3606835	3.44	3760000	95.9	30 - 125
45	Sc	2	1353865	1.42	1428000	94.8	30 - 125
74	Ge	1	3629811	1.91	3683000	98.6	30 - 125
74	Ge	2	2535112	0.62	2627000	96.5	30 - 125
74	Ge	3	10027939	0.97	10940000	91.7	30 - 125
103	Rh	2	3627234	0.76	3842000	94.4	30 - 125
103	Rh	3	6829863	0.54	7414000	92.1	30 - 125
165	Ho	3	5380568	0.97	5459000	98.6	30 - 125
175	Lu	3	6222311	1.45	6180000	100.7	30 - 125
209	Bi	3	6178909	0.71	6220000	99.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\041SMPL.D\041SMPL.D#  
 Date Acquired: Sep 13 2010 02:46 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-A-1-A Vial Number: 2206

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.04	102.9	900	6	P
23	Na	2	4096.000 ug/l	20,480.00	1.5	450000	45	A
24	Mg	2	6007.000 ug/l	30,035.00	0.2	450000	45	A
27	Al	2	7.242 ug/l	36.21	3.1	450000	45	P
31	P	2	261.200 ug/l	1,306.00	6.7	450000	45	P
39	K	2	725.900 ug/l	3,629.50	1.1	450000	45	P
40	Ca	1	7521.000 ug/l	37,605.00	2.9	450000	45	A
47	Ti	2	0.270 ug/l	1.35	4.2	4500	74	P
51	V	2	1.506 ug/l	7.53	11.8	4500	74	P
52	Cr	2	0.197 ug/l	0.99	34.8	4500	74	P
55	Mn	2	1261.000 ug/l	6,305.00	0.6	4500	74	A
56	Fe	1	3492.000 ug/l	17,460.00	1.7	450000	74	A
59	Co	2	0.015 ug/l	0.07	28.5	4500	74	P
60	Ni	2	0.310 ug/l	1.55	17.2	4500	74	P
63	Cu	2	0.066 ug/l	0.33	36.5	4500	74	P
66	Zn	2	0.774 ug/l	3.87	24.3	4500	74	P
75	As	2	5.601 ug/l	28.01	6.3	4500	74	P
78	Se	1	-0.144 ug/l	-0.72	13.6	4500	74	P
88	Sr	3	49.170 ug/l	245.85	1.9	4500	74	P
95	Mo	3	0.098 ug/l	0.49	42.5	4500	74	P
109	Ag	3	0.001 ug/l	0.01	309.0	900	103	P
111	Cd	3	0.024 ug/l	0.12	86.8	4500	103	P
118	Sn	3	0.018 ug/l	0.09	32.7	4500	103	P
121	Sb	3	0.148 ug/l	0.74	8.1	4500	103	P
135	Ba	3	6.818 ug/l	34.09	4.1	4500	103	P
200	Hg	3	0.005 ug/l	0.02	55.0	45	209	P
205	Tl	3	0.050 ug/l	0.25	5.8	4500	209	P
208	Pb	3	0.065 ug/l	0.32	8.3	4500	209	P
238	U	3	0.002 ug/l	0.01	22.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177503	0.41	198400	89.5	30 - 125
45	Sc	1	3592085	3.88	3760000	95.5	30 - 125
45	Sc	2	1369829	0.31	1428000	95.9	30 - 125
74	Ge	1	3610329	2.26	3683000	98.0	30 - 125
74	Ge	2	2540724	0.42	2627000	96.7	30 - 125
74	Ge	3	10172082	1.15	10940000	93.0	30 - 125
103	Rh	2	3653813	1.15	3842000	95.1	30 - 125
103	Rh	3	6818358	0.98	7414000	92.0	30 - 125
165	Ho	3	5469398	0.43	5459000	100.2	30 - 125
175	Lu	3	6263568	0.89	6180000	101.4	30 - 125
209	Bi	3	6142403	1.12	6220000	98.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\042SMPL.D\042SMPL.D#  
 Date Acquired: Sep 13 2010 02:53 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-A-2-A Vial Number: 2207

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	3673.000 ug/l	18,365.00	2.6	450000	45	A
24	Mg	2	4762.000 ug/l	23,810.00	1.3	450000	45	A
27	Al	2	6.360 ug/l	31.80	13.3	450000	45	P
31	P	2	21.070 ug/l	105.35	16.8	450000	45	P
39	K	2	636.200 ug/l	3,181.00	0.9	450000	45	P
40	Ca	1	4393.000 ug/l	21,965.00	3.7	450000	45	A
47	Ti	2	0.075 ug/l	0.37	20.8	4500	74	P
51	V	2	2.457 ug/l	12.29	5.0	4500	74	P
52	Cr	2	0.285 ug/l	1.42	14.4	4500	74	P
55	Mn	2	95.080 ug/l	475.40	0.8	4500	74	P
56	Fe	1	309.100 ug/l	1,545.50	2.6	450000	74	P
59	Co	2	0.143 ug/l	0.71	10.5	4500	74	P
60	Ni	2	7.838 ug/l	39.19	4.2	4500	74	P
63	Cu	2	0.590 ug/l	2.95	12.3	4500	74	P
66	Zn	2	1.151 ug/l	5.76	12.3	4500	74	P
75	As	2	0.524 ug/l	2.62	32.7	4500	74	P
78	Se	1	-0.121 ug/l	-0.61	14.3	4500	74	P
88	Sr	3	32.530 ug/l	162.65	1.3	4500	74	P
95	Mo	3	0.023 ug/l	0.11	76.7	4500	74	P
109	Ag	3	0.004 ug/l	0.02	131.9	900	103	P
111	Cd	3	0.008 ug/l	0.04	167.2	4500	103	P
118	Sn	3	0.007 ug/l	0.04	50.8	4500	103	P
121	Sb	3	0.048 ug/l	0.24	11.5	4500	103	P
135	Ba	3	4.199 ug/l	21.00	7.0	4500	103	P
200	Hg	3	0.002 ug/l	0.01	174.9	45	209	P
205	Tl	3	0.044 ug/l	0.22	6.4	4500	209	P
208	Pb	3	0.007 ug/l	0.03	98.7	4500	209	P
238	U	3	0.051 ug/l	0.26	6.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179477	1.24	198400	90.5	30 - 125
45	Sc	1	3708383	3.06	3760000	98.6	30 - 125
45	Sc	2	1368374	2.01	1428000	95.8	30 - 125
74	Ge	1	3689161	0.54	3683000	100.2	30 - 125
74	Ge	2	2581818	1.52	2627000	98.3	30 - 125
74	Ge	3	10287288	0.24	10940000	94.0	30 - 125
103	Rh	2	3621356	0.28	3842000	94.3	30 - 125
103	Rh	3	6859885	0.29	7414000	92.5	30 - 125
165	Ho	3	5459261	0.80	5459000	100.0	30 - 125
175	Lu	3	6258886	1.09	6180000	101.3	30 - 125
209	Bi	3	6233317	0.93	6220000	100.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\043SMPL.D\043SMPL.D#  
 Date Acquired: Sep 13 2010 03:00 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-A-3-A Vial Number: 2208  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	3067.000 ug/l	15,335.00	2.6	450000	45	A
24	Mg	2	4374.000 ug/l	21,870.00	1.0	450000	45	A
27	Al	2	7.909 ug/l	39.55	1.8	450000	45	P
31	P	2	7.870 ug/l	39.35	47.8	450000	45	P
39	K	2	616.400 ug/l	3,082.00	1.9	450000	45	P
40	Ca	1	4701.000 ug/l	23,505.00	0.5	450000	45	A
47	Ti	2	0.154 ug/l	0.77	31.7	4500	74	P
51	V	2	2.570 ug/l	12.85	1.0	4500	74	P
52	Cr	2	0.403 ug/l	2.01	16.7	4500	74	P
55	Mn	2	0.370 ug/l	1.85	6.5	4500	74	P
56	Fe	1	6.504 ug/l	32.52	0.4	450000	74	P
59	Co	2	0.015 ug/l	0.08	37.3	4500	74	P
60	Ni	2	0.421 ug/l	2.11	2.8	4500	74	P
63	Cu	2	0.085 ug/l	0.42	5.1	4500	74	P
66	Zn	2	0.215 ug/l	1.07	61.7	4500	74	P
75	As	2	0.351 ug/l	1.75	47.2	4500	74	P
78	Se	1	-0.107 ug/l	-0.54	24.9	4500	74	P
88	Sr	3	35.590 ug/l	177.95	0.7	4500	74	P
95	Mo	3	0.012 ug/l	0.06	169.6	4500	74	P
109	Ag	3	0.002 ug/l	0.01	151.4	900	103	P
111	Cd	3	0.013 ug/l	0.07	234.4	4500	103	P
118	Sn	3	0.013 ug/l	0.06	77.6	4500	103	P
121	Sb	3	0.034 ug/l	0.17	24.1	4500	103	P
135	Ba	3	2.689 ug/l	13.45	14.1	4500	103	P
200	Hg	3	0.002 ug/l	0.01	230.7	45	209	P
205	Tl	3	0.038 ug/l	0.19	4.4	4500	209	P
208	Pb	3	0.293 ug/l	1.46	2.8	4500	209	P
238	U	3	0.003 ug/l	0.02	11.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180358	1.38	198400	90.9	30 - 125
45	Sc	1	3547943	0.78	3760000	94.4	30 - 125
45	Sc	2	1376236	1.20	1428000	96.4	30 - 125
74	Ge	1	3555523	1.72	3683000	96.5	30 - 125
74	Ge	2	2604186	1.00	2627000	99.1	30 - 125
74	Ge	3	10122842	1.18	10940000	92.5	30 - 125
103	Rh	2	3635147	0.22	3842000	94.6	30 - 125
103	Rh	3	6843879	0.84	7414000	92.3	30 - 125
165	Ho	3	5465146	1.81	5459000	100.1	30 - 125
175	Lu	3	6187036	1.35	6180000	100.1	30 - 125
209	Bi	3	6203565	0.44	6220000	99.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\044SMPL.D\044SMPL.D#  
 Date Acquired: Sep 13 2010 03:07 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-A-4-A Vial Number: 2209

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	1471.000 ug/l	7,355.00	0.7	450000	45	A
24	Mg	2	5454.000 ug/l	27,270.00	1.1	450000	45	A
27	Al	2	6.579 ug/l	32.90	6.3	450000	45	P
31	P	2	14.610 ug/l	73.05	23.4	450000	45	P
39	K	2	505.500 ug/l	2,527.50	0.8	450000	45	P
40	Ca	1	4790.000 ug/l	23,950.00	2.6	450000	45	A
47	Ti	2	0.124 ug/l	0.62	20.3	4500	74	P
51	V	2	2.705 ug/l	13.53	9.0	4500	74	P
52	Cr	2	0.087 ug/l	0.43	11.1	4500	74	P
55	Mn	2	500.400 ug/l	2,502.00	0.1	4500	74	P
56	Fe	1	646.900 ug/l	3,234.50	2.1	450000	74	A
59	Co	2	0.376 ug/l	1.88	4.8	4500	74	P
60	Ni	2	4.284 ug/l	21.42	2.6	4500	74	P
63	Cu	2	0.203 ug/l	1.02	17.8	4500	74	P
66	Zn	2	0.231 ug/l	1.16	18.8	4500	74	P
75	As	2	0.681 ug/l	3.41	20.9	4500	74	P
78	Se	1	-0.137 ug/l	-0.69	13.4	4500	74	P
88	Sr	3	32.960 ug/l	164.80	1.8	4500	74	P
95	Mo	3	0.046 ug/l	0.23	41.3	4500	74	P
109	Ag	3	0.003 ug/l	0.02	129.5	900	103	P
111	Cd	3	0.043 ug/l	0.21	65.1	4500	103	P
118	Sn	3	0.013 ug/l	0.06	31.8	4500	103	P
121	Sb	3	0.062 ug/l	0.31	7.3	4500	103	P
135	Ba	3	1.756 ug/l	8.78	6.9	4500	103	P
200	Hg	3	-0.003 ug/l	-0.01	108.9	45	209	P
205	Tl	3	0.030 ug/l	0.15	14.1	4500	209	P
208	Pb	3	0.013 ug/l	0.06	38.5	4500	209	P
238	U	3	0.019 ug/l	0.09	12.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180441	0.05	198400	90.9	30 - 125
45	Sc	1	3632102	2.29	3760000	96.6	30 - 125
45	Sc	2	1385905	1.01	1428000	97.1	30 - 125
74	Ge	1	3580285	1.75	3683000	97.2	30 - 125
74	Ge	2	2550299	0.09	2627000	97.1	30 - 125
74	Ge	3	10128120	1.10	10940000	92.6	30 - 125
103	Rh	2	3610068	0.95	3842000	94.0	30 - 125
103	Rh	3	6845968	0.90	7414000	92.3	30 - 125
165	Ho	3	5469433	1.98	5459000	100.2	30 - 125
175	Lu	3	6266081	2.11	6180000	101.4	30 - 125
209	Bi	3	6204847	0.50	6220000	99.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\045SMPL.D\045SMPL.D#  
 Date Acquired: Sep 13 2010 03:14 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-A-5-A Vial Number: 2210  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.05	99.2	900	6	P
23	Na	2	6775.000 ug/l	33,875.00	1.2	450000	45	A
24	Mg	2	5552.000 ug/l	27,760.00	1.1	450000	45	A
27	Al	2	29.790 ug/l	148.95	7.3	450000	45	P
31	P	2	3.128 ug/l	15.64	65.8	450000	45	P
39	K	2	1323.000 ug/l	6,615.00	1.8	450000	45	P
40	Ca	1	6603.000 ug/l	33,015.00	2.6	450000	45	A
47	Ti	2	1.115 ug/l	5.58	4.9	4500	74	P
51	V	2	3.137 ug/l	15.69	2.1	4500	74	P
52	Cr	2	0.162 ug/l	0.81	16.5	4500	74	P
55	Mn	2	21.160 ug/l	105.80	0.3	4500	74	P
56	Fe	1	56.220 ug/l	281.10	2.3	450000	74	P
59	Co	2	0.125 ug/l	0.63	13.3	4500	74	P
60	Ni	2	0.900 ug/l	4.50	4.1	4500	74	P
63	Cu	2	0.357 ug/l	1.78	8.6	4500	74	P
66	Zn	2	1.194 ug/l	5.97	2.6	4500	74	P
75	As	2	0.745 ug/l	3.73	7.3	4500	74	P
78	Se	1	-0.132 ug/l	-0.66	20.1	4500	74	P
88	Sr	3	46.250 ug/l	231.25	0.8	4500	74	P
95	Mo	3	0.186 ug/l	0.93	4.7	4500	74	P
109	Ag	3	0.005 ug/l	0.02	143.3	900	103	P
111	Cd	3	0.012 ug/l	0.06	72.9	4500	103	P
118	Sn	3	0.070 ug/l	0.35	24.2	4500	103	P
121	Sb	3	0.064 ug/l	0.32	8.4	4500	103	P
135	Ba	3	1.978 ug/l	9.89	9.0	4500	103	P
200	Hg	3	0.009 ug/l	0.05	34.0	45	209	P
205	Tl	3	0.033 ug/l	0.16	18.5	4500	209	P
208	Pb	3	0.325 ug/l	1.62	3.9	4500	209	P
238	U	3	0.019 ug/l	0.10	9.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181178	0.56	198400	91.3	30 - 125
45	Sc	1	3607490	2.48	3760000	95.9	30 - 125
45	Sc	2	1376490	1.70	1428000	96.4	30 - 125
74	Ge	1	3599312	1.19	3683000	97.7	30 - 125
74	Ge	2	2556895	0.09	2627000	97.3	30 - 125
74	Ge	3	10202804	1.24	10940000	93.3	30 - 125
103	Rh	2	3557779	0.78	3842000	92.6	30 - 125
103	Rh	3	6856195	1.94	7414000	92.5	30 - 125
165	Ho	3	5422769	0.70	5459000	99.3	30 - 125
175	Lu	3	6306528	0.82	6180000	102.0	30 - 125
209	Bi	3	6218003	0.68	6220000	100.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\046SMPL.D\046SMPL.D#  
 Date Acquired: Sep 13 2010 03:21 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.950 ug/l	49.95	1.0	900	6	P
23	Na	2	4973.000 ug/l	4,973.00	1.8	450000	45	A
24	Mg	2	4956.000 ug/l	4,956.00	2.2	450000	45	A
27	Al	2	490.000 ug/l	490.00	2.1	450000	45	P
31	P	2	4731.000 ug/l	4,731.00	1.3	450000	45	P
39	K	2	4995.000 ug/l	4,995.00	1.4	450000	45	A
40	Ca	1	5104.000 ug/l	5,104.00	2.9	450000	45	A
47	Ti	2	49.990 ug/l	49.99	1.8	4500	74	P
51	V	2	48.930 ug/l	48.93	0.4	4500	74	P
52	Cr	2	48.870 ug/l	48.87	0.6	4500	74	P
55	Mn	2	50.000 ug/l	50.00	1.3	4500	74	P
56	Fe	1	4997.000 ug/l	4,997.00	2.1	450000	74	A
59	Co	2	48.680 ug/l	48.68	0.4	4500	74	P
60	Ni	2	48.600 ug/l	48.60	2.1	4500	74	P
63	Cu	2	48.120 ug/l	48.12	1.8	4500	74	P
66	Zn	2	49.530 ug/l	49.53	2.8	4500	74	P
75	As	2	49.460 ug/l	49.46	1.0	4500	74	P
78	Se	1	49.400 ug/l	49.40	1.9	4500	74	P
88	Sr	3	50.190 ug/l	50.19	1.0	4500	74	P
95	Mo	3	50.240 ug/l	50.24	0.8	4500	74	P
109	Ag	3	50.230 ug/l	50.23	1.0	900	103	P
111	Cd	3	51.350 ug/l	51.35	1.5	4500	103	P
118	Sn	3	50.900 ug/l	50.90	2.2	4500	103	P
121	Sb	3	51.160 ug/l	51.16	1.4	4500	103	P
135	Ba	3	50.880 ug/l	50.88	0.5	4500	103	P
200	Hg	3	2.492 ug/l	2.49	0.4	45	209	P
205	Tl	3	50.610 ug/l	50.61	3.0	4500	209	P
208	Pb	3	50.850 ug/l	50.85	2.6	4500	209	P
238	U	3	50.500 ug/l	50.50	2.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183284	0.67	198400	92.4	30 - 125
45	Sc	1	3724249	2.71	3760000	99.0	30 - 125
45	Sc	2	1439608	3.48	1428000	100.8	30 - 125
74	Ge	1	3687184	1.01	3683000	100.1	30 - 125
74	Ge	2	2603878	0.85	2627000	99.1	30 - 125
74	Ge	3	10571186	0.33	10940000	96.6	30 - 125
103	Rh	2	3712509	0.95	3842000	96.6	30 - 125
103	Rh	3	7105003	1.34	7414000	95.8	30 - 125
165	Ho	3	5596719	0.87	5459000	102.5	30 - 125
175	Lu	3	6342671	0.80	6180000	102.6	30 - 125
209	Bi	3	6211070	1.91	6220000	99.9	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\047SMPL.D\047SMPL.D#  
 Date Acquired: Sep 13 2010 03:28 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.001 ug/l	0.00	1618.2	900	6	P
23	Na	2	3.342 ug/l	3.34	22.1	450000	45	P
24	Mg	2	0.430 ug/l	0.43	21.3	450000	45	P
27	Al	2	0.148 ug/l	0.15	259.6	450000	45	P
31	P	2	-12.930 ug/l	-12.93	50.6	450000	45	P
39	K	2	-0.429 ug/l	-0.43	885.8	450000	45	P
40	Ca	1	0.207 ug/l	0.21	50.7	450000	45	P
47	Ti	2	0.006 ug/l	0.01	241.7	4500	74	P
51	V	2	0.618 ug/l	0.62	22.0	4500	74	P
52	Cr	2	-0.010 ug/l	-0.01	280.4	4500	74	P
55	Mn	2	-0.015 ug/l	-0.02	6.1	4500	74	P
56	Fe	1	0.219 ug/l	0.22	42.1	450000	74	P
59	Co	2	0.002 ug/l	0.00	70.2	4500	74	P
60	Ni	2	-0.066 ug/l	-0.07	62.0	4500	74	P
63	Cu	2	-0.009 ug/l	-0.01	51.0	4500	74	P
66	Zn	2	0.029 ug/l	0.03	158.9	4500	74	P
75	As	2	-0.057 ug/l	-0.06	140.3	4500	74	P
78	Se	1	-0.071 ug/l	-0.07	69.7	4500	74	P
88	Sr	3	-0.023 ug/l	-0.02	49.5	4500	74	P
95	Mo	3	0.001 ug/l	0.00	1037.2	4500	74	P
109	Ag	3	0.001 ug/l	0.00	267.8	900	103	P
111	Cd	3	0.017 ug/l	0.02	90.1	4500	103	P
118	Sn	3	0.033 ug/l	0.03	14.0	4500	103	P
121	Sb	3	0.026 ug/l	0.03	27.4	4500	103	P
135	Ba	3	0.009 ug/l	0.01	642.6	4500	103	P
200	Hg	3	0.009 ug/l	0.01	45.2	45	209	P
205	Tl	3	0.248 ug/l	0.25	6.7	4500	209	P
208	Pb	3	0.003 ug/l	0.00	168.0	4500	209	P
238	U	3	0.002 ug/l	0.00	42.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186068	0.65	198400	93.8	30 - 125
45	Sc	1	3543081	1.41	3760000	94.2	30 - 125
45	Sc	2	1414722	1.05	1428000	99.1	30 - 125
74	Ge	1	3521406	2.44	3683000	95.6	30 - 125
74	Ge	2	2634600	0.50	2627000	100.3	30 - 125
74	Ge	3	10454520	0.27	10940000	95.6	30 - 125
103	Rh	2	3753935	0.87	3842000	97.7	30 - 125
103	Rh	3	7132700	0.35	7414000	96.2	30 - 125
165	Ho	3	5563362	2.05	5459000	101.9	30 - 125
175	Lu	3	6430423	0.85	6180000	104.1	30 - 125
209	Bi	3	6375303	0.66	6220000	102.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\048SMPL.D\048SMPL.D#  
 Date Acquired: Sep 13 2010 03:35 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21278-A-6-A Vial Number: 2301  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.001 ug/l	0.01	11.1	900	6	P
23	Na	2	2689.000 ug/l	13,445.00	1.6	450000	45	A
24	Mg	2	3416.000 ug/l	17,080.00	2.8	450000	45	A
27	Al	2	124.700 ug/l	623.50	3.9	450000	45	P
31	P	2	11.250 ug/l	56.25	48.6	450000	45	P
39	K	2	613.800 ug/l	3,069.00	2.6	450000	45	P
40	Ca	1	4346.000 ug/l	21,730.00	2.9	450000	45	A
47	Ti	2	5.688 ug/l	28.44	5.3	4500	74	P
51	V	2	3.444 ug/l	17.22	2.5	4500	74	P
52	Cr	2	0.543 ug/l	2.71	11.5	4500	74	P
55	Mn	2	411.500 ug/l	2,057.50	0.9	4500	74	P
56	Fe	1	320.100 ug/l	1,600.50	1.5	450000	74	P
59	Co	2	0.363 ug/l	1.81	3.7	4500	74	P
60	Ni	2	2.034 ug/l	10.17	3.8	4500	74	P
63	Cu	2	0.436 ug/l	2.18	5.2	4500	74	P
66	Zn	2	0.950 ug/l	4.75	13.1	4500	74	P
75	As	2	0.618 ug/l	3.09	18.1	4500	74	P
78	Se	1	-0.117 ug/l	-0.58	0.9	4500	74	P
88	Sr	3	31.850 ug/l	159.25	1.5	4500	74	P
95	Mo	3	0.106 ug/l	0.53	28.5	4500	74	P
109	Ag	3	0.007 ug/l	0.03	105.5	900	103	P
111	Cd	3	0.064 ug/l	0.32	18.6	4500	103	P
118	Sn	3	0.121 ug/l	0.60	28.4	4500	103	P
121	Sb	3	0.056 ug/l	0.28	36.6	4500	103	P
135	Ba	3	2.980 ug/l	14.90	9.3	4500	103	P
200	Hg	3	0.010 ug/l	0.05	17.2	45	209	P
205	Tl	3	0.102 ug/l	0.51	7.4	4500	209	P
208	Pb	3	0.382 ug/l	1.91	1.5	4500	209	P
238	U	3	0.018 ug/l	0.09	7.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183949	0.81	198400	92.7	30 - 125
45	Sc	1	3343085	1.63	3760000	88.9	30 - 125
45	Sc	2	1408491	3.15	1428000	98.6	30 - 125
74	Ge	1	3385893	1.80	3683000	91.9	30 - 125
74	Ge	2	2575130	1.71	2627000	98.0	30 - 125
74	Ge	3	10279519	1.14	10940000	94.0	30 - 125
103	Rh	2	3662649	2.07	3842000	95.3	30 - 125
103	Rh	3	6859383	0.54	7414000	92.5	30 - 125
165	Ho	3	5389628	0.47	5459000	98.7	30 - 125
175	Lu	3	6268893	0.26	6180000	101.4	30 - 125
209	Bi	3	6282520	0.83	6220000	101.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\049SMPL.D\049SMPL.D#  
 Date Acquired: Sep 13 2010 03:42 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21284-B-1-B Vial Number: 2302

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	1276.000 ug/l	6,380.00	0.7	450000	45	A
24	Mg	2	615.400 ug/l	3,077.00	0.9	450000	45	P
27	Al	2	7.617 ug/l	38.09	19.2	450000	45	P
31	P	2	-2.513 ug/l	-12.57	58.5	450000	45	P
39	K	2	364.400 ug/l	1,822.00	3.1	450000	45	P
40	Ca	1	2426.000 ug/l	12,130.00	3.0	450000	45	A
47	Ti	2	0.091 ug/l	0.45	67.5	4500	74	P
51	V	2	3.144 ug/l	15.72	9.0	4500	74	P
52	Cr	2	0.149 ug/l	0.74	15.4	4500	74	P
55	Mn	2	232.800 ug/l	1,164.00	1.0	4500	74	P
56	Fe	1	145.400 ug/l	727.00	1.7	450000	74	P
59	Co	2	0.207 ug/l	1.03	2.9	4500	74	P
60	Ni	2	0.094 ug/l	0.47	57.8	4500	74	P
63	Cu	2	0.068 ug/l	0.34	13.5	4500	74	P
66	Zn	2	1.517 ug/l	7.59	11.7	4500	74	P
75	As	2	0.216 ug/l	1.08	64.2	4500	74	P
78	Se	1	-0.154 ug/l	-0.77	12.0	4500	74	P
88	Sr	3	14.350 ug/l	71.75	0.6	4500	74	P
95	Mo	3	0.115 ug/l	0.58	21.0	4500	74	P
109	Ag	3	0.010 ug/l	0.05	101.3	900	103	P
111	Cd	3	0.005 ug/l	0.03	252.5	4500	103	P
118	Sn	3	0.039 ug/l	0.20	31.0	4500	103	P
121	Sb	3	0.027 ug/l	0.14	7.5	4500	103	P
135	Ba	3	21.740 ug/l	108.70	2.0	4500	103	P
200	Hg	3	0.008 ug/l	0.04	82.9	45	209	P
205	Tl	3	0.068 ug/l	0.34	4.1	4500	209	P
208	Pb	3	0.037 ug/l	0.18	6.9	4500	209	P
238	U	3	0.000 ug/l	0.00	477.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186267	1.96	198400	93.9	30 - 125
45	Sc	1	3333145	4.09	3760000	88.6	30 - 125
45	Sc	2	1397391	1.59	1428000	97.9	30 - 125
74	Ge	1	3367882	2.62	3683000	91.4	30 - 125
74	Ge	2	2587429	1.40	2627000	98.5	30 - 125
74	Ge	3	10214119	1.26	10940000	93.4	30 - 125
103	Rh	2	3672415	0.42	3842000	95.6	30 - 125
103	Rh	3	6893798	1.30	7414000	93.0	30 - 125
165	Ho	3	5454688	0.84	5459000	99.9	30 - 125
175	Lu	3	6289517	0.74	6180000	101.8	30 - 125
209	Bi	3	6302880	0.21	6220000	101.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\050SMPL.D\050SMPL.D#  
 Date Acquired: Sep 13 2010 03:49 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21284-B-2-B Vial Number: 2303  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	14820.000 ug/l	74,100.00	1.3	450000	45	A
24	Mg	2	1726.000 ug/l	8,630.00	1.6	450000	45	P
27	Al	2	8.722 ug/l	43.61	9.1	450000	45	P
31	P	2	82.930 ug/l	414.65	11.4	450000	45	P
39	K	2	883.900 ug/l	4,419.50	1.1	450000	45	P
40	Ca	1	3901.000 ug/l	19,505.00	4.0	450000	45	A
47	Ti	2	0.383 ug/l	1.92	10.4	4500	74	P
51	V	2	5.672 ug/l	28.36	2.5	4500	74	P
52	Cr	2	0.253 ug/l	1.26	8.3	4500	74	P
55	Mn	2	9.238 ug/l	46.19	1.2	4500	74	P
56	Fe	1	17.830 ug/l	89.15	3.1	450000	74	P
59	Co	2	0.025 ug/l	0.12	15.2	4500	74	P
60	Ni	2	0.252 ug/l	1.26	6.9	4500	74	P
63	Cu	2	0.247 ug/l	1.23	24.8	4500	74	P
66	Zn	2	22.540 ug/l	112.70	5.4	4500	74	P
75	As	2	0.475 ug/l	2.38	28.5	4500	74	P
78	Se	1	-0.160 ug/l	-0.80	6.9	4500	74	P
88	Sr	3	26.800 ug/l	134.00	1.2	4500	74	P
95	Mo	3	0.058 ug/l	0.29	17.5	4500	74	P
109	Ag	3	0.011 ug/l	0.06	36.6	900	103	P
111	Cd	3	0.006 ug/l	0.03	540.7	4500	103	P
118	Sn	3	0.042 ug/l	0.21	48.6	4500	103	P
121	Sb	3	0.103 ug/l	0.52	3.1	4500	103	P
135	Ba	3	1.262 ug/l	6.31	1.0	4500	103	P
200	Hg	3	0.011 ug/l	0.05	8.0	45	209	P
205	Tl	3	0.050 ug/l	0.25	13.5	4500	209	P
208	Pb	3	0.167 ug/l	0.83	3.4	4500	209	P
238	U	3	0.010 ug/l	0.05	6.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183204	1.29	198400	92.3	30 - 125
45	Sc	1	3390945	5.07	3760000	90.2	30 - 125
45	Sc	2	1400113	2.57	1428000	98.0	30 - 125
74	Ge	1	3310320	2.62	3683000	89.9	30 - 125
74	Ge	2	2560763	0.50	2627000	97.5	30 - 125
74	Ge	3	10122765	0.72	10940000	92.5	30 - 125
103	Rh	2	3607139	0.32	3842000	93.9	30 - 125
103	Rh	3	6826019	0.57	7414000	92.1	30 - 125
165	Ho	3	5435442	0.32	5459000	99.6	30 - 125
175	Lu	3	6336221	1.07	6180000	102.5	30 - 125
209	Bi	3	6198718	0.61	6220000	99.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\051SMPL.D\051SMPL.D#  
 Date Acquired: Sep 13 2010 03:56 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21284-B-3-B Vial Number: 2304  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	135700.000 ug/l	678,500.00	0.7	450000	45	A
24	Mg	2	2248.000 ug/l	11,240.00	1.4	450000	45	A
27	Al	2	171.500 ug/l	857.50	1.0	450000	45	P
31	P	2	928.500 ug/l	4,642.50	3.0	450000	45	P
39	K	2	1734.000 ug/l	8,670.00	0.5	450000	45	P
40	Ca	1	6027.000 ug/l	30,135.00	1.0	450000	45	A
47	Ti	2	1.244 ug/l	6.22	15.9	4500	74	P
51	V	2	4.877 ug/l	24.39	0.8	4500	74	P
52	Cr	2	1.153 ug/l	5.77	8.4	4500	74	P
55	Mn	2	4.798 ug/l	23.99	2.7	4500	74	P
56	Fe	1	162.600 ug/l	813.00	2.6	450000	74	P
59	Co	2	0.041 ug/l	0.20	12.5	4500	74	P
60	Ni	2	0.495 ug/l	2.48	12.1	4500	74	P
63	Cu	2	0.555 ug/l	2.77	6.7	4500	74	P
66	Zn	2	13.130 ug/l	65.65	5.0	4500	74	P
75	As	2	0.427 ug/l	2.14	47.0	4500	74	P
78	Se	1	-0.161 ug/l	-0.80	6.7	4500	74	P
88	Sr	3	34.320 ug/l	171.60	0.3	4500	74	P
95	Mo	3	1.027 ug/l	5.14	3.4	4500	74	P
109	Ag	3	0.009 ug/l	0.05	20.9	900	103	P
111	Cd	3	0.014 ug/l	0.07	16.6	4500	103	P
118	Sn	3	0.084 ug/l	0.42	28.6	4500	103	P
121	Sb	3	0.043 ug/l	0.21	16.4	4500	103	P
135	Ba	3	1.859 ug/l	9.30	4.5	4500	103	P
200	Hg	3	0.004 ug/l	0.02	42.9	45	209	P
205	Tl	3	0.040 ug/l	0.20	15.3	4500	209	P
208	Pb	3	0.286 ug/l	1.43	1.1	4500	209	P
238	U	3	0.045 ug/l	0.22	2.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183956	1.93	198400	92.7	30 - 125
45	Sc	1	3448861	1.38	3760000	91.7	30 - 125
45	Sc	2	1440425	2.46	1428000	100.9	30 - 125
74	Ge	1	3394846	0.62	3683000	92.2	30 - 125
74	Ge	2	2603440	2.70	2627000	99.1	30 - 125
74	Ge	3	10390248	0.23	10940000	95.0	30 - 125
103	Rh	2	3483956	0.03	3842000	90.7	30 - 125
103	Rh	3	6591489	1.43	7414000	88.9	30 - 125
165	Ho	3	5466508	0.45	5459000	100.1	30 - 125
175	Lu	3	6201504	1.62	6180000	100.3	30 - 125
209	Bi	3	5822443	0.71	6220000	93.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\052SMPL.D\052SMPL.D#  
 Date Acquired: Sep 13 2010 04:02 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21284-B-4-B Vial Number: 2305

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	5085.000 ug/l	25,425.00	1.7	450000	45	A
24	Mg	2	1410.000 ug/l	7,050.00	0.7	450000	45	P
27	Al	2	21.770 ug/l	108.85	2.8	450000	45	P
31	P	2	38.250 ug/l	191.25	15.7	450000	45	P
39	K	2	815.900 ug/l	4,079.50	0.9	450000	45	P
40	Ca	1	3868.000 ug/l	19,340.00	1.0	450000	45	A
47	Ti	2	0.968 ug/l	4.84	29.7	4500	74	P
51	V	2	2.700 ug/l	13.50	5.4	4500	74	P
52	Cr	2	0.147 ug/l	0.74	19.3	4500	74	P
55	Mn	2	2.356 ug/l	11.78	1.5	4500	74	P
56	Fe	1	8.732 ug/l	43.66	6.9	450000	74	P
59	Co	2	0.042 ug/l	0.21	8.0	4500	74	P
60	Ni	2	0.149 ug/l	0.74	53.9	4500	74	P
63	Cu	2	0.461 ug/l	2.30	18.1	4500	74	P
66	Zn	2	97.820 ug/l	489.10	1.0	4500	74	P
75	As	2	0.189 ug/l	0.94	137.3	4500	74	P
78	Se	1	-0.154 ug/l	-0.77	12.4	4500	74	P
88	Sr	3	25.920 ug/l	129.60	1.0	4500	74	P
95	Mo	3	0.041 ug/l	0.21	45.1	4500	74	P
109	Ag	3	0.007 ug/l	0.04	93.0	900	103	P
111	Cd	3	0.025 ug/l	0.12	88.1	4500	103	P
118	Sn	3	0.023 ug/l	0.11	15.7	4500	103	P
121	Sb	3	0.060 ug/l	0.30	19.1	4500	103	P
135	Ba	3	14.510 ug/l	72.55	5.4	4500	103	P
200	Hg	3	0.002 ug/l	0.01	306.8	45	209	P
205	Tl	3	0.035 ug/l	0.18	17.6	4500	209	P
208	Pb	3	0.480 ug/l	2.40	3.9	4500	209	P
238	U	3	0.031 ug/l	0.16	5.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185888	0.53	198400	93.7	30 - 125
45	Sc	1	3338422	2.50	3760000	88.8	30 - 125
45	Sc	2	1397161	0.68	1428000	97.8	30 - 125
74	Ge	1	3360226	2.04	3683000	91.2	30 - 125
74	Ge	2	2578452	2.06	2627000	98.2	30 - 125
74	Ge	3	10132328	0.45	10940000	92.6	30 - 125
103	Rh	2	3648520	0.35	3842000	95.0	30 - 125
103	Rh	3	6949223	0.14	7414000	93.7	30 - 125
165	Ho	3	5498463	1.07	5459000	100.7	30 - 125
175	Lu	3	6307463	0.50	6180000	102.1	30 - 125
209	Bi	3	6333682	0.46	6220000	101.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\053SMPL.D\053SMPL.D#  
 Date Acquired: Sep 13 2010 04:09 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	50.450 ug/l	50.45	1.1	900	6	P
23	Na	2	4967.000 ug/l	4,967.00	3.4	450000	45	A
24	Mg	2	5009.000 ug/l	5,009.00	1.9	450000	45	A
27	Al	2	495.400 ug/l	495.40	2.8	450000	45	P
31	P	2	4803.000 ug/l	4,803.00	2.8	450000	45	P
39	K	2	5023.000 ug/l	5,023.00	2.4	450000	45	A
40	Ca	1	5002.000 ug/l	5,002.00	3.7	450000	45	A
47	Ti	2	50.130 ug/l	50.13	1.3	4500	74	P
51	V	2	48.440 ug/l	48.44	0.7	4500	74	P
52	Cr	2	49.250 ug/l	49.25	0.8	4500	74	P
55	Mn	2	49.860 ug/l	49.86	0.5	4500	74	P
56	Fe	1	4974.000 ug/l	4,974.00	1.0	450000	74	A
59	Co	2	48.420 ug/l	48.42	0.3	4500	74	P
60	Ni	2	48.100 ug/l	48.10	1.5	4500	74	P
63	Cu	2	48.410 ug/l	48.41	1.1	4500	74	P
66	Zn	2	51.000 ug/l	51.00	1.6	4500	74	P
75	As	2	49.330 ug/l	49.33	1.6	4500	74	P
78	Se	1	48.720 ug/l	48.72	3.1	4500	74	P
88	Sr	3	50.250 ug/l	50.25	2.4	4500	74	P
95	Mo	3	49.860 ug/l	49.86	3.3	4500	74	P
109	Ag	3	50.570 ug/l	50.57	1.5	900	103	P
111	Cd	3	51.620 ug/l	51.62	2.1	4500	103	P
118	Sn	3	51.340 ug/l	51.34	1.5	4500	103	P
121	Sb	3	51.570 ug/l	51.57	1.0	4500	103	P
135	Ba	3	51.960 ug/l	51.96	1.2	4500	103	P
200	Hg	3	2.539 ug/l	2.54	1.5	45	209	P
205	Tl	3	50.560 ug/l	50.56	2.1	4500	209	P
208	Pb	3	50.490 ug/l	50.49	0.4	4500	209	P
238	U	3	50.140 ug/l	50.14	2.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	184695	0.56	198400	93.1	30 - 125
45	Sc	1	3445377	1.04	3760000	91.6	30 - 125
45	Sc	2	1436047	2.61	1428000	100.6	30 - 125
74	Ge	1	3482256	0.38	3683000	94.5	30 - 125
74	Ge	2	2636962	0.72	2627000	100.4	30 - 125
74	Ge	3	10728144	0.64	10940000	98.1	30 - 125
103	Rh	2	3704317	0.95	3842000	96.4	30 - 125
103	Rh	3	7174348	1.28	7414000	96.8	30 - 125
165	Ho	3	5694217	0.25	5459000	104.3	30 - 125
175	Lu	3	6476578	1.05	6180000	104.8	30 - 125
209	Bi	3	6341365	0.43	6220000	102.0	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\054SMPL.D\054SMPL.D#  
 Date Acquired: Sep 13 2010 04:16 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	95.4	900	6	P
23	Na	2	5.805 ug/l	5.81	4.0	450000	45	P
24	Mg	2	0.185 ug/l	0.19	36.4	450000	45	P
27	Al	2	0.289 ug/l	0.29	165.7	450000	45	P
31	P	2	-6.942 ug/l	-6.94	74.6	450000	45	P
39	K	2	2.530 ug/l	2.53	61.4	450000	45	P
40	Ca	1	0.026 ug/l	0.03	131.2	450000	45	P
47	Ti	2	0.002 ug/l	0.00	232.6	4500	74	P
51	V	2	0.206 ug/l	0.21	10.8	4500	74	P
52	Cr	2	-0.022 ug/l	-0.02	110.8	4500	74	P
55	Mn	2	-0.010 ug/l	-0.01	67.7	4500	74	P
56	Fe	1	0.182 ug/l	0.18	23.4	450000	74	P
59	Co	2	0.003 ug/l	0.00	83.8	4500	74	P
60	Ni	2	-0.018 ug/l	-0.02	223.6	4500	74	P
63	Cu	2	0.010 ug/l	0.01	162.6	4500	74	P
66	Zn	2	0.032 ug/l	0.03	571.8	4500	74	P
75	As	2	-0.065 ug/l	-0.06	351.3	4500	74	P
78	Se	1	-0.039 ug/l	-0.04	103.7	4500	74	P
88	Sr	3	-0.009 ug/l	-0.01	261.4	4500	74	P
95	Mo	3	0.009 ug/l	0.01	95.6	4500	74	P
109	Ag	3	-0.002 ug/l	0.00	180.2	900	103	P
111	Cd	3	0.008 ug/l	0.01	344.7	4500	103	P
118	Sn	3	0.025 ug/l	0.02	5.1	4500	103	P
121	Sb	3	0.014 ug/l	0.01	63.6	4500	103	P
135	Ba	3	-0.043 ug/l	-0.04	27.5	4500	103	P
200	Hg	3	0.001 ug/l	0.00	196.3	45	209	P
205	Tl	3	0.262 ug/l	0.26	9.9	4500	209	P
208	Pb	3	0.000 ug/l	0.00	3434.3	4500	209	P
238	U	3	0.002 ug/l	0.00	14.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	188164	0.93	198400	94.8	30 - 125
45	Sc	1	3496519	3.43	3760000	93.0	30 - 125
45	Sc	2	1422289	1.87	1428000	99.6	30 - 125
74	Ge	1	3479199	1.93	3683000	94.5	30 - 125
74	Ge	2	2657467	0.79	2627000	101.2	30 - 125
74	Ge	3	10462439	1.19	10940000	95.6	30 - 125
103	Rh	2	3780811	0.94	3842000	98.4	30 - 125
103	Rh	3	7185063	0.75	7414000	96.9	30 - 125
165	Ho	3	5646231	0.96	5459000	103.4	30 - 125
175	Lu	3	6411375	1.01	6180000	103.7	30 - 125
209	Bi	3	6427085	0.95	6220000	103.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\055SMPL.D\055SMPL.D#  
 Date Acquired: Sep 13 2010 04:23 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: MB 580-71358/16-A Vial Number: 2401

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9 Be	2	-0.014 ug/l	-0.14	0.0	900	6	P	
23 Na	2	5.328 ug/l	53.28	18.1	450000	45	P	
24 Mg	2	0.426 ug/l	4.26	31.2	450000	45	P	
27 Al	2	0.376 ug/l	3.76	67.6	450000	45	P	
31 P	2	-6.747 ug/l	-67.47	16.5	450000	45	P	
39 K	2	0.453 ug/l	4.53	181.4	450000	45	P	
40 Ca	1	0.238 ug/l	2.38	182.7	450000	45	P	
47 Ti	2	-0.007 ug/l	-0.07	432.3	4500	74	P	
51 V	2	0.202 ug/l	2.02	50.4	4500	74	P	
52 Cr	2	-0.023 ug/l	-0.23	72.9	4500	74	P	
55 Mn	2	0.024 ug/l	0.24	5.4	4500	74	P	
56 Fe	1	0.195 ug/l	1.95	10.2	450000	74	P	
59 Co	2	0.000 ug/l	0.00	315.0	4500	74	P	
60 Ni	2	-0.047 ug/l	-0.47	96.7	4500	74	P	
63 Cu	2	0.014 ug/l	0.14	131.5	4500	74	P	
66 Zn	2	0.045 ug/l	0.45	97.0	4500	74	P	
75 As	2	-0.147 ug/l	-1.47	150.7	4500	74	P	
78 Se	1	-0.083 ug/l	-0.83	0.6	4500	74	P	
88 Sr	3	-0.022 ug/l	-0.22	28.9	4500	74	P	
95 Mo	3	0.001 ug/l	0.01	1990.8	4500	74	P	
109 Ag	3	0.001 ug/l	0.01	380.8	900	103	P	
111 Cd	3	-0.001 ug/l	-0.01	513.7	4500	103	P	
118 Sn	3	0.015 ug/l	0.15	50.3	4500	103	P	
121 Sb	3	0.014 ug/l	0.14	40.6	4500	103	P	
135 Ba	3	-0.040 ug/l	-0.40	177.9	4500	103	P	
200 Hg	3	0.004 ug/l	0.04	121.7	45	209	P	
205 Tl	3	0.116 ug/l	1.16	3.3	4500	209	P	
208 Pb	3	0.003 ug/l	0.03	173.5	4500	209	P	
238 U	3	0.001 ug/l	0.01	63.1	4500	209	P	

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2	186240	1.23	198400	93.9	30 - 125	
45 Sc	1	3561134	2.89	3760000	94.7	30 - 125	
45 Sc	2	1444936	0.83	1428000	101.2	30 - 125	
74 Ge	1	3527748	0.57	3683000	95.8	30 - 125	
74 Ge	2	2648221	0.57	2627000	100.8	30 - 125	
74 Ge	3	10591217	1.31	10940000	96.8	30 - 125	
103 Rh	2	3796753	1.10	3842000	98.8	30 - 125	
103 Rh	3	7166356	0.35	7414000	96.7	30 - 125	
165 Ho	3	5581825	0.51	5459000	102.2	30 - 125	
175 Lu	3	6401450	1.74	6180000	103.6	30 - 125	
209 Bi	3	6389148	0.58	6220000	102.7	30 - 125	

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\056SMPL.D\056SMPL.D#  
 Date Acquired: Sep 13 2010 04:30 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21446-A-1-E SD Vial Number: 2402  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.203 ug/l	10.13	34.5	900	6	P
23	Na	2	70.720 ug/l	3,536.00	0.6	450000	45	P
24	Mg	2	1970.000 ug/l	98,500.00	2.8	450000	45	A
27	Al	2	3358.000 ug/l	167,900.00	1.6	450000	45	P
31	P	2	298.000 ug/l	14,900.00	5.5	450000	45	P
39	K	2	1226.000 ug/l	61,300.00	0.7	450000	45	P
40	Ca	1	982.000 ug/l	49,100.00	3.6	450000	45	A
47	Ti	2	286.600 ug/l	14,330.00	1.0	4500	74	P
51	V	2	11.040 ug/l	552.00	3.2	4500	74	P
52	Cr	2	15.390 ug/l	769.50	1.2	4500	74	P
55	Mn	2	77.350 ug/l	3,867.50	0.9	4500	74	P
56	Fe	1	5288.000 ug/l	264,400.00	1.4	450000	74	A
59	Co	2	5.568 ug/l	278.40	0.0	4500	74	P
60	Ni	2	11.330 ug/l	566.50	1.7	4500	74	P
63	Cu	2	12.730 ug/l	636.50	2.1	4500	74	P
66	Zn	2	217.400 ug/l	10,870.00	2.0	4500	74	P
75	As	2	3.438 ug/l	171.90	8.7	4500	74	P
78	Se	1	0.007 ug/l	0.37	1401.7	4500	74	P
88	Sr	3	6.962 ug/l	348.10	0.8	4500	74	P
95	Mo	3	8.656 ug/l	432.80	2.2	4500	74	P
109	Ag	3	1.747 ug/l	87.35	2.9	900	103	P
111	Cd	3	0.653 ug/l	32.65	9.9	4500	103	P
118	Sn	3	8.844 ug/l	442.20	2.3	4500	103	P
121	Sb	3	2.266 ug/l	113.30	3.4	4500	103	P
135	Ba	3	47.410 ug/l	2,370.50	2.9	4500	103	P
200	Hg	3	0.085 ug/l	4.25	5.9	45	209	P
205	Tl	3	0.263 ug/l	13.15	3.2	4500	209	P
208	Pb	3	12.130 ug/l	606.50	0.8	4500	209	P
238	U	3	2.361 ug/l	118.05	1.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	191118	1.18	198400	96.3	30 - 125
45	Sc	1	3595235	3.09	3760000	95.6	30 - 125
45	Sc	2	1530688	0.44	1428000	107.2	30 - 125
74	Ge	1	3630976	1.83	3683000	98.6	30 - 125
74	Ge	2	2783767	1.54	2627000	106.0	30 - 125
74	Ge	3	11343449	0.69	10940000	103.7	30 - 125
103	Rh	2	3963655	1.22	3842000	103.2	30 - 125
103	Rh	3	7624039	0.76	7414000	102.8	30 - 125
165	Ho	3	5749141	0.68	5459000	105.3	30 - 125
175	Lu	3	6621813	1.48	6180000	107.1	30 - 125
209	Bi	3	6546218	0.49	6220000	105.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\057SMPL.D\057SMPL.D#  
 Date Acquired: Sep 13 2010 04:37 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21446-A-1-E Vial Number: 2403

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.141 ug/l	11.41	6.6	900	6	P
23	Na	2	373.900 ug/l	3,739.00	0.6	450000	45	P
24	Mg	2	10010.000 ug/l	100,100.00	1.6	450000	45	A
27	Al	2	16630.000 ug/l	166,300.00	0.8	450000	45	A
31	P	2	1545.000 ug/l	15,450.00	3.8	450000	45	P
39	K	2	6143.000 ug/l	61,430.00	0.8	450000	45	A
40	Ca	1	4858.000 ug/l	48,580.00	1.4	450000	45	A
47	Ti	2	1491.000 ug/l	14,910.00	0.4	4500	74	P
51	V	2	62.230 ug/l	622.30	1.1	4500	74	P
52	Cr	2	78.940 ug/l	789.40	0.5	4500	74	P
55	Mn	2	394.800 ug/l	3,948.00	1.0	4500	74	P
56	Fe	1	27230.000 ug/l	272,300.00	1.6	450000	74	A
59	Co	2	28.110 ug/l	281.10	1.5	4500	74	P
60	Ni	2	57.750 ug/l	577.50	1.5	4500	74	P
63	Cu	2	64.070 ug/l	640.70	0.6	4500	74	P
66	Zn	2	1087.000 ug/l	10,870.00	1.5	4500	74	P
75	As	2	18.530 ug/l	185.30	1.3	4500	74	P
78	Se	1	0.710 ug/l	7.10	15.5	4500	74	P
88	Sr	3	35.700 ug/l	357.00	2.1	4500	74	P
95	Mo	3	44.130 ug/l	441.30	2.0	4500	74	P
109	Ag	3	8.432 ug/l	84.32	3.1	900	103	P
111	Cd	3	2.961 ug/l	29.61	1.1	4500	103	P
118	Sn	3	45.920 ug/l	459.20	1.3	4500	103	P
121	Sb	3	11.330 ug/l	113.30	0.8	4500	103	P
135	Ba	3	240.200 ug/l	2,402.00	0.8	4500	103	P
200	Hg	3	0.384 ug/l	3.84	3.9	45	209	P
205	Tl	3	0.983 ug/l	9.83	1.7	4500	209	P
208	Pb	3	61.800 ug/l	618.00	1.2	4500	209	P
238	U	3	12.340 ug/l	123.40	0.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	195715	1.73	198400	98.6	30 - 125
45	Sc	1	3586878	3.26	3760000	95.4	30 - 125
45	Sc	2	1526850	1.63	1428000	106.9	30 - 125
74	Ge	1	3645845	3.09	3683000	99.0	30 - 125
74	Ge	2	2787089	0.86	2627000	106.1	30 - 125
74	Ge	3	11387777	0.81	10940000	104.1	30 - 125
103	Rh	2	3847211	2.01	3842000	100.1	30 - 125
103	Rh	3	7489758	0.47	7414000	101.0	30 - 125
165	Ho	3	5701901	0.11	5459000	104.4	30 - 125
175	Lu	3	6493012	0.52	6180000	105.1	30 - 125
209	Bi	3	6278571	0.50	6220000	100.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\058SMPL.D\058SMPL.D#  
 Date Acquired: Sep 13 2010 04:44 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21446-A-1-F DU Vial Number: 2404  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.278 ug/l	12.78	9.2	900	6	P
23	Na	2	346.700 ug/l	3,467.00	1.7	450000	45	P
24	Mg	2	9006.000 ug/l	90,060.00	0.4	450000	45	A
27	Al	2	17490.000 ug/l	174,900.00	1.2	450000	45	A
31	P	2	2053.000 ug/l	20,530.00	1.1	450000	45	P
39	K	2	4074.000 ug/l	40,740.00	1.9	450000	45	A
40	Ca	1	5882.000 ug/l	58,820.00	4.8	450000	45	A
47	Ti	2	1391.000 ug/l	13,910.00	0.8	4500	74	P
51	V	2	60.350 ug/l	603.50	2.2	4500	74	P
52	Cr	2	73.110 ug/l	731.10	1.4	4500	74	P
55	Mn	2	515.900 ug/l	5,159.00	1.3	4500	74	A
56	Fe	1	32000.000 ug/l	320,000.00	2.5	450000	74	A
59	Co	2	33.250 ug/l	332.50	1.6	4500	74	P
60	Ni	2	53.880 ug/l	538.80	1.5	4500	74	P
63	Cu	2	101.100 ug/l	1,011.00	1.8	4500	74	P
66	Zn	2	1773.000 ug/l	17,730.00	1.9	4500	74	P
75	As	2	30.990 ug/l	309.90	3.0	4500	74	P
78	Se	1	1.154 ug/l	11.54	32.3	4500	74	P
88	Sr	3	40.380 ug/l	403.80	1.3	4500	74	P
95	Mo	3	72.700 ug/l	727.00	2.1	4500	74	P
109	Ag	3	16.910 ug/l	169.10	2.1	900	103	P
111	Cd	3	4.810 ug/l	48.10	5.8	4500	103	P
118	Sn	3	68.760 ug/l	687.60	2.2	4500	103	P
121	Sb	3	19.490 ug/l	194.90	0.7	4500	103	P
135	Ba	3	186.100 ug/l	1,861.00	1.6	4500	103	P
200	Hg	3	0.598 ug/l	5.98	0.4	45	209	P
205	Tl	3	0.761 ug/l	7.61	2.5	4500	209	P
208	Pb	3	93.340 ug/l	933.40	0.4	4500	209	A
238	U	3	20.100 ug/l	201.00	1.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	198254	0.43	198400	99.9	30 - 125
45	Sc	1	3632425	5.36	3760000	96.6	30 - 125
45	Sc	2	1547068	1.81	1428000	108.3	30 - 125
74	Ge	1	3619765	3.19	3683000	98.3	30 - 125
74	Ge	2	2822804	1.24	2627000	107.5	30 - 125
74	Ge	3	11553091	1.69	10940000	105.6	30 - 125
103	Rh	2	3876213	0.48	3842000	100.9	30 - 125
103	Rh	3	7686011	0.84	7414000	103.7	30 - 125
165	Ho	3	5846461	1.38	5459000	107.1	30 - 125
175	Lu	3	6558171	1.04	6180000	106.1	30 - 125
209	Bi	3	6413691	0.82	6220000	103.1	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\059SMPL.D\059SMPL.D#  
 Date Acquired: Sep 13 2010 04:51 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21446-A-1-G MS Vial Number: 2405

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.406 ug/l	120.30	2.4	900	6	P
23	Na	2	500.900 ug/l	25,045.00	2.1	450000	45	P
24	Mg	2	2248.000 ug/l	112,400.00	0.8	450000	45	A
27	Al	2	3143.000 ug/l	157,150.00	0.2	450000	45	P
31	P	2	668.300 ug/l	33,415.00	1.7	450000	45	P
39	K	2	1561.000 ug/l	78,050.00	0.7	450000	45	P
40	Ca	1	1294.000 ug/l	64,700.00	2.3	450000	45	A
47	Ti	2	369.200 ug/l	18,460.00	0.6	4500	74	P
51	V	2	30.870 ug/l	1,543.50	1.3	4500	74	P
52	Cr	2	22.260 ug/l	1,113.00	1.3	4500	74	P
55	Mn	2	91.030 ug/l	4,551.50	0.6	4500	74	P
56	Fe	1	5170.000 ug/l	258,500.00	1.9	450000	74	A
59	Co	2	25.670 ug/l	1,283.50	0.8	4500	74	P
60	Ni	2	31.920 ug/l	1,596.00	2.0	4500	74	P
63	Cu	2	21.810 ug/l	1,090.50	1.6	4500	74	P
66	Zn	2	215.600 ug/l	10,780.00	0.4	4500	74	P
75	As	2	86.860 ug/l	4,343.00	0.5	4500	74	P
78	Se	1	81.710 ug/l	4,085.50	1.7	4500	74	P
88	Sr	3	6.077 ug/l	303.85	1.8	4500	74	P
95	Mo	3	113.100 ug/l	5,655.00	1.5	4500	74	P
109	Ag	3	14.490 ug/l	724.50	1.6	900	103	P
111	Cd	3	2.672 ug/l	133.60	4.1	4500	103	P
118	Sn	3	115.100 ug/l	5,755.00	4.0	4500	103	P
121	Sb	3	61.420 ug/l	3,071.00	2.0	4500	103	P
135	Ba	3	126.200 ug/l	6,310.00	2.7	4500	103	P
200	Hg	3	1.109 ug/l	55.45	1.4	45	209	P
205	Tl	3	82.610 ug/l	4,130.50	1.0	4500	209	A
208	Pb	3	32.090 ug/l	1,604.50	0.6	4500	209	P
238	U	3	2.064 ug/l	103.20	1.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	203122	0.29	198400	102.4	30 - 125
45	Sc	1	3603383	3.02	3760000	95.8	30 - 125
45	Sc	2	1591492	1.26	1428000	111.4	30 - 125
74	Ge	1	3700544	1.88	3683000	100.5	30 - 125
74	Ge	2	2897867	0.15	2627000	110.3	30 - 125
74	Ge	3	11904120	0.21	10940000	108.8	30 - 125
103	Rh	2	4089455	0.96	3842000	106.4	30 - 125
103	Rh	3	7915108	0.84	7414000	106.8	30 - 125
165	Ho	3	5956871	0.63	5459000	109.1	30 - 125
175	Lu	3	6639390	1.67	6180000	107.4	30 - 125
209	Bi	3	6654202	0.64	6220000	107.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\060SMPL.D\060SMPL.D#  
 Date Acquired: Sep 13 2010 04:58 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21446-A-1-H MSD Vial Number: 2406

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.242 ug/l	112.10	8.3	900	6	P
23	Na	2	498.300 ug/l	24,915.00	2.3	450000	45	P
24	Mg	2	2235.000 ug/l	111,750.00	0.8	450000	45	A
27	Al	2	3239.000 ug/l	161,950.00	1.1	450000	45	P
31	P	2	667.700 ug/l	33,385.00	2.5	450000	45	P
39	K	2	1587.000 ug/l	79,350.00	1.9	450000	45	P
40	Ca	1	1277.000 ug/l	63,850.00	2.5	450000	45	A
47	Ti	2	364.000 ug/l	18,200.00	1.3	4500	74	P
51	V	2	30.730 ug/l	1,536.50	0.8	4500	74	P
52	Cr	2	21.830 ug/l	1,091.50	1.4	4500	74	P
55	Mn	2	90.160 ug/l	4,508.00	1.8	4500	74	P
56	Fe	1	5214.000 ug/l	260,700.00	1.2	450000	74	A
59	Co	2	25.420 ug/l	1,271.00	1.4	4500	74	P
60	Ni	2	30.800 ug/l	1,540.00	2.4	4500	74	P
63	Cu	2	21.810 ug/l	1,090.50	2.2	4500	74	P
66	Zn	2	237.200 ug/l	11,860.00	1.8	4500	74	P
75	As	2	86.100 ug/l	4,305.00	1.4	4500	74	P
78	Se	1	82.530 ug/l	4,126.50	2.0	4500	74	P
88	Sr	3	6.148 ug/l	307.40	0.8	4500	74	P
95	Mo	3	113.000 ug/l	5,650.00	1.6	4500	74	P
109	Ag	3	14.470 ug/l	723.50	0.4	900	103	P
111	Cd	3	2.679 ug/l	133.95	5.1	4500	103	P
118	Sn	3	115.700 ug/l	5,785.00	2.5	4500	103	P
121	Sb	3	60.930 ug/l	3,046.50	0.7	4500	103	P
135	Ba	3	126.100 ug/l	6,305.00	0.8	4500	103	P
200	Hg	3	1.079 ug/l	53.95	3.7	45	209	P
205	Tl	3	83.340 ug/l	4,167.00	0.6	4500	209	A
208	Pb	3	32.250 ug/l	1,612.50	1.7	4500	209	P
238	U	3	2.095 ug/l	104.75	2.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	202429	0.29	198400	102.0	30 - 125
45	Sc	1	3691327	1.22	3760000	98.2	30 - 125
45	Sc	2	1588686	2.07	1428000	111.3	30 - 125
74	Ge	1	3734750	1.08	3683000	101.4	30 - 125
74	Ge	2	2944621	0.76	2627000	112.1	30 - 125
74	Ge	3	12046871	0.72	10940000	110.1	30 - 125
103	Rh	2	4116317	0.99	3842000	107.1	30 - 125
103	Rh	3	7995313	0.46	7414000	107.8	30 - 125
165	Ho	3	5905615	0.85	5459000	108.2	30 - 125
175	Lu	3	6722840	0.69	6180000	108.8	30 - 125
209	Bi	3	6681991	0.81	6220000	107.4	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\061SMPL.D\061SMPL.D#  
 Date Acquired: Sep 13 2010 05:05 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21446-A-1-E PDS Vial Number: 2407  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.372 ug/l	118.60	2.8	900	6	P
23	Na	2	485.300 ug/l	24,265.00	1.1	450000	45	P
24	Mg	2	2214.000 ug/l	110,700.00	1.2	450000	45	A
27	Al	2	3131.000 ug/l	156,550.00	0.4	450000	45	P
31	P	2	688.400 ug/l	34,420.00	1.0	450000	45	P
39	K	2	1560.000 ug/l	78,000.00	0.5	450000	45	P
40	Ca	1	1270.000 ug/l	63,500.00	4.1	450000	45	A
47	Ti	2	358.400 ug/l	17,920.00	1.0	4500	74	P
51	V	2	29.790 ug/l	1,489.50	1.1	4500	74	P
52	Cr	2	21.940 ug/l	1,097.00	2.2	4500	74	P
55	Mn	2	89.210 ug/l	4,460.50	0.6	4500	74	P
56	Fe	1	5264.000 ug/l	263,200.00	2.4	450000	74	A
59	Co	2	25.120 ug/l	1,256.00	1.2	4500	74	P
60	Ni	2	30.260 ug/l	1,513.00	1.7	4500	74	P
63	Cu	2	21.500 ug/l	1,075.00	1.5	4500	74	P
66	Zn	2	210.200 ug/l	10,510.00	1.6	4500	74	P
75	As	2	85.530 ug/l	4,276.50	1.0	4500	74	P
78	Se	1	84.140 ug/l	4,207.00	2.5	4500	74	P
88	Sr	3	6.082 ug/l	304.10	2.0	4500	74	P
95	Mo	3	110.200 ug/l	5,510.00	1.8	4500	74	P
109	Ag	3	14.120 ug/l	706.00	2.3	900	103	P
111	Cd	3	2.536 ug/l	126.80	3.4	4500	103	P
118	Sn	3	111.300 ug/l	5,565.00	2.4	4500	103	P
121	Sb	3	60.210 ug/l	3,010.50	1.6	4500	103	P
135	Ba	3	122.900 ug/l	6,145.00	1.2	4500	103	P
200	Hg	3	1.129 ug/l	56.45	5.9	45	209	P
205	Tl	3	81.290 ug/l	4,064.50	1.4	4500	209	A
208	Pb	3	31.670 ug/l	1,583.50	1.5	4500	209	P
238	U	3	2.049 ug/l	102.45	1.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	199646	1.42	198400	100.6	30 - 125
45	Sc	1	3622272	5.65	3760000	96.3	30 - 125
45	Sc	2	1577721	1.97	1428000	110.5	30 - 125
74	Ge	1	3631060	4.08	3683000	98.6	30 - 125
74	Ge	2	2927261	0.57	2627000	111.4	30 - 125
74	Ge	3	12056106	0.19	10940000	110.2	30 - 125
103	Rh	2	4052879	0.89	3842000	105.5	30 - 125
103	Rh	3	8001186	0.40	7414000	107.9	30 - 125
165	Ho	3	5908953	0.50	5459000	108.2	30 - 125
175	Lu	3	6666198	0.89	6180000	107.9	30 - 125
209	Bi	3	6621750	1.38	6220000	106.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle

Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\062SMPL.D\062SMPL.D#

Date Acquired: Sep 13 2010 05:12 pm

Acq. Method: OSEA\_ALL.M

Sample Name: LCS 580-71358/17-A

Vial Number: 2408

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M

Operator: FCW ICP-MS ID#SEA44

Tune # Name

Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C

1 \1\7500\h2.u

Last Cal. Update: Sep 14 2010 01:15 pm

2 \1\7500\he.u

ISTD Ref File: C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D#

3 ,7500\nogas.u

Dilution Factor: 50.00

Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.029 ug/l	101.45	7.0	900	6	P
23	Na	2	432.600 ug/l	21,630.00	0.4	450000	45	P
24	Mg	2	439.200 ug/l	21,960.00	1.3	450000	45	P
27	Al	2	77.470 ug/l	3,873.50	3.2	450000	45	P
31	P	2	380.100 ug/l	19,005.00	6.0	450000	45	P
39	K	2	451.700 ug/l	22,585.00	0.5	450000	45	P
40	Ca	1	441.700 ug/l	22,085.00	2.8	450000	45	P
47	Ti	2	103.700 ug/l	5,185.00	1.8	4500	74	P
51	V	2	20.800 ug/l	1,040.00	5.2	4500	74	P
52	Cr	2	8.399 ug/l	419.95	3.3	4500	74	P
55	Mn	2	21.270 ug/l	1,063.50	1.4	4500	74	P
56	Fe	1	478.000 ug/l	23,900.00	2.5	450000	74	A
59	Co	2	21.140 ug/l	1,057.00	0.8	4500	74	P
60	Ni	2	20.820 ug/l	1,041.00	2.0	4500	74	P
63	Cu	2	10.660 ug/l	533.00	0.2	4500	74	P
66	Zn	2	20.870 ug/l	1,043.50	1.8	4500	74	P
75	As	2	84.960 ug/l	4,248.00	2.0	4500	74	P
78	Se	1	84.790 ug/l	4,239.50	3.8	4500	74	P
88	Sr	3	-0.056 ug/l	-2.81	16.2	4500	74	P
95	Mo	3	107.100 ug/l	5,355.00	1.1	4500	74	P
109	Ag	3	13.040 ug/l	652.00	1.7	900	103	P
111	Cd	3	2.173 ug/l	108.65	6.1	4500	103	P
118	Sn	3	109.600 ug/l	5,480.00	0.3	4500	103	P
121	Sb	3	63.500 ug/l	3,175.00	0.3	4500	103	P
135	Ba	3	85.320 ug/l	4,266.00	0.3	4500	103	P
200	Hg	3	1.021 ug/l	51.05	5.0	45	209	P
205	Tl	3	83.930 ug/l	4,196.50	0.7	4500	209	A
208	Pb	3	21.510 ug/l	1,075.50	0.2	4500	209	P
238	U	3	0.000 ug/l	0.00	755.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	195454	0.09	198400	98.5	30 - 125
45	Sc	1	3474749	2.15	3760000	92.4	30 - 125
45	Sc	2	1545778	0.97	1428000	108.2	30 - 125
74	Ge	1	3536814	2.19	3683000	96.0	30 - 125
74	Ge	2	2804886	1.11	2627000	106.8	30 - 125
74	Ge	3	11238371	0.60	10940000	102.7	30 - 125
103	Rh	2	4022366	1.09	3842000	104.7	30 - 125
103	Rh	3	7657871	0.64	7414000	103.3	30 - 125
165	Ho	3	5845547	1.03	5459000	107.1	30 - 125
175	Lu	3	6592190	1.02	6180000	106.7	30 - 125
209	Bi	3	6631007	0.61	6220000	106.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\063SMPL.D\063SMPL.D#  
 Date Acquired: Sep 13 2010 05:19 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71358/18-A Vial Number: 2409  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.078 ug/l	103.90	7.8	900	6	P
23	Na	2	440.800 ug/l	22,040.00	1.3	450000	45	P
24	Mg	2	441.600 ug/l	22,080.00	1.1	450000	45	P
27	Al	2	80.580 ug/l	4,029.00	2.3	450000	45	P
31	P	2	386.200 ug/l	19,310.00	0.3	450000	45	P
39	K	2	455.800 ug/l	22,790.00	1.3	450000	45	P
40	Ca	1	441.200 ug/l	22,060.00	3.1	450000	45	P
47	Ti	2	102.600 ug/l	5,130.00	0.4	4500	74	P
51	V	2	20.770 ug/l	1,038.50	1.6	4500	74	P
52	Cr	2	8.282 ug/l	414.10	1.8	4500	74	P
55	Mn	2	21.300 ug/l	1,065.00	0.9	4500	74	P
56	Fe	1	485.100 ug/l	24,255.00	2.5	450000	74	A
59	Co	2	20.940 ug/l	1,047.00	0.6	4500	74	P
60	Ni	2	20.770 ug/l	1,038.50	2.8	4500	74	P
63	Cu	2	10.730 ug/l	536.50	1.6	4500	74	P
66	Zn	2	21.330 ug/l	1,066.50	3.2	4500	74	P
75	As	2	84.700 ug/l	4,235.00	0.4	4500	74	P
78	Se	1	84.550 ug/l	4,227.50	2.8	4500	74	P
88	Sr	3	-0.054 ug/l	-2.69	28.8	4500	74	P
95	Mo	3	108.400 ug/l	5,420.00	0.3	4500	74	P
109	Ag	3	13.030 ug/l	651.50	2.8	900	103	P
111	Cd	3	2.247 ug/l	112.35	1.9	4500	103	P
118	Sn	3	107.500 ug/l	5,375.00	1.0	4500	103	P
121	Sb	3	62.970 ug/l	3,148.50	1.4	4500	103	P
135	Ba	3	85.180 ug/l	4,259.00	1.3	4500	103	P
200	Hg	3	1.068 ug/l	53.40	0.8	45	209	P
205	Tl	3	85.750 ug/l	4,287.50	1.9	4500	209	A
208	Pb	3	21.650 ug/l	1,082.50	0.8	4500	209	P
238	U	3	0.000 ug/l	-0.01	195.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	193592	0.68	198400	97.6	30 - 125
45	Sc	1	3497256	3.33	3760000	93.0	30 - 125
45	Sc	2	1499046	0.58	1428000	105.0	30 - 125
74	Ge	1	3518345	2.12	3683000	95.5	30 - 125
74	Ge	2	2764631	0.94	2627000	105.2	30 - 125
74	Ge	3	11182311	0.67	10940000	102.2	30 - 125
103	Rh	2	3954289	0.65	3842000	102.9	30 - 125
103	Rh	3	7667825	1.19	7414000	103.4	30 - 125
165	Ho	3	5749091	0.48	5459000	105.3	30 - 125
175	Lu	3	6554565	0.71	6180000	106.1	30 - 125
209	Bi	3	6562176	0.08	6220000	105.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\064SMPL.D\064SMPL.D#  
 Date Acquired: Sep 13 2010 05:26 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSSRM 580-71358/19-A Vial Number: 2410  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **20.00** Final Dil Factor: **20.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	76.810 ug/l	1,536.20	1.2	900	6	P
23	Na	2	252.100 ug/l	5,042.00	2.1	450000	45	P
24	Mg	2	2018.000 ug/l	40,360.00	1.2	450000	45	A
27	Al	2	4621.000 ug/l	92,420.00	0.6	450000	45	A
31	P	2	344.400 ug/l	6,888.00	1.1	450000	45	P
39	K	2	2030.000 ug/l	40,600.00	1.7	450000	45	P
40	Ca	1	4441.000 ug/l	88,820.00	3.1	450000	45	A
47	Ti	2	197.200 ug/l	3,944.00	0.5	4500	74	P
51	V	2	46.540 ug/l	930.80	1.1	4500	74	P
52	Cr	2	57.780 ug/l	1,155.60	0.7	4500	74	P
55	Mn	2	180.300 ug/l	3,606.00	1.5	4500	74	P
56	Fe	1	8918.000 ug/l	178,360.00	2.1	450000	74	A
59	Co	2	55.270 ug/l	1,105.40	1.0	4500	74	P
60	Ni	2	82.310 ug/l	1,646.20	1.6	4500	74	P
63	Cu	2	31.760 ug/l	635.20	2.8	4500	74	P
66	Zn	2	167.200 ug/l	3,344.00	1.6	4500	74	P
75	As	2	108.400 ug/l	2,168.00	0.4	4500	74	P
78	Se	1	70.660 ug/l	1,413.20	2.9	4500	74	P
88	Sr	3	56.420 ug/l	1,128.40	0.7	4500	74	P
95	Mo	3	55.960 ug/l	1,119.20	1.7	4500	74	P
109	Ag	3	17.220 ug/l	344.40	0.9	900	103	P
111	Cd	3	32.730 ug/l	654.60	0.4	4500	103	P
118	Sn	3	85.180 ug/l	1,703.60	0.6	4500	103	P
121	Sb	3	110.700 ug/l	2,214.00	1.5	4500	103	P
135	Ba	3	274.100 ug/l	5,482.00	1.1	4500	103	P
200	Hg	3	2.228 ug/l	44.56	3.3	45	209	P
205	Tl	3	88.320 ug/l	1,766.40	1.0	4500	209	A
208	Pb	3	109.700 ug/l	2,194.00	1.6	4500	209	A
238	U	3	0.803 ug/l	16.05	2.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	195299	0.64	198400	98.4	30 - 125
45	Sc	1	3561690	3.49	3760000	94.7	30 - 125
45	Sc	2	1541811	1.58	1428000	108.0	30 - 125
74	Ge	1	3559187	1.22	3683000	96.6	30 - 125
74	Ge	2	2827431	1.02	2627000	107.6	30 - 125
74	Ge	3	11354719	0.91	10940000	103.8	30 - 125
103	Rh	2	3975111	0.57	3842000	103.5	30 - 125
103	Rh	3	7624323	0.59	7414000	102.8	30 - 125
165	Ho	3	5830123	0.42	5459000	106.8	30 - 125
175	Lu	3	6599360	1.10	6180000	106.8	30 - 125
209	Bi	3	6425263	1.13	6220000	103.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\065SMPL.D\065SMPL.D#  
 Date Acquired: Sep 13 2010 05:33 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.730 ug/l	49.73	2.4	900	6	P
23	Na	2	4847.000 ug/l	4,847.00	2.5	450000	45	A
24	Mg	2	4877.000 ug/l	4,877.00	1.1	450000	45	A
27	Al	2	489.700 ug/l	489.70	2.0	450000	45	P
31	P	2	4803.000 ug/l	4,803.00	3.5	450000	45	P
39	K	2	4975.000 ug/l	4,975.00	0.9	450000	45	A
40	Ca	1	4822.000 ug/l	4,822.00	2.2	450000	45	A
47	Ti	2	50.210 ug/l	50.21	2.6	4500	74	P
51	V	2	48.360 ug/l	48.36	2.2	4500	74	P
52	Cr	2	48.630 ug/l	48.63	0.7	4500	74	P
55	Mn	2	49.700 ug/l	49.70	1.2	4500	74	P
56	Fe	1	4972.000 ug/l	4,972.00	1.8	450000	74	A
59	Co	2	48.800 ug/l	48.80	0.6	4500	74	P
60	Ni	2	48.650 ug/l	48.65	0.6	4500	74	P
63	Cu	2	48.400 ug/l	48.40	0.9	4500	74	P
66	Zn	2	50.410 ug/l	50.41	1.7	4500	74	P
75	As	2	49.510 ug/l	49.51	1.8	4500	74	P
78	Se	1	49.050 ug/l	49.05	2.5	4500	74	P
88	Sr	3	48.600 ug/l	48.60	2.1	4500	74	P
95	Mo	3	49.070 ug/l	49.07	1.9	4500	74	P
109	Ag	3	50.130 ug/l	50.13	0.5	900	103	P
111	Cd	3	50.470 ug/l	50.47	2.1	4500	103	P
118	Sn	3	50.200 ug/l	50.20	1.1	4500	103	P
121	Sb	3	50.450 ug/l	50.45	0.9	4500	103	P
135	Ba	3	50.420 ug/l	50.42	1.5	4500	103	P
200	Hg	3	2.515 ug/l	2.52	2.4	45	209	P
205	Tl	3	50.930 ug/l	50.93	2.6	4500	209	P
208	Pb	3	50.550 ug/l	50.55	1.4	4500	209	P
238	U	3	49.410 ug/l	49.41	2.5	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	196209	1.27	198400	98.9	30 - 125
45	Sc	1	3609276	2.90	3760000	96.0	30 - 125
45	Sc	2	1568066	1.52	1428000	109.8	30 - 125
74	Ge	1	3618649	1.09	3683000	98.3	30 - 125
74	Ge	2	2857179	0.46	2627000	108.8	30 - 125
74	Ge	3	11633892	0.61	10940000	106.3	30 - 125
103	Rh	2	3982209	0.75	3842000	103.6	30 - 125
103	Rh	3	7694751	0.68	7414000	103.8	30 - 125
165	Ho	3	5839191	1.02	5459000	107.0	30 - 125
175	Lu	3	6527758	0.40	6180000	105.6	30 - 125
209	Bi	3	6448251	0.28	6220000	103.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\066SMPL.D\066SMPL.D#  
 Date Acquired: Sep 13 2010 05:39 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	87.3	900	6	P
23	Na	2	-0.669 ug/l	-0.67	122.0	450000	45	P
24	Mg	2	0.140 ug/l	0.14	82.0	450000	45	P
27	Al	2	1.158 ug/l	1.16	40.9	450000	45	P
31	P	2	-7.356 ug/l	-7.36	65.2	450000	45	P
39	K	2	-0.325 ug/l	-0.33	536.3	450000	45	P
40	Ca	1	0.728 ug/l	0.73	21.1	450000	45	P
47	Ti	2	-0.012 ug/l	-0.01	140.8	4500	74	P
51	V	2	-0.104 ug/l	-0.10	76.4	4500	74	P
52	Cr	2	-0.017 ug/l	-0.02	80.5	4500	74	P
55	Mn	2	0.183 ug/l	0.18	6.6	4500	74	P
56	Fe	1	0.262 ug/l	0.26	13.0	450000	74	P
59	Co	2	0.002 ug/l	0.00	82.9	4500	74	P
60	Ni	2	0.001 ug/l	0.00	5302.8	4500	74	P
63	Cu	2	0.026 ug/l	0.03	69.3	4500	74	P
66	Zn	2	0.092 ug/l	0.09	109.5	4500	74	P
75	As	2	-0.035 ug/l	-0.04	625.5	4500	74	P
78	Se	1	-0.086 ug/l	-0.09	60.1	4500	74	P
88	Sr	3	-0.015 ug/l	-0.02	58.2	4500	74	P
95	Mo	3	0.007 ug/l	0.01	256.9	4500	74	P
109	Ag	3	0.002 ug/l	0.00	173.2	900	103	P
111	Cd	3	0.020 ug/l	0.02	36.2	4500	103	P
118	Sn	3	0.085 ug/l	0.08	12.9	4500	103	P
121	Sb	3	0.065 ug/l	0.06	8.7	4500	103	P
135	Ba	3	-0.074 ug/l	-0.07	67.1	4500	103	P
200	Hg	3	0.008 ug/l	0.01	49.4	45	209	P
205	Tl	3	0.469 ug/l	0.47	2.4	4500	209	P
208	Pb	3	0.003 ug/l	0.00	251.6	4500	209	P
238	U	3	0.001 ug/l	0.00	24.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	198995	0.87	198400	100.3	30 - 125
45	Sc	1	3598886	1.83	3760000	95.7	30 - 125
45	Sc	2	1541172	0.46	1428000	107.9	30 - 125
74	Ge	1	3641588	1.12	3683000	98.9	30 - 125
74	Ge	2	2884913	0.02	2627000	109.8	30 - 125
74	Ge	3	11406205	0.39	10940000	104.3	30 - 125
103	Rh	2	4076788	1.76	3842000	106.1	30 - 125
103	Rh	3	7876710	0.63	7414000	106.2	30 - 125
165	Ho	3	5857393	1.37	5459000	107.3	30 - 125
175	Lu	3	6696737	0.76	6180000	108.4	30 - 125
209	Bi	3	6735478	0.88	6220000	108.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\067SMPL.D\067SMPL.D#  
 Date Acquired: Sep 13 2010 05:46 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21446-A-2-B Vial Number: 2501  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.117 ug/l	11.17	13.4	900	6	P
23	Na	2	291.400 ug/l	2,914.00	2.6	450000	45	P
24	Mg	2	9394.000 ug/l	93,940.00	0.4	450000	45	A
27	Al	2	17240.000 ug/l	172,400.00	0.7	450000	45	A
31	P	2	1699.000 ug/l	16,990.00	2.2	450000	45	P
39	K	2	4644.000 ug/l	46,440.00	1.1	450000	45	A
40	Ca	1	4572.000 ug/l	45,720.00	3.0	450000	45	A
47	Ti	2	1539.000 ug/l	15,390.00	0.7	4500	74	P
51	V	2	61.910 ug/l	619.10	0.8	4500	74	P
52	Cr	2	66.070 ug/l	660.70	0.6	4500	74	P
55	Mn	2	448.700 ug/l	4,487.00	0.4	4500	74	P
56	Fe	1	29940.000 ug/l	299,400.00	2.3	450000	74	A
59	Co	2	28.890 ug/l	288.90	0.6	4500	74	P
60	Ni	2	49.690 ug/l	496.90	1.2	4500	74	P
63	Cu	2	80.220 ug/l	802.20	0.8	4500	74	P
66	Zn	2	1367.000 ug/l	13,670.00	1.6	4500	74	P
75	As	2	25.860 ug/l	258.60	2.7	4500	74	P
78	Se	1	1.033 ug/l	10.33	4.4	4500	74	P
88	Sr	3	42.300 ug/l	423.00	1.0	4500	74	P
95	Mo	3	60.860 ug/l	608.60	1.1	4500	74	P
109	Ag	3	11.140 ug/l	111.40	2.4	900	103	P
111	Cd	3	3.598 ug/l	35.98	3.7	4500	103	P
118	Sn	3	53.320 ug/l	533.20	0.9	4500	103	P
121	Sb	3	15.590 ug/l	155.90	1.1	4500	103	P
135	Ba	3	187.100 ug/l	1,871.00	1.0	4500	103	P
200	Hg	3	0.470 ug/l	4.70	2.0	45	209	P
205	Tl	3	0.962 ug/l	9.62	2.8	4500	209	P
208	Pb	3	76.500 ug/l	765.00	1.9	4500	209	P
238	U	3	17.360 ug/l	173.60	1.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	199833	0.75	198400	100.7	30 - 125
45	Sc	1	3589654	1.11	3760000	95.5	30 - 125
45	Sc	2	1568501	1.86	1428000	109.8	30 - 125
74	Ge	1	3615065	0.35	3683000	98.2	30 - 125
74	Ge	2	2887794	1.10	2627000	109.9	30 - 125
74	Ge	3	11691250	1.19	10940000	106.9	30 - 125
103	Rh	2	3981703	1.01	3842000	103.6	30 - 125
103	Rh	3	7739486	0.96	7414000	104.4	30 - 125
165	Ho	3	5859153	1.53	5459000	107.3	30 - 125
175	Lu	3	6619957	1.08	6180000	107.1	30 - 125
209	Bi	3	6490717	0.91	6220000	104.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\068SMPL.D\068SMPL.D#  
 Date Acquired: Sep 13 2010 05:53 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-1-C Vial Number: 2502

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.620 ug/l	16.20	9.6	900	6	P
23	Na	2	1899.000 ug/l	18,990.00	1.7	450000	45	A
24	Mg	2	2402.000 ug/l	24,020.00	2.1	450000	45	A
27	Al	2	2229.000 ug/l	22,290.00	2.2	450000	45	P
31	P	2	827.300 ug/l	8,273.00	6.0	450000	45	P
39	K	2	599.600 ug/l	5,996.00	3.1	450000	45	P
40	Ca	1	860.700 ug/l	8,607.00	0.5	450000	45	A
47	Ti	2	79.620 ug/l	796.20	0.5	4500	74	P
51	V	2	55.790 ug/l	557.90	0.5	4500	74	P
52	Cr	2	12.750 ug/l	127.50	4.4	4500	74	P
55	Mn	2	1160.000 ug/l	11,600.00	1.4	4500	74	A
56	Fe	1	130800.000 ug/l	1,308,000.00	1.1	450000	74	A
59	Co	2	17.530 ug/l	175.30	1.4	4500	74	P
60	Ni	2	38.840 ug/l	388.40	2.2	4500	74	P
63	Cu	2	11.210 ug/l	112.10	3.9	4500	74	P
66	Zn	2	115.300 ug/l	1,153.00	1.6	4500	74	P
75	As	2	25.900 ug/l	259.00	5.2	4500	74	P
78	Se	1	0.378 ug/l	3.78	33.1	4500	74	P
88	Sr	3	18.500 ug/l	185.00	1.9	4500	74	P
95	Mo	3	6.385 ug/l	63.85	2.8	4500	74	P
109	Ag	3	0.235 ug/l	2.35	2.6	900	103	P
111	Cd	3	0.538 ug/l	5.38	10.8	4500	103	P
118	Sn	3	1.487 ug/l	14.87	10.4	4500	103	P
121	Sb	3	1.303 ug/l	13.03	5.5	4500	103	P
135	Ba	3	70.560 ug/l	705.60	1.1	4500	103	P
200	Hg	3	0.023 ug/l	0.23	25.9	45	209	P
205	Tl	3	0.212 ug/l	2.12	2.5	4500	209	P
208	Pb	3	22.390 ug/l	223.90	1.2	4500	209	P
238	U	3	1.378 ug/l	13.78	0.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	198100	0.99	198400	99.8	30 - 125
45	Sc	1	3585196	1.40	3760000	95.4	30 - 125
45	Sc	2	1558634	2.30	1428000	109.1	30 - 125
74	Ge	1	3582178	2.04	3683000	97.3	30 - 125
74	Ge	2	2806123	1.19	2627000	106.8	30 - 125
74	Ge	3	11003456	1.16	10940000	100.6	30 - 125
103	Rh	2	3922142	0.70	3842000	102.1	30 - 125
103	Rh	3	7346361	1.17	7414000	99.1	30 - 125
165	Ho	3	5631526	0.35	5459000	103.2	30 - 125
175	Lu	3	6325845	0.52	6180000	102.4	30 - 125
209	Bi	3	6264364	0.30	6220000	100.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\069SMPL.D\069SMPL.D#  
 Date Acquired: Sep 13 2010 06:00 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-2-C Vial Number: 2503

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	3.161 ug/l	31.61	12.8	900	6	P
23	Na	2	1521.000 ug/l	15,210.00	2.0	450000	45	A
24	Mg	2	3175.000 ug/l	31,750.00	2.3	450000	45	A
27	Al	2	2474.000 ug/l	24,740.00	2.7	450000	45	P
31	P	2	1658.000 ug/l	16,580.00	1.8	450000	45	P
39	K	2	573.200 ug/l	5,732.00	2.0	450000	45	P
40	Ca	1	1177.000 ug/l	11,770.00	2.9	450000	45	A
47	Ti	2	58.770 ug/l	587.70	8.5	4500	74	P
51	V	2	71.470 ug/l	714.70	0.8	4500	74	P
52	Cr	2	16.910 ug/l	169.10	1.7	4500	74	P
55	Mn	2	3304.000 ug/l	33,040.00	0.4	4500	74	A
56	Fe	1	270400.000 ug/l	2,704,000.00	2.0	450000	74	A
59	Co	2	32.260 ug/l	322.60	2.0	4500	74	P
60	Ni	2	51.450 ug/l	514.50	1.9	4500	74	P
63	Cu	2	14.090 ug/l	140.90	1.9	4500	74	P
66	Zn	2	128.600 ug/l	1,286.00	3.6	4500	74	P
75	As	2	63.330 ug/l	633.30	3.2	4500	74	P
78	Se	1	0.376 ug/l	3.76	26.9	4500	74	P
88	Sr	3	59.420 ug/l	594.20	2.5	4500	74	P
95	Mo	3	7.434 ug/l	74.34	5.7	4500	74	P
109	Ag	3	0.059 ug/l	0.59	15.2	900	103	P
111	Cd	3	0.864 ug/l	8.64	7.4	4500	103	P
118	Sn	3	0.376 ug/l	3.76	11.9	4500	103	P
121	Sb	3	1.486 ug/l	14.86	4.9	4500	103	P
135	Ba	3	560.600 ug/l	5,606.00	0.5	4500	103	P
200	Hg	3	0.099 ug/l	0.99	13.5	45	209	P
205	Tl	3	0.405 ug/l	4.05	6.3	4500	209	P
208	Pb	3	24.750 ug/l	247.50	1.1	4500	209	P
238	U	3	2.943 ug/l	29.43	2.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	187454	1.89	198400	94.5	30 - 125
45	Sc	1	3455369	1.65	3760000	91.9	30 - 125
45	Sc	2	1434685	2.08	1428000	100.5	30 - 125
74	Ge	1	3406393	1.27	3683000	92.5	30 - 125
74	Ge	2	2594780	0.59	2627000	98.8	30 - 125
74	Ge	3	10235959	0.89	10940000	93.6	30 - 125
103	Rh	2	3635519	1.09	3842000	94.6	30 - 125
103	Rh	3	6739733	1.06	7414000	90.9	30 - 125
165	Ho	3	5384087	0.28	5459000	98.6	30 - 125
175	Lu	3	6164515	1.05	6180000	99.7	30 - 125
209	Bi	3	5961988	0.30	6220000	95.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\070SMPL.D\070SMPL.D#  
 Date Acquired: Sep 13 2010 06:07 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-3-C Vial Number: 2504

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.377 ug/l	23.77	11.5	900	6	P
23	Na	2	2981.000 ug/l	29,810.00	1.8	450000	45	A
24	Mg	2	3141.000 ug/l	31,410.00	0.6	450000	45	A
27	Al	2	2713.000 ug/l	27,130.00	0.5	450000	45	P
31	P	2	1280.000 ug/l	12,800.00	2.0	450000	45	P
39	K	2	765.800 ug/l	7,658.00	1.9	450000	45	P
40	Ca	1	1697.000 ug/l	16,970.00	1.0	450000	45	A
47	Ti	2	60.370 ug/l	603.70	3.7	4500	74	P
51	V	2	85.040 ug/l	850.40	1.2	4500	74	P
52	Cr	2	28.860 ug/l	288.60	0.8	4500	74	P
55	Mn	2	2512.000 ug/l	25,120.00	0.4	4500	74	A
56	Fe	1	240100.000 ug/l	2,401,000.00	1.0	450000	74	A
59	Co	2	33.040 ug/l	330.40	0.7	4500	74	P
60	Ni	2	76.640 ug/l	766.40	1.7	4500	74	P
63	Cu	2	16.820 ug/l	168.20	3.6	4500	74	P
66	Zn	2	169.800 ug/l	1,698.00	1.7	4500	74	P
75	As	2	38.150 ug/l	381.50	1.0	4500	74	P
78	Se	1	0.441 ug/l	4.41	15.9	4500	74	P
88	Sr	3	35.230 ug/l	352.30	0.2	4500	74	P
95	Mo	3	8.237 ug/l	82.37	2.3	4500	74	P
109	Ag	3	0.018 ug/l	0.18	61.3	900	103	P
111	Cd	3	0.706 ug/l	7.06	17.2	4500	103	P
118	Sn	3	0.880 ug/l	8.80	3.0	4500	103	P
121	Sb	3	5.650 ug/l	56.50	1.0	4500	103	P
135	Ba	3	110.500 ug/l	1,105.00	1.8	4500	103	P
200	Hg	3	0.021 ug/l	0.21	13.9	45	209	P
205	Tl	3	0.160 ug/l	1.60	2.5	4500	209	P
208	Pb	3	3211.000 ug/l	32,110.00	1.3	4500	209	A
238	U	3	1.408 ug/l	14.08	2.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	189584	1.13	198400	95.6	30 - 125
45	Sc	1	3378247	2.10	3760000	89.8	30 - 125
45	Sc	2	1446378	0.14	1428000	101.3	30 - 125
74	Ge	1	3390532	1.06	3683000	92.1	30 - 125
74	Ge	2	2617578	0.90	2627000	99.6	30 - 125
74	Ge	3	10122234	0.44	10940000	92.5	30 - 125
103	Rh	2	3682254	1.79	3842000	95.8	30 - 125
103	Rh	3	6741208	0.62	7414000	90.9	30 - 125
165	Ho	3	5370526	0.59	5459000	98.4	30 - 125
175	Lu	3	6109137	0.47	6180000	98.9	30 - 125
209	Bi	3	5920574	0.67	6220000	95.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\071SMPL.D\071SMPL.D#  
 Date Acquired: Sep 13 2010 06:14 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-4-C Vial Number: 2505

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	3.587 ug/l	35.87	6.9	900	6	P
23	Na	2	4179.000 ug/l	41,790.00	1.3	450000	45	A
24	Mg	2	4973.000 ug/l	49,730.00	2.5	450000	45	A
27	Al	2	3879.000 ug/l	38,790.00	1.4	450000	45	P
31	P	2	2367.000 ug/l	23,670.00	0.8	450000	45	P
39	K	2	921.100 ug/l	9,211.00	1.3	450000	45	P
40	Ca	1	2254.000 ug/l	22,540.00	2.6	450000	45	A
47	Ti	2	70.350 ug/l	703.50	3.0	4500	74	P
51	V	2	123.400 ug/l	1,234.00	1.4	4500	74	P
52	Cr	2	27.460 ug/l	274.60	2.9	4500	74	P
55	Mn	2	4220.000 ug/l	42,200.00	0.8	4500	74	A
56	Fe	1	401300.000 ug/l	4,013,000.00	1.0	450000	74	A
59	Co	2	46.760 ug/l	467.60	1.6	4500	74	P
60	Ni	2	104.200 ug/l	1,042.00	3.2	4500	74	P
63	Cu	2	21.580 ug/l	215.80	4.4	4500	74	P
66	Zn	2	226.900 ug/l	2,269.00	2.1	4500	74	P
75	As	2	66.450 ug/l	664.50	2.5	4500	74	P
78	Se	1	0.681 ug/l	6.81	17.6	4500	74	P
88	Sr	3	48.360 ug/l	483.60	1.1	4500	74	P
95	Mo	3	12.790 ug/l	127.90	1.2	4500	74	P
109	Ag	3	0.011 ug/l	0.11	22.1	900	103	P
111	Cd	3	1.017 ug/l	10.17	5.5	4500	103	P
118	Sn	3	0.330 ug/l	3.30	11.1	4500	103	P
121	Sb	3	2.463 ug/l	24.63	1.6	4500	103	P
135	Ba	3	230.400 ug/l	2,304.00	1.7	4500	103	P
200	Hg	3	0.024 ug/l	0.24	10.4	45	209	P
205	Tl	3	0.123 ug/l	1.23	3.9	4500	209	P
208	Pb	3	85.940 ug/l	859.40	0.5	4500	209	P
238	U	3	1.909 ug/l	19.09	0.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178900	0.98	198400	90.2	30 - 125
45	Sc	1	3344549	2.72	3760000	89.0	30 - 125
45	Sc	2	1363613	1.28	1428000	95.5	30 - 125
74	Ge	1	3234112	1.40	3683000	87.8	30 - 125
74	Ge	2	2435910	0.81	2627000	92.7	30 - 125
74	Ge	3	9858960	1.14	10940000	90.1	30 - 125
103	Rh	2	3398292	0.22	3842000	88.5	30 - 125
103	Rh	3	6525628	1.00	7414000	88.0	30 - 125
165	Ho	3	5281543	0.74	5459000	96.7	30 - 125
175	Lu	3	6062738	1.14	6180000	98.1	30 - 125
209	Bi	3	5768562	1.14	6220000	92.7	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\072SMPL.D\072SMPL.D#  
 Date Acquired: Sep 13 2010 06:21 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-5-C Vial Number: 2506

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	3.050 ug/l	30.50	3.0	900	6	P
23	Na	2	2979.000 ug/l	29,790.00	1.5	450000	45	A
24	Mg	2	3479.000 ug/l	34,790.00	1.3	450000	45	A
27	Al	2	2547.000 ug/l	25,470.00	1.5	450000	45	P
31	P	2	1483.000 ug/l	14,830.00	1.6	450000	45	P
39	K	2	1064.000 ug/l	10,640.00	1.4	450000	45	P
40	Ca	1	1827.000 ug/l	18,270.00	2.8	450000	45	A
47	Ti	2	63.130 ug/l	631.30	1.3	4500	74	P
51	V	2	99.340 ug/l	993.40	1.1	4500	74	P
52	Cr	2	21.650 ug/l	216.50	2.0	4500	74	P
55	Mn	2	2922.000 ug/l	29,220.00	1.4	4500	74	A
56	Fe	1	276800.000 ug/l	2,768,000.00	2.5	450000	74	A
59	Co	2	35.830 ug/l	358.30	1.8	4500	74	P
60	Ni	2	61.250 ug/l	612.50	2.1	4500	74	P
63	Cu	2	19.160 ug/l	191.60	2.5	4500	74	P
66	Zn	2	194.600 ug/l	1,946.00	2.2	4500	74	P
75	As	2	52.550 ug/l	525.50	1.6	4500	74	P
78	Se	1	0.432 ug/l	4.32	15.5	4500	74	P
88	Sr	3	36.780 ug/l	367.80	1.5	4500	74	P
95	Mo	3	7.402 ug/l	74.02	4.2	4500	74	P
109	Ag	3	0.019 ug/l	0.19	41.1	900	103	P
111	Cd	3	0.792 ug/l	7.92	13.0	4500	103	P
118	Sn	3	0.175 ug/l	1.75	10.0	4500	103	P
121	Sb	3	1.474 ug/l	14.74	1.8	4500	103	P
135	Ba	3	143.500 ug/l	1,435.00	1.6	4500	103	P
200	Hg	3	0.012 ug/l	0.12	72.1	45	209	P
205	Tl	3	0.110 ug/l	1.10	6.5	4500	209	P
208	Pb	3	50.000 ug/l	500.00	1.5	4500	209	P
238	U	3	1.765 ug/l	17.65	1.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181587	1.10	198400	91.5	30 - 125
45	Sc	1	3252544	1.50	3760000	86.5	30 - 125
45	Sc	2	1379348	0.90	1428000	96.6	30 - 125
74	Ge	1	3232124	1.52	3683000	87.8	30 - 125
74	Ge	2	2485511	0.79	2627000	94.6	30 - 125
74	Ge	3	9922057	1.29	10940000	90.7	30 - 125
103	Rh	2	3547277	2.82	3842000	92.3	30 - 125
103	Rh	3	6679690	1.35	7414000	90.1	30 - 125
165	Ho	3	5353149	0.42	5459000	98.1	30 - 125
175	Lu	3	6000398	1.69	6180000	97.1	30 - 125
209	Bi	3	5825994	0.49	6220000	93.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\073SMPL.D\073SMPL.D#  
 Date Acquired: Sep 13 2010 06:28 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-6-C Vial Number: 2507

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.551 ug/l	25.51	5.3	900	6	P
23	Na	2	2296.000 ug/l	22,960.00	0.6	450000	45	A
24	Mg	2	4650.000 ug/l	46,500.00	0.7	450000	45	A
27	Al	2	2822.000 ug/l	28,220.00	1.6	450000	45	P
31	P	2	1710.000 ug/l	17,100.00	4.4	450000	45	P
39	K	2	681.500 ug/l	6,815.00	2.2	450000	45	P
40	Ca	1	2332.000 ug/l	23,320.00	3.3	450000	45	A
47	Ti	2	61.300 ug/l	613.00	3.4	4500	74	P
51	V	2	79.470 ug/l	794.70	1.6	4500	74	P
52	Cr	2	17.350 ug/l	173.50	0.1	4500	74	P
55	Mn	2	2974.000 ug/l	29,740.00	2.1	4500	74	A
56	Fe	1	276500.000 ug/l	2,765,000.00	1.7	450000	74	A
59	Co	2	33.170 ug/l	331.70	2.4	4500	74	P
60	Ni	2	81.100 ug/l	811.00	1.9	4500	74	P
63	Cu	2	13.560 ug/l	135.60	2.1	4500	74	P
66	Zn	2	131.500 ug/l	1,315.00	0.2	4500	74	P
75	As	2	79.210 ug/l	792.10	3.1	4500	74	P
78	Se	1	0.704 ug/l	7.04	29.7	4500	74	P
88	Sr	3	47.150 ug/l	471.50	1.3	4500	74	P
95	Mo	3	10.860 ug/l	108.60	3.4	4500	74	P
109	Ag	3	0.016 ug/l	0.16	47.3	900	103	P
111	Cd	3	0.864 ug/l	8.64	8.8	4500	103	P
118	Sn	3	0.183 ug/l	1.83	18.4	4500	103	P
121	Sb	3	1.995 ug/l	19.95	0.6	4500	103	P
135	Ba	3	298.700 ug/l	2,987.00	0.9	4500	103	P
200	Hg	3	0.029 ug/l	0.29	20.2	45	209	P
205	Tl	3	0.205 ug/l	2.05	4.2	4500	209	P
208	Pb	3	26.210 ug/l	262.10	1.6	4500	209	P
238	U	3	1.661 ug/l	16.61	3.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180948	0.54	198400	91.2	30 - 125
45	Sc	1	3232561	2.20	3760000	86.0	30 - 125
45	Sc	2	1356890	1.03	1428000	95.0	30 - 125
74	Ge	1	3211952	2.37	3683000	87.2	30 - 125
74	Ge	2	2472244	1.47	2627000	94.1	30 - 125
74	Ge	3	9960492	0.32	10940000	91.0	30 - 125
103	Rh	2	3447350	1.18	3842000	89.7	30 - 125
103	Rh	3	6537880	0.47	7414000	88.2	30 - 125
165	Ho	3	5279000	1.28	5459000	96.7	30 - 125
175	Lu	3	6035040	0.07	6180000	97.7	30 - 125
209	Bi	3	5820255	0.75	6220000	93.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\074SMPL.D\074SMPL.D#  
 Date Acquired: Sep 13 2010 06:35 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-7-C Vial Number: 2508

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.883 ug/l	28.83	11.5	900	6	P
23	Na	2	3995.000 ug/l	39,950.00	1.0	450000	45	A
24	Mg	2	5226.000 ug/l	52,260.00	0.1	450000	45	A
27	Al	2	3829.000 ug/l	38,290.00	0.2	450000	45	P
31	P	2	1841.000 ug/l	18,410.00	1.7	450000	45	P
39	K	2	942.200 ug/l	9,422.00	0.3	450000	45	P
40	Ca	1	3251.000 ug/l	32,510.00	2.6	450000	45	A
47	Ti	2	79.110 ug/l	791.10	1.8	4500	74	P
51	V	2	111.400 ug/l	1,114.00	0.9	4500	74	P
52	Cr	2	29.450 ug/l	294.50	1.3	4500	74	P
55	Mn	2	3368.000 ug/l	33,680.00	0.7	4500	74	A
56	Fe	1	299100.000 ug/l	2,991,000.00	2.5	450000	74	A
59	Co	2	36.530 ug/l	365.30	0.8	4500	74	P
60	Ni	2	84.490 ug/l	844.90	1.0	4500	74	P
63	Cu	2	29.690 ug/l	296.90	1.9	4500	74	P
66	Zn	2	171.800 ug/l	1,718.00	0.8	4500	74	P
75	As	2	57.530 ug/l	575.30	0.6	4500	74	P
78	Se	1	0.610 ug/l	6.10	9.8	4500	74	P
88	Sr	3	56.670 ug/l	566.70	0.9	4500	74	P
95	Mo	3	12.510 ug/l	125.10	2.4	4500	74	P
109	Ag	3	0.031 ug/l	0.31	28.8	900	103	P
111	Cd	3	0.920 ug/l	9.20	5.2	4500	103	P
118	Sn	3	1.368 ug/l	13.68	2.1	4500	103	P
121	Sb	3	4.733 ug/l	47.33	1.8	4500	103	P
135	Ba	3	206.700 ug/l	2,067.00	0.5	4500	103	P
200	Hg	3	0.015 ug/l	0.15	7.0	45	209	P
205	Tl	3	0.107 ug/l	1.07	8.2	4500	209	P
208	Pb	3	357.000 ug/l	3,570.00	1.3	4500	209	A
238	U	3	2.306 ug/l	23.06	1.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177981	1.60	198400	89.7	30 - 125
45	Sc	1	3231167	3.48	3760000	85.9	30 - 125
45	Sc	2	1377976	1.30	1428000	96.5	30 - 125
74	Ge	1	3204474	2.07	3683000	87.0	30 - 125
74	Ge	2	2468822	1.10	2627000	94.0	30 - 125
74	Ge	3	10005840	0.75	10940000	91.5	30 - 125
103	Rh	2	3401830	1.67	3842000	88.5	30 - 125
103	Rh	3	6534324	0.92	7414000	88.1	30 - 125
165	Ho	3	5321003	1.17	5459000	97.5	30 - 125
175	Lu	3	6064150	1.07	6180000	98.1	30 - 125
209	Bi	3	5801460	0.84	6220000	93.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\075SMPL.D\075SMPL.D#  
 Date Acquired: Sep 13 2010 06:41 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-8-C Vial Number: 2509  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.985 ug/l	29.85	2.3	900	6	P
23	Na	2	3830.000 ug/l	38,300.00	2.8	450000	45	A
24	Mg	2	5979.000 ug/l	59,790.00	1.9	450000	45	A
27	Al	2	4084.000 ug/l	40,840.00	0.1	450000	45	M
31	P	2	2686.000 ug/l	26,860.00	1.7	450000	45	P
39	K	2	1062.000 ug/l	10,620.00	2.0	450000	45	P
40	Ca	1	6968.000 ug/l	69,680.00	2.1	450000	45	A
47	Ti	2	85.100 ug/l	851.00	4.6	4500	74	P
51	V	2	125.200 ug/l	1,252.00	2.1	4500	74	P
52	Cr	2	30.290 ug/l	302.90	2.1	4500	74	P
55	Mn	2	6619.000 ug/l	66,190.00	0.6	4500	74	A Fail
56	Fe	1	489900.000 ug/l	4,899,000.00	2.9	450000	74	A Fail
59	Co	2	39.810 ug/l	398.10	1.3	4500	74	P
60	Ni	2	80.550 ug/l	805.50	0.9	4500	74	P
63	Cu	2	20.200 ug/l	202.00	3.4	4500	74	P
66	Zn	2	159.900 ug/l	1,599.00	0.8	4500	74	P
75	As	2	89.700 ug/l	897.00	1.3	4500	74	P
78	Se	1	0.446 ug/l	4.46	26.4	4500	74	P
88	Sr	3	66.820 ug/l	668.20	0.8	4500	74	P
95	Mo	3	10.710 ug/l	107.10	5.1	4500	74	P
109	Ag	3	0.010 ug/l	0.10	49.8	900	103	P
111	Cd	3	0.900 ug/l	9.00	3.2	4500	103	P
118	Sn	3	0.353 ug/l	3.53	9.3	4500	103	P
121	Sb	3	2.104 ug/l	21.04	0.4	4500	103	P
135	Ba	3	335.800 ug/l	3,358.00	0.8	4500	103	P
200	Hg	3	0.034 ug/l	0.34	9.7	45	209	P
205	Tl	3	0.154 ug/l	1.54	4.6	4500	209	P
208	Pb	3	48.070 ug/l	480.70	1.2	4500	209	P
238	U	3	1.890 ug/l	18.90	0.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	174593	0.43	198400	88.0	30 - 125
45	Sc	1	3167155	3.09	3760000	84.2	30 - 125
45	Sc	2	1326961	1.23	1428000	92.9	30 - 125
74	Ge	1	3086252	3.47	3683000	83.8	30 - 125
74	Ge	2	2392819	0.83	2627000	91.1	30 - 125
74	Ge	3	9693089	0.53	10940000	88.6	30 - 125
103	Rh	2	3317942	0.36	3842000	86.4	30 - 125
103	Rh	3	6402083	1.35	7414000	86.4	30 - 125
165	Ho	3	5189465	1.01	5459000	95.1	30 - 125
175	Lu	3	5904361	0.30	6180000	95.5	30 - 125
209	Bi	3	5635169	0.80	6220000	90.6	30 - 125

**Analytes: Fail ISTD: Pass**  
 2 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\076SMPL.D\076SMPL.D#  
 Date Acquired: Sep 13 2010 06:48 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-9-C Vial Number: 2510

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.637 ug/l	26.37	8.1	900	6	P
23	Na	2	3608.000 ug/l	36,080.00	0.8	450000	45	A
24	Mg	2	4548.000 ug/l	45,480.00	0.4	450000	45	A
27	Al	2	3795.000 ug/l	37,950.00	1.6	450000	45	P
31	P	2	1847.000 ug/l	18,470.00	2.0	450000	45	P
39	K	2	971.600 ug/l	9,716.00	2.0	450000	45	P
40	Ca	1	2465.000 ug/l	24,650.00	2.8	450000	45	A
47	Ti	2	81.730 ug/l	817.30	6.9	4500	74	P
51	V	2	108.300 ug/l	1,083.00	1.9	4500	74	P
52	Cr	2	23.820 ug/l	238.20	2.7	4500	74	P
55	Mn	2	2527.000 ug/l	25,270.00	0.8	4500	74	A
56	Fe	1	269900.000 ug/l	2,699,000.00	2.0	450000	74	A
59	Co	2	32.010 ug/l	320.10	1.9	4500	74	P
60	Ni	2	71.200 ug/l	712.00	2.0	4500	74	P
63	Cu	2	30.640 ug/l	306.40	1.2	4500	74	P
66	Zn	2	179.100 ug/l	1,791.00	1.8	4500	74	P
75	As	2	58.330 ug/l	583.30	1.3	4500	74	P
78	Se	1	0.426 ug/l	4.26	44.3	4500	74	P
88	Sr	3	66.490 ug/l	664.90	1.0	4500	74	P
95	Mo	3	10.190 ug/l	101.90	2.1	4500	74	P
109	Ag	3	0.032 ug/l	0.32	33.1	900	103	P
111	Cd	3	0.870 ug/l	8.70	5.7	4500	103	P
118	Sn	3	1.100 ug/l	11.00	3.1	4500	103	P
121	Sb	3	2.454 ug/l	24.54	3.3	4500	103	P
135	Ba	3	187.400 ug/l	1,874.00	1.4	4500	103	P
200	Hg	3	0.026 ug/l	0.26	5.0	45	209	P
205	Tl	3	0.094 ug/l	0.94	7.2	4500	209	P
208	Pb	3	35.430 ug/l	354.30	0.4	4500	209	P
238	U	3	1.714 ug/l	17.14	2.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	176935	0.52	198400	89.2	30 - 125
45	Sc	1	3087845	3.17	3760000	82.1	30 - 125
45	Sc	2	1347637	1.20	1428000	94.4	30 - 125
74	Ge	1	3077017	1.59	3683000	83.5	30 - 125
74	Ge	2	2435846	0.80	2627000	92.7	30 - 125
74	Ge	3	9905252	0.89	10940000	90.5	30 - 125
103	Rh	2	3419126	0.50	3842000	89.0	30 - 125
103	Rh	3	6544688	0.66	7414000	88.3	30 - 125
165	Ho	3	5279376	0.19	5459000	96.7	30 - 125
175	Lu	3	5983778	0.98	6180000	96.8	30 - 125
209	Bi	3	5753130	0.40	6220000	92.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\077SMPL.D\077SMPL.D#  
 Date Acquired: Sep 13 2010 06:55 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	48.970 ug/l	48.97	1.4	900	6	P
23	Na	2	4813.000 ug/l	4,813.00	1.0	450000	45	A
24	Mg	2	4904.000 ug/l	4,904.00	1.3	450000	45	A
27	Al	2	488.300 ug/l	488.30	1.2	450000	45	P
31	P	2	4825.000 ug/l	4,825.00	1.7	450000	45	P
39	K	2	5047.000 ug/l	5,047.00	1.6	450000	45	A
40	Ca	1	4794.000 ug/l	4,794.00	1.4	450000	45	A
47	Ti	2	48.030 ug/l	48.03	0.2	4500	74	P
51	V	2	47.830 ug/l	47.83	0.8	4500	74	P
52	Cr	2	47.900 ug/l	47.90	1.7	4500	74	P
55	Mn	2	49.000 ug/l	49.00	1.3	4500	74	P
56	Fe	1	4916.000 ug/l	4,916.00	2.1	450000	74	A
59	Co	2	47.910 ug/l	47.91	1.4	4500	74	P
60	Ni	2	47.730 ug/l	47.73	2.5	4500	74	P
63	Cu	2	47.990 ug/l	47.99	2.0	4500	74	P
66	Zn	2	49.630 ug/l	49.63	3.0	4500	74	P
75	As	2	48.600 ug/l	48.60	1.6	4500	74	P
78	Se	1	50.020 ug/l	50.02	0.7	4500	74	P
88	Sr	3	49.620 ug/l	49.62	0.8	4500	74	P
95	Mo	3	49.880 ug/l	49.88	1.0	4500	74	P
109	Ag	3	50.170 ug/l	50.17	2.4	900	103	P
111	Cd	3	50.220 ug/l	50.22	2.0	4500	103	P
118	Sn	3	50.100 ug/l	50.10	2.5	4500	103	P
121	Sb	3	51.130 ug/l	51.13	2.4	4500	103	P
135	Ba	3	51.290 ug/l	51.29	1.0	4500	103	P
200	Hg	3	2.467 ug/l	2.47	4.3	45	209	P
205	Tl	3	51.120 ug/l	51.12	2.4	4500	209	P
208	Pb	3	50.510 ug/l	50.51	0.9	4500	209	P
238	U	3	49.240 ug/l	49.24	0.5	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183699	2.47	198400	92.6	30 - 125
45	Sc	1	3046559	2.33	3760000	81.0	30 - 125
45	Sc	2	1425086	2.67	1428000	99.8	30 - 125
74	Ge	1	3114979	2.68	3683000	84.6	30 - 125
74	Ge	2	2640501	1.72	2627000	100.5	30 - 125
74	Ge	3	10897015	0.37	10940000	99.6	30 - 125
103	Rh	2	3722343	1.63	3842000	96.9	30 - 125
103	Rh	3	7262766	1.77	7414000	98.0	30 - 125
165	Ho	3	5612728	1.23	5459000	102.8	30 - 125
175	Lu	3	6375076	1.48	6180000	103.2	30 - 125
209	Bi	3	6253930	0.84	6220000	100.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\078SMPL.D\078SMPL.D#  
 Date Acquired: Sep 13 2010 07:02 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	91.1	900	6	P
23	Na	2	-6.422 ug/l	-6.42	5.4	450000	45	P
24	Mg	2	0.314 ug/l	0.31	25.1	450000	45	P
27	Al	2	1.922 ug/l	1.92	42.3	450000	45	P
31	P	2	-4.209 ug/l	-4.21	102.1	450000	45	P
39	K	2	-2.695 ug/l	-2.70	105.5	450000	45	P
40	Ca	1	0.613 ug/l	0.61	30.4	450000	45	P
47	Ti	2	0.006 ug/l	0.01	249.9	4500	74	P
51	V	2	-0.754 ug/l	-0.75	2.3	4500	74	P
52	Cr	2	-0.065 ug/l	-0.07	46.5	4500	74	P
55	Mn	2	0.661 ug/l	0.66	3.1	4500	74	P
56	Fe	1	1.230 ug/l	1.23	2.9	450000	74	P
59	Co	2	0.002 ug/l	0.00	162.5	4500	74	P
60	Ni	2	-0.032 ug/l	-0.03	159.9	4500	74	P
63	Cu	2	0.049 ug/l	0.05	23.5	4500	74	P
66	Zn	2	0.120 ug/l	0.12	58.2	4500	74	P
75	As	2	-0.212 ug/l	-0.21	71.0	4500	74	P
78	Se	1	-0.071 ug/l	-0.07	58.3	4500	74	P
88	Sr	3	-0.027 ug/l	-0.03	20.1	4500	74	P
95	Mo	3	-0.003 ug/l	0.00	212.0	4500	74	P
109	Ag	3	0.002 ug/l	0.00	213.7	900	103	P
111	Cd	3	0.012 ug/l	0.01	60.9	4500	103	P
118	Sn	3	0.044 ug/l	0.04	25.7	4500	103	P
121	Sb	3	0.033 ug/l	0.03	3.4	4500	103	P
135	Ba	3	-0.117 ug/l	-0.12	35.0	4500	103	P
200	Hg	3	0.005 ug/l	0.01	50.5	45	209	P
205	Tl	3	0.274 ug/l	0.27	3.2	4500	209	P
208	Pb	3	0.012 ug/l	0.01	15.6	4500	209	P
238	U	3	0.002 ug/l	0.00	7.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	194188	1.07	198400	97.9	30 - 125
45	Sc	1	3057269	2.39	3760000	81.3	30 - 125
45	Sc	2	1505157	1.49	1428000	105.4	30 - 125
74	Ge	1	3131399	1.02	3683000	85.0	30 - 125
74	Ge	2	2811280	0.33	2627000	107.0	30 - 125
74	Ge	3	11278929	0.26	10940000	103.1	30 - 125
103	Rh	2	3982143	1.57	3842000	103.6	30 - 125
103	Rh	3	7771187	1.38	7414000	104.8	30 - 125
165	Ho	3	5808168	1.18	5459000	106.4	30 - 125
175	Lu	3	6561214	1.13	6180000	106.2	30 - 125
209	Bi	3	6638521	0.49	6220000	106.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\079SMPL.D\079SMPL.D#  
 Date Acquired: Sep 13 2010 07:09 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-10-C Vial Number: 3101

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	3.900 ug/l	39.00	5.6	900	6	P
23	Na	2	2924.000 ug/l	29,240.00	0.4	450000	45	A
24	Mg	2	4283.000 ug/l	42,830.00	0.9	450000	45	A
27	Al	2	3062.000 ug/l	30,620.00	0.9	450000	45	P
31	P	2	1548.000 ug/l	15,480.00	2.7	450000	45	P
39	K	2	777.700 ug/l	7,777.00	1.9	450000	45	P
40	Ca	1	1921.000 ug/l	19,210.00	4.0	450000	45	A
47	Ti	2	74.010 ug/l	740.10	1.0	4500	74	P
51	V	2	109.700 ug/l	1,097.00	1.3	4500	74	P
52	Cr	2	22.820 ug/l	228.20	1.8	4500	74	P
55	Mn	2	2698.000 ug/l	26,980.00	0.6	4500	74	A
56	Fe	1	251100.000 ug/l	2,511,000.00	1.4	450000	74	A
59	Co	2	25.830 ug/l	258.30	1.1	4500	74	P
60	Ni	2	57.290 ug/l	572.90	2.1	4500	74	P
63	Cu	2	19.300 ug/l	193.00	1.4	4500	74	P
66	Zn	2	159.700 ug/l	1,597.00	0.7	4500	74	P
75	As	2	54.650 ug/l	546.50	0.8	4500	74	P
78	Se	1	0.534 ug/l	5.34	8.7	4500	74	P
88	Sr	3	36.990 ug/l	369.90	1.3	4500	74	P
95	Mo	3	10.750 ug/l	107.50	3.2	4500	74	P
109	Ag	3	0.018 ug/l	0.18	37.9	900	103	P
111	Cd	3	1.009 ug/l	10.09	9.3	4500	103	P
118	Sn	3	7.790 ug/l	77.90	3.0	4500	103	P
121	Sb	3	2.052 ug/l	20.52	1.8	4500	103	P
135	Ba	3	184.900 ug/l	1,849.00	1.9	4500	103	P
200	Hg	3	0.034 ug/l	0.34	8.7	45	209	P
205	Tl	3	0.166 ug/l	1.66	1.5	4500	209	P
208	Pb	3	35.590 ug/l	355.90	0.2	4500	209	P
238	U	3	2.081 ug/l	20.81	0.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	184601	1.03	198400	93.0	30 - 125
45	Sc	1	3054331	4.19	3760000	81.2	30 - 125
45	Sc	2	1423997	1.29	1428000	99.7	30 - 125
74	Ge	1	3040895	3.11	3683000	82.6	30 - 125
74	Ge	2	2560494	0.83	2627000	97.5	30 - 125
74	Ge	3	10051017	0.53	10940000	91.9	30 - 125
103	Rh	2	3554463	1.03	3842000	92.5	30 - 125
103	Rh	3	6695304	1.00	7414000	90.3	30 - 125
165	Ho	3	5385910	0.60	5459000	98.7	30 - 125
175	Lu	3	6126919	0.52	6180000	99.1	30 - 125
209	Bi	3	5891401	0.45	6220000	94.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\080SMPL.D\080SMPL.D#  
 Date Acquired: Sep 13 2010 07:16 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-12-C Vial Number: 3102  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.269 ug/l	22.69	7.6	900	6	P
23	Na	2	1979.000 ug/l	19,790.00	0.8	450000	45	A
24	Mg	2	2994.000 ug/l	29,940.00	0.6	450000	45	A
27	Al	2	2510.000 ug/l	25,100.00	0.2	450000	45	P
31	P	2	1039.000 ug/l	10,390.00	4.4	450000	45	P
39	K	2	654.300 ug/l	6,543.00	1.2	450000	45	P
40	Ca	1	1201.000 ug/l	12,010.00	4.0	450000	45	A
47	Ti	2	64.370 ug/l	643.70	1.2	4500	74	P
51	V	2	66.570 ug/l	665.70	1.3	4500	74	P
52	Cr	2	15.650 ug/l	156.50	0.7	4500	74	P
55	Mn	2	1744.000 ug/l	17,440.00	0.5	4500	74	A
56	Fe	1	173000.000 ug/l	1,730,000.00	2.8	450000	74	A
59	Co	2	22.730 ug/l	227.30	1.2	4500	74	P
60	Ni	2	47.210 ug/l	472.10	0.6	4500	74	P
63	Cu	2	12.270 ug/l	122.70	2.4	4500	74	P
66	Zn	2	100.400 ug/l	1,004.00	3.4	4500	74	P
75	As	2	25.060 ug/l	250.60	2.2	4500	74	P
78	Se	1	0.189 ug/l	1.89	40.0	4500	74	P
88	Sr	3	24.740 ug/l	247.40	0.6	4500	74	P
95	Mo	3	6.683 ug/l	66.83	1.4	4500	74	P
109	Ag	3	0.015 ug/l	0.15	14.8	900	103	P
111	Cd	3	0.708 ug/l	7.08	13.8	4500	103	P
118	Sn	3	0.307 ug/l	3.07	10.2	4500	103	P
121	Sb	3	1.345 ug/l	13.45	0.7	4500	103	P
135	Ba	3	90.390 ug/l	903.90	0.2	4500	103	P
200	Hg	3	0.010 ug/l	0.10	54.4	45	209	P
205	Tl	3	0.120 ug/l	1.20	2.2	4500	209	P
208	Pb	3	28.500 ug/l	285.00	1.7	4500	209	P
238	U	3	1.161 ug/l	11.61	1.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185207	1.11	198400	93.4	30 - 125
45	Sc	1	3062085	3.93	3760000	81.4	30 - 125
45	Sc	2	1425398	0.36	1428000	99.8	30 - 125
74	Ge	1	3064803	2.15	3683000	83.2	30 - 125
74	Ge	2	2563342	0.65	2627000	97.6	30 - 125
74	Ge	3	10322876	1.18	10940000	94.4	30 - 125
103	Rh	2	3574679	0.88	3842000	93.0	30 - 125
103	Rh	3	6810466	0.85	7414000	91.9	30 - 125
165	Ho	3	5386059	0.66	5459000	98.7	30 - 125
175	Lu	3	6073344	0.64	6180000	98.3	30 - 125
209	Bi	3	5957281	0.44	6220000	95.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\081SMPL.D\081SMPL.D#  
 Date Acquired: Sep 13 2010 07:23 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-13-C Vial Number: 3103  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	3.641 ug/l	36.41	11.3	900	6	P
23	Na	2	1073.000 ug/l	10,730.00	1.6	450000	45	A
24	Mg	2	5147.000 ug/l	51,470.00	1.6	450000	45	A
27	Al	2	3838.000 ug/l	38,380.00	1.4	450000	45	P
31	P	2	2201.000 ug/l	22,010.00	2.3	450000	45	P
39	K	2	825.100 ug/l	8,251.00	1.6	450000	45	P
40	Ca	1	2573.000 ug/l	25,730.00	1.8	450000	45	A
47	Ti	2	93.440 ug/l	934.40	10.1	4500	74	P
51	V	2	116.400 ug/l	1,164.00	1.4	4500	74	P
52	Cr	2	23.220 ug/l	232.20	1.4	4500	74	P
55	Mn	2	3642.000 ug/l	36,420.00	2.3	4500	74	A
56	Fe	1	332100.000 ug/l	3,321,000.00	0.6	450000	74	A
59	Co	2	44.760 ug/l	447.60	0.7	4500	74	P
60	Ni	2	94.680 ug/l	946.80	0.4	4500	74	P
63	Cu	2	24.180 ug/l	241.80	3.1	4500	74	P
66	Zn	2	220.300 ug/l	2,203.00	1.6	4500	74	P
75	As	2	73.800 ug/l	738.00	0.7	4500	74	P
78	Se	1	0.931 ug/l	9.31	8.2	4500	74	P
88	Sr	3	44.020 ug/l	440.20	1.7	4500	74	P
95	Mo	3	12.150 ug/l	121.50	4.4	4500	74	P
109	Ag	3	0.028 ug/l	0.28	40.2	900	103	P
111	Cd	3	1.153 ug/l	11.53	6.1	4500	103	P
118	Sn	3	0.389 ug/l	3.89	8.6	4500	103	P
121	Sb	3	2.845 ug/l	28.45	1.6	4500	103	P
135	Ba	3	161.100 ug/l	1,611.00	2.2	4500	103	P
200	Hg	3	0.027 ug/l	0.27	20.0	45	209	P
205	Tl	3	0.114 ug/l	1.14	6.0	4500	209	P
208	Pb	3	64.180 ug/l	641.80	1.6	4500	209	P
238	U	3	2.490 ug/l	24.90	2.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177425	1.16	198400	89.4	30 - 125
45	Sc	1	3074279	3.00	3760000	81.8	30 - 125
45	Sc	2	1373908	2.16	1428000	96.2	30 - 125
74	Ge	1	3039659	1.69	3683000	82.5	30 - 125
74	Ge	2	2435155	1.03	2627000	92.7	30 - 125
74	Ge	3	9639479	0.25	10940000	88.1	30 - 125
103	Rh	2	3369127	1.16	3842000	87.7	30 - 125
103	Rh	3	6448891	0.84	7414000	87.0	30 - 125
165	Ho	3	5175027	1.07	5459000	94.8	30 - 125
175	Lu	3	5853118	0.42	6180000	94.7	30 - 125
209	Bi	3	5688656	1.08	6220000	91.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\082SMPL.D\082SMPL.D#  
 Date Acquired: Sep 13 2010 07:30 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-14-C Vial Number: 3104

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.328 ug/l	23.28	4.0	900	6	P
23	Na	2	746.400 ug/l	7,464.00	1.2	450000	45	P
24	Mg	2	4291.000 ug/l	42,910.00	1.1	450000	45	A
27	Al	2	2957.000 ug/l	29,570.00	1.0	450000	45	P
31	P	2	1633.000 ug/l	16,330.00	1.6	450000	45	P
39	K	2	749.400 ug/l	7,494.00	1.5	450000	45	P
40	Ca	1	1956.000 ug/l	19,560.00	2.0	450000	45	A
47	Ti	2	54.710 ug/l	547.10	0.5	4500	74	P
51	V	2	78.600 ug/l	786.00	1.6	4500	74	P
52	Cr	2	18.740 ug/l	187.40	1.4	4500	74	P
55	Mn	2	2726.000 ug/l	27,260.00	1.4	4500	74	A
56	Fe	1	250400.000 ug/l	2,504,000.00	2.9	450000	74	A
59	Co	2	22.970 ug/l	229.70	0.5	4500	74	P
60	Ni	2	50.010 ug/l	500.10	1.2	4500	74	P
63	Cu	2	16.660 ug/l	166.60	2.9	4500	74	P
66	Zn	2	134.700 ug/l	1,347.00	0.7	4500	74	P
75	As	2	41.480 ug/l	414.80	0.8	4500	74	P
78	Se	1	0.563 ug/l	5.63	15.2	4500	74	P
88	Sr	3	40.140 ug/l	401.40	0.7	4500	74	P
95	Mo	3	8.539 ug/l	85.39	2.0	4500	74	P
109	Ag	3	0.014 ug/l	0.14	92.2	900	103	P
111	Cd	3	0.843 ug/l	8.43	5.8	4500	103	P
118	Sn	3	0.787 ug/l	7.87	9.9	4500	103	P
121	Sb	3	1.507 ug/l	15.07	3.6	4500	103	P
135	Ba	3	225.700 ug/l	2,257.00	2.6	4500	103	P
200	Hg	3	0.016 ug/l	0.16	28.0	45	209	P
205	Tl	3	0.108 ug/l	1.08	5.0	4500	209	P
208	Pb	3	37.960 ug/l	379.60	1.9	4500	209	P
238	U	3	1.808 ug/l	18.08	2.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178483	1.27	198400	90.0	30 - 125
45	Sc	1	2942590	1.18	3760000	78.3	30 - 125
45	Sc	2	1330174	0.32	1428000	93.1	30 - 125
74	Ge	1	2972428	1.67	3683000	80.7	30 - 125
74	Ge	2	2435059	1.42	2627000	92.7	30 - 125
74	Ge	3	9852974	0.42	10940000	90.1	30 - 125
103	Rh	2	3446979	0.77	3842000	89.7	30 - 125
103	Rh	3	6534909	1.54	7414000	88.1	30 - 125
165	Ho	3	5185761	0.89	5459000	95.0	30 - 125
175	Lu	3	5931228	0.89	6180000	96.0	30 - 125
209	Bi	3	5706875	0.91	6220000	91.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\083SMPL.D\083SMPL.D#  
 Date Acquired: Sep 13 2010 07:37 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-15-C Vial Number: 3105

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.809 ug/l	18.09	9.2	900	6	P
23	Na	2	623.600 ug/l	6,236.00	2.5	450000	45	P
24	Mg	2	2996.000 ug/l	29,960.00	3.9	450000	45	A
27	Al	2	3135.000 ug/l	31,350.00	2.2	450000	45	P
31	P	2	1128.000 ug/l	11,280.00	0.5	450000	45	P
39	K	2	656.700 ug/l	6,567.00	3.0	450000	45	P
40	Ca	1	1579.000 ug/l	15,790.00	1.5	450000	45	A
47	Ti	2	90.060 ug/l	900.60	0.3	4500	74	P
51	V	2	57.210 ug/l	572.10	0.5	4500	74	P
52	Cr	2	13.300 ug/l	133.00	1.5	4500	74	P
55	Mn	2	1818.000 ug/l	18,180.00	1.2	4500	74	A
56	Fe	1	176500.000 ug/l	1,765,000.00	3.2	450000	74	A
59	Co	2	22.210 ug/l	222.10	0.9	4500	74	P
60	Ni	2	46.300 ug/l	463.00	2.8	4500	74	P
63	Cu	2	13.970 ug/l	139.70	1.3	4500	74	P
66	Zn	2	129.600 ug/l	1,296.00	2.1	4500	74	P
75	As	2	35.690 ug/l	356.90	2.7	4500	74	P
78	Se	1	0.280 ug/l	2.80	10.7	4500	74	P
88	Sr	3	24.850 ug/l	248.50	1.3	4500	74	P
95	Mo	3	6.290 ug/l	62.90	6.9	4500	74	P
109	Ag	3	0.004 ug/l	0.04	140.4	900	103	P
111	Cd	3	0.508 ug/l	5.08	14.0	4500	103	P
118	Sn	3	0.257 ug/l	2.57	6.3	4500	103	P
121	Sb	3	1.287 ug/l	12.87	2.3	4500	103	P
135	Ba	3	109.500 ug/l	1,095.00	1.0	4500	103	P
200	Hg	3	0.015 ug/l	0.15	49.2	45	209	P
205	Tl	3	0.079 ug/l	0.79	6.0	4500	209	P
208	Pb	3	26.330 ug/l	263.30	1.3	4500	209	P
238	U	3	0.978 ug/l	9.78	4.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179678	0.84	198400	90.6	30 - 125
45	Sc	1	2924701	3.89	3760000	77.8	30 - 125
45	Sc	2	1363675	1.87	1428000	95.5	30 - 125
74	Ge	1	2962933	3.08	3683000	80.4	30 - 125
74	Ge	2	2473164	0.38	2627000	94.1	30 - 125
74	Ge	3	10025575	0.66	10940000	91.6	30 - 125
103	Rh	2	3505157	0.92	3842000	91.2	30 - 125
103	Rh	3	6709153	1.40	7414000	90.5	30 - 125
165	Ho	3	5267494	0.80	5459000	96.5	30 - 125
175	Lu	3	5992488	0.37	6180000	97.0	30 - 125
209	Bi	3	5842886	0.83	6220000	93.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\084SMPL.D\084SMPL.D#  
 Date Acquired: Sep 13 2010 07:44 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	48.720 ug/l	48.72	1.7	900	6	P
23	Na	2	4936.000 ug/l	4,936.00	0.7	450000	45	A
24	Mg	2	5045.000 ug/l	5,045.00	1.3	450000	45	A
27	Al	2	502.200 ug/l	502.20	0.5	450000	45	P
31	P	2	4909.000 ug/l	4,909.00	1.6	450000	45	P
39	K	2	5076.000 ug/l	5,076.00	2.0	450000	45	A
40	Ca	1	4621.000 ug/l	4,621.00	3.1	450000	45	A
47	Ti	2	49.140 ug/l	49.14	2.0	4500	74	P
51	V	2	46.800 ug/l	46.80	0.7	4500	74	P
52	Cr	2	47.810 ug/l	47.81	0.6	4500	74	P
55	Mn	2	48.890 ug/l	48.89	0.4	4500	74	P
56	Fe	1	4886.000 ug/l	4,886.00	1.4	450000	74	A
59	Co	2	47.430 ug/l	47.43	0.4	4500	74	P
60	Ni	2	46.470 ug/l	46.47	2.1	4500	74	P
63	Cu	2	47.030 ug/l	47.03	0.1	4500	74	P
66	Zn	2	48.680 ug/l	48.68	1.8	4500	74	P
75	As	2	49.020 ug/l	49.02	1.9	4500	74	P
78	Se	1	49.910 ug/l	49.91	2.2	4500	74	P
88	Sr	3	49.470 ug/l	49.47	0.2	4500	74	P
95	Mo	3	50.470 ug/l	50.47	1.1	4500	74	P
109	Ag	3	49.770 ug/l	49.77	1.5	900	103	P
111	Cd	3	50.950 ug/l	50.95	1.4	4500	103	P
118	Sn	3	50.190 ug/l	50.19	2.2	4500	103	P
121	Sb	3	50.530 ug/l	50.53	1.8	4500	103	P
135	Ba	3	51.080 ug/l	51.08	1.9	4500	103	P
200	Hg	3	2.475 ug/l	2.48	2.0	45	209	P
205	Tl	3	50.150 ug/l	50.15	2.5	4500	209	P
208	Pb	3	50.160 ug/l	50.16	2.3	4500	209	P
238	U	3	49.760 ug/l	49.76	2.3	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183250	1.33	198400	92.4	30 - 125
45	Sc	1	2901078	2.07	3760000	77.2	30 - 125
45	Sc	2	1377888	1.86	1428000	96.5	30 - 125
74	Ge	1	2962049	2.16	3683000	80.4	30 - 125
74	Ge	2	2618827	1.55	2627000	99.7	30 - 125
74	Ge	3	10813161	0.38	10940000	98.8	30 - 125
103	Rh	2	3655918	0.69	3842000	95.2	30 - 125
103	Rh	3	7273080	1.04	7414000	98.1	30 - 125
165	Ho	3	5561602	0.93	5459000	101.9	30 - 125
175	Lu	3	6273171	0.57	6180000	101.5	30 - 125
209	Bi	3	6220233	1.45	6220000	100.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\085SMPL.D\085SMPL.D#  
 Date Acquired: Sep 13 2010 07:51 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	-7.821 ug/l	-7.82	12.0	450000	45	P
24	Mg	2	0.261 ug/l	0.26	50.4	450000	45	P
27	Al	2	1.638 ug/l	1.64	41.8	450000	45	P
31	P	2	-7.569 ug/l	-7.57	53.4	450000	45	P
39	K	2	-2.656 ug/l	-2.66	70.1	450000	45	P
40	Ca	1	0.531 ug/l	0.53	68.9	450000	45	P
47	Ti	2	0.001 ug/l	0.00	2867.6	4500	74	P
51	V	2	-0.709 ug/l	-0.71	4.2	4500	74	P
52	Cr	2	-0.053 ug/l	-0.05	34.5	4500	74	P
55	Mn	2	0.505 ug/l	0.51	0.7	4500	74	P
56	Fe	1	1.427 ug/l	1.43	3.0	450000	74	P
59	Co	2	0.002 ug/l	0.00	84.5	4500	74	P
60	Ni	2	-0.016 ug/l	-0.02	58.2	4500	74	P
63	Cu	2	0.031 ug/l	0.03	37.6	4500	74	P
66	Zn	2	0.193 ug/l	0.19	26.2	4500	74	P
75	As	2	-0.148 ug/l	-0.15	220.7	4500	74	P
78	Se	1	-0.044 ug/l	-0.04	124.7	4500	74	P
88	Sr	3	-0.016 ug/l	-0.02	43.4	4500	74	P
95	Mo	3	0.001 ug/l	0.00	19.4	4500	74	P
109	Ag	3	0.004 ug/l	0.00	148.2	900	103	P
111	Cd	3	0.000 ug/l	0.00	9721.8	4500	103	P
118	Sn	3	0.047 ug/l	0.05	24.8	4500	103	P
121	Sb	3	0.023 ug/l	0.02	16.3	4500	103	P
135	Ba	3	-0.079 ug/l	-0.08	65.2	4500	103	P
200	Hg	3	0.002 ug/l	0.00	253.5	45	209	P
205	Tl	3	0.274 ug/l	0.27	6.0	4500	209	P
208	Pb	3	0.011 ug/l	0.01	40.4	4500	209	P
238	U	3	0.002 ug/l	0.00	36.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	192425	1.36	198400	97.0	30 - 125
45	Sc	1	2818763	4.10	3760000	75.0	30 - 125
45	Sc	2	1491309	1.80	1428000	104.4	30 - 125
74	Ge	1	2958350	2.06	3683000	80.3	30 - 125
74	Ge	2	2752834	0.66	2627000	104.8	30 - 125
74	Ge	3	11319046	0.65	10940000	103.5	30 - 125
103	Rh	2	3909596	1.74	3842000	101.8	30 - 125
103	Rh	3	7706996	1.41	7414000	104.0	30 - 125
165	Ho	3	5703711	0.61	5459000	104.5	30 - 125
175	Lu	3	6472700	1.71	6180000	104.7	30 - 125
209	Bi	3	6539897	0.30	6220000	105.1	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\086SMPL.D\086SMPL.D#  
 Date Acquired: Sep 13 2010 07:57 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSA Vial Number: 1101  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.004 ug/l	0.00	485.6	900	6	P
23	Na	2	235800.000 ug/l	235,800.00	1.3	450000	45	A
24	Mg	2	92530.000 ug/l	92,530.00	1.5	450000	45	A
27	Al	2	92930.000 ug/l	92,930.00	1.5	450000	45	A
31	P	2	97070.000 ug/l	97,070.00	2.1	450000	45	A
39	K	2	96410.000 ug/l	96,410.00	1.1	450000	45	A
40	Ca	1	276700.000 ug/l	276,700.00	1.9	450000	45	A
47	Ti	2	2068.000 ug/l	2,068.00	0.6	4500	74	P
51	V	2	-0.484 ug/l	-0.48	12.3	4500	74	P
52	Cr	2	0.995 ug/l	1.00	8.3	4500	74	P
55	Mn	2	5.646 ug/l	5.65	1.2	4500	74	P
56	Fe	1	241000.000 ug/l	241,000.00	0.8	450000	74	A
59	Co	2	3.564 ug/l	3.56	2.2	4500	74	P
60	Ni	2	2.541 ug/l	2.54	7.6	4500	74	P
63	Cu	2	3.475 ug/l	3.48	4.1	4500	74	P
66	Zn	2	3.280 ug/l	3.28	10.3	4500	74	P
75	As	2	0.414 ug/l	0.41	66.7	4500	74	P
78	Se	1	-0.129 ug/l	-0.13	0.6	4500	74	P
88	Sr	3	16.490 ug/l	16.49	1.9	4500	74	P
95	Mo	3	2009.000 ug/l	2,009.00	0.7	4500	74	A
109	Ag	3	0.177 ug/l	0.18	10.4	900	103	P
111	Cd	3	0.289 ug/l	0.29	32.7	4500	103	P
118	Sn	3	0.159 ug/l	0.16	14.7	4500	103	P
121	Sb	3	0.762 ug/l	0.76	0.4	4500	103	P
135	Ba	3	0.290 ug/l	0.29	41.5	4500	103	P
200	Hg	3	0.007 ug/l	0.01	46.6	45	209	P
205	Tl	3	0.147 ug/l	0.15	3.7	4500	209	P
208	Pb	3	0.279 ug/l	0.28	2.2	4500	209	P
238	U	3	0.002 ug/l	0.00	36.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	173846	3.00	198400	87.6	30 - 125
45	Sc	1	2953421	3.10	3760000	78.5	30 - 125
45	Sc	2	1434556	1.14	1428000	100.5	30 - 125
74	Ge	1	2893979	1.71	3683000	78.6	30 - 125
74	Ge	2	2494830	1.12	2627000	95.0	30 - 125
74	Ge	3	10057908	0.47	10940000	91.9	30 - 125
103	Rh	2	3144304	0.37	3842000	81.8	30 - 125
103	Rh	3	6160069	1.29	7414000	83.1	30 - 125
165	Ho	3	4980776	0.40	5459000	91.2	30 - 125
175	Lu	3	5599106	0.34	6180000	90.6	30 - 125
209	Bi	3	5048547	0.27	6220000	81.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\087SMPL.D\087SMPL.D#  
 Date Acquired: Sep 13 2010 08:04 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSAB Vial Number: 1102  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	237000.000 ug/l	237,000.00	0.2	450000	45	A
24	Mg	2	93480.000 ug/l	93,480.00	0.6	450000	45	A
27	Al	2	92190.000 ug/l	92,190.00	0.4	450000	45	A
31	P	2	96560.000 ug/l	96,560.00	1.0	450000	45	A
39	K	2	96310.000 ug/l	96,310.00	0.8	450000	45	A
40	Ca	1	270700.000 ug/l	270,700.00	3.6	450000	45	A
47	Ti	2	1976.000 ug/l	1,976.00	0.8	4500	74	P
51	V	2	199.600 ug/l	199.60	2.1	4500	74	P
52	Cr	2	193.100 ug/l	193.10	1.2	4500	74	P
55	Mn	2	197.200 ug/l	197.20	1.4	4500	74	P
56	Fe	1	240000.000 ug/l	240,000.00	0.8	450000	74	A
59	Co	2	189.800 ug/l	189.80	1.7	4500	74	P
60	Ni	2	184.400 ug/l	184.40	2.8	4500	74	P
63	Cu	2	175.700 ug/l	175.70	1.2	4500	74	P
66	Zn	2	94.300 ug/l	94.30	1.7	4500	74	P
75	As	2	103.500 ug/l	103.50	1.6	4500	74	P
78	Se	1	103.300 ug/l	103.30	2.0	4500	74	P
88	Sr	3	16.100 ug/l	16.10	2.3	4500	74	P
95	Mo	3	1989.000 ug/l	1,989.00	1.0	4500	74	A
109	Ag	3	50.160 ug/l	50.16	1.5	900	103	P
111	Cd	3	104.800 ug/l	104.80	1.7	4500	103	P
118	Sn	3	0.120 ug/l	0.12	17.1	4500	103	P
121	Sb	3	0.800 ug/l	0.80	3.4	4500	103	P
135	Ba	3	0.263 ug/l	0.26	36.1	4500	103	P
200	Hg	3	0.011 ug/l	0.01	62.0	45	209	P
205	Tl	3	0.096 ug/l	0.10	7.5	4500	209	P
208	Pb	3	0.260 ug/l	0.26	3.4	4500	209	P
238	U	3	0.002 ug/l	0.00	66.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	167181	198400	84.3	30 - 125	
45	Sc	1	2776116	3760000	73.8	30 - 125	
45	Sc	2	1366848	1428000	95.7	30 - 125	
74	Ge	1	2710407	3683000	73.6	30 - 125	
74	Ge	2	2396603	2627000	91.2	30 - 125	
74	Ge	3	9899821	10940000	90.5	30 - 125	
103	Rh	2	3056297	3842000	79.5	30 - 125	
103	Rh	3	6034846	7414000	81.4	30 - 125	
165	Ho	3	4931895	5459000	90.3	30 - 125	
175	Lu	3	5579543	6180000	90.3	30 - 125	
209	Bi	3	4999146	6220000	80.4	30 - 125	

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\088SMPL.D\088SMPL.D#  
 Date Acquired: Sep 13 2010 08:11 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.300 ug/l	49.30	1.4	900	6	P
23	Na	2	4891.000 ug/l	4,891.00	1.9	450000	45	A
24	Mg	2	4928.000 ug/l	4,928.00	1.3	450000	45	A
27	Al	2	487.300 ug/l	487.30	1.4	450000	45	P
31	P	2	4831.000 ug/l	4,831.00	2.6	450000	45	P
39	K	2	5043.000 ug/l	5,043.00	0.6	450000	45	A
40	Ca	1	4508.000 ug/l	4,508.00	2.5	450000	45	A
47	Ti	2	47.700 ug/l	47.70	0.8	4500	74	P
51	V	2	46.420 ug/l	46.42	0.8	4500	74	P
52	Cr	2	46.740 ug/l	46.74	0.2	4500	74	P
55	Mn	2	47.710 ug/l	47.71	0.9	4500	74	P
56	Fe	1	4958.000 ug/l	4,958.00	0.5	450000	74	A
59	Co	2	47.020 ug/l	47.02	1.4	4500	74	P
60	Ni	2	46.910 ug/l	46.91	2.0	4500	74	P
63	Cu	2	46.890 ug/l	46.89	1.3	4500	74	P
66	Zn	2	47.150 ug/l	47.15	0.5	4500	74	P
75	As	2	48.360 ug/l	48.36	1.5	4500	74	P
78	Se	1	50.390 ug/l	50.39	6.2	4500	74	P
88	Sr	3	49.890 ug/l	49.89	1.4	4500	74	P
95	Mo	3	49.810 ug/l	49.81	2.1	4500	74	P
109	Ag	3	49.820 ug/l	49.82	1.9	900	103	P
111	Cd	3	50.200 ug/l	50.20	0.7	4500	103	P
118	Sn	3	50.150 ug/l	50.15	1.9	4500	103	P
121	Sb	3	50.990 ug/l	50.99	1.9	4500	103	P
135	Ba	3	50.660 ug/l	50.66	2.6	4500	103	P
200	Hg	3	2.403 ug/l	2.40	0.9	45	209	P
205	Tl	3	49.720 ug/l	49.72	3.0	4500	209	P
208	Pb	3	49.870 ug/l	49.87	1.9	4500	209	P
238	U	3	48.850 ug/l	48.85	1.6	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	182323	1.78	198400	91.9	30 - 125
45	Sc	1	2769545	3.06	3760000	73.7	30 - 125
45	Sc	2	1416513	0.75	1428000	99.2	30 - 125
74	Ge	1	2823587	2.48	3683000	76.7	30 - 125
74	Ge	2	2661829	1.86	2627000	101.3	30 - 125
74	Ge	3	10833661	0.42	10940000	99.0	30 - 125
103	Rh	2	3740901	1.20	3842000	97.4	30 - 125
103	Rh	3	7319235	0.72	7414000	98.7	30 - 125
165	Ho	3	5637446	1.13	5459000	103.3	30 - 125
175	Lu	3	6439083	0.20	6180000	104.2	30 - 125
209	Bi	3	6376665	0.74	6220000	102.5	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\089SMPL.D\089SMPL.D#  
 Date Acquired: Sep 13 2010 08:18 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	9.716 ug/l	9.72	7.4	450000	45	P
24	Mg	2	0.582 ug/l	0.58	22.4	450000	45	P
27	Al	2	1.225 ug/l	1.23	31.3	450000	45	P
31	P	2	-10.620 ug/l	-10.62	36.1	450000	45	P
39	K	2	10.860 ug/l	10.86	29.9	450000	45	P
40	Ca	1	0.694 ug/l	0.69	41.4	450000	45	P
47	Ti	2	0.027 ug/l	0.03	93.5	4500	74	P
51	V	2	-0.559 ug/l	-0.56	4.0	4500	74	P
52	Cr	2	-0.070 ug/l	-0.07	13.1	4500	74	P
55	Mn	2	0.253 ug/l	0.25	1.9	4500	74	P
56	Fe	1	1.170 ug/l	1.17	9.6	450000	74	P
59	Co	2	0.000 ug/l	0.00	590.1	4500	74	P
60	Ni	2	-0.024 ug/l	-0.02	130.7	4500	74	P
63	Cu	2	0.039 ug/l	0.04	33.6	4500	74	P
66	Zn	2	0.086 ug/l	0.09	162.7	4500	74	P
75	As	2	-0.192 ug/l	-0.19	116.9	4500	74	P
78	Se	1	-0.045 ug/l	-0.05	205.8	4500	74	P
88	Sr	3	-0.021 ug/l	-0.02	108.5	4500	74	P
95	Mo	3	0.038 ug/l	0.04	22.0	4500	74	P
109	Ag	3	0.004 ug/l	0.00	102.7	900	103	P
111	Cd	3	0.007 ug/l	0.01	163.4	4500	103	P
118	Sn	3	0.059 ug/l	0.06	11.6	4500	103	P
121	Sb	3	0.021 ug/l	0.02	19.7	4500	103	P
135	Ba	3	-0.118 ug/l	-0.12	23.1	4500	103	P
200	Hg	3	0.004 ug/l	0.00	76.4	45	209	P
205	Tl	3	0.293 ug/l	0.29	4.4	4500	209	P
208	Pb	3	0.008 ug/l	0.01	48.5	4500	209	P
238	U	3	0.002 ug/l	0.00	28.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	182765	1.22	198400	92.1	30 - 125
45	Sc	1	2774263	2.45	3760000	73.8	30 - 125
45	Sc	2	1418028	1.15	1428000	99.3	30 - 125
74	Ge	1	2850499	1.70	3683000	77.4	30 - 125
74	Ge	2	2659922	1.60	2627000	101.3	30 - 125
74	Ge	3	10738459	0.67	10940000	98.2	30 - 125
103	Rh	2	3845260	1.22	3842000	100.1	30 - 125
103	Rh	3	7374273	1.00	7414000	99.5	30 - 125
165	Ho	3	5625536	0.44	5459000	103.1	30 - 125
175	Lu	3	6479796	1.01	6180000	104.9	30 - 125
209	Bi	3	6485352	0.66	6220000	104.3	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



TA Seattle

Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\090SMPL.D\090SMPL.D#

Date Acquired: Sep 13 2010 08:25 pm

Acq. Method: OSEA\_ALL.M

Sample Name: MB 580-71405/19-A

Vial Number: 3201

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M

Operator: FCW ICP-MS ID#SEA44

Tune # Name

Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C

1 \1\7500\h2.u

Last Cal. Update: Sep 14 2010 01:15 pm

2 \1\7500\he.u

ISTD Ref File: C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D#

3 ,7500\nogas.u

Dilution Factor: 5.00

Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.05	95.4	900	6	P
23	Na	2	5.836 ug/l	29.18	18.7	450000	45	P
24	Mg	2	0.500 ug/l	2.50	5.7	450000	45	P
27	Al	2	0.337 ug/l	1.68	194.3	450000	45	P
31	P	2	-11.470 ug/l	-57.35	12.3	450000	45	P
39	K	2	8.128 ug/l	40.64	58.7	450000	45	P
40	Ca	1	0.023 ug/l	0.12	1243.9	450000	45	P
47	Ti	2	0.011 ug/l	0.06	235.1	4500	74	P
51	V	2	-0.433 ug/l	-2.17	7.2	4500	74	P
52	Cr	2	-0.046 ug/l	-0.23	34.0	4500	74	P
55	Mn	2	-0.020 ug/l	-0.10	22.7	4500	74	P
56	Fe	1	1.120 ug/l	5.60	17.0	450000	74	P
59	Co	2	-0.001 ug/l	-0.01	37.0	4500	74	P
60	Ni	2	-0.051 ug/l	-0.25	149.9	4500	74	P
63	Cu	2	0.005 ug/l	0.03	504.2	4500	74	P
66	Zn	2	-0.046 ug/l	-0.23	167.2	4500	74	P
75	As	2	-0.089 ug/l	-0.44	423.6	4500	74	P
78	Se	1	-0.114 ug/l	-0.57	56.2	4500	74	P
88	Sr	3	-0.023 ug/l	-0.12	61.8	4500	74	P
95	Mo	3	0.027 ug/l	0.14	42.2	4500	74	P
109	Ag	3	0.003 ug/l	0.01	205.2	900	103	P
111	Cd	3	0.010 ug/l	0.05	261.7	4500	103	P
118	Sn	3	0.024 ug/l	0.12	63.3	4500	103	P
121	Sb	3	0.020 ug/l	0.10	15.3	4500	103	P
135	Ba	3	-0.130 ug/l	-0.65	4.1	4500	103	P
200	Hg	3	0.002 ug/l	0.01	139.8	45	209	P
205	Tl	3	0.147 ug/l	0.73	3.6	4500	209	P
208	Pb	3	0.002 ug/l	0.01	197.4	4500	209	P
238	U	3	0.002 ug/l	0.01	54.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185253	0.55	198400	93.4	30 - 125
45	Sc	1	2813539	2.19	3760000	74.8	30 - 125
45	Sc	2	1431563	0.14	1428000	100.2	30 - 125
74	Ge	1	2863645	0.86	3683000	77.8	30 - 125
74	Ge	2	2678177	0.64	2627000	101.9	30 - 125
74	Ge	3	10906277	1.19	10940000	99.7	30 - 125
103	Rh	2	3820579	0.47	3842000	99.4	30 - 125
103	Rh	3	7451066	0.72	7414000	100.5	30 - 125
165	Ho	3	5785223	1.21	5459000	106.0	30 - 125
175	Lu	3	6589942	1.16	6180000	106.6	30 - 125
209	Bi	3	6571264	1.14	6220000	105.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\091SMPL.D\091SMPL.D#  
 Date Acquired: Sep 13 2010 08:32 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-1-B SD Vial Number: 3202

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 25.00 Final Dil Factor: 25.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.005 ug/l	0.13	420.7	900	6	P
23	Na	2	282.000 ug/l	7,050.00	1.3	450000	45	P
24	Mg	2	118.500 ug/l	2,962.50	1.1	450000	45	P
27	Al	2	666.800 ug/l	16,670.00	3.2	450000	45	P
31	P	2	-4.257 ug/l	-106.43	50.5	450000	45	P
39	K	2	256.400 ug/l	6,410.00	2.4	450000	45	P
40	Ca	1	215.400 ug/l	5,385.00	4.9	450000	45	P
47	Ti	2	13.050 ug/l	326.25	15.9	4500	74	P
51	V	2	-0.244 ug/l	-6.09	15.4	4500	74	P
52	Cr	2	0.347 ug/l	8.69	7.7	4500	74	P
55	Mn	2	16.550 ug/l	413.75	1.1	4500	74	P
56	Fe	1	352.000 ug/l	8,800.00	2.5	450000	74	P
59	Co	2	0.072 ug/l	1.81	16.5	4500	74	P
60	Ni	2	0.363 ug/l	9.07	19.5	4500	74	P
63	Cu	2	0.334 ug/l	8.35	12.0	4500	74	P
66	Zn	2	0.595 ug/l	14.87	31.1	4500	74	P
75	As	2	-0.006 ug/l	-0.14	3714.5	4500	74	P
78	Se	1	-0.159 ug/l	-3.96	8.0	4500	74	P
88	Sr	3	1.362 ug/l	34.05	1.3	4500	74	P
95	Mo	3	0.019 ug/l	0.48	32.3	4500	74	P
109	Ag	3	-0.008 ug/l	-0.19	35.8	900	103	P
111	Cd	3	0.014 ug/l	0.36	35.0	4500	103	P
118	Sn	3	0.127 ug/l	3.19	20.4	4500	103	P
121	Sb	3	0.020 ug/l	0.50	22.0	4500	103	P
135	Ba	3	4.086 ug/l	102.15	3.6	4500	103	P
200	Hg	3	0.007 ug/l	0.16	43.5	45	209	P
205	Tl	3	0.098 ug/l	2.44	0.9	4500	209	P
208	Pb	3	0.196 ug/l	4.89	1.3	4500	209	P
238	U	3	0.037 ug/l	0.93	10.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	189987	2.08	198400	95.8	30 - 125
45	Sc	1	2867561	2.83	3760000	76.3	30 - 125
45	Sc	2	1485084	2.37	1428000	104.0	30 - 125
74	Ge	1	2938568	1.76	3683000	79.8	30 - 125
74	Ge	2	2767286	1.52	2627000	105.3	30 - 125
74	Ge	3	11345886	0.94	10940000	103.7	30 - 125
103	Rh	2	3999095	1.39	3842000	104.1	30 - 125
103	Rh	3	7664400	0.20	7414000	103.4	30 - 125
165	Ho	3	5869230	0.43	5459000	107.5	30 - 125
175	Lu	3	6634403	0.74	6180000	107.4	30 - 125
209	Bi	3	6717914	1.64	6220000	108.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\092SMPL.D\092SMPL.D#  
 Date Acquired: Sep 13 2010 08:39 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-1-B Vial Number: 3203  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.087 ug/l	0.44	65.5	900	6	P
23	Na	2	1386.000 ug/l	6,930.00	0.5	450000	45	A
24	Mg	2	587.100 ug/l	2,935.50	1.1	450000	45	P
27	Al	2	3232.000 ug/l	16,160.00	1.6	450000	45	P
31	P	2	21.480 ug/l	107.40	19.1	450000	45	P
39	K	2	1275.000 ug/l	6,375.00	1.5	450000	45	P
40	Ca	1	1058.000 ug/l	5,290.00	1.4	450000	45	A
47	Ti	2	75.320 ug/l	376.60	10.5	4500	74	P
51	V	2	2.867 ug/l	14.34	2.5	4500	74	P
52	Cr	2	2.273 ug/l	11.37	3.6	4500	74	P
55	Mn	2	83.220 ug/l	416.10	0.7	4500	74	P
56	Fe	1	1708.000 ug/l	8,540.00	2.0	450000	74	A
59	Co	2	0.359 ug/l	1.79	2.6	4500	74	P
60	Ni	2	1.668 ug/l	8.34	2.8	4500	74	P
63	Cu	2	1.449 ug/l	7.25	8.7	4500	74	P
66	Zn	2	3.848 ug/l	19.24	14.0	4500	74	P
75	As	2	1.008 ug/l	5.04	13.5	4500	74	P
78	Se	1	-0.119 ug/l	-0.60	29.9	4500	74	P
88	Sr	3	7.297 ug/l	36.49	3.1	4500	74	P
95	Mo	3	0.052 ug/l	0.26	50.9	4500	74	P
109	Ag	3	0.009 ug/l	0.05	61.7	900	103	P
111	Cd	3	0.034 ug/l	0.17	83.9	4500	103	P
118	Sn	3	0.357 ug/l	1.79	2.6	4500	103	P
121	Sb	3	0.088 ug/l	0.44	13.5	4500	103	P
135	Ba	3	22.200 ug/l	111.00	10.0	4500	103	P
200	Hg	3	0.018 ug/l	0.09	40.3	45	209	P
205	Tl	3	0.107 ug/l	0.53	6.3	4500	209	P
208	Pb	3	1.086 ug/l	5.43	5.8	4500	209	P
238	U	3	0.197 ug/l	0.99	5.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185180	0.44	198400	93.3	30 - 125
45	Sc	1	2741014	1.43	3760000	72.9	30 - 125
45	Sc	2	1463157	1.36	1428000	102.5	30 - 125
74	Ge	1	2756847	0.63	3683000	74.9	30 - 125
74	Ge	2	2679631	0.65	2627000	102.0	30 - 125
74	Ge	3	10756430	1.29	10940000	98.3	30 - 125
103	Rh	2	3888854	0.75	3842000	101.2	30 - 125
103	Rh	3	7349290	1.11	7414000	99.1	30 - 125
165	Ho	3	5777862	0.41	5459000	105.8	30 - 125
175	Lu	3	6559136	0.31	6180000	106.1	30 - 125
209	Bi	3	6597325	0.94	6220000	106.1	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\093SMPL.D\093SMPL.D#  
 Date Acquired: Sep 13 2010 08:46 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-1-C DU Vial Number: 3204

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.125 ug/l	0.63	36.2	900	6	P
23	Na	2	1423.000 ug/l	7,115.00	2.2	450000	45	A
24	Mg	2	599.300 ug/l	2,996.50	1.4	450000	45	P
27	Al	2	3301.000 ug/l	16,505.00	2.4	450000	45	P
31	P	2	26.660 ug/l	133.30	34.7	450000	45	P
39	K	2	1319.000 ug/l	6,595.00	1.0	450000	45	P
40	Ca	1	1061.000 ug/l	5,305.00	1.8	450000	45	A
47	Ti	2	73.890 ug/l	369.45	3.5	4500	74	P
51	V	2	3.152 ug/l	15.76	3.3	4500	74	P
52	Cr	2	2.288 ug/l	11.44	6.4	4500	74	P
55	Mn	2	83.020 ug/l	415.10	0.5	4500	74	P
56	Fe	1	1675.000 ug/l	8,375.00	2.0	450000	74	A
59	Co	2	0.369 ug/l	1.84	1.0	4500	74	P
60	Ni	2	1.650 ug/l	8.25	7.2	4500	74	P
63	Cu	2	1.389 ug/l	6.95	4.5	4500	74	P
66	Zn	2	4.271 ug/l	21.36	4.9	4500	74	P
75	As	2	0.914 ug/l	4.57	21.1	4500	74	P
78	Se	1	-0.158 ug/l	-0.79	8.4	4500	74	P
88	Sr	3	7.404 ug/l	37.02	1.7	4500	74	P
95	Mo	3	0.069 ug/l	0.34	47.6	4500	74	P
109	Ag	3	0.006 ug/l	0.03	29.3	900	103	P
111	Cd	3	0.052 ug/l	0.26	24.6	4500	103	P
118	Sn	3	0.341 ug/l	1.71	14.7	4500	103	P
121	Sb	3	0.101 ug/l	0.51	24.5	4500	103	P
135	Ba	3	21.750 ug/l	108.75	2.0	4500	103	P
200	Hg	3	0.024 ug/l	0.12	46.1	45	209	P
205	Tl	3	0.105 ug/l	0.52	9.4	4500	209	P
208	Pb	3	1.094 ug/l	5.47	2.8	4500	209	P
238	U	3	0.211 ug/l	1.06	5.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181721	1.63	198400	91.6	30 - 125
45	Sc	1	2681174	1.93	3760000	71.3	30 - 125
45	Sc	2	1431902	1.46	1428000	100.3	30 - 125
74	Ge	1	2745588	1.78	3683000	74.5	30 - 125
74	Ge	2	2700984	0.55	2627000	102.8	30 - 125
74	Ge	3	10820759	1.36	10940000	98.9	30 - 125
103	Rh	2	3859259	0.59	3842000	100.4	30 - 125
103	Rh	3	7439833	0.16	7414000	100.3	30 - 125
165	Ho	3	5838856	0.64	5459000	107.0	30 - 125
175	Lu	3	6713107	1.32	6180000	108.6	30 - 125
209	Bi	3	6591773	1.29	6220000	106.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\094SMPL.D\094SMPL.D#  
 Date Acquired: Sep 13 2010 08:53 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-1-D MS Vial Number: 3205  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.958 ug/l	97.90	8.1	900	6	P
23	Na	2	549.200 ug/l	27,460.00	1.8	450000	45	P
24	Mg	2	466.400 ug/l	23,320.00	1.4	450000	45	P
27	Al	2	479.600 ug/l	23,980.00	0.9	450000	45	P
31	P	2	369.200 ug/l	18,460.00	3.9	450000	45	P
39	K	2	550.700 ug/l	27,535.00	1.6	450000	45	P
40	Ca	1	494.800 ug/l	24,740.00	3.7	450000	45	P
47	Ti	2	99.820 ug/l	4,991.00	2.0	4500	74	P
51	V	2	18.760 ug/l	938.00	1.7	4500	74	P
52	Cr	2	7.956 ug/l	397.80	1.3	4500	74	P
55	Mn	2	27.970 ug/l	1,398.50	1.0	4500	74	P
56	Fe	1	622.000 ug/l	31,100.00	0.6	450000	74	A
59	Co	2	19.670 ug/l	983.50	0.4	4500	74	P
60	Ni	2	20.220 ug/l	1,011.00	0.7	4500	74	P
63	Cu	2	10.320 ug/l	516.00	0.6	4500	74	P
66	Zn	2	20.430 ug/l	1,021.50	0.4	4500	74	P
75	As	2	78.850 ug/l	3,942.50	1.7	4500	74	P
78	Se	1	80.320 ug/l	4,016.00	1.0	4500	74	P
88	Sr	3	0.644 ug/l	32.19	7.6	4500	74	P
95	Mo	3	98.900 ug/l	4,945.00	2.2	4500	74	P
109	Ag	3	12.080 ug/l	604.00	0.8	900	103	P
111	Cd	3	2.026 ug/l	101.30	3.0	4500	103	P
118	Sn	3	102.100 ug/l	5,105.00	2.9	4500	103	P
121	Sb	3	59.870 ug/l	2,993.50	2.1	4500	103	P
135	Ba	3	85.040 ug/l	4,252.00	1.5	4500	103	P
200	Hg	3	0.976 ug/l	48.78	7.2	45	209	P
205	Tl	3	78.210 ug/l	3,910.50	2.2	4500	209	A
208	Pb	3	20.680 ug/l	1,034.00	1.8	4500	209	P
238	U	3	0.016 ug/l	0.82	4.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	192434	0.63	198400	97.0	30 - 125
45	Sc	1	2858102	3.65	3760000	76.0	30 - 125
45	Sc	2	1505271	2.35	1428000	105.4	30 - 125
74	Ge	1	2949617	1.13	3683000	80.1	30 - 125
74	Ge	2	2797748	0.32	2627000	106.5	30 - 125
74	Ge	3	11471764	0.87	10940000	104.9	30 - 125
103	Rh	2	4050185	0.77	3842000	105.4	30 - 125
103	Rh	3	7762413	0.54	7414000	104.7	30 - 125
165	Ho	3	5899219	0.17	5459000	108.1	30 - 125
175	Lu	3	6720241	0.81	6180000	108.7	30 - 125
209	Bi	3	6699298	0.69	6220000	107.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\095SMPL.D\095SMPL.D#  
 Date Acquired: Sep 13 2010 09:00 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-1-E MSD Vial Number: 3206

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.155 ug/l	107.75	8.0	900	6	P
23	Na	2	546.700 ug/l	27,335.00	1.1	450000	45	P
24	Mg	2	468.800 ug/l	23,440.00	1.1	450000	45	P
27	Al	2	472.400 ug/l	23,620.00	0.9	450000	45	P
31	P	2	376.500 ug/l	18,825.00	3.9	450000	45	P
39	K	2	556.400 ug/l	27,820.00	1.8	450000	45	P
40	Ca	1	500.700 ug/l	25,035.00	3.9	450000	45	P
47	Ti	2	103.000 ug/l	5,150.00	5.2	4500	74	P
51	V	2	18.630 ug/l	931.50	1.5	4500	74	P
52	Cr	2	7.916 ug/l	395.80	3.1	4500	74	P
55	Mn	2	27.790 ug/l	1,389.50	1.3	4500	74	P
56	Fe	1	642.200 ug/l	32,110.00	1.6	450000	74	A
59	Co	2	19.410 ug/l	970.50	2.1	4500	74	P
60	Ni	2	20.140 ug/l	1,007.00	4.0	4500	74	P
63	Cu	2	10.280 ug/l	514.00	4.4	4500	74	P
66	Zn	2	20.890 ug/l	1,044.50	2.5	4500	74	P
75	As	2	78.120 ug/l	3,906.00	1.8	4500	74	P
78	Se	1	82.650 ug/l	4,132.50	4.7	4500	74	P
88	Sr	3	0.652 ug/l	32.62	2.2	4500	74	P
95	Mo	3	100.100 ug/l	5,005.00	1.3	4500	74	P
109	Ag	3	12.370 ug/l	618.50	0.3	900	103	P
111	Cd	3	2.057 ug/l	102.85	4.2	4500	103	P
118	Sn	3	102.600 ug/l	5,130.00	1.4	4500	103	P
121	Sb	3	60.180 ug/l	3,009.00	1.1	4500	103	P
135	Ba	3	86.880 ug/l	4,344.00	0.5	4500	103	P
200	Hg	3	0.996 ug/l	49.82	2.2	45	209	P
205	Tl	3	79.770 ug/l	3,988.50	2.7	4500	209	A
208	Pb	3	20.820 ug/l	1,041.00	1.9	4500	209	P
238	U	3	0.017 ug/l	0.84	6.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	190536	1.66	198400	96.0	30 - 125
45	Sc	1	2852184	1.22	3760000	75.9	30 - 125
45	Sc	2	1502051	0.94	1428000	105.2	30 - 125
74	Ge	1	2946035	1.24	3683000	80.0	30 - 125
74	Ge	2	2836284	1.70	2627000	108.0	30 - 125
74	Ge	3	11463010	0.75	10940000	104.8	30 - 125
103	Rh	2	4017247	2.14	3842000	104.6	30 - 125
103	Rh	3	7783127	0.47	7414000	105.0	30 - 125
165	Ho	3	5925905	1.21	5459000	108.6	30 - 125
175	Lu	3	6640330	0.12	6180000	107.4	30 - 125
209	Bi	3	6692188	0.79	6220000	107.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\096SMPL.D\096SMPL.D#  
 Date Acquired: Sep 13 2010 09:07 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-1-B PDS Vial Number: 3207  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.090 ug/l	104.50	6.6	900	6	P
23	Na	2	550.700 ug/l	27,535.00	1.8	450000	45	P
24	Mg	2	470.600 ug/l	23,530.00	2.2	450000	45	P
27	Al	2	476.100 ug/l	23,805.00	2.6	450000	45	P
31	P	2	358.200 ug/l	17,910.00	3.1	450000	45	P
39	K	2	548.300 ug/l	27,415.00	1.7	450000	45	P
40	Ca	1	498.800 ug/l	24,940.00	3.9	450000	45	P
47	Ti	2	100.800 ug/l	5,040.00	0.8	4500	74	P
51	V	2	19.240 ug/l	962.00	1.0	4500	74	P
52	Cr	2	8.234 ug/l	411.70	3.1	4500	74	P
55	Mn	2	28.250 ug/l	1,412.50	1.5	4500	74	P
56	Fe	1	643.200 ug/l	32,160.00	2.2	450000	74	A
59	Co	2	19.880 ug/l	994.00	1.9	4500	74	P
60	Ni	2	20.330 ug/l	1,016.50	3.0	4500	74	P
63	Cu	2	10.250 ug/l	512.50	0.3	4500	74	P
66	Zn	2	20.740 ug/l	1,037.00	2.2	4500	74	P
75	As	2	79.510 ug/l	3,975.50	1.1	4500	74	P
78	Se	1	82.990 ug/l	4,149.50	3.0	4500	74	P
88	Sr	3	0.622 ug/l	31.12	3.2	4500	74	P
95	Mo	3	100.400 ug/l	5,020.00	1.6	4500	74	P
109	Ag	3	12.240 ug/l	612.00	2.3	900	103	P
111	Cd	3	2.005 ug/l	100.25	3.4	4500	103	P
118	Sn	3	102.700 ug/l	5,135.00	3.7	4500	103	P
121	Sb	3	59.630 ug/l	2,981.50	3.3	4500	103	P
135	Ba	3	84.960 ug/l	4,248.00	3.1	4500	103	P
200	Hg	3	0.991 ug/l	49.57	1.3	45	209	P
205	Tl	3	78.830 ug/l	3,941.50	3.3	4500	209	A
208	Pb	3	20.680 ug/l	1,034.00	2.6	4500	209	P
238	U	3	0.018 ug/l	0.88	12.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	189267	0.87	198400	95.4	30 - 125
45	Sc	1	2819567	3.19	3760000	75.0	30 - 125
45	Sc	2	1484850	1.10	1428000	104.0	30 - 125
74	Ge	1	2903667	1.24	3683000	78.8	30 - 125
74	Ge	2	2770865	0.93	2627000	105.5	30 - 125
74	Ge	3	11360560	1.06	10940000	103.8	30 - 125
103	Rh	2	3971180	0.71	3842000	103.4	30 - 125
103	Rh	3	7769888	1.62	7414000	104.8	30 - 125
165	Ho	3	5826966	1.20	5459000	106.7	30 - 125
175	Lu	3	6641477	1.14	6180000	107.5	30 - 125
209	Bi	3	6670843	0.13	6220000	107.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\097SMPL.D\097SMPL.D#  
 Date Acquired: Sep 13 2010 09:14 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCS 580-71405/20-A Vial Number: 3208

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.995 ug/l	99.75	8.7	900	6	P
23	Na	2	438.900 ug/l	21,945.00	3.3	450000	45	P
24	Mg	2	431.400 ug/l	21,570.00	3.9	450000	45	P
27	Al	2	73.430 ug/l	3,671.50	4.1	450000	45	P
31	P	2	351.500 ug/l	17,575.00	6.5	450000	45	P
39	K	2	436.200 ug/l	21,810.00	4.0	450000	45	P
40	Ca	1	405.000 ug/l	20,250.00	4.3	450000	45	P
47	Ti	2	97.250 ug/l	4,862.50	0.5	4500	74	P
51	V	2	19.310 ug/l	965.50	1.2	4500	74	P
52	Cr	2	8.066 ug/l	403.30	2.8	4500	74	P
55	Mn	2	20.480 ug/l	1,024.00	1.4	4500	74	P
56	Fe	1	475.500 ug/l	23,775.00	1.1	450000	74	A
59	Co	2	20.090 ug/l	1,004.50	1.0	4500	74	P
60	Ni	2	19.630 ug/l	981.50	2.7	4500	74	P
63	Cu	2	10.140 ug/l	507.00	0.8	4500	74	P
66	Zn	2	20.410 ug/l	1,020.50	4.7	4500	74	P
75	As	2	81.750 ug/l	4,087.50	1.0	4500	74	P
78	Se	1	84.030 ug/l	4,201.50	0.9	4500	74	P
88	Sr	3	-0.071 ug/l	-3.53	13.9	4500	74	P
95	Mo	3	106.700 ug/l	5,335.00	1.9	4500	74	P
109	Ag	3	12.700 ug/l	635.00	2.9	900	103	P
111	Cd	3	2.108 ug/l	105.40	3.5	4500	103	P
118	Sn	3	108.600 ug/l	5,430.00	1.1	4500	103	P
121	Sb	3	63.000 ug/l	3,150.00	1.1	4500	103	P
135	Ba	3	86.590 ug/l	4,329.50	1.1	4500	103	P
200	Hg	3	1.001 ug/l	50.05	2.7	45	209	P
205	Tl	3	84.020 ug/l	4,201.00	0.5	4500	209	A
208	Pb	3	21.280 ug/l	1,064.00	2.5	4500	209	P
238	U	3	0.000 ug/l	-0.01	235.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	182318	1.33	198400	91.9	30 - 125
45	Sc	1	2734270	2.83	3760000	72.7	30 - 125
45	Sc	2	1437285	2.51	1428000	100.7	30 - 125
74	Ge	1	2822042	0.78	3683000	76.6	30 - 125
74	Ge	2	2713636	1.35	2627000	103.3	30 - 125
74	Ge	3	10931241	0.66	10940000	99.9	30 - 125
103	Rh	2	3904412	1.00	3842000	101.6	30 - 125
103	Rh	3	7505255	0.24	7414000	101.2	30 - 125
165	Ho	3	5844765	0.65	5459000	107.1	30 - 125
175	Lu	3	6738086	1.26	6180000	109.0	30 - 125
209	Bi	3	6700274	1.05	6220000	107.7	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\098SMPL.D\098SMPL.D#  
 Date Acquired: Sep 13 2010 09:21 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71405/21-A Vial Number: 3209  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.937 ug/l	96.85	12.6	900	6	P
23	Na	2	433.800 ug/l	21,690.00	0.9	450000	45	P
24	Mg	2	431.100 ug/l	21,555.00	0.6	450000	45	P
27	Al	2	75.600 ug/l	3,780.00	2.8	450000	45	P
31	P	2	385.900 ug/l	19,295.00	3.4	450000	45	P
39	K	2	440.000 ug/l	22,000.00	1.0	450000	45	P
40	Ca	1	411.300 ug/l	20,565.00	2.6	450000	45	P
47	Ti	2	98.990 ug/l	4,949.50	0.2	4500	74	P
51	V	2	19.940 ug/l	997.00	0.4	4500	74	P
52	Cr	2	8.038 ug/l	401.90	2.6	4500	74	P
55	Mn	2	20.620 ug/l	1,031.00	0.5	4500	74	P
56	Fe	1	487.600 ug/l	24,380.00	1.9	450000	74	A
59	Co	2	20.260 ug/l	1,013.00	0.7	4500	74	P
60	Ni	2	20.290 ug/l	1,014.50	1.5	4500	74	P
63	Cu	2	10.130 ug/l	506.50	2.2	4500	74	P
66	Zn	2	21.330 ug/l	1,066.50	1.9	4500	74	P
75	As	2	81.710 ug/l	4,085.50	2.1	4500	74	P
78	Se	1	86.630 ug/l	4,331.50	4.6	4500	74	P
88	Sr	3	-0.069 ug/l	-3.46	0.4	4500	74	P
95	Mo	3	106.700 ug/l	5,335.00	1.3	4500	74	P
109	Ag	3	12.830 ug/l	641.50	0.9	900	103	P
111	Cd	3	2.295 ug/l	114.75	4.9	4500	103	P
118	Sn	3	109.300 ug/l	5,465.00	1.1	4500	103	P
121	Sb	3	63.550 ug/l	3,177.50	1.0	4500	103	P
135	Ba	3	86.720 ug/l	4,336.00	0.9	4500	103	P
200	Hg	3	0.985 ug/l	49.24	2.2	45	209	P
205	Tl	3	83.320 ug/l	4,166.00	1.5	4500	209	A
208	Pb	3	21.210 ug/l	1,060.50	0.6	4500	209	P
238	U	3	0.000 ug/l	-0.02	0.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179864	2.04	198400	90.7	30 - 125
45	Sc	1	2601912	3.04	3760000	69.2	30 - 125
45	Sc	2	1423037	0.47	1428000	99.7	30 - 125
74	Ge	1	2715729	1.83	3683000	73.7	30 - 125
74	Ge	2	2671465	0.73	2627000	101.7	30 - 125
74	Ge	3	10849459	0.97	10940000	99.2	30 - 125
103	Rh	2	3862685	0.40	3842000	100.5	30 - 125
103	Rh	3	7379582	0.30	7414000	99.5	30 - 125
165	Ho	3	5770170	0.37	5459000	105.7	30 - 125
175	Lu	3	6641093	0.77	6180000	107.5	30 - 125
209	Bi	3	6678711	0.61	6220000	107.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\099SMPL.D\099SMPL.D#  
 Date Acquired: Sep 13 2010 09:28 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.880 ug/l	49.88	0.6	900	6	P
23	Na	2	4867.000 ug/l	4,867.00	1.8	450000	45	A
24	Mg	2	4937.000 ug/l	4,937.00	2.5	450000	45	A
27	Al	2	486.500 ug/l	486.50	2.4	450000	45	P
31	P	2	4683.000 ug/l	4,683.00	1.1	450000	45	P
39	K	2	5029.000 ug/l	5,029.00	2.9	450000	45	A
40	Ca	1	4496.000 ug/l	4,496.00	2.6	450000	45	A
47	Ti	2	47.700 ug/l	47.70	2.8	4500	74	P
51	V	2	46.250 ug/l	46.25	1.1	4500	74	P
52	Cr	2	46.870 ug/l	46.87	0.9	4500	74	P
55	Mn	2	47.860 ug/l	47.86	0.2	4500	74	P
56	Fe	1	4890.000 ug/l	4,890.00	1.4	450000	74	A
59	Co	2	46.820 ug/l	46.82	0.9	4500	74	P
60	Ni	2	46.850 ug/l	46.85	2.6	4500	74	P
63	Cu	2	46.880 ug/l	46.88	2.4	4500	74	P
66	Zn	2	49.000 ug/l	49.00	2.1	4500	74	P
75	As	2	47.670 ug/l	47.67	1.2	4500	74	P
78	Se	1	50.030 ug/l	50.03	3.2	4500	74	P
88	Sr	3	49.690 ug/l	49.69	1.7	4500	74	P
95	Mo	3	49.810 ug/l	49.81	1.7	4500	74	P
109	Ag	3	50.040 ug/l	50.04	2.2	900	103	P
111	Cd	3	50.130 ug/l	50.13	1.6	4500	103	P
118	Sn	3	50.990 ug/l	50.99	2.7	4500	103	P
121	Sb	3	50.870 ug/l	50.87	2.4	4500	103	P
135	Ba	3	50.710 ug/l	50.71	1.7	4500	103	P
200	Hg	3	2.477 ug/l	2.48	0.9	45	209	P
205	Tl	3	50.180 ug/l	50.18	3.6	4500	209	P
208	Pb	3	49.850 ug/l	49.85	1.9	4500	209	P
238	U	3	48.930 ug/l	48.93	3.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181380	1.67	198400	91.4	30 - 125
45	Sc	1	2641326	2.46	3760000	70.2	30 - 125
45	Sc	2	1444610	3.37	1428000	101.2	30 - 125
74	Ge	1	2748649	1.17	3683000	74.6	30 - 125
74	Ge	2	2746894	1.52	2627000	104.6	30 - 125
74	Ge	3	11067735	0.86	10940000	101.2	30 - 125
103	Rh	2	3887145	1.00	3842000	101.2	30 - 125
103	Rh	3	7500012	0.69	7414000	101.2	30 - 125
165	Ho	3	5836126	0.69	5459000	106.9	30 - 125
175	Lu	3	6681998	0.84	6180000	108.1	30 - 125
209	Bi	3	6557053	0.38	6220000	105.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\100SMPL.D\100SMPL.D#  
 Date Acquired: Sep 13 2010 09:34 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	95.9	900	6	P
23	Na	2	1.850 ug/l	1.85	43.0	450000	45	P
24	Mg	2	0.618 ug/l	0.62	22.1	450000	45	P
27	Al	2	1.759 ug/l	1.76	12.4	450000	45	P
31	P	2	-12.150 ug/l	-12.15	31.3	450000	45	P
39	K	2	-0.337 ug/l	-0.34	829.6	450000	45	P
40	Ca	1	0.789 ug/l	0.79	25.8	450000	45	P
47	Ti	2	-0.007 ug/l	-0.01	290.5	4500	74	P
51	V	2	-0.579 ug/l	-0.58	8.7	4500	74	P
52	Cr	2	-0.057 ug/l	-0.06	39.6	4500	74	P
55	Mn	2	0.247 ug/l	0.25	3.0	4500	74	P
56	Fe	1	1.245 ug/l	1.25	5.0	450000	74	P
59	Co	2	0.002 ug/l	0.00	104.7	4500	74	P
60	Ni	2	0.023 ug/l	0.02	250.6	4500	74	P
63	Cu	2	0.023 ug/l	0.02	38.0	4500	74	P
66	Zn	2	0.071 ug/l	0.07	164.2	4500	74	P
75	As	2	-0.117 ug/l	-0.12	178.0	4500	74	P
78	Se	1	-0.087 ug/l	-0.09	40.7	4500	74	P
88	Sr	3	-0.024 ug/l	-0.02	27.3	4500	74	P
95	Mo	3	0.016 ug/l	0.02	105.5	4500	74	P
109	Ag	3	0.007 ug/l	0.01	65.0	900	103	P
111	Cd	3	0.014 ug/l	0.01	46.4	4500	103	P
118	Sn	3	0.098 ug/l	0.10	9.8	4500	103	P
121	Sb	3	0.039 ug/l	0.04	22.4	4500	103	P
135	Ba	3	-0.107 ug/l	-0.11	21.5	4500	103	P
200	Hg	3	0.007 ug/l	0.01	129.5	45	209	P
205	Tl	3	0.531 ug/l	0.53	4.4	4500	209	P
208	Pb	3	0.007 ug/l	0.01	70.0	4500	209	P
238	U	3	0.002 ug/l	0.00	40.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	187194	0.91	198400	94.4	30 - 125
45	Sc	1	2659339	2.16	3760000	70.7	30 - 125
45	Sc	2	1468646	1.47	1428000	102.8	30 - 125
74	Ge	1	2706631	0.84	3683000	73.5	30 - 125
74	Ge	2	2723441	1.70	2627000	103.7	30 - 125
74	Ge	3	11008331	1.73	10940000	100.6	30 - 125
103	Rh	2	3943139	0.91	3842000	102.6	30 - 125
103	Rh	3	7461341	1.61	7414000	100.6	30 - 125
165	Ho	3	5826649	0.79	5459000	106.7	30 - 125
175	Lu	3	6620962	0.84	6180000	107.1	30 - 125
209	Bi	3	6636553	0.35	6220000	106.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\101SMPL.D\101SMPL.D#  
 Date Acquired: Sep 13 2010 09:41 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-2-B Vial Number: 3301

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.069 ug/l	0.35	11.6	900	6	P
23	Na	2	1692.000 ug/l	8,460.00	3.0	450000	45	A
24	Mg	2	503.700 ug/l	2,518.50	0.9	450000	45	P
27	Al	2	769.900 ug/l	3,849.50	1.4	450000	45	P
31	P	2	-1.162 ug/l	-5.81	496.5	450000	45	P
39	K	2	925.000 ug/l	4,625.00	1.0	450000	45	P
40	Ca	1	1319.000 ug/l	6,595.00	0.6	450000	45	A
47	Ti	2	15.120 ug/l	75.60	12.2	4500	74	P
51	V	2	0.809 ug/l	4.05	12.7	4500	74	P
52	Cr	2	0.558 ug/l	2.79	12.6	4500	74	P
55	Mn	2	165.600 ug/l	828.00	1.8	4500	74	P
56	Fe	1	819.800 ug/l	4,099.00	0.1	450000	74	A
59	Co	2	0.197 ug/l	0.99	0.3	4500	74	P
60	Ni	2	0.532 ug/l	2.66	2.5	4500	74	P
63	Cu	2	0.524 ug/l	2.62	13.6	4500	74	P
66	Zn	2	1.220 ug/l	6.10	20.1	4500	74	P
75	As	2	0.534 ug/l	2.67	40.4	4500	74	P
78	Se	1	-0.133 ug/l	-0.66	27.9	4500	74	P
88	Sr	3	8.635 ug/l	43.18	2.0	4500	74	P
95	Mo	3	0.023 ug/l	0.11	18.0	4500	74	P
109	Ag	3	0.000 ug/l	0.00	1048.2	900	103	P
111	Cd	3	0.025 ug/l	0.12	19.2	4500	103	P
118	Sn	3	0.201 ug/l	1.00	20.1	4500	103	P
121	Sb	3	0.070 ug/l	0.35	3.2	4500	103	P
135	Ba	3	17.180 ug/l	85.90	3.7	4500	103	P
200	Hg	3	0.017 ug/l	0.08	66.5	45	209	P
205	Tl	3	0.293 ug/l	1.46	4.3	4500	209	P
208	Pb	3	0.483 ug/l	2.42	4.4	4500	209	P
238	U	3	0.117 ug/l	0.58	8.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180014	1.48	198400	90.7	30 - 125
45	Sc	1	2550044	0.89	3760000	67.8	30 - 125
45	Sc	2	1425739	1.34	1428000	99.8	30 - 125
74	Ge	1	2639569	0.53	3683000	71.7	30 - 125
74	Ge	2	2626186	1.45	2627000	100.0	30 - 125
74	Ge	3	10726750	0.35	10940000	98.1	30 - 125
103	Rh	2	3829648	1.29	3842000	99.7	30 - 125
103	Rh	3	7284016	0.23	7414000	98.2	30 - 125
165	Ho	3	5781414	0.84	5459000	105.9	30 - 125
175	Lu	3	6540878	1.06	6180000	105.8	30 - 125
209	Bi	3	6578703	0.65	6220000	105.8	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\102SMPL.D\102SMPL.D#  
 Date Acquired: Sep 13 2010 09:48 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-3-B Vial Number: 3302  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.131 ug/l	0.65	35.5	900	6	P
23	Na	2	1875.000 ug/l	9,375.00	2.1	450000	45	A
24	Mg	2	588.100 ug/l	2,940.50	1.0	450000	45	P
27	Al	2	1982.000 ug/l	9,910.00	1.1	450000	45	P
31	P	2	7.130 ug/l	35.65	65.5	450000	45	P
39	K	2	1144.000 ug/l	5,720.00	1.4	450000	45	P
40	Ca	1	1405.000 ug/l	7,025.00	3.8	450000	45	A
47	Ti	2	43.590 ug/l	217.95	4.6	4500	74	P
51	V	2	1.980 ug/l	9.90	5.8	4500	74	P
52	Cr	2	1.373 ug/l	6.87	4.2	4500	74	P
55	Mn	2	146.300 ug/l	731.50	1.8	4500	74	P
56	Fe	1	1366.000 ug/l	6,830.00	1.2	450000	74	A
59	Co	2	0.346 ug/l	1.73	2.4	4500	74	P
60	Ni	2	1.171 ug/l	5.86	8.6	4500	74	P
63	Cu	2	0.925 ug/l	4.62	6.6	4500	74	P
66	Zn	2	2.622 ug/l	13.11	10.9	4500	74	P
75	As	2	0.919 ug/l	4.59	19.2	4500	74	P
78	Se	1	-0.140 ug/l	-0.70	26.7	4500	74	P
88	Sr	3	9.370 ug/l	46.85	0.7	4500	74	P
95	Mo	3	0.065 ug/l	0.33	20.4	4500	74	P
109	Ag	3	0.005 ug/l	0.03	160.2	900	103	P
111	Cd	3	0.030 ug/l	0.15	56.1	4500	103	P
118	Sn	3	0.305 ug/l	1.53	6.3	4500	103	P
121	Sb	3	0.083 ug/l	0.41	10.3	4500	103	P
135	Ba	3	21.810 ug/l	109.05	3.4	4500	103	P
200	Hg	3	0.011 ug/l	0.05	23.7	45	209	P
205	Tl	3	0.222 ug/l	1.11	2.9	4500	209	P
208	Pb	3	0.886 ug/l	4.43	2.6	4500	209	P
238	U	3	0.180 ug/l	0.90	6.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181803	1.04	198400	91.6	30 - 125
45	Sc	1	2548974	2.94	3760000	67.8	30 - 125
45	Sc	2	1424489	0.26	1428000	99.8	30 - 125
74	Ge	1	2608766	0.48	3683000	70.8	30 - 125
74	Ge	2	2656415	1.54	2627000	101.1	30 - 125
74	Ge	3	10794844	0.84	10940000	98.7	30 - 125
103	Rh	2	3818606	0.54	3842000	99.4	30 - 125
103	Rh	3	7304484	0.90	7414000	98.5	30 - 125
165	Ho	3	5780278	1.51	5459000	105.9	30 - 125
175	Lu	3	6565757	0.83	6180000	106.2	30 - 125
209	Bi	3	6622939	0.36	6220000	106.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\103SMPL.D\103SMPL.D#  
 Date Acquired: Sep 13 2010 09:55 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-4-B Vial Number: 3303  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.120 ug/l	0.60	58.6	900	6	P
23	Na	2	1993.000 ug/l	9,965.00	1.8	450000	45	A
24	Mg	2	675.200 ug/l	3,376.00	0.9	450000	45	P
27	Al	2	3148.000 ug/l	15,740.00	1.0	450000	45	P
31	P	2	13.970 ug/l	69.85	22.9	450000	45	P
39	K	2	1411.000 ug/l	7,055.00	0.9	450000	45	P
40	Ca	1	1539.000 ug/l	7,695.00	5.5	450000	45	A
47	Ti	2	70.300 ug/l	351.50	10.7	4500	74	P
51	V	2	3.350 ug/l	16.75	6.7	4500	74	P
52	Cr	2	2.265 ug/l	11.33	7.5	4500	74	P
55	Mn	2	119.500 ug/l	597.50	0.7	4500	74	P
56	Fe	1	1921.000 ug/l	9,605.00	5.1	450000	74	A
59	Co	2	0.443 ug/l	2.22	5.5	4500	74	P
60	Ni	2	1.735 ug/l	8.68	11.4	4500	74	P
63	Cu	2	1.819 ug/l	9.10	5.7	4500	74	P
66	Zn	2	3.713 ug/l	18.57	3.9	4500	74	P
75	As	2	1.270 ug/l	6.35	17.8	4500	74	P
78	Se	1	-0.096 ug/l	-0.48	82.2	4500	74	P
88	Sr	3	10.260 ug/l	51.30	0.9	4500	74	P
95	Mo	3	0.047 ug/l	0.23	8.8	4500	74	P
109	Ag	3	0.003 ug/l	0.02	170.2	900	103	P
111	Cd	3	0.046 ug/l	0.23	78.5	4500	103	P
118	Sn	3	0.395 ug/l	1.97	6.2	4500	103	P
121	Sb	3	0.113 ug/l	0.57	7.0	4500	103	P
135	Ba	3	28.230 ug/l	141.15	10.4	4500	103	P
200	Hg	3	0.010 ug/l	0.05	54.8	45	209	P
205	Tl	3	0.197 ug/l	0.98	1.1	4500	209	P
208	Pb	3	1.410 ug/l	7.05	0.6	4500	209	P
238	U	3	0.270 ug/l	1.35	2.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	182822	0.61	198400	92.1	30 - 125
45	Sc	1	2454336	5.12	3760000	65.3	30 - 125
45	Sc	2	1438760	0.84	1428000	100.8	30 - 125
74	Ge	1	2557883	4.58	3683000	69.5	30 - 125
74	Ge	2	2713134	0.65	2627000	103.3	30 - 125
74	Ge	3	10877735	0.37	10940000	99.4	30 - 125
103	Rh	2	3884347	0.79	3842000	101.1	30 - 125
103	Rh	3	7405867	1.69	7414000	99.9	30 - 125
165	Ho	3	5843493	1.97	5459000	107.0	30 - 125
175	Lu	3	6657796	1.36	6180000	107.7	30 - 125
209	Bi	3	6605553	0.84	6220000	106.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\104SMPL.D\104SMPL.D#  
 Date Acquired: Sep 13 2010 10:02 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-5-B Vial Number: 3304  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.034 ug/l	0.17	95.5	900	6	P
23	Na	2	2676.000 ug/l	13,380.00	1.2	450000	45	A
24	Mg	2	673.900 ug/l	3,369.50	1.0	450000	45	P
27	Al	2	443.900 ug/l	2,219.50	2.7	450000	45	P
31	P	2	27.280 ug/l	136.40	11.9	450000	45	P
39	K	2	1268.000 ug/l	6,340.00	1.7	450000	45	P
40	Ca	1	1947.000 ug/l	9,735.00	3.8	450000	45	A
47	Ti	2	7.297 ug/l	36.49	17.5	4500	74	P
51	V	2	0.698 ug/l	3.49	4.4	4500	74	P
52	Cr	2	0.305 ug/l	1.53	9.2	4500	74	P
55	Mn	2	223.700 ug/l	1,118.50	0.9	4500	74	P
56	Fe	1	620.700 ug/l	3,103.50	0.6	450000	74	A
59	Co	2	0.196 ug/l	0.98	5.6	4500	74	P
60	Ni	2	0.372 ug/l	1.86	16.3	4500	74	P
63	Cu	2	0.868 ug/l	4.34	14.3	4500	74	P
66	Zn	2	4.006 ug/l	20.03	2.4	4500	74	P
75	As	2	0.884 ug/l	4.42	27.2	4500	74	P
78	Se	1	-0.116 ug/l	-0.58	12.4	4500	74	P
88	Sr	3	11.620 ug/l	58.10	0.4	4500	74	P
95	Mo	3	0.064 ug/l	0.32	10.8	4500	74	P
109	Ag	3	0.005 ug/l	0.03	89.1	900	103	P
111	Cd	3	0.032 ug/l	0.16	35.2	4500	103	P
118	Sn	3	0.168 ug/l	0.84	29.5	4500	103	P
121	Sb	3	0.059 ug/l	0.30	25.1	4500	103	P
135	Ba	3	17.330 ug/l	86.65	2.1	4500	103	P
200	Hg	3	0.022 ug/l	0.11	17.5	45	209	P
205	Tl	3	0.123 ug/l	0.62	5.8	4500	209	P
208	Pb	3	0.266 ug/l	1.33	2.2	4500	209	P
238	U	3	0.085 ug/l	0.42	5.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177753	2.32	198400	89.6	30 - 125
45	Sc	1	2545193	1.11	3760000	67.7	30 - 125
45	Sc	2	1421216	1.98	1428000	99.5	30 - 125
74	Ge	1	2619900	1.27	3683000	71.1	30 - 125
74	Ge	2	2698047	1.31	2627000	102.7	30 - 125
74	Ge	3	10739277	0.37	10940000	98.2	30 - 125
103	Rh	2	3825044	1.74	3842000	99.6	30 - 125
103	Rh	3	7311665	1.33	7414000	98.6	30 - 125
165	Ho	3	5772540	0.77	5459000	105.7	30 - 125
175	Lu	3	6567088	1.20	6180000	106.3	30 - 125
209	Bi	3	6623328	1.55	6220000	106.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\105SMPL.D\105SMPL.D#  
 Date Acquired: Sep 13 2010 10:09 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-6-B Vial Number: 3305  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	-4.212 ug/l	-21.06	19.8	450000	45	P
24	Mg	2	0.099 ug/l	0.50	60.3	450000	45	P
27	Al	2	17.340 ug/l	86.70	3.0	450000	45	P
31	P	2	-10.570 ug/l	-52.85	24.5	450000	45	P
39	K	2	-3.649 ug/l	-18.25	110.0	450000	45	P
40	Ca	1	-0.355 ug/l	-1.77	35.0	450000	45	P
47	Ti	2	-0.004 ug/l	-0.02	371.2	4500	74	P
51	V	2	-0.954 ug/l	-4.77	3.2	4500	74	P
52	Cr	2	-0.106 ug/l	-0.53	27.3	4500	74	P
55	Mn	2	0.029 ug/l	0.15	27.7	4500	74	P
56	Fe	1	0.475 ug/l	2.38	13.4	450000	74	P
59	Co	2	-0.001 ug/l	-0.01	86.2	4500	74	P
60	Ni	2	0.022 ug/l	0.11	242.5	4500	74	P
63	Cu	2	0.028 ug/l	0.14	52.3	4500	74	P
66	Zn	2	-0.049 ug/l	-0.25	122.9	4500	74	P
75	As	2	-0.283 ug/l	-1.41	77.0	4500	74	P
78	Se	1	-0.149 ug/l	-0.75	16.0	4500	74	P
88	Sr	3	-0.064 ug/l	-0.32	3.4	4500	74	P
95	Mo	3	-0.004 ug/l	-0.02	172.0	4500	74	P
109	Ag	3	-0.010 ug/l	-0.05	16.0	900	103	P
111	Cd	3	0.006 ug/l	0.03	212.3	4500	103	P
118	Sn	3	0.055 ug/l	0.27	37.0	4500	103	P
121	Sb	3	0.003 ug/l	0.02	124.7	4500	103	P
135	Ba	3	-0.055 ug/l	-0.27	84.7	4500	103	P
200	Hg	3	-0.001 ug/l	0.00	764.4	45	209	P
205	Tl	3	0.103 ug/l	0.52	9.8	4500	209	P
208	Pb	3	-0.001 ug/l	-0.01	459.4	4500	209	P
238	U	3	0.000 ug/l	0.00	0.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	197746	1.30	198400	99.7	30 - 125
45	Sc	1	2629749	4.20	3760000	69.9	30 - 125
45	Sc	2	1523896	1.31	1428000	106.7	30 - 125
74	Ge	1	2738266	3.35	3683000	74.3	30 - 125
74	Ge	2	2892152	1.81	2627000	110.1	30 - 125
74	Ge	3	11816312	1.33	10940000	108.0	30 - 125
103	Rh	2	4128595	1.35	3842000	107.5	30 - 125
103	Rh	3	7994681	1.17	7414000	107.8	30 - 125
165	Ho	3	6006218	0.98	5459000	110.0	30 - 125
175	Lu	3	6705557	1.15	6180000	108.5	30 - 125
209	Bi	3	6796296	0.77	6220000	109.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\106SMPL.D\106SMPL.D#  
 Date Acquired: Sep 13 2010 10:16 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21361-A-7-B Vial Number: 3306

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.002 ug/l	0.01	996.3	900	6	P
23	Na	2	2850.000 ug/l	14,250.00	2.3	450000	45	A
24	Mg	2	747.800 ug/l	3,739.00	0.9	450000	45	P
27	Al	2	351.700 ug/l	1,758.50	3.3	450000	45	P
31	P	2	13.030 ug/l	65.15	40.1	450000	45	P
39	K	2	1219.000 ug/l	6,095.00	2.6	450000	45	P
40	Ca	1	2150.000 ug/l	10,750.00	1.3	450000	45	A
47	Ti	2	5.742 ug/l	28.71	21.8	4500	74	P
51	V	2	0.483 ug/l	2.42	25.8	4500	74	P
52	Cr	2	0.258 ug/l	1.29	19.8	4500	74	P
55	Mn	2	306.300 ug/l	1,531.50	1.3	4500	74	P
56	Fe	1	826.100 ug/l	4,130.50	2.3	450000	74	A
59	Co	2	0.221 ug/l	1.11	5.6	4500	74	P
60	Ni	2	0.330 ug/l	1.65	7.7	4500	74	P
63	Cu	2	0.296 ug/l	1.48	22.3	4500	74	P
66	Zn	2	0.630 ug/l	3.15	38.8	4500	74	P
75	As	2	1.497 ug/l	7.49	22.6	4500	74	P
78	Se	1	-0.108 ug/l	-0.54	34.9	4500	74	P
88	Sr	3	12.780 ug/l	63.90	1.5	4500	74	P
95	Mo	3	0.081 ug/l	0.40	37.8	4500	74	P
109	Ag	3	0.001 ug/l	0.01	267.0	900	103	P
111	Cd	3	0.003 ug/l	0.02	114.1	4500	103	P
118	Sn	3	0.101 ug/l	0.51	14.8	4500	103	P
121	Sb	3	0.057 ug/l	0.29	2.2	4500	103	P
135	Ba	3	19.300 ug/l	96.50	1.2	4500	103	P
200	Hg	3	0.030 ug/l	0.15	19.8	45	209	P
205	Tl	3	0.095 ug/l	0.47	4.0	4500	209	P
208	Pb	3	0.205 ug/l	1.03	7.1	4500	209	P
238	U	3	0.083 ug/l	0.42	2.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	182018	3.78	198400	91.7	30 - 125
45	Sc	1	2514199	4.35	3760000	66.9	30 - 125
45	Sc	2	1429251	0.37	1428000	100.1	30 - 125
74	Ge	1	2594169	2.30	3683000	70.4	30 - 125
74	Ge	2	2688604	2.42	2627000	102.3	30 - 125
74	Ge	3	10904717	0.55	10940000	99.7	30 - 125
103	Rh	2	3850762	1.24	3842000	100.2	30 - 125
103	Rh	3	7450230	1.04	7414000	100.5	30 - 125
165	Ho	3	5866775	2.30	5459000	107.5	30 - 125
175	Lu	3	6665557	0.76	6180000	107.9	30 - 125
209	Bi	3	6605576	0.56	6220000	106.2	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\107SMPL.D\107SMPL.D#  
 Date Acquired: Sep 13 2010 10:23 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.710 ug/l	49.71	1.1	900	6	P
23	Na	2	4769.000 ug/l	4,769.00	1.1	450000	45	A
24	Mg	2	4847.000 ug/l	4,847.00	1.4	450000	45	A
27	Al	2	480.100 ug/l	480.10	0.5	450000	45	P
31	P	2	4723.000 ug/l	4,723.00	0.8	450000	45	P
39	K	2	5000.000 ug/l	5,000.00	1.1	450000	45	A
40	Ca	1	4454.000 ug/l	4,454.00	4.0	450000	45	A
47	Ti	2	47.920 ug/l	47.92	1.0	4500	74	P
51	V	2	45.900 ug/l	45.90	0.8	4500	74	P
52	Cr	2	47.060 ug/l	47.06	1.3	4500	74	P
55	Mn	2	48.350 ug/l	48.35	0.7	4500	74	P
56	Fe	1	5024.000 ug/l	5,024.00	1.6	450000	74	A
59	Co	2	46.950 ug/l	46.95	0.7	4500	74	P
60	Ni	2	47.100 ug/l	47.10	1.1	4500	74	P
63	Cu	2	47.200 ug/l	47.20	2.4	4500	74	P
66	Zn	2	49.590 ug/l	49.59	2.0	4500	74	P
75	As	2	49.090 ug/l	49.09	2.5	4500	74	P
78	Se	1	51.420 ug/l	51.42	4.7	4500	74	P
88	Sr	3	49.400 ug/l	49.40	1.7	4500	74	P
95	Mo	3	49.910 ug/l	49.91	2.3	4500	74	P
109	Ag	3	49.000 ug/l	49.00	1.2	900	103	P
111	Cd	3	50.370 ug/l	50.37	2.4	4500	103	P
118	Sn	3	50.000 ug/l	50.00	2.5	4500	103	P
121	Sb	3	50.870 ug/l	50.87	1.6	4500	103	P
135	Ba	3	51.230 ug/l	51.23	0.4	4500	103	P
200	Hg	3	2.455 ug/l	2.46	3.5	45	209	P
205	Tl	3	49.680 ug/l	49.68	3.4	4500	209	P
208	Pb	3	49.620 ug/l	49.62	1.5	4500	209	P
238	U	3	48.320 ug/l	48.32	2.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183809	0.61	198400	92.6	30 - 125
45	Sc	1	2583785	1.84	3760000	68.7	30 - 125
45	Sc	2	1485923	1.77	1428000	104.1	30 - 125
74	Ge	1	2660994	0.98	3683000	72.3	30 - 125
74	Ge	2	2791784	0.88	2627000	106.3	30 - 125
74	Ge	3	11343917	0.45	10940000	103.7	30 - 125
103	Rh	2	3912083	1.53	3842000	101.8	30 - 125
103	Rh	3	7618931	0.44	7414000	102.8	30 - 125
165	Ho	3	5875589	0.95	5459000	107.6	30 - 125
175	Lu	3	6633563	0.42	6180000	107.3	30 - 125
209	Bi	3	6569049	0.46	6220000	105.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\108SMPL.D\108SMPL.D#  
 Date Acquired: Sep 13 2010 10:30 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	0.812 ug/l	0.81	122.6	450000	45	P
24	Mg	2	0.654 ug/l	0.65	12.4	450000	45	P
27	Al	2	2.598 ug/l	2.60	30.0	450000	45	P
31	P	2	-7.766 ug/l	-7.77	18.5	450000	45	P
39	K	2	3.809 ug/l	3.81	75.5	450000	45	P
40	Ca	1	0.598 ug/l	0.60	37.3	450000	45	P
47	Ti	2	0.015 ug/l	0.01	146.4	4500	74	P
51	V	2	-0.417 ug/l	-0.42	17.1	4500	74	P
52	Cr	2	-0.047 ug/l	-0.05	31.2	4500	74	P
55	Mn	2	0.262 ug/l	0.26	7.8	4500	74	P
56	Fe	1	1.268 ug/l	1.27	2.4	450000	74	P
59	Co	2	0.001 ug/l	0.00	51.6	4500	74	P
60	Ni	2	-0.028 ug/l	-0.03	190.6	4500	74	P
63	Cu	2	0.014 ug/l	0.01	98.6	4500	74	P
66	Zn	2	0.074 ug/l	0.07	5.8	4500	74	P
75	As	2	-0.077 ug/l	-0.08	340.2	4500	74	P
78	Se	1	-0.085 ug/l	-0.09	17.9	4500	74	P
88	Sr	3	-0.007 ug/l	-0.01	356.6	4500	74	P
95	Mo	3	0.002 ug/l	0.00	265.3	4500	74	P
109	Ag	3	0.007 ug/l	0.01	11.9	900	103	P
111	Cd	3	0.009 ug/l	0.01	216.7	4500	103	P
118	Sn	3	0.057 ug/l	0.06	30.6	4500	103	P
121	Sb	3	0.018 ug/l	0.02	54.7	4500	103	P
135	Ba	3	-0.056 ug/l	-0.06	112.5	4500	103	P
200	Hg	3	0.002 ug/l	0.00	133.3	45	209	P
205	Tl	3	0.339 ug/l	0.34	10.1	4500	209	P
208	Pb	3	0.006 ug/l	0.01	74.0	4500	209	P
238	U	3	0.003 ug/l	0.00	35.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185376	0.68	198400	93.4	30 - 125
45	Sc	1	2587127	5.35	3760000	68.8	30 - 125
45	Sc	2	1457243	0.18	1428000	102.0	30 - 125
74	Ge	1	2672261	2.02	3683000	72.6	30 - 125
74	Ge	2	2786739	3.10	2627000	106.1	30 - 125
74	Ge	3	11136954	0.17	10940000	101.8	30 - 125
103	Rh	2	3969910	1.44	3842000	103.3	30 - 125
103	Rh	3	7650385	0.14	7414000	103.2	30 - 125
165	Ho	3	5838166	0.38	5459000	106.9	30 - 125
175	Lu	3	6622165	0.47	6180000	107.2	30 - 125
209	Bi	3	6698800	0.39	6220000	107.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\109SMPL.D\109SMPL.D#  
 Date Acquired: Sep 13 2010 10:36 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSA Vial Number: 1101  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	235600.000 ug/l	235,600.00	0.9	450000	45	A
24	Mg	2	92780.000 ug/l	92,780.00	0.7	450000	45	A
27	Al	2	91290.000 ug/l	91,290.00	1.1	450000	45	A
31	P	2	94160.000 ug/l	94,160.00	1.9	450000	45	A
39	K	2	96090.000 ug/l	96,090.00	1.8	450000	45	A
40	Ca	1	274800.000 ug/l	274,800.00	4.5	450000	45	A
47	Ti	2	2012.000 ug/l	2,012.00	0.6	4500	74	P
51	V	2	-0.481 ug/l	-0.48	11.1	4500	74	P
52	Cr	2	1.037 ug/l	1.04	3.1	4500	74	P
55	Mn	2	5.426 ug/l	5.43	1.4	4500	74	P
56	Fe	1	246500.000 ug/l	246,500.00	2.3	450000	74	A
59	Co	2	3.454 ug/l	3.45	0.9	4500	74	P
60	Ni	2	2.547 ug/l	2.55	8.0	4500	74	P
63	Cu	2	3.340 ug/l	3.34	1.0	4500	74	P
66	Zn	2	2.872 ug/l	2.87	1.8	4500	74	P
75	As	2	0.443 ug/l	0.44	54.4	4500	74	P
78	Se	1	-0.080 ug/l	-0.08	20.5	4500	74	P
88	Sr	3	16.670 ug/l	16.67	0.3	4500	74	P
95	Mo	3	2024.000 ug/l	2,024.00	0.7	4500	74	A
109	Ag	3	0.183 ug/l	0.18	6.6	900	103	P
111	Cd	3	0.294 ug/l	0.29	43.5	4500	103	P
118	Sn	3	0.142 ug/l	0.14	12.8	4500	103	P
121	Sb	3	0.712 ug/l	0.71	1.9	4500	103	P
135	Ba	3	0.285 ug/l	0.28	22.2	4500	103	P
200	Hg	3	0.012 ug/l	0.01	47.1	45	209	P
205	Tl	3	0.183 ug/l	0.18	8.0	4500	209	P
208	Pb	3	0.278 ug/l	0.28	3.0	4500	209	P
238	U	3	0.002 ug/l	0.00	10.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	165060	0.89	198400	83.2	30 - 125
45	Sc	1	2536791	6.16	3760000	67.5	30 - 125
45	Sc	2	1379896	1.57	1428000	96.6	30 - 125
74	Ge	1	2515909	3.80	3683000	68.3	30 - 125
74	Ge	2	2456169	0.65	2627000	93.5	30 - 125
74	Ge	3	9740179	0.35	10940000	89.0	30 - 125
103	Rh	2	3065952	1.37	3842000	79.8	30 - 125
103	Rh	3	5973639	0.79	7414000	80.6	30 - 125
165	Ho	3	4991143	0.33	5459000	91.4	30 - 125
175	Lu	3	5691721	0.24	6180000	92.1	30 - 125
209	Bi	3	5074603	0.27	6220000	81.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\110SMPL.D\110SMPL.D#  
 Date Acquired: Sep 13 2010 10:43 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSAB Vial Number: 1102  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.003 ug/l	0.00	372.8	900	6	P
23	Na	2	237600.000 ug/l	237,600.00	1.7	450000	45	A
24	Mg	2	91950.000 ug/l	91,950.00	2.1	450000	45	A
27	Al	2	90910.000 ug/l	90,910.00	2.2	450000	45	A
31	P	2	94270.000 ug/l	94,270.00	1.1	450000	45	A
39	K	2	95150.000 ug/l	95,150.00	1.1	450000	45	A
40	Ca	1	265100.000 ug/l	265,100.00	3.5	450000	45	A
47	Ti	2	1955.000 ug/l	1,955.00	0.5	4500	74	P
51	V	2	198.000 ug/l	198.00	0.3	4500	74	P
52	Cr	2	191.800 ug/l	191.80	0.1	4500	74	P
55	Mn	2	195.000 ug/l	195.00	0.6	4500	74	P
56	Fe	1	243700.000 ug/l	243,700.00	2.4	450000	74	A
59	Co	2	188.200 ug/l	188.20	1.0	4500	74	P
60	Ni	2	179.700 ug/l	179.70	1.5	4500	74	P
63	Cu	2	173.700 ug/l	173.70	1.2	4500	74	P
66	Zn	2	92.440 ug/l	92.44	1.2	4500	74	P
75	As	2	102.000 ug/l	102.00	2.3	4500	74	P
78	Se	1	109.500 ug/l	109.50	1.3	4500	74	P
88	Sr	3	16.010 ug/l	16.01	0.8	4500	74	P
95	Mo	3	1982.000 ug/l	1,982.00	1.8	4500	74	A
109	Ag	3	50.090 ug/l	50.09	0.7	900	103	P
111	Cd	3	105.700 ug/l	105.70	1.6	4500	103	P
118	Sn	3	0.124 ug/l	0.12	19.4	4500	103	P
121	Sb	3	0.773 ug/l	0.77	6.0	4500	103	P
135	Ba	3	0.282 ug/l	0.28	19.3	4500	103	P
200	Hg	3	0.009 ug/l	0.01	73.7	45	209	P
205	Tl	3	0.134 ug/l	0.13	4.7	4500	209	P
208	Pb	3	0.256 ug/l	0.26	3.0	4500	209	P
238	U	3	0.002 ug/l	0.00	33.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	161216	2.81	198400	81.3	30 - 125
45	Sc	1	2463791	4.49	3760000	65.5	30 - 125
45	Sc	2	1340627	1.40	1428000	93.9	30 - 125
74	Ge	1	2403829	3.67	3683000	65.3	30 - 125
74	Ge	2	2372841	0.87	2627000	90.3	30 - 125
74	Ge	3	9660264	0.63	10940000	88.3	30 - 125
103	Rh	2	3011295	1.16	3842000	78.4	30 - 125
103	Rh	3	5897643	0.60	7414000	79.5	30 - 125
165	Ho	3	4935951	0.59	5459000	90.4	30 - 125
175	Lu	3	5595985	0.30	6180000	90.5	30 - 125
209	Bi	3	4977952	0.88	6220000	80.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\111SMPL.D\111SMPL.D#  
 Date Acquired: Sep 13 2010 10:50 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.530 ug/l	49.53	3.0	900	6	P
23	Na	2	4826.000 ug/l	4,826.00	1.3	450000	45	A
24	Mg	2	4841.000 ug/l	4,841.00	2.1	450000	45	A
27	Al	2	478.900 ug/l	478.90	1.7	450000	45	P
31	P	2	4595.000 ug/l	4,595.00	2.2	450000	45	P
39	K	2	4982.000 ug/l	4,982.00	0.8	450000	45	A
40	Ca	1	4429.000 ug/l	4,429.00	4.0	450000	45	A
47	Ti	2	47.430 ug/l	47.43	1.0	4500	74	P
51	V	2	46.020 ug/l	46.02	1.2	4500	74	P
52	Cr	2	46.890 ug/l	46.89	1.2	4500	74	P
55	Mn	2	47.270 ug/l	47.27	0.4	4500	74	P
56	Fe	1	4982.000 ug/l	4,982.00	1.9	450000	74	A
59	Co	2	46.760 ug/l	46.76	0.0	4500	74	P
60	Ni	2	46.680 ug/l	46.68	1.8	4500	74	P
63	Cu	2	46.610 ug/l	46.61	1.8	4500	74	P
66	Zn	2	48.260 ug/l	48.26	2.0	4500	74	P
75	As	2	47.710 ug/l	47.71	0.8	4500	74	P
78	Se	1	51.020 ug/l	51.02	5.2	4500	74	P
88	Sr	3	49.520 ug/l	49.52	2.6	4500	74	P
95	Mo	3	49.290 ug/l	49.29	2.3	4500	74	P
109	Ag	3	49.610 ug/l	49.61	0.9	900	103	P
111	Cd	3	51.030 ug/l	51.03	1.7	4500	103	P
118	Sn	3	50.940 ug/l	50.94	2.6	4500	103	P
121	Sb	3	51.540 ug/l	51.54	2.3	4500	103	P
135	Ba	3	51.600 ug/l	51.60	2.2	4500	103	P
200	Hg	3	2.433 ug/l	2.43	1.6	45	209	P
205	Tl	3	49.870 ug/l	49.87	2.0	4500	209	P
208	Pb	3	50.110 ug/l	50.11	0.5	4500	209	P
238	U	3	49.130 ug/l	49.13	2.3	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177473	1.44	198400	89.5	30 - 125
45	Sc	1	2487089	4.60	3760000	66.1	30 - 125
45	Sc	2	1413217	2.34	1428000	99.0	30 - 125
74	Ge	1	2545544	2.65	3683000	69.1	30 - 125
74	Ge	2	2631966	0.43	2627000	100.2	30 - 125
74	Ge	3	10754332	0.97	10940000	98.3	30 - 125
103	Rh	2	3727549	0.63	3842000	97.0	30 - 125
103	Rh	3	7183573	0.14	7414000	96.9	30 - 125
165	Ho	3	5719808	0.39	5459000	104.8	30 - 125
175	Lu	3	6447962	0.85	6180000	104.3	30 - 125
209	Bi	3	6362026	1.02	6220000	102.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\112SMPL.D\112SMPL.D#  
 Date Acquired: Sep 13 2010 10:57 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	13.210 ug/l	13.21	12.8	450000	45	P
24	Mg	2	0.881 ug/l	0.88	2.7	450000	45	P
27	Al	2	2.264 ug/l	2.26	3.8	450000	45	P
31	P	2	-5.647 ug/l	-5.65	43.8	450000	45	P
39	K	2	12.180 ug/l	12.18	43.5	450000	45	P
40	Ca	1	0.817 ug/l	0.82	25.7	450000	45	P
47	Ti	2	0.015 ug/l	0.01	68.1	4500	74	P
51	V	2	-0.677 ug/l	-0.68	11.7	4500	74	P
52	Cr	2	-0.047 ug/l	-0.05	45.2	4500	74	P
55	Mn	2	0.240 ug/l	0.24	3.4	4500	74	P
56	Fe	1	1.669 ug/l	1.67	2.4	450000	74	P
59	Co	2	0.003 ug/l	0.00	88.6	4500	74	P
60	Ni	2	-0.030 ug/l	-0.03	80.4	4500	74	P
63	Cu	2	0.033 ug/l	0.03	74.5	4500	74	P
66	Zn	2	0.193 ug/l	0.19	57.8	4500	74	P
75	As	2	-0.262 ug/l	-0.26	57.9	4500	74	P
78	Se	1	-0.064 ug/l	-0.06	26.3	4500	74	P
88	Sr	3	-0.033 ug/l	-0.03	24.2	4500	74	P
95	Mo	3	0.047 ug/l	0.05	9.3	4500	74	P
109	Ag	3	0.002 ug/l	0.00	387.5	900	103	P
111	Cd	3	0.020 ug/l	0.02	40.3	4500	103	P
118	Sn	3	0.057 ug/l	0.06	31.9	4500	103	P
121	Sb	3	0.026 ug/l	0.03	61.8	4500	103	P
135	Ba	3	-0.139 ug/l	-0.14	18.2	4500	103	P
200	Hg	3	0.005 ug/l	0.01	85.6	45	209	P
205	Tl	3	0.338 ug/l	0.34	7.7	4500	209	P
208	Pb	3	0.009 ug/l	0.01	26.8	4500	209	P
238	U	3	0.003 ug/l	0.00	21.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177533	1.27	198400	89.5	30 - 125
45	Sc	1	2449400	4.70	3760000	65.1	30 - 125
45	Sc	2	1386074	2.43	1428000	97.1	30 - 125
74	Ge	1	2538764	3.14	3683000	68.9	30 - 125
74	Ge	2	2645442	1.41	2627000	100.7	30 - 125
74	Ge	3	10659066	0.75	10940000	97.4	30 - 125
103	Rh	2	3836515	1.83	3842000	99.9	30 - 125
103	Rh	3	7347956	1.32	7414000	99.1	30 - 125
165	Ho	3	5784680	0.71	5459000	106.0	30 - 125
175	Lu	3	6547157	0.41	6180000	105.9	30 - 125
209	Bi	3	6574411	1.09	6220000	105.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\113SMPL.D\113SMPL.D#  
 Date Acquired: Sep 13 2010 11:04 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: MB 580-71334/2-B Vial Number: 3401  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	6.365 ug/l	31.83	21.4	450000	45	P
24	Mg	2	0.383 ug/l	1.92	20.3	450000	45	P
27	Al	2	5.615 ug/l	28.08	13.1	450000	45	P
31	P	2	-11.200 ug/l	-56.00	48.9	450000	45	P
39	K	2	4.199 ug/l	21.00	86.8	450000	45	P
40	Ca	1	-0.414 ug/l	-2.07	92.7	450000	45	P
47	Ti	2	-0.007 ug/l	-0.04	184.6	4500	74	P
51	V	2	-0.604 ug/l	-3.02	3.3	4500	74	P
52	Cr	2	-0.084 ug/l	-0.42	27.9	4500	74	P
55	Mn	2	-0.018 ug/l	-0.09	41.9	4500	74	P
56	Fe	1	0.222 ug/l	1.11	14.5	450000	74	P
59	Co	2	-0.001 ug/l	0.00	6.1	4500	74	P
60	Ni	2	-0.049 ug/l	-0.24	76.7	4500	74	P
63	Cu	2	0.015 ug/l	0.08	73.0	4500	74	P
66	Zn	2	-0.059 ug/l	-0.30	87.6	4500	74	P
75	As	2	-0.185 ug/l	-0.93	110.9	4500	74	P
78	Se	1	-0.088 ug/l	-0.44	19.4	4500	74	P
88	Sr	3	-0.024 ug/l	-0.12	19.6	4500	74	P
95	Mo	3	0.014 ug/l	0.07	60.7	4500	74	P
109	Ag	3	-0.002 ug/l	-0.01	91.2	900	103	P
111	Cd	3	0.014 ug/l	0.07	57.3	4500	103	P
118	Sn	3	0.022 ug/l	0.11	48.3	4500	103	P
121	Sb	3	0.014 ug/l	0.07	27.4	4500	103	P
135	Ba	3	-0.092 ug/l	-0.46	31.0	4500	103	P
200	Hg	3	0.005 ug/l	0.03	58.3	45	209	P
205	Tl	3	0.160 ug/l	0.80	2.5	4500	209	P
208	Pb	3	0.001 ug/l	0.01	97.8	4500	209	P
238	U	3	0.000 ug/l	0.00	31.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	182042	2.17	198400	91.8	30 - 125
45	Sc	1	2409911	5.40	3760000	64.1	30 - 125
45	Sc	2	1421844	2.31	1428000	99.6	30 - 125
74	Ge	1	2512226	2.61	3683000	68.2	30 - 125
74	Ge	2	2685753	1.83	2627000	102.2	30 - 125
74	Ge	3	10783956	1.13	10940000	98.6	30 - 125
103	Rh	2	3883415	1.03	3842000	101.1	30 - 125
103	Rh	3	7430993	1.73	7414000	100.2	30 - 125
165	Ho	3	5821723	0.91	5459000	106.6	30 - 125
175	Lu	3	6583471	0.18	6180000	106.5	30 - 125
209	Bi	3	6647836	0.77	6220000	106.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\114SMPL.D\114SMPL.D#  
 Date Acquired: Sep 13 2010 11:11 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21333-A-1-B Vial Number: 3402

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.135 ug/l	0.67	43.6	900	6	P
23	Na	2	2868.000 ug/l	14,340.00	0.1	450000	45	A
24	Mg	2	442.900 ug/l	2,214.50	0.2	450000	45	P
27	Al	2	182.800 ug/l	914.00	1.5	450000	45	P
31	P	2	79.190 ug/l	395.95	15.8	450000	45	P
39	K	2	403.300 ug/l	2,016.50	1.5	450000	45	P
40	Ca	1	215.400 ug/l	1,077.00	3.6	450000	45	P
47	Ti	2	6.690 ug/l	33.45	1.4	4500	74	P
51	V	2	0.450 ug/l	2.25	19.9	4500	74	P
52	Cr	2	0.212 ug/l	1.06	23.2	4500	74	P
55	Mn	2	54.520 ug/l	272.60	1.0	4500	74	P
56	Fe	1	1619.000 ug/l	8,095.00	2.1	450000	74	A
59	Co	2	0.448 ug/l	2.24	1.6	4500	74	P
60	Ni	2	2.240 ug/l	11.20	1.5	4500	74	P
63	Cu	2	0.401 ug/l	2.01	13.7	4500	74	P
66	Zn	2	11.890 ug/l	59.45	3.7	4500	74	P
75	As	2	0.140 ug/l	0.70	166.6	4500	74	P
78	Se	1	0.001 ug/l	0.00	3935.2	4500	74	P
88	Sr	3	1.517 ug/l	7.59	3.2	4500	74	P
95	Mo	3	0.191 ug/l	0.96	19.3	4500	74	P
109	Ag	3	0.012 ug/l	0.06	25.0	900	103	P
111	Cd	3	0.021 ug/l	0.11	47.8	4500	103	P
118	Sn	3	0.165 ug/l	0.82	15.2	4500	103	P
121	Sb	3	0.037 ug/l	0.18	22.3	4500	103	P
135	Ba	3	11.680 ug/l	58.40	4.8	4500	103	P
200	Hg	3	0.004 ug/l	0.02	167.3	45	209	P
205	Tl	3	0.124 ug/l	0.62	3.4	4500	209	P
208	Pb	3	0.653 ug/l	3.26	3.4	4500	209	P
238	U	3	0.133 ug/l	0.67	4.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	176302	1.85	198400	88.9	30 - 125
45	Sc	1	2345700	3.08	3760000	62.4	30 - 125
45	Sc	2	1417294	1.72	1428000	99.3	30 - 125
74	Ge	1	2451269	2.33	3683000	66.6	30 - 125
74	Ge	2	2672413	1.56	2627000	101.7	30 - 125
74	Ge	3	10633690	0.24	10940000	97.2	30 - 125
103	Rh	2	3847157	2.39	3842000	100.1	30 - 125
103	Rh	3	7360230	0.99	7414000	99.3	30 - 125
165	Ho	3	5805576	0.48	5459000	106.3	30 - 125
175	Lu	3	6664818	0.85	6180000	107.8	30 - 125
209	Bi	3	6576238	0.82	6220000	105.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\115SMPL.D\115SMPL.D#  
 Date Acquired: Sep 13 2010 11:18 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCS 580-71359/3-A Vial Number: 3403  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.181 ug/l	109.05	14.9	900	6	P
23	Na	2	439.200 ug/l	21,960.00	0.8	450000	45	P
24	Mg	2	433.700 ug/l	21,685.00	1.0	450000	45	P
27	Al	2	74.160 ug/l	3,708.00	1.5	450000	45	P
31	P	2	367.900 ug/l	18,395.00	10.6	450000	45	P
39	K	2	438.400 ug/l	21,920.00	0.6	450000	45	P
40	Ca	1	383.900 ug/l	19,195.00	4.3	450000	45	P
47	Ti	2	95.140 ug/l	4,757.00	1.2	4500	74	P
51	V	2	18.970 ug/l	948.50	3.9	4500	74	P
52	Cr	2	7.783 ug/l	389.15	1.5	4500	74	P
55	Mn	2	19.870 ug/l	993.50	0.5	4500	74	P
56	Fe	1	479.500 ug/l	23,975.00	2.6	450000	74	A
59	Co	2	19.840 ug/l	992.00	0.7	4500	74	P
60	Ni	2	20.030 ug/l	1,001.50	1.3	4500	74	P
63	Cu	2	9.979 ug/l	498.95	0.9	4500	74	P
66	Zn	2	20.150 ug/l	1,007.50	3.1	4500	74	P
75	As	2	80.270 ug/l	4,013.50	1.5	4500	74	P
78	Se	1	86.860 ug/l	4,343.00	3.4	4500	74	P
88	Sr	3	-0.060 ug/l	-2.98	23.7	4500	74	P
95	Mo	3	106.300 ug/l	5,315.00	1.1	4500	74	P
109	Ag	3	13.060 ug/l	653.00	1.0	900	103	P
111	Cd	3	2.162 ug/l	108.10	2.2	4500	103	P
118	Sn	3	109.000 ug/l	5,450.00	0.6	4500	103	P
121	Sb	3	62.990 ug/l	3,149.50	0.8	4500	103	P
135	Ba	3	87.330 ug/l	4,366.50	1.0	4500	103	P
200	Hg	3	1.007 ug/l	50.35	2.3	45	209	P
205	Tl	3	83.250 ug/l	4,162.50	0.3	4500	209	A
208	Pb	3	21.070 ug/l	1,053.50	0.4	4500	209	P
238	U	3	0.000 ug/l	-0.02	31.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177139	1.41	198400	89.3	30 - 125
45	Sc	1	2407926	2.20	3760000	64.0	30 - 125
45	Sc	2	1418053	0.56	1428000	99.3	30 - 125
74	Ge	1	2463689	1.03	3683000	66.9	30 - 125
74	Ge	2	2733049	0.38	2627000	104.0	30 - 125
74	Ge	3	10932109	0.76	10940000	99.9	30 - 125
103	Rh	2	3902232	0.78	3842000	101.6	30 - 125
103	Rh	3	7454665	0.29	7414000	100.5	30 - 125
165	Ho	3	5885496	0.99	5459000	107.8	30 - 125
175	Lu	3	6676520	0.54	6180000	108.0	30 - 125
209	Bi	3	6755526	0.63	6220000	108.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\116SMPL.D\116SMPL.D#  
 Date Acquired: Sep 13 2010 11:25 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71359/4-A Vial Number: 3404  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.125 ug/l	106.25	5.4	900	6	P
23	Na	2	431.500 ug/l	21,575.00	1.7	450000	45	P
24	Mg	2	424.800 ug/l	21,240.00	0.3	450000	45	P
27	Al	2	74.460 ug/l	3,723.00	1.3	450000	45	P
31	P	2	363.000 ug/l	18,150.00	5.3	450000	45	P
39	K	2	434.800 ug/l	21,740.00	1.9	450000	45	P
40	Ca	1	390.300 ug/l	19,515.00	4.4	450000	45	P
47	Ti	2	96.580 ug/l	4,829.00	0.5	4500	74	P
51	V	2	19.180 ug/l	959.00	0.1	4500	74	P
52	Cr	2	7.817 ug/l	390.85	2.7	4500	74	P
55	Mn	2	20.380 ug/l	1,019.00	2.1	4500	74	P
56	Fe	1	491.900 ug/l	24,595.00	2.4	450000	74	M
59	Co	2	20.150 ug/l	1,007.50	0.8	4500	74	P
60	Ni	2	20.230 ug/l	1,011.50	3.4	4500	74	P
63	Cu	2	10.100 ug/l	505.00	2.9	4500	74	P
66	Zn	2	20.660 ug/l	1,033.00	3.4	4500	74	P
75	As	2	81.850 ug/l	4,092.50	1.2	4500	74	P
78	Se	1	86.580 ug/l	4,329.00	2.2	4500	74	P
88	Sr	3	-0.057 ug/l	-2.83	9.4	4500	74	P
95	Mo	3	107.500 ug/l	5,375.00	0.5	4500	74	P
109	Ag	3	12.790 ug/l	639.50	2.9	900	103	P
111	Cd	3	2.149 ug/l	107.45	6.6	4500	103	P
118	Sn	3	109.400 ug/l	5,470.00	2.3	4500	103	P
121	Sb	3	63.300 ug/l	3,165.00	2.3	4500	103	P
135	Ba	3	86.860 ug/l	4,343.00	2.2	4500	103	P
200	Hg	3	1.009 ug/l	50.45	3.8	45	209	P
205	Tl	3	83.290 ug/l	4,164.50	2.7	4500	209	A
208	Pb	3	21.090 ug/l	1,054.50	1.4	4500	209	P
238	U	3	0.000 ug/l	0.00	1737.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177463	1.75	198400	89.4	30 - 125
45	Sc	1	2346597	3.06	3760000	62.4	30 - 125
45	Sc	2	1435218	1.06	1428000	100.5	30 - 125
74	Ge	1	2422393	2.03	3683000	65.8	30 - 125
74	Ge	2	2680294	0.73	2627000	102.0	30 - 125
74	Ge	3	10792007	0.44	10940000	98.6	30 - 125
103	Rh	2	3873568	0.10	3842000	100.8	30 - 125
103	Rh	3	7410606	1.47	7414000	100.0	30 - 125
165	Ho	3	5808778	0.89	5459000	106.4	30 - 125
175	Lu	3	6590600	0.67	6180000	106.6	30 - 125
209	Bi	3	6711827	0.99	6220000	107.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\117SMPL.D\117SMPL.D#  
 Date Acquired: Sep 13 2010 11:32 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSSRM 580-71359/5-A Vial Number: 3405  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.936 ug/l	96.80	6.7	900	6	P
23	Na	2	433.400 ug/l	21,670.00	1.4	450000	45	P
24	Mg	2	425.700 ug/l	21,285.00	1.9	450000	45	P
27	Al	2	73.820 ug/l	3,691.00	1.0	450000	45	P
31	P	2	368.000 ug/l	18,400.00	1.1	450000	45	P
39	K	2	439.100 ug/l	21,955.00	3.0	450000	45	P
40	Ca	1	379.800 ug/l	18,990.00	3.3	450000	45	P
47	Ti	2	96.750 ug/l	4,837.50	1.1	4500	74	P
51	V	2	19.010 ug/l	950.50	2.1	4500	74	P
52	Cr	2	7.883 ug/l	394.15	1.5	4500	74	P
55	Mn	2	20.300 ug/l	1,015.00	0.9	4500	74	P
56	Fe	1	488.700 ug/l	24,435.00	2.8	450000	74	M
59	Co	2	19.840 ug/l	992.00	0.8	4500	74	P
60	Ni	2	19.660 ug/l	983.00	2.6	4500	74	P
63	Cu	2	10.040 ug/l	502.00	1.8	4500	74	P
66	Zn	2	20.400 ug/l	1,020.00	2.8	4500	74	P
75	As	2	80.820 ug/l	4,041.00	1.8	4500	74	P
78	Se	1	86.600 ug/l	4,330.00	2.3	4500	74	P
88	Sr	3	-0.065 ug/l	-3.25	17.7	4500	74	P
95	Mo	3	107.100 ug/l	5,355.00	1.6	4500	74	P
109	Ag	3	13.010 ug/l	650.50	1.9	900	103	P
111	Cd	3	2.198 ug/l	109.90	3.7	4500	103	P
118	Sn	3	109.900 ug/l	5,495.00	1.5	4500	103	P
121	Sb	3	63.830 ug/l	3,191.50	1.5	4500	103	P
135	Ba	3	87.930 ug/l	4,396.50	0.5	4500	103	P
200	Hg	3	0.991 ug/l	49.56	1.2	45	209	P
205	Tl	3	84.210 ug/l	4,210.50	2.1	4500	209	A
208	Pb	3	21.320 ug/l	1,066.00	0.4	4500	209	P
238	U	3	0.000 ug/l	-0.01	243.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179185	0.66	198400	90.3	30 - 125
45	Sc	1	2417715	2.42	3760000	64.3	30 - 125
45	Sc	2	1427087	2.08	1428000	99.9	30 - 125
74	Ge	1	2472951	0.85	3683000	67.1	30 - 125
74	Ge	2	2706583	0.90	2627000	103.0	30 - 125
74	Ge	3	10785401	0.66	10940000	98.6	30 - 125
103	Rh	2	3882283	0.95	3842000	101.0	30 - 125
103	Rh	3	7339594	0.59	7414000	99.0	30 - 125
165	Ho	3	5767378	0.26	5459000	105.6	30 - 125
175	Lu	3	6605746	0.13	6180000	106.9	30 - 125
209	Bi	3	6650540	0.17	6220000	106.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\118SMPL.D\118SMPL.D#  
 Date Acquired: Sep 13 2010 11:39 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.570 ug/l	49.57	1.9	900	6	P
23	Na	2	4709.000 ug/l	4,709.00	0.7	450000	45	A
24	Mg	2	4771.000 ug/l	4,771.00	1.9	450000	45	A
27	Al	2	471.500 ug/l	471.50	0.8	450000	45	P
31	P	2	4515.000 ug/l	4,515.00	1.4	450000	45	P
39	K	2	4950.000 ug/l	4,950.00	1.9	450000	45	A
40	Ca	1	4306.000 ug/l	4,306.00	2.5	450000	45	A
47	Ti	2	47.810 ug/l	47.81	1.3	4500	74	P
51	V	2	45.980 ug/l	45.98	1.2	4500	74	P
52	Cr	2	46.780 ug/l	46.78	1.2	4500	74	P
55	Mn	2	47.790 ug/l	47.79	0.4	4500	74	P
56	Fe	1	5017.000 ug/l	5,017.00	1.1	450000	74	A
59	Co	2	46.550 ug/l	46.55	0.1	4500	74	P
60	Ni	2	45.500 ug/l	45.50	0.9	4500	74	P
63	Cu	2	46.170 ug/l	46.17	2.2	4500	74	P
66	Zn	2	48.080 ug/l	48.08	0.3	4500	74	P
75	As	2	48.480 ug/l	48.48	1.7	4500	74	P
78	Se	1	50.070 ug/l	50.07	2.3	4500	74	P
88	Sr	3	49.600 ug/l	49.60	1.5	4500	74	P
95	Mo	3	49.590 ug/l	49.59	1.6	4500	74	P
109	Ag	3	49.170 ug/l	49.17	1.1	900	103	P
111	Cd	3	50.060 ug/l	50.06	2.5	4500	103	P
118	Sn	3	50.340 ug/l	50.34	2.4	4500	103	P
121	Sb	3	50.720 ug/l	50.72	1.7	4500	103	P
135	Ba	3	51.200 ug/l	51.20	1.8	4500	103	P
200	Hg	3	2.431 ug/l	2.43	1.1	45	209	P
205	Tl	3	50.220 ug/l	50.22	3.3	4500	209	P
208	Pb	3	49.470 ug/l	49.47	1.4	4500	209	P
238	U	3	48.640 ug/l	48.64	2.3	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178577	1.68	198400	90.0	30 - 125
45	Sc	1	2440828	3.17	3760000	64.9	30 - 125
45	Sc	2	1465453	2.82	1428000	102.6	30 - 125
74	Ge	1	2499903	1.20	3683000	67.9	30 - 125
74	Ge	2	2722220	0.87	2627000	103.6	30 - 125
74	Ge	3	10964190	0.65	10940000	100.2	30 - 125
103	Rh	2	3842440	1.09	3842000	100.0	30 - 125
103	Rh	3	7434611	0.91	7414000	100.3	30 - 125
165	Ho	3	5871890	0.55	5459000	107.6	30 - 125
175	Lu	3	6646098	0.71	6180000	107.5	30 - 125
209	Bi	3	6542894	0.15	6220000	105.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\119SMPL.D\119SMPL.D#  
 Date Acquired: Sep 13 2010 11:46 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.004 ug/l	0.00	227.8	900	6	P
23	Na	2	4.145 ug/l	4.15	24.8	450000	45	P
24	Mg	2	0.887 ug/l	0.89	34.6	450000	45	P
27	Al	2	2.549 ug/l	2.55	13.9	450000	45	P
31	P	2	-12.380 ug/l	-12.38	61.2	450000	45	P
39	K	2	-0.618 ug/l	-0.62	69.8	450000	45	P
40	Ca	1	1.077 ug/l	1.08	16.7	450000	45	P
47	Ti	2	0.033 ug/l	0.03	93.0	4500	74	P
51	V	2	-0.615 ug/l	-0.62	5.7	4500	74	P
52	Cr	2	-0.059 ug/l	-0.06	52.7	4500	74	P
55	Mn	2	0.250 ug/l	0.25	6.3	4500	74	P
56	Fe	1	1.672 ug/l	1.67	5.6	450000	74	P
59	Co	2	0.003 ug/l	0.00	114.3	4500	74	P
60	Ni	2	-0.028 ug/l	-0.03	78.5	4500	74	P
63	Cu	2	0.026 ug/l	0.03	36.7	4500	74	P
66	Zn	2	-0.009 ug/l	-0.01	1089.0	4500	74	P
75	As	2	-0.099 ug/l	-0.10	287.5	4500	74	P
78	Se	1	-0.089 ug/l	-0.09	41.8	4500	74	P
88	Sr	3	-0.014 ug/l	-0.01	19.3	4500	74	P
95	Mo	3	0.015 ug/l	0.02	69.7	4500	74	P
109	Ag	3	0.005 ug/l	0.01	126.1	900	103	P
111	Cd	3	0.003 ug/l	0.00	307.3	4500	103	P
118	Sn	3	0.094 ug/l	0.09	17.4	4500	103	P
121	Sb	3	0.027 ug/l	0.03	29.9	4500	103	P
135	Ba	3	-0.125 ug/l	-0.12	22.0	4500	103	P
200	Hg	3	0.002 ug/l	0.00	176.8	45	209	P
205	Tl	3	0.566 ug/l	0.57	2.5	4500	209	P
208	Pb	3	0.005 ug/l	0.00	98.7	4500	209	P
238	U	3	0.004 ug/l	0.00	23.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181967	0.61	198400	91.7	30 - 125
45	Sc	1	2418448	3.65	3760000	64.3	30 - 125
45	Sc	2	1438738	0.71	1428000	100.8	30 - 125
74	Ge	1	2504012	3.55	3683000	68.0	30 - 125
74	Ge	2	2736069	1.45	2627000	104.2	30 - 125
74	Ge	3	10905624	0.68	10940000	99.7	30 - 125
103	Rh	2	3928547	0.53	3842000	102.3	30 - 125
103	Rh	3	7442293	1.08	7414000	100.4	30 - 125
165	Ho	3	5759111	0.22	5459000	105.5	30 - 125
175	Lu	3	6654195	0.16	6180000	107.7	30 - 125
209	Bi	3	6672171	0.66	6220000	107.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\120SMPL.D\120SMPL.D#  
 Date Acquired: Sep 13 2010 11:53 pm Acq. Method: OSEA\_ALL.M  
 Sample Name: MB 580-71444/21-A Vial Number: 3501

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.14	0.0	900	6	P
23	Na	2	3.562 ug/l	35.62	17.1	450000	45	P
24	Mg	2	0.204 ug/l	2.04	67.8	450000	45	P
27	Al	2	0.167 ug/l	1.67	549.8	450000	45	P
31	P	2	-11.270 ug/l	-112.70	32.4	450000	45	P
39	K	2	1.329 ug/l	13.29	273.7	450000	45	P
40	Ca	1	-0.152 ug/l	-1.52	110.3	450000	45	P
47	Ti	2	-0.010 ug/l	-0.10	91.2	4500	74	P
51	V	2	-0.490 ug/l	-4.90	15.0	4500	74	P
52	Cr	2	-0.057 ug/l	-0.57	40.5	4500	74	P
55	Mn	2	0.076 ug/l	0.76	5.4	4500	74	P
56	Fe	1	0.240 ug/l	2.40	25.2	450000	74	P
59	Co	2	0.000 ug/l	0.00	689.3	4500	74	P
60	Ni	2	-0.032 ug/l	-0.32	141.2	4500	74	P
63	Cu	2	-0.006 ug/l	-0.06	218.6	4500	74	P
66	Zn	2	0.083 ug/l	0.83	106.3	4500	74	P
75	As	2	-0.142 ug/l	-1.42	121.8	4500	74	P
78	Se	1	-0.080 ug/l	-0.80	18.5	4500	74	P
88	Sr	3	-0.023 ug/l	-0.23	10.3	4500	74	P
95	Mo	3	-0.004 ug/l	-0.04	281.1	4500	74	P
109	Ag	3	-0.002 ug/l	-0.02	356.1	900	103	P
111	Cd	3	0.021 ug/l	0.21	51.7	4500	103	P
118	Sn	3	0.035 ug/l	0.35	21.9	4500	103	P
121	Sb	3	0.021 ug/l	0.21	30.6	4500	103	P
135	Ba	3	-0.094 ug/l	-0.94	32.3	4500	103	P
200	Hg	3	0.000 ug/l	0.00	1801.7	45	209	P
205	Tl	3	0.298 ug/l	2.98	0.8	4500	209	P
208	Pb	3	0.003 ug/l	0.03	31.5	4500	209	P
238	U	3	0.000 ug/l	0.00	150.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178613	0.62	198400	90.0	30 - 125
45	Sc	1	2402767	1.96	3760000	63.9	30 - 125
45	Sc	2	1401783	2.25	1428000	98.2	30 - 125
74	Ge	1	2505092	1.22	3683000	68.0	30 - 125
74	Ge	2	2694159	0.83	2627000	102.6	30 - 125
74	Ge	3	10679562	0.05	10940000	97.6	30 - 125
103	Rh	2	3891879	1.75	3842000	101.3	30 - 125
103	Rh	3	7303126	0.40	7414000	98.5	30 - 125
165	Ho	3	5783635	0.63	5459000	105.9	30 - 125
175	Lu	3	6605607	1.04	6180000	106.9	30 - 125
209	Bi	3	6636426	1.70	6220000	106.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\121SMPL.D\121SMPL.D#  
 Date Acquired: Sep 14 2010 12:00 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-11-G SD Vial Number: 3502  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.954 ug/l	47.70	7.9	900	6	P
23	Na	2	782.300 ug/l	39,115.00	0.3	450000	45	P
24	Mg	2	1234.000 ug/l	61,700.00	0.1	450000	45	P
27	Al	2	843.500 ug/l	42,175.00	1.0	450000	45	P
31	P	2	439.000 ug/l	21,950.00	3.3	450000	45	P
39	K	2	195.900 ug/l	9,795.00	1.9	450000	45	P
40	Ca	1	565.900 ug/l	28,295.00	3.2	450000	45	P
47	Ti	2	19.010 ug/l	950.50	6.5	4500	74	P
51	V	2	31.990 ug/l	1,599.50	1.2	4500	74	P
52	Cr	2	6.704 ug/l	335.20	3.0	4500	74	P
55	Mn	2	797.100 ug/l	39,855.00	2.4	4500	74	A
56	Fe	1	78200.000 ug/l	3,910,000.00	0.3	450000	74	A
59	Co	2	9.078 ug/l	453.90	1.3	4500	74	P
60	Ni	2	17.690 ug/l	884.50	2.2	4500	74	P
63	Cu	2	7.777 ug/l	388.85	1.0	4500	74	P
66	Zn	2	59.790 ug/l	2,989.50	1.5	4500	74	P
75	As	2	9.488 ug/l	474.40	2.9	4500	74	P
78	Se	1	0.066 ug/l	3.28	86.0	4500	74	P
88	Sr	3	11.730 ug/l	586.50	0.6	4500	74	P
95	Mo	3	3.644 ug/l	182.20	6.8	4500	74	P
109	Ag	3	-0.004 ug/l	-0.18	167.7	900	103	P
111	Cd	3	0.347 ug/l	17.35	25.0	4500	103	P
118	Sn	3	0.209 ug/l	10.47	12.4	4500	103	P
121	Sb	3	0.601 ug/l	30.06	4.4	4500	103	P
135	Ba	3	37.370 ug/l	1,868.50	2.3	4500	103	P
200	Hg	3	0.007 ug/l	0.37	73.9	45	209	P
205	Tl	3	0.245 ug/l	12.26	0.8	4500	209	P
208	Pb	3	9.642 ug/l	482.10	1.0	4500	209	P
238	U	3	0.556 ug/l	27.79	1.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181935	1.49	198400	91.7	30 - 125
45	Sc	1	2472395	2.12	3760000	65.8	30 - 125
45	Sc	2	1459277	1.22	1428000	102.2	30 - 125
74	Ge	1	2582163	0.43	3683000	70.1	30 - 125
74	Ge	2	2707077	1.46	2627000	103.0	30 - 125
74	Ge	3	10779376	0.74	10940000	98.5	30 - 125
103	Rh	2	3893278	0.69	3842000	101.3	30 - 125
103	Rh	3	7248310	1.11	7414000	97.8	30 - 125
165	Ho	3	5687641	0.73	5459000	104.2	30 - 125
175	Lu	3	6413354	0.27	6180000	103.8	30 - 125
209	Bi	3	6423211	0.46	6220000	103.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\122SMPL.D\122SMPL.D#  
 Date Acquired: Sep 14 2010 12:06 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-11-G Vial Number: 3503

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	5.306 ug/l	53.06	9.3	900	6	P
23	Na	2	3784.000 ug/l	37,840.00	1.6	450000	45	A
24	Mg	2	5942.000 ug/l	59,420.00	1.0	450000	45	A
27	Al	2	4126.000 ug/l	41,260.00	1.0	450000	45	P
31	P	2	2189.000 ug/l	21,890.00	2.1	450000	45	P
39	K	2	968.500 ug/l	9,685.00	0.4	450000	45	P
40	Ca	1	2697.000 ug/l	26,970.00	2.6	450000	45	A
47	Ti	2	95.040 ug/l	950.40	1.7	4500	74	P
51	V	2	164.900 ug/l	1,649.00	0.7	4500	74	P
52	Cr	2	34.270 ug/l	342.70	2.1	4500	74	P
55	Mn	2	3875.000 ug/l	38,750.00	0.4	4500	74	A
56	Fe	1	397700.000 ug/l	3,977,000.00	2.5	450000	74	A
59	Co	2	44.430 ug/l	444.30	1.5	4500	74	P
60	Ni	2	87.690 ug/l	876.90	1.9	4500	74	P
63	Cu	2	38.140 ug/l	381.40	1.8	4500	74	P
66	Zn	2	286.300 ug/l	2,863.00	2.8	4500	74	P
75	As	2	47.190 ug/l	471.90	2.3	4500	74	P
78	Se	1	1.070 ug/l	10.70	18.4	4500	74	P
88	Sr	3	60.150 ug/l	601.50	1.1	4500	74	P
95	Mo	3	18.400 ug/l	184.00	1.0	4500	74	P
109	Ag	3	0.036 ug/l	0.36	36.8	900	103	P
111	Cd	3	1.516 ug/l	15.16	15.3	4500	103	P
118	Sn	3	0.640 ug/l	6.40	13.6	4500	103	P
121	Sb	3	2.978 ug/l	29.78	2.5	4500	103	P
135	Ba	3	192.900 ug/l	1,929.00	0.8	4500	103	P
200	Hg	3	0.029 ug/l	0.29	6.1	45	209	P
205	Tl	3	0.206 ug/l	2.06	5.5	4500	209	P
208	Pb	3	48.300 ug/l	483.00	1.1	4500	209	P
238	U	3	2.893 ug/l	28.93	0.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	160278	0.96	198400	80.8	30 - 125
45	Sc	1	2414968	2.43	3760000	64.2	30 - 125
45	Sc	2	1279029	1.35	1428000	89.6	30 - 125
74	Ge	1	2374455	2.28	3683000	64.5	30 - 125
74	Ge	2	2331023	0.75	2627000	88.7	30 - 125
74	Ge	3	9301032	0.49	10940000	85.0	30 - 125
103	Rh	2	3258168	1.15	3842000	84.8	30 - 125
103	Rh	3	6244688	0.31	7414000	84.2	30 - 125
165	Ho	3	5300125	0.77	5459000	97.1	30 - 125
175	Lu	3	6027004	0.44	6180000	97.5	30 - 125
209	Bi	3	5741487	0.74	6220000	92.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\123SMPL.D\123SMPL.D#  
 Date Acquired: Sep 14 2010 12:13 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-11-H DU Vial Number: 3504

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	5.046 ug/l	50.46	8.4	900	6	P
23	Na	2	3630.000 ug/l	36,300.00	0.3	450000	45	A
24	Mg	2	5712.000 ug/l	57,120.00	1.8	450000	45	A
27	Al	2	3967.000 ug/l	39,670.00	1.2	450000	45	P
31	P	2	2075.000 ug/l	20,750.00	0.3	450000	45	P
39	K	2	932.000 ug/l	9,320.00	1.2	450000	45	P
40	Ca	1	2621.000 ug/l	26,210.00	3.0	450000	45	A
47	Ti	2	95.110 ug/l	951.10	1.4	4500	74	P
51	V	2	163.600 ug/l	1,636.00	0.2	4500	74	P
52	Cr	2	34.070 ug/l	340.70	0.5	4500	74	P
55	Mn	2	3831.000 ug/l	38,310.00	0.4	4500	74	A
56	Fe	1	391200.000 ug/l	3,912,000.00	0.9	450000	74	A
59	Co	2	44.190 ug/l	441.90	0.3	4500	74	P
60	Ni	2	87.030 ug/l	870.30	1.4	4500	74	P
63	Cu	2	37.670 ug/l	376.70	1.7	4500	74	P
66	Zn	2	286.200 ug/l	2,862.00	1.7	4500	74	P
75	As	2	47.150 ug/l	471.50	1.3	4500	74	P
78	Se	1	0.782 ug/l	7.82	15.8	4500	74	P
88	Sr	3	58.400 ug/l	584.00	1.1	4500	74	P
95	Mo	3	17.870 ug/l	178.70	1.4	4500	74	P
109	Ag	3	0.035 ug/l	0.35	6.6	900	103	P
111	Cd	3	1.510 ug/l	15.10	6.8	4500	103	P
118	Sn	3	0.609 ug/l	6.09	5.4	4500	103	P
121	Sb	3	2.886 ug/l	28.86	3.3	4500	103	P
135	Ba	3	191.200 ug/l	1,912.00	1.3	4500	103	P
200	Hg	3	0.030 ug/l	0.30	44.3	45	209	P
205	Tl	3	0.189 ug/l	1.89	2.5	4500	209	P
208	Pb	3	47.270 ug/l	472.70	0.3	4500	209	P
238	U	3	2.863 ug/l	28.63	1.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	160985	1.35	198400	81.1	30 - 125
45	Sc	1	2347479	2.57	3760000	62.4	30 - 125
45	Sc	2	1301868	1.28	1428000	91.2	30 - 125
74	Ge	1	2313772	1.00	3683000	62.8	30 - 125
74	Ge	2	2306843	0.38	2627000	87.8	30 - 125
74	Ge	3	9370227	1.71	10940000	85.7	30 - 125
103	Rh	2	3259504	0.64	3842000	84.8	30 - 125
103	Rh	3	6216807	0.71	7414000	83.9	30 - 125
165	Ho	3	5227423	1.47	5459000	95.8	30 - 125
175	Lu	3	5960298	1.02	6180000	96.4	30 - 125
209	Bi	3	5709683	0.99	6220000	91.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\124SMPL.D\124SMPL.D#  
 Date Acquired: Sep 14 2010 12:20 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-11-I MS Vial Number: 3505

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.277 ug/l	113.85	4.1	900	6	P
23	Na	2	1000.000 ug/l	50,000.00	1.5	450000	45	A
24	Mg	2	1428.000 ug/l	71,400.00	1.7	450000	45	P
27	Al	2	1204.000 ug/l	60,200.00	1.1	450000	45	P
31	P	2	606.700 ug/l	30,335.00	2.3	450000	45	P
39	K	2	663.300 ug/l	33,165.00	1.8	450000	45	P
40	Ca	1	822.300 ug/l	41,115.00	3.4	450000	45	P
47	Ti	2	114.300 ug/l	5,715.00	1.4	4500	74	P
51	V	2	37.930 ug/l	1,896.50	1.7	4500	74	P
52	Cr	2	12.420 ug/l	621.00	2.1	4500	74	P
55	Mn	2	585.100 ug/l	29,255.00	2.2	4500	74	A
56	Fe	1	50650.000 ug/l	2,532,500.00	1.9	450000	74	A
59	Co	2	25.390 ug/l	1,269.50	1.6	4500	74	P
60	Ni	2	32.670 ug/l	1,633.50	0.6	4500	74	P
63	Cu	2	15.320 ug/l	766.00	0.6	4500	74	P
66	Zn	2	49.870 ug/l	2,493.50	1.6	4500	74	P
75	As	2	83.200 ug/l	4,160.00	1.1	4500	74	P
78	Se	1	81.670 ug/l	4,083.50	1.8	4500	74	P
88	Sr	3	10.250 ug/l	512.50	0.7	4500	74	P
95	Mo	3	99.510 ug/l	4,975.50	1.1	4500	74	P
109	Ag	3	11.890 ug/l	594.50	2.0	900	103	P
111	Cd	3	2.273 ug/l	113.65	1.8	4500	103	P
118	Sn	3	103.800 ug/l	5,190.00	1.0	4500	103	P
121	Sb	3	58.980 ug/l	2,949.00	0.5	4500	103	P
135	Ba	3	127.700 ug/l	6,385.00	1.3	4500	103	P
200	Hg	3	0.960 ug/l	48.01	1.8	45	209	P
205	Tl	3	78.380 ug/l	3,919.00	0.9	4500	209	A
208	Pb	3	25.560 ug/l	1,278.00	0.8	4500	209	P
238	U	3	0.392 ug/l	19.60	2.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	170112	1.73	198400	85.7	30 - 125
45	Sc	1	2324388	2.73	3760000	61.8	30 - 125
45	Sc	2	1351536	0.90	1428000	94.6	30 - 125
74	Ge	1	2417529	2.46	3683000	65.6	30 - 125
74	Ge	2	2527357	0.95	2627000	96.2	30 - 125
74	Ge	3	10209564	0.48	10940000	93.3	30 - 125
103	Rh	2	3643949	1.70	3842000	94.8	30 - 125
103	Rh	3	6901248	0.66	7414000	93.1	30 - 125
165	Ho	3	5499382	0.86	5459000	100.7	30 - 125
175	Lu	3	6238310	1.06	6180000	100.9	30 - 125
209	Bi	3	6182915	0.71	6220000	99.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\125SMPL.D\125SMPL.D#  
 Date Acquired: Sep 14 2010 12:27 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-11-J MSD Vial Number: 3506  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.288 ug/l	114.40	5.9	900	6	P
23	Na	2	1008.000 ug/l	50,400.00	2.1	450000	45	A
24	Mg	2	1472.000 ug/l	73,600.00	2.6	450000	45	P
27	Al	2	1242.000 ug/l	62,100.00	2.9	450000	45	P
31	P	2	641.900 ug/l	32,095.00	5.1	450000	45	P
39	K	2	677.600 ug/l	33,880.00	3.3	450000	45	P
40	Ca	1	830.000 ug/l	41,500.00	1.4	450000	45	M
47	Ti	2	119.300 ug/l	5,965.00	2.4	4500	74	P
51	V	2	40.680 ug/l	2,034.00	1.2	4500	74	P
52	Cr	2	13.040 ug/l	652.00	3.8	4500	74	P
55	Mn	2	599.000 ug/l	29,950.00	1.4	4500	74	A
56	Fe	1	52550.000 ug/l	2,627,500.00	1.6	450000	74	A
59	Co	2	26.390 ug/l	1,319.50	0.8	4500	74	P
60	Ni	2	34.540 ug/l	1,727.00	4.4	4500	74	P
63	Cu	2	15.570 ug/l	778.50	1.9	4500	74	P
66	Zn	2	52.410 ug/l	2,620.50	1.5	4500	74	P
75	As	2	85.790 ug/l	4,289.50	1.4	4500	74	P
78	Se	1	85.380 ug/l	4,269.00	2.3	4500	74	P
88	Sr	3	10.500 ug/l	525.00	0.6	4500	74	P
95	Mo	3	103.100 ug/l	5,155.00	0.7	4500	74	P
109	Ag	3	12.530 ug/l	626.50	1.1	900	103	P
111	Cd	3	2.297 ug/l	114.85	4.3	4500	103	P
118	Sn	3	108.000 ug/l	5,400.00	1.1	4500	103	P
121	Sb	3	61.070 ug/l	3,053.50	0.3	4500	103	P
135	Ba	3	132.600 ug/l	6,630.00	0.8	4500	103	P
200	Hg	3	0.988 ug/l	49.39	4.6	45	209	P
205	Tl	3	79.270 ug/l	3,963.50	1.8	4500	209	A
208	Pb	3	26.170 ug/l	1,308.50	1.5	4500	209	P
238	U	3	0.420 ug/l	20.98	2.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	175461	0.51	198400	88.4	30 - 125
45	Sc	1	2326776	0.67	3760000	61.9	30 - 125
45	Sc	2	1389294	2.44	1428000	97.3	30 - 125
74	Ge	1	2416100	0.46	3683000	65.6	30 - 125
74	Ge	2	2587244	1.47	2627000	98.5	30 - 125
74	Ge	3	10475268	1.19	10940000	95.8	30 - 125
103	Rh	2	3692105	0.32	3842000	96.1	30 - 125
103	Rh	3	7026387	0.89	7414000	94.8	30 - 125
165	Ho	3	5507294	0.97	5459000	100.9	30 - 125
175	Lu	3	6289993	0.69	6180000	101.8	30 - 125
209	Bi	3	6306608	1.07	6220000	101.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\126SMPL.D\126SMPL.D#  
 Date Acquired: Sep 14 2010 12:34 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-11-G PDS Vial Number: 3507  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.462 ug/l	123.10	8.7	900	6	P
23	Na	2	1041.000 ug/l	52,050.00	1.6	450000	45	A
24	Mg	2	1484.000 ug/l	74,200.00	0.7	450000	45	P
27	Al	2	1248.000 ug/l	62,400.00	1.7	450000	45	P
31	P	2	614.400 ug/l	30,720.00	1.9	450000	45	P
39	K	2	694.000 ug/l	34,700.00	1.6	450000	45	P
40	Ca	1	824.900 ug/l	41,245.00	4.8	450000	45	M
47	Ti	2	119.400 ug/l	5,970.00	2.3	4500	74	P
51	V	2	39.750 ug/l	1,987.50	0.4	4500	74	P
52	Cr	2	12.910 ug/l	645.50	0.7	4500	74	P
55	Mn	2	605.300 ug/l	30,265.00	0.8	4500	74	A
56	Fe	1	52040.000 ug/l	2,602,000.00	2.2	450000	74	A
59	Co	2	26.130 ug/l	1,306.50	1.2	4500	74	P
60	Ni	2	33.480 ug/l	1,674.00	0.4	4500	74	P
63	Cu	2	15.720 ug/l	786.00	2.6	4500	74	P
66	Zn	2	51.860 ug/l	2,593.00	1.1	4500	74	P
75	As	2	85.160 ug/l	4,258.00	1.4	4500	74	P
78	Se	1	83.420 ug/l	4,171.00	0.5	4500	74	P
88	Sr	3	10.470 ug/l	523.50	2.1	4500	74	P
95	Mo	3	102.000 ug/l	5,100.00	1.3	4500	74	P
109	Ag	3	12.220 ug/l	611.00	0.7	900	103	P
111	Cd	3	2.183 ug/l	109.15	2.1	4500	103	P
118	Sn	3	105.400 ug/l	5,270.00	1.1	4500	103	P
121	Sb	3	59.800 ug/l	2,990.00	1.0	4500	103	P
135	Ba	3	128.000 ug/l	6,400.00	0.4	4500	103	P
200	Hg	3	1.005 ug/l	50.25	3.1	45	209	P
205	Tl	3	80.780 ug/l	4,039.00	0.8	4500	209	A
208	Pb	3	26.440 ug/l	1,322.00	1.2	4500	209	P
238	U	3	0.417 ug/l	20.85	3.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	176468	1.20	198400	88.9	30 - 125
45	Sc	1	2350364	3.25	3760000	62.5	30 - 125
45	Sc	2	1398289	0.98	1428000	97.9	30 - 125
74	Ge	1	2448092	2.08	3683000	66.5	30 - 125
74	Ge	2	2655568	0.97	2627000	101.1	30 - 125
74	Ge	3	10734780	1.21	10940000	98.1	30 - 125
103	Rh	2	3723843	0.51	3842000	96.9	30 - 125
103	Rh	3	7266405	1.30	7414000	98.0	30 - 125
165	Ho	3	5634524	0.27	5459000	103.2	30 - 125
175	Lu	3	6448456	2.56	6180000	104.3	30 - 125
209	Bi	3	6312023	0.64	6220000	101.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\127SMPL.D\127SMPL.D#  
 Date Acquired: Sep 14 2010 12:41 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCS 580-71444/22-A Vial Number: 3508  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.080 ug/l	104.00	11.9	900	6	P
23	Na	2	425.200 ug/l	21,260.00	2.4	450000	45	P
24	Mg	2	426.900 ug/l	21,345.00	1.6	450000	45	P
27	Al	2	72.270 ug/l	3,613.50	1.5	450000	45	P
31	P	2	367.500 ug/l	18,375.00	1.5	450000	45	P
39	K	2	431.400 ug/l	21,570.00	2.4	450000	45	P
40	Ca	1	385.200 ug/l	19,260.00	3.7	450000	45	P
47	Ti	2	97.900 ug/l	4,895.00	2.1	4500	74	P
51	V	2	19.470 ug/l	973.50	0.9	4500	74	P
52	Cr	2	8.121 ug/l	406.05	1.8	4500	74	P
55	Mn	2	20.570 ug/l	1,028.50	0.6	4500	74	P
56	Fe	1	496.500 ug/l	24,825.00	4.8	450000	74	M
59	Co	2	20.170 ug/l	1,008.50	1.0	4500	74	P
60	Ni	2	19.970 ug/l	998.50	1.0	4500	74	P
63	Cu	2	10.100 ug/l	505.00	1.7	4500	74	P
66	Zn	2	20.760 ug/l	1,038.00	2.6	4500	74	P
75	As	2	82.170 ug/l	4,108.50	1.7	4500	74	P
78	Se	1	85.320 ug/l	4,266.00	2.7	4500	74	P
88	Sr	3	-0.069 ug/l	-3.44	5.8	4500	74	P
95	Mo	3	104.600 ug/l	5,230.00	0.9	4500	74	P
109	Ag	3	12.860 ug/l	643.00	1.5	900	103	P
111	Cd	3	2.215 ug/l	110.75	5.5	4500	103	P
118	Sn	3	108.200 ug/l	5,410.00	2.2	4500	103	P
121	Sb	3	63.200 ug/l	3,160.00	1.6	4500	103	P
135	Ba	3	86.550 ug/l	4,327.50	2.1	4500	103	P
200	Hg	3	1.029 ug/l	51.45	2.6	45	209	P
205	Tl	3	83.150 ug/l	4,157.50	1.7	4500	209	A
208	Pb	3	21.100 ug/l	1,055.00	1.0	4500	209	P
238	U	3	0.000 ug/l	0.00	698.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	173084	1.05	198400	87.2	30 - 125
45	Sc	1	2207991	5.30	3760000	58.7	30 - 125
45	Sc	2	1387888	2.37	1428000	97.2	30 - 125
74	Ge	1	2323203	3.04	3683000	63.1	30 - 125
74	Ge	2	2584188	1.14	2627000	98.4	30 - 125
74	Ge	3	10663885	0.45	10940000	97.5	30 - 125
103	Rh	2	3804523	0.79	3842000	99.0	30 - 125
103	Rh	3	7239963	1.36	7414000	97.7	30 - 125
165	Ho	3	5754338	1.06	5459000	105.4	30 - 125
175	Lu	3	6430211	0.77	6180000	104.0	30 - 125
209	Bi	3	6562538	0.53	6220000	105.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\128SMPL.D\128SMPL.D#  
 Date Acquired: Sep 14 2010 12:48 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71444/23-A Vial Number: 3509  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.163 ug/l	108.15	12.0	900	6	P
23	Na	2	429.400 ug/l	21,470.00	0.9	450000	45	P
24	Mg	2	428.900 ug/l	21,445.00	0.5	450000	45	P
27	Al	2	73.600 ug/l	3,680.00	1.6	450000	45	P
31	P	2	352.100 ug/l	17,605.00	3.8	450000	45	P
39	K	2	433.500 ug/l	21,675.00	0.4	450000	45	P
40	Ca	1	380.300 ug/l	19,015.00	5.4	450000	45	P
47	Ti	2	97.400 ug/l	4,870.00	1.7	4500	74	P
51	V	2	19.220 ug/l	961.00	0.2	4500	74	P
52	Cr	2	8.032 ug/l	401.60	3.6	4500	74	P
55	Mn	2	20.200 ug/l	1,010.00	1.8	4500	74	P
56	Fe	1	505.900 ug/l	25,295.00	4.9	450000	74	P
59	Co	2	19.920 ug/l	996.00	1.6	4500	74	P
60	Ni	2	19.470 ug/l	973.50	2.8	4500	74	P
63	Cu	2	10.170 ug/l	508.50	1.0	4500	74	P
66	Zn	2	21.950 ug/l	1,097.50	3.0	4500	74	P
75	As	2	80.800 ug/l	4,040.00	1.5	4500	74	P
78	Se	1	88.070 ug/l	4,403.50	4.8	4500	74	P
88	Sr	3	-0.068 ug/l	-3.38	11.5	4500	74	P
95	Mo	3	107.500 ug/l	5,375.00	1.0	4500	74	P
109	Ag	3	12.910 ug/l	645.50	1.8	900	103	P
111	Cd	3	2.216 ug/l	110.80	1.3	4500	103	P
118	Sn	3	108.000 ug/l	5,400.00	0.9	4500	103	P
121	Sb	3	62.730 ug/l	3,136.50	1.1	4500	103	P
135	Ba	3	86.550 ug/l	4,327.50	1.0	4500	103	P
200	Hg	3	1.007 ug/l	50.35	3.8	45	209	P
205	Tl	3	84.370 ug/l	4,218.50	1.0	4500	209	A
208	Pb	3	21.240 ug/l	1,062.00	0.2	4500	209	P
238	U	3	0.000 ug/l	-0.01	90.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	176855	0.34	198400	89.1	30 - 125
45	Sc	1	2172089	4.73	3760000	57.8	30 - 125
45	Sc	2	1397442	0.61	1428000	97.9	30 - 125
74	Ge	1	2278622	3.84	3683000	61.9	30 - 125
74	Ge	2	2664284	1.06	2627000	101.4	30 - 125
74	Ge	3	10684062	1.08	10940000	97.7	30 - 125
103	Rh	2	3832238	0.22	3842000	99.7	30 - 125
103	Rh	3	7381010	1.16	7414000	99.6	30 - 125
165	Ho	3	5694103	0.47	5459000	104.3	30 - 125
175	Lu	3	6491624	0.17	6180000	105.0	30 - 125
209	Bi	3	6559001	0.43	6220000	105.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\129SMPL.D\129SMPL.D#  
 Date Acquired: Sep 14 2010 12:55 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSSRM 580-71444/24-A Vial Number: 3510  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **20.00** Final Dil Factor: **20.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	78.250 ug/l	1,565.00	2.4	900	6	P
23	Na	2	242.900 ug/l	4,858.00	0.6	450000	45	P
24	Mg	2	1933.000 ug/l	38,660.00	2.4	450000	45	A
27	Al	2	4412.000 ug/l	88,240.00	1.3	450000	45	A
31	P	2	338.500 ug/l	6,770.00	7.0	450000	45	P
39	K	2	1955.000 ug/l	39,100.00	1.2	450000	45	P
40	Ca	1	3959.000 ug/l	79,180.00	4.7	450000	45	A
47	Ti	2	184.100 ug/l	3,682.00	1.1	4500	74	P
51	V	2	44.090 ug/l	881.80	1.2	4500	74	P
52	Cr	2	55.240 ug/l	1,104.80	0.7	4500	74	P
55	Mn	2	172.100 ug/l	3,442.00	0.9	4500	74	P
56	Fe	1	9097.000 ug/l	181,940.00	2.3	450000	74	A
59	Co	2	52.580 ug/l	1,051.60	0.9	4500	74	P
60	Ni	2	76.530 ug/l	1,530.60	1.1	4500	74	P
63	Cu	2	29.930 ug/l	598.60	2.1	4500	74	P
66	Zn	2	163.000 ug/l	3,260.00	1.6	4500	74	P
75	As	2	104.600 ug/l	2,092.00	1.1	4500	74	P
78	Se	1	75.650 ug/l	1,513.00	2.1	4500	74	P
88	Sr	3	56.280 ug/l	1,125.60	0.6	4500	74	P
95	Mo	3	54.770 ug/l	1,095.40	0.4	4500	74	P
109	Ag	3	17.030 ug/l	340.60	1.4	900	103	P
111	Cd	3	32.740 ug/l	654.80	0.7	4500	103	P
118	Sn	3	85.360 ug/l	1,707.20	1.4	4500	103	P
121	Sb	3	110.700 ug/l	2,214.00	1.4	4500	103	P
135	Ba	3	276.800 ug/l	5,536.00	2.1	4500	103	P
200	Hg	3	2.123 ug/l	42.46	2.4	45	209	P
205	Tl	3	86.840 ug/l	1,736.80	1.0	4500	209	A
208	Pb	3	106.900 ug/l	2,138.00	1.0	4500	209	A
238	U	3	0.809 ug/l	16.17	0.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	174946	0.64	198400	88.2	30 - 125
45	Sc	1	2155039	3.85	3760000	57.3	30 - 125
45	Sc	2	1434535	1.05	1428000	100.5	30 - 125
74	Ge	1	2254056	2.68	3683000	61.2	30 - 125
74	Ge	2	2713203	0.54	2627000	103.3	30 - 125
74	Ge	3	10908809	0.94	10940000	99.7	30 - 125
103	Rh	2	3812979	1.64	3842000	99.2	30 - 125
103	Rh	3	7396715	0.93	7414000	99.8	30 - 125
165	Ho	3	5744464	0.19	5459000	105.2	30 - 125
175	Lu	3	6523499	0.70	6180000	105.6	30 - 125
209	Bi	3	6468428	0.41	6220000	104.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\130SMPL.D\130SMPL.D#  
 Date Acquired: Sep 14 2010 01:02 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	49.630 ug/l	49.63	3.4	900	6	P
23	Na	2	4606.000 ug/l	4,606.00	0.6	450000	45	A
24	Mg	2	4636.000 ug/l	4,636.00	0.1	450000	45	A
27	Al	2	467.200 ug/l	467.20	0.4	450000	45	P
31	P	2	4509.000 ug/l	4,509.00	0.7	450000	45	P
39	K	2	4829.000 ug/l	4,829.00	1.5	450000	45	A
40	Ca	1	4262.000 ug/l	4,262.00	4.0	450000	45	A
47	Ti	2	47.180 ug/l	47.18	2.2	4500	74	P
51	V	2	45.910 ug/l	45.91	1.0	4500	74	P
52	Cr	2	46.450 ug/l	46.45	1.3	4500	74	P
55	Mn	2	47.130 ug/l	47.13	0.6	4500	74	P
56	Fe	1	4961.000 ug/l	4,961.00	2.1	450000	74	A
59	Co	2	46.230 ug/l	46.23	1.4	4500	74	P
60	Ni	2	45.490 ug/l	45.49	2.2	4500	74	P
63	Cu	2	46.380 ug/l	46.38	0.3	4500	74	P
66	Zn	2	47.530 ug/l	47.53	2.0	4500	74	P
75	As	2	48.360 ug/l	48.36	2.1	4500	74	P
78	Se	1	52.100 ug/l	52.10	2.2	4500	74	P
88	Sr	3	48.460 ug/l	48.46	1.3	4500	74	P
95	Mo	3	49.010 ug/l	49.01	0.7	4500	74	P
109	Ag	3	49.460 ug/l	49.46	1.3	900	103	P
111	Cd	3	50.820 ug/l	50.82	0.3	4500	103	P
118	Sn	3	50.180 ug/l	50.18	1.8	4500	103	P
121	Sb	3	50.810 ug/l	50.81	0.6	4500	103	P
135	Ba	3	51.180 ug/l	51.18	1.8	4500	103	P
200	Hg	3	2.420 ug/l	2.42	1.6	45	209	P
205	Tl	3	50.540 ug/l	50.54	2.8	4500	209	P
208	Pb	3	49.250 ug/l	49.25	1.5	4500	209	P
238	U	3	48.360 ug/l	48.36	1.5	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178187	3.04	198400	89.8	30 - 125
45	Sc	1	2243000	4.36	3760000	59.7	30 - 125
45	Sc	2	1473668	1.94	1428000	103.2	30 - 125
74	Ge	1	2361011	3.94	3683000	64.1	30 - 125
74	Ge	2	2738864	1.12	2627000	104.3	30 - 125
74	Ge	3	11287875	0.94	10940000	103.2	30 - 125
103	Rh	2	3892033	1.88	3842000	101.3	30 - 125
103	Rh	3	7481213	0.32	7414000	100.9	30 - 125
165	Ho	3	5818427	0.17	5459000	106.6	30 - 125
175	Lu	3	6549753	0.85	6180000	106.0	30 - 125
209	Bi	3	6485894	1.21	6220000	104.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\131SMPL.D\131SMPL.D#  
 Date Acquired: Sep 14 2010 01:09 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	-1.305 ug/l	-1.31	3.7	450000	45	P
24	Mg	2	0.926 ug/l	0.93	20.4	450000	45	P
27	Al	2	1.999 ug/l	2.00	25.4	450000	45	P
31	P	2	-10.490 ug/l	-10.49	11.4	450000	45	P
39	K	2	2.926 ug/l	2.93	126.5	450000	45	P
40	Ca	1	0.906 ug/l	0.91	34.7	450000	45	P
47	Ti	2	0.009 ug/l	0.01	218.6	4500	74	P
51	V	2	-0.605 ug/l	-0.60	14.2	4500	74	P
52	Cr	2	-0.060 ug/l	-0.06	47.3	4500	74	P
55	Mn	2	0.278 ug/l	0.28	6.4	4500	74	P
56	Fe	1	1.817 ug/l	1.82	6.6	450000	74	P
59	Co	2	0.005 ug/l	0.01	57.4	4500	74	P
60	Ni	2	-0.071 ug/l	-0.07	60.5	4500	74	P
63	Cu	2	0.014 ug/l	0.01	135.2	4500	74	P
66	Zn	2	0.120 ug/l	0.12	99.4	4500	74	P
75	As	2	-0.214 ug/l	-0.21	114.1	4500	74	P
78	Se	1	-0.047 ug/l	-0.05	81.4	4500	74	P
88	Sr	3	-0.011 ug/l	-0.01	57.2	4500	74	P
95	Mo	3	-0.001 ug/l	0.00	1479.4	4500	74	P
109	Ag	3	0.007 ug/l	0.01	143.0	900	103	P
111	Cd	3	0.005 ug/l	0.00	163.3	4500	103	P
118	Sn	3	0.087 ug/l	0.09	15.3	4500	103	P
121	Sb	3	0.039 ug/l	0.04	30.6	4500	103	P
135	Ba	3	-0.098 ug/l	-0.10	36.1	4500	103	P
200	Hg	3	0.002 ug/l	0.00	72.0	45	209	P
205	Tl	3	0.650 ug/l	0.65	2.2	4500	209	P
208	Pb	3	0.007 ug/l	0.01	28.4	4500	209	P
238	U	3	0.003 ug/l	0.00	11.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183346	1.90	198400	92.4	30 - 125
45	Sc	1	2215709	4.09	3760000	58.9	30 - 125
45	Sc	2	1435973	1.25	1428000	100.6	30 - 125
74	Ge	1	2347990	2.83	3683000	63.8	30 - 125
74	Ge	2	2788024	1.45	2627000	106.1	30 - 125
74	Ge	3	11319154	0.54	10940000	103.5	30 - 125
103	Rh	2	3963785	1.12	3842000	103.2	30 - 125
103	Rh	3	7743208	0.36	7414000	104.4	30 - 125
165	Ho	3	5863463	0.83	5459000	107.4	30 - 125
175	Lu	3	6633060	0.72	6180000	107.3	30 - 125
209	Bi	3	6753353	0.80	6220000	108.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\132SMPL.D\132SMPL.D#  
 Date Acquired: Sep 14 2010 01:16 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-16-C Vial Number: 4101

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.931 ug/l	29.31	7.5	900	6	P
23	Na	2	1765.000 ug/l	17,650.00	3.3	450000	45	A
24	Mg	2	5020.000 ug/l	50,200.00	2.3	450000	45	A
27	Al	2	3439.000 ug/l	34,390.00	1.4	450000	45	P
31	P	2	2430.000 ug/l	24,300.00	1.4	450000	45	P
39	K	2	897.800 ug/l	8,978.00	2.1	450000	45	P
40	Ca	1	3912.000 ug/l	39,120.00	2.5	450000	45	A
47	Ti	2	78.870 ug/l	788.70	1.7	4500	74	P
51	V	2	90.080 ug/l	900.80	1.2	4500	74	P
52	Cr	2	22.260 ug/l	222.60	0.8	4500	74	P
55	Mn	2	2636.000 ug/l	26,360.00	0.8	4500	74	A
56	Fe	1	360100.000 ug/l	3,601,000.00	3.5	450000	74	A
59	Co	2	28.820 ug/l	288.20	1.5	4500	74	P
60	Ni	2	59.360 ug/l	593.60	2.7	4500	74	P
63	Cu	2	24.980 ug/l	249.80	2.1	4500	74	P
66	Zn	2	178.000 ug/l	1,780.00	1.9	4500	74	P
75	As	2	47.570 ug/l	475.70	2.1	4500	74	P
78	Se	1	0.453 ug/l	4.53	29.3	4500	74	P
88	Sr	3	60.720 ug/l	607.20	1.5	4500	74	P
95	Mo	3	14.940 ug/l	149.40	1.3	4500	74	P
109	Ag	3	0.036 ug/l	0.36	36.7	900	103	P
111	Cd	3	1.051 ug/l	10.51	8.5	4500	103	P
118	Sn	3	3.491 ug/l	34.91	1.3	4500	103	P
121	Sb	3	2.353 ug/l	23.53	2.8	4500	103	P
135	Ba	3	228.500 ug/l	2,285.00	0.7	4500	103	P
200	Hg	3	0.048 ug/l	0.48	22.2	45	209	P
205	Tl	3	0.429 ug/l	4.29	3.7	4500	209	P
208	Pb	3	52.710 ug/l	527.10	0.9	4500	209	P
238	U	3	2.102 ug/l	21.02	0.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	161758	0.43	198400	81.5	30 - 125
45	Sc	1	2197902	3.93	3760000	58.5	30 - 125
45	Sc	2	1276852	2.12	1428000	89.4	30 - 125
74	Ge	1	2253542	3.89	3683000	61.2	30 - 125
74	Ge	2	2348126	0.32	2627000	89.4	30 - 125
74	Ge	3	9319590	1.65	10940000	85.2	30 - 125
103	Rh	2	3317809	1.57	3842000	86.4	30 - 125
103	Rh	3	6328543	0.58	7414000	85.4	30 - 125
165	Ho	3	5248994	0.53	5459000	96.2	30 - 125
175	Lu	3	5970013	0.77	6180000	96.6	30 - 125
209	Bi	3	5744235	0.94	6220000	92.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\133SMPL.D\133SMPL.D#  
 Date Acquired: Sep 14 2010 01:23 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-17-C Vial Number: 4102  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 10.00 Final Dil Factor: 10.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.438 ug/l	24.38	3.8	900	6	P
23	Na	2	2137.000 ug/l	21,370.00	3.1	450000	45	A
24	Mg	2	4342.000 ug/l	43,420.00	1.0	450000	45	A
27	Al	2	3883.000 ug/l	38,830.00	1.4	450000	45	P
31	P	2	1365.000 ug/l	13,650.00	1.6	450000	45	P
39	K	2	960.200 ug/l	9,602.00	0.2	450000	45	P
40	Ca	1	3669.000 ug/l	36,690.00	3.5	450000	45	A
47	Ti	2	74.550 ug/l	745.50	4.3	4500	74	P
51	V	2	77.320 ug/l	773.20	2.0	4500	74	P
52	Cr	2	22.190 ug/l	221.90	2.5	4500	74	P
55	Mn	2	2148.000 ug/l	21,480.00	1.7	4500	74	A
56	Fe	1	200100.000 ug/l	2,001,000.00	2.6	450000	74	A
59	Co	2	27.850 ug/l	278.50	2.1	4500	74	P
60	Ni	2	60.000 ug/l	600.00	2.1	4500	74	P
63	Cu	2	23.790 ug/l	237.90	3.1	4500	74	P
66	Zn	2	140.500 ug/l	1,405.00	2.5	4500	74	P
75	As	2	43.790 ug/l	437.90	4.3	4500	74	P
78	Se	1	0.419 ug/l	4.19	37.4	4500	74	P
88	Sr	3	34.450 ug/l	344.50	1.2	4500	74	P
95	Mo	3	8.832 ug/l	88.32	0.1	4500	74	P
109	Ag	3	0.033 ug/l	0.33	22.3	900	103	P
111	Cd	3	0.572 ug/l	5.72	15.7	4500	103	P
118	Sn	3	11.860 ug/l	118.60	3.2	4500	103	P
121	Sb	3	1.812 ug/l	18.12	1.2	4500	103	P
135	Ba	3	146.300 ug/l	1,463.00	1.3	4500	103	P
200	Hg	3	0.049 ug/l	0.49	13.9	45	209	P
205	Tl	3	0.321 ug/l	3.21	6.4	4500	209	P
208	Pb	3	37.970 ug/l	379.70	1.7	4500	209	P
238	U	3	1.619 ug/l	16.19	0.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	167805	0.44	198400	84.6	30 - 125
45	Sc	1	2279261	3.95	3760000	60.6	30 - 125
45	Sc	2	1326382	1.39	1428000	92.9	30 - 125
74	Ge	1	2294118	1.62	3683000	62.3	30 - 125
74	Ge	2	2473325	2.00	2627000	94.2	30 - 125
74	Ge	3	9827827	1.02	10940000	89.8	30 - 125
103	Rh	2	3507054	0.23	3842000	91.3	30 - 125
103	Rh	3	6576578	0.90	7414000	88.7	30 - 125
165	Ho	3	5376470	0.63	5459000	98.5	30 - 125
175	Lu	3	6121123	0.32	6180000	99.0	30 - 125
209	Bi	3	5953984	0.77	6220000	95.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\134SMPL.D\134SMPL.D#  
 Date Acquired: Sep 14 2010 01:30 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-18-C Vial Number: 4103

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	3.252 ug/l	32.52	4.3	900	6	P
23	Na	2	914.400 ug/l	9,144.00	1.3	450000	45	P
24	Mg	2	4446.000 ug/l	44,460.00	1.0	450000	45	A
27	Al	2	3105.000 ug/l	31,050.00	0.4	450000	45	P
31	P	2	1198.000 ug/l	11,980.00	1.1	450000	45	P
39	K	2	902.800 ug/l	9,028.00	1.2	450000	45	P
40	Ca	1	4420.000 ug/l	44,200.00	3.7	450000	45	A
47	Ti	2	91.210 ug/l	912.10	4.1	4500	74	P
51	V	2	64.380 ug/l	643.80	0.4	4500	74	P
52	Cr	2	16.390 ug/l	163.90	1.7	4500	74	P
55	Mn	2	2374.000 ug/l	23,740.00	1.1	4500	74	A
56	Fe	1	196900.000 ug/l	1,969,000.00	2.2	450000	74	A
59	Co	2	20.680 ug/l	206.80	0.7	4500	74	P
60	Ni	2	44.930 ug/l	449.30	0.3	4500	74	P
63	Cu	2	11.720 ug/l	117.20	3.2	4500	74	P
66	Zn	2	99.680 ug/l	996.80	1.8	4500	74	P
75	As	2	36.730 ug/l	367.30	0.2	4500	74	P
78	Se	1	0.406 ug/l	4.06	52.1	4500	74	P
88	Sr	3	50.030 ug/l	500.30	1.5	4500	74	P
95	Mo	3	7.080 ug/l	70.80	1.6	4500	74	P
109	Ag	3	0.020 ug/l	0.20	32.1	900	103	P
111	Cd	3	0.726 ug/l	7.26	8.3	4500	103	P
118	Sn	3	0.624 ug/l	6.24	9.3	4500	103	P
121	Sb	3	1.203 ug/l	12.03	0.6	4500	103	P
135	Ba	3	219.100 ug/l	2,191.00	2.3	4500	103	P
200	Hg	3	0.033 ug/l	0.33	19.5	45	209	P
205	Tl	3	0.263 ug/l	2.63	5.7	4500	209	P
208	Pb	3	19.880 ug/l	198.80	1.7	4500	209	P
238	U	3	1.815 ug/l	18.15	1.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	167568	198400	84.5	30 - 125	
45	Sc	1	2262414	3760000	60.2	30 - 125	
45	Sc	2	1323122	1428000	92.7	30 - 125	
74	Ge	1	2303301	3683000	62.5	30 - 125	
74	Ge	2	2453623	2627000	93.4	30 - 125	
74	Ge	3	9902222	10940000	90.5	30 - 125	
103	Rh	2	3473720	3842000	90.4	30 - 125	
103	Rh	3	6609080	7414000	89.1	30 - 125	
165	Ho	3	5370816	5459000	98.4	30 - 125	
175	Lu	3	6121855	6180000	99.1	30 - 125	
209	Bi	3	5960080	6220000	95.8	30 - 125	

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\135SMPL.D\135SMPL.D#  
 Date Acquired: Sep 14 2010 01:37 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-19-C Vial Number: 4104  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	4.519 ug/l	45.19	3.7	900	6	P
23	Na	2	1182.000 ug/l	11,820.00	1.7	450000	45	A
24	Mg	2	5596.000 ug/l	55,960.00	1.1	450000	45	A
27	Al	2	3909.000 ug/l	39,090.00	0.6	450000	45	P
31	P	2	1618.000 ug/l	16,180.00	3.4	450000	45	P
39	K	2	912.500 ug/l	9,125.00	1.1	450000	45	P
40	Ca	1	3889.000 ug/l	38,890.00	3.2	450000	45	A
47	Ti	2	91.500 ug/l	915.00	3.7	4500	74	P
51	V	2	123.900 ug/l	1,239.00	0.7	4500	74	P
52	Cr	2	32.450 ug/l	324.50	2.2	4500	74	P
55	Mn	2	4142.000 ug/l	41,420.00	0.6	4500	74	A
56	Fe	1	303100.000 ug/l	3,031,000.00	2.6	450000	74	A
59	Co	2	40.610 ug/l	406.10	1.2	4500	74	P
60	Ni	2	75.100 ug/l	751.00	2.1	4500	74	P
63	Cu	2	16.790 ug/l	167.90	1.6	4500	74	P
66	Zn	2	215.700 ug/l	2,157.00	1.5	4500	74	P
75	As	2	40.170 ug/l	401.70	2.2	4500	74	P
78	Se	1	0.404 ug/l	4.04	13.6	4500	74	P
88	Sr	3	76.640 ug/l	766.40	0.9	4500	74	P
95	Mo	3	11.260 ug/l	112.60	1.2	4500	74	P
109	Ag	3	0.015 ug/l	0.15	7.3	900	103	P
111	Cd	3	0.954 ug/l	9.54	8.1	4500	103	P
118	Sn	3	0.439 ug/l	4.39	13.1	4500	103	P
121	Sb	3	1.564 ug/l	15.64	3.1	4500	103	P
135	Ba	3	446.700 ug/l	4,467.00	1.1	4500	103	P
200	Hg	3	0.034 ug/l	0.34	24.6	45	209	P
205	Tl	3	0.237 ug/l	2.37	9.2	4500	209	P
208	Pb	3	42.770 ug/l	427.70	1.4	4500	209	P
238	U	3	6.686 ug/l	66.86	2.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	166614	0.59	198400	84.0	30 - 125
45	Sc	1	2288269	1.78	3760000	60.9	30 - 125
45	Sc	2	1313395	1.39	1428000	92.0	30 - 125
74	Ge	1	2320170	2.06	3683000	63.0	30 - 125
74	Ge	2	2400619	0.60	2627000	91.4	30 - 125
74	Ge	3	9610124	0.68	10940000	87.8	30 - 125
103	Rh	2	3391352	1.20	3842000	88.3	30 - 125
103	Rh	3	6434674	0.54	7414000	86.8	30 - 125
165	Ho	3	5315180	0.96	5459000	97.4	30 - 125
175	Lu	3	6028559	1.27	6180000	97.5	30 - 125
209	Bi	3	5808703	0.86	6220000	93.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\136SMPL.D\136SMPL.D#  
 Date Acquired: Sep 14 2010 01:43 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-20-C Vial Number: 4105  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.130 ug/l	21.30	9.3	900	6	P
23	Na	2	776.300 ug/l	7,763.00	0.9	450000	45	P
24	Mg	2	4886.000 ug/l	48,860.00	1.3	450000	45	A
27	Al	2	3402.000 ug/l	34,020.00	0.6	450000	45	P
31	P	2	1548.000 ug/l	15,480.00	4.1	450000	45	P
39	K	2	706.600 ug/l	7,066.00	1.0	450000	45	P
40	Ca	1	4516.000 ug/l	45,160.00	3.1	450000	45	A
47	Ti	2	80.490 ug/l	804.90	2.7	4500	74	P
51	V	2	76.110 ug/l	761.10	1.6	4500	74	P
52	Cr	2	19.400 ug/l	194.00	1.6	4500	74	P
55	Mn	2	2530.000 ug/l	25,300.00	1.6	4500	74	A
56	Fe	1	232000.000 ug/l	2,320,000.00	2.2	450000	74	A
59	Co	2	25.160 ug/l	251.60	0.3	4500	74	P
60	Ni	2	52.580 ug/l	525.80	1.2	4500	74	P
63	Cu	2	16.920 ug/l	169.20	1.3	4500	74	P
66	Zn	2	126.200 ug/l	1,262.00	1.1	4500	74	P
75	As	2	58.120 ug/l	581.20	0.9	4500	74	P
78	Se	1	0.622 ug/l	6.22	37.8	4500	74	P
88	Sr	3	46.980 ug/l	469.80	0.9	4500	74	P
95	Mo	3	9.258 ug/l	92.58	1.3	4500	74	P
109	Ag	3	0.017 ug/l	0.17	66.5	900	103	P
111	Cd	3	0.546 ug/l	5.46	11.8	4500	103	P
118	Sn	3	0.507 ug/l	5.07	1.7	4500	103	P
121	Sb	3	1.718 ug/l	17.18	1.8	4500	103	P
135	Ba	3	215.000 ug/l	2,150.00	0.6	4500	103	P
200	Hg	3	0.032 ug/l	0.32	18.0	45	209	P
205	Tl	3	0.208 ug/l	2.08	9.5	4500	209	P
208	Pb	3	22.540 ug/l	225.40	0.9	4500	209	P
238	U	3	1.424 ug/l	14.24	1.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	169570	0.64	198400	85.5	30 - 125
45	Sc	1	2244390	3.63	3760000	59.7	30 - 125
45	Sc	2	1337815	0.99	1428000	93.7	30 - 125
74	Ge	1	2306727	1.58	3683000	62.6	30 - 125
74	Ge	2	2468489	0.73	2627000	94.0	30 - 125
74	Ge	3	9961785	0.90	10940000	91.1	30 - 125
103	Rh	2	3474205	1.15	3842000	90.4	30 - 125
103	Rh	3	6553433	0.64	7414000	88.4	30 - 125
165	Ho	3	5432752	0.52	5459000	99.5	30 - 125
175	Lu	3	6109795	1.24	6180000	98.9	30 - 125
209	Bi	3	5952011	1.16	6220000	95.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\137SMPL.D\137SMPL.D#  
 Date Acquired: Sep 14 2010 01:50 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-21-C Vial Number: 4106  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.802 ug/l	18.02	4.1	900	6	P
23	Na	2	741.800 ug/l	7,418.00	0.4	450000	45	P
24	Mg	2	3912.000 ug/l	39,120.00	0.9	450000	45	A
27	Al	2	3045.000 ug/l	30,450.00	0.3	450000	45	P
31	P	2	1186.000 ug/l	11,860.00	0.8	450000	45	P
39	K	2	733.300 ug/l	7,333.00	2.0	450000	45	P
40	Ca	1	3955.000 ug/l	39,550.00	3.8	450000	45	A
47	Ti	2	83.360 ug/l	833.60	5.1	4500	74	P
51	V	2	64.100 ug/l	641.00	1.5	4500	74	P
52	Cr	2	14.860 ug/l	148.60	1.3	4500	74	P
55	Mn	2	1815.000 ug/l	18,150.00	0.5	4500	74	A
56	Fe	1	162800.000 ug/l	1,628,000.00	2.2	450000	74	A
59	Co	2	20.850 ug/l	208.50	1.4	4500	74	P
60	Ni	2	46.540 ug/l	465.40	1.8	4500	74	P
63	Cu	2	12.080 ug/l	120.80	2.3	4500	74	P
66	Zn	2	90.710 ug/l	907.10	1.5	4500	74	P
75	As	2	38.350 ug/l	383.50	3.4	4500	74	P
78	Se	1	0.405 ug/l	4.05	22.2	4500	74	P
88	Sr	3	37.650 ug/l	376.50	1.9	4500	74	P
95	Mo	3	7.286 ug/l	72.86	1.1	4500	74	P
109	Ag	3	0.028 ug/l	0.28	25.3	900	103	P
111	Cd	3	0.448 ug/l	4.48	36.9	4500	103	P
118	Sn	3	0.504 ug/l	5.04	6.9	4500	103	P
121	Sb	3	1.367 ug/l	13.67	3.4	4500	103	P
135	Ba	3	166.800 ug/l	1,668.00	1.0	4500	103	P
200	Hg	3	0.021 ug/l	0.21	57.3	45	209	P
205	Tl	3	0.166 ug/l	1.66	5.6	4500	209	P
208	Pb	3	16.930 ug/l	169.30	1.1	4500	209	P
238	U	3	1.151 ug/l	11.51	2.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	173220	198400	87.3	30 - 125	
45	Sc	1	2251623	3760000	59.9	30 - 125	
45	Sc	2	1347311	1428000	94.3	30 - 125	
74	Ge	1	2322926	3683000	63.1	30 - 125	
74	Ge	2	2515816	2627000	95.8	30 - 125	
74	Ge	3	10183856	10940000	93.1	30 - 125	
103	Rh	2	3565266	3842000	92.8	30 - 125	
103	Rh	3	6788696	7414000	91.6	30 - 125	
165	Ho	3	5454065	5459000	99.9	30 - 125	
175	Lu	3	6189577	6180000	100.2	30 - 125	
209	Bi	3	6041976	6220000	97.1	30 - 125	

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\138SMPL.D\138SMPL.D#  
 Date Acquired: Sep 14 2010 01:57 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-22-G Vial Number: 4107

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.913 ug/l	29.13	5.1	900	6	P
23	Na	2	860.400 ug/l	8,604.00	2.8	450000	45	P
24	Mg	2	44780.000 ug/l	447,800.00	2.0	450000	45	A
27	Al	2	5441.000 ug/l	54,410.00	0.3	450000	45	A
31	P	2	1519.000 ug/l	15,190.00	2.6	450000	45	P
39	K	2	1109.000 ug/l	11,090.00	1.0	450000	45	P
40	Ca	1	101300.000 ug/l	1,013,000.00	2.5	450000	45	A
47	Ti	2	136.700 ug/l	1,367.00	0.3	4500	74	P
51	V	2	87.040 ug/l	870.40	0.4	4500	74	P
52	Cr	2	30.070 ug/l	300.70	0.6	4500	74	P
55	Mn	2	2014.000 ug/l	20,140.00	1.5	4500	74	A
56	Fe	1	179700.000 ug/l	1,797,000.00	1.0	450000	74	A
59	Co	2	22.390 ug/l	223.90	0.5	4500	74	P
60	Ni	2	51.860 ug/l	518.60	1.6	4500	74	P
63	Cu	2	15.540 ug/l	155.40	1.0	4500	74	P
66	Zn	2	108.700 ug/l	1,087.00	1.2	4500	74	P
75	As	2	41.330 ug/l	413.30	0.9	4500	74	P
78	Se	1	0.277 ug/l	2.77	59.8	4500	74	P
88	Sr	3	139.700 ug/l	1,397.00	0.5	4500	74	A
95	Mo	3	5.187 ug/l	51.87	1.0	4500	74	P
109	Ag	3	0.027 ug/l	0.27	14.4	900	103	P
111	Cd	3	0.646 ug/l	6.46	13.7	4500	103	P
118	Sn	3	1.013 ug/l	10.13	1.5	4500	103	P
121	Sb	3	1.287 ug/l	12.87	5.3	4500	103	P
135	Ba	3	333.400 ug/l	3,334.00	0.9	4500	103	P
200	Hg	3	0.033 ug/l	0.33	12.2	45	209	P
205	Tl	3	0.195 ug/l	1.95	6.3	4500	209	P
208	Pb	3	19.960 ug/l	199.60	1.5	4500	209	P
238	U	3	2.644 ug/l	26.44	3.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	187155	1.42	198400	94.3	30 - 125
45	Sc	1	2284495	2.00	3760000	60.8	30 - 125
45	Sc	2	1505289	2.08	1428000	105.4	30 - 125
74	Ge	1	2317909	1.39	3683000	62.9	30 - 125
74	Ge	2	2700570	0.52	2627000	102.8	30 - 125
74	Ge	3	11318619	0.13	10940000	103.5	30 - 125
103	Rh	2	3624264	1.15	3842000	94.3	30 - 125
103	Rh	3	7243978	0.78	7414000	97.7	30 - 125
165	Ho	3	5714081	0.69	5459000	104.7	30 - 125
175	Lu	3	6383910	1.01	6180000	103.3	30 - 125
209	Bi	3	6032038	0.73	6220000	97.0	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\139SMPL.D\139SMPL.D#  
 Date Acquired: Sep 14 2010 02:04 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-22-H MS Vial Number: 4108

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.339 ug/l	116.95	11.9	900	6	P
23	Na	2	539.900 ug/l	26,995.00	0.8	450000	45	P
24	Mg	2	1456.000 ug/l	72,800.00	0.9	450000	45	P
27	Al	2	1536.000 ug/l	76,800.00	0.3	450000	45	P
31	P	2	618.100 ug/l	30,905.00	3.2	450000	45	P
39	K	2	744.600 ug/l	37,230.00	2.1	450000	45	P
40	Ca	1	1355.000 ug/l	67,750.00	3.1	450000	45	A
47	Ti	2	113.700 ug/l	5,685.00	2.7	4500	74	P
51	V	2	33.400 ug/l	1,670.00	2.0	4500	74	P
52	Cr	2	11.920 ug/l	596.00	1.1	4500	74	P
55	Mn	2	420.900 ug/l	21,045.00	1.6	4500	74	P
56	Fe	1	39240.000 ug/l	1,962,000.00	0.9	450000	74	A
59	Co	2	23.210 ug/l	1,160.50	2.1	4500	74	P
60	Ni	2	28.610 ug/l	1,430.50	2.3	4500	74	P
63	Cu	2	12.190 ug/l	609.50	3.4	4500	74	P
66	Zn	2	39.270 ug/l	1,963.50	1.1	4500	74	P
75	As	2	85.250 ug/l	4,262.50	1.4	4500	74	P
78	Se	1	81.320 ug/l	4,066.00	2.2	4500	74	P
88	Sr	3	10.190 ug/l	509.50	1.5	4500	74	P
95	Mo	3	95.160 ug/l	4,758.00	0.5	4500	74	P
109	Ag	3	11.440 ug/l	572.00	0.9	900	103	P
111	Cd	3	1.969 ug/l	98.45	5.2	4500	103	P
118	Sn	3	95.320 ug/l	4,766.00	1.5	4500	103	P
121	Sb	3	55.330 ug/l	2,766.50	1.6	4500	103	P
135	Ba	3	124.700 ug/l	6,235.00	1.6	4500	103	P
200	Hg	3	0.917 ug/l	45.85	1.8	45	209	P
205	Tl	3	72.570 ug/l	3,628.50	1.2	4500	209	A
208	Pb	3	23.600 ug/l	1,180.00	1.2	4500	209	P
238	U	3	0.288 ug/l	14.39	2.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	193252	1.74	198400	97.4	30 - 125
45	Sc	1	2325401	4.43	3760000	61.8	30 - 125
45	Sc	2	1524667	1.64	1428000	106.8	30 - 125
74	Ge	1	2437525	2.73	3683000	66.2	30 - 125
74	Ge	2	2853909	2.16	2627000	108.6	30 - 125
74	Ge	3	12118604	0.96	10940000	110.8	30 - 125
103	Rh	2	4039799	1.20	3842000	105.1	30 - 125
103	Rh	3	8121599	1.44	7414000	109.5	30 - 125
165	Ho	3	5973386	0.78	5459000	109.4	30 - 125
175	Lu	3	6686386	0.61	6180000	108.2	30 - 125
209	Bi	3	6678421	0.24	6220000	107.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\140SMPL.D\140SMPL.D#  
 Date Acquired: Sep 14 2010 02:11 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-22-I MSD Vial Number: 4109  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.242 ug/l	112.10	7.4	900	6	P
23	Na	2	529.600 ug/l	26,480.00	2.3	450000	45	P
24	Mg	2	1322.000 ug/l	66,100.00	2.6	450000	45	P
27	Al	2	1244.000 ug/l	62,200.00	1.9	450000	45	P
31	P	2	559.200 ug/l	27,960.00	4.9	450000	45	P
39	K	2	658.700 ug/l	32,935.00	2.9	450000	45	P
40	Ca	1	1294.000 ug/l	64,700.00	3.7	450000	45	A
47	Ti	2	117.400 ug/l	5,870.00	4.1	4500	74	P
51	V	2	30.240 ug/l	1,512.00	1.8	4500	74	P
52	Cr	2	11.010 ug/l	550.50	1.0	4500	74	P
55	Mn	2	303.500 ug/l	15,175.00	1.4	4500	74	P
56	Fe	1	28040.000 ug/l	1,402,000.00	0.9	450000	74	A
59	Co	2	22.240 ug/l	1,112.00	1.4	4500	74	P
60	Ni	2	27.090 ug/l	1,354.50	0.9	4500	74	P
63	Cu	2	11.770 ug/l	588.50	1.0	4500	74	P
66	Zn	2	36.230 ug/l	1,811.50	0.8	4500	74	P
75	As	2	81.580 ug/l	4,079.00	0.5	4500	74	P
78	Se	1	83.870 ug/l	4,193.50	1.9	4500	74	P
88	Sr	3	8.441 ug/l	422.05	0.9	4500	74	P
95	Mo	3	98.090 ug/l	4,904.50	1.5	4500	74	P
109	Ag	3	11.870 ug/l	593.50	2.0	900	103	P
111	Cd	3	2.102 ug/l	105.10	3.2	4500	103	P
118	Sn	3	99.780 ug/l	4,989.00	0.9	4500	103	P
121	Sb	3	55.820 ug/l	2,791.00	1.0	4500	103	P
135	Ba	3	121.300 ug/l	6,065.00	1.2	4500	103	P
200	Hg	3	0.973 ug/l	48.63	2.8	45	209	P
205	Tl	3	73.580 ug/l	3,679.00	1.0	4500	209	A
208	Pb	3	22.610 ug/l	1,130.50	1.0	4500	209	P
238	U	3	0.225 ug/l	11.27	3.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	199255	2.11	198400	100.4	30 - 125
45	Sc	1	2297200	4.38	3760000	61.1	30 - 125
45	Sc	2	1579150	2.11	1428000	110.6	30 - 125
74	Ge	1	2417586	2.23	3683000	65.6	30 - 125
74	Ge	2	2957486	1.28	2627000	112.6	30 - 125
74	Ge	3	12384079	0.70	10940000	113.2	30 - 125
103	Rh	2	4188458	0.90	3842000	109.0	30 - 125
103	Rh	3	8239658	0.47	7414000	111.1	30 - 125
165	Ho	3	6039188	0.13	5459000	110.6	30 - 125
175	Lu	3	6760958	0.15	6180000	109.4	30 - 125
209	Bi	3	6700147	0.19	6220000	107.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\141SMPL.D\141SMPL.D#  
 Date Acquired: Sep 14 2010 02:18 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-23-C Vial Number: 4110

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.267 ug/l	22.67	12.9	900	6	P
23	Na	2	1088.000 ug/l	10,880.00	3.6	450000	45	A
24	Mg	2	4759.000 ug/l	47,590.00	2.0	450000	45	A
27	Al	2	3466.000 ug/l	34,660.00	1.0	450000	45	P
31	P	2	1456.000 ug/l	14,560.00	0.8	450000	45	P
39	K	2	841.100 ug/l	8,411.00	2.6	450000	45	P
40	Ca	1	4873.000 ug/l	48,730.00	3.5	450000	45	A
47	Ti	2	98.540 ug/l	985.40	2.5	4500	74	P
51	V	2	73.270 ug/l	732.70	1.7	4500	74	P
52	Cr	2	17.220 ug/l	172.20	3.2	4500	74	P
55	Mn	2	2126.000 ug/l	21,260.00	0.6	4500	74	A
56	Fe	1	215400.000 ug/l	2,154,000.00	1.4	450000	74	A
59	Co	2	25.690 ug/l	256.90	0.8	4500	74	P
60	Ni	2	57.590 ug/l	575.90	2.0	4500	74	P
63	Cu	2	12.620 ug/l	126.20	0.3	4500	74	P
66	Zn	2	113.400 ug/l	1,134.00	1.1	4500	74	P
75	As	2	57.870 ug/l	578.70	2.3	4500	74	P
78	Se	1	8.390 ug/l	83.90	10.3	4500	74	P
88	Sr	3	40.220 ug/l	402.20	1.6	4500	74	P
95	Mo	3	16.740 ug/l	167.40	1.6	4500	74	P
109	Ag	3	1.208 ug/l	12.08	3.2	900	103	P
111	Cd	3	0.758 ug/l	7.58	5.6	4500	103	P
118	Sn	3	10.100 ug/l	101.00	0.7	4500	103	P
121	Sb	3	7.051 ug/l	70.51	1.1	4500	103	P
135	Ba	3	170.600 ug/l	1,706.00	0.4	4500	103	P
200	Hg	3	0.124 ug/l	1.24	14.9	45	209	P
205	Tl	3	7.790 ug/l	77.90	1.2	4500	209	P
208	Pb	3	21.620 ug/l	216.20	1.0	4500	209	P
238	U	3	1.280 ug/l	12.80	3.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180224	1.13	198400	90.8	30 - 125
45	Sc	1	2268491	2.05	3760000	60.3	30 - 125
45	Sc	2	1449610	1.85	1428000	101.5	30 - 125
74	Ge	1	2305522	0.91	3683000	62.6	30 - 125
74	Ge	2	2649422	1.24	2627000	100.9	30 - 125
74	Ge	3	10343689	0.72	10940000	94.5	30 - 125
103	Rh	2	3691508	2.01	3842000	96.1	30 - 125
103	Rh	3	6848421	0.68	7414000	92.4	30 - 125
165	Ho	3	5427319	1.03	5459000	99.4	30 - 125
175	Lu	3	6142867	0.18	6180000	99.4	30 - 125
209	Bi	3	5992476	0.66	6220000	96.3	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\142SMPL.D\142SMPL.D#  
 Date Acquired: Sep 14 2010 02:25 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	47.730 ug/l	47.73	0.8	900	6	P
23	Na	2	4637.000 ug/l	4,637.00	2.6	450000	45	A
24	Mg	2	4683.000 ug/l	4,683.00	1.8	450000	45	A
27	Al	2	469.600 ug/l	469.60	2.8	450000	45	P
31	P	2	4521.000 ug/l	4,521.00	0.9	450000	45	P
39	K	2	4839.000 ug/l	4,839.00	2.4	450000	45	A
40	Ca	1	4220.000 ug/l	4,220.00	5.0	450000	45	A
47	Ti	2	46.850 ug/l	46.85	1.5	4500	74	P
51	V	2	45.080 ug/l	45.08	1.3	4500	74	P
52	Cr	2	46.260 ug/l	46.26	0.4	4500	74	P
55	Mn	2	47.290 ug/l	47.29	0.9	4500	74	P
56	Fe	1	4962.000 ug/l	4,962.00	1.7	450000	74	A
59	Co	2	46.210 ug/l	46.21	0.4	4500	74	P
60	Ni	2	45.280 ug/l	45.28	0.1	4500	74	P
63	Cu	2	46.180 ug/l	46.18	1.3	4500	74	P
66	Zn	2	47.700 ug/l	47.70	2.9	4500	74	P
75	As	2	47.730 ug/l	47.73	0.9	4500	74	P
78	Se	1	50.980 ug/l	50.98	1.9	4500	74	P
88	Sr	3	48.920 ug/l	48.92	0.6	4500	74	P
95	Mo	3	48.970 ug/l	48.97	1.9	4500	74	P
109	Ag	3	49.570 ug/l	49.57	0.7	900	103	P
111	Cd	3	50.230 ug/l	50.23	0.6	4500	103	P
118	Sn	3	50.090 ug/l	50.09	0.6	4500	103	P
121	Sb	3	50.420 ug/l	50.42	1.4	4500	103	P
135	Ba	3	50.160 ug/l	50.16	1.4	4500	103	P
200	Hg	3	2.362 ug/l	2.36	1.4	45	209	P
205	Tl	3	50.080 ug/l	50.08	0.9	4500	209	P
208	Pb	3	49.650 ug/l	49.65	0.4	4500	209	P
238	U	3	48.760 ug/l	48.76	2.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	176499	3.19	198400	89.0	30 - 125
45	Sc	1	2212782	5.66	3760000	58.9	30 - 125
45	Sc	2	1412875	3.83	1428000	98.9	30 - 125
74	Ge	1	2310984	2.23	3683000	62.7	30 - 125
74	Ge	2	2649503	1.00	2627000	100.9	30 - 125
74	Ge	3	11111666	0.60	10940000	101.6	30 - 125
103	Rh	2	3824513	2.08	3842000	99.5	30 - 125
103	Rh	3	7402884	0.91	7414000	99.9	30 - 125
165	Ho	3	5773488	1.67	5459000	105.8	30 - 125
175	Lu	3	6498702	0.62	6180000	105.2	30 - 125
209	Bi	3	6363356	0.25	6220000	102.3	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\143SMPL.D\143SMPL.D#  
 Date Acquired: Sep 14 2010 02:32 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.004 ug/l	0.00	435.1	900	6	P
23	Na	2	-5.577 ug/l	-5.58	21.1	450000	45	P
24	Mg	2	0.884 ug/l	0.88	16.9	450000	45	P
27	Al	2	2.738 ug/l	2.74	2.9	450000	45	P
31	P	2	-9.744 ug/l	-9.74	52.1	450000	45	P
39	K	2	-5.158 ug/l	-5.16	91.5	450000	45	P
40	Ca	1	0.348 ug/l	0.35	70.5	450000	45	P
47	Ti	2	0.013 ug/l	0.01	193.0	4500	74	P
51	V	2	-0.695 ug/l	-0.70	5.6	4500	74	P
52	Cr	2	-0.047 ug/l	-0.05	73.8	4500	74	P
55	Mn	2	0.338 ug/l	0.34	3.8	4500	74	P
56	Fe	1	2.237 ug/l	2.24	1.1	450000	74	P
59	Co	2	0.005 ug/l	0.00	30.1	4500	74	P
60	Ni	2	0.014 ug/l	0.01	126.6	4500	74	P
63	Cu	2	0.013 ug/l	0.01	133.1	4500	74	P
66	Zn	2	0.163 ug/l	0.16	36.9	4500	74	P
75	As	2	-0.139 ug/l	-0.14	189.1	4500	74	P
78	Se	1	-0.062 ug/l	-0.06	47.6	4500	74	P
88	Sr	3	-0.014 ug/l	-0.01	103.3	4500	74	P
95	Mo	3	0.021 ug/l	0.02	100.3	4500	74	P
109	Ag	3	0.005 ug/l	0.01	39.7	900	103	P
111	Cd	3	0.019 ug/l	0.02	51.1	4500	103	P
118	Sn	3	0.070 ug/l	0.07	26.9	4500	103	P
121	Sb	3	0.032 ug/l	0.03	25.2	4500	103	P
135	Ba	3	-0.112 ug/l	-0.11	17.1	4500	103	P
200	Hg	3	0.002 ug/l	0.00	244.5	45	209	P
205	Tl	3	0.399 ug/l	0.40	7.3	4500	209	P
208	Pb	3	0.007 ug/l	0.01	95.1	4500	209	P
238	U	3	0.004 ug/l	0.00	10.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	184076	1.21	198400	92.8	30 - 125
45	Sc	1	2206868	1.59	3760000	58.7	30 - 125
45	Sc	2	1440787	0.38	1428000	100.9	30 - 125
74	Ge	1	2302072	1.63	3683000	62.5	30 - 125
74	Ge	2	2731048	0.76	2627000	104.0	30 - 125
74	Ge	3	11404989	0.73	10940000	104.3	30 - 125
103	Rh	2	3926562	0.77	3842000	102.2	30 - 125
103	Rh	3	7797380	1.43	7414000	105.2	30 - 125
165	Ho	3	5779287	0.49	5459000	105.9	30 - 125
175	Lu	3	6528545	1.68	6180000	105.6	30 - 125
209	Bi	3	6655100	1.13	6220000	107.0	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\144SMPL.D\144SMPL.D#  
 Date Acquired: Sep 14 2010 02:39 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-24-C Vial Number: 4201  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.113 ug/l	21.13	13.1	900	6	P
23	Na	2	1117.000 ug/l	11,170.00	1.3	450000	45	A
24	Mg	2	5941.000 ug/l	59,410.00	3.7	450000	45	A
27	Al	2	3960.000 ug/l	39,600.00	5.2	450000	45	M
31	P	2	1302.000 ug/l	13,020.00	2.0	450000	45	P
39	K	2	944.800 ug/l	9,448.00	3.6	450000	45	P
40	Ca	1	7072.000 ug/l	70,720.00	3.7	450000	45	A
47	Ti	2	103.600 ug/l	1,036.00	1.1	4500	74	P
51	V	2	70.080 ug/l	700.80	1.4	4500	74	P
52	Cr	2	18.180 ug/l	181.80	2.4	4500	74	P
55	Mn	2	1897.000 ug/l	18,970.00	1.1	4500	74	A
56	Fe	1	166000.000 ug/l	1,660,000.00	1.7	450000	74	A
59	Co	2	23.020 ug/l	230.20	1.6	4500	74	P
60	Ni	2	50.240 ug/l	502.40	2.0	4500	74	P
63	Cu	2	13.760 ug/l	137.60	0.9	4500	74	P
66	Zn	2	97.630 ug/l	976.30	1.2	4500	74	P
75	As	2	35.550 ug/l	355.50	0.4	4500	74	P
78	Se	1	1.839 ug/l	18.39	12.3	4500	74	P
88	Sr	3	45.690 ug/l	456.90	0.5	4500	74	P
95	Mo	3	6.981 ug/l	69.81	1.7	4500	74	P
109	Ag	3	0.202 ug/l	2.02	5.6	900	103	P
111	Cd	3	0.559 ug/l	5.59	25.9	4500	103	P
118	Sn	3	2.508 ug/l	25.08	3.6	4500	103	P
121	Sb	3	2.123 ug/l	21.23	0.4	4500	103	P
135	Ba	3	208.300 ug/l	2,083.00	1.8	4500	103	P
200	Hg	3	0.046 ug/l	0.46	23.1	45	209	P
205	Tl	3	1.532 ug/l	15.32	0.9	4500	209	P
208	Pb	3	20.070 ug/l	200.70	0.3	4500	209	P
238	U	3	1.625 ug/l	16.25	0.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	172497	1.52	198400	86.9	30 - 125
45	Sc	1	2142912	3.27	3760000	57.0	30 - 125
45	Sc	2	1379718	3.69	1428000	96.6	30 - 125
74	Ge	1	2205620	2.13	3683000	59.9	30 - 125
74	Ge	2	2541331	1.02	2627000	96.7	30 - 125
74	Ge	3	10527986	0.61	10940000	96.2	30 - 125
103	Rh	2	3576817	0.50	3842000	93.1	30 - 125
103	Rh	3	6940973	0.49	7414000	93.6	30 - 125
165	Ho	3	5517402	0.73	5459000	101.1	30 - 125
175	Lu	3	6204644	0.86	6180000	100.4	30 - 125
209	Bi	3	6080323	1.06	6220000	97.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\145SMPL.D\145SMPL.D#  
 Date Acquired: Sep 14 2010 02:46 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-25-C Vial Number: 4202

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.752 ug/l	17.52	10.7	900	6	P
23	Na	2	1613.000 ug/l	16,130.00	0.2	450000	45	A
24	Mg	2	8747.000 ug/l	87,470.00	1.7	450000	45	A
27	Al	2	5271.000 ug/l	52,710.00	1.1	450000	45	A
31	P	2	1226.000 ug/l	12,260.00	2.5	450000	45	P
39	K	2	1191.000 ug/l	11,910.00	2.5	450000	45	P
40	Ca	1	11790.000 ug/l	117,900.00	3.2	450000	45	A
47	Ti	2	143.200 ug/l	1,432.00	5.1	4500	74	P
51	V	2	63.720 ug/l	637.20	0.7	4500	74	P
52	Cr	2	21.560 ug/l	215.60	2.1	4500	74	P
55	Mn	2	2166.000 ug/l	21,660.00	1.0	4500	74	A
56	Fe	1	141800.000 ug/l	1,418,000.00	1.7	450000	74	A
59	Co	2	21.060 ug/l	210.60	1.9	4500	74	P
60	Ni	2	51.870 ug/l	518.70	1.4	4500	74	P
63	Cu	2	22.450 ug/l	224.50	1.0	4500	74	P
66	Zn	2	117.300 ug/l	1,173.00	3.0	4500	74	P
75	As	2	39.610 ug/l	396.10	1.9	4500	74	P
78	Se	1	0.643 ug/l	6.43	17.0	4500	74	P
88	Sr	3	59.740 ug/l	597.40	0.5	4500	74	P
95	Mo	3	6.073 ug/l	60.73	0.2	4500	74	P
109	Ag	3	0.071 ug/l	0.71	2.5	900	103	P
111	Cd	3	0.699 ug/l	6.99	17.0	4500	103	P
118	Sn	3	2.545 ug/l	25.45	2.5	4500	103	P
121	Sb	3	2.084 ug/l	20.84	4.7	4500	103	P
135	Ba	3	388.000 ug/l	3,880.00	1.5	4500	103	P
200	Hg	3	0.064 ug/l	0.64	0.7	45	209	P
205	Tl	3	0.527 ug/l	5.27	2.2	4500	209	P
208	Pb	3	33.930 ug/l	339.30	0.3	4500	209	P
238	U	3	1.833 ug/l	18.33	0.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	172617	1.45	198400	87.0	30 - 125
45	Sc	1	2201194	4.47	3760000	58.5	30 - 125
45	Sc	2	1367133	2.55	1428000	95.7	30 - 125
74	Ge	1	2292661	1.96	3683000	62.2	30 - 125
74	Ge	2	2512909	1.11	2627000	95.7	30 - 125
74	Ge	3	10498729	0.63	10940000	96.0	30 - 125
103	Rh	2	3545318	1.52	3842000	92.3	30 - 125
103	Rh	3	6978518	1.25	7414000	94.1	30 - 125
165	Ho	3	5442757	0.92	5459000	99.7	30 - 125
175	Lu	3	6229880	1.26	6180000	100.8	30 - 125
209	Bi	3	6029188	0.90	6220000	96.9	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\146SMPL.D\146SMPL.D#  
 Date Acquired: Sep 14 2010 02:53 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-26-C Vial Number: 4203

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	3.147 ug/l	31.47	3.8	900	6	P
23	Na	2	1379.000 ug/l	13,790.00	3.1	450000	45	A
24	Mg	2	5394.000 ug/l	53,940.00	2.0	450000	45	A
27	Al	2	4032.000 ug/l	40,320.00	2.0	450000	45	P
31	P	2	2082.000 ug/l	20,820.00	1.6	450000	45	P
39	K	2	1014.000 ug/l	10,140.00	1.8	450000	45	P
40	Ca	1	4137.000 ug/l	41,370.00	3.0	450000	45	A
47	Ti	2	163.100 ug/l	1,631.00	1.1	4500	74	P
51	V	2	111.700 ug/l	1,117.00	1.1	4500	74	P
52	Cr	2	20.730 ug/l	207.30	2.2	4500	74	P
55	Mn	2	3641.000 ug/l	36,410.00	1.0	4500	74	A
56	Fe	1	316000.000 ug/l	3,160,000.00	3.1	450000	74	A
59	Co	2	39.730 ug/l	397.30	1.2	4500	74	P
60	Ni	2	86.420 ug/l	864.20	0.6	4500	74	P
63	Cu	2	15.230 ug/l	152.30	4.4	4500	74	P
66	Zn	2	142.600 ug/l	1,426.00	1.7	4500	74	P
75	As	2	161.500 ug/l	1,615.00	1.1	4500	74	P
78	Se	1	0.737 ug/l	7.37	22.0	4500	74	P
88	Sr	3	82.070 ug/l	820.70	1.3	4500	74	P
95	Mo	3	10.010 ug/l	100.10	2.0	4500	74	P
109	Ag	3	0.050 ug/l	0.50	20.2	900	103	P
111	Cd	3	0.719 ug/l	7.19	7.9	4500	103	P
118	Sn	3	0.902 ug/l	9.02	2.3	4500	103	P
121	Sb	3	3.446 ug/l	34.46	2.8	4500	103	P
135	Ba	3	367.200 ug/l	3,672.00	0.7	4500	103	P
200	Hg	3	0.075 ug/l	0.75	13.0	45	209	P
205	Tl	3	0.400 ug/l	4.00	4.0	4500	209	P
208	Pb	3	34.900 ug/l	349.00	1.7	4500	209	P
238	U	3	1.818 ug/l	18.18	2.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	170404	0.59	198400	85.9	30 - 125
45	Sc	1	2148642	2.44	3760000	57.1	30 - 125
45	Sc	2	1336074	1.93	1428000	93.6	30 - 125
74	Ge	1	2200924	2.35	3683000	59.8	30 - 125
74	Ge	2	2436861	0.52	2627000	92.8	30 - 125
74	Ge	3	10018315	0.38	10940000	91.6	30 - 125
103	Rh	2	3436439	0.50	3842000	89.4	30 - 125
103	Rh	3	6624441	1.56	7414000	89.4	30 - 125
165	Ho	3	5370948	1.23	5459000	98.4	30 - 125
175	Lu	3	6078491	0.92	6180000	98.4	30 - 125
209	Bi	3	5875306	1.31	6220000	94.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\147SMPL.D\147SMPL.D#  
 Date Acquired: Sep 14 2010 03:00 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-27-C Vial Number: 4204

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.389 ug/l	23.89	3.1	900	6	P
23	Na	2	1253.000 ug/l	12,530.00	2.4	450000	45	A
24	Mg	2	3852.000 ug/l	38,520.00	0.8	450000	45	A
27	Al	2	4852.000 ug/l	48,520.00	0.8	450000	45	A
31	P	2	1458.000 ug/l	14,580.00	2.2	450000	45	P
39	K	2	1139.000 ug/l	11,390.00	1.6	450000	45	P
40	Ca	1	2636.000 ug/l	26,360.00	3.9	450000	45	A
47	Ti	2	96.690 ug/l	966.90	3.0	4500	74	P
51	V	2	79.830 ug/l	798.30	2.7	4500	74	P
52	Cr	2	21.010 ug/l	210.10	2.0	4500	74	P
55	Mn	2	1768.000 ug/l	17,680.00	0.9	4500	74	A
56	Fe	1	187900.000 ug/l	1,879,000.00	1.7	450000	74	A
59	Co	2	24.980 ug/l	249.80	1.7	4500	74	P
60	Ni	2	53.750 ug/l	537.50	1.6	4500	74	P
63	Cu	2	22.320 ug/l	223.20	2.9	4500	74	P
66	Zn	2	137.700 ug/l	1,377.00	1.3	4500	74	P
75	As	2	42.330 ug/l	423.30	1.9	4500	74	P
78	Se	1	0.605 ug/l	6.05	4.9	4500	74	P
88	Sr	3	45.320 ug/l	453.20	0.3	4500	74	P
95	Mo	3	6.844 ug/l	68.44	1.8	4500	74	P
109	Ag	3	0.045 ug/l	0.45	9.0	900	103	P
111	Cd	3	0.803 ug/l	8.03	6.3	4500	103	P
118	Sn	3	1.637 ug/l	16.37	8.4	4500	103	P
121	Sb	3	1.660 ug/l	16.60	0.2	4500	103	P
135	Ba	3	209.400 ug/l	2,094.00	2.0	4500	103	P
200	Hg	3	0.047 ug/l	0.47	14.6	45	209	P
205	Tl	3	0.219 ug/l	2.19	5.1	4500	209	P
208	Pb	3	43.260 ug/l	432.60	0.6	4500	209	P
238	U	3	2.312 ug/l	23.12	1.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	175532	1.12	198400	88.5	30 - 125
45	Sc	1	2142576	2.67	3760000	57.0	30 - 125
45	Sc	2	1374402	1.70	1428000	96.2	30 - 125
74	Ge	1	2212950	0.94	3683000	60.1	30 - 125
74	Ge	2	2518516	1.48	2627000	95.9	30 - 125
74	Ge	3	10576421	0.43	10940000	96.7	30 - 125
103	Rh	2	3589401	1.13	3842000	93.4	30 - 125
103	Rh	3	7015039	0.70	7414000	94.6	30 - 125
165	Ho	3	5503580	0.26	5459000	100.8	30 - 125
175	Lu	3	6185481	1.24	6180000	100.1	30 - 125
209	Bi	3	6119989	0.64	6220000	98.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\148SMPL.D\148SMPL.D#  
 Date Acquired: Sep 14 2010 03:07 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-28-C Vial Number: 4205  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \\1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \\1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.018 ug/l	20.18	4.2	900	6	P
23	Na	2	2294.000 ug/l	22,940.00	2.1	450000	45	A
24	Mg	2	8733.000 ug/l	87,330.00	1.0	450000	45	A
27	Al	2	8887.000 ug/l	88,870.00	0.8	450000	45	A
31	P	2	1451.000 ug/l	14,510.00	1.1	450000	45	P
39	K	2	2016.000 ug/l	20,160.00	1.2	450000	45	P
40	Ca	1	10430.000 ug/l	104,300.00	2.7	450000	45	A
47	Ti	2	128.100 ug/l	1,281.00	2.4	4500	74	P
51	V	2	71.620 ug/l	716.20	2.0	4500	74	P
52	Cr	2	26.400 ug/l	264.00	1.9	4500	74	P
55	Mn	2	1089.000 ug/l	10,890.00	1.5	4500	74	A
56	Fe	1	131500.000 ug/l	1,315,000.00	2.8	450000	74	A
59	Co	2	20.220 ug/l	202.20	2.2	4500	74	P
60	Ni	2	48.070 ug/l	480.70	2.8	4500	74	P
63	Cu	2	23.530 ug/l	235.30	2.5	4500	74	P
66	Zn	2	122.900 ug/l	1,229.00	3.3	4500	74	P
75	As	2	30.760 ug/l	307.60	4.3	4500	74	P
78	Se	1	0.497 ug/l	4.97	36.8	4500	74	P
88	Sr	3	59.880 ug/l	598.80	1.2	4500	74	P
95	Mo	3	5.069 ug/l	50.69	4.4	4500	74	P
109	Ag	3	0.064 ug/l	0.64	20.6	900	103	P
111	Cd	3	0.675 ug/l	6.75	18.6	4500	103	P
118	Sn	3	1.617 ug/l	16.17	5.5	4500	103	P
121	Sb	3	1.169 ug/l	11.69	3.9	4500	103	P
135	Ba	3	189.900 ug/l	1,899.00	0.5	4500	103	P
200	Hg	3	0.061 ug/l	0.61	4.2	45	209	P
205	Tl	3	0.237 ug/l	2.37	3.1	4500	209	P
208	Pb	3	30.720 ug/l	307.20	1.4	4500	209	P
238	U	3	2.442 ug/l	24.42	2.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	174705	0.86	198400	88.1	30 - 125
45	Sc	1	2134159	2.31	3760000	56.8	30 - 125
45	Sc	2	1366041	1.04	1428000	95.7	30 - 125
74	Ge	1	2219795	2.19	3683000	60.3	30 - 125
74	Ge	2	2543853	2.05	2627000	96.8	30 - 125
74	Ge	3	10503101	0.44	10940000	96.0	30 - 125
103	Rh	2	3597853	1.01	3842000	93.6	30 - 125
103	Rh	3	6886688	0.64	7414000	92.9	30 - 125
165	Ho	3	5499160	1.37	5459000	100.7	30 - 125
175	Lu	3	6214451	0.89	6180000	100.6	30 - 125
209	Bi	3	6025868	1.55	6220000	96.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\149SMPL.D\149SMPL.D#  
 Date Acquired: Sep 14 2010 03:14 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21199-A-29-C Vial Number: 4206  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **10.00** Final Dil Factor: **10.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.314 ug/l	13.14	11.2	900	6	P
23	Na	2	4387.000 ug/l	43,870.00	0.8	450000	45	A
24	Mg	2	9269.000 ug/l	92,690.00	1.3	450000	45	A
27	Al	2	7611.000 ug/l	76,110.00	0.2	450000	45	A
31	P	2	939.100 ug/l	9,391.00	0.8	450000	45	P
39	K	2	1960.000 ug/l	19,600.00	1.8	450000	45	P
40	Ca	1	13990.000 ug/l	139,900.00	2.5	450000	45	A
47	Ti	2	108.200 ug/l	1,082.00	1.2	4500	74	P
51	V	2	45.900 ug/l	459.00	1.9	4500	74	P
52	Cr	2	21.990 ug/l	219.90	0.5	4500	74	P
55	Mn	2	740.100 ug/l	7,401.00	1.1	4500	74	A
56	Fe	1	70380.000 ug/l	703,800.00	1.1	450000	74	A
59	Co	2	15.280 ug/l	152.80	1.8	4500	74	P
60	Ni	2	40.000 ug/l	400.00	1.1	4500	74	P
63	Cu	2	25.480 ug/l	254.80	1.6	4500	74	P
66	Zn	2	99.460 ug/l	994.60	1.6	4500	74	P
75	As	2	18.010 ug/l	180.10	2.0	4500	74	P
78	Se	1	0.467 ug/l	4.67	33.9	4500	74	P
88	Sr	3	69.660 ug/l	696.60	0.8	4500	74	P
95	Mo	3	2.983 ug/l	29.83	3.2	4500	74	P
109	Ag	3	0.080 ug/l	0.80	21.2	900	103	P
111	Cd	3	0.662 ug/l	6.62	1.8	4500	103	P
118	Sn	3	2.252 ug/l	22.52	5.1	4500	103	P
121	Sb	3	1.210 ug/l	12.10	2.8	4500	103	P
135	Ba	3	201.000 ug/l	2,010.00	0.8	4500	103	P
200	Hg	3	0.090 ug/l	0.90	11.8	45	209	P
205	Tl	3	0.217 ug/l	2.17	2.7	4500	209	P
208	Pb	3	25.060 ug/l	250.60	1.9	4500	209	P
238	U	3	2.041 ug/l	20.41	1.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181126	2.16	198400	91.3	30 - 125
45	Sc	1	2114391	3.17	3760000	56.2	30 - 125
45	Sc	2	1449894	2.31	1428000	101.5	30 - 125
74	Ge	1	2222775	1.55	3683000	60.4	30 - 125
74	Ge	2	2693802	2.52	2627000	102.5	30 - 125
74	Ge	3	11910155	1.07	10940000	108.9	30 - 125
103	Rh	2	3770951	1.38	3842000	98.2	30 - 125
103	Rh	3	7840408	0.28	7414000	105.8	30 - 125
165	Ho	3	5901482	0.44	5459000	108.1	30 - 125
175	Lu	3	6689438	1.42	6180000	108.2	30 - 125
209	Bi	3	6459011	1.58	6220000	103.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\150SMPL.D\150SMPL.D#  
 Date Acquired: Sep 14 2010 03:20 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	47.480 ug/l	47.48	1.4	900	6	P
23	Na	2	4666.000 ug/l	4,666.00	1.2	450000	45	A
24	Mg	2	4684.000 ug/l	4,684.00	0.8	450000	45	A
27	Al	2	469.700 ug/l	469.70	1.7	450000	45	P
31	P	2	4622.000 ug/l	4,622.00	3.3	450000	45	P
39	K	2	4836.000 ug/l	4,836.00	1.4	450000	45	A
40	Ca	1	4005.000 ug/l	4,005.00	2.2	450000	45	A
47	Ti	2	46.430 ug/l	46.43	2.0	4500	74	P
51	V	2	45.850 ug/l	45.85	1.8	4500	74	P
52	Cr	2	46.730 ug/l	46.73	1.2	4500	74	P
55	Mn	2	47.260 ug/l	47.26	1.1	4500	74	P
56	Fe	1	4999.000 ug/l	4,999.00	1.3	450000	74	A
59	Co	2	46.450 ug/l	46.45	1.2	4500	74	P
60	Ni	2	46.590 ug/l	46.59	0.5	4500	74	P
63	Cu	2	46.350 ug/l	46.35	0.6	4500	74	P
66	Zn	2	48.270 ug/l	48.27	2.1	4500	74	P
75	As	2	48.180 ug/l	48.18	1.0	4500	74	P
78	Se	1	53.140 ug/l	53.14	3.8	4500	74	P
88	Sr	3	48.630 ug/l	48.63	0.3	4500	74	P
95	Mo	3	48.350 ug/l	48.35	1.6	4500	74	P
109	Ag	3	49.410 ug/l	49.41	0.6	900	103	P
111	Cd	3	49.720 ug/l	49.72	0.7	4500	103	P
118	Sn	3	49.490 ug/l	49.49	0.5	4500	103	P
121	Sb	3	49.430 ug/l	49.43	0.7	4500	103	P
135	Ba	3	50.650 ug/l	50.65	0.9	4500	103	P
200	Hg	3	2.406 ug/l	2.41	2.7	45	209	P
205	Tl	3	48.200 ug/l	48.20	1.4	4500	209	P
208	Pb	3	48.800 ug/l	48.80	0.8	4500	209	P
238	U	3	47.510 ug/l	47.51	0.5	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	187469	0.79	198400	94.5	30 - 125
45	Sc	1	2086643	1.91	3760000	55.5	30 - 125
45	Sc	2	1490299	1.07	1428000	104.4	30 - 125
74	Ge	1	2176503	0.61	3683000	59.1	30 - 125
74	Ge	2	2800564	1.03	2627000	106.6	30 - 125
74	Ge	3	11937879	0.67	10940000	109.1	30 - 125
103	Rh	2	3984854	1.95	3842000	103.7	30 - 125
103	Rh	3	7895110	0.36	7414000	106.5	30 - 125
165	Ho	3	6006114	0.96	5459000	110.0	30 - 125
175	Lu	3	6667051	1.01	6180000	107.9	30 - 125
209	Bi	3	6698775	0.88	6220000	107.7	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\151SMPL.D\151SMPL.D#  
 Date Acquired: Sep 14 2010 03:27 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.000 ug/l	0.00	4069.6	900	6	P
23	Na	2	-7.201 ug/l	-7.20	7.6	450000	45	P
24	Mg	2	0.829 ug/l	0.83	22.7	450000	45	P
27	Al	2	2.881 ug/l	2.88	14.0	450000	45	P
31	P	2	-5.053 ug/l	-5.05	98.6	450000	45	P
39	K	2	0.190 ug/l	0.19	2268.4	450000	45	P
40	Ca	1	0.337 ug/l	0.34	51.0	450000	45	P
47	Ti	2	0.023 ug/l	0.02	38.6	4500	74	P
51	V	2	-0.667 ug/l	-0.67	8.3	4500	74	P
52	Cr	2	-0.058 ug/l	-0.06	76.2	4500	74	P
55	Mn	2	0.406 ug/l	0.41	3.2	4500	74	P
56	Fe	1	2.529 ug/l	2.53	2.0	450000	74	P
59	Co	2	0.007 ug/l	0.01	30.5	4500	74	P
60	Ni	2	-0.040 ug/l	-0.04	68.3	4500	74	P
63	Cu	2	0.034 ug/l	0.03	23.0	4500	74	P
66	Zn	2	0.081 ug/l	0.08	162.3	4500	74	P
75	As	2	-0.133 ug/l	-0.13	192.8	4500	74	P
78	Se	1	-0.023 ug/l	-0.02	234.1	4500	74	P
88	Sr	3	-0.006 ug/l	-0.01	192.3	4500	74	P
95	Mo	3	0.022 ug/l	0.02	38.4	4500	74	P
109	Ag	3	0.006 ug/l	0.01	23.0	900	103	P
111	Cd	3	0.024 ug/l	0.02	18.8	4500	103	P
118	Sn	3	0.051 ug/l	0.05	18.4	4500	103	P
121	Sb	3	0.015 ug/l	0.01	39.3	4500	103	P
135	Ba	3	-0.077 ug/l	-0.08	12.5	4500	103	P
200	Hg	3	0.002 ug/l	0.00	85.2	45	209	P
205	Tl	3	0.321 ug/l	0.32	4.3	4500	209	P
208	Pb	3	0.009 ug/l	0.01	62.9	4500	209	P
238	U	3	0.005 ug/l	0.01	13.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	193909	1.34	198400	97.7	30 - 125
45	Sc	1	2014303	1.97	3760000	53.6	30 - 125
45	Sc	2	1530545	1.20	1428000	107.2	30 - 125
74	Ge	1	2127058	1.62	3683000	57.8	30 - 125
74	Ge	2	2943030	1.02	2627000	112.0	30 - 125
74	Ge	3	12265985	0.27	10940000	112.1	30 - 125
103	Rh	2	4158595	1.26	3842000	108.2	30 - 125
103	Rh	3	8265860	0.77	7414000	111.5	30 - 125
165	Ho	3	6055715	1.00	5459000	110.9	30 - 125
175	Lu	3	6793835	0.46	6180000	109.9	30 - 125
209	Bi	3	6876327	0.45	6220000	110.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\152SMPL.D\152SMPL.D#  
 Date Acquired: Sep 14 2010 03:34 am Acq. Method: OSEA\_ALL.M  
 Sample Name: MB 580-71430/14-A Vial Number: 4301  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	-9.096 ug/l	-9.10	2.3	450000	45	P
24	Mg	2	0.285 ug/l	0.29	22.0	450000	45	P
27	Al	2	3.585 ug/l	3.59	23.7	450000	45	P
31	P	2	-7.781 ug/l	-7.78	69.9	450000	45	P
39	K	2	-3.100 ug/l	-3.10	102.5	450000	45	P
40	Ca	1	-0.729 ug/l	-0.73	40.7	450000	45	P
47	Ti	2	-0.003 ug/l	0.00	634.2	4500	74	P
51	V	2	-0.745 ug/l	-0.74	5.9	4500	74	P
52	Cr	2	-0.066 ug/l	-0.07	55.2	4500	74	P
55	Mn	2	0.144 ug/l	0.14	4.9	4500	74	P
56	Fe	1	1.354 ug/l	1.35	8.1	450000	74	P
59	Co	2	0.003 ug/l	0.00	55.6	4500	74	P
60	Ni	2	-0.013 ug/l	-0.01	247.4	4500	74	P
63	Cu	2	0.031 ug/l	0.03	37.4	4500	74	P
66	Zn	2	0.037 ug/l	0.04	132.3	4500	74	P
75	As	2	-0.149 ug/l	-0.15	179.4	4500	74	P
78	Se	1	-0.041 ug/l	-0.04	107.4	4500	74	P
88	Sr	3	-0.027 ug/l	-0.03	16.3	4500	74	P
95	Mo	3	-0.002 ug/l	0.00	634.4	4500	74	P
109	Ag	3	-0.002 ug/l	0.00	133.0	900	103	P
111	Cd	3	-0.001 ug/l	0.00	902.8	4500	103	P
118	Sn	3	0.018 ug/l	0.02	44.0	4500	103	P
121	Sb	3	0.010 ug/l	0.01	45.8	4500	103	P
135	Ba	3	-0.075 ug/l	-0.07	63.8	4500	103	P
200	Hg	3	-0.004 ug/l	0.00	123.6	45	209	P
205	Tl	3	0.158 ug/l	0.16	7.4	4500	209	P
208	Pb	3	0.005 ug/l	0.01	61.5	4500	209	P
238	U	3	0.001 ug/l	0.00	40.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	192139	0.99	198400	96.8	30 - 125
45	Sc	1	1981796	3.07	3760000	52.7	30 - 125
45	Sc	2	1546948	1.06	1428000	108.3	30 - 125
74	Ge	1	2092158	2.50	3683000	56.8	30 - 125
74	Ge	2	2881323	0.49	2627000	109.7	30 - 125
74	Ge	3	12085710	0.47	10940000	110.5	30 - 125
103	Rh	2	4179300	0.81	3842000	108.8	30 - 125
103	Rh	3	8269841	0.29	7414000	111.5	30 - 125
165	Ho	3	6031937	1.54	5459000	110.5	30 - 125
175	Lu	3	6815629	0.34	6180000	110.3	30 - 125
209	Bi	3	6854320	0.37	6220000	110.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\153SMPL.D\153SMPL.D#  
 Date Acquired: Sep 14 2010 03:41 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21253-B-1-A Vial Number: 4302

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.031 ug/l	0.03	2.6	900	6	P
23	Na	2	10730.000 ug/l	10,730.00	0.4	450000	45	A
24	Mg	2	3165.000 ug/l	3,165.00	0.3	450000	45	A
27	Al	2	324.000 ug/l	324.00	1.4	450000	45	P
31	P	2	266.200 ug/l	266.20	3.2	450000	45	P
39	K	2	2144.000 ug/l	2,144.00	0.4	450000	45	P
40	Ca	1	8551.000 ug/l	8,551.00	1.3	450000	45	A
47	Ti	2	11.780 ug/l	11.78	4.8	4500	74	P
51	V	2	7.743 ug/l	7.74	4.0	4500	74	P
52	Cr	2	2.634 ug/l	2.63	1.5	4500	74	P
55	Mn	2	170.900 ug/l	170.90	0.4	4500	74	P
56	Fe	1	3155.000 ug/l	3,155.00	1.9	450000	74	A
59	Co	2	0.808 ug/l	0.81	5.5	4500	74	P
60	Ni	2	4.843 ug/l	4.84	3.9	4500	74	P
63	Cu	2	58.350 ug/l	58.35	1.1	4500	74	P
66	Zn	2	954.300 ug/l	954.30	1.4	4500	74	P
75	As	2	1.234 ug/l	1.23	38.2	4500	74	P
78	Se	1	0.033 ug/l	0.03	549.5	4500	74	P
88	Sr	3	57.360 ug/l	57.36	1.0	4500	74	P
95	Mo	3	6.025 ug/l	6.03	2.2	4500	74	P
109	Ag	3	0.003 ug/l	0.00	202.5	900	103	P
111	Cd	3	0.234 ug/l	0.23	13.1	4500	103	P
118	Sn	3	0.601 ug/l	0.60	14.9	4500	103	P
121	Sb	3	0.850 ug/l	0.85	3.7	4500	103	P
135	Ba	3	33.010 ug/l	33.01	0.8	4500	103	P
200	Hg	3	0.005 ug/l	0.01	58.5	45	209	P
205	Tl	3	0.116 ug/l	0.12	8.4	4500	209	P
208	Pb	3	6.558 ug/l	6.56	2.2	4500	209	P
238	U	3	0.079 ug/l	0.08	5.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186810	1.78	198400	94.2	30 - 125
45	Sc	1	2078542	2.75	3760000	55.3	30 - 125
45	Sc	2	1518888	1.03	1428000	106.4	30 - 125
74	Ge	1	2191104	2.19	3683000	59.5	30 - 125
74	Ge	2	2890006	0.79	2627000	110.0	30 - 125
74	Ge	3	12163565	0.40	10940000	111.2	30 - 125
103	Rh	2	4058887	2.15	3842000	105.6	30 - 125
103	Rh	3	8036505	0.63	7414000	108.4	30 - 125
165	Ho	3	6057516	0.82	5459000	111.0	30 - 125
175	Lu	3	6740394	0.51	6180000	109.1	30 - 125
209	Bi	3	6666032	1.09	6220000	107.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\154SMPL.D\154SMPL.D#  
 Date Acquired: Sep 14 2010 03:48 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21256-A-1-A SD Vial Number: 4303

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	437.800 ug/l	2,189.00	0.3	450000	45	P
24	Mg	2	99.380 ug/l	496.90	1.6	450000	45	P
27	Al	2	51.170 ug/l	255.85	1.6	450000	45	P
31	P	2	24.040 ug/l	120.20	56.0	450000	45	P
39	K	2	177.900 ug/l	889.50	2.9	450000	45	P
40	Ca	1	455.400 ug/l	2,277.00	4.3	450000	45	P
47	Ti	2	1.168 ug/l	5.84	12.0	4500	74	P
51	V	2	0.906 ug/l	4.53	5.3	4500	74	P
52	Cr	2	0.277 ug/l	1.38	2.4	4500	74	P
55	Mn	2	9.079 ug/l	45.40	0.9	4500	74	P
56	Fe	1	103.400 ug/l	517.00	0.9	450000	74	P
59	Co	2	0.088 ug/l	0.44	5.6	4500	74	P
60	Ni	2	0.555 ug/l	2.78	7.7	4500	74	P
63	Cu	2	42.800 ug/l	214.00	2.5	4500	74	P
66	Zn	2	42.220 ug/l	211.10	2.0	4500	74	P
75	As	2	10.280 ug/l	51.40	3.4	4500	74	P
78	Se	1	-0.154 ug/l	-0.77	10.7	4500	74	P
88	Sr	3	3.072 ug/l	15.36	1.5	4500	74	P
95	Mo	3	0.162 ug/l	0.81	16.1	4500	74	P
109	Ag	3	0.002 ug/l	0.01	126.8	900	103	P
111	Cd	3	0.117 ug/l	0.58	29.9	4500	103	P
118	Sn	3	0.167 ug/l	0.84	3.9	4500	103	P
121	Sb	3	2.717 ug/l	13.59	0.7	4500	103	P
135	Ba	3	2.420 ug/l	12.10	4.7	4500	103	P
200	Hg	3	-0.006 ug/l	-0.03	47.3	45	209	P
205	Tl	3	0.109 ug/l	0.54	5.0	4500	209	P
208	Pb	3	42.130 ug/l	210.65	0.4	4500	209	P
238	U	3	0.004 ug/l	0.02	9.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	199568	1.82	198400	100.6	30 - 125
45	Sc	1	2089269	2.38	3760000	55.6	30 - 125
45	Sc	2	1590214	2.26	1428000	111.4	30 - 125
74	Ge	1	2244453	0.81	3683000	60.9	30 - 125
74	Ge	2	2980361	1.46	2627000	113.5	30 - 125
74	Ge	3	12831844	0.98	10940000	117.3	30 - 125
103	Rh	2	4343188	1.29	3842000	113.0	30 - 125
103	Rh	3	8618470	1.13	7414000	116.2	30 - 125
165	Ho	3	6199248	0.27	5459000	113.6	30 - 125
175	Lu	3	6954418	0.57	6180000	112.5	30 - 125
209	Bi	3	7026138	0.68	6220000	113.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\155SMPL.D\155SMPL.D#  
 Date Acquired: Sep 14 2010 03:55 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21256-A-1-A Vial Number: 4304

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.000 ug/l	0.00	3675.1	900	6	P
23	Na	2	2169.000 ug/l	2,169.00	2.9	450000	45	A
24	Mg	2	498.600 ug/l	498.60	2.1	450000	45	P
27	Al	2	278.500 ug/l	278.50	2.3	450000	45	P
31	P	2	169.400 ug/l	169.40	6.7	450000	45	P
39	K	2	935.900 ug/l	935.90	1.1	450000	45	P
40	Ca	1	2161.000 ug/l	2,161.00	2.5	450000	45	A
47	Ti	2	6.168 ug/l	6.17	13.1	4500	74	P
51	V	2	8.514 ug/l	8.51	2.4	4500	74	P
52	Cr	2	1.877 ug/l	1.88	3.1	4500	74	P
55	Mn	2	44.180 ug/l	44.18	0.6	4500	74	P
56	Fe	1	525.300 ug/l	525.30	2.6	450000	74	P
59	Co	2	0.449 ug/l	0.45	3.2	4500	74	P
60	Ni	2	3.008 ug/l	3.01	5.7	4500	74	P
63	Cu	2	210.000 ug/l	210.00	0.8	4500	74	P
66	Zn	2	212.000 ug/l	212.00	0.9	4500	74	P
75	As	2	49.920 ug/l	49.92	0.7	4500	74	P
78	Se	1	-0.025 ug/l	-0.02	235.7	4500	74	P
88	Sr	3	15.400 ug/l	15.40	0.6	4500	74	P
95	Mo	3	0.945 ug/l	0.94	10.5	4500	74	P
109	Ag	3	0.052 ug/l	0.05	20.5	900	103	P
111	Cd	3	0.465 ug/l	0.47	9.3	4500	103	P
118	Sn	3	1.137 ug/l	1.14	51.9	4500	103	P
121	Sb	3	13.780 ug/l	13.78	0.9	4500	103	P
135	Ba	3	12.680 ug/l	12.68	2.1	4500	103	P
200	Hg	3	0.015 ug/l	0.02	12.0	45	209	P
205	Tl	3	0.115 ug/l	0.11	6.0	4500	209	P
208	Pb	3	201.600 ug/l	201.60	0.8	4500	209	A
238	U	3	0.024 ug/l	0.02	17.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	192220	2.68	198400	96.9	30 - 125
45	Sc	1	2025381	2.66	3760000	53.9	30 - 125
45	Sc	2	1559971	0.74	1428000	109.2	30 - 125
74	Ge	1	2143945	0.91	3683000	58.2	30 - 125
74	Ge	2	2923028	0.60	2627000	111.3	30 - 125
74	Ge	3	12307311	0.43	10940000	112.5	30 - 125
103	Rh	2	4223567	0.22	3842000	109.9	30 - 125
103	Rh	3	8373195	0.51	7414000	112.9	30 - 125
165	Ho	3	6133369	0.83	5459000	112.4	30 - 125
175	Lu	3	6921324	0.35	6180000	112.0	30 - 125
209	Bi	3	6857948	0.77	6220000	110.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\156SMPL.D\156SMPL.D#  
 Date Acquired: Sep 14 2010 04:02 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21256-A-1-B DU Vial Number: 4305  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.000 ug/l	0.00	39.2	900	6	P
23	Na	2	2196.000 ug/l	2,196.00	2.2	450000	45	A
24	Mg	2	505.600 ug/l	505.60	0.9	450000	45	P
27	Al	2	287.200 ug/l	287.20	3.2	450000	45	P
31	P	2	170.900 ug/l	170.90	11.9	450000	45	P
39	K	2	929.900 ug/l	929.90	2.4	450000	45	P
40	Ca	1	2192.000 ug/l	2,192.00	3.9	450000	45	A
47	Ti	2	5.889 ug/l	5.89	3.9	4500	74	P
51	V	2	8.462 ug/l	8.46	3.5	4500	74	P
52	Cr	2	1.784 ug/l	1.78	4.8	4500	74	P
55	Mn	2	43.710 ug/l	43.71	1.6	4500	74	P
56	Fe	1	528.800 ug/l	528.80	1.8	450000	74	P
59	Co	2	0.426 ug/l	0.43	3.6	4500	74	P
60	Ni	2	2.935 ug/l	2.94	3.8	4500	74	P
63	Cu	2	210.500 ug/l	210.50	1.9	4500	74	P
66	Zn	2	220.800 ug/l	220.80	1.7	4500	74	P
75	As	2	50.610 ug/l	50.61	3.6	4500	74	P
78	Se	1	-0.041 ug/l	-0.04	370.7	4500	74	P
88	Sr	3	15.290 ug/l	15.29	1.9	4500	74	P
95	Mo	3	0.918 ug/l	0.92	8.4	4500	74	P
109	Ag	3	0.052 ug/l	0.05	18.1	900	103	P
111	Cd	3	0.491 ug/l	0.49	21.5	4500	103	P
118	Sn	3	0.781 ug/l	0.78	6.3	4500	103	P
121	Sb	3	13.690 ug/l	13.69	1.0	4500	103	P
135	Ba	3	12.790 ug/l	12.79	0.8	4500	103	P
200	Hg	3	0.013 ug/l	0.01	15.0	45	209	P
205	Tl	3	0.097 ug/l	0.10	8.9	4500	209	P
208	Pb	3	197.700 ug/l	197.70	1.8	4500	209	A
238	U	3	0.021 ug/l	0.02	5.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	194585	0.75	198400	98.1	30 - 125
45	Sc	1	2011553	4.64	3760000	53.5	30 - 125
45	Sc	2	1557286	0.19	1428000	109.1	30 - 125
74	Ge	1	2125187	2.06	3683000	57.7	30 - 125
74	Ge	2	2940102	1.52	2627000	111.9	30 - 125
74	Ge	3	12312424	0.89	10940000	112.5	30 - 125
103	Rh	2	4190744	1.93	3842000	109.1	30 - 125
103	Rh	3	8371193	1.27	7414000	112.9	30 - 125
165	Ho	3	6146675	1.29	5459000	112.6	30 - 125
175	Lu	3	6985994	2.01	6180000	113.0	30 - 125
209	Bi	3	6955293	1.30	6220000	111.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\157SMPL.D\157SMPL.D#  
 Date Acquired: Sep 14 2010 04:09 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21256-A-1-C MS Vial Number: 4306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.867 ug/l	93.35	4.4	900	6	P
23	Na	2	419.100 ug/l	20,955.00	0.7	450000	45	P
24	Mg	2	397.700 ug/l	19,885.00	1.1	450000	45	P
27	Al	2	80.240 ug/l	4,012.00	1.5	450000	45	P
31	P	2	347.700 ug/l	17,385.00	4.3	450000	45	P
39	K	2	415.000 ug/l	20,750.00	2.6	450000	45	P
40	Ca	1	371.500 ug/l	18,575.00	3.2	450000	45	P
47	Ti	2	91.440 ug/l	4,572.00	1.0	4500	74	P
51	V	2	17.640 ug/l	882.00	1.2	4500	74	P
52	Cr	2	7.274 ug/l	363.70	0.6	4500	74	P
55	Mn	2	19.800 ug/l	990.00	0.6	4500	74	P
56	Fe	1	485.400 ug/l	24,270.00	3.3	450000	74	P
59	Co	2	18.860 ug/l	943.00	1.4	4500	74	P
60	Ni	2	18.950 ug/l	947.50	4.7	4500	74	P
63	Cu	2	13.570 ug/l	678.50	2.0	4500	74	P
66	Zn	2	23.090 ug/l	1,154.50	4.0	4500	74	P
75	As	2	76.970 ug/l	3,848.50	2.3	4500	74	P
78	Se	1	82.810 ug/l	4,140.50	1.5	4500	74	P
88	Sr	3	0.371 ug/l	18.55	4.6	4500	74	P
95	Mo	3	95.820 ug/l	4,791.00	1.4	4500	74	P
109	Ag	3	11.770 ug/l	588.50	1.1	900	103	P
111	Cd	3	1.913 ug/l	95.65	7.7	4500	103	P
118	Sn	3	97.670 ug/l	4,883.50	1.5	4500	103	P
121	Sb	3	57.280 ug/l	2,864.00	1.5	4500	103	P
135	Ba	3	79.180 ug/l	3,959.00	1.1	4500	103	P
200	Hg	3	0.946 ug/l	47.32	2.5	45	209	P
205	Tl	3	75.460 ug/l	3,773.00	1.3	4500	209	A
208	Pb	3	23.870 ug/l	1,193.50	1.2	4500	209	P
238	U	3	0.001 ug/l	0.05	96.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	200779	0.35	198400	101.2	30 - 125
45	Sc	1	2035386	2.36	3760000	54.1	30 - 125
45	Sc	2	1606958	1.66	1428000	112.5	30 - 125
74	Ge	1	2149468	1.94	3683000	58.4	30 - 125
74	Ge	2	3027090	1.05	2627000	115.2	30 - 125
74	Ge	3	12718037	0.47	10940000	116.3	30 - 125
103	Rh	2	4329055	0.68	3842000	112.7	30 - 125
103	Rh	3	8585349	1.02	7414000	115.8	30 - 125
165	Ho	3	6183996	0.48	5459000	113.3	30 - 125
175	Lu	3	6949804	0.89	6180000	112.5	30 - 125
209	Bi	3	7015498	0.72	6220000	112.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\158SMPL.D\158SMPL.D#  
 Date Acquired: Sep 14 2010 04:16 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21256-A-1-D MSD Vial Number: 4307  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.966 ug/l	98.30	9.1	900	6	P
23	Na	2	412.000 ug/l	20,600.00	1.2	450000	45	P
24	Mg	2	392.300 ug/l	19,615.00	1.8	450000	45	P
27	Al	2	118.300 ug/l	5,915.00	2.3	450000	45	P
31	P	2	352.400 ug/l	17,620.00	4.9	450000	45	P
39	K	2	409.700 ug/l	20,485.00	1.8	450000	45	P
40	Ca	1	373.700 ug/l	18,685.00	4.3	450000	45	P
47	Ti	2	89.350 ug/l	4,467.50	1.9	4500	74	P
51	V	2	17.970 ug/l	898.50	0.7	4500	74	P
52	Cr	2	7.446 ug/l	372.30	2.9	4500	74	P
55	Mn	2	19.870 ug/l	993.50	1.5	4500	74	P
56	Fe	1	483.000 ug/l	24,150.00	2.3	450000	74	P
59	Co	2	18.920 ug/l	946.00	0.8	4500	74	P
60	Ni	2	18.650 ug/l	932.50	3.3	4500	74	P
63	Cu	2	13.960 ug/l	698.00	2.1	4500	74	P
66	Zn	2	22.970 ug/l	1,148.50	3.7	4500	74	P
75	As	2	77.540 ug/l	3,877.00	0.8	4500	74	P
78	Se	1	81.800 ug/l	4,090.00	2.9	4500	74	P
88	Sr	3	0.399 ug/l	19.96	5.5	4500	74	P
95	Mo	3	93.800 ug/l	4,690.00	0.2	4500	74	P
109	Ag	3	11.730 ug/l	586.50	1.0	900	103	P
111	Cd	3	1.944 ug/l	97.20	2.0	4500	103	P
118	Sn	3	96.080 ug/l	4,804.00	0.7	4500	103	P
121	Sb	3	56.350 ug/l	2,817.50	1.2	4500	103	P
135	Ba	3	77.580 ug/l	3,879.00	1.3	4500	103	P
200	Hg	3	0.891 ug/l	44.55	1.4	45	209	P
205	Tl	3	74.880 ug/l	3,744.00	1.1	4500	209	A
208	Pb	3	23.660 ug/l	1,183.00	1.3	4500	209	P
238	U	3	0.001 ug/l	0.03	20.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	198428	1.12	198400	100.0	30 - 125
45	Sc	1	2024715	4.06	3760000	53.8	30 - 125
45	Sc	2	1609750	2.72	1428000	112.7	30 - 125
74	Ge	1	2139582	2.69	3683000	58.1	30 - 125
74	Ge	2	2999010	0.53	2627000	114.2	30 - 125
74	Ge	3	12832201	1.35	10940000	117.3	30 - 125
103	Rh	2	4318488	0.89	3842000	112.4	30 - 125
103	Rh	3	8613418	0.27	7414000	116.2	30 - 125
165	Ho	3	6196896	0.45	5459000	113.5	30 - 125
175	Lu	3	6906923	0.74	6180000	111.8	30 - 125
209	Bi	3	7034061	0.85	6220000	113.1	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\159SMPL.D\159SMPL.D#  
 Date Acquired: Sep 14 2010 04:23 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21256-A-1-A PDS Vial Number: 4308  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.984 ug/l	99.20	3.6	900	6	P
23	Na	2	417.600 ug/l	20,880.00	1.8	450000	45	P
24	Mg	2	397.600 ug/l	19,880.00	1.3	450000	45	P
27	Al	2	89.110 ug/l	4,455.50	1.9	450000	45	P
31	P	2	359.800 ug/l	17,990.00	5.0	450000	45	P
39	K	2	403.300 ug/l	20,165.00	1.6	450000	45	P
40	Ca	1	375.700 ug/l	18,785.00	2.6	450000	45	P
47	Ti	2	91.760 ug/l	4,588.00	0.9	4500	74	P
51	V	2	18.070 ug/l	903.50	2.3	4500	74	P
52	Cr	2	7.268 ug/l	363.40	0.8	4500	74	P
55	Mn	2	19.850 ug/l	992.50	1.0	4500	74	P
56	Fe	1	490.700 ug/l	24,535.00	4.5	450000	74	P
59	Co	2	18.910 ug/l	945.50	0.5	4500	74	P
60	Ni	2	19.320 ug/l	966.00	3.3	4500	74	P
63	Cu	2	13.580 ug/l	679.00	1.4	4500	74	P
66	Zn	2	24.390 ug/l	1,219.50	3.8	4500	74	P
75	As	2	78.450 ug/l	3,922.50	0.6	4500	74	P
78	Se	1	84.610 ug/l	4,230.50	5.9	4500	74	P
88	Sr	3	0.394 ug/l	19.69	3.8	4500	74	P
95	Mo	3	97.800 ug/l	4,890.00	1.3	4500	74	P
109	Ag	3	11.900 ug/l	595.00	1.6	900	103	P
111	Cd	3	1.925 ug/l	96.25	3.7	4500	103	P
118	Sn	3	97.010 ug/l	4,850.50	0.7	4500	103	P
121	Sb	3	56.850 ug/l	2,842.50	1.4	4500	103	P
135	Ba	3	79.960 ug/l	3,998.00	0.7	4500	103	P
200	Hg	3	0.964 ug/l	48.22	2.0	45	209	P
205	Tl	3	75.050 ug/l	3,752.50	2.1	4500	209	A
208	Pb	3	23.780 ug/l	1,189.00	0.7	4500	209	P
238	U	3	0.001 ug/l	0.05	36.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	199812	0.71	198400	100.7	30 - 125
45	Sc	1	2021150	2.89	3760000	53.8	30 - 125
45	Sc	2	1617235	1.74	1428000	113.3	30 - 125
74	Ge	1	2142181	3.19	3683000	58.2	30 - 125
74	Ge	2	3008012	0.34	2627000	114.5	30 - 125
74	Ge	3	12696072	0.30	10940000	116.1	30 - 125
103	Rh	2	4300813	1.54	3842000	111.9	30 - 125
103	Rh	3	8577637	0.22	7414000	115.7	30 - 125
165	Ho	3	6167718	0.24	5459000	113.0	30 - 125
175	Lu	3	6945563	0.99	6180000	112.4	30 - 125
209	Bi	3	7023945	0.04	6220000	112.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\160SMPL.D\160SMPL.D#  
 Date Acquired: Sep 14 2010 04:30 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCS 580-71430/15-A Vial Number: 4309  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.024 ug/l	101.20	8.6	900	6	P
23	Na	2	405.900 ug/l	20,295.00	1.0	450000	45	P
24	Mg	2	415.100 ug/l	20,755.00	1.9	450000	45	P
27	Al	2	72.760 ug/l	3,638.00	1.3	450000	45	P
31	P	2	367.100 ug/l	18,355.00	3.8	450000	45	P
39	K	2	423.000 ug/l	21,150.00	2.5	450000	45	P
40	Ca	1	336.300 ug/l	16,815.00	4.5	450000	45	P
47	Ti	2	97.550 ug/l	4,877.50	0.5	4500	74	P
51	V	2	19.220 ug/l	961.00	1.9	4500	74	P
52	Cr	2	7.809 ug/l	390.45	1.3	4500	74	P
55	Mn	2	20.280 ug/l	1,014.00	0.9	4500	74	P
56	Fe	1	517.200 ug/l	25,860.00	3.6	450000	74	P
59	Co	2	20.120 ug/l	1,006.00	0.3	4500	74	P
60	Ni	2	19.680 ug/l	984.00	3.8	4500	74	P
63	Cu	2	10.010 ug/l	500.50	2.3	4500	74	P
66	Zn	2	20.150 ug/l	1,007.50	2.7	4500	74	P
75	As	2	82.120 ug/l	4,106.00	0.8	4500	74	P
78	Se	1	89.730 ug/l	4,486.50	5.5	4500	74	P
88	Sr	3	-0.064 ug/l	-3.19	6.6	4500	74	P
95	Mo	3	105.100 ug/l	5,255.00	0.3	4500	74	P
109	Ag	3	12.540 ug/l	627.00	0.9	900	103	P
111	Cd	3	2.010 ug/l	100.50	7.7	4500	103	P
118	Sn	3	104.400 ug/l	5,220.00	0.3	4500	103	P
121	Sb	3	60.280 ug/l	3,014.00	0.6	4500	103	P
135	Ba	3	83.230 ug/l	4,161.50	0.9	4500	103	P
200	Hg	3	0.990 ug/l	49.51	3.0	45	209	P
205	Tl	3	82.330 ug/l	4,116.50	0.4	4500	209	A
208	Pb	3	20.870 ug/l	1,043.50	0.8	4500	209	P
238	U	3	0.000 ug/l	-0.02	30.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	193929	1.57	198400	97.7	30 - 125
45	Sc	1	1903374	4.17	3760000	50.6	30 - 125
45	Sc	2	1567781	2.35	1428000	109.8	30 - 125
74	Ge	1	1973922	2.96	3683000	53.6	30 - 125
74	Ge	2	2944560	0.46	2627000	112.1	30 - 125
74	Ge	3	12098967	0.19	10940000	110.6	30 - 125
103	Rh	2	4266744	0.27	3842000	111.1	30 - 125
103	Rh	3	8298145	1.24	7414000	111.9	30 - 125
165	Ho	3	6083148	1.05	5459000	111.4	30 - 125
175	Lu	3	6914097	1.22	6180000	111.9	30 - 125
209	Bi	3	7006535	1.10	6220000	112.6	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\161SMPL.D\161SMPL.D#  
 Date Acquired: Sep 14 2010 04:37 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71430/16-A Vial Number: 4310

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.059 ug/l	102.95	7.6	900	6	P
23	Na	2	406.900 ug/l	20,345.00	1.3	450000	45	P
24	Mg	2	417.900 ug/l	20,895.00	1.1	450000	45	P
27	Al	2	71.260 ug/l	3,563.00	4.3	450000	45	P
31	P	2	372.300 ug/l	18,615.00	4.7	450000	45	P
39	K	2	423.400 ug/l	21,170.00	1.2	450000	45	P
40	Ca	1	338.200 ug/l	16,910.00	5.1	450000	45	P
47	Ti	2	95.750 ug/l	4,787.50	0.8	4500	74	P
51	V	2	19.240 ug/l	962.00	1.7	4500	74	P
52	Cr	2	7.747 ug/l	387.35	2.9	4500	74	P
55	Mn	2	20.070 ug/l	1,003.50	0.3	4500	74	P
56	Fe	1	514.400 ug/l	25,720.00	3.3	450000	74	P
59	Co	2	19.900 ug/l	995.00	1.1	4500	74	P
60	Ni	2	20.080 ug/l	1,004.00	2.1	4500	74	P
63	Cu	2	10.120 ug/l	506.00	1.5	4500	74	P
66	Zn	2	20.320 ug/l	1,016.00	4.4	4500	74	P
75	As	2	81.470 ug/l	4,073.50	1.2	4500	74	P
78	Se	1	88.770 ug/l	4,438.50	5.0	4500	74	P
88	Sr	3	-0.066 ug/l	-3.29	8.1	4500	74	P
95	Mo	3	105.000 ug/l	5,250.00	1.5	4500	74	P
109	Ag	3	12.480 ug/l	624.00	1.4	900	103	P
111	Cd	3	2.196 ug/l	109.80	1.5	4500	103	P
118	Sn	3	104.600 ug/l	5,230.00	1.3	4500	103	P
121	Sb	3	60.350 ug/l	3,017.50	1.0	4500	103	P
135	Ba	3	84.250 ug/l	4,212.50	2.4	4500	103	P
200	Hg	3	0.978 ug/l	48.89	0.6	45	209	P
205	Tl	3	84.010 ug/l	4,200.50	1.6	4500	209	A
208	Pb	3	21.020 ug/l	1,051.00	1.1	4500	209	P
238	U	3	0.000 ug/l	-0.02	0.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	193452	0.20	198400	97.5	30 - 125
45	Sc	1	1890960	3.99	3760000	50.3	30 - 125
45	Sc	2	1553001	0.23	1428000	108.8	30 - 125
74	Ge	1	1979669	2.85	3683000	53.8	30 - 125
74	Ge	2	2932603	1.08	2627000	111.6	30 - 125
74	Ge	3	12115456	0.69	10940000	110.7	30 - 125
103	Rh	2	4255577	0.42	3842000	110.8	30 - 125
103	Rh	3	8307812	1.56	7414000	112.1	30 - 125
165	Ho	3	6184068	1.37	5459000	113.3	30 - 125
175	Lu	3	6917215	1.51	6180000	111.9	30 - 125
209	Bi	3	6951663	0.50	6220000	111.8	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\162SMPL.D\162SMPL.D#  
 Date Acquired: Sep 14 2010 04:44 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	47.630 ug/l	47.63	1.1	900	6	P
23	Na	2	4557.000 ug/l	4,557.00	1.7	450000	45	A
24	Mg	2	4610.000 ug/l	4,610.00	1.1	450000	45	A
27	Al	2	461.800 ug/l	461.80	0.8	450000	45	P
31	P	2	4571.000 ug/l	4,571.00	2.9	450000	45	P
39	K	2	4816.000 ug/l	4,816.00	1.5	450000	45	A
40	Ca	1	3921.000 ug/l	3,921.00	5.0	450000	45	A
47	Ti	2	47.030 ug/l	47.03	1.4	4500	74	P
51	V	2	45.060 ug/l	45.06	2.0	4500	74	P
52	Cr	2	46.250 ug/l	46.25	1.1	4500	74	P
55	Mn	2	47.140 ug/l	47.14	0.4	4500	74	P
56	Fe	1	5019.000 ug/l	5,019.00	1.3	450000	74	A
59	Co	2	46.570 ug/l	46.57	1.4	4500	74	P
60	Ni	2	45.840 ug/l	45.84	2.8	4500	74	P
63	Cu	2	46.640 ug/l	46.64	1.4	4500	74	P
66	Zn	2	46.940 ug/l	46.94	2.1	4500	74	P
75	As	2	47.760 ug/l	47.76	1.5	4500	74	P
78	Se	1	53.920 ug/l	53.92	3.3	4500	74	P
88	Sr	3	48.110 ug/l	48.11	0.5	4500	74	P
95	Mo	3	48.610 ug/l	48.61	0.4	4500	74	P
109	Ag	3	48.250 ug/l	48.25	2.0	900	103	P
111	Cd	3	48.300 ug/l	48.30	2.2	4500	103	P
118	Sn	3	48.890 ug/l	48.89	1.8	4500	103	P
121	Sb	3	48.770 ug/l	48.77	1.4	4500	103	P
135	Ba	3	49.800 ug/l	49.80	0.3	4500	103	P
200	Hg	3	2.394 ug/l	2.39	1.6	45	209	P
205	Tl	3	49.460 ug/l	49.46	1.9	4500	209	P
208	Pb	3	48.570 ug/l	48.57	0.8	4500	209	P
238	U	3	47.360 ug/l	47.36	0.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	190108	0.89	198400	95.8	30 - 125
45	Sc	1	2026990	4.68	3760000	53.9	30 - 125
45	Sc	2	1572548	2.09	1428000	110.1	30 - 125
74	Ge	1	2109879	2.06	3683000	57.3	30 - 125
74	Ge	2	2924534	1.15	2627000	111.3	30 - 125
74	Ge	3	12274280	1.10	10940000	112.2	30 - 125
103	Rh	2	4142474	1.19	3842000	107.8	30 - 125
103	Rh	3	8233405	0.87	7414000	111.1	30 - 125
165	Ho	3	6094421	0.16	5459000	111.6	30 - 125
175	Lu	3	6824340	0.63	6180000	110.4	30 - 125
209	Bi	3	6835629	0.16	6220000	109.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\163SMPL.D\163SMPL.D#  
 Date Acquired: Sep 14 2010 04:51 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.005 ug/l	0.00	357.4	900	6	P
23	Na	2	-6.695 ug/l	-6.70	8.5	450000	45	P
24	Mg	2	0.730 ug/l	0.73	23.7	450000	45	P
27	Al	2	2.328 ug/l	2.33	23.8	450000	45	P
31	P	2	-13.050 ug/l	-13.05	26.4	450000	45	P
39	K	2	-12.660 ug/l	-12.66	28.8	450000	45	P
40	Ca	1	0.250 ug/l	0.25	62.7	450000	45	P
47	Ti	2	-0.005 ug/l	0.00	537.9	4500	74	P
51	V	2	-0.716 ug/l	-0.72	6.2	4500	74	P
52	Cr	2	-0.063 ug/l	-0.06	21.3	4500	74	P
55	Mn	2	0.279 ug/l	0.28	2.1	4500	74	P
56	Fe	1	2.312 ug/l	2.31	12.2	450000	74	P
59	Co	2	0.017 ug/l	0.02	29.6	4500	74	P
60	Ni	2	-0.028 ug/l	-0.03	134.2	4500	74	P
63	Cu	2	0.031 ug/l	0.03	90.6	4500	74	P
66	Zn	2	0.195 ug/l	0.20	75.5	4500	74	P
75	As	2	-0.100 ug/l	-0.10	313.5	4500	74	P
78	Se	1	-0.083 ug/l	-0.08	36.9	4500	74	P
88	Sr	3	-0.029 ug/l	-0.03	33.9	4500	74	P
95	Mo	3	0.023 ug/l	0.02	56.1	4500	74	P
109	Ag	3	0.008 ug/l	0.01	112.7	900	103	P
111	Cd	3	0.012 ug/l	0.01	51.4	4500	103	P
118	Sn	3	0.112 ug/l	0.11	13.4	4500	103	P
121	Sb	3	0.041 ug/l	0.04	18.3	4500	103	P
135	Ba	3	-0.076 ug/l	-0.08	4.7	4500	103	P
200	Hg	3	0.004 ug/l	0.00	141.8	45	209	P
205	Tl	3	0.621 ug/l	0.62	1.7	4500	209	P
208	Pb	3	0.010 ug/l	0.01	33.7	4500	209	P
238	U	3	0.005 ug/l	0.00	34.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	198863	1.12	198400	100.2	30 - 125
45	Sc	1	1964239	3.44	3760000	52.2	30 - 125
45	Sc	2	1600657	0.36	1428000	112.1	30 - 125
74	Ge	1	2114430	0.38	3683000	57.4	30 - 125
74	Ge	2	2990499	1.00	2627000	113.8	30 - 125
74	Ge	3	12407452	0.64	10940000	113.4	30 - 125
103	Rh	2	4306081	1.11	3842000	112.1	30 - 125
103	Rh	3	8474499	1.08	7414000	114.3	30 - 125
165	Ho	3	6245511	0.43	5459000	114.4	30 - 125
175	Lu	3	7012143	1.78	6180000	113.5	30 - 125
209	Bi	3	7103224	1.15	6220000	114.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\164SMPL.D\164SMPL.D#  
 Date Acquired: Sep 14 2010 04:58 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21251-B-1-A Vial Number: 4401

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.020 ug/l	0.02	153.4	900	6	P
23	Na	2	1847.000 ug/l	1,847.00	0.6	450000	45	A
24	Mg	2	515.800 ug/l	515.80	0.3	450000	45	P
27	Al	2	297.900 ug/l	297.90	1.7	450000	45	P
31	P	2	195.900 ug/l	195.90	2.4	450000	45	P
39	K	2	1545.000 ug/l	1,545.00	0.4	450000	45	P
40	Ca	1	3095.000 ug/l	3,095.00	2.7	450000	45	A
47	Ti	2	9.204 ug/l	9.20	11.3	4500	74	P
51	V	2	2.851 ug/l	2.85	1.6	4500	74	P
52	Cr	2	3.722 ug/l	3.72	4.2	4500	74	P
55	Mn	2	37.720 ug/l	37.72	1.3	4500	74	P
56	Fe	1	466.800 ug/l	466.80	3.1	450000	74	P
59	Co	2	0.969 ug/l	0.97	3.5	4500	74	P
60	Ni	2	3.068 ug/l	3.07	1.2	4500	74	P
63	Cu	2	29.310 ug/l	29.31	0.7	4500	74	P
66	Zn	2	191.300 ug/l	191.30	1.8	4500	74	P
75	As	2	0.858 ug/l	0.86	39.0	4500	74	P
78	Se	1	-0.049 ug/l	-0.05	187.2	4500	74	P
88	Sr	3	19.490 ug/l	19.49	0.9	4500	74	P
95	Mo	3	3.636 ug/l	3.64	4.6	4500	74	P
109	Ag	3	0.008 ug/l	0.01	62.7	900	103	P
111	Cd	3	1.911 ug/l	1.91	4.8	4500	103	P
118	Sn	3	0.934 ug/l	0.93	2.6	4500	103	P
121	Sb	3	1.272 ug/l	1.27	2.7	4500	103	P
135	Ba	3	18.690 ug/l	18.69	4.5	4500	103	P
200	Hg	3	0.016 ug/l	0.02	38.6	45	209	P
205	Tl	3	0.320 ug/l	0.32	1.2	4500	209	P
208	Pb	3	11.130 ug/l	11.13	0.7	4500	209	P
238	U	3	0.026 ug/l	0.03	20.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	190740	2.22	198400	96.1	30 - 125
45	Sc	1	1951595	3.02	3760000	51.9	30 - 125
45	Sc	2	1533647	0.83	1428000	107.4	30 - 125
74	Ge	1	2052682	0.78	3683000	55.7	30 - 125
74	Ge	2	2919453	0.23	2627000	111.1	30 - 125
74	Ge	3	12117764	1.42	10940000	110.8	30 - 125
103	Rh	2	4138635	1.13	3842000	107.7	30 - 125
103	Rh	3	8222006	2.10	7414000	110.9	30 - 125
165	Ho	3	6167505	0.99	5459000	113.0	30 - 125
175	Lu	3	6928639	1.08	6180000	112.1	30 - 125
209	Bi	3	6949670	0.97	6220000	111.7	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\165SMPL.D\165SMPL.D#  
 Date Acquired: Sep 14 2010 05:05 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21282-A-1-A Vial Number: 4402

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.031 ug/l	0.03	48.8	900	6	P
23	Na	2	1801.000 ug/l	1,801.00	2.0	450000	45	A
24	Mg	2	1883.000 ug/l	1,883.00	2.1	450000	45	A
27	Al	2	1867.000 ug/l	1,867.00	1.4	450000	45	P
31	P	2	457.800 ug/l	457.80	6.1	450000	45	P
39	K	2	5545.000 ug/l	5,545.00	1.0	450000	45	A
40	Ca	1	15730.000 ug/l	15,730.00	4.4	450000	45	A
47	Ti	2	63.050 ug/l	63.05	1.2	4500	74	P
51	V	2	6.660 ug/l	6.66	3.1	4500	74	P
52	Cr	2	11.760 ug/l	11.76	10.3	4500	74	P
55	Mn	2	503.400 ug/l	503.40	0.8	4500	74	A
56	Fe	1	2106.000 ug/l	2,106.00	1.4	450000	74	A
59	Co	2	2.907 ug/l	2.91	2.0	4500	74	P
60	Ni	2	9.086 ug/l	9.09	4.2	4500	74	P
63	Cu	2	58.640 ug/l	58.64	1.4	4500	74	P
66	Zn	2	312.200 ug/l	312.20	2.0	4500	74	P
75	As	2	2.698 ug/l	2.70	10.7	4500	74	P
78	Se	1	0.486 ug/l	0.49	19.7	4500	74	P
88	Sr	3	74.250 ug/l	74.25	0.2	4500	74	P
95	Mo	3	1.491 ug/l	1.49	2.3	4500	74	P
109	Ag	3	0.014 ug/l	0.01	42.6	900	103	P
111	Cd	3	0.593 ug/l	0.59	10.9	4500	103	P
118	Sn	3	0.756 ug/l	0.76	7.7	4500	103	P
121	Sb	3	1.031 ug/l	1.03	0.4	4500	103	P
135	Ba	3	52.780 ug/l	52.78	2.1	4500	103	P
200	Hg	3	0.023 ug/l	0.02	17.9	45	209	P
205	Tl	3	0.262 ug/l	0.26	2.7	4500	209	P
208	Pb	3	4.734 ug/l	4.73	0.5	4500	209	P
238	U	3	0.166 ug/l	0.17	0.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	188229	0.47	198400	94.9	30 - 125
45	Sc	1	2175306	5.13	3760000	57.9	30 - 125
45	Sc	2	1559793	0.85	1428000	109.2	30 - 125
74	Ge	1	2285181	2.71	3683000	62.0	30 - 125
74	Ge	2	2909371	1.22	2627000	110.7	30 - 125
74	Ge	3	12261890	0.89	10940000	112.1	30 - 125
103	Rh	2	4145778	0.51	3842000	107.9	30 - 125
103	Rh	3	8275845	0.36	7414000	111.6	30 - 125
165	Ho	3	6182228	0.58	5459000	113.2	30 - 125
175	Lu	3	6990084	1.86	6180000	113.1	30 - 125
209	Bi	3	6893643	0.25	6220000	110.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\166SMPL.D\166SMPL.D#  
 Date Acquired: Sep 14 2010 05:12 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21265-A-1-A Vial Number: 4403

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	1285.000 ug/l	1,285.00	0.4	450000	45	A
24	Mg	2	297.600 ug/l	297.60	1.3	450000	45	P
27	Al	2	202.100 ug/l	202.10	1.5	450000	45	P
31	P	2	204.000 ug/l	204.00	4.4	450000	45	P
39	K	2	474.400 ug/l	474.40	1.9	450000	45	P
40	Ca	1	2023.000 ug/l	2,023.00	2.8	450000	45	A
47	Ti	2	9.264 ug/l	9.26	3.4	4500	74	P
51	V	2	1.068 ug/l	1.07	4.1	4500	74	P
52	Cr	2	1.419 ug/l	1.42	4.0	4500	74	P
55	Mn	2	15.470 ug/l	15.47	1.5	4500	74	P
56	Fe	1	548.800 ug/l	548.80	4.4	450000	74	M
59	Co	2	0.357 ug/l	0.36	3.9	4500	74	P
60	Ni	2	1.487 ug/l	1.49	14.1	4500	74	P
63	Cu	2	21.590 ug/l	21.59	1.0	4500	74	P
66	Zn	2	171.900 ug/l	171.90	1.8	4500	74	P
75	As	2	4.748 ug/l	4.75	9.8	4500	74	P
78	Se	1	-0.096 ug/l	-0.10	62.9	4500	74	P
88	Sr	3	18.280 ug/l	18.28	0.8	4500	74	P
95	Mo	3	0.199 ug/l	0.20	17.7	4500	74	P
109	Ag	3	0.027 ug/l	0.03	41.8	900	103	P
111	Cd	3	0.215 ug/l	0.22	15.5	4500	103	P
118	Sn	3	1.001 ug/l	1.00	13.1	4500	103	P
121	Sb	3	53.830 ug/l	53.83	1.7	4500	103	P
135	Ba	3	9.238 ug/l	9.24	4.0	4500	103	P
200	Hg	3	0.019 ug/l	0.02	19.2	45	209	P
205	Tl	3	0.172 ug/l	0.17	4.2	4500	209	P
208	Pb	3	6.533 ug/l	6.53	1.8	4500	209	P
238	U	3	0.013 ug/l	0.01	19.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	200595	1.16	198400	101.1	30 - 125
45	Sc	1	2072139	2.28	3760000	55.1	30 - 125
45	Sc	2	1613717	1.03	1428000	113.0	30 - 125
74	Ge	1	2185850	0.66	3683000	59.3	30 - 125
74	Ge	2	3072912	0.82	2627000	117.0	30 - 125
74	Ge	3	12748550	0.39	10940000	116.5	30 - 125
103	Rh	2	4384450	0.65	3842000	114.1	30 - 125
103	Rh	3	8614493	1.47	7414000	116.2	30 - 125
165	Ho	3	6317502	0.25	5459000	115.7	30 - 125
175	Lu	3	7087748	0.59	6180000	114.7	30 - 125
209	Bi	3	7133761	1.71	6220000	114.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\167SMPL.D\167SMPL.D#  
 Date Acquired: Sep 14 2010 05:19 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21265-A-3-A Vial Number: 4404  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	116.2	900	6	P
23	Na	2	3287000.000 ug/l	3,287,000.00	0.7	450000	45	A Fail
24	Mg	2	380700.000 ug/l	380,700.00	0.2	450000	45	A
27	Al	2	195.100 ug/l	195.10	2.2	450000	45	P
31	P	2	95.920 ug/l	95.92	12.0	450000	45	P
39	K	2	126300.000 ug/l	126,300.00	0.5	450000	45	A
40	Ca	1	110500.000 ug/l	110,500.00	2.1	450000	45	A
47	Ti	2	8.880 ug/l	8.88	2.2	4500	74	P
51	V	2	1.513 ug/l	1.51	14.4	4500	74	P
52	Cr	2	1.127 ug/l	1.13	6.5	4500	74	P
55	Mn	2	176.300 ug/l	176.30	0.9	4500	74	P
56	Fe	1	4815.000 ug/l	4,815.00	1.3	450000	74	A
59	Co	2	0.446 ug/l	0.45	11.0	4500	74	P
60	Ni	2	1.934 ug/l	1.93	4.3	4500	74	P
63	Cu	2	15.130 ug/l	15.13	3.8	4500	74	P
66	Zn	2	75.780 ug/l	75.78	1.4	4500	74	P
75	As	2	5.639 ug/l	5.64	10.0	4500	74	P
78	Se	1	0.187 ug/l	0.19	48.1	4500	74	P
88	Sr	3	2420.000 ug/l	2,420.00	0.4	4500	74	A
95	Mo	3	3.797 ug/l	3.80	5.4	4500	74	P
109	Ag	3	0.017 ug/l	0.02	40.6	900	103	P
111	Cd	3	0.169 ug/l	0.17	48.9	4500	103	P
118	Sn	3	0.611 ug/l	0.61	1.5	4500	103	P
121	Sb	3	1.651 ug/l	1.65	5.8	4500	103	P
135	Ba	3	22.350 ug/l	22.35	4.4	4500	103	P
200	Hg	3	0.021 ug/l	0.02	40.5	45	209	P
205	Tl	3	0.110 ug/l	0.11	6.5	4500	209	P
208	Pb	3	2.401 ug/l	2.40	1.5	4500	209	P
238	U	3	0.847 ug/l	0.85	0.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	165268	0.31	198400	83.3	30 - 125
45	Sc	1	1976710	3.85	3760000	52.6	30 - 125
45	Sc	2	1373973	1.43	1428000	96.2	30 - 125
74	Ge	1	1716491	2.06	3683000	46.6	30 - 125
74	Ge	2	2127075	1.06	2627000	81.0	30 - 125
74	Ge	3	9668748	0.51	10940000	88.4	30 - 125
103	Rh	2	2497663	0.29	3842000	65.0	30 - 125
103	Rh	3	5523476	0.69	7414000	74.5	30 - 125
165	Ho	3	4118221	0.45	5459000	75.4	30 - 125
175	Lu	3	4548921	0.47	6180000	73.6	30 - 125
209	Bi	3	3662713	0.24	6220000	58.9	30 - 125

Analytes: Fail

ISTD: Pass

1 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\168SMPL.D\168SMPL.D#  
 Date Acquired: Sep 14 2010 05:26 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21250-B-1-A Vial Number: 4405  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.010 ug/l	0.01	123.1	900	6	P
23	Na	2	8484.000 ug/l	8,484.00	1.7	450000	45	A
24	Mg	2	4207.000 ug/l	4,207.00	0.2	450000	45	A
27	Al	2	1764.000 ug/l	1,764.00	0.8	450000	45	P
31	P	2	290.500 ug/l	290.50	1.2	450000	45	P
39	K	2	3084.000 ug/l	3,084.00	2.7	450000	45	A
40	Ca	1	19740.000 ug/l	19,740.00	1.2	450000	45	A
47	Ti	2	61.310 ug/l	61.31	2.9	4500	74	P
51	V	2	6.220 ug/l	6.22	2.4	4500	74	P
52	Cr	2	3.972 ug/l	3.97	0.8	4500	74	P
55	Mn	2	479.200 ug/l	479.20	1.9	4500	74	A
56	Fe	1	8051.000 ug/l	8,051.00	2.1	450000	74	A
59	Co	2	2.210 ug/l	2.21	1.1	4500	74	P
60	Ni	2	6.896 ug/l	6.90	7.7	4500	74	P
63	Cu	2	31.380 ug/l	31.38	2.1	4500	74	P
66	Zn	2	439.500 ug/l	439.50	1.0	4500	74	P
75	As	2	3.358 ug/l	3.36	9.7	4500	74	P
78	Se	1	0.044 ug/l	0.04	210.5	4500	74	P
88	Sr	3	119.300 ug/l	119.30	3.7	4500	74	A
95	Mo	3	8.019 ug/l	8.02	2.3	4500	74	P
109	Ag	3	0.016 ug/l	0.02	8.3	900	103	P
111	Cd	3	0.418 ug/l	0.42	8.2	4500	103	P
118	Sn	3	0.819 ug/l	0.82	1.7	4500	103	P
121	Sb	3	1.257 ug/l	1.26	4.1	4500	103	P
135	Ba	3	70.370 ug/l	70.37	2.2	4500	103	P
200	Hg	3	0.009 ug/l	0.01	64.9	45	209	P
205	Tl	3	0.154 ug/l	0.15	2.0	4500	209	P
208	Pb	3	7.824 ug/l	7.82	1.0	4500	209	P
238	U	3	0.086 ug/l	0.09	5.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	236259	0.78	198400	119.1	30 - 125
45	Sc	1	2882384	1.55	3760000	76.7	30 - 125
45	Sc	2	1916015	1.16	1428000	134.2	30 - 125 IS Fail
74	Ge	1	2923168	1.58	3683000	79.4	30 - 125
74	Ge	2	3416756	1.03	2627000	130.1	30 - 125 IS Fail
74	Ge	3	14775254	0.83	10940000	135.1	30 - 125 IS Fail
103	Rh	2	4624489	0.68	3842000	120.4	30 - 125
103	Rh	3	9198023	1.48	7414000	124.1	30 - 125
165	Ho	3	6577266	0.56	5459000	120.5	30 - 125
175	Lu	3	7184183	0.81	6180000	116.2	30 - 125
209	Bi	3	6872856	0.27	6220000	110.5	30 - 125

Analytes: Pass ISTD: Fail  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\169SMPL.D\169SMPL.D#  
 Date Acquired: Sep 14 2010 05:33 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21250-B-2-A Vial Number: 4406

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.033 ug/l	0.03	47.3	900	6	P
23	Na	2	37270.000 ug/l	37,270.00	0.6	450000	45	A
24	Mg	2	8371.000 ug/l	8,371.00	1.2	450000	45	A
27	Al	2	1442.000 ug/l	1,442.00	1.1	450000	45	P
31	P	2	258.600 ug/l	258.60	2.2	450000	45	P
39	K	2	3323.000 ug/l	3,323.00	1.0	450000	45	A
40	Ca	1	33260.000 ug/l	33,260.00	2.3	450000	45	A
47	Ti	2	73.630 ug/l	73.63	10.5	4500	74	P
51	V	2	5.640 ug/l	5.64	1.0	4500	74	P
52	Cr	2	2.529 ug/l	2.53	4.4	4500	74	P
55	Mn	2	2252.000 ug/l	2,252.00	1.5	4500	74	A
56	Fe	1	16900.000 ug/l	16,900.00	1.3	450000	74	A
59	Co	2	5.332 ug/l	5.33	1.0	4500	74	P
60	Ni	2	9.066 ug/l	9.07	4.1	4500	74	P
63	Cu	2	21.430 ug/l	21.43	0.6	4500	74	P
66	Zn	2	277.800 ug/l	277.80	0.8	4500	74	P
75	As	2	7.432 ug/l	7.43	9.5	4500	74	P
78	Se	1	0.115 ug/l	0.11	57.3	4500	74	P
88	Sr	3	247.600 ug/l	247.60	1.1	4500	74	A
95	Mo	3	11.420 ug/l	11.42	1.7	4500	74	P
109	Ag	3	0.012 ug/l	0.01	49.0	900	103	P
111	Cd	3	1.974 ug/l	1.97	2.8	4500	103	P
118	Sn	3	0.806 ug/l	0.81	3.5	4500	103	P
121	Sb	3	1.802 ug/l	1.80	3.5	4500	103	P
135	Ba	3	60.290 ug/l	60.29	2.5	4500	103	P
200	Hg	3	0.013 ug/l	0.01	42.4	45	209	P
205	Tl	3	0.118 ug/l	0.12	2.3	4500	209	P
208	Pb	3	12.000 ug/l	12.00	0.8	4500	209	P
238	U	3	0.144 ug/l	0.14	3.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	217828	1.61	198400	109.8	30 - 125
45	Sc	1	2619422	1.97	3760000	69.7	30 - 125
45	Sc	2	1792846	2.66	1428000	125.5	30 - 125 IS Fail
74	Ge	1	2664818	0.93	3683000	72.4	30 - 125
74	Ge	2	3266643	2.22	2627000	124.3	30 - 125
74	Ge	3	13819285	0.42	10940000	126.3	30 - 125 IS Fail
103	Rh	2	4329844	0.87	3842000	112.7	30 - 125
103	Rh	3	8571591	1.21	7414000	115.6	30 - 125
165	Ho	3	6333042	1.46	5459000	116.0	30 - 125
175	Lu	3	7036500	0.93	6180000	113.9	30 - 125
209	Bi	3	6506079	0.22	6220000	104.6	30 - 125

**Analytes: Pass ISTD: Fail**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\170SMPL.D\170SMPL.D#  
 Date Acquired: Sep 14 2010 05:40 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21324-D-1-B Vial Number: 4407  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.004 ug/l	0.00	217.0	900	6	P
23	Na	2	98710.000 ug/l	98,710.00	1.2	450000	45	A
24	Mg	2	1421.000 ug/l	1,421.00	1.0	450000	45	P
27	Al	2	304.100 ug/l	304.10	0.8	450000	45	P
31	P	2	522.600 ug/l	522.60	3.9	450000	45	P
39	K	2	9728.000 ug/l	9,728.00	1.0	450000	45	A
40	Ca	1	572800.000 ug/l	572,800.00	3.0	450000	45	A Fail
47	Ti	2	0.505 ug/l	0.51	0.7	4500	74	P
51	V	2	6.223 ug/l	6.22	4.2	4500	74	P
52	Cr	2	6.898 ug/l	6.90	3.1	4500	74	P
55	Mn	2	5.722 ug/l	5.72	0.6	4500	74	P
56	Fe	1	1185.000 ug/l	1,185.00	1.4	450000	74	A
59	Co	2	8.313 ug/l	8.31	2.2	4500	74	P
60	Ni	2	19.620 ug/l	19.62	2.0	4500	74	P
63	Cu	2	14.300 ug/l	14.30	2.1	4500	74	P
66	Zn	2	30.160 ug/l	30.16	0.4	4500	74	P
75	As	2	3.601 ug/l	3.60	12.8	4500	74	P
78	Se	1	3.481 ug/l	3.48	16.6	4500	74	P
88	Sr	3	1844.000 ug/l	1,844.00	0.3	4500	74	A
95	Mo	3	25.780 ug/l	25.78	2.4	4500	74	P
109	Ag	3	0.011 ug/l	0.01	57.3	900	103	P
111	Cd	3	0.196 ug/l	0.20	17.3	4500	103	P
118	Sn	3	11.060 ug/l	11.06	1.1	4500	103	P
121	Sb	3	0.995 ug/l	1.00	5.5	4500	103	P
135	Ba	3	46.300 ug/l	46.30	3.2	4500	103	P
200	Hg	3	0.178 ug/l	0.18	4.2	45	209	P
205	Tl	3	0.110 ug/l	0.11	4.7	4500	209	P
208	Pb	3	1.279 ug/l	1.28	1.1	4500	209	P
238	U	3	0.008 ug/l	0.01	25.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185541	0.51	198400	93.5	30 - 125
45	Sc	1	2296600	3.60	3760000	61.1	30 - 125
45	Sc	2	1527463	0.98	1428000	107.0	30 - 125
74	Ge	1	2244593	0.60	3683000	60.9	30 - 125
74	Ge	2	2664862	1.12	2627000	101.4	30 - 125
74	Ge	3	10788079	0.18	10940000	98.6	30 - 125
103	Rh	2	3485242	1.38	3842000	90.7	30 - 125
103	Rh	3	6761795	1.61	7414000	91.2	30 - 125
165	Ho	3	5472641	1.52	5459000	100.2	30 - 125
175	Lu	3	6138183	1.34	6180000	99.3	30 - 125
209	Bi	3	5454157	1.00	6220000	87.7	30 - 125

Analytes: Fail ISTD: Pass  
 1 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\171SMPL.D\171SMPL.D#  
 Date Acquired: Sep 14 2010 05:47 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21291-B-1-B Vial Number: 4408  
 Misc Info: 1X

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.255 ug/l	0.25	44.7	900	6	P
23	Na	2	44600.000 ug/l	44,600.00	1.2	450000	45	A
24	Mg	2	16010.000 ug/l	16,010.00	1.1	450000	45	A
27	Al	2	1671.000 ug/l	1,671.00	1.1	450000	45	P
31	P	2	808.000 ug/l	808.00	1.3	450000	45	P
39	K	2	21050.000 ug/l	21,050.00	1.0	450000	45	A
40	Ca	1	106900.000 ug/l	106,900.00	1.9	450000	45	A
47	Ti	2	32.840 ug/l	32.84	2.4	4500	74	P
51	V	2	35.600 ug/l	35.60	1.4	4500	74	P
52	Cr	2	335.600 ug/l	335.60	0.3	4500	74	P
55	Mn	2	1299.000 ug/l	1,299.00	0.8	4500	74	A
56	Fe	1	2373.000 ug/l	2,373.00	1.9	450000	74	A
59	Co	2	13.610 ug/l	13.61	0.8	4500	74	P
60	Ni	2	75.730 ug/l	75.73	1.3	4500	74	P
63	Cu	2	129.800 ug/l	129.80	1.3	4500	74	P
66	Zn	2	584.200 ug/l	584.20	1.1	4500	74	P
75	As	2	3.258 ug/l	3.26	5.0	4500	74	P
78	Se	1	1.684 ug/l	1.68	6.4	4500	74	P
88	Sr	3	601.800 ug/l	601.80	0.8	4500	74	A
95	Mo	3	79.130 ug/l	79.13	2.4	4500	74	P
109	Ag	3	0.074 ug/l	0.07	8.8	900	103	P
111	Cd	3	10.420 ug/l	10.42	2.0	4500	103	P
118	Sn	3	2.209 ug/l	2.21	3.1	4500	103	P
121	Sb	3	6.734 ug/l	6.73	0.3	4500	103	P
135	Ba	3	153.000 ug/l	153.00	1.1	4500	103	P
200	Hg	3	0.146 ug/l	0.15	6.8	45	209	P
205	Tl	3	0.178 ug/l	0.18	6.1	4500	209	P
208	Pb	3	13.000 ug/l	13.00	0.8	4500	209	P
238	U	3	1.010 ug/l	1.01	1.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185299	0.92	198400	93.4	30 - 125
45	Sc	1	2072641	1.89	3760000	55.1	30 - 125
45	Sc	2	1476810	0.71	1428000	103.4	30 - 125
74	Ge	1	2105578	2.28	3683000	57.2	30 - 125
74	Ge	2	2701264	0.69	2627000	102.8	30 - 125
74	Ge	3	11555770	1.11	10940000	105.6	30 - 125
103	Rh	2	3718952	0.40	3842000	96.8	30 - 125
103	Rh	3	7483899	0.22	7414000	100.9	30 - 125
165	Ho	3	5894605	0.40	5459000	108.0	30 - 125
175	Lu	3	6642126	0.17	6180000	107.5	30 - 125
209	Bi	3	6235030	0.39	6220000	100.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\174SMPL.D\174SMPL.D#  
 Date Acquired: Sep 14 2010 06:07 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	47.570 ug/l	47.57	2.2	900	6	P
23	Na	2	4631.000 ug/l	4,631.00	1.1	450000	45	A
24	Mg	2	4662.000 ug/l	4,662.00	1.2	450000	45	A
27	Al	2	466.200 ug/l	466.20	1.8	450000	45	P
31	P	2	4569.000 ug/l	4,569.00	2.6	450000	45	P
39	K	2	4925.000 ug/l	4,925.00	3.4	450000	45	A
40	Ca	1	3972.000 ug/l	3,972.00	3.3	450000	45	A
47	Ti	2	46.770 ug/l	46.77	1.7	4500	74	P
51	V	2	45.230 ug/l	45.23	0.2	4500	74	P
52	Cr	2	45.610 ug/l	45.61	0.6	4500	74	P
55	Mn	2	46.810 ug/l	46.81	0.2	4500	74	P
56	Fe	1	4947.000 ug/l	4,947.00	2.6	450000	74	A
59	Co	2	46.020 ug/l	46.02	0.6	4500	74	P
60	Ni	2	46.080 ug/l	46.08	1.1	4500	74	P
63	Cu	2	46.030 ug/l	46.03	0.5	4500	74	P
66	Zn	2	46.700 ug/l	46.70	1.4	4500	74	P
75	As	2	48.040 ug/l	48.04	0.9	4500	74	P
78	Se	1	52.360 ug/l	52.36	2.8	4500	74	P
88	Sr	3	48.400 ug/l	48.40	1.5	4500	74	P
95	Mo	3	47.970 ug/l	47.97	1.7	4500	74	P
109	Ag	3	48.330 ug/l	48.33	1.1	900	103	P
111	Cd	3	49.910 ug/l	49.91	2.7	4500	103	P
118	Sn	3	49.810 ug/l	49.81	0.7	4500	103	P
121	Sb	3	49.670 ug/l	49.67	0.2	4500	103	P
135	Ba	3	50.340 ug/l	50.34	1.4	4500	103	P
200	Hg	3	2.303 ug/l	2.30	1.3	45	209	P
205	Tl	3	48.790 ug/l	48.79	0.8	4500	209	P
208	Pb	3	48.550 ug/l	48.55	0.7	4500	209	P
238	U	3	47.040 ug/l	47.04	1.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183789	2.35	198400	92.6	30 - 125
45	Sc	1	2000660	3.27	3760000	53.2	30 - 125
45	Sc	2	1476526	2.22	1428000	103.4	30 - 125
74	Ge	1	2095789	2.16	3683000	56.9	30 - 125
74	Ge	2	2765451	1.25	2627000	105.3	30 - 125
74	Ge	3	11903022	1.17	10940000	108.8	30 - 125
103	Rh	2	3899002	0.35	3842000	101.5	30 - 125
103	Rh	3	7804316	1.08	7414000	105.3	30 - 125
165	Ho	3	5950855	0.53	5459000	109.0	30 - 125
175	Lu	3	6685322	0.78	6180000	108.2	30 - 125
209	Bi	3	6674693	0.99	6220000	107.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\175SMPL.D\175SMPL.D#  
 Date Acquired: Sep 14 2010 06:14 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.011 ug/l	0.01	79.1	900	6	P
23	Na	2	29.490 ug/l	29.49	3.4	450000	45	P
24	Mg	2	1.079 ug/l	1.08	14.9	450000	45	P
27	Al	2	3.247 ug/l	3.25	17.8	450000	45	P
31	P	2	-11.250 ug/l	-11.25	32.5	450000	45	P
39	K	2	7.228 ug/l	7.23	73.1	450000	45	P
40	Ca	1	0.579 ug/l	0.58	84.0	450000	45	P
47	Ti	2	0.031 ug/l	0.03	82.5	4500	74	P
51	V	2	-0.599 ug/l	-0.60	3.2	4500	74	P
52	Cr	2	-0.074 ug/l	-0.07	39.5	4500	74	P
55	Mn	2	0.248 ug/l	0.25	5.1	4500	74	P
56	Fe	1	2.013 ug/l	2.01	6.2	450000	74	P
59	Co	2	0.004 ug/l	0.00	102.0	4500	74	P
60	Ni	2	-0.020 ug/l	-0.02	149.5	4500	74	P
63	Cu	2	0.020 ug/l	0.02	46.8	4500	74	P
66	Zn	2	0.108 ug/l	0.11	119.0	4500	74	P
75	As	2	-0.165 ug/l	-0.16	151.5	4500	74	P
78	Se	1	-0.082 ug/l	-0.08	65.6	4500	74	P
88	Sr	3	-0.002 ug/l	0.00	299.9	4500	74	P
95	Mo	3	0.015 ug/l	0.02	26.2	4500	74	P
109	Ag	3	0.010 ug/l	0.01	32.3	900	103	P
111	Cd	3	0.010 ug/l	0.01	168.7	4500	103	P
118	Sn	3	0.049 ug/l	0.05	2.9	4500	103	P
121	Sb	3	0.021 ug/l	0.02	39.6	4500	103	P
135	Ba	3	-0.083 ug/l	-0.08	64.9	4500	103	P
200	Hg	3	-0.003 ug/l	0.00	32.8	45	209	P
205	Tl	3	0.345 ug/l	0.35	0.8	4500	209	P
208	Pb	3	0.007 ug/l	0.01	19.6	4500	209	P
238	U	3	0.006 ug/l	0.01	18.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	189310	1.38	198400	95.4	30 - 125
45	Sc	1	1998558	1.41	3760000	53.2	30 - 125
45	Sc	2	1471185	2.00	1428000	103.0	30 - 125
74	Ge	1	2096476	1.08	3683000	56.9	30 - 125
74	Ge	2	2823949	2.20	2627000	107.5	30 - 125
74	Ge	3	11782050	1.25	10940000	107.7	30 - 125
103	Rh	2	4025197	0.85	3842000	104.8	30 - 125
103	Rh	3	7943291	0.38	7414000	107.1	30 - 125
165	Ho	3	6005440	0.09	5459000	110.0	30 - 125
175	Lu	3	6690696	0.87	6180000	108.3	30 - 125
209	Bi	3	6826723	0.57	6220000	109.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\176SMPL.D\176SMPL.D#  
 Date Acquired: Sep 14 2010 06:21 am Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSA Vial Number: 1101  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	106.1	900	6	P
23	Na	2	226700.000 ug/l	226,700.00	2.5	450000	45	A
24	Mg	2	89230.000 ug/l	89,230.00	2.0	450000	45	A
27	Al	2	88210.000 ug/l	88,210.00	1.6	450000	45	A
31	P	2	93090.000 ug/l	93,090.00	1.6	450000	45	A
39	K	2	93900.000 ug/l	93,900.00	1.1	450000	45	A
40	Ca	1	238700.000 ug/l	238,700.00	2.2	450000	45	A
47	Ti	2	1955.000 ug/l	1,955.00	1.1	4500	74	P
51	V	2	-0.580 ug/l	-0.58	12.8	4500	74	P
52	Cr	2	0.916 ug/l	0.92	5.4	4500	74	P
55	Mn	2	5.207 ug/l	5.21	1.0	4500	74	P
56	Fe	1	245800.000 ug/l	245,800.00	0.9	450000	74	A
59	Co	2	3.320 ug/l	3.32	1.8	4500	74	P
60	Ni	2	2.401 ug/l	2.40	0.5	4500	74	P
63	Cu	2	3.421 ug/l	3.42	3.6	4500	74	P
66	Zn	2	3.147 ug/l	3.15	14.4	4500	74	P
75	As	2	0.470 ug/l	0.47	78.1	4500	74	P
78	Se	1	-0.073 ug/l	-0.07	77.9	4500	74	P
88	Sr	3	16.360 ug/l	16.36	0.9	4500	74	P
95	Mo	3	1985.000 ug/l	1,985.00	0.7	4500	74	A
109	Ag	3	0.164 ug/l	0.16	7.0	900	103	P
111	Cd	3	0.562 ug/l	0.56	9.8	4500	103	P
118	Sn	3	0.142 ug/l	0.14	11.8	4500	103	P
121	Sb	3	0.680 ug/l	0.68	2.4	4500	103	P
135	Ba	3	0.201 ug/l	0.20	39.1	4500	103	P
200	Hg	3	0.015 ug/l	0.01	62.7	45	209	P
205	Tl	3	0.175 ug/l	0.17	4.8	4500	209	P
208	Pb	3	0.253 ug/l	0.25	4.3	4500	209	P
238	U	3	0.002 ug/l	0.00	8.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	171484	1.87	198400	86.4	30 - 125
45	Sc	1	1905122	2.56	3760000	50.7	30 - 125
45	Sc	2	1426636	3.15	1428000	99.9	30 - 125
74	Ge	1	1902053	1.07	3683000	51.6	30 - 125
74	Ge	2	2535434	0.89	2627000	96.5	30 - 125
74	Ge	3	10713501	0.27	10940000	97.9	30 - 125
103	Rh	2	3220819	0.33	3842000	83.8	30 - 125
103	Rh	3	6564006	1.03	7414000	88.5	30 - 125
165	Ho	3	5315005	1.01	5459000	97.4	30 - 125
175	Lu	3	5876411	0.29	6180000	95.1	30 - 125
209	Bi	3	5285241	0.54	6220000	85.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\177SMPL.D\177SMPL.D#  
 Date Acquired: Sep 14 2010 06:28 am Acq. Method: OSEA\_ALL.M  
 Sample Name: ICSAB Vial Number: 1102  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	106.1	900	6	P
23	Na	2	226700.000 ug/l	226,700.00	0.8	450000	45	A
24	Mg	2	88980.000 ug/l	88,980.00	1.8	450000	45	A
27	Al	2	87710.000 ug/l	87,710.00	1.0	450000	45	A
31	P	2	91170.000 ug/l	91,170.00	1.7	450000	45	A
39	K	2	93130.000 ug/l	93,130.00	1.7	450000	45	A
40	Ca	1	230400.000 ug/l	230,400.00	3.1	450000	45	A
47	Ti	2	1918.000 ug/l	1,918.00	0.5	4500	74	P
51	V	2	195.500 ug/l	195.50	1.4	4500	74	P
52	Cr	2	188.600 ug/l	188.60	1.7	4500	74	P
55	Mn	2	191.100 ug/l	191.10	1.3	4500	74	P
56	Fe	1	249400.000 ug/l	249,400.00	1.7	450000	74	A
59	Co	2	183.700 ug/l	183.70	1.4	4500	74	P
60	Ni	2	176.700 ug/l	176.70	1.5	4500	74	P
63	Cu	2	170.500 ug/l	170.50	2.0	4500	74	P
66	Zn	2	90.090 ug/l	90.09	1.8	4500	74	P
75	As	2	100.700 ug/l	100.70	1.2	4500	74	P
78	Se	1	112.900 ug/l	112.90	3.5	4500	74	P
88	Sr	3	15.850 ug/l	15.85	0.8	4500	74	P
95	Mo	3	1934.000 ug/l	1,934.00	2.0	4500	74	A
109	Ag	3	48.860 ug/l	48.86	2.4	900	103	P
111	Cd	3	102.600 ug/l	102.60	1.2	4500	103	P
118	Sn	3	0.116 ug/l	0.12	17.9	4500	103	P
121	Sb	3	0.742 ug/l	0.74	4.2	4500	103	P
135	Ba	3	0.371 ug/l	0.37	14.2	4500	103	P
200	Hg	3	0.011 ug/l	0.01	29.1	45	209	P
205	Tl	3	0.132 ug/l	0.13	6.5	4500	209	P
208	Pb	3	0.247 ug/l	0.25	1.6	4500	209	P
238	U	3	0.002 ug/l	0.00	25.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	171369	2.42	198400	86.4	30 - 125
45	Sc	1	1784295	2.95	3760000	47.5	30 - 125
45	Sc	2	1406998	1.62	1428000	98.5	30 - 125
74	Ge	1	1742314	1.69	3683000	47.3	30 - 125
74	Ge	2	2476759	1.37	2627000	94.3	30 - 125
74	Ge	3	10677564	0.68	10940000	97.6	30 - 125
103	Rh	2	3192770	1.03	3842000	83.1	30 - 125
103	Rh	3	6443280	1.15	7414000	86.9	30 - 125
165	Ho	3	5269741	0.48	5459000	96.5	30 - 125
175	Lu	3	5958557	0.62	6180000	96.4	30 - 125
209	Bi	3	5271198	0.25	6220000	84.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\178SMPL.D\178SMPL.D#  
 Date Acquired: Sep 14 2010 06:35 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	47.140 ug/l	47.14	1.9	900	6	P
23	Na	2	4791.000 ug/l	4,791.00	1.6	450000	45	A
24	Mg	2	4796.000 ug/l	4,796.00	1.6	450000	45	A
27	Al	2	480.300 ug/l	480.30	1.8	450000	45	P
31	P	2	4622.000 ug/l	4,622.00	3.2	450000	45	P
39	K	2	4997.000 ug/l	4,997.00	1.6	450000	45	A
40	Ca	1	3848.000 ug/l	3,848.00	1.9	450000	45	A
47	Ti	2	46.060 ug/l	46.06	2.3	4500	74	P
51	V	2	44.900 ug/l	44.90	1.3	4500	74	P
52	Cr	2	45.470 ug/l	45.47	1.7	4500	74	P
55	Mn	2	46.270 ug/l	46.27	0.9	4500	74	P
56	Fe	1	5046.000 ug/l	5,046.00	0.6	450000	74	A
59	Co	2	46.000 ug/l	46.00	0.3	4500	74	P
60	Ni	2	45.580 ug/l	45.58	0.3	4500	74	P
63	Cu	2	46.220 ug/l	46.22	0.6	4500	74	P
66	Zn	2	47.470 ug/l	47.47	3.7	4500	74	P
75	As	2	47.900 ug/l	47.90	1.3	4500	74	P
78	Se	1	54.060 ug/l	54.06	3.7	4500	74	P
88	Sr	3	48.880 ug/l	48.88	0.9	4500	74	P
95	Mo	3	48.330 ug/l	48.33	1.7	4500	74	P
109	Ag	3	48.580 ug/l	48.58	1.0	900	103	P
111	Cd	3	48.610 ug/l	48.61	0.9	4500	103	P
118	Sn	3	49.410 ug/l	49.41	0.8	4500	103	P
121	Sb	3	49.190 ug/l	49.19	0.9	4500	103	P
135	Ba	3	50.080 ug/l	50.08	1.5	4500	103	P
200	Hg	3	2.330 ug/l	2.33	2.4	45	209	P
205	Tl	3	48.540 ug/l	48.54	2.0	4500	209	P
208	Pb	3	48.660 ug/l	48.66	0.8	4500	209	P
238	U	3	46.950 ug/l	46.95	1.7	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	184997	1.89	198400	93.2	30 - 125
45	Sc	1	1726261	1.44	3760000	45.9	30 - 125
45	Sc	2	1436746	1.71	1428000	100.6	30 - 125
74	Ge	1	1808274	0.91	3683000	49.1	30 - 125
74	Ge	2	2728357	0.87	2627000	103.9	30 - 125
74	Ge	3	11972954	0.92	10940000	109.4	30 - 125
103	Rh	2	3921022	0.48	3842000	102.1	30 - 125
103	Rh	3	7966110	1.44	7414000	107.4	30 - 125
165	Ho	3	6071095	1.33	5459000	111.2	30 - 125
175	Lu	3	6774290	1.36	6180000	109.6	30 - 125
209	Bi	3	6703050	1.14	6220000	107.8	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\179SMPL.D\179SMPL.D#  
 Date Acquired: Sep 14 2010 06:42 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9 Be	2	-0.004 ug/l	0.00	400.1	900	6	P	
23 Na	2	13.460 ug/l	13.46	6.2	450000	45	P	
24 Mg	2	1.213 ug/l	1.21	21.4	450000	45	P	
27 Al	2	3.256 ug/l	3.26	16.8	450000	45	P	
31 P	2	-13.680 ug/l	-13.68	26.8	450000	45	P	
39 K	2	9.128 ug/l	9.13	29.6	450000	45	P	
40 Ca	1	0.653 ug/l	0.65	15.4	450000	45	P	
47 Ti	2	0.004 ug/l	0.00	665.8	4500	74	P	
51 V	2	-0.641 ug/l	-0.64	6.4	4500	74	P	
52 Cr	2	-0.076 ug/l	-0.08	5.5	4500	74	P	
55 Mn	2	0.260 ug/l	0.26	4.3	4500	74	P	
56 Fe	1	2.529 ug/l	2.53	9.3	450000	74	P	
59 Co	2	0.003 ug/l	0.00	53.7	4500	74	P	
60 Ni	2	-0.073 ug/l	-0.07	24.0	4500	74	P	
63 Cu	2	0.012 ug/l	0.01	73.7	4500	74	P	
66 Zn	2	0.093 ug/l	0.09	75.0	4500	74	P	
75 As	2	-0.060 ug/l	-0.06	555.7	4500	74	P	
78 Se	1	0.003 ug/l	0.00	127.3	4500	74	P	
88 Sr	3	0.000 ug/l	0.00	2281.4	4500	74	P	
95 Mo	3	0.076 ug/l	0.08	40.5	4500	74	P	
109 Ag	3	0.013 ug/l	0.01	77.6	900	103	P	
111 Cd	3	0.017 ug/l	0.02	60.0	4500	103	P	
118 Sn	3	0.056 ug/l	0.06	40.6	4500	103	P	
121 Sb	3	0.022 ug/l	0.02	16.6	4500	103	P	
135 Ba	3	-0.111 ug/l	-0.11	52.3	4500	103	P	
200 Hg	3	0.002 ug/l	0.00	345.8	45	209	P	
205 Tl	3	0.367 ug/l	0.37	3.2	4500	209	P	
208 Pb	3	0.010 ug/l	0.01	43.0	4500	209	P	
238 U	3	0.005 ug/l	0.01	42.9	4500	209	P	

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2	189738	0.97	198400	95.6	30 - 125	
45 Sc	1	1722852	2.76	3760000	45.8	30 - 125	
45 Sc	2	1458384	0.92	1428000	102.1	30 - 125	
74 Ge	1	1810971	2.23	3683000	49.2	30 - 125	
74 Ge	2	2754140	1.47	2627000	104.8	30 - 125	
74 Ge	3	11755066	0.38	10940000	107.5	30 - 125	
103 Rh	2	3968352	0.72	3842000	103.3	30 - 125	
103 Rh	3	7950143	0.83	7414000	107.2	30 - 125	
165 Ho	3	6011054	1.05	5459000	110.1	30 - 125	
175 Lu	3	6753533	1.71	6180000	109.3	30 - 125	
209 Bi	3	6862121	0.93	6220000	110.3	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\180SMPL.D\180SMPL.D#  
 Date Acquired: Sep 14 2010 06:49 am Acq. Method: OSEA\_ALL.M  
 Sample Name: MB 580-71439/20-A Vial Number: 2101  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.004 ug/l	-0.02	194.4	900	6	P
23	Na	2	11.480 ug/l	57.40	18.6	450000	45	P
24	Mg	2	0.587 ug/l	2.93	6.1	450000	45	P
27	Al	2	25.890 ug/l	129.45	3.7	450000	45	P
31	P	2	-15.040 ug/l	-75.20	22.3	450000	45	P
39	K	2	4.286 ug/l	21.43	30.3	450000	45	P
40	Ca	1	-0.857 ug/l	-4.28	61.7	450000	45	P
47	Ti	2	-0.005 ug/l	-0.03	249.7	4500	74	P
51	V	2	-0.642 ug/l	-3.21	0.9	4500	74	P
52	Cr	2	-0.067 ug/l	-0.33	18.7	4500	74	P
55	Mn	2	-0.024 ug/l	-0.12	0.7	4500	74	P
56	Fe	1	0.562 ug/l	2.81	6.2	450000	74	P
59	Co	2	0.001 ug/l	0.01	79.0	4500	74	P
60	Ni	2	-0.059 ug/l	-0.29	46.1	4500	74	P
63	Cu	2	0.003 ug/l	0.01	334.1	4500	74	P
66	Zn	2	0.042 ug/l	0.21	318.5	4500	74	P
75	As	2	-0.139 ug/l	-0.70	189.7	4500	74	P
78	Se	1	0.016 ug/l	0.08	445.4	4500	74	P
88	Sr	3	-0.015 ug/l	-0.08	61.8	4500	74	P
95	Mo	3	0.015 ug/l	0.07	116.6	4500	74	P
109	Ag	3	0.000 ug/l	0.00	932.6	900	103	P
111	Cd	3	0.008 ug/l	0.04	129.4	4500	103	P
118	Sn	3	0.015 ug/l	0.08	73.3	4500	103	P
121	Sb	3	0.008 ug/l	0.04	84.0	4500	103	P
135	Ba	3	-0.104 ug/l	-0.52	26.2	4500	103	P
200	Hg	3	0.000 ug/l	0.00	7406.3	45	209	P
205	Tl	3	0.180 ug/l	0.90	3.6	4500	209	P
208	Pb	3	0.001 ug/l	0.01	179.9	4500	209	P
238	U	3	0.001 ug/l	0.00	72.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	192418	1.24	198400	97.0	30 - 125
45	Sc	1	1723788	0.98	3760000	45.8	30 - 125
45	Sc	2	1506608	1.31	1428000	105.5	30 - 125
74	Ge	1	1792478	1.06	3683000	48.7	30 - 125
74	Ge	2	2804023	1.01	2627000	106.7	30 - 125
74	Ge	3	11874696	0.76	10940000	108.5	30 - 125
103	Rh	2	4057358	0.19	3842000	105.6	30 - 125
103	Rh	3	8086407	0.48	7414000	109.1	30 - 125
165	Ho	3	6107542	0.65	5459000	111.9	30 - 125
175	Lu	3	6841148	0.74	6180000	110.7	30 - 125
209	Bi	3	6930454	0.59	6220000	111.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\181SMPL.D\181SMPL.D#  
 Date Acquired: Sep 14 2010 06:56 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-1-A SD Vial Number: 2102

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **25.00** Final Dil Factor: **25.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.36	0.0	900	6	P
23	Na	2	302.100 ug/l	7,552.50	0.6	450000	45	P
24	Mg	2	262.300 ug/l	6,557.50	0.5	450000	45	P
27	Al	2	-1.336 ug/l	-33.40	24.5	450000	45	P
31	P	2	-9.606 ug/l	-240.15	41.5	450000	45	P
39	K	2	110.400 ug/l	2,760.00	4.3	450000	45	P
40	Ca	1	1269.000 ug/l	31,725.00	2.5	450000	45	A
47	Ti	2	0.110 ug/l	2.74	29.2	4500	74	P
51	V	2	-0.807 ug/l	-20.18	3.5	4500	74	P
52	Cr	2	-0.070 ug/l	-1.74	5.7	4500	74	P
55	Mn	2	3.309 ug/l	82.73	2.8	4500	74	P
56	Fe	1	20.360 ug/l	509.00	1.9	450000	74	P
59	Co	2	0.006 ug/l	0.15	22.1	4500	74	P
60	Ni	2	-0.065 ug/l	-1.62	56.3	4500	74	P
63	Cu	2	0.120 ug/l	3.00	14.4	4500	74	P
66	Zn	2	0.390 ug/l	9.74	19.7	4500	74	P
75	As	2	-0.161 ug/l	-4.02	172.5	4500	74	P
78	Se	1	-0.150 ug/l	-3.76	13.1	4500	74	P
88	Sr	3	5.482 ug/l	137.05	1.6	4500	74	P
95	Mo	3	0.148 ug/l	3.70	9.5	4500	74	P
109	Ag	3	-0.004 ug/l	-0.10	126.9	900	103	P
111	Cd	3	-0.002 ug/l	-0.04	683.3	4500	103	P
118	Sn	3	-0.011 ug/l	-0.28	79.3	4500	103	P
121	Sb	3	0.050 ug/l	1.24	7.0	4500	103	P
135	Ba	3	1.528 ug/l	38.20	8.6	4500	103	P
200	Hg	3	-0.005 ug/l	-0.13	87.8	45	209	P
205	Tl	3	0.122 ug/l	3.06	12.5	4500	209	P
208	Pb	3	0.101 ug/l	2.53	7.4	4500	209	P
238	U	3	0.055 ug/l	1.38	4.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	191150	2.87	198400	96.3	30 - 125
45	Sc	1	1769180	0.08	3760000	47.1	30 - 125
45	Sc	2	1460188	1.79	1428000	102.3	30 - 125
74	Ge	1	1869308	0.49	3683000	50.8	30 - 125
74	Ge	2	2795483	1.76	2627000	106.4	30 - 125
74	Ge	3	11800644	0.54	10940000	107.9	30 - 125
103	Rh	2	3979569	0.71	3842000	103.6	30 - 125
103	Rh	3	7938262	1.75	7414000	107.1	30 - 125
165	Ho	3	6020326	1.06	5459000	110.3	30 - 125
175	Lu	3	6731921	0.66	6180000	108.9	30 - 125
209	Bi	3	6823178	1.16	6220000	109.7	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\182SMPL.D\182SMPL.D#  
 Date Acquired: Sep 14 2010 07:03 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-1-A Vial Number: 2103

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.05	100.2	900	6	P
23	Na	2	1460.000 ug/l	7,300.00	1.9	450000	45	A
24	Mg	2	1296.000 ug/l	6,480.00	1.7	450000	45	P
27	Al	2	7.374 ug/l	36.87	13.4	450000	45	P
31	P	2	8.673 ug/l	43.37	22.7	450000	45	P
39	K	2	583.200 ug/l	2,916.00	1.4	450000	45	P
40	Ca	1	6051.000 ug/l	30,255.00	4.3	450000	45	A
47	Ti	2	0.579 ug/l	2.90	9.0	4500	74	P
51	V	2	-0.071 ug/l	-0.35	192.4	4500	74	P
52	Cr	2	0.035 ug/l	0.17	27.2	4500	74	P
55	Mn	2	16.950 ug/l	84.75	1.7	4500	74	P
56	Fe	1	100.600 ug/l	503.00	3.4	450000	74	P
59	Co	2	0.037 ug/l	0.18	9.9	4500	74	P
60	Ni	2	0.224 ug/l	1.12	9.2	4500	74	P
63	Cu	2	0.617 ug/l	3.08	4.0	4500	74	P
66	Zn	2	1.485 ug/l	7.43	12.2	4500	74	P
75	As	2	0.334 ug/l	1.67	88.6	4500	74	P
78	Se	1	-0.150 ug/l	-0.75	27.1	4500	74	P
88	Sr	3	26.650 ug/l	133.25	1.0	4500	74	P
95	Mo	3	0.758 ug/l	3.79	10.6	4500	74	P
109	Ag	3	-0.003 ug/l	-0.02	106.9	900	103	P
111	Cd	3	0.079 ug/l	0.39	27.9	4500	103	P
118	Sn	3	0.013 ug/l	0.06	82.5	4500	103	P
121	Sb	3	0.226 ug/l	1.13	7.6	4500	103	P
135	Ba	3	7.506 ug/l	37.53	3.8	4500	103	P
200	Hg	3	0.002 ug/l	0.01	287.2	45	209	P
205	Tl	3	0.095 ug/l	0.48	5.1	4500	209	P
208	Pb	3	0.360 ug/l	1.80	4.0	4500	209	P
238	U	3	0.295 ug/l	1.48	0.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180422	1.64	198400	90.9	30 - 125
45	Sc	1	1744749	2.87	3760000	46.4	30 - 125
45	Sc	2	1435728	1.54	1428000	100.5	30 - 125
74	Ge	1	1822839	1.71	3683000	49.5	30 - 125
74	Ge	2	2679768	3.13	2627000	102.0	30 - 125
74	Ge	3	11599727	0.92	10940000	106.0	30 - 125
103	Rh	2	3837147	1.17	3842000	99.9	30 - 125
103	Rh	3	7758934	1.90	7414000	104.7	30 - 125
165	Ho	3	6044755	1.41	5459000	110.7	30 - 125
175	Lu	3	6824957	1.17	6180000	110.4	30 - 125
209	Bi	3	6805078	0.13	6220000	109.4	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\183SMPL.D\183SMPL.D#  
 Date Acquired: Sep 14 2010 07:10 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-1-B DU Vial Number: 2104

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.05	100.4	900	6	P
23	Na	2	1475.000 ug/l	7,375.00	2.3	450000	45	A
24	Mg	2	1333.000 ug/l	6,665.00	1.2	450000	45	P
27	Al	2	7.287 ug/l	36.44	0.9	450000	45	P
31	P	2	3.935 ug/l	19.68	122.6	450000	45	P
39	K	2	598.800 ug/l	2,994.00	2.0	450000	45	P
40	Ca	1	6234.000 ug/l	31,170.00	2.9	450000	45	A
47	Ti	2	0.706 ug/l	3.53	7.7	4500	74	P
51	V	2	-0.129 ug/l	-0.64	27.4	4500	74	P
52	Cr	2	0.046 ug/l	0.23	79.3	4500	74	P
55	Mn	2	17.060 ug/l	85.30	0.9	4500	74	P
56	Fe	1	103.100 ug/l	515.50	2.3	450000	74	P
59	Co	2	0.043 ug/l	0.21	9.7	4500	74	P
60	Ni	2	0.240 ug/l	1.20	12.5	4500	74	P
63	Cu	2	0.586 ug/l	2.93	8.5	4500	74	P
66	Zn	2	1.493 ug/l	7.47	12.9	4500	74	P
75	As	2	0.311 ug/l	1.56	97.6	4500	74	P
78	Se	1	-0.128 ug/l	-0.64	15.1	4500	74	P
88	Sr	3	27.170 ug/l	135.85	1.4	4500	74	P
95	Mo	3	0.751 ug/l	3.76	6.2	4500	74	P
109	Ag	3	-0.001 ug/l	0.00	802.5	900	103	P
111	Cd	3	0.065 ug/l	0.33	27.7	4500	103	P
118	Sn	3	0.015 ug/l	0.07	84.5	4500	103	P
121	Sb	3	0.217 ug/l	1.08	8.2	4500	103	P
135	Ba	3	7.609 ug/l	38.05	2.7	4500	103	P
200	Hg	3	0.003 ug/l	0.01	75.3	45	209	P
205	Tl	3	0.076 ug/l	0.38	10.3	4500	209	P
208	Pb	3	0.359 ug/l	1.79	1.2	4500	209	P
238	U	3	0.298 ug/l	1.49	2.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177789	1.26	198400	89.6	30 - 125
45	Sc	1	1786924	2.09	3760000	47.5	30 - 125
45	Sc	2	1403766	0.76	1428000	98.3	30 - 125
74	Ge	1	1873261	1.28	3683000	50.9	30 - 125
74	Ge	2	2680085	1.27	2627000	102.0	30 - 125
74	Ge	3	11020551	0.69	10940000	100.7	30 - 125
103	Rh	2	3818919	0.77	3842000	99.4	30 - 125
103	Rh	3	7354534	0.24	7414000	99.2	30 - 125
165	Ho	3	5849044	0.57	5459000	107.1	30 - 125
175	Lu	3	6596700	0.94	6180000	106.7	30 - 125
209	Bi	3	6605125	0.76	6220000	106.2	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\184SMPL.D\184SMPL.D#  
 Date Acquired: Sep 14 2010 07:17 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-1-C MS Vial Number: 2105

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.897 ug/l	94.85	4.1	900	6	P
23	Na	2	537.800 ug/l	26,890.00	1.2	450000	45	P
24	Mg	2	519.400 ug/l	25,970.00	1.4	450000	45	P
27	Al	2	84.610 ug/l	4,230.50	0.8	450000	45	P
31	P	2	333.800 ug/l	16,690.00	2.6	450000	45	P
39	K	2	453.300 ug/l	22,665.00	0.9	450000	45	P
40	Ca	1	1000.000 ug/l	50,000.00	5.9	450000	45	M
47	Ti	2	89.930 ug/l	4,496.50	1.5	4500	74	P
51	V	2	17.600 ug/l	880.00	0.9	4500	74	P
52	Cr	2	7.379 ug/l	368.95	3.6	4500	74	P
55	Mn	2	20.620 ug/l	1,031.00	0.9	4500	74	P
56	Fe	1	482.600 ug/l	24,130.00	2.8	450000	74	P
59	Co	2	18.530 ug/l	926.50	0.7	4500	74	P
60	Ni	2	18.520 ug/l	926.00	2.1	4500	74	P
63	Cu	2	9.514 ug/l	475.70	1.7	4500	74	P
66	Zn	2	18.410 ug/l	920.50	5.5	4500	74	P
75	As	2	75.960 ug/l	3,798.00	2.1	4500	74	P
78	Se	1	83.990 ug/l	4,199.50	4.1	4500	74	P
88	Sr	3	2.678 ug/l	133.90	2.5	4500	74	P
95	Mo	3	95.460 ug/l	4,773.00	1.7	4500	74	P
109	Ag	3	11.680 ug/l	584.00	1.5	900	103	P
111	Cd	3	1.966 ug/l	98.30	3.9	4500	103	P
118	Sn	3	98.460 ug/l	4,923.00	0.9	4500	103	P
121	Sb	3	57.810 ug/l	2,890.50	0.9	4500	103	P
135	Ba	3	81.050 ug/l	4,052.50	1.3	4500	103	P
200	Hg	3	0.925 ug/l	46.25	0.8	45	209	P
205	Tl	3	75.010 ug/l	3,750.50	2.7	4500	209	A
208	Pb	3	19.950 ug/l	997.50	1.4	4500	209	P
238	U	3	0.029 ug/l	1.45	2.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186217	0.88	198400	93.9	30 - 125
45	Sc	1	1962170	3.38	3760000	52.2	30 - 125
45	Sc	2	1450781	1.86	1428000	101.6	30 - 125
74	Ge	1	2056342	0.97	3683000	55.8	30 - 125
74	Ge	2	2733932	1.30	2627000	104.1	30 - 125
74	Ge	3	11660980	0.21	10940000	106.6	30 - 125
103	Rh	2	3924845	0.38	3842000	102.2	30 - 125
103	Rh	3	7882130	0.42	7414000	106.3	30 - 125
165	Ho	3	6000361	1.22	5459000	109.9	30 - 125
175	Lu	3	6688905	1.41	6180000	108.2	30 - 125
209	Bi	3	6708877	0.92	6220000	107.9	30 - 125

Analytes:

0 :Element Failures  
 0 :ISTD Failures

Pass

ISTD:

Pass  
 0 :Max. Number of Failures Allowed  
 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\185SMPL.D\185SMPL.D#  
 Date Acquired: Sep 14 2010 07:24 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-1-D MSD Vial Number: 2106  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.077 ug/l	103.85	2.7	900	6	P
23	Na	2	545.100 ug/l	27,255.00	1.4	450000	45	P
24	Mg	2	526.700 ug/l	26,335.00	0.9	450000	45	P
27	Al	2	82.190 ug/l	4,109.50	2.6	450000	45	P
31	P	2	369.700 ug/l	18,485.00	2.0	450000	45	P
39	K	2	462.800 ug/l	23,140.00	1.1	450000	45	P
40	Ca	1	999.900 ug/l	49,995.00	1.4	450000	45	A
47	Ti	2	91.200 ug/l	4,560.00	1.5	4500	74	P
51	V	2	18.080 ug/l	904.00	1.5	4500	74	P
52	Cr	2	7.366 ug/l	368.30	2.9	4500	74	P
55	Mn	2	20.900 ug/l	1,045.00	0.9	4500	74	P
56	Fe	1	497.700 ug/l	24,885.00	2.8	450000	74	P
59	Co	2	18.960 ug/l	948.00	1.4	4500	74	P
60	Ni	2	18.830 ug/l	941.50	1.7	4500	74	P
63	Cu	2	9.364 ug/l	468.20	2.7	4500	74	P
66	Zn	2	19.190 ug/l	959.50	6.4	4500	74	P
75	As	2	77.200 ug/l	3,860.00	0.6	4500	74	P
78	Se	1	84.700 ug/l	4,235.00	4.5	4500	74	P
88	Sr	3	2.771 ug/l	138.55	0.8	4500	74	P
95	Mo	3	97.150 ug/l	4,857.50	0.4	4500	74	P
109	Ag	3	12.020 ug/l	601.00	1.3	900	103	P
111	Cd	3	1.953 ug/l	97.65	3.1	4500	103	P
118	Sn	3	101.400 ug/l	5,070.00	0.4	4500	103	P
121	Sb	3	59.170 ug/l	2,958.50	0.5	4500	103	P
135	Ba	3	83.250 ug/l	4,162.50	1.1	4500	103	P
200	Hg	3	0.949 ug/l	47.44	1.4	45	209	P
205	Tl	3	77.370 ug/l	3,868.50	1.1	4500	209	A
208	Pb	3	20.100 ug/l	1,005.00	1.1	4500	209	P
238	U	3	0.031 ug/l	1.57	6.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	190481	1.49	198400	96.0	30 - 125
45	Sc	1	2055366	1.63	3760000	54.7	30 - 125
45	Sc	2	1506823	0.76	1428000	105.5	30 - 125
74	Ge	1	2126287	1.78	3683000	57.7	30 - 125
74	Ge	2	2834601	1.27	2627000	107.9	30 - 125
74	Ge	3	11910074	0.61	10940000	108.9	30 - 125
103	Rh	2	4011006	1.34	3842000	104.4	30 - 125
103	Rh	3	7946822	0.33	7414000	107.2	30 - 125
165	Ho	3	6006066	0.40	5459000	110.0	30 - 125
175	Lu	3	6709611	0.23	6180000	108.6	30 - 125
209	Bi	3	6830557	0.51	6220000	109.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\186SMPL.D\186SMPL.D#  
 Date Acquired: Sep 14 2010 07:31 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-1-A PDS Vial Number: 2107  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.897 ug/l	94.85	9.1	900	6	P
23	Na	2	550.500 ug/l	27,525.00	0.9	450000	45	P
24	Mg	2	532.800 ug/l	26,640.00	0.7	450000	45	P
27	Al	2	75.810 ug/l	3,790.50	1.6	450000	45	P
31	P	2	363.900 ug/l	18,195.00	2.2	450000	45	P
39	K	2	466.400 ug/l	23,320.00	0.2	450000	45	P
40	Ca	1	1003.000 ug/l	50,150.00	2.4	450000	45	A
47	Ti	2	91.480 ug/l	4,574.00	1.4	4500	74	P
51	V	2	17.990 ug/l	899.50	0.6	4500	74	P
52	Cr	2	7.472 ug/l	373.60	3.3	4500	74	P
55	Mn	2	21.370 ug/l	1,068.50	1.3	4500	74	P
56	Fe	1	500.400 ug/l	25,020.00	2.1	450000	74	P
59	Co	2	19.170 ug/l	958.50	0.9	4500	74	P
60	Ni	2	19.710 ug/l	985.50	2.3	4500	74	P
63	Cu	2	9.800 ug/l	490.00	1.0	4500	74	P
66	Zn	2	20.250 ug/l	1,012.50	1.8	4500	74	P
75	As	2	78.470 ug/l	3,923.50	2.0	4500	74	P
78	Se	1	86.010 ug/l	4,300.50	3.0	4500	74	P
88	Sr	3	2.736 ug/l	136.80	0.3	4500	74	P
95	Mo	3	97.800 ug/l	4,890.00	0.4	4500	74	P
109	Ag	3	11.860 ug/l	593.00	1.2	900	103	P
111	Cd	3	1.997 ug/l	99.85	2.5	4500	103	P
118	Sn	3	100.400 ug/l	5,020.00	1.9	4500	103	P
121	Sb	3	58.910 ug/l	2,945.50	1.3	4500	103	P
135	Ba	3	83.480 ug/l	4,174.00	0.9	4500	103	P
200	Hg	3	0.946 ug/l	47.32	2.8	45	209	P
205	Tl	3	77.350 ug/l	3,867.50	2.3	4500	209	A
208	Pb	3	20.300 ug/l	1,015.00	1.5	4500	209	P
238	U	3	0.028 ug/l	1.41	5.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	187372	2.28	198400	94.4	30 - 125
45	Sc	1	1995635	1.65	3760000	53.1	30 - 125
45	Sc	2	1482455	1.65	1428000	103.8	30 - 125
74	Ge	1	2078670	1.13	3683000	56.4	30 - 125
74	Ge	2	2782015	1.05	2627000	105.9	30 - 125
74	Ge	3	11740354	0.98	10940000	107.3	30 - 125
103	Rh	2	4029459	0.74	3842000	104.9	30 - 125
103	Rh	3	7962839	1.48	7414000	107.4	30 - 125
165	Ho	3	5958201	1.82	5459000	109.1	30 - 125
175	Lu	3	6721060	1.70	6180000	108.8	30 - 125
209	Bi	3	6776994	0.12	6220000	109.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\187SMPL.D\187SMPL.D#  
 Date Acquired: Sep 14 2010 07:38 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCS 580-71439/21-A Vial Number: 2108

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.846 ug/l	92.30	13.5	900	6	P
23	Na	2	425.000 ug/l	21,250.00	3.8	450000	45	P
24	Mg	2	418.300 ug/l	20,915.00	3.4	450000	45	P
27	Al	2	71.430 ug/l	3,571.50	5.4	450000	45	P
31	P	2	353.900 ug/l	17,695.00	4.4	450000	45	P
39	K	2	423.300 ug/l	21,165.00	1.6	450000	45	P
40	Ca	1	349.200 ug/l	17,460.00	3.7	450000	45	P
47	Ti	2	95.970 ug/l	4,798.50	2.1	4500	74	P
51	V	2	18.660 ug/l	933.00	1.1	4500	74	P
52	Cr	2	7.766 ug/l	388.30	1.6	4500	74	P
55	Mn	2	19.890 ug/l	994.50	1.0	4500	74	P
56	Fe	1	510.600 ug/l	25,530.00	2.6	450000	74	P
59	Co	2	19.460 ug/l	973.00	1.3	4500	74	P
60	Ni	2	19.130 ug/l	956.50	2.3	4500	74	P
63	Cu	2	10.050 ug/l	502.50	2.3	4500	74	P
66	Zn	2	20.000 ug/l	1,000.00	6.4	4500	74	P
75	As	2	79.310 ug/l	3,965.50	1.9	4500	74	P
78	Se	1	88.060 ug/l	4,403.00	3.5	4500	74	P
88	Sr	3	-0.049 ug/l	-2.45	7.7	4500	74	P
95	Mo	3	103.700 ug/l	5,185.00	1.1	4500	74	P
109	Ag	3	12.570 ug/l	628.50	1.5	900	103	P
111	Cd	3	2.184 ug/l	109.20	7.5	4500	103	P
118	Sn	3	107.700 ug/l	5,385.00	1.1	4500	103	P
121	Sb	3	61.750 ug/l	3,087.50	1.0	4500	103	P
135	Ba	3	86.000 ug/l	4,300.00	0.1	4500	103	P
200	Hg	3	0.976 ug/l	48.81	4.6	45	209	P
205	Tl	3	82.350 ug/l	4,117.50	0.9	4500	209	A
208	Pb	3	20.720 ug/l	1,036.00	0.9	4500	209	P
238	U	3	0.000 ug/l	0.00	411.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180692	1.56	198400	91.1	30 - 125
45	Sc	1	1889082	1.70	3760000	50.2	30 - 125
45	Sc	2	1441051	2.04	1428000	100.9	30 - 125
74	Ge	1	1965971	1.38	3683000	53.4	30 - 125
74	Ge	2	2700409	1.35	2627000	102.8	30 - 125
74	Ge	3	11305260	0.17	10940000	103.3	30 - 125
103	Rh	2	3909295	0.85	3842000	101.8	30 - 125
103	Rh	3	7721365	0.83	7414000	104.1	30 - 125
165	Ho	3	5965329	0.79	5459000	109.3	30 - 125
175	Lu	3	6709153	0.92	6180000	108.6	30 - 125
209	Bi	3	6813879	0.96	6220000	109.5	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\188SMPL.D\188SMPL.D#  
 Date Acquired: Sep 14 2010 07:45 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71439/22-A Vial Number: 2109  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.772 ug/l	88.60	12.5	900	6	P
23	Na	2	422.400 ug/l	21,120.00	1.5	450000	45	P
24	Mg	2	420.300 ug/l	21,015.00	0.8	450000	45	P
27	Al	2	70.460 ug/l	3,523.00	1.1	450000	45	P
31	P	2	368.200 ug/l	18,410.00	2.1	450000	45	P
39	K	2	423.400 ug/l	21,170.00	0.9	450000	45	P
40	Ca	1	350.200 ug/l	17,510.00	3.4	450000	45	P
47	Ti	2	95.090 ug/l	4,754.50	0.6	4500	74	P
51	V	2	18.770 ug/l	938.50	1.0	4500	74	P
52	Cr	2	7.829 ug/l	391.45	5.5	4500	74	P
55	Mn	2	19.940 ug/l	997.00	0.4	4500	74	P
56	Fe	1	506.000 ug/l	25,300.00	4.6	450000	74	P
59	Co	2	19.550 ug/l	977.50	1.1	4500	74	P
60	Ni	2	19.230 ug/l	961.50	0.9	4500	74	P
63	Cu	2	9.833 ug/l	491.65	2.4	4500	74	P
66	Zn	2	19.910 ug/l	995.50	3.7	4500	74	P
75	As	2	79.770 ug/l	3,988.50	1.2	4500	74	P
78	Se	1	89.890 ug/l	4,494.50	6.3	4500	74	P
88	Sr	3	-0.051 ug/l	-2.54	2.0	4500	74	P
95	Mo	3	103.000 ug/l	5,150.00	1.1	4500	74	P
109	Ag	3	12.460 ug/l	623.00	0.7	900	103	P
111	Cd	3	2.232 ug/l	111.60	4.5	4500	103	P
118	Sn	3	107.400 ug/l	5,370.00	1.1	4500	103	P
121	Sb	3	61.860 ug/l	3,093.00	0.5	4500	103	P
135	Ba	3	85.500 ug/l	4,275.00	0.8	4500	103	P
200	Hg	3	0.967 ug/l	48.37	2.1	45	209	P
205	Tl	3	83.570 ug/l	4,178.50	1.9	4500	209	A
208	Pb	3	20.790 ug/l	1,039.50	0.4	4500	209	P
238	U	3	0.000 ug/l	-0.01	83.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181819	1.12	198400	91.6	30 - 125
45	Sc	1	1890961	2.10	3760000	50.3	30 - 125
45	Sc	2	1442968	2.40	1428000	101.0	30 - 125
74	Ge	1	1968014	2.36	3683000	53.4	30 - 125
74	Ge	2	2712535	1.58	2627000	103.3	30 - 125
74	Ge	3	11382697	0.77	10940000	104.0	30 - 125
103	Rh	2	3975483	0.73	3842000	103.5	30 - 125
103	Rh	3	7686488	1.07	7414000	103.7	30 - 125
165	Ho	3	6004730	1.18	5459000	110.0	30 - 125
175	Lu	3	6742980	0.87	6180000	109.1	30 - 125
209	Bi	3	6802473	0.46	6220000	109.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\189SMPL.D\189SMPL.D#  
 Date Acquired: Sep 14 2010 07:51 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	46.900 ug/l	46.90	2.5	900	6	P
23	Na	2	4623.000 ug/l	4,623.00	0.2	450000	45	A
24	Mg	2	4652.000 ug/l	4,652.00	0.9	450000	45	A
27	Al	2	460.800 ug/l	460.80	0.6	450000	45	P
31	P	2	4466.000 ug/l	4,466.00	3.9	450000	45	P
39	K	2	4855.000 ug/l	4,855.00	1.1	450000	45	A
40	Ca	1	3985.000 ug/l	3,985.00	2.9	450000	45	A
47	Ti	2	45.660 ug/l	45.66	0.7	4500	74	P
51	V	2	44.200 ug/l	44.20	0.9	4500	74	P
52	Cr	2	45.200 ug/l	45.20	1.4	4500	74	P
55	Mn	2	46.280 ug/l	46.28	0.2	4500	74	P
56	Fe	1	5038.000 ug/l	5,038.00	2.1	450000	74	A
59	Co	2	45.050 ug/l	45.05	0.4	4500	74	P
60	Ni	2	44.570 ug/l	44.57	1.2	4500	74	P
63	Cu	2	44.810 ug/l	44.81	1.0	4500	74	P
66	Zn	2	46.490 ug/l	46.49	1.7	4500	74	P
75	As	2	46.190 ug/l	46.19	0.4	4500	74	P
78	Se	1	54.330 ug/l	54.33	0.5	4500	74	P
88	Sr	3	49.210 ug/l	49.21	1.2	4500	74	P
95	Mo	3	48.420 ug/l	48.42	0.3	4500	74	P
109	Ag	3	48.300 ug/l	48.30	1.2	900	103	P
111	Cd	3	49.130 ug/l	49.13	0.7	4500	103	P
118	Sn	3	49.260 ug/l	49.26	2.1	4500	103	P
121	Sb	3	49.700 ug/l	49.70	0.5	4500	103	P
135	Ba	3	50.400 ug/l	50.40	1.0	4500	103	P
200	Hg	3	2.371 ug/l	2.37	1.4	45	209	P
205	Tl	3	49.220 ug/l	49.22	2.6	4500	209	P
208	Pb	3	48.470 ug/l	48.47	1.3	4500	209	P
238	U	3	47.360 ug/l	47.36	1.6	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181593	1.06	198400	91.5	30 - 125
45	Sc	1	1888487	2.57	3760000	50.2	30 - 125
45	Sc	2	1465636	2.40	1428000	102.6	30 - 125
74	Ge	1	1967875	1.82	3683000	53.4	30 - 125
74	Ge	2	2778369	1.59	2627000	105.8	30 - 125
74	Ge	3	11628987	0.84	10940000	106.3	30 - 125
103	Rh	2	3889811	0.73	3842000	101.2	30 - 125
103	Rh	3	7783270	1.07	7414000	105.0	30 - 125
165	Ho	3	6034556	0.20	5459000	110.5	30 - 125
175	Lu	3	6796248	0.58	6180000	110.0	30 - 125
209	Bi	3	6752193	0.84	6220000	108.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\190SMPL.D\190SMPL.D#  
 Date Acquired: Sep 14 2010 07:58 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9 Be	2	0.021 ug/l	0.02	109.3	900	6	P	
23 Na	2	5.474 ug/l	5.47	6.3	450000	45	P	
24 Mg	2	1.254 ug/l	1.25	26.6	450000	45	P	
27 Al	2	2.955 ug/l	2.96	22.9	450000	45	P	
31 P	2	-17.110 ug/l	-17.11	12.5	450000	45	P	
39 K	2	-5.236 ug/l	-5.24	61.1	450000	45	P	
40 Ca	1	0.638 ug/l	0.64	45.3	450000	45	P	
47 Ti	2	-0.005 ug/l	0.00	272.7	4500	74	P	
51 V	2	-0.576 ug/l	-0.58	12.3	4500	74	P	
52 Cr	2	-0.051 ug/l	-0.05	45.3	4500	74	P	
55 Mn	2	0.244 ug/l	0.24	7.8	4500	74	P	
56 Fe	1	2.435 ug/l	2.44	5.5	450000	74	P	
59 Co	2	0.006 ug/l	0.01	28.3	4500	74	P	
60 Ni	2	-0.039 ug/l	-0.04	78.2	4500	74	P	
63 Cu	2	0.020 ug/l	0.02	140.9	4500	74	P	
66 Zn	2	0.165 ug/l	0.17	21.8	4500	74	P	
75 As	2	-0.116 ug/l	-0.12	297.9	4500	74	P	
78 Se	1	-0.043 ug/l	-0.04	147.9	4500	74	P	
88 Sr	3	-0.007 ug/l	-0.01	89.7	4500	74	P	
95 Mo	3	0.034 ug/l	0.03	14.5	4500	74	P	
109 Ag	3	0.010 ug/l	0.01	57.2	900	103	P	
111 Cd	3	0.025 ug/l	0.02	48.4	4500	103	P	
118 Sn	3	0.092 ug/l	0.09	7.5	4500	103	P	
121 Sb	3	0.026 ug/l	0.03	19.9	4500	103	P	
135 Ba	3	-0.047 ug/l	-0.05	68.8	4500	103	P	
200 Hg	3	0.003 ug/l	0.00	112.3	45	209	P	
205 Tl	3	0.645 ug/l	0.65	6.5	4500	209	P	
208 Pb	3	0.008 ug/l	0.01	53.9	4500	209	P	
238 U	3	0.007 ug/l	0.01	14.6	4500	209	P	

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2	187457	2.21	198400	94.5	30 - 125	
45 Sc	1	1881963	3.28	3760000	50.1	30 - 125	
45 Sc	2	1477343	1.31	1428000	103.5	30 - 125	
74 Ge	1	1955749	1.52	3683000	53.1	30 - 125	
74 Ge	2	2769246	0.96	2627000	105.4	30 - 125	
74 Ge	3	11508809	0.84	10940000	105.2	30 - 125	
103 Rh	2	3991922	1.11	3842000	103.9	30 - 125	
103 Rh	3	7903880	0.65	7414000	106.6	30 - 125	
165 Ho	3	6009000	0.54	5459000	110.1	30 - 125	
175 Lu	3	6787105	1.30	6180000	109.8	30 - 125	
209 Bi	3	6876136	1.13	6220000	110.5	30 - 125	

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\191SMPL.D\191SMPL.D#  
 Date Acquired: Sep 14 2010 08:05 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-2-A Vial Number: 2201  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.04	101.7	900	6	P
23	Na	2	1146.000 ug/l	5,730.00	0.5	450000	45	A
24	Mg	2	1275.000 ug/l	6,375.00	1.1	450000	45	P
27	Al	2	-1.393 ug/l	-6.97	28.3	450000	45	P
31	P	2	-12.870 ug/l	-64.35	3.8	450000	45	P
39	K	2	262.700 ug/l	1,313.50	2.5	450000	45	P
40	Ca	1	4912.000 ug/l	24,560.00	3.1	450000	45	A
47	Ti	2	0.095 ug/l	0.47	52.8	4500	74	P
51	V	2	-0.088 ug/l	-0.44	123.6	4500	74	P
52	Cr	2	0.002 ug/l	0.01	1262.1	4500	74	P
55	Mn	2	78.890 ug/l	394.45	0.7	4500	74	P
56	Fe	1	138.700 ug/l	693.50	2.9	450000	74	P
59	Co	2	0.254 ug/l	1.27	4.6	4500	74	P
60	Ni	2	0.445 ug/l	2.22	4.3	4500	74	P
63	Cu	2	0.592 ug/l	2.96	8.9	4500	74	P
66	Zn	2	58.900 ug/l	294.50	1.7	4500	74	P
75	As	2	0.125 ug/l	0.63	226.0	4500	74	P
78	Se	1	-0.118 ug/l	-0.59	32.3	4500	74	P
88	Sr	3	20.080 ug/l	100.40	1.9	4500	74	P
95	Mo	3	0.072 ug/l	0.36	15.3	4500	74	P
109	Ag	3	-0.001 ug/l	-0.01	313.0	900	103	P
111	Cd	3	0.080 ug/l	0.40	16.3	4500	103	P
118	Sn	3	0.072 ug/l	0.36	13.4	4500	103	P
121	Sb	3	0.162 ug/l	0.81	7.2	4500	103	P
135	Ba	3	28.580 ug/l	142.90	0.8	4500	103	P
200	Hg	3	0.002 ug/l	0.01	174.7	45	209	P
205	Tl	3	0.335 ug/l	1.68	1.0	4500	209	P
208	Pb	3	0.550 ug/l	2.75	1.5	4500	209	P
238	U	3	0.015 ug/l	0.07	22.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179989	1.01	198400	90.7	30 - 125
45	Sc	1	1834702	2.92	3760000	48.8	30 - 125
45	Sc	2	1412095	1.52	1428000	98.9	30 - 125
74	Ge	1	1921688	1.96	3683000	52.2	30 - 125
74	Ge	2	2691456	1.15	2627000	102.5	30 - 125
74	Ge	3	11249647	0.90	10940000	102.8	30 - 125
103	Rh	2	3844884	0.31	3842000	100.1	30 - 125
103	Rh	3	7557752	0.80	7414000	101.9	30 - 125
165	Ho	3	5977736	0.95	5459000	109.5	30 - 125
175	Lu	3	6729385	1.19	6180000	108.9	30 - 125
209	Bi	3	6827513	0.13	6220000	109.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\192SMPL.D\192SMPL.D#  
 Date Acquired: Sep 14 2010 08:12 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-3-A Vial Number: 2202  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	820.000 ug/l	4,100.00	1.2	450000	45	P
24	Mg	2	1809.000 ug/l	9,045.00	3.4	450000	45	A
27	Al	2	-1.500 ug/l	-7.50	28.8	450000	45	P
31	P	2	-8.531 ug/l	-42.66	37.6	450000	45	P
39	K	2	304.100 ug/l	1,520.50	1.0	450000	45	P
40	Ca	1	4133.000 ug/l	20,665.00	5.4	450000	45	A
47	Ti	2	0.105 ug/l	0.53	29.1	4500	74	P
51	V	2	-0.131 ug/l	-0.65	55.1	4500	74	P
52	Cr	2	-0.030 ug/l	-0.15	112.2	4500	74	P
55	Mn	2	17.280 ug/l	86.40	0.8	4500	74	P
56	Fe	1	479.300 ug/l	2,396.50	2.9	450000	74	P
59	Co	2	0.019 ug/l	0.09	6.1	4500	74	P
60	Ni	2	0.240 ug/l	1.20	2.1	4500	74	P
63	Cu	2	0.123 ug/l	0.62	37.3	4500	74	P
66	Zn	2	2.173 ug/l	10.87	4.9	4500	74	P
75	As	2	0.683 ug/l	3.41	48.8	4500	74	P
78	Se	1	-0.162 ug/l	-0.81	11.5	4500	74	P
88	Sr	3	16.600 ug/l	83.00	0.8	4500	74	P
95	Mo	3	0.108 ug/l	0.54	22.1	4500	74	P
109	Ag	3	0.005 ug/l	0.03	29.2	900	103	P
111	Cd	3	0.023 ug/l	0.12	157.2	4500	103	P
118	Sn	3	0.039 ug/l	0.19	26.3	4500	103	P
121	Sb	3	0.037 ug/l	0.18	24.5	4500	103	P
135	Ba	3	11.430 ug/l	57.15	2.1	4500	103	P
200	Hg	3	0.006 ug/l	0.03	41.0	45	209	P
205	Tl	3	0.236 ug/l	1.18	3.2	4500	209	P
208	Pb	3	0.051 ug/l	0.26	0.8	4500	209	P
238	U	3	0.028 ug/l	0.14	10.6	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177553	1.31	198400	89.5	30 - 125
45	Sc	1	1834444	5.31	3760000	48.8	30 - 125
45	Sc	2	1430249	1.32	1428000	100.2	30 - 125
74	Ge	1	1915197	3.00	3683000	52.0	30 - 125
74	Ge	2	2704506	1.52	2627000	103.0	30 - 125
74	Ge	3	11256072	0.11	10940000	102.9	30 - 125
103	Rh	2	3939572	0.61	3842000	102.5	30 - 125
103	Rh	3	7509078	0.60	7414000	101.3	30 - 125
165	Ho	3	5915345	0.48	5459000	108.4	30 - 125
175	Lu	3	6744487	0.95	6180000	109.1	30 - 125
209	Bi	3	6766211	0.97	6220000	108.8	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\193SMPL.D\193SMPL.D#  
 Date Acquired: Sep 14 2010 08:19 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-4-A Vial Number: 2203  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.002 ug/l	0.01	980.9	900	6	P
23	Na	2	1844.000 ug/l	9,220.00	3.2	450000	45	A
24	Mg	2	1443.000 ug/l	7,215.00	0.3	450000	45	P
27	Al	2	5.559 ug/l	27.80	17.1	450000	45	P
31	P	2	-15.240 ug/l	-76.20	5.0	450000	45	P
39	K	2	376.700 ug/l	1,883.50	1.1	450000	45	P
40	Ca	1	4084.000 ug/l	20,420.00	3.3	450000	45	A
47	Ti	2	0.171 ug/l	0.85	38.3	4500	74	P
51	V	2	0.070 ug/l	0.35	107.5	4500	74	P
52	Cr	2	0.164 ug/l	0.82	5.9	4500	74	P
55	Mn	2	0.271 ug/l	1.36	1.6	4500	74	P
56	Fe	1	7.115 ug/l	35.58	3.2	450000	74	P
59	Co	2	0.004 ug/l	0.02	54.3	4500	74	P
60	Ni	2	0.061 ug/l	0.31	131.7	4500	74	P
63	Cu	2	0.197 ug/l	0.98	17.4	4500	74	P
66	Zn	2	0.518 ug/l	2.59	4.5	4500	74	P
75	As	2	0.079 ug/l	0.39	225.8	4500	74	P
78	Se	1	-0.151 ug/l	-0.75	12.7	4500	74	P
88	Sr	3	15.730 ug/l	78.65	1.1	4500	74	P
95	Mo	3	0.087 ug/l	0.43	10.8	4500	74	P
109	Ag	3	0.001 ug/l	0.00	227.0	900	103	P
111	Cd	3	0.004 ug/l	0.02	159.2	4500	103	P
118	Sn	3	0.045 ug/l	0.22	5.6	4500	103	P
121	Sb	3	0.182 ug/l	0.91	5.4	4500	103	P
135	Ba	3	5.514 ug/l	27.57	5.4	4500	103	P
200	Hg	3	0.006 ug/l	0.03	66.2	45	209	P
205	Tl	3	0.182 ug/l	0.91	2.1	4500	209	P
208	Pb	3	0.041 ug/l	0.21	9.1	4500	209	P
238	U	3	0.192 ug/l	0.96	4.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179488	1.21	198400	90.5	30 - 125
45	Sc	1	1846103	2.08	3760000	49.1	30 - 125
45	Sc	2	1416596	1.40	1428000	99.2	30 - 125
74	Ge	1	1915546	1.43	3683000	52.0	30 - 125
74	Ge	2	2697935	1.53	2627000	102.7	30 - 125
74	Ge	3	11286581	1.32	10940000	103.2	30 - 125
103	Rh	2	3852592	0.23	3842000	100.3	30 - 125
103	Rh	3	7600520	1.04	7414000	102.5	30 - 125
165	Ho	3	5945491	2.40	5459000	108.9	30 - 125
175	Lu	3	6787948	0.62	6180000	109.8	30 - 125
209	Bi	3	6791873	0.39	6220000	109.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\194SMPL.D\194SMPL.D#  
 Date Acquired: Sep 14 2010 08:26 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-5-A Vial Number: 2204

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.05	100.6	900	6	P
23	Na	2	2070.000 ug/l	10,350.00	2.0	450000	45	A
24	Mg	2	1505.000 ug/l	7,525.00	1.8	450000	45	P
27	Al	2	-3.227 ug/l	-16.14	9.7	450000	45	P
31	P	2	-4.792 ug/l	-23.96	28.2	450000	45	P
39	K	2	419.400 ug/l	2,097.00	1.0	450000	45	P
40	Ca	1	5221.000 ug/l	26,105.00	4.3	450000	45	A
47	Ti	2	0.046 ug/l	0.23	77.8	4500	74	P
51	V	2	0.208 ug/l	1.04	51.0	4500	74	P
52	Cr	2	-0.003 ug/l	-0.01	1048.7	4500	74	P
55	Mn	2	0.071 ug/l	0.36	19.6	4500	74	P
56	Fe	1	3.202 ug/l	16.01	1.5	450000	74	P
59	Co	2	0.007 ug/l	0.03	47.1	4500	74	P
60	Ni	2	0.076 ug/l	0.38	32.4	4500	74	P
63	Cu	2	0.256 ug/l	1.28	18.6	4500	74	P
66	Zn	2	0.169 ug/l	0.85	72.9	4500	74	P
75	As	2	0.840 ug/l	4.20	22.6	4500	74	P
78	Se	1	-0.173 ug/l	-0.87	0.0	4500	74	P
88	Sr	3	16.530 ug/l	82.65	1.1	4500	74	P
95	Mo	3	0.090 ug/l	0.45	36.3	4500	74	P
109	Ag	3	0.006 ug/l	0.03	99.3	900	103	P
111	Cd	3	0.017 ug/l	0.09	120.7	4500	103	P
118	Sn	3	0.032 ug/l	0.16	48.8	4500	103	P
121	Sb	3	0.123 ug/l	0.62	3.3	4500	103	P
135	Ba	3	6.645 ug/l	33.23	1.8	4500	103	P
200	Hg	3	0.008 ug/l	0.04	66.6	45	209	P
205	Tl	3	0.152 ug/l	0.76	8.7	4500	209	P
208	Pb	3	0.024 ug/l	0.12	18.2	4500	209	P
238	U	3	0.210 ug/l	1.05	4.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179395	2.27	198400	90.4	30 - 125
45	Sc	1	1871338	5.05	3760000	49.8	30 - 125
45	Sc	2	1417821	1.16	1428000	99.3	30 - 125
74	Ge	1	1936117	2.43	3683000	52.6	30 - 125
74	Ge	2	2704744	1.70	2627000	103.0	30 - 125
74	Ge	3	11254650	0.64	10940000	102.9	30 - 125
103	Rh	2	3873547	2.21	3842000	100.8	30 - 125
103	Rh	3	7521658	0.90	7414000	101.5	30 - 125
165	Ho	3	5970643	1.48	5459000	109.4	30 - 125
175	Lu	3	6782460	1.29	6180000	109.7	30 - 125
209	Bi	3	6724935	0.10	6220000	108.1	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\195SMPL.D\195SMPL.D#  
 Date Acquired: Sep 14 2010 08:33 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-6-A Vial Number: 2205  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	874.400 ug/l	4,372.00	1.6	450000	45	P
24	Mg	2	1532.000 ug/l	7,660.00	1.0	450000	45	P
27	Al	2	20.510 ug/l	102.55	5.7	450000	45	P
31	P	2	-9.813 ug/l	-49.07	68.5	450000	45	P
39	K	2	400.500 ug/l	2,002.50	2.9	450000	45	P
40	Ca	1	4928.000 ug/l	24,640.00	3.9	450000	45	A
47	Ti	2	0.065 ug/l	0.33	20.1	4500	74	P
51	V	2	0.212 ug/l	1.06	28.5	4500	74	P
52	Cr	2	-0.033 ug/l	-0.17	15.7	4500	74	P
55	Mn	2	55.550 ug/l	277.75	1.1	4500	74	P
56	Fe	1	77.580 ug/l	387.90	2.1	450000	74	P
59	Co	2	0.091 ug/l	0.46	16.6	4500	74	P
60	Ni	2	0.291 ug/l	1.45	18.2	4500	74	P
63	Cu	2	1.275 ug/l	6.38	1.4	4500	74	P
66	Zn	2	17.810 ug/l	89.05	1.4	4500	74	P
75	As	2	0.116 ug/l	0.58	208.6	4500	74	P
78	Se	1	-0.151 ug/l	-0.75	25.7	4500	74	P
88	Sr	3	20.960 ug/l	104.80	1.9	4500	74	P
95	Mo	3	0.100 ug/l	0.50	15.3	4500	74	P
109	Ag	3	0.008 ug/l	0.04	20.8	900	103	P
111	Cd	3	0.159 ug/l	0.79	4.4	4500	103	P
118	Sn	3	0.013 ug/l	0.07	96.3	4500	103	P
121	Sb	3	0.229 ug/l	1.14	6.2	4500	103	P
135	Ba	3	17.490 ug/l	87.45	3.4	4500	103	P
200	Hg	3	0.002 ug/l	0.01	387.0	45	209	P
205	Tl	3	0.132 ug/l	0.66	5.1	4500	209	P
208	Pb	3	0.249 ug/l	1.25	1.4	4500	209	P
238	U	3	0.089 ug/l	0.44	1.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	175330	2.74	198400	88.4	30 - 125
45	Sc	1	1876275	3.04	3760000	49.9	30 - 125
45	Sc	2	1429560	0.96	1428000	100.1	30 - 125
74	Ge	1	1938811	1.74	3683000	52.6	30 - 125
74	Ge	2	2745689	1.65	2627000	104.5	30 - 125
74	Ge	3	11352626	0.91	10940000	103.8	30 - 125
103	Rh	2	3912094	1.85	3842000	101.8	30 - 125
103	Rh	3	7631920	0.36	7414000	102.9	30 - 125
165	Ho	3	5998670	0.78	5459000	109.9	30 - 125
175	Lu	3	6723686	1.26	6180000	108.8	30 - 125
209	Bi	3	6797315	0.55	6220000	109.3	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\196SMPL.D\196SMPL.D#  
 Date Acquired: Sep 14 2010 08:40 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-7-A Vial Number: 2206  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	785.400 ug/l	3,927.00	1.6	450000	45	P
24	Mg	2	1813.000 ug/l	9,065.00	2.7	450000	45	M
27	Al	2	-1.168 ug/l	-5.84	13.8	450000	45	P
31	P	2	-10.780 ug/l	-53.90	32.1	450000	45	P
39	K	2	357.000 ug/l	1,785.00	2.2	450000	45	P
40	Ca	1	3904.000 ug/l	19,520.00	3.4	450000	45	A
47	Ti	2	0.062 ug/l	0.31	35.2	4500	74	P
51	V	2	0.307 ug/l	1.53	29.2	4500	74	P
52	Cr	2	-0.003 ug/l	-0.01	423.2	4500	74	P
55	Mn	2	133.500 ug/l	667.50	0.4	4500	74	P
56	Fe	1	7.193 ug/l	35.97	1.9	450000	74	P
59	Co	2	0.006 ug/l	0.03	47.1	4500	74	P
60	Ni	2	0.742 ug/l	3.71	20.4	4500	74	P
63	Cu	2	0.378 ug/l	1.89	19.5	4500	74	P
66	Zn	2	15.160 ug/l	75.80	3.3	4500	74	P
75	As	2	-0.001 ug/l	-0.01	16739.0	4500	74	P
78	Se	1	-0.162 ug/l	-0.81	11.4	4500	74	P
88	Sr	3	17.180 ug/l	85.90	0.5	4500	74	P
95	Mo	3	0.089 ug/l	0.45	10.9	4500	74	P
109	Ag	3	0.002 ug/l	0.01	289.3	900	103	P
111	Cd	3	0.124 ug/l	0.62	23.0	4500	103	P
118	Sn	3	0.012 ug/l	0.06	58.6	4500	103	P
121	Sb	3	0.152 ug/l	0.76	11.0	4500	103	P
135	Ba	3	19.860 ug/l	99.30	1.0	4500	103	P
200	Hg	3	0.004 ug/l	0.02	183.6	45	209	P
205	Tl	3	0.113 ug/l	0.56	2.2	4500	209	P
208	Pb	3	0.176 ug/l	0.88	2.2	4500	209	P
238	U	3	0.264 ug/l	1.32	4.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	177162	1.77	198400	89.3	30 - 125
45	Sc	1	1882923	2.39	3760000	50.1	30 - 125
45	Sc	2	1424150	1.79	1428000	99.7	30 - 125
74	Ge	1	1975324	1.32	3683000	53.6	30 - 125
74	Ge	2	2747400	1.24	2627000	104.6	30 - 125
74	Ge	3	11435549	0.51	10940000	104.5	30 - 125
103	Rh	2	3892731	0.83	3842000	101.3	30 - 125
103	Rh	3	7672749	0.87	7414000	103.5	30 - 125
165	Ho	3	5949390	0.86	5459000	109.0	30 - 125
175	Lu	3	6728654	1.04	6180000	108.9	30 - 125
209	Bi	3	6768381	0.41	6220000	108.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\197SMPL.D\197SMPL.D#  
 Date Acquired: Sep 14 2010 08:47 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-A-8-A Vial Number: 2207  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	2094.000 ug/l	10,470.00	2.4	450000	45	A
24	Mg	2	1498.000 ug/l	7,490.00	2.3	450000	45	P
27	Al	2	-1.561 ug/l	-7.81	19.1	450000	45	P
31	P	2	-3.154 ug/l	-15.77	79.1	450000	45	P
39	K	2	426.700 ug/l	2,133.50	1.3	450000	45	P
40	Ca	1	5311.000 ug/l	26,555.00	3.9	450000	45	A
47	Ti	2	0.036 ug/l	0.18	109.7	4500	74	P
51	V	2	0.357 ug/l	1.78	14.2	4500	74	P
52	Cr	2	0.004 ug/l	0.02	1009.7	4500	74	P
55	Mn	2	0.174 ug/l	0.87	10.0	4500	74	P
56	Fe	1	2.329 ug/l	11.65	4.8	450000	74	P
59	Co	2	0.005 ug/l	0.02	47.0	4500	74	P
60	Ni	2	0.096 ug/l	0.48	68.2	4500	74	P
63	Cu	2	0.268 ug/l	1.34	11.0	4500	74	P
66	Zn	2	0.232 ug/l	1.16	18.9	4500	74	P
75	As	2	0.948 ug/l	4.74	26.1	4500	74	P
78	Se	1	-0.130 ug/l	-0.65	15.1	4500	74	P
88	Sr	3	16.360 ug/l	81.80	1.6	4500	74	P
95	Mo	3	0.074 ug/l	0.37	31.8	4500	74	P
109	Ag	3	0.001 ug/l	0.01	154.8	900	103	P
111	Cd	3	0.007 ug/l	0.03	77.6	4500	103	P
118	Sn	3	0.007 ug/l	0.04	175.3	4500	103	P
121	Sb	3	0.093 ug/l	0.46	2.3	4500	103	P
135	Ba	3	7.017 ug/l	35.09	3.6	4500	103	P
200	Hg	3	0.003 ug/l	0.02	83.0	45	209	P
205	Tl	3	0.104 ug/l	0.52	6.8	4500	209	P
208	Pb	3	0.020 ug/l	0.10	21.6	4500	209	P
238	U	3	0.200 ug/l	1.00	3.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	175612	1.94	198400	88.5	30 - 125
45	Sc	1	1922125	4.30	3760000	51.1	30 - 125
45	Sc	2	1429475	1.43	1428000	100.1	30 - 125
74	Ge	1	2012470	2.67	3683000	54.6	30 - 125
74	Ge	2	2737531	1.00	2627000	104.2	30 - 125
74	Ge	3	11388822	0.32	10940000	104.1	30 - 125
103	Rh	2	3886256	1.21	3842000	101.2	30 - 125
103	Rh	3	7659161	1.49	7414000	103.3	30 - 125
165	Ho	3	5922612	2.25	5459000	108.5	30 - 125
175	Lu	3	6697221	0.54	6180000	108.4	30 - 125
209	Bi	3	6745388	0.89	6220000	108.4	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\198SMPL.D\198SMPL.D#  
 Date Acquired: Sep 14 2010 08:54 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-1-A Vial Number: 2208  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	1522.000 ug/l	7,610.00	4.0	450000	45	A
24	Mg	2	1352.000 ug/l	6,760.00	1.5	450000	45	P
27	Al	2	0.416 ug/l	2.08	200.8	450000	45	P
31	P	2	-1.397 ug/l	-6.99	368.9	450000	45	P
39	K	2	612.900 ug/l	3,064.50	3.3	450000	45	P
40	Ca	1	6509.000 ug/l	32,545.00	4.1	450000	45	A
47	Ti	2	0.059 ug/l	0.29	30.3	4500	74	P
51	V	2	0.461 ug/l	2.30	4.8	4500	74	P
52	Cr	2	0.053 ug/l	0.27	87.5	4500	74	P
55	Mn	2	1.775 ug/l	8.88	2.2	4500	74	P
56	Fe	1	6.299 ug/l	31.50	3.9	450000	74	P
59	Co	2	0.004 ug/l	0.02	32.3	4500	74	P
60	Ni	2	0.200 ug/l	1.00	19.6	4500	74	P
63	Cu	2	0.487 ug/l	2.44	2.3	4500	74	P
66	Zn	2	0.950 ug/l	4.75	26.1	4500	74	P
75	As	2	0.252 ug/l	1.26	118.8	4500	74	P
78	Se	1	-0.141 ug/l	-0.71	0.2	4500	74	P
88	Sr	3	27.440 ug/l	137.20	1.3	4500	74	P
95	Mo	3	0.692 ug/l	3.46	12.2	4500	74	P
109	Ag	3	0.003 ug/l	0.02	98.6	900	103	P
111	Cd	3	0.043 ug/l	0.21	38.2	4500	103	P
118	Sn	3	0.027 ug/l	0.13	9.9	4500	103	P
121	Sb	3	0.221 ug/l	1.11	8.5	4500	103	P
135	Ba	3	7.319 ug/l	36.60	4.4	4500	103	P
200	Hg	3	0.001 ug/l	0.00	510.4	45	209	P
205	Tl	3	0.094 ug/l	0.47	1.5	4500	209	P
208	Pb	3	0.026 ug/l	0.13	29.3	4500	209	P
238	U	3	0.295 ug/l	1.48	1.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	176746	1.79	198400	89.1	30 - 125
45	Sc	1	1923865	1.36	3760000	51.2	30 - 125
45	Sc	2	1439359	3.05	1428000	100.8	30 - 125
74	Ge	1	2017551	0.93	3683000	54.8	30 - 125
74	Ge	2	2763949	1.44	2627000	105.2	30 - 125
74	Ge	3	11278395	0.75	10940000	103.1	30 - 125
103	Rh	2	3908924	0.97	3842000	101.7	30 - 125
103	Rh	3	7581493	0.39	7414000	102.3	30 - 125
165	Ho	3	5973402	0.71	5459000	109.4	30 - 125
175	Lu	3	6714593	0.44	6180000	108.7	30 - 125
209	Bi	3	6791721	1.32	6220000	109.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\199SMPL.D\199SMPL.D#  
 Date Acquired: Sep 14 2010 09:01 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-2-A Vial Number: 2209

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.05	100.3	900	6	P
23	Na	2	1135.000 ug/l	5,675.00	1.9	450000	45	A
24	Mg	2	1262.000 ug/l	6,310.00	1.4	450000	45	P
27	Al	2	-0.871 ug/l	-4.36	14.0	450000	45	P
31	P	2	-6.884 ug/l	-34.42	37.4	450000	45	P
39	K	2	266.500 ug/l	1,332.50	4.1	450000	45	P
40	Ca	1	4912.000 ug/l	24,560.00	3.6	450000	45	A
47	Ti	2	0.052 ug/l	0.26	40.9	4500	74	P
51	V	2	0.573 ug/l	2.86	8.8	4500	74	P
52	Cr	2	-0.002 ug/l	-0.01	969.9	4500	74	P
55	Mn	2	77.610 ug/l	388.05	1.1	4500	74	P
56	Fe	1	128.100 ug/l	640.50	3.5	450000	74	P
59	Co	2	0.245 ug/l	1.23	8.4	4500	74	P
60	Ni	2	0.468 ug/l	2.34	5.1	4500	74	P
63	Cu	2	0.369 ug/l	1.84	12.1	4500	74	P
66	Zn	2	58.160 ug/l	290.80	0.6	4500	74	P
75	As	2	0.149 ug/l	0.75	134.2	4500	74	P
78	Se	1	-0.132 ug/l	-0.66	13.7	4500	74	P
88	Sr	3	20.090 ug/l	100.45	1.4	4500	74	P
95	Mo	3	0.081 ug/l	0.40	32.1	4500	74	P
109	Ag	3	0.007 ug/l	0.03	50.3	900	103	P
111	Cd	3	0.117 ug/l	0.59	24.2	4500	103	P
118	Sn	3	0.008 ug/l	0.04	53.0	4500	103	P
121	Sb	3	0.157 ug/l	0.79	18.2	4500	103	P
135	Ba	3	28.740 ug/l	143.70	1.9	4500	103	P
200	Hg	3	0.001 ug/l	0.00	227.8	45	209	P
205	Tl	3	0.088 ug/l	0.44	2.2	4500	209	P
208	Pb	3	0.318 ug/l	1.59	1.0	4500	209	P
238	U	3	0.013 ug/l	0.06	14.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179857	0.64	198400	90.7	30 - 125
45	Sc	1	1945872	3.27	3760000	51.8	30 - 125
45	Sc	2	1440549	2.22	1428000	100.9	30 - 125
74	Ge	1	2049946	2.04	3683000	55.7	30 - 125
74	Ge	2	2785923	0.82	2627000	106.0	30 - 125
74	Ge	3	11325592	0.88	10940000	103.5	30 - 125
103	Rh	2	3978934	1.11	3842000	103.6	30 - 125
103	Rh	3	7653309	0.69	7414000	103.2	30 - 125
165	Ho	3	5998809	0.66	5459000	109.9	30 - 125
175	Lu	3	6794960	0.68	6180000	110.0	30 - 125
209	Bi	3	6881123	0.91	6220000	110.6	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\200SMPL.D\200SMPL.D#  
 Date Acquired: Sep 14 2010 09:08 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-3-A Vial Number: 2210

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	827.300 ug/l	4,136.50	0.4	450000	45	P
24	Mg	2	1838.000 ug/l	9,190.00	1.5	450000	45	A
27	Al	2	-1.798 ug/l	-8.99	47.2	450000	45	P
31	P	2	-7.438 ug/l	-37.19	39.4	450000	45	P
39	K	2	307.800 ug/l	1,539.00	1.3	450000	45	P
40	Ca	1	4322.000 ug/l	21,610.00	4.9	450000	45	A
47	Ti	2	0.070 ug/l	0.35	83.7	4500	74	P
51	V	2	0.504 ug/l	2.52	6.2	4500	74	P
52	Cr	2	-0.012 ug/l	-0.06	389.7	4500	74	P
55	Mn	2	16.940 ug/l	84.70	1.0	4500	74	P
56	Fe	1	406.000 ug/l	2,030.00	4.3	450000	74	P
59	Co	2	0.015 ug/l	0.07	16.0	4500	74	P
60	Ni	2	0.179 ug/l	0.90	36.5	4500	74	P
63	Cu	2	0.149 ug/l	0.74	31.6	4500	74	P
66	Zn	2	2.213 ug/l	11.07	6.5	4500	74	P
75	As	2	0.629 ug/l	3.15	21.7	4500	74	P
78	Se	1	-0.153 ug/l	-0.76	11.7	4500	74	P
88	Sr	3	16.760 ug/l	83.80	1.2	4500	74	P
95	Mo	3	0.112 ug/l	0.56	42.0	4500	74	P
109	Ag	3	-0.003 ug/l	-0.01	151.7	900	103	P
111	Cd	3	0.008 ug/l	0.04	480.2	4500	103	P
118	Sn	3	0.020 ug/l	0.10	17.1	4500	103	P
121	Sb	3	0.025 ug/l	0.13	12.4	4500	103	P
135	Ba	3	11.500 ug/l	57.50	2.2	4500	103	P
200	Hg	3	0.007 ug/l	0.03	17.6	45	209	P
205	Tl	3	0.076 ug/l	0.38	3.5	4500	209	P
208	Pb	3	0.023 ug/l	0.11	15.1	4500	209	P
238	U	3	0.026 ug/l	0.13	9.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178666	1.97	198400	90.1	30 - 125
45	Sc	1	1984064	3.85	3760000	52.8	30 - 125
45	Sc	2	1474500	0.80	1428000	103.3	30 - 125
74	Ge	1	2083365	3.08	3683000	56.6	30 - 125
74	Ge	2	2776420	0.92	2627000	105.7	30 - 125
74	Ge	3	11344161	0.26	10940000	103.7	30 - 125
103	Rh	2	3967946	0.60	3842000	103.3	30 - 125
103	Rh	3	7700935	0.38	7414000	103.9	30 - 125
165	Ho	3	6046502	1.83	5459000	110.8	30 - 125
175	Lu	3	6768773	0.77	6180000	109.5	30 - 125
209	Bi	3	6791821	1.47	6220000	109.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\201SMPL.D\201SMPL.D#  
 Date Acquired: Sep 14 2010 09:13 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	47.590 ug/l	47.59	1.4	900	6	P
23	Na	2	4758.000 ug/l	4,758.00	0.9	450000	45	A
24	Mg	2	4768.000 ug/l	4,768.00	2.7	450000	45	A
27	Al	2	469.700 ug/l	469.70	1.2	450000	45	P
31	P	2	4500.000 ug/l	4,500.00	1.1	450000	45	P
39	K	2	4829.000 ug/l	4,829.00	2.1	450000	45	A
40	Ca	1	3934.000 ug/l	3,934.00	2.3	450000	45	A
47	Ti	2	45.490 ug/l	45.49	3.1	4500	74	P
51	V	2	45.100 ug/l	45.10	1.8	4500	74	P
52	Cr	2	45.220 ug/l	45.22	0.3	4500	74	P
55	Mn	2	46.270 ug/l	46.27	1.3	4500	74	P
56	Fe	1	4915.000 ug/l	4,915.00	2.0	450000	74	A
59	Co	2	45.450 ug/l	45.45	0.7	4500	74	P
60	Ni	2	45.540 ug/l	45.54	1.0	4500	74	P
63	Cu	2	45.450 ug/l	45.45	1.2	4500	74	P
66	Zn	2	47.020 ug/l	47.02	2.5	4500	74	P
75	As	2	46.430 ug/l	46.43	0.6	4500	74	P
78	Se	1	51.000 ug/l	51.00	1.1	4500	74	P
88	Sr	3	48.670 ug/l	48.67	1.3	4500	74	P
95	Mo	3	48.580 ug/l	48.58	1.5	4500	74	P
109	Ag	3	47.950 ug/l	47.95	1.4	900	103	P
111	Cd	3	49.340 ug/l	49.34	2.8	4500	103	P
118	Sn	3	48.900 ug/l	48.90	1.8	4500	103	P
121	Sb	3	49.410 ug/l	49.41	1.6	4500	103	P
135	Ba	3	50.210 ug/l	50.21	2.1	4500	103	P
200	Hg	3	2.311 ug/l	2.31	0.8	45	209	P
205	Tl	3	47.770 ug/l	47.77	1.8	4500	209	P
208	Pb	3	48.290 ug/l	48.29	0.4	4500	209	P
238	U	3	46.680 ug/l	46.68	0.9	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183655	1.51	198400	92.6	30 - 125
45	Sc	1	2031250	2.82	3760000	54.0	30 - 125
45	Sc	2	1465221	1.45	1428000	102.6	30 - 125
74	Ge	1	2106489	1.79	3683000	57.2	30 - 125
74	Ge	2	2787076	0.85	2627000	106.1	30 - 125
74	Ge	3	11672397	0.28	10940000	106.7	30 - 125
103	Rh	2	3978085	1.50	3842000	103.5	30 - 125
103	Rh	3	7907680	0.60	7414000	106.7	30 - 125
165	Ho	3	6172978	0.19	5459000	113.1	30 - 125
175	Lu	3	6927374	0.94	6180000	112.1	30 - 125
209	Bi	3	6866058	0.71	6220000	110.4	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\202SMPL.D\202SMPL.D#  
 Date Acquired: Sep 14 2010 09:18 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	93.4	900	6	P
23	Na	2	3.566 ug/l	3.57	23.5	450000	45	P
24	Mg	2	1.111 ug/l	1.11	14.6	450000	45	P
27	Al	2	2.840 ug/l	2.84	10.9	450000	45	P
31	P	2	-12.450 ug/l	-12.45	41.4	450000	45	P
39	K	2	-5.227 ug/l	-5.23	95.3	450000	45	P
40	Ca	1	1.432 ug/l	1.43	18.5	450000	45	P
47	Ti	2	0.012 ug/l	0.01	184.8	4500	74	P
51	V	2	-0.421 ug/l	-0.42	6.6	4500	74	P
52	Cr	2	-0.054 ug/l	-0.05	81.2	4500	74	P
55	Mn	2	0.249 ug/l	0.25	2.3	4500	74	P
56	Fe	1	2.676 ug/l	2.68	11.7	450000	74	P
59	Co	2	0.006 ug/l	0.01	54.8	4500	74	P
60	Ni	2	-0.016 ug/l	-0.02	308.1	4500	74	P
63	Cu	2	0.023 ug/l	0.02	70.8	4500	74	P
66	Zn	2	-0.023 ug/l	-0.02	202.0	4500	74	P
75	As	2	-0.090 ug/l	-0.09	287.1	4500	74	P
78	Se	1	-0.092 ug/l	-0.09	18.8	4500	74	P
88	Sr	3	-0.015 ug/l	-0.02	62.9	4500	74	P
95	Mo	3	0.027 ug/l	0.03	63.7	4500	74	P
109	Ag	3	0.016 ug/l	0.02	15.2	900	103	P
111	Cd	3	-0.002 ug/l	0.00	917.4	4500	103	P
118	Sn	3	0.085 ug/l	0.08	61.1	4500	103	P
121	Sb	3	0.044 ug/l	0.04	36.3	4500	103	P
135	Ba	3	-0.051 ug/l	-0.05	16.1	4500	103	P
200	Hg	3	0.003 ug/l	0.00	108.3	45	209	P
205	Tl	3	0.667 ug/l	0.67	22.8	4500	209	P
208	Pb	3	0.015 ug/l	0.02	62.2	4500	209	P
238	U	3	0.008 ug/l	0.01	26.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	186686	1.24	198400	94.1	30 - 125
45	Sc	1	2041002	1.99	3760000	54.3	30 - 125
45	Sc	2	1467329	2.37	1428000	102.8	30 - 125
74	Ge	1	2096914	1.89	3683000	56.9	30 - 125
74	Ge	2	2810646	0.81	2627000	107.0	30 - 125
74	Ge	3	10719714	13.88	10940000	98.0	30 - 125
103	Rh	2	4044286	1.00	3842000	105.3	30 - 125
103	Rh	3	7109101	17.37	7414000	95.9	30 - 125
165	Ho	3	5422077	16.46	5459000	99.3	30 - 125
175	Lu	3	6074442	17.32	6180000	98.3	30 - 125
209	Bi	3	6267374	15.22	6220000	100.8	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\203SMPL.D\203SMPL.D#  
 Date Acquired: Sep 14 2010 09:23 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-4-A Vial Number: 2301

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	1951.000 ug/l	9,755.00	0.8	450000	45	A
24	Mg	2	1494.000 ug/l	7,470.00	0.9	450000	45	P
27	Al	2	2.695 ug/l	13.48	7.2	450000	45	P
31	P	2	-14.390 ug/l	-71.95	46.5	450000	45	P
39	K	2	388.500 ug/l	1,942.50	2.9	450000	45	P
40	Ca	1	4189.000 ug/l	20,945.00	2.8	450000	45	A
47	Ti	2	0.043 ug/l	0.21	19.0	4500	74	P
51	V	2	0.311 ug/l	1.56	56.1	4500	74	P
52	Cr	2	0.074 ug/l	0.37	37.3	4500	74	P
55	Mn	2	0.236 ug/l	1.18	8.6	4500	74	P
56	Fe	1	5.770 ug/l	28.85	4.6	450000	74	P
59	Co	2	0.005 ug/l	0.03	39.5	4500	74	P
60	Ni	2	0.076 ug/l	0.38	194.7	4500	74	P
63	Cu	2	0.319 ug/l	1.59	5.2	4500	74	P
66	Zn	2	0.853 ug/l	4.27	19.6	4500	74	P
75	As	2	0.203 ug/l	1.01	128.8	4500	74	P
78	Se	1	-0.142 ug/l	-0.71	21.6	4500	74	P
88	Sr	3	16.260 ug/l	81.30	0.9	4500	74	P
95	Mo	3	0.087 ug/l	0.43	38.9	4500	74	P
109	Ag	3	0.003 ug/l	0.01	231.5	900	103	P
111	Cd	3	0.021 ug/l	0.10	181.7	4500	103	P
118	Sn	3	0.044 ug/l	0.22	9.0	4500	103	P
121	Sb	3	0.213 ug/l	1.06	9.6	4500	103	P
135	Ba	3	5.474 ug/l	27.37	2.0	4500	103	P
200	Hg	3	0.004 ug/l	0.02	98.1	45	209	P
205	Tl	3	0.256 ug/l	1.28	3.9	4500	209	P
208	Pb	3	0.057 ug/l	0.29	10.5	4500	209	P
238	U	3	0.188 ug/l	0.94	2.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181840	0.69	198400	91.7	30 - 125
45	Sc	1	1988337	2.13	3760000	52.9	30 - 125
45	Sc	2	1436725	0.95	1428000	100.6	30 - 125
74	Ge	1	2057340	1.16	3683000	55.9	30 - 125
74	Ge	2	2717576	1.16	2627000	103.4	30 - 125
74	Ge	3	11456854	1.50	10940000	104.7	30 - 125
103	Rh	2	3970245	0.69	3842000	103.3	30 - 125
103	Rh	3	7704616	1.13	7414000	103.9	30 - 125
165	Ho	3	6086726	0.89	5459000	111.5	30 - 125
175	Lu	3	6913903	0.89	6180000	111.9	30 - 125
209	Bi	3	6918591	1.60	6220000	111.2	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\204SMPL.D\204SMPL.D#  
 Date Acquired: Sep 14 2010 09:28 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-5-A Vial Number: 2302

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.004 ug/l	-0.02	233.9	900	6	P
23	Na	2	2113.000 ug/l	10,565.00	3.0	450000	45	A
24	Mg	2	1504.000 ug/l	7,520.00	1.8	450000	45	P
27	Al	2	-0.689 ug/l	-3.44	38.3	450000	45	P
31	P	2	-10.950 ug/l	-54.75	7.3	450000	45	P
39	K	2	418.700 ug/l	2,093.50	3.0	450000	45	P
40	Ca	1	5272.000 ug/l	26,360.00	1.7	450000	45	A
47	Ti	2	0.057 ug/l	0.29	37.3	4500	74	P
51	V	2	0.321 ug/l	1.60	30.3	4500	74	P
52	Cr	2	0.003 ug/l	0.01	1129.4	4500	74	P
55	Mn	2	0.097 ug/l	0.48	9.4	4500	74	P
56	Fe	1	7.905 ug/l	39.53	3.9	450000	74	P
59	Co	2	0.006 ug/l	0.03	3.4	4500	74	P
60	Ni	2	0.096 ug/l	0.48	74.5	4500	74	P
63	Cu	2	0.379 ug/l	1.89	10.8	4500	74	P
66	Zn	2	0.529 ug/l	2.64	22.2	4500	74	P
75	As	2	0.788 ug/l	3.94	21.7	4500	74	P
78	Se	1	-0.142 ug/l	-0.71	22.5	4500	74	P
88	Sr	3	16.400 ug/l	82.00	1.0	4500	74	P
95	Mo	3	0.119 ug/l	0.60	15.4	4500	74	P
109	Ag	3	0.002 ug/l	0.01	319.7	900	103	P
111	Cd	3	0.009 ug/l	0.05	208.6	4500	103	P
118	Sn	3	0.020 ug/l	0.10	24.5	4500	103	P
121	Sb	3	0.101 ug/l	0.50	14.2	4500	103	P
135	Ba	3	6.608 ug/l	33.04	4.9	4500	103	P
200	Hg	3	-0.001 ug/l	0.00	242.4	45	209	P
205	Tl	3	0.164 ug/l	0.82	3.7	4500	209	P
208	Pb	3	0.025 ug/l	0.12	6.9	4500	209	P
238	U	3	0.208 ug/l	1.04	2.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180554	1.43	198400	91.0	30 - 125
45	Sc	1	1952588	1.23	3760000	51.9	30 - 125
45	Sc	2	1422512	3.86	1428000	99.6	30 - 125
74	Ge	1	2037957	1.50	3683000	55.3	30 - 125
74	Ge	2	2730213	1.02	2627000	103.9	30 - 125
74	Ge	3	11319999	0.19	10940000	103.5	30 - 125
103	Rh	2	3920647	0.69	3842000	102.0	30 - 125
103	Rh	3	7671857	1.04	7414000	103.5	30 - 125
165	Ho	3	6117971	1.33	5459000	112.1	30 - 125
175	Lu	3	6892871	0.45	6180000	111.5	30 - 125
209	Bi	3	6922085	0.40	6220000	111.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\205SMPL.D\205SMPL.D#  
 Date Acquired: Sep 14 2010 09:33 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-6-A Vial Number: 2303

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 5.00 Final Dil Factor: 5.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	894.000 ug/l	4,470.00	1.9	450000	45	M
24	Mg	2	1610.000 ug/l	8,050.00	2.3	450000	45	P
27	Al	2	-1.097 ug/l	-5.49	54.1	450000	45	P
31	P	2	-9.388 ug/l	-46.94	32.5	450000	45	P
39	K	2	408.700 ug/l	2,043.50	1.9	450000	45	P
40	Ca	1	5120.000 ug/l	25,600.00	1.5	450000	45	A
47	Ti	2	0.040 ug/l	0.20	32.9	4500	74	P
51	V	2	0.319 ug/l	1.60	20.4	4500	74	P
52	Cr	2	0.071 ug/l	0.36	22.1	4500	74	P
55	Mn	2	56.490 ug/l	282.45	0.2	4500	74	P
56	Fe	1	81.370 ug/l	406.85	1.4	450000	74	P
59	Co	2	0.093 ug/l	0.46	6.3	4500	74	P
60	Ni	2	0.277 ug/l	1.39	26.4	4500	74	P
63	Cu	2	1.223 ug/l	6.12	7.0	4500	74	P
66	Zn	2	18.190 ug/l	90.95	7.2	4500	74	P
75	As	2	0.064 ug/l	0.32	294.7	4500	74	P
78	Se	1	-0.152 ug/l	-0.76	12.0	4500	74	P
88	Sr	3	21.460 ug/l	107.30	1.4	4500	74	P
95	Mo	3	0.135 ug/l	0.68	19.1	4500	74	P
109	Ag	3	0.004 ug/l	0.02	47.8	900	103	P
111	Cd	3	0.172 ug/l	0.86	13.1	4500	103	P
118	Sn	3	0.022 ug/l	0.11	20.3	4500	103	P
121	Sb	3	0.231 ug/l	1.15	8.5	4500	103	P
135	Ba	3	17.730 ug/l	88.65	4.7	4500	103	P
200	Hg	3	0.008 ug/l	0.04	70.4	45	209	P
205	Tl	3	0.130 ug/l	0.65	2.3	4500	209	P
208	Pb	3	0.182 ug/l	0.91	5.2	4500	209	P
238	U	3	0.089 ug/l	0.44	3.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	178243	0.50	198400	89.8	30 - 125
45	Sc	1	1946258	3.39	3760000	51.8	30 - 125
45	Sc	2	1414258	2.22	1428000	99.0	30 - 125
74	Ge	1	2034005	3.10	3683000	55.2	30 - 125
74	Ge	2	2711467	0.97	2627000	103.2	30 - 125
74	Ge	3	11395027	0.21	10940000	104.2	30 - 125
103	Rh	2	3918281	0.84	3842000	102.0	30 - 125
103	Rh	3	7685899	0.77	7414000	103.7	30 - 125
165	Ho	3	6066766	0.35	5459000	111.1	30 - 125
175	Lu	3	6911941	0.71	6180000	111.8	30 - 125
209	Bi	3	6937353	0.58	6220000	111.5	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\206SMPL.D\206SMPL.D#  
 Date Acquired: Sep 14 2010 09:38 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-7-A Vial Number: 2304  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.05	100.3	900	6	P
23	Na	2	827.700 ug/l	4,138.50	0.6	450000	45	P
24	Mg	2	1891.000 ug/l	9,455.00	2.1	450000	45	A
27	Al	2	3.596 ug/l	17.98	28.6	450000	45	P
31	P	2	-14.970 ug/l	-74.85	19.4	450000	45	P
39	K	2	350.600 ug/l	1,753.00	0.8	450000	45	P
40	Ca	1	4046.000 ug/l	20,230.00	5.9	450000	45	A
47	Ti	2	0.057 ug/l	0.29	24.2	4500	74	P
51	V	2	0.483 ug/l	2.42	11.7	4500	74	P
52	Cr	2	0.002 ug/l	0.01	1718.2	4500	74	P
55	Mn	2	143.100 ug/l	715.50	1.1	4500	74	P
56	Fe	1	7.244 ug/l	36.22	2.0	450000	74	P
59	Co	2	0.007 ug/l	0.04	25.6	4500	74	P
60	Ni	2	0.841 ug/l	4.21	11.7	4500	74	P
63	Cu	2	0.340 ug/l	1.70	7.0	4500	74	P
66	Zn	2	14.420 ug/l	72.10	6.4	4500	74	P
75	As	2	0.080 ug/l	0.40	344.7	4500	74	P
78	Se	1	-0.163 ug/l	-0.81	10.9	4500	74	P
88	Sr	3	18.300 ug/l	91.50	1.9	4500	74	P
95	Mo	3	0.117 ug/l	0.59	16.8	4500	74	P
109	Ag	3	-0.002 ug/l	-0.01	182.4	900	103	P
111	Cd	3	0.131 ug/l	0.66	27.5	4500	103	P
118	Sn	3	0.024 ug/l	0.12	23.5	4500	103	P
121	Sb	3	0.129 ug/l	0.65	12.0	4500	103	P
135	Ba	3	20.370 ug/l	101.85	1.9	4500	103	P
200	Hg	3	0.005 ug/l	0.03	111.6	45	209	P
205	Tl	3	0.113 ug/l	0.56	2.5	4500	209	P
208	Pb	3	0.101 ug/l	0.51	6.3	4500	209	P
238	U	3	0.259 ug/l	1.29	3.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	179454	1.04	198400	90.5	30 - 125
45	Sc	1	1980892	4.87	3760000	52.7	30 - 125
45	Sc	2	1430324	0.89	1428000	100.2	30 - 125
74	Ge	1	2061274	0.64	3683000	56.0	30 - 125
74	Ge	2	2726971	1.34	2627000	103.8	30 - 125
74	Ge	3	11378341	1.25	10940000	104.0	30 - 125
103	Rh	2	3943106	0.58	3842000	102.6	30 - 125
103	Rh	3	7656748	0.69	7414000	103.3	30 - 125
165	Ho	3	6053961	0.59	5459000	110.9	30 - 125
175	Lu	3	6919103	1.10	6180000	112.0	30 - 125
209	Bi	3	6904431	0.12	6220000	111.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\207SMPL.D\207SMPL.D#  
 Date Acquired: Sep 14 2010 09:43 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21318-B-8-A Vial Number: 2305

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.07	0.0	900	6	P
23	Na	2	2056.000 ug/l	10,280.00	2.4	450000	45	A
24	Mg	2	1496.000 ug/l	7,480.00	1.5	450000	45	P
27	Al	2	-1.245 ug/l	-6.23	48.7	450000	45	P
31	P	2	-0.648 ug/l	-3.24	524.8	450000	45	P
39	K	2	409.700 ug/l	2,048.50	2.0	450000	45	P
40	Ca	1	5259.000 ug/l	26,295.00	3.6	450000	45	A
47	Ti	2	0.100 ug/l	0.50	90.9	4500	74	P
51	V	2	0.407 ug/l	2.04	9.3	4500	74	P
52	Cr	2	-0.006 ug/l	-0.03	395.6	4500	74	P
55	Mn	2	0.341 ug/l	1.70	2.8	4500	74	P
56	Fe	1	7.492 ug/l	37.46	4.9	450000	74	P
59	Co	2	0.006 ug/l	0.03	24.4	4500	74	P
60	Ni	2	0.076 ug/l	0.38	114.0	4500	74	P
63	Cu	2	0.254 ug/l	1.27	6.6	4500	74	P
66	Zn	2	0.383 ug/l	1.92	31.6	4500	74	P
75	As	2	0.730 ug/l	3.65	26.7	4500	74	P
78	Se	1	-0.152 ug/l	-0.76	12.2	4500	74	P
88	Sr	3	16.250 ug/l	81.25	0.9	4500	74	P
95	Mo	3	0.091 ug/l	0.46	18.1	4500	74	P
109	Ag	3	0.000 ug/l	0.00	10574.0	900	103	P
111	Cd	3	0.020 ug/l	0.10	74.0	4500	103	P
118	Sn	3	0.008 ug/l	0.04	92.1	4500	103	P
121	Sb	3	0.090 ug/l	0.45	9.6	4500	103	P
135	Ba	3	6.646 ug/l	33.23	1.3	4500	103	P
200	Hg	3	0.001 ug/l	0.01	343.4	45	209	P
205	Tl	3	0.094 ug/l	0.47	7.5	4500	209	P
208	Pb	3	0.022 ug/l	0.11	8.3	4500	209	P
238	U	3	0.209 ug/l	1.04	6.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180456	0.25	198400	91.0	30 - 125
45	Sc	1	1935425	4.61	3760000	51.5	30 - 125
45	Sc	2	1429006	1.84	1428000	100.1	30 - 125
74	Ge	1	2030298	3.44	3683000	55.1	30 - 125
74	Ge	2	2708848	0.35	2627000	103.1	30 - 125
74	Ge	3	11355402	0.57	10940000	103.8	30 - 125
103	Rh	2	3908164	1.67	3842000	101.7	30 - 125
103	Rh	3	7671456	0.53	7414000	103.5	30 - 125
165	Ho	3	6093230	0.61	5459000	111.6	30 - 125
175	Lu	3	6938840	1.15	6180000	112.3	30 - 125
209	Bi	3	6893423	0.39	6220000	110.8	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\208SMPL.D\208SMPL.D#  
 Date Acquired: Sep 14 2010 09:48 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	48.420 ug/l	48.42	3.4	900	6	P
23	Na	2	4659.000 ug/l	4,659.00	0.4	450000	45	A
24	Mg	2	4699.000 ug/l	4,699.00	1.6	450000	45	A
27	Al	2	462.500 ug/l	462.50	0.9	450000	45	P
31	P	2	4449.000 ug/l	4,449.00	1.3	450000	45	P
39	K	2	4788.000 ug/l	4,788.00	1.8	450000	45	A
40	Ca	1	3844.000 ug/l	3,844.00	1.8	450000	45	A
47	Ti	2	45.030 ug/l	45.03	1.5	4500	74	P
51	V	2	44.700 ug/l	44.70	1.8	4500	74	P
52	Cr	2	45.370 ug/l	45.37	1.1	4500	74	P
55	Mn	2	46.360 ug/l	46.36	0.5	4500	74	P
56	Fe	1	4965.000 ug/l	4,965.00	1.0	450000	74	A
59	Co	2	45.590 ug/l	45.59	0.7	4500	74	P
60	Ni	2	45.060 ug/l	45.06	1.6	4500	74	P
63	Cu	2	45.510 ug/l	45.51	1.7	4500	74	P
66	Zn	2	47.560 ug/l	47.56	1.5	4500	74	P
75	As	2	46.820 ug/l	46.82	2.2	4500	74	P
78	Se	1	52.000 ug/l	52.00	4.2	4500	74	P
88	Sr	3	48.780 ug/l	48.78	1.1	4500	74	P
95	Mo	3	48.710 ug/l	48.71	0.8	4500	74	P
109	Ag	3	48.140 ug/l	48.14	1.1	900	103	P
111	Cd	3	48.830 ug/l	48.83	0.3	4500	103	P
118	Sn	3	49.650 ug/l	49.65	2.5	4500	103	P
121	Sb	3	49.430 ug/l	49.43	1.7	4500	103	P
135	Ba	3	50.390 ug/l	50.39	1.1	4500	103	P
200	Hg	3	2.350 ug/l	2.35	1.5	45	209	P
205	Tl	3	48.360 ug/l	48.36	2.7	4500	209	P
208	Pb	3	48.640 ug/l	48.64	1.2	4500	209	P
238	U	3	47.740 ug/l	47.74	1.6	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180348	1.62	198400	90.9	30 - 125
45	Sc	1	2015859	4.43	3760000	53.6	30 - 125
45	Sc	2	1464945	1.50	1428000	102.6	30 - 125
74	Ge	1	2075545	2.19	3683000	56.4	30 - 125
74	Ge	2	2763222	0.48	2627000	105.2	30 - 125
74	Ge	3	11667484	0.19	10940000	106.6	30 - 125
103	Rh	2	3979059	0.91	3842000	103.6	30 - 125
103	Rh	3	7890878	0.25	7414000	106.4	30 - 125
165	Ho	3	6188321	0.50	5459000	113.4	30 - 125
175	Lu	3	6953350	0.45	6180000	112.5	30 - 125
209	Bi	3	6861980	0.50	6220000	110.3	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\209SMPL.D\209SMPL.D#  
 Date Acquired: Sep 14 2010 09:53 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.011 ug/l	0.01	213.9	900	6	P
23	Na	2	1.728 ug/l	1.73	40.3	450000	45	P
24	Mg	2	1.001 ug/l	1.00	13.3	450000	45	P
27	Al	2	2.831 ug/l	2.83	7.7	450000	45	P
31	P	2	-18.500 ug/l	-18.50	25.1	450000	45	P
39	K	2	-9.129 ug/l	-9.13	23.0	450000	45	P
40	Ca	1	1.031 ug/l	1.03	19.1	450000	45	P
47	Ti	2	0.012 ug/l	0.01	150.6	4500	74	P
51	V	2	-0.405 ug/l	-0.41	11.1	4500	74	P
52	Cr	2	-0.066 ug/l	-0.07	73.8	4500	74	P
55	Mn	2	0.253 ug/l	0.25	13.9	4500	74	P
56	Fe	1	2.520 ug/l	2.52	3.7	450000	74	P
59	Co	2	0.007 ug/l	0.01	30.7	4500	74	P
60	Ni	2	-0.056 ug/l	-0.06	75.4	4500	74	P
63	Cu	2	0.017 ug/l	0.02	72.3	4500	74	P
66	Zn	2	0.146 ug/l	0.15	62.3	4500	74	P
75	As	2	-0.097 ug/l	-0.10	277.4	4500	74	P
78	Se	1	-0.042 ug/l	-0.04	228.9	4500	74	P
88	Sr	3	-0.011 ug/l	-0.01	180.0	4500	74	P
95	Mo	3	0.032 ug/l	0.03	24.3	4500	74	P
109	Ag	3	0.009 ug/l	0.01	34.7	900	103	P
111	Cd	3	0.006 ug/l	0.01	330.1	4500	103	P
118	Sn	3	0.054 ug/l	0.05	34.6	4500	103	P
121	Sb	3	0.035 ug/l	0.04	16.1	4500	103	P
135	Ba	3	-0.056 ug/l	-0.06	84.3	4500	103	P
200	Hg	3	0.004 ug/l	0.00	76.6	45	209	P
205	Tl	3	0.578 ug/l	0.58	9.7	4500	209	P
208	Pb	3	0.010 ug/l	0.01	26.6	4500	209	P
238	U	3	0.006 ug/l	0.01	34.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	188419	1.08	198400	95.0	30 - 125
45	Sc	1	2014757	2.94	3760000	53.6	30 - 125
45	Sc	2	1477792	0.88	1428000	103.5	30 - 125
74	Ge	1	2096147	2.15	3683000	56.9	30 - 125
74	Ge	2	2798889	0.70	2627000	106.5	30 - 125
74	Ge	3	11713945	0.62	10940000	107.1	30 - 125
103	Rh	2	4110983	1.05	3842000	107.0	30 - 125
103	Rh	3	8120736	1.30	7414000	109.5	30 - 125
165	Ho	3	6167660	0.97	5459000	113.0	30 - 125
175	Lu	3	6963541	1.37	6180000	112.7	30 - 125
209	Bi	3	7026208	0.68	6220000	113.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\210SMPL.D\210SMPL.D#  
 Date Acquired: Sep 14 2010 09:58 am Acq. Method: OSEA\_ALL.M  
 Sample Name: MB 580-71157/1-C Vial Number: 2401  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.006 ug/l	0.01	150.8	900	6	P
23	Na	2	5.038 ug/l	5.04	10.4	450000	45	P
24	Mg	2	0.082 ug/l	0.08	105.6	450000	45	P
27	Al	2	1.408 ug/l	1.41	27.4	450000	45	P
31	P	2	-15.780 ug/l	-15.78	15.0	450000	45	P
39	K	2	-6.852 ug/l	-6.85	51.8	450000	45	P
40	Ca	1	0.290 ug/l	0.29	225.6	450000	45	P
47	Ti	2	0.011 ug/l	0.01	192.0	4500	74	P
51	V	2	-0.329 ug/l	-0.33	7.3	4500	74	P
52	Cr	2	-0.056 ug/l	-0.06	5.4	4500	74	P
55	Mn	2	0.043 ug/l	0.04	23.1	4500	74	P
56	Fe	1	0.572 ug/l	0.57	10.5	450000	74	P
59	Co	2	0.001 ug/l	0.00	165.8	4500	74	P
60	Ni	2	-0.045 ug/l	-0.04	119.3	4500	74	P
63	Cu	2	0.011 ug/l	0.01	94.9	4500	74	P
66	Zn	2	0.335 ug/l	0.34	7.8	4500	74	P
75	As	2	-0.124 ug/l	-0.12	211.9	4500	74	P
78	Se	1	-0.048 ug/l	-0.05	198.3	4500	74	P
88	Sr	3	0.000 ug/l	0.00	2098.6	4500	74	P
95	Mo	3	0.007 ug/l	0.01	104.2	4500	74	P
109	Ag	3	0.004 ug/l	0.00	117.8	900	103	P
111	Cd	3	-0.009 ug/l	-0.01	186.9	4500	103	P
118	Sn	3	0.083 ug/l	0.08	12.3	4500	103	P
121	Sb	3	0.009 ug/l	0.01	32.3	4500	103	P
135	Ba	3	-0.007 ug/l	-0.01	407.0	4500	103	P
200	Hg	3	0.004 ug/l	0.00	129.1	45	209	P
205	Tl	3	0.276 ug/l	0.28	6.9	4500	209	P
208	Pb	3	0.008 ug/l	0.01	24.7	4500	209	P
238	U	3	0.000 ug/l	0.00	40.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	187398	0.83	198400	94.5	30 - 125
45	Sc	1	1984942	5.23	3760000	52.8	30 - 125
45	Sc	2	1482647	1.02	1428000	103.8	30 - 125
74	Ge	1	2059689	1.82	3683000	55.9	30 - 125
74	Ge	2	2838686	0.85	2627000	108.1	30 - 125
74	Ge	3	11921729	0.22	10940000	109.0	30 - 125
103	Rh	2	4114575	1.19	3842000	107.1	30 - 125
103	Rh	3	8129930	0.33	7414000	109.7	30 - 125
165	Ho	3	6240070	0.78	5459000	114.3	30 - 125
175	Lu	3	7008001	0.06	6180000	113.4	30 - 125
209	Bi	3	7093846	0.47	6220000	114.0	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\211SMPL.D\211SMPL.D#  
 Date Acquired: Sep 14 2010 10:03 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21275-A-1-B SD Vial Number: 2402  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **5.00** Final Dil Factor: **5.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.010 ug/l	-0.05	77.9	900	6	P
23	Na	2	442800.000 ug/l	2,214,000.00	0.1	450000	45	A
24	Mg	2	50970.000 ug/l	254,850.00	0.7	450000	45	A
27	Al	2	26.180 ug/l	130.90	7.5	450000	45	P
31	P	2	45.070 ug/l	225.35	7.5	450000	45	P
39	K	2	17440.000 ug/l	87,200.00	1.7	450000	45	A
40	Ca	1	15710.000 ug/l	78,550.00	4.4	450000	45	A
47	Ti	2	1.222 ug/l	6.11	38.7	4500	74	P
51	V	2	-0.351 ug/l	-1.76	11.9	4500	74	P
52	Cr	2	0.209 ug/l	1.05	20.8	4500	74	P
55	Mn	2	36.520 ug/l	182.60	0.4	4500	74	P
56	Fe	1	194.600 ug/l	973.00	1.2	450000	74	P
59	Co	2	0.317 ug/l	1.59	4.7	4500	74	P
60	Ni	2	2.457 ug/l	12.29	8.1	4500	74	P
63	Cu	2	19.920 ug/l	99.60	0.7	4500	74	P
66	Zn	2	257.900 ug/l	1,289.50	1.3	4500	74	P
75	As	2	0.694 ug/l	3.47	49.7	4500	74	P
78	Se	1	-0.092 ug/l	-0.46	83.7	4500	74	P
88	Sr	3	334.700 ug/l	1,673.50	0.8	4500	74	A
95	Mo	3	1.205 ug/l	6.03	5.8	4500	74	P
109	Ag	3	0.003 ug/l	0.02	70.6	900	103	P
111	Cd	3	0.257 ug/l	1.28	5.3	4500	103	P
118	Sn	3	0.199 ug/l	0.99	4.3	4500	103	P
121	Sb	3	0.270 ug/l	1.35	0.8	4500	103	P
135	Ba	3	18.610 ug/l	93.05	3.4	4500	103	P
200	Hg	3	0.007 ug/l	0.04	62.9	45	209	P
205	Tl	3	0.157 ug/l	0.79	1.7	4500	209	P
208	Pb	3	0.946 ug/l	4.73	1.7	4500	209	P
238	U	3	0.137 ug/l	0.68	7.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	207332	2.78	198400	104.5	30 - 125
45	Sc	1	2166723	5.52	3760000	57.6	30 - 125
45	Sc	2	1786227	2.46	1428000	125.1	30 - 125 IS Fail
74	Ge	1	2125251	2.62	3683000	57.7	30 - 125
74	Ge	2	3138170	2.11	2627000	119.5	30 - 125
74	Ge	3	14184089	0.36	10940000	129.7	30 - 125 IS Fail
103	Rh	2	3988250	1.59	3842000	103.8	30 - 125
103	Rh	3	8426899	0.45	7414000	113.7	30 - 125
165	Ho	3	6296008	0.96	5459000	115.3	30 - 125
175	Lu	3	6938493	0.63	6180000	112.3	30 - 125
209	Bi	3	6168360	0.86	6220000	99.2	30 - 125

**Analytes: Pass ISTD: Fail**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\212SMPL.D\212SMPL.D#  
 Date Acquired: Sep 14 2010 10:08 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21275-A-1-B Vial Number: 2403  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.001 ug/l	0.00	1449.6	900	6	P
23	Na	2	2360000.000 ug/l	2,360,000.00	1.2	450000	45	A Fail
24	Mg	2	267700.000 ug/l	267,700.00	1.5	450000	45	A
27	Al	2	146.800 ug/l	146.80	1.0	450000	45	P
31	P	2	267.100 ug/l	267.10	4.5	450000	45	P
39	K	2	90320.000 ug/l	90,320.00	1.8	450000	45	A
40	Ca	1	81610.000 ug/l	81,610.00	3.3	450000	45	A
47	Ti	2	9.015 ug/l	9.02	4.6	4500	74	P
51	V	2	2.101 ug/l	2.10	3.5	4500	74	P
52	Cr	2	1.863 ug/l	1.86	3.4	4500	74	P
55	Mn	2	192.000 ug/l	192.00	0.9	4500	74	P
56	Fe	1	988.700 ug/l	988.70	2.6	450000	74	A
59	Co	2	1.620 ug/l	1.62	3.5	4500	74	P
60	Ni	2	13.630 ug/l	13.63	3.6	4500	74	P
63	Cu	2	100.300 ug/l	100.30	1.1	4500	74	P
66	Zn	2	1233.000 ug/l	1,233.00	1.8	4500	74	P
75	As	2	4.568 ug/l	4.57	11.9	4500	74	P
78	Se	1	0.201 ug/l	0.20	83.2	4500	74	P
88	Sr	3	1717.000 ug/l	1,717.00	1.2	4500	74	A
95	Mo	3	6.294 ug/l	6.29	1.7	4500	74	P
109	Ag	3	0.046 ug/l	0.05	7.0	900	103	P
111	Cd	3	1.107 ug/l	1.11	12.5	4500	103	P
118	Sn	3	0.996 ug/l	1.00	3.7	4500	103	P
121	Sb	3	1.262 ug/l	1.26	4.6	4500	103	P
135	Ba	3	92.890 ug/l	92.89	1.4	4500	103	P
200	Hg	3	0.056 ug/l	0.06	42.8	45	209	P
205	Tl	3	0.130 ug/l	0.13	6.1	4500	209	P
208	Pb	3	4.962 ug/l	4.96	6.5	4500	209	P
238	U	3	0.747 ug/l	0.75	1.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181985	3.10	198400	91.7	30 - 125
45	Sc	1	1956011	2.40	3760000	52.0	30 - 125
45	Sc	2	1495866	2.17	1428000	104.8	30 - 125
74	Ge	1	1708751	1.16	3683000	46.4	30 - 125
74	Ge	2	2366029	1.82	2627000	90.1	30 - 125
74	Ge	3	11040510	2.01	10940000	100.9	30 - 125
103	Rh	2	2853035	1.00	3842000	74.3	30 - 125
103	Rh	3	6365737	1.14	7414000	85.9	30 - 125
165	Ho	3	4681761	1.25	5459000	85.8	30 - 125
175	Lu	3	5150541	1.25	6180000	83.3	30 - 125
209	Bi	3	4122273	1.15	6220000	66.3	30 - 125

Analytes: Fail ISTD: Pass  
 1 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\213SMPL.D\213SMPL.D#  
 Date Acquired: Sep 14 2010 10:13 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21275-A-1-C DU Vial Number: 2404  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.007 ug/l	0.01	134.5	900	6	P
23	Na	2	2375000.000 ug/l	2,375,000.00	0.9	450000	45	A Fail
24	Mg	2	270500.000 ug/l	270,500.00	0.4	450000	45	A
27	Al	2	146.900 ug/l	146.90	0.7	450000	45	P
31	P	2	278.300 ug/l	278.30	3.3	450000	45	P
39	K	2	89340.000 ug/l	89,340.00	1.7	450000	45	A
40	Ca	1	79710.000 ug/l	79,710.00	2.0	450000	45	A
47	Ti	2	7.174 ug/l	7.17	11.7	4500	74	P
51	V	2	2.247 ug/l	2.25	8.3	4500	74	P
52	Cr	2	1.948 ug/l	1.95	11.8	4500	74	P
55	Mn	2	190.800 ug/l	190.80	0.4	4500	74	P
56	Fe	1	992.000 ug/l	992.00	0.8	450000	74	A
59	Co	2	1.652 ug/l	1.65	2.0	4500	74	P
60	Ni	2	13.920 ug/l	13.92	1.8	4500	74	P
63	Cu	2	101.900 ug/l	101.90	0.4	4500	74	P
66	Zn	2	1231.000 ug/l	1,231.00	1.1	4500	74	P
75	As	2	4.624 ug/l	4.62	10.3	4500	74	P
78	Se	1	0.268 ug/l	0.27	32.6	4500	74	P
88	Sr	3	1844.000 ug/l	1,844.00	23.8	4500	74	A
95	Mo	3	6.894 ug/l	6.89	25.4	4500	74	P
109	Ag	3	0.043 ug/l	0.04	24.1	900	103	P
111	Cd	3	1.332 ug/l	1.33	38.9	4500	103	P
118	Sn	3	1.061 ug/l	1.06	32.3	4500	103	P
121	Sb	3	1.394 ug/l	1.39	27.8	4500	103	P
135	Ba	3	102.000 ug/l	102.00	29.4	4500	103	P
200	Hg	3	0.057 ug/l	0.06	48.2	45	209	P
205	Tl	3	0.113 ug/l	0.11	19.5	4500	209	P
208	Pb	3	5.282 ug/l	5.28	25.1	4500	209	P
238	U	3	0.806 ug/l	0.81	29.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	180973	1.36	198400	91.2	30 - 125
45	Sc	1	1826367	2.66	3760000	48.6	30 - 125
45	Sc	2	1449210	2.34	1428000	101.5	30 - 125
74	Ge	1	1594328	1.97	3683000	43.3	30 - 125
74	Ge	2	2279538	0.72	2627000	86.8	30 - 125
74	Ge	3	10370118	20.90	10940000	94.8	30 - 125
103	Rh	2	2794677	0.99	3842000	72.7	30 - 125
103	Rh	3	5962343	26.55	7414000	80.4	30 - 125
165	Ho	3	4331790	27.80	5459000	79.4	30 - 125
175	Lu	3	4771221	27.46	6180000	77.2	30 - 125
209	Bi	3	3819023	23.27	6220000	61.4	30 - 125

**Analytes: Fail ISTD: Pass**  
 1 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\214SMPL.D\214SMPL.D#  
 Date Acquired: Sep 14 2010 10:18 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21275-A-1-D MS Vial Number: 2405  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.781 ug/l	89.05	7.7	900	6	P
23	Na	2	47290.000 ug/l	2,364,500.00	0.6	450000	45	A
24	Mg	2	5939.000 ug/l	296,950.00	0.7	450000	45	A
27	Al	2	87.960 ug/l	4,398.00	0.7	450000	45	P
31	P	2	414.200 ug/l	20,710.00	2.3	450000	45	P
39	K	2	2305.000 ug/l	115,250.00	0.5	450000	45	A
40	Ca	1	1991.000 ug/l	99,550.00	2.7	450000	45	A
47	Ti	2	97.950 ug/l	4,897.50	1.1	4500	74	P
51	V	2	19.520 ug/l	976.00	1.7	4500	74	P
52	Cr	2	7.867 ug/l	393.35	2.7	4500	74	P
55	Mn	2	23.370 ug/l	1,168.50	1.0	4500	74	P
56	Fe	1	492.800 ug/l	24,640.00	3.9	450000	74	M
59	Co	2	20.020 ug/l	1,001.00	0.6	4500	74	P
60	Ni	2	20.100 ug/l	1,005.00	1.9	4500	74	P
63	Cu	2	12.040 ug/l	602.00	2.3	4500	74	P
66	Zn	2	47.330 ug/l	2,366.50	1.2	4500	74	P
75	As	2	80.950 ug/l	4,047.50	1.0	4500	74	P
78	Se	1	87.320 ug/l	4,366.00	3.0	4500	74	P
88	Sr	3	35.050 ug/l	1,752.50	0.6	4500	74	P
95	Mo	3	96.310 ug/l	4,815.50	0.6	4500	74	P
109	Ag	3	12.220 ug/l	611.00	2.0	900	103	P
111	Cd	3	2.084 ug/l	104.20	8.4	4500	103	P
118	Sn	3	103.800 ug/l	5,190.00	1.0	4500	103	P
121	Sb	3	60.860 ug/l	3,043.00	1.7	4500	103	P
135	Ba	3	88.070 ug/l	4,403.50	1.5	4500	103	P
200	Hg	3	0.976 ug/l	48.78	1.6	45	209	P
205	Tl	3	80.990 ug/l	4,049.50	0.5	4500	209	A
208	Pb	3	21.060 ug/l	1,053.00	1.3	4500	209	P
238	U	3	0.013 ug/l	0.64	10.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	241285	0.34	198400	121.6	30 - 125
45	Sc	1	2450353	2.98	3760000	65.2	30 - 125
45	Sc	2	1885971	1.92	1428000	132.1	30 - 125 IS Fail
74	Ge	1	2523135	1.08	3683000	68.5	30 - 125
74	Ge	2	3403417	1.29	2627000	129.6	30 - 125 IS Fail
74	Ge	3	15762585	0.39	10940000	144.1	30 - 125 IS Fail
103	Rh	2	4582415	0.85	3842000	119.3	30 - 125
103	Rh	3	9554172	1.44	7414000	128.9	30 - 125 IS Fail
165	Ho	3	6584137	1.12	5459000	120.6	30 - 125
175	Lu	3	7152706	0.35	6180000	115.7	30 - 125
209	Bi	3	6801393	0.17	6220000	109.3	30 - 125

Analytes: Pass ISTD: Fail  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 4 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\215SMPL.D\215SMPL.D#  
 Date Acquired: Sep 14 2010 10:23 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21275-A-1-E MSD Vial Number: 2406  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 50.00 Final Dil Factor: 50.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.060 ug/l	103.00	10.0	900	6	P
23	Na	2	48830.000 ug/l	2,441,500.00	1.2	450000	45	A
24	Mg	2	6072.000 ug/l	303,600.00	0.8	450000	45	A
27	Al	2	89.560 ug/l	4,478.00	0.8	450000	45	P
31	P	2	414.500 ug/l	20,725.00	2.8	450000	45	P
39	K	2	2445.000 ug/l	122,250.00	1.7	450000	45	A
40	Ca	1	2158.000 ug/l	107,900.00	2.6	450000	45	A
47	Ti	2	104.500 ug/l	5,225.00	0.6	4500	74	P
51	V	2	20.690 ug/l	1,034.50	0.4	4500	74	P
52	Cr	2	8.387 ug/l	419.35	2.8	4500	74	P
55	Mn	2	24.900 ug/l	1,245.00	0.4	4500	74	P
56	Fe	1	511.300 ug/l	25,565.00	1.3	450000	74	A
59	Co	2	20.960 ug/l	1,048.00	0.7	4500	74	P
60	Ni	2	21.000 ug/l	1,050.00	1.0	4500	74	P
63	Cu	2	12.750 ug/l	637.50	1.8	4500	74	P
66	Zn	2	49.010 ug/l	2,450.50	0.9	4500	74	P
75	As	2	86.610 ug/l	4,330.50	0.7	4500	74	P
78	Se	1	93.670 ug/l	4,683.50	1.7	4500	74	P
88	Sr	3	35.990 ug/l	1,799.50	9.8	4500	74	P
95	Mo	3	98.830 ug/l	4,941.50	10.0	4500	74	P
109	Ag	3	12.100 ug/l	605.00	10.1	900	103	P
111	Cd	3	2.256 ug/l	112.80	18.3	4500	103	P
118	Sn	3	104.500 ug/l	5,225.00	10.7	4500	103	P
121	Sb	3	61.020 ug/l	3,051.00	10.8	4500	103	P
135	Ba	3	88.020 ug/l	4,401.00	10.5	4500	103	P
200	Hg	3	1.014 ug/l	50.70	9.4	45	209	P
205	Tl	3	81.880 ug/l	4,094.00	12.2	4500	209	A
208	Pb	3	21.270 ug/l	1,063.50	11.7	4500	209	P
238	U	3	0.014 ug/l	0.70	16.3	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	232469	0.60	198400	117.2	30 - 125
45	Sc	1	2515974	4.19	3760000	66.9	30 - 125
45	Sc	2	1882351	1.78	1428000	131.8	30 - 125 IS Fail
74	Ge	1	2634171	3.96	3683000	71.5	30 - 125
74	Ge	2	3372477	0.96	2627000	128.4	30 - 125 IS Fail
74	Ge	3	15962711	8.32	10940000	145.9	30 - 125 IS Fail
103	Rh	2	4477901	0.79	3842000	116.6	30 - 125
103	Rh	3	10012773	10.24	7414000	135.1	30 - 125 IS Fail
165	Ho	3	7022854	12.25	5459000	128.6	30 - 125 IS Fail
175	Lu	3	7683830	11.96	6180000	124.3	30 - 125
209	Bi	3	7182886	10.58	6220000	115.5	30 - 125

Analytes: Pass ISTD: Fail  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 5 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\216SMPL.D\216SMPL.D#  
 Date Acquired: Sep 14 2010 10:28 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21275-A-1-B PDS Vial Number: 2407

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	2.023 ug/l	101.15	5.7	900	6	P
23	Na	2	49780.000 ug/l	2,489,000.00	1.2	450000	45	A
24	Mg	2	6295.000 ug/l	314,750.00	1.2	450000	45	A
27	Al	2	92.610 ug/l	4,630.50	1.1	450000	45	P
31	P	2	419.000 ug/l	20,950.00	2.9	450000	45	P
39	K	2	2485.000 ug/l	124,250.00	1.7	450000	45	A
40	Ca	1	2246.000 ug/l	112,300.00	4.6	450000	45	A
47	Ti	2	106.000 ug/l	5,300.00	0.7	4500	74	P
51	V	2	21.320 ug/l	1,066.00	1.2	4500	74	P
52	Cr	2	8.371 ug/l	418.55	1.8	4500	74	P
55	Mn	2	25.380 ug/l	1,269.00	1.2	4500	74	P
56	Fe	1	525.100 ug/l	26,255.00	1.7	450000	74	A
59	Co	2	21.230 ug/l	1,061.50	0.1	4500	74	P
60	Ni	2	21.490 ug/l	1,074.50	1.4	4500	74	P
63	Cu	2	12.890 ug/l	644.50	2.0	4500	74	P
66	Zn	2	51.360 ug/l	2,568.00	2.2	4500	74	P
75	As	2	88.380 ug/l	4,419.00	0.5	4500	74	P
78	Se	1	93.460 ug/l	4,673.00	1.3	4500	74	P
88	Sr	3	38.530 ug/l	1,926.50	1.3	4500	74	P
95	Mo	3	105.900 ug/l	5,295.00	1.1	4500	74	P
109	Ag	3	13.150 ug/l	657.50	1.6	900	103	P
111	Cd	3	2.299 ug/l	114.95	2.1	4500	103	P
118	Sn	3	114.300 ug/l	5,715.00	0.9	4500	103	P
121	Sb	3	66.960 ug/l	3,348.00	1.1	4500	103	P
135	Ba	3	96.050 ug/l	4,802.50	1.2	4500	103	P
200	Hg	3	1.110 ug/l	55.50	5.0	45	209	P
205	Tl	3	88.820 ug/l	4,441.00	2.0	4500	209	A
208	Pb	3	23.010 ug/l	1,150.50	1.9	4500	209	P
238	U	3	0.013 ug/l	0.66	19.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	223702	1.71	198400	112.8	30 - 125
45	Sc	1	2450516	4.63	3760000	65.2	30 - 125
45	Sc	2	1820297	2.17	1428000	127.5	30 - 125 IS Fail
74	Ge	1	2539153	1.66	3683000	68.9	30 - 125
74	Ge	2	3296928	1.42	2627000	125.5	30 - 125 IS Fail
74	Ge	3	14738001	0.65	10940000	134.7	30 - 125 IS Fail
103	Rh	2	4365530	1.53	3842000	113.6	30 - 125
103	Rh	3	9126795	0.20	7414000	123.1	30 - 125
165	Ho	3	6465765	0.70	5459000	118.4	30 - 125
175	Lu	3	7117365	0.55	6180000	115.2	30 - 125
209	Bi	3	6698997	0.91	6220000	107.7	30 - 125

**Analytes: Pass ISTD: Fail**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\217SMPL.D\217SMPL.D#  
 Date Acquired: Sep 14 2010 10:33 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCS 580-71462/15-A Vial Number: 2408  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.820 ug/l	91.00	6.0	900	6	P
23	Na	2	622.500 ug/l	31,125.00	1.6	450000	45	P
24	Mg	2	423.600 ug/l	21,180.00	0.6	450000	45	P
27	Al	2	75.230 ug/l	3,761.50	1.1	450000	45	P
31	P	2	375.900 ug/l	18,795.00	6.1	450000	45	P
39	K	2	457.900 ug/l	22,895.00	2.1	450000	45	P
40	Ca	1	350.200 ug/l	17,510.00	6.7	450000	45	P
47	Ti	2	96.150 ug/l	4,807.50	1.3	4500	74	P
51	V	2	19.330 ug/l	966.50	2.2	4500	74	P
52	Cr	2	7.861 ug/l	393.05	2.2	4500	74	P
55	Mn	2	19.780 ug/l	989.00	2.4	4500	74	P
56	Fe	1	496.400 ug/l	24,820.00	3.6	450000	74	M
59	Co	2	19.710 ug/l	985.50	0.3	4500	74	P
60	Ni	2	19.380 ug/l	969.00	3.8	4500	74	P
63	Cu	2	10.080 ug/l	504.00	0.8	4500	74	P
66	Zn	2	19.660 ug/l	983.00	2.0	4500	74	P
75	As	2	79.720 ug/l	3,986.00	0.4	4500	74	P
78	Se	1	87.060 ug/l	4,353.00	5.0	4500	74	P
88	Sr	3	-0.046 ug/l	-2.28	18.4	4500	74	P
95	Mo	3	98.890 ug/l	4,944.50	1.1	4500	74	P
109	Ag	3	12.440 ug/l	622.00	1.0	900	103	P
111	Cd	3	2.013 ug/l	100.65	4.4	4500	103	P
118	Sn	3	105.300 ug/l	5,265.00	0.8	4500	103	P
121	Sb	3	60.160 ug/l	3,008.00	0.9	4500	103	P
135	Ba	3	84.210 ug/l	4,210.50	1.8	4500	103	P
200	Hg	3	0.959 ug/l	47.96	0.9	45	209	P
205	Tl	3	82.480 ug/l	4,124.00	3.0	4500	209	A
208	Pb	3	20.760 ug/l	1,038.00	1.2	4500	209	P
238	U	3	0.000 ug/l	-0.01	78.2	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	226933	1.57	198400	114.4	30 - 125
45	Sc	1	2408926	6.39	3760000	64.1	30 - 125
45	Sc	2	1757452	2.90	1428000	123.1	30 - 125
74	Ge	1	2466516	3.11	3683000	67.0	30 - 125
74	Ge	2	3248609	0.97	2627000	123.7	30 - 125
74	Ge	3	14085537	0.92	10940000	128.8	30 - 125 IS Fail
103	Rh	2	4560203	1.15	3842000	118.7	30 - 125
103	Rh	3	9124779	1.16	7414000	123.1	30 - 125
165	Ho	3	6475916	0.64	5459000	118.6	30 - 125
175	Lu	3	7108777	0.10	6180000	115.0	30 - 125
209	Bi	3	7087534	0.42	6220000	113.9	30 - 125

**Analytes: Pass ISTD: Fail**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\218SMPL.D\218SMPL.D#  
 Date Acquired: Sep 14 2010 10:38 am Acq. Method: OSEA\_ALL.M  
 Sample Name: LCSD 580-71462/16-A Vial Number: 2409  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **50.00** Final Dil Factor: **50.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	1.831 ug/l	91.55	5.8	900	6	P
23	Na	2	568.000 ug/l	28,400.00	2.3	450000	45	P
24	Mg	2	426.400 ug/l	21,320.00	2.0	450000	45	P
27	Al	2	73.270 ug/l	3,663.50	1.9	450000	45	P
31	P	2	372.200 ug/l	18,610.00	4.6	450000	45	P
39	K	2	448.600 ug/l	22,430.00	1.2	450000	45	P
40	Ca	1	351.600 ug/l	17,580.00	4.2	450000	45	P
47	Ti	2	96.160 ug/l	4,808.00	1.2	4500	74	P
51	V	2	19.420 ug/l	971.00	0.8	4500	74	P
52	Cr	2	7.861 ug/l	393.05	0.8	4500	74	P
55	Mn	2	20.110 ug/l	1,005.50	0.3	4500	74	P
56	Fe	1	493.500 ug/l	24,675.00	0.7	450000	74	M
59	Co	2	19.860 ug/l	993.00	1.4	4500	74	P
60	Ni	2	19.900 ug/l	995.00	1.4	4500	74	P
63	Cu	2	10.060 ug/l	503.00	2.5	4500	74	P
66	Zn	2	19.410 ug/l	970.50	3.2	4500	74	P
75	As	2	80.020 ug/l	4,001.00	0.6	4500	74	P
78	Se	1	88.650 ug/l	4,432.50	1.3	4500	74	P
88	Sr	3	-0.059 ug/l	-2.94	3.6	4500	74	P
95	Mo	3	99.820 ug/l	4,991.00	1.0	4500	74	P
109	Ag	3	12.510 ug/l	625.50	1.6	900	103	P
111	Cd	3	2.100 ug/l	105.00	10.0	4500	103	P
118	Sn	3	105.500 ug/l	5,275.00	1.5	4500	103	P
121	Sb	3	60.870 ug/l	3,043.50	1.6	4500	103	P
135	Ba	3	85.070 ug/l	4,253.50	0.9	4500	103	P
200	Hg	3	0.996 ug/l	49.80	6.0	45	209	P
205	Tl	3	83.060 ug/l	4,153.00	2.6	4500	209	A
208	Pb	3	20.810 ug/l	1,040.50	2.6	4500	209	P
238	U	3	0.000 ug/l	-0.02	36.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	215509	1.85	198400	108.6	30 - 125
45	Sc	1	2318831	1.57	3760000	61.7	30 - 125
45	Sc	2	1695091	4.06	1428000	118.7	30 - 125
74	Ge	1	2352850	0.64	3683000	63.9	30 - 125
74	Ge	2	3130507	2.04	2627000	119.2	30 - 125
74	Ge	3	13590804	0.39	10940000	124.2	30 - 125
103	Rh	2	4451874	1.97	3842000	115.9	30 - 125
103	Rh	3	8866794	0.86	7414000	119.6	30 - 125
165	Ho	3	6412664	0.48	5459000	117.5	30 - 125
175	Lu	3	7132679	0.58	6180000	115.4	30 - 125
209	Bi	3	7038710	0.59	6220000	113.2	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\219SMPL.D\219SMPL.D#  
 Date Acquired: Sep 14 2010 10:43 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)  
 Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u  
 Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	44.710 ug/l	44.71	1.6	900	6	P
23	Na	2	4851.000 ug/l	4,851.00	0.8	450000	45	A
24	Mg	2	4697.000 ug/l	4,697.00	2.0	450000	45	A
27	Al	2	470.400 ug/l	470.40	1.9	450000	45	P
31	P	2	4521.000 ug/l	4,521.00	1.2	450000	45	P
39	K	2	4790.000 ug/l	4,790.00	2.7	450000	45	A
40	Ca	1	3942.000 ug/l	3,942.00	1.4	450000	45	A
47	Ti	2	45.750 ug/l	45.75	0.8	4500	74	P
51	V	2	44.630 ug/l	44.63	1.4	4500	74	P
52	Cr	2	45.740 ug/l	45.74	0.9	4500	74	P
55	Mn	2	46.510 ug/l	46.51	0.4	4500	74	P
56	Fe	1	4952.000 ug/l	4,952.00	2.8	450000	74	A
59	Co	2	45.560 ug/l	45.56	0.8	4500	74	P
60	Ni	2	45.280 ug/l	45.28	1.6	4500	74	P
63	Cu	2	45.700 ug/l	45.70	0.5	4500	74	P
66	Zn	2	46.640 ug/l	46.64	2.0	4500	74	P
75	As	2	46.280 ug/l	46.28	1.3	4500	74	P
78	Se	1	51.320 ug/l	51.32	4.1	4500	74	P
88	Sr	3	48.720 ug/l	48.72	1.2	4500	74	P
95	Mo	3	46.870 ug/l	46.87	0.9	4500	74	P
109	Ag	3	48.150 ug/l	48.15	0.3	900	103	P
111	Cd	3	48.590 ug/l	48.59	1.6	4500	103	P
118	Sn	3	49.100 ug/l	49.10	1.1	4500	103	P
121	Sb	3	48.970 ug/l	48.97	0.7	4500	103	P
135	Ba	3	50.130 ug/l	50.13	1.1	4500	103	P
200	Hg	3	2.325 ug/l	2.33	3.1	45	209	P
205	Tl	3	49.460 ug/l	49.46	1.8	4500	209	P
208	Pb	3	48.080 ug/l	48.08	0.7	4500	209	P
238	U	3	46.010 ug/l	46.01	1.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	208223	0.66	198400	105.0	30 - 125
45	Sc	1	2199461	1.38	3760000	58.5	30 - 125
45	Sc	2	1639427	2.83	1428000	114.8	30 - 125
74	Ge	1	2267114	2.14	3683000	61.6	30 - 125
74	Ge	2	3009606	1.17	2627000	114.6	30 - 125
74	Ge	3	13077301	1.38	10940000	119.5	30 - 125
103	Rh	2	4188099	0.59	3842000	109.0	30 - 125
103	Rh	3	8444941	1.62	7414000	113.9	30 - 125
165	Ho	3	6364338	1.55	5459000	116.6	30 - 125
175	Lu	3	6975158	1.74	6180000	112.9	30 - 125
209	Bi	3	6837532	1.12	6220000	109.9	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\220SMPL.D\220SMPL.D#  
 Date Acquired: Sep 14 2010 10:48 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.010 ug/l	-0.01	81.7	900	6	P
23	Na	2	82.550 ug/l	82.55	4.3	450000	45	P
24	Mg	2	1.213 ug/l	1.21	14.2	450000	45	P
27	Al	2	3.208 ug/l	3.21	12.2	450000	45	P
31	P	2	-13.540 ug/l	-13.54	20.2	450000	45	P
39	K	2	8.059 ug/l	8.06	51.6	450000	45	P
40	Ca	1	0.703 ug/l	0.70	40.0	450000	45	P
47	Ti	2	0.015 ug/l	0.01	180.4	4500	74	P
51	V	2	-0.508 ug/l	-0.51	4.7	4500	74	P
52	Cr	2	-0.048 ug/l	-0.05	43.0	4500	74	P
55	Mn	2	0.277 ug/l	0.28	5.3	4500	74	P
56	Fe	1	2.777 ug/l	2.78	7.5	450000	74	P
59	Co	2	0.009 ug/l	0.01	13.9	4500	74	P
60	Ni	2	-0.035 ug/l	-0.03	52.8	4500	74	P
63	Cu	2	0.042 ug/l	0.04	35.4	4500	74	P
66	Zn	2	0.130 ug/l	0.13	48.1	4500	74	P
75	As	2	-0.042 ug/l	-0.04	858.6	4500	74	P
78	Se	1	-0.017 ug/l	-0.02	350.2	4500	74	P
88	Sr	3	-0.010 ug/l	-0.01	136.6	4500	74	P
95	Mo	3	0.040 ug/l	0.04	17.5	4500	74	P
109	Ag	3	0.010 ug/l	0.01	11.9	900	103	P
111	Cd	3	0.019 ug/l	0.02	136.3	4500	103	P
118	Sn	3	0.147 ug/l	0.15	7.6	4500	103	P
121	Sb	3	0.043 ug/l	0.04	25.0	4500	103	P
135	Ba	3	-0.043 ug/l	-0.04	101.9	4500	103	P
200	Hg	3	0.006 ug/l	0.01	57.7	45	209	P
205	Tl	3	1.158 ug/l	1.16	7.0	4500	209	P
208	Pb	3	0.011 ug/l	0.01	53.8	4500	209	P
238	U	3	0.005 ug/l	0.01	20.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	205478	1.44	198400	103.6	30 - 125
45	Sc	1	2075962	2.63	3760000	55.2	30 - 125
45	Sc	2	1608875	2.32	1428000	112.7	30 - 125
74	Ge	1	2174346	1.55	3683000	59.0	30 - 125
74	Ge	2	2961350	0.93	2627000	112.7	30 - 125
74	Ge	3	12811322	0.69	10940000	117.1	30 - 125
103	Rh	2	4266543	0.92	3842000	111.1	30 - 125
103	Rh	3	8501336	1.06	7414000	114.7	30 - 125
165	Ho	3	6281706	1.31	5459000	115.1	30 - 125
175	Lu	3	6972352	1.63	6180000	112.8	30 - 125
209	Bi	3	6978977	1.14	6220000	112.2	30 - 125

Analytes:

Pass

ISTD:

Pass

0 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\221SMPL.D\221SMPL.D#  
 Date Acquired: Sep 14 2010 10:53 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21276-A-1-B Vial Number: 3111  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.005 ug/l	0.00	474.7	900	6	P
23	Na	2	643600.000 ug/l	643,600.00	1.8	450000	45	A Fail
24	Mg	2	72810.000 ug/l	72,810.00	0.9	450000	45	A
27	Al	2	265.900 ug/l	265.90	2.2	450000	45	P
31	P	2	540.700 ug/l	540.70	3.8	450000	45	P
39	K	2	26310.000 ug/l	26,310.00	1.4	450000	45	A
40	Ca	1	24150.000 ug/l	24,150.00	2.2	450000	45	A
47	Ti	2	9.047 ug/l	9.05	2.1	4500	74	P
51	V	2	2.761 ug/l	2.76	2.6	4500	74	P
52	Cr	2	1.914 ug/l	1.91	1.5	4500	74	P
55	Mn	2	105.700 ug/l	105.70	0.6	4500	74	P
56	Fe	1	624.200 ug/l	624.20	0.4	450000	74	A
59	Co	2	1.053 ug/l	1.05	1.0	4500	74	P
60	Ni	2	9.538 ug/l	9.54	6.2	4500	74	P
63	Cu	2	64.670 ug/l	64.67	1.2	4500	74	P
66	Zn	2	746.400 ug/l	746.40	1.2	4500	74	P
75	As	2	4.456 ug/l	4.46	3.3	4500	74	P
78	Se	1	0.109 ug/l	0.11	79.3	4500	74	P
88	Sr	3	500.600 ug/l	500.60	0.4	4500	74	A
95	Mo	3	3.792 ug/l	3.79	3.5	4500	74	P
109	Ag	3	0.025 ug/l	0.02	18.4	900	103	P
111	Cd	3	0.794 ug/l	0.79	9.5	4500	103	P
118	Sn	3	0.845 ug/l	0.84	4.4	4500	103	P
121	Sb	3	2.125 ug/l	2.13	1.8	4500	103	P
135	Ba	3	28.960 ug/l	28.96	1.0	4500	103	P
200	Hg	3	0.116 ug/l	0.12	9.8	45	209	P
205	Tl	3	0.584 ug/l	0.58	2.6	4500	209	P
208	Pb	3	4.498 ug/l	4.50	2.2	4500	209	P
238	U	3	0.222 ug/l	0.22	4.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	195953	4.07	198400	98.8	30 - 125
45	Sc	1	2029138	3.47	3760000	54.0	30 - 125
45	Sc	2	1620645	4.24	1428000	113.5	30 - 125
74	Ge	1	1963548	2.04	3683000	53.3	30 - 125
74	Ge	2	2808039	2.77	2627000	106.9	30 - 125
74	Ge	3	12560201	1.43	10940000	114.8	30 - 125
103	Rh	2	3506586	2.08	3842000	91.3	30 - 125
103	Rh	3	7439648	0.74	7414000	100.3	30 - 125
165	Ho	3	5730691	0.78	5459000	105.0	30 - 125
175	Lu	3	6328823	1.11	6180000	102.4	30 - 125
209	Bi	3	5465282	0.90	6220000	87.9	30 - 125

Analytes: Fail ISTD: Pass  
 1 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\222SMPL.D\222SMPL.D#  
 Date Acquired: Sep 14 2010 10:58 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21274-A-1-B Vial Number: 3112  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.004 ug/l	0.00	202.2	900	6	P
23	Na	2	2264.000 ug/l	2,264.00	1.6	450000	45	A
24	Mg	2	748.100 ug/l	748.10	1.2	450000	45	P
27	Al	2	722.100 ug/l	722.10	0.9	450000	45	P
31	P	2	223.200 ug/l	223.20	3.1	450000	45	P
39	K	2	1493.000 ug/l	1,493.00	0.9	450000	45	P
40	Ca	1	3279.000 ug/l	3,279.00	3.3	450000	45	A
47	Ti	2	24.060 ug/l	24.06	8.7	4500	74	P
51	V	2	5.539 ug/l	5.54	6.4	4500	74	P
52	Cr	2	5.268 ug/l	5.27	1.8	4500	74	P
55	Mn	2	45.230 ug/l	45.23	1.4	4500	74	P
56	Fe	1	1022.000 ug/l	1,022.00	3.4	450000	74	A
59	Co	2	2.311 ug/l	2.31	1.6	4500	74	P
60	Ni	2	27.810 ug/l	27.81	6.0	4500	74	P
63	Cu	2	43.670 ug/l	43.67	2.6	4500	74	P
66	Zn	2	186.700 ug/l	186.70	2.7	4500	74	P
75	As	2	0.900 ug/l	0.90	40.9	4500	74	P
78	Se	1	-0.094 ug/l	-0.09	48.7	4500	74	P
88	Sr	3	17.300 ug/l	17.30	0.7	4500	74	P
95	Mo	3	33.370 ug/l	33.37	2.8	4500	74	P
109	Ag	3	0.308 ug/l	0.31	8.2	900	103	P
111	Cd	3	0.812 ug/l	0.81	14.5	4500	103	P
118	Sn	3	1.877 ug/l	1.88	4.3	4500	103	P
121	Sb	3	0.858 ug/l	0.86	5.2	4500	103	P
135	Ba	3	13.900 ug/l	13.90	3.2	4500	103	P
200	Hg	3	0.367 ug/l	0.37	5.2	45	209	P
205	Tl	3	0.427 ug/l	0.43	4.1	4500	209	P
208	Pb	3	6.554 ug/l	6.55	1.3	4500	209	P
238	U	3	0.028 ug/l	0.03	4.5	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	207040	0.94	198400	104.4	30 - 125
45	Sc	1	2116628	1.68	3760000	56.3	30 - 125
45	Sc	2	1557941	2.10	1428000	109.1	30 - 125
74	Ge	1	2154368	1.09	3683000	58.5	30 - 125
74	Ge	2	2882512	2.42	2627000	109.7	30 - 125
74	Ge	3	12354207	1.36	10940000	112.9	30 - 125
103	Rh	2	4136666	0.78	3842000	107.7	30 - 125
103	Rh	3	8110710	0.51	7414000	109.4	30 - 125
165	Ho	3	6125556	0.72	5459000	112.2	30 - 125
175	Lu	3	6788890	1.71	6180000	109.9	30 - 125
209	Bi	3	6741626	0.08	6220000	108.4	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\223SMPL.D\223SMPL.D#  
 Date Acquired: Sep 14 2010 11:03 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21292-B-1-B Vial Number: 3211

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9 Be	2	-0.009 ug/l	-0.01	98.5	900	6	P	
23 Na	2	601.800 ug/l	601.80	3.2	450000	45	P	
24 Mg	2	148.700 ug/l	148.70	3.7	450000	45	P	
27 Al	2	90.880 ug/l	90.88	9.2	450000	45	P	
31 P	2	10.660 ug/l	10.66	101.2	450000	45	P	
39 K	2	340.600 ug/l	340.60	4.5	450000	45	P	
40 Ca	1	970.100 ug/l	970.10	5.0	450000	45	M	
47 Ti	2	3.231 ug/l	3.23	2.7	4500	74	P	
51 V	2	0.360 ug/l	0.36	7.3	4500	74	P	
52 Cr	2	1.850 ug/l	1.85	4.7	4500	74	P	
55 Mn	2	7.586 ug/l	7.59	2.0	4500	74	P	
56 Fe	1	142.500 ug/l	142.50	2.9	450000	74	P	
59 Co	2	0.125 ug/l	0.13	8.6	4500	74	P	
60 Ni	2	0.507 ug/l	0.51	8.0	4500	74	P	
63 Cu	2	3.942 ug/l	3.94	6.4	4500	74	P	
66 Zn	2	72.240 ug/l	72.24	0.8	4500	74	P	
75 As	2	0.111 ug/l	0.11	260.2	4500	74	P	
78 Se	1	-0.120 ug/l	-0.12	40.8	4500	74	P	
88 Sr	3	5.060 ug/l	5.06	1.8	4500	74	P	
95 Mo	3	1.075 ug/l	1.08	6.2	4500	74	P	
109 Ag	3	0.000 ug/l	0.00	992.2	900	103	P	
111 Cd	3	0.085 ug/l	0.08	60.5	4500	103	P	
118 Sn	3	0.742 ug/l	0.74	11.7	4500	103	P	
121 Sb	3	0.391 ug/l	0.39	8.2	4500	103	P	
135 Ba	3	6.242 ug/l	6.24	1.4	4500	103	P	
200 Hg	3	0.004 ug/l	0.00	147.1	45	209	P	
205 Tl	3	0.313 ug/l	0.31	2.2	4500	209	P	
208 Pb	3	4.825 ug/l	4.83	1.8	4500	209	P	
238 U	3	0.003 ug/l	0.00	28.1	4500	209	P	

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	2	187135	2.29	198400	94.3	30 - 125	
45 Sc	1	1952935	2.84	3760000	51.9	30 - 125	
45 Sc	2	1410713	3.99	1428000	98.8	30 - 125	
74 Ge	1	2031065	2.38	3683000	55.1	30 - 125	
74 Ge	2	2684761	1.21	2627000	102.2	30 - 125	
74 Ge	3	11552579	0.62	10940000	105.6	30 - 125	
103 Rh	2	3896086	0.68	3842000	101.4	30 - 125	
103 Rh	3	7737673	0.52	7414000	104.4	30 - 125	
165 Ho	3	5857335	0.35	5459000	107.3	30 - 125	
175 Lu	3	6589526	0.53	6180000	106.6	30 - 125	
209 Bi	3	6723737	0.90	6220000	108.1	30 - 125	

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\224SMPL.D\224SMPL.D#  
 Date Acquired: Sep 14 2010 11:08 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21293-B-1-B Vial Number: 3212

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.001 ug/l	0.00	1089.0	900	6	P
23	Na	2	9936.000 ug/l	9,936.00	1.3	450000	45	A
24	Mg	2	857.300 ug/l	857.30	0.4	450000	45	P
27	Al	2	208.000 ug/l	208.00	1.0	450000	45	P
31	P	2	70.580 ug/l	70.58	8.4	450000	45	P
39	K	2	2147.000 ug/l	2,147.00	0.6	450000	45	P
40	Ca	1	10590.000 ug/l	10,590.00	23.2	450000	45	A
47	Ti	2	9.280 ug/l	9.28	2.9	4500	74	P
51	V	2	1.651 ug/l	1.65	8.0	4500	74	P
52	Cr	2	0.825 ug/l	0.83	14.1	4500	74	P
55	Mn	2	6.922 ug/l	6.92	1.8	4500	74	P
56	Fe	1	336.600 ug/l	336.60	17.6	450000	74	P
59	Co	2	0.163 ug/l	0.16	3.9	4500	74	P
60	Ni	2	1.152 ug/l	1.15	10.7	4500	74	P
63	Cu	2	15.950 ug/l	15.95	1.4	4500	74	P
66	Zn	2	13.170 ug/l	13.17	8.3	4500	74	P
75	As	2	0.803 ug/l	0.80	43.7	4500	74	P
78	Se	1	-0.053 ug/l	-0.05	100.4	4500	74	P
88	Sr	3	64.700 ug/l	64.70	1.7	4500	74	P
95	Mo	3	1.729 ug/l	1.73	6.6	4500	74	P
109	Ag	3	-0.003 ug/l	0.00	160.8	900	103	P
111	Cd	3	0.057 ug/l	0.06	29.5	4500	103	P
118	Sn	3	1.040 ug/l	1.04	3.3	4500	103	P
121	Sb	3	0.807 ug/l	0.81	5.3	4500	103	P
135	Ba	3	10.560 ug/l	10.56	3.0	4500	103	P
200	Hg	3	0.006 ug/l	0.01	67.9	45	209	P
205	Tl	3	0.238 ug/l	0.24	3.8	4500	209	P
208	Pb	3	0.952 ug/l	0.95	97.2	4500	209	P
238	U	3	0.085 ug/l	0.08	1.9	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	181271	1.98	198400	91.4	30 - 125
45	Sc	1	1983355	25.53	3760000	52.7	30 - 125
45	Sc	2	1394096	2.68	1428000	97.6	30 - 125
74	Ge	1	2026964	17.72	3683000	55.0	30 - 125
74	Ge	2	2637553	2.11	2627000	100.4	30 - 125
74	Ge	3	11333231	0.63	10940000	103.6	30 - 125
103	Rh	2	3742200	1.78	3842000	97.4	30 - 125
103	Rh	3	7392662	0.37	7414000	99.7	30 - 125
165	Ho	3	5805522	0.70	5459000	106.3	30 - 125
175	Lu	3	6575359	0.72	6180000	106.4	30 - 125
209	Bi	3	6506994	0.49	6220000	104.6	30 - 125

Analytes: Pass ISTD: Pass  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\225SMPL.D\225SMPL.D#  
 Date Acquired: Sep 14 2010 11:13 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21294-B-1-B Vial Number: 3311  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.014 ug/l	-0.01	0.0	900	6	P
23	Na	2	931.000 ug/l	931.00	0.3	450000	45	M
24	Mg	2	219.700 ug/l	219.70	0.8	450000	45	P
27	Al	2	16.250 ug/l	16.25	11.1	450000	45	P
31	P	2	0.257 ug/l	0.26	2106.4	450000	45	P
39	K	2	369.600 ug/l	369.60	1.2	450000	45	P
40	Ca	1	1287.000 ug/l	1,287.00	2.3	450000	45	A
47	Ti	2	0.750 ug/l	0.75	10.2	4500	74	P
51	V	2	0.726 ug/l	0.73	7.2	4500	74	P
52	Cr	2	0.427 ug/l	0.43	13.6	4500	74	P
55	Mn	2	3.038 ug/l	3.04	2.3	4500	74	P
56	Fe	1	26.500 ug/l	26.50	6.7	450000	74	P
59	Co	2	0.029 ug/l	0.03	13.7	4500	74	P
60	Ni	2	0.189 ug/l	0.19	47.6	4500	74	P
63	Cu	2	5.776 ug/l	5.78	1.8	4500	74	P
66	Zn	2	57.380 ug/l	57.38	2.3	4500	74	P
75	As	2	0.217 ug/l	0.22	80.0	4500	74	P
78	Se	1	-0.110 ug/l	-0.11	48.9	4500	74	P
88	Sr	3	7.848 ug/l	7.85	0.7	4500	74	P
95	Mo	3	0.625 ug/l	0.63	9.3	4500	74	P
109	Ag	3	-0.003 ug/l	0.00	122.1	900	103	P
111	Cd	3	0.421 ug/l	0.42	23.8	4500	103	P
118	Sn	3	0.565 ug/l	0.57	3.4	4500	103	P
121	Sb	3	0.398 ug/l	0.40	10.0	4500	103	P
135	Ba	3	5.769 ug/l	5.77	3.0	4500	103	P
200	Hg	3	-0.001 ug/l	0.00	219.2	45	209	P
205	Tl	3	0.227 ug/l	0.23	5.0	4500	209	P
208	Pb	3	0.440 ug/l	0.44	3.7	4500	209	P
238	U	3	0.003 ug/l	0.00	25.7	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	185560	2.70	198400	93.5	30 - 125
45	Sc	1	1945446	1.82	3760000	51.7	30 - 125
45	Sc	2	1390028	1.21	1428000	97.3	30 - 125
74	Ge	1	2020679	1.01	3683000	54.9	30 - 125
74	Ge	2	2660845	1.88	2627000	101.3	30 - 125
74	Ge	3	11330257	0.45	10940000	103.6	30 - 125
103	Rh	2	3834059	1.16	3842000	99.8	30 - 125
103	Rh	3	7728524	1.51	7414000	104.2	30 - 125
165	Ho	3	5877743	0.93	5459000	107.7	30 - 125
175	Lu	3	6598486	2.12	6180000	106.8	30 - 125
209	Bi	3	6653845	1.11	6220000	107.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\226SMPL.D\226SMPL.D#  
 Date Acquired: Sep 14 2010 11:18 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21305-B-1-B Vial Number: 3312  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.006 ug/l	0.01	135.1	900	6	P
23	Na	2	2982.000 ug/l	2,982.00	3.0	450000	45	A
24	Mg	2	843.700 ug/l	843.70	2.0	450000	45	P
27	Al	2	271.100 ug/l	271.10	6.1	450000	45	P
31	P	2	208.300 ug/l	208.30	5.7	450000	45	P
39	K	2	1330.000 ug/l	1,330.00	2.0	450000	45	P
40	Ca	1	2782.000 ug/l	2,782.00	4.1	450000	45	A
47	Ti	2	9.051 ug/l	9.05	11.3	4500	74	P
51	V	2	8.903 ug/l	8.90	1.1	4500	74	P
52	Cr	2	1.536 ug/l	1.54	3.9	4500	74	P
55	Mn	2	22.560 ug/l	22.56	0.1	4500	74	P
56	Fe	1	396.000 ug/l	396.00	3.7	450000	74	P
59	Co	2	0.417 ug/l	0.42	2.8	4500	74	P
60	Ni	2	2.232 ug/l	2.23	5.6	4500	74	P
63	Cu	2	9.953 ug/l	9.95	1.2	4500	74	P
66	Zn	2	71.020 ug/l	71.02	1.1	4500	74	P
75	As	2	0.467 ug/l	0.47	76.6	4500	74	P
78	Se	1	-0.057 ug/l	-0.06	35.8	4500	74	P
88	Sr	3	18.920 ug/l	18.92	0.6	4500	74	P
95	Mo	3	0.888 ug/l	0.89	3.0	4500	74	P
109	Ag	3	0.007 ug/l	0.01	46.9	900	103	P
111	Cd	3	0.141 ug/l	0.14	28.7	4500	103	P
118	Sn	3	0.591 ug/l	0.59	1.1	4500	103	P
121	Sb	3	0.504 ug/l	0.50	3.7	4500	103	P
135	Ba	3	8.674 ug/l	8.67	3.4	4500	103	P
200	Hg	3	0.006 ug/l	0.01	99.9	45	209	P
205	Tl	3	0.216 ug/l	0.22	7.1	4500	209	P
208	Pb	3	1.644 ug/l	1.64	1.0	4500	209	P
238	U	3	0.034 ug/l	0.03	4.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183358	2.73	198400	92.4	30 - 125
45	Sc	1	1945833	3.88	3760000	51.8	30 - 125
45	Sc	2	1386710	3.65	1428000	97.1	30 - 125
74	Ge	1	2023826	4.28	3683000	55.0	30 - 125
74	Ge	2	2615742	1.78	2627000	99.6	30 - 125
74	Ge	3	11156054	1.02	10940000	102.0	30 - 125
103	Rh	2	3809975	0.62	3842000	99.2	30 - 125
103	Rh	3	7570930	0.98	7414000	102.1	30 - 125
165	Ho	3	5832254	1.16	5459000	106.8	30 - 125
175	Lu	3	6607207	0.33	6180000	106.9	30 - 125
209	Bi	3	6585856	0.27	6220000	105.9	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

**TA Seattle Sample Report 200.8/6020 7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\227SMPL.D\227SMPL.D#  
 Date Acquired: Sep 14 2010 11:22 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21305-B-2-B Vial Number: 3411

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.001 ug/l	0.00	17.9	900	6	P
23	Na	2	573.900 ug/l	573.90	2.8	450000	45	P
24	Mg	2	170.600 ug/l	170.60	4.2	450000	45	P
27	Al	2	210.200 ug/l	210.20	3.0	450000	45	P
31	P	2	29.850 ug/l	29.85	27.4	450000	45	P
39	K	2	259.100 ug/l	259.10	4.6	450000	45	P
40	Ca	1	2824.000 ug/l	2,824.00	1.8	450000	45	A
47	Ti	2	2.582 ug/l	2.58	5.8	4500	74	P
51	V	2	1.686 ug/l	1.69	5.3	4500	74	P
52	Cr	2	0.696 ug/l	0.70	4.9	4500	74	P
55	Mn	2	14.160 ug/l	14.16	0.8	4500	74	P
56	Fe	1	157.600 ug/l	157.60	1.5	450000	74	P
59	Co	2	0.212 ug/l	0.21	5.3	4500	74	P
60	Ni	2	0.738 ug/l	0.74	17.1	4500	74	P
63	Cu	2	9.027 ug/l	9.03	1.8	4500	74	P
66	Zn	2	109.200 ug/l	109.20	2.3	4500	74	P
75	As	2	0.422 ug/l	0.42	70.5	4500	74	P
78	Se	1	-0.131 ug/l	-0.13	14.0	4500	74	P
88	Sr	3	8.132 ug/l	8.13	23.1	4500	74	P
95	Mo	3	0.364 ug/l	0.36	18.7	4500	74	P
109	Ag	3	0.002 ug/l	0.00	236.9	900	103	P
111	Cd	3	0.080 ug/l	0.08	58.4	4500	103	P
118	Sn	3	0.706 ug/l	0.71	28.4	4500	103	P
121	Sb	3	0.323 ug/l	0.32	18.7	4500	103	P
135	Ba	3	4.664 ug/l	4.66	34.3	4500	103	P
200	Hg	3	0.006 ug/l	0.01	164.7	45	209	P
205	Tl	3	0.218 ug/l	0.22	31.0	4500	209	P
208	Pb	3	1.124 ug/l	1.12	24.1	4500	209	P
238	U	3	0.021 ug/l	0.02	26.1	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	183001	1.38	198400	92.2	30 - 125
45	Sc	1	1928801	2.71	3760000	51.3	30 - 125
45	Sc	2	1390307	2.85	1428000	97.4	30 - 125
74	Ge	1	2014380	1.11	3683000	54.7	30 - 125
74	Ge	2	2665500	1.37	2627000	101.5	30 - 125
74	Ge	3	10580239	20.90	10940000	96.7	30 - 125
103	Rh	2	3826589	1.79	3842000	99.6	30 - 125
103	Rh	3	7123602	25.34	7414000	96.1	30 - 125
165	Ho	3	5419801	26.27	5459000	99.3	30 - 125
175	Lu	3	6110804	25.95	6180000	98.9	30 - 125
209	Bi	3	6218424	23.50	6220000	100.0	30 - 125

**Analytes: Pass ISTD: Pass**  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed



**TA Seattle Sample Report 200.8/6020**

**7500ce ICPMS**

Data File: C:\ICPCHEM\1\DATA\091310A.B\228SMPL.D\228SMPL.D#  
 Date Acquired: Sep 14 2010 11:27 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21275-C-1-B Vial Number: 3412

Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: **1.00** Final Dil Factor: **1.00**

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	-0.009 ug/l	-0.01	109.4	900	6	P
23	Na	2	2430000.000 ug/l	2,430,000.00	2.1	450000	45	A Fail
24	Mg	2	2759000.000 ug/l	275,900.00	1.2	450000	45	A
27	Al	2	17.440 ug/l	17.44	9.8	450000	45	P
31	P	2	121.200 ug/l	121.20	13.4	450000	45	P
39	K	2	94350.000 ug/l	94,350.00	0.7	450000	45	A
40	Ca	1	84400.000 ug/l	84,400.00	3.2	450000	45	A
47	Ti	2	0.305 ug/l	0.30	18.8	4500	74	P
51	V	2	1.283 ug/l	1.28	5.2	4500	74	P
52	Cr	2	0.840 ug/l	0.84	3.9	4500	74	P
55	Mn	2	186.000 ug/l	186.00	0.2	4500	74	P
56	Fe	1	106.200 ug/l	106.20	1.8	450000	74	P
59	Co	2	1.512 ug/l	1.51	1.8	4500	74	P
60	Ni	2	12.460 ug/l	12.46	2.6	4500	74	P
63	Cu	2	85.530 ug/l	85.53	0.9	4500	74	P
66	Zn	2	1157.000 ug/l	1,157.00	1.0	4500	74	P
75	As	2	2.933 ug/l	2.93	18.4	4500	74	P
78	Se	1	0.246 ug/l	0.25	56.3	4500	74	P
88	Sr	3	1805.000 ug/l	1,805.00	0.6	4500	74	A
95	Mo	3	6.300 ug/l	6.30	2.7	4500	74	P
109	Ag	3	0.009 ug/l	0.01	72.9	900	103	P
111	Cd	3	1.138 ug/l	1.14	2.3	4500	103	P
118	Sn	3	0.824 ug/l	0.82	3.7	4500	103	P
121	Sb	3	1.184 ug/l	1.18	5.6	4500	103	P
135	Ba	3	93.460 ug/l	93.46	1.4	4500	103	P
200	Hg	3	0.043 ug/l	0.04	43.8	45	209	P
205	Tl	3	0.154 ug/l	0.15	16.2	4500	209	P
208	Pb	3	0.273 ug/l	0.27	5.8	4500	209	P
238	U	3	0.742 ug/l	0.74	3.0	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	171008	1.69	198400	86.2	30 - 125
45	Sc	1	1793970	2.74	3760000	47.7	30 - 125
45	Sc	2	1411921	3.00	1428000	98.9	30 - 125
74	Ge	1	1571422	2.03	3683000	42.7	30 - 125
74	Ge	2	2253739	0.68	2627000	85.8	30 - 125
74	Ge	3	10127135	0.32	10940000	92.6	30 - 125
103	Rh	2	2700419	0.64	3842000	70.3	30 - 125
103	Rh	3	5814850	0.15	7414000	78.4	30 - 125
165	Ho	3	4417545	0.43	5459000	80.9	30 - 125
175	Lu	3	4870681	0.18	6180000	78.8	30 - 125
209	Bi	3	3951066	0.79	6220000	63.5	30 - 125

Analytes:

Fail

ISTD:

Pass

1 :Element Failures

0 :Max. Number of Failures Allowed

0 :ISTD Failures

0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\229SMPL.D\229SMPL.D#  
 Date Acquired: Sep 14 2010 11:33 am Acq. Method: OSEA\_ALL.M  
 Sample Name: 580-21276-C-1-B Vial Number: 3511  
 Misc Info: 1X

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.003 ug/l	0.00	224.0	900	6	P
23	Na	2	647400.000 ug/l	647,400.00	0.5	450000	45	A Fail
24	Mg	2	73610.000 ug/l	73,610.00	0.7	450000	45	A
27	Al	2	24.370 ug/l	24.37	5.4	450000	45	P
31	P	2	459.600 ug/l	459.60	2.2	450000	45	P
39	K	2	26230.000 ug/l	26,230.00	1.0	450000	45	A
40	Ca	1	22900.000 ug/l	22,900.00	3.5	450000	45	A
47	Ti	2	0.481 ug/l	0.48	11.6	4500	74	P
51	V	2	2.068 ug/l	2.07	9.5	4500	74	P
52	Cr	2	0.949 ug/l	0.95	5.5	4500	74	P
55	Mn	2	100.200 ug/l	100.20	1.1	4500	74	P
56	Fe	1	103.000 ug/l	103.00	1.9	450000	74	P
59	Co	2	0.947 ug/l	0.95	2.8	4500	74	P
60	Ni	2	9.408 ug/l	9.41	5.8	4500	74	P
63	Cu	2	57.300 ug/l	57.30	2.9	4500	74	P
66	Zn	2	720.300 ug/l	720.30	1.3	4500	74	P
75	As	2	3.925 ug/l	3.93	6.8	4500	74	P
78	Se	1	0.106 ug/l	0.11	119.5	4500	74	P
88	Sr	3	480.800 ug/l	480.80	0.3	4500	74	A
95	Mo	3	3.944 ug/l	3.94	2.9	4500	74	P
109	Ag	3	0.011 ug/l	0.01	11.6	900	103	P
111	Cd	3	0.780 ug/l	0.78	10.8	4500	103	P
118	Sn	3	0.632 ug/l	0.63	4.8	4500	103	P
121	Sb	3	1.973 ug/l	1.97	5.5	4500	103	P
135	Ba	3	24.980 ug/l	24.98	0.7	4500	103	P
200	Hg	3	0.108 ug/l	0.11	25.9	45	209	P
205	Tl	3	0.158 ug/l	0.16	0.5	4500	209	P
208	Pb	3	0.470 ug/l	0.47	0.3	4500	209	P
238	U	3	0.125 ug/l	0.12	3.4	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	212916	1.32	198400	107.3	30 - 125
45	Sc	1	2005656	2.43	3760000	53.3	30 - 125
45	Sc	2	1668900	1.99	1428000	116.9	30 - 125
74	Ge	1	1905043	0.38	3683000	51.7	30 - 125
74	Ge	2	2848917	1.27	2627000	108.4	30 - 125
74	Ge	3	13524800	0.31	10940000	123.6	30 - 125
103	Rh	2	3650379	0.21	3842000	95.0	30 - 125
103	Rh	3	7894919	0.56	7414000	106.5	30 - 125
165	Ho	3	5793034	0.94	5459000	106.1	30 - 125
175	Lu	3	6371000	0.43	6180000	103.1	30 - 125
209	Bi	3	5483546	0.77	6220000	88.2	30 - 125

Analytes: Fail ISTD: Pass  
 1 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle

Sample Report 200.8/6020

7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\231SMPL.D\231SMPL.D#  
 Date Acquired: Sep 14 2010 11:43 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCV Vial Number: 1104  
 Misc Info: Hg(2.5 PPB),Al(500 PPB),Na(5,000 PPB)

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	43.240 ug/l	43.24	0.9	900	6	P
23	Na	2	4711.000 ug/l	4,711.00	1.4	450000	45	A
24	Mg	2	4663.000 ug/l	4,663.00	0.4	450000	45	A
27	Al	2	477.200 ug/l	477.20	0.4	450000	45	P
31	P	2	4630.000 ug/l	4,630.00	1.3	450000	45	P
39	K	2	4880.000 ug/l	4,880.00	2.1	450000	45	A
40	Ca	1	3870.000 ug/l	3,870.00	2.8	450000	45	A
47	Ti	2	48.010 ug/l	48.01	2.2	4500	74	P
51	V	2	46.410 ug/l	46.41	0.3	4500	74	P
52	Cr	2	46.400 ug/l	46.40	0.9	4500	74	P
55	Mn	2	46.700 ug/l	46.70	1.0	4500	74	P
56	Fe	1	4974.000 ug/l	4,974.00	1.2	450000	74	A
59	Co	2	46.150 ug/l	46.15	0.8	4500	74	P
60	Ni	2	46.240 ug/l	46.24	0.7	4500	74	P
63	Cu	2	46.580 ug/l	46.58	1.5	4500	74	P
66	Zn	2	46.870 ug/l	46.87	3.0	4500	74	P
75	As	2	48.090 ug/l	48.09	1.2	4500	74	P
78	Se	1	50.910 ug/l	50.91	2.3	4500	74	P
88	Sr	3	47.660 ug/l	47.66	0.3	4500	74	P
95	Mo	3	46.610 ug/l	46.61	0.8	4500	74	P
109	Ag	3	46.870 ug/l	46.87	1.3	900	103	P
111	Cd	3	47.040 ug/l	47.04	1.6	4500	103	P
118	Sn	3	47.870 ug/l	47.87	0.9	4500	103	P
121	Sb	3	47.610 ug/l	47.61	1.8	4500	103	P
135	Ba	3	49.020 ug/l	49.02	1.5	4500	103	P
200	Hg	3	2.316 ug/l	2.32	2.8	45	209	P
205	Tl	3	48.340 ug/l	48.34	1.6	4500	209	P
208	Pb	3	48.160 ug/l	48.16	1.0	4500	209	P
238	U	3	45.940 ug/l	45.94	1.2	4500	209	A

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	216155	1.81	198400	108.9	30 - 125
45	Sc	1	2204940	1.81	3760000	58.6	30 - 125
45	Sc	2	1698296	1.92	1428000	118.9	30 - 125
74	Ge	1	2284282	1.10	3683000	62.0	30 - 125
74	Ge	2	3069398	1.68	2627000	116.8	30 - 125
74	Ge	3	13896646	0.65	10940000	127.0	30 - 125 IS Fail
103	Rh	2	4279838	0.87	3842000	111.4	30 - 125
103	Rh	3	8937405	1.42	7414000	120.5	30 - 125
165	Ho	3	6276862	1.11	5459000	115.0	30 - 125
175	Lu	3	6902015	0.74	6180000	111.7	30 - 125
209	Bi	3	6790958	0.74	6220000	109.2	30 - 125

Analytes: Pass ISTD: Fail  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

TA Seattle Sample Report 200.8/6020 7500ce ICPMS

Data File: C:\ICPCHEM\1\DATA\091310A.B\232SMPL.D\232SMPL.D#  
 Date Acquired: Sep 14 2010 11:48 am Acq. Method: OSEA\_ALL.M  
 Sample Name: CCB Vial Number: 1306  
 Misc Info:

Current Method: C:\ICPCHEM\1\METHODS\00H2\_REP.M Operator: FCW ICP-MS ID#SEA44 Tune # Name  
 Calibration File: C:\ICPCHEM\1\CALIB\00H2\_REP.C 1 \1\7500\h2.u  
 Last Cal. Update: Sep 14 2010 01:15 pm 2 \1\7500\he.u  
 ISTD Ref File : C:\ICPCHEM\1\DATA\091310A.B\004CALB.D\004CALB.D# 3 ,7500\nogas.u

Dilution Factor: 1.00 Final Dil Factor: 1.00

QC Elements

Element	T#	Conc. Units	Corr. Conc	RSD(%)	LDR	IS	P/A	Flag
9	Be	2	0.004 ug/l	0.00	570.7	900	6	P
23	Na	2	122.000 ug/l	122.00	2.7	450000	45	P
24	Mg	2	1.228 ug/l	1.23	22.5	450000	45	P
27	Al	2	3.252 ug/l	3.25	17.6	450000	45	P
31	P	2	-11.290 ug/l	-11.29	40.1	450000	45	P
39	K	2	18.300 ug/l	18.30	31.8	450000	45	P
40	Ca	1	0.750 ug/l	0.75	33.0	450000	45	P
47	Ti	2	0.010 ug/l	0.01	155.3	4500	74	P
51	V	2	-0.577 ug/l	-0.58	9.5	4500	74	P
52	Cr	2	-0.082 ug/l	-0.08	46.2	4500	74	P
55	Mn	2	0.258 ug/l	0.26	2.8	4500	74	P
56	Fe	1	2.570 ug/l	2.57	8.8	450000	74	P
59	Co	2	0.005 ug/l	0.00	27.8	4500	74	P
60	Ni	2	-0.023 ug/l	-0.02	74.1	4500	74	P
63	Cu	2	0.038 ug/l	0.04	39.8	4500	74	P
66	Zn	2	0.156 ug/l	0.16	49.4	4500	74	P
75	As	2	-0.075 ug/l	-0.07	409.6	4500	74	P
78	Se	1	0.016 ug/l	0.02	419.2	4500	74	P
88	Sr	3	0.007 ug/l	0.01	159.8	4500	74	P
95	Mo	3	0.021 ug/l	0.02	35.8	4500	74	P
109	Ag	3	0.009 ug/l	0.01	59.4	900	103	P
111	Cd	3	0.018 ug/l	0.02	112.0	4500	103	P
118	Sn	3	0.082 ug/l	0.08	11.2	4500	103	P
121	Sb	3	0.030 ug/l	0.03	6.6	4500	103	P
135	Ba	3	-0.051 ug/l	-0.05	55.1	4500	103	P
200	Hg	3	0.001 ug/l	0.00	201.2	45	209	P
205	Tl	3	0.586 ug/l	0.59	2.5	4500	209	P
208	Pb	3	0.008 ug/l	0.01	30.6	4500	209	P
238	U	3	0.007 ug/l	0.01	13.8	4500	209	P

ISTD Elements

IS Mass	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	2	216027	3.23	198400	108.9	30 - 125
45	Sc	1	2166915	2.91	3760000	57.6	30 - 125
45	Sc	2	1684398	3.44	1428000	118.0	30 - 125
74	Ge	1	2256856	2.46	3683000	61.3	30 - 125
74	Ge	2	3085356	1.06	2627000	117.4	30 - 125
74	Ge	3	13738196	0.05	10940000	125.6	30 - 125 IS Fail
103	Rh	2	4388929	0.39	3842000	114.2	30 - 125
103	Rh	3	9054426	0.53	7414000	122.1	30 - 125
165	Ho	3	6317380	0.72	5459000	115.7	30 - 125
175	Lu	3	6943801	0.49	6180000	112.4	30 - 125
209	Bi	3	6964790	0.32	6220000	112.0	30 - 125

Analytes: Pass ISTD: Fail  
 0 :Element Failures 0 :Max. Number of Failures Allowed  
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

## Metals Worksheet

Batch Number: 580-71358

Method: 3050B

Analyst: Boardway, Peter A

Date Open: Sep 13 2010 9:10AM

Batch End: Sep 13 2010 10:45AM

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	m-GPS-1_00017	m-GPS-2_00014	m-GPS-3_00014	m-GPS-4_00016
580-21446-A-1	10NC21SB42	3050B, 6020	T	1.1114 g	50 mL				
580-21446-A-1~DU	10NC21SB42	3050B, 6020	T	1.2070 g	50 mL				
580-21446-A-1~MS	10NC21SB42	3050B, 6020	T	1.0724 g	50 mL	1 mL	1 mL	1 mL	1 mL
580-21446-A-1~MS D	10NC21SB42	3050B, 6020	T	1.1714 g	50 mL	1 mL	1 mL	1 mL	1 mL
580-21446-A-2	10NC21SB43	3050B, 6020	T	1.0936 g	50 mL				
580-21199-A-1			T	1.0557 g	50 mL				
580-21199-A-2			T	1.1298 g	50 mL				
580-21199-A-3			T	1.2035 g	50 mL				
580-21199-A-4			T	1.2338 g	50 mL				
580-21199-A-5			T	1.1646 g	50 mL				
580-21199-A-6			T	1.0348 g	50 mL				
580-21199-A-7			T	1.1529 g	50 mL				
580-21199-A-8			T	1.3113 g	50 mL				
580-21199-A-9			T	1.3183 g	50 mL				
580-21199-A-10			T	1.0337 g	50 mL				
MB~580-71358/16		3050B, 6020		1.0 g	50 mL				
LCS~580-71358/17		3050B, 6020		1.0 g	50 mL	1 mL	1 mL	1 mL	1 mL
LCSD~580-71358/1 8		3050B, 6020		1.0 g	50 mL	1 mL	1 mL	1 mL	1 mL
LCSSRM~580-7135 8/19		3050B, 6020		0.4960 g	50 mL				
580-21199-A-12			T	1.0730 g	50 mL				
580-21199-A-13			T	1.1980 g	50 mL				
580-21199-A-14			T	1.0639 g	50 mL				
580-21199-A-15			T	1.1660 g	50 mL				

# Metals Worksheet

Batch Number: 580-71358

Method: 3050B

Analyst: Boardway, Peter A

Date Open: Sep 13 2010 9:10AM

Batch End: Sep 13 2010 10:45AM

Lab ID	Client ID	Method Chain	Basis	SRMsolid_00004
580-21446-A-1	10NC21SB42	3050B, 6020	T	
580-21446-A-1~DU	10NC21SB42	3050B, 6020	T	
580-21446-A-1~MS	10NC21SB42	3050B, 6020	T	
580-21446-A-1~MS D	10NC21SB42	3050B, 6020	T	
580-21446-A-2	10NC21SB43	3050B, 6020	T	
580-21199-A-1			T	
580-21199-A-2			T	
580-21199-A-3			T	
580-21199-A-4			T	
580-21199-A-5			T	
580-21199-A-6			T	
580-21199-A-7			T	
580-21199-A-8			T	
580-21199-A-9			T	
580-21199-A-10			T	
MB~580-71358/16		3050B, 6020		
LCS~580-71358/17		3050B, 6020		
LCSD~580-71358/1 8		3050B, 6020		
LCSSRM~580-7135 8/19		3050B, 6020		0.4960 g
580-21199-A-12			T	
580-21199-A-13			T	
580-21199-A-14			T	
580-21199-A-15			T	

Digestion Tube/Cup Lot #: 072310  
 Balance ID: SEA204  
 Hood ID or number: 06  
 Hot Block ID number: 38009  
 Lot # of hydrochloric acid: J23A13  
 Lot # of Nitric Acid: J11045  
 Logbook ID for diluted Nitric: S002  
 Hydrogen peroxide lot number: S007  
 ID number of the thermometer: 15-041-1A-A  
 Temperature: 94.9 CORRECTED-TEMP Degrees C

# **GENERAL CHEMISTRY**

COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-21446-1

SDG No.: \_\_\_\_\_

Project: NE Cape Landfill, St. Lawrence Island

Client Sample ID	Lab Sample ID
<u>10NC21SB42</u>	<u>580-21446-1</u>
<u>10NC21SB43</u>	<u>580-21446-2</u>

Comments:



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job Number: 580-21446-1  
SDG Number: \_\_\_\_\_  
Matrix: Solid Instrument ID: NOEQUIP  
Analysis Method: Moisture LOQ Date: 01/01/2005 13:13  
Prep Method: \_\_\_\_\_  
Leach Method: \_\_\_\_\_

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Seattle Job No.: 580-21446-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Method: Moisture

Start Date: 09/11/2010 13:42 End Date: 09/11/2010 13:42

Lab Sample ID	D / F	T y p e	Time	Analytes															
				% S o l	M o i s t														
580-21446-1	1	T	13:42	X	X														
580-21446-1 MS	1	T	13:42	X	X														
580-21446-1 MSD	1	T	13:42	X	X														
580-21446-1 DU	1	T	13:42	X	X														
580-21446-2	1	T	13:42	X	X														
ZZZZZZ			13:42																

Prep Types  
T = Total/NA

# General Chemistry Worksheet

Batch Number: 580-71361

Method: Moisture

Analyst: Boardway, Peter A

Date Open: Sep 11 2010 1:42PM

Batch End: Sep 13 2010 3:00PM

Lab ID	Client ID	Method Chain	Basis	Empty Dish Weight	Mass of wet Sample	Mass of Dry Sample
580-21446-A-1	10NC21SB42	Moisture	T	0.7264 g	5.4088 g	4.2639 g
580-21446-A-1~MS	10NC21SB42	Moisture	T	0.7264 g	5.4088 g	4.2639 g
580-21446-A-1~MS D	10NC21SB42	Moisture	T	0.7264 g	5.4088 g	4.2639 g
580-21446-A-1~DU	10NC21SB42	Moisture	T	0.7163 g	4.3811 g	3.4923 g
580-21446-A-2	10NC21SB43	Moisture	T	0.7207 g	5.5702 g	4.1550 g
580-21453-A-1			T	0.7354 g	8.9735 g	8.0025 g

Balance ID: SEA204 No Unit  
Oven Temp when samples are put in oven: 104.0 Degrees C  
Oven Temp when samples removed from oven: 104.5 Degrees C  
Oven ID: SEA304  
ID number of the thermometer: 1458

# Shipping and Receiving Documents



Cooler ID No. MW-70

TAL Work Order 21446

### COOLER RECEIPT FORM

Project AF Cape Landfill

Cooler received on 9/8 and opened on 9/8 by CC  
Cathy Cambli  
(signature)

Temperature upon receipt: Cooler 4.5 oC.  
Temp. Blank      oC.

1. Were custody seals on outside of cooler and intact?  YES  NO  
a. If yes, how many and where: 2 / front / back  
b. Were signature and date correct?

2. Were custody papers taped to lid inside cooler?  YES  NO Copy of CC

3. Were custody papers properly filled out(ink, signed, etc)?  YES  NO

4. Did you sign custody papers in the appropriate place?  YES  NO

5. Did you attach shipper's packing slip to this form?  YES  NO

6. What kind of packing material was used? Bubble bag/wrap Blue ice

7. Was sufficient ice used?  YES  NO

8. Were all bottles sealed in separate plastic bags?  YES  NO

9. Did all bottles arrive in good condition (unbroken)?  YES  NO

10. Were all bottle labels complete (no., date, signed, pres, etc)?  YES  NO

11. Did all bottle labels and tags agree with custody papers?  YES  NO

12. Were correct bottles used for the test indicated?  YES  NO

13. If present, were voa vials checked for absence of airbubbles and noted if found?  YES  NO

14. Adequate volume of voa vials received per sample?  YES  NO NA

15. Was sufficient amount of sample sent in each bottle?  YES  NO

16. Were correct preservatives used?  YES  NO

17. Were extra labels added to pre-tared containers?  YES  NO NA

18. Corrective action taken, if necessary:  
a. Name of person contacted: \_\_\_\_\_  
b. Date: \_\_\_\_\_

71-1111

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
461750

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
461750

**Custody Seal**  
DATE \_\_\_\_\_  
SIGNATURE \_\_\_\_\_

**Custody Seal**  
DATE 9-10-08  
SIGNATURE [Signature]

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
461750

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING  
461750

# Alaska Air Cargo™

ALASKA AIRLINES & HORIZON AIR

P.O. BOX 68900 SEATTLE, WA 98168  
800-225-2752 ALASKACARGO.COM

## SHIPPER

BRISTOL ENVIRONMENTAL  
111 W 16th Ave  
ANCHORAGE, AK 99501

## CONSIGNEE

TEST AMERICA  
C/O TERRI TORRES  
SEATTLE, WA 98424

AWB Number	Pieces	Weight	Origin / Dest	Nature of Goods	Arriving Flight Details	Customs
027-78725393	5	316.0 Lb	ANC-SEA	SOIL SAMPLES	AS 102 08-Sep-2010	

Storage Locations: COOLER 5

LOCAL CHARGES :

Bonded Warehouse

Total Local Charges:	USD	0.00
VAT 0.70%:	USD	0.00
Grand Total:	USD	<b>0.00</b>

PO Number

## RECEIPT STATEMENT

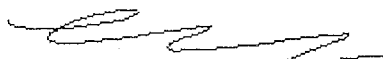
The undersigned acknowledge the receipt of above mentioned consignment complete and in good condition.

Date: 08-Sep-2010


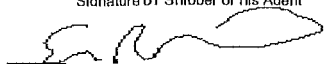
Time: 07:58

Driver: Curtis

Registration: \_\_\_\_\_

Signature: 



Shipper's Name and Address <b>BRISTOL ENVIRONMENT</b> 111 W 16th Ave ANCHORAGE, AK 99501 USA Tel: 9075630013		Shipper's Account Number <b>27442295111</b> Customer's ID Number <b>10189</b>		Not Negotiable <b>Air Waybill</b> Issued By  ALASKA AIRLINES & HORIZON AIR P.O. BOX 68900 SEATTLE, WA 98168 800-225-2752 ALASKACARGO.COM			
Consignee's Name and Address <b>TEST AMERICA</b> C/O TERRI TORRES SEATTLE, WA 98424 USA Tel: 253-922-2310		Consignee's Account Number		Also notify Tel:			
Issuing Carrier's Agent and City Anchorage		Accounting Information <b>BRISTOL ENVIRONMENTAL</b> 111 W 16th Ave ANCHORAGE, AK 99501 USA		10189			
Agent's IATA Code		Account No.		GoldStreak			
Airport of Departure (Addr. of First Carrier) and Requested Routing <b>Anchorage</b>		Currency <b>USD PX X</b>		Declared Value For Carriage <b>NVD</b>			
To By First Carrier <b>SEA Alaska Airlines</b>		To / By		Declared Value For Customs <b>NCV</b>			
Airport of Destination <b>Seattle</b>		Flight/Date <b>AS 102/07</b>		Amount of Insurance <b>XXX</b>			
Handling Information SCI							
No of Pieces	Gross Weight	kg lb	Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (Incl. Dimensions or Volume)
5	316.0	L Q		316.0		AS AGREED	SOIL SAMPLES  Dims: 23 x 18 x13 x 1 26 x 13 x14 x 1 26 x 13 x14 x 1 26 x 13 x14 x 1 26 x 13 x14 x 1 GSX PER 13 x14 x 1
5	316.0					AS AGREED	Volume: 14.070
Prepaid Weight Charge		Collect Other Charges					
AS AGREED		MYC 37.92					
Valuation Charge		SCC 6.32					
Tax							
Total Other Charges Due Agent						Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo.	
Total Other Charges Due Carrier		For: <b>BRISTOL ENVIRONMENTAL</b>		Signature of Shipper or his Agent 			
Total Prepaid		Total Collect		<input checked="" type="checkbox"/> THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS <input type="checkbox"/> THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS			
AS AGREED		Executed On (Date)		at (Place)		Signature of Issuing Carrier or its Agent	
		07 Sep 2010 18:26		Anchorage		Alaska Airlines	
						027-7872 5393	

**ATTACHMENT 2**

**ProUCL Version 4.1 Input and Output Data**

## **Data Input for ProUCL Version 4.1**

	0	1
	Site 21 As	Bkgnd As
1	12	5.4
2	180	3.1
3	4	3.5
4	4.9	6
5	170	6
6	120	10
7	54	6.3
8	11	3.6
9		22

**Data Output for ProUCL Version 4.1**

General UCL Statistics for Full Data Sets

User Selected Options

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Site 21 As

General Statistics

Number of Valid Observations	8	Number of Distinct Observations	8
------------------------------	---	---------------------------------	---

Raw Statistics

Minimum	4
Maximum	180
Mean	69.49
Median	33
SD	75.87
Std. Error of Mean	26.82
Coefficient of Variation	1.092
Skewness	0.676

Log-transformed Statistics

Minimum of Log Data	1.386
Maximum of Log Data	5.193
Mean of log Data	3.37
SD of log Data	1.589

Warning: There are only 8 Values in this data

Note: It should be noted that even though bootstrap methods may be performed on this data set, the resulting calculations may not be reliable enough to draw conclusions

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.805
Shapiro Wilk Critical Value	0.818

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.873
Shapiro Wilk Critical Value	0.818

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	120.3
95% UCLs (Adjusted for Skewness)	
95% Adjusted-CLT UCL (Chen-1995)	120.5
95% Modified-t UCL (Johnson-1978)	121.4

Assuming Lognormal Distribution

95% H-UCL	2049
95% Chebyshev (MVUE) UCL	271.7
97.5% Chebyshev (MVUE) UCL	355.2
99% Chebyshev (MVUE) UCL	519.2

Gamma Distribution Test

k star (bias corrected)	0.518
Theta Star	134.3
MLE of Mean	69.49
MLE of Standard Deviation	96.59
nu star	8.281
Approximate Chi Square Value (.05)	2.899
Adjusted Level of Significance	0.0195
Adjusted Chi Square Value	2.157

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Nonparametric Statistics

95% CLT UCL	113.6
95% Jackknife UCL	120.3
95% Standard Bootstrap UCL	110.5

Anderson-Darling Test Statistic	0.536	95% Bootstrap-t UCL	136.7
Anderson-Darling 5% Critical Value	0.749	95% Hall's Bootstrap UCL	106.8
Kolmogorov-Smirnov Test Statistic	0.259	95% Percentile Bootstrap UCL	112.4
Kolmogorov-Smirnov 5% Critical Value	0.305	95% BCA Bootstrap UCL	114.5
<b>Data appear Gamma Distributed at 5% Significance Level</b>		95% Chebyshev(Mean, Sd) UCL	186.4
		97.5% Chebyshev(Mean, Sd) UCL	237
<b>Assuming Gamma Distribution</b>		99% Chebyshev(Mean, Sd) UCL	336.4
95% Approximate Gamma UCL	198.5		
95% Adjusted Gamma UCL	266.8		
<b>Potential UCL to Use</b>		Use 95% Approximate Gamma UCL	198.5

**Recommended UCL exceeds the maximum observation**

**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**

Bkgnd As

General Statistics			
Number of Valid Observations	9	Number of Distinct Observations	8
Raw Statistics		Log-transformed Statistics	
Minimum	3.1	Minimum of Log Data	1.131
Maximum	22	Maximum of Log Data	3.091
Mean	7.322	Mean of log Data	1.797
Median	6	SD of log Data	0.607
SD	5.886		
Std. Error of Mean	1.962		
Coefficient of Variation	0.804		
Skewness	2.354		

**Warning: There are only 9 Values in this data**

**Note: It should be noted that even though bootstrap methods may be performed on this data set, the resulting calculations may not be reliable enough to draw conclusions**

The literature suggests to use bootstrap methods on data sets having more than 10-15 observations.

Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.69	Shapiro Wilk Test Statistic	0.884
Shapiro Wilk Critical Value	0.829	Shapiro Wilk Critical Value	0.829
<b>Data not Normal at 5% Significance Level</b>		<b>Data appear Lognormal at 5% Significance Level</b>	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	10.97	95% H-UCL	12.28
<b>95% UCLs (Adjusted for Skewness)</b>		95% Chebyshev (MVUE) UCL	13.46
95% Adjusted-CLT UCL (Chen-1995)	12.19	97.5% Chebyshev (MVUE) UCL	16.21
95% Modified-t UCL (Johnson-1978)	11.23	99% Chebyshev (MVUE) UCL	21.63

**Gamma Distribution Test**

k star (bias corrected)	1.893
Theta Star	3.869
MLE of Mean	7.322
MLE of Standard Deviation	5.322
nu star	34.07
Approximate Chi Square Value (.05)	21.72
Adjusted Level of Significance	0.0231
Adjusted Chi Square Value	19.67
Anderson-Darling Test Statistic	0.694
Anderson-Darling 5% Critical Value	0.728
Kolmogorov-Smirnov Test Statistic	0.292
Kolmogorov-Smirnov 5% Critical Value	0.282

Data follow Appr. Gamma Distribution at 5% Significance Level

**Assuming Gamma Distribution**

95% Approximate Gamma UCL	11.49
95% Adjusted Gamma UCL	12.69

Potential UCL to Use

**Data Distribution**

Data Follow Appr. Gamma Distribution at 5% Significance Level

**Nonparametric Statistics**

95% CLT UCL	10.55
95% Jackknife UCL	10.97
95% Standard Bootstrap UCL	10.3
95% Bootstrap-t UCL	18.61
95% Hall's Bootstrap UCL	27.11
95% Percentile Bootstrap UCL	10.78
95% BCA Bootstrap UCL	12.11
95% Chebyshev(Mean, Sd) UCL	15.87
97.5% Chebyshev(Mean, Sd) UCL	19.57
99% Chebyshev(Mean, Sd) UCL	26.84

Use 95% Approximate Gamma UCL 11.49

**Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.**



**t-Test Site vs Background Comparison for Full Data Sets without NDs**

**User Selected Options**

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Site or AOC Mean Less Than or Equal to Background Mean (Form 1)
Alternative Hypothesis	Site or AOC Mean Greater Than the Background Mean

Area of Concern Data: Site 21 As

Background Data: Bkgnd As

**Raw Statistics**

	Site	Background
Number of Valid Observations	8	9
Number of Distinct Observations	8	8
Minimum	4	3.1
Maximum	180	22
Mean	69.49	7.322
Median	33	6
SD	75.87	5.886
SE of Mean	26.82	1.962

**Site vs Background Two-Sample t-Test**

H0: Mu of Site - Mu of Background <= 0

Method	DF	t-Test Value	Critical t (0.050)	P-Value
Pooled (Equal Variance)	15	2.460	1.753	0.013
Welch-Satterthwaite (Unequal Variance)	7.1	2.311	1.895	0.027

Pooled SD 52.006

Conclusion with Alpha = 0.050

\* Student t (Pooled) Test: Reject H0, Conclude Site > Background

\* Welch-Satterthwaite Test: Reject H0, Conclude Site > Background

**Test of Equality of Variances**

Variance of Site	5756
Variance of Background	34.64

Numerator DF	Denominator DF	F-Test Value	P-Value
7	8	166.161	0.000

Conclusion with Alpha = 0.05

\* Two variances are not equal