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TestAmerica Laboratories, Inc.

**ANALYTICAL REPORT**

Tronox LLC, Henderson

SDG: 8304641

Lots #: D9J270261, D9J270263, D9J280280, D9J280283, D9J290310,  
D9J300353, D9J300356, and D9J310138

Frank Hagar

Northgate Environmental Management, Inc.  
1100 Quail Street  
Suite 102  
Newport Beach, CA 92660

**TestAmerica Laboratories, Inc.**



**Michael P. Phillips**  
Project Manager

November 12, 2009

## Case Narrative

### SDG 8304641

The samples presented in this report were submitted to TestAmerica by Northgate Environmental Management, Inc. from the Tronox/Henderson site. The samples were received according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the methods summary page in accordance with the methods indicated.

The results apply only to the samples included in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have been found to be compliant with laboratory protocols, with the exception of any items noted below.

### **Sample Receiving**

One sample was received under chain of custody at a temperature of 2.6°C on October 27, 2009, and was logged under lot D9J270261. One sample was received under chain of custody at a temperature of 2.6°C on October 27, 2009, and was logged under lot D9J270263. One sample was received under chain of custody at a temperature of 1.1°C on October 28, 2009, and was logged under lot D9J280280. One sample was received under chain of custody at a temperature of 1.1°C on October 28, 2009, and was logged under lot D9J280283. Four samples were received under chain of custody at a temperature of 2.2°C on October 29, 2009, and were logged under lot D9J290310. Two samples were received under chain of custody at a temperature of 2.9°C on October 30, 2009, and were logged under lot D9J300353. One sample was received under chain of custody at a temperature of 2.9°C on October 30, 2009, and was logged under lot D9J300356. One sample was received under chain of custody at a temperature of 2.7°C on October 31, 2009, and was logged under lot D9J310138. These lots are reported here under SDG 8304641.

### **Total and Dissolved Arsenic and Selenium – SW846 Method 6020/Collision Cell**

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. All of the samples except D9J300353-002 (M-137BDISS) and D9J310138-001 (EB103009-GWA4) were analyzed for Arsenic and Selenium at dilutions of 2X or 5X due to the sample matrix. The reporting limits have been adjusted relative to the dilutions required.

The method required MS/MSD was performed for Total Metals QC batch 9303185 using sample D9J270261-001 (M-139B), and exhibited MS/MSD recoveries for both Arsenic and Selenium that were within the QC control limits even though the concentration of Arsenic in the parent sample was greater than 4X the spike amount. The MS and MSD results for Arsenic have been flagged with "MSB".

The method required MS/MSD was performed for Total Metals QC batch 9306276 using sample D9J310138-001 (EB103009-GWA4), and all results were in control.

The method required MS/MSD was performed for Dissolved Metals QC batch 9303187 using sample D9J290310-003 (M-138BDISS), and exhibited MS/MSD recoveries for both Arsenic and Selenium that were within the QC control limits even though the concentration of Arsenic in the parent sample was greater than 4X the spike amount. The MS and MSD results for Arsenic have been flagged with "MSB".

The method required MS/MSD was performed for Dissolved Metals QC batch 9306272 using sample D9J300353-002 (M-137BDISS), and exhibited MS/MSD recoveries for both Arsenic and Selenium that were within the QC control limits even though the concentration of Arsenic in the parent sample was greater than 4X the spike amount. The MS and MSD results for Arsenic have been flagged with "MSB".

## Quality Control Definitions of Terms

<b>Term</b>	<b>Definition</b>
Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD)	A volume of reagent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. A LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. An LCSD is a second Laboratory Control Sample.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MS/MSDs are carried throughout the entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.
Sample Duplicate	A second aliquot of an environmental sample, taken from the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative of the precision for other samples in the batch.
Method Detection Limit "MDL"	The method detection limit is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from replicate analyses of low level standards in a typical representative matrix.
Reporting Limit "RL"	The TestAmerica reporting limit is normally the lowest level at which measurements become quantitatively meaningful, i.e., the quantitation limit, which is approximately three times the MDL. Some projects require RLs that are less than the quantitation limit to achieve particular maximum contaminant levels (MCLs) or relevant and appropriate requirements (ARARs), but RLs cannot be less than the statistically determined MDL.

## Quality Control Definitions of Qualifiers

Qualifier	Definition
*	Surrogate or Relative Percent Difference (RPD) is outside control limits.
a	Spiked analyte recovery is outside control limits.
B	Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level. Inorganics: Estimated result. Result is less than the RL
COL	More than 40% difference between the primary and confirmation detector results. The lower of the two results is reported.
DIL	The concentration is estimated or not reported due to dilution.
E	Estimated result. Result concentration exceeds the calibration range.
G	Inorganics: Elevated reporting limit. The reporting limit is elevated due to matrix interference.
J	Organics: Estimated result. Result is less than RL Inorganics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.
L	Serial dilution of a digestate in the analytical batch indicates that physical and chemical interferences are present
N	Spiked analyte recovery is outside stated control limits.
NC	The recovery and/or RPD were not calculated.
ND	The analyte was not detected at the MDL concentration and with a measurable degree of confidence can be said not to be present at or above the RL concentration.
p	Relative percent difference (RPD) is outside stated control limits.
Q	Elevated reporting limit. The reporting limit is elevated due to high analyte levels.
V	General Chemistry: Elevated reporting limit due to limited sample volume.
Wa	Post digestion spike recovery fell between 40-85% due to matrix interference.
Wb	Post digestion spike recovery fell between 115-150% due to matrix interference.
I	Percent recovery is estimated since the results exceeded the calibration range.
T1	A tentatively identified compound that did not generate a spectral match of 80% or greater. Typically called "unknown"
T2	A tentatively identified compound with a spectral match of 80% or better
T3	A tentatively identified compound that was calibrated for by the lab, but not on the client target analyte list.
IC	Diluted due to high inorganic chloride.

## EXECUTIVE SUMMARY - Detection Highlights

8304641 : D9J270261

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-139B 10/26/09 12:55 001				
Arsenic	190	25	ug/L	SW846 6020

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

8304641 : D9J270263

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>M-145B 10/26/09 10:15 001</b>				
Arsenic	69	25	ug/L	SW846 6020
Selenium	4.0 B	25	ug/L	SW846 6020

(Continued on next page)



# EXECUTIVE SUMMARY - Detection Highlights

8304641 : D9J280280

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-146B 10/27/09 09:30 001				
Arsenic	280	25	ug/L	SW846 6020
Selenium	9.0 B	25	ug/L	SW846 6020

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

8304641 : D9J280283

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>M-144B 10/27/09 12:25 001</b>				
Arsenic	210	25	ug/L	SW846 6020
Selenium	3.5 B	25	ug/L	SW846 6020

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

8304641 : D9J290310

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>M-138B 10/28/09 11:15 001</b>				
Arsenic	350	25	ug/L	SW846 6020
<b>M-138009B 10/28/09 11:15 002</b>				
Arsenic	340	25	ug/L	SW846 6020
<b>M-138BDISS 10/28/09 11:15 003</b>				
Arsenic - DISSOLVED	340	10	ug/L	SW846 6020
Selenium - DISSOLVED	2.4 B	10	ug/L	SW846 6020
<b>M-138009BDISS 10/28/09 11:15 004</b>				
Arsenic - DISSOLVED	330	10	ug/L	SW846 6020
Selenium - DISSOLVED	2.4 B	10	ug/L	SW846 6020

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

8304641 : D9J300353

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>M-137B 10/29/09 13:30 001</b>				
Arsenic	200	10	ug/L	SW846 6020
Selenium	3.2 B	10	ug/L	SW846 6020
<b>M-137BDISS 10/29/09 13:30 002</b>				
Arsenic - DISSOLVED	190	5.0	ug/L	SW846 6020
Selenium - DISSOLVED	2.2 B	5.0	ug/L	SW846 6020

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

8304641 : D9J300356

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
M-148B 10/29/09 09:10 001				
Arsenic	110	10	ug/L	SW846 6020
Selenium	6.6 B	10	ug/L	SW846 6020

# EXECUTIVE SUMMARY - Detection Highlights

D9J310138

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>NO DETECTABLE PARAMETERS</b>				

# METHODS SUMMARY

8304641

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
ICP-MS (6020)	SW846 6020	SW846 3005A
ICP-MS (6020)	SW846 6020	SW846 3020A

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# METHOD / ANALYST SUMMARY

8304641

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
SW846 6020	Luis Diaz	004729
SW846 6020	Luis Diaz	4729
SW846 6020	Thomas Lill	006929

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.



# SAMPLE SUMMARY

8304641 : D9J270261

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNC7F	001	M-139B	10/26/09	12:55

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

# SAMPLE SUMMARY

8304641 : D9J270263

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNC7L	001	M-145B	10/26/09	10:15

**NOTE (S) :**

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(Continued on next page)

# SAMPLE SUMMARY

8304641 : D9J280280

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNFGD	001	M-146B	10/27/09	09:30

**NOTE (S) :**

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- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

# SAMPLE SUMMARY

8304641 : D9J280283

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNFG2	001	M-144B	10/27/09	12:25

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

# SAMPLE SUMMARY

8304641 : D9J290310

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNH2J	001	M-138B	10/28/09	11:15
LNH2K	002	M-138009B	10/28/09	11:15
LNH2L	003	M-138BDISS	10/28/09	11:15
LNH2N	004	M-138009BDISS	10/28/09	11:15

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

# SAMPLE SUMMARY

8304641 : D9J300353

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNLN9	001	M-137B	10/29/09	13:30
LNLPF	002	M-137BDISS	10/29/09	13:30

**NOTE (S) :**

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- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

# SAMPLE SUMMARY

8304641 : D9J300356

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNLR4	001	M-148B	10/29/09	09:10

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

(Continued on next page)

# SAMPLE SUMMARY

8304641 : D9J310138

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
LNME4	001	EB103009-GWA4	10/30/09	11:10

**NOTE (S) :**

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- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



# QC DATA ASSOCIATION SUMMARY

D9J270261

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WG	SW846 6020		9303185	9303114

# QC DATA ASSOCIATION SUMMARY

D9J270263

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WG	SW846 6020		9303185	9303114

# QC DATA ASSOCIATION SUMMARY

D9J280280

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WG	SW846 6020		9303185	9303114

# QC DATA ASSOCIATION SUMMARY

D9J280283

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WG	SW846 6020		9303185	9303114

# QC DATA ASSOCIATION SUMMARY

D9J290310

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WG	SW846 6020		9303185	9303114
002	WG	SW846 6020		9303185	9303114
003	WG	SW846 6020		9303187	9303116
004	WG	SW846 6020		9303187	9303116

# QC DATA ASSOCIATION SUMMARY

D9J300353

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WG	SW846 6020		9306276	9306166
002	WG	SW846 6020		9306272	9306161

# QC DATA ASSOCIATION SUMMARY

D9J300356

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WG	SW846 6020		9306276	9306166

# QC DATA ASSOCIATION SUMMARY

D9J310138

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WQ	SW846 6020		9306276	9306166



TestAmerica  
**Total Metals**  
CLP-Like Forms

Lot ID: D9J270261

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001

Total Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J270261

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-139B</u>	<u>D9J270261-001</u>
<u>M-139B MS</u>	<u>D9J270261-001S</u>
<u>M-139B MSD</u>	<u>D9J270261-001SD</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/10/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>M-139B</u>
<b>Lot/SDG Number:</b>	<u>D9J270261</u>	<b>Lab Sample ID:</b>	<u>D9J270261-001</u>
<b>Matrix:</b>	<u>WATER</u>	<b>Lab WorkOrder:</b>	<u>LNC7F</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/26/09 12:55</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/27/09 09:30</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/02/09 14:30</u>
<b>QC Batch ID:</b>	<u>9303185</u>	<b>Date/Time Analyzed:</b>	<u>11/08/09 02:44</u>
<b>Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>Dilution Factor:</b>	<u>5</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	190	1.0	25	
7782-49-2	Selenium	3.5	3.5	25	U

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.9	101.8	M
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.0	102.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	51.0	102.0	50.2	100.4	M
Selenium				50.0	49.4	98.8	52.9	105.8	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	50.6	101.2	50.3	100.6	M
Selenium				50.0	51.9	103.8	50.7	101.4	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Total Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J270261

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				1.00	1.009	100.9		
Selenium				1.00	0.851	85.1		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J270261  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185B  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:39  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U



Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M		
		1	C	2	C	3	C	C				
Arsenic	0.210 U	0.210	U	0.210	U	0.210	U	0.210	U	0.21	U	M
Selenium	0.700 U	0.700	U	0.700	U	0.700	U	0.700	U	0.70	U	M

Comments:

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Arsenic		0.210	U	0.210	U	0.210	U			M
Selenium		0.700	U	0.700	U	0.700	U			M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.35	99.50	99.5	0.31	101.10	101.1
Selenium	0.0	100.0	0.47	105.90	105.9	-0.18	105.10	105.1

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J270261  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 5

**Client Sample ID:** M-139B  
**MS Lab Sample ID:** D9J270261-001S  
**MS Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:53  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	190		237	MSB	116		85 - 117
Selenium	40.0	3.5	U	41.0		98		77 - 122

## Northgate Environmental Management, Inc.

### Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D9J270261

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6020

Unit: ug/L

QC Batch ID: 9303185

MSD Sample Aliquot: 50 mL

MSD Dilution Factor: 5

Client Sample ID: M-139B

MSD Lab Sample ID: D9J270261-001D

MSD Lab WorkOrder: LNC7F

Date/Time Collected: 10/26/09 12:55

Date/Time Received: 10/27/09 09:30

Date Leached:

Date/Time Extracted: 11/02/09 14:30

Date/Time Analyzed: 11/08/09 03:04

Instrument ID: 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	190		236	MSB	113		0.46		85 - 117	20
Selenium	40.0	3.5	U	42.4		101		3.3		77 - 122	20

Total Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

M-139B PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	232.300	38.140	200.00	97.1		M
Selenium	75 - 125	204.200	0.700 U	200.00	102.1		M

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

**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J270261  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185C  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:42  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	34.7	87		85 - 117
Selenium	40.0	35.6	89		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-139B SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	38.140	37.570	1.5		M
Selenium	0.700 U	3.500 U			M

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



Total Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Total Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

Comments:

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270261

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-139B	11/2/2009	50.0	50.0
M-139B MS	11/2/2009	50.0	50.0
M-139B MSD	11/2/2009	50.0	50.0
MB9303185	11/2/2009	50.0	50.0
Check Sample	11/2/2009	50.0	50.0

Comments:

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J270261

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
CAL BLANK	1.00	15:09				X															X								
100 PPB	1.00	15:12				X															X								
ICV	1.00	15:15				X															X								
ICB	1.00	15:20				X															X								
RL STD	1.00	15:23				X															X								
ICSA	1.00	15:31				X															X								
ICSAB	1.00	15:34				X															X								
RINSE	1.00	15:37				X															X								
LR1	1.00	15:40				X															X								
RINSE	1.00	15:42				X															X								
CCV	1.00	15:45				X															X								
CCB	1.00	15:48				X															X								
CCV	1.00	19:25				X															X								
CCB	1.00	19:28				X															X								
ICSA	1.00	19:33				X															X								
ICSAB	1.00	19:36				X															X								
WASH	1.00	19:39				X															X								
CCV	1.00	19:41				X															X								
CCB	1.00	19:44				X															X								
CAL BLANK	1.00	02:25				X															X								
100 PPB	1.00	02:28				X															X								
CCV	1.00	02:31				X															X								
CCB	1.00	02:33				X															X								
MB9303185	1.00	02:39				X															X								
Check Sample	1.00	02:42				X															X								
M-139B	5.00	02:44				X															X								
M-139B SER	25.00	02:47				X															X								
M-139B PDS	1.00	02:50				X															X								
M-139B MS	5.00	02:53				X															X								
CCV	1.00	02:56				X															X								
CCB	1.00	02:58				X															X								
M-139B MSD	5.00	03:04				X															X								
CCV	1.00	03:21				X															X								

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J270261

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
CCB	1.00	03:23				X														X							

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica  
**Total Metals**  
CLP-Like Forms

Lot ID: D9J270263

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001

Total Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc. SDG No.: D9J270263  
Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_  
SOW No.: \_\_\_\_\_

Sample ID. Lab Sample No.  
M-145B D9J270263-001

Were ICP interelement corrections applied? Yes/No YES  
Were ICP background corrections applied? Yes/No YES  
If yes-were raw data generated before application of background corrections? Yes/No NO

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins Name: Janice Collins  
Date: 11/10/09 Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>M-145B</u>
<b>Lot/SDG Number:</b>	<u>D9J270263</u>	<b>Lab Sample ID:</b>	<u>D9J270263-001</u>
<b>Matrix:</b>	<u>WATER</u>	<b>Lab WorkOrder:</b>	<u>LNC7L</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/26/09 10:15</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/27/09 09:30</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/02/09 14:30</u>
<b>QC Batch ID:</b>	<u>9303185</u>	<b>Date/Time Analyzed:</b>	<u>11/08/09 03:07</u>
<b>Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>Dilution Factor:</b>	<u>5</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	69	1.0	25	
7782-49-2	Selenium	4.0	3.5	25	B



Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.9	101.8	M
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.0	102.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	51.0	102.0	50.2	100.4	M
Selenium				50.0	49.4	98.8	52.9	105.8	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	50.6	101.2	50.3	100.6	M
Selenium				50.0	51.9	103.8	50.7	101.4	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Total Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J270263

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				1.00	1.009	100.9		
Selenium				1.00	0.851	85.1		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J270263  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185B  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:39  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

**Total Metals Analysis**

-3-

**BLANKS**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		1	C	2	C	3	C	C		
Arsenic	0.210 U	0.210	U	0.210	U	0.210	U	0.21	U	M
Selenium	0.700 U	0.700	U	0.700	U	0.700	U	0.70	U	M

Comments:

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	
		1	C	2	C	3	C	C	M
Arsenic		0.210	U	0.210	U	0.210	U		M
Selenium		0.700	U	0.700	U	0.700	U		M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.35	99.50	99.5	0.31	101.10	101.1
Selenium	0.0	100.0	0.47	105.90	105.9	-0.18	105.10	105.1



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J270263  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 5

**Client Sample ID:** LAB MS/MSD  
**MS Lab Sample ID:** D9J270261-001S  
**MS Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:53  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	190		237	MSB	116		85 - 117
Selenium	40.0	3.5	U	41.0		98		77 - 122

**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J270263  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 5

**Client Sample ID:** LAB MS/MSD  
**MSD Lab Sample ID:** D9J270261-001D  
**MSD Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 03:04  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	190		236	MSB	113		0.46		85 - 117	20
Selenium	40.0	3.5	U	42.4		101		3.3		77 - 122	20

Total Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LAB QC PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	232.300	38.140	200.00	97.1		M
Selenium	75 - 125	204.200	0.700 U	200.00	102.1		M

Comments:

\_\_\_\_\_

**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J270263  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185C  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:42  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	34.7	87		85 - 117
Selenium	40.0	35.6	89		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

INTRA-LAB QC SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	38.140	37.570	1.5		M
Selenium	0.700 U	3.500 U			M

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

Total Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Total Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J270263

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	11/2/2009	50.0	50.0
LAB MS/MSD MS	11/2/2009	50.0	50.0
LAB MS/MSD MSD	11/2/2009	50.0	50.0
M-145B	11/2/2009	50.0	50.0
MB9303185	11/2/2009	50.0	50.0
Check Sample	11/2/2009	50.0	50.0

Comments:



Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J270263

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
CAL BLANK	1.00	15:09				X															X								
100 PPB	1.00	15:12				X															X								
ICV	1.00	15:15				X															X								
ICB	1.00	15:20				X															X								
RL STD	1.00	15:23				X															X								
ICSA	1.00	15:31				X															X								
ICSAB	1.00	15:34				X															X								
RINSE	1.00	15:37				X															X								
LR1	1.00	15:40				X															X								
RINSE	1.00	15:42				X															X								
CCV	1.00	15:45				X															X								
CCB	1.00	15:48				X															X								
CCV	1.00	19:25				X															X								
CCB	1.00	19:28				X															X								
ICSA	1.00	19:33				X															X								
ICSAB	1.00	19:36				X															X								
WASH	1.00	19:39				X															X								
CCV	1.00	19:41				X															X								
CCB	1.00	19:44				X															X								
CAL BLANK	1.00	02:25				X															X								
100 PPB	1.00	02:28				X															X								
CCV	1.00	02:31				X															X								
CCB	1.00	02:33				X															X								
MB9303185	1.00	02:39				X															X								
Check Sample	1.00	02:42				X															X								
INTRA-LAB QC	5.00	02:44				X															X								
INTRA-LAB QC SER	25.00	02:47				X															X								
INTRA-LAB QC PDS	1.00	02:50				X															X								
LAB MS/MSD MS	5.00	02:53				X															X								
CCV	1.00	02:56				X															X								
CCB	1.00	02:58				X															X								
LAB MS/MSD MSD	5.00	03:04				X															X								
M-145B	5.00	03:07				X															X								

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J270263

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
CCV	1.00	03:21				X															X								
CCB	1.00	03:23				X															X								

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica  
**Total Metals**  
CLP-Like Forms

Lot ID: D9J280280

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001

**Total Metals Analysis**  
**COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE**

Contract: Northgate Environmental Management, Inc. SDG No.: D9J280280  
Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_  
SOW No.: \_\_\_\_\_

Sample ID. Lab Sample No.  
M-146B D9J280280-001

Were ICP interelement corrections applied? Yes/No YES  
Were ICP background corrections applied? Yes/No YES  
If yes-were raw data generated before application of background corrections? Yes/No NO

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: *Janice Collins* Name: Janice Collins  
Date: 11/10/09 Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>M-146B</u>
<b>Lot/SDG Number:</b>	<u>D9J280280</u>	<b>Lab Sample ID:</b>	<u>D9J280280-001</u>
<b>Matrix:</b>	<u>WATER</u>	<b>Lab WorkOrder:</b>	<u>LNFGD</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/27/09 09:30</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/28/09 10:00</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/02/09 14:30</u>
<b>QC Batch ID:</b>	<u>9303185</u>	<b>Date/Time Analyzed:</b>	<u>11/08/09 03:09</u>
<b>Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>Dilution Factor:</b>	<u>5</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	280	1.0	25	
7782-49-2	Selenium	9.0	3.5	25	B

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.9	101.8	M
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.0	102.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	51.0	102.0	50.2	100.4	M
Selenium				50.0	49.4	98.8	52.9	105.8	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	50.6	101.2	50.3	100.6	M
Selenium				50.0	51.9	103.8	50.7	101.4	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115



**Total Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J280280

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				1.00	1.009	100.9		
Selenium				1.00	0.851	85.1		

Comments:

## Northgate Environmental Management, Inc.

### Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D9J280280  
Matrix: WATER  
% Moisture:  
Basis: Wet  
Analysis Method: 6020  
Unit: ug/L  
QC Batch ID: 9303185  
Sample Aliquot: 50 mL  
Dilution Factor: 1

Client Sample ID:  
Lab Sample ID: D9J300000-185B  
Lab WorkOrder: LNJNV  
Date/Time Collected:  
Date/Time Received:  
Date Leached:  
Date/Time Extracted: 11/02/09 14:30  
Date/Time Analyzed: 11/08/09 02:39  
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		1	C	2	C	3	C	C		
Arsenic	0.210 U	0.210	U	0.210	U	0.210	U	0.21	U	M
Selenium	0.700 U	0.700	U	0.700	U	0.700	U	0.70	U	M

Comments:

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank			
		C	1	C	2	C	3	C	C	M	
Arsenic			0.210	U	0.210	U	0.210	U			M
Selenium			0.700	U	0.700	U	0.700	U			M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.35	99.50	99.5	0.31	101.10	101.1
Selenium	0.0	100.0	0.47	105.90	105.9	-0.18	105.10	105.1

## Northgate Environmental Management, Inc.

### Total Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>LAB MS/MSD</u>
<b>Lot/SDG Number:</b>	<u>D9J280280</u>	<b>MS Lab Sample ID:</b>	<u>D9J270261-001S</u>
<b>Matrix:</b>	<u>WATER</u>	<b>MS Lab WorkOrder:</b>	<u>LNC7F</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/26/09 12:55</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/27/09 09:30</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/02/09 14:30</u>
<b>QC Batch ID:</b>	<u>9303185</u>	<b>Date/Time Analyzed:</b>	<u>11/08/09 02:53</u>
<b>MS Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>MS Dilution Factor:</b>	<u>5</u>		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	190		237	MSB	116		85 - 117
Selenium	40.0	3.5	U	41.0		98		77 - 122

**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J280280  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 5

**Client Sample ID:** LAB MS/MSD  
**MSD Lab Sample ID:** D9J270261-001D  
**MSD Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 03:04  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	190		236	MSB	113		0.46		85 - 117	20
Selenium	40.0	3.5	U	42.4		101		3.3		77 - 122	20

Total Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LAB QC PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	232.300	38.140	200.00	97.1		M
Selenium	75 - 125	204.200	0.700 U	200.00	102.1		M

Comments:

\_\_\_\_\_



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J280280  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185C  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:42  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	34.7	87		85 - 117
Selenium	40.0	35.6	89		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

INTRA-LAB QC SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	38.140	37.570	1.5		M
Selenium	0.700 U	3.500 U			M

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

**Total Metals Analysis**

-10-

**DETECTION LIMITS**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

**Total Metals Analysis**  
**-12-**  
**ICP LINEAR RANGES (QUARTERLY)**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280280

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	11/2/2009	50.0	50.0
LAB MS/MSD MS	11/2/2009	50.0	50.0
LAB MS/MSD MSD	11/2/2009	50.0	50.0
M-146B	11/2/2009	50.0	50.0
MB9303185	11/2/2009	50.0	50.0
Check Sample	11/2/2009	50.0	50.0

Comments:

Total Metals Analysis  
-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J280280

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
CAL BLANK	1.00	15:09				X																X									
100 PPB	1.00	15:12				X																X									
ICV	1.00	15:15				X																X									
ICB	1.00	15:20				X																X									
RL STD	1.00	15:23				X																X									
ICSA	1.00	15:31				X																X									
ICSAB	1.00	15:34				X																X									
RINSE	1.00	15:37				X																X									
LR1	1.00	15:40				X																X									
RINSE	1.00	15:42				X																X									
CCV	1.00	15:45				X																X									
CCB	1.00	15:48				X																X									
CCV	1.00	19:25				X																X									
CCB	1.00	19:28				X																X									
ICSA	1.00	19:33				X																X									
ICSAB	1.00	19:36				X																X									
WASH	1.00	19:39				X																X									
CCV	1.00	19:41				X																X									
CCB	1.00	19:44				X																X									
CAL BLANK	1.00	02:25				X																X									
100 PPB	1.00	02:28				X																X									
CCV	1.00	02:31				X																X									
CCB	1.00	02:33				X																X									
MB9303185	1.00	02:39				X																X									
Check Sample	1.00	02:42				X																X									
INTRA-LAB QC	5.00	02:44				X																X									
INTRA-LAB QC SER	25.00	02:47				X																X									
INTRA-LAB QC PDS	1.00	02:50				X																X									
LAB MS/MSD MS	5.00	02:53				X																X									
CCV	1.00	02:56				X																X									
CCB	1.00	02:58				X																X									
LAB MS/MSD MSD	5.00	03:04				X																X									
M-146B	5.00	03:09				X																X									

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J280280

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
CCV	1.00	03:21				X															X										
CCB	1.00	03:23				X															X										

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica  
**Total Metals**  
CLP-Like Forms

Lot ID: D9J280283

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001



Total Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J280283

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

Sample ID.

Lab Sample No.

M-144B

D9J280283-001

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes-were raw data generated before application of background corrections?

Yes/No NO

Comments:

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/10/09

Title: Metals Analyst

## Northgate Environmental Management, Inc.

### Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D9J280283  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6020  
Unit: ug/L  
QC Batch ID: 9303185  
Sample Aliquot: 50 mL  
Dilution Factor: 5

Client Sample ID: M-144B  
Lab Sample ID: D9J280283-001  
Lab WorkOrder: LNFG2  
Date/Time Collected: 10/27/09 12:25  
Date/Time Received: 10/28/09 10:00  
Date Leached:  
Date/Time Extracted: 11/02/09 14:30  
Date/Time Analyzed: 11/08/09 03:12  
Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	210	1.0	25	
7782-49-2	Selenium	3.5	3.5	25	B

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.9	101.8	M
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.0	102.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	51.0	102.0	50.2	100.4	M
Selenium				50.0	49.4	98.8	52.9	105.8	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	50.6	101.2	50.3	100.6	M
Selenium				50.0	51.9	103.8	50.7	101.4	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Total Metals Analysis**  
 -2B-  
 CRDL STANDARD FOR AA AND ICP

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J280283

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
				True	Found	%R	Found	%R
Arsenic				1.00	1.009	100.9		
Selenium				1.00	0.851	85.1		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J280283  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185B  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:39  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		1	C	2	C	3	C	C		
Arsenic	0.210 U	0.210	U	0.210	U	0.210	U	0.210	U	M
Selenium	0.700 U	0.700	U	0.700	U	0.700	U	0.70	U	M

Comments:



Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
			1	C	2	C	3	C			
Arsenic			0.210	U	0.210	U	0.210	U			M
Selenium			0.700	U	0.700	U	0.700	U			M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.35	99.50	99.5	0.31	101.10	101.1
Selenium	0.0	100.0	0.47	105.90	105.9	-0.18	105.10	105.1

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J280283  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 5

**Client Sample ID:** LAB MS/MSD  
**MS Lab Sample ID:** D9J270261-001S  
**MS Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:53  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	190		237	MSB	116		85 - 117
Selenium	40.0	3.5	U	41.0		98		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J280283  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 5

**Client Sample ID:** LAB MS/MSD  
**MSD Lab Sample ID:** D9J270261-001D  
**MSD Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 03:04  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	190		236	MSB	113		0.46		85 - 117	20
Selenium	40.0	3.5	U	42.4		101		3.3		77 - 122	20

Total Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LAB QC PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	232.300	38.140	200.00	97.1		M
Selenium	75 - 125	204.200	0.700 U	200.00	102.1		M

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

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J280283  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185C  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:42  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	34.7	87		85 - 117
Selenium	40.0	35.6	89		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

INTRA-LAB QC SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	38.140	37.570	1.5		M
Selenium	0.700 U	3.500 U			M

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

Total Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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



Total Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

Comments:

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J280283

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	11/2/2009	50.0	50.0
LAB MS/MSD MS	11/2/2009	50.0	50.0
LAB MS/MSD MSD	11/2/2009	50.0	50.0
M-144B	11/2/2009	50.0	50.0
MB9303185	11/2/2009	50.0	50.0
Check Sample	11/2/2009	50.0	50.0

Comments:

Total Metals Analysis  
-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J280283

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	S E	A G	N A	T L	V N	Z N	C N
CAL BLANK	1.00	15:09				X														X							
100 PPB	1.00	15:12				X														X							
ICV	1.00	15:15				X														X							
ICB	1.00	15:20				X														X							
RL STD	1.00	15:23				X														X							
ICSA	1.00	15:31				X														X							
ICSAB	1.00	15:34				X														X							
RINSE	1.00	15:37				X														X							
LR1	1.00	15:40				X														X							
RINSE	1.00	15:42				X														X							
CCV	1.00	15:45				X														X							
CCB	1.00	15:48				X														X							
CCV	1.00	19:25				X														X							
CCB	1.00	19:28				X														X							
ICSA	1.00	19:33				X														X							
ICSAB	1.00	19:36				X														X							
WASH	1.00	19:39				X														X							
CCV	1.00	19:41				X														X							
CCB	1.00	19:44				X														X							
CAL BLANK	1.00	02:25				X														X							
100 PPB	1.00	02:28				X														X							
CCV	1.00	02:31				X														X							
CCB	1.00	02:33				X														X							
MB9303185	1.00	02:39				X														X							
Check Sample	1.00	02:42				X														X							
INTRA-LAB QC	5.00	02:44				X														X							
INTRA-LAB QC SER	25.00	02:47				X														X							
INTRA-LAB QC PDS	1.00	02:50				X														X							
LAB MS/MSD MS	5.00	02:53				X														X							
CCV	1.00	02:56				X														X							
CCB	1.00	02:58				X														X							
LAB MS/MSD MSD	5.00	03:04				X														X							
M-144B	5.00	03:12				X														X							

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J280283

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
CCV	1.00	03:21				X															X								
CCB	1.00	03:23				X															X								

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica

**Total Metals**

CLP-Like Forms

Lot ID: D9J290310

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001, 002

Total Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J290310

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-138009B</u>	<u>D9J290310-002</u>
<u>M-138B</u>	<u>D9J290310-001</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/10/09

Title: Metals Analyst

## Northgate Environmental Management, Inc.

### Total Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>M-138B</u>
<b>Lot/SDG Number:</b>	<u>D9J290310</u>	<b>Lab Sample ID:</b>	<u>D9J290310-001</u>
<b>Matrix:</b>	<u>WATER</u>	<b>Lab WorkOrder:</b>	<u>LNH2J</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/28/09 11:15</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/29/09 10:00</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/02/09 14:30</u>
<b>QC Batch ID:</b>	<u>9303185</u>	<b>Date/Time Analyzed:</b>	<u>11/08/09 03:15</u>
<b>Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>Dilution Factor:</b>	<u>5</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	350	1.0	25	
7782-49-2	Selenium	3.5	3.5	25	U

**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 5

**Client Sample ID:** M-138009B  
**Lab Sample ID:** D9J290310-002  
**Lab WorkOrder:** LNH2K  
**Date/Time Collected:** 10/28/09 11:15  
**Date/Time Received:** 10/29/09 10:00  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 03:18  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	340	1.0	25	
7782-49-2	Selenium	3.5	3.5	25	U



Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.9	101.8	M
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.0	102.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	51.0	102.0	50.2	100.4	M
Selenium				50.0	49.4	98.8	52.9	105.8	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	50.6	101.2	50.3	100.6	M
Selenium				50.0	51.9	103.8	50.7	101.4	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Total Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J290310

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
				True	Found	%R	Found	%R
Arsenic				1.00	1.009	100.9		
Selenium				1.00	0.851	85.1		

Comments:

## Northgate Environmental Management, Inc.

### Total Metals Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D9J290310

Matrix: WATER

% Moisture:

Basis: Wet

Analysis Method: 6020

Unit: ug/L

QC Batch ID: 9303185

Sample Aliquot: 50 mL

Dilution Factor: 1

Client Sample ID:

Lab Sample ID: D9J300000-185B

Lab WorkOrder: LNJNV

Date/Time Collected:

Date/Time Received:

Date Leached:

Date/Time Extracted: 11/02/09 14:30

Date/Time Analyzed: 11/08/09 02:39

Instrument ID: 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		1	C	2	C	3	C	C		
Arsenic	0.210 U	0.210	U	0.210	U	0.210	U	0.21	U	M
Selenium	0.700 U	0.700	U	0.700	U	0.700	U	0.70	U	M

Comments:

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Arsenic		0.210	U	0.210	U	0.210	U			M
Selenium		0.700	U	0.700	U	0.700	U			M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.35	99.50	99.5	0.31	101.10	101.1
Selenium	0.0	100.0	0.47	105.90	105.9	-0.18	105.10	105.1



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 5

**Client Sample ID:** LAB MS/MSD  
**MS Lab Sample ID:** D9J270261-001S  
**MS Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:53  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	190		237	MSB	116		85 - 117
Selenium	40.0	3.5	U	41.0		98		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 5

**Client Sample ID:** LAB MS/MSD  
**MSD Lab Sample ID:** D9J270261-001D  
**MSD Lab WorkOrder:** LNC7F  
**Date/Time Collected:** 10/26/09 12:55  
**Date/Time Received:** 10/27/09 09:30  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 03:04  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	190		236	MSB	113		0.46		85 - 117	20
Selenium	40.0	3.5	U	42.4		101		3.3		77 - 122	20

Total Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LAB QC PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	232.300	38.140	200.00	97.1		M
Selenium	75 - 125	204.200	0.700 U	200.00	102.1		M

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

**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303185  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-185C  
**Lab WorkOrder:** LNJNV  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:42  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	34.7	87		85 - 117
Selenium	40.0	35.6	89		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

INTRA-LAB QC SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	38.140	37.570	1.5		M
Selenium	0.700 U	3.500 U			M

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

**Total Metals Analysis**

-10-

**DETECTION LIMITS**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Total Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
INTRA-LAB QC	11/2/2009	50.0	50.0
LAB MS/MSD MS	11/2/2009	50.0	50.0
LAB MS/MSD MSD	11/2/2009	50.0	50.0
M-138B	11/2/2009	50.0	50.0
M-138009B	11/2/2009	50.0	50.0
MB9303185	11/2/2009	50.0	50.0
Check Sample	11/2/2009	50.0	50.0

Comments:



Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J290310

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	S E	A G	N A	T L	V N	Z N
CAL BLANK	1.00	15:09				X														X						
100 PPB	1.00	15:12				X														X						
ICV	1.00	15:15				X														X						
ICB	1.00	15:20				X														X						
RL STD	1.00	15:23				X														X						
ICSA	1.00	15:31				X														X						
ICSAB	1.00	15:34				X														X						
RINSE	1.00	15:37				X														X						
LR1	1.00	15:40				X														X						
RINSE	1.00	15:42				X														X						
CCV	1.00	15:45				X														X						
CCB	1.00	15:48				X														X						
CCV	1.00	19:25				X														X						
CCB	1.00	19:28				X														X						
ICSA	1.00	19:33				X														X						
ICSAB	1.00	19:36				X														X						
WASH	1.00	19:39				X														X						
CCV	1.00	19:41				X														X						
CCB	1.00	19:44				X														X						
CAL BLANK	1.00	02:25				X														X						
100 PPB	1.00	02:28				X														X						
CCV	1.00	02:31				X														X						
CCB	1.00	02:33				X														X						
MB9303185	1.00	02:39				X														X						
Check Sample	1.00	02:42				X														X						
INTRA-LAB QC	5.00	02:44				X														X						
INTRA-LAB QC SER	25.00	02:47				X														X						
INTRA-LAB QC PDS	1.00	02:50				X														X						
LAB MS/MSD MS	5.00	02:53				X														X						
CCV	1.00	02:56				X														X						
CCB	1.00	02:58				X														X						
LAB MS/MSD MSD	5.00	03:04				X														X						
M-138B	5.00	03:15				X														X						

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J290310

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
M-138009B	5.00	03:18				X														X							
CCV	1.00	03:21				X														X							
CCB	1.00	03:23				X														X							

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica  
**Dissolved Metals**  
CLP-Like Forms

Lot ID: D9J290310

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 003, 004

Dissolved Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J290310

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-138009BDISS</u>	<u>D9J290310-004</u>
<u>M-138BDISS</u>	<u>D9J290310-003</u>
<u>M-138BDISS MS</u>	<u>D9J290310-003S</u>
<u>M-138BDISS MSD</u>	<u>D9J290310-003SD</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/10/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>M-138BDISS</u>
<b>Lot/SDG Number:</b>	<u>D9J290310</u>	<b>Lab Sample ID:</b>	<u>D9J290310-003</u>
<b>Matrix:</b>	<u>WATER</u>	<b>Lab WorkOrder:</b>	<u>LNH2L</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/28/09 11:15</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/29/09 10:00</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/02/09 14:30</u>
<b>QC Batch ID:</b>	<u>9303187</u>	<b>Date/Time Analyzed:</b>	<u>11/08/09 01:52</u>
<b>Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>Dilution Factor:</b>	<u>2</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	340	0.42	10	
7782-49-2	Selenium	2.4	1.4	10	B

**Northgate Environmental Management, Inc.**

**Dissolved Metals Analysis Data Sheet**

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>M-138009BDISS</u>
<b>Lot/SDG Number:</b>	<u>D9J290310</u>	<b>Lab Sample ID:</b>	<u>D9J290310-004</u>
<b>Matrix:</b>	<u>WATER</u>	<b>Lab WorkOrder:</b>	<u>LNH2N</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/28/09 11:15</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/29/09 10:00</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/02/09 14:30</u>
<b>QC Batch ID:</b>	<u>9303187</u>	<b>Date/Time Analyzed:</b>	<u>11/08/09 02:06</u>
<b>Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>Dilution Factor:</b>	<u>2</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	330	0.42	10	
7782-49-2	Selenium	2.4	1.4	10	B

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	39.4	98.5	50.0	49.6	99.2	50.9	101.8	M
Selenium	40.0	39.0	97.5	50.0	51.3	102.6	51.0	102.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	51.0	102.0	49.1	98.2	M
Selenium				50.0	49.4	98.8	48.5	97.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115



Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	49.7	99.4	49.8	99.6	M
Selenium				50.0	49.0	98.0	49.6	99.2	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Dissolved Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J290310

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: **Inorganic Ventures**

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
				True	Found	%R	Found	%R
Arsenic				1.00	1.009	100.9		
Selenium				1.00	0.851	85.1		

Comments:

**Northgate Environmental Management, Inc.**

**Dissolved Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303187  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-187B  
**Lab WorkOrder:** LNJN5  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 01:46  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Dissolved Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		1	C	2	C	3	C	C		
Arsenic	0.210 U	0.210	U	0.210	U	0.210	U	0.21	U	M
Selenium	0.700 U	0.700	U	0.700	U	0.700	U	0.70	U	M

Comments:

Dissolved Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Arsenic		0.210	U	0.210	U	0.210	U			M
Selenium		0.700	U	0.700	U	0.700	U			M

Comments:

Dissolved Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.35	99.50	99.5	0.31	101.10	101.1
Selenium	0.0	100.0	0.47	105.90	105.9	-0.18	105.10	105.1

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303187  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 2

**Client Sample ID:** M-138BDISS  
**MS Lab Sample ID:** D9J290310-003S  
**MS Lab WorkOrder:** LNH2L  
**Date/Time Collected:** 10/28/09 11:15  
**Date/Time Received:** 10/29/09 10:00  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:00  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	340		374	MSB	95		85 - 117
Selenium	40.0	2.4	B	39.8		93		77 - 122

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303187  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 2

**Client Sample ID:** M-138BDISS  
**MSD Lab Sample ID:** D9J290310-003D  
**MSD Lab WorkOrder:** LNH2L  
**Date/Time Collected:** 10/28/09 11:15  
**Date/Time Received:** 10/29/09 10:00  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 02:03  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	340		377	MSB	102		0.74		85 - 117	20
Selenium	40.0	2.4	B	41.4		98		4.1		77 - 122	20



Dissolved Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

M-138BDISS PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	363.400	168.250	200.00	97.6		M
Selenium	75 - 125	213.900	1.211 B	200.00	106.3		M

Comments:

\_\_\_\_\_

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J290310  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9303187  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9J300000-187C  
**Lab WorkOrder:** LNJN5  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/02/09 14:30  
**Date/Time Analyzed:** 11/08/09 01:49  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	35.9	90		85 - 117
Selenium	40.0	34.0	85		77 - 122

Dissolved Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-138BDISS SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	168.250	161.650	3.9		M
Selenium	1.211 B	3.500 U	100.0		M

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

Dissolved Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Dissolved Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

Comments:

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

Dissolved Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J290310

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-138BDISS	11/2/2009	50.0	50.0
M-138BDISS MS	11/2/2009	50.0	50.0
M-138BDISS MSD	11/2/2009	50.0	50.0
M-138009BDISS	11/2/2009	50.0	50.0
MB9303187	11/2/2009	50.0	50.0
Check Sample	11/2/2009	50.0	50.0

Comments:

Dissolved Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J290310

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
CAL BLANK	1.00	15:09				X														X							
100 PPB	1.00	15:12				X														X							
ICV	1.00	15:15				X														X							
ICB	1.00	15:20				X														X							
RL STD	1.00	15:23				X														X							
ICSA	1.00	15:31				X														X							
ICSAB	1.00	15:34				X														X							
RINSE	1.00	15:37				X														X							
LR1	1.00	15:40				X														X							
RINSE	1.00	15:42				X														X							
CCV	1.00	15:45				X														X							
CCB	1.00	15:48				X														X							
CCV	1.00	19:25				X														X							
CCB	1.00	19:28				X														X							
ICSA	1.00	19:33				X														X							
ICSAB	1.00	19:36				X														X							
WASH	1.00	19:39				X														X							
CCV	1.00	19:41				X														X							
CCB	1.00	19:44				X														X							
CAL BLANK	1.00	23:44				X														X							
100 PPB	1.00	23:47				X														X							
CCV	1.00	23:50				X														X							
CCB	1.00	23:52				X														X							
CCV	1.00	01:38				X														X							
CCB	1.00	01:41				X														X							
MB9303187	1.00	01:46				X														X							
Check Sample	1.00	01:49				X														X							
M-138BDISS	2.00	01:52				X														X							
M-138BDISS SER	10.00	01:55				X														X							
M-138BDISS PDS	1.00	01:58				X														X							
M-138BDISS MS	2.00	02:00				X														X							
M-138BDISS MSD	2.00	02:03				X														X							
M-138009BDISS	2.00	02:06				X														X							

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Dissolved Metals Analysis

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ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J290310

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/7/2009 End Date: 11/8/2009

Sample ID.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
CCV	1.00	02:09				X														X							
CCB	1.00	02:11				X														X							

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



TestAmerica  
**Total Metals**  
CLP-Like Forms

Lot ID: D9J300353

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001

Total Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J300353

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

Sample ID.

Lab Sample No.

M-137B

D9J300353-001

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes-were raw data generated before  
application of background corrections?

Yes/No NO

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/11/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

Lab Name:	<u>TESTAMERICA DENVER</u>	Client Sample ID:	<u>M-137B</u>
Lot/SDG Number:	<u>D9J300353</u>	Lab Sample ID:	<u>D9J300353-001</u>
Matrix:	<u>WATER</u>	Lab WorkOrder:	<u>LNLN9</u>
% Moisture:	<u>N/A</u>	Date/Time Collected:	<u>10/29/09 13:30</u>
Basis:	<u>Wet</u>	Date/Time Received:	<u>10/30/09 10:30</u>
Analysis Method:	<u>6020</u>	Date Leached:	
Unit:	<u>ug/L</u>	Date/Time Extracted:	<u>11/03/09 14:00</u>
QC Batch ID:	<u>9306276</u>	Date/Time Analyzed:	<u>11/09/09 21:21</u>
Sample Aliquot:	<u>50 mL</u>	Instrument ID:	<u>024</u>
Dilution Factor:	<u>2</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	200	0.42	10	
7782-49-2	Selenium	3.2	1.4	10	B

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	51.4	102.8	M
Selenium	40.0	40.2	100.5	50.0	51.9	103.8	50.6	101.2	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Total Metals Analysis**  
 -2B-  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J300353

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
				True	Found	%R	Found	%R
Arsenic				1.00	1.051	105.1		
Selenium				1.00	1.232	123.2		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-276B  
**Lab WorkOrder:** LNNP6  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:16  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		1	2	3				C		
Arsenic	0.210 U	0.210 U	0.210 U					0.21 U		M
Selenium	0.700 U	0.700 U	0.700 U					0.70 U		M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.28	101.00	101.0			
Selenium	0.0	100.0	0.38	100.00	100.0			



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>LAB MS/MSD</u>
<b>Lot/SDG Number:</b>	<u>D9J300353</u>	<b>MS Lab Sample ID:</b>	<u>D9J310138-001S</u>
<b>Matrix:</b>	<u>WATER</u>	<b>MS Lab WorkOrder:</b>	<u>LNME4</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/30/09 11:10</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/31/09 08:30</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/03/09 14:00</u>
<b>QC Batch ID:</b>	<u>9306276</u>	<b>Date/Time Analyzed:</b>	<u>11/09/09 21:35</u>
<b>MS Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>MS Dilution Factor:</b>	<u>1</u>		

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	0.21	U	39.7		99		85 - 117
Selenium	40.0	0.70	U	37.7		93		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 1

**Client Sample ID:** LAB MS/MSD  
**MSD Lab Sample ID:** D9J310138-001D  
**MSD Lab WorkOrder:** LNME4  
**Date/Time Collected:** 10/30/09 11:10  
**Date/Time Received:** 10/31/09 08:30  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:38  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	0.21	U	39.6		99		0.17		85 - 117	20
Selenium	40.0	0.70	U	37.1		92		1.6		77 - 122	20

Total Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LAB QC PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	190.300	0.210 U	200.00	95.2		M
Selenium	75 - 125	185.700	0.700 U	200.00	92.8		M

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

Northgate Environmental Management, Inc.

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-276C  
**Lab WorkOrder:** LNNP6  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:19  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	40.8	102		85 - 117
Selenium	40.0	38.2	95		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

INTRA-LAB QC SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	0.210   U	1.050   U			M
Selenium	0.700   U	3.500   U			M

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

**Total Metals Analysis**

-10-

**DETECTION LIMITS**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Total Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

Comments:

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-137B	11/3/2009	50.0	50.0
INTRA-LAB QC	11/3/2009	50.0	50.0
LAB MS/MSD MS	11/3/2009	50.0	50.0
LAB MS/MSD MSD	11/3/2009	50.0	50.0
MB9306276	11/3/2009	50.0	50.0
Check Sample	11/3/2009	50.0	50.0

Comments:



Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J300353

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/9/2009 End Date: 11/9/2009

Sample ID.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
CAL BLANK	1.00	20:32				X															X										
100 PPB	1.00	20:35				X															X										
ICV	1.00	20:37				X															X										
ICB	1.00	20:43				X															X										
RL STD	1.00	20:46				X															X										
ICSA	1.00	20:54				X															X										
ICSAB	1.00	20:57				X															X										
RINSE	1.00	20:59				X															X										
LR1	1.00	21:02				X															X										
RINSE	1.00	21:05				X															X										
CCV	1.00	21:08				X															X										
CCB	1.00	21:10				X															X										
MB9306276	1.00	21:16				X															X										
Check Sample	1.00	21:19				X															X										
M-137B	2.00	21:21				X															X										
INTRA-LAB QC	1.00	21:27				X															X										
INTRA-LAB QC SER	5.00	21:30				X															X										
INTRA-LAB QC PDS	1.00	21:32				X															X										
LAB MS/MSD MS	1.00	21:35				X															X										
LAB MS/MSD MSD	1.00	21:38				X															X										
CCV	1.00	21:41				X															X										
CCB	1.00	21:43				X															X										

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica  
**Dissolved Metals**  
CLP-Like Forms

Lot ID: D9J300353

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Sample: 002

Dissolved Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J300353

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>M-137BDISS</u>	<u>D9J300353-002</u>
<u>M-137BDISS MS</u>	<u>D9J300353-002S</u>
<u>M-137BDISS MSD</u>	<u>D9J300353-002SD</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/11/09

Title: Metals Analyst

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306272  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:** M-137BDISS  
**Lab Sample ID:** D9J300353-002  
**Lab WorkOrder:** LNLPE  
**Date/Time Collected:** 10/29/09 13:30  
**Date/Time Received:** 10/30/09 10:30  
**Date Leached:**  
**Date/Time Extracted:** 11/09/09 14:00  
**Date/Time Analyzed:** 11/10/09 02:22  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	190	0.21	5.0	
7782-49-2	Selenium	2.2	0.70	5.0	B

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	50.5	101.0	M
Selenium	40.0	40.2	100.5	50.0	51.9	103.8	49.5	99.0	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	49.9	99.8	49.5	99.0	M
Selenium				50.0	51.0	102.0	47.9	95.8	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Dissolved Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic				50.0	49.3	98.6			M
Selenium				50.0	48.2	96.4			M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Dissolved Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J300353

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				1.00	1.051	105.1		
Selenium				1.00	1.232	123.2		

Comments:



Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306272  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-272B  
**Lab WorkOrder:** LNNPL  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/09/09 14:00  
**Date/Time Analyzed:** 11/10/09 02:16  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Dissolved Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M
		1	C	2	C	3	C	C		
Arsenic	0.210 U	0.210 U		0.210 U		0.210 U		0.21 U		M
Selenium	0.700 U	0.700 U		0.700 U		0.700 U		0.70 U		M

Comments:

**Dissolved Metals Analysis**

-3-

**BLANKS**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M
		1	C	2	C	3	C			
Arsenic		0.210	U	0.210	U					M
Selenium		0.700	U	0.700	U					M

Comments:

Dissolved Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.28	101.00	101.0	0.40	98.23	98.2
Selenium	0.0	100.0	0.38	100.00	100.0	0.25	104.70	104.7

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306272  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 1

**Client Sample ID:** M-137BDISS  
**MS Lab Sample ID:** D9J300353-002S  
**MS Lab WorkOrder:** LNLPE  
**Date/Time Collected:** 10/29/09 13:30  
**Date/Time Received:** 10/30/09 10:30  
**Date Leached:**  
**Date/Time Extracted:** 11/09/09 14:00  
**Date/Time Analyzed:** 11/10/09 02:30  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	190		235	MSB	106		85 - 117
Selenium	40.0	2.2	B	47.1		112		77 - 122

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** µg/L  
**QC Batch ID:** 9306272  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 1

**Client Sample ID:** M-137BDISS  
**MSD Lab Sample ID:** D9J300353-002D  
**MSD Lab WorkOrder:** LNLPE  
**Date/Time Collected:** 10/29/09 13:30  
**Date/Time Received:** 10/30/09 10:30  
**Date Leached:**  
**Date/Time Extracted:** 11/09/09 14:00  
**Date/Time Analyzed:** 11/10/09 02:33  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	190		235	MSB	105		0.12		85 - 117	20
Selenium	40.0	2.2	B	45.5		108		3.5		77 - 122	20

Dissolved Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

M-137BDISS PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	382.300		193.000		200.00	94.6		M
Selenium	75 - 125	213.200		2.230	B	200.00	105.5		M

Comments:

\_\_\_\_\_

Northgate Environmental Management, Inc.

Dissolved Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300353  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306272  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-272C  
**Lab WorkOrder:** LNNPL  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/09/09 14:00  
**Date/Time Analyzed:** 11/10/09 02:19  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	40.9	102		85 - 117
Selenium	40.0	37.9	95		77 - 122



Dissolved Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

M-137BDISS SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	193.000	189.050	2.0		M
Selenium	2.230 B	3.819 B	71.3		M

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

Dissolved Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Dissolved Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

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

Dissolved Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300353

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-137BDISS	11/9/2009	50.0	50.0
M-137BDISS MS	11/9/2009	50.0	50.0
M-137BDISS MSD	11/9/2009	50.0	50.0
MB9306272	11/9/2009	50.0	50.0
Check Sample	11/9/2009	50.0	50.0

Comments:

Dissolved Metals Analysis  
-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J300353

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/9/2009 End Date: 11/10/2009

Sample ID.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V
CAL BLANK	1.00	20:32			X															X					
100 PPB	1.00	20:35			X															X					
ICV	1.00	20:37			X															X					
ICB	1.00	20:43			X															X					
RL STD	1.00	20:46			X															X					
ICSA	1.00	20:54			X															X					
ICSAB	1.00	20:57			X															X					
RINSE	1.00	20:59			X															X					
LRI	1.00	21:02			X															X					
RINSE	1.00	21:05			X															X					
CCV	1.00	21:08			X															X					
CCB	1.00	21:10			X															X					
CAL BLANK	1.00	23:23			X															X					
100 PPB	1.00	23:26			X															X					
CCV	1.00	23:29			X															X					
CCB	1.00	23:32			X															X					
ICSA	1.00	23:37			X															X					
ICSAB	1.00	23:40			X															X					
WASH	1.00	23:43			X															X					
CCV	1.00	23:45			X															X					
CCB	1.00	23:48			X															X					
CAL BLANK	1.00	02:03			X															X					
100 PPB	1.00	02:05			X															X					
CCV	1.00	02:08			X															X					
CCB	1.00	02:11			X															X					
MB9306272	1.00	02:16			X															X					
Check Sample	1.00	02:19			X															X					
M-137BDISS	1.00	02:22			X															X					
M-137BDISS SER	5.00	02:25			X															X					
M-137BDISS PDS	1.00	02:27			X															X					
M-137BDISS MS	1.00	02:30			X															X					
M-137BDISS MSD	1.00	02:33			X															X					
CCV	1.00	02:36			X															X					

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Dissolved Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J300353

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/9/2009 End Date: 11/10/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
CCB	1.00	02:38				X															X								

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica  
**Total Metals**  
CLP-Like Forms

Lot ID: D9J300356

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001

Total Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J300356

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

Sample ID.

Lab Sample No.

M-148B

D9J300356-001

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes-were raw data generated before application of background corrections?

Yes/No NO

Comments:

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/11/09

Title: Metals Analyst



**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300356  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 2

**Client Sample ID:** M-148B  
**Lab Sample ID:** D9J300356-001  
**Lab WorkOrder:** LNLR4  
**Date/Time Collected:** 10/29/09 09:10  
**Date/Time Received:** 10/30/09 10:30  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:24  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	110	0.42	10	
7782-49-2	Selenium	6.6	1.4	10	B

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300356

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	51.4	102.8	M
Selenium	40.0	40.2	100.5	50.0	51.9	103.8	50.6	101.2	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Total Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J300356

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial			Final	
				True	Found	%R	Found	%R
Arsenic				1.00	1.051	105.1		
Selenium				1.00	1.232	123.2		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300356  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-276B  
**Lab WorkOrder:** LNNP6  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:16  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300356

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank		M	
		C	1	C	2	C	3	C	C		
Arsenic	0.210	U	0.210	U	0.210	U			0.21	U	M
Selenium	0.700	U	0.700	U	0.700	U			0.70	U	M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300356

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.28	101.00	101.0			
Selenium	0.0	100.0	0.38	100.00	100.0			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300356  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 1

**Client Sample ID:** LAB MS/MSD  
**MS Lab Sample ID:** D9J310138-001S  
**MS Lab WorkOrder:** LNME4  
**Date/Time Collected:** 10/30/09 11:10  
**Date/Time Received:** 10/31/09 08:30  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:35  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	0.21	U	39.7		99		85 - 117
Selenium	40.0	0.70	U	37.7		93		77 - 122

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300356  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 1

**Client Sample ID:** LAB MS/MSD  
**MSD Lab Sample ID:** D9J310138-001D  
**MSD Lab WorkOrder:** LNME4  
**Date/Time Collected:** 10/30/09 11:10  
**Date/Time Received:** 10/31/09 08:30  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:38  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	0.21	U	39.6		99		0.17		85 - 117	20
Selenium	40.0	0.70	U	37.1		92		1.6		77 - 122	20



Total Metals Analysis  
-SB-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

INTRA-LAB QC PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300356

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added(SA)	%R	Q	M
Arsenic	75 - 125	190.300	0.210   U	200.00	95.2		M
Selenium	75 - 125	185.700	0.700   U	200.00	92.8		M

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

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J300356  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-276C  
**Lab WorkOrder:** LNNP6  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:19  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	40.8	102		85 - 117
Selenium	40.0	38.2	95		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

INTRA-LAB QC SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300356

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Difference	Q	M
		C		C			
Arsenic	0.210	U	1.050	U			M
Selenium	0.700	U	3.500	U			M

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

Total Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300356

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J300356

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
M-148B	11/3/2009	50.0	50.0
INTRA-LAB QC	11/3/2009	50.0	50.0
LAB MS/MSD MS	11/3/2009	50.0	50.0
LAB MS/MSD MSD	11/3/2009	50.0	50.0
MB9306276	11/3/2009	50.0	50.0
Check Sample	11/3/2009	50.0	50.0

Comments:

Total Metals Analysis

-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J300356

Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/9/2009 End Date: 11/9/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
CAL BLANK	1.00	20:32			X															X									
100 PPB	1.00	20:35			X															X									
ICV	1.00	20:37			X															X									
ICB	1.00	20:43			X															X									
RL STD	1.00	20:46			X															X									
ICSA	1.00	20:54			X															X									
ICSAB	1.00	20:57			X															X									
RINSE	1.00	20:59			X															X									
LR1	1.00	21:02			X															X									
RINSE	1.00	21:05			X															X									
CCV	1.00	21:08			X															X									
CCB	1.00	21:10			X															X									
MB9306276	1.00	21:16			X															X									
Check Sample	1.00	21:19			X															X									
M-148B	2.00	21:24			X															X									
INTRA-LAB QC	1.00	21:27			X															X									
INTRA-LAB QC SER	5.00	21:30			X															X									
INTRA-LAB QC PDS	1.00	21:32			X															X									
LAB MS/MSD MS	1.00	21:35			X															X									
LAB MS/MSD MSD	1.00	21:38			X															X									
CCV	1.00	21:41			X															X									
CCB	1.00	21:43			X															X									

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

TestAmerica  
**Total Metals**  
CLP-Like Forms

Lot ID: D9J310138

Client: Northgate/Tronox

Method: SW846 6020/Collision Cell

Associated Samples: 001

Total Metals Analysis  
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: Northgate Environmental Management, Inc.

SDG No.: D9J310138

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SOW No.: \_\_\_\_\_

<u>Sample ID.</u>	<u>Lab Sample No.</u>
<u>EB103009-GWA4</u>	<u>D9J310138-001</u>
<u>EB103009-GWA4 MS</u>	<u>D9J310138-001S</u>
<u>EB103009-GWA4 MSD</u>	<u>D9J310138-001SD</u>

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Janice Collins

Name: Janice Collins

Date: 11/11/09

Title: Metals Analyst



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

<b>Lab Name:</b>	<u>TESTAMERICA DENVER</u>	<b>Client Sample ID:</b>	<u>EB103009-GWA4</u>
<b>Lot/SDG Number:</b>	<u>D9J310138</u>	<b>Lab Sample ID:</b>	<u>D9J310138-001</u>
<b>Matrix:</b>	<u>WATER</u>	<b>Lab WorkOrder:</b>	<u>LNME4</u>
<b>% Moisture:</b>	<u>N/A</u>	<b>Date/Time Collected:</b>	<u>10/30/09 11:10</u>
<b>Basis:</b>	<u>Wet</u>	<b>Date/Time Received:</b>	<u>10/31/09 08:30</u>
<b>Analysis Method:</b>	<u>6020</u>	<b>Date Leached:</b>	
<b>Unit:</b>	<u>ug/L</u>	<b>Date/Time Extracted:</b>	<u>11/03/09 14:00</u>
<b>QC Batch ID:</b>	<u>9306276</u>	<b>Date/Time Analyzed:</b>	<u>11/09/09 21:27</u>
<b>Sample Aliquot:</b>	<u>50 mL</u>	<b>Instrument ID:</b>	<u>024</u>
<b>Dilution Factor:</b>	<u>1</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	51.4	102.8	M
Selenium	40.0	40.2	100.5	50.0	51.9	103.8	50.6	101.2	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Total Metals Analysis

-2A-

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

Initial Calibration Source: High Purity

Continuing Calibration Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	40.0	40.1	100.2	50.0	50.9	101.8	51.4	102.8	M
Selenium	40.0	40.2	100.5	50.0	51.9	103.8	50.6	101.2	M

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

**Total Metals Analysis**  
**-2B-**  
**CRDL STANDARD FOR AA AND ICP**

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J310138

AA CRDL Standard Source: \_\_\_\_\_

ICP CRDL Standard Source: Inorganic Ventures

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
				True	Found	%R	Found	%R
Arsenic				1.00	1.051	105.1		
Selenium				1.00	1.232	123.2		

Comments:

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J310138  
**Matrix:** WATER  
**% Moisture:**  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-276B  
**Lab WorkOrder:** LNNP6  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:16  
**Instrument ID:** 024

CAS No.	Analyte	Conc.	MDL	RL	Q
7440-38-2	Arsenic	0.21	0.21	5.0	U
7782-49-2	Selenium	0.70	0.70	5.0	U

Total Metals Analysis

-3-

BLANKS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank	C	M		
		1	C	2	C	3	C					
Arsenic	0.210 U	0.210	U	0.210	U	0.210	U			0.21	U	M
Selenium	0.700 U	0.700	U	0.700	U	0.700	U			0.70	U	M

Comments:

Total Metals Analysis

-4-

ICP INTERFERENCE CHECK SAMPLE

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

ICP ID Number: Agilent 7500 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic	0.0	100.0	0.28	101.00	101.0			
Selenium	0.0	100.0	0.38	100.00	100.0			

Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J310138  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**MS Sample Aliquot:** 50 mL  
**MS Dilution Factor:** 1

**Client Sample ID:** EB103009-GWA4  
**MS Lab Sample ID:** D9J310138-001S  
**MS Lab WorkOrder:** LNME4  
**Date/Time Collected:** 10/30/09 11:10  
**Date/Time Received:** 10/31/09 08:30  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:35  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MS Result	C	% Rec	Q	QC Limit
Arsenic	40.0	0.21	U	39.7		99		85 - 117
Selenium	40.0	0.70	U	37.7		93		77 - 122



Northgate Environmental Management, Inc.

Total Metals Analysis Data Sheet

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J310138  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**MSD Sample Aliquot:** 50 mL  
**MSD Dilution Factor:** 1

**Client Sample ID:** EB103009-GWA4  
**MSD Lab Sample ID:** D9J310138-001D  
**MSD Lab WorkOrder:** LNME4  
**Date/Time Collected:** 10/30/09 11:10  
**Date/Time Received:** 10/31/09 08:30  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:38  
**Instrument ID:** 024

Analyte	Spike Amount	Sample Result	C	MSD Result	C	% Rec	Q	RPD	Q	QC Limits	
										% Rec	RPD
Arsenic	40.0	0.21	U	39.6		99		0.17		85 - 117	20
Selenium	40.0	0.70	U	37.1		92		1.6		77 - 122	20

Total Metals Analysis  
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

EB103009-GWA4 PDS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	190.300	0.210 U	200.00	95.2		M
Selenium	75 - 125	185.700	0.700 U	200.00	92.8		M

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

**Northgate Environmental Management, Inc.**

**Total Metals Analysis Data Sheet**

**Lab Name:** TESTAMERICA DENVER  
**Lot/SDG Number:** D9J310138  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6020  
**Unit:** ug/L  
**QC Batch ID:** 9306276  
**Sample Aliquot:** 50 mL  
**Dilution Factor:** 1

**Client Sample ID:**  
**Lab Sample ID:** D9K020000-276C  
**Lab WorkOrder:** LNNP6  
**Date/Time Collected:**  
**Date/Time Received:**  
**Date Leached:**  
**Date/Time Extracted:** 11/03/09 14:00  
**Date/Time Analyzed:** 11/09/09 21:19  
**Instrument ID:** 024

Analyte	True	Found	%Rec	Q	Limits
Arsenic	40.0	40.8	102		85 - 117
Selenium	40.0	38.2	95		77 - 122

Total Metals Analysis

-9-

ICP SERIAL DILUTIONS

SAMPLE NO.

EB103009-GWA4 SER

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	M
Arsenic	0.210   U	1.050   U			M
Selenium	0.700   U	3.500   U			M

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

Total Metals Analysis

-10-

DETECTION LIMITS

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

ICP ID Number: Agilent 7500 Date: 4/23/2009

Flame AA ID Number: \_\_\_\_\_

Furnace AA ID Number: \_\_\_\_\_

Analyte	Isotope	Back-ground	PQL (ug/L)	MDL (ug/L)	M
Arsenic	75		5.000	0.2100	M
Selenium	78		5.000	0.7000	M

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

Total Metals Analysis  
-12-  
ICP LINEAR RANGES (QUARTERLY)

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

ICP ID Number: Agilent 7500 Date: 10/1/2009

Analyte	Integ. Time (Sec.)	Concentration ug/L	M
Arsenic	0.001	3600	M
Selenium	0.001	3600	M

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

Total Metals Analysis

-13-

PREPARATION LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: D9J310138

Method: MS Prep Method: \_\_\_\_\_

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
EB103009-GWA4	11/3/2009	50.0	50.0
EB103009-GWA4 MS	11/3/2009	50.0	50.0
EB103009-GWA4 MSD	11/3/2009	50.0	50.0
MB9306276	11/3/2009	50.0	50.0
Check Sample	11/3/2009	50.0	50.0

Comments:

Total Metals Analysis  
-14-

ANALYSIS RUN LOG

Contract: Northgate Environmental Management, Inc.

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: D9J310138

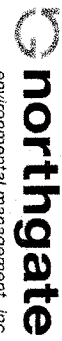
Instrument ID Number: Agilent 7500 Method: M

Start Date: 11/9/2009 End Date: 11/9/2009

Sample ID.	D/F	Time	% R	Analytes																									
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N		
CAL BLANK	1.00	20:32			X															X									
100 PPB	1.00	20:35			X															X									
ICV	1.00	20:37			X															X									
ICB	1.00	20:43			X															X									
RL STD	1.00	20:46			X															X									
ICSA	1.00	20:54			X															X									
ICSAB	1.00	20:57			X															X									
RINSE	1.00	20:59			X															X									
LR1	1.00	21:02			X															X									
RINSE	1.00	21:05			X															X									
CCV	1.00	21:08			X															X									
CCB	1.00	21:10			X															X									
MB9306276	1.00	21:16			X															X									
Check Sample	1.00	21:19			X															X									
EB103009-GWA4	1.00	21:27			X															X									
EB103009-GWA4 SER	5.00	21:30			X															X									
EB103009-GWA4 PDS	1.00	21:32			X															X									
EB103009-GWA4 MS	1.00	21:35			X															X									
EB103009-GWA4 MSD	1.00	21:38			X															X									
CCV	1.00	21:41			X															X									
CCB	1.00	21:43			X															X									

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14





1100 Quail Street, Suite 102, Newport Beach, CA 92660  
(949) 260-9293

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01113  
Page: 1 of 1  
Cooler # \_\_\_\_\_ of \_\_\_\_\_  
Collection Area: III

2.10°C RC 10/27/09 IB1

Required Ship to Lab:		Required Project Information:			Required Invoice Information:			TAT: Standard 30 day		Rush	Mark One		
Lab Name:	TestAmerica	Site ID #:	TRONOX LLC, HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	City/State:	Henderson, NV 89009	Phone #:	(949)260-9293	QC level Required:	Standard	Special EPA Stage	Mark one
Address:	4955 Yarrow Street	Project #:	2027.001	Address:	PO Box 55	Reimbursement project?	<input checked="" type="checkbox"/>	Mark one					
City/State:	Arvada, CO 80002	Site Address:	560 W. Lake Mead Drive	Reimbursement project?	<input type="checkbox"/>	Mark one							
Lab PM:	Michael P. Phillips	City/State:	Henderson, NV	Reimbursement project?	<input checked="" type="checkbox"/>	Mark one							
Phone/Fax:	303-736-0157	Site PM Name:	Derrick Willis	Reimbursement project?	<input type="checkbox"/>	Mark one							
Lab PM email:	michaen.p.mills@testamerica.com	Site PM Email:	derrick.willis@ngem.com	Reimbursement project?	<input type="checkbox"/>	Mark one							
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	Reimbursement project?	<input type="checkbox"/>	Mark one							
ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives	Requested Analyses	Comments/Lab Sample I.D.			
1	M-139B	WG	G	10/26/09	12.55	1	N	<input checked="" type="checkbox"/> H2SO4 <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> Na2S2O3 <input type="checkbox"/> Methanol <input type="checkbox"/> Other	EPA 8020(Collison Co. EPA 814.1A Off Post	500 ml Plastic 500 ml Plastic - JWO			
2	M-139B DSS	WG	G				Y						
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
Additional Comments/Special Instructions:													

As Se only by collison cell  
All PDF reports and EDDs will be uploaded to:  
Northgate Environmental Management, Inc.  
FTP site address provided to labs  
Notifications provided to:  
cindyy.arnold@ngem.com  
frank.hagar@ngem.com

RELIQUISHED BY / AFFILIATION  
DATE TIME ACCEPTED BY / AFFILIATION

SHIPING METHOD	FEDEX	PRINT Name of SAMPLER	SAMPLER NAME AND SIGNATURE	DATE Signed	Time
US MAIL			Derrick Willis	10/26	1405
			JOSH W OTIS	10/26	1405

SHIPING METHOD	FEDEX	PRINT Name of SAMPLER	SAMPLER NAME AND SIGNATURE	DATE Signed	Time
US MAIL			Derrick Willis	10/23	1340
			JOSH W OTIS	10/23	1340

TestAmerica Denver  
**Sample Receiving Checklist**

Lot #: D9J270261 Date/Time Received: 10-27-09/0930

Company Name & Sampling Site: Northgate - TRINOX

PM to Complete This Section: Yes No  
 Residual chlorine check required:   Quarantined:

Quote #: 83046

Special Instructions:

Time Zone:  
 EDT/EST  CDT/CST  MDT/MST  PDT/PST  OTHER

**Unpacking Checks:**

Cooler #(s): \_\_\_\_\_

Temperatures (°C): 2.4 \_\_\_\_\_

N/A Yes No

- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
- 2. Coolers scanned for radiation. Is the reading  $\leq$  to background levels? Yes:  No: \_\_\_\_\_
- 3. Chain of custody present? If no, document on CUR.
- 4. Bottles broken and/or are leaking? If yes, document on CUR.
- 5. Multiphasic samples obvious? If yes, document on CUR.
- 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
- 7. pH of all samples checked and meet requirements? If no, document on CUR.
- 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
- 10. Were VOA samples without headspace? If no, document on CUR.
- 11. Were VOA vials preserved? Preservative  HCl  4+2°C  Sodium Thiosulfate  Ascorbic Acid
- 12. Did samples require preservation with sodium thiosulfate?
- 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
- 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
- 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
- 17. Are analyses with short holding times requested?
- 18. Was a quick Turn Around (TAT) requested?

Initials

*TestAmerica Denver*  
**Sample Receiving Checklist**

Lot # D9J270261

**Login Checks:**

*Initials*

UW

N/A Yes No

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

**Labeling and Storage Checks:**

*Initials*

LC

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).



1100 Quail Street, Suite 102, Newport Beach, CA 92660  
(949) 260-9293

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01110  
Page: 1 of 1  
Collection Area: III

2-P

Required Ship to Lab:	Required Project Information:		Required Invoice Information:			TAT: Standard 30 day		Rush		Mark One																																					
Lab Name: TestAmerica Address: 4955 Yarrow Street Atvada, CO 80002	Site ID #: Project #:	TRONOX LLC, HENDERSON 2027.001	Send Invoice to:	PO Box 55	Tronox LLC	Address:	PO Box 55	Phone #:	(949)260-9293	QC level Required: Standard	Special EPA Stage 4	Mark one																																			
Lab P/M: Michael P. Phillips Phone/Fax: 303-736-0157	City: Henderson	Site Address: 560 W. Lake Mead Drive	Reimbursement project?	X	Non-reimbursement project?	CC Hardcopy report to:	Frank Hagar Northgate Environmental Management, Inc	MA MCP Cert?	CT RCP Cert?	Lab Project ID (lab use)	Temp in OC	Y/N																																			
Lab P/M email: testamericainc.com	Site P/M Name: Derrick Willis	Phone/Fax: 949-975-7004	Send EDD to:	frank.hagar@ngem.com	PDF Electronic Version Only	CC Hardcopy report to:	see additional comments below	Requested Analyses	EPA 6020/0201/0401/0901/0501/0601/0801/0901/1001/1101/1201/1301/1401/1501/1601/1701/1801/1901/2001/2101/2201/2301/2401/2501/2601/2701/2801/2901/3001/3101/3201/3301/3401/3501/3601/3701/3801/3901/4001/4101/4201/4301/4401/4501/4601/4701/4801/4901/5001/5101/5201/5301/5401/5501/5601/5701/5801/5901/6001/6101/6201/6301/6401/6501/6601/6701/6801/6901/7001/7101/7201/7301/7401/7501/7601/7701/7801/7901/8001/8101/8201/8301/8401/8501/8601/8701/8801/8901/9001/9101/9201/9301/9401/9501/9601/9701/9801/9901/0001	Comments/Lab Sample I.D.	Samples on Ice?	Y/N	Sample intact?	Y/N	Trip Blank?	Y/N																															
Applicable Lab Quote #:	Site P/M Email:	derrick.willis@ngem.com	Shipping Method:	UPS COURIER FEDEX	US MAIL	Printer Name of Sampler:	Josh W OTIS	Date Signed:	10/26/15	Time:	1045																																				
1	M-145B		RELINQUISHED BY / AFFILIATION:	Josh W OTIS	DATE:	10/26/15	TIME:	1405		ACCERTED BY / AFFILIATION:	GES	DATE:	10/26/15	TIME:	0930																																
2	M-445B-DISS																																														
<p><b>SAMPLE ID</b> One Character per box. (A-Z, 0-9 /, -)</p> <p><b>SAMPLE IDs MUST BE UNIQUE</b></p> <p><b>Valid Matrix Codes</b></p> <table border="1"> <tr> <td>MATRIX CODE</td> <td>MATRIX</td> </tr> <tr> <td>W</td> <td>WATER</td> </tr> <tr> <td>WM</td> <td>WATER MIX</td> </tr> <tr> <td>WS</td> <td>WATER SURFACE</td> </tr> <tr> <td>WU</td> <td>WATER UNDER</td> </tr> <tr> <td>L</td> <td>LEACHATE</td> </tr> <tr> <td>LS</td> <td>LEACHATE SURFACE</td> </tr> <tr> <td>LU</td> <td>LEACHATE UNDER</td> </tr> <tr> <td>SL</td> <td>SLURRY</td> </tr> <tr> <td>S</td> <td>SOLUBLE</td> </tr> <tr> <td>AS</td> <td>AIR</td> </tr> <tr> <td>CS</td> <td>CORE</td> </tr> <tr> <td>MS</td> <td>MATERIAL</td> </tr> <tr> <td>OS</td> <td>OTHER</td> </tr> <tr> <td>PT</td> <td>PART</td> </tr> <tr> <td>TS</td> <td>TEST</td> </tr> </table> <p><i>Handwritten:</i> JWS</p>																MATRIX CODE	MATRIX	W	WATER	WM	WATER MIX	WS	WATER SURFACE	WU	WATER UNDER	L	LEACHATE	LS	LEACHATE SURFACE	LU	LEACHATE UNDER	SL	SLURRY	S	SOLUBLE	AS	AIR	CS	CORE	MS	MATERIAL	OS	OTHER	PT	PART	TS	TEST
MATRIX CODE	MATRIX																																														
W	WATER																																														
WM	WATER MIX																																														
WS	WATER SURFACE																																														
WU	WATER UNDER																																														
L	LEACHATE																																														
LS	LEACHATE SURFACE																																														
LU	LEACHATE UNDER																																														
SL	SLURRY																																														
S	SOLUBLE																																														
AS	AIR																																														
CS	CORE																																														
MS	MATERIAL																																														
OS	OTHER																																														
PT	PART																																														
TS	TEST																																														

TestAmerica Denver  
**Sample Receiving Checklist**

Lot #: DJ270263 Date/Time Received: 10-27-09 / 0930  
 Company Name & Sampling Site: Tromox (Northgate)

PM to Complete This Section: Yes  No   
 Residual chlorine check required:  Quarantined: Yes  No

Quote #: 83046

Special Instructions:

Time Zone:  
 • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

**Unpacking Checks:**

Cooler #(s): \_\_\_\_\_

Temperatures (°C): 2.4 \_\_\_\_\_

N/A Yes No

*Initials*

- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
- 2. Coolers scanned for radiation. Is the reading  $\leq$  to background levels? Yes:  No:
- 3. Chain of custody present? If no, document on CUR.
- 4. Bottles broken and/or are leaking? If yes, document on CUR.
- 5. Multiphasic samples obvious? If yes, document on CUR.
- 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
- 7. pH of all samples checked and meet requirements? If no, document on CUR.
- 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
- 10. Were VOA samples without headspace? If no, document on CUR.
- 11. Were VOA vials preserved? Preservative  HCl  4+2°C  Sodium Thiosulfate  Ascorbic Acid
- 12. Did samples require preservation with sodium thiosulfate?
- 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
- 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
- 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
- 17. Are analyses with short holding times requested?
- 18. Was a quick Turn Around (TAT) requested?

*TestAmerica Denver*  
**Sample Receiving Checklist**

Lot # D9T270263

**Login Checks:**

*Initials*

N/A Yes No

ase

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? Al
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

**Labeling and Storage Checks:**

*Initials*

ase

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).



1100 Quail Street, Suite 102, Newport Beach, CA 92660  
(949) 260-9293

### CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01111  
Page: 1 of 1  
Cooler # \_\_\_\_\_ of \_\_\_\_\_  
Collection Area: 11

Required Ship to Lab: **TestAmerica**      Required Project Information: **TRONOX LLC, HENDERSON**      Required Invoice Information: **Send Invoice to: Susan Crowley, Tronox LLC**      TAT: Standard 30 day  Rush  Mark One

Address: **4955 Yarrow Street**      Project #: **2027.001**      Address: **PO Box 55**      City/State: **Henderson, NV 89009**      Phone #: **(949)260-9293**      If Rush, Date due: \_\_\_\_\_      Special:  EPA Stage  Mark one

ARRADA, CO 80002      Site Address: **560 W. Lake Mead Drive**      City/State: **Henderson, NV 89009**      Reimbursement project?  Non-reimbursement project?  Mark one

Lab PM: **Michael P. Phillips**      City: **Henderson**      State: **NV**      Send EDD to: **Frank Hagar Northgate Environmental Management, Inc**      Mark one

Phone/Fax: **303-736-0157**      Site PM Name: **Derrick Willis**      CC Hardcopy report to: **PDF Electronic Version Only**      Lab Project ID (lab use): \_\_\_\_\_

Lab PM email: **michael.p.phillips@testamerica.com**      Phone/Fax: **949-375-7004**      CC Hardcopy report to: **see additional comments below**

Applicable Lab Quote #: \_\_\_\_\_      Site PM Email: **derrick.willis@ngem.com**      Requested Analyses:  EPA 8020/Collision Cert  EPA 8141A OPP Peak

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / -)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives								Comments/Lab Sample I.D.	
								Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other		
1	M-146B	WVG	G	10/27/09	0930	1	N		X								500 ml Plastic
2	M-146B-DISS	WVG	G	10/27/09	0930	1	Y		X								500 ml Plastic
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Additional Comments/Special Instructions:  
As Se only by collision cell  
All PDF reports and EDDs will be uploaded to:  
Northgate Environmental Management, Inc.  
FTP site address provided to tabs  
Notifications provided to:  
cindy.arnold@ngem.com  
frank.hagar@ngem.com

REQUISITIONED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank
<i>Josh W. Qus</i>	10/27	1410	<i>Josh W. Qus</i>	10/27	1440		Y/N	Y/N	Y/N
<i>Frank Hagar</i>	10/28	1000	<i>Frank Hagar</i>	10/28	1000		Y/N	Y/N	Y/N

SHIPPING METHOD: (mark as appropriate)  UPS COURIER  FEDEX  USPS  AIR MAIL

PRINT Name of SAMPLER: **Josh W. Qus**      DATE Signed: **10/27**      Time: **1055**

SIGNATURE OF SAMPLER: *Josh W. Qus*

TestAmerica Denver  
**Sample Receiving Checklist**

Lot #: D9T280280 Date/Time Received: 10/28/09 1000  
 Company Name & Sampling Site: Norrgate - FRODOX

PM to Complete This Section: Yes No  
 Residual chlorine check required:   Quarantined: Yes  No  MIS prep: Yes  No

Quote #: 03046

Special Instructions:

Time Zone:  
 • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

**Unpacking Checks:**

Cooler #(s): \_\_\_\_\_

Temperatures (°C): 1.1 \_\_\_\_\_

N/A Yes No

Initials

- |                                     |                                     |                          |   |            |
|-------------------------------------|-------------------------------------|--------------------------|---|------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.   | <u>CHK</u> |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Coolers scanned for radiation. Is the reading $\leq$ to background levels? Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>                                       |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. Chain of custody present? If no, document on CUR.  |            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Bottles broken and/or are leaking? If yes, document on CUR.  |            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. Multiphasic samples obvious? If yes, document on CUR.  |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.  |            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7. pH of all samples checked and meet requirements? If no, document on CUR.   |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.                                |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.  |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 10. Were VOA samples without headspace? If no, document on CUR.   |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 11. Were VOA vials preserved? Preservative <input type="checkbox"/> HCl <input type="checkbox"/> 4±2°C <input type="checkbox"/> Sodium Thiosulfate <input type="checkbox"/> Ascorbic Acid |            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 12. Did samples require preservation with sodium thiosulfate?   |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.  |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.  |            |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.  |            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.   |            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 17. Are analyses with short holding times requested?  |            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 18. Was a quick Turn Around (TAT) requested?  |            |



TestAmerica Denver  
Sample Receiving Checklist

Lot # D9J280280

Login Checks:

Initials

AB

N/A Yes No

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

Labeling and Storage Checks:

Initials

fm

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).



ENVIRONMENTAL MANAGEMENT, INC.

1100 Quail Street, Suite 102, Newport Beach, CA 92660  
(949) 260-9293

### CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01109  
Page: 1 of 1  
Cooler # \_\_\_\_\_ of \_\_\_\_\_  
Collection Area: IV

#### Required Ship to Lab:

Lab Name:	TestAmerica
Address:	4955 Yarrow Street
Arvada, CO 80002	
Lab PM:	Michael P. Phillips
Phone/Fax:	303-736-0157
Lab PM email:	michael.p.phillips@testamericainc.com

#### Required Project Information:

Site ID #:	TRONOX LLC, HENDERSON
Project #:	2027.001
Site Address:	560 W. Lake Mead Drive
City:	Henderson
State:	NV
Site PM Name:	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

#### Required Invoice Information:

Send Invoice to:	Susan Crowley
Address:	Ttronox LLC
City/State:	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	<input checked="" type="checkbox"/>
Send EDD to:	Frank Hagar
CC Hardcopy report to:	PDF Electronic Version Only
CC Hardcopy report to:	see additional comments below

Valid Matrix Codes: 

MATRIX	MATRIX
GROUND WATER	WATER
SLURRY	WASTE WATER
SOIL	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER
SLURRY	WASTEWATER

ITEM #	SAMPLE ID One character per box. (A-Z, 0-9 / -)	MATRIX CODE	SAMPLE TYPE G-GRAB C-COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives									Requested Analyses	Comments/Lab Sample I.D.				
								H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	EPA 6020/Collision Cap	EPA 8141A OPP Pass			500 ml Plastic	500 ml Plastic		
1	M-144B	WG	G	10/27/09	1225	1	N		X										500 ml Plastic	500 ml Plastic		
2	M-144BIS	WG	G						X													
3	<i>JWB</i>																					
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Additional Comments/Special Instructions:  
As Se only by collison cell  
All PDF reports and EDDs will be uploaded to:  
Northgate Environmental Management, Inc.  
FTP site address provided to:  
Notifications provided to:  
cindy.arnold@ngem.com  
frank.hagar@ngem.com

SHIPPING METHOD (mark as appropriate)

UPS COURIER	FEDEX	US MAIL
Signature of Sampler:	Signature of Sampler:	Signature of Sampler:
DATE	TIME	DATE
10/27	1340	10/27

SAMPLER NAME AND SIGNATURE

Temp in OC

Samples on Ice?

Sample intact?

Trip Blank?

TestAmerica Denver  
**Sample Receiving Checklist**

Lot #: D9J280283 Date/Time Received: 10/28/09 1000  
 Company Name & Sampling Site: Northgate - TRONOX

**PM to Complete This Section:** Yes  No  Quarantined: Yes  No  MIS prep: Yes  No

Quote #: 83046

Special Instructions:

Time Zone:  
 EDT/EST  CDT/CST  MDT/MST  PDT/PST  OTHER

**Unpacking Checks:**

Cooler #(s): \_\_\_\_\_  
 Temperatures (°C): 1.1 \_\_\_\_\_

- | N/A   | Yes                                 | No  | Initials   |
|---|-------------------------------------|---|------------|
| <input type="checkbox"/>  | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <u>Cat</u> |
| 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR. |                                     |   |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 2. Coolers scanned for radiation. Is the reading ≤ to background levels? Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>  |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 3. Chain of custody present? If no, document on CUR.  |            |
| <input type="checkbox"/>  | <input checked="" type="checkbox"/> | 4. Bottles broken and/or are leaking? If yes, document on CUR.  |            |
| <input type="checkbox"/>  | <input type="checkbox"/>            | 5. Multiphasic samples obvious? If yes, document on CUR.  |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.  |            |
| <input type="checkbox"/>  | <input checked="" type="checkbox"/> | 7. pH of all samples checked and meet requirements? If no, document on CUR.   |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.                                |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.  |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 10. Were VOA samples without headspace? If no, document on CUR.   |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 11. Were VOA vials preserved? Preservative <input type="checkbox"/> HCl <input type="checkbox"/> 4±2°C <input type="checkbox"/> Sodium Thiosulfate <input type="checkbox"/> Ascorbic Acid |            |
| <input type="checkbox"/>  | <input checked="" type="checkbox"/> | 12. Did samples require preservation with sodium thiosulfate?   |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.  |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.  |            |
| <input checked="" type="checkbox"/>                                     | <input type="checkbox"/>            | 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.  |            |
| <input type="checkbox"/>  | <input checked="" type="checkbox"/> | 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.   |            |
| <input type="checkbox"/>  | <input checked="" type="checkbox"/> | 17. Are analyses with short holding times requested?  |            |
| <input type="checkbox"/>  | <input checked="" type="checkbox"/> | 18. Was a quick Turn Around (TAT) requested?  |            |

TestAmerica Denver  
Sample Receiving Checklist

Lot # D9J280283

**Login Checks:**

Initials

JB

N/A Yes No

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

**Labeling and Storage Checks:**

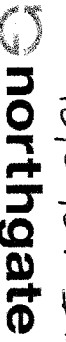
Initials

JM

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).

2.2 of 22  
10/29/09 IRZ



1100 Quail Street, Suite 102, Newport Beach, CA 92660  
(949) 260-9293

**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01115  
Page: 1 of 1  
Cooler # \_\_\_\_\_ of \_\_\_\_\_  
Collection Area: **IV**

<b>Required Ship to Lab:</b>				<b>Required Project Information:</b>				<b>Required Invoice Information:</b>			
Lab Name: TestAmerica				Site ID #: TRONOX LLC, HENDERSON				Send Invoice to: Susan Crowley Tonox LLC			
Address: 4955 Yarrow Street				Project #: 2027.001				Address: PO Box 95			
Arvada, CO 80002				Site Address: 560 W. Lake Mead Drive				City/State: Henderson, NV 89009			
Lab PM: Michael P. Phillips				City: Henderson				State: NV			
Phone/Fax: 303-736-0157				Site PM Name: Derrick Willis				Phone #: (949)260-9293			
Lab PM email: mphilips@testamericainc.com				Phone/Fax: 949-375-7004				Reimbursement project? <input checked="" type="checkbox"/> Non-reimbursement project? <input type="checkbox"/>			
Applicable Lab Quote #:				Site PM Email: derrick.willis@ngem.com				Send EDD to: Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com			
				CC Hardcopy report to: CC Hardcopy report to				PDF Electronic Version Only			
				VALID MATRIX CODES				Requested Analyses			
ITEM #				SAMPLE ID One Character per box. (A-Z, 0-9 / -)				EPA 6020 Collision Co. EPA 8141A OPP Pack			
1				M-138B				X			
2				M-138009B				X			
3				M-138BDISS				X			
4				M-138009BDISS				X			
5											
6											
7											
8											
9											
10											
11											
12											
				MATRIX CODE				SAMPLE TYPE G=GRAB C=COMP			
				SAMPLE DATE				SAMPLE TIME			
				#OF CONTAINERS				FIELD FILTERED? (Y/N)			
				Unpreserved				Preservatives			
				H2SO4				HNO3			
				HCl				NaOH			
				Na2S2O3				Methanol			
				Other							
				TAT: Standard 30 day				Rush			
				If Rush, Date due				Special EPA Stage <sup>4</sup> Mark one			
				QC level Required: Standard				NJ Reduced Deliverable Package? <input type="checkbox"/>			
				MA MCP Cert? <input type="checkbox"/>				CT RCP Cert? <input type="checkbox"/>			
				Lab Project ID (lab use)				Comments/Lab Sample ID.			
				Temp in OC				Sample Receipt Conditions			
				Samples on Ice?				Sample intact?			
				Trip Blank?							
				REINQUISHED BY / AFFILIATION				DATE			
				DATE				ACCEPTED BY / AFFILIATION			
				DATE				DATE			
				DATE				DATE			

Additional Comments/Special Instructions:  
As Se only by collision cell  
All PDF reports and EDDs will be uploaded to:  
Northgate Environmental Management, Inc.  
FTP site address provided to:  
Notifications provided to:  
cindy.arnold@ngem.com  
frank.hagar@ngem.com

REINQUISHED BY / AFFILIATION  
DATE  
ACCEPTED BY / AFFILIATION  
DATE

SHIPPING METHOD: (mark as appropriate)  
UPS COURIER FEDEX  
US MAIL  
PRINT Name of SAMPLER:  
SIGNATURE of SAMPLER:  
DATE Signed  
Time: 1340

TestAmerica Denver  
**Sample Receiving Checklist**

Lot #: D9J290310 Date/Time Received: 10/29/09 1000  
 Company Name & Sampling Site: Norridge TRONOX

PM to Complete This Section: Yes No  
 Residual chlorine check required:   Quarantined:   MIS prep:

Quote #: 83046

Special Instructions:

Time Zone:  
 EDT/EST •  CDT/CST •  MDT/MST •  PDT/PST •  OTHER

**Unpacking Checks:**

Cooler #(s): 1  
 Temperatures (°C): 2.2  
 N/A Yes No

Initials

[Signature]

- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
- 2. Coolers scanned for radiation. Is the reading  $\leq$  to background levels? Yes:      No:
- 3. Chain of custody present? If no, document on CUR.
- 4. Bottles broken and/or are leaking? If yes, document on CUR.
- 5. Multiphasic samples obvious? If yes, document on CUR.
- 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
- 7. pH of all samples checked and meet requirements? If no, document on CUR.
- 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
- 10. Were VOA samples without headspace? If no, document on CUR.
- 11. Were VOA vials preserved? Preservative  HCl  4+2°C  Sodium Thiosulfate  Ascorbic Acid
- 12. Did samples require preservation with sodium thiosulfate?
- 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
- 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
- 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
- 17. Are analyses with short holding times requested?
- 18. Was a quick Turn Around (TAT) requested?

TestAmerica Denver  
Sample Receiving Checklist

Lot # D9J290310

Login Checks:

Initials

MB

N/A Yes No

19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) document on CUR, and contact PM before proceeding. If no,
20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
22. Were special log in instructions read and followed?
23. Were AFCEE metals logged for refrigerated storage?
24. Were tests logged checked against the COC? Which samples were confirmed? 1
25. Was a Rush form completed for quick TAT?
26. Was a Short Hold form completed for any short holds?
27. Were special archiving instructions indicated in the General Comments? If so, what were they?

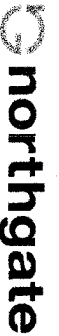
Labeling and Storage Checks:

Initials

AC

28. Was the subcontract COC signed and sent with samples to bottle prep?
29. Were sample labels double-checked by a second person?
30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
31. Did the sample ID, Date, and Time from label match what was logged?
32. Were stickers for special archiving instructions affixed to each box? See #27
33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).



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(949) 260-9293

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01114  
Page: 1 of 1  
Cooler # \_\_\_\_\_ of \_\_\_\_\_  
Collection Area: IV

Required Ship to Lab: **TestAmerica**      Required Project Information: **TRONOX LLC, HENDERSON**      Required Invoice Information: **Send Invoice to: Susan Crowley, Tonox LLC**

Lab Name: **TestAmerica**      Site ID #: \_\_\_\_\_      Address: **PO Box 55**

Address: **4955 Yarrow Street**      Project #: **2027.001**      City/State: **Henderson, NV 89009**      Phone #: **(949)260-9293**

City: **Yarrow Street**      Site Address: **560 W. Lake Mead Drive**      City/State: **Henderson, NV 89009**      Phone #: **(949)260-9293**

Lab P.M.: **Michael P. Phillips**      City: **Henderson**      State: **NV**      Reimbursement project?  **Non-reimbursement project?**      Mark one

Phone/Fax: **903-756-0157**      Site P.M. Name: **Derrick Willis**      Send EDD to: **Frank Hagar Northgate Environmental Management, Inc**      Mark one

Lab P.M. email: **michaelp@phillips@testamerica.com**      Phone/Fax: **949-375-7004**      CC Hardcopy report to: **PDF Electronic Version Only**      Mark one

Applicable Lab Quote #: \_\_\_\_\_      Site P.M. Email: **derrick.willis@ngem.com**      CC Hardcopy report to: **see additional comments below**

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , ) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)		Requested Analyses	Comments/Lab Sample I.D.
							Unpreserved	Preservatives		
1	M-137B	WG	G	10/25/05	1330	1	N	X	X	500 ml Plastic
2	M-137BDISS	WG	G	10/25/05	1330	1	Y	X	X	500 ml Plastic
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

Valid Matrix Codes: **Matrix** (WATER, WASTE WATER, GROUNDWATER, SURFACE WATER, SLURRY, SOIL, OIL, FUEL, SEDIMENT, PLANT MATTER, AIR, DUST)      **Matrix** (WATER, WASTE WATER, GROUNDWATER, SURFACE WATER, SLURRY, SOIL, OIL, FUEL, SEDIMENT, PLANT MATTER, AIR, DUST)

Additional Comments/Special Instructions: **See**

As Se only by collision cell  
All PDF reports and EDDs will be uploaded to:  
Northgate Environmental Management, Inc.  
FTP site address provided to labs  
Notifications provided to:  
cindy.arnold@ngem.com  
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in C	Samples on Ice?	Sample intact?	Trip Blank?
<i>[Signature]</i>	10/25/05	1330	<i>[Signature]</i>	10/29/05	1030		Y/N	Y/N	Y/N
<i>[Signature]</i>	10/25/05	1330	<i>[Signature]</i>	10/29/05	1030		Y/N	Y/N	Y/N

SHIPPING METHOD (mark as appropriate): **UPS COURIER FEDEX**      SAMPLER NAME AND SIGNATURE: **Derrick Willis, Josh W OTIS**  
PRINT Name of SAMPLER: **Josh W OTIS**      DATE Signed: **10/23**      Time: **1415**  
SIGNATURE OF SAMPLER: *[Signature]*

*2,900*



*TestAmerica Denver*  
**Sample Receiving Checklist**

Lot #: D9T300353 Date/Time Received: 10/30/09 1030

Company Name & Sampling Site: TRONOX - Northgate

PM to Complete This Section: Yes  No  Quarantined: Yes  No

Quote #: 83046

Special Instructions:

Time Zone:  
 • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

**Unpacking Checks:**

Cooler #(s): 1

Temperatures (°C): 29

N/A Yes No

Initials

- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
- 2. Coolers scanned for radiation. Is the reading  $\leq$  to background levels? Yes:  No:
- 3. Chain of custody present? If no, document on CUR.
- 4. Bottles broken and/or are leaking? If yes, document on CUR.
- 5. Multiphasic samples obvious? If yes, document on CUR.
- 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
- 7. pH of all samples checked and meet requirements? If no, document on CUR.
- 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
- 10. Were VOA samples without headspace? If no, document on CUR.
- 11. Were VOA vials preserved? Preservative  HCl  4±2°C  Sodium Thiosulfate  Ascorbic Acid
- 12. Did samples require preservation with sodium thiosulfate?
- 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
- 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
- 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
- 17. Are analyses with short holding times requested?
- 18. Was a quick Turn Around (TAT) requested?

*[Handwritten Signature]*

TestAmerica Denver  
Sample Receiving Checklist

Lot # D9T300353

**Login Checks:**

Initials

N/A Yes No

AB

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) document on CUR, and contact PM before proceeding. If no,
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

**Labeling and Storage Checks:**

Initials

GA

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).



1100 Quail Street, Suite 102, Newport Beach, CA 92660  
 (949) 260-9293

### CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01119  
 Page: 1 of 1  
 Cooler # of  
 Collection Area: III

*209 1029AB  
 from 10/30/09*

Required Ship to Lab:			Required Project Information:			Required Invoice Information:			TAT: Standard 30 day		Rush		Mark One		
Lab Name: TestAmerica			Site ID #: TRONOX LLC, HENDERSON			Send Invoice to: Susan Crowley Trox LLC			<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
Address: 4855 Yarrow Street			Project #: 2027.001			Address: PO Box 55			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
Arvada, CO 80002			Site Address: 1580 W. Lake Mead Drive			City/State: Henderson, NV 89009			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
Lab PM: Michael P. Phillips			City: Henderson			Reimbursement project? <input checked="" type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
Phone/Fax: 303-736-0157			Site PM Name: Derrick Willis			Send EDD to: Frank Hagar Northgate Environmental Management, Inc			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
Lab PM email: mtphillips@testamericainc.com			Phone/Fax: 949-375-7004			CC Hardcopy report to: PDF Electronic Version Only			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
Applicable Lab Quote #:			Site PM Email: derrick.willis@ngem.com			CC Hardcopy report to: see additional comments below			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / -)	Matrix Codes										Requested Analyses	Comments/Lab Sample ID.		
		W	WS	WS	W	W	W	W	W	W	W			W	
1	M-148B	W	WS	WS	W	W	W	W	W	W	W	W	W	W	X
2	M-148BBS	W	WS	WS	W	W	W	W	W	W	W	W	W	W	X
3	<del>M-148BBS</del>	<del>W</del>	<del>WS</del>	<del>WS</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>W</del>	<del>X</del>
4															
5															
6															
7															
8															
9															
10															
11															
12															

Additional Comments/Special Instructions:  
 As Se only by collision cell  
 All PDF reports and EDDs will be uploaded to:  
 Northgate Environmental Management, Inc.  
 FTP site address provided to:  
 Notifications provided to:  
 frank.hagar@ngem.com  
 cindy.arnold@ngem.com

REQUISITIONED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		Sample Receipt Conditions			
<i>John W G</i>		10/29/09		1445		<i>Derrick Willis</i>		10/30/09		1030		Y/N Y/N Y/N Y/N			
SHIPPING METHOD (mark as appropriate)		SAMPLER NAME AND SIGNATURE		DATE Signed		TIME		Temp in OC		Samples on Ice?		Sample intact?		Trip Blank?	
UPS COURIER FEDEX		<i>Ben Boyer</i>		10/29		10:00		Y/N		Y/N		Y/N		Y/N	
US MAIL		<i>John W G</i>													

TestAmerica Denver  
**Sample Receiving Checklist**

Lot #: D9J300356 Date/Time Received: 10/30/09 1030  
 Company Name & Sampling Site: Northgate - TRONOX

**PM to Complete This Section:** Yes *No*  
 Residual chlorine check required:  *X*      Quarantined:  *X*      MIS prep:  *X*

Quote #: 83046

Special Instructions:

Time Zone:  
 • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

**Unpacking Checks:**

Cooler #(s): 1

Temperatures (°C): 2.9

N/A Yes No

Initials

- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
- 2. Coolers scanned for radiation. Is the reading ≤ to background levels? Yes:    No:
- 3. Chain of custody present? If no, document on CUR.
- 4. Bottles broken and/or are leaking? If yes, document on CUR.
- 5. Multiphasic samples obvious? If yes, document on CUR.
- 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
- 7. pH of all samples checked and meet requirements? If no, document on CUR.
- 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
- 10. Were VOA samples without headspace? If no, document on CUR.
- 11. Were VOA vials preserved? Preservative  HCl  4±2°C  Sodium Thiosulfate  Ascorbic Acid
- 12. Did samples require preservation with sodium thiosulfate?
- 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
- 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
- 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
- 17. Are analyses with short holding times requested?
- 18. Was a quick Turn Around (TAT) requested?

TestAmerica Denver  
Sample Receiving Checklist

Lot # D9J300356

Login Checks:

Initials

N/A Yes No

JB

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

Labeling and Storage Checks:

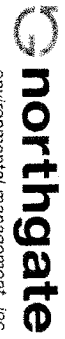
Initials

CB

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).

2.7 JK-1  
AKB 10/31/19



environmental management, inc.  
1100 Quail Street, Suite 102, Newport Beach, CA 92660  
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01132  
Page: 1 of 1  
Cooler # \_\_\_\_\_  
Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:	
Lab Name: TestAmerica	Site ID #: TRONOX LLC, HENDERSON	Send Invoice to: Susan Crowley	Tronox LLC	PO Box 55	Address:
Address: 4955 Yarrow Street	Project #: 2027.001	City/State: Henderson, NV 89009	Phone #: (949)260-9293	Reimbursement project? <input checked="" type="checkbox"/>	Non-reimbursement project? <input type="checkbox"/>
Arvada, CO 80002	Site Address: 560 W. Lake Mead Drive	Mark one	Send EDD to: Frank Hagar Northgate Environmental Management, Inc	CC Hardcopy report to: PDF Electronic Version Only	CC Hardcopy report to: see additional comments below
Lab P.M.: Michael P. Phillips	City: Henderson	State: NV	Phone/Fax: 949-475-7004	Site PM Email: derrick.willis@ngem.com	Site PM Email: derrick.willis@ngem.com
Phone/Fax: 303-736-0157	Site PM Name: Derrick Willis	Phone/Fax: 949-475-7004	Site PM Email: derrick.willis@ngem.com	Valid Matrix Codes	Matrix
Lab P.M. email: michael.p.phillips@testamericainc.com	Phone/Fax: 949-475-7004	City/State: Henderson, NV 89009	Phone #: (949)260-9293	Matrix Code: W/G	Sample Type: G=GRAB C=COMP
Applicable Lab Quote #:	Site PM Email: derrick.willis@ngem.com	CC Hardcopy report to: see additional comments below	Lab Project ID (lab use):	Requested Analyses:	Comments/Lab Sample I.D.:

ITEM #	SAMPLE ID One character per box. (A-Z, 0-9 / -)	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives								TAT: Standard 30 day	Rush	Special	EPA Stage	Mark one
						Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other					
1	EB103009-GWAA	10/30/19	1110	1	N		X											
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Additional Comments/Special Instructions:  
As Se only by collision cell  
All PDF reports and EDDs will be uploaded to:  
Northgate Environmental Management, Inc.  
FTP site address provided to labs  
Notifications provided to:  
cindy.arnold@ngem.com  
frank.hagar@ngem.com

RETIQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
<i>Josh Wotis</i>	10/30/19	1110	<i>Josh Wotis</i>	10/31/19	0830		Y/N	Y/N	Y/N

SHIPPING METHOD (mark as appropriate):  
 UPS COURIER  
 FEDEX  
 US MAIL

PRINT Name of SAMPLER: Josh Wotis  
 SIGNATURE OF SAMPLER: *Josh Wotis*  
 DATE signed: 10/30  
 TIME: 12:30

TestAmerica Denver  
**Sample Receiving Checklist**

Lot #: D9J310138 Date/Time Received: 10/31/9 0830

Company Name & Sampling Site: Northgate

PM to Complete This Section: *Yes* *No*      Quarantined: *Yes* *No*      MIS prep: *Yes* *No*  
 Residual chlorine check required:              

Quote #:

Special Instructions:

Time Zone:

• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

**Unpacking Checks:**

Cooler #(s): 1

Temperatures (°C): 2.7

N/A Yes No

- 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR.
- 2. Coolers scanned for radiation. Is the reading ≤ to background levels? Yes:  No:
- 3. Chain of custody present? If no, document on CUR.
- 4. Bottles broken and/or are leaking? If yes, document on CUR.
- 5. Multiphasic samples obvious? If yes, document on CUR.
- 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
- 7. pH of all samples checked and meet requirements? If no, document on CUR.
- 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
- 10. Were VOA samples without headspace? If no, document on CUR.
- 11. Were VOA vials preserved? Preservative  HCl  4±2°C  Sodium Thiosulfate  Ascorbic Acid
- 12. Did samples require preservation with sodium thiosulfate?
- 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
- 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
- 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
- 17. Are analyses with short holding times requested?
- 18. Was a quick Turn Around (TAT) requested?

*Initials*

TestAmerica Denver  
Sample Receiving Checklist

Lot # D9J310138

Login Checks:

Initials  
AR

N/A Yes No

- 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- 22. Were special log in instructions read and followed?
- 23. Were AFCEE metals logged for refrigerated storage?
- 24. Were tests logged checked against the COC? Which samples were confirmed? All
- 25. Was a Rush form completed for quick TAT?
- 26. Was a Short Hold form completed for any short holds?
- 27. Were special archiving instructions indicated in the General Comments? If so, what were they?

Labeling and Storage Checks:

Initials  
AB

- 28. Was the subcontract COC signed and sent with samples to bottle prep?
- 29. Were sample labels double-checked by a second person?
- 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- 31. Did the sample ID, Date, and Time from label match what was logged?
- 32. Were stickers for special archiving instructions affixed to each box? See #27
- 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).



# Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

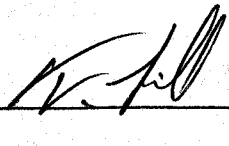
Lot ID: D9J270261

Client: Northgate Environmental

Batch(es) #: 9303185

Associated Samples: 1

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date:  11/9/09

# *Metals Raw Data RoadMap*

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J270261	1 D	SE	LNC7F1AH	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1 S	SE	LNC7F1AG	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1 D	AS	LNC7F1AF	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1 S	AS	LNC7F1AE	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1	SE	LNC7F1AC	20091108	6020TOTA	9303185	AG110709	024
D9J270261	1	AS	LNC7F1AA	20091108	6020TOTA	9303185	AG110709	024

**METALS  
PREPARATION LOGS  
ICP-MS**



Batch Number: 9303185

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/2/09</sup> 10/30/09 JRW  
Due Date: 11/09/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9J300000 Water	LNJNV B	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV C	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F S Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F D Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2J Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*Checked  
11/7/09*

**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

BATCH # 9303185 ALLIQUOTTED BY: KS  
PREP DATE: 11/2/2009 DIGESTED BY: JRW

**CONSUMABLES USED**

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS268  
 One or more samples were filtered prior to analysis at the instrument.  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
 Analyst(s) Initials:                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4082 Block & Cup #: 4/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	95
HNO3	1900	95	1930	93
HNO3				

Samples and QC revolumed to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: *JRW*

Date: 11/2/09

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**  

---

**THE LEADER IN ENVIRONMENTAL TESTING**

### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-09-2009

Logbook: \\Densvr06\StdsLog\metals.std

### STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SE02003      Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008      Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

### STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SN02016      Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009      Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

### STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HN03      Lot No.: H02026      Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se      Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009      Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000



STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelli

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 10-31-2009  
 Date Expires(1): 03-01-2010 (1 Year)  
 Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICESA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-05-2009  
 Date Expires(1): 12-05-2009 (1 Month)  
 Date Expires(2): 11-01-2010 (None)  
 pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
 Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6836-09, ICP-MS BLANK

Analyst: LILLT

Solvent: Water  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 05-07-2010 (6 Months)  
 Date Expires(2): 05-07-2010 (6 Months)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0

Parent Std No.: STD6835-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6837-09, ICP-MS HIGH CAL STD

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6838-09, ICP-MS HIGH CCV STD

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500
Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000

Na 2,000.0 5.0000  
 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6839-09, ICP-MS HIGH RL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018

STD6841-09, ICP-MS HIGH ICSAB

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

W 20.000 1.0000

Parent Std No.: STD4542-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD6842-09, ICP-MS HIGH LR STD1

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000
Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000



STD6843-09, ICP-MS HIGH ICV STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 50.000

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

Parent Std No.: STD3115-09, ICP-MS TA ICV Alt Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Al	2,000.0	4.0000
Ca	2,000.0	4.0000
Fe	2,000.0	4.0000
K	2,000.0	4.0000
Mg	2,000.0	4.0000
Na	2,000.0	4.0000

Parent Std No.: STD3116-09, ICP-MS TA ICV BRC Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Nb	40.000	0.0800
Pd	20.000	0.0400
Pt	20.000	0.0400

W 20.000 0.0400

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 21 and Met 8

Volume (ml): 50.000

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD3106-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.0000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.0000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.0000
K	10.0000	100.0000
Mg	5.0000	50.0000
Mn	0.1000	1.0000
Na	5.0000	50.0000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.0000

Parent Std No.: STD3107-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: \_\_\_\_\_

 11/9/09

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0 11/07/09 15:09		<input type="checkbox"/>
4	100 ppb				1.0 11/07/09 15:12		<input type="checkbox"/>
5	ICV				1.0 11/07/09 15:15		<input type="checkbox"/>
6	RLIV				1.0 11/07/09 15:18		<input type="checkbox"/>
7	ICB				1.0 11/07/09 15:20		<input type="checkbox"/>
8	RL STD				1.0 11/07/09 15:23		<input type="checkbox"/>
9	AFCEE RL				1.0 11/07/09 15:26		<input type="checkbox"/>
10	ALTSe				1.0 11/07/09 15:29		<input type="checkbox"/>
11	ICSA				1.0 11/07/09 15:31		<input type="checkbox"/>
12	ICSAB				1.0 11/07/09 15:34		<input type="checkbox"/>
13	RINSE				1.0 11/07/09 15:37		<input type="checkbox"/>
14	LR1				1.0 11/07/09 15:40		<input type="checkbox"/>
15	RINSE				1.0 11/07/09 15:42		<input type="checkbox"/>
16	CCV				1.0 11/07/09 15:45		<input type="checkbox"/>
17	CCB				1.0 11/07/09 15:48		<input type="checkbox"/>
18	RLCV				1.0 11/07/09 15:50		<input type="checkbox"/>
19	LNDMKB	D9J280000	9301081	46	1.0 11/07/09 15:53		<input type="checkbox"/>
20	LNDMKC	D9J280000	9301081	46	1.0 11/07/09 15:56		<input type="checkbox"/>
21	LM9FJ	D9J240188-1	9301081	46	1.0 11/07/09 15:59		<input type="checkbox"/>
22	LM9FJP5	D9J240188	9301081		5.0 11/07/09 16:01		<input type="checkbox"/>
23	LM9FJZ	D9J240188-1	9301081		1.0 11/07/09 16:04		<input type="checkbox"/>
24	LM9FJS	D9J240188-1	9301081	46	1.0 11/07/09 16:07		<input type="checkbox"/>
25	LM9FJD	D9J240188-1	9301081	46	1.0 11/07/09 16:09		<input type="checkbox"/>
26	LM9FK	D9J240188-2	9301081	46	1.0 11/07/09 16:12		<input type="checkbox"/>
27	CCV				1.0 11/07/09 16:15		<input type="checkbox"/>
28	CCB				1.0 11/07/09 16:18		<input type="checkbox"/>
29	RLCV				1.0 11/07/09 16:20		<input type="checkbox"/>
30	LNJT4B	D9J300000	9303213	MS	1.0 11/07/09 16:23		<input type="checkbox"/>
31	LNJT4C	D9J300000	9303213	MS	1.0 11/07/09 16:26		<input type="checkbox"/>
32	LM8A7	D9J230367-1	9303213	MS	1.0 11/07/09 16:29		<input type="checkbox"/>
33	LM8CG	D9J230367-2	9303213	MS	1.0 11/07/09 16:32		<input type="checkbox"/>
34	LM8CV	D9J230367-3	9303213	MS	1.0 11/07/09 16:34		<input type="checkbox"/>
35	LM8C1	D9J230367-4	9303213	MS	1.0 11/07/09 16:37		<input type="checkbox"/>
36	LM8C1P5	D9J230367	9303213		5.0 11/07/09 16:40		<input type="checkbox"/>
37	LM8C1Z	D9J230367-4	9303213		1.0 11/07/09 16:43		<input type="checkbox"/>
38	LM8C1S	D9J230367-4	9303213	MS	1.0 11/07/09 16:45		<input type="checkbox"/>
39	LM8C1D	D9J230367-4	9303213	MS	1.0 11/07/09 16:48		<input type="checkbox"/>
40	CCV				1.0 11/07/09 16:51		<input type="checkbox"/>
41	CCB				1.0 11/07/09 16:53		<input type="checkbox"/>
42	RLCV				1.0 11/07/09 16:57		<input type="checkbox"/>
43	LNDMTB	D9J280000	9301086	46	1.0 11/07/09 17:00		<input type="checkbox"/>
44	LNDMTC	D9J280000	9301086	46	1.0 11/07/09 17:02		<input type="checkbox"/>
45	LM8E2	D9J230373-1	9301086	46	1.0 11/07/09 17:05		<input type="checkbox"/>
46	LM8E2P5	D9J230373	9301086		5.0 11/07/09 17:08		<input type="checkbox"/>
47	LM8E2Z	D9J230373-1	9301086		1.0 11/07/09 17:11		<input type="checkbox"/>
48	LM8E2S	D9J230373-1	9301086	46	1.0 11/07/09 17:13		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16	<input type="checkbox"/>
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19	<input type="checkbox"/>
51	CCV				1.0	11/07/09 17:22	<input type="checkbox"/>
52	CCB				1.0	11/07/09 17:24	<input type="checkbox"/>
53	RLCV				1.0	11/07/09 17:27	<input type="checkbox"/>
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30	<input type="checkbox"/>
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33	<input type="checkbox"/>
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35	<input type="checkbox"/>
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38	<input type="checkbox"/>
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41	<input type="checkbox"/>
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44	<input type="checkbox"/>
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47	<input type="checkbox"/>
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51	<input type="checkbox"/>
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53	<input type="checkbox"/>
63	CCV				1.0	11/07/09 17:56	<input type="checkbox"/>
64	CCB				1.0	11/07/09 17:59	<input type="checkbox"/>
65	RLCV				1.0	11/07/09 18:02	<input type="checkbox"/>
66	<del>LMNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5</del>	<del>11/07/09 18:04</del> <i>11/9/09 did not use.</i>	<input type="checkbox"/>
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07	<input type="checkbox"/>
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10	<input type="checkbox"/>
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13	<input type="checkbox"/>
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16	<input type="checkbox"/>
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18	<input type="checkbox"/>
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21	<input type="checkbox"/>
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24	<input type="checkbox"/>
74	CCV				1.0	11/07/09 18:27	<input type="checkbox"/>
75	CCB				1.0	11/07/09 18:29	<input type="checkbox"/>
76	RLCV				1.0	11/07/09 18:32	<input type="checkbox"/>
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35	<input type="checkbox"/>
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38	<input type="checkbox"/>
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40	<input type="checkbox"/>
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43	<input type="checkbox"/>
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46	<input type="checkbox"/>
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49	<input type="checkbox"/>
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51	<input type="checkbox"/>
84	CCV				1.0	11/07/09 18:54	<input type="checkbox"/>
85	CCB				1.0	11/07/09 18:57	<input type="checkbox"/>
86	RLCV				1.0	11/07/09 19:00	<input type="checkbox"/>
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03	<input type="checkbox"/>
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05	<input type="checkbox"/>
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08	<input type="checkbox"/>
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11	<input type="checkbox"/>
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14	<input type="checkbox"/>
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17	<input type="checkbox"/>
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19	<input type="checkbox"/>
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
95	CCV				1.0 11/07/09 19:25		<input type="checkbox"/>
96	CCB				1.0 11/07/09 19:28		<input type="checkbox"/>
97	RLCV				1.0 11/07/09 19:30		<input type="checkbox"/>
98	ICSA				1.0 11/07/09 19:33		<input type="checkbox"/>
99	ICSAB				1.0 11/07/09 19:36		<input type="checkbox"/>
100	WASH				1.0 11/07/09 19:39		<input type="checkbox"/>
101	CCV				1.0 11/07/09 19:41		<input type="checkbox"/>
102	CCB				1.0 11/07/09 19:44		<input type="checkbox"/>
103	RLCV				1.0 11/07/09 19:47		<input type="checkbox"/>
104	LNPkXBQ	D9K030000	9307099	U1	1.0 11/07/09 19:50		<input type="checkbox"/>
105	LNPkXCQ	D9K030000	9307099	U1	1.0 11/07/09 19:52		<input type="checkbox"/>
106	LNN4FQ	D9K020448-1	9307099	U1	1.0 11/07/09 19:55		<input type="checkbox"/>
107	LNN4FP5Q	D9K020448	9307099		5.0 11/07/09 19:58		<input type="checkbox"/>
108	LNN4FZQ	D9K020448-1	9307099		1.0 11/07/09 20:01		<input type="checkbox"/>
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:03		<input type="checkbox"/>
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:06		<input type="checkbox"/>
111	CCV				1.0 11/07/09 20:09		<input type="checkbox"/>
112	CCB				1.0 11/07/09 20:12		<input type="checkbox"/>
113	RLCV				1.0 11/07/09 20:14		<input type="checkbox"/>
114	<del>LNNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5 11/07/09 20:17</del>		<input type="checkbox"/>
115	LNNVDC	D9K020000	9306332	04	2.5 11/07/09 20:20		<input type="checkbox"/>
116	LNKT9	D9J300258-1	9306332	04	2.5 11/07/09 20:23		<input type="checkbox"/>
117	LNKT9S	D9J300258-1	9306332	04	2.5 11/07/09 20:25		<input type="checkbox"/>
118	LNKT9D	D9J300258-1	9306332	04	2.5 11/07/09 20:28		<input type="checkbox"/>
119	CCV				1.0 11/07/09 20:31		<input type="checkbox"/>
120	CCB				1.0 11/07/09 20:34		<input type="checkbox"/>
121	RLCV				1.0 11/07/09 20:36		<input type="checkbox"/>
122	RINSE				1.0 11/07/09 20:39		<input type="checkbox"/>
123	RINSE				1.0 11/07/09 20:42		<input type="checkbox"/>
124	Cal Blank				1.0 11/07/09 20:45	<i>11/9/09 did not use.</i>	<input type="checkbox"/>
125	Cal Blank				1.0 11/07/09 20:47		<input type="checkbox"/>
126	100 ppb				1.0 11/07/09 20:50		<input type="checkbox"/>
127	CCV				1.0 11/07/09 20:53		<input type="checkbox"/>
128	CCB				1.0 11/07/09 20:56		<input type="checkbox"/>
129	RLCV				1.0 11/07/09 20:58		<input type="checkbox"/>
130	<del>LNNQ5BF</del>	<del>D9K020000</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:01</del>		<input type="checkbox"/>
131	LNNQ5CF	D9K020000	9306285	MD	1.0 11/07/09 21:04		<input type="checkbox"/>
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0 11/07/09 21:07		<input type="checkbox"/>
133	LNLG3F	D9J300326-2	9306285	MD	1.0 11/07/09 21:10		<input type="checkbox"/>
134	LNLG4F	D9J300326-3	9306285	MD	1.0 11/07/09 21:12		<input type="checkbox"/>
135	LNLHHF	D9J300329-1	9306285	MD	1.0 11/07/09 21:15		<input type="checkbox"/>
136	LNLHMF	D9J300329-2	9306285	MD	1.0 11/07/09 21:18		<input type="checkbox"/>
137	CCV				1.0 11/07/09 21:21		<input type="checkbox"/>
138	CCB				1.0 11/07/09 21:23		<input type="checkbox"/>
139	RLCV				1.0 11/07/09 21:26		<input type="checkbox"/>
140	<del>LNLHPF</del>	<del>D9J300329-3</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:29</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
141	<del>LNLJJP</del>	D9J300340-1	9306285	MD	1.0	11/07/09 21:32	<input type="checkbox"/>
142	LNLJJP5F	D9J300340	9306285		5.0	11/07/09 21:35	<input type="checkbox"/>
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37	<input type="checkbox"/>
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40	<input type="checkbox"/>
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43	<input type="checkbox"/>
146	<del>LNLJMF</del>	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	<input type="checkbox"/>
147	CCV				1.0	11/07/09 21:48	<input type="checkbox"/>
148	CCB				1.0	11/07/09 21:51	<input type="checkbox"/>
149	RLCV				1.0	11/07/09 21:54	<input type="checkbox"/>
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57	<input type="checkbox"/>
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59	<input type="checkbox"/>
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02	<input type="checkbox"/>
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05	<input type="checkbox"/>
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08	<input type="checkbox"/>
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	<input type="checkbox"/>
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13	<input type="checkbox"/>
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16	<input type="checkbox"/>
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19	<input type="checkbox"/>
159	CCV				1.0	11/07/09 22:21	<input type="checkbox"/>
160	CCB				1.0	11/07/09 22:24	<input type="checkbox"/>
161	RLCV				1.0	11/07/09 22:27	<input type="checkbox"/>
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30	<input type="checkbox"/>
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32	<input type="checkbox"/>
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35	<input type="checkbox"/>
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38	<input type="checkbox"/>
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41	<input type="checkbox"/>
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43	<input type="checkbox"/>
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46	<input type="checkbox"/>
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49	<input type="checkbox"/>
170	CCV				1.0	11/07/09 22:52	<input type="checkbox"/>
171	CCB				1.0	11/07/09 22:54	<input type="checkbox"/>
172	RLCV				1.0	11/07/09 22:57	<input type="checkbox"/>
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00	<input type="checkbox"/>
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03	<input type="checkbox"/>
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06	<input type="checkbox"/>
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08	<input type="checkbox"/>
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11	<input type="checkbox"/>
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14	<input type="checkbox"/>
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17	<input type="checkbox"/>
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19	<input type="checkbox"/>
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22	<input type="checkbox"/>
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25	<input type="checkbox"/>
183	CCV				1.0	11/07/09 23:28	<input type="checkbox"/>
184	CCB				1.0	11/07/09 23:30	<input type="checkbox"/>
185	RLCV				1.0	11/07/09 23:33	<input type="checkbox"/>
186	RINSE				1.0	11/07/09 23:36	<input type="checkbox"/>

*11/9/09 did not use.*

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
187	<del>RINSE</del>				<del>1.0 11/07/09 23:39</del>		<input type="checkbox"/>
188	<del>Cal Blank</del>				<del>1.0 11/07/09 23:41</del>	<i>vt 11/9/09 Did not use.</i>	<input type="checkbox"/>
189	Cal Blank			1.0	11/07/09 23:44		<input type="checkbox"/>
190	100 ppb			1.0	11/07/09 23:47		<input type="checkbox"/>
191	CCV			1.0	11/07/09 23:50		<input type="checkbox"/>
192	CCB			1.0	11/07/09 23:52		<input type="checkbox"/>
193	RLCV			1.0	11/07/09 23:55		<input type="checkbox"/>
194	LNEMRZF	D9J280200-5	9302146		1.0 11/07/09 23:58		<input type="checkbox"/>
195	LNEMRSF	D9J280200-5	9302146	MD	1.0 11/08/09 00:01		<input type="checkbox"/>
196	LNEMRDF	D9J280200-5	9302146	MD	1.0 11/08/09 00:03		<input type="checkbox"/>
197	LNEMWF	D9J280200-6	9302146	MD	1.0 11/08/09 00:06		<input type="checkbox"/>
198	LNEM0F	D9J280200-7	9302146	MD	1.0 11/08/09 00:09		<input type="checkbox"/>
199	LNEM3F	D9J280200-8	9302146	MD	1.0 11/08/09 00:12		<input type="checkbox"/>
200	LNEM4F	D9J280200-9	9302146	MD	1.0 11/08/09 00:15		<input type="checkbox"/>
201	LNEM7F	D9J280200-10	9302146	MD	1.0 11/08/09 00:17		<input type="checkbox"/>
202	CCV			1.0	11/08/09 00:20		<input type="checkbox"/>
203	CCB			1.0	11/08/09 00:23		<input type="checkbox"/>
204	RLCV			1.0	11/08/09 00:26		<input type="checkbox"/>
205	LN0N2B	D9K060000	9310060	04	2.5 11/08/09 00:28		<input type="checkbox"/>
206	LN0N2C	D9K060000	9310060	04	2.5 11/08/09 00:31		<input type="checkbox"/>
207	LNW5P	D9K050485-2	9310060	04	2.5 11/08/09 00:34		<input type="checkbox"/>
208	LNW55	D9K050485-4	9310060	04	2.5 11/08/09 00:37		<input type="checkbox"/>
209	LNW6E	D9K050485-6	9310060	04	2.5 11/08/09 00:40		<input type="checkbox"/>
210	LNW6ES	D9K050485-6	9310060	04	2.5 11/08/09 00:42		<input type="checkbox"/>
211	LNW6ED	D9K050485-6	9310060	04	2.5 11/08/09 00:45		<input type="checkbox"/>
212	CCV			1.0	11/08/09 00:48		<input type="checkbox"/>
213	CCB			1.0	11/08/09 00:51		<input type="checkbox"/>
214	RLCV			1.0	11/08/09 00:53		<input type="checkbox"/>
215	LNF42B	D9J290000	9302121	MS	1.0 11/08/09 00:56		<input type="checkbox"/>
216	LNF42C	D9J290000	9302121	MS	1.0 11/08/09 00:59		<input type="checkbox"/>
217	LNE4T	D9J280246-1	9302121	MS	1.0 11/08/09 01:02		<input type="checkbox"/>
218	LNE40 10X	D9J280246-2	9302121	MS	10.0 11/08/09 01:05		<input type="checkbox"/>
219	LNE41 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:07		<input type="checkbox"/>
220	LNE41P25	D9J280246	9302121		25.0 11/08/09 01:10		<input type="checkbox"/>
221	CCV			1.0	11/08/09 01:13		<input type="checkbox"/>
222	CCB			1.0	11/08/09 01:16		<input type="checkbox"/>
223	RLCV			1.0	11/08/09 01:19		<input type="checkbox"/>
224	LNE41Z	D9J280246-3	9302121		1.0 11/08/09 01:21		<input type="checkbox"/>
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:24		<input type="checkbox"/>
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:27		<input type="checkbox"/>
227	LNE44 5X	D9J280246-4	9302121	MS	5.0 11/08/09 01:30		<input type="checkbox"/>
228	LNE47 2X	D9J280246-5	9302121	MS	2.0 11/08/09 01:32		<input type="checkbox"/>
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0 11/08/09 01:35		<input type="checkbox"/>
230	CCV			1.0	11/08/09 01:38		<input type="checkbox"/>
231	CCB			1.0	11/08/09 01:41		<input type="checkbox"/>
232	RLCV			1.0	11/08/09 01:44		<input type="checkbox"/>



Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46	<input type="checkbox"/>
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49	<input type="checkbox"/>
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52	<input type="checkbox"/>
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55	<input type="checkbox"/>
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58	<input type="checkbox"/>
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00	<input type="checkbox"/>
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03	<input type="checkbox"/>
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06	<input type="checkbox"/>
241	CCV				1.0	11/08/09 02:09	<input type="checkbox"/>
242	CCB				1.0	11/08/09 02:11	<input type="checkbox"/>
243	RLCV				1.0	11/08/09 02:14	<input type="checkbox"/>
244	RINSE				1.0	<del>11/08/09 02:17</del>	<input type="checkbox"/>
245	RINSE				1.0	11/08/09 02:20	<input type="checkbox"/>
246	<del>Cal Blank</del>				1.0	<del>11/08/09 02:22</del> <i>11/9/09 did not use</i>	<input type="checkbox"/>
247	Cal Blank				1.0	11/08/09 02:25	<input type="checkbox"/>
248	100 ppb				1.0	11/08/09 02:28	<input type="checkbox"/>
249	CCV				1.0	11/08/09 02:31	<input type="checkbox"/>
250	CCB				1.0	11/08/09 02:33	<input type="checkbox"/>
251	RLCV				1.0	11/08/09 02:36	<input type="checkbox"/>
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39	<input type="checkbox"/>
253	LNJVNC	D9J300000	9303185	MS	1.0	11/08/09 02:42	<input type="checkbox"/>
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44	<input type="checkbox"/>
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47	<input type="checkbox"/>
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50	<input type="checkbox"/>
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53	<input type="checkbox"/>
258	CCV				1.0	11/08/09 02:56	<input type="checkbox"/>
259	CCB				1.0	11/08/09 02:58	<input type="checkbox"/>
260	RLCV				1.0	11/08/09 03:01	<input type="checkbox"/>
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04	<input type="checkbox"/>
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07	<input type="checkbox"/>
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09	<input type="checkbox"/>
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12	<input type="checkbox"/>
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15	<input type="checkbox"/>
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18	<input type="checkbox"/>
267	CCV				1.0	11/08/09 03:21	<input type="checkbox"/>
268	CCB				1.0	11/08/09 03:23	<input type="checkbox"/>
269	RLCV				1.0	11/08/09 03:26	<input type="checkbox"/>
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29	<input type="checkbox"/>
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32	<input type="checkbox"/>
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34	<input type="checkbox"/>
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37	<input type="checkbox"/>
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40	<input type="checkbox"/>
275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43	<input type="checkbox"/>
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46	<input type="checkbox"/>
277	CCV				1.0	11/08/09 03:48	<input type="checkbox"/>
278	CCB				1.0	11/08/09 03:51	<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/08/09 03:54	<input type="checkbox"/>
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57	<input type="checkbox"/>
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59	<input type="checkbox"/>
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02	<input type="checkbox"/>
283	LNHRTS	D9J290285-6	9303310	04	1.0	11/08/09 04:05	<input type="checkbox"/>
284	LNHRTD	D9J290285-6	9303310	04	1.0	11/08/09 04:08	<input type="checkbox"/>
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10	<input type="checkbox"/>
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13	<input type="checkbox"/>
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16	<input type="checkbox"/>
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19	<input type="checkbox"/>
289	CCV				1.0	11/08/09 04:21	<input type="checkbox"/>
290	CCB				1.0	11/08/09 04:24	<input type="checkbox"/>
291	RLCV				1.0	11/08/09 04:27	<input type="checkbox"/>
292	<del>Cal Blank</del>				1.0	11/08/09 04:30	<input type="checkbox"/>
293	Cal Blank				1.0	11/08/09 04:32	<input type="checkbox"/>
294	100 ppb				1.0	11/08/09 04:35	<input type="checkbox"/>
295	CCV				1.0	11/08/09 04:38	<input type="checkbox"/>
296	CCB				1.0	11/08/09 04:41	<input type="checkbox"/>
297	RLCV				1.0	11/08/09 04:43	<input type="checkbox"/>
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46	<input type="checkbox"/>
299	CCV				1.0	11/08/09 04:49	<input type="checkbox"/>
300	CCB				1.0	11/08/09 04:52	<input type="checkbox"/>
301	RLCV				1.0	11/08/09 04:54	<input type="checkbox"/>
302	<del>LNNV0B</del>	<del>D9K020000</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 04:57</del>	<input type="checkbox"/>
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00	<input type="checkbox"/>
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 05:03	<input type="checkbox"/>
305	LNJ05	D9J300168-1	9306340	04	1.0	11/08/09 05:05	<input type="checkbox"/>
306	LNJ1A	D9J300168-2	9306340	04	1.0	11/08/09 05:08	<input type="checkbox"/>
307	LNJ1C	D9J300168-3	9306340	04	1.0	11/08/09 05:11	<input type="checkbox"/>
308	LNJ1D	D9J300168-4	9306340	04	1.0	11/08/09 05:14	<input type="checkbox"/>
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16	<input type="checkbox"/>
310	CCV				1.0	11/08/09 05:19	<input type="checkbox"/>
311	CCB				1.0	11/08/09 05:22	<input type="checkbox"/>
312	RLCV				1.0	11/08/09 05:25	<input type="checkbox"/>
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27	<input type="checkbox"/>
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30	<input type="checkbox"/>
315	LNJ44	D9J300188-3	9306340	04	1.0	11/08/09 05:33	<input type="checkbox"/>
316	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36	<input type="checkbox"/>
317	LNMA5 5X	D9J310124-1	9306340	04	5.0	11/08/09 05:38	<input type="checkbox"/>
318	LNMCH	D9J310127-1	9306340	04	1.0	11/08/09 05:41	<input type="checkbox"/>
319	CCV				1.0	11/08/09 05:44	<input type="checkbox"/>
320	CCB				1.0	11/08/09 05:47	<input type="checkbox"/>
321	RLCV				1.0	11/08/09 05:49	<input type="checkbox"/>
322	LNMCM	D9J310127-2	9306340	04	1.0	11/08/09 05:52	<input type="checkbox"/>
323	LNMCMF5	D9J310127	9306340		5.0	11/08/09 05:55	<input type="checkbox"/>
324	<del>LNMCMZ</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del></del>	<del>1.0</del>	<del>11/08/09 05:58</del>	<input type="checkbox"/>

*not 11/9/09 did not use.*

*not 11/9/09 did not use.*

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

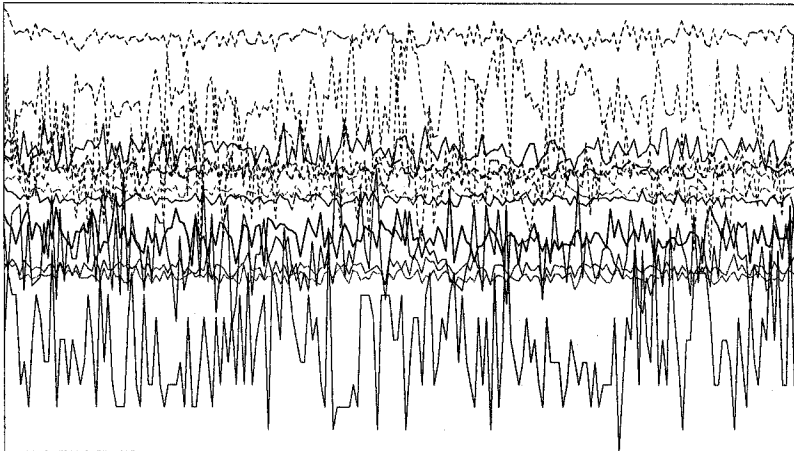
File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
325	<del>LNMCNS</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:00</del>	<input type="checkbox"/>
326	<del>LNMCND</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:03</del>	<input type="checkbox"/>
327	<del>LNMCPE</del>	<del>D9J310127-3</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:06</del>	<input type="checkbox"/>
328	<del>LNMCQ</del>	<del>D9J310127-4</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:09</del>	<input type="checkbox"/>
329	CCV				1.0	11/08/09 06:11	<input type="checkbox"/>
330	CCB				1.0	11/08/09 06:14	<input type="checkbox"/>
331	<del>BLCV</del>				<del>1.0</del>	<del>11/08/09 06:17</del> Not 11/9/09 did not use.	<input type="checkbox"/>

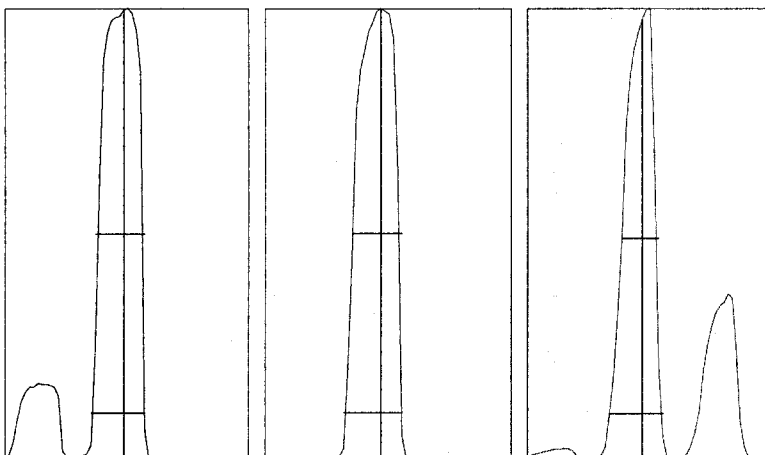
Tune Report

Tune File : NORM.U  
 Comment : AG110709



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.612%  
 Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
W-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U  
Comment : AG110709

Tuning Parameters

===Plasma Condition===

RF Power : 1600 W  
RF Matching : 1.7 V  
Smpl Depth : 8 mm  
Torch-H : -0.8 mm  
Torch-V : -0.3 mm  
Carrier Gas : 0.81 L/min  
Makeup Gas : 0.23 L/min  
Optional Gas : --- %  
Nebulizer Pump : 0.1 rps  
Sample Pump : --- rps  
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V  
Extract 2 : -170 V  
Omega Bias-ce : -30 V  
Omega Lens-ce : 1.4 V  
Cell Entrance : -30 V  
QP Focus : 7 V  
Cell Exit : -30 V

===Q-Pole Parameters===

AMU Gain : 134  
AMU Offset : 125  
Axis Gain : 1.0007  
Axis Offset : -0.03  
QP Bias : -3 V

===Detector Parameters===

Discriminator : 8 mV  
Analog HV : 1770 V  
Pulse HV : 1480 V

===Octopole Parameters===

OctP RF : 180 V  
OctP Bias : -18 V

===Reaction Cell===

Reaction Mode : OFF  
H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

P/A Factor Tuning Report

Acquired: Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor
6	Li	0.054257
7	(Li)	Sensitivity too low
9	Be	0.059350
23	Na	0.063944
24	Mg	0.064875
27	Al	0.065819
39	K	0.066026
43	Ca	Sensitivity too low
45	Sc	0.066849
51	V	0.067403
52	Cr	0.068152
53	(Cr)	Sensitivity too low
55	Mn	0.068773
57	Fe	Sensitivity too low
59	Co	0.069652
60	Ni	Sensitivity too low
63	Cu	0.069964
66	Zn	0.070153
72	Ge	Sensitivity too low
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.072052
98	(Mo)	0.071277
99	(Mo)	Sensitivity too low
105	Pd	0.071221
106	(Cd)	0.070815
107	Ag	Sensitivity too low
108	(Cd)	0.071381
111	Cd	0.070975
115	In	0.070220
118	Sn	0.070317
121	Sb	0.070422
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071611
206	(Pb)	0.070464
207	(Pb)	0.070565
208	Pb	0.069648
232	Th	0.069671
238	U	0.069782

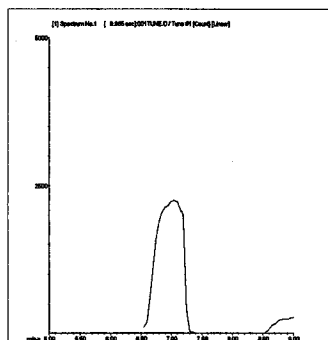
===Detector Parameters===

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

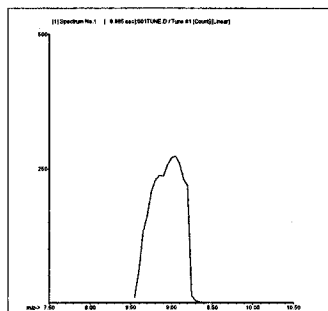
## 200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D  
 Date Acquired: Nov 7 2009 03:04 pm  
 Acq. Method: tun\_isis.M  
 Operator: TEL  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

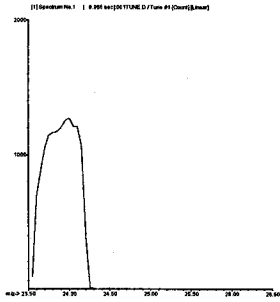
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



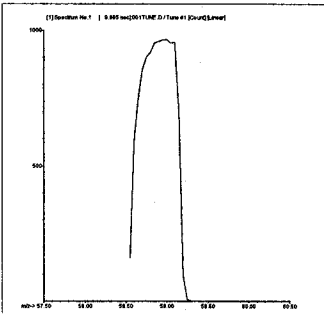
**7 Li**  
**Mass Calib.**  
 Actual: 7.00  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



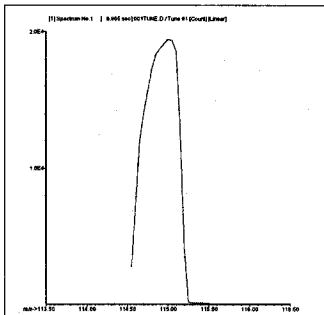
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



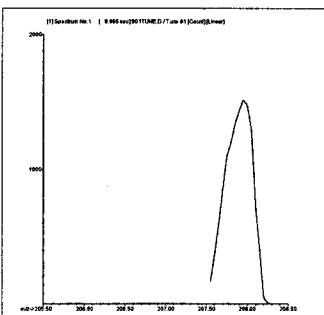
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



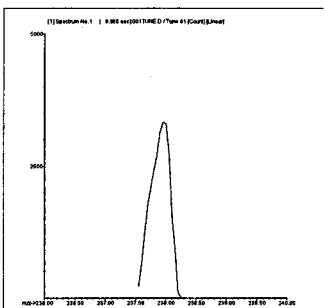
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:

Tune Result: Pass



**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 7 2009 03:07 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

*gbuh/09*

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	130	55.47
52	Cr	72	1	2920	1.23
55	Mn	72	1	487	11.32
59	Co	72	1	43	35.25
60	Ni	72	1	67	56.79
63	Cu	72	1	247	16.39
66	Zn	72	1	177	1.72
75	As	72	1	38	36.84
78	Se	72	1	290	18.25
95	Mo	72	1	17	69.28
107	Ag	115	1	17	91.65
111	Cd	115	1	6	90.67
118	Sn	115	1	120	25.00
121	Sb	115	1	7	0.00
137	Ba	115	1	11	17.32
205	Tl	165	1	53	12.50
208	Pb	165	1	250	7.42
232	Th	165	1	93	59.01
238	U	165	1	83	36.66

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	450969	0.62
45	Sc	1	1353461	1.72
72	Ge	1	599452	0.37
115	In	1	1813996	0.92
165	Ho	1	3291682	1.21

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 7 2009 03:09 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	107	14.32
52	Cr	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	Tl	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Ho	1	3253654	1.35

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 7 2009 03:12 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:10 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	52398	1.41
51	V	72	764367	2.20
52	Cr	72	771475	1.19
55	Mn	72	912002	1.09
59	Co	72	914930	2.11
60	Ni	72	193364	2.37
63	Cu	72	465989	1.20
66	Zn	72	112029	1.18
75	As	72	90135	1.29
78	Se	72	18683	1.97
95	Mo	72	260394	0.61
107	Ag	115	765784	1.36
111	Cd	115	157700	1.34
118	Sn	115	441054	2.17
121	Sb	115	510967	1.02
137	Ba	115	213858	1.06
205	Tl	165	1838240	1.05
208	Pb	165	2519619	0.58
232	Th	165	2643067	0.57
238	U	165	2792671	0.69

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120
72	Ge	1	575467	1.00	598490	96.2	30 - 120
115	In	1	1781328	1.07	1797032	99.1	30 - 120
165	Ho	1	3275522	1.43	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Initial Calibration Verification (ICV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005\_ICV.D\005\_ICV.D#  
 Date Acquired: Nov 7 2009 03:15 pm  
 Operator: TEL  
 Sample Name: ICV  
 Misc Info:  
 Vial Number: 2103  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: ICV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	40.37 ppb	1.43	40	100.9	90 - 110	
51	V	72	38.46 ppb	0.46	40	96.2	90 - 110	
52	Cr	72	39.20 ppb	1.19	40	98.0	90 - 110	
55	Mn	72	39.82 ppb	0.12	40	99.6	90 - 110	
59	Co	72	38.88 ppb	0.70	40	97.2	90 - 110	
60	Ni	72	40.10 ppb	0.16	40	100.3	90 - 110	
63	Cu	72	39.43 ppb	0.82	40	98.6	90 - 110	
66	Zn	72	40.09 ppb	0.20	40	100.2	90 - 110	
75	As	72	39.44 ppb	0.27	40	98.6	90 - 110	
78	Se	72	38.96 ppb	4.82	40	97.4	90 - 110	
95	Mo	72	39.50 ppb	0.72	40	98.8	90 - 110	
107	Ag	115	38.87 ppb	1.47	40	97.2	90 - 110	
111	Cd	115	39.30 ppb	0.98	40	98.3	90 - 110	
118	Sn	115	39.04 ppb	1.08	40	97.6	90 - 110	
121	Sb	115	39.64 ppb	1.29	40	99.1	90 - 110	
137	Ba	115	38.76 ppb	1.35	40	96.9	90 - 110	
205	Tl	165	39.29 ppb	2.05	40	98.2	90 - 110	
208	Pb	165	40.72 ppb	2.07	40	101.8	90 - 110	
232	Th	165	41.00 ppb	0.86	40	102.5	90 - 110	
238	U	165	40.29 ppb	1.06	40	100.7	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	448116	0.63	455621	98.4	30 - 120	
45	Sc	1362171	0.61	1356727	100.4	30 - 120	
72	Ge	576140	0.97	598490	96.3	30 - 120	
115	In	1802991	1.36	1797032	100.3	30 - 120	
165	Ho	3291704	0.83	3253654	101.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 7 2009 03:18 pm  
 Operator: TEL  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Initial Calibration Blank (ICB) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110709.B\007_ICB.D\007_ICB.D#	<b>QC Summary:</b>
Date Acquired:	Nov 7 2009 03:20 pm	<b>Analytes: Pass</b>
Operator:	TEL	<b>ISTD: Pass</b>
Sample Name:	ICB	
Misc Info:		
Vial Number:	2104	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal Update:	Nov 07 2009 03:13 pm	
Sample Type:	ICB	
Total Dil Factor:	1.00	

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**RL STD QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D#  
 Date Acquired: Nov 7 2009 03:23 pm  
 Operator: TEL  
 Sample Name: RL STD  
 Misc Info:  
 Vial Number: 2105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: RLSTD  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	1.03 ppb	7.07	1	102.9	50 - 150
51	V	72	1	0.95 ppb	2.40	1	94.6	50 - 150
52	Cr	72	1	0.95 ppb	9.15	1	94.9	50 - 150
55	Mn	72	1	0.98 ppb	3.40	1	97.8	50 - 150
59	Co	72	1	0.99 ppb	1.20	1	99.3	50 - 150
60	Ni	72	1	0.99 ppb	1.44	1	98.7	50 - 150
63	Cu	72	1	0.97 ppb	3.25	1	96.6	50 - 150
66	Zn	72	1	9.84 ppb	1.62	10	98.4	50 - 150
75	As	72	1	1.01 ppb	1.47	1	100.9	50 - 150
78	Se	72	1	0.85 ppb	29.55	1	85.1	50 - 150
95	Mo	72	1	0.98 ppb	3.69	1	98.3	50 - 150
107	Ag	115	1	0.98 ppb	6.91	1	98.4	50 - 150
111	Cd	115	1	0.98 ppb	2.94	1	97.7	50 - 150
118	Sn	115	1	9.90 ppb	3.50	10	99.0	50 - 150
121	Sb	115	1	1.06 ppb	2.89	1	105.8	50 - 150
137	Ba	115	1	0.93 ppb	4.92	1	92.9	50 - 150
205	Tl	165	1	1.05 ppb	1.24	1	104.9	50 - 150
208	Pb	165	1	1.05 ppb	0.65	1	104.5	50 - 150
232	Th	165	1	1.07 ppb	0.78	1	106.6	50 - 150
238	U	165	1	1.09 ppb	0.98	1	109.3	50 - 150

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	452942	1.17	455621	99.4	30 - 120
45	Sc	1	1350845	0.67	1356727	99.6	30 - 120
72	Ge	1	590050	0.39	598490	98.6	30 - 120
115	In	1	1791700	1.48	1797032	99.7	30 - 120
165	Ho	1	3276677	0.55	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#  
 Date Acquired: Nov 7 2009 03:26 pm  
 Operator: TEL  
 Sample Name: AFCEE RL  
 Misc Info:  
 Vial Number: 2106  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.18 ppb	4.87	0	85.7	80 - 120
51	V	72	1	0.19 ppb	1.60	0	98.1	80 - 120
52	Cr	72	1	0.17 ppb	19.24	0	88.9	80 - 120
55	Mn	72	1	0.24 ppb	0.90	0	122.4	80 - 120
59	Co	72	1	0.21 ppb	2.54	0	105.0	80 - 120
60	Ni	72	1	0.19 ppb	33.14	0	95.0	80 - 120
63	Cu	72	1	0.19 ppb	26.00	0	96.8	80 - 120
66	Zn	72	1	1.99 ppb	0.59	2	101.2	80 - 120
75	As	72	1	0.22 ppb	3.49	0	111.1	80 - 120
78	Se	72	1	-0.03 ppb	493.20	0	-19.4	80 - 120
95	Mo	72	1	0.20 ppb	10.11	0	102.9	80 - 120
107	Ag	115	1	0.19 ppb	9.51	0	98.0	80 - 120
111	Cd	115	1	0.20 ppb	6.38	0	102.8	80 - 120
118	Sn	115	1	1.96 ppb	1.89	2	99.1	80 - 120
121	Sb	115	1	0.22 ppb	4.04	0	104.0	80 - 120
137	Ba	115	1	0.19 ppb	4.99	0	101.2	80 - 120
205	Tl	165	1	0.21 ppb	2.78	0	101.1	80 - 120
208	Pb	165	1	0.21 ppb	2.60	0	100.1	80 - 120
232	Th	165	1	0.21 ppb	3.95	0	98.4	80 - 120
238	U	165	1	0.21 ppb	3.63	0	98.0	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	453567	1.29	455621	99.5	30 - 120
45	Sc	1	1337172	0.83	1356727	98.6	30 - 120
72	Ge	1	590407	0.86	598490	98.6	30 - 120
115	In	1	1781901	0.99	1797032	99.2	30 - 120
165	Ho	1	3288568	1.80	3253654	101.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#  
 Date Acquired: Nov 7 2009 03:29 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ALTSe  
 Misc Info: 2 ppb  
 Vial Number: 2107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.00	0.00	ppb	62.04	3600	
52 Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55 Mn	72	1	0.00	0.00	ppb	140.46	3600	
59 Co	72	1	0.00	0.00	ppb	189.04	3600	
60 Ni	72	1	0.00	0.00	ppb	522.21	3600	
63 Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66 Zn	72	1	0.05	0.05	ppb	55.06	3600	
75 As	72	1	0.00	0.00	ppb	1812.70	3600	
78 Se	72	1	2.16	2.16	ppb	11.88	3600	
95 Mo	72	1	0.00	0.00	ppb	222.57	3600	
107 Ag	115	1	0.01	0.01	ppb	10.07	3600	
111 Cd	115	1	0.00	0.00	ppb	89.77	3600	
118 Sn	115	1	0.00	0.00	ppb	293.54	3600	
121 Sb	115	1	0.02	0.02	ppb	23.95	3600	
137 Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205 Tl	165	1	0.01	0.01	ppb	2.14	3600	
208 Pb	165	1	0.00	0.00	ppb	39.67	3600	
232 Th	165	1	0.00	0.00	ppb	17.19	1000	
238 U	165	1	0.00	0.00	ppb	388.10	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Interference Check Solution A (ICS-A) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D#	
Date Acquired:	Nov 7 2009 03:31 pm	
Acq. Method:	NormISIS.M	QC Summary:
Operator:	TEL	Analytes: Pass
Sample Name:	ICSA	ISTD: Pass
Misc Info:		
Vial Number:	2108	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal. Update:	Nov 07 2009 03:13 pm	
Sample Type:	ICSA	
Dilution Factor:	1.00	

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.45 ppb	8.60	1.00
52	Cr	72	1	1.86 ppb	3.80	1.00
55	Mn	72	1	3.11 ppb	0.88	1.00
59	Co	72	1	0.12 ppb	10.19	1.00
60	Ni	72	1	1.23 ppb	9.98	1.00
63	Cu	72	1	0.56 ppb	5.58	1.00
66	Zn	72	1	4.20 ppb	1.79	10.00
75	As	72	1	0.35 ppb	13.35	1.00
78	Se	72	1	0.47 ppb	67.55	1.00
95	Mo	72	1	2055.00 ppb	1.11	2000.00
107	Ag	115	1	0.03 ppb	8.56	1.00
111	Cd	115	1	0.40 ppb	30.97	1.00
118	Sn	115	1	0.93 ppb	18.89	10.00
121	Sb	115	1	0.95 ppb	3.56	1.00
137	Ba	115	1	0.00 ppb	326.02	1.00
205	Tl	165	1	0.04 ppb	20.03	1.00
208	Pb	165	1	1.04 ppb	2.03	1.00
232	Th	165	1	0.02 ppb	5.48	1.00
238	U	165	1	0.00 ppb	14.89	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120
45	Sc	1	939322	1.85	1356727	69.2	30 - 120
72	Ge	1	429449	0.82	598490	71.8	30 - 120
115	In	1	1325081	0.92	1797032	73.7	30 - 120
165	Ho	1	2485688	0.47	3253654	76.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#  
 Date Acquired: Nov 7 2009 03:34 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9	Be	6	1	108.90	0.75	100	108.9	80 - 120
51	V	72	1	92.27	0.38	100	92.3	80 - 120
52	Cr	72	1	90.40	0.96	100	90.4	80 - 120
55	Mn	72	1	92.59	1.18	100	92.6	80 - 120
59	Co	72	1	88.85	0.30	100	88.9	80 - 120
60	Ni	72	1	89.72	0.28	100	89.7	80 - 120
63	Cu	72	1	85.14	0.90	100	85.1	80 - 120
66	Zn	72	1	95.65	0.49	100	95.7	80 - 120
75	As	72	1	99.50	0.47	100	99.5	80 - 120
78	Se	72	1	105.90	0.80	100	105.9	80 - 120
95	Mo	72	1	2149.00	1.99	2100	102.3	80 - 120
107	Ag	115	1	84.00	7.96	100	84.0	80 - 120
111	Cd	115	1	93.62	2.89	100	93.6	80 - 120
118	Sn	115	1	96.78	1.78	100	96.8	80 - 120
121	Sb	115	1	100.10	2.32	100	100.1	80 - 120
137	Ba	115	1	96.82	2.12	100	96.8	80 - 120
205	Tl	165	1	94.83	0.67	100	94.8	80 - 120
208	Pb	165	1	93.97	0.82	100	94.0	80 - 120
232	Th	165	1	101.90	0.67	100	101.9	80 - 120
238	U	165	1	100.20	0.45	100	100.2	80 - 120

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	272241	2.18	455621	59.8	30 - 120
45	Sc	1	935334	1.15	1356727	68.9	30 - 120
72	Ge	1	419509	1.32	598490	70.1	30 - 120
115	In	1	1327038	1.55	1797032	73.8	30 - 120
165	Ho	1	2524289	0.15	3253654	77.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 7 2009 03:37 pm  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0	80 - 120	
51	V	72	1	0.06 ppb	15.15	0	80 - 120	
52	Cr	72	1	0.00 ppb	941.54	0	80 - 120	
55	Mn	72	1	0.00 ppb	87.90	0	80 - 120	
59	Co	72	1	0.00 ppb	138.19	0	80 - 120	
60	Ni	72	1	-0.01 ppb	79.76	0	80 - 120	
63	Cu	72	1	-0.02 ppb	11.32	0	80 - 120	
66	Zn	72	1	-0.12 ppb	4.66	2	80 - 120	
75	As	72	1	0.00 ppb	172.97	0	80 - 120	
78	Se	72	1	0.18 ppb	157.63	0	80 - 120	
95	Mo	72	1	0.92 ppb	26.25	0	80 - 120	
107	Ag	115	1	0.01 ppb	38.83	0	80 - 120	
111	Cd	115	1	0.00 ppb	268.01	0	80 - 120	
118	Sn	115	1	-0.03 ppb	57.94	2	80 - 120	
121	Sb	115	1	0.13 ppb	22.58	0	80 - 120	
137	Ba	115	1	-0.03 ppb	10.98	0	80 - 120	
205	Tl	165	1	0.00 ppb	35.28	0	80 - 120	
208	Pb	165	1	0.00 ppb	109.50	0	80 - 120	
232	Th	165	1	0.03 ppb	14.09	0	80 - 120	
238	U	165	1	0.02 ppb	14.78	0	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120
72	Ge	1	563469	0.48	598490	94.1	30 - 120
115	In	1	1720438	0.38	1797032	95.7	30 - 120
165	Ho	1	3228952	0.84	3253654	99.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Linear Dynamic Range Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 7 2009 03:40 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 Tl	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 Ho	1	3245351	1.45	3253654	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Nov 7 2009 03:42 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016\_CCV.D\016\_CCV.D#  
 Date Acquired: Nov 7 2009 03:45 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.82 ppb	0.98	50	101.6	90 - 110	
51	V	72	47.69 ppb	0.85	50	95.4	90 - 110	
52	Cr	72	47.81 ppb	0.72	50	95.6	90 - 110	
55	Mn	72	47.91 ppb	0.63	50	95.8	90 - 110	
59	Co	72	48.31 ppb	1.05	50	96.6	90 - 110	
60	Ni	72	49.87 ppb	0.51	50	99.7	90 - 110	
63	Cu	72	48.27 ppb	0.97	50	96.5	90 - 110	
66	Zn	72	49.24 ppb	0.51	50	98.5	90 - 110	
75	As	72	49.61 ppb	0.57	50	99.2	90 - 110	
78	Se	72	51.34 ppb	3.01	50	102.7	90 - 110	
95	Mo	72	49.43 ppb	1.34	50	98.9	90 - 110	
107	Ag	115	48.77 ppb	0.60	50	97.5	90 - 110	
111	Cd	115	49.46 ppb	1.05	50	98.9	90 - 110	
118	Sn	115	49.42 ppb	0.94	50	98.8	90 - 110	
121	Sb	115	49.48 ppb	0.82	50	99.0	90 - 110	
137	Ba	115	48.65 ppb	1.08	50	97.3	90 - 110	
205	Tl	165	49.98 ppb	1.20	50	100.0	90 - 110	
208	Pb	165	50.63 ppb	2.15	50	101.3	90 - 110	
232	Th	165	50.61 ppb	1.41	50	101.2	90 - 110	
238	U	165	50.58 ppb	0.97	50	101.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120
45	Sc	1	1298607	1.88	1356727	95.7	30 - 120
72	Ge	1	570018	0.80	598490	95.2	30 - 120
115	In	1	1777686	0.76	1797032	98.9	30 - 120
165	Ho	1	3306431	1.43	3253654	101.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 7 2009 03:48 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	0.018 ppb	26.29	1.00	
52 Cr	72	1	0.021 ppb	89.72	1.00	
55 Mn	72	1	-0.002 ppb	258.47	1.00	
59 Co	72	1	0.000 ppb	7.74	1.00	
60 Ni	72	1	-0.003 ppb	365.53	1.00	
63 Cu	72	1	-0.006 ppb	212.36	1.00	
66 Zn	72	1	-0.070 ppb	18.30	1.00	
75 As	72	1	0.022 ppb	32.72	1.00	
78 Se	72	1	0.156 ppb	92.00	1.00	
95 Mo	72	1	0.115 ppb	30.30	1.00	
107 Ag	115	1	0.011 ppb	38.12	1.00	
111 Cd	115	1	0.002 ppb	113.82	1.00	
118 Sn	115	1	0.224 ppb	27.67	1.00	
121 Sb	115	1	0.348 ppb	18.44	1.00	
137 Ba	115	1	-0.026 ppb	8.86	1.00	
205 Tl	165	1	0.021 ppb	16.25	1.00	
208 Pb	165	1	0.000 ppb	463.86	1.00	
232 Th	165	1	0.056 ppb	20.03	1.00	
238 U	165	1	0.020 ppb	23.07	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 7 2009 03:50 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	443603	0.24	455621	97.4	30 - 120	
45 Sc	1	1335995	1.35	1356727	98.5	30 - 120	
72 Ge	1	596206	0.64	598490	99.6	30 - 120	
115 In	1	1804793	1.75	1797032	100.4	30 - 120	
165 Ho	1	3324168	1.02	3253654	102.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

### Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095\_CCV.D\095\_CCV.D#  
 Date Acquired: Nov 7 2009 07:25 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

#### QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.00	ppb	3.68	50	100.0	90 - 110
51	V	72	1	49.46	ppb	0.96	50	98.9	90 - 110
52	Cr	72	1	49.13	ppb	0.63	50	98.3	90 - 110
55	Mn	72	1	48.00	ppb	0.58	50	96.0	90 - 110
59	Co	72	1	49.88	ppb	1.19	50	99.8	90 - 110
60	Ni	72	1	52.70	ppb	0.96	50	105.4	90 - 110
63	Cu	72	1	50.75	ppb	0.19	50	101.5	90 - 110
66	Zn	72	1	48.83	ppb	0.18	50	97.7	90 - 110
75	As	72	1	50.85	ppb	1.33	50	101.7	90 - 110
78	Se	72	1	50.97	ppb	2.08	50	101.9	90 - 110
95	Mo	72	1	49.28	ppb	0.59	50	98.6	90 - 110
107	Ag	115	1	48.69	ppb	1.80	50	97.4	90 - 110
111	Cd	115	1	48.20	ppb	1.31	50	96.4	90 - 110
118	Sn	115	1	47.65	ppb	1.87	50	95.3	90 - 110
121	Sb	115	1	47.61	ppb	2.17	50	95.2	90 - 110
137	Ba	115	1	48.23	ppb	1.87	50	96.5	90 - 110
205	Tl	165	1	49.17	ppb	1.01	50	98.3	90 - 110
208	Pb	165	1	50.08	ppb	1.74	50	100.2	90 - 110
232	Th	165	1	49.66	ppb	0.53	50	99.3	90 - 110
238	U	165	1	49.60	ppb	0.64	50	99.2	90 - 110

#### ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120
72	Ge	1	557000	0.87	598490	93.1	30 - 120
115	In	1	1717369	0.76	1797032	95.6	30 - 120
165	Ho	1	3017615	0.61	3253654	92.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096\_CCB.D\096\_CCB.D#  
 Date Acquired: Nov 7 2009 07:28 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	-0.006 ppb	24.61	1.00	
52 Cr	72	1	0.005 ppb	16.13	1.00	
55 Mn	72	1	0.012 ppb	40.48	1.00	
59 Co	72	1	0.003 ppb	90.18	1.00	
60 Ni	72	1	0.005 ppb	115.47	1.00	
63 Cu	72	1	-0.001 ppb	1434.90	1.00	
66 Zn	72	1	0.040 ppb	39.82	1.00	
75 As	72	1	-0.001 ppb	689.47	1.00	
78 Se	72	1	0.203 ppb	119.68	1.00	
95 Mo	72	1	0.030 ppb	15.19	1.00	
107 Ag	115	1	0.009 ppb	17.39	1.00	
111 Cd	115	1	0.008 ppb	214.98	1.00	
118 Sn	115	1	0.033 ppb	87.07	1.00	
121 Sb	115	1	0.133 ppb	16.18	1.00	
137 Ba	115	1	-0.005 ppb	66.27	1.00	
205 Tl	165	1	0.010 ppb	5.85	1.00	
208 Pb	165	1	0.007 ppb	10.03	1.00	
232 Th	165	1	0.031 ppb	21.92	1.00	
238 U	165	1	0.010 ppb	23.45	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#  
 Date Acquired: Nov 7 2009 07:30 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D#  
 Date Acquired: Nov 7 2009 07:33 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.01 ppb	173.15	1.00
51	V	72	1	2.34 ppb	2.35	1.00
52	Cr	72	1	1.89 ppb	3.80	1.00
55	Mn	72	1	3.08 ppb	1.35	1.00
59	Co	72	1	0.13 ppb	9.32	1.00
60	Ni	72	1	1.54 ppb	6.59	1.00
63	Cu	72	1	0.62 ppb	13.41	1.00
66	Zn	72	1	4.36 ppb	1.67	10.00
75	As	72	1	0.31 ppb	11.37	1.00
78	Se	72	1	-0.18 ppb	17.27	1.00
95	Mo	72	1	2024.00 ppb	0.75	2000.00
107	Ag	115	1	0.04 ppb	30.78	1.00
111	Cd	115	1	0.44 ppb	34.74	1.00
118	Sn	115	1	0.41 ppb	9.39	10.00
121	Sb	115	1	0.94 ppb	2.45	1.00
137	Ba	115	1	0.02 ppb	61.87	1.00
205	Tl	165	1	0.04 ppb	26.87	1.00
208	Pb	165	1	1.05 ppb	0.68	1.00
232	Th	165	1	0.02 ppb	35.17	1.00
238	U	165	1	0.01 ppb	14.16	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120
45	Sc	1	945462	1.56	1356727	69.7	30 - 120
72	Ge	1	429131	0.94	598490	71.7	30 - 120
115	In	1	1251973	0.62	1797032	69.7	30 - 120
165	Ho	1	2302241	0.67	3253654	70.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#  
 Date Acquired: Nov 7 2009 07:36 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	101.10	0.81	100	101.1	80 - 120	
51 V	72	1	96.26	0.64	100	96.3	80 - 120	
52 Cr	72	1	92.97	0.53	100	93.0	80 - 120	
55 Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59 Co	72	1	90.72	0.50	100	90.7	80 - 120	
60 Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63 Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66 Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75 As	72	1	101.10	0.38	100	101.1	80 - 120	
78 Se	72	1	105.10	1.94	100	105.1	80 - 120	
95 Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107 Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111 Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118 Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121 Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137 Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205 Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208 Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232 Th	165	1	98.27	1.03	100	98.3	80 - 120	
238 U	165	1	97.38	0.98	100	97.4	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298307	2.13	455621	65.5	30 - 120	
45 Sc	1	951400	0.73	1356727	70.1	30 - 120	
72 Ge	1	417924	0.89	598490	69.8	30 - 120	
115 In	1	1269948	0.83	1797032	70.7	30 - 120	
165 Ho	1	2339416	0.71	3253654	71.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#  
 Date Acquired: Nov 7 2009 07:39 pm  
 Operator: TEL  
 Sample Name: WASH  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CCV.D\101 CCV.D#  
 Date Acquired: Nov 7 2009 07:41 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.02 ppb	3.60	50	102.0	90 - 110	
51	V	72	49.10 ppb	0.68	50	98.2	90 - 110	
52	Cr	72	48.80 ppb	0.79	50	97.6	90 - 110	
55	Mn	72	48.00 ppb	0.60	50	96.0	90 - 110	
59	Co	72	49.55 ppb	0.61	50	99.1	90 - 110	
60	Ni	72	52.06 ppb	1.46	50	104.1	90 - 110	
63	Cu	72	50.22 ppb	0.56	50	100.4	90 - 110	
66	Zn	72	48.51 ppb	1.13	50	97.0	90 - 110	
75	As	72	50.95 ppb	0.50	50	101.9	90 - 110	
78	Se	72	49.38 ppb	4.19	50	98.8	90 - 110	
95	Mo	72	50.11 ppb	1.38	50	100.2	90 - 110	
107	Ag	115	49.66 ppb	0.85	50	99.3	90 - 110	
111	Cd	115	49.01 ppb	1.42	50	98.0	90 - 110	
118	Sn	115	48.68 ppb	1.81	50	97.4	90 - 110	
121	Sb	115	48.87 ppb	1.17	50	97.7	90 - 110	
137	Ba	115	49.35 ppb	1.09	50	98.7	90 - 110	
205	Tl	165	49.79 ppb	1.41	50	99.6	90 - 110	
208	Pb	165	49.95 ppb	1.13	50	99.9	90 - 110	
232	Th	165	49.72 ppb	0.91	50	99.4	90 - 110	
238	U	165	49.59 ppb	1.94	50	99.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120
72	Ge	1	546607	0.97	598490	91.3	30 - 120
115	In	1	1673358	0.50	1797032	93.1	30 - 120
165	Ho	1	3013021	0.51	3253654	92.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102\_CCB.D\102\_CCB.D#  
 Date Acquired: Nov 7 2009 07:44 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.007 ppb	173.18	1.00	
51 V	72	1	0.072 ppb	11.11	1.00	
52 Cr	72	1	0.002 ppb	1427.90	1.00	
55 Mn	72	1	-0.002 ppb	998.74	1.00	
59 Co	72	1	0.004 ppb	62.33	1.00	
60 Ni	72	1	0.095 ppb	21.31	1.00	
63 Cu	72	1	0.001 ppb	1376.50	1.00	
66 Zn	72	1	0.050 ppb	67.37	1.00	
75 As	72	1	0.009 ppb	154.12	1.00	
78 Se	72	1	0.133 ppb	315.07	1.00	
95 Mo	72	1	0.099 ppb	50.63	1.00	
107 Ag	115	1	0.009 ppb	39.54	1.00	
111 Cd	115	1	0.005 ppb	103.50	1.00	
118 Sn	115	1	0.062 ppb	107.54	-1.00	
121 Sb	115	1	0.138 ppb	16.19	1.00	
137 Ba	115	1	-0.017 ppb	52.66	1.00	
205 Tl	165	1	0.016 ppb	15.17	1.00	
208 Pb	165	1	0.005 ppb	21.11	1.00	
232 Th	165	1	0.033 ppb	24.50	1.00	
238 U	165	1	0.010 ppb	34.21	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#  
 Date Acquired: Nov 7 2009 07:47 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/09

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#  
 Date Acquired: Nov 7 2009 08:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:45 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1013	6.79
52	Cr	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ba	115	1	74	17.43
205	Tl	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Ho	1	3039108	1.07

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#  
 Date Acquired: Nov 7 2009 08:50 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:48 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	47883	0.67
51	V	72	747976	1.49
52	Cr	72	754628	1.13
55	Mn	72	865964	0.71
59	Co	72	889724	1.22
60	Ni	72	191586	1.40
63	Cu	72	456036	0.95
66	Zn	72	106780	0.65
75	As	72	89192	0.61
78	Se	72	18229	1.26
95	Mo	72	254493	1.19
107	Ag	115	752402	0.75
111	Cd	115	150239	1.10
118	Sn	115	420016	0.73
121	Sb	115	483973	0.74
137	Ba	115	204383	0.51
205	Tl	165	1701616	0.60
208	Pb	165	2338107	2.25
232	Th	165	2413552	1.92
238	U	165	2559276	1.77

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30 - 120
45	Sc	1	1260434	1.10	1273788	99.0	30 - 120
72	Ge	1	556836	0.86	577640	96.4	30 - 120
115	In	1	1704167	0.61	1726730	98.7	30 - 120
165	Ho	1	3052265	1.25	3039108	100.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127 CC.V.D\127 CC.V.D#  
 Date Acquired: Nov 7 2009 08:53 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.43	ppb	3.83	50	100.9	90 - 110
51	V	72	1	48.44	ppb	0.77	50	96.9	90 - 110
52	Cr	72	1	48.00	ppb	0.40	50	96.0	90 - 110
55	Mn	72	1	48.98	ppb	0.83	50	98.0	90 - 110
59	Co	72	1	49.19	ppb	0.88	50	98.4	90 - 110
60	Ni	72	1	51.00	ppb	2.25	50	102.0	90 - 110
63	Cu	72	1	50.40	ppb	1.04	50	100.8	90 - 110
66	Zn	72	1	49.66	ppb	0.82	50	99.3	90 - 110
75	As	72	1	49.96	ppb	1.36	50	99.9	90 - 110
78	Se	72	1	50.40	ppb	4.89	50	100.8	90 - 110
95	Mo	72	1	49.49	ppb	0.61	50	99.0	90 - 110
107	Ag	115	1	48.04	ppb	0.50	50	96.1	90 - 110
111	Cd	115	1	48.84	ppb	0.25	50	97.7	90 - 110
118	Sn	115	1	48.90	ppb	0.50	50	97.8	90 - 110
121	Sb	115	1	49.44	ppb	0.72	50	98.9	90 - 110
137	Ba	115	1	49.58	ppb	0.98	50	99.2	90 - 110
205	Tl	165	1	50.08	ppb	0.23	50	100.2	90 - 110
208	Pb	165	1	49.87	ppb	2.65	50	99.7	90 - 110
232	Th	165	1	50.94	ppb	1.78	50	101.9	90 - 110
238	U	165	1	50.49	ppb	2.18	50	101.0	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	401327	1.29	398155	100.8	30 - 120
45	Sc	1	1286634	0.38	1273788	101.0	30 - 120
72	Ge	1	558660	0.70	577640	96.7	30 - 120
115	In	1	1725819	0.46	1726730	99.9	30 - 120
165	Ho	1	3087824	1.47	3039108	101.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128\_CCB.D\128\_CCB.D#  
 Date Acquired: Nov 7 2009 08:56 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.007 ppb	173.14	1.00	
51 V	72	1	-0.043 ppb	23.48	1.00	
52 Cr	72	1	0.013 ppb	34.25	1.00	
55 Mn	72	1	0.004 ppb	271.40	1.00	
59 Co	72	1	0.003 ppb	58.98	1.00	
60 Ni	72	1	0.013 ppb	122.65	1.00	
63 Cu	72	1	-0.010 ppb	116.03	1.00	
66 Zn	72	1	-0.311 ppb	3.85	1.00	
75 As	72	1	0.007 ppb	208.78	1.00	
78 Se	72	1	0.060 ppb	542.70	1.00	
95 Mo	72	1	0.010 ppb	195.90	1.00	
107 Ag	115	1	0.008 ppb	34.15	1.00	
111 Cd	115	1	-0.003 ppb	158.97	1.00	
118 Sn	115	1	0.071 ppb	72.17	1.00	
121 Sb	115	1	0.186 ppb	24.43	1.00	
137 Ba	115	1	-0.019 ppb	41.26	1.00	
205 Tl	165	1	0.019 ppb	3.88	1.00	
208 Pb	165	1	0.007 ppb	24.82	1.00	
232 Th	165	1	0.050 ppb	27.19	1.00	
238 U	165	1	0.014 ppb	24.25	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#  
 Date Acquired: Nov 7 2009 08:58 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 4

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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



## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#  
 Date Acquired: Nov 7 2009 11:44 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:42 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	U	165	1	122	7.26

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Ho	1	2681412	0.51

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

### Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#  
 Date Acquired: Nov 7 2009 11:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:45 pm  
 Sample Type: ICAL

#### QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	45518	1.54
51	V	72	700879	1.29
52	Cr	72	693042	2.18
55	Mn	72	795858	1.60
59	Co	72	850264	1.89
60	Ni	72	181428	0.41
63	Cu	72	431089	0.73
66	Zn	72	95751	0.48
75	As	72	84617	1.05
78	Se	72	17278	1.91
95	Mo	72	230286	0.80
107	Ag	115	661266	1.42
111	Cd	115	131853	1.14
118	Sn	115	371875	2.20
121	Sb	115	432362	1.85
137	Ba	115	187475	1.78
205	Tl	165	1498644	1.03
208	Pb	165	2042776	1.12
232	Th	165	2142976	0.23
238	U	165	2200342	0.40

#### ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120
72	Ge	1	507906	1.25	533218	95.3	30 - 120
115	In	1	1532161	1.02	1552104	98.7	30 - 120
165	Ho	1	2672323	0.90	2681412	99.7	30 - 120

Tune File#	1	c:\icpchem\1\7500\he.u
Tune File#	2	C:\ICPCHEM\1\7500\
Tune File#	3	C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191\_CCV.D\191\_CCV.D#  
 Date Acquired: Nov 7 2009 11:50 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.23 ppb	3.26	50	98.5	90 - 110
51	V	72	1	48.52 ppb	1.74	50	97.0	90 - 110
52	Cr	72	1	48.49 ppb	0.29	50	97.0	90 - 110
55	Mn	72	1	48.47 ppb	1.24	50	96.9	90 - 110
59	Co	72	1	48.02 ppb	0.67	50	96.0	90 - 110
60	Ni	72	1	49.69 ppb	1.50	50	99.4	90 - 110
63	Cu	72	1	49.62 ppb	0.90	50	99.2	90 - 110
66	Zn	72	1	48.96 ppb	1.42	50	97.9	90 - 110
75	As	72	1	49.10 ppb	0.76	50	98.2	90 - 110
78	Se	72	1	48.52 ppb	4.63	50	97.0	90 - 110
95	Mo	72	1	49.23 ppb	0.82	50	98.5	90 - 110
107	Ag	115	1	49.55 ppb	1.37	50	99.1	90 - 110
111	Cd	115	1	49.69 ppb	1.93	50	99.4	90 - 110
118	Sn	115	1	49.87 ppb	1.50	50	99.7	90 - 110
121	Sb	115	1	49.85 ppb	1.58	50	99.7	90 - 110
137	Ba	115	1	49.38 ppb	1.63	50	98.8	90 - 110
205	Tl	165	1	50.07 ppb	0.63	50	100.1	90 - 110
208	Pb	165	1	50.67 ppb	1.87	50	101.3	90 - 110
232	Th	165	1	50.33 ppb	1.25	50	100.7	90 - 110
238	U	165	1	51.37 ppb	0.78	50	102.7	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120
72	Ge	1	511730	0.36	533218	96.0	30 - 120
115	In	1	1536232	0.41	1552104	99.0	30 - 120
165	Ho	1	2663987	0.61	2681412	99.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\192\_CCB.D\192\_CCB.D#  
 Date Acquired: Nov 7 2009 11:52 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.021 ppb	99.86	1.00	
51 V	72	1	-0.024 ppb	36.47	1.00	
52 Cr	72	1	0.015 ppb	57.14	1.00	
55 Mn	72	1	0.032 ppb	9.94	1.00	
59 Co	72	1	0.000 ppb	241.41	1.00	
60 Ni	72	1	-0.008 ppb	160.82	1.00	
63 Cu	72	1	-0.035 ppb	57.76	1.00	
66 Zn	72	1	-0.363 ppb	4.76	1.00	
75 As	72	1	0.004 ppb	177.30	1.00	
78 Se	72	1	0.169 ppb	283.55	1.00	
95 Mo	72	1	-0.009 ppb	169.70	1.00	
107 Ag	115	1	0.008 ppb	60.74	1.00	
111 Cd	115	1	0.009 ppb	130.00	1.00	
118 Sn	115	1	0.105 ppb	79.70	1.00	
121 Sb	115	1	0.172 ppb	19.79	1.00	
137 Ba	115	1	-0.007 ppb	70.67	1.00	
205 Tl	165	1	0.024 ppb	16.62	1.00	
208 Pb	165	1	0.009 ppb	31.16	1.00	
232 Th	165	1	0.066 ppb	21.79	1.00	
238 U	165	1	0.019 ppb	10.85	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#  
 Date Acquired: Nov 7 2009 11:55 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#  
 Date Acquired: Nov 8 2009 02:25 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:23 am  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.21
51	V	72	1	620	12.63
52	Cr	72	1	2680	1.78
55	Mn	72	1	813	8.79
59	Co	72	1	67	30.95
60	Ni	72	1	113	13.08
63	Cu	72	1	490	11.82
66	Zn	72	1	656	6.46
75	As	72	1	45	17.63
78	Se	72	1	333	20.05
95	Mo	72	1	257	16.03
107	Ag	115	1	40	74.94
111	Cd	115	1	11	116.88
118	Sn	115	1	477	0.80
121	Sb	115	1	156	24.28
137	Ba	115	1	152	14.20
205	Tl	165	1	96	21.83
208	Pb	165	1	372	9.02
232	Th	165	1	160	32.65
238	U	165	1	140	10.99

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Ho	1	2717767	0.30

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\



**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#  
 Date Acquired: Nov 8 2009 02:28 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:26 am  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	42446	1.21
51	V	72	684937	3.17
52	Cr	72	670667	0.81
55	Mn	72	787843	0.97
59	Co	72	839400	0.67
60	Ni	72	178958	0.70
63	Cu	72	424705	0.79
66	Zn	72	94491	0.73
75	As	72	84032	1.05
78	Se	72	16841	1.85
95	Mo	72	231498	1.15
107	Ag	115	664263	0.80
111	Cd	115	132542	1.42
118	Sn	115	376743	0.98
121	Sb	115	435060	0.49
137	Ba	115	188704	0.74
205	Tl	165	1479617	0.97
208	Pb	165	2033413	0.75
232	Th	165	2126721	0.55
238	U	165	2198988	0.53

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120
72	Ge	1	510601	1.68	539567	94.6	30 - 120
115	In	1	1555316	0.82	1576174	98.7	30 - 120
165	Ho	1	2687981	0.46	2717767	98.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CC.V.D\249 CC.V.D#  
 Date Acquired: Nov 8 2009 02:31 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.21	ppb	0.59	50	100.4	90 - 110
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110
137	Ba	115	1	50.77	ppb	1.68	50	101.5	90 - 110
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110
232	Th	165	1	51.27	ppb	1.18	50	102.5	90 - 110
238	U	165	1	51.61	ppb	0.90	50	103.2	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360601	1.23	376079	95.9	30 - 120
45	Sc	1	1152210	0.10	1186897	97.1	30 - 120
72	Ge	1	506331	0.64	539567	93.8	30 - 120
115	In	1	1532589	0.89	1576174	97.2	30 - 120
165	Ho	1	2667156	1.17	2717767	98.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250\_CCB.D\250\_CCB.D#  
 Date Acquired: Nov 8 2009 02:33 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	147.29	1.00	
51 V	72	1	-0.021	ppb	31.34	1.00	
52 Cr	72	1	0.037	ppb	45.39	1.00	
55 Mn	72	1	-0.003	ppb	461.47	1.00	
59 Co	72	1	0.004	ppb	46.27	1.00	
60 Ni	72	1	-0.025	ppb	13.04	1.00	
63 Cu	72	1	-0.035	ppb	22.37	1.00	
66 Zn	72	1	-0.398	ppb	5.33	1.00	
75 As	72	1	0.015	ppb	70.97	1.00	
78 Se	72	1	-0.320	ppb	40.38	1.00	
95 Mo	72	1	-0.054	ppb	35.32	1.00	
107 Ag	115	1	0.008	ppb	9.23	1.00	
111 Cd	115	1	0.005	ppb	52.43	1.00	
118 Sn	115	1	0.107	ppb	31.44	1.00	
121 Sb	115	1	0.188	ppb	20.19	1.00	
137 Ba	115	1	-0.042	ppb	4.94	1.00	
205 Tl	165	1	0.020	ppb	20.00	1.00	
208 Pb	165	1	-0.001	ppb	65.74	1.00	
232 Th	165	1	0.055	ppb	6.90	1.00	
238 U	165	1	0.016	ppb	10.74	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#  
 Date Acquired: Nov 8 2009 02:36 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252\_BLK.D\252\_BLK.D#  
 Date Acquired: Nov 8 2009 02:39 am  
 Operator: TEL  
 Sample Name: LNJVNB  
 Misc Info: BLANK 9303185 6020  
 Vial Number: 4402  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253\_LCS.D\253\_LCS.D#  
 Date Acquired: Nov 8 2009 02:42 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNJVNC  
 Misc Info: LCS  
 Vial Number: 4403  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

## QC Summary:

Analytes: Pass  
 ISTD: Pass

## Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	35.70	1.01	40	89.3	80 - 120
51	V	72	1	35.52	0.20	40	88.8	80 - 120
52	Cr	72	1	36.08	0.50	40	90.2	80 - 120
55	Mn	72	1	35.14	0.07	40	87.9	80 - 120
59	Co	72	1	34.82	0.49	40	87.1	80 - 120
60	Ni	72	1	36.40	0.69	40	91.0	80 - 120
63	Cu	72	1	35.92	0.24	40	89.8	80 - 120
66	Zn	72	1	35.76	1.51	40	89.4	80 - 120
75	As	72	1	34.71	0.72	40	86.8	80 - 120
78	Se	72	1	35.62	2.21	40	89.1	80 - 120
95	Mo	72	1	32.10	0.70	40	80.3	80 - 120
107	Ag	115	1	35.79	2.12	40	89.5	80 - 120
111	Cd	115	1	35.37	1.53	40	88.4	80 - 120
118	Sn	115	1	0.02	168.39	40	0.0	80 - 120
121	Sb	115	1	32.20	2.07	40	80.5	80 - 120
137	Ba	115	1	35.77	2.20	40	89.4	80 - 120
205	Tl	165	1	36.57	2.09	40	91.4	80 - 120
208	Pb	165	1	36.87	2.16	40	92.2	80 - 120
232	Th	165	1	36.61	1.54	40	91.5	80 - 120
238	U	165	1	36.97	1.94	40	92.4	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	358195	0.31	376079	95.2	30 - 120
45	Sc	1	1130666	0.47	1186897	95.3	30 - 120
72	Ge	1	497032	0.74	539567	92.1	30 - 120
115	In	1	1523173	1.15	1576174	96.6	30 - 120
165	Ho	1	2638001	1.37	2717767	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#  
 Date Acquired: Nov 8 2009 02:44 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7F 5X  
 Misc Info: D9J270261  
 Vial Number: 4404  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: AllRef  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.09	0.02	ppb	140.55	3600
51	V	72	1	58.25	11.65	ppb	0.99	3600
52	Cr	72	1	96.60	19.32	ppb	0.56	3600
55	Mn	72	1	20.01	4.00	ppb	1.83	3600
59	Co	72	1	0.41	0.08	ppb	18.64	3600
60	Ni	72	1	2.50	0.50	ppb	10.52	3600
63	Cu	72	1	0.61	0.12	ppb	13.42	3600
66	Zn	72	1	18.56	3.71	ppb	2.43	3600
75	As	72	1	190.75	38.15	ppb	0.69	3600
78	Se	72	1	1.93	0.39	ppb	57.06	3600
95	Mo	72	1	26.48	5.30	ppb	2.72	3600
107	Ag	115	1	0.03	0.01	ppb	125.97	3600
111	Cd	115	1	0.02	0.00	ppb	229.82	3600
118	Sn	115	1	0.25	0.05	ppb	45.32	3600
121	Sb	115	1	0.30	0.06	ppb	29.45	3600
137	Ba	115	1	23.70	4.74	ppb	1.34	3600
205	Tl	165	1	0.23	0.05	ppb	17.38	3600
208	Pb	165	1	0.18	0.04	ppb	14.05	3600
232	Th	165	1	0.24	0.05	ppb	4.71	1000
238	U	165	1	13.31	2.66	ppb	1.53	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	333341	1.09	376079	88.6	30 - 120
45	Sc	1	1062523	0.59	1186897	89.5	30 - 120
72	Ge	1	462502	0.27	539567	85.7	30 - 120
115	In	1	1375002	1.04	1576174	87.2	30 - 120
165	Ho	1	2471361	0.80	2717767	90.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#  
 Date Acquired: Nov 8 2009 02:47 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FP25  
 Misc Info: SERIAL DILUTION  
 Vial Number: 4405  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SDIL  
 Dilution Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

**QC elements**

Element	IS	Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.02 ppb	0.57	0.00	458.7	90 - 110	
51	V	72	1	2.26 ppb	2.18	2.33	97.2	90 - 110	
52	Cr	72	1	3.94 ppb	1.55	3.86	101.9	90 - 110	
55	Mn	72	1	0.83 ppb	10.87	0.80	103.6	90 - 110	
59	Co	72	1	0.02 ppb	18.64	0.02	109.5	90 - 110	
60	Ni	72	1	0.11 ppb	52.76	0.10	106.7	90 - 110	
63	Cu	72	1	0.01 ppb	230.36	0.02	26.5	90 - 110	
66	Zn	72	1	0.47 ppb	7.87	0.74	62.8	90 - 110	
75	As	72	1	7.52 ppb	0.96	7.63	98.5	90 - 110	
78	Se	72	1	-0.04 ppb	1143.50	0.08	-52.9	90 - 110	
95	Mo	72	1	0.94 ppb	9.86	1.06	88.3	90 - 110	
107	Ag	115	1	0.00 ppb	99.28	0.00	-232.5	90 - 110	
111	Cd	115	1	-0.01 ppb	100.17	0.00	-679.0	90 - 110	
118	Sn	115	1	0.09 ppb	4.94	0.01	892.4	90 - 110	
121	Sb	115	1	0.01 ppb	131.02	0.01	58.5	90 - 110	
137	Ba	115	1	0.94 ppb	4.03	0.95	99.3	90 - 110	
205	Tl	165	1	0.01 ppb	8.96	0.01	141.7	90 - 110	
208	Pb	165	1	0.01 ppb	18.12	0.01	165.2	90 - 110	
232	Th	165	1	0.01 ppb	22.37	0.01	123.4	90 - 110	
238	U	165	1	0.53 ppb	1.52	0.53	100.3	90 - 110	

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30 - 120
45	Sc	1	1125653	0.19	1186897	94.8	30 - 120
72	Ge	1	502164	0.65	539567	93.1	30 - 120
115	In	1	1479317	0.60	1576174	93.9	30 - 120
165	Ho	1	2614578	1.08	2717767	96.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/09/09 10:02:46

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FP25

Serial Dilution: 25.00

Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 255 Method 6020\_
Acquired: 11/08/2009 02:47:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/08/2009 02:25:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL
NC : Serial dilution concentration < 100 X MDL
E : Difference greater than Limit (10%)

Reviewed by: Date:

## Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D#  
 Date Acquired: Nov 8 2009 02:50 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FZ  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 4406  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 U	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS)

ICPMS\_024

Reported: 11/09/09 10:02:49

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FZ

Spike Dilution: 1.00

Sample Dilution: 5.00

Instrument: Agilent7500

Channel 272

File: AG110709 # 256

Method 6020\_

Acquired: 11/08/2009 02:50:00

ICPMS\_024

Matrix: AQUEOUS

Calibrated: 11/08/2009 02:25:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		<input type="checkbox"/>
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		<input checked="" type="checkbox"/>
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		<input checked="" type="checkbox"/>
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		<input checked="" type="checkbox"/>
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		<input type="checkbox"/>
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		<input checked="" type="checkbox"/>
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		<input checked="" type="checkbox"/>
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		<input checked="" type="checkbox"/>
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		<input type="checkbox"/>
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		<input type="checkbox"/>
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		<input checked="" type="checkbox"/>
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		<input checked="" type="checkbox"/>
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		<input checked="" type="checkbox"/>
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		<input checked="" type="checkbox"/>
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		<input checked="" type="checkbox"/>
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		<input checked="" type="checkbox"/>
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		<input type="checkbox"/>
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

Reviewed by:

Date:

**Spiked Sample (MS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257\_MS.D\257\_MS.D#  
 Date Acquired: Nov 8 2009 02:53 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FS 5X  
 Misc Info: MATRIX SPIKE  
 Vial Number: 4407  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MS  
 Prep Dil. Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

**QC Elements**

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150	
51 V	72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150	
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150	
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150	
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150	
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150	
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150	
66 Zn	72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150	
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150	
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150	
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150	
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150	
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150	
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150	
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150	
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150	
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150	
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150	
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150	
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150	

**ISTD Elements**

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120	
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120	
72 Ge	1	462138	0.38	539567	85.6	30 - 120	
115 In	1	1389102	1.17	1576174	88.1	30 - 120	
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258\_CCV.D\258\_CCV.D#  
 Date Acquired: Nov 8 2009 02:56 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.17 ppb	1.68	50	102.3	90 - 110	
51	V	72	49.76 ppb	0.58	50	99.5	90 - 110	
52	Cr	72	50.23 ppb	0.59	50	100.5	90 - 110	
55	Mn	72	49.80 ppb	0.45	50	99.6	90 - 110	
59	Co	72	48.86 ppb	0.97	50	97.7	90 - 110	
60	Ni	72	51.09 ppb	0.38	50	102.2	90 - 110	
63	Cu	72	50.55 ppb	1.39	50	101.1	90 - 110	
66	Zn	72	51.57 ppb	0.26	50	103.1	90 - 110	
75	As	72	50.59 ppb	0.46	50	101.2	90 - 110	
78	Se	72	51.92 ppb	0.28	50	103.8	90 - 110	
95	Mo	72	50.29 ppb	1.00	50	100.6	90 - 110	
107	Ag	115	51.22 ppb	2.07	50	102.4	90 - 110	
111	Cd	115	51.60 ppb	0.81	50	103.2	90 - 110	
118	Sn	115	50.56 ppb	0.85	50	101.1	90 - 110	
121	Sb	115	51.03 ppb	1.10	50	102.1	90 - 110	
137	Ba	115	50.92 ppb	1.12	50	101.8	90 - 110	
205	Tl	165	52.43 ppb	1.68	50	104.9	90 - 110	
208	Pb	165	52.24 ppb	2.12	50	104.5	90 - 110	
232	Th	165	51.78 ppb	2.94	50	103.6	90 - 110	
238	U	165	52.22 ppb	2.20	50	104.4	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120
72	Ge	1	507682	1.25	539567	94.1	30 - 120
115	In	1	1542474	0.57	1576174	97.9	30 - 120
165	Ho	1	2664119	1.36	2717767	98.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259\_CCB.D\259\_CCB.D#  
 Date Acquired: Nov 8 2009 02:58 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	31.75	1.00	
52 Cr	72	1	0.015 ppb	240.08	1.00	
55 Mn	72	1	-0.003 ppb	454.38	1.00	
59 Co	72	1	0.007 ppb	19.00	1.00	
60 Ni	72	1	-0.021 ppb	92.00	1.00	
63 Cu	72	1	-0.023 ppb	91.13	1.00	
66 Zn	72	1	-0.387 ppb	12.46	1.00	
75 As	72	1	0.025 ppb	95.41	1.00	
78 Se	72	1	-0.065 ppb	394.03	1.00	
95 Mo	72	1	-0.040 ppb	70.76	1.00	
107 Ag	115	1	0.007 ppb	79.32	1.00	
111 Cd	115	1	0.012 ppb	73.39	1.00	
118 Sn	115	1	0.112 ppb	71.47	1.00	
121 Sb	115	1	0.150 ppb	17.00	1.00	
137 Ba	115	1	-0.041 ppb	5.14	1.00	
205 Tl	165	1	0.021 ppb	28.23	1.00	
208 Pb	165	1	0.003 ppb	8.31	1.00	
232 Th	165	1	0.048 ppb	25.86	1.00	
238 U	165	1	0.018 ppb	13.31	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#  
 Date Acquired: Nov 8 2009 03:01 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367841	0.83	376079	97.8	30 - 120	
45 Sc	1	1154162	0.97	1186897	97.2	30 - 120	
72 Ge	1	516753	0.66	539567	95.8	30 - 120	
115 In	1	1524519	0.33	1576174	96.7	30 - 120	
165 Ho	1	2680772	0.38	2717767	98.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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





**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#  
 Date Acquired: Nov 8 2009 03:07 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7L 5X  
 Misc Info: D9J270263  
 Vial Number: 4409  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.05	0.01	ppb	157.59	3600
51	V	72	1	46.85	9.37	ppb	1.89	3600
52	Cr	72	1	12.39	2.48	ppb	5.61	3600
55	Mn	72	1	171.35	34.27	ppb	1.07	3600
59	Co	72	1	264.35	52.87	ppb	1.02	3600
60	Ni	72	1	102.35	20.47	ppb	3.34	3600
63	Cu	72	1	53.95	10.79	ppb	1.03	3600
66	Zn	72	1	17.02	3.40	ppb	3.85	3600
75	As	72	1	69.40	13.88	ppb	0.45	3600
78	Se	72	1	3.99	0.80	ppb	47.95	3600
95	Mo	72	1	6.46	1.29	ppb	6.25	3600
107	Ag	115	1	0.02	0.00	ppb	159.25	3600
111	Cd	115	1	0.13	0.03	ppb	54.73	3600
118	Sn	115	1	0.20	0.04	ppb	29.32	3600
121	Sb	115	1	0.23	0.05	ppb	27.91	3600
137	Ba	115	1	43.61	8.72	ppb	1.89	3600
205	Tl	165	1	0.08	0.02	ppb	8.14	3600
208	Pb	165	1	1.84	0.37	ppb	5.27	3600
232	Th	165	1	0.14	0.03	ppb	17.77	1000
238	U	165	1	38.02	7.60	ppb	1.66	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	343401	0.74	376079	91.3	30 - 120
45	Sc	1	1089536	0.75	1186897	91.8	30 - 120
72	Ge	1	479909	1.11	539567	88.9	30 - 120
115	In	1	1451981	1.22	1576174	92.1	30 - 120
165	Ho	1	2546093	0.95	2717767	93.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#  
 Date Acquired: Nov 8 2009 03:09 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFGD 5X  
 Misc Info: D9J280280  
 Vial Number: 4410  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 4 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#  
 Date Acquired: Nov 8 2009 03:12 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFG2 5X  
 Misc Info: D9J280283  
 Vial Number: 4411  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#  
 Date Acquired: Nov 8 2009 03:15 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2J 5X  
 Misc Info: D9J290310  
 Vial Number: 4412  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#  
 Date Acquired: Nov 8 2009 03:18 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2K 5X  
 Misc Info: D9J290310  
 Vial Number: 4501  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267\_CCV.D\267\_CCV.D#  
Date Acquired: Nov 8 2009 03:21 am  
Operator: TEL  
Sample Name: CCV  
Misc Info:  
Vial Number: 1105  
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
Last Cal Update: Nov 08 2009 02:28 am  
Sample Type: CCV  
Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	51.22	ppb	2.08	50	102.4	90 - 110
51	V	72	1	49.65	ppb	0.54	50	99.3	90 - 110
52	Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110
55	Mn	72	1	49.57	ppb	0.78	50	99.1	90 - 110
59	Co	72	1	48.62	ppb	0.28	50	97.2	90 - 110
60	Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110
63	Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110
66	Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110
75	As	72	1	50.33	ppb	0.35	50	100.7	90 - 110
78	Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110
95	Mo	72	1	50.34	ppb	1.97	50	100.7	90 - 110
107	Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110
111	Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110
118	Sn	115	1	49.99	ppb	1.62	50	100.0	90 - 110
121	Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110
137	Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110
205	Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110
208	Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110
232	Th	165	1	51.26	ppb	1.28	50	102.5	90 - 110
238	U	165	1	51.53	ppb	0.94	50	103.1	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360685	1.10	376079	95.9	30 - 120
45	Sc	1	1157595	0.85	1186897	97.5	30 - 120
72	Ge	1	507944	1.20	539567	94.1	30 - 120
115	In	1	1559749	0.93	1576174	99.0	30 - 120
165	Ho	1	2711611	1.14	2717767	99.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
Tune File# 2 C:\ICPCHEM\1\7500\  
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268\_CCB.D\268\_CCB.D#  
 Date Acquired: Nov 8 2009 03:23 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	19.15	1.00	
52 Cr	72	1	-0.002 ppb	789.67	1.00	
55 Mn	72	1	-0.001 ppb	1184.70	1.00	
59 Co	72	1	0.000 ppb	707.73	1.00	
60 Ni	72	1	-0.014 ppb	130.22	1.00	
63 Cu	72	1	-0.051 ppb	28.29	1.00	
66 Zn	72	1	-0.413 ppb	3.98	1.00	
75 As	72	1	0.005 ppb	390.64	1.00	
78 Se	72	1	0.068 ppb	260.94	1.00	
95 Mo	72	1	-0.051 ppb	12.59	1.00	
107 Ag	115	1	0.003 ppb	126.88	1.00	
111 Cd	115	1	0.000 ppb	7618.50	1.00	
118 Sn	115	1	0.047 ppb	150.30	1.00	
121 Sb	115	1	0.138 ppb	23.66	1.00	
137 Ba	115	1	-0.038 ppb	11.83	1.00	
205 Tl	165	1	0.021 ppb	17.52	1.00	
208 Pb	165	1	0.003 ppb	111.74	1.00	
232 Th	165	1	0.051 ppb	16.07	1.00	
238 U	165	1	0.016 ppb	14.92	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#  
 Date Acquired: Nov 8 2009 03:26 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.901 ppb	17.96	1.30	
51 V	72	1	4.935 ppb	2.34	6.50	
52 Cr	72	1	2.001 ppb	2.44	2.60	
55 Mn	72	1	1.030 ppb	4.04	1.30	
59 Co	72	1	0.990 ppb	2.41	1.30	
60 Ni	72	1	2.129 ppb	7.48	2.60	
63 Cu	72	1	1.903 ppb	4.00	2.60	
66 Zn	72	1	9.748 ppb	0.16	13.00	
75 As	72	1	4.893 ppb	4.12	6.50	
78 Se	72	1	5.130 ppb	8.01	6.50	
95 Mo	72	1	1.974 ppb	8.49	2.60	
107 Ag	115	1	5.301 ppb	1.96	6.50	
111 Cd	115	1	1.056 ppb	7.93	1.30	
118 Sn	115	1	10.460 ppb	2.46	13.00	
121 Sb	115	1	2.083 ppb	0.79	2.60	
137 Ba	115	1	1.029 ppb	5.53	1.30	
205 Tl	165	1	1.089 ppb	0.37	1.30	
208 Pb	165	1	1.075 ppb	0.39	1.30	
232 Th	165	1	2.216 ppb	0.39	2.60	
238 U	165	1	1.111 ppb	0.42	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



# Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

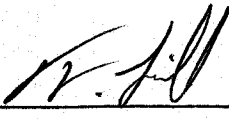
Lot ID: D9J270263

Client: Northgate Environmental

Batch(es) #: 9303185

Associated Samples: 1

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date:  11/9/09

# *Metals Raw Data RoadMap*

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J270263	1	SE	LNC7L1AC	20091108	6020TOTA	9303185	AG110709	024
D9J270263	1	AS	LNC7L1AA	20091108	6020TOTA	9303185	AG110709	024

**METALS  
PREPARATION LOGS  
ICP-MS**



Batch Number: 9303185

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/2/09</sup> 10/30/09 JRW  
Due Date: 11/09/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9J300000 Water	LNJNV B	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV C	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F S Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F D Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2J Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*Checked  
11/7/09*

**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

BATCH # 9303185 ALLIQUOTTED BY: KS  
PREP DATE: 11/2/2009 DIGESTED BY: JRW

**CONSUMABLES USED**

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS268  
 One or more samples were filtered prior to analysis at the instrument.  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
 Analyst(s) Initials:                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4082 Block & Cup #: 4/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	95
HNO3	1900	95	1930	93
HNO3				

Samples and QC revolumed to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: JRW

Date: 11/2/09

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**  

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**THE LEADER IN ENVIRONMENTAL TESTING**

### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-09-2009

Logbook: \\Densvr06\StdsLog\metals.std

### STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-SE02003 Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008 Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

### STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-SN02016 Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009 Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

### STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HN03 Lot No.: H02026 Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000



STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelli

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 10-31-2009  
 Date Expires(1): 03-01-2010 (1 Year)  
 Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICESA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-05-2009  
 Date Expires(1): 12-05-2009 (1 Month)  
 Date Expires(2): 11-01-2010 (None)  
 pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
 Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6836-09, ICP-MS BLANK

Analyst: LILLT

Solvent: Water  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 05-07-2010 (6 Months)  
 Date Expires(2): 05-07-2010 (6 Months)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0

Parent Std No.: STD6835-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6837-09, ICP-MS HIGH CAL STD

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6838-09, ICP-MS HIGH CCV STD

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500
Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000

Na 2,000.0 5.0000  
 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6839-09, ICP-MS HIGH RL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018

STD6841-09, ICP-MS HIGH ICSAB

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Check Standard		Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010		Parent Date Expires(2): 08-01-2010
<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD6842-09, ICP-MS HIGH LR STD1

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000
Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000



STD6843-09, ICP-MS HIGH ICV STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 50.000

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

Parent Std No.: STD3115-09, ICP-MS TA ICV Alt Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	4.0000
Ca	2,000.0	4.0000
Fe	2,000.0	4.0000
K	2,000.0	4.0000
Mg	2,000.0	4.0000
Na	2,000.0	4.0000

Parent Std No.: STD3116-09, ICP-MS TA ICV BRC Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.0800
Pd	20.000	0.0400
Pt	20.000	0.0400

W

20.000

0.0400

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 21 and Met 8

Volume (ml): 50.000

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD3106-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

Parent Std No.: STD3107-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: \_\_\_\_\_

 11/9/09

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0 11/07/09 15:09		<input type="checkbox"/>
4	100 ppb				1.0 11/07/09 15:12		<input type="checkbox"/>
5	ICV				1.0 11/07/09 15:15		<input type="checkbox"/>
6	RLIV				1.0 11/07/09 15:18		<input type="checkbox"/>
7	ICB				1.0 11/07/09 15:20		<input type="checkbox"/>
8	RL STD				1.0 11/07/09 15:23		<input type="checkbox"/>
9	AFCEE RL				1.0 11/07/09 15:26		<input type="checkbox"/>
10	ALTSe				1.0 11/07/09 15:29		<input type="checkbox"/>
11	ICSA				1.0 11/07/09 15:31		<input type="checkbox"/>
12	ICSAB				1.0 11/07/09 15:34		<input type="checkbox"/>
13	RINSE				1.0 11/07/09 15:37		<input type="checkbox"/>
14	LR1				1.0 11/07/09 15:40		<input type="checkbox"/>
15	RINSE				1.0 11/07/09 15:42		<input type="checkbox"/>
16	CCV				1.0 11/07/09 15:45		<input type="checkbox"/>
17	CCB				1.0 11/07/09 15:48		<input type="checkbox"/>
18	RLCV				1.0 11/07/09 15:50		<input type="checkbox"/>
19	LNDMKB	D9J280000	9301081	46	1.0 11/07/09 15:53		<input type="checkbox"/>
20	LNDMKC	D9J280000	9301081	46	1.0 11/07/09 15:56		<input type="checkbox"/>
21	LM9FJ	D9J240188-1	9301081	46	1.0 11/07/09 15:59		<input type="checkbox"/>
22	LM9FJP5	D9J240188	9301081		5.0 11/07/09 16:01		<input type="checkbox"/>
23	LM9FJZ	D9J240188-1	9301081		1.0 11/07/09 16:04		<input type="checkbox"/>
24	LM9FJS	D9J240188-1	9301081	46	1.0 11/07/09 16:07		<input type="checkbox"/>
25	LM9FJD	D9J240188-1	9301081	46	1.0 11/07/09 16:09		<input type="checkbox"/>
26	LM9FK	D9J240188-2	9301081	46	1.0 11/07/09 16:12		<input type="checkbox"/>
27	CCV				1.0 11/07/09 16:15		<input type="checkbox"/>
28	CCB				1.0 11/07/09 16:18		<input type="checkbox"/>
29	RLCV				1.0 11/07/09 16:20		<input type="checkbox"/>
30	LNJT4B	D9J300000	9303213	MS	1.0 11/07/09 16:23		<input type="checkbox"/>
31	LNJT4C	D9J300000	9303213	MS	1.0 11/07/09 16:26		<input type="checkbox"/>
32	LM8A7	D9J230367-1	9303213	MS	1.0 11/07/09 16:29		<input type="checkbox"/>
33	LM8CG	D9J230367-2	9303213	MS	1.0 11/07/09 16:32		<input type="checkbox"/>
34	LM8CV	D9J230367-3	9303213	MS	1.0 11/07/09 16:34		<input type="checkbox"/>
35	LM8C1	D9J230367-4	9303213	MS	1.0 11/07/09 16:37		<input type="checkbox"/>
36	LM8C1P5	D9J230367	9303213		5.0 11/07/09 16:40		<input type="checkbox"/>
37	LM8C1Z	D9J230367-4	9303213		1.0 11/07/09 16:43		<input type="checkbox"/>
38	LM8C1S	D9J230367-4	9303213	MS	1.0 11/07/09 16:45		<input type="checkbox"/>
39	LM8C1D	D9J230367-4	9303213	MS	1.0 11/07/09 16:48		<input type="checkbox"/>
40	CCV				1.0 11/07/09 16:51		<input type="checkbox"/>
41	CCB				1.0 11/07/09 16:53		<input type="checkbox"/>
42	RLCV				1.0 11/07/09 16:57		<input type="checkbox"/>
43	LNDMTB	D9J280000	9301086	46	1.0 11/07/09 17:00		<input type="checkbox"/>
44	LNDMTC	D9J280000	9301086	46	1.0 11/07/09 17:02		<input type="checkbox"/>
45	LM8E2	D9J230373-1	9301086	46	1.0 11/07/09 17:05		<input type="checkbox"/>
46	LM8E2P5	D9J230373	9301086		5.0 11/07/09 17:08		<input type="checkbox"/>
47	LM8E2Z	D9J230373-1	9301086		1.0 11/07/09 17:11		<input type="checkbox"/>
48	LM8E2S	D9J230373-1	9301086	46	1.0 11/07/09 17:13		<input type="checkbox"/>

Denver

RUN SUMMARY

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16		<input type="checkbox"/>
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19		<input type="checkbox"/>
51	CCV				1.0	11/07/09 17:22		<input type="checkbox"/>
52	CCB				1.0	11/07/09 17:24		<input type="checkbox"/>
53	RLCV				1.0	11/07/09 17:27		<input type="checkbox"/>
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30		<input type="checkbox"/>
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33		<input type="checkbox"/>
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35		<input type="checkbox"/>
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38		<input type="checkbox"/>
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41		<input type="checkbox"/>
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44		<input type="checkbox"/>
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47		<input type="checkbox"/>
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51		<input type="checkbox"/>
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53		<input type="checkbox"/>
63	CCV				1.0	11/07/09 17:56		<input type="checkbox"/>
64	CCB				1.0	11/07/09 17:59		<input type="checkbox"/>
65	RLCV				1.0	11/07/09 18:02		<input type="checkbox"/>
66	<del>LMNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5</del>	<del>11/07/09 18:04</del>	<i>not used 11/9/09</i>	<input type="checkbox"/>
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07		<input type="checkbox"/>
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10		<input type="checkbox"/>
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13		<input type="checkbox"/>
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16		<input type="checkbox"/>
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18		<input type="checkbox"/>
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21		<input type="checkbox"/>
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24		<input type="checkbox"/>
74	CCV				1.0	11/07/09 18:27		<input type="checkbox"/>
75	CCB				1.0	11/07/09 18:29		<input type="checkbox"/>
76	RLCV				1.0	11/07/09 18:32		<input type="checkbox"/>
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35		<input type="checkbox"/>
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38		<input type="checkbox"/>
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40		<input type="checkbox"/>
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43		<input type="checkbox"/>
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46		<input type="checkbox"/>
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49		<input type="checkbox"/>
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51		<input type="checkbox"/>
84	CCV				1.0	11/07/09 18:54		<input type="checkbox"/>
85	CCB				1.0	11/07/09 18:57		<input type="checkbox"/>
86	RLCV				1.0	11/07/09 19:00		<input type="checkbox"/>
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03		<input type="checkbox"/>
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05		<input type="checkbox"/>
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08		<input type="checkbox"/>
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11		<input type="checkbox"/>
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14		<input type="checkbox"/>
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17		<input type="checkbox"/>
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19		<input type="checkbox"/>
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22		<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
95	CCV				1.0 11/07/09 19:25		<input type="checkbox"/>
96	CCB				1.0 11/07/09 19:28		<input type="checkbox"/>
97	RLCV				1.0 11/07/09 19:30		<input type="checkbox"/>
98	ICSA				1.0 11/07/09 19:33		<input type="checkbox"/>
99	ICSAB				1.0 11/07/09 19:36		<input type="checkbox"/>
100	WASH				1.0 11/07/09 19:39		<input type="checkbox"/>
101	CCV				1.0 11/07/09 19:41		<input type="checkbox"/>
102	CCB				1.0 11/07/09 19:44		<input type="checkbox"/>
103	RLCV				1.0 11/07/09 19:47		<input type="checkbox"/>
104	LNPXBQ	D9K030000	9307099	U1	1.0 11/07/09 19:50		<input type="checkbox"/>
105	LNPXCQ	D9K030000	9307099	U1	1.0 11/07/09 19:52		<input type="checkbox"/>
106	LNN4FQ	D9K020448-1	9307099	U1	1.0 11/07/09 19:55		<input type="checkbox"/>
107	LNN4FP5Q	D9K020448	9307099		5.0 11/07/09 19:58		<input type="checkbox"/>
108	LNN4FZQ	D9K020448-1	9307099		1.0 11/07/09 20:01		<input type="checkbox"/>
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:03		<input type="checkbox"/>
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:06		<input type="checkbox"/>
111	CCV				1.0 11/07/09 20:09		<input type="checkbox"/>
112	CCB				1.0 11/07/09 20:12		<input type="checkbox"/>
113	RLCV				1.0 11/07/09 20:14		<input type="checkbox"/>
114	<del>LNNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5 11/07/09 20:17</del>		<input type="checkbox"/>
115	LNNVDC	D9K020000	9306332	04	2.5 11/07/09 20:20		<input type="checkbox"/>
116	LNKT9	D9J300258-1	9306332	04	2.5 11/07/09 20:23		<input type="checkbox"/>
117	LNKT9S	D9J300258-1	9306332	04	2.5 11/07/09 20:25		<input type="checkbox"/>
118	LNKT9D	D9J300258-1	9306332	04	2.5 11/07/09 20:28		<input type="checkbox"/>
119	CCV				1.0 11/07/09 20:31		<input type="checkbox"/>
120	CCB				1.0 11/07/09 20:34		<input type="checkbox"/>
121	RLCV				1.0 11/07/09 20:36		<input type="checkbox"/>
122	RINSE				1.0 11/07/09 20:39		<input type="checkbox"/>
123	RINSE				1.0 11/07/09 20:42		<input type="checkbox"/>
124	<del>Cal Blank</del>				<del>1.0 11/07/09 20:45</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>
125	Cal Blank				1.0 11/07/09 20:47		<input type="checkbox"/>
126	100 ppb				1.0 11/07/09 20:50		<input type="checkbox"/>
127	CCV				1.0 11/07/09 20:53		<input type="checkbox"/>
128	CCB				1.0 11/07/09 20:56		<input type="checkbox"/>
129	RLCV				1.0 11/07/09 20:58		<input type="checkbox"/>
130	<del>LNNQ5BF</del>	<del>D9K020000</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:01</del>		<input type="checkbox"/>
131	LNNQ5CF	D9K020000	9306285	MD	1.0 11/07/09 21:04		<input type="checkbox"/>
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0 11/07/09 21:07		<input type="checkbox"/>
133	LNLG3F	D9J300326-2	9306285	MD	1.0 11/07/09 21:10		<input type="checkbox"/>
134	LNLG4F	D9J300326-3	9306285	MD	1.0 11/07/09 21:12		<input type="checkbox"/>
135	LNLHHF	D9J300329-1	9306285	MD	1.0 11/07/09 21:15		<input type="checkbox"/>
136	LNLHMF	D9J300329-2	9306285	MD	1.0 11/07/09 21:18		<input type="checkbox"/>
137	CCV				1.0 11/07/09 21:21		<input type="checkbox"/>
138	CCB				1.0 11/07/09 21:23		<input type="checkbox"/>
139	RLCV				1.0 11/07/09 21:26		<input type="checkbox"/>
140	<del>LNLHPF</del>	<del>D9J300329-3</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:29</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
141	<del>LNLJJP</del>	D9J300340-1	9306285	MD	1.0	11/07/09 21:32	<input type="checkbox"/>
142	LNLJJP5F	D9J300340	9306285		5.0	11/07/09 21:35	<input type="checkbox"/>
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37	<input type="checkbox"/>
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40	<input type="checkbox"/>
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43	<input type="checkbox"/>
146	<del>LNLJMF</del>	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	<input type="checkbox"/>
147	CCV				1.0	11/07/09 21:48	<input type="checkbox"/>
148	CCB				1.0	11/07/09 21:51	<input type="checkbox"/>
149	RLCV				1.0	11/07/09 21:54	<input type="checkbox"/>
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57	<input type="checkbox"/>
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59	<input type="checkbox"/>
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02	<input type="checkbox"/>
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05	<input type="checkbox"/>
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08	<input type="checkbox"/>
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	<input type="checkbox"/>
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13	<input type="checkbox"/>
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16	<input type="checkbox"/>
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19	<input type="checkbox"/>
159	CCV				1.0	11/07/09 22:21	<input type="checkbox"/>
160	CCB				1.0	11/07/09 22:24	<input type="checkbox"/>
161	RLCV				1.0	11/07/09 22:27	<input type="checkbox"/>
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30	<input type="checkbox"/>
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32	<input type="checkbox"/>
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35	<input type="checkbox"/>
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38	<input type="checkbox"/>
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41	<input type="checkbox"/>
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43	<input type="checkbox"/>
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46	<input type="checkbox"/>
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49	<input type="checkbox"/>
170	CCV				1.0	11/07/09 22:52	<input type="checkbox"/>
171	CCB				1.0	11/07/09 22:54	<input type="checkbox"/>
172	RLCV				1.0	11/07/09 22:57	<input type="checkbox"/>
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00	<input type="checkbox"/>
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03	<input type="checkbox"/>
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06	<input type="checkbox"/>
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08	<input type="checkbox"/>
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11	<input type="checkbox"/>
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14	<input type="checkbox"/>
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17	<input type="checkbox"/>
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19	<input type="checkbox"/>
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22	<input type="checkbox"/>
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25	<input type="checkbox"/>
183	CCV				1.0	11/07/09 23:28	<input type="checkbox"/>
184	CCB				1.0	11/07/09 23:30	<input type="checkbox"/>
185	RLCV				1.0	11/07/09 23:33	<input type="checkbox"/>
186	RINSE				1.0	11/07/09 23:36	<input type="checkbox"/>

*At 11/9/09 did not use.*

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
187	<del>RINSE</del>				<del>1.0 11/07/09 23:39</del>		<input type="checkbox"/>
188	<del>Cal Blank</del>				<del>1.0 11/07/09 23:41</del>	<i>vt 11/9/09 Did not use.</i>	<input type="checkbox"/>
189	Cal Blank			1.0	11/07/09 23:44		<input type="checkbox"/>
190	100 ppb			1.0	11/07/09 23:47		<input type="checkbox"/>
191	CCV			1.0	11/07/09 23:50		<input type="checkbox"/>
192	CCB			1.0	11/07/09 23:52		<input type="checkbox"/>
193	RLCV			1.0	11/07/09 23:55		<input type="checkbox"/>
194	LNEMRZF	D9J280200-5	9302146		1.0 11/07/09 23:58		<input type="checkbox"/>
195	LNEMRSF	D9J280200-5	9302146	MD	1.0 11/08/09 00:01		<input type="checkbox"/>
196	LNEMRDF	D9J280200-5	9302146	MD	1.0 11/08/09 00:03		<input type="checkbox"/>
197	LNEMWF	D9J280200-6	9302146	MD	1.0 11/08/09 00:06		<input type="checkbox"/>
198	LNEM0F	D9J280200-7	9302146	MD	1.0 11/08/09 00:09		<input type="checkbox"/>
199	LNEM3F	D9J280200-8	9302146	MD	1.0 11/08/09 00:12		<input type="checkbox"/>
200	LNEM4F	D9J280200-9	9302146	MD	1.0 11/08/09 00:15		<input type="checkbox"/>
201	LNEM7F	D9J280200-10	9302146	MD	1.0 11/08/09 00:17		<input type="checkbox"/>
202	CCV			1.0	11/08/09 00:20		<input type="checkbox"/>
203	CCB			1.0	11/08/09 00:23		<input type="checkbox"/>
204	RLCV			1.0	11/08/09 00:26		<input type="checkbox"/>
205	LN0N2B	D9K060000	9310060	04	2.5 11/08/09 00:28		<input type="checkbox"/>
206	LN0N2C	D9K060000	9310060	04	2.5 11/08/09 00:31		<input type="checkbox"/>
207	LNW5P	D9K050485-2	9310060	04	2.5 11/08/09 00:34		<input type="checkbox"/>
208	LNW55	D9K050485-4	9310060	04	2.5 11/08/09 00:37		<input type="checkbox"/>
209	LNW6E	D9K050485-6	9310060	04	2.5 11/08/09 00:40		<input type="checkbox"/>
210	LNW6ES	D9K050485-6	9310060	04	2.5 11/08/09 00:42		<input type="checkbox"/>
211	LNW6ED	D9K050485-6	9310060	04	2.5 11/08/09 00:45		<input type="checkbox"/>
212	CCV			1.0	11/08/09 00:48		<input type="checkbox"/>
213	CCB			1.0	11/08/09 00:51		<input type="checkbox"/>
214	RLCV			1.0	11/08/09 00:53		<input type="checkbox"/>
215	LNF42B	D9J290000	9302121	MS	1.0 11/08/09 00:56		<input type="checkbox"/>
216	LNF42C	D9J290000	9302121	MS	1.0 11/08/09 00:59		<input type="checkbox"/>
217	LNE4T	D9J280246-1	9302121	MS	1.0 11/08/09 01:02		<input type="checkbox"/>
218	LNE40 10X	D9J280246-2	9302121	MS	10.0 11/08/09 01:05		<input type="checkbox"/>
219	LNE41 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:07		<input type="checkbox"/>
220	LNE41P25	D9J280246	9302121		25.0 11/08/09 01:10		<input type="checkbox"/>
221	CCV			1.0	11/08/09 01:13		<input type="checkbox"/>
222	CCB			1.0	11/08/09 01:16		<input type="checkbox"/>
223	RLCV			1.0	11/08/09 01:19		<input type="checkbox"/>
224	LNE41Z	D9J280246-3	9302121		1.0 11/08/09 01:21		<input type="checkbox"/>
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:24		<input type="checkbox"/>
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:27		<input type="checkbox"/>
227	LNE44 5X	D9J280246-4	9302121	MS	5.0 11/08/09 01:30		<input type="checkbox"/>
228	LNE47 2X	D9J280246-5	9302121	MS	2.0 11/08/09 01:32		<input type="checkbox"/>
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0 11/08/09 01:35		<input type="checkbox"/>
230	CCV			1.0	11/08/09 01:38		<input type="checkbox"/>
231	CCB			1.0	11/08/09 01:41		<input type="checkbox"/>
232	RLCV			1.0	11/08/09 01:44		<input type="checkbox"/>



Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46	<input type="checkbox"/>
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49	<input type="checkbox"/>
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52	<input type="checkbox"/>
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55	<input type="checkbox"/>
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58	<input type="checkbox"/>
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00	<input type="checkbox"/>
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03	<input type="checkbox"/>
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06	<input type="checkbox"/>
241	CCV				1.0	11/08/09 02:09	<input type="checkbox"/>
242	CCB				1.0	11/08/09 02:11	<input type="checkbox"/>
243	RLCV				1.0	11/08/09 02:14	<input type="checkbox"/>
244	RINSE				1.0	<del>11/08/09 02:17</del>	<input type="checkbox"/>
245	RINSE				1.0	11/08/09 02:20	<input type="checkbox"/>
246	<del>Cal Blank</del>				1.0	<del>11/08/09 02:22</del> <i>11/9/09 did not use</i>	<input type="checkbox"/>
247	Cal Blank				1.0	11/08/09 02:25	<input type="checkbox"/>
248	100 ppb				1.0	11/08/09 02:28	<input type="checkbox"/>
249	CCV				1.0	11/08/09 02:31	<input type="checkbox"/>
250	CCB				1.0	11/08/09 02:33	<input type="checkbox"/>
251	RLCV				1.0	11/08/09 02:36	<input type="checkbox"/>
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39	<input type="checkbox"/>
253	LNJVNC	D9J300000	9303185	MS	1.0	11/08/09 02:42	<input type="checkbox"/>
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44	<input type="checkbox"/>
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47	<input type="checkbox"/>
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50	<input type="checkbox"/>
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53	<input type="checkbox"/>
258	CCV				1.0	11/08/09 02:56	<input type="checkbox"/>
259	CCB				1.0	11/08/09 02:58	<input type="checkbox"/>
260	RLCV				1.0	11/08/09 03:01	<input type="checkbox"/>
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04	<input type="checkbox"/>
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07	<input type="checkbox"/>
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09	<input type="checkbox"/>
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12	<input type="checkbox"/>
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15	<input type="checkbox"/>
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18	<input type="checkbox"/>
267	CCV				1.0	11/08/09 03:21	<input type="checkbox"/>
268	CCB				1.0	11/08/09 03:23	<input type="checkbox"/>
269	RLCV				1.0	11/08/09 03:26	<input type="checkbox"/>
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29	<input type="checkbox"/>
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32	<input type="checkbox"/>
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34	<input type="checkbox"/>
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37	<input type="checkbox"/>
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40	<input type="checkbox"/>
275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43	<input type="checkbox"/>
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46	<input type="checkbox"/>
277	CCV				1.0	11/08/09 03:48	<input type="checkbox"/>
278	CCB				1.0	11/08/09 03:51	<input type="checkbox"/>

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/08/09 03:54	<input type="checkbox"/>
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57	<input type="checkbox"/>
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59	<input type="checkbox"/>
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02	<input type="checkbox"/>
283	LNHRYS	D9J290285-6	9303310	04	1.0	11/08/09 04:05	<input type="checkbox"/>
284	LNHRD	D9J290285-6	9303310	04	1.0	11/08/09 04:08	<input type="checkbox"/>
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10	<input type="checkbox"/>
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13	<input type="checkbox"/>
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16	<input type="checkbox"/>
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19	<input type="checkbox"/>
289	CCV				1.0	11/08/09 04:21	<input type="checkbox"/>
290	CCB				1.0	11/08/09 04:24	<input type="checkbox"/>
291	RLCV				1.0	11/08/09 04:27	<input type="checkbox"/>
292	<del>Cal Blank</del>				1.0	11/08/09 04:30	<input type="checkbox"/>
293	Cal Blank				1.0	11/08/09 04:32	<input type="checkbox"/>
294	100 ppb				1.0	11/08/09 04:35	<input type="checkbox"/>
295	CCV				1.0	11/08/09 04:38	<input type="checkbox"/>
296	CCB				1.0	11/08/09 04:41	<input type="checkbox"/>
297	RLCV				1.0	11/08/09 04:43	<input type="checkbox"/>
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46	<input type="checkbox"/>
299	CCV				1.0	11/08/09 04:49	<input type="checkbox"/>
300	CCB				1.0	11/08/09 04:52	<input type="checkbox"/>
301	RLCV				1.0	11/08/09 04:54	<input type="checkbox"/>
302	<del>LNNV0B</del>	<del>D9K020000</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 04:57</del>	<input type="checkbox"/>
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00	<input type="checkbox"/>
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 05:03	<input type="checkbox"/>
305	LNJ05	D9J300168-1	9306340	04	1.0	11/08/09 05:05	<input type="checkbox"/>
306	LNJ1A	D9J300168-2	9306340	04	1.0	11/08/09 05:08	<input type="checkbox"/>
307	LNJ1C	D9J300168-3	9306340	04	1.0	11/08/09 05:11	<input type="checkbox"/>
308	LNJ1D	D9J300168-4	9306340	04	1.0	11/08/09 05:14	<input type="checkbox"/>
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16	<input type="checkbox"/>
310	CCV				1.0	11/08/09 05:19	<input type="checkbox"/>
311	CCB				1.0	11/08/09 05:22	<input type="checkbox"/>
312	RLCV				1.0	11/08/09 05:25	<input type="checkbox"/>
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27	<input type="checkbox"/>
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30	<input type="checkbox"/>
315	LNJ44	D9J300188-3	9306340	04	1.0	11/08/09 05:33	<input type="checkbox"/>
316	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36	<input type="checkbox"/>
317	LNMA5 5X	D9J310124-1	9306340	04	5.0	11/08/09 05:38	<input type="checkbox"/>
318	LNMCH	D9J310127-1	9306340	04	1.0	11/08/09 05:41	<input type="checkbox"/>
319	CCV				1.0	11/08/09 05:44	<input type="checkbox"/>
320	CCB				1.0	11/08/09 05:47	<input type="checkbox"/>
321	RLCV				1.0	11/08/09 05:49	<input type="checkbox"/>
322	LNMCH	D9J310127-2	9306340	04	1.0	11/08/09 05:52	<input type="checkbox"/>
323	LNMCHP5	D9J310127	9306340		5.0	11/08/09 05:55	<input type="checkbox"/>
324	<del>LNMCHZ</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del></del>	<del>1.0</del>	<del>11/08/09 05:58</del>	<input type="checkbox"/>

*not used*

*not used*

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

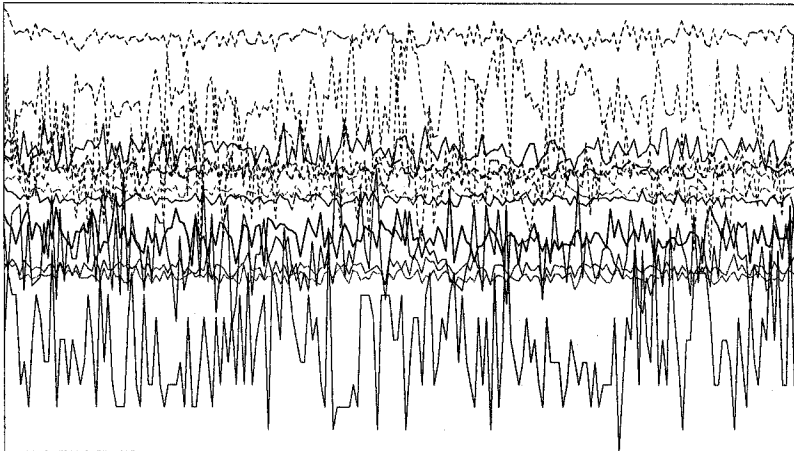
File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
325	<del>LNMCNS</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:00</del>	<input type="checkbox"/>
326	<del>LNMCND</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:03</del>	<input type="checkbox"/>
327	<del>LNMCPC</del>	<del>D9J310127-3</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:06</del>	<input type="checkbox"/>
328	<del>LNMCQ</del>	<del>D9J310127-4</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:09</del>	<input type="checkbox"/>
329	CCV				1.0	11/08/09 06:11	<input type="checkbox"/>
330	CCB				1.0	11/08/09 06:14	<input type="checkbox"/>
331	<del>BLCV</del>				<del>1.0</del>	<del>11/08/09 06:17</del> Not 11/9/09 did not use.	<input type="checkbox"/>

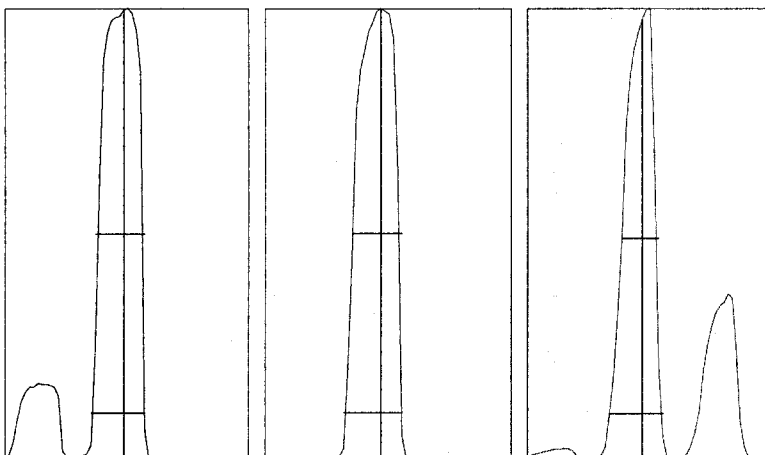
Tune Report

Tune File : NORM.U  
 Comment : AG110709



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.612%  
 Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
W-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U  
Comment : AG110709

Tuning Parameters

===Plasma Condition===

RF Power : 1600 W  
RF Matching : 1.7 V  
Smpl Depth : 8 mm  
Torch-H : -0.8 mm  
Torch-V : -0.3 mm  
Carrier Gas : 0.81 L/min  
Makeup Gas : 0.23 L/min  
Optional Gas : --- %  
Nebulizer Pump : 0.1 rps  
Sample Pump : --- rps  
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V  
Extract 2 : -170 V  
Omega Bias-ce : -30 V  
Omega Lens-ce : 1.4 V  
Cell Entrance : -30 V  
QP Focus : 7 V  
Cell Exit : -30 V

===Q-Pole Parameters===

AMU Gain : 134  
AMU Offset : 125  
Axis Gain : 1.0007  
Axis Offset : -0.03  
QP Bias : -3 V

===Detector Parameters===

Discriminator : 8 mV  
Analog HV : 1770 V  
Pulse HV : 1480 V

===Octopole Parameters===

OctP RF : 180 V  
OctP Bias : -18 V

===Reaction Cell===

Reaction Mode : OFF  
H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

P/A Factor Tuning Report

Acquired: Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor
6	Li	0.054257
7	(Li)	Sensitivity too low
9	Be	0.059350
23	Na	0.063944
24	Mg	0.064875
27	Al	0.065819
39	K	0.066026
43	Ca	Sensitivity too low
45	Sc	0.066849
51	V	0.067403
52	Cr	0.068152
53	(Cr)	Sensitivity too low
55	Mn	0.068773
57	Fe	Sensitivity too low
59	Co	0.069652
60	Ni	Sensitivity too low
63	Cu	0.069964
66	Zn	0.070153
72	Ge	Sensitivity too low
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.072052
98	(Mo)	0.071277
99	(Mo)	Sensitivity too low
105	Pd	0.071221
106	(Cd)	0.070815
107	Ag	Sensitivity too low
108	(Cd)	0.071381
111	Cd	0.070975
115	In	0.070220
118	Sn	0.070317
121	Sb	0.070422
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071611
206	(Pb)	0.070464
207	(Pb)	0.070565
208	Pb	0.069648
232	Th	0.069671
238	U	0.069782

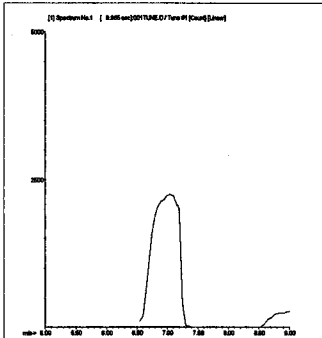
===Detector Parameters===

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

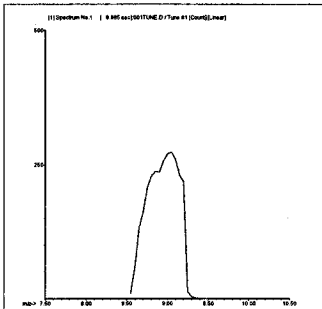
# 200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D  
 Date Acquired: Nov 7 2009 03:04 pm  
 Acq. Method: tun\_isis.M  
 Operator: TEL  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

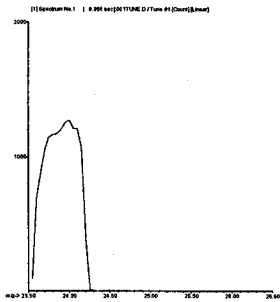
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



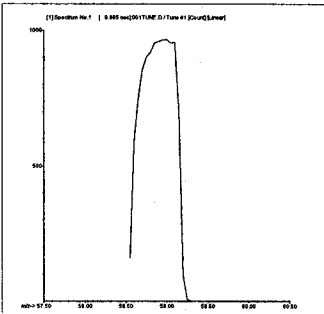
**7 Li**  
**Mass Calib.**  
 Actual: 7.00  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



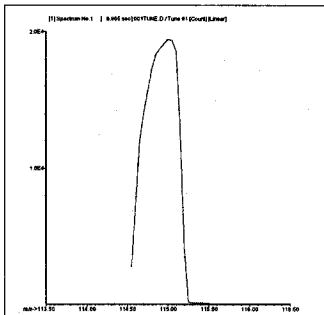
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



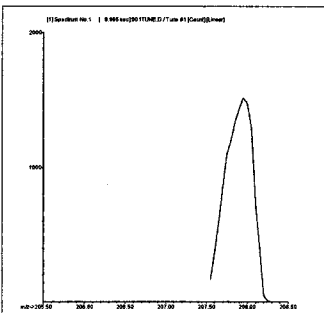
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



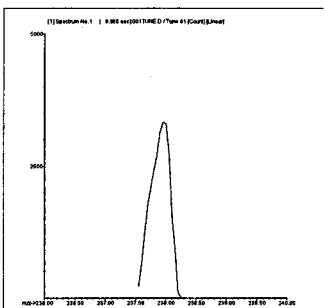
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:

Tune Result: Pass



**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 7 2009 03:07 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

*g6uh/09*

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	130	55.47
52	Cr	72	1	2920	1.23
55	Mn	72	1	487	11.32
59	Co	72	1	43	35.25
60	Ni	72	1	67	56.79
63	Cu	72	1	247	16.39
66	Zn	72	1	177	1.72
75	As	72	1	38	36.84
78	Se	72	1	290	18.25
95	Mo	72	1	17	69.28
107	Ag	115	1	17	91.65
111	Cd	115	1	6	90.67
118	Sn	115	1	120	25.00
121	Sb	115	1	7	0.00
137	Ba	115	1	11	17.32
205	Tl	165	1	53	12.50
208	Pb	165	1	250	7.42
232	Th	165	1	93	59.01
238	U	165	1	83	36.66

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	450969	0.62
45	Sc	1	1353461	1.72
72	Ge	1	599452	0.37
115	In	1	1813996	0.92
165	Ho	1	3291682	1.21

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 7 2009 03:09 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	107	14.32
52	Cr	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	Tl	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Ho	1	3253654	1.35

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 7 2009 03:12 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:10 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	52398	1.41
51	V	72	764367	2.20
52	Cr	72	771475	1.19
55	Mn	72	912002	1.09
59	Co	72	914930	2.11
60	Ni	72	193364	2.37
63	Cu	72	465989	1.20
66	Zn	72	112029	1.18
75	As	72	90135	1.29
78	Se	72	18683	1.97
95	Mo	72	260394	0.61
107	Ag	115	765784	1.36
111	Cd	115	157700	1.34
118	Sn	115	441054	2.17
121	Sb	115	510967	1.02
137	Ba	115	213858	1.06
205	Tl	165	1838240	1.05
208	Pb	165	2519619	0.58
232	Th	165	2643067	0.57
238	U	165	2792671	0.69

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120
72	Ge	1	575467	1.00	598490	96.2	30 - 120
115	In	1	1781328	1.07	1797032	99.1	30 - 120
165	Ho	1	3275522	1.43	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005\_ICV.D\005\_ICV.D#  
 Date Acquired: Nov 7 2009 03:15 pm  
 Operator: TEL  
 Sample Name: ICV  
 Misc Info:  
 Vial Number: 2103  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: ICV  
 Total Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	40.37 ppb	1.43	40	100.9	90 - 110	
51	V	72	38.46 ppb	0.46	40	96.2	90 - 110	
52	Cr	72	39.20 ppb	1.19	40	98.0	90 - 110	
55	Mn	72	39.82 ppb	0.12	40	99.6	90 - 110	
59	Co	72	38.88 ppb	0.70	40	97.2	90 - 110	
60	Ni	72	40.10 ppb	0.16	40	100.3	90 - 110	
63	Cu	72	39.43 ppb	0.82	40	98.6	90 - 110	
66	Zn	72	40.09 ppb	0.20	40	100.2	90 - 110	
75	As	72	39.44 ppb	0.27	40	98.6	90 - 110	
78	Se	72	38.96 ppb	4.82	40	97.4	90 - 110	
95	Mo	72	39.50 ppb	0.72	40	98.8	90 - 110	
107	Ag	115	38.87 ppb	1.47	40	97.2	90 - 110	
111	Cd	115	39.30 ppb	0.98	40	98.3	90 - 110	
118	Sn	115	39.04 ppb	1.08	40	97.6	90 - 110	
121	Sb	115	39.64 ppb	1.29	40	99.1	90 - 110	
137	Ba	115	38.76 ppb	1.35	40	96.9	90 - 110	
205	Tl	165	39.29 ppb	2.05	40	98.2	90 - 110	
208	Pb	165	40.72 ppb	2.07	40	101.8	90 - 110	
232	Th	165	41.00 ppb	0.86	40	102.5	90 - 110	
238	U	165	40.29 ppb	1.06	40	100.7	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	448116	0.63	455621	98.4	30 - 120
45	Sc	1	1362171	0.61	1356727	100.4	30 - 120
72	Ge	1	576140	0.97	598490	96.3	30 - 120
115	In	1	1802991	1.36	1797032	100.3	30 - 120
165	Ho	1	3291704	0.83	3253654	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 7 2009 03:18 pm  
 Operator: TEL  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
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ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Initial Calibration Blank (ICB) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110709.B\007_ICB.D\007_ICB.D#	<b>QC Summary:</b>
Date Acquired:	Nov 7 2009 03:20 pm	<b>Analytes: Pass</b>
Operator:	TEL	<b>ISTD: Pass</b>
Sample Name:	ICB	
Misc Info:		
Vial Number:	2104	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal Update:	Nov 07 2009 03:13 pm	
Sample Type:	ICB	
Total Dil Factor:	1.00	

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
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ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**RL STD QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D#  
 Date Acquired: Nov 7 2009 03:23 pm  
 Operator: TEL  
 Sample Name: RL STD  
 Misc Info:  
 Vial Number: 2105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: RLSTD  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	1.03 ppb	7.07	1	102.9	50 - 150
51	V	72	1	0.95 ppb	2.40	1	94.6	50 - 150
52	Cr	72	1	0.95 ppb	9.15	1	94.9	50 - 150
55	Mn	72	1	0.98 ppb	3.40	1	97.8	50 - 150
59	Co	72	1	0.99 ppb	1.20	1	99.3	50 - 150
60	Ni	72	1	0.99 ppb	1.44	1	98.7	50 - 150
63	Cu	72	1	0.97 ppb	3.25	1	96.6	50 - 150
66	Zn	72	1	9.84 ppb	1.62	10	98.4	50 - 150
75	As	72	1	1.01 ppb	1.47	1	100.9	50 - 150
78	Se	72	1	0.85 ppb	29.55	1	85.1	50 - 150
95	Mo	72	1	0.98 ppb	3.69	1	98.3	50 - 150
107	Ag	115	1	0.98 ppb	6.91	1	98.4	50 - 150
111	Cd	115	1	0.98 ppb	2.94	1	97.7	50 - 150
118	Sn	115	1	9.90 ppb	3.50	10	99.0	50 - 150
121	Sb	115	1	1.06 ppb	2.89	1	105.8	50 - 150
137	Ba	115	1	0.93 ppb	4.92	1	92.9	50 - 150
205	Tl	165	1	1.05 ppb	1.24	1	104.9	50 - 150
208	Pb	165	1	1.05 ppb	0.65	1	104.5	50 - 150
232	Th	165	1	1.07 ppb	0.78	1	106.6	50 - 150
238	U	165	1	1.09 ppb	0.98	1	109.3	50 - 150

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	452942	1.17	455621	99.4	30 - 120
45	Sc	1	1350845	0.67	1356727	99.6	30 - 120
72	Ge	1	590050	0.39	598490	98.6	30 - 120
115	In	1	1791700	1.48	1797032	99.7	30 - 120
165	Ho	1	3276677	0.55	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#  
 Date Acquired: Nov 7 2009 03:26 pm  
 Operator: TEL  
 Sample Name: AFCEE RL  
 Misc Info:  
 Vial Number: 2106  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.18 ppb	4.87	0	85.7	80 - 120
51	V	72	1	0.19 ppb	1.60	0	98.1	80 - 120
52	Cr	72	1	0.17 ppb	19.24	0	88.9	80 - 120
55	Mn	72	1	0.24 ppb	0.90	0	122.4	80 - 120
59	Co	72	1	0.21 ppb	2.54	0	105.0	80 - 120
60	Ni	72	1	0.19 ppb	33.14	0	95.0	80 - 120
63	Cu	72	1	0.19 ppb	26.00	0	96.8	80 - 120
66	Zn	72	1	1.99 ppb	0.59	2	101.2	80 - 120
75	As	72	1	0.22 ppb	3.49	0	111.1	80 - 120
78	Se	72	1	-0.03 ppb	493.20	0	-19.4	80 - 120
95	Mo	72	1	0.20 ppb	10.11	0	102.9	80 - 120
107	Ag	115	1	0.19 ppb	9.51	0	98.0	80 - 120
111	Cd	115	1	0.20 ppb	6.38	0	102.8	80 - 120
118	Sn	115	1	1.96 ppb	1.89	2	99.1	80 - 120
121	Sb	115	1	0.22 ppb	4.04	0	104.0	80 - 120
137	Ba	115	1	0.19 ppb	4.99	0	101.2	80 - 120
205	Tl	165	1	0.21 ppb	2.78	0	101.1	80 - 120
208	Pb	165	1	0.21 ppb	2.60	0	100.1	80 - 120
232	Th	165	1	0.21 ppb	3.95	0	98.4	80 - 120
238	U	165	1	0.21 ppb	3.63	0	98.0	80 - 120

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	453567	1.29	455621	99.5	30 - 120
45	Sc	1	1337172	0.83	1356727	98.6	30 - 120
72	Ge	1	590407	0.86	598490	98.6	30 - 120
115	In	1	1781901	0.99	1797032	99.2	30 - 120
165	Ho	1	3288568	1.80	3253654	101.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#  
 Date Acquired: Nov 7 2009 03:29 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ALTSe  
 Misc Info: 2 ppb  
 Vial Number: 2107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.00	0.00	ppb	62.04	3600	
52 Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55 Mn	72	1	0.00	0.00	ppb	140.46	3600	
59 Co	72	1	0.00	0.00	ppb	189.04	3600	
60 Ni	72	1	0.00	0.00	ppb	522.21	3600	
63 Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66 Zn	72	1	0.05	0.05	ppb	55.06	3600	
75 As	72	1	0.00	0.00	ppb	1812.70	3600	
78 Se	72	1	2.16	2.16	ppb	11.88	3600	
95 Mo	72	1	0.00	0.00	ppb	222.57	3600	
107 Ag	115	1	0.01	0.01	ppb	10.07	3600	
111 Cd	115	1	0.00	0.00	ppb	89.77	3600	
118 Sn	115	1	0.00	0.00	ppb	293.54	3600	
121 Sb	115	1	0.02	0.02	ppb	23.95	3600	
137 Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205 Tl	165	1	0.01	0.01	ppb	2.14	3600	
208 Pb	165	1	0.00	0.00	ppb	39.67	3600	
232 Th	165	1	0.00	0.00	ppb	17.19	1000	
238 U	165	1	0.00	0.00	ppb	388.10	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D#  
 Date Acquired: Nov 7 2009 03:31 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.45 ppb	8.60	1.00
52	Cr	72	1	1.86 ppb	3.80	1.00
55	Mn	72	1	3.11 ppb	0.88	1.00
59	Co	72	1	0.12 ppb	10.19	1.00
60	Ni	72	1	1.23 ppb	9.98	1.00
63	Cu	72	1	0.56 ppb	5.58	1.00
66	Zn	72	1	4.20 ppb	1.79	10.00
75	As	72	1	0.35 ppb	13.35	1.00
78	Se	72	1	0.47 ppb	67.55	1.00
95	Mo	72	1	2055.00 ppb	1.11	2000.00
107	Ag	115	1	0.03 ppb	8.56	1.00
111	Cd	115	1	0.40 ppb	30.97	1.00
118	Sn	115	1	0.93 ppb	18.89	10.00
121	Sb	115	1	0.95 ppb	3.56	1.00
137	Ba	115	1	0.00 ppb	326.02	1.00
205	Tl	165	1	0.04 ppb	20.03	1.00
208	Pb	165	1	1.04 ppb	2.03	1.00
232	Th	165	1	0.02 ppb	5.48	1.00
238	U	165	1	0.00 ppb	14.89	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120
45	Sc	1	939322	1.85	1356727	69.2	30 - 120
72	Ge	1	429449	0.82	598490	71.8	30 - 120
115	In	1	1325081	0.92	1797032	73.7	30 - 120
165	Ho	1	2485688	0.47	3253654	76.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

## Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#  
 Date Acquired: Nov 7 2009 03:34 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	108.90	0.75	100	108.9	80 - 120	
51 V	72	1	92.27	0.38	100	92.3	80 - 120	
52 Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55 Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59 Co	72	1	88.85	0.30	100	88.9	80 - 120	
60 Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63 Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66 Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75 As	72	1	99.50	0.47	100	99.5	80 - 120	
78 Se	72	1	105.90	0.80	100	105.9	80 - 120	
95 Mo	72	1	2149.00	1.99	2100	102.3	80 - 120	
107 Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111 Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118 Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121 Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137 Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205 Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208 Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232 Th	165	1	101.90	0.67	100	101.9	80 - 120	
238 U	165	1	100.20	0.45	100	100.2	80 - 120	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272241	2.18	455621	59.8	30 - 120	
45 Sc	1	935334	1.15	1356727	68.9	30 - 120	
72 Ge	1	419509	1.32	598490	70.1	30 - 120	
115 In	1	1327038	1.55	1797032	73.8	30 - 120	
165 Ho	1	2524289	0.15	3253654	77.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 7 2009 03:37 pm  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0	0.0	80 - 120
51	V	72	1	0.06 ppb	15.15	0	29.2	80 - 120
52	Cr	72	1	0.00 ppb	941.54	0	-2.5	80 - 120
55	Mn	72	1	0.00 ppb	87.90	0	-2.5	80 - 120
59	Co	72	1	0.00 ppb	138.19	0	-0.5	80 - 120
60	Ni	72	1	-0.01 ppb	79.76	0	-6.6	80 - 120
63	Cu	72	1	-0.02 ppb	11.32	0	-10.3	80 - 120
66	Zn	72	1	-0.12 ppb	4.66	2	-6.1	80 - 120
75	As	72	1	0.00 ppb	172.97	0	2.3	80 - 120
78	Se	72	1	0.18 ppb	157.63	0	105.8	80 - 120
95	Mo	72	1	0.92 ppb	26.25	0	470.1	80 - 120
107	Ag	115	1	0.01 ppb	38.83	0	5.1	80 - 120
111	Cd	115	1	0.00 ppb	268.01	0	2.2	80 - 120
118	Sn	115	1	-0.03 ppb	57.94	2	-1.3	80 - 120
121	Sb	115	1	0.13 ppb	22.58	0	60.8	80 - 120
137	Ba	115	1	-0.03 ppb	10.98	0	-13.6	80 - 120
205	Tl	165	1	0.00 ppb	35.28	0	1.1	80 - 120
208	Pb	165	1	0.00 ppb	109.50	0	-0.7	80 - 120
232	Th	165	1	0.03 ppb	14.09	0	14.5	80 - 120
238	U	165	1	0.02 ppb	14.78	0	7.9	80 - 120

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120
72	Ge	1	563469	0.48	598490	94.1	30 - 120
115	In	1	1720438	0.38	1797032	95.7	30 - 120
165	Ho	1	3228952	0.84	3253654	99.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Linear Dynamic Range Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 7 2009 03:40 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 Tl	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 Ho	1	3245351	1.45	3253654	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Nov 7 2009 03:42 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 7 2009 03:48 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	0.018 ppb	26.29	1.00	
52 Cr	72	1	0.021 ppb	89.72	1.00	
55 Mn	72	1	-0.002 ppb	258.47	1.00	
59 Co	72	1	0.000 ppb	7.74	1.00	
60 Ni	72	1	-0.003 ppb	365.53	1.00	
63 Cu	72	1	-0.006 ppb	212.36	1.00	
66 Zn	72	1	-0.070 ppb	18.30	1.00	
75 As	72	1	0.022 ppb	32.72	1.00	
78 Se	72	1	0.156 ppb	92.00	1.00	
95 Mo	72	1	0.115 ppb	30.30	1.00	
107 Ag	115	1	0.011 ppb	38.12	1.00	
111 Cd	115	1	0.002 ppb	113.82	1.00	
118 Sn	115	1	0.224 ppb	27.67	1.00	
121 Sb	115	1	0.348 ppb	18.44	1.00	
137 Ba	115	1	-0.026 ppb	8.86	1.00	
205 Tl	165	1	0.021 ppb	16.25	1.00	
208 Pb	165	1	0.000 ppb	463.86	1.00	
232 Th	165	1	0.056 ppb	20.03	1.00	
238 U	165	1	0.020 ppb	23.07	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 7 2009 03:50 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	443603	0.24	455621	97.4	30 - 120	
45 Sc	1	1335995	1.35	1356727	98.5	30 - 120	
72 Ge	1	596206	0.64	598490	99.6	30 - 120	
115 In	1	1804793	1.75	1797032	100.4	30 - 120	
165 Ho	1	3324168	1.02	3253654	102.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095\_CCV.D\095\_CCV.D#  
 Date Acquired: Nov 7 2009 07:25 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.00	ppb	3.68	50	100.0	90 - 110
51	V	72	1	49.46	ppb	0.96	50	98.9	90 - 110
52	Cr	72	1	49.13	ppb	0.63	50	98.3	90 - 110
55	Mn	72	1	48.00	ppb	0.58	50	96.0	90 - 110
59	Co	72	1	49.88	ppb	1.19	50	99.8	90 - 110
60	Ni	72	1	52.70	ppb	0.96	50	105.4	90 - 110
63	Cu	72	1	50.75	ppb	0.19	50	101.5	90 - 110
66	Zn	72	1	48.83	ppb	0.18	50	97.7	90 - 110
75	As	72	1	50.85	ppb	1.33	50	101.7	90 - 110
78	Se	72	1	50.97	ppb	2.08	50	101.9	90 - 110
95	Mo	72	1	49.28	ppb	0.59	50	98.6	90 - 110
107	Ag	115	1	48.69	ppb	1.80	50	97.4	90 - 110
111	Cd	115	1	48.20	ppb	1.31	50	96.4	90 - 110
118	Sn	115	1	47.65	ppb	1.87	50	95.3	90 - 110
121	Sb	115	1	47.61	ppb	2.17	50	95.2	90 - 110
137	Ba	115	1	48.23	ppb	1.87	50	96.5	90 - 110
205	Tl	165	1	49.17	ppb	1.01	50	98.3	90 - 110
208	Pb	165	1	50.08	ppb	1.74	50	100.2	90 - 110
232	Th	165	1	49.66	ppb	0.53	50	99.3	90 - 110
238	U	165	1	49.60	ppb	0.64	50	99.2	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120
72	Ge	1	557000	0.87	598490	93.1	30 - 120
115	In	1	1717369	0.76	1797032	95.6	30 - 120
165	Ho	1	3017615	0.61	3253654	92.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096\_CCB.D\096\_CCB.D#  
 Date Acquired: Nov 7 2009 07:28 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	-0.006 ppb	24.61	1.00	
52 Cr	72	1	0.005 ppb	16.13	1.00	
55 Mn	72	1	0.012 ppb	40.48	1.00	
59 Co	72	1	0.003 ppb	90.18	1.00	
60 Ni	72	1	0.005 ppb	115.47	1.00	
63 Cu	72	1	-0.001 ppb	1434.90	1.00	
66 Zn	72	1	0.040 ppb	39.82	1.00	
75 As	72	1	-0.001 ppb	689.47	1.00	
78 Se	72	1	0.203 ppb	119.68	1.00	
95 Mo	72	1	0.030 ppb	15.19	1.00	
107 Ag	115	1	0.009 ppb	17.39	1.00	
111 Cd	115	1	0.008 ppb	214.98	1.00	
118 Sn	115	1	0.033 ppb	87.07	1.00	
121 Sb	115	1	0.133 ppb	16.18	1.00	
137 Ba	115	1	-0.005 ppb	66.27	1.00	
205 Tl	165	1	0.010 ppb	5.85	1.00	
208 Pb	165	1	0.007 ppb	10.03	1.00	
232 Th	165	1	0.031 ppb	21.92	1.00	
238 U	165	1	0.010 ppb	23.45	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#  
 Date Acquired: Nov 7 2009 07:30 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D#  
 Date Acquired: Nov 7 2009 07:33 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.01 ppb	173.15	1.00
51	V	72	1	2.34 ppb	2.35	1.00
52	Cr	72	1	1.89 ppb	3.80	1.00
55	Mn	72	1	3.08 ppb	1.35	1.00
59	Co	72	1	0.13 ppb	9.32	1.00
60	Ni	72	1	1.54 ppb	6.59	1.00
63	Cu	72	1	0.62 ppb	13.41	1.00
66	Zn	72	1	4.36 ppb	1.67	10.00
75	As	72	1	0.31 ppb	11.37	1.00
78	Se	72	1	-0.18 ppb	17.27	1.00
95	Mo	72	1	2024.00 ppb	0.75	2000.00
107	Ag	115	1	0.04 ppb	30.78	1.00
111	Cd	115	1	0.44 ppb	34.74	1.00
118	Sn	115	1	0.41 ppb	9.39	10.00
121	Sb	115	1	0.94 ppb	2.45	1.00
137	Ba	115	1	0.02 ppb	61.87	1.00
205	Tl	165	1	0.04 ppb	26.87	1.00
208	Pb	165	1	1.05 ppb	0.68	1.00
232	Th	165	1	0.02 ppb	35.17	1.00
238	U	165	1	0.01 ppb	14.16	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120
45	Sc	1	945462	1.56	1356727	69.7	30 - 120
72	Ge	1	429131	0.94	598490	71.7	30 - 120
115	In	1	1251973	0.62	1797032	69.7	30 - 120
165	Ho	1	2302241	0.67	3253654	70.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#  
 Date Acquired: Nov 7 2009 07:36 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS	Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9	Be	6	1	101.10	0.81	100	101.1	80 - 120	
51	V	72	1	96.26	0.64	100	96.3	80 - 120	
52	Cr	72	1	92.97	0.53	100	93.0	80 - 120	
55	Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59	Co	72	1	90.72	0.50	100	90.7	80 - 120	
60	Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63	Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66	Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75	As	72	1	101.10	0.38	100	101.1	80 - 120	
78	Se	72	1	105.10	1.94	100	105.1	80 - 120	
95	Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107	Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111	Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118	Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121	Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137	Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205	Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208	Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232	Th	165	1	98.27	1.03	100	98.3	80 - 120	
238	U	165	1	97.38	0.98	100	97.4	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	298307	2.13	455621	65.5	30 - 120
45	Sc	1	951400	0.73	1356727	70.1	30 - 120
72	Ge	1	417924	0.89	598490	69.8	30 - 120
115	In	1	1269948	0.83	1797032	70.7	30 - 120
165	Ho	1	2339416	0.71	3253654	71.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#  
 Date Acquired: Nov 7 2009 07:39 pm  
 Operator: TEL  
 Sample Name: WASH  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CC.V.D\101 CC.V.D#  
 Date Acquired: Nov 7 2009 07:41 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.02 ppb	3.60	50	102.0	90 - 110	
51	V	72	49.10 ppb	0.68	50	98.2	90 - 110	
52	Cr	72	48.80 ppb	0.79	50	97.6	90 - 110	
55	Mn	72	48.00 ppb	0.60	50	96.0	90 - 110	
59	Co	72	49.55 ppb	0.61	50	99.1	90 - 110	
60	Ni	72	52.06 ppb	1.46	50	104.1	90 - 110	
63	Cu	72	50.22 ppb	0.56	50	100.4	90 - 110	
66	Zn	72	48.51 ppb	1.13	50	97.0	90 - 110	
75	As	72	50.95 ppb	0.50	50	101.9	90 - 110	
78	Se	72	49.38 ppb	4.19	50	98.8	90 - 110	
95	Mo	72	50.11 ppb	1.38	50	100.2	90 - 110	
107	Ag	115	49.66 ppb	0.85	50	99.3	90 - 110	
111	Cd	115	49.01 ppb	1.42	50	98.0	90 - 110	
118	Sn	115	48.68 ppb	1.81	50	97.4	90 - 110	
121	Sb	115	48.87 ppb	1.17	50	97.7	90 - 110	
137	Ba	115	49.35 ppb	1.09	50	98.7	90 - 110	
205	Tl	165	49.79 ppb	1.41	50	99.6	90 - 110	
208	Pb	165	49.95 ppb	1.13	50	99.9	90 - 110	
232	Th	165	49.72 ppb	0.91	50	99.4	90 - 110	
238	U	165	49.59 ppb	1.94	50	99.2	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120
72	Ge	1	546607	0.97	598490	91.3	30 - 120
115	In	1	1673358	0.50	1797032	93.1	30 - 120
165	Ho	1	3013021	0.51	3253654	92.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102\_CCB.D\102\_CCB.D#  
 Date Acquired: Nov 7 2009 07:44 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.007 ppb	173.18	1.00	
51 V	72	1	0.072 ppb	11.11	1.00	
52 Cr	72	1	0.002 ppb	1427.90	1.00	
55 Mn	72	1	-0.002 ppb	998.74	1.00	
59 Co	72	1	0.004 ppb	62.33	1.00	
60 Ni	72	1	0.095 ppb	21.31	1.00	
63 Cu	72	1	0.001 ppb	1376.50	1.00	
66 Zn	72	1	0.050 ppb	67.37	1.00	
75 As	72	1	0.009 ppb	154.12	1.00	
78 Se	72	1	0.133 ppb	315.07	1.00	
95 Mo	72	1	0.099 ppb	50.63	1.00	
107 Ag	115	1	0.009 ppb	39.54	1.00	
111 Cd	115	1	0.005 ppb	103.50	1.00	
118 Sn	115	1	0.062 ppb	107.54	1.00	
121 Sb	115	1	0.138 ppb	16.19	1.00	
137 Ba	115	1	-0.017 ppb	52.66	1.00	
205 Tl	165	1	0.016 ppb	15.17	1.00	
208 Pb	165	1	0.005 ppb	21.11	1.00	
232 Th	165	1	0.033 ppb	24.50	1.00	
238 U	165	1	0.010 ppb	34.21	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#  
 Date Acquired: Nov 7 2009 07:47 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/09

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#  
 Date Acquired: Nov 7 2009 08:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:45 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1013	6.79
52	Cr	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ba	115	1	74	17.43
205	Tl	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Ho	1	3039108	1.07

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#  
 Date Acquired: Nov 7 2009 08:50 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:48 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	47883	0.67
51	V	72	747976	1.49
52	Cr	72	754628	1.13
55	Mn	72	865964	0.71
59	Co	72	889724	1.22
60	Ni	72	191586	1.40
63	Cu	72	456036	0.95
66	Zn	72	106780	0.65
75	As	72	89192	0.61
78	Se	72	18229	1.26
95	Mo	72	254493	1.19
107	Ag	115	752402	0.75
111	Cd	115	150239	1.10
118	Sn	115	420016	0.73
121	Sb	115	483973	0.74
137	Ba	115	204383	0.51
205	Tl	165	1701616	0.60
208	Pb	165	2338107	2.25
232	Th	165	2413552	1.92
238	U	165	2559276	1.77

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30 - 120
45	Sc	1	1260434	1.10	1273788	99.0	30 - 120
72	Ge	1	556836	0.86	577640	96.4	30 - 120
115	In	1	1704167	0.61	1726730	98.7	30 - 120
165	Ho	1	3052265	1.25	3039108	100.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127\_CCV.D\127\_CCV.D#  
 Date Acquired: Nov 7 2009 08:53 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.43 ppb	3.83	50	100.9	90 - 110	
51	V	72	48.44 ppb	0.77	50	96.9	90 - 110	
52	Cr	72	48.00 ppb	0.40	50	96.0	90 - 110	
55	Mn	72	48.98 ppb	0.83	50	98.0	90 - 110	
59	Co	72	49.19 ppb	0.88	50	98.4	90 - 110	
60	Ni	72	51.00 ppb	2.25	50	102.0	90 - 110	
63	Cu	72	50.40 ppb	1.04	50	100.8	90 - 110	
66	Zn	72	49.66 ppb	0.82	50	99.3	90 - 110	
75	As	72	49.96 ppb	1.36	50	99.9	90 - 110	
78	Se	72	50.40 ppb	4.89	50	100.8	90 - 110	
95	Mo	72	49.49 ppb	0.61	50	99.0	90 - 110	
107	Ag	115	48.04 ppb	0.50	50	96.1	90 - 110	
111	Cd	115	48.84 ppb	0.25	50	97.7	90 - 110	
118	Sn	115	48.90 ppb	0.50	50	97.8	90 - 110	
121	Sb	115	49.44 ppb	0.72	50	98.9	90 - 110	
137	Ba	115	49.58 ppb	0.98	50	99.2	90 - 110	
205	Tl	165	50.08 ppb	0.23	50	100.2	90 - 110	
208	Pb	165	49.87 ppb	2.65	50	99.7	90 - 110	
232	Th	165	50.94 ppb	1.78	50	101.9	90 - 110	
238	U	165	50.49 ppb	2.18	50	101.0	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	401327	1.29	398155	100.8	30 - 120	
45	Sc	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	558660	0.70	577640	96.7	30 - 120	
115	In	1725819	0.46	1726730	99.9	30 - 120	
165	Ho	3087824	1.47	3039108	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128\_CCB.D\128\_CCB.D#  
 Date Acquired: Nov 7 2009 08:56 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mn	72	1	0.004	ppb	271.40	1.00	
59 Co	72	1	0.003	ppb	58.98	1.00	
60 Ni	72	1	0.013	ppb	122.65	1.00	
63 Cu	72	1	-0.010	ppb	116.03	1.00	
66 Zn	72	1	-0.311	ppb	3.85	1.00	
75 As	72	1	0.007	ppb	208.78	1.00	
78 Se	72	1	0.060	ppb	542.70	1.00	
95 Mo	72	1	0.010	ppb	195.90	1.00	
107 Ag	115	1	0.008	ppb	34.15	1.00	
111 Cd	115	1	-0.003	ppb	158.97	1.00	
118 Sn	115	1	0.071	ppb	72.17	1.00	
121 Sb	115	1	0.186	ppb	24.43	1.00	
137 Ba	115	1	-0.019	ppb	41.26	1.00	
205 Tl	165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#  
 Date Acquired: Nov 7 2009 08:58 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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



## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#  
 Date Acquired: Nov 7 2009 11:44 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:42 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	U	165	1	122	7.26

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Ho	1	2681412	0.51

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#  
 Date Acquired: Nov 7 2009 11:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:45 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	45518	1.54
51	V	72	700879	1.29
52	Cr	72	693042	2.18
55	Mn	72	795858	1.60
59	Co	72	850264	1.89
60	Ni	72	181428	0.41
63	Cu	72	431089	0.73
66	Zn	72	95751	0.48
75	As	72	84617	1.05
78	Se	72	17278	1.91
95	Mo	72	230286	0.80
107	Ag	115	661266	1.42
111	Cd	115	131853	1.14
118	Sn	115	371875	2.20
121	Sb	115	432362	1.85
137	Ba	115	187475	1.78
205	Tl	165	1498644	1.03
208	Pb	165	2042776	1.12
232	Th	165	2142976	0.23
238	U	165	2200342	0.40

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120
72	Ge	1	507906	1.25	533218	95.3	30 - 120
115	In	1	1532161	1.02	1552104	98.7	30 - 120
165	Ho	1	2672323	0.90	2681412	99.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191\_CCV.D\191\_CCV.D#  
 Date Acquired: Nov 7 2009 11:50 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.23 ppb	3.26	50	98.5	90 - 110
51	V	72	1	48.52 ppb	1.74	50	97.0	90 - 110
52	Cr	72	1	48.49 ppb	0.29	50	97.0	90 - 110
55	Mn	72	1	48.47 ppb	1.24	50	96.9	90 - 110
59	Co	72	1	48.02 ppb	0.67	50	96.0	90 - 110
60	Ni	72	1	49.69 ppb	1.50	50	99.4	90 - 110
63	Cu	72	1	49.62 ppb	0.90	50	99.2	90 - 110
66	Zn	72	1	48.96 ppb	1.42	50	97.9	90 - 110
75	As	72	1	49.10 ppb	0.76	50	98.2	90 - 110
78	Se	72	1	48.52 ppb	4.63	50	97.0	90 - 110
95	Mo	72	1	49.23 ppb	0.82	50	98.5	90 - 110
107	Ag	115	1	49.55 ppb	1.37	50	99.1	90 - 110
111	Cd	115	1	49.69 ppb	1.93	50	99.4	90 - 110
118	Sn	115	1	49.87 ppb	1.50	50	99.7	90 - 110
121	Sb	115	1	49.85 ppb	1.58	50	99.7	90 - 110
137	Ba	115	1	49.38 ppb	1.63	50	98.8	90 - 110
205	Tl	165	1	50.07 ppb	0.63	50	100.1	90 - 110
208	Pb	165	1	50.67 ppb	1.87	50	101.3	90 - 110
232	Th	165	1	50.33 ppb	1.25	50	100.7	90 - 110
238	U	165	1	51.37 ppb	0.78	50	102.7	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120
72	Ge	1	511730	0.36	533218	96.0	30 - 120
115	In	1	1536232	0.41	1552104	99.0	30 - 120
165	Ho	1	2663987	0.61	2681412	99.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#  
 Date Acquired: Nov 7 2009 11:55 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#  
 Date Acquired: Nov 8 2009 02:25 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:23 am  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.21
51	V	72	1	620	12.63
52	Cr	72	1	2680	1.78
55	Mn	72	1	813	8.79
59	Co	72	1	67	30.95
60	Ni	72	1	113	13.08
63	Cu	72	1	490	11.82
66	Zn	72	1	656	6.46
75	As	72	1	45	17.63
78	Se	72	1	333	20.05
95	Mo	72	1	257	16.03
107	Ag	115	1	40	74.94
111	Cd	115	1	11	116.88
118	Sn	115	1	477	0.80
121	Sb	115	1	156	24.28
137	Ba	115	1	152	14.20
205	Tl	165	1	96	21.83
208	Pb	165	1	372	9.02
232	Th	165	1	160	32.65
238	U	165	1	140	10.99

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Ho	1	2717767	0.30

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\



**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#  
 Date Acquired: Nov 8 2009 02:28 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:26 am  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	42446	1.21
51	V	72	684937	3.17
52	Cr	72	670667	0.81
55	Mn	72	787843	0.97
59	Co	72	839400	0.67
60	Ni	72	178958	0.70
63	Cu	72	424705	0.79
66	Zn	72	94491	0.73
75	As	72	84032	1.05
78	Se	72	16841	1.85
95	Mo	72	231498	1.15
107	Ag	115	664263	0.80
111	Cd	115	132542	1.42
118	Sn	115	376743	0.98
121	Sb	115	435060	0.49
137	Ba	115	188704	0.74
205	Tl	165	1479617	0.97
208	Pb	165	2033413	0.75
232	Th	165	2126721	0.55
238	U	165	2198988	0.53

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120
72	Ge	1	510601	1.68	539567	94.6	30 - 120
115	In	1	1555316	0.82	1576174	98.7	30 - 120
165	Ho	1	2687981	0.46	2717767	98.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CC.V.D\249 CC.V.D#  
 Date Acquired: Nov 8 2009 02:31 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.21 ppb	0.59	50	100.4	90 - 110	
51	V	72	49.66 ppb	0.22	50	99.3	90 - 110	
52	Cr	72	50.51 ppb	0.78	50	101.0	90 - 110	
55	Mn	72	49.52 ppb	0.42	50	99.0	90 - 110	
59	Co	72	48.78 ppb	0.64	50	97.6	90 - 110	
60	Ni	72	50.96 ppb	0.39	50	101.9	90 - 110	
63	Cu	72	50.45 ppb	0.98	50	100.9	90 - 110	
66	Zn	72	51.04 ppb	1.32	50	102.1	90 - 110	
75	As	72	50.22 ppb	0.79	50	100.4	90 - 110	
78	Se	72	52.93 ppb	2.64	50	105.9	90 - 110	
95	Mo	72	50.88 ppb	0.45	50	101.8	90 - 110	
107	Ag	115	50.92 ppb	2.20	50	101.8	90 - 110	
111	Cd	115	51.72 ppb	2.62	50	103.4	90 - 110	
118	Sn	115	51.06 ppb	2.41	50	102.1	90 - 110	
121	Sb	115	51.12 ppb	1.48	50	102.2	90 - 110	
137	Ba	115	50.77 ppb	1.68	50	101.5	90 - 110	
205	Tl	165	51.85 ppb	1.16	50	103.7	90 - 110	
208	Pb	165	51.54 ppb	2.32	50	103.1	90 - 110	
232	Th	165	51.27 ppb	1.18	50	102.5	90 - 110	
238	U	165	51.61 ppb	0.90	50	103.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	360601	1.23	376079	95.9	30 - 120	
45	Sc	1152210	0.10	1186897	97.1	30 - 120	
72	Ge	506331	0.64	539567	93.8	30 - 120	
115	In	1532589	0.89	1576174	97.2	30 - 120	
165	Ho	2667156	1.17	2717767	98.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250\_CCB.D\250\_CCB.D#  
 Date Acquired: Nov 8 2009 02:33 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	147.29	1.00	
51 V	72	1	-0.021	ppb	31.34	1.00	
52 Cr	72	1	0.037	ppb	45.39	1.00	
55 Mn	72	1	-0.003	ppb	461.47	1.00	
59 Co	72	1	0.004	ppb	46.27	1.00	
60 Ni	72	1	-0.025	ppb	13.04	1.00	
63 Cu	72	1	-0.035	ppb	22.37	1.00	
66 Zn	72	1	-0.398	ppb	5.33	1.00	
75 As	72	1	0.015	ppb	70.97	1.00	
78 Se	72	1	-0.320	ppb	40.38	1.00	
95 Mo	72	1	-0.054	ppb	35.32	1.00	
107 Ag	115	1	0.008	ppb	9.23	1.00	
111 Cd	115	1	0.005	ppb	52.43	1.00	
118 Sn	115	1	0.107	ppb	31.44	1.00	
121 Sb	115	1	0.188	ppb	20.19	1.00	
137 Ba	115	1	-0.042	ppb	4.94	1.00	
205 Tl	165	1	0.020	ppb	20.00	1.00	
208 Pb	165	1	-0.001	ppb	65.74	1.00	
232 Th	165	1	0.055	ppb	6.90	1.00	
238 U	165	1	0.016	ppb	10.74	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#  
 Date Acquired: Nov 8 2009 02:36 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252\_BLK.D\252\_BLK.D#  
 Date Acquired: Nov 8 2009 02:39 am  
 Operator: TEL  
 Sample Name: LNJVNB  
 Misc Info: BLANK 9303185 6020  
 Vial Number: 4402  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253\_LCS.D\253\_LCS.D#  
 Date Acquired: Nov 8 2009 02:42 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNJVNC  
 Misc Info: LCS  
 Vial Number: 4403  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

## QC Summary:

Analytes: Pass  
 ISTD: Pass

## Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	35.70	1.01	40	89.3	80 - 120
51	V	72	1	35.52	0.20	40	88.8	80 - 120
52	Cr	72	1	36.08	0.50	40	90.2	80 - 120
55	Mn	72	1	35.14	0.07	40	87.9	80 - 120
59	Co	72	1	34.82	0.49	40	87.1	80 - 120
60	Ni	72	1	36.40	0.69	40	91.0	80 - 120
63	Cu	72	1	35.92	0.24	40	89.8	80 - 120
66	Zn	72	1	35.76	1.51	40	89.4	80 - 120
75	As	72	1	34.71	0.72	40	86.8	80 - 120
78	Se	72	1	35.62	2.21	40	89.1	80 - 120
95	Mo	72	1	32.10	0.70	40	80.3	80 - 120
107	Ag	115	1	35.79	2.12	40	89.5	80 - 120
111	Cd	115	1	35.37	1.53	40	88.4	80 - 120
118	Sn	115	1	0.02	168.39	40	0.0	80 - 120
121	Sb	115	1	32.20	2.07	40	80.5	80 - 120
137	Ba	115	1	35.77	2.20	40	89.4	80 - 120
205	Tl	165	1	36.57	2.09	40	91.4	80 - 120
208	Pb	165	1	36.87	2.16	40	92.2	80 - 120
232	Th	165	1	36.61	1.54	40	91.5	80 - 120
238	U	165	1	36.97	1.94	40	92.4	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	358195	0.31	376079	95.2	30 - 120
45	Sc	1	1130666	0.47	1186897	95.3	30 - 120
72	Ge	1	497032	0.74	539567	92.1	30 - 120
115	In	1	1523173	1.15	1576174	96.6	30 - 120
165	Ho	1	2638001	1.37	2717767	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#  
 Date Acquired: Nov 8 2009 02:44 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7F 5X  
 Misc Info: D9J270261  
 Vial Number: 4404  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: AllRef  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.02	ppb	140.55	3600	
51 V	72	1	58.25	11.65	ppb	0.99	3600	
52 Cr	72	1	96.60	19.32	ppb	0.56	3600	
55 Mn	72	1	20.01	4.00	ppb	1.83	3600	
59 Co	72	1	0.41	0.08	ppb	18.64	3600	
60 Ni	72	1	2.50	0.50	ppb	10.52	3600	
63 Cu	72	1	0.61	0.12	ppb	13.42	3600	
66 Zn	72	1	18.56	3.71	ppb	2.43	3600	
75 As	72	1	190.75	38.15	ppb	0.69	3600	
78 Se	72	1	1.93	0.39	ppb	57.06	3600	
95 Mo	72	1	26.48	5.30	ppb	2.72	3600	
107 Ag	115	1	0.03	0.01	ppb	125.97	3600	
111 Cd	115	1	0.02	0.00	ppb	229.82	3600	
118 Sn	115	1	0.25	0.05	ppb	45.32	3600	
121 Sb	115	1	0.30	0.06	ppb	29.45	3600	
137 Ba	115	1	23.70	4.74	ppb	1.34	3600	
205 Tl	165	1	0.23	0.05	ppb	17.38	3600	
208 Pb	165	1	0.18	0.04	ppb	14.05	3600	
232 Th	165	1	0.24	0.05	ppb	4.71	1000	
238 U	165	1	13.31	2.66	ppb	1.53	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	333341	1.09	376079	88.6	30 - 120	
45 Sc	1	1062523	0.59	1186897	89.5	30 - 120	
72 Ge	1	462502	0.27	539567	85.7	30 - 120	
115 In	1	1375002	1.04	1576174	87.2	30 - 120	
165 Ho	1	2471361	0.80	2717767	90.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#  
 Date Acquired: Nov 8 2009 02:47 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FP25  
 Misc Info: SERIAL DILUTION  
 Vial Number: 4405  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SDIL  
 Dilution Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

**QC elements**

Element	IS	Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.02 ppb	0.57	0.00	458.7	90 - 110	
51	V	72	1	2.26 ppb	2.18	2.33	97.2	90 - 110	
52	Cr	72	1	3.94 ppb	1.55	3.86	101.9	90 - 110	
55	Mn	72	1	0.83 ppb	10.87	0.80	103.6	90 - 110	
59	Co	72	1	0.02 ppb	18.64	0.02	109.5	90 - 110	
60	Ni	72	1	0.11 ppb	52.76	0.10	106.7	90 - 110	
63	Cu	72	1	0.01 ppb	230.36	0.02	26.5	90 - 110	
66	Zn	72	1	0.47 ppb	7.87	0.74	62.8	90 - 110	
75	As	72	1	7.52 ppb	0.96	7.63	98.5	90 - 110	
78	Se	72	1	-0.04 ppb	1143.50	0.08	-52.9	90 - 110	
95	Mo	72	1	0.94 ppb	9.86	1.06	88.3	90 - 110	
107	Ag	115	1	0.00 ppb	99.28	0.00	-232.5	90 - 110	
111	Cd	115	1	-0.01 ppb	100.17	0.00	-679.0	90 - 110	
118	Sn	115	1	0.09 ppb	4.94	0.01	892.4	90 - 110	
121	Sb	115	1	0.01 ppb	131.02	0.01	58.5	90 - 110	
137	Ba	115	1	0.94 ppb	4.03	0.95	99.3	90 - 110	
205	Tl	165	1	0.01 ppb	8.96	0.01	141.7	90 - 110	
208	Pb	165	1	0.01 ppb	18.12	0.01	165.2	90 - 110	
232	Th	165	1	0.01 ppb	22.37	0.01	123.4	90 - 110	
238	U	165	1	0.53 ppb	1.52	0.53	100.3	90 - 110	

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30 - 120
45	Sc	1	1125653	0.19	1186897	94.8	30 - 120
72	Ge	1	502164	0.65	539567	93.1	30 - 120
115	In	1	1479317	0.60	1576174	93.9	30 - 120
165	Ho	1	2614578	1.08	2717767	96.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/09/09 10:02:46

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FP25

Serial Dilution: 25.00

Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 255 Method 6020\_
Acquired: 11/08/2009 02:47:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/08/2009 02:25:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL
NC : Serial dilution concentration < 100 X MDL
E : Difference greater than Limit (10%)

Reviewed by: Date:

## Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D#  
 Date Acquired: Nov 8 2009 02:50 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FZ  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 4406  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 U	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS)

ICPMS\_024

Reported: 11/09/09 10:02:49

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FZ

Spike Dilution: 1.00

Sample Dilution: 5.00

Instrument: Agilent7500

Channel 272

File: AG110709 # 256

Method 6020\_

Acquired: 11/08/2009 02:50:00

ICPMS\_024

Matrix: AQUEOUS

Calibrated: 11/08/2009 02:25:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		<input type="checkbox"/>
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		<input checked="" type="checkbox"/>
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		<input checked="" type="checkbox"/>
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		<input checked="" type="checkbox"/>
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		<input type="checkbox"/>
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		<input checked="" type="checkbox"/>
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		<input checked="" type="checkbox"/>
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		<input checked="" type="checkbox"/>
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		<input type="checkbox"/>
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		<input type="checkbox"/>
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		<input checked="" type="checkbox"/>
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		<input checked="" type="checkbox"/>
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		<input checked="" type="checkbox"/>
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		<input checked="" type="checkbox"/>
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		<input checked="" type="checkbox"/>
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		<input checked="" type="checkbox"/>
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		<input type="checkbox"/>
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

Reviewed by:

Date:

## Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257\_MS.D\257\_MS.D#  
 Date Acquired: Nov 8 2009 02:53 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FS 5X  
 Misc Info: MATRIX SPIKE  
 Vial Number: 4407  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MS  
 Prep Dil. Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150	
51 V	72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150	
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150	
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150	
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150	
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150	
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150	
66 Zn	72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150	
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150	
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150	
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150	
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150	
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150	
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150	
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150	
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150	
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150	
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150	
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150	
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120	
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120	
72 Ge	1	462138	0.38	539567	85.6	30 - 120	
115 In	1	1389102	1.17	1576174	88.1	30 - 120	
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258\_CCV.D\258\_CCV.D#  
 Date Acquired: Nov 8 2009 02:56 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.17 ppb	1.68	50	102.3	90 - 110	
51	V	72	49.76 ppb	0.58	50	99.5	90 - 110	
52	Cr	72	50.23 ppb	0.59	50	100.5	90 - 110	
55	Mn	72	49.80 ppb	0.45	50	99.6	90 - 110	
59	Co	72	48.86 ppb	0.97	50	97.7	90 - 110	
60	Ni	72	51.09 ppb	0.38	50	102.2	90 - 110	
63	Cu	72	50.55 ppb	1.39	50	101.1	90 - 110	
66	Zn	72	51.57 ppb	0.26	50	103.1	90 - 110	
75	As	72	50.59 ppb	0.46	50	101.2	90 - 110	
78	Se	72	51.92 ppb	0.28	50	103.8	90 - 110	
95	Mo	72	50.29 ppb	1.00	50	100.6	90 - 110	
107	Ag	115	51.22 ppb	2.07	50	102.4	90 - 110	
111	Cd	115	51.60 ppb	0.81	50	103.2	90 - 110	
118	Sn	115	50.56 ppb	0.85	50	101.1	90 - 110	
121	Sb	115	51.03 ppb	1.10	50	102.1	90 - 110	
137	Ba	115	50.92 ppb	1.12	50	101.8	90 - 110	
205	Tl	165	52.43 ppb	1.68	50	104.9	90 - 110	
208	Pb	165	52.24 ppb	2.12	50	104.5	90 - 110	
232	Th	165	51.78 ppb	2.94	50	103.6	90 - 110	
238	U	165	52.22 ppb	2.20	50	104.4	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120
72	Ge	1	507682	1.25	539567	94.1	30 - 120
115	In	1	1542474	0.57	1576174	97.9	30 - 120
165	Ho	1	2664119	1.36	2717767	98.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259\_CCB.D\259\_CCB.D#  
 Date Acquired: Nov 8 2009 02:58 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	31.75	1.00	
52 Cr	72	1	0.015 ppb	240.08	1.00	
55 Mn	72	1	-0.003 ppb	454.38	1.00	
59 Co	72	1	0.007 ppb	19.00	1.00	
60 Ni	72	1	-0.021 ppb	92.00	1.00	
63 Cu	72	1	-0.023 ppb	91.13	1.00	
66 Zn	72	1	-0.387 ppb	12.46	1.00	
75 As	72	1	0.025 ppb	95.41	1.00	
78 Se	72	1	-0.065 ppb	394.03	1.00	
95 Mo	72	1	-0.040 ppb	70.76	1.00	
107 Ag	115	1	0.007 ppb	79.32	1.00	
111 Cd	115	1	0.012 ppb	73.39	1.00	
118 Sn	115	1	0.112 ppb	71.47	1.00	
121 Sb	115	1	0.150 ppb	17.00	1.00	
137 Ba	115	1	-0.041 ppb	5.14	1.00	
205 Tl	165	1	0.021 ppb	28.23	1.00	
208 Pb	165	1	0.003 ppb	8.31	1.00	
232 Th	165	1	0.048 ppb	25.86	1.00	
238 U	165	1	0.018 ppb	13.31	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#  
 Date Acquired: Nov 8 2009 03:01 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367841	0.83	376079	97.8	30 - 120	
45 Sc	1	1154162	0.97	1186897	97.2	30 - 120	
72 Ge	1	516753	0.66	539567	95.8	30 - 120	
115 In	1	1524519	0.33	1576174	96.7	30 - 120	
165 Ho	1	2680772	0.38	2717767	98.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Duplicate Spike (MSD) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D#  
 Date Acquired: Nov 8 2009 03:04 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FD 5X  
 Misc Info: MATRIX SPIKE DUPLICATE  
 Vial Number: 4408  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MSD  
 Dilution Factor: 5.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	7.15 ppb	4.97	7.56	5.64	20	
51 V	72	1	19.44 ppb	0.87	19.50	0.31	20	
52 Cr	72	1	27.63 ppb	0.44	27.55	0.29	20	
55 Mn	72	1	11.89 ppb	0.71	11.53	3.07	20	
59 Co	72	1	6.96 ppb	0.22	6.92	0.55	20	
60 Ni	72	1	7.63 ppb	4.71	7.47	2.13	20	
63 Cu	72	1	6.96 ppb	2.26	6.92	0.55	20	
66 Zn	72	1	11.24 ppb	0.91	12.20	8.19	20	
75 As	72	1	47.18 ppb	1.02	47.40	0.47	20	
78 Se	72	1	8.49 ppb	8.60	8.21	3.34	20	
95 Mo	72	1	12.08 ppb	2.93	12.33	2.05	20	
107 Ag	115	1	6.86 ppb	1.67	6.98	1.81	20	
111 Cd	115	1	7.38 ppb	2.12	7.47	1.12	20	
118 Sn	115	1	0.11 ppb	30.03	0.39	111.83	20	
121 Sb	115	1	6.82 ppb	2.78	6.89	1.02	20	
137 Ba	115	1	12.78 ppb	1.44	12.69	0.71	20	
205 Tl	165	1	7.29 ppb	1.19	7.17	1.61	20	
208 Pb	165	1	7.29 ppb	2.38	7.25	0.51	20	
232 Th	165	1	7.89 ppb	2.55	7.88	0.08	20	
238 U	165	1	10.55 ppb	1.44	10.53	0.19	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329103	0.78	376079	87.5	30 - 120	
45 Sc	1	1057955	1.12	1186897	89.1	30 - 120	
72 Ge	1	456662	0.47	539567	84.6	30 - 120	
115 In	1	1365390	0.56	1576174	86.6	30 - 120	
165 Ho	1	2474617	1.07	2717767	91.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#  
 Date Acquired: Nov 8 2009 03:07 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7L 5X  
 Misc Info: D9J270263  
 Vial Number: 4409  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.05	0.01	ppb	157.59	3600
51	V	72	1	46.85	9.37	ppb	1.89	3600
52	Cr	72	1	12.39	2.48	ppb	5.61	3600
55	Mn	72	1	171.35	34.27	ppb	1.07	3600
59	Co	72	1	264.35	52.87	ppb	1.02	3600
60	Ni	72	1	102.35	20.47	ppb	3.34	3600
63	Cu	72	1	53.95	10.79	ppb	1.03	3600
66	Zn	72	1	17.02	3.40	ppb	3.85	3600
75	As	72	1	69.40	13.88	ppb	0.45	3600
78	Se	72	1	3.99	0.80	ppb	47.95	3600
95	Mo	72	1	6.46	1.29	ppb	6.25	3600
107	Ag	115	1	0.02	0.00	ppb	159.25	3600
111	Cd	115	1	0.13	0.03	ppb	54.73	3600
118	Sn	115	1	0.20	0.04	ppb	29.32	3600
121	Sb	115	1	0.23	0.05	ppb	27.91	3600
137	Ba	115	1	43.61	8.72	ppb	1.89	3600
205	Tl	165	1	0.08	0.02	ppb	8.14	3600
208	Pb	165	1	1.84	0.37	ppb	5.27	3600
232	Th	165	1	0.14	0.03	ppb	17.77	1000
238	U	165	1	38.02	7.60	ppb	1.66	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	343401	0.74	376079	91.3	30 - 120
45	Sc	1	1089536	0.75	1186897	91.8	30 - 120
72	Ge	1	479909	1.11	539567	88.9	30 - 120
115	In	1	1451981	1.22	1576174	92.1	30 - 120
165	Ho	1	2546093	0.95	2717767	93.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#  
 Date Acquired: Nov 8 2009 03:09 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFGD 5X  
 Misc Info: D9J280280  
 Vial Number: 4410  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#  
 Date Acquired: Nov 8 2009 03:12 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFG2 5X  
 Misc Info: D9J280283  
 Vial Number: 4411  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#  
 Date Acquired: Nov 8 2009 03:15 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2J 5X  
 Misc Info: D9J290310  
 Vial Number: 4412  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#  
 Date Acquired: Nov 8 2009 03:18 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2K 5X  
 Misc Info: D9J290310  
 Vial Number: 4501  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267\_CCV.D\267\_CCV.D#  
 Date Acquired: Nov 8 2009 03:21 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.22 ppb	2.08	50	102.4	90 - 110	
51	V	72	49.65 ppb	0.54	50	99.3	90 - 110	
52	Cr	72	50.22 ppb	0.76	50	100.4	90 - 110	
55	Mn	72	49.57 ppb	0.78	50	99.1	90 - 110	
59	Co	72	48.62 ppb	0.28	50	97.2	90 - 110	
60	Ni	72	50.60 ppb	1.48	50	101.2	90 - 110	
63	Cu	72	50.08 ppb	0.86	50	100.2	90 - 110	
66	Zn	72	52.09 ppb	0.68	50	104.2	90 - 110	
75	As	72	50.33 ppb	0.35	50	100.7	90 - 110	
78	Se	72	50.70 ppb	1.91	50	101.4	90 - 110	
95	Mo	72	50.34 ppb	1.97	50	100.7	90 - 110	
107	Ag	115	50.13 ppb	2.37	50	100.3	90 - 110	
111	Cd	115	50.15 ppb	1.77	50	100.3	90 - 110	
118	Sn	115	49.99 ppb	1.62	50	100.0	90 - 110	
121	Sb	115	50.52 ppb	2.60	50	101.0	90 - 110	
137	Ba	115	50.62 ppb	1.41	50	101.2	90 - 110	
205	Tl	165	51.11 ppb	0.42	50	102.2	90 - 110	
208	Pb	165	51.54 ppb	1.74	50	103.1	90 - 110	
232	Th	165	51.26 ppb	1.28	50	102.5	90 - 110	
238	U	165	51.53 ppb	0.94	50	103.1	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360685	1.10	376079	95.9	30 - 120
45	Sc	1	1157595	0.85	1186897	97.5	30 - 120
72	Ge	1	507944	1.20	539567	94.1	30 - 120
115	In	1	1559749	0.93	1576174	99.0	30 - 120
165	Ho	1	2711611	1.14	2717767	99.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268\_CCB.D\268\_CCB.D#  
 Date Acquired: Nov 8 2009 03:23 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	19.15	1.00	
52 Cr	72	1	-0.002 ppb	789.67	1.00	
55 Mn	72	1	-0.001 ppb	1184.70	1.00	
59 Co	72	1	0.000 ppb	707.73	1.00	
60 Ni	72	1	-0.014 ppb	130.22	1.00	
63 Cu	72	1	-0.051 ppb	28.29	1.00	
66 Zn	72	1	-0.413 ppb	3.98	1.00	
75 As	72	1	0.005 ppb	390.64	1.00	
78 Se	72	1	0.068 ppb	260.94	1.00	
95 Mo	72	1	-0.051 ppb	12.59	1.00	
107 Ag	115	1	0.003 ppb	126.88	1.00	
111 Cd	115	1	0.000 ppb	7618.50	1.00	
118 Sn	115	1	0.047 ppb	150.30	1.00	
121 Sb	115	1	0.138 ppb	23.66	1.00	
137 Ba	115	1	-0.038 ppb	11.83	1.00	
205 Tl	165	1	0.021 ppb	17.52	1.00	
208 Pb	165	1	0.003 ppb	111.74	1.00	
232 Th	165	1	0.051 ppb	16.07	1.00	
238 U	165	1	0.016 ppb	14.92	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#  
 Date Acquired: Nov 8 2009 03:26 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.901 ppb	17.96	1.30	
51 V	72	1	4.935 ppb	2.34	6.50	
52 Cr	72	1	2.001 ppb	2.44	2.60	
55 Mn	72	1	1.030 ppb	4.04	1.30	
59 Co	72	1	0.990 ppb	2.41	1.30	
60 Ni	72	1	2.129 ppb	7.48	2.60	
63 Cu	72	1	1.903 ppb	4.00	2.60	
66 Zn	72	1	9.748 ppb	0.16	13.00	
75 As	72	1	4.893 ppb	4.12	6.50	
78 Se	72	1	5.130 ppb	8.01	6.50	
95 Mo	72	1	1.974 ppb	8.49	2.60	
107 Ag	115	1	5.301 ppb	1.96	6.50	
111 Cd	115	1	1.056 ppb	7.93	1.30	
118 Sn	115	1	10.460 ppb	2.46	13.00	
121 Sb	115	1	2.083 ppb	0.79	2.60	
137 Ba	115	1	1.029 ppb	5.53	1.30	
205 Tl	165	1	1.089 ppb	0.37	1.30	
208 Pb	165	1	1.075 ppb	0.39	1.30	
232 Th	165	1	2.216 ppb	0.39	2.60	
238 U	165	1	1.111 ppb	0.42	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



# Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D9J280280

Client: Northgate Environmental

Batch(es) #: 9303185

Associated Samples: 1

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date: *[Signature]* 11/9/09

# *Metals Raw Data RoadMap*

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J280280	1	SE	LNFGD1AC	20091108	6020TOTA	9303185	AG110709	024
D9J280280	1	AS	LNFGD1AA	20091108	6020TOTA	9303185	AG110709	024

**METALS  
PREPARATION LOGS  
ICP-MS**



Batch Number: 9303185

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/2/09</sup> 10/30/09 JRW  
Due Date: 11/09/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9J300000 Water	LNJNV B	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV C	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F S Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F D Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2J Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*Checked  
11/7/09*

**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

BATCH # 9303185 ALLIQUOTTED BY: KS  
PREP DATE: 11/2/2009 DIGESTED BY: JRW

**CONSUMABLES USED**

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS268  
 One or more samples were filtered prior to analysis at the instrument.  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
 Analyst(s) Initials:                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4082 Block & Cup #: 4/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	45
HNO3	1900	95	1930	43
HNO3				

Samples and QC revolumed to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: *JRW*

Date: 11/2/09

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**  

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**THE LEADER IN ENVIRONMENTAL TESTING**

### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-09-2009

Logbook: \\Densvr06\StdsLog\metals.std

### STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-SE02003 Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008 Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

### STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: B2-SN02016 Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009 Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

### STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HN03 Lot No.: H02026 Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009 Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000



STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelli

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 10-31-2009  
 Date Expires(1): 03-01-2010 (1 Year)  
 Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICESA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-05-2009  
 Date Expires(1): 12-05-2009 (1 Month)  
 Date Expires(2): 11-01-2010 (None)  
 pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
 Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6836-09, ICP-MS BLANK

Analyst: LILLT

Solvent: Water  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 05-07-2010 (6 Months)  
 Date Expires(2): 05-07-2010 (6 Months)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0

Parent Std No.: STD6835-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6837-09, ICP-MS HIGH CAL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6838-09, ICP-MS HIGH CCV STD

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500
Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000

Na 2,000.0 5.0000  
 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6839-09, ICP-MS HIGH RL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018

STD6841-09, ICP-MS HIGH ICSAB

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Check Standard		Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010		Parent Date Expires(2): 08-01-2010
<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD6842-09, ICP-MS HIGH LR STD1

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000
Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000



STD6843-09, ICP-MS HIGH ICV STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 50.000

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

Parent Std No.: STD3115-09, ICP-MS TA ICV Alt Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	4.0000
Ca	2,000.0	4.0000
Fe	2,000.0	4.0000
K	2,000.0	4.0000
Mg	2,000.0	4.0000
Na	2,000.0	4.0000

Parent Std No.: STD3116-09, ICP-MS TA ICV BRC Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.0800
Pd	20.000	0.0400
Pt	20.000	0.0400

W

20.000

0.0400

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 21 and Met 8

Volume (ml): 50.000

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD3106-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

Parent Std No.: STD3107-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: \_\_\_\_\_

 11/9/09

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0 11/07/09 15:09		<input type="checkbox"/>
4	100 ppb				1.0 11/07/09 15:12		<input type="checkbox"/>
5	ICV				1.0 11/07/09 15:15		<input type="checkbox"/>
6	RLIV				1.0 11/07/09 15:18		<input type="checkbox"/>
7	ICB				1.0 11/07/09 15:20		<input type="checkbox"/>
8	RL STD				1.0 11/07/09 15:23		<input type="checkbox"/>
9	AFCEE RL				1.0 11/07/09 15:26		<input type="checkbox"/>
10	ALTSe				1.0 11/07/09 15:29		<input type="checkbox"/>
11	ICSA				1.0 11/07/09 15:31		<input type="checkbox"/>
12	ICSAB				1.0 11/07/09 15:34		<input type="checkbox"/>
13	RINSE				1.0 11/07/09 15:37		<input type="checkbox"/>
14	LR1				1.0 11/07/09 15:40		<input type="checkbox"/>
15	RINSE				1.0 11/07/09 15:42		<input type="checkbox"/>
16	CCV				1.0 11/07/09 15:45		<input type="checkbox"/>
17	CCB				1.0 11/07/09 15:48		<input type="checkbox"/>
18	RLCV				1.0 11/07/09 15:50		<input type="checkbox"/>
19	LNDMKB	D9J280000	9301081	46	1.0 11/07/09 15:53		<input type="checkbox"/>
20	LNDMKC	D9J280000	9301081	46	1.0 11/07/09 15:56		<input type="checkbox"/>
21	LM9FJ	D9J240188-1	9301081	46	1.0 11/07/09 15:59		<input type="checkbox"/>
22	LM9FJP5	D9J240188	9301081		5.0 11/07/09 16:01		<input type="checkbox"/>
23	LM9FJZ	D9J240188-1	9301081		1.0 11/07/09 16:04		<input type="checkbox"/>
24	LM9FJS	D9J240188-1	9301081	46	1.0 11/07/09 16:07		<input type="checkbox"/>
25	LM9FJD	D9J240188-1	9301081	46	1.0 11/07/09 16:09		<input type="checkbox"/>
26	LM9FK	D9J240188-2	9301081	46	1.0 11/07/09 16:12		<input type="checkbox"/>
27	CCV				1.0 11/07/09 16:15		<input type="checkbox"/>
28	CCB				1.0 11/07/09 16:18		<input type="checkbox"/>
29	RLCV				1.0 11/07/09 16:20		<input type="checkbox"/>
30	LNJT4B	D9J300000	9303213	MS	1.0 11/07/09 16:23		<input type="checkbox"/>
31	LNJT4C	D9J300000	9303213	MS	1.0 11/07/09 16:26		<input type="checkbox"/>
32	LM8A7	D9J230367-1	9303213	MS	1.0 11/07/09 16:29		<input type="checkbox"/>
33	LM8CG	D9J230367-2	9303213	MS	1.0 11/07/09 16:32		<input type="checkbox"/>
34	LM8CV	D9J230367-3	9303213	MS	1.0 11/07/09 16:34		<input type="checkbox"/>
35	LM8C1	D9J230367-4	9303213	MS	1.0 11/07/09 16:37		<input type="checkbox"/>
36	LM8C1P5	D9J230367	9303213		5.0 11/07/09 16:40		<input type="checkbox"/>
37	LM8C1Z	D9J230367-4	9303213		1.0 11/07/09 16:43		<input type="checkbox"/>
38	LM8C1S	D9J230367-4	9303213	MS	1.0 11/07/09 16:45		<input type="checkbox"/>
39	LM8C1D	D9J230367-4	9303213	MS	1.0 11/07/09 16:48		<input type="checkbox"/>
40	CCV				1.0 11/07/09 16:51		<input type="checkbox"/>
41	CCB				1.0 11/07/09 16:53		<input type="checkbox"/>
42	RLCV				1.0 11/07/09 16:57		<input type="checkbox"/>
43	LNDMTB	D9J280000	9301086	46	1.0 11/07/09 17:00		<input type="checkbox"/>
44	LNDMTC	D9J280000	9301086	46	1.0 11/07/09 17:02		<input type="checkbox"/>
45	LM8E2	D9J230373-1	9301086	46	1.0 11/07/09 17:05		<input type="checkbox"/>
46	LM8E2P5	D9J230373	9301086		5.0 11/07/09 17:08		<input type="checkbox"/>
47	LM8E2Z	D9J230373-1	9301086		1.0 11/07/09 17:11		<input type="checkbox"/>
48	LM8E2S	D9J230373-1	9301086	46	1.0 11/07/09 17:13		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16	<input type="checkbox"/>
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19	<input type="checkbox"/>
51	CCV				1.0	11/07/09 17:22	<input type="checkbox"/>
52	CCB				1.0	11/07/09 17:24	<input type="checkbox"/>
53	RLCV				1.0	11/07/09 17:27	<input type="checkbox"/>
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30	<input type="checkbox"/>
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33	<input type="checkbox"/>
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35	<input type="checkbox"/>
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38	<input type="checkbox"/>
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41	<input type="checkbox"/>
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44	<input type="checkbox"/>
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47	<input type="checkbox"/>
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51	<input type="checkbox"/>
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53	<input type="checkbox"/>
63	CCV				1.0	11/07/09 17:56	<input type="checkbox"/>
64	CCB				1.0	11/07/09 17:59	<input type="checkbox"/>
65	RLCV				1.0	11/07/09 18:02	<input type="checkbox"/>
66	<del>LMNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5</del>	<del>11/07/09 18:04</del> <i>11/9/09 did not use.</i>	<input type="checkbox"/>
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07	<input type="checkbox"/>
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10	<input type="checkbox"/>
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13	<input type="checkbox"/>
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16	<input type="checkbox"/>
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18	<input type="checkbox"/>
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21	<input type="checkbox"/>
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24	<input type="checkbox"/>
74	CCV				1.0	11/07/09 18:27	<input type="checkbox"/>
75	CCB				1.0	11/07/09 18:29	<input type="checkbox"/>
76	RLCV				1.0	11/07/09 18:32	<input type="checkbox"/>
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35	<input type="checkbox"/>
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38	<input type="checkbox"/>
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40	<input type="checkbox"/>
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43	<input type="checkbox"/>
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46	<input type="checkbox"/>
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49	<input type="checkbox"/>
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51	<input type="checkbox"/>
84	CCV				1.0	11/07/09 18:54	<input type="checkbox"/>
85	CCB				1.0	11/07/09 18:57	<input type="checkbox"/>
86	RLCV				1.0	11/07/09 19:00	<input type="checkbox"/>
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03	<input type="checkbox"/>
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05	<input type="checkbox"/>
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08	<input type="checkbox"/>
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11	<input type="checkbox"/>
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14	<input type="checkbox"/>
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17	<input type="checkbox"/>
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19	<input type="checkbox"/>
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
95	CCV				1.0 11/07/09 19:25		<input type="checkbox"/>
96	CCB				1.0 11/07/09 19:28		<input type="checkbox"/>
97	RLCV				1.0 11/07/09 19:30		<input type="checkbox"/>
98	ICSA				1.0 11/07/09 19:33		<input type="checkbox"/>
99	ICSAB				1.0 11/07/09 19:36		<input type="checkbox"/>
100	WASH				1.0 11/07/09 19:39		<input type="checkbox"/>
101	CCV				1.0 11/07/09 19:41		<input type="checkbox"/>
102	CCB				1.0 11/07/09 19:44		<input type="checkbox"/>
103	RLCV				1.0 11/07/09 19:47		<input type="checkbox"/>
104	LNPkXBQ	D9K030000	9307099	U1	1.0 11/07/09 19:50		<input type="checkbox"/>
105	LNPkXCQ	D9K030000	9307099	U1	1.0 11/07/09 19:52		<input type="checkbox"/>
106	LNN4FQ	D9K020448-1	9307099	U1	1.0 11/07/09 19:55		<input type="checkbox"/>
107	LNN4FP5Q	D9K020448	9307099		5.0 11/07/09 19:58		<input type="checkbox"/>
108	LNN4FZQ	D9K020448-1	9307099		1.0 11/07/09 20:01		<input type="checkbox"/>
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:03		<input type="checkbox"/>
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:06		<input type="checkbox"/>
111	CCV				1.0 11/07/09 20:09		<input type="checkbox"/>
112	CCB				1.0 11/07/09 20:12		<input type="checkbox"/>
113	RLCV				1.0 11/07/09 20:14		<input type="checkbox"/>
114	<del>LNNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5 11/07/09 20:17</del>		<input type="checkbox"/>
115	LNNVDC	D9K020000	9306332	04	2.5 11/07/09 20:20		<input type="checkbox"/>
116	LNKT9	D9J300258-1	9306332	04	2.5 11/07/09 20:23		<input type="checkbox"/>
117	LNKT9S	D9J300258-1	9306332	04	2.5 11/07/09 20:25		<input type="checkbox"/>
118	LNKT9D	D9J300258-1	9306332	04	2.5 11/07/09 20:28		<input type="checkbox"/>
119	CCV				1.0 11/07/09 20:31		<input type="checkbox"/>
120	CCB				1.0 11/07/09 20:34		<input type="checkbox"/>
121	RLCV				1.0 11/07/09 20:36		<input type="checkbox"/>
122	RINSE				1.0 11/07/09 20:39		<input type="checkbox"/>
123	RINSE				1.0 11/07/09 20:42		<input type="checkbox"/>
124	<del>Cal Blank</del>				<del>1.0 11/07/09 20:45</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>
125	Cal Blank				1.0 11/07/09 20:47		<input type="checkbox"/>
126	100 ppb				1.0 11/07/09 20:50		<input type="checkbox"/>
127	CCV				1.0 11/07/09 20:53		<input type="checkbox"/>
128	CCB				1.0 11/07/09 20:56		<input type="checkbox"/>
129	RLCV				1.0 11/07/09 20:58		<input type="checkbox"/>
130	<del>LNNQ5BF</del>	<del>D9K020000</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:01</del>		<input type="checkbox"/>
131	LNNQ5CF	D9K020000	9306285	MD	1.0 11/07/09 21:04		<input type="checkbox"/>
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0 11/07/09 21:07		<input type="checkbox"/>
133	LNLG3F	D9J300326-2	9306285	MD	1.0 11/07/09 21:10		<input type="checkbox"/>
134	LNLG4F	D9J300326-3	9306285	MD	1.0 11/07/09 21:12		<input type="checkbox"/>
135	LNLHHF	D9J300329-1	9306285	MD	1.0 11/07/09 21:15		<input type="checkbox"/>
136	LNLHMF	D9J300329-2	9306285	MD	1.0 11/07/09 21:18		<input type="checkbox"/>
137	CCV				1.0 11/07/09 21:21		<input type="checkbox"/>
138	CCB				1.0 11/07/09 21:23		<input type="checkbox"/>
139	RLCV				1.0 11/07/09 21:26		<input type="checkbox"/>
140	<del>LNLHPF</del>	<del>D9J300329-3</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:29</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
141	<del>LNLJJP</del>	D9J300340-1	9306285	MD	1.0	11/07/09 21:32	<input type="checkbox"/>
142	LNLJJP5F	D9J300340	9306285		5.0	11/07/09 21:35	<input type="checkbox"/>
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37	<input type="checkbox"/>
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40	<input type="checkbox"/>
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43	<input type="checkbox"/>
146	<del>LNLJMF</del>	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	<input type="checkbox"/>
147	CCV				1.0	11/07/09 21:48	<input type="checkbox"/>
148	CCB				1.0	11/07/09 21:51	<input type="checkbox"/>
149	RLCV				1.0	11/07/09 21:54	<input type="checkbox"/>
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57	<input type="checkbox"/>
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59	<input type="checkbox"/>
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02	<input type="checkbox"/>
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05	<input type="checkbox"/>
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08	<input type="checkbox"/>
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	<input type="checkbox"/>
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13	<input type="checkbox"/>
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16	<input type="checkbox"/>
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19	<input type="checkbox"/>
159	CCV				1.0	11/07/09 22:21	<input type="checkbox"/>
160	CCB				1.0	11/07/09 22:24	<input type="checkbox"/>
161	RLCV				1.0	11/07/09 22:27	<input type="checkbox"/>
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30	<input type="checkbox"/>
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32	<input type="checkbox"/>
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35	<input type="checkbox"/>
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38	<input type="checkbox"/>
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41	<input type="checkbox"/>
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43	<input type="checkbox"/>
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46	<input type="checkbox"/>
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49	<input type="checkbox"/>
170	CCV				1.0	11/07/09 22:52	<input type="checkbox"/>
171	CCB				1.0	11/07/09 22:54	<input type="checkbox"/>
172	RLCV				1.0	11/07/09 22:57	<input type="checkbox"/>
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00	<input type="checkbox"/>
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03	<input type="checkbox"/>
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06	<input type="checkbox"/>
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08	<input type="checkbox"/>
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11	<input type="checkbox"/>
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14	<input type="checkbox"/>
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17	<input type="checkbox"/>
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19	<input type="checkbox"/>
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22	<input type="checkbox"/>
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25	<input type="checkbox"/>
183	CCV				1.0	11/07/09 23:28	<input type="checkbox"/>
184	CCB				1.0	11/07/09 23:30	<input type="checkbox"/>
185	RLCV				1.0	11/07/09 23:33	<input type="checkbox"/>
186	RINSE				1.0	11/07/09 23:36	<input type="checkbox"/>

*RT 11/9/09 did not use.*

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
187	<del>RINSE</del>			1.0	<del>11/07/09 23:39</del>		<input type="checkbox"/>
188	<del>Cal Blank</del>			1.0	<del>11/07/09 23:41</del>	<i>vt 11/9/09 Did not use.</i>	<input type="checkbox"/>
189	Cal Blank			1.0	11/07/09 23:44		<input type="checkbox"/>
190	100 ppb			1.0	11/07/09 23:47		<input type="checkbox"/>
191	CCV			1.0	11/07/09 23:50		<input type="checkbox"/>
192	CCB			1.0	11/07/09 23:52		<input type="checkbox"/>
193	RLCV			1.0	11/07/09 23:55		<input type="checkbox"/>
194	LNEMRZF	D9J280200-5	9302146		1.0 11/07/09 23:58		<input type="checkbox"/>
195	LNEMRSF	D9J280200-5	9302146	MD	1.0 11/08/09 00:01		<input type="checkbox"/>
196	LNEMRDF	D9J280200-5	9302146	MD	1.0 11/08/09 00:03		<input type="checkbox"/>
197	LNEMWF	D9J280200-6	9302146	MD	1.0 11/08/09 00:06		<input type="checkbox"/>
198	LNEM0F	D9J280200-7	9302146	MD	1.0 11/08/09 00:09		<input type="checkbox"/>
199	LNEM3F	D9J280200-8	9302146	MD	1.0 11/08/09 00:12		<input type="checkbox"/>
200	LNEM4F	D9J280200-9	9302146	MD	1.0 11/08/09 00:15		<input type="checkbox"/>
201	LNEM7F	D9J280200-10	9302146	MD	1.0 11/08/09 00:17		<input type="checkbox"/>
202	CCV			1.0	11/08/09 00:20		<input type="checkbox"/>
203	CCB			1.0	11/08/09 00:23		<input type="checkbox"/>
204	RLCV			1.0	11/08/09 00:26		<input type="checkbox"/>
205	LN0N2B	D9K060000	9310060	04	2.5 11/08/09 00:28		<input type="checkbox"/>
206	LN0N2C	D9K060000	9310060	04	2.5 11/08/09 00:31		<input type="checkbox"/>
207	LNW5P	D9K050485-2	9310060	04	2.5 11/08/09 00:34		<input type="checkbox"/>
208	LNW55	D9K050485-4	9310060	04	2.5 11/08/09 00:37		<input type="checkbox"/>
209	LNW6E	D9K050485-6	9310060	04	2.5 11/08/09 00:40		<input type="checkbox"/>
210	LNW6ES	D9K050485-6	9310060	04	2.5 11/08/09 00:42		<input type="checkbox"/>
211	LNW6ED	D9K050485-6	9310060	04	2.5 11/08/09 00:45		<input type="checkbox"/>
212	CCV			1.0	11/08/09 00:48		<input type="checkbox"/>
213	CCB			1.0	11/08/09 00:51		<input type="checkbox"/>
214	RLCV			1.0	11/08/09 00:53		<input type="checkbox"/>
215	LNF42B	D9J290000	9302121	MS	1.0 11/08/09 00:56		<input type="checkbox"/>
216	LNF42C	D9J290000	9302121	MS	1.0 11/08/09 00:59		<input type="checkbox"/>
217	LNE4T	D9J280246-1	9302121	MS	1.0 11/08/09 01:02		<input type="checkbox"/>
218	LNE40 10X	D9J280246-2	9302121	MS	10.0 11/08/09 01:05		<input type="checkbox"/>
219	LNE41 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:07		<input type="checkbox"/>
220	LNE41P25	D9J280246	9302121		25.0 11/08/09 01:10		<input type="checkbox"/>
221	CCV			1.0	11/08/09 01:13		<input type="checkbox"/>
222	CCB			1.0	11/08/09 01:16		<input type="checkbox"/>
223	RLCV			1.0	11/08/09 01:19		<input type="checkbox"/>
224	LNE41Z	D9J280246-3	9302121		1.0 11/08/09 01:21		<input type="checkbox"/>
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:24		<input type="checkbox"/>
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:27		<input type="checkbox"/>
227	LNE44 5X	D9J280246-4	9302121	MS	5.0 11/08/09 01:30		<input type="checkbox"/>
228	LNE47 2X	D9J280246-5	9302121	MS	2.0 11/08/09 01:32		<input type="checkbox"/>
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0 11/08/09 01:35		<input type="checkbox"/>
230	CCV			1.0	11/08/09 01:38		<input type="checkbox"/>
231	CCB			1.0	11/08/09 01:41		<input type="checkbox"/>
232	RLCV			1.0	11/08/09 01:44		<input type="checkbox"/>



Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46	<input type="checkbox"/>
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49	<input type="checkbox"/>
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52	<input type="checkbox"/>
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55	<input type="checkbox"/>
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58	<input type="checkbox"/>
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00	<input type="checkbox"/>
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03	<input type="checkbox"/>
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06	<input type="checkbox"/>
241	CCV				1.0	11/08/09 02:09	<input type="checkbox"/>
242	CCB				1.0	11/08/09 02:11	<input type="checkbox"/>
243	RLCV				1.0	11/08/09 02:14	<input type="checkbox"/>
244	RINSE				1.0	<del>11/08/09 02:17</del>	<input type="checkbox"/>
245	RINSE				1.0	11/08/09 02:20	<input type="checkbox"/>
246	<del>Cal Blank</del>				1.0	<del>11/08/09 02:22</del> <i>11/9/09 did not use</i>	<input type="checkbox"/>
247	Cal Blank				1.0	11/08/09 02:25	<input type="checkbox"/>
248	100 ppb				1.0	11/08/09 02:28	<input type="checkbox"/>
249	CCV				1.0	11/08/09 02:31	<input type="checkbox"/>
250	CCB				1.0	11/08/09 02:33	<input type="checkbox"/>
251	RLCV				1.0	11/08/09 02:36	<input type="checkbox"/>
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39	<input type="checkbox"/>
253	LNJVNC	D9J300000	9303185	MS	1.0	11/08/09 02:42	<input type="checkbox"/>
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44	<input type="checkbox"/>
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47	<input type="checkbox"/>
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50	<input type="checkbox"/>
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53	<input type="checkbox"/>
258	CCV				1.0	11/08/09 02:56	<input type="checkbox"/>
259	CCB				1.0	11/08/09 02:58	<input type="checkbox"/>
260	RLCV				1.0	11/08/09 03:01	<input type="checkbox"/>
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04	<input type="checkbox"/>
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07	<input type="checkbox"/>
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09	<input type="checkbox"/>
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12	<input type="checkbox"/>
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15	<input type="checkbox"/>
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18	<input type="checkbox"/>
267	CCV				1.0	11/08/09 03:21	<input type="checkbox"/>
268	CCB				1.0	11/08/09 03:23	<input type="checkbox"/>
269	RLCV				1.0	11/08/09 03:26	<input type="checkbox"/>
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29	<input type="checkbox"/>
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32	<input type="checkbox"/>
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34	<input type="checkbox"/>
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37	<input type="checkbox"/>
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40	<input type="checkbox"/>
275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43	<input type="checkbox"/>
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46	<input type="checkbox"/>
277	CCV				1.0	11/08/09 03:48	<input type="checkbox"/>
278	CCB				1.0	11/08/09 03:51	<input type="checkbox"/>

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/08/09 03:54	<input type="checkbox"/>
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57	<input type="checkbox"/>
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59	<input type="checkbox"/>
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02	<input type="checkbox"/>
283	LNHRTS	D9J290285-6	9303310	04	1.0	11/08/09 04:05	<input type="checkbox"/>
284	LNHRTD	D9J290285-6	9303310	04	1.0	11/08/09 04:08	<input type="checkbox"/>
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10	<input type="checkbox"/>
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13	<input type="checkbox"/>
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16	<input type="checkbox"/>
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19	<input type="checkbox"/>
289	CCV				1.0	11/08/09 04:21	<input type="checkbox"/>
290	CCB				1.0	11/08/09 04:24	<input type="checkbox"/>
291	RLCV				1.0	11/08/09 04:27	<input type="checkbox"/>
292	<del>Cal Blank</del>				1.0	11/08/09 04:30	<input type="checkbox"/>
293	Cal Blank				1.0	11/08/09 04:32	<input type="checkbox"/>
294	100 ppb				1.0	11/08/09 04:35	<input type="checkbox"/>
295	CCV				1.0	11/08/09 04:38	<input type="checkbox"/>
296	CCB				1.0	11/08/09 04:41	<input type="checkbox"/>
297	RLCV				1.0	11/08/09 04:43	<input type="checkbox"/>
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46	<input type="checkbox"/>
299	CCV				1.0	11/08/09 04:49	<input type="checkbox"/>
300	CCB				1.0	11/08/09 04:52	<input type="checkbox"/>
301	RLCV				1.0	11/08/09 04:54	<input type="checkbox"/>
302	<del>LNNV0B</del>	<del>D9K020000</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 04:57</del>	<input type="checkbox"/>
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00	<input type="checkbox"/>
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 05:03	<input type="checkbox"/>
305	LNJ05	D9J300168-1	9306340	04	1.0	11/08/09 05:05	<input type="checkbox"/>
306	LNJ1A	D9J300168-2	9306340	04	1.0	11/08/09 05:08	<input type="checkbox"/>
307	LNJ1C	D9J300168-3	9306340	04	1.0	11/08/09 05:11	<input type="checkbox"/>
308	LNJ1D	D9J300168-4	9306340	04	1.0	11/08/09 05:14	<input type="checkbox"/>
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16	<input type="checkbox"/>
310	CCV				1.0	11/08/09 05:19	<input type="checkbox"/>
311	CCB				1.0	11/08/09 05:22	<input type="checkbox"/>
312	RLCV				1.0	11/08/09 05:25	<input type="checkbox"/>
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27	<input type="checkbox"/>
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30	<input type="checkbox"/>
315	LNJ44	D9J300188-3	9306340	04	1.0	11/08/09 05:33	<input type="checkbox"/>
316	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36	<input type="checkbox"/>
317	LNMA5 5X	D9J310124-1	9306340	04	5.0	11/08/09 05:38	<input type="checkbox"/>
318	LNMCH	D9J310127-1	9306340	04	1.0	11/08/09 05:41	<input type="checkbox"/>
319	CCV				1.0	11/08/09 05:44	<input type="checkbox"/>
320	CCB				1.0	11/08/09 05:47	<input type="checkbox"/>
321	RLCV				1.0	11/08/09 05:49	<input type="checkbox"/>
322	LNMCH	D9J310127-2	9306340	04	1.0	11/08/09 05:52	<input type="checkbox"/>
323	LNMCHP5	D9J310127	9306340		5.0	11/08/09 05:55	<input type="checkbox"/>
324	<del>LNMCHZ</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del></del>	<del>1.0</del>	<del>11/08/09 05:58</del>	<input type="checkbox"/>

*not 11/9/09 did not use.*

*not 11/9/09 did not use.*

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

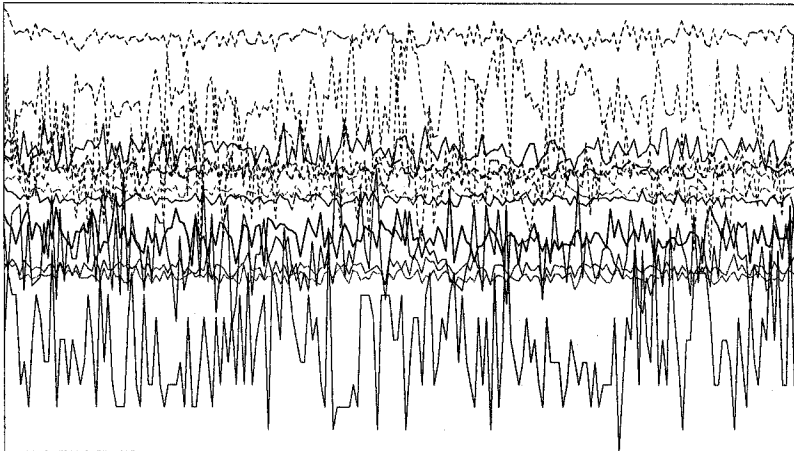
File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
325	<del>LNMCNS</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:00</del>	<input type="checkbox"/>
326	<del>LNMCND</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:03</del>	<input type="checkbox"/>
327	<del>LNMCPE</del>	<del>D9J310127-3</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:06</del>	<input type="checkbox"/>
328	<del>LNMCQ</del>	<del>D9J310127-4</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:09</del>	<input type="checkbox"/>
329	CCV				1.0	11/08/09 06:11	<input type="checkbox"/>
330	CCB				1.0	11/08/09 06:14	<input type="checkbox"/>
331	<del>BLCV</del>				<del>1.0</del>	<del>11/08/09 06:17</del> <i>Not 11/9/09 did not use.</i>	<input type="checkbox"/>

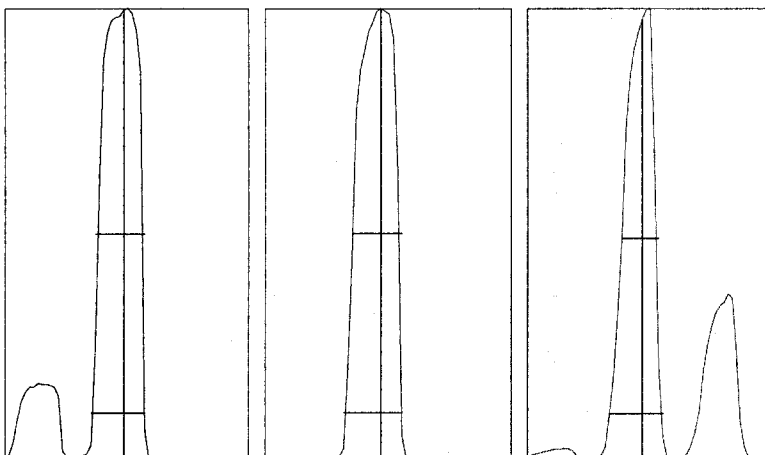
Tune Report

Tune File : NORM.U  
 Comment : AG110709



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.612%  
 Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
W-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U  
Comment : AG110709

Tuning Parameters

===Plasma Condition===

RF Power : 1600 W  
RF Matching : 1.7 V  
Smpl Depth : 8 mm  
Torch-H : -0.8 mm  
Torch-V : -0.3 mm  
Carrier Gas : 0.81 L/min  
Makeup Gas : 0.23 L/min  
Optional Gas : --- %  
Nebulizer Pump : 0.1 rps  
Sample Pump : --- rps  
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V  
Extract 2 : -170 V  
Omega Bias-ce : -30 V  
Omega Lens-ce : 1.4 V  
Cell Entrance : -30 V  
QP Focus : 7 V  
Cell Exit : -30 V

===Q-Pole Parameters===

AMU Gain : 134  
AMU Offset : 125  
Axis Gain : 1.0007  
Axis Offset : -0.03  
QP Bias : -3 V

===Detector Parameters===

Discriminator : 8 mV  
Analog HV : 1770 V  
Pulse HV : 1480 V

===Octopole Parameters===

OctP RF : 180 V  
OctP Bias : -18 V

===Reaction Cell===

Reaction Mode : OFF  
H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

P/A Factor Tuning Report

Acquired: Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor
6	Li	0.054257
7	(Li)	Sensitivity too low
9	Be	0.059350
23	Na	0.063944
24	Mg	0.064875
27	Al	0.065819
39	K	0.066026
43	Ca	Sensitivity too low
45	Sc	0.066849
51	V	0.067403
52	Cr	0.068152
53	(Cr)	Sensitivity too low
55	Mn	0.068773
57	Fe	Sensitivity too low
59	Co	0.069652
60	Ni	Sensitivity too low
63	Cu	0.069964
66	Zn	0.070153
72	Ge	Sensitivity too low
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.072052
98	(Mo)	0.071277
99	(Mo)	Sensitivity too low
105	Pd	0.071221
106	(Cd)	0.070815
107	Ag	Sensitivity too low
108	(Cd)	0.071381
111	Cd	0.070975
115	In	0.070220
118	Sn	0.070317
121	Sb	0.070422
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071611
206	(Pb)	0.070464
207	(Pb)	0.070565
208	Pb	0.069648
232	Th	0.069671
238	U	0.069782

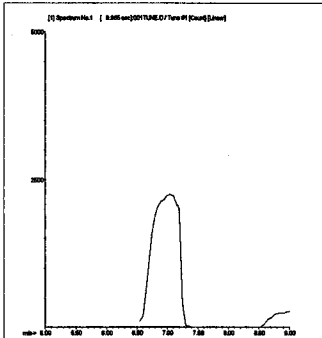
===Detector Parameters===

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

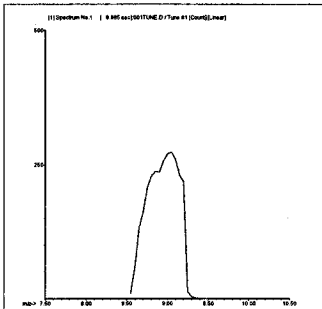
# 200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D  
 Date Acquired: Nov 7 2009 03:04 pm  
 Acq. Method: tun\_isis.M  
 Operator: TEL  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

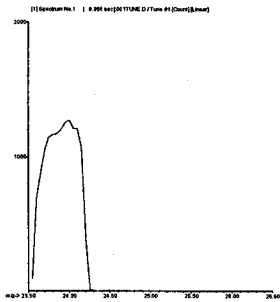
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



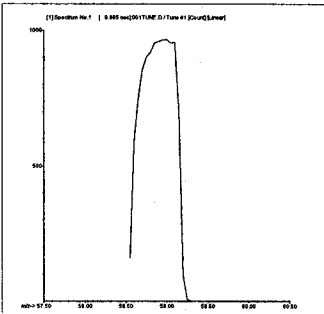
**7 Li**  
**Mass Calib.**  
 Actual: 7.00  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



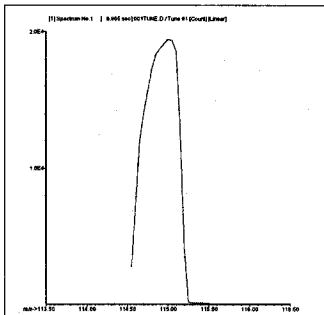
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



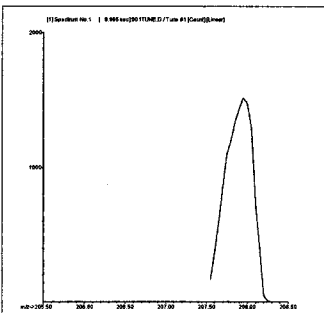
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



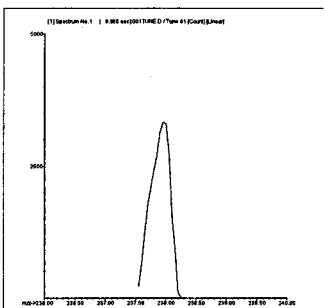
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:

Tune Result: Pass



**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 7 2009 03:07 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

*g6uh/09*

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	130	55.47
52	Cr	72	1	2920	1.23
55	Mn	72	1	487	11.32
59	Co	72	1	43	35.25
60	Ni	72	1	67	56.79
63	Cu	72	1	247	16.39
66	Zn	72	1	177	1.72
75	As	72	1	38	36.84
78	Se	72	1	290	18.25
95	Mo	72	1	17	69.28
107	Ag	115	1	17	91.65
111	Cd	115	1	6	90.67
118	Sn	115	1	120	25.00
121	Sb	115	1	7	0.00
137	Ba	115	1	11	17.32
205	Tl	165	1	53	12.50
208	Pb	165	1	250	7.42
232	Th	165	1	93	59.01
238	U	165	1	83	36.66

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	450969	0.62
45	Sc	1	1353461	1.72
72	Ge	1	599452	0.37
115	In	1	1813996	0.92
165	Ho	1	3291682	1.21

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 7 2009 03:09 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	107	14.32
52	Cr	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	Tl	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Ho	1	3253654	1.35

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 7 2009 03:12 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:10 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	52398	1.41
51	V	72	1	764367	2.20
52	Cr	72	1	771475	1.19
55	Mn	72	1	912002	1.09
59	Co	72	1	914930	2.11
60	Ni	72	1	193364	2.37
63	Cu	72	1	465989	1.20
66	Zn	72	1	112029	1.18
75	As	72	1	90135	1.29
78	Se	72	1	18683	1.97
95	Mo	72	1	260394	0.61
107	Ag	115	1	765784	1.36
111	Cd	115	1	157700	1.34
118	Sn	115	1	441054	2.17
121	Sb	115	1	510967	1.02
137	Ba	115	1	213858	1.06
205	Tl	165	1	1838240	1.05
208	Pb	165	1	2519619	0.58
232	Th	165	1	2643067	0.57
238	U	165	1	2792671	0.69

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120
72	Ge	1	575467	1.00	598490	96.2	30 - 120
115	In	1	1781328	1.07	1797032	99.1	30 - 120
165	Ho	1	3275522	1.43	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Initial Calibration Verification (ICV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005\_ICV.D\005\_ICV.D#  
 Date Acquired: Nov 7 2009 03:15 pm  
 Operator: TEL  
 Sample Name: ICV  
 Misc Info:  
 Vial Number: 2103  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: ICV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	40.37 ppb	1.43	40	100.9	90 - 110	
51	V	72	38.46 ppb	0.46	40	96.2	90 - 110	
52	Cr	72	39.20 ppb	1.19	40	98.0	90 - 110	
55	Mn	72	39.82 ppb	0.12	40	99.6	90 - 110	
59	Co	72	38.88 ppb	0.70	40	97.2	90 - 110	
60	Ni	72	40.10 ppb	0.16	40	100.3	90 - 110	
63	Cu	72	39.43 ppb	0.82	40	98.6	90 - 110	
66	Zn	72	40.09 ppb	0.20	40	100.2	90 - 110	
75	As	72	39.44 ppb	0.27	40	98.6	90 - 110	
78	Se	72	38.96 ppb	4.82	40	97.4	90 - 110	
95	Mo	72	39.50 ppb	0.72	40	98.8	90 - 110	
107	Ag	115	38.87 ppb	1.47	40	97.2	90 - 110	
111	Cd	115	39.30 ppb	0.98	40	98.3	90 - 110	
118	Sn	115	39.04 ppb	1.08	40	97.6	90 - 110	
121	Sb	115	39.64 ppb	1.29	40	99.1	90 - 110	
137	Ba	115	38.76 ppb	1.35	40	96.9	90 - 110	
205	Tl	165	39.29 ppb	2.05	40	98.2	90 - 110	
208	Pb	165	40.72 ppb	2.07	40	101.8	90 - 110	
232	Th	165	41.00 ppb	0.86	40	102.5	90 - 110	
238	U	165	40.29 ppb	1.06	40	100.7	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	448116	0.63	455621	98.4	30 - 120
45	Sc	1	1362171	0.61	1356727	100.4	30 - 120
72	Ge	1	576140	0.97	598490	96.3	30 - 120
115	In	1	1802991	1.36	1797032	100.3	30 - 120
165	Ho	1	3291704	0.83	3253654	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 7 2009 03:18 pm  
 Operator: TEL  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Initial Calibration Blank (ICB) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110709.B\007_ICB.D\007_ICB.D#	<b>QC Summary:</b>
Date Acquired:	Nov 7 2009 03:20 pm	<b>Analytes: Pass</b>
Operator:	TEL	<b>ISTD: Pass</b>
Sample Name:	ICB	
Misc Info:		
Vial Number:	2104	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal Update:	Nov 07 2009 03:13 pm	
Sample Type:	ICB	
Total Dil Factor:	1.00	

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## RL STD QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\008RLST.D\008RLST.D#  
 Date Acquired: Nov 7 2009 03:23 pm  
 Operator: TEL  
 Sample Name: RL STD  
 Misc Info:  
 Vial Number: 2105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: RLSTD  
 Total Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	1.03 ppb	7.07	1	102.9	50 - 150
51	V	72	1	0.95 ppb	2.40	1	94.6	50 - 150
52	Cr	72	1	0.95 ppb	9.15	1	94.9	50 - 150
55	Mn	72	1	0.98 ppb	3.40	1	97.8	50 - 150
59	Co	72	1	0.99 ppb	1.20	1	99.3	50 - 150
60	Ni	72	1	0.99 ppb	1.44	1	98.7	50 - 150
63	Cu	72	1	0.97 ppb	3.25	1	96.6	50 - 150
66	Zn	72	1	9.84 ppb	1.62	10	98.4	50 - 150
75	As	72	1	1.01 ppb	1.47	1	100.9	50 - 150
78	Se	72	1	0.85 ppb	29.55	1	85.1	50 - 150
95	Mo	72	1	0.98 ppb	3.69	1	98.3	50 - 150
107	Ag	115	1	0.98 ppb	6.91	1	98.4	50 - 150
111	Cd	115	1	0.98 ppb	2.94	1	97.7	50 - 150
118	Sn	115	1	9.90 ppb	3.50	10	99.0	50 - 150
121	Sb	115	1	1.06 ppb	2.89	1	105.8	50 - 150
137	Ba	115	1	0.93 ppb	4.92	1	92.9	50 - 150
205	Tl	165	1	1.05 ppb	1.24	1	104.9	50 - 150
208	Pb	165	1	1.05 ppb	0.65	1	104.5	50 - 150
232	Th	165	1	1.07 ppb	0.78	1	106.6	50 - 150
238	U	165	1	1.09 ppb	0.98	1	109.3	50 - 150

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	452942	1.17	455621	99.4	30 - 120
45	Sc	1	1350845	0.67	1356727	99.6	30 - 120
72	Ge	1	590050	0.39	598490	98.6	30 - 120
115	In	1	1791700	1.48	1797032	99.7	30 - 120
165	Ho	1	3276677	0.55	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#  
 Date Acquired: Nov 7 2009 03:26 pm  
 Operator: TEL  
 Sample Name: AFCEE RL  
 Misc Info:  
 Vial Number: 2106  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.18 ppb	4.87	0	85.7	80 - 120
51	V	72	1	0.19 ppb	1.60	0	98.1	80 - 120
52	Cr	72	1	0.17 ppb	19.24	0	88.9	80 - 120
55	Mn	72	1	0.24 ppb	0.90	0	122.4	80 - 120
59	Co	72	1	0.21 ppb	2.54	0	105.0	80 - 120
60	Ni	72	1	0.19 ppb	33.14	0	95.0	80 - 120
63	Cu	72	1	0.19 ppb	26.00	0	96.8	80 - 120
66	Zn	72	1	1.99 ppb	0.59	2	101.2	80 - 120
75	As	72	1	0.22 ppb	3.49	0	111.1	80 - 120
78	Se	72	1	-0.03 ppb	493.20	0	-19.4	80 - 120
95	Mo	72	1	0.20 ppb	10.11	0	102.9	80 - 120
107	Ag	115	1	0.19 ppb	9.51	0	98.0	80 - 120
111	Cd	115	1	0.20 ppb	6.38	0	102.8	80 - 120
118	Sn	115	1	1.96 ppb	1.89	2	99.1	80 - 120
121	Sb	115	1	0.22 ppb	4.04	0	104.0	80 - 120
137	Ba	115	1	0.19 ppb	4.99	0	101.2	80 - 120
205	Tl	165	1	0.21 ppb	2.78	0	101.1	80 - 120
208	Pb	165	1	0.21 ppb	2.60	0	100.1	80 - 120
232	Th	165	1	0.21 ppb	3.95	0	98.4	80 - 120
238	U	165	1	0.21 ppb	3.63	0	98.0	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	453567	1.29	455621	99.5	30 - 120
45	Sc	1	1337172	0.83	1356727	98.6	30 - 120
72	Ge	1	590407	0.86	598490	98.6	30 - 120
115	In	1	1781901	0.99	1797032	99.2	30 - 120
165	Ho	1	3288568	1.80	3253654	101.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#  
 Date Acquired: Nov 7 2009 03:29 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ALTSe  
 Misc Info: 2 ppb  
 Vial Number: 2107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.00	0.00	ppb	62.04	3600	
52 Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55 Mn	72	1	0.00	0.00	ppb	140.46	3600	
59 Co	72	1	0.00	0.00	ppb	189.04	3600	
60 Ni	72	1	0.00	0.00	ppb	522.21	3600	
63 Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66 Zn	72	1	0.05	0.05	ppb	55.06	3600	
75 As	72	1	0.00	0.00	ppb	1812.70	3600	
78 Se	72	1	2.16	2.16	ppb	11.88	3600	
95 Mo	72	1	0.00	0.00	ppb	222.57	3600	
107 Ag	115	1	0.01	0.01	ppb	10.07	3600	
111 Cd	115	1	0.00	0.00	ppb	89.77	3600	
118 Sn	115	1	0.00	0.00	ppb	293.54	3600	
121 Sb	115	1	0.02	0.02	ppb	23.95	3600	
137 Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205 Tl	165	1	0.01	0.01	ppb	2.14	3600	
208 Pb	165	1	0.00	0.00	ppb	39.67	3600	
232 Th	165	1	0.00	0.00	ppb	17.19	1000	
238 U	165	1	0.00	0.00	ppb	388.10	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D#  
 Date Acquired: Nov 7 2009 03:31 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.45 ppb	8.60	1.00
52	Cr	72	1	1.86 ppb	3.80	1.00
55	Mn	72	1	3.11 ppb	0.88	1.00
59	Co	72	1	0.12 ppb	10.19	1.00
60	Ni	72	1	1.23 ppb	9.98	1.00
63	Cu	72	1	0.56 ppb	5.58	1.00
66	Zn	72	1	4.20 ppb	1.79	10.00
75	As	72	1	0.35 ppb	13.35	1.00
78	Se	72	1	0.47 ppb	67.55	1.00
95	Mo	72	1	2055.00 ppb	1.11	2000.00
107	Ag	115	1	0.03 ppb	8.56	1.00
111	Cd	115	1	0.40 ppb	30.97	1.00
118	Sn	115	1	0.93 ppb	18.89	10.00
121	Sb	115	1	0.95 ppb	3.56	1.00
137	Ba	115	1	0.00 ppb	326.02	1.00
205	Tl	165	1	0.04 ppb	20.03	1.00
208	Pb	165	1	1.04 ppb	2.03	1.00
232	Th	165	1	0.02 ppb	5.48	1.00
238	U	165	1	0.00 ppb	14.89	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120
45	Sc	1	939322	1.85	1356727	69.2	30 - 120
72	Ge	1	429449	0.82	598490	71.8	30 - 120
115	In	1	1325081	0.92	1797032	73.7	30 - 120
165	Ho	1	2485688	0.47	3253654	76.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#  
 Date Acquired: Nov 7 2009 03:34 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS	Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9	Be	6	1	108.90	0.75	100	108.9	80 - 120	
51	V	72	1	92.27	0.38	100	92.3	80 - 120	
52	Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55	Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59	Co	72	1	88.85	0.30	100	88.9	80 - 120	
60	Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63	Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66	Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75	As	72	1	99.50	0.47	100	99.5	80 - 120	
78	Se	72	1	105.90	0.80	100	105.9	80 - 120	
95	Mo	72	1	2149.00	1.99	2100	102.3	80 - 120	
107	Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111	Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118	Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121	Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137	Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205	Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208	Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232	Th	165	1	101.90	0.67	100	101.9	80 - 120	
238	U	165	1	100.20	0.45	100	100.2	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	272241	2.18	455621	59.8	30 - 120
45	Sc	1	935334	1.15	1356727	68.9	30 - 120
72	Ge	1	419509	1.32	598490	70.1	30 - 120
115	In	1	1327038	1.55	1797032	73.8	30 - 120
165	Ho	1	2524289	0.15	3253654	77.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
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ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 7 2009 03:37 pm  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0	0.0	80 - 120
51	V	72	1	0.06 ppb	15.15	0	29.2	80 - 120
52	Cr	72	1	0.00 ppb	941.54	0	-2.5	80 - 120
55	Mn	72	1	0.00 ppb	87.90	0	-2.5	80 - 120
59	Co	72	1	0.00 ppb	138.19	0	-0.5	80 - 120
60	Ni	72	1	-0.01 ppb	79.76	0	-6.6	80 - 120
63	Cu	72	1	-0.02 ppb	11.32	0	-10.3	80 - 120
66	Zn	72	1	-0.12 ppb	4.66	2	-6.1	80 - 120
75	As	72	1	0.00 ppb	172.97	0	2.3	80 - 120
78	Se	72	1	0.18 ppb	157.63	0	105.8	80 - 120
95	Mo	72	1	0.92 ppb	26.25	0	470.1	80 - 120
107	Ag	115	1	0.01 ppb	38.83	0	5.1	80 - 120
111	Cd	115	1	0.00 ppb	268.01	0	2.2	80 - 120
118	Sn	115	1	-0.03 ppb	57.94	2	-1.3	80 - 120
121	Sb	115	1	0.13 ppb	22.58	0	60.8	80 - 120
137	Ba	115	1	-0.03 ppb	10.98	0	-13.6	80 - 120
205	Tl	165	1	0.00 ppb	35.28	0	1.1	80 - 120
208	Pb	165	1	0.00 ppb	109.50	0	-0.7	80 - 120
232	Th	165	1	0.03 ppb	14.09	0	14.5	80 - 120
238	U	165	1	0.02 ppb	14.78	0	7.9	80 - 120

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120
72	Ge	1	563469	0.48	598490	94.1	30 - 120
115	In	1	1720438	0.38	1797032	95.7	30 - 120
165	Ho	1	3228952	0.84	3253654	99.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 7 2009 03:40 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 Tl	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 Ho	1	3245351	1.45	3253654	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Nov 7 2009 03:42 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 7 2009 03:48 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	0.018 ppb	26.29	1.00	
52 Cr	72	1	0.021 ppb	89.72	1.00	
55 Mn	72	1	-0.002 ppb	258.47	1.00	
59 Co	72	1	0.000 ppb	7.74	1.00	
60 Ni	72	1	-0.003 ppb	365.53	1.00	
63 Cu	72	1	-0.006 ppb	212.36	1.00	
66 Zn	72	1	-0.070 ppb	18.30	1.00	
75 As	72	1	0.022 ppb	32.72	1.00	
78 Se	72	1	0.156 ppb	92.00	1.00	
95 Mo	72	1	0.115 ppb	30.30	1.00	
107 Ag	115	1	0.011 ppb	38.12	1.00	
111 Cd	115	1	0.002 ppb	113.82	1.00	
118 Sn	115	1	0.224 ppb	27.67	1.00	
121 Sb	115	1	0.348 ppb	18.44	1.00	
137 Ba	115	1	-0.026 ppb	8.86	1.00	
205 Tl	165	1	0.021 ppb	16.25	1.00	
208 Pb	165	1	0.000 ppb	463.86	1.00	
232 Th	165	1	0.056 ppb	20.03	1.00	
238 U	165	1	0.020 ppb	23.07	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 7 2009 03:50 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	443603	0.24	455621	97.4	30 - 120	
45 Sc	1	1335995	1.35	1356727	98.5	30 - 120	
72 Ge	1	596206	0.64	598490	99.6	30 - 120	
115 In	1	1804793	1.75	1797032	100.4	30 - 120	
165 Ho	1	3324168	1.02	3253654	102.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095\_CCV.D\095\_CCV.D#  
 Date Acquired: Nov 7 2009 07:25 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.00 ppb	3.68	50	100.0	90 - 110
51	V	72	1	49.46 ppb	0.96	50	98.9	90 - 110
52	Cr	72	1	49.13 ppb	0.63	50	98.3	90 - 110
55	Mn	72	1	48.00 ppb	0.58	50	96.0	90 - 110
59	Co	72	1	49.88 ppb	1.19	50	99.8	90 - 110
60	Ni	72	1	52.70 ppb	0.96	50	105.4	90 - 110
63	Cu	72	1	50.75 ppb	0.19	50	101.5	90 - 110
66	Zn	72	1	48.83 ppb	0.18	50	97.7	90 - 110
75	As	72	1	50.85 ppb	1.33	50	101.7	90 - 110
78	Se	72	1	50.97 ppb	2.08	50	101.9	90 - 110
95	Mo	72	1	49.28 ppb	0.59	50	98.6	90 - 110
107	Ag	115	1	48.69 ppb	1.80	50	97.4	90 - 110
111	Cd	115	1	48.20 ppb	1.31	50	96.4	90 - 110
118	Sn	115	1	47.65 ppb	1.87	50	95.3	90 - 110
121	Sb	115	1	47.61 ppb	2.17	50	95.2	90 - 110
137	Ba	115	1	48.23 ppb	1.87	50	96.5	90 - 110
205	Tl	165	1	49.17 ppb	1.01	50	98.3	90 - 110
208	Pb	165	1	50.08 ppb	1.74	50	100.2	90 - 110
232	Th	165	1	49.66 ppb	0.53	50	99.3	90 - 110
238	U	165	1	49.60 ppb	0.64	50	99.2	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120
72	Ge	1	557000	0.87	598490	93.1	30 - 120
115	In	1	1717369	0.76	1797032	95.6	30 - 120
165	Ho	1	3017615	0.61	3253654	92.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096\_CCB.D\096\_CCB.D#  
 Date Acquired: Nov 7 2009 07:28 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	-0.006 ppb	24.61	1.00	
52 Cr	72	1	0.005 ppb	16.13	1.00	
55 Mn	72	1	0.012 ppb	40.48	1.00	
59 Co	72	1	0.003 ppb	90.18	1.00	
60 Ni	72	1	0.005 ppb	115.47	1.00	
63 Cu	72	1	-0.001 ppb	1434.90	1.00	
66 Zn	72	1	0.040 ppb	39.82	1.00	
75 As	72	1	-0.001 ppb	689.47	1.00	
78 Se	72	1	0.203 ppb	119.68	1.00	
95 Mo	72	1	0.030 ppb	15.19	1.00	
107 Ag	115	1	0.009 ppb	17.39	1.00	
111 Cd	115	1	0.008 ppb	214.98	1.00	
118 Sn	115	1	0.033 ppb	87.07	1.00	
121 Sb	115	1	0.133 ppb	16.18	1.00	
137 Ba	115	1	-0.005 ppb	66.27	1.00	
205 Tl	165	1	0.010 ppb	5.85	1.00	
208 Pb	165	1	0.007 ppb	10.03	1.00	
232 Th	165	1	0.031 ppb	21.92	1.00	
238 U	165	1	0.010 ppb	23.45	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#  
 Date Acquired: Nov 7 2009 07:30 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D#  
 Date Acquired: Nov 7 2009 07:33 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.01 ppb	173.15	1.00
51	V	72	1	2.34 ppb	2.35	1.00
52	Cr	72	1	1.89 ppb	3.80	1.00
55	Mn	72	1	3.08 ppb	1.35	1.00
59	Co	72	1	0.13 ppb	9.32	1.00
60	Ni	72	1	1.54 ppb	6.59	1.00
63	Cu	72	1	0.62 ppb	13.41	1.00
66	Zn	72	1	4.36 ppb	1.67	10.00
75	As	72	1	0.31 ppb	11.37	1.00
78	Se	72	1	-0.18 ppb	17.27	1.00
95	Mo	72	1	2024.00 ppb	0.75	2000.00
107	Ag	115	1	0.04 ppb	30.78	1.00
111	Cd	115	1	0.44 ppb	34.74	1.00
118	Sn	115	1	0.41 ppb	9.39	10.00
121	Sb	115	1	0.94 ppb	2.45	1.00
137	Ba	115	1	0.02 ppb	61.87	1.00
205	Tl	165	1	0.04 ppb	26.87	1.00
208	Pb	165	1	1.05 ppb	0.68	1.00
232	Th	165	1	0.02 ppb	35.17	1.00
238	U	165	1	0.01 ppb	14.16	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120
45	Sc	1	945462	1.56	1356727	69.7	30 - 120
72	Ge	1	429131	0.94	598490	71.7	30 - 120
115	In	1	1251973	0.62	1797032	69.7	30 - 120
165	Ho	1	2302241	0.67	3253654	70.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#  
 Date Acquired: Nov 7 2009 07:36 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS	Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9	Be	6	1	101.10	0.81	100	101.1	80 - 120	
51	V	72	1	96.26	0.64	100	96.3	80 - 120	
52	Cr	72	1	92.97	0.53	100	93.0	80 - 120	
55	Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59	Co	72	1	90.72	0.50	100	90.7	80 - 120	
60	Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63	Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66	Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75	As	72	1	101.10	0.38	100	101.1	80 - 120	
78	Se	72	1	105.10	1.94	100	105.1	80 - 120	
95	Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107	Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111	Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118	Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121	Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137	Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205	Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208	Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232	Th	165	1	98.27	1.03	100	98.3	80 - 120	
238	U	165	1	97.38	0.98	100	97.4	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	298307	2.13	455621	65.5	30 - 120
45	Sc	1	951400	0.73	1356727	70.1	30 - 120
72	Ge	1	417924	0.89	598490	69.8	30 - 120
115	In	1	1269948	0.83	1797032	70.7	30 - 120
165	Ho	1	2339416	0.71	3253654	71.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#  
 Date Acquired: Nov 7 2009 07:39 pm  
 Operator: TEL  
 Sample Name: WASH  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CCV.D\101 CCV.D#  
 Date Acquired: Nov 7 2009 07:41 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.02 ppb	3.60	50	102.0	90 - 110	
51	V	72	49.10 ppb	0.68	50	98.2	90 - 110	
52	Cr	72	48.80 ppb	0.79	50	97.6	90 - 110	
55	Mn	72	48.00 ppb	0.60	50	96.0	90 - 110	
59	Co	72	49.55 ppb	0.61	50	99.1	90 - 110	
60	Ni	72	52.06 ppb	1.46	50	104.1	90 - 110	
63	Cu	72	50.22 ppb	0.56	50	100.4	90 - 110	
66	Zn	72	48.51 ppb	1.13	50	97.0	90 - 110	
75	As	72	50.95 ppb	0.50	50	101.9	90 - 110	
78	Se	72	49.38 ppb	4.19	50	98.8	90 - 110	
95	Mo	72	50.11 ppb	1.38	50	100.2	90 - 110	
107	Ag	115	49.66 ppb	0.85	50	99.3	90 - 110	
111	Cd	115	49.01 ppb	1.42	50	98.0	90 - 110	
118	Sn	115	48.68 ppb	1.81	50	97.4	90 - 110	
121	Sb	115	48.87 ppb	1.17	50	97.7	90 - 110	
137	Ba	115	49.35 ppb	1.09	50	98.7	90 - 110	
205	Tl	165	49.79 ppb	1.41	50	99.6	90 - 110	
208	Pb	165	49.95 ppb	1.13	50	99.9	90 - 110	
232	Th	165	49.72 ppb	0.91	50	99.4	90 - 110	
238	U	165	49.59 ppb	1.94	50	99.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120
72	Ge	1	546607	0.97	598490	91.3	30 - 120
115	In	1	1673358	0.50	1797032	93.1	30 - 120
165	Ho	1	3013021	0.51	3253654	92.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102\_CCB.D\102\_CCB.D#  
 Date Acquired: Nov 7 2009 07:44 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.007 ppb	173.18	1.00	
51 V	72	1	0.072 ppb	11.11	1.00	
52 Cr	72	1	0.002 ppb	1427.90	1.00	
55 Mn	72	1	-0.002 ppb	998.74	1.00	
59 Co	72	1	0.004 ppb	62.33	1.00	
60 Ni	72	1	0.095 ppb	21.31	1.00	
63 Cu	72	1	0.001 ppb	1376.50	1.00	
66 Zn	72	1	0.050 ppb	67.37	1.00	
75 As	72	1	0.009 ppb	154.12	1.00	
78 Se	72	1	0.133 ppb	315.07	1.00	
95 Mo	72	1	0.099 ppb	50.63	1.00	
107 Ag	115	1	0.009 ppb	39.54	1.00	
111 Cd	115	1	0.005 ppb	103.50	1.00	
118 Sn	115	1	0.062 ppb	107.54	-1.00	
121 Sb	115	1	0.138 ppb	16.19	1.00	
137 Ba	115	1	-0.017 ppb	52.66	1.00	
205 Tl	165	1	0.016 ppb	15.17	1.00	
208 Pb	165	1	0.005 ppb	21.11	1.00	
232 Th	165	1	0.033 ppb	24.50	1.00	
238 U	165	1	0.010 ppb	34.21	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#  
 Date Acquired: Nov 7 2009 07:47 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/09

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#  
 Date Acquired: Nov 7 2009 08:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:45 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1013	6.79
52	Cr	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ba	115	1	74	17.43
205	Tl	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Ho	1	3039108	1.07

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#  
 Date Acquired: Nov 7 2009 08:50 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:48 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	47883	0.67
51	V	72	747976	1.49
52	Cr	72	754628	1.13
55	Mn	72	865964	0.71
59	Co	72	889724	1.22
60	Ni	72	191586	1.40
63	Cu	72	456036	0.95
66	Zn	72	106780	0.65
75	As	72	89192	0.61
78	Se	72	18229	1.26
95	Mo	72	254493	1.19
107	Ag	115	752402	0.75
111	Cd	115	150239	1.10
118	Sn	115	420016	0.73
121	Sb	115	483973	0.74
137	Ba	115	204383	0.51
205	Tl	165	1701616	0.60
208	Pb	165	2338107	2.25
232	Th	165	2413552	1.92
238	U	165	2559276	1.77

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30 - 120
45	Sc	1	1260434	1.10	1273788	99.0	30 - 120
72	Ge	1	556836	0.86	577640	96.4	30 - 120
115	In	1	1704167	0.61	1726730	98.7	30 - 120
165	Ho	1	3052265	1.25	3039108	100.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127 CC.V.D\127 CC.V.D#  
 Date Acquired: Nov 7 2009 08:53 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.43 ppb	3.83	50	100.9	90 - 110	
51	V	72	48.44 ppb	0.77	50	96.9	90 - 110	
52	Cr	72	48.00 ppb	0.40	50	96.0	90 - 110	
55	Mn	72	48.98 ppb	0.83	50	98.0	90 - 110	
59	Co	72	49.19 ppb	0.88	50	98.4	90 - 110	
60	Ni	72	51.00 ppb	2.25	50	102.0	90 - 110	
63	Cu	72	50.40 ppb	1.04	50	100.8	90 - 110	
66	Zn	72	49.66 ppb	0.82	50	99.3	90 - 110	
75	As	72	49.96 ppb	1.36	50	99.9	90 - 110	
78	Se	72	50.40 ppb	4.89	50	100.8	90 - 110	
95	Mo	72	49.49 ppb	0.61	50	99.0	90 - 110	
107	Ag	115	48.04 ppb	0.50	50	96.1	90 - 110	
111	Cd	115	48.84 ppb	0.25	50	97.7	90 - 110	
118	Sn	115	48.90 ppb	0.50	50	97.8	90 - 110	
121	Sb	115	49.44 ppb	0.72	50	98.9	90 - 110	
137	Ba	115	49.58 ppb	0.98	50	99.2	90 - 110	
205	Tl	165	50.08 ppb	0.23	50	100.2	90 - 110	
208	Pb	165	49.87 ppb	2.65	50	99.7	90 - 110	
232	Th	165	50.94 ppb	1.78	50	101.9	90 - 110	
238	U	165	50.49 ppb	2.18	50	101.0	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	401327	1.29	398155	100.8	30 - 120	
45	Sc	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	558660	0.70	577640	96.7	30 - 120	
115	In	1725819	0.46	1726730	99.9	30 - 120	
165	Ho	3087824	1.47	3039108	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128\_CCB.D\128\_CCB.D#  
 Date Acquired: Nov 7 2009 08:56 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mn	72	1	0.004	ppb	271.40	1.00	
59 Co	72	1	0.003	ppb	58.98	1.00	
60 Ni	72	1	0.013	ppb	122.65	1.00	
63 Cu	72	1	-0.010	ppb	116.03	1.00	
66 Zn	72	1	-0.311	ppb	3.85	1.00	
75 As	72	1	0.007	ppb	208.78	1.00	
78 Se	72	1	0.060	ppb	542.70	1.00	
95 Mo	72	1	0.010	ppb	195.90	1.00	
107 Ag	115	1	0.008	ppb	34.15	1.00	
111 Cd	115	1	-0.003	ppb	158.97	1.00	
118 Sn	115	1	0.071	ppb	72.17	1.00	
121 Sb	115	1	0.186	ppb	24.43	1.00	
137 Ba	115	1	-0.019	ppb	41.26	1.00	
205 Tl	165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#  
 Date Acquired: Nov 7 2009 08:58 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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



## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#  
 Date Acquired: Nov 7 2009 11:44 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:42 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	U	165	1	122	7.26

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Ho	1	2681412	0.51

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

### Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#  
 Date Acquired: Nov 7 2009 11:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:45 pm  
 Sample Type: ICAL

#### QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	45518	1.54
51	V	72	700879	1.29
52	Cr	72	693042	2.18
55	Mn	72	795858	1.60
59	Co	72	850264	1.89
60	Ni	72	181428	0.41
63	Cu	72	431089	0.73
66	Zn	72	95751	0.48
75	As	72	84617	1.05
78	Se	72	17278	1.91
95	Mo	72	230286	0.80
107	Ag	115	661266	1.42
111	Cd	115	131853	1.14
118	Sn	115	371875	2.20
121	Sb	115	432362	1.85
137	Ba	115	187475	1.78
205	Tl	165	1498644	1.03
208	Pb	165	2042776	1.12
232	Th	165	2142976	0.23
238	U	165	2200342	0.40

#### ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120
72	Ge	1	507906	1.25	533218	95.3	30 - 120
115	In	1	1532161	1.02	1552104	98.7	30 - 120
165	Ho	1	2672323	0.90	2681412	99.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191\_CCV.D\191\_CCV.D#  
 Date Acquired: Nov 7 2009 11:50 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	49.23 ppb	3.26	50	98.5	90 - 110	
51	V	72	48.52 ppb	1.74	50	97.0	90 - 110	
52	Cr	72	48.49 ppb	0.29	50	97.0	90 - 110	
55	Mn	72	48.47 ppb	1.24	50	96.9	90 - 110	
59	Co	72	48.02 ppb	0.67	50	96.0	90 - 110	
60	Ni	72	49.69 ppb	1.50	50	99.4	90 - 110	
63	Cu	72	49.62 ppb	0.90	50	99.2	90 - 110	
66	Zn	72	48.96 ppb	1.42	50	97.9	90 - 110	
75	As	72	49.10 ppb	0.76	50	98.2	90 - 110	
78	Se	72	48.52 ppb	4.63	50	97.0	90 - 110	
95	Mo	72	49.23 ppb	0.82	50	98.5	90 - 110	
107	Ag	115	49.55 ppb	1.37	50	99.1	90 - 110	
111	Cd	115	49.69 ppb	1.93	50	99.4	90 - 110	
118	Sn	115	49.87 ppb	1.50	50	99.7	90 - 110	
121	Sb	115	49.85 ppb	1.58	50	99.7	90 - 110	
137	Ba	115	49.38 ppb	1.63	50	98.8	90 - 110	
205	Tl	165	50.07 ppb	0.63	50	100.1	90 - 110	
208	Pb	165	50.67 ppb	1.87	50	101.3	90 - 110	
232	Th	165	50.33 ppb	1.25	50	100.7	90 - 110	
238	U	165	51.37 ppb	0.78	50	102.7	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	391774	1.28	401411	97.6	30 - 120	
45	Sc	1173327	0.14	1190683	98.5	30 - 120	
72	Ge	511730	0.36	533218	96.0	30 - 120	
115	In	1536232	0.41	1552104	99.0	30 - 120	
165	Ho	2663987	0.61	2681412	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\192\_CCB.D\192\_CCB.D#  
 Date Acquired: Nov 7 2009 11:52 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.021 ppb	99.86	1.00	
51 V	72	1	-0.024 ppb	36.47	1.00	
52 Cr	72	1	0.015 ppb	57.14	1.00	
55 Mn	72	1	0.032 ppb	9.94	1.00	
59 Co	72	1	0.000 ppb	241.41	1.00	
60 Ni	72	1	-0.008 ppb	160.82	1.00	
63 Cu	72	1	-0.035 ppb	57.76	1.00	
66 Zn	72	1	-0.363 ppb	4.76	1.00	
75 As	72	1	0.004 ppb	177.30	1.00	
78 Se	72	1	0.169 ppb	283.55	1.00	
95 Mo	72	1	-0.009 ppb	169.70	1.00	
107 Ag	115	1	0.008 ppb	60.74	1.00	
111 Cd	115	1	0.009 ppb	130.00	1.00	
118 Sn	115	1	0.105 ppb	79.70	1.00	
121 Sb	115	1	0.172 ppb	19.79	1.00	
137 Ba	115	1	-0.007 ppb	70.67	1.00	
205 Tl	165	1	0.024 ppb	16.62	1.00	
208 Pb	165	1	0.009 ppb	31.16	1.00	
232 Th	165	1	0.066 ppb	21.79	1.00	
238 U	165	1	0.019 ppb	10.85	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#  
 Date Acquired: Nov 7 2009 11:55 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#  
 Date Acquired: Nov 8 2009 02:25 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:23 am  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.21
51	V	72	1	620	12.63
52	Cr	72	1	2680	1.78
55	Mn	72	1	813	8.79
59	Co	72	1	67	30.95
60	Ni	72	1	113	13.08
63	Cu	72	1	490	11.82
66	Zn	72	1	656	6.46
75	As	72	1	45	17.63
78	Se	72	1	333	20.05
95	Mo	72	1	257	16.03
107	Ag	115	1	40	74.94
111	Cd	115	1	11	116.88
118	Sn	115	1	477	0.80
121	Sb	115	1	156	24.28
137	Ba	115	1	152	14.20
205	Tl	165	1	96	21.83
208	Pb	165	1	372	9.02
232	Th	165	1	160	32.65
238	U	165	1	140	10.99

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Ho	1	2717767	0.30

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\



**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#  
 Date Acquired: Nov 8 2009 02:28 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:26 am  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	42446	1.21
51	V	72	684937	3.17
52	Cr	72	670667	0.81
55	Mn	72	787843	0.97
59	Co	72	839400	0.67
60	Ni	72	178958	0.70
63	Cu	72	424705	0.79
66	Zn	72	94491	0.73
75	As	72	84032	1.05
78	Se	72	16841	1.85
95	Mo	72	231498	1.15
107	Ag	115	664263	0.80
111	Cd	115	132542	1.42
118	Sn	115	376743	0.98
121	Sb	115	435060	0.49
137	Ba	115	188704	0.74
205	Tl	165	1479617	0.97
208	Pb	165	2033413	0.75
232	Th	165	2126721	0.55
238	U	165	2198988	0.53

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120
72	Ge	1	510601	1.68	539567	94.6	30 - 120
115	In	1	1555316	0.82	1576174	98.7	30 - 120
165	Ho	1	2687981	0.46	2717767	98.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CC.V.D\249 CC.V.D#  
 Date Acquired: Nov 8 2009 02:31 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.21	ppb	0.59	50	100.4	90 - 110
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110
137	Ba	115	1	50.77	ppb	1.68	50	101.5	90 - 110
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110
232	Th	165	1	51.27	ppb	1.18	50	102.5	90 - 110
238	U	165	1	51.61	ppb	0.90	50	103.2	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360601	1.23	376079	95.9	30 - 120
45	Sc	1	1152210	0.10	1186897	97.1	30 - 120
72	Ge	1	506331	0.64	539567	93.8	30 - 120
115	In	1	1532589	0.89	1576174	97.2	30 - 120
165	Ho	1	2667156	1.17	2717767	98.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250\_CCB.D\250\_CCB.D#  
 Date Acquired: Nov 8 2009 02:33 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	147.29	1.00	
51 V	72	1	-0.021	ppb	31.34	1.00	
52 Cr	72	1	0.037	ppb	45.39	1.00	
55 Mn	72	1	-0.003	ppb	461.47	1.00	
59 Co	72	1	0.004	ppb	46.27	1.00	
60 Ni	72	1	-0.025	ppb	13.04	1.00	
63 Cu	72	1	-0.035	ppb	22.37	1.00	
66 Zn	72	1	-0.398	ppb	5.33	1.00	
75 As	72	1	0.015	ppb	70.97	1.00	
78 Se	72	1	-0.320	ppb	40.38	1.00	
95 Mo	72	1	-0.054	ppb	35.32	1.00	
107 Ag	115	1	0.008	ppb	9.23	1.00	
111 Cd	115	1	0.005	ppb	52.43	1.00	
118 Sn	115	1	0.107	ppb	31.44	1.00	
121 Sb	115	1	0.188	ppb	20.19	1.00	
137 Ba	115	1	-0.042	ppb	4.94	1.00	
205 Tl	165	1	0.020	ppb	20.00	1.00	
208 Pb	165	1	-0.001	ppb	65.74	1.00	
232 Th	165	1	0.055	ppb	6.90	1.00	
238 U	165	1	0.016	ppb	10.74	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#  
 Date Acquired: Nov 8 2009 02:36 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252\_BLK.D\252\_BLK.D#  
 Date Acquired: Nov 8 2009 02:39 am  
 Operator: TEL  
 Sample Name: LNJVNB  
 Misc Info: BLANK 9303185 6020  
 Vial Number: 4402  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253\_LCS.D\253\_LCS.D#  
 Date Acquired: Nov 8 2009 02:42 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNJNVC  
 Misc Info: LCS  
 Vial Number: 4403  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

## QC Summary:

Analytes: Pass  
 ISTD: Pass

## Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	35.70	1.01	40	89.3	80 - 120
51	V	72	1	35.52	0.20	40	88.8	80 - 120
52	Cr	72	1	36.08	0.50	40	90.2	80 - 120
55	Mn	72	1	35.14	0.07	40	87.9	80 - 120
59	Co	72	1	34.82	0.49	40	87.1	80 - 120
60	Ni	72	1	36.40	0.69	40	91.0	80 - 120
63	Cu	72	1	35.92	0.24	40	89.8	80 - 120
66	Zn	72	1	35.76	1.51	40	89.4	80 - 120
75	As	72	1	34.71	0.72	40	86.8	80 - 120
78	Se	72	1	35.62	2.21	40	89.1	80 - 120
95	Mo	72	1	32.10	0.70	40	80.3	80 - 120
107	Ag	115	1	35.79	2.12	40	89.5	80 - 120
111	Cd	115	1	35.37	1.53	40	88.4	80 - 120
118	Sn	115	1	0.02	168.39	40	0.0	80 - 120
121	Sb	115	1	32.20	2.07	40	80.5	80 - 120
137	Ba	115	1	35.77	2.20	40	89.4	80 - 120
205	Tl	165	1	36.57	2.09	40	91.4	80 - 120
208	Pb	165	1	36.87	2.16	40	92.2	80 - 120
232	Th	165	1	36.61	1.54	40	91.5	80 - 120
238	U	165	1	36.97	1.94	40	92.4	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	358195	0.31	376079	95.2	30 - 120
45	Sc	1	1130666	0.47	1186897	95.3	30 - 120
72	Ge	1	497032	0.74	539567	92.1	30 - 120
115	In	1	1523173	1.15	1576174	96.6	30 - 120
165	Ho	1	2638001	1.37	2717767	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#  
 Date Acquired: Nov 8 2009 02:44 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7F 5X  
 Misc Info: D9J270261  
 Vial Number: 4404  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: AllRef  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.09	0.02	ppb	140.55	3600
51	V	72	1	58.25	11.65	ppb	0.99	3600
52	Cr	72	1	96.60	19.32	ppb	0.56	3600
55	Mn	72	1	20.01	4.00	ppb	1.83	3600
59	Co	72	1	0.41	0.08	ppb	18.64	3600
60	Ni	72	1	2.50	0.50	ppb	10.52	3600
63	Cu	72	1	0.61	0.12	ppb	13.42	3600
66	Zn	72	1	18.56	3.71	ppb	2.43	3600
75	As	72	1	190.75	38.15	ppb	0.69	3600
78	Se	72	1	1.93	0.39	ppb	57.06	3600
95	Mo	72	1	26.48	5.30	ppb	2.72	3600
107	Ag	115	1	0.03	0.01	ppb	125.97	3600
111	Cd	115	1	0.02	0.00	ppb	229.82	3600
118	Sn	115	1	0.25	0.05	ppb	45.32	3600
121	Sb	115	1	0.30	0.06	ppb	29.45	3600
137	Ba	115	1	23.70	4.74	ppb	1.34	3600
205	Tl	165	1	0.23	0.05	ppb	17.38	3600
208	Pb	165	1	0.18	0.04	ppb	14.05	3600
232	Th	165	1	0.24	0.05	ppb	4.71	1000
238	U	165	1	13.31	2.66	ppb	1.53	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	333341	1.09	376079	88.6	30 - 120
45	Sc	1	1062523	0.59	1186897	89.5	30 - 120
72	Ge	1	462502	0.27	539567	85.7	30 - 120
115	In	1	1375002	1.04	1576174	87.2	30 - 120
165	Ho	1	2471361	0.80	2717767	90.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#  
 Date Acquired: Nov 8 2009 02:47 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FP25  
 Misc Info: SERIAL DILUTION  
 Vial Number: 4405  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SDIL  
 Dilution Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

**QC elements**

Element	IS	Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.02 ppb	0.57	0.00	458.7	90 - 110	
51	V	72	1	2.26 ppb	2.18	2.33	97.2	90 - 110	
52	Cr	72	1	3.94 ppb	1.55	3.86	101.9	90 - 110	
55	Mn	72	1	0.83 ppb	10.87	0.80	103.6	90 - 110	
59	Co	72	1	0.02 ppb	18.64	0.02	109.5	90 - 110	
60	Ni	72	1	0.11 ppb	52.76	0.10	106.7	90 - 110	
63	Cu	72	1	0.01 ppb	230.36	0.02	26.5	90 - 110	
66	Zn	72	1	0.47 ppb	7.87	0.74	62.8	90 - 110	
75	As	72	1	7.52 ppb	0.96	7.63	98.5	90 - 110	
78	Se	72	1	-0.04 ppb	1143.50	0.08	-52.9	90 - 110	
95	Mo	72	1	0.94 ppb	9.86	1.06	88.3	90 - 110	
107	Ag	115	1	0.00 ppb	99.28	0.00	-232.5	90 - 110	
111	Cd	115	1	-0.01 ppb	100.17	0.00	-679.0	90 - 110	
118	Sn	115	1	0.09 ppb	4.94	0.01	892.4	90 - 110	
121	Sb	115	1	0.01 ppb	131.02	0.01	58.5	90 - 110	
137	Ba	115	1	0.94 ppb	4.03	0.95	99.3	90 - 110	
205	Tl	165	1	0.01 ppb	8.96	0.01	141.7	90 - 110	
208	Pb	165	1	0.01 ppb	18.12	0.01	165.2	90 - 110	
232	Th	165	1	0.01 ppb	22.37	0.01	123.4	90 - 110	
238	U	165	1	0.53 ppb	1.52	0.53	100.3	90 - 110	

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30 - 120
45	Sc	1	1125653	0.19	1186897	94.8	30 - 120
72	Ge	1	502164	0.65	539567	93.1	30 - 120
115	In	1	1479317	0.60	1576174	93.9	30 - 120
165	Ho	1	2614578	1.08	2717767	96.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)

ICPMS\_024

Reported: 11/09/09 10:02:46

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FP25

Serial Dilution: 25.00

Sample Dilution: 5.00

Instrument: Agilent7500

Channel 272

File: AG110709 # 255

Method 6020\_

Acquired: 11/08/2009 02:47:00

ICPMS\_024

Matrix: AQUEOUS

Calibrated: 11/08/2009 02:25:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	10	0.41625	0.09076	359		*	
7440-62-2	Vanadium	51	15823	56.600	58.240	2.82		*	
7440-47-3	Chromium	52	28379	98.450	96.590	1.93		*	
7439-96-5	Manganese	55	7172	20.725	20.010	3.57		*	
7440-48-4	Cobalt	59	210	0.44850	0.40970	9.47		*	
7440-02-0	Nickel	60	293	2.6645	2.4980	6.67		*	
7440-50-8	Copper	63	483	0.16105	0.60710	73.5		*	
7440-66-6	Zinc	66	1041	11.650	18.550	37.2		*	
7440-38-2	Arsenic	75	6250	187.85	190.70	1.49	0.21	1.5	<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	303	-1.0210	1.9300	153	0.70	NC	<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	2367	23.385	26.470	11.7		*	
7440-22-4	Silver	107	20	-0.06975	0.02999	333		*	
7440-43-9	Cadmium	111	3	-0.14365	0.02116	779		*	
7440-31-5	Tin	118	770	2.2540	0.25260	792		*	
7440-36-0	Antimony	121	176	0.17570	0.30050	41.5		*	
7440-39-3	Barium	137	1831	23.535	23.690	0.654		*	
7440-28-0	Thallium	205	281	0.32890	0.23210	41.7		*	
7439-92-1	Lead	208	597	0.30195	0.18290	65.1		*	
7440-61-1	Uranium	238	11545	13.340	13.300	0.301		*	
7440-29-1	Thorium	232	403	0.30120	0.24410	23.4		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			0			*	

\* Analyte not requested for this batch, no MDL

NC : Serial dilution concentration < 100 X MDL

E : Difference greater than Limit (10%)

Reviewed by:

Date:

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D#  
 Date Acquired: Nov 8 2009 02:50 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FZ  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 4406  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 U	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS)

ICPMS\_024

Reported: 11/09/09 10:02:49

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FZ

Spike Dilution: 1.00

Sample Dilution: 5.00

Instrument: Agilent7500

Channel 272

File: AG110709 # 256

Method 6020\_

Acquired: 11/08/2009 02:50:00

ICPMS\_024

Matrix: AQUEOUS

Calibrated: 11/08/2009 02:25:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		<input type="checkbox"/>
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		<input checked="" type="checkbox"/>
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		<input checked="" type="checkbox"/>
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		<input checked="" type="checkbox"/>
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		<input type="checkbox"/>
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		<input checked="" type="checkbox"/>
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		<input checked="" type="checkbox"/>
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		<input checked="" type="checkbox"/>
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		<input type="checkbox"/>
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		<input type="checkbox"/>
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		<input checked="" type="checkbox"/>
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		<input checked="" type="checkbox"/>
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		<input checked="" type="checkbox"/>
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		<input checked="" type="checkbox"/>
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		<input checked="" type="checkbox"/>
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		<input checked="" type="checkbox"/>
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		<input type="checkbox"/>
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

Reviewed by:

Date:

## Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257\_MS.D\257\_MS.D#  
 Date Acquired: Nov 8 2009 02:53 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FS 5X  
 Misc Info: MATRIX SPIKE  
 Vial Number: 4407  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MS  
 Prep Dil. Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150	
51 V	72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150	
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150	
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150	
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150	
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150	
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150	
66 Zn	72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150	
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150	
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150	
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150	
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150	
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150	
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150	
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150	
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150	
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150	
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150	
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150	
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120	
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120	
72 Ge	1	462138	0.38	539567	85.6	30 - 120	
115 In	1	1389102	1.17	1576174	88.1	30 - 120	
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258\_CCV.D\258\_CCV.D#  
 Date Acquired: Nov 8 2009 02:56 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.17 ppb	1.68	50	102.3	90 - 110	
51	V	72	49.76 ppb	0.58	50	99.5	90 - 110	
52	Cr	72	50.23 ppb	0.59	50	100.5	90 - 110	
55	Mn	72	49.80 ppb	0.45	50	99.6	90 - 110	
59	Co	72	48.86 ppb	0.97	50	97.7	90 - 110	
60	Ni	72	51.09 ppb	0.38	50	102.2	90 - 110	
63	Cu	72	50.55 ppb	1.39	50	101.1	90 - 110	
66	Zn	72	51.57 ppb	0.26	50	103.1	90 - 110	
75	As	72	50.59 ppb	0.46	50	101.2	90 - 110	
78	Se	72	51.92 ppb	0.28	50	103.8	90 - 110	
95	Mo	72	50.29 ppb	1.00	50	100.6	90 - 110	
107	Ag	115	51.22 ppb	2.07	50	102.4	90 - 110	
111	Cd	115	51.60 ppb	0.81	50	103.2	90 - 110	
118	Sn	115	50.56 ppb	0.85	50	101.1	90 - 110	
121	Sb	115	51.03 ppb	1.10	50	102.1	90 - 110	
137	Ba	115	50.92 ppb	1.12	50	101.8	90 - 110	
205	Tl	165	52.43 ppb	1.68	50	104.9	90 - 110	
208	Pb	165	52.24 ppb	2.12	50	104.5	90 - 110	
232	Th	165	51.78 ppb	2.94	50	103.6	90 - 110	
238	U	165	52.22 ppb	2.20	50	104.4	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	366110	0.29	376079	97.3	30 - 120	
45	Sc	1169831	1.16	1186897	98.6	30 - 120	
72	Ge	507682	1.25	539567	94.1	30 - 120	
115	In	1542474	0.57	1576174	97.9	30 - 120	
165	Ho	2664119	1.36	2717767	98.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259\_CCB.D\259\_CCB.D#  
 Date Acquired: Nov 8 2009 02:58 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	31.75	1.00	
52 Cr	72	1	0.015 ppb	240.08	1.00	
55 Mn	72	1	-0.003 ppb	454.38	1.00	
59 Co	72	1	0.007 ppb	19.00	1.00	
60 Ni	72	1	-0.021 ppb	92.00	1.00	
63 Cu	72	1	-0.023 ppb	91.13	1.00	
66 Zn	72	1	-0.387 ppb	12.46	1.00	
75 As	72	1	0.025 ppb	95.41	1.00	
78 Se	72	1	-0.065 ppb	394.03	1.00	
95 Mo	72	1	-0.040 ppb	70.76	1.00	
107 Ag	115	1	0.007 ppb	79.32	1.00	
111 Cd	115	1	0.012 ppb	73.39	1.00	
118 Sn	115	1	0.112 ppb	71.47	1.00	
121 Sb	115	1	0.150 ppb	17.00	1.00	
137 Ba	115	1	-0.041 ppb	5.14	1.00	
205 Tl	165	1	0.021 ppb	28.23	1.00	
208 Pb	165	1	0.003 ppb	8.31	1.00	
232 Th	165	1	0.048 ppb	25.86	1.00	
238 U	165	1	0.018 ppb	13.31	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#  
 Date Acquired: Nov 8 2009 03:01 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367841	0.83	376079	97.8	30 - 120	
45 Sc	1	1154162	0.97	1186897	97.2	30 - 120	
72 Ge	1	516753	0.66	539567	95.8	30 - 120	
115 In	1	1524519	0.33	1576174	96.7	30 - 120	
165 Ho	1	2680772	0.38	2717767	98.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Duplicate Spike (MSD) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D#  
 Date Acquired: Nov 8 2009 03:04 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FD 5X  
 Misc Info: MATRIX SPIKE DUPLICATE  
 Vial Number: 4408  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MSD  
 Dilution Factor: 5.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	7.15 ppb	4.97	7.56	5.64	20	
51 V	72	1	19.44 ppb	0.87	19.50	0.31	20	
52 Cr	72	1	27.63 ppb	0.44	27.55	0.29	20	
55 Mn	72	1	11.89 ppb	0.71	11.53	3.07	20	
59 Co	72	1	6.96 ppb	0.22	6.92	0.55	20	
60 Ni	72	1	7.63 ppb	4.71	7.47	2.13	20	
63 Cu	72	1	6.96 ppb	2.26	6.92	0.55	20	
66 Zn	72	1	11.24 ppb	0.91	12.20	8.19	20	
75 As	72	1	47.18 ppb	1.02	47.40	0.47	20	
78 Se	72	1	8.49 ppb	8.60	8.21	3.34	20	
95 Mo	72	1	12.08 ppb	2.93	12.33	2.05	20	
107 Ag	115	1	6.86 ppb	1.67	6.98	1.81	20	
111 Cd	115	1	7.38 ppb	2.12	7.47	1.12	20	
118 Sn	115	1	0.11 ppb	30.03	0.39	111.83	20	
121 Sb	115	1	6.82 ppb	2.78	6.89	1.02	20	
137 Ba	115	1	12.78 ppb	1.44	12.69	0.71	20	
205 Tl	165	1	7.29 ppb	1.19	7.17	1.61	20	
208 Pb	165	1	7.29 ppb	2.38	7.25	0.51	20	
232 Th	165	1	7.89 ppb	2.55	7.88	0.08	20	
238 U	165	1	10.55 ppb	1.44	10.53	0.19	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329103	0.78	376079	87.5	30 - 120	
45 Sc	1	1057955	1.12	1186897	89.1	30 - 120	
72 Ge	1	456662	0.47	539567	84.6	30 - 120	
115 In	1	1365390	0.56	1576174	86.6	30 - 120	
165 Ho	1	2474617	1.07	2717767	91.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#  
 Date Acquired: Nov 8 2009 03:07 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7L 5X  
 Misc Info: D9J270263  
 Vial Number: 4409  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.05	0.01	ppb	157.59	3600
51	V	72	1	46.85	9.37	ppb	1.89	3600
52	Cr	72	1	12.39	2.48	ppb	5.61	3600
55	Mn	72	1	171.35	34.27	ppb	1.07	3600
59	Co	72	1	264.35	52.87	ppb	1.02	3600
60	Ni	72	1	102.35	20.47	ppb	3.34	3600
63	Cu	72	1	53.95	10.79	ppb	1.03	3600
66	Zn	72	1	17.02	3.40	ppb	3.85	3600
75	As	72	1	69.40	13.88	ppb	0.45	3600
78	Se	72	1	3.99	0.80	ppb	47.95	3600
95	Mo	72	1	6.46	1.29	ppb	6.25	3600
107	Ag	115	1	0.02	0.00	ppb	159.25	3600
111	Cd	115	1	0.13	0.03	ppb	54.73	3600
118	Sn	115	1	0.20	0.04	ppb	29.32	3600
121	Sb	115	1	0.23	0.05	ppb	27.91	3600
137	Ba	115	1	43.61	8.72	ppb	1.89	3600
205	Tl	165	1	0.08	0.02	ppb	8.14	3600
208	Pb	165	1	1.84	0.37	ppb	5.27	3600
232	Th	165	1	0.14	0.03	ppb	17.77	1000
238	U	165	1	38.02	7.60	ppb	1.66	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	343401	0.74	376079	91.3	30 - 120
45	Sc	1	1089536	0.75	1186897	91.8	30 - 120
72	Ge	1	479909	1.11	539567	88.9	30 - 120
115	In	1	1451981	1.22	1576174	92.1	30 - 120
165	Ho	1	2546093	0.95	2717767	93.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#  
 Date Acquired: Nov 8 2009 03:09 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFGD 5X  
 Misc Info: D9J280280  
 Vial Number: 4410  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#  
 Date Acquired: Nov 8 2009 03:12 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFG2 5X  
 Misc Info: D9J280283  
 Vial Number: 4411  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#  
 Date Acquired: Nov 8 2009 03:15 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2J 5X  
 Misc Info: D9J290310  
 Vial Number: 4412  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#  
 Date Acquired: Nov 8 2009 03:18 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2K 5X  
 Misc Info: D9J290310  
 Vial Number: 4501  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267\_CCV.D\267\_CCV.D#  
 Date Acquired: Nov 8 2009 03:21 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	51.22	ppb	2.08	50	102.4	90 - 110
51	V	72	1	49.65	ppb	0.54	50	99.3	90 - 110
52	Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110
55	Mn	72	1	49.57	ppb	0.78	50	99.1	90 - 110
59	Co	72	1	48.62	ppb	0.28	50	97.2	90 - 110
60	Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110
63	Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110
66	Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110
75	As	72	1	50.33	ppb	0.35	50	100.7	90 - 110
78	Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110
95	Mo	72	1	50.34	ppb	1.97	50	100.7	90 - 110
107	Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110
111	Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110
118	Sn	115	1	49.99	ppb	1.62	50	100.0	90 - 110
121	Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110
137	Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110
205	Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110
208	Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110
232	Th	165	1	51.26	ppb	1.28	50	102.5	90 - 110
238	U	165	1	51.53	ppb	0.94	50	103.1	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360685	1.10	376079	95.9	30 - 120
45	Sc	1	1157595	0.85	1186897	97.5	30 - 120
72	Ge	1	507944	1.20	539567	94.1	30 - 120
115	In	1	1559749	0.93	1576174	99.0	30 - 120
165	Ho	1	2711611	1.14	2717767	99.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268\_CCB.D\268\_CCB.D#  
 Date Acquired: Nov 8 2009 03:23 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	19.15	1.00	
52 Cr	72	1	-0.002 ppb	789.67	1.00	
55 Mn	72	1	-0.001 ppb	1184.70	1.00	
59 Co	72	1	0.000 ppb	707.73	1.00	
60 Ni	72	1	-0.014 ppb	130.22	1.00	
63 Cu	72	1	-0.051 ppb	28.29	1.00	
66 Zn	72	1	-0.413 ppb	3.98	1.00	
75 As	72	1	0.005 ppb	390.64	1.00	
78 Se	72	1	0.068 ppb	260.94	1.00	
95 Mo	72	1	-0.051 ppb	12.59	1.00	
107 Ag	115	1	0.003 ppb	126.88	1.00	
111 Cd	115	1	0.000 ppb	7618.50	1.00	
118 Sn	115	1	0.047 ppb	150.30	1.00	
121 Sb	115	1	0.138 ppb	23.66	1.00	
137 Ba	115	1	-0.038 ppb	11.83	1.00	
205 Tl	165	1	0.021 ppb	17.52	1.00	
208 Pb	165	1	0.003 ppb	111.74	1.00	
232 Th	165	1	0.051 ppb	16.07	1.00	
238 U	165	1	0.016 ppb	14.92	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#  
 Date Acquired: Nov 8 2009 03:26 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.901 ppb	17.96	1.30	
51 V	72	1	4.935 ppb	2.34	6.50	
52 Cr	72	1	2.001 ppb	2.44	2.60	
55 Mn	72	1	1.030 ppb	4.04	1.30	
59 Co	72	1	0.990 ppb	2.41	1.30	
60 Ni	72	1	2.129 ppb	7.48	2.60	
63 Cu	72	1	1.903 ppb	4.00	2.60	
66 Zn	72	1	9.748 ppb	0.16	13.00	
75 As	72	1	4.893 ppb	4.12	6.50	
78 Se	72	1	5.130 ppb	8.01	6.50	
95 Mo	72	1	1.974 ppb	8.49	2.60	
107 Ag	115	1	5.301 ppb	1.96	6.50	
111 Cd	115	1	1.056 ppb	7.93	1.30	
118 Sn	115	1	10.460 ppb	2.46	13.00	
121 Sb	115	1	2.083 ppb	0.79	2.60	
137 Ba	115	1	1.029 ppb	5.53	1.30	
205 Tl	165	1	1.089 ppb	0.37	1.30	
208 Pb	165	1	1.075 ppb	0.39	1.30	
232 Th	165	1	2.216 ppb	0.39	2.60	
238 U	165	1	1.111 ppb	0.42	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



# Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

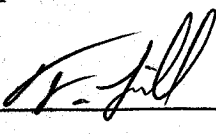
Lot ID: D9J280283

Client: Northgate Environmental

Batch(es) #: 9303185

Associated Samples: 1

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date:  11/9/09

# *Metals Raw Data RoadMap*

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J280283	1	SE	LNFG21AC	20091108	6020TOTA	9303185	AG110709	024
D9J280283	1	AS	LNFG21AA	20091108	6020TOTA	9303185	AG110709	024

**METALS  
PREPARATION LOGS  
ICP-MS**



Batch Number: 9303185

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/2/09</sup> 10/30/09 JRW  
Due Date: 11/09/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9J300000 Water	LNJNV B	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV C	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F S Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F D Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2J Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*Checked  
11/7/09*

**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

BATCH # 9303185 ALLIQUOTTED BY: KS  
PREP DATE: 11/2/2009 DIGESTED BY: JRW

**CONSUMABLES USED**

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS268  
 One or more samples were filtered prior to analysis at the instrument.  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
 Analyst(s) Initials:                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4082 Block & Cup #: 4/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	45
HNO3	1900	95	1930	43
HNO3				

Samples and QC revolumed to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: *JRW*

Date: 11/2/09

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**  

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**THE LEADER IN ENVIRONMENTAL TESTING**

### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-09-2009

Logbook: \\Densvr06\StdsLog\metals.std

### STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SE02003      Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008      Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

### STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SN02016      Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009      Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

### STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HN03      Lot No.: H02026      Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se      Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009      Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000



STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelli

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 10-31-2009  
Date Expires(1): 03-01-2010 (1 Year)  
Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICESA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-05-2009  
Date Expires(1): 12-05-2009 (1 Month)  
Date Expires(2): 11-01-2010 (None)  
pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6836-09, ICP-MS BLANK

Analyst: LILLT

Solvent: Water  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 05-07-2010 (6 Months)  
Date Expires(2): 05-07-2010 (6 Months)  
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0

Parent Std No.: STD6835-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6837-09, ICP-MS HIGH CAL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6838-09, ICP-MS HIGH CCV STD

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500
Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000

Na 2,000.0 5.0000  
 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6839-09, ICP-MS HIGH RL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018

STD6841-09, ICP-MS HIGH ICSAB

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Check Standard		Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010		Parent Date Expires(2): 08-01-2010
<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD6842-09, ICP-MS HIGH LR STD1

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000
Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000



STD6843-09, ICP-MS HIGH ICV STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 50.000

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

Parent Std No.: STD3115-09, ICP-MS TA ICV Alt Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	4.0000
Ca	2,000.0	4.0000
Fe	2,000.0	4.0000
K	2,000.0	4.0000
Mg	2,000.0	4.0000
Na	2,000.0	4.0000

Parent Std No.: STD3116-09, ICP-MS TA ICV BRC Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.0800
Pd	20.000	0.0400
Pt	20.000	0.0400

W

20.000

0.0400

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 21 and Met 8

Volume (ml): 50.000

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD3106-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

Parent Std No.: STD3107-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: \_\_\_\_\_

 11/9/09

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0 11/07/09 15:09		<input type="checkbox"/>
4	100 ppb				1.0 11/07/09 15:12		<input type="checkbox"/>
5	ICV				1.0 11/07/09 15:15		<input type="checkbox"/>
6	RLIV				1.0 11/07/09 15:18		<input type="checkbox"/>
7	ICB				1.0 11/07/09 15:20		<input type="checkbox"/>
8	RL STD				1.0 11/07/09 15:23		<input type="checkbox"/>
9	AFCEE RL				1.0 11/07/09 15:26		<input type="checkbox"/>
10	ALTSe				1.0 11/07/09 15:29		<input type="checkbox"/>
11	ICSA				1.0 11/07/09 15:31		<input type="checkbox"/>
12	ICSAB				1.0 11/07/09 15:34		<input type="checkbox"/>
13	RINSE				1.0 11/07/09 15:37		<input type="checkbox"/>
14	LR1				1.0 11/07/09 15:40		<input type="checkbox"/>
15	RINSE				1.0 11/07/09 15:42		<input type="checkbox"/>
16	CCV				1.0 11/07/09 15:45		<input type="checkbox"/>
17	CCB				1.0 11/07/09 15:48		<input type="checkbox"/>
18	RLCV				1.0 11/07/09 15:50		<input type="checkbox"/>
19	LNDMKB	D9J280000	9301081	46	1.0 11/07/09 15:53		<input type="checkbox"/>
20	LNDMKC	D9J280000	9301081	46	1.0 11/07/09 15:56		<input type="checkbox"/>
21	LM9FJ	D9J240188-1	9301081	46	1.0 11/07/09 15:59		<input type="checkbox"/>
22	LM9FJP5	D9J240188	9301081		5.0 11/07/09 16:01		<input type="checkbox"/>
23	LM9FJZ	D9J240188-1	9301081		1.0 11/07/09 16:04		<input type="checkbox"/>
24	LM9FJS	D9J240188-1	9301081	46	1.0 11/07/09 16:07		<input type="checkbox"/>
25	LM9FJD	D9J240188-1	9301081	46	1.0 11/07/09 16:09		<input type="checkbox"/>
26	LM9FK	D9J240188-2	9301081	46	1.0 11/07/09 16:12		<input type="checkbox"/>
27	CCV				1.0 11/07/09 16:15		<input type="checkbox"/>
28	CCB				1.0 11/07/09 16:18		<input type="checkbox"/>
29	RLCV				1.0 11/07/09 16:20		<input type="checkbox"/>
30	LNJT4B	D9J300000	9303213	MS	1.0 11/07/09 16:23		<input type="checkbox"/>
31	LNJT4C	D9J300000	9303213	MS	1.0 11/07/09 16:26		<input type="checkbox"/>
32	LM8A7	D9J230367-1	9303213	MS	1.0 11/07/09 16:29		<input type="checkbox"/>
33	LM8CG	D9J230367-2	9303213	MS	1.0 11/07/09 16:32		<input type="checkbox"/>
34	LM8CV	D9J230367-3	9303213	MS	1.0 11/07/09 16:34		<input type="checkbox"/>
35	LM8C1	D9J230367-4	9303213	MS	1.0 11/07/09 16:37		<input type="checkbox"/>
36	LM8C1P5	D9J230367	9303213		5.0 11/07/09 16:40		<input type="checkbox"/>
37	LM8C1Z	D9J230367-4	9303213		1.0 11/07/09 16:43		<input type="checkbox"/>
38	LM8C1S	D9J230367-4	9303213	MS	1.0 11/07/09 16:45		<input type="checkbox"/>
39	LM8C1D	D9J230367-4	9303213	MS	1.0 11/07/09 16:48		<input type="checkbox"/>
40	CCV				1.0 11/07/09 16:51		<input type="checkbox"/>
41	CCB				1.0 11/07/09 16:53		<input type="checkbox"/>
42	RLCV				1.0 11/07/09 16:57		<input type="checkbox"/>
43	LNDMTB	D9J280000	9301086	46	1.0 11/07/09 17:00		<input type="checkbox"/>
44	LNDMTC	D9J280000	9301086	46	1.0 11/07/09 17:02		<input type="checkbox"/>
45	LM8E2	D9J230373-1	9301086	46	1.0 11/07/09 17:05		<input type="checkbox"/>
46	LM8E2P5	D9J230373	9301086		5.0 11/07/09 17:08		<input type="checkbox"/>
47	LM8E2Z	D9J230373-1	9301086		1.0 11/07/09 17:11		<input type="checkbox"/>
48	LM8E2S	D9J230373-1	9301086	46	1.0 11/07/09 17:13		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16	<input type="checkbox"/>
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19	<input type="checkbox"/>
51	CCV				1.0	11/07/09 17:22	<input type="checkbox"/>
52	CCB				1.0	11/07/09 17:24	<input type="checkbox"/>
53	RLCV				1.0	11/07/09 17:27	<input type="checkbox"/>
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30	<input type="checkbox"/>
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33	<input type="checkbox"/>
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35	<input type="checkbox"/>
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38	<input type="checkbox"/>
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41	<input type="checkbox"/>
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44	<input type="checkbox"/>
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47	<input type="checkbox"/>
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51	<input type="checkbox"/>
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53	<input type="checkbox"/>
63	CCV				1.0	11/07/09 17:56	<input type="checkbox"/>
64	CCB				1.0	11/07/09 17:59	<input type="checkbox"/>
65	RLCV				1.0	11/07/09 18:02	<input type="checkbox"/>
66	<del>LMNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5</del>	<del>11/07/09 18:04</del> <i>11/9/09 did not use.</i>	<input type="checkbox"/>
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07	<input type="checkbox"/>
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10	<input type="checkbox"/>
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13	<input type="checkbox"/>
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16	<input type="checkbox"/>
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18	<input type="checkbox"/>
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21	<input type="checkbox"/>
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24	<input type="checkbox"/>
74	CCV				1.0	11/07/09 18:27	<input type="checkbox"/>
75	CCB				1.0	11/07/09 18:29	<input type="checkbox"/>
76	RLCV				1.0	11/07/09 18:32	<input type="checkbox"/>
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35	<input type="checkbox"/>
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38	<input type="checkbox"/>
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40	<input type="checkbox"/>
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43	<input type="checkbox"/>
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46	<input type="checkbox"/>
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49	<input type="checkbox"/>
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51	<input type="checkbox"/>
84	CCV				1.0	11/07/09 18:54	<input type="checkbox"/>
85	CCB				1.0	11/07/09 18:57	<input type="checkbox"/>
86	RLCV				1.0	11/07/09 19:00	<input type="checkbox"/>
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03	<input type="checkbox"/>
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05	<input type="checkbox"/>
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08	<input type="checkbox"/>
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11	<input type="checkbox"/>
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14	<input type="checkbox"/>
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17	<input type="checkbox"/>
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19	<input type="checkbox"/>
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
95	CCV				1.0 11/07/09 19:25		<input type="checkbox"/>
96	CCB				1.0 11/07/09 19:28		<input type="checkbox"/>
97	RLCV				1.0 11/07/09 19:30		<input type="checkbox"/>
98	ICSA				1.0 11/07/09 19:33		<input type="checkbox"/>
99	ICSAB				1.0 11/07/09 19:36		<input type="checkbox"/>
100	WASH				1.0 11/07/09 19:39		<input type="checkbox"/>
101	CCV				1.0 11/07/09 19:41		<input type="checkbox"/>
102	CCB				1.0 11/07/09 19:44		<input type="checkbox"/>
103	RLCV				1.0 11/07/09 19:47		<input type="checkbox"/>
104	LNPkXBQ	D9K030000	9307099	U1	1.0 11/07/09 19:50		<input type="checkbox"/>
105	LNPkXCQ	D9K030000	9307099	U1	1.0 11/07/09 19:52		<input type="checkbox"/>
106	LNN4FQ	D9K020448-1	9307099	U1	1.0 11/07/09 19:55		<input type="checkbox"/>
107	LNN4FP5Q	D9K020448	9307099		5.0 11/07/09 19:58		<input type="checkbox"/>
108	LNN4FZQ	D9K020448-1	9307099		1.0 11/07/09 20:01		<input type="checkbox"/>
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:03		<input type="checkbox"/>
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:06		<input type="checkbox"/>
111	CCV				1.0 11/07/09 20:09		<input type="checkbox"/>
112	CCB				1.0 11/07/09 20:12		<input type="checkbox"/>
113	RLCV				1.0 11/07/09 20:14		<input type="checkbox"/>
114	<del>LNNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5 11/07/09 20:17</del>		<input type="checkbox"/>
115	LNNVDC	D9K020000	9306332	04	2.5 11/07/09 20:20		<input type="checkbox"/>
116	LNKT9	D9J300258-1	9306332	04	2.5 11/07/09 20:23		<input type="checkbox"/>
117	LNKT9S	D9J300258-1	9306332	04	2.5 11/07/09 20:25		<input type="checkbox"/>
118	LNKT9D	D9J300258-1	9306332	04	2.5 11/07/09 20:28		<input type="checkbox"/>
119	CCV				1.0 11/07/09 20:31		<input type="checkbox"/>
120	CCB				1.0 11/07/09 20:34		<input type="checkbox"/>
121	RLCV				1.0 11/07/09 20:36		<input type="checkbox"/>
122	RINSE				1.0 11/07/09 20:39		<input type="checkbox"/>
123	RINSE				1.0 11/07/09 20:42		<input type="checkbox"/>
124	<del>Cal Blank</del>				<del>1.0 11/07/09 20:45</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>
125	Cal Blank				1.0 11/07/09 20:47		<input type="checkbox"/>
126	100 ppb				1.0 11/07/09 20:50		<input type="checkbox"/>
127	CCV				1.0 11/07/09 20:53		<input type="checkbox"/>
128	CCB				1.0 11/07/09 20:56		<input type="checkbox"/>
129	RLCV				1.0 11/07/09 20:58		<input type="checkbox"/>
130	<del>LNNQ5BF</del>	<del>D9K020000</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:01</del>		<input type="checkbox"/>
131	LNNQ5CF	D9K020000	9306285	MD	1.0 11/07/09 21:04		<input type="checkbox"/>
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0 11/07/09 21:07		<input type="checkbox"/>
133	LNLG3F	D9J300326-2	9306285	MD	1.0 11/07/09 21:10		<input type="checkbox"/>
134	LNLG4F	D9J300326-3	9306285	MD	1.0 11/07/09 21:12		<input type="checkbox"/>
135	LNLHHF	D9J300329-1	9306285	MD	1.0 11/07/09 21:15		<input type="checkbox"/>
136	LNLHMF	D9J300329-2	9306285	MD	1.0 11/07/09 21:18		<input type="checkbox"/>
137	CCV				1.0 11/07/09 21:21		<input type="checkbox"/>
138	CCB				1.0 11/07/09 21:23		<input type="checkbox"/>
139	RLCV				1.0 11/07/09 21:26		<input type="checkbox"/>
140	<del>LNLHPF</del>	<del>D9J300329-3</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:29</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
141	<del>LNLJF</del>	D9J300340-1	9306285	MD	1.0	11/07/09 21:32	<input type="checkbox"/>
142	LNLJJP5F	D9J300340	9306285		5.0	11/07/09 21:35	<input type="checkbox"/>
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37	<input type="checkbox"/>
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40	<input type="checkbox"/>
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43	<input type="checkbox"/>
146	<del>LNLJMF</del>	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	<input type="checkbox"/>
147	CCV				1.0	11/07/09 21:48	<input type="checkbox"/>
148	CCB				1.0	11/07/09 21:51	<input type="checkbox"/>
149	RLCV				1.0	11/07/09 21:54	<input type="checkbox"/>
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57	<input type="checkbox"/>
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59	<input type="checkbox"/>
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02	<input type="checkbox"/>
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05	<input type="checkbox"/>
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08	<input type="checkbox"/>
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	<input type="checkbox"/>
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13	<input type="checkbox"/>
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16	<input type="checkbox"/>
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19	<input type="checkbox"/>
159	CCV				1.0	11/07/09 22:21	<input type="checkbox"/>
160	CCB				1.0	11/07/09 22:24	<input type="checkbox"/>
161	RLCV				1.0	11/07/09 22:27	<input type="checkbox"/>
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30	<input type="checkbox"/>
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32	<input type="checkbox"/>
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35	<input type="checkbox"/>
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38	<input type="checkbox"/>
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41	<input type="checkbox"/>
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43	<input type="checkbox"/>
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46	<input type="checkbox"/>
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49	<input type="checkbox"/>
170	CCV				1.0	11/07/09 22:52	<input type="checkbox"/>
171	CCB				1.0	11/07/09 22:54	<input type="checkbox"/>
172	RLCV				1.0	11/07/09 22:57	<input type="checkbox"/>
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00	<input type="checkbox"/>
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03	<input type="checkbox"/>
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06	<input type="checkbox"/>
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08	<input type="checkbox"/>
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11	<input type="checkbox"/>
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14	<input type="checkbox"/>
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17	<input type="checkbox"/>
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19	<input type="checkbox"/>
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22	<input type="checkbox"/>
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25	<input type="checkbox"/>
183	CCV				1.0	11/07/09 23:28	<input type="checkbox"/>
184	CCB				1.0	11/07/09 23:30	<input type="checkbox"/>
185	RLCV				1.0	11/07/09 23:33	<input type="checkbox"/>
186	RINSE				1.0	11/07/09 23:36	<input type="checkbox"/>

*RT 11/9/09 did not use.*

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
187	<del>RINSE</del>				<del>1.0 11/07/09 23:39</del>		<input type="checkbox"/>
188	<del>Cal Blank</del>				<del>1.0 11/07/09 23:41</del>	<i>vt 11/9/09 Did not use.</i>	<input type="checkbox"/>
189	Cal Blank			1.0	11/07/09 23:44		<input type="checkbox"/>
190	100 ppb			1.0	11/07/09 23:47		<input type="checkbox"/>
191	CCV			1.0	11/07/09 23:50		<input type="checkbox"/>
192	CCB			1.0	11/07/09 23:52		<input type="checkbox"/>
193	RLCV			1.0	11/07/09 23:55		<input type="checkbox"/>
194	LNEMRZF	D9J280200-5	9302146		1.0 11/07/09 23:58		<input type="checkbox"/>
195	LNEMRSF	D9J280200-5	9302146	MD	1.0 11/08/09 00:01		<input type="checkbox"/>
196	LNEMRDF	D9J280200-5	9302146	MD	1.0 11/08/09 00:03		<input type="checkbox"/>
197	LNEMWF	D9J280200-6	9302146	MD	1.0 11/08/09 00:06		<input type="checkbox"/>
198	LNEM0F	D9J280200-7	9302146	MD	1.0 11/08/09 00:09		<input type="checkbox"/>
199	LNEM3F	D9J280200-8	9302146	MD	1.0 11/08/09 00:12		<input type="checkbox"/>
200	LNEM4F	D9J280200-9	9302146	MD	1.0 11/08/09 00:15		<input type="checkbox"/>
201	LNEM7F	D9J280200-10	9302146	MD	1.0 11/08/09 00:17		<input type="checkbox"/>
202	CCV			1.0	11/08/09 00:20		<input type="checkbox"/>
203	CCB			1.0	11/08/09 00:23		<input type="checkbox"/>
204	RLCV			1.0	11/08/09 00:26		<input type="checkbox"/>
205	LN0N2B	D9K060000	9310060	04	2.5 11/08/09 00:28		<input type="checkbox"/>
206	LN0N2C	D9K060000	9310060	04	2.5 11/08/09 00:31		<input type="checkbox"/>
207	LNW5P	D9K050485-2	9310060	04	2.5 11/08/09 00:34		<input type="checkbox"/>
208	LNW55	D9K050485-4	9310060	04	2.5 11/08/09 00:37		<input type="checkbox"/>
209	LNW6E	D9K050485-6	9310060	04	2.5 11/08/09 00:40		<input type="checkbox"/>
210	LNW6ES	D9K050485-6	9310060	04	2.5 11/08/09 00:42		<input type="checkbox"/>
211	LNW6ED	D9K050485-6	9310060	04	2.5 11/08/09 00:45		<input type="checkbox"/>
212	CCV			1.0	11/08/09 00:48		<input type="checkbox"/>
213	CCB			1.0	11/08/09 00:51		<input type="checkbox"/>
214	RLCV			1.0	11/08/09 00:53		<input type="checkbox"/>
215	LNF42B	D9J290000	9302121	MS	1.0 11/08/09 00:56		<input type="checkbox"/>
216	LNF42C	D9J290000	9302121	MS	1.0 11/08/09 00:59		<input type="checkbox"/>
217	LNE4T	D9J280246-1	9302121	MS	1.0 11/08/09 01:02		<input type="checkbox"/>
218	LNE40 10X	D9J280246-2	9302121	MS	10.0 11/08/09 01:05		<input type="checkbox"/>
219	LNE41 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:07		<input type="checkbox"/>
220	LNE41P25	D9J280246	9302121		25.0 11/08/09 01:10		<input type="checkbox"/>
221	CCV			1.0	11/08/09 01:13		<input type="checkbox"/>
222	CCB			1.0	11/08/09 01:16		<input type="checkbox"/>
223	RLCV			1.0	11/08/09 01:19		<input type="checkbox"/>
224	LNE41Z	D9J280246-3	9302121		1.0 11/08/09 01:21		<input type="checkbox"/>
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:24		<input type="checkbox"/>
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:27		<input type="checkbox"/>
227	LNE44 5X	D9J280246-4	9302121	MS	5.0 11/08/09 01:30		<input type="checkbox"/>
228	LNE47 2X	D9J280246-5	9302121	MS	2.0 11/08/09 01:32		<input type="checkbox"/>
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0 11/08/09 01:35		<input type="checkbox"/>
230	CCV			1.0	11/08/09 01:38		<input type="checkbox"/>
231	CCB			1.0	11/08/09 01:41		<input type="checkbox"/>
232	RLCV			1.0	11/08/09 01:44		<input type="checkbox"/>



Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46	<input type="checkbox"/>
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49	<input type="checkbox"/>
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52	<input type="checkbox"/>
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55	<input type="checkbox"/>
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58	<input type="checkbox"/>
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00	<input type="checkbox"/>
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03	<input type="checkbox"/>
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06	<input type="checkbox"/>
241	CCV				1.0	11/08/09 02:09	<input type="checkbox"/>
242	CCB				1.0	11/08/09 02:11	<input type="checkbox"/>
243	RLCV				1.0	11/08/09 02:14	<input type="checkbox"/>
244	RINSE				1.0	<del>11/08/09 02:17</del>	<input type="checkbox"/>
245	RINSE				1.0	11/08/09 02:20	<input type="checkbox"/>
246	<del>Cal Blank</del>				1.0	<del>11/08/09 02:22</del> <i>11/9/09 did not use</i>	<input type="checkbox"/>
247	Cal Blank				1.0	11/08/09 02:25	<input type="checkbox"/>
248	100 ppb				1.0	11/08/09 02:28	<input type="checkbox"/>
249	CCV				1.0	11/08/09 02:31	<input type="checkbox"/>
250	CCB				1.0	11/08/09 02:33	<input type="checkbox"/>
251	RLCV				1.0	11/08/09 02:36	<input type="checkbox"/>
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39	<input type="checkbox"/>
253	LNJVNC	D9J300000	9303185	MS	1.0	11/08/09 02:42	<input type="checkbox"/>
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44	<input type="checkbox"/>
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47	<input type="checkbox"/>
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50	<input type="checkbox"/>
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53	<input type="checkbox"/>
258	CCV				1.0	11/08/09 02:56	<input type="checkbox"/>
259	CCB				1.0	11/08/09 02:58	<input type="checkbox"/>
260	RLCV				1.0	11/08/09 03:01	<input type="checkbox"/>
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04	<input type="checkbox"/>
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07	<input type="checkbox"/>
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09	<input type="checkbox"/>
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12	<input type="checkbox"/>
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15	<input type="checkbox"/>
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18	<input type="checkbox"/>
267	CCV				1.0	11/08/09 03:21	<input type="checkbox"/>
268	CCB				1.0	11/08/09 03:23	<input type="checkbox"/>
269	RLCV				1.0	11/08/09 03:26	<input type="checkbox"/>
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29	<input type="checkbox"/>
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32	<input type="checkbox"/>
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34	<input type="checkbox"/>
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37	<input type="checkbox"/>
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40	<input type="checkbox"/>
275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43	<input type="checkbox"/>
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46	<input type="checkbox"/>
277	CCV				1.0	11/08/09 03:48	<input type="checkbox"/>
278	CCB				1.0	11/08/09 03:51	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/08/09 03:54	<input type="checkbox"/>
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57	<input type="checkbox"/>
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59	<input type="checkbox"/>
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02	<input type="checkbox"/>
283	LNHRTS	D9J290285-6	9303310	04	1.0	11/08/09 04:05	<input type="checkbox"/>
284	LNHRTD	D9J290285-6	9303310	04	1.0	11/08/09 04:08	<input type="checkbox"/>
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10	<input type="checkbox"/>
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13	<input type="checkbox"/>
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16	<input type="checkbox"/>
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19	<input type="checkbox"/>
289	CCV				1.0	11/08/09 04:21	<input type="checkbox"/>
290	CCB				1.0	11/08/09 04:24	<input type="checkbox"/>
291	RLCV				1.0	11/08/09 04:27	<input type="checkbox"/>
292	<del>Cal Blank</del>				1.0	11/08/09 04:30	<input type="checkbox"/>
293	Cal Blank				1.0	11/08/09 04:32	<input type="checkbox"/>
294	100 ppb				1.0	11/08/09 04:35	<input type="checkbox"/>
295	CCV				1.0	11/08/09 04:38	<input type="checkbox"/>
296	CCB				1.0	11/08/09 04:41	<input type="checkbox"/>
297	RLCV				1.0	11/08/09 04:43	<input type="checkbox"/>
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46	<input type="checkbox"/>
299	CCV				1.0	11/08/09 04:49	<input type="checkbox"/>
300	CCB				1.0	11/08/09 04:52	<input type="checkbox"/>
301	RLCV				1.0	11/08/09 04:54	<input type="checkbox"/>
302	<del>LNNV0B</del>	<del>D9K020000</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 04:57</del>	<input type="checkbox"/>
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00	<input type="checkbox"/>
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 05:03	<input type="checkbox"/>
305	LNJ05	D9J300168-1	9306340	04	1.0	11/08/09 05:05	<input type="checkbox"/>
306	LNJ1A	D9J300168-2	9306340	04	1.0	11/08/09 05:08	<input type="checkbox"/>
307	LNJ1C	D9J300168-3	9306340	04	1.0	11/08/09 05:11	<input type="checkbox"/>
308	LNJ1D	D9J300168-4	9306340	04	1.0	11/08/09 05:14	<input type="checkbox"/>
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16	<input type="checkbox"/>
310	CCV				1.0	11/08/09 05:19	<input type="checkbox"/>
311	CCB				1.0	11/08/09 05:22	<input type="checkbox"/>
312	RLCV				1.0	11/08/09 05:25	<input type="checkbox"/>
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27	<input type="checkbox"/>
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30	<input type="checkbox"/>
315	LNJ44	D9J300188-3	9306340	04	1.0	11/08/09 05:33	<input type="checkbox"/>
316	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36	<input type="checkbox"/>
317	LNMA5 5X	D9J310124-1	9306340	04	5.0	11/08/09 05:38	<input type="checkbox"/>
318	LNMCH	D9J310127-1	9306340	04	1.0	11/08/09 05:41	<input type="checkbox"/>
319	CCV				1.0	11/08/09 05:44	<input type="checkbox"/>
320	CCB				1.0	11/08/09 05:47	<input type="checkbox"/>
321	RLCV				1.0	11/08/09 05:49	<input type="checkbox"/>
322	LNMCH	D9J310127-2	9306340	04	1.0	11/08/09 05:52	<input type="checkbox"/>
323	LNMCHP5	D9J310127	9306340		5.0	11/08/09 05:55	<input type="checkbox"/>
324	<del>LNMCHZ</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del></del>	<del>1.0</del>	<del>11/08/09 05:58</del>	<input type="checkbox"/>

*not 11/9/09 did not use.*

*not 11/9/09 did not use.*

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

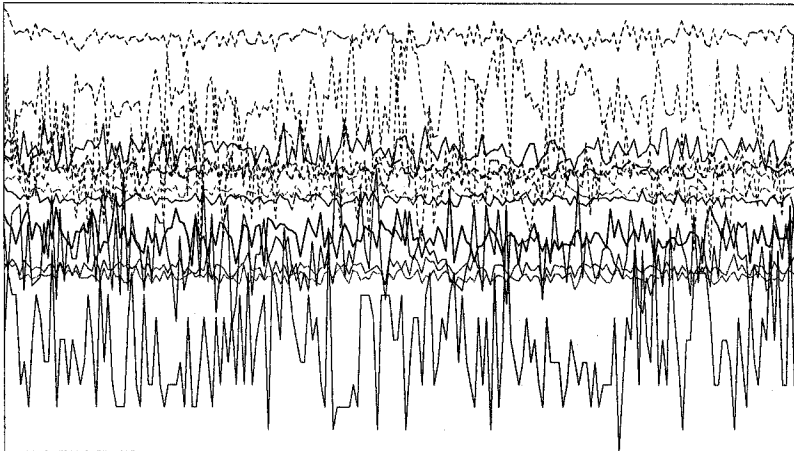
File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
325	<del>LNMCNS</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:00</del>	<input type="checkbox"/>
326	<del>LNMCND</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:03</del>	<input type="checkbox"/>
327	<del>LNMCPE</del>	<del>D9J310127-3</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:06</del>	<input type="checkbox"/>
328	<del>LNMCQ</del>	<del>D9J310127-4</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:09</del>	<input type="checkbox"/>
329	CCV				1.0	11/08/09 06:11	<input type="checkbox"/>
330	CCB				1.0	11/08/09 06:14	<input type="checkbox"/>
331	<del>BLCV</del>				<del>1.0</del>	<del>11/08/09 06:17</del> <i>Not 11/9/09 did not use.</i>	<input type="checkbox"/>

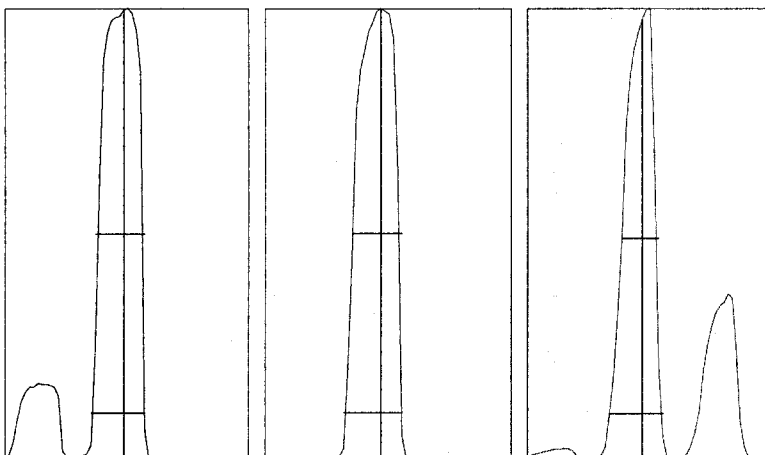
Tune Report

Tune File : NORM.U  
 Comment : AG110709



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.612%  
 Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
W-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U  
Comment : AG110709

Tuning Parameters

===Plasma Condition===

RF Power : 1600 W  
RF Matching : 1.7 V  
Smpl Depth : 8 mm  
Torch-H : -0.8 mm  
Torch-V : -0.3 mm  
Carrier Gas : 0.81 L/min  
Makeup Gas : 0.23 L/min  
Optional Gas : --- %  
Nebulizer Pump : 0.1 rps  
Sample Pump : --- rps  
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V  
Extract 2 : -170 V  
Omega Bias-ce : -30 V  
Omega Lens-ce : 1.4 V  
Cell Entrance : -30 V  
QP Focus : 7 V  
Cell Exit : -30 V

===Q-Pole Parameters===

AMU Gain : 134  
AMU Offset : 125  
Axis Gain : 1.0007  
Axis Offset : -0.03  
QP Bias : -3 V

===Detector Parameters===

Discriminator : 8 mV  
Analog HV : 1770 V  
Pulse HV : 1480 V

===Octopole Parameters===

OctP RF : 180 V  
OctP Bias : -18 V

===Reaction Cell===

Reaction Mode : OFF  
H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

P/A Factor Tuning Report

Acquired: Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor
6	Li	0.054257
7	(Li)	Sensitivity too low
9	Be	0.059350
23	Na	0.063944
24	Mg	0.064875
27	Al	0.065819
39	K	0.066026
43	Ca	Sensitivity too low
45	Sc	0.066849
51	V	0.067403
52	Cr	0.068152
53	(Cr)	Sensitivity too low
55	Mn	0.068773
57	Fe	Sensitivity too low
59	Co	0.069652
60	Ni	Sensitivity too low
63	Cu	0.069964
66	Zn	0.070153
72	Ge	Sensitivity too low
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.072052
98	(Mo)	0.071277
99	(Mo)	Sensitivity too low
105	Pd	0.071221
106	(Cd)	0.070815
107	Ag	Sensitivity too low
108	(Cd)	0.071381
111	Cd	0.070975
115	In	0.070220
118	Sn	0.070317
121	Sb	0.070422
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071611
206	(Pb)	0.070464
207	(Pb)	0.070565
208	Pb	0.069648
232	Th	0.069671
238	U	0.069782

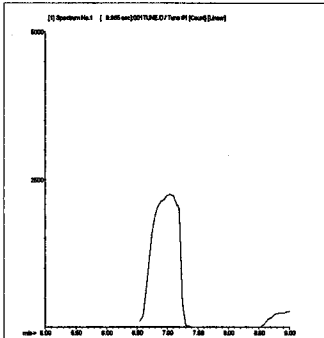
===Detector Parameters===

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

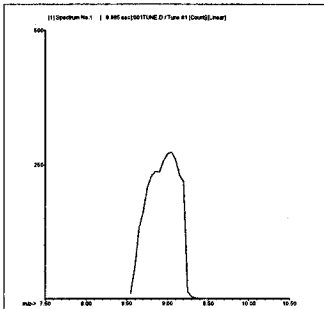
# 200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D  
 Date Acquired: Nov 7 2009 03:04 pm  
 Acq. Method: tun\_isis.M  
 Operator: TEL  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

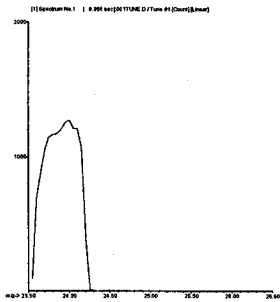
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



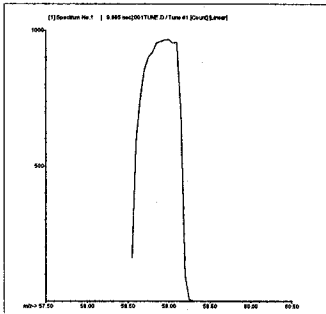
**7 Li**  
**Mass Calib.**  
 Actual: 7.00  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



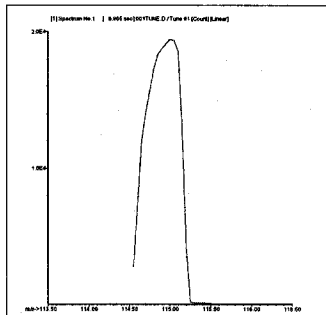
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



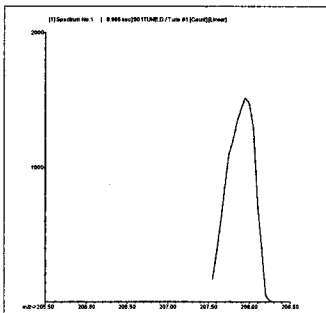
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



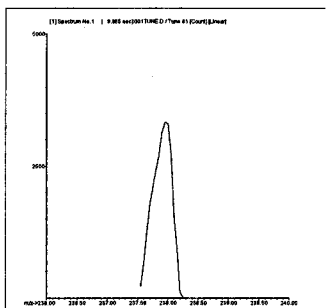
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:

Tune Result: Pass



**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 7 2009 03:07 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

**QC Elements**

*06/11/09*

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	130	55.47
52	Cr	72	1	2920	1.23
55	Mn	72	1	487	11.32
59	Co	72	1	43	35.25
60	Ni	72	1	67	56.79
63	Cu	72	1	247	16.39
66	Zn	72	1	177	1.72
75	As	72	1	38	36.84
78	Se	72	1	290	18.25
95	Mo	72	1	17	69.28
107	Ag	115	1	17	91.65
111	Cd	115	1	6	90.67
118	Sn	115	1	120	25.00
121	Sb	115	1	7	0.00
137	Ba	115	1	11	17.32
205	Tl	165	1	53	12.50
208	Pb	165	1	250	7.42
232	Th	165	1	93	59.01
238	U	165	1	83	36.66

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	450969	0.62
45	Sc	1	1353461	1.72
72	Ge	1	599452	0.37
115	In	1	1813996	0.92
165	Ho	1	3291682	1.21

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 7 2009 03:09 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	107	14.32
52	Cr	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	Tl	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Ho	1	3253654	1.35

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 7 2009 03:12 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:10 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	52398	1.41
51	V	72	1	764367	2.20
52	Cr	72	1	771475	1.19
55	Mn	72	1	912002	1.09
59	Co	72	1	914930	2.11
60	Ni	72	1	193364	2.37
63	Cu	72	1	465989	1.20
66	Zn	72	1	112029	1.18
75	As	72	1	90135	1.29
78	Se	72	1	18683	1.97
95	Mo	72	1	260394	0.61
107	Ag	115	1	765784	1.36
111	Cd	115	1	157700	1.34
118	Sn	115	1	441054	2.17
121	Sb	115	1	510967	1.02
137	Ba	115	1	213858	1.06
205	Tl	165	1	1838240	1.05
208	Pb	165	1	2519619	0.58
232	Th	165	1	2643067	0.57
238	U	165	1	2792671	0.69

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120
72	Ge	1	575467	1.00	598490	96.2	30 - 120
115	In	1	1781328	1.07	1797032	99.1	30 - 120
165	Ho	1	3275522	1.43	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 7 2009 03:18 pm  
 Operator: TEL  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Initial Calibration Blank (ICB) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110709.B\007_ICB.D\007_ICB.D#	<b>QC Summary:</b>
Date Acquired:	Nov 7 2009 03:20 pm	<b>Analytes: Pass</b>
Operator:	TEL	<b>ISTD: Pass</b>
Sample Name:	ICB	
Misc Info:		
Vial Number:	2104	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal Update:	Nov 07 2009 03:13 pm	
Sample Type:	ICB	
Total Dil Factor:	1.00	

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
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ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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









**Interference Check Solution A (ICS-A) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D#	
Date Acquired:	Nov 7 2009 03:31 pm	
Acq. Method:	NormISIS.M	QC Summary:
Operator:	TEL	Analytes: Pass
Sample Name:	ICSA	ISTD: Pass
Misc Info:		
Vial Number:	2108	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal. Update:	Nov 07 2009 03:13 pm	
Sample Type:	ICSA	
Dilution Factor:	1.00	

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.45 ppb	8.60	1.00
52	Cr	72	1	1.86 ppb	3.80	1.00
55	Mn	72	1	3.11 ppb	0.88	1.00
59	Co	72	1	0.12 ppb	10.19	1.00
60	Ni	72	1	1.23 ppb	9.98	1.00
63	Cu	72	1	0.56 ppb	5.58	1.00
66	Zn	72	1	4.20 ppb	1.79	10.00
75	As	72	1	0.35 ppb	13.35	1.00
78	Se	72	1	0.47 ppb	67.55	1.00
95	Mo	72	1	2055.00 ppb	1.11	2000.00
107	Ag	115	1	0.03 ppb	8.56	1.00
111	Cd	115	1	0.40 ppb	30.97	1.00
118	Sn	115	1	0.93 ppb	18.89	10.00
121	Sb	115	1	0.95 ppb	3.56	1.00
137	Ba	115	1	0.00 ppb	326.02	1.00
205	Tl	165	1	0.04 ppb	20.03	1.00
208	Pb	165	1	1.04 ppb	2.03	1.00
232	Th	165	1	0.02 ppb	5.48	1.00
238	U	165	1	0.00 ppb	14.89	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120
45	Sc	1	939322	1.85	1356727	69.2	30 - 120
72	Ge	1	429449	0.82	598490	71.8	30 - 120
115	In	1	1325081	0.92	1797032	73.7	30 - 120
165	Ho	1	2485688	0.47	3253654	76.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed



## AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 7 2009 03:37 pm  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0	80 - 120	
51	V	72	1	0.06 ppb	15.15	0	80 - 120	
52	Cr	72	1	0.00 ppb	941.54	0	80 - 120	
55	Mn	72	1	0.00 ppb	87.90	0	80 - 120	
59	Co	72	1	0.00 ppb	138.19	0	80 - 120	
60	Ni	72	1	-0.01 ppb	79.76	0	80 - 120	
63	Cu	72	1	-0.02 ppb	11.32	0	80 - 120	
66	Zn	72	1	-0.12 ppb	4.66	2	80 - 120	
75	As	72	1	0.00 ppb	172.97	0	80 - 120	
78	Se	72	1	0.18 ppb	157.63	0	80 - 120	
95	Mo	72	1	0.92 ppb	26.25	0	80 - 120	
107	Ag	115	1	0.01 ppb	38.83	0	80 - 120	
111	Cd	115	1	0.00 ppb	268.01	0	80 - 120	
118	Sn	115	1	-0.03 ppb	57.94	2	80 - 120	
121	Sb	115	1	0.13 ppb	22.58	0	80 - 120	
137	Ba	115	1	-0.03 ppb	10.98	0	80 - 120	
205	Tl	165	1	0.00 ppb	35.28	0	80 - 120	
208	Pb	165	1	0.00 ppb	109.50	0	80 - 120	
232	Th	165	1	0.03 ppb	14.09	0	80 - 120	
238	U	165	1	0.02 ppb	14.78	0	80 - 120	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120
72	Ge	1	563469	0.48	598490	94.1	30 - 120
115	In	1	1720438	0.38	1797032	95.7	30 - 120
165	Ho	1	3228952	0.84	3253654	99.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 7 2009 03:40 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 Tl	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 Ho	1	3245351	1.45	3253654	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Nov 7 2009 03:42 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.22	3600	
51 V	72	1	0.03	0.03	ppb	5.05	3600	
52 Cr	72	1	-0.02	-0.02	ppb	115.91	3600	
55 Mn	72	1	0.00	0.00	ppb	108.03	3600	
59 Co	72	1	0.00	0.00	ppb	73.71	3600	
60 Ni	72	1	-0.01	-0.01	ppb	98.85	3600	
63 Cu	72	1	-0.01	-0.01	ppb	57.10	3600	
66 Zn	72	1	-0.10	-0.10	ppb	1.90	3600	
75 As	72	1	0.03	0.03	ppb	18.58	3600	
78 Se	72	1	0.26	0.26	ppb	60.51	3600	
95 Mo	72	1	0.62	0.62	ppb	25.89	3600	
107 Ag	115	1	0.03	0.03	ppb	13.50	3600	
111 Cd	115	1	0.01	0.01	ppb	106.57	3600	
118 Sn	115	1	1.01	1.01	ppb	28.84	3600	
121 Sb	115	1	1.39	1.39	ppb	19.23	3600	
137 Ba	115	1	-0.02	-0.02	ppb	4.07	3600	
205 Tl	165	1	0.06	0.06	ppb	11.15	3600	
208 Pb	165	1	0.01	0.01	ppb	28.34	3600	
232 Th	165	1	0.12	0.12	ppb	15.82	1000	
238 U	165	1	0.14	0.14	ppb	23.45	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	416465	0.36	455621	91.4	30 - 120	
45 Sc	1	1277469	0.68	1356727	94.2	30 - 120	
72 Ge	1	579692	0.72	598490	96.9	30 - 120	
115 In	1	1790861	0.65	1797032	99.7	30 - 120	
165 Ho	1	3297951	1.06	3253654	101.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016\_CCV.D\016\_CCV.D#  
 Date Acquired: Nov 7 2009 03:45 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.82 ppb	0.98	50	101.6	90 - 110	
51	V	72	47.69 ppb	0.85	50	95.4	90 - 110	
52	Cr	72	47.81 ppb	0.72	50	95.6	90 - 110	
55	Mn	72	47.91 ppb	0.63	50	95.8	90 - 110	
59	Co	72	48.31 ppb	1.05	50	96.6	90 - 110	
60	Ni	72	49.87 ppb	0.51	50	99.7	90 - 110	
63	Cu	72	48.27 ppb	0.97	50	96.5	90 - 110	
66	Zn	72	49.24 ppb	0.51	50	98.5	90 - 110	
75	As	72	49.61 ppb	0.57	50	99.2	90 - 110	
78	Se	72	51.34 ppb	3.01	50	102.7	90 - 110	
95	Mo	72	49.43 ppb	1.34	50	98.9	90 - 110	
107	Ag	115	48.77 ppb	0.60	50	97.5	90 - 110	
111	Cd	115	49.46 ppb	1.05	50	98.9	90 - 110	
118	Sn	115	49.42 ppb	0.94	50	98.8	90 - 110	
121	Sb	115	49.48 ppb	0.82	50	99.0	90 - 110	
137	Ba	115	48.65 ppb	1.08	50	97.3	90 - 110	
205	Tl	165	49.98 ppb	1.20	50	100.0	90 - 110	
208	Pb	165	50.63 ppb	2.15	50	101.3	90 - 110	
232	Th	165	50.61 ppb	1.41	50	101.2	90 - 110	
238	U	165	50.58 ppb	0.97	50	101.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120
45	Sc	1	1298607	1.88	1356727	95.7	30 - 120
72	Ge	1	570018	0.80	598490	95.2	30 - 120
115	In	1	1777686	0.76	1797032	98.9	30 - 120
165	Ho	1	3306431	1.43	3253654	101.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 7 2009 03:48 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.000	ppb	0.00	1.00	
51 V	72	1	0.018	ppb	26.29	1.00	
52 Cr	72	1	0.021	ppb	89.72	1.00	
55 Mn	72	1	-0.002	ppb	258.47	1.00	
59 Co	72	1	0.000	ppb	7.74	1.00	
60 Ni	72	1	-0.003	ppb	365.53	1.00	
63 Cu	72	1	-0.006	ppb	212.36	1.00	
66 Zn	72	1	-0.070	ppb	18.30	1.00	
75 As	72	1	0.022	ppb	32.72	1.00	
78 Se	72	1	0.156	ppb	92.00	1.00	
95 Mo	72	1	0.115	ppb	30.30	1.00	
107 Ag	115	1	0.011	ppb	38.12	1.00	
111 Cd	115	1	0.002	ppb	113.82	1.00	
118 Sn	115	1	0.224	ppb	27.67	1.00	
121 Sb	115	1	0.348	ppb	18.44	1.00	
137 Ba	115	1	-0.026	ppb	8.86	1.00	
205 Tl	165	1	0.021	ppb	16.25	1.00	
208 Pb	165	1	0.000	ppb	463.86	1.00	
232 Th	165	1	0.056	ppb	20.03	1.00	
238 U	165	1	0.020	ppb	23.07	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 7 2009 03:50 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	443603	0.24	455621	97.4	30 - 120	
45 Sc	1	1335995	1.35	1356727	98.5	30 - 120	
72 Ge	1	596206	0.64	598490	99.6	30 - 120	
115 In	1	1804793	1.75	1797032	100.4	30 - 120	
165 Ho	1	3324168	1.02	3253654	102.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095\_CCV.D\095\_CCV.D#  
 Date Acquired: Nov 7 2009 07:25 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.00 ppb	3.68	50	100.0	90 - 110	
51	V	72	49.46 ppb	0.96	50	98.9	90 - 110	
52	Cr	72	49.13 ppb	0.63	50	98.3	90 - 110	
55	Mn	72	48.00 ppb	0.58	50	96.0	90 - 110	
59	Co	72	49.88 ppb	1.19	50	99.8	90 - 110	
60	Ni	72	52.70 ppb	0.96	50	105.4	90 - 110	
63	Cu	72	50.75 ppb	0.19	50	101.5	90 - 110	
66	Zn	72	48.83 ppb	0.18	50	97.7	90 - 110	
75	As	72	50.85 ppb	1.33	50	101.7	90 - 110	
78	Se	72	50.97 ppb	2.08	50	101.9	90 - 110	
95	Mo	72	49.28 ppb	0.59	50	98.6	90 - 110	
107	Ag	115	48.69 ppb	1.80	50	97.4	90 - 110	
111	Cd	115	48.20 ppb	1.31	50	96.4	90 - 110	
118	Sn	115	47.65 ppb	1.87	50	95.3	90 - 110	
121	Sb	115	47.61 ppb	2.17	50	95.2	90 - 110	
137	Ba	115	48.23 ppb	1.87	50	96.5	90 - 110	
205	Tl	165	49.17 ppb	1.01	50	98.3	90 - 110	
208	Pb	165	50.08 ppb	1.74	50	100.2	90 - 110	
232	Th	165	49.66 ppb	0.53	50	99.3	90 - 110	
238	U	165	49.60 ppb	0.64	50	99.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120
72	Ge	1	557000	0.87	598490	93.1	30 - 120
115	In	1	1717369	0.76	1797032	95.6	30 - 120
165	Ho	1	3017615	0.61	3253654	92.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096\_CCB.D\096\_CCB.D#  
 Date Acquired: Nov 7 2009 07:28 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	-0.006 ppb	24.61	1.00	
52 Cr	72	1	0.005 ppb	16.13	1.00	
55 Mn	72	1	0.012 ppb	40.48	1.00	
59 Co	72	1	0.003 ppb	90.18	1.00	
60 Ni	72	1	0.005 ppb	115.47	1.00	
63 Cu	72	1	-0.001 ppb	1434.90	1.00	
66 Zn	72	1	0.040 ppb	39.82	1.00	
75 As	72	1	-0.001 ppb	689.47	1.00	
78 Se	72	1	0.203 ppb	119.68	1.00	
95 Mo	72	1	0.030 ppb	15.19	1.00	
107 Ag	115	1	0.009 ppb	17.39	1.00	
111 Cd	115	1	0.008 ppb	214.98	1.00	
118 Sn	115	1	0.033 ppb	87.07	1.00	
121 Sb	115	1	0.133 ppb	16.18	1.00	
137 Ba	115	1	-0.005 ppb	66.27	1.00	
205 Tl	165	1	0.010 ppb	5.85	1.00	
208 Pb	165	1	0.007 ppb	10.03	1.00	
232 Th	165	1	0.031 ppb	21.92	1.00	
238 U	165	1	0.010 ppb	23.45	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#  
 Date Acquired: Nov 7 2009 07:30 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D#  
 Date Acquired: Nov 7 2009 07:33 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.01 ppb	173.15	1.00
51	V	72	1	2.34 ppb	2.35	1.00
52	Cr	72	1	1.89 ppb	3.80	1.00
55	Mn	72	1	3.08 ppb	1.35	1.00
59	Co	72	1	0.13 ppb	9.32	1.00
60	Ni	72	1	1.54 ppb	6.59	1.00
63	Cu	72	1	0.62 ppb	13.41	1.00
66	Zn	72	1	4.36 ppb	1.67	10.00
75	As	72	1	0.31 ppb	11.37	1.00
78	Se	72	1	-0.18 ppb	17.27	1.00
95	Mo	72	1	2024.00 ppb	0.75	2000.00
107	Ag	115	1	0.04 ppb	30.78	1.00
111	Cd	115	1	0.44 ppb	34.74	1.00
118	Sn	115	1	0.41 ppb	9.39	10.00
121	Sb	115	1	0.94 ppb	2.45	1.00
137	Ba	115	1	0.02 ppb	61.87	1.00
205	Tl	165	1	0.04 ppb	26.87	1.00
208	Pb	165	1	1.05 ppb	0.68	1.00
232	Th	165	1	0.02 ppb	35.17	1.00
238	U	165	1	0.01 ppb	14.16	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120
45	Sc	1	945462	1.56	1356727	69.7	30 - 120
72	Ge	1	429131	0.94	598490	71.7	30 - 120
115	In	1	1251973	0.62	1797032	69.7	30 - 120
165	Ho	1	2302241	0.67	3253654	70.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed



## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#  
 Date Acquired: Nov 7 2009 07:39 pm  
 Operator: TEL  
 Sample Name: WASH  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101\_CCV.D\101\_CCV.D#  
 Date Acquired: Nov 7 2009 07:41 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.02 ppb	3.60	50	102.0	90 - 110	
51	V	72	49.10 ppb	0.68	50	98.2	90 - 110	
52	Cr	72	48.80 ppb	0.79	50	97.6	90 - 110	
55	Mn	72	48.00 ppb	0.60	50	96.0	90 - 110	
59	Co	72	49.55 ppb	0.61	50	99.1	90 - 110	
60	Ni	72	52.06 ppb	1.46	50	104.1	90 - 110	
63	Cu	72	50.22 ppb	0.56	50	100.4	90 - 110	
66	Zn	72	48.51 ppb	1.13	50	97.0	90 - 110	
75	As	72	50.95 ppb	0.50	50	101.9	90 - 110	
78	Se	72	49.38 ppb	4.19	50	98.8	90 - 110	
95	Mo	72	50.11 ppb	1.38	50	100.2	90 - 110	
107	Ag	115	49.66 ppb	0.85	50	99.3	90 - 110	
111	Cd	115	49.01 ppb	1.42	50	98.0	90 - 110	
118	Sn	115	48.68 ppb	1.81	50	97.4	90 - 110	
121	Sb	115	48.87 ppb	1.17	50	97.7	90 - 110	
137	Ba	115	49.35 ppb	1.09	50	98.7	90 - 110	
205	Tl	165	49.79 ppb	1.41	50	99.6	90 - 110	
208	Pb	165	49.95 ppb	1.13	50	99.9	90 - 110	
232	Th	165	49.72 ppb	0.91	50	99.4	90 - 110	
238	U	165	49.59 ppb	1.94	50	99.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120
72	Ge	1	546607	0.97	598490	91.3	30 - 120
115	In	1	1673358	0.50	1797032	93.1	30 - 120
165	Ho	1	3013021	0.51	3253654	92.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102\_CCB.D\102\_CCB.D#  
 Date Acquired: Nov 7 2009 07:44 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.007 ppb	173.18	1.00	
51 V	72	1	0.072 ppb	11.11	1.00	
52 Cr	72	1	0.002 ppb	1427.90	1.00	
55 Mn	72	1	-0.002 ppb	998.74	1.00	
59 Co	72	1	0.004 ppb	62.33	1.00	
60 Ni	72	1	0.095 ppb	21.31	1.00	
63 Cu	72	1	0.001 ppb	1376.50	1.00	
66 Zn	72	1	0.050 ppb	67.37	1.00	
75 As	72	1	0.009 ppb	154.12	1.00	
78 Se	72	1	0.133 ppb	315.07	1.00	
95 Mo	72	1	0.099 ppb	50.63	1.00	
107 Ag	115	1	0.009 ppb	39.54	1.00	
111 Cd	115	1	0.005 ppb	103.50	1.00	
118 Sn	115	1	0.062 ppb	107.54	1.00	
121 Sb	115	1	0.138 ppb	16.19	1.00	
137 Ba	115	1	-0.017 ppb	52.66	1.00	
205 Tl	165	1	0.016 ppb	15.17	1.00	
208 Pb	165	1	0.005 ppb	21.11	1.00	
232 Th	165	1	0.033 ppb	24.50	1.00	
238 U	165	1	0.010 ppb	34.21	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#  
 Date Acquired: Nov 7 2009 07:47 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/09

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#  
 Date Acquired: Nov 7 2009 08:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:45 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1013	6.79
52	Cr	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ba	115	1	74	17.43
205	Tl	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Ho	1	3039108	1.07

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#  
 Date Acquired: Nov 7 2009 08:50 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:48 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	47883	0.67
51	V	72	747976	1.49
52	Cr	72	754628	1.13
55	Mn	72	865964	0.71
59	Co	72	889724	1.22
60	Ni	72	191586	1.40
63	Cu	72	456036	0.95
66	Zn	72	106780	0.65
75	As	72	89192	0.61
78	Se	72	18229	1.26
95	Mo	72	254493	1.19
107	Ag	115	752402	0.75
111	Cd	115	150239	1.10
118	Sn	115	420016	0.73
121	Sb	115	483973	0.74
137	Ba	115	204383	0.51
205	Tl	165	1701616	0.60
208	Pb	165	2338107	2.25
232	Th	165	2413552	1.92
238	U	165	2559276	1.77

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30 - 120
45	Sc	1	1260434	1.10	1273788	99.0	30 - 120
72	Ge	1	556836	0.86	577640	96.4	30 - 120
115	In	1	1704167	0.61	1726730	98.7	30 - 120
165	Ho	1	3052265	1.25	3039108	100.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127\_CCV.D\127\_CCV.D#  
 Date Acquired: Nov 7 2009 08:53 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.43	ppb	3.83	50	100.9	90 - 110
51	V	72	1	48.44	ppb	0.77	50	96.9	90 - 110
52	Cr	72	1	48.00	ppb	0.40	50	96.0	90 - 110
55	Mn	72	1	48.98	ppb	0.83	50	98.0	90 - 110
59	Co	72	1	49.19	ppb	0.88	50	98.4	90 - 110
60	Ni	72	1	51.00	ppb	2.25	50	102.0	90 - 110
63	Cu	72	1	50.40	ppb	1.04	50	100.8	90 - 110
66	Zn	72	1	49.66	ppb	0.82	50	99.3	90 - 110
75	As	72	1	49.96	ppb	1.36	50	99.9	90 - 110
78	Se	72	1	50.40	ppb	4.89	50	100.8	90 - 110
95	Mo	72	1	49.49	ppb	0.61	50	99.0	90 - 110
107	Ag	115	1	48.04	ppb	0.50	50	96.1	90 - 110
111	Cd	115	1	48.84	ppb	0.25	50	97.7	90 - 110
118	Sn	115	1	48.90	ppb	0.50	50	97.8	90 - 110
121	Sb	115	1	49.44	ppb	0.72	50	98.9	90 - 110
137	Ba	115	1	49.58	ppb	0.98	50	99.2	90 - 110
205	Tl	165	1	50.08	ppb	0.23	50	100.2	90 - 110
208	Pb	165	1	49.87	ppb	2.65	50	99.7	90 - 110
232	Th	165	1	50.94	ppb	1.78	50	101.9	90 - 110
238	U	165	1	50.49	ppb	2.18	50	101.0	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	401327	1.29	398155	100.8	30 - 120
45	Sc	1	1286634	0.38	1273788	101.0	30 - 120
72	Ge	1	558660	0.70	577640	96.7	30 - 120
115	In	1	1725819	0.46	1726730	99.9	30 - 120
165	Ho	1	3087824	1.47	3039108	101.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128\_CCB.D\128\_CCB.D#  
 Date Acquired: Nov 7 2009 08:56 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Be	6	1	0.007	ppb	173.14	1.00
51	V	72	1	-0.043	ppb	23.48	1.00
52	Cr	72	1	0.013	ppb	34.25	1.00
55	Mn	72	1	0.004	ppb	271.40	1.00
59	Co	72	1	0.003	ppb	58.98	1.00
60	Ni	72	1	0.013	ppb	122.65	1.00
63	Cu	72	1	-0.010	ppb	116.03	1.00
66	Zn	72	1	-0.311	ppb	3.85	1.00
75	As	72	1	0.007	ppb	208.78	1.00
78	Se	72	1	0.060	ppb	542.70	1.00
95	Mo	72	1	0.010	ppb	195.90	1.00
107	Ag	115	1	0.008	ppb	34.15	1.00
111	Cd	115	1	-0.003	ppb	158.97	1.00
118	Sn	115	1	0.071	ppb	72.17	1.00
121	Sb	115	1	0.186	ppb	24.43	1.00
137	Ba	115	1	-0.019	ppb	41.26	1.00
205	Tl	165	1	0.019	ppb	3.88	1.00
208	Pb	165	1	0.007	ppb	24.82	1.00
232	Th	165	1	0.050	ppb	27.19	1.00
238	U	165	1	0.014	ppb	24.25	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	411177	0.79	398155	103.3	30 - 120
45	Sc	1	1305310	1.03	1273788	102.5	30 - 120
72	Ge	1	581950	0.43	577640	100.7	30 - 120
115	In	1	1731683	0.78	1726730	100.3	30 - 120
165	Ho	1	3093323	0.73	3039108	101.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#  
 Date Acquired: Nov 7 2009 08:58 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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



## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#  
 Date Acquired: Nov 7 2009 11:44 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:42 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	U	165	1	122	7.26

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Ho	1	2681412	0.51

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#  
 Date Acquired: Nov 7 2009 11:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:45 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	45518	1.54
51	V	72	700879	1.29
52	Cr	72	693042	2.18
55	Mn	72	795858	1.60
59	Co	72	850264	1.89
60	Ni	72	181428	0.41
63	Cu	72	431089	0.73
66	Zn	72	95751	0.48
75	As	72	84617	1.05
78	Se	72	17278	1.91
95	Mo	72	230286	0.80
107	Ag	115	661266	1.42
111	Cd	115	131853	1.14
118	Sn	115	371875	2.20
121	Sb	115	432362	1.85
137	Ba	115	187475	1.78
205	Tl	165	1498644	1.03
208	Pb	165	2042776	1.12
232	Th	165	2142976	0.23
238	U	165	2200342	0.40

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120
72	Ge	1	507906	1.25	533218	95.3	30 - 120
115	In	1	1532161	1.02	1552104	98.7	30 - 120
165	Ho	1	2672323	0.90	2681412	99.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191\_CCV.D\191\_CCV.D#  
 Date Acquired: Nov 7 2009 11:50 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.23 ppb	3.26	50	98.5	90 - 110
51	V	72	1	48.52 ppb	1.74	50	97.0	90 - 110
52	Cr	72	1	48.49 ppb	0.29	50	97.0	90 - 110
55	Mn	72	1	48.47 ppb	1.24	50	96.9	90 - 110
59	Co	72	1	48.02 ppb	0.67	50	96.0	90 - 110
60	Ni	72	1	49.69 ppb	1.50	50	99.4	90 - 110
63	Cu	72	1	49.62 ppb	0.90	50	99.2	90 - 110
66	Zn	72	1	48.96 ppb	1.42	50	97.9	90 - 110
75	As	72	1	49.10 ppb	0.76	50	98.2	90 - 110
78	Se	72	1	48.52 ppb	4.63	50	97.0	90 - 110
95	Mo	72	1	49.23 ppb	0.82	50	98.5	90 - 110
107	Ag	115	1	49.55 ppb	1.37	50	99.1	90 - 110
111	Cd	115	1	49.69 ppb	1.93	50	99.4	90 - 110
118	Sn	115	1	49.87 ppb	1.50	50	99.7	90 - 110
121	Sb	115	1	49.85 ppb	1.58	50	99.7	90 - 110
137	Ba	115	1	49.38 ppb	1.63	50	98.8	90 - 110
205	Tl	165	1	50.07 ppb	0.63	50	100.1	90 - 110
208	Pb	165	1	50.67 ppb	1.87	50	101.3	90 - 110
232	Th	165	1	50.33 ppb	1.25	50	100.7	90 - 110
238	U	165	1	51.37 ppb	0.78	50	102.7	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	391774	1.28	401411	97.6	30 - 120
45	Sc	1	1173327	0.14	1190683	98.5	30 - 120
72	Ge	1	511730	0.36	533218	96.0	30 - 120
115	In	1	1536232	0.41	1552104	99.0	30 - 120
165	Ho	1	2663987	0.61	2681412	99.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\192\_CCB.D\192\_CCB.D#  
 Date Acquired: Nov 7 2009 11:52 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.021 ppb	99.86	1.00	
51 V	72	1	-0.024 ppb	36.47	1.00	
52 Cr	72	1	0.015 ppb	57.14	1.00	
55 Mn	72	1	0.032 ppb	9.94	1.00	
59 Co	72	1	0.000 ppb	241.41	1.00	
60 Ni	72	1	-0.008 ppb	160.82	1.00	
63 Cu	72	1	-0.035 ppb	57.76	1.00	
66 Zn	72	1	-0.363 ppb	4.76	1.00	
75 As	72	1	0.004 ppb	177.30	1.00	
78 Se	72	1	0.169 ppb	283.55	1.00	
95 Mo	72	1	-0.009 ppb	169.70	1.00	
107 Ag	115	1	0.008 ppb	60.74	1.00	
111 Cd	115	1	0.009 ppb	130.00	1.00	
118 Sn	115	1	0.105 ppb	79.70	1.00	
121 Sb	115	1	0.172 ppb	19.79	1.00	
137 Ba	115	1	-0.007 ppb	70.67	1.00	
205 Tl	165	1	0.024 ppb	16.62	1.00	
208 Pb	165	1	0.009 ppb	31.16	1.00	
232 Th	165	1	0.066 ppb	21.79	1.00	
238 U	165	1	0.019 ppb	10.85	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#  
 Date Acquired: Nov 7 2009 11:55 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#  
 Date Acquired: Nov 8 2009 02:25 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:23 am  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.21
51	V	72	1	620	12.63
52	Cr	72	1	2680	1.78
55	Mn	72	1	813	8.79
59	Co	72	1	67	30.95
60	Ni	72	1	113	13.08
63	Cu	72	1	490	11.82
66	Zn	72	1	656	6.46
75	As	72	1	45	17.63
78	Se	72	1	333	20.05
95	Mo	72	1	257	16.03
107	Ag	115	1	40	74.94
111	Cd	115	1	11	116.88
118	Sn	115	1	477	0.80
121	Sb	115	1	156	24.28
137	Ba	115	1	152	14.20
205	Tl	165	1	96	21.83
208	Pb	165	1	372	9.02
232	Th	165	1	160	32.65
238	U	165	1	140	10.99

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Ho	1	2717767	0.30

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\



**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#  
 Date Acquired: Nov 8 2009 02:28 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:26 am  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	42446	1.21
51	V	72	684937	3.17
52	Cr	72	670667	0.81
55	Mn	72	787843	0.97
59	Co	72	839400	0.67
60	Ni	72	178958	0.70
63	Cu	72	424705	0.79
66	Zn	72	94491	0.73
75	As	72	84032	1.05
78	Se	72	16841	1.85
95	Mo	72	231498	1.15
107	Ag	115	664263	0.80
111	Cd	115	132542	1.42
118	Sn	115	376743	0.98
121	Sb	115	435060	0.49
137	Ba	115	188704	0.74
205	Tl	165	1479617	0.97
208	Pb	165	2033413	0.75
232	Th	165	2126721	0.55
238	U	165	2198988	0.53

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120
72	Ge	1	510601	1.68	539567	94.6	30 - 120
115	In	1	1555316	0.82	1576174	98.7	30 - 120
165	Ho	1	2687981	0.46	2717767	98.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CC.V.D\249 CC.V.D#  
 Date Acquired: Nov 8 2009 02:31 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.21 ppb	0.59	50	100.4	90 - 110	
51	V	72	49.66 ppb	0.22	50	99.3	90 - 110	
52	Cr	72	50.51 ppb	0.78	50	101.0	90 - 110	
55	Mn	72	49.52 ppb	0.42	50	99.0	90 - 110	
59	Co	72	48.78 ppb	0.64	50	97.6	90 - 110	
60	Ni	72	50.96 ppb	0.39	50	101.9	90 - 110	
63	Cu	72	50.45 ppb	0.98	50	100.9	90 - 110	
66	Zn	72	51.04 ppb	1.32	50	102.1	90 - 110	
75	As	72	50.22 ppb	0.79	50	100.4	90 - 110	
78	Se	72	52.93 ppb	2.64	50	105.9	90 - 110	
95	Mo	72	50.88 ppb	0.45	50	101.8	90 - 110	
107	Ag	115	50.92 ppb	2.20	50	101.8	90 - 110	
111	Cd	115	51.72 ppb	2.62	50	103.4	90 - 110	
118	Sn	115	51.06 ppb	2.41	50	102.1	90 - 110	
121	Sb	115	51.12 ppb	1.48	50	102.2	90 - 110	
137	Ba	115	50.77 ppb	1.68	50	101.5	90 - 110	
205	Tl	165	51.85 ppb	1.16	50	103.7	90 - 110	
208	Pb	165	51.54 ppb	2.32	50	103.1	90 - 110	
232	Th	165	51.27 ppb	1.18	50	102.5	90 - 110	
238	U	165	51.61 ppb	0.90	50	103.2	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	360601	1.23	376079	95.9	30 - 120	
45	Sc	1152210	0.10	1186897	97.1	30 - 120	
72	Ge	506331	0.64	539567	93.8	30 - 120	
115	In	1532589	0.89	1576174	97.2	30 - 120	
165	Ho	2667156	1.17	2717767	98.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250\_CCB.D\250\_CCB.D#  
 Date Acquired: Nov 8 2009 02:33 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	147.29	1.00	
51 V	72	1	-0.021	ppb	31.34	1.00	
52 Cr	72	1	0.037	ppb	45.39	1.00	
55 Mn	72	1	-0.003	ppb	461.47	1.00	
59 Co	72	1	0.004	ppb	46.27	1.00	
60 Ni	72	1	-0.025	ppb	13.04	1.00	
63 Cu	72	1	-0.035	ppb	22.37	1.00	
66 Zn	72	1	-0.398	ppb	5.33	1.00	
75 As	72	1	0.015	ppb	70.97	1.00	
78 Se	72	1	-0.320	ppb	40.38	1.00	
95 Mo	72	1	-0.054	ppb	35.32	1.00	
107 Ag	115	1	0.008	ppb	9.23	1.00	
111 Cd	115	1	0.005	ppb	52.43	1.00	
118 Sn	115	1	0.107	ppb	31.44	1.00	
121 Sb	115	1	0.188	ppb	20.19	1.00	
137 Ba	115	1	-0.042	ppb	4.94	1.00	
205 Tl	165	1	0.020	ppb	20.00	1.00	
208 Pb	165	1	-0.001	ppb	65.74	1.00	
232 Th	165	1	0.055	ppb	6.90	1.00	
238 U	165	1	0.016	ppb	10.74	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#  
 Date Acquired: Nov 8 2009 02:36 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252\_BLK.D\252\_BLK.D#  
 Date Acquired: Nov 8 2009 02:39 am  
 Operator: TEL  
 Sample Name: LNJVNB  
 Misc Info: BLANK 9303185 6020  
 Vial Number: 4402  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253\_LCS.D\253\_LCS.D#  
 Date Acquired: Nov 8 2009 02:42 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNJNV  
 Misc Info: LCS  
 Vial Number: 4403  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

## QC Summary:

Analytes: Pass  
 ISTD: Pass

## Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	35.70	1.01	40	89.3	80 - 120
51	V	72	1	35.52	0.20	40	88.8	80 - 120
52	Cr	72	1	36.08	0.50	40	90.2	80 - 120
55	Mn	72	1	35.14	0.07	40	87.9	80 - 120
59	Co	72	1	34.82	0.49	40	87.1	80 - 120
60	Ni	72	1	36.40	0.69	40	91.0	80 - 120
63	Cu	72	1	35.92	0.24	40	89.8	80 - 120
66	Zn	72	1	35.76	1.51	40	89.4	80 - 120
75	As	72	1	34.71	0.72	40	86.8	80 - 120
78	Se	72	1	35.62	2.21	40	89.1	80 - 120
95	Mo	72	1	32.10	0.70	40	80.3	80 - 120
107	Ag	115	1	35.79	2.12	40	89.5	80 - 120
111	Cd	115	1	35.37	1.53	40	88.4	80 - 120
118	Sn	115	1	0.02	168.39	40	0.0	80 - 120
121	Sb	115	1	32.20	2.07	40	80.5	80 - 120
137	Ba	115	1	35.77	2.20	40	89.4	80 - 120
205	Tl	165	1	36.57	2.09	40	91.4	80 - 120
208	Pb	165	1	36.87	2.16	40	92.2	80 - 120
232	Th	165	1	36.61	1.54	40	91.5	80 - 120
238	U	165	1	36.97	1.94	40	92.4	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	358195	0.31	376079	95.2	30 - 120
45	Sc	1	1130666	0.47	1186897	95.3	30 - 120
72	Ge	1	497032	0.74	539567	92.1	30 - 120
115	In	1	1523173	1.15	1576174	96.6	30 - 120
165	Ho	1	2638001	1.37	2717767	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#  
 Date Acquired: Nov 8 2009 02:44 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7F 5X  
 Misc Info: D9J270261  
 Vial Number: 4404  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: AllRef  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.09	0.02	ppb	140.55	3600
51	V	72	1	58.25	11.65	ppb	0.99	3600
52	Cr	72	1	96.60	19.32	ppb	0.56	3600
55	Mn	72	1	20.01	4.00	ppb	1.83	3600
59	Co	72	1	0.41	0.08	ppb	18.64	3600
60	Ni	72	1	2.50	0.50	ppb	10.52	3600
63	Cu	72	1	0.61	0.12	ppb	13.42	3600
66	Zn	72	1	18.56	3.71	ppb	2.43	3600
75	As	72	1	190.75	38.15	ppb	0.69	3600
78	Se	72	1	1.93	0.39	ppb	57.06	3600
95	Mo	72	1	26.48	5.30	ppb	2.72	3600
107	Ag	115	1	0.03	0.01	ppb	125.97	3600
111	Cd	115	1	0.02	0.00	ppb	229.82	3600
118	Sn	115	1	0.25	0.05	ppb	45.32	3600
121	Sb	115	1	0.30	0.06	ppb	29.45	3600
137	Ba	115	1	23.70	4.74	ppb	1.34	3600
205	Tl	165	1	0.23	0.05	ppb	17.38	3600
208	Pb	165	1	0.18	0.04	ppb	14.05	3600
232	Th	165	1	0.24	0.05	ppb	4.71	1000
238	U	165	1	13.31	2.66	ppb	1.53	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	333341	1.09	376079	88.6	30 - 120
45	Sc	1	1062523	0.59	1186897	89.5	30 - 120
72	Ge	1	462502	0.27	539567	85.7	30 - 120
115	In	1	1375002	1.04	1576174	87.2	30 - 120
165	Ho	1	2471361	0.80	2717767	90.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#  
 Date Acquired: Nov 8 2009 02:47 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FP25  
 Misc Info: SERIAL DILUTION  
 Vial Number: 4405  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SDIL  
 Dilution Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

**QC elements**

Element	IS	Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.02 ppb	0.57	0.00	458.7	90 - 110	
51	V	72	1	2.26 ppb	2.18	2.33	97.2	90 - 110	
52	Cr	72	1	3.94 ppb	1.55	3.86	101.9	90 - 110	
55	Mn	72	1	0.83 ppb	10.87	0.80	103.6	90 - 110	
59	Co	72	1	0.02 ppb	18.64	0.02	109.5	90 - 110	
60	Ni	72	1	0.11 ppb	52.76	0.10	106.7	90 - 110	
63	Cu	72	1	0.01 ppb	230.36	0.02	26.5	90 - 110	
66	Zn	72	1	0.47 ppb	7.87	0.74	62.8	90 - 110	
75	As	72	1	7.52 ppb	0.96	7.63	98.5	90 - 110	
78	Se	72	1	-0.04 ppb	1143.50	0.08	-52.9	90 - 110	
95	Mo	72	1	0.94 ppb	9.86	1.06	88.3	90 - 110	
107	Ag	115	1	0.00 ppb	99.28	0.00	-232.5	90 - 110	
111	Cd	115	1	-0.01 ppb	100.17	0.00	-679.0	90 - 110	
118	Sn	115	1	0.09 ppb	4.94	0.01	892.4	90 - 110	
121	Sb	115	1	0.01 ppb	131.02	0.01	58.5	90 - 110	
137	Ba	115	1	0.94 ppb	4.03	0.95	99.3	90 - 110	
205	Tl	165	1	0.01 ppb	8.96	0.01	141.7	90 - 110	
208	Pb	165	1	0.01 ppb	18.12	0.01	165.2	90 - 110	
232	Th	165	1	0.01 ppb	22.37	0.01	123.4	90 - 110	
238	U	165	1	0.53 ppb	1.52	0.53	100.3	90 - 110	

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30 - 120
45	Sc	1	1125653	0.19	1186897	94.8	30 - 120
72	Ge	1	502164	0.65	539567	93.1	30 - 120
115	In	1	1479317	0.60	1576174	93.9	30 - 120
165	Ho	1	2614578	1.08	2717767	96.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/09/09 10:02:46

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FP25

Serial Dilution: 25.00

Sample Dilution: 5.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 255 Method 6020\_
Acquired: 11/08/2009 02:47:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/08/2009 02:25:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL
NC : Serial dilution concentration < 100 X MDL
E : Difference greater than Limit (10%)

Reviewed by: Date:

Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D#  
 Date Acquired: Nov 8 2009 02:50 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FZ  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 4406  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 U	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS)

ICPMS\_024

Reported: 11/09/09 10:02:49

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FZ

Spike Dilution: 1.00

Sample Dilution: 5.00

Instrument: Agilent7500

Channel 272

File: AG110709 # 256

Method 6020\_

Acquired: 11/08/2009 02:50:00

ICPMS\_024

Matrix: AQUEOUS

Calibrated: 11/08/2009 02:25:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		<input type="checkbox"/>
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		<input checked="" type="checkbox"/>
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		<input checked="" type="checkbox"/>
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		<input checked="" type="checkbox"/>
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		<input type="checkbox"/>
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		<input checked="" type="checkbox"/>
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		<input checked="" type="checkbox"/>
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		<input checked="" type="checkbox"/>
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		<input type="checkbox"/>
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		<input type="checkbox"/>
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		<input checked="" type="checkbox"/>
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		<input checked="" type="checkbox"/>
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		<input checked="" type="checkbox"/>
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		<input checked="" type="checkbox"/>
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		<input checked="" type="checkbox"/>
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		<input checked="" type="checkbox"/>
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		<input type="checkbox"/>
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

Reviewed by:

Date:

**Spiked Sample (MS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257\_MS.D\257\_MS.D#  
 Date Acquired: Nov 8 2009 02:53 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FS 5X  
 Misc Info: MATRIX SPIKE  
 Vial Number: 4407  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MS  
 Prep Dil. Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

**QC Elements**

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150	
51 V	72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150	
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150	
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150	
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150	
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150	
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150	
66 Zn	72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150	
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150	
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150	
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150	
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150	
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150	
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150	
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150	
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150	
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150	
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150	
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150	
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150	

**ISTD Elements**

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120	
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120	
72 Ge	1	462138	0.38	539567	85.6	30 - 120	
115 In	1	1389102	1.17	1576174	88.1	30 - 120	
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259\_CCB.D\259\_CCB.D#  
 Date Acquired: Nov 8 2009 02:58 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	31.75	1.00	
52 Cr	72	1	0.015 ppb	240.08	1.00	
55 Mn	72	1	-0.003 ppb	454.38	1.00	
59 Co	72	1	0.007 ppb	19.00	1.00	
60 Ni	72	1	-0.021 ppb	92.00	1.00	
63 Cu	72	1	-0.023 ppb	91.13	1.00	
66 Zn	72	1	-0.387 ppb	12.46	1.00	
75 As	72	1	0.025 ppb	95.41	1.00	
78 Se	72	1	-0.065 ppb	394.03	1.00	
95 Mo	72	1	-0.040 ppb	70.76	1.00	
107 Ag	115	1	0.007 ppb	79.32	1.00	
111 Cd	115	1	0.012 ppb	73.39	1.00	
118 Sn	115	1	0.112 ppb	71.47	1.00	
121 Sb	115	1	0.150 ppb	17.00	1.00	
137 Ba	115	1	-0.041 ppb	5.14	1.00	
205 Tl	165	1	0.021 ppb	28.23	1.00	
208 Pb	165	1	0.003 ppb	8.31	1.00	
232 Th	165	1	0.048 ppb	25.86	1.00	
238 U	165	1	0.018 ppb	13.31	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#  
 Date Acquired: Nov 8 2009 03:01 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367841	0.83	376079	97.8	30 - 120	
45 Sc	1	1154162	0.97	1186897	97.2	30 - 120	
72 Ge	1	516753	0.66	539567	95.8	30 - 120	
115 In	1	1524519	0.33	1576174	96.7	30 - 120	
165 Ho	1	2680772	0.38	2717767	98.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Duplicate Spike (MSD) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\261 MSD.D\261 MSD.D#  
 Date Acquired: Nov 8 2009 03:04 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FD 5X  
 Misc Info: MATRIX SPIKE DUPLICATE  
 Vial Number: 4408  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MSD  
 Dilution Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\257 MS.D\257 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	7.15 ppb	4.97	7.56	5.64	20	
51 V	72	1	19.44 ppb	0.87	19.50	0.31	20	
52 Cr	72	1	27.63 ppb	0.44	27.55	0.29	20	
55 Mn	72	1	11.89 ppb	0.71	11.53	3.07	20	
59 Co	72	1	6.96 ppb	0.22	6.92	0.55	20	
60 Ni	72	1	7.63 ppb	4.71	7.47	2.13	20	
63 Cu	72	1	6.96 ppb	2.26	6.92	0.55	20	
66 Zn	72	1	11.24 ppb	0.91	12.20	8.19	20	
75 As	72	1	47.18 ppb	1.02	47.40	0.47	20	
78 Se	72	1	8.49 ppb	8.60	8.21	3.34	20	
95 Mo	72	1	12.08 ppb	2.93	12.33	2.05	20	
107 Ag	115	1	6.86 ppb	1.67	6.98	1.81	20	
111 Cd	115	1	7.38 ppb	2.12	7.47	1.12	20	
118 Sn	115	1	0.11 ppb	30.03	0.39	111.83	20	
121 Sb	115	1	6.82 ppb	2.78	6.89	1.02	20	
137 Ba	115	1	12.78 ppb	1.44	12.69	0.71	20	
205 Tl	165	1	7.29 ppb	1.19	7.17	1.61	20	
208 Pb	165	1	7.29 ppb	2.38	7.25	0.51	20	
232 Th	165	1	7.89 ppb	2.55	7.88	0.08	20	
238 U	165	1	10.55 ppb	1.44	10.53	0.19	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329103	0.78	376079	87.5	30 - 120	
45 Sc	1	1057955	1.12	1186897	89.1	30 - 120	
72 Ge	1	456662	0.47	539567	84.6	30 - 120	
115 In	1	1365390	0.56	1576174	86.6	30 - 120	
165 Ho	1	2474617	1.07	2717767	91.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#  
 Date Acquired: Nov 8 2009 03:07 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7L 5X  
 Misc Info: D9J270263  
 Vial Number: 4409  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.05	0.01	ppb	157.59	3600
51	V	72	1	46.85	9.37	ppb	1.89	3600
52	Cr	72	1	12.39	2.48	ppb	5.61	3600
55	Mn	72	1	171.35	34.27	ppb	1.07	3600
59	Co	72	1	264.35	52.87	ppb	1.02	3600
60	Ni	72	1	102.35	20.47	ppb	3.34	3600
63	Cu	72	1	53.95	10.79	ppb	1.03	3600
66	Zn	72	1	17.02	3.40	ppb	3.85	3600
75	As	72	1	69.40	13.88	ppb	0.45	3600
78	Se	72	1	3.99	0.80	ppb	47.95	3600
95	Mo	72	1	6.46	1.29	ppb	6.25	3600
107	Ag	115	1	0.02	0.00	ppb	159.25	3600
111	Cd	115	1	0.13	0.03	ppb	54.73	3600
118	Sn	115	1	0.20	0.04	ppb	29.32	3600
121	Sb	115	1	0.23	0.05	ppb	27.91	3600
137	Ba	115	1	43.61	8.72	ppb	1.89	3600
205	Tl	165	1	0.08	0.02	ppb	8.14	3600
208	Pb	165	1	1.84	0.37	ppb	5.27	3600
232	Th	165	1	0.14	0.03	ppb	17.77	1000
238	U	165	1	38.02	7.60	ppb	1.66	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	343401	0.74	376079	91.3	30 - 120
45	Sc	1	1089536	0.75	1186897	91.8	30 - 120
72	Ge	1	479909	1.11	539567	88.9	30 - 120
115	In	1	1451981	1.22	1576174	92.1	30 - 120
165	Ho	1	2546093	0.95	2717767	93.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#  
 Date Acquired: Nov 8 2009 03:09 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFGD 5X  
 Misc Info: D9J280280  
 Vial Number: 4410  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#  
 Date Acquired: Nov 8 2009 03:12 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFG2 5X  
 Misc Info: D9J280283  
 Vial Number: 4411  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#  
 Date Acquired: Nov 8 2009 03:15 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2J 5X  
 Misc Info: D9J290310  
 Vial Number: 4412  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267\_CCV.D\267\_CCV.D#  
 Date Acquired: Nov 8 2009 03:21 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.22 ppb	2.08	50	102.4	90 - 110	
51	V	72	49.65 ppb	0.54	50	99.3	90 - 110	
52	Cr	72	50.22 ppb	0.76	50	100.4	90 - 110	
55	Mn	72	49.57 ppb	0.78	50	99.1	90 - 110	
59	Co	72	48.62 ppb	0.28	50	97.2	90 - 110	
60	Ni	72	50.60 ppb	1.48	50	101.2	90 - 110	
63	Cu	72	50.08 ppb	0.86	50	100.2	90 - 110	
66	Zn	72	52.09 ppb	0.68	50	104.2	90 - 110	
75	As	72	50.33 ppb	0.35	50	100.7	90 - 110	
78	Se	72	50.70 ppb	1.91	50	101.4	90 - 110	
95	Mo	72	50.34 ppb	1.97	50	100.7	90 - 110	
107	Ag	115	50.13 ppb	2.37	50	100.3	90 - 110	
111	Cd	115	50.15 ppb	1.77	50	100.3	90 - 110	
118	Sn	115	49.99 ppb	1.62	50	100.0	90 - 110	
121	Sb	115	50.52 ppb	2.60	50	101.0	90 - 110	
137	Ba	115	50.62 ppb	1.41	50	101.2	90 - 110	
205	Tl	165	51.11 ppb	0.42	50	102.2	90 - 110	
208	Pb	165	51.54 ppb	1.74	50	103.1	90 - 110	
232	Th	165	51.26 ppb	1.28	50	102.5	90 - 110	
238	U	165	51.53 ppb	0.94	50	103.1	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	360685	1.10	376079	95.9	30 - 120	
45	Sc	1157595	0.85	1186897	97.5	30 - 120	
72	Ge	507944	1.20	539567	94.1	30 - 120	
115	In	1559749	0.93	1576174	99.0	30 - 120	
165	Ho	2711611	1.14	2717767	99.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268\_CCB.D\268\_CCB.D#  
 Date Acquired: Nov 8 2009 03:23 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	19.15	1.00	
52 Cr	72	1	-0.002 ppb	789.67	1.00	
55 Mn	72	1	-0.001 ppb	1184.70	1.00	
59 Co	72	1	0.000 ppb	707.73	1.00	
60 Ni	72	1	-0.014 ppb	130.22	1.00	
63 Cu	72	1	-0.051 ppb	28.29	1.00	
66 Zn	72	1	-0.413 ppb	3.98	1.00	
75 As	72	1	0.005 ppb	390.64	1.00	
78 Se	72	1	0.068 ppb	260.94	1.00	
95 Mo	72	1	-0.051 ppb	12.59	1.00	
107 Ag	115	1	0.003 ppb	126.88	1.00	
111 Cd	115	1	0.000 ppb	7618.50	1.00	
118 Sn	115	1	0.047 ppb	150.30	1.00	
121 Sb	115	1	0.138 ppb	23.66	1.00	
137 Ba	115	1	-0.038 ppb	11.83	1.00	
205 Tl	165	1	0.021 ppb	17.52	1.00	
208 Pb	165	1	0.003 ppb	111.74	1.00	
232 Th	165	1	0.051 ppb	16.07	1.00	
238 U	165	1	0.016 ppb	14.92	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#  
 Date Acquired: Nov 8 2009 03:26 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.901 ppb	17.96	1.30	
51 V	72	1	4.935 ppb	2.34	6.50	
52 Cr	72	1	2.001 ppb	2.44	2.60	
55 Mn	72	1	1.030 ppb	4.04	1.30	
59 Co	72	1	0.990 ppb	2.41	1.30	
60 Ni	72	1	2.129 ppb	7.48	2.60	
63 Cu	72	1	1.903 ppb	4.00	2.60	
66 Zn	72	1	9.748 ppb	0.16	13.00	
75 As	72	1	4.893 ppb	4.12	6.50	
78 Se	72	1	5.130 ppb	8.01	6.50	
95 Mo	72	1	1.974 ppb	8.49	2.60	
107 Ag	115	1	5.301 ppb	1.96	6.50	
111 Cd	115	1	1.056 ppb	7.93	1.30	
118 Sn	115	1	10.460 ppb	2.46	13.00	
121 Sb	115	1	2.083 ppb	0.79	2.60	
137 Ba	115	1	1.029 ppb	5.53	1.30	
205 Tl	165	1	1.089 ppb	0.37	1.30	
208 Pb	165	1	1.075 ppb	0.39	1.30	
232 Th	165	1	2.216 ppb	0.39	2.60	
238 U	165	1	1.111 ppb	0.42	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



# Metals

## Supporting Documentation

Sample Sequence, Instrument Printouts

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D9J290310

Client: Northgate Environmental

Batch(es) #: 9303187, 9303185

Associated Samples: 1-4

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date: *R. Hill* 11/9/09

# Metals Raw Data RoadMap

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J290310	1	SE	LNH2J1AC	20091108	6020TOTA	9303185	AG110709	024
D9J290310	1	AS	LNH2J1AA	20091108	6020TOTA	9303185	AG110709	024
D9J290310	2	SE	LNH2K1AC	20091108	6020TOTA	9303185	AG110709	024
D9J290310	2	AS	LNH2K1AA	20091108	6020TOTA	9303185	AG110709	024
D9J290310	3 D	SE	LNH2L1AG	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3 S	SE	LNH2L1AF	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3 D	AS	LNH2L1AE	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3 S	AS	LNH2L1AD	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3	SE	LNH2L1AC	20091108	6020DSVD	9303187	AG110709	024
D9J290310	3	AS	LNH2L1AA	20091108	6020DSVD	9303187	AG110709	024
D9J290310	4	SE	LNH2N1AC	20091108	6020DSVD	9303187	AG110709	024
D9J290310	4	AS	LNH2N1AA	20091108	6020DSVD	9303187	AG110709	024

**METALS  
PREPARATION LOGS  
ICP-MS**



Batch Number: 9303187

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

SKW

Prep Date: <sup>11/2/09</sup>~~10/30/09~~ SKW  
Due Date: 11/10/09

<u>Lot</u>	<u>Work Order</u>			<u>Initial Weight/Volume</u>
D9J300000 Water	LNJN5	B	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJN5	C	Due Date: SDG:	<u>50 mL</u>
D9J290310 Water	LNH2L Dissolved		Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2L Dissolved	S	Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2L Dissolved	D	Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2N Dissolved		Due Date: 11/10/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*Checked  
11/7/09*

DISSOLVED WATER DIGESTION FOR ICPMS (Prep code MD)

BATCH # 9303187  
PREP DATE: 11/2/2009

ALLIQUOTTED BY: KS  
DIGESTED BY: JRW

CONSUMABLES USED	
Digestion Cups: Manufacturer: <u>Environmental Express</u>	Lot #: <u>A901LS268</u>
Were samples filtered in the lab? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If "yes", then the method blank and the LCS were filtered prior to digestion.	
Analyst(s) Initials: <u>                    </u>	

STANDARDS USED				
Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

REAGENTS USED			
Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	2

TEMPERATURE CYCLES				
Thermometer ID: <u>14371</u>		Block & Cup #: <u>11/27</u>		
Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3/HCl	<u>1430</u>	<u>96</u>	<u>1930</u>	<u>96</u>
Samples and QC revolved to: <u>50</u> mL		Analyst's Initials <u>JRW</u>		

COMMENTS:

I certify that all information above is correct and complete.

Signature: *JRW*

Date: 11/2/09

Batch Number: 9303185

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/2/09</sup> 10/30/09 JRW  
Due Date: 11/09/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9J300000 Water	LNJNV B	Due Date: SDG:	<u>50 mL</u>
D9J300000 Water	LNJNV C	Due Date: SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F S Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270261 Water	LNC7F D Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J270263 Water	LNC7L Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280280 Water	LNFGD Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J280283 Water	LNFG2 Total	Due Date: 11/09/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2J Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>
D9J290310 Water	LNH2K Total	Due Date: 11/10/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*Checked  
11/7/09*

**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

BATCH # 9303185 ALLIQUOTTED BY: KS  
PREP DATE: 11/2/2009 DIGESTED BY: JRW

**CONSUMABLES USED**

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS268  
 One or more samples were filtered prior to analysis at the instrument.  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
 Analyst(s) Initials:                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4082 Block & Cup #: 4/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1430	95	1845	45
HNO3	1900	95	1930	43
HNO3				

Samples and QC revolumed to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: *JRW*

Date: 11/2/09

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**  

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**THE LEADER IN ENVIRONMENTAL TESTING**



### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-09-2009

Logbook: \\Densvr06\StdsLog\metals.std

### STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SE02003      Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008      Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

### STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SN02016      Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009      Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

### STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HN03      Lot No.: H02026      Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se      Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009      Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000

STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelli

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 10-31-2009  
 Date Expires(1): 03-01-2010 (1 Year)  
 Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICESA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-05-2009  
 Date Expires(1): 12-05-2009 (1 Month)  
 Date Expires(2): 11-01-2010 (None)  
 pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
 Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20.000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20.000	2,000.0

STD6836-09, ICP-MS BLANK

Analyst: LILLT

Solvent: Water  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 05-07-2010 (6 Months)  
 Date Expires(2): 05-07-2010 (6 Months)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0

Parent Std No.: STD6835-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6837-09, ICP-MS HIGH CAL STD

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	10.000
Ca	2,000.0	10.000
Fe	2,000.0	10.000
K	2,000.0	10.000
Mg	2,000.0	10.000
Na	2,000.0	10.000

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6838-09, ICP-MS HIGH CCV STD

Analyst: LILLT

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-07-2009

Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500
Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	5.0000
Ca	2,000.0	5.0000
Fe	2,000.0	5.0000
K	2,000.0	5.0000
Mg	2,000.0	5.0000

Na 2,000.0 5.0000  
 Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1 Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.2000
Pd	20.000	0.1000
Pt	20.000	0.1000
W	20.000	0.1000

STD6839-09, ICP-MS HIGH RL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 10.000  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn Aliquot Amount (ml): 0.0900  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6837-09, ICP-MS HIGH CAL STD Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010
Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010
Al	10.000	0.1000
Ca	10.000	0.1000
Fe	10.000	0.1000
K	10.000	0.1000
Mg	10.000	0.1000
Na	10.000	0.1000

Nb	0.2000	0.0020
Pd	0.1000	0.0010
Pt	0.1000	0.0010
W	0.1000	0.0010

STD6840-09, ICP-MS HIGH AFCEE RL STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6839-09, ICP-MS HIGH RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002
Al	0.1000	0.0200
Ca	0.1000	0.0200
Fe	0.1000	0.0200
K	0.1000	0.0200
Mg	0.1000	0.0200
Na	0.1000	0.0200
Nb	0.0020	0.0004
Pd	0.0010	0.0002
Pt	0.0010	0.0002
W	0.0010	0.0002
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018



STD6841-09, ICP-MS HIGH ICSAB

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD3111-09, ICP-MS CALSTD 3

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	100.00
Ca	2,000.0	100.00
Fe	2,000.0	100.00
K	2,000.0	100.00
Mg	2,000.0	100.00
Na	2,000.0	100.00

Parent Std No.: STD3112-09, ICP-MS BRC CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	2.0000
Pd	20.000	1.0000
Pt	20.000	1.0000

W	20.000	1.0000
Parent Std No.: STD4542-09, ICPMS Interferent Check Standard		Aliquot Amount (ml): 1.0000
Parent Date Expires(1): 07-31-2010    Parent Date Expires(2): 08-01-2010		
<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD6842-09, ICP-MS HIGH LR STD1

Analyst: LILLT

Solvent: 5% HNO3                      Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000
Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000

STD6843-09, ICP-MS HIGH ICV STD

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-07-2009  
 Date Expires(1): 11-08-2009 (1 Day)

Volume (ml): 50.000

Parent Std No.: STD3113-09, ICP-MS TA ICV A Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

Parent Std No.: STD3115-09, ICP-MS TA ICV Alt Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Al	2,000.0	4.0000
Ca	2,000.0	4.0000
Fe	2,000.0	4.0000
K	2,000.0	4.0000
Mg	2,000.0	4.0000
Na	2,000.0	4.0000

Parent Std No.: STD3116-09, ICP-MS TA ICV BRC Aliquot Amount (ml): 0.1000  
 Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Nb	40.000	0.0800
Pd	20.000	0.0400
Pt	20.000	0.0400

W 20.000 0.0400

STD6844-09, ALTSe

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 21 and Met 8

Volume (ml): 50.000

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6855-09, LLCCV/RLICV

Analyst: LILLT

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-07-2009  
Date Expires(1): 11-08-2009 (1 Day)  
pipettes: Met 20

Volume (ml): 100.00

Parent Std No.: STD3106-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.0000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.0000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.0000
K	10.0000	100.0000
Mg	5.0000	50.0000
Mn	0.1000	1.0000
Na	5.0000	50.0000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000
Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.0000

Parent Std No.: STD3107-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

Parent Std No.: STD3108-09, ICP-MS BRC LLCCV 1

Aliquot Amount (ml): 1.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Nb	4.0000	40.000
Pd	0.1000	1.0000
Pt	0.1000	1.0000
W	0.5000	5.0000

Reviewed By: \_\_\_\_\_

 11/9/09

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0 11/07/09 15:09		<input type="checkbox"/>
4	100 ppb				1.0 11/07/09 15:12		<input type="checkbox"/>
5	ICV				1.0 11/07/09 15:15		<input type="checkbox"/>
6	RLIV				1.0 11/07/09 15:18		<input type="checkbox"/>
7	ICB				1.0 11/07/09 15:20		<input type="checkbox"/>
8	RL STD				1.0 11/07/09 15:23		<input type="checkbox"/>
9	AFCEE RL				1.0 11/07/09 15:26		<input type="checkbox"/>
10	ALTSe				1.0 11/07/09 15:29		<input type="checkbox"/>
11	ICSA				1.0 11/07/09 15:31		<input type="checkbox"/>
12	ICSAB				1.0 11/07/09 15:34		<input type="checkbox"/>
13	RINSE				1.0 11/07/09 15:37		<input type="checkbox"/>
14	LR1				1.0 11/07/09 15:40		<input type="checkbox"/>
15	RINSE				1.0 11/07/09 15:42		<input type="checkbox"/>
16	CCV				1.0 11/07/09 15:45		<input type="checkbox"/>
17	CCB				1.0 11/07/09 15:48		<input type="checkbox"/>
18	RLCV				1.0 11/07/09 15:50		<input type="checkbox"/>
19	LNDMKB	D9J280000	9301081	46	1.0 11/07/09 15:53		<input type="checkbox"/>
20	LNDMKC	D9J280000	9301081	46	1.0 11/07/09 15:56		<input type="checkbox"/>
21	LM9FJ	D9J240188-1	9301081	46	1.0 11/07/09 15:59		<input type="checkbox"/>
22	LM9FJP5	D9J240188	9301081		5.0 11/07/09 16:01		<input type="checkbox"/>
23	LM9FJZ	D9J240188-1	9301081		1.0 11/07/09 16:04		<input type="checkbox"/>
24	LM9FJS	D9J240188-1	9301081	46	1.0 11/07/09 16:07		<input type="checkbox"/>
25	LM9FJD	D9J240188-1	9301081	46	1.0 11/07/09 16:09		<input type="checkbox"/>
26	LM9FK	D9J240188-2	9301081	46	1.0 11/07/09 16:12		<input type="checkbox"/>
27	CCV				1.0 11/07/09 16:15		<input type="checkbox"/>
28	CCB				1.0 11/07/09 16:18		<input type="checkbox"/>
29	RLCV				1.0 11/07/09 16:20		<input type="checkbox"/>
30	LNJT4B	D9J300000	9303213	MS	1.0 11/07/09 16:23		<input type="checkbox"/>
31	LNJT4C	D9J300000	9303213	MS	1.0 11/07/09 16:26		<input type="checkbox"/>
32	LM8A7	D9J230367-1	9303213	MS	1.0 11/07/09 16:29		<input type="checkbox"/>
33	LM8CG	D9J230367-2	9303213	MS	1.0 11/07/09 16:32		<input type="checkbox"/>
34	LM8CV	D9J230367-3	9303213	MS	1.0 11/07/09 16:34		<input type="checkbox"/>
35	LM8C1	D9J230367-4	9303213	MS	1.0 11/07/09 16:37		<input type="checkbox"/>
36	LM8C1P5	D9J230367	9303213		5.0 11/07/09 16:40		<input type="checkbox"/>
37	LM8C1Z	D9J230367-4	9303213		1.0 11/07/09 16:43		<input type="checkbox"/>
38	LM8C1S	D9J230367-4	9303213	MS	1.0 11/07/09 16:45		<input type="checkbox"/>
39	LM8C1D	D9J230367-4	9303213	MS	1.0 11/07/09 16:48		<input type="checkbox"/>
40	CCV				1.0 11/07/09 16:51		<input type="checkbox"/>
41	CCB				1.0 11/07/09 16:53		<input type="checkbox"/>
42	RLCV				1.0 11/07/09 16:57		<input type="checkbox"/>
43	LNDMTB	D9J280000	9301086	46	1.0 11/07/09 17:00		<input type="checkbox"/>
44	LNDMTC	D9J280000	9301086	46	1.0 11/07/09 17:02		<input type="checkbox"/>
45	LM8E2	D9J230373-1	9301086	46	1.0 11/07/09 17:05		<input type="checkbox"/>
46	LM8E2P5	D9J230373	9301086		5.0 11/07/09 17:08		<input type="checkbox"/>
47	LM8E2Z	D9J230373-1	9301086		1.0 11/07/09 17:11		<input type="checkbox"/>
48	LM8E2S	D9J230373-1	9301086	46	1.0 11/07/09 17:13		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
49	LM8E2D	D9J230373-1	9301086	46	1.0	11/07/09 17:16	<input type="checkbox"/>
50	LM8E6	D9J230373-2	9301086	46	1.0	11/07/09 17:19	<input type="checkbox"/>
51	CCV				1.0	11/07/09 17:22	<input type="checkbox"/>
52	CCB				1.0	11/07/09 17:24	<input type="checkbox"/>
53	RLCV				1.0	11/07/09 17:27	<input type="checkbox"/>
54	LM8E7	D9J230373-3	9301086	46	1.0	11/07/09 17:30	<input type="checkbox"/>
55	LM8E9	D9J230373-4	9301086	46	1.0	11/07/09 17:33	<input type="checkbox"/>
56	LM8FA	D9J230373-5	9301086	46	1.0	11/07/09 17:35	<input type="checkbox"/>
57	LM8FC	D9J230373-6	9301086	46	1.0	11/07/09 17:38	<input type="checkbox"/>
58	LM8FD	D9J230373-7	9301086	46	1.0	11/07/09 17:41	<input type="checkbox"/>
59	LM8FE	D9J230373-8	9301086	46	1.0	11/07/09 17:44	<input type="checkbox"/>
60	LM8FF	D9J230373-9	9301086	46	1.0	11/07/09 17:47	<input type="checkbox"/>
61	LM8FG	D9J230373-10	9301086	46	1.0	11/07/09 17:51	<input type="checkbox"/>
62	LM8FH	D9J230373-11	9301086	46	1.0	11/07/09 17:53	<input type="checkbox"/>
63	CCV				1.0	11/07/09 17:56	<input type="checkbox"/>
64	CCB				1.0	11/07/09 17:59	<input type="checkbox"/>
65	RLCV				1.0	11/07/09 18:02	<input type="checkbox"/>
66	<del>LMNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5</del>	<del>11/07/09 18:04</del> <i>11/9/09 did not use.</i>	<input type="checkbox"/>
67	LNDMPB	D9J280000	9301083	46	1.0	11/07/09 18:07	<input type="checkbox"/>
68	LNDMPC	D9J280000	9301083	46	1.0	11/07/09 18:10	<input type="checkbox"/>
69	LM8CT	D9J230370-1	9301083	46	1.0	11/07/09 18:13	<input type="checkbox"/>
70	LM8CTP5	D9J230370	9301083		5.0	11/07/09 18:16	<input type="checkbox"/>
71	LM8CTZ	D9J230370-1	9301083		1.0	11/07/09 18:18	<input type="checkbox"/>
72	LM8CTS	D9J230370-1	9301083	46	1.0	11/07/09 18:21	<input type="checkbox"/>
73	LM8CTD	D9J230370-1	9301083	46	1.0	11/07/09 18:24	<input type="checkbox"/>
74	CCV				1.0	11/07/09 18:27	<input type="checkbox"/>
75	CCB				1.0	11/07/09 18:29	<input type="checkbox"/>
76	RLCV				1.0	11/07/09 18:32	<input type="checkbox"/>
77	LM8C5	D9J230370-2	9301083	46	1.0	11/07/09 18:35	<input type="checkbox"/>
78	LM8C8	D9J230370-3	9301083	46	1.0	11/07/09 18:38	<input type="checkbox"/>
79	LM8C9	D9J230370-4	9301083	46	1.0	11/07/09 18:40	<input type="checkbox"/>
80	LM8DA	D9J230370-5	9301083	46	1.0	11/07/09 18:43	<input type="checkbox"/>
81	LM8DC	D9J230370-6	9301083	46	1.0	11/07/09 18:46	<input type="checkbox"/>
82	LM8DF	D9J230370-7	9301083	46	1.0	11/07/09 18:49	<input type="checkbox"/>
83	LM8DG	D9J230370-8	9301083	46	1.0	11/07/09 18:51	<input type="checkbox"/>
84	CCV				1.0	11/07/09 18:54	<input type="checkbox"/>
85	CCB				1.0	11/07/09 18:57	<input type="checkbox"/>
86	RLCV				1.0	11/07/09 19:00	<input type="checkbox"/>
87	LM8DH	D9J230370-9	9301083	46	1.0	11/07/09 19:03	<input type="checkbox"/>
88	LM8DK	D9J230370-10	9301083	46	1.0	11/07/09 19:05	<input type="checkbox"/>
89	LM8DL	D9J230370-11	9301083	46	1.0	11/07/09 19:08	<input type="checkbox"/>
90	LM8DN	D9J230370-12	9301083	46	1.0	11/07/09 19:11	<input type="checkbox"/>
91	LM8DQ	D9J230370-13	9301083	46	1.0	11/07/09 19:14	<input type="checkbox"/>
92	LM8DT	D9J230370-14	9301083	46	1.0	11/07/09 19:17	<input type="checkbox"/>
93	LM8DV	D9J230370-15	9301083	46	1.0	11/07/09 19:19	<input type="checkbox"/>
94	LM8D4	D9J230370-16	9301083	46	1.0	11/07/09 19:22	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
95	CCV				1.0 11/07/09 19:25		<input type="checkbox"/>
96	CCB				1.0 11/07/09 19:28		<input type="checkbox"/>
97	RLCV				1.0 11/07/09 19:30		<input type="checkbox"/>
98	ICSA				1.0 11/07/09 19:33		<input type="checkbox"/>
99	ICSAB				1.0 11/07/09 19:36		<input type="checkbox"/>
100	WASH				1.0 11/07/09 19:39		<input type="checkbox"/>
101	CCV				1.0 11/07/09 19:41		<input type="checkbox"/>
102	CCB				1.0 11/07/09 19:44		<input type="checkbox"/>
103	RLCV				1.0 11/07/09 19:47		<input type="checkbox"/>
104	LNPkXBQ	D9K030000	9307099	U1	1.0 11/07/09 19:50		<input type="checkbox"/>
105	LNPkXCQ	D9K030000	9307099	U1	1.0 11/07/09 19:52		<input type="checkbox"/>
106	LNN4FQ	D9K020448-1	9307099	U1	1.0 11/07/09 19:55		<input type="checkbox"/>
107	LNN4FP5Q	D9K020448	9307099		5.0 11/07/09 19:58		<input type="checkbox"/>
108	LNN4FZQ	D9K020448-1	9307099		1.0 11/07/09 20:01		<input type="checkbox"/>
109	LNN4FSQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:03		<input type="checkbox"/>
110	LNN4FDQ	D9K020448-1	9307099	U1	1.0 11/07/09 20:06		<input type="checkbox"/>
111	CCV				1.0 11/07/09 20:09		<input type="checkbox"/>
112	CCB				1.0 11/07/09 20:12		<input type="checkbox"/>
113	RLCV				1.0 11/07/09 20:14		<input type="checkbox"/>
114	<del>LNNVDB</del>	<del>D9K020000</del>	<del>9306332</del>	<del>04</del>	<del>2.5 11/07/09 20:17</del>		<input type="checkbox"/>
115	LNNVDC	D9K020000	9306332	04	2.5 11/07/09 20:20		<input type="checkbox"/>
116	LNKT9	D9J300258-1	9306332	04	2.5 11/07/09 20:23		<input type="checkbox"/>
117	LNKT9S	D9J300258-1	9306332	04	2.5 11/07/09 20:25		<input type="checkbox"/>
118	LNKT9D	D9J300258-1	9306332	04	2.5 11/07/09 20:28		<input type="checkbox"/>
119	CCV				1.0 11/07/09 20:31		<input type="checkbox"/>
120	CCB				1.0 11/07/09 20:34		<input type="checkbox"/>
121	RLCV				1.0 11/07/09 20:36		<input type="checkbox"/>
122	RINSE				1.0 11/07/09 20:39		<input type="checkbox"/>
123	RINSE				1.0 11/07/09 20:42		<input type="checkbox"/>
124	<del>Cal Blank</del>				<del>1.0 11/07/09 20:45</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>
125	Cal Blank				1.0 11/07/09 20:47		<input type="checkbox"/>
126	100 ppb				1.0 11/07/09 20:50		<input type="checkbox"/>
127	CCV				1.0 11/07/09 20:53		<input type="checkbox"/>
128	CCB				1.0 11/07/09 20:56		<input type="checkbox"/>
129	RLCV				1.0 11/07/09 20:58		<input type="checkbox"/>
130	<del>LNNQ5BF</del>	<del>D9K020000</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:01</del>		<input type="checkbox"/>
131	LNNQ5CF	D9K020000	9306285	MD	1.0 11/07/09 21:04		<input type="checkbox"/>
132	LNLGXF 2X	D9J300326-1	9306285	MD	2.0 11/07/09 21:07		<input type="checkbox"/>
133	LNLG3F	D9J300326-2	9306285	MD	1.0 11/07/09 21:10		<input type="checkbox"/>
134	LNLG4F	D9J300326-3	9306285	MD	1.0 11/07/09 21:12		<input type="checkbox"/>
135	LNLHHF	D9J300329-1	9306285	MD	1.0 11/07/09 21:15		<input type="checkbox"/>
136	LNLHMF	D9J300329-2	9306285	MD	1.0 11/07/09 21:18		<input type="checkbox"/>
137	CCV				1.0 11/07/09 21:21		<input type="checkbox"/>
138	CCB				1.0 11/07/09 21:23		<input type="checkbox"/>
139	RLCV				1.0 11/07/09 21:26		<input type="checkbox"/>
140	<del>LNLHPF</del>	<del>D9J300329-3</del>	<del>9306285</del>	<del>MD</del>	<del>1.0 11/07/09 21:29</del>	<i>11/9/09 did not use.</i>	<input type="checkbox"/>



Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
141	<del>LNLJF</del>	D9J300340-1	9306285	MD	1.0	11/07/09 21:32	<input type="checkbox"/>
142	LNLJJP5F	D9J300340	9306285		5.0	11/07/09 21:35	<input type="checkbox"/>
143	LNLJJZF	D9J300340-1	9306285		1.0	11/07/09 21:37	<input type="checkbox"/>
144	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/07/09 21:40	<input type="checkbox"/>
145	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/07/09 21:43	<input type="checkbox"/>
146	<del>LNLJMF</del>	D9J300340-2	9306285	MD	1.0	11/07/09 21:45	<input type="checkbox"/>
147	CCV				1.0	11/07/09 21:48	<input type="checkbox"/>
148	CCB				1.0	11/07/09 21:51	<input type="checkbox"/>
149	RLCV				1.0	11/07/09 21:54	<input type="checkbox"/>
150	LNJXTB	D9J300000	9303237	04	1.0	11/07/09 21:57	<input type="checkbox"/>
151	LNJXTC	D9J300000	9303237	04	1.0	11/07/09 21:59	<input type="checkbox"/>
152	LNG33	D9J290197-1	9303237	04	1.0	11/07/09 22:02	<input type="checkbox"/>
153	LNG4H	D9J290197-2	9303237	04	1.0	11/07/09 22:05	<input type="checkbox"/>
154	LNG4L	D9J290197-3	9303237	04	1.0	11/07/09 22:08	<input type="checkbox"/>
155	LNG4LP5	D9J290197	9303237		5.0	11/07/09 22:10	<input type="checkbox"/>
156	LNG4LZ	D9J290197-3	9303237		1.0	11/07/09 22:13	<input type="checkbox"/>
157	LNG4LS	D9J290197-3	9303237	04	1.0	11/07/09 22:16	<input type="checkbox"/>
158	LNG4LD	D9J290197-3	9303237	04	1.0	11/07/09 22:19	<input type="checkbox"/>
159	CCV				1.0	11/07/09 22:21	<input type="checkbox"/>
160	CCB				1.0	11/07/09 22:24	<input type="checkbox"/>
161	RLCV				1.0	11/07/09 22:27	<input type="checkbox"/>
162	LNG4N	D9J290197-4	9303237	04	1.0	11/07/09 22:30	<input type="checkbox"/>
163	LNG4R	D9J290197-5	9303237	04	1.0	11/07/09 22:32	<input type="checkbox"/>
164	LNG4W	D9J290197-6	9303237	04	1.0	11/07/09 22:35	<input type="checkbox"/>
165	LNG4X	D9J290197-7	9303237	04	1.0	11/07/09 22:38	<input type="checkbox"/>
166	LNG41	D9J290197-8	9303237	04	1.0	11/07/09 22:41	<input type="checkbox"/>
167	LNG42	D9J290197-9	9303237	04	1.0	11/07/09 22:43	<input type="checkbox"/>
168	LNG44	D9J290197-10	9303237	04	1.0	11/07/09 22:46	<input type="checkbox"/>
169	LNG46	D9J290197-11	9303237	04	1.0	11/07/09 22:49	<input type="checkbox"/>
170	CCV				1.0	11/07/09 22:52	<input type="checkbox"/>
171	CCB				1.0	11/07/09 22:54	<input type="checkbox"/>
172	RLCV				1.0	11/07/09 22:57	<input type="checkbox"/>
173	LNWCQB	D9K050000	9309120	04	2.5	11/07/09 23:00	<input type="checkbox"/>
174	LNWCQC	D9K050000	9309120	04	2.5	11/07/09 23:03	<input type="checkbox"/>
175	LNTEH	D9K040465-33	9309120	04	2.5	11/07/09 23:06	<input type="checkbox"/>
176	LNTEQ	D9K040465-35	9309120	04	2.5	11/07/09 23:08	<input type="checkbox"/>
177	LNTET	D9K040465-37	9309120	04	2.5	11/07/09 23:11	<input type="checkbox"/>
178	LNTE0	D9K040465-39	9309120	04	2.5	11/07/09 23:14	<input type="checkbox"/>
179	LNTE5	D9K040465-41	9309120	04	2.5	11/07/09 23:17	<input type="checkbox"/>
180	LNTE5S	D9K040465-41	9309120	04	2.5	11/07/09 23:19	<input type="checkbox"/>
181	LNTE5D	D9K040465-41	9309120	04	2.5	11/07/09 23:22	<input type="checkbox"/>
182	LNTFA	D9K040465-43	9309120	04	2.5	11/07/09 23:25	<input type="checkbox"/>
183	CCV				1.0	11/07/09 23:28	<input type="checkbox"/>
184	CCB				1.0	11/07/09 23:30	<input type="checkbox"/>
185	RLCV				1.0	11/07/09 23:33	<input type="checkbox"/>
186	RINSE				1.0	11/07/09 23:36	<input type="checkbox"/>

*RT 11/9/09 did not use.*

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
187	<del>RINSE</del>			1.0	<del>11/07/09 23:39</del>		<input type="checkbox"/>
188	<del>Cal Blank</del>			1.0	<del>11/07/09 23:41</del>	<i>vt 11/9/09 Didnot use.</i>	<input type="checkbox"/>
189	Cal Blank			1.0	11/07/09 23:44		<input type="checkbox"/>
190	100 ppb			1.0	11/07/09 23:47		<input type="checkbox"/>
191	CCV			1.0	11/07/09 23:50		<input type="checkbox"/>
192	CCB			1.0	11/07/09 23:52		<input type="checkbox"/>
193	RLCV			1.0	11/07/09 23:55		<input type="checkbox"/>
194	LNEMRZF	D9J280200-5	9302146		1.0 11/07/09 23:58		<input type="checkbox"/>
195	LNEMRSF	D9J280200-5	9302146	MD	1.0 11/08/09 00:01		<input type="checkbox"/>
196	LNEMRDF	D9J280200-5	9302146	MD	1.0 11/08/09 00:03		<input type="checkbox"/>
197	LNEMWF	D9J280200-6	9302146	MD	1.0 11/08/09 00:06		<input type="checkbox"/>
198	LNEM0F	D9J280200-7	9302146	MD	1.0 11/08/09 00:09		<input type="checkbox"/>
199	LNEM3F	D9J280200-8	9302146	MD	1.0 11/08/09 00:12		<input type="checkbox"/>
200	LNEM4F	D9J280200-9	9302146	MD	1.0 11/08/09 00:15		<input type="checkbox"/>
201	LNEM7F	D9J280200-10	9302146	MD	1.0 11/08/09 00:17		<input type="checkbox"/>
202	CCV			1.0	11/08/09 00:20		<input type="checkbox"/>
203	CCB			1.0	11/08/09 00:23		<input type="checkbox"/>
204	RLCV			1.0	11/08/09 00:26		<input type="checkbox"/>
205	LN0N2B	D9K060000	9310060	04	2.5 11/08/09 00:28		<input type="checkbox"/>
206	LN0N2C	D9K060000	9310060	04	2.5 11/08/09 00:31		<input type="checkbox"/>
207	LNW5P	D9K050485-2	9310060	04	2.5 11/08/09 00:34		<input type="checkbox"/>
208	LNW55	D9K050485-4	9310060	04	2.5 11/08/09 00:37		<input type="checkbox"/>
209	LNW6E	D9K050485-6	9310060	04	2.5 11/08/09 00:40		<input type="checkbox"/>
210	LNW6ES	D9K050485-6	9310060	04	2.5 11/08/09 00:42		<input type="checkbox"/>
211	LNW6ED	D9K050485-6	9310060	04	2.5 11/08/09 00:45		<input type="checkbox"/>
212	CCV			1.0	11/08/09 00:48		<input type="checkbox"/>
213	CCB			1.0	11/08/09 00:51		<input type="checkbox"/>
214	RLCV			1.0	11/08/09 00:53		<input type="checkbox"/>
215	LNF42B	D9J290000	9302121	MS	1.0 11/08/09 00:56		<input type="checkbox"/>
216	LNF42C	D9J290000	9302121	MS	1.0 11/08/09 00:59		<input type="checkbox"/>
217	LNE4T	D9J280246-1	9302121	MS	1.0 11/08/09 01:02		<input type="checkbox"/>
218	LNE40 10X	D9J280246-2	9302121	MS	10.0 11/08/09 01:05		<input type="checkbox"/>
219	LNE41 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:07		<input type="checkbox"/>
220	LNE41P25	D9J280246	9302121		25.0 11/08/09 01:10		<input type="checkbox"/>
221	CCV			1.0	11/08/09 01:13		<input type="checkbox"/>
222	CCB			1.0	11/08/09 01:16		<input type="checkbox"/>
223	RLCV			1.0	11/08/09 01:19		<input type="checkbox"/>
224	LNE41Z	D9J280246-3	9302121		1.0 11/08/09 01:21		<input type="checkbox"/>
225	LNE41S 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:24		<input type="checkbox"/>
226	LNE41D 5X	D9J280246-3	9302121	MS	5.0 11/08/09 01:27		<input type="checkbox"/>
227	LNE44 5X	D9J280246-4	9302121	MS	5.0 11/08/09 01:30		<input type="checkbox"/>
228	LNE47 2X	D9J280246-5	9302121	MS	2.0 11/08/09 01:32		<input type="checkbox"/>
229	LNE5A 2X	D9J280246-6	9302121	MS	2.0 11/08/09 01:35		<input type="checkbox"/>
230	CCV			1.0	11/08/09 01:38		<input type="checkbox"/>
231	CCB			1.0	11/08/09 01:41		<input type="checkbox"/>
232	RLCV			1.0	11/08/09 01:44		<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/09/09 10:00:55
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File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
233	LNJN5BF	D9J300000	9303187	MD	1.0	11/08/09 01:46	<input type="checkbox"/>
234	LNJN5CF	D9J300000	9303187	MD	1.0	11/08/09 01:49	<input type="checkbox"/>
235	LNH2LF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 01:52	<input type="checkbox"/>
236	LNH2LP10F	D9J290310	9303187		10.0	11/08/09 01:55	<input type="checkbox"/>
237	LNH2LZF	D9J290310-3	9303187		1.0	11/08/09 01:58	<input type="checkbox"/>
238	LNH2LSF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:00	<input type="checkbox"/>
239	LNH2LDF 2X	D9J290310-3	9303187	MD	2.0	11/08/09 02:03	<input type="checkbox"/>
240	LNH2NF 2X	D9J290310-4	9303187	MD	2.0	11/08/09 02:06	<input type="checkbox"/>
241	CCV				1.0	11/08/09 02:09	<input type="checkbox"/>
242	CCB				1.0	11/08/09 02:11	<input type="checkbox"/>
243	RLCV				1.0	11/08/09 02:14	<input type="checkbox"/>
244	RINSE				1.0	<del>11/08/09 02:17</del>	<input type="checkbox"/>
245	RINSE				1.0	11/08/09 02:20	<input type="checkbox"/>
246	<del>Cal Blank</del>				1.0	<del>11/08/09 02:22</del> <i>11/9/09 did not use</i>	<input type="checkbox"/>
247	Cal Blank				1.0	11/08/09 02:25	<input type="checkbox"/>
248	100 ppb				1.0	11/08/09 02:28	<input type="checkbox"/>
249	CCV				1.0	11/08/09 02:31	<input type="checkbox"/>
250	CCB				1.0	11/08/09 02:33	<input type="checkbox"/>
251	RLCV				1.0	11/08/09 02:36	<input type="checkbox"/>
252	LNJNVB	D9J300000	9303185	MS	1.0	11/08/09 02:39	<input type="checkbox"/>
253	LNJVNC	D9J300000	9303185	MS	1.0	11/08/09 02:42	<input type="checkbox"/>
254	LNC7F 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:44	<input type="checkbox"/>
255	LNC7FP25	D9J270261	9303185		25.0	11/08/09 02:47	<input type="checkbox"/>
256	LNC7FZ	D9J270261-1	9303185		1.0	11/08/09 02:50	<input type="checkbox"/>
257	LNC7FS 5X	D9J270261-1	9303185	MS	5.0	11/08/09 02:53	<input type="checkbox"/>
258	CCV				1.0	11/08/09 02:56	<input type="checkbox"/>
259	CCB				1.0	11/08/09 02:58	<input type="checkbox"/>
260	RLCV				1.0	11/08/09 03:01	<input type="checkbox"/>
261	LNC7FD 5X	D9J270261-1	9303185	MS	5.0	11/08/09 03:04	<input type="checkbox"/>
262	LNC7L 5X	D9J270263-1	9303185	MS	5.0	11/08/09 03:07	<input type="checkbox"/>
263	LNFGD 5X	D9J280280-1	9303185	MS	5.0	11/08/09 03:09	<input type="checkbox"/>
264	LNFG2 5X	D9J280283-1	9303185	MS	5.0	11/08/09 03:12	<input type="checkbox"/>
265	LNH2J 5X	D9J290310-1	9303185	MS	5.0	11/08/09 03:15	<input type="checkbox"/>
266	LNH2K 5X	D9J290310-2	9303185	MS	5.0	11/08/09 03:18	<input type="checkbox"/>
267	CCV				1.0	11/08/09 03:21	<input type="checkbox"/>
268	CCB				1.0	11/08/09 03:23	<input type="checkbox"/>
269	RLCV				1.0	11/08/09 03:26	<input type="checkbox"/>
270	LNJ8HB	D9J300000	9303310	04	1.0	11/08/09 03:29	<input type="checkbox"/>
271	LNJ8HC	D9J300000	9303310	04	1.0	11/08/09 03:32	<input type="checkbox"/>
272	LNHRC	D9J290285-1	9303310	04	1.0	11/08/09 03:34	<input type="checkbox"/>
273	LNHRK	D9J290285-2	9303310	04	1.0	11/08/09 03:37	<input type="checkbox"/>
274	LNHRN	D9J290285-3	9303310	04	1.0	11/08/09 03:40	<input type="checkbox"/>
275	LNHRP	D9J290285-4	9303310	04	1.0	11/08/09 03:43	<input type="checkbox"/>
276	LNHRR	D9J290285-5	9303310	04	1.0	11/08/09 03:46	<input type="checkbox"/>
277	CCV				1.0	11/08/09 03:48	<input type="checkbox"/>
278	CCB				1.0	11/08/09 03:51	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/09/09 10:00:55

File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
279	RLCV				1.0	11/08/09 03:54	<input type="checkbox"/>
280	LNHRT	D9J290285-6	9303310	04	1.0	11/08/09 03:57	<input type="checkbox"/>
281	LNHRTP5	D9J290285	9303310		5.0	11/08/09 03:59	<input type="checkbox"/>
282	LNHRTZ	D9J290285-6	9303310		1.0	11/08/09 04:02	<input type="checkbox"/>
283	LNHRYS	D9J290285-6	9303310	04	1.0	11/08/09 04:05	<input type="checkbox"/>
284	LNHRD	D9J290285-6	9303310	04	1.0	11/08/09 04:08	<input type="checkbox"/>
285	LNHRV	D9J290285-7	9303310	04	1.0	11/08/09 04:10	<input type="checkbox"/>
286	LNHRW	D9J290285-8	9303310	04	1.0	11/08/09 04:13	<input type="checkbox"/>
287	LNHRX	D9J290285-9	9303310	04	1.0	11/08/09 04:16	<input type="checkbox"/>
288	LNHR0	D9J290285-10	9303310	04	1.0	11/08/09 04:19	<input type="checkbox"/>
289	CCV				1.0	11/08/09 04:21	<input type="checkbox"/>
290	CCB				1.0	11/08/09 04:24	<input type="checkbox"/>
291	RLCV				1.0	11/08/09 04:27	<input type="checkbox"/>
292	<del>Cal Blank</del>				1.0	11/08/09 04:30	<input type="checkbox"/>
293	Cal Blank				1.0	11/08/09 04:32	<input type="checkbox"/>
294	100 ppb				1.0	11/08/09 04:35	<input type="checkbox"/>
295	CCV				1.0	11/08/09 04:38	<input type="checkbox"/>
296	CCB				1.0	11/08/09 04:41	<input type="checkbox"/>
297	RLCV				1.0	11/08/09 04:43	<input type="checkbox"/>
298	LM7XN 10X	D9J230319-2	9299274	04	1.0	11/08/09 04:46	<input type="checkbox"/>
299	CCV				1.0	11/08/09 04:49	<input type="checkbox"/>
300	CCB				1.0	11/08/09 04:52	<input type="checkbox"/>
301	RLCV				1.0	11/08/09 04:54	<input type="checkbox"/>
302	<del>LNNV0B</del>	<del>D9K020000</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 04:57</del>	<input type="checkbox"/>
303	LNNV0C	D9K020000	9306340	04	1.0	11/08/09 05:00	<input type="checkbox"/>
304	LNLGN 5X	D9J300319-1	9306340	04	5.0	11/08/09 05:03	<input type="checkbox"/>
305	LNJ05	D9J300168-1	9306340	04	1.0	11/08/09 05:05	<input type="checkbox"/>
306	LNJ1A	D9J300168-2	9306340	04	1.0	11/08/09 05:08	<input type="checkbox"/>
307	LNJ1C	D9J300168-3	9306340	04	1.0	11/08/09 05:11	<input type="checkbox"/>
308	LNJ1D	D9J300168-4	9306340	04	1.0	11/08/09 05:14	<input type="checkbox"/>
309	LNJ1F	D9J300168-5	9306340	04	1.0	11/08/09 05:16	<input type="checkbox"/>
310	CCV				1.0	11/08/09 05:19	<input type="checkbox"/>
311	CCB				1.0	11/08/09 05:22	<input type="checkbox"/>
312	RLCV				1.0	11/08/09 05:25	<input type="checkbox"/>
313	LNJ41	D9J300188-1	9306340	04	1.0	11/08/09 05:27	<input type="checkbox"/>
314	LNJ43	D9J300188-2	9306340	04	1.0	11/08/09 05:30	<input type="checkbox"/>
315	LNJ44	D9J300188-3	9306340	04	1.0	11/08/09 05:33	<input type="checkbox"/>
316	LNJ45	D9J300188-4	9306340	04	1.0	11/08/09 05:36	<input type="checkbox"/>
317	LNMA5 5X	D9J310124-1	9306340	04	5.0	11/08/09 05:38	<input type="checkbox"/>
318	LNMCH	D9J310127-1	9306340	04	1.0	11/08/09 05:41	<input type="checkbox"/>
319	CCV				1.0	11/08/09 05:44	<input type="checkbox"/>
320	CCB				1.0	11/08/09 05:47	<input type="checkbox"/>
321	RLCV				1.0	11/08/09 05:49	<input type="checkbox"/>
322	LNMCH	D9J310127-2	9306340	04	1.0	11/08/09 05:52	<input type="checkbox"/>
323	LNMCHP5	D9J310127	9306340		5.0	11/08/09 05:55	<input type="checkbox"/>
324	<del>LNMCHZ</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del></del>	<del>1.0</del>	<del>11/08/09 05:58</del>	<input type="checkbox"/>

*not 11/9/09 did not use.*

*not 11/9/09 did not use.*

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/09/09 10:00:55

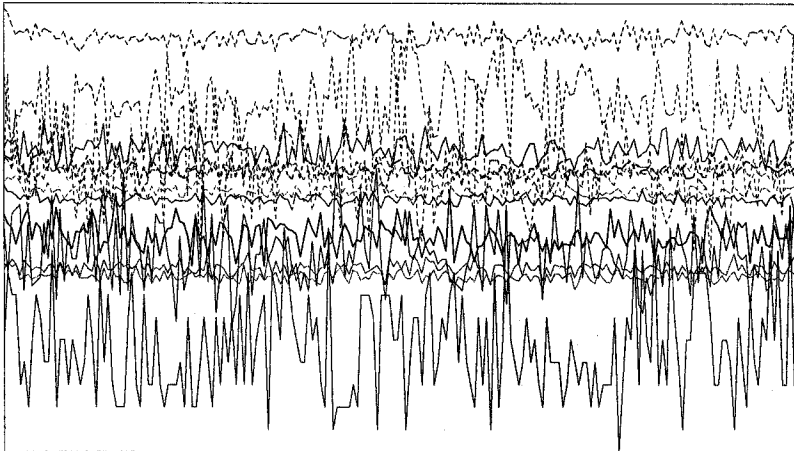
File ID: AG110709

Analyst: TEL

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
325	<del>LNMCNS</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:00</del>	<input type="checkbox"/>
326	<del>LNMCND</del>	<del>D9J310127-2</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:03</del>	<input type="checkbox"/>
327	<del>LNMCN</del>	<del>D9J310127-3</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:06</del>	<input type="checkbox"/>
328	<del>LNMCQ</del>	<del>D9J310127-4</del>	<del>9306340</del>	<del>04</del>	<del>1.0</del>	<del>11/08/09 06:09</del>	<input type="checkbox"/>
329	CCV				1.0	11/08/09 06:11	<input type="checkbox"/>
330	CCB				1.0	11/08/09 06:14	<input type="checkbox"/>
331	<del>BLCV</del>				<del>1.0</del>	<del>11/08/09 06:17</del> <i>Not 11/9/09 did not use.</i>	<input type="checkbox"/>

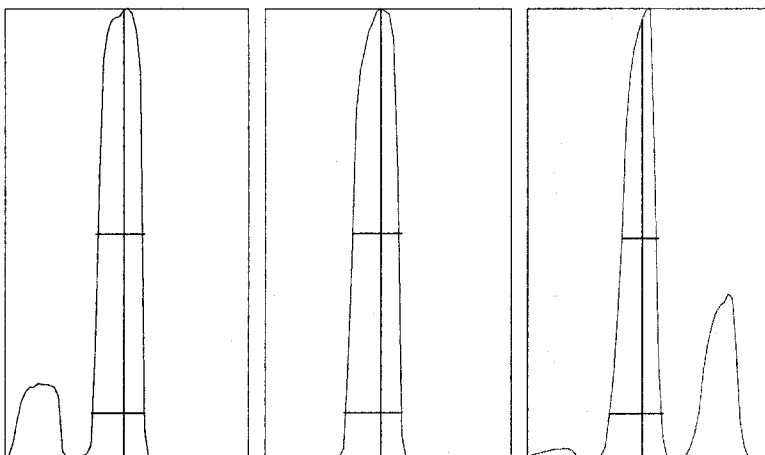
Tune Report

Tune File : NORM.U  
 Comment : AG110709



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.612%  
 Doubly Charged: 70/140 1.671%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	3382.0	3366.1	3.56	0.90
7	50,000	21859.0	20537.5	3.14	0.60
59	50,000	19576.0	19580.9	2.84	0.60
63	100	45.0	44.7	15.57	1.00
70	1,000	496.0	483.0	6.13	0.40
75	20	4.0	4.7	47.83	0.70
78	200	148.0	156.0	8.38	1.00
89	50,000	31217.0	31239.5	2.30	1.00
115	50,000	29852.0	29031.4	2.15	1.60
118	100	66.0	62.9	12.89	1.40
137	5,000	3148.0	3148.6	2.66	1.90
205	20,000	18784.0	18500.3	1.84	2.60
238	50,000	27256.0	28130.6	1.67	2.70
156/140	5	1.542%	1.636%	6.62	
70/140	5	1.747%	1.698%	6.33	



m/z:	7	89	205
Height:	20,610	31,605	18,257
Axis:	7.00	88.95	204.95
W-50%:	0.60	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U  
Comment : AG110709

Tuning Parameters

===Plasma Condition===

RF Power : 1600 W  
RF Matching : 1.7 V  
Smpl Depth : 8 mm  
Torch-H : -0.8 mm  
Torch-V : -0.3 mm  
Carrier Gas : 0.81 L/min  
Makeup Gas : 0.23 L/min  
Optional Gas : --- %  
Nebulizer Pump : 0.1 rps  
Sample Pump : --- rps  
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V  
Extract 2 : -170 V  
Omega Bias-ce : -30 V  
Omega Lens-ce : 1.4 V  
Cell Entrance : -30 V  
QP Focus : 7 V  
Cell Exit : -30 V

===Q-Pole Parameters===

AMU Gain : 134  
AMU Offset : 125  
Axis Gain : 1.0007  
Axis Offset : -0.03  
QP Bias : -3 V

===Detector Parameters===

Discriminator : 8 mV  
Analog HV : 1770 V  
Pulse HV : 1480 V

===Octopole Parameters===

OctP RF : 180 V  
OctP Bias : -18 V

===Reaction Cell===

Reaction Mode : OFF  
H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

P/A Factor Tuning Report

Acquired: Nov 7 2009 02:18 pm

Mass[amu]	Element	P/A Factor
6	Li	0.054257
7	(Li)	Sensitivity too low
9	Be	0.059350
23	Na	0.063944
24	Mg	0.064875
27	Al	0.065819
39	K	0.066026
43	Ca	Sensitivity too low
45	Sc	0.066849
51	V	0.067403
52	Cr	0.068152
53	(Cr)	Sensitivity too low
55	Mn	0.068773
57	Fe	Sensitivity too low
59	Co	0.069652
60	Ni	Sensitivity too low
63	Cu	0.069964
66	Zn	0.070153
72	Ge	Sensitivity too low
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.072052
98	(Mo)	0.071277
99	(Mo)	Sensitivity too low
105	Pd	0.071221
106	(Cd)	0.070815
107	Ag	Sensitivity too low
108	(Cd)	0.071381
111	Cd	0.070975
115	In	0.070220
118	Sn	0.070317
121	Sb	0.070422
137	Ba	Sensitivity too low
165	Ho	Sensitivity too low
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071611
206	(Pb)	0.070464
207	(Pb)	0.070565
208	Pb	0.069648
232	Th	0.069671
238	U	0.069782

===Detector Parameters===

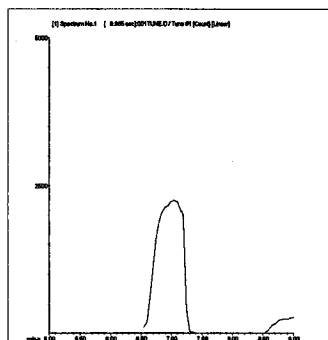
Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V



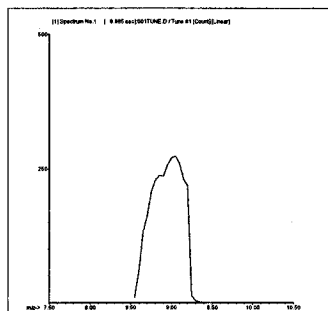
## 200.8 QC Tune Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\001TUNE.D  
 Date Acquired: Nov 7 2009 03:04 pm  
 Acq. Method: tun\_isis.M  
 Operator: TEL  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

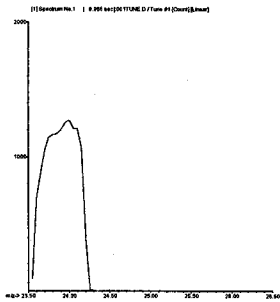
Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	23098	23358	23173	22978	22919	23063	0.75	5.00	
9 Be	2804	2779	2831	2892	2712	2807	2.36	5.00	
24 Mg	13819	13879	13741	14010	13810	13653	0.98	5.00	
59 Co	53596	53850	53962	53966	52908	53294	0.88	5.00	
115 In	1005351	1004408	1002826	1008799	1004052	1006672	0.24	5.00	
208 Pb	62719	64001	62223	62327	62711	62333	1.18	5.00	
238 U	130895	133955	130889	130170	131168	128294	1.56	5.00	



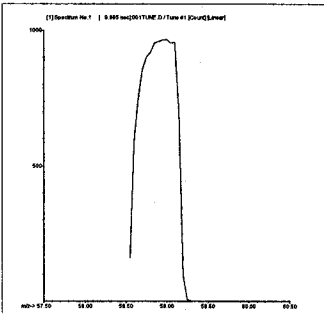
**7 Li**  
**Mass Calib.**  
 Actual: 7.00  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



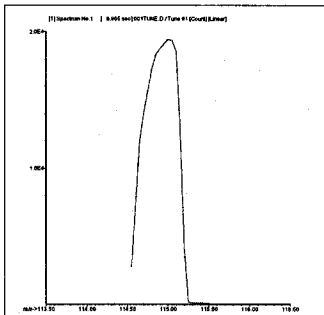
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



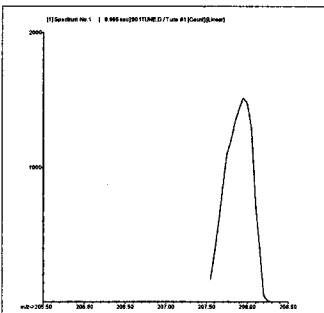
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



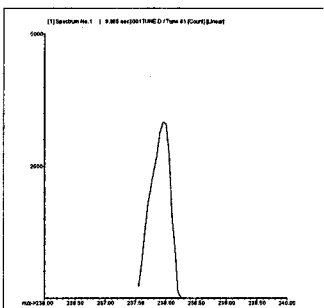
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:

Tune Result: Pass

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 7 2009 03:07 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

**QC Elements**

*06/11/09*

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	130	55.47
52	Cr	72	1	2920	1.23
55	Mn	72	1	487	11.32
59	Co	72	1	43	35.25
60	Ni	72	1	67	56.79
63	Cu	72	1	247	16.39
66	Zn	72	1	177	1.72
75	As	72	1	38	36.84
78	Se	72	1	290	18.25
95	Mo	72	1	17	69.28
107	Ag	115	1	17	91.65
111	Cd	115	1	6	90.67
118	Sn	115	1	120	25.00
121	Sb	115	1	7	0.00
137	Ba	115	1	11	17.32
205	Tl	165	1	53	12.50
208	Pb	165	1	250	7.42
232	Th	165	1	93	59.01
238	U	165	1	83	36.66

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	450969	0.62
45	Sc	1	1353461	1.72
72	Ge	1	599452	0.37
115	In	1	1813996	0.92
165	Ho	1	3291682	1.21

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 7 2009 03:09 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:07 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	107	14.32
52	Cr	72	1	2804	3.71
55	Mn	72	1	517	15.52
59	Co	72	1	27	21.65
60	Ni	72	1	90	0.00
63	Cu	72	1	277	2.09
66	Zn	72	1	301	6.45
75	As	72	1	36	30.93
78	Se	72	1	263	32.30
95	Mo	72	1	20	50.00
107	Ag	115	1	10	100.00
111	Cd	115	1	-7	207.08
118	Sn	115	1	510	8.55
121	Sb	115	1	13	43.30
137	Ba	115	1	76	40.99
205	Tl	165	1	24	34.32
208	Pb	165	1	256	8.68
232	Th	165	1	100	62.45
238	U	165	1	27	57.28

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	455621	1.61
45	Sc	1	1356727	0.85
72	Ge	1	598490	0.65
115	In	1	1797032	1.18
165	Ho	1	3253654	1.35

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 7 2009 03:12 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:10 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	52398	1.41
51	V	72	764367	2.20
52	Cr	72	771475	1.19
55	Mn	72	912002	1.09
59	Co	72	914930	2.11
60	Ni	72	193364	2.37
63	Cu	72	465989	1.20
66	Zn	72	112029	1.18
75	As	72	90135	1.29
78	Se	72	18683	1.97
95	Mo	72	260394	0.61
107	Ag	115	765784	1.36
111	Cd	115	157700	1.34
118	Sn	115	441054	2.17
121	Sb	115	510967	1.02
137	Ba	115	213858	1.06
205	Tl	165	1838240	1.05
208	Pb	165	2519619	0.58
232	Th	165	2643067	0.57
238	U	165	2792671	0.69

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	449267	0.99	455621	98.6	30 - 120
45	Sc	1	1332198	2.77	1356727	98.2	30 - 120
72	Ge	1	575467	1.00	598490	96.2	30 - 120
115	In	1	1781328	1.07	1797032	99.1	30 - 120
165	Ho	1	3275522	1.43	3253654	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Initial Calibration Verification (ICV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\005\_ICV.D\005\_ICV.D#  
 Date Acquired: Nov 7 2009 03:15 pm  
 Operator: TEL  
 Sample Name: ICV  
 Misc Info:  
 Vial Number: 2103  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: ICV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	40.37 ppb	1.43	40	100.9	90 - 110	
51	V	72	38.46 ppb	0.46	40	96.2	90 - 110	
52	Cr	72	39.20 ppb	1.19	40	98.0	90 - 110	
55	Mn	72	39.82 ppb	0.12	40	99.6	90 - 110	
59	Co	72	38.88 ppb	0.70	40	97.2	90 - 110	
60	Ni	72	40.10 ppb	0.16	40	100.3	90 - 110	
63	Cu	72	39.43 ppb	0.82	40	98.6	90 - 110	
66	Zn	72	40.09 ppb	0.20	40	100.2	90 - 110	
75	As	72	39.44 ppb	0.27	40	98.6	90 - 110	
78	Se	72	38.96 ppb	4.82	40	97.4	90 - 110	
95	Mo	72	39.50 ppb	0.72	40	98.8	90 - 110	
107	Ag	115	38.87 ppb	1.47	40	97.2	90 - 110	
111	Cd	115	39.30 ppb	0.98	40	98.3	90 - 110	
118	Sn	115	39.04 ppb	1.08	40	97.6	90 - 110	
121	Sb	115	39.64 ppb	1.29	40	99.1	90 - 110	
137	Ba	115	38.76 ppb	1.35	40	96.9	90 - 110	
205	Tl	165	39.29 ppb	2.05	40	98.2	90 - 110	
208	Pb	165	40.72 ppb	2.07	40	101.8	90 - 110	
232	Th	165	41.00 ppb	0.86	40	102.5	90 - 110	
238	U	165	40.29 ppb	1.06	40	100.7	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	448116	0.63	455621	98.4	30 - 120
45	Sc	1	1362171	0.61	1356727	100.4	30 - 120
72	Ge	1	576140	0.97	598490	96.3	30 - 120
115	In	1	1802991	1.36	1797032	100.3	30 - 120
165	Ho	1	3291704	0.83	3253654	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 7 2009 03:18 pm  
 Operator: TEL  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.014 ppb	15.49	1.30	
51 V	72	1	4.659 ppb	1.34	6.50	
52 Cr	72	1	1.891 ppb	2.95	2.60	
55 Mn	72	1	1.009 ppb	5.61	1.30	
59 Co	72	1	0.959 ppb	4.52	1.30	
60 Ni	72	1	2.093 ppb	8.35	2.60	
63 Cu	72	1	1.903 ppb	3.09	2.60	
66 Zn	72	1	9.821 ppb	1.82	13.00	
75 As	72	1	4.879 ppb	0.84	6.50	
78 Se	72	1	4.897 ppb	10.67	6.50	
95 Mo	72	1	2.003 ppb	7.36	2.60	
107 Ag	115	1	4.951 ppb	3.27	6.50	
111 Cd	115	1	1.010 ppb	5.23	1.30	
118 Sn	115	1	10.070 ppb	2.63	13.00	
121 Sb	115	1	2.216 ppb	0.33	2.60	
137 Ba	115	1	0.996 ppb	4.86	1.30	
205 Tl	165	1	1.209 ppb	0.85	1.30	
208 Pb	165	1	1.032 ppb	2.04	1.30	
232 Th	165	1	2.207 ppb	1.51	2.60	
238 U	165	1	1.091 ppb	3.35	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	450702	0.54	455621	98.9	30 - 120	
45 Sc	1	1340626	0.89	1356727	98.8	30 - 120	
72 Ge	1	589280	0.55	598490	98.5	30 - 120	
115 In	1	1800289	1.54	1797032	100.2	30 - 120	
165 Ho	1	3280239	1.67	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Initial Calibration Blank (ICB) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110709.B\007_ICB.D\007_ICB.D#	<b>QC Summary:</b>
Date Acquired:	Nov 7 2009 03:20 pm	<b>Analytes: Pass</b>
Operator:	TEL	<b>ISTD: Pass</b>
Sample Name:	ICB	
Misc Info:		
Vial Number:	2104	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal Update:	Nov 07 2009 03:13 pm	
Sample Type:	ICB	
Total Dil Factor:	1.00	

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.00	ppb	0.00	1.00	
51 V	72	1	0.01	ppb	78.95	1.00	
52 Cr	72	1	0.00	ppb	801.07	1.00	
55 Mn	72	1	0.00	ppb	167.97	1.00	
59 Co	72	1	0.00	ppb	88.12	1.00	
60 Ni	72	1	0.00	ppb	330.87	1.00	
63 Cu	72	1	-0.02	ppb	18.87	1.00	
66 Zn	72	1	-0.08	ppb	16.28	1.00	
75 As	72	1	0.00	ppb	320.71	1.00	
78 Se	72	1	-0.34	ppb	104.80	1.00	
95 Mo	72	1	0.03	ppb	28.62	1.00	
107 Ag	115	1	0.01	ppb	75.43	1.00	
111 Cd	115	1	0.01	ppb	156.14	1.00	
118 Sn	115	1	0.05	ppb	28.25	1.00	
121 Sb	115	1	0.08	ppb	20.91	1.00	
137 Ba	115	1	-0.02	ppb	26.22	1.00	
205 Tl	165	1	0.04	ppb	12.74	1.00	
208 Pb	165	1	0.00	ppb	28.23	1.00	
232 Th	165	1	0.02	ppb	38.30	1.00	
238 U	165	1	0.00	ppb	35.64	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453788	0.69	455621	99.6	30 - 120	
45 Sc	1	1334714	1.17	1356727	98.4	30 - 120	
72 Ge	1	592403	0.34	598490	99.0	30 - 120	
115 In	1	1792165	0.66	1797032	99.7	30 - 120	
165 Ho	1	3254324	0.30	3253654	100.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
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ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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





## AFCEE RL QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\009AFCE.D\009AFCE.D#  
 Date Acquired: Nov 7 2009 03:26 pm  
 Operator: TEL  
 Sample Name: AFCEE RL  
 Misc Info:  
 Vial Number: 2106  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.18 ppb	4.87	0	85.7	80 - 120
51	V	72	1	0.19 ppb	1.60	0	98.1	80 - 120
52	Cr	72	1	0.17 ppb	19.24	0	88.9	80 - 120
55	Mn	72	1	0.24 ppb	0.90	0	122.4	80 - 120
59	Co	72	1	0.21 ppb	2.54	0	105.0	80 - 120
60	Ni	72	1	0.19 ppb	33.14	0	95.0	80 - 120
63	Cu	72	1	0.19 ppb	26.00	0	96.8	80 - 120
66	Zn	72	1	1.99 ppb	0.59	2	101.2	80 - 120
75	As	72	1	0.22 ppb	3.49	0	111.1	80 - 120
78	Se	72	1	-0.03 ppb	493.20	0	-19.4	80 - 120
95	Mo	72	1	0.20 ppb	10.11	0	102.9	80 - 120
107	Ag	115	1	0.19 ppb	9.51	0	98.0	80 - 120
111	Cd	115	1	0.20 ppb	6.38	0	102.8	80 - 120
118	Sn	115	1	1.96 ppb	1.89	2	99.1	80 - 120
121	Sb	115	1	0.22 ppb	4.04	0	104.0	80 - 120
137	Ba	115	1	0.19 ppb	4.99	0	101.2	80 - 120
205	Tl	165	1	0.21 ppb	2.78	0	101.1	80 - 120
208	Pb	165	1	0.21 ppb	2.60	0	100.1	80 - 120
232	Th	165	1	0.21 ppb	3.95	0	98.4	80 - 120
238	U	165	1	0.21 ppb	3.63	0	98.0	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	453567	1.29	455621	99.5	30 - 120
45	Sc	1	1337172	0.83	1356727	98.6	30 - 120
72	Ge	1	590407	0.86	598490	98.6	30 - 120
115	In	1	1781901	0.99	1797032	99.2	30 - 120
165	Ho	1	3288568	1.80	3253654	101.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\010SMPL.D\010SMPL.D#  
 Date Acquired: Nov 7 2009 03:29 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ALTSe  
 Misc Info: 2 ppb  
 Vial Number: 2107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	0.00	0.00	ppb	62.04	3600	
52 Cr	72	1	0.00	0.00	ppb	1081.40	3600	
55 Mn	72	1	0.00	0.00	ppb	140.46	3600	
59 Co	72	1	0.00	0.00	ppb	189.04	3600	
60 Ni	72	1	0.00	0.00	ppb	522.21	3600	
63 Cu	72	1	-0.01	-0.01	ppb	79.36	3600	
66 Zn	72	1	0.05	0.05	ppb	55.06	3600	
75 As	72	1	0.00	0.00	ppb	1812.70	3600	
78 Se	72	1	2.16	2.16	ppb	11.88	3600	
95 Mo	72	1	0.00	0.00	ppb	222.57	3600	
107 Ag	115	1	0.01	0.01	ppb	10.07	3600	
111 Cd	115	1	0.00	0.00	ppb	89.77	3600	
118 Sn	115	1	0.00	0.00	ppb	293.54	3600	
121 Sb	115	1	0.02	0.02	ppb	23.95	3600	
137 Ba	115	1	-0.02	-0.02	ppb	16.61	3600	
205 Tl	165	1	0.01	0.01	ppb	2.14	3600	
208 Pb	165	1	0.00	0.00	ppb	39.67	3600	
232 Th	165	1	0.00	0.00	ppb	17.19	1000	
238 U	165	1	0.00	0.00	ppb	388.10	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	453890	1.30	455621	99.6	30 - 120	
45 Sc	1	1357795	0.37	1356727	100.1	30 - 120	
72 Ge	1	592423	0.94	598490	99.0	30 - 120	
115 In	1	1792023	1.18	1797032	99.7	30 - 120	
165 Ho	1	3279675	0.39	3253654	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\011ICSA.D\011ICSA.D#  
 Date Acquired: Nov 7 2009 03:31 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.45 ppb	8.60	1.00
52	Cr	72	1	1.86 ppb	3.80	1.00
55	Mn	72	1	3.11 ppb	0.88	1.00
59	Co	72	1	0.12 ppb	10.19	1.00
60	Ni	72	1	1.23 ppb	9.98	1.00
63	Cu	72	1	0.56 ppb	5.58	1.00
66	Zn	72	1	4.20 ppb	1.79	10.00
75	As	72	1	0.35 ppb	13.35	1.00
78	Se	72	1	0.47 ppb	67.55	1.00
95	Mo	72	1	2055.00 ppb	1.11	2000.00
107	Ag	115	1	0.03 ppb	8.56	1.00
111	Cd	115	1	0.40 ppb	30.97	1.00
118	Sn	115	1	0.93 ppb	18.89	10.00
121	Sb	115	1	0.95 ppb	3.56	1.00
137	Ba	115	1	0.00 ppb	326.02	1.00
205	Tl	165	1	0.04 ppb	20.03	1.00
208	Pb	165	1	1.04 ppb	2.03	1.00
232	Th	165	1	0.02 ppb	5.48	1.00
238	U	165	1	0.00 ppb	14.89	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	297281	2.41	455621	65.2	30 - 120
45	Sc	1	939322	1.85	1356727	69.2	30 - 120
72	Ge	1	429449	0.82	598490	71.8	30 - 120
115	In	1	1325081	0.92	1797032	73.7	30 - 120
165	Ho	1	2485688	0.47	3253654	76.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

## Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\012ICSB.D\012ICSB.D#  
 Date Acquired: Nov 7 2009 03:34 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	108.90	0.75	100	108.9	80 - 120	
51 V	72	1	92.27	0.38	100	92.3	80 - 120	
52 Cr	72	1	90.40	0.96	100	90.4	80 - 120	
55 Mn	72	1	92.59	1.18	100	92.6	80 - 120	
59 Co	72	1	88.85	0.30	100	88.9	80 - 120	
60 Ni	72	1	89.72	0.28	100	89.7	80 - 120	
63 Cu	72	1	85.14	0.90	100	85.1	80 - 120	
66 Zn	72	1	95.65	0.49	100	95.7	80 - 120	
75 As	72	1	99.50	0.47	100	99.5	80 - 120	
78 Se	72	1	105.90	0.80	100	105.9	80 - 120	
95 Mo	72	1	2149.00	1.99	2100	102.3	80 - 120	
107 Ag	115	1	84.00	7.96	100	84.0	80 - 120	
111 Cd	115	1	93.62	2.89	100	93.6	80 - 120	
118 Sn	115	1	96.78	1.78	100	96.8	80 - 120	
121 Sb	115	1	100.10	2.32	100	100.1	80 - 120	
137 Ba	115	1	96.82	2.12	100	96.8	80 - 120	
205 Tl	165	1	94.83	0.67	100	94.8	80 - 120	
208 Pb	165	1	93.97	0.82	100	94.0	80 - 120	
232 Th	165	1	101.90	0.67	100	101.9	80 - 120	
238 U	165	1	100.20	0.45	100	100.2	80 - 120	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272241	2.18	455621	59.8	30 - 120	
45 Sc	1	935334	1.15	1356727	68.9	30 - 120	
72 Ge	1	419509	1.32	598490	70.1	30 - 120	
115 In	1	1327038	1.55	1797032	73.8	30 - 120	
165 Ho	1	2524289	0.15	3253654	77.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 7 2009 03:37 pm  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0	80 - 120	
51	V	72	1	0.06 ppb	15.15	0	80 - 120	
52	Cr	72	1	0.00 ppb	941.54	0	80 - 120	
55	Mn	72	1	0.00 ppb	87.90	0	80 - 120	
59	Co	72	1	0.00 ppb	138.19	0	80 - 120	
60	Ni	72	1	-0.01 ppb	79.76	0	80 - 120	
63	Cu	72	1	-0.02 ppb	11.32	0	80 - 120	
66	Zn	72	1	-0.12 ppb	4.66	2	80 - 120	
75	As	72	1	0.00 ppb	172.97	0	80 - 120	
78	Se	72	1	0.18 ppb	157.63	0	80 - 120	
95	Mo	72	1	0.92 ppb	26.25	0	80 - 120	
107	Ag	115	1	0.01 ppb	38.83	0	80 - 120	
111	Cd	115	1	0.00 ppb	268.01	0	80 - 120	
118	Sn	115	1	-0.03 ppb	57.94	2	80 - 120	
121	Sb	115	1	0.13 ppb	22.58	0	80 - 120	
137	Ba	115	1	-0.03 ppb	10.98	0	80 - 120	
205	Tl	165	1	0.00 ppb	35.28	0	80 - 120	
208	Pb	165	1	0.00 ppb	109.50	0	80 - 120	
232	Th	165	1	0.03 ppb	14.09	0	80 - 120	
238	U	165	1	0.02 ppb	14.78	0	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	392251	1.40	455621	86.1	30 - 120
45	Sc	1	1236871	2.21	1356727	91.2	30 - 120
72	Ge	1	563469	0.48	598490	94.1	30 - 120
115	In	1	1720438	0.38	1797032	95.7	30 - 120
165	Ho	1	3228952	0.84	3253654	99.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Linear Dynamic Range Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 7 2009 03:40 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## Analyte Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	1021.00 ppb	0.96	1000	102.1	90 - 110	
51 V	72	1	925.30 ppb	0.26	1000	92.5	90 - 110	
52 Cr	72	1	921.80 ppb	1.18	1000	92.2	90 - 110	
55 Mn	72	1	929.00 ppb	0.53	1000	92.9	90 - 110	
59 Co	72	1	937.60 ppb	0.95	1000	93.8	90 - 110	
60 Ni	72	1	990.00 ppb	1.83	1000	99.0	90 - 110	
63 Cu	72	1	941.00 ppb	0.34	1000	94.1	90 - 110	
66 Zn	72	1	1002.00 ppb	1.56	1000	100.2	90 - 110	
75 As	72	1	1025.00 ppb	1.12	1000	102.5	90 - 110	
78 Se	72	1	1031.00 ppb	0.90	1000	103.1	90 - 110	
95 Mo	72	1	1009.00 ppb	0.81	1000	100.9	90 - 110	
107 Ag	115	1	955.40 ppb	0.47	1000	95.5	90 - 110	
111 Cd	115	1	993.10 ppb	0.32	1000	99.3	90 - 110	
118 Sn	115	1	954.10 ppb	1.58	1000	95.4	90 - 110	
121 Sb	115	1	963.20 ppb	0.99	1000	96.3	90 - 110	
137 Ba	115	1	967.40 ppb	1.98	1000	96.7	90 - 110	
205 Tl	165	1	966.90 ppb	1.78	1000	96.7	90 - 110	
208 Pb	165	1	947.60 ppb	1.76	1000	94.8	90 - 110	
232 Th	165	1	989.70 ppb	1.92	1000	99.0	90 - 110	
238 U	165	1	989.00 ppb	1.57	1000	98.9	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	400820	0.66	455621	88.0	30 - 120	
45 Sc	1	1229119	1.48	1356727	90.6	30 - 120	
72 Ge	1	547741	0.96	598490	91.5	30 - 120	
115 In	1	1703051	0.61	1797032	94.8	30 - 120	
165 Ho	1	3245351	1.45	3253654	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\015SMPL.D\015SMPL.D#
Date Acquired: Nov 7 2009 03:42 pm
Acq. Method: NormISIS.M
Operator: TEL
Sample Name: RINSE
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M
Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C
Last Cal. Update: Nov 07 2009 03:13 pm
Sample Type: SA
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

QC Summary:
Analytes: Pass
ISTD: Pass

QC Elements

Table with 9 columns: Element, IS Ref, Tune, Corr Conc, Raw Conc, Units, RSD(%), High Limit, Flag. Lists various elements like Be, V, Cr, Mn, Co, Ni, Cu, Zn, As, Se, Mo, Ag, Cd, Sn, Sb, Ba, Tl, Pb, Th, U with their respective values.

ISTD Elements

Table with 8 columns: Element, Tune, CPS Mean, RSD(%), Ref Value, Rec(%), QC Range(%), Flag. Lists elements like Li, Sc, Ge, In, Ho with their respective values.

Tune File# 1 c:\icpchem\1\7500\he.u
Tune File# 2 C:\ICPCHEM\1\7500\
Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\016\_CCV.D\016\_CCV.D#  
 Date Acquired: Nov 7 2009 03:45 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.82 ppb	0.98	50	101.6	90 - 110	
51	V	72	47.69 ppb	0.85	50	95.4	90 - 110	
52	Cr	72	47.81 ppb	0.72	50	95.6	90 - 110	
55	Mn	72	47.91 ppb	0.63	50	95.8	90 - 110	
59	Co	72	48.31 ppb	1.05	50	96.6	90 - 110	
60	Ni	72	49.87 ppb	0.51	50	99.7	90 - 110	
63	Cu	72	48.27 ppb	0.97	50	96.5	90 - 110	
66	Zn	72	49.24 ppb	0.51	50	98.5	90 - 110	
75	As	72	49.61 ppb	0.57	50	99.2	90 - 110	
78	Se	72	51.34 ppb	3.01	50	102.7	90 - 110	
95	Mo	72	49.43 ppb	1.34	50	98.9	90 - 110	
107	Ag	115	48.77 ppb	0.60	50	97.5	90 - 110	
111	Cd	115	49.46 ppb	1.05	50	98.9	90 - 110	
118	Sn	115	49.42 ppb	0.94	50	98.8	90 - 110	
121	Sb	115	49.48 ppb	0.82	50	99.0	90 - 110	
137	Ba	115	48.65 ppb	1.08	50	97.3	90 - 110	
205	Tl	165	49.98 ppb	1.20	50	100.0	90 - 110	
208	Pb	165	50.63 ppb	2.15	50	101.3	90 - 110	
232	Th	165	50.61 ppb	1.41	50	101.2	90 - 110	
238	U	165	50.58 ppb	0.97	50	101.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	424171	1.07	455621	93.1	30 - 120
45	Sc	1	1298607	1.88	1356727	95.7	30 - 120
72	Ge	1	570018	0.80	598490	95.2	30 - 120
115	In	1	1777686	0.76	1797032	98.9	30 - 120
165	Ho	1	3306431	1.43	3253654	101.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 7 2009 03:48 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	0.018 ppb	26.29	1.00	
52 Cr	72	1	0.021 ppb	89.72	1.00	
55 Mn	72	1	-0.002 ppb	258.47	1.00	
59 Co	72	1	0.000 ppb	7.74	1.00	
60 Ni	72	1	-0.003 ppb	365.53	1.00	
63 Cu	72	1	-0.006 ppb	212.36	1.00	
66 Zn	72	1	-0.070 ppb	18.30	1.00	
75 As	72	1	0.022 ppb	32.72	1.00	
78 Se	72	1	0.156 ppb	92.00	1.00	
95 Mo	72	1	0.115 ppb	30.30	1.00	
107 Ag	115	1	0.011 ppb	38.12	1.00	
111 Cd	115	1	0.002 ppb	113.82	1.00	
118 Sn	115	1	0.224 ppb	27.67	1.00	
121 Sb	115	1	0.348 ppb	18.44	1.00	
137 Ba	115	1	-0.026 ppb	8.86	1.00	
205 Tl	165	1	0.021 ppb	16.25	1.00	
208 Pb	165	1	0.000 ppb	463.86	1.00	
232 Th	165	1	0.056 ppb	20.03	1.00	
238 U	165	1	0.020 ppb	23.07	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	432937	1.72	455621	95.0	30 - 120	
45 Sc	1	1320709	0.75	1356727	97.3	30 - 120	
72 Ge	1	592471	0.93	598490	99.0	30 - 120	
115 In	1	1824111	0.70	1797032	101.5	30 - 120	
165 Ho	1	3304082	2.00	3253654	101.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 7 2009 03:50 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.089 ppb	20.89	1.30	
51 V	72	1	4.721 ppb	1.02	6.50	
52 Cr	72	1	1.919 ppb	1.17	2.60	
55 Mn	72	1	0.984 ppb	3.79	1.30	
59 Co	72	1	0.988 ppb	7.05	1.30	
60 Ni	72	1	1.975 ppb	5.09	2.60	
63 Cu	72	1	1.890 ppb	1.03	2.60	
66 Zn	72	1	9.815 ppb	1.05	13.00	
75 As	72	1	4.945 ppb	0.93	6.50	
78 Se	72	1	5.017 ppb	5.41	6.50	
95 Mo	72	1	2.030 ppb	4.90	2.60	
107 Ag	115	1	5.119 ppb	1.83	6.50	
111 Cd	115	1	0.998 ppb	8.12	1.30	
118 Sn	115	1	10.310 ppb	2.66	13.00	
121 Sb	115	1	2.181 ppb	2.54	2.60	
137 Ba	115	1	0.995 ppb	2.40	1.30	
205 Tl	165	1	1.063 ppb	1.61	1.30	
208 Pb	165	1	1.038 ppb	1.89	1.30	
232 Th	165	1	2.164 ppb	2.13	2.60	
238 U	165	1	1.100 ppb	1.42	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	443603	0.24	455621	97.4	30 - 120	
45 Sc	1	1335995	1.35	1356727	98.5	30 - 120	
72 Ge	1	596206	0.64	598490	99.6	30 - 120	
115 In	1	1804793	1.75	1797032	100.4	30 - 120	
165 Ho	1	3324168	1.02	3253654	102.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\095\_CCV.D\095\_CCV.D#  
 Date Acquired: Nov 7 2009 07:25 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.00 ppb	3.68	50	100.0	90 - 110
51	V	72	1	49.46 ppb	0.96	50	98.9	90 - 110
52	Cr	72	1	49.13 ppb	0.63	50	98.3	90 - 110
55	Mn	72	1	48.00 ppb	0.58	50	96.0	90 - 110
59	Co	72	1	49.88 ppb	1.19	50	99.8	90 - 110
60	Ni	72	1	52.70 ppb	0.96	50	105.4	90 - 110
63	Cu	72	1	50.75 ppb	0.19	50	101.5	90 - 110
66	Zn	72	1	48.83 ppb	0.18	50	97.7	90 - 110
75	As	72	1	50.85 ppb	1.33	50	101.7	90 - 110
78	Se	72	1	50.97 ppb	2.08	50	101.9	90 - 110
95	Mo	72	1	49.28 ppb	0.59	50	98.6	90 - 110
107	Ag	115	1	48.69 ppb	1.80	50	97.4	90 - 110
111	Cd	115	1	48.20 ppb	1.31	50	96.4	90 - 110
118	Sn	115	1	47.65 ppb	1.87	50	95.3	90 - 110
121	Sb	115	1	47.61 ppb	2.17	50	95.2	90 - 110
137	Ba	115	1	48.23 ppb	1.87	50	96.5	90 - 110
205	Tl	165	1	49.17 ppb	1.01	50	98.3	90 - 110
208	Pb	165	1	50.08 ppb	1.74	50	100.2	90 - 110
232	Th	165	1	49.66 ppb	0.53	50	99.3	90 - 110
238	U	165	1	49.60 ppb	0.64	50	99.2	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	431764	0.94	455621	94.8	30 - 120
45	Sc	1	1275635	0.72	1356727	94.0	30 - 120
72	Ge	1	557000	0.87	598490	93.1	30 - 120
115	In	1	1717369	0.76	1797032	95.6	30 - 120
165	Ho	1	3017615	0.61	3253654	92.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\096\_CCB.D\096\_CCB.D#  
 Date Acquired: Nov 7 2009 07:28 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	-0.006 ppb	24.61	1.00	
52 Cr	72	1	0.005 ppb	16.13	1.00	
55 Mn	72	1	0.012 ppb	40.48	1.00	
59 Co	72	1	0.003 ppb	90.18	1.00	
60 Ni	72	1	0.005 ppb	115.47	1.00	
63 Cu	72	1	-0.001 ppb	1434.90	1.00	
66 Zn	72	1	0.040 ppb	39.82	1.00	
75 As	72	1	-0.001 ppb	689.47	1.00	
78 Se	72	1	0.203 ppb	119.68	1.00	
95 Mo	72	1	0.030 ppb	15.19	1.00	
107 Ag	115	1	0.009 ppb	17.39	1.00	
111 Cd	115	1	0.008 ppb	214.98	1.00	
118 Sn	115	1	0.033 ppb	87.07	1.00	
121 Sb	115	1	0.133 ppb	16.18	1.00	
137 Ba	115	1	-0.005 ppb	66.27	1.00	
205 Tl	165	1	0.010 ppb	5.85	1.00	
208 Pb	165	1	0.007 ppb	10.03	1.00	
232 Th	165	1	0.031 ppb	21.92	1.00	
238 U	165	1	0.010 ppb	23.45	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	442577	1.12	455621	97.1	30 - 120	
45 Sc	1	1308803	1.31	1356727	96.5	30 - 120	
72 Ge	1	575158	0.41	598490	96.1	30 - 120	
115 In	1	1692957	0.78	1797032	94.2	30 - 120	
165 Ho	1	3023523	0.70	3253654	92.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\097WASH.D\097WASH.D#  
 Date Acquired: Nov 7 2009 07:30 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.033 ppb	16.46	1.30	
51 V	72	1	4.891 ppb	1.41	6.50	
52 Cr	72	1	2.023 ppb	4.58	2.60	
55 Mn	72	1	0.940 ppb	0.94	1.30	
59 Co	72	1	1.033 ppb	0.60	1.30	
60 Ni	72	1	2.129 ppb	10.31	2.60	
63 Cu	72	1	2.031 ppb	2.60	2.60	
66 Zn	72	1	10.080 ppb	0.14	13.00	
75 As	72	1	5.048 ppb	1.66	6.50	
78 Se	72	1	5.042 ppb	13.65	6.50	
95 Mo	72	1	2.050 ppb	1.88	2.60	
107 Ag	115	1	5.260 ppb	2.15	6.50	
111 Cd	115	1	0.998 ppb	4.13	1.30	
118 Sn	115	1	9.995 ppb	1.00	13.00	
121 Sb	115	1	2.042 ppb	0.94	2.60	
137 Ba	115	1	1.003 ppb	6.96	1.30	
205 Tl	165	1	1.017 ppb	1.09	1.30	
208 Pb	165	1	1.046 ppb	1.73	1.30	
232 Th	165	1	2.137 ppb	1.47	2.60	
238 U	165	1	1.065 ppb	1.95	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	448328	0.34	455621	98.4	30 - 120	
45 Sc	1	1294487	0.37	1356727	95.4	30 - 120	
72 Ge	1	577791	0.38	598490	96.5	30 - 120	
115 In	1	1706897	0.23	1797032	95.0	30 - 120	
165 Ho	1	3033777	0.64	3253654	93.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\098ICSA.D\098ICSA.D#  
 Date Acquired: Nov 7 2009 07:33 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.01 ppb	173.15	1.00
51	V	72	1	2.34 ppb	2.35	1.00
52	Cr	72	1	1.89 ppb	3.80	1.00
55	Mn	72	1	3.08 ppb	1.35	1.00
59	Co	72	1	0.13 ppb	9.32	1.00
60	Ni	72	1	1.54 ppb	6.59	1.00
63	Cu	72	1	0.62 ppb	13.41	1.00
66	Zn	72	1	4.36 ppb	1.67	10.00
75	As	72	1	0.31 ppb	11.37	1.00
78	Se	72	1	-0.18 ppb	17.27	1.00
95	Mo	72	1	2024.00 ppb	0.75	2000.00
107	Ag	115	1	0.04 ppb	30.78	1.00
111	Cd	115	1	0.44 ppb	34.74	1.00
118	Sn	115	1	0.41 ppb	9.39	10.00
121	Sb	115	1	0.94 ppb	2.45	1.00
137	Ba	115	1	0.02 ppb	61.87	1.00
205	Tl	165	1	0.04 ppb	26.87	1.00
208	Pb	165	1	1.05 ppb	0.68	1.00
232	Th	165	1	0.02 ppb	35.17	1.00
238	U	165	1	0.01 ppb	14.16	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	316325	1.25	455621	69.4	30 - 120
45	Sc	1	945462	1.56	1356727	69.7	30 - 120
72	Ge	1	429131	0.94	598490	71.7	30 - 120
115	In	1	1251973	0.62	1797032	69.7	30 - 120
165	Ho	1	2302241	0.67	3253654	70.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\099ICSB.D\099ICSB.D#  
 Date Acquired: Nov 7 2009 07:36 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 03:13 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS	Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9	Be	6	1	101.10	0.81	100	101.1	80 - 120	
51	V	72	1	96.26	0.64	100	96.3	80 - 120	
52	Cr	72	1	92.97	0.53	100	93.0	80 - 120	
55	Mn	72	1	92.78	0.33	100	92.8	80 - 120	
59	Co	72	1	90.72	0.50	100	90.7	80 - 120	
60	Ni	72	1	92.71	0.31	100	92.7	80 - 120	
63	Cu	72	1	87.81	1.07	100	87.8	80 - 120	
66	Zn	72	1	94.31	0.22	100	94.3	80 - 120	
75	As	72	1	101.10	0.38	100	101.1	80 - 120	
78	Se	72	1	105.10	1.94	100	105.1	80 - 120	
95	Mo	72	1	2106.00	1.43	2100	100.3	80 - 120	
107	Ag	115	1	85.35	1.62	100	85.4	80 - 120	
111	Cd	115	1	91.55	1.47	100	91.6	80 - 120	
118	Sn	115	1	96.95	1.86	100	97.0	80 - 120	
121	Sb	115	1	101.90	1.14	100	101.9	80 - 120	
137	Ba	115	1	97.10	2.05	100	97.1	80 - 120	
205	Tl	165	1	93.31	1.80	100	93.3	80 - 120	
208	Pb	165	1	92.31	0.40	100	92.3	80 - 120	
232	Th	165	1	98.27	1.03	100	98.3	80 - 120	
238	U	165	1	97.38	0.98	100	97.4	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	298307	2.13	455621	65.5	30 - 120
45	Sc	1	951400	0.73	1356727	70.1	30 - 120
72	Ge	1	417924	0.89	598490	69.8	30 - 120
115	In	1	1269948	0.83	1797032	70.7	30 - 120
165	Ho	1	2339416	0.71	3253654	71.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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



## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\100WASH.D\100WASH.D#  
 Date Acquired: Nov 7 2009 07:39 pm  
 Operator: TEL  
 Sample Name: WASH  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.30	
51 V	72	1	0.142 ppb	7.89	6.50	
52 Cr	72	1	0.005 ppb	257.91	2.60	
55 Mn	72	1	0.007 ppb	90.77	1.30	
59 Co	72	1	0.000 ppb	202.05	1.30	
60 Ni	72	1	0.093 ppb	12.92	2.60	
63 Cu	72	1	-0.001 ppb	1876.80	2.60	
66 Zn	72	1	0.085 ppb	20.36	13.00	
75 As	72	1	0.006 ppb	156.23	6.50	
78 Se	72	1	-0.186 ppb	140.52	6.50	
95 Mo	72	1	0.818 ppb	23.12	2.60	
107 Ag	115	1	0.010 ppb	12.80	6.50	
111 Cd	115	1	0.005 ppb	231.49	1.30	
118 Sn	115	1	-0.010 ppb	165.88	13.00	
121 Sb	115	1	0.032 ppb	29.89	2.60	
137 Ba	115	1	-0.014 ppb	32.29	1.30	
205 Tl	165	1	0.003 ppb	28.88	1.30	
208 Pb	165	1	0.004 ppb	10.63	1.30	
232 Th	165	1	0.024 ppb	19.02	2.60	
238 U	165	1	0.016 ppb	20.26	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	387692	1.32	455621	85.1	30 - 120	
45 Sc	1	1182675	0.32	1356727	87.2	30 - 120	
72 Ge	1	534827	0.26	598490	89.4	30 - 120	
115 In	1	1606789	1.96	1797032	89.4	30 - 120	
165 Ho	1	2912559	0.89	3253654	89.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\101 CC.V.D\101 CC.V.D#  
 Date Acquired: Nov 7 2009 07:41 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.02 ppb	3.60	50	102.0	90 - 110	
51	V	72	49.10 ppb	0.68	50	98.2	90 - 110	
52	Cr	72	48.80 ppb	0.79	50	97.6	90 - 110	
55	Mn	72	48.00 ppb	0.60	50	96.0	90 - 110	
59	Co	72	49.55 ppb	0.61	50	99.1	90 - 110	
60	Ni	72	52.06 ppb	1.46	50	104.1	90 - 110	
63	Cu	72	50.22 ppb	0.56	50	100.4	90 - 110	
66	Zn	72	48.51 ppb	1.13	50	97.0	90 - 110	
75	As	72	50.95 ppb	0.50	50	101.9	90 - 110	
78	Se	72	49.38 ppb	4.19	50	98.8	90 - 110	
95	Mo	72	50.11 ppb	1.38	50	100.2	90 - 110	
107	Ag	115	49.66 ppb	0.85	50	99.3	90 - 110	
111	Cd	115	49.01 ppb	1.42	50	98.0	90 - 110	
118	Sn	115	48.68 ppb	1.81	50	97.4	90 - 110	
121	Sb	115	48.87 ppb	1.17	50	97.7	90 - 110	
137	Ba	115	49.35 ppb	1.09	50	98.7	90 - 110	
205	Tl	165	49.79 ppb	1.41	50	99.6	90 - 110	
208	Pb	165	49.95 ppb	1.13	50	99.9	90 - 110	
232	Th	165	49.72 ppb	0.91	50	99.4	90 - 110	
238	U	165	49.59 ppb	1.94	50	99.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	398557	1.14	455621	87.5	30 - 120
45	Sc	1	1252262	1.05	1356727	92.3	30 - 120
72	Ge	1	546607	0.97	598490	91.3	30 - 120
115	In	1	1673358	0.50	1797032	93.1	30 - 120
165	Ho	1	3013021	0.51	3253654	92.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\102\_CCB.D\102\_CCB.D#  
 Date Acquired: Nov 7 2009 07:44 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.007 ppb	173.18	1.00	
51 V	72	1	0.072 ppb	11.11	1.00	
52 Cr	72	1	0.002 ppb	1427.90	1.00	
55 Mn	72	1	-0.002 ppb	998.74	1.00	
59 Co	72	1	0.004 ppb	62.33	1.00	
60 Ni	72	1	0.095 ppb	21.31	1.00	
63 Cu	72	1	0.001 ppb	1376.50	1.00	
66 Zn	72	1	0.050 ppb	67.37	1.00	
75 As	72	1	0.009 ppb	154.12	1.00	
78 Se	72	1	0.133 ppb	315.07	1.00	
95 Mo	72	1	0.099 ppb	50.63	1.00	
107 Ag	115	1	0.009 ppb	39.54	1.00	
111 Cd	115	1	0.005 ppb	103.50	1.00	
118 Sn	115	1	0.062 ppb	107.54	-1.00	
121 Sb	115	1	0.138 ppb	16.19	1.00	
137 Ba	115	1	-0.017 ppb	52.66	1.00	
205 Tl	165	1	0.016 ppb	15.17	1.00	
208 Pb	165	1	0.005 ppb	21.11	1.00	
232 Th	165	1	0.033 ppb	24.50	1.00	
238 U	165	1	0.010 ppb	34.21	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	422194	1.15	455621	92.7	30 - 120	
45 Sc	1	1291748	1.74	1356727	95.2	30 - 120	
72 Ge	1	580761	0.52	598490	97.0	30 - 120	
115 In	1	1717581	0.13	1797032	95.6	30 - 120	
165 Ho	1	3049966	0.69	3253654	93.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\103WASH.D\103WASH.D#  
 Date Acquired: Nov 7 2009 07:47 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 03:13 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.046 ppb	12.02	1.30	
51 V	72	1	4.990 ppb	4.96	6.50	
52 Cr	72	1	1.987 ppb	0.39	2.60	
55 Mn	72	1	0.984 ppb	3.75	1.30	
59 Co	72	1	0.995 ppb	2.96	1.30	
60 Ni	72	1	2.088 ppb	2.52	2.60	
63 Cu	72	1	1.963 ppb	3.31	2.60	
66 Zn	72	1	10.010 ppb	1.27	13.00	
75 As	72	1	5.172 ppb	1.14	6.50	
78 Se	72	1	5.100 ppb	6.11	6.50	
95 Mo	72	1	2.120 ppb	2.97	2.60	
107 Ag	115	1	5.166 ppb	1.31	6.50	
111 Cd	115	1	1.008 ppb	8.01	1.30	
118 Sn	115	1	10.170 ppb	2.75	13.00	
121 Sb	115	1	2.047 ppb	1.41	2.60	
137 Ba	115	1	1.038 ppb	2.48	1.30	
205 Tl	165	1	1.010 ppb	2.74	1.30	
208 Pb	165	1	1.022 ppb	1.36	1.30	
232 Th	165	1	2.079 ppb	0.26	2.60	
238 U	165	1	1.053 ppb	0.29	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	429072	0.78	455621	94.2	30 - 120	
45 Sc	1	1319350	0.97	1356727	97.2	30 - 120	
72 Ge	1	590123	0.79	598490	98.6	30 - 120	
115 In	1	1750317	1.57	1797032	97.4	30 - 120	
165 Ho	1	3092496	0.17	3253654	95.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\003CALB.D\003CALB.D#

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

# Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/09

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#  
 Date Acquired: Nov 7 2009 08:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:45 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1013	6.79
52	Cr	72	1	2664	5.06
55	Mn	72	1	580	4.28
59	Co	72	1	50	19.75
60	Ni	72	1	80	25.27
63	Cu	72	1	293	22.51
66	Zn	72	1	673	6.79
75	As	72	1	36	27.55
78	Se	72	1	257	13.42
95	Mo	72	1	170	5.64
107	Ag	115	1	33	16.66
111	Cd	115	1	17	83.01
118	Sn	115	1	497	10.06
121	Sb	115	1	144	3.89
137	Ba	115	1	74	17.43
205	Tl	165	1	49	39.41
208	Pb	165	1	258	3.04
232	Th	165	1	170	44.95
238	U	165	1	24	20.55

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	398155	0.17
45	Sc	1	1273788	1.37
72	Ge	1	577640	0.30
115	In	1	1726730	0.64
165	Ho	1	3039108	1.07

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\126ICAL.D\126ICAL.D#  
 Date Acquired: Nov 7 2009 08:50 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 08:48 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	47883	0.67
51	V	72	747976	1.49
52	Cr	72	754628	1.13
55	Mn	72	865964	0.71
59	Co	72	889724	1.22
60	Ni	72	191586	1.40
63	Cu	72	456036	0.95
66	Zn	72	106780	0.65
75	As	72	89192	0.61
78	Se	72	18229	1.26
95	Mo	72	254493	1.19
107	Ag	115	752402	0.75
111	Cd	115	150239	1.10
118	Sn	115	420016	0.73
121	Sb	115	483973	0.74
137	Ba	115	204383	0.51
205	Tl	165	1701616	0.60
208	Pb	165	2338107	2.25
232	Th	165	2413552	1.92
238	U	165	2559276	1.77

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag
6	Li	1	398883	0.56	398155	100.2	30 - 120
45	Sc	1	1260434	1.10	1273788	99.0	30 - 120
72	Ge	1	556836	0.86	577640	96.4	30 - 120
115	In	1	1704167	0.61	1726730	98.7	30 - 120
165	Ho	1	3052265	1.25	3039108	100.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\127\_CCV.D\127\_CCV.D#  
 Date Acquired: Nov 7 2009 08:53 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.43 ppb	3.83	50	100.9	90 - 110	
51	V	72	48.44 ppb	0.77	50	96.9	90 - 110	
52	Cr	72	48.00 ppb	0.40	50	96.0	90 - 110	
55	Mn	72	48.98 ppb	0.83	50	98.0	90 - 110	
59	Co	72	49.19 ppb	0.88	50	98.4	90 - 110	
60	Ni	72	51.00 ppb	2.25	50	102.0	90 - 110	
63	Cu	72	50.40 ppb	1.04	50	100.8	90 - 110	
66	Zn	72	49.66 ppb	0.82	50	99.3	90 - 110	
75	As	72	49.96 ppb	1.36	50	99.9	90 - 110	
78	Se	72	50.40 ppb	4.89	50	100.8	90 - 110	
95	Mo	72	49.49 ppb	0.61	50	99.0	90 - 110	
107	Ag	115	48.04 ppb	0.50	50	96.1	90 - 110	
111	Cd	115	48.84 ppb	0.25	50	97.7	90 - 110	
118	Sn	115	48.90 ppb	0.50	50	97.8	90 - 110	
121	Sb	115	49.44 ppb	0.72	50	98.9	90 - 110	
137	Ba	115	49.58 ppb	0.98	50	99.2	90 - 110	
205	Tl	165	50.08 ppb	0.23	50	100.2	90 - 110	
208	Pb	165	49.87 ppb	2.65	50	99.7	90 - 110	
232	Th	165	50.94 ppb	1.78	50	101.9	90 - 110	
238	U	165	50.49 ppb	2.18	50	101.0	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	401327	1.29	398155	100.8	30 - 120	
45	Sc	1286634	0.38	1273788	101.0	30 - 120	
72	Ge	558660	0.70	577640	96.7	30 - 120	
115	In	1725819	0.46	1726730	99.9	30 - 120	
165	Ho	3087824	1.47	3039108	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\128\_CCB.D\128\_CCB.D#  
 Date Acquired: Nov 7 2009 08:56 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.007	ppb	173.14	1.00	
51 V	72	1	-0.043	ppb	23.48	1.00	
52 Cr	72	1	0.013	ppb	34.25	1.00	
55 Mn	72	1	0.004	ppb	271.40	1.00	
59 Co	72	1	0.003	ppb	58.98	1.00	
60 Ni	72	1	0.013	ppb	122.65	1.00	
63 Cu	72	1	-0.010	ppb	116.03	1.00	
66 Zn	72	1	-0.311	ppb	3.85	1.00	
75 As	72	1	0.007	ppb	208.78	1.00	
78 Se	72	1	0.060	ppb	542.70	1.00	
95 Mo	72	1	0.010	ppb	195.90	1.00	
107 Ag	115	1	0.008	ppb	34.15	1.00	
111 Cd	115	1	-0.003	ppb	158.97	1.00	
118 Sn	115	1	0.071	ppb	72.17	1.00	
121 Sb	115	1	0.186	ppb	24.43	1.00	
137 Ba	115	1	-0.019	ppb	41.26	1.00	
205 Tl	165	1	0.019	ppb	3.88	1.00	
208 Pb	165	1	0.007	ppb	24.82	1.00	
232 Th	165	1	0.050	ppb	27.19	1.00	
238 U	165	1	0.014	ppb	24.25	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	411177	0.79	398155	103.3	30 - 120	
45 Sc	1	1305310	1.03	1273788	102.5	30 - 120	
72 Ge	1	581950	0.43	577640	100.7	30 - 120	
115 In	1	1731683	0.78	1726730	100.3	30 - 120	
165 Ho	1	3093323	0.73	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\129WASH.D\129WASH.D#  
 Date Acquired: Nov 7 2009 08:58 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 08:51 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.958 ppb	18.19	1.30	
51 V	72	1	4.710 ppb	2.17	6.50	
52 Cr	72	1	1.943 ppb	1.74	2.60	
55 Mn	72	1	0.998 ppb	3.15	1.30	
59 Co	72	1	0.952 ppb	3.16	1.30	
60 Ni	72	1	2.004 ppb	2.33	2.60	
63 Cu	72	1	1.937 ppb	4.73	2.60	
66 Zn	72	1	9.953 ppb	1.74	13.00	
75 As	72	1	4.981 ppb	2.08	6.50	
78 Se	72	1	5.557 ppb	13.16	6.50	
95 Mo	72	1	2.076 ppb	4.26	2.60	
107 Ag	115	1	5.018 ppb	2.22	6.50	
111 Cd	115	1	1.021 ppb	8.96	1.30	
118 Sn	115	1	10.330 ppb	1.36	13.00	
121 Sb	115	1	2.063 ppb	0.86	2.60	
137 Ba	115	1	1.033 ppb	9.68	1.30	
205 Tl	165	1	1.037 ppb	1.68	1.30	
208 Pb	165	1	1.033 ppb	2.31	1.30	
232 Th	165	1	2.176 ppb	3.62	2.60	
238 U	165	1	1.072 ppb	1.61	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	417105	1.00	398155	104.8	30 - 120	
45 Sc	1	1297902	0.97	1273788	101.9	30 - 120	
72 Ge	1	579634	1.13	577640	100.3	30 - 120	
115 In	1	1734765	0.59	1726730	100.5	30 - 120	
165 Ho	1	3094755	1.05	3039108	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\125CALB.D\125CALB.D#

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

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#  
 Date Acquired: Nov 7 2009 11:44 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:42 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	1073	15.01
52	Cr	72	1	2617	8.78
55	Mn	72	1	867	12.42
59	Co	72	1	87	35.66
60	Ni	72	1	110	27.47
63	Cu	72	1	480	6.51
66	Zn	72	1	677	4.34
75	As	72	1	47	6.82
78	Se	72	1	303	21.28
95	Mo	72	1	213	24.37
107	Ag	115	1	40	65.92
111	Cd	115	1	2	917.60
118	Sn	115	1	410	22.77
121	Sb	115	1	161	7.01
137	Ba	115	1	137	14.12
205	Tl	165	1	107	32.25
208	Pb	165	1	403	9.15
232	Th	165	1	173	13.01
238	U	165	1	122	7.26

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	401411	0.88
45	Sc	1	1190683	1.29
72	Ge	1	533218	0.44
115	In	1	1552104	0.57
165	Ho	1	2681412	0.51

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

## Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\190ICAL.D\190ICAL.D#  
 Date Acquired: Nov 7 2009 11:47 pm  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:45 pm  
 Sample Type: ICAL

## QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	45518	1.54
51	V	72	700879	1.29
52	Cr	72	693042	2.18
55	Mn	72	795858	1.60
59	Co	72	850264	1.89
60	Ni	72	181428	0.41
63	Cu	72	431089	0.73
66	Zn	72	95751	0.48
75	As	72	84617	1.05
78	Se	72	17278	1.91
95	Mo	72	230286	0.80
107	Ag	115	661266	1.42
111	Cd	115	131853	1.14
118	Sn	115	371875	2.20
121	Sb	115	432362	1.85
137	Ba	115	187475	1.78
205	Tl	165	1498644	1.03
208	Pb	165	2042776	1.12
232	Th	165	2142976	0.23
238	U	165	2200342	0.40

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389965	0.80	401411	97.1	30 - 120
45	Sc	1	1171540	0.60	1190683	98.4	30 - 120
72	Ge	1	507906	1.25	533218	95.3	30 - 120
115	In	1	1532161	1.02	1552104	98.7	30 - 120
165	Ho	1	2672323	0.90	2681412	99.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\191\_CCV.D\191\_CCV.D#  
 Date Acquired: Nov 7 2009 11:50 pm  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	49.23 ppb	3.26	50	98.5	90 - 110	
51	V	72	48.52 ppb	1.74	50	97.0	90 - 110	
52	Cr	72	48.49 ppb	0.29	50	97.0	90 - 110	
55	Mn	72	48.47 ppb	1.24	50	96.9	90 - 110	
59	Co	72	48.02 ppb	0.67	50	96.0	90 - 110	
60	Ni	72	49.69 ppb	1.50	50	99.4	90 - 110	
63	Cu	72	49.62 ppb	0.90	50	99.2	90 - 110	
66	Zn	72	48.96 ppb	1.42	50	97.9	90 - 110	
75	As	72	49.10 ppb	0.76	50	98.2	90 - 110	
78	Se	72	48.52 ppb	4.63	50	97.0	90 - 110	
95	Mo	72	49.23 ppb	0.82	50	98.5	90 - 110	
107	Ag	115	49.55 ppb	1.37	50	99.1	90 - 110	
111	Cd	115	49.69 ppb	1.93	50	99.4	90 - 110	
118	Sn	115	49.87 ppb	1.50	50	99.7	90 - 110	
121	Sb	115	49.85 ppb	1.58	50	99.7	90 - 110	
137	Ba	115	49.38 ppb	1.63	50	98.8	90 - 110	
205	Tl	165	50.07 ppb	0.63	50	100.1	90 - 110	
208	Pb	165	50.67 ppb	1.87	50	101.3	90 - 110	
232	Th	165	50.33 ppb	1.25	50	100.7	90 - 110	
238	U	165	51.37 ppb	0.78	50	102.7	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	391774	1.28	401411	97.6	30 - 120	
45	Sc	1173327	0.14	1190683	98.5	30 - 120	
72	Ge	511730	0.36	533218	96.0	30 - 120	
115	In	1536232	0.41	1552104	99.0	30 - 120	
165	Ho	2663987	0.61	2681412	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

### Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\192\_CCB.D\192\_CCB.D#  
 Date Acquired: Nov 7 2009 11:52 pm  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

#### QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.021 ppb	99.86	1.00	
51 V	72	1	-0.024 ppb	36.47	1.00	
52 Cr	72	1	0.015 ppb	57.14	1.00	
55 Mn	72	1	0.032 ppb	9.94	1.00	
59 Co	72	1	0.000 ppb	241.41	1.00	
60 Ni	72	1	-0.008 ppb	160.82	1.00	
63 Cu	72	1	-0.035 ppb	57.76	1.00	
66 Zn	72	1	-0.363 ppb	4.76	1.00	
75 As	72	1	0.004 ppb	177.30	1.00	
78 Se	72	1	0.169 ppb	283.55	1.00	
95 Mo	72	1	-0.009 ppb	169.70	1.00	
107 Ag	115	1	0.008 ppb	60.74	1.00	
111 Cd	115	1	0.009 ppb	130.00	1.00	
118 Sn	115	1	0.105 ppb	79.70	1.00	
121 Sb	115	1	0.172 ppb	19.79	1.00	
137 Ba	115	1	-0.007 ppb	70.67	1.00	
205 Tl	165	1	0.024 ppb	16.62	1.00	
208 Pb	165	1	0.009 ppb	31.16	1.00	
232 Th	165	1	0.066 ppb	21.79	1.00	
238 U	165	1	0.019 ppb	10.85	1.00	

#### ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	398355	0.67	401411	99.2	30 - 120	
45 Sc	1	1182289	0.51	1190683	99.3	30 - 120	
72 Ge	1	527088	0.39	533218	98.9	30 - 120	
115 In	1	1549776	0.77	1552104	99.8	30 - 120	
165 Ho	1	2689530	0.71	2681412	100.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\193WASH.D\193WASH.D#  
 Date Acquired: Nov 7 2009 11:55 pm  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.091 ppb	4.11	1.30	
51 V	72	1	4.811 ppb	1.97	6.50	
52 Cr	72	1	1.975 ppb	0.98	2.60	
55 Mn	72	1	1.025 ppb	2.63	1.30	
59 Co	72	1	0.940 ppb	2.79	1.30	
60 Ni	72	1	2.047 ppb	4.84	2.60	
63 Cu	72	1	1.979 ppb	2.92	2.60	
66 Zn	72	1	9.930 ppb	1.74	13.00	
75 As	72	1	4.933 ppb	2.85	6.50	
78 Se	72	1	4.816 ppb	29.67	6.50	
95 Mo	72	1	1.981 ppb	4.92	2.60	
107 Ag	115	1	5.175 ppb	3.70	6.50	
111 Cd	115	1	0.978 ppb	1.91	1.30	
118 Sn	115	1	10.300 ppb	2.13	13.00	
121 Sb	115	1	2.097 ppb	1.97	2.60	
137 Ba	115	1	0.975 ppb	2.19	1.30	
205 Tl	165	1	1.046 ppb	3.18	1.30	
208 Pb	165	1	1.053 ppb	2.27	1.30	
232 Th	165	1	2.155 ppb	2.03	2.60	
238 U	165	1	1.095 ppb	4.14	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	397871	0.78	401411	99.1	30 - 120	
45 Sc	1	1191820	1.19	1190683	100.1	30 - 120	
72 Ge	1	527413	0.74	533218	98.9	30 - 120	
115 In	1	1527888	0.75	1552104	98.4	30 - 120	
165 Ho	1	2673393	1.59	2681412	99.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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



## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\230\_CCV.D\230\_CCV.D#  
 Date Acquired: Nov 8 2009 01:38 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.70	ppb	2.70	50	99.4	90 - 110
51	V	72	1	48.20	ppb	0.95	50	96.4	90 - 110
52	Cr	72	1	48.39	ppb	0.96	50	96.8	90 - 110
55	Mn	72	1	48.37	ppb	0.38	50	96.7	90 - 110
59	Co	72	1	48.02	ppb	0.70	50	96.0	90 - 110
60	Ni	72	1	51.10	ppb	1.64	50	102.2	90 - 110
63	Cu	72	1	49.68	ppb	1.53	50	99.4	90 - 110
66	Zn	72	1	50.56	ppb	0.98	50	101.1	90 - 110
75	As	72	1	49.69	ppb	0.54	50	99.4	90 - 110
78	Se	72	1	49.01	ppb	2.43	50	98.0	90 - 110
95	Mo	72	1	50.23	ppb	0.82	50	100.5	90 - 110
107	Ag	115	1	50.57	ppb	2.02	50	101.1	90 - 110
111	Cd	115	1	50.42	ppb	1.61	50	100.8	90 - 110
118	Sn	115	1	50.97	ppb	1.50	50	101.9	90 - 110
121	Sb	115	1	50.46	ppb	2.42	50	100.9	90 - 110
137	Ba	115	1	50.36	ppb	1.62	50	100.7	90 - 110
205	Tl	165	1	50.21	ppb	0.85	50	100.4	90 - 110
208	Pb	165	1	50.45	ppb	0.80	50	100.9	90 - 110
232	Th	165	1	49.82	ppb	0.60	50	99.6	90 - 110
238	U	165	1	50.01	ppb	0.60	50	100.0	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	389998	0.52	401411	97.2	30 - 120
45	Sc	1	1270621	0.46	1190683	106.7	30 - 120
72	Ge	1	552643	0.66	533218	103.6	30 - 120
115	In	1	1641062	0.89	1552104	105.7	30 - 120
165	Ho	1	2838916	0.73	2681412	105.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\231\_CCB.D\231\_CCB.D#  
 Date Acquired: Nov 8 2009 01:41 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.022 ppb	100.14	1.00	
51 V	72	1	-0.067 ppb	17.38	1.00	
52 Cr	72	1	0.025 ppb	148.37	1.00	
55 Mn	72	1	0.009 ppb	272.12	1.00	
59 Co	72	1	-0.002 ppb	114.31	1.00	
60 Ni	72	1	-0.005 ppb	54.17	1.00	
63 Cu	72	1	-0.021 ppb	82.10	1.00	
66 Zn	72	1	-0.419 ppb	9.26	1.00	
75 As	72	1	-0.006 ppb	64.58	1.00	
78 Se	72	1	-0.026 ppb	971.31	1.00	
95 Mo	72	1	-0.026 ppb	80.18	1.00	
107 Ag	115	1	0.005 ppb	95.65	1.00	
111 Cd	115	1	0.004 ppb	103.00	1.00	
118 Sn	115	1	0.059 ppb	60.64	1.00	
121 Sb	115	1	0.120 ppb	9.22	1.00	
137 Ba	115	1	-0.028 ppb	31.52	1.00	
205 Tl	165	1	0.014 ppb	23.03	1.00	
208 Pb	165	1	0.000 ppb	784.86	1.00	
232 Th	165	1	0.045 ppb	17.75	1.00	
238 U	165	1	0.012 ppb	5.01	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	396110	0.33	401411	98.7	30 - 120	
45 Sc	1	1264300	0.88	1190683	106.2	30 - 120	
72 Ge	1	564899	0.51	533218	105.9	30 - 120	
115 In	1	1671529	0.37	1552104	107.7	30 - 120	
165 Ho	1	2805835	0.68	2681412	104.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\232WASH.D\232WASH.D#  
 Date Acquired: Nov 8 2009 01:44 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.962 ppb	4.95	1.30	
51 V	72	1	4.827 ppb	2.79	6.50	
52 Cr	72	1	1.910 ppb	1.76	2.60	
55 Mn	72	1	0.988 ppb	1.73	1.30	
59 Co	72	1	0.945 ppb	5.10	1.30	
60 Ni	72	1	2.045 ppb	4.03	2.60	
63 Cu	72	1	1.967 ppb	5.02	2.60	
66 Zn	72	1	9.621 ppb	2.15	13.00	
75 As	72	1	4.984 ppb	0.85	6.50	
78 Se	72	1	5.176 ppb	9.44	6.50	
95 Mo	72	1	1.883 ppb	5.05	2.60	
107 Ag	115	1	5.198 ppb	2.57	6.50	
111 Cd	115	1	1.070 ppb	8.91	1.30	
118 Sn	115	1	10.150 ppb	1.47	13.00	
121 Sb	115	1	2.051 ppb	2.03	2.60	
137 Ba	115	1	1.019 ppb	2.16	1.30	
205 Tl	165	1	1.045 ppb	1.07	1.30	
208 Pb	165	1	1.034 ppb	1.92	1.30	
232 Th	165	1	2.119 ppb	1.23	2.60	
238 U	165	1	1.099 ppb	1.43	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	395033	1.52	401411	98.4	30 - 120	
45 Sc	1	1238804	0.67	1190683	104.0	30 - 120	
72 Ge	1	557592	1.04	533218	104.6	30 - 120	
115 In	1	1643595	1.17	1552104	105.9	30 - 120	
165 Ho	1	2798401	0.27	2681412	104.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\233\_BLK.D\233\_BLK.D#  
 Date Acquired: Nov 8 2009 01:46 am  
 Operator: TEL  
 Sample Name: LNJN5BF  
 Misc Info: BLANK 9303187 6020 DISS  
 Vial Number: 4306  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.070 ppb	11.31	2.00	
52 Cr	72	1	-0.019 ppb	22.42	2.00	
55 Mn	72	1	-0.001 ppb	477.51	2.00	
59 Co	72	1	-0.004 ppb	59.97	2.00	
60 Ni	72	1	-0.018 ppb	28.75	2.00	
63 Cu	72	1	0.047 ppb	43.25	2.00	
66 Zn	72	1	0.054 ppb	24.74	2.00	
75 As	72	1	-0.007 ppb	406.57	2.00	
78 Se	72	1	0.058 ppb	91.29	2.00	
95 Mo	72	1	-0.068 ppb	18.22	2.00	
107 Ag	115	1	0.001 ppb	723.68	2.00	
111 Cd	115	1	0.007 ppb	139.69	2.00	
118 Sn	115	1	0.101 ppb	21.29	2.00	
121 Sb	115	1	-0.001 ppb	113.16	2.00	
137 Ba	115	1	-0.014 ppb	17.21	2.00	
205 Tl	165	1	0.006 ppb	32.27	2.00	
208 Pb	165	1	0.001 ppb	571.92	2.00	
232 Th	165	1	0.007 ppb	28.28	2.00	
238 U	165	1	0.002 ppb	18.84	2.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	395407	0.87	401411	98.5	30 - 120	
45 Sc	1	1258118	0.43	1190683	105.7	30 - 120	
72 Ge	1	566204	0.79	533218	106.2	30 - 120	
115 In	1	1641180	0.32	1552104	105.7	30 - 120	
165 Ho	1	2813337	1.06	2681412	104.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\234\_LCS.D\234\_LCS.D#  
 Date Acquired: Nov 8 2009 01:49 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNJN5CF  
 Misc Info: LCS  
 Vial Number: 4307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	36.86	0.90	40	92.2	80 - 120	
51 V	72	1	33.76	0.84	40	84.4	80 - 120	
52 Cr	72	1	33.98	1.31	40	85.0	80 - 120	
55 Mn	72	1	34.42	1.35	40	86.1	80 - 120	
59 Co	72	1	33.82	0.66	40	84.6	80 - 120	
60 Ni	72	1	34.87	1.64	40	87.2	80 - 120	
63 Cu	72	1	35.19	1.03	40	88.0	80 - 120	
66 Zn	72	1	36.68	0.39	40	91.7	80 - 120	
75 As	72	1	35.91	0.44	40	89.8	80 - 120	
78 Se	72	1	34.00	9.65	40	85.0	80 - 120	
95 Mo	72	1	70.62	1.41	40	176.6	80 - 120	
107 Ag	115	1	35.74	0.71	40	89.4	80 - 120	
111 Cd	115	1	20.78	37.94	40	52.0	80 - 120	
118 Sn	115	1	40.76	0.55	40	101.9	80 - 120	
121 Sb	115	1	73.37	1.07	40	183.4	80 - 120	
137 Ba	115	1	35.78	0.57	40	89.5	80 - 120	
205 Tl	165	1	35.77	2.06	40	89.4	80 - 120	
208 Pb	165	1	36.46	2.29	40	91.2	80 - 120	
232 Th	165	1	36.19	1.31	40	90.5	80 - 120	
238 U	165	1	36.86	0.33	40	92.2	80 - 120	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	381777	1.01	401411	95.1	30 - 120	
45 Sc	1	1188226	0.70	1190683	99.8	30 - 120	
72 Ge	1	528496	1.56	533218	99.1	30 - 120	
115 In	1	1588542	1.05	1552104	102.3	30 - 120	
165 Ho	1	2753018	0.51	2681412	102.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\235AREF.D\235AREF.D#  
 Date Acquired: Nov 8 2009 01:52 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2LF 2X  
 Misc Info: D9J290310  
 Vial Number: 4308  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: AllRef  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.10	0.05	ppb	100.62	3600	
51 V	72	1	45.62	22.81	ppb	0.34	3600	
52 Cr	72	1	53.46	26.73	ppb	1.96	3600	
55 Mn	72	1	44.76	22.38	ppb	0.41	3600	
59 Co	72	1	0.49	0.25	ppb	5.57	3600	
60 Ni	72	1	2.45	1.22	ppb	3.88	3600	
63 Cu	72	1	0.25	0.13	ppb	25.22	3600	
66 Zn	72	1	16.53	8.27	ppb	1.55	3600	
75 As	72	1	336.60	168.30	ppb	0.24	3600	
78 Se	72	1	2.42	1.21	ppb	10.19	3600	
95 Mo	72	1	34.10	17.05	ppb	1.54	3600	
107 Ag	115	1	0.01	0.01	ppb	99.35	3600	
111 Cd	115	1	-0.04	-0.02	ppb	133.65	3600	
118 Sn	115	1	0.28	0.14	ppb	30.16	3600	
121 Sb	115	1	0.16	0.08	ppb	3.67	3600	
137 Ba	115	1	24.08	12.04	ppb	2.84	3600	
205 Tl	165	1	0.08	0.04	ppb	14.04	3600	
208 Pb	165	1	0.08	0.04	ppb	2.70	3600	
232 Th	165	1	0.04	0.02	ppb	21.52	1000	
238 U	165	1	63.00	31.50	ppb	1.37	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331195	0.96	401411	82.5	30 - 120	
45 Sc	1	1079672	0.69	1190683	90.7	30 - 120	
72 Ge	1	448195	0.53	533218	84.1	30 - 120	
115 In	1	1327808	1.07	1552104	85.5	30 - 120	
165 Ho	1	2380357	0.50	2681412	88.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\236SDIL.D\236SDIL.D#  
 Date Acquired: Nov 8 2009 01:55 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2LP10F  
 Misc Info: SERIAL DILUTION  
 Vial Number: 4309  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: SDIL  
 Dilution Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\235AREF.D\235AREF.D#

**QC elements**

Element	IS	Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.02 ppb	86.62	0.01	150.7	90 - 110	
51	V	72	1	4.43 ppb	0.70	4.56	97.1	90 - 110	
52	Cr	72	1	5.32 ppb	2.32	5.35	99.6	90 - 110	
55	Mn	72	1	4.49 ppb	1.27	4.48	100.4	90 - 110	
59	Co	72	1	0.06 ppb	26.71	0.05	112.7	90 - 110	
60	Ni	72	1	0.30 ppb	11.27	0.24	124.3	90 - 110	
63	Cu	72	1	0.02 ppb	129.66	0.03	94.8	90 - 110	
66	Zn	72	1	1.75 ppb	6.21	1.65	105.6	90 - 110	
75	As	72	1	32.33 ppb	0.84	33.66	96.0	90 - 110	
78	Se	72	1	0.25 ppb	105.68	0.24	103.1	90 - 110	
95	Mo	72	1	3.27 ppb	4.98	3.41	95.9	90 - 110	
107	Ag	115	1	0.00 ppb	133.46	0.00	-157.0	90 - 110	
111	Cd	115	1	0.01 ppb	196.68	0.00	-259.2	90 - 110	
118	Sn	115	1	0.08 ppb	18.79	0.03	294.3	90 - 110	
121	Sb	115	1	0.00 ppb	125.05	0.02	25.8	90 - 110	
137	Ba	115	1	2.46 ppb	5.07	2.41	102.0	90 - 110	
205	Tl	165	1	0.01 ppb	23.62	0.01	98.7	90 - 110	
208	Pb	165	1	0.01 ppb	18.50	0.01	145.5	90 - 110	
232	Th	165	1	0.01 ppb	29.02	0.00	120.6	90 - 110	
238	U	165	1	6.45 ppb	0.15	6.30	102.4	90 - 110	

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	365358	0.32	401411	91.0	30 - 120
45	Sc	1	1139056	0.80	1190683	95.7	30 - 120
72	Ge	1	505687	0.95	533218	94.8	30 - 120
115	In	1	1480695	0.09	1552104	95.4	30 - 120
165	Ho	1	2655457	0.80	2681412	99.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/09/09 10:02:35

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNH2LP10F

Serial Dilution: 10.00

Sample Dilution: 2.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 236 Method 6020\_
Acquired: 11/08/2009 01:55:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/07/2009 23:44:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL
NC : Serial dilution concentration < 100 X MDL
E : Difference greater than Limit (10%)

Reviewed by: Date:



Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\237PDS.D\237PDS.D#  
 Date Acquired: Nov 8 2009 01:58 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2LZF  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 4310  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	196.30	0.05	ppb	1.01	200	98.1	75 - 125	
51 V	72	1	216.40	22.81	ppb	0.46	200	97.1	75 - 125	
52 Cr	72	1	216.40	26.73	ppb	1.11	200	95.4	75 - 125	
55 Mn	72	1	211.40	22.38	ppb	1.03	200	95.1	75 - 125	
59 Co	72	1	182.20	0.25	ppb	2.12	200	91.0	75 - 125	
60 Ni	72	1	177.30	1.22	ppb	0.52	200	88.1	75 - 125	
63 Cu	72	1	172.00	0.13	ppb	0.37	200	85.9	75 - 125	
66 Zn	72	1	198.50	8.27	ppb	0.84	200	95.3	75 - 125	
75 As	72	1	363.40	168.30	ppb	0.62	200	98.7	75 - 125	
78 Se	72	1	213.90	1.21	ppb	1.28	200	106.3	75 - 125	
95 Mo	72	1	221.20	17.05	ppb	0.45	200	101.9	75 - 125	
107 Ag	115	1	41.81	0.01	ppb	1.16	50	83.6	75 - 125	
111 Cd	115	1	185.90	-0.02	ppb	0.77	200	93.0	75 - 125	
118 Sn	115	1	176.80	0.14	ppb	1.69	200	88.3	75 - 125	
121 Sb	115	1	199.30	0.08	ppb	1.32	200	99.6	75 - 125	
137 Ba	115	1	202.40	12.04	ppb	1.26	200	95.5	75 - 125	
205 Tl	165	1	174.10	0.04	ppb	0.87	200	87.0	75 - 125	
208 Pb	165	1	173.20	0.04	ppb	1.11	200	86.6	75 - 125	
232 Th	165	1	0.02	0.02	ppb	8.71	200	0.0	75 - 125	
238 U	165	1	211.50	31.50	ppb	0.71	200	91.4	75 - 125	

ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328890	0.59	401411	81.9	30 - 120	
45 Sc	1	1096896	0.20	1190683	92.1	30 - 120	
72 Ge	1	444057	0.71	533218	83.3	30 - 120	
115 In	1	1344591	0.84	1552104	86.6	30 - 120	
165 Ho	1	2417501	0.37	2681412	90.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/09/09 10:02:40

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNH2LZF

Spike Dilution: 1.00

Sample Dilution: 2.00

Instrument: Agilent7500 Channel 272
File: AG110709 # 237 Method 6020\_
Acquired: 11/08/2009 01:58:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/07/2009 23:44:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Amount, Sample, %Rec., Spike, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

Reviewed by: Date:

## Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\238\_MS.D\238\_MS.D#  
 Date Acquired: Nov 8 2009 02:00 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2LSF 2X  
 Misc Info: MATRIX SPIKE  
 Vial Number: 4311  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: MS  
 Prep Dil. Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	17.66	0.05	ppb	3.33	40	44.1	50 - 150	
51 V	72	1	40.31	22.81	ppb	0.93	40	64.2	50 - 150	
52 Cr	72	1	43.43	26.73	ppb	0.69	40	65.1	50 - 150	
55 Mn	72	1	39.24	22.38	ppb	0.77	40	62.9	50 - 150	
59 Co	72	1	16.45	0.25	ppb	0.74	40	40.9	50 - 150	
60 Ni	72	1	17.43	1.22	ppb	1.57	40	42.3	50 - 150	
63 Cu	72	1	16.14	0.13	ppb	0.60	40	40.2	50 - 150	
66 Zn	72	1	25.23	8.27	ppb	0.44	40	52.3	50 - 150	
75 As	72	1	187.20	168.30	ppb	0.18	40	89.9	50 - 150	
78 Se	72	1	19.90	1.21	ppb	7.23	40	48.3	50 - 150	
95 Mo	72	1	54.27	17.05	ppb	0.89	40	95.1	50 - 150	
107 Ag	115	1	16.08	0.01	ppb	0.93	40	40.2	50 - 150	
111 Cd	115	1	-0.07	-0.02	ppb	#####	40	-0.2	50 - 150	
118 Sn	115	1	20.54	0.14	ppb	0.75	40	51.2	50 - 150	
121 Sb	115	1	37.45	0.08	ppb	1.22	40	93.4	50 - 150	
137 Ba	115	1	29.68	12.04	ppb	0.44	40	57.0	50 - 150	
205 Tl	165	1	16.18	0.04	ppb	1.28	40	40.4	50 - 150	
208 Pb	165	1	16.33	0.04	ppb	0.81	40	40.8	50 - 150	
232 Th	165	1	17.97	0.02	ppb	0.73	40	44.9	50 - 150	
238 U	165	1	47.24	31.50	ppb	0.42	40	66.1	50 - 150	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	329448	0.61	401411	82.1	30 - 120	
45 Sc	1	1100522	1.88	1190683	92.4	30 - 120	
72 Ge	1	454048	0.49	533218	85.2	30 - 120	
115 In	1	1348934	0.18	1552104	86.9	30 - 120	
165 Ho	1	2427384	0.23	2681412	90.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Duplicate Spike (MSD) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\239 MSD.D\239 MSD.D#  
 Date Acquired: Nov 8 2009 02:03 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2LDF 2X  
 Misc Info: MATRIX SPIKE DUPLICATE  
 Vial Number: 4312  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: MSD  
 Dilution Factor: 2.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110709.B\238 MS.D\238 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	17.61 ppb	2.63	17.66	0.28	20	
51 V	72	1	40.19 ppb	0.56	40.31	0.30	20	
52 Cr	72	1	44.52 ppb	0.42	43.43	2.48	20	
55 Mn	72	1	39.76 ppb	0.26	39.24	1.32	20	
59 Co	72	1	16.80 ppb	0.20	16.45	2.11	20	
60 Ni	72	1	17.81 ppb	1.99	17.43	2.16	20	
63 Cu	72	1	16.31 ppb	1.09	16.14	1.05	20	
66 Zn	72	1	25.94 ppb	0.79	25.23	2.78	20	
75 As	72	1	188.60 ppb	0.80	187.20	0.75	20	
78 Se	72	1	20.72 ppb	3.34	19.90	4.04	20	
95 Mo	72	1	55.45 ppb	1.10	54.27	2.15	20	
107 Ag	115	1	16.30 ppb	2.66	16.08	1.36	20	
111 Cd	115	1	-0.23 ppb	275.75	-0.07	-102.08	20	
118 Sn	115	1	21.22 ppb	0.18	20.54	3.26	20	
121 Sb	115	1	38.50 ppb	2.09	37.45	2.76	20	
137 Ba	115	1	30.34 ppb	1.78	29.68	2.20	20	
205 Tl	165	1	16.56 ppb	2.35	16.18	2.32	20	
208 Pb	165	1	16.63 ppb	2.64	16.33	1.82	20	
232 Th	165	1	18.27 ppb	2.42	17.97	1.66	20	
238 U	165	1	47.77 ppb	1.79	47.24	1.12	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	328826	0.78	401411	81.9	30 - 120	
45 Sc	1	1092484	0.63	1190683	91.8	30 - 120	
72 Ge	1	456011	0.55	533218	85.5	30 - 120	
115 In	1	1349691	1.13	1552104	87.0	30 - 120	
165 Ho	1	2423429	1.34	2681412	90.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\240SMPL.D\240SMPL.D#  
 Date Acquired: Nov 8 2009 02:06 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2NF 2X  
 Misc Info: D9J290310  
 Vial Number: 4401  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: SA  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.14	0.07	ppb	22.55	3600	
51 V	72	1	44.48	22.24	ppb	0.72	3600	
52 Cr	72	1	53.02	26.51	ppb	0.86	3600	
55 Mn	72	1	44.72	22.36	ppb	0.16	3600	
59 Co	72	1	0.48	0.24	ppb	5.28	3600	
60 Ni	72	1	2.52	1.26	ppb	3.26	3600	
63 Cu	72	1	0.28	0.14	ppb	13.97	3600	
66 Zn	72	1	15.21	7.61	ppb	1.48	3600	
75 As	72	1	330.60	165.30	ppb	0.67	3600	
78 Se	72	1	2.42	1.21	ppb	50.30	3600	
95 Mo	72	1	33.70	16.85	ppb	3.76	3600	
107 Ag	115	1	0.01	0.01	ppb	78.22	3600	
111 Cd	115	1	0.03	0.02	ppb	118.11	3600	
118 Sn	115	1	0.46	0.23	ppb	22.08	3600	
121 Sb	115	1	0.15	0.07	ppb	20.23	3600	
137 Ba	115	1	24.02	12.01	ppb	0.68	3600	
205 Tl	165	1	0.05	0.03	ppb	3.27	3600	
208 Pb	165	1	0.03	0.01	ppb	16.81	3600	
232 Th	165	1	0.03	0.02	ppb	21.89	1000	
238 U	165	1	60.92	30.46	ppb	2.50	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329364	1.25	401411	82.1	30 - 120	
45 Sc	1	1100934	1.78	1190683	92.5	30 - 120	
72 Ge	1	461442	0.58	533218	86.5	30 - 120	
115 In	1	1360263	0.82	1552104	87.6	30 - 120	
165 Ho	1	2451442	1.11	2681412	91.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\241 CC.V.D\241 CC.V.D#  
 Date Acquired: Nov 8 2009 02:09 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.01	ppb	0.56	50	100.0	90 - 110
51	V	72	1	48.33	ppb	1.58	50	96.7	90 - 110
52	Cr	72	1	48.49	ppb	0.60	50	97.0	90 - 110
55	Mn	72	1	49.00	ppb	0.87	50	98.0	90 - 110
59	Co	72	1	48.03	ppb	0.46	50	96.1	90 - 110
60	Ni	72	1	49.79	ppb	0.60	50	99.6	90 - 110
63	Cu	72	1	49.72	ppb	0.57	50	99.4	90 - 110
66	Zn	72	1	50.42	ppb	0.53	50	100.8	90 - 110
75	As	72	1	49.80	ppb	1.09	50	99.6	90 - 110
78	Se	72	1	49.62	ppb	4.24	50	99.2	90 - 110
95	Mo	72	1	50.31	ppb	1.15	50	100.6	90 - 110
107	Ag	115	1	50.96	ppb	1.77	50	101.9	90 - 110
111	Cd	115	1	50.62	ppb	1.64	50	101.2	90 - 110
118	Sn	115	1	50.25	ppb	1.69	50	100.5	90 - 110
121	Sb	115	1	50.40	ppb	1.16	50	100.8	90 - 110
137	Ba	115	1	50.16	ppb	1.14	50	100.3	90 - 110
205	Tl	165	1	50.21	ppb	0.88	50	100.4	90 - 110
208	Pb	165	1	50.49	ppb	1.18	50	101.0	90 - 110
232	Th	165	1	50.04	ppb	0.76	50	100.1	90 - 110
238	U	165	1	50.29	ppb	0.56	50	100.6	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	385065	0.65	401411	95.9	30 - 120
45	Sc	1	1247536	0.69	1190683	104.8	30 - 120
72	Ge	1	546192	1.35	533218	102.4	30 - 120
115	In	1	1634027	0.75	1552104	105.3	30 - 120
165	Ho	1	2814121	0.68	2681412	104.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\242\_CCB.D\242\_CCB.D#  
 Date Acquired: Nov 8 2009 02:11 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.022	ppb	173.22	1.00	
51 V	72	1	-0.087	ppb	10.36	1.00	
52 Cr	72	1	0.014	ppb	184.30	1.00	
55 Mn	72	1	0.014	ppb	8.00	1.00	
59 Co	72	1	0.004	ppb	69.44	1.00	
60 Ni	72	1	-0.007	ppb	142.20	1.00	
63 Cu	72	1	-0.008	ppb	140.15	1.00	
66 Zn	72	1	-0.415	ppb	4.35	1.00	
75 As	72	1	0.005	ppb	110.23	1.00	
78 Se	72	1	0.018	ppb	1242.10	1.00	
95 Mo	72	1	-0.028	ppb	13.11	1.00	
107 Ag	115	1	0.004	ppb	46.09	1.00	
111 Cd	115	1	0.013	ppb	40.03	1.00	
118 Sn	115	1	0.063	ppb	55.50	1.00	
121 Sb	115	1	0.113	ppb	31.55	1.00	
137 Ba	115	1	-0.029	ppb	28.79	1.00	
205 Tl	165	1	0.018	ppb	22.96	1.00	
208 Pb	165	1	0.000	ppb	5554.40	1.00	
232 Th	165	1	0.048	ppb	21.37	1.00	
238 U	165	1	0.017	ppb	16.86	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	384926	1.14	401411	95.9	30 - 120	
45 Sc	1	1232197	1.54	1190683	103.5	30 - 120	
72 Ge	1	550643	0.59	533218	103.3	30 - 120	
115 In	1	1626425	1.25	1552104	104.8	30 - 120	
165 Ho	1	2817508	0.31	2681412	105.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\243WASH.D\243WASH.D#  
 Date Acquired: Nov 8 2009 02:14 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 07 2009 11:48 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.018 ppb	6.70	1.30	
51 V	72	1	4.687 ppb	1.11	6.50	
52 Cr	72	1	1.969 ppb	3.26	2.60	
55 Mn	72	1	0.968 ppb	6.58	1.30	
59 Co	72	1	0.962 ppb	3.44	1.30	
60 Ni	72	1	2.019 ppb	7.92	2.60	
63 Cu	72	1	1.898 ppb	2.07	2.60	
66 Zn	72	1	9.632 ppb	0.59	13.00	
75 As	72	1	4.920 ppb	2.08	6.50	
78 Se	72	1	4.198 ppb	11.78	6.50	
95 Mo	72	1	2.020 ppb	1.39	2.60	
107 Ag	115	1	5.260 ppb	2.09	6.50	
111 Cd	115	1	1.038 ppb	5.01	1.30	
118 Sn	115	1	10.400 ppb	0.81	13.00	
121 Sb	115	1	2.106 ppb	4.12	2.60	
137 Ba	115	1	1.026 ppb	1.81	1.30	
205 Tl	165	1	1.039 ppb	3.13	1.30	
208 Pb	165	1	1.044 ppb	2.08	1.30	
232 Th	165	1	2.144 ppb	1.47	2.60	
238 U	165	1	1.107 ppb	1.83	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	378596	0.38	401411	94.3	30 - 120	
45 Sc	1	1215861	0.22	1190683	102.1	30 - 120	
72 Ge	1	540702	0.70	533218	101.4	30 - 120	
115 In	1	1596042	0.42	1552104	102.8	30 - 120	
165 Ho	1	2774388	0.30	2681412	103.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\244SMPL.D\244SMPL.D#  
 Date Acquired: Nov 8 2009 02:17 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1301  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

*DNU*  
*LED*  
*11/8/09*

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	17.90	17.90	ppb	2.45	3600	
51 V	72	1	19.94	19.94	ppb	0.71	3600	
52 Cr	72	1	17.85	17.85	ppb	1.26	3600	
55 Mn	72	1	19.07	19.07	ppb	0.21	3600	
59 Co	72	1	15.53	15.53	ppb	0.55	3600	
60 Ni	72	1	17.43	17.43	ppb	3.08	3600	
63 Cu	72	1	15.58	15.58	ppb	2.08	3600	
66 Zn	72	1	20.93	20.93	ppb	0.69	3600	
75 As	72	1	17.38	17.38	ppb	1.70	3600	
78 Se	72	1	16.72	16.72	ppb	8.04	3600	
95 Mo	72	1	2,039.00	2039.00	ppb	1.25	3600	
107 Ag	115	1	14.55	14.55	ppb	2.20	3600	
111 Cd	115	1	-1.46	-1.46	ppb	85.14	3600	
118 Sn	115	1	31.52	31.52	ppb	1.20	3600	
121 Sb	115	1	32.69	32.69	ppb	2.09	3600	
137 Ba	115	1	17.86	17.86	ppb	1.80	3600	
205 Tl	165	1	16.43	16.43	ppb	1.39	3600	
208 Pb	165	1	17.44	17.44	ppb	1.35	3600	
232 Th	165	1	18.12	18.12	ppb	1.87	1000	
238 U	165	1	18.11	18.11	ppb	2.00	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	310139	1.39	401411	77.3	30 - 120	
45 Sc	1	1008876	0.12	1190683	84.7	30 - 120	
72 Ge	1	442635	0.64	533218	83.0	30 - 120	
115 In	1	1273415	0.81	1552104	82.0	30 - 120	
165 Ho	1	2246965	0.51	2681412	83.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\245SMPL.D\245SMPL.D#  
 Date Acquired: Nov 8 2009 02:20 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

*DNU*  
*LED*  
*11/8/09*

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.00	0.00	ppb	0.00	3600	
51 V	72	1	-0.01	-0.01	ppb	183.00	3600	
52 Cr	72	1	0.03	0.03	ppb	106.74	3600	
55 Mn	72	1	0.00	0.00	ppb	357.61	3600	
59 Co	72	1	0.00	0.00	ppb	123.51	3600	
60 Ni	72	1	0.08	0.08	ppb	30.32	3600	
63 Cu	72	1	-0.03	-0.03	ppb	22.56	3600	
66 Zn	72	1	-0.24	-0.24	ppb	12.08	3600	
75 As	72	1	0.00	0.00	ppb	1812.70	3600	
78 Se	72	1	0.07	0.07	ppb	54.62	3600	
95 Mo	72	1	0.66	0.66	ppb	27.20	3600	
107 Ag	115	1	0.01	0.01	ppb	96.79	3600	
111 Cd	115	1	0.02	0.02	ppb	2.26	3600	
118 Sn	115	1	0.02	0.02	ppb	105.12	3600	
121 Sb	115	1	0.01	0.01	ppb	108.13	3600	
137 Ba	115	1	-0.01	-0.01	ppb	57.34	3600	
205 Tl	165	1	0.00	0.00	ppb	51.33	3600	
208 Pb	165	1	0.00	0.00	ppb	396.03	3600	
232 Th	165	1	0.01	0.01	ppb	75.61	1000	
238 U	165	1	0.01	0.01	ppb	15.72	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	371677	0.32	401411	92.6	30 - 120	
45 Sc	1	1181717	1.34	1190683	99.2	30 - 120	
72 Ge	1	532981	0.53	533218	100.0	30 - 120	
115 In	1	1571905	0.51	1552104	101.3	30 - 120	
165 Ho	1	2710618	0.66	2681412	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\189CALB.D\189CALB.D#

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

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\246CALB.D\246CALB.D#  
 Date Acquired: Nov 8 2009 02:22 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 07 2009 11:48 pm  
 Sample Type: CalBlk

*DNU  
 LRD  
 11/8/09*

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.18
51	V	72	1	810	15.38
52	Cr	72	1	2794	5.01
55	Mn	72	1	753	18.58
59	Co	72	1	83	6.78
60	Ni	72	1	243	15.62
63	Cu	72	1	380	12.31
66	Zn	72	1	461	2.64
75	As	72	1	39	30.26
78	Se	72	1	367	11.95
95	Mo	72	1	577	25.82
107	Ag	115	1	33	46.51
111	Cd	115	1	6	129.86
118	Sn	115	1	250	33.16
121	Sb	115	1	103	17.48
137	Ba	115	1	97	10.91
205	Tl	165	1	118	9.24
208	Pb	165	1	377	5.20
232	Th	165	1	253	21.03
238	U	165	1	191	22.56

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	374176	0.96
45	Sc	1	1183323	1.31
72	Ge	1	537439	0.85
115	In	1	1580964	1.03
165	Ho	1	2723622	0.86

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 4

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/08/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#  
 Date Acquired: Nov 8 2009 02:25 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:23 am  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.21
51	V	72	1	620	12.63
52	Cr	72	1	2680	1.78
55	Mn	72	1	813	8.79
59	Co	72	1	67	30.95
60	Ni	72	1	113	13.08
63	Cu	72	1	490	11.82
66	Zn	72	1	656	6.46
75	As	72	1	45	17.63
78	Se	72	1	333	20.05
95	Mo	72	1	257	16.03
107	Ag	115	1	40	74.94
111	Cd	115	1	11	116.88
118	Sn	115	1	477	0.80
121	Sb	115	1	156	24.28
137	Ba	115	1	152	14.20
205	Tl	165	1	96	21.83
208	Pb	165	1	372	9.02
232	Th	165	1	160	32.65
238	U	165	1	140	10.99

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	376079	0.79
45	Sc	1	1186897	1.34
72	Ge	1	539567	0.45
115	In	1	1576174	1.52
165	Ho	1	2717767	0.30

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\248ICAL.D\248ICAL.D#  
 Date Acquired: Nov 8 2009 02:28 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:26 am  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	42446	1.21
51	V	72	684937	3.17
52	Cr	72	670667	0.81
55	Mn	72	787843	0.97
59	Co	72	839400	0.67
60	Ni	72	178958	0.70
63	Cu	72	424705	0.79
66	Zn	72	94491	0.73
75	As	72	84032	1.05
78	Se	72	16841	1.85
95	Mo	72	231498	1.15
107	Ag	115	664263	0.80
111	Cd	115	132542	1.42
118	Sn	115	376743	0.98
121	Sb	115	435060	0.49
137	Ba	115	188704	0.74
205	Tl	165	1479617	0.97
208	Pb	165	2033413	0.75
232	Th	165	2126721	0.55
238	U	165	2198988	0.53

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	364624	0.78	376079	97.0	30 - 120
45	Sc	1	1151280	0.55	1186897	97.0	30 - 120
72	Ge	1	510601	1.68	539567	94.6	30 - 120
115	In	1	1555316	0.82	1576174	98.7	30 - 120
165	Ho	1	2687981	0.46	2717767	98.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\249 CC.V.D\249 CC.V.D#  
 Date Acquired: Nov 8 2009 02:31 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	50.21	ppb	0.59	50	100.4	90 - 110
51	V	72	1	49.66	ppb	0.22	50	99.3	90 - 110
52	Cr	72	1	50.51	ppb	0.78	50	101.0	90 - 110
55	Mn	72	1	49.52	ppb	0.42	50	99.0	90 - 110
59	Co	72	1	48.78	ppb	0.64	50	97.6	90 - 110
60	Ni	72	1	50.96	ppb	0.39	50	101.9	90 - 110
63	Cu	72	1	50.45	ppb	0.98	50	100.9	90 - 110
66	Zn	72	1	51.04	ppb	1.32	50	102.1	90 - 110
75	As	72	1	50.22	ppb	0.79	50	100.4	90 - 110
78	Se	72	1	52.93	ppb	2.64	50	105.9	90 - 110
95	Mo	72	1	50.88	ppb	0.45	50	101.8	90 - 110
107	Ag	115	1	50.92	ppb	2.20	50	101.8	90 - 110
111	Cd	115	1	51.72	ppb	2.62	50	103.4	90 - 110
118	Sn	115	1	51.06	ppb	2.41	50	102.1	90 - 110
121	Sb	115	1	51.12	ppb	1.48	50	102.2	90 - 110
137	Ba	115	1	50.77	ppb	1.68	50	101.5	90 - 110
205	Tl	165	1	51.85	ppb	1.16	50	103.7	90 - 110
208	Pb	165	1	51.54	ppb	2.32	50	103.1	90 - 110
232	Th	165	1	51.27	ppb	1.18	50	102.5	90 - 110
238	U	165	1	51.61	ppb	0.90	50	103.2	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360601	1.23	376079	95.9	30 - 120
45	Sc	1	1152210	0.10	1186897	97.1	30 - 120
72	Ge	1	506331	0.64	539567	93.8	30 - 120
115	In	1	1532589	0.89	1576174	97.2	30 - 120
165	Ho	1	2667156	1.17	2717767	98.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\250\_CCB.D\250\_CCB.D#  
 Date Acquired: Nov 8 2009 02:33 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9 Be	6	1	0.016	ppb	147.29	1.00	
51 V	72	1	-0.021	ppb	31.34	1.00	
52 Cr	72	1	0.037	ppb	45.39	1.00	
55 Mn	72	1	-0.003	ppb	461.47	1.00	
59 Co	72	1	0.004	ppb	46.27	1.00	
60 Ni	72	1	-0.025	ppb	13.04	1.00	
63 Cu	72	1	-0.035	ppb	22.37	1.00	
66 Zn	72	1	-0.398	ppb	5.33	1.00	
75 As	72	1	0.015	ppb	70.97	1.00	
78 Se	72	1	-0.320	ppb	40.38	1.00	
95 Mo	72	1	-0.054	ppb	35.32	1.00	
107 Ag	115	1	0.008	ppb	9.23	1.00	
111 Cd	115	1	0.005	ppb	52.43	1.00	
118 Sn	115	1	0.107	ppb	31.44	1.00	
121 Sb	115	1	0.188	ppb	20.19	1.00	
137 Ba	115	1	-0.042	ppb	4.94	1.00	
205 Tl	165	1	0.020	ppb	20.00	1.00	
208 Pb	165	1	-0.001	ppb	65.74	1.00	
232 Th	165	1	0.055	ppb	6.90	1.00	
238 U	165	1	0.016	ppb	10.74	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	366061	0.27	376079	97.3	30 - 120	
45 Sc	1	1155485	0.15	1186897	97.4	30 - 120	
72 Ge	1	519106	0.69	539567	96.2	30 - 120	
115 In	1	1540332	1.11	1576174	97.7	30 - 120	
165 Ho	1	2657124	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\251WASH.D\251WASH.D#  
 Date Acquired: Nov 8 2009 02:36 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.182 ppb	14.87	1.30	
51 V	72	1	4.893 ppb	1.96	6.50	
52 Cr	72	1	2.065 ppb	5.46	2.60	
55 Mn	72	1	1.011 ppb	1.63	1.30	
59 Co	72	1	0.945 ppb	4.66	1.30	
60 Ni	72	1	1.991 ppb	4.27	2.60	
63 Cu	72	1	1.920 ppb	3.33	2.60	
66 Zn	72	1	9.756 ppb	2.19	13.00	
75 As	72	1	5.100 ppb	2.23	6.50	
78 Se	72	1	5.391 ppb	16.99	6.50	
95 Mo	72	1	2.008 ppb	7.03	2.60	
107 Ag	115	1	5.374 ppb	2.29	6.50	
111 Cd	115	1	1.096 ppb	8.86	1.30	
118 Sn	115	1	10.340 ppb	1.46	13.00	
121 Sb	115	1	2.090 ppb	3.04	2.60	
137 Ba	115	1	1.046 ppb	6.76	1.30	
205 Tl	165	1	1.069 ppb	2.14	1.30	
208 Pb	165	1	1.064 ppb	1.63	1.30	
232 Th	165	1	2.171 ppb	1.98	2.60	
238 U	165	1	1.109 ppb	2.12	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368083	0.81	376079	97.9	30 - 120	
45 Sc	1	1152236	1.34	1186897	97.1	30 - 120	
72 Ge	1	519228	0.64	539567	96.2	30 - 120	
115 In	1	1550740	0.66	1576174	98.4	30 - 120	
165 Ho	1	2657605	1.00	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\252\_BLK.D\252\_BLK.D#  
 Date Acquired: Nov 8 2009 02:39 am  
 Operator: TEL  
 Sample Name: LNJVNB  
 Misc Info: BLANK 9303185 6020  
 Vial Number: 4402  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	4060.10	2.00	
51 V	72	1	-0.023 ppb	51.25	2.00	
52 Cr	72	1	0.146 ppb	18.63	2.00	
55 Mn	72	1	0.029 ppb	14.35	2.00	
59 Co	72	1	-0.002 ppb	130.67	2.00	
60 Ni	72	1	0.009 ppb	200.76	2.00	
63 Cu	72	1	0.048 ppb	17.11	2.00	
66 Zn	72	1	0.350 ppb	15.65	2.00	
75 As	72	1	0.002 ppb	591.35	2.00	
78 Se	72	1	-0.304 ppb	77.33	2.00	
95 Mo	72	1	-0.059 ppb	27.75	2.00	
107 Ag	115	1	0.003 ppb	141.04	2.00	
111 Cd	115	1	0.004 ppb	198.21	2.00	
118 Sn	115	1	0.129 ppb	35.95	2.00	
121 Sb	115	1	0.037 ppb	34.11	2.00	
137 Ba	115	1	-0.021 ppb	145.57	2.00	
205 Tl	165	1	0.012 ppb	15.96	2.00	
208 Pb	165	1	0.006 ppb	18.89	2.00	
232 Th	165	1	0.019 ppb	29.60	2.00	
238 U	165	1	0.002 ppb	114.88	2.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	364912	0.52	376079	97.0	30 - 120	
45 Sc	1	1141984	0.82	1186897	96.2	30 - 120	
72 Ge	1	513818	0.75	539567	95.2	30 - 120	
115 In	1	1528677	1.58	1576174	97.0	30 - 120	
165 Ho	1	2647917	1.14	2717767	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Laboratory Control Spike (LCS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\253\_LCS.D\253\_LCS.D#  
 Date Acquired: Nov 8 2009 02:42 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNJVNC  
 Misc Info: LCS  
 Vial Number: 4403  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

## QC Summary:

Analytes: Pass  
 ISTD: Pass

## Analyte Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	35.70	1.01	40	89.3	80 - 120
51	V	72	1	35.52	0.20	40	88.8	80 - 120
52	Cr	72	1	36.08	0.50	40	90.2	80 - 120
55	Mn	72	1	35.14	0.07	40	87.9	80 - 120
59	Co	72	1	34.82	0.49	40	87.1	80 - 120
60	Ni	72	1	36.40	0.69	40	91.0	80 - 120
63	Cu	72	1	35.92	0.24	40	89.8	80 - 120
66	Zn	72	1	35.76	1.51	40	89.4	80 - 120
75	As	72	1	34.71	0.72	40	86.8	80 - 120
78	Se	72	1	35.62	2.21	40	89.1	80 - 120
95	Mo	72	1	32.10	0.70	40	80.3	80 - 120
107	Ag	115	1	35.79	2.12	40	89.5	80 - 120
111	Cd	115	1	35.37	1.53	40	88.4	80 - 120
118	Sn	115	1	0.02	168.39	40	0.0	80 - 120
121	Sb	115	1	32.20	2.07	40	80.5	80 - 120
137	Ba	115	1	35.77	2.20	40	89.4	80 - 120
205	Tl	165	1	36.57	2.09	40	91.4	80 - 120
208	Pb	165	1	36.87	2.16	40	92.2	80 - 120
232	Th	165	1	36.61	1.54	40	91.5	80 - 120
238	U	165	1	36.97	1.94	40	92.4	80 - 120

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	358195	0.31	376079	95.2	30 - 120
45	Sc	1	1130666	0.47	1186897	95.3	30 - 120
72	Ge	1	497032	0.74	539567	92.1	30 - 120
115	In	1	1523173	1.15	1576174	96.6	30 - 120
165	Ho	1	2638001	1.37	2717767	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#  
 Date Acquired: Nov 8 2009 02:44 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7F 5X  
 Misc Info: D9J270261  
 Vial Number: 4404  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: AllRef  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.09	0.02	ppb	140.55	3600
51	V	72	1	58.25	11.65	ppb	0.99	3600
52	Cr	72	1	96.60	19.32	ppb	0.56	3600
55	Mn	72	1	20.01	4.00	ppb	1.83	3600
59	Co	72	1	0.41	0.08	ppb	18.64	3600
60	Ni	72	1	2.50	0.50	ppb	10.52	3600
63	Cu	72	1	0.61	0.12	ppb	13.42	3600
66	Zn	72	1	18.56	3.71	ppb	2.43	3600
75	As	72	1	190.75	38.15	ppb	0.69	3600
78	Se	72	1	1.93	0.39	ppb	57.06	3600
95	Mo	72	1	26.48	5.30	ppb	2.72	3600
107	Ag	115	1	0.03	0.01	ppb	125.97	3600
111	Cd	115	1	0.02	0.00	ppb	229.82	3600
118	Sn	115	1	0.25	0.05	ppb	45.32	3600
121	Sb	115	1	0.30	0.06	ppb	29.45	3600
137	Ba	115	1	23.70	4.74	ppb	1.34	3600
205	Tl	165	1	0.23	0.05	ppb	17.38	3600
208	Pb	165	1	0.18	0.04	ppb	14.05	3600
232	Th	165	1	0.24	0.05	ppb	4.71	1000
238	U	165	1	13.31	2.66	ppb	1.53	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	333341	1.09	376079	88.6	30 - 120
45	Sc	1	1062523	0.59	1186897	89.5	30 - 120
72	Ge	1	462502	0.27	539567	85.7	30 - 120
115	In	1	1375002	1.04	1576174	87.2	30 - 120
165	Ho	1	2471361	0.80	2717767	90.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\255SDIL.D\255SDIL.D#  
 Date Acquired: Nov 8 2009 02:47 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FP25  
 Misc Info: SERIAL DILUTION  
 Vial Number: 4405  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SDIL  
 Dilution Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110709.B\254AREF.D\254AREF.D#

**QC elements**

Element	IS	Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.02 ppb	0.57	0.00	458.7	90 - 110	
51	V	72	1	2.26 ppb	2.18	2.33	97.2	90 - 110	
52	Cr	72	1	3.94 ppb	1.55	3.86	101.9	90 - 110	
55	Mn	72	1	0.83 ppb	10.87	0.80	103.6	90 - 110	
59	Co	72	1	0.02 ppb	18.64	0.02	109.5	90 - 110	
60	Ni	72	1	0.11 ppb	52.76	0.10	106.7	90 - 110	
63	Cu	72	1	0.01 ppb	230.36	0.02	26.5	90 - 110	
66	Zn	72	1	0.47 ppb	7.87	0.74	62.8	90 - 110	
75	As	72	1	7.52 ppb	0.96	7.63	98.5	90 - 110	
78	Se	72	1	-0.04 ppb	1143.50	0.08	-52.9	90 - 110	
95	Mo	72	1	0.94 ppb	9.86	1.06	88.3	90 - 110	
107	Ag	115	1	0.00 ppb	99.28	0.00	-232.5	90 - 110	
111	Cd	115	1	-0.01 ppb	100.17	0.00	-679.0	90 - 110	
118	Sn	115	1	0.09 ppb	4.94	0.01	892.4	90 - 110	
121	Sb	115	1	0.01 ppb	131.02	0.01	58.5	90 - 110	
137	Ba	115	1	0.94 ppb	4.03	0.95	99.3	90 - 110	
205	Tl	165	1	0.01 ppb	8.96	0.01	141.7	90 - 110	
208	Pb	165	1	0.01 ppb	18.12	0.01	165.2	90 - 110	
232	Th	165	1	0.01 ppb	22.37	0.01	123.4	90 - 110	
238	U	165	1	0.53 ppb	1.52	0.53	100.3	90 - 110	

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355060	0.39	376079	94.4	30 - 120
45	Sc	1	1125653	0.19	1186897	94.8	30 - 120
72	Ge	1	502164	0.65	539567	93.1	30 - 120
115	In	1	1479317	0.60	1576174	93.9	30 - 120
165	Ho	1	2614578	1.08	2717767	96.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS)

ICPMS\_024

Reported: 11/09/09 10:02:46

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FP25

Serial Dilution: 25.00

Sample Dilution: 5.00

Instrument: Agilent7500

Channel 272

File: AG110709 # 255

Method 6020\_

Acquired: 11/08/2009 02:47:00

ICPMS\_024

Matrix: AQUEOUS

Calibrated: 11/08/2009 02:25:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Dilution	Sample	%Diff.	MDL	Flag	Q
7440-41-7	Beryllium	9	10	0.41625	0.09076	359		*	
7440-62-2	Vanadium	51	15823	56.600	58.240	2.82		*	
7440-47-3	Chromium	52	28379	98.450	96.590	1.93		*	
7439-96-5	Manganese	55	7172	20.725	20.010	3.57		*	
7440-48-4	Cobalt	59	210	0.44850	0.40970	9.47		*	
7440-02-0	Nickel	60	293	2.6645	2.4980	6.67		*	
7440-50-8	Copper	63	483	0.16105	0.60710	73.5		*	
7440-66-6	Zinc	66	1041	11.650	18.550	37.2		*	
7440-38-2	Arsenic	75	6250	187.85	190.70	1.49	0.21	1.5	<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	303	-1.0210	1.9300	153	0.70	NC	<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	2367	23.385	26.470	11.7		*	
7440-22-4	Silver	107	20	-0.06975	0.02999	333		*	
7440-43-9	Cadmium	111	3	-0.14365	0.02116	779		*	
7440-31-5	Tin	118	770	2.2540	0.25260	792		*	
7440-36-0	Antimony	121	176	0.17570	0.30050	41.5		*	
7440-39-3	Barium	137	1831	23.535	23.690	0.654		*	
7440-28-0	Thallium	205	281	0.32890	0.23210	41.7		*	
7439-92-1	Lead	208	597	0.30195	0.18290	65.1		*	
7440-61-1	Uranium	238	11545	13.340	13.300	0.301		*	
7440-29-1	Thorium	232	403	0.30120	0.24410	23.4		*	
7439-93-2	Lithium	6			0			*	
7440-20-2	Scandium	45			0			*	
7440-74-6	Indium	115			0			*	
7440-56-4	Germanium	72			0			*	
7440-60-0	Holmium	165			0			*	

\* Analyte not requested for this batch, no MDL

NC : Serial dilution concentration < 100 X MDL

E : Difference greater than Limit (10%)

Reviewed by:

Date:

## Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\256PDS.D\256PDS.D#  
 Date Acquired: Nov 8 2009 02:50 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FZ  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 4406  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	198.50	0.02	ppb	0.67	200	99.2	75 - 125	
51 V	72	1	208.00	11.65	ppb	2.08	200	98.3	75 - 125	
52 Cr	72	1	214.70	19.32	ppb	2.35	200	97.9	75 - 125	
55 Mn	72	1	195.40	4.00	ppb	1.86	200	95.8	75 - 125	
59 Co	72	1	183.60	0.08	ppb	1.60	200	91.8	75 - 125	
60 Ni	72	1	182.50	0.50	ppb	0.31	200	91.0	75 - 125	
63 Cu	72	1	178.40	0.12	ppb	0.81	200	89.1	75 - 125	
66 Zn	72	1	197.00	3.71	ppb	0.21	200	96.7	75 - 125	
75 As	72	1	232.30	38.15	ppb	0.67	200	97.5	75 - 125	
78 Se	72	1	204.20	0.39	ppb	2.34	200	101.9	75 - 125	
95 Mo	72	1	205.90	5.30	ppb	0.26	200	100.3	75 - 125	
107 Ag	115	1	41.50	0.01	ppb	1.74	50	83.0	75 - 125	
111 Cd	115	1	191.50	0.00	ppb	1.67	200	95.7	75 - 125	
118 Sn	115	1	177.60	0.05	ppb	1.20	200	88.8	75 - 125	
121 Sb	115	1	198.30	0.06	ppb	1.40	200	99.1	75 - 125	
137 Ba	115	1	196.40	4.74	ppb	1.33	200	95.9	75 - 125	
205 Tl	165	1	183.20	0.05	ppb	0.81	200	91.6	75 - 125	
208 Pb	165	1	182.30	0.04	ppb	0.75	200	91.1	75 - 125	
232 Th	165	1	0.04	0.05	ppb	6.86	200	0.0	75 - 125	
238 U	165	1	193.60	2.66	ppb	1.34	200	95.5	75 - 125	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	328783	0.12	376079	87.4	30 - 120	
45 Sc	1	1063276	1.17	1186897	89.6	30 - 120	
72 Ge	1	452940	1.07	539567	83.9	30 - 120	
115 In	1	1385133	0.59	1576174	87.9	30 - 120	
165 Ho	1	2473070	1.04	2717767	91.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS)

ICPMS\_024

Reported: 11/09/09 10:02:49

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNC7FZ

Spike Dilution: 1.00

Sample Dilution: 5.00

Instrument: Agilent7500

Channel 272

File: AG110709 # 256

Method 6020\_

Acquired: 11/08/2009 02:50:00

ICPMS\_024

Matrix: AQUEOUS

Calibrated: 11/08/2009 02:25:00

Units: ug/L

CASN	Analyte Name	M/S	Area	Amount	Sample	%Rec.	Spike	Flag	Q
7440-41-7	Beryllium	9	75977	198.50	0.01815	99.2	200		<input type="checkbox"/>
7440-62-2	Vanadium	51	1263250	208.00	11.648	98.2	200		<input checked="" type="checkbox"/>
7440-47-3	Chromium	52	1274690	214.70	19.318	97.7	200		<input checked="" type="checkbox"/>
7439-96-5	Manganese	55	1365200	195.40	4.0020	95.7	200		<input checked="" type="checkbox"/>
7440-48-4	Cobalt	59	1366970	183.60	0.08194	91.8	200		<input type="checkbox"/>
7440-02-0	Nickel	60	289636	182.50	0.49960	91.0	200		<input checked="" type="checkbox"/>
7440-50-8	Copper	63	671724	178.40	0.12142	89.1	200		<input checked="" type="checkbox"/>
7440-66-6	Zinc	66	164629	197.00	3.7100	96.6	200		<input checked="" type="checkbox"/>
7440-38-2	Arsenic	75	173144	232.30	38.140	97.1	200		<input checked="" type="checkbox"/>
7782-49-2	Selenium	78	30217	204.20	0.38600	102	200		<input checked="" type="checkbox"/>
7439-98-7	Molybdenum	95	422659	205.90	5.2940	100	200		<input type="checkbox"/>
7440-22-4	Silver	107	245476	41.500	0.00600	83.0	50.0		<input type="checkbox"/>
7440-43-9	Cadmium	111	225972	191.50	0.00423	95.7	200		<input checked="" type="checkbox"/>
7440-31-5	Tin	118	595460	177.60	0.05052	88.8	200		<input checked="" type="checkbox"/>
7440-36-0	Antimony	121	768070	198.30	0.06010	99.1	200		<input checked="" type="checkbox"/>
7440-39-3	Barium	137	329990	196.40	4.7380	95.8	200		<input checked="" type="checkbox"/>
7440-28-0	Thallium	205	2493600	183.20	0.04642	91.6	200		<input checked="" type="checkbox"/>
7439-92-1	Lead	208	3410220	182.30	0.03658	91.1	200		<input checked="" type="checkbox"/>
7440-61-1	Uranium	238	3915870	193.60	2.6600	95.5	200		<input type="checkbox"/>
7440-29-1	Thorium	232	963	0.04179	0.04882				
7439-93-2	Lithium	6			0				
7440-20-2	Scandium	45			0				
7440-74-6	Indium	115			0				
7440-56-4	Germanium	72			0				
7440-60-0	Holmium	165			0				

Reviewed by:

Date:



## Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\257\_MS.D\257\_MS.D#  
 Date Acquired: Nov 8 2009 02:53 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7FS 5X  
 Misc Info: MATRIX SPIKE  
 Vial Number: 4407  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: MS  
 Prep Dil. Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	7.56	0.02	ppb	3.41	40	18.9	50 - 150	
51 V	72	1	19.50	11.65	ppb	0.31	40	37.8	50 - 150	
52 Cr	72	1	27.55	19.32	ppb	1.08	40	46.4	50 - 150	
55 Mn	72	1	11.53	4.00	ppb	1.57	40	26.2	50 - 150	
59 Co	72	1	6.92	0.08	ppb	2.08	40	17.3	50 - 150	
60 Ni	72	1	7.47	0.50	ppb	3.08	40	18.4	50 - 150	
63 Cu	72	1	6.92	0.12	ppb	1.37	40	17.2	50 - 150	
66 Zn	72	1	12.20	3.71	ppb	0.22	40	27.9	50 - 150	
75 As	72	1	47.40	38.15	ppb	0.47	40	60.7	50 - 150	
78 Se	72	1	8.21	0.39	ppb	9.17	40	20.3	50 - 150	
95 Mo	72	1	12.33	5.30	ppb	1.48	40	27.2	50 - 150	
107 Ag	115	1	6.98	0.01	ppb	1.82	40	17.5	50 - 150	
111 Cd	115	1	7.47	0.00	ppb	3.17	40	18.7	50 - 150	
118 Sn	115	1	0.39	0.05	ppb	33.82	40	1.0	50 - 150	
121 Sb	115	1	6.89	0.06	ppb	1.31	40	17.2	50 - 150	
137 Ba	115	1	12.69	4.74	ppb	1.37	40	28.4	50 - 150	
205 Tl	165	1	7.17	0.05	ppb	1.41	40	17.9	50 - 150	
208 Pb	165	1	7.25	0.04	ppb	1.49	40	18.1	50 - 150	
232 Th	165	1	7.88	0.05	ppb	1.73	40	19.7	50 - 150	
238 U	165	1	10.53	2.66	ppb	1.84	40	24.7	50 - 150	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	332623	0.65	376079	88.4	30 - 120	
45 Sc	1	1062418	1.11	1186897	89.5	30 - 120	
72 Ge	1	462138	0.38	539567	85.6	30 - 120	
115 In	1	1389102	1.17	1576174	88.1	30 - 120	
165 Ho	1	2485285	0.80	2717767	91.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\258\_CCV.D\258\_CCV.D#  
 Date Acquired: Nov 8 2009 02:56 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	51.17 ppb	1.68	50	102.3	90 - 110	
51	V	72	49.76 ppb	0.58	50	99.5	90 - 110	
52	Cr	72	50.23 ppb	0.59	50	100.5	90 - 110	
55	Mn	72	49.80 ppb	0.45	50	99.6	90 - 110	
59	Co	72	48.86 ppb	0.97	50	97.7	90 - 110	
60	Ni	72	51.09 ppb	0.38	50	102.2	90 - 110	
63	Cu	72	50.55 ppb	1.39	50	101.1	90 - 110	
66	Zn	72	51.57 ppb	0.26	50	103.1	90 - 110	
75	As	72	50.59 ppb	0.46	50	101.2	90 - 110	
78	Se	72	51.92 ppb	0.28	50	103.8	90 - 110	
95	Mo	72	50.29 ppb	1.00	50	100.6	90 - 110	
107	Ag	115	51.22 ppb	2.07	50	102.4	90 - 110	
111	Cd	115	51.60 ppb	0.81	50	103.2	90 - 110	
118	Sn	115	50.56 ppb	0.85	50	101.1	90 - 110	
121	Sb	115	51.03 ppb	1.10	50	102.1	90 - 110	
137	Ba	115	50.92 ppb	1.12	50	101.8	90 - 110	
205	Tl	165	52.43 ppb	1.68	50	104.9	90 - 110	
208	Pb	165	52.24 ppb	2.12	50	104.5	90 - 110	
232	Th	165	51.78 ppb	2.94	50	103.6	90 - 110	
238	U	165	52.22 ppb	2.20	50	104.4	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	366110	0.29	376079	97.3	30 - 120
45	Sc	1	1169831	1.16	1186897	98.6	30 - 120
72	Ge	1	507682	1.25	539567	94.1	30 - 120
115	In	1	1542474	0.57	1576174	97.9	30 - 120
165	Ho	1	2664119	1.36	2717767	98.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\259\_CCB.D\259\_CCB.D#  
 Date Acquired: Nov 8 2009 02:58 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	31.75	1.00	
52 Cr	72	1	0.015 ppb	240.08	1.00	
55 Mn	72	1	-0.003 ppb	454.38	1.00	
59 Co	72	1	0.007 ppb	19.00	1.00	
60 Ni	72	1	-0.021 ppb	92.00	1.00	
63 Cu	72	1	-0.023 ppb	91.13	1.00	
66 Zn	72	1	-0.387 ppb	12.46	1.00	
75 As	72	1	0.025 ppb	95.41	1.00	
78 Se	72	1	-0.065 ppb	394.03	1.00	
95 Mo	72	1	-0.040 ppb	70.76	1.00	
107 Ag	115	1	0.007 ppb	79.32	1.00	
111 Cd	115	1	0.012 ppb	73.39	1.00	
118 Sn	115	1	0.112 ppb	71.47	1.00	
121 Sb	115	1	0.150 ppb	17.00	1.00	
137 Ba	115	1	-0.041 ppb	5.14	1.00	
205 Tl	165	1	0.021 ppb	28.23	1.00	
208 Pb	165	1	0.003 ppb	8.31	1.00	
232 Th	165	1	0.048 ppb	25.86	1.00	
238 U	165	1	0.018 ppb	13.31	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367818	0.80	376079	97.8	30 - 120	
45 Sc	1	1153232	0.32	1186897	97.2	30 - 120	
72 Ge	1	519534	0.26	539567	96.3	30 - 120	
115 In	1	1546385	0.40	1576174	98.1	30 - 120	
165 Ho	1	2700530	0.45	2717767	99.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\260WASH.D\260WASH.D#  
 Date Acquired: Nov 8 2009 03:01 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.019 ppb	27.17	1.30	
51 V	72	1	4.885 ppb	1.68	6.50	
52 Cr	72	1	2.082 ppb	0.83	2.60	
55 Mn	72	1	1.036 ppb	7.67	1.30	
59 Co	72	1	0.946 ppb	2.04	1.30	
60 Ni	72	1	1.988 ppb	1.59	2.60	
63 Cu	72	1	1.986 ppb	0.32	2.60	
66 Zn	72	1	9.700 ppb	2.08	13.00	
75 As	72	1	4.976 ppb	1.71	6.50	
78 Se	72	1	5.005 ppb	25.32	6.50	
95 Mo	72	1	1.940 ppb	1.93	2.60	
107 Ag	115	1	5.369 ppb	0.73	6.50	
111 Cd	115	1	1.082 ppb	5.90	1.30	
118 Sn	115	1	10.260 ppb	0.06	13.00	
121 Sb	115	1	2.114 ppb	1.71	2.60	
137 Ba	115	1	0.981 ppb	3.28	1.30	
205 Tl	165	1	1.051 ppb	2.60	1.30	
208 Pb	165	1	1.037 ppb	1.65	1.30	
232 Th	165	1	2.110 ppb	1.80	2.60	
238 U	165	1	1.105 ppb	2.71	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	367841	0.83	376079	97.8	30 - 120	
45 Sc	1	1154162	0.97	1186897	97.2	30 - 120	
72 Ge	1	516753	0.66	539567	95.8	30 - 120	
115 In	1	1524519	0.33	1576174	96.7	30 - 120	
165 Ho	1	2680772	0.38	2717767	98.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\262SMPL.D\262SMPL.D#  
 Date Acquired: Nov 8 2009 03:07 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNC7L 5X  
 Misc Info: D9J270263  
 Vial Number: 4409  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.05	0.01	ppb	157.59	3600
51	V	72	1	46.85	9.37	ppb	1.89	3600
52	Cr	72	1	12.39	2.48	ppb	5.61	3600
55	Mn	72	1	171.35	34.27	ppb	1.07	3600
59	Co	72	1	264.35	52.87	ppb	1.02	3600
60	Ni	72	1	102.35	20.47	ppb	3.34	3600
63	Cu	72	1	53.95	10.79	ppb	1.03	3600
66	Zn	72	1	17.02	3.40	ppb	3.85	3600
75	As	72	1	69.40	13.88	ppb	0.45	3600
78	Se	72	1	3.99	0.80	ppb	47.95	3600
95	Mo	72	1	6.46	1.29	ppb	6.25	3600
107	Ag	115	1	0.02	0.00	ppb	159.25	3600
111	Cd	115	1	0.13	0.03	ppb	54.73	3600
118	Sn	115	1	0.20	0.04	ppb	29.32	3600
121	Sb	115	1	0.23	0.05	ppb	27.91	3600
137	Ba	115	1	43.61	8.72	ppb	1.89	3600
205	Tl	165	1	0.08	0.02	ppb	8.14	3600
208	Pb	165	1	1.84	0.37	ppb	5.27	3600
232	Th	165	1	0.14	0.03	ppb	17.77	1000
238	U	165	1	38.02	7.60	ppb	1.66	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	343401	0.74	376079	91.3	30 - 120
45	Sc	1	1089536	0.75	1186897	91.8	30 - 120
72	Ge	1	479909	1.11	539567	88.9	30 - 120
115	In	1	1451981	1.22	1576174	92.1	30 - 120
165	Ho	1	2546093	0.95	2717767	93.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\263SMPL.D\263SMPL.D#  
 Date Acquired: Nov 8 2009 03:09 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFGD 5X  
 Misc Info: D9J280280  
 Vial Number: 4410  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.10	0.02	ppb	241.44	3600	
51 V	72	1	54.75	10.95	ppb	1.40	3600	
52 Cr	72	1	88.30	17.66	ppb	0.52	3600	
55 Mn	72	1	36.34	7.27	ppb	0.95	3600	
59 Co	72	1	0.85	0.17	ppb	10.77	3600	
60 Ni	72	1	4.50	0.90	ppb	6.77	3600	
63 Cu	72	1	1.33	0.27	ppb	18.06	3600	
66 Zn	72	1	7.36	1.47	ppb	5.00	3600	
75 As	72	1	275.25	55.05	ppb	1.01	3600	
78 Se	72	1	8.96	1.79	ppb	43.45	3600	
95 Mo	72	1	14.49	2.90	ppb	3.73	3600	
107 Ag	115	1	0.03	0.01	ppb	18.83	3600	
111 Cd	115	1	0.09	0.02	ppb	136.04	3600	
118 Sn	115	1	0.02	0.00	ppb	387.10	3600	
121 Sb	115	1	0.10	0.02	ppb	24.58	3600	
137 Ba	115	1	40.38	8.08	ppb	3.21	3600	
205 Tl	165	1	0.13	0.03	ppb	5.33	3600	
208 Pb	165	1	0.86	0.17	ppb	3.75	3600	
232 Th	165	1	0.77	0.15	ppb	2.79	1000	
238 U	165	1	23.16	4.63	ppb	1.39	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	321308	0.11	376079	85.4	30 - 120	
45 Sc	1	1048585	0.63	1186897	88.3	30 - 120	
72 Ge	1	451006	0.46	539567	83.6	30 - 120	
115 In	1	1344838	0.54	1576174	85.3	30 - 120	
165 Ho	1	2446552	0.31	2717767	90.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\264SMPL.D\264SMPL.D#  
 Date Acquired: Nov 8 2009 03:12 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNFG2 5X  
 Misc Info: D9J280283  
 Vial Number: 4411  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	85.35	17.07	ppb	2.36	3600	
52 Cr	72	1	57.90	11.58	ppb	0.78	3600	
55 Mn	72	1	3.89	0.78	ppb	2.20	3600	
59 Co	72	1	0.62	0.12	ppb	8.11	3600	
60 Ni	72	1	3.33	0.67	ppb	9.62	3600	
63 Cu	72	1	0.28	0.06	ppb	57.58	3600	
66 Zn	72	1	12.63	2.53	ppb	2.86	3600	
75 As	72	1	208.15	41.63	ppb	0.43	3600	
78 Se	72	1	3.45	0.69	ppb	57.20	3600	
95 Mo	72	1	15.54	3.11	ppb	4.05	3600	
107 Ag	115	1	0.00	0.00	ppb	548.29	3600	
111 Cd	115	1	0.00	0.00	ppb	1744.50	3600	
118 Sn	115	1	0.74	0.15	ppb	40.17	3600	
121 Sb	115	1	0.12	0.02	ppb	20.77	3600	
137 Ba	115	1	43.12	8.62	ppb	2.46	3600	
205 Tl	165	1	0.08	0.02	ppb	18.16	3600	
208 Pb	165	1	0.09	0.02	ppb	0.87	3600	
232 Th	165	1	0.06	0.01	ppb	45.22	1000	
238 U	165	1	42.88	8.58	ppb	2.38	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	326264	0.73	376079	86.8	30 - 120	
45 Sc	1	1072928	0.34	1186897	90.4	30 - 120	
72 Ge	1	463601	0.73	539567	85.9	30 - 120	
115 In	1	1385017	0.88	1576174	87.9	30 - 120	
165 Ho	1	2507716	1.26	2717767	92.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\265SMPL.D\265SMPL.D#  
 Date Acquired: Nov 8 2009 03:15 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2J 5X  
 Misc Info: D9J290310  
 Vial Number: 4412  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.05	0.01	ppb	309.81	3600	
51 V	72	1	48.61	9.72	ppb	1.22	3600	
52 Cr	72	1	57.70	11.54	ppb	0.94	3600	
55 Mn	72	1	53.90	10.78	ppb	1.00	3600	
59 Co	72	1	0.55	0.11	ppb	6.70	3600	
60 Ni	72	1	3.54	0.71	ppb	8.58	3600	
63 Cu	72	1	0.41	0.08	ppb	3.58	3600	
66 Zn	72	1	14.51	2.90	ppb	6.49	3600	
75 As	72	1	347.90	69.58	ppb	0.62	3600	
78 Se	72	1	2.80	0.56	ppb	43.90	3600	
95 Mo	72	1	35.21	7.04	ppb	2.31	3600	
107 Ag	115	1	0.00	0.00	ppb	348.44	3600	
111 Cd	115	1	0.01	0.00	ppb	1737.40	3600	
118 Sn	115	1	0.09	0.02	ppb	257.92	3600	
121 Sb	115	1	0.10	0.02	ppb	32.62	3600	
137 Ba	115	1	27.88	5.58	ppb	4.08	3600	
205 Tl	165	1	0.07	0.01	ppb	9.45	3600	
208 Pb	165	1	0.24	0.05	ppb	12.24	3600	
232 Th	165	1	0.20	0.04	ppb	2.64	1000	
238 U	165	1	67.45	13.49	ppb	1.58	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	335558	0.24	376079	89.2	30 - 120	
45 Sc	1	1081740	0.75	1186897	91.1	30 - 120	
72 Ge	1	467673	0.66	539567	86.7	30 - 120	
115 In	1	1401937	0.62	1576174	88.9	30 - 120	
165 Ho	1	2517760	0.48	2717767	92.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\266SMPL.D\266SMPL.D#  
 Date Acquired: Nov 8 2009 03:18 am  
 Acq. Method: NormISIS.M  
 Operator: TEL  
 Sample Name: LNH2K 5X  
 Misc Info: D9J290310  
 Vial Number: 4501  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 08 2009 02:28 am  
 Sample Type: SA  
 Dilution Factor: 5.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 5.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	-0.04	-0.01	ppb	0.00	3600	
51 V	72	1	48.25	9.65	ppb	1.58	3600	
52 Cr	72	1	57.55	11.51	ppb	1.78	3600	
55 Mn	72	1	53.60	10.72	ppb	0.45	3600	
59 Co	72	1	0.70	0.14	ppb	10.31	3600	
60 Ni	72	1	4.12	0.82	ppb	7.90	3600	
63 Cu	72	1	0.61	0.12	ppb	18.78	3600	
66 Zn	72	1	14.52	2.90	ppb	5.26	3600	
75 As	72	1	343.30	68.66	ppb	0.80	3600	
78 Se	72	1	0.28	0.06	ppb	532.16	3600	
95 Mo	72	1	34.43	6.89	ppb	3.09	3600	
107 Ag	115	1	0.03	0.01	ppb	118.50	3600	
111 Cd	115	1	0.06	0.01	ppb	110.88	3600	
118 Sn	115	1	0.20	0.04	ppb	15.50	3600	
121 Sb	115	1	0.06	0.01	ppb	80.38	3600	
137 Ba	115	1	30.09	6.02	ppb	1.47	3600	
205 Tl	165	1	0.06	0.01	ppb	4.80	3600	
208 Pb	165	1	0.28	0.06	ppb	1.80	3600	
232 Th	165	1	0.20	0.04	ppb	29.47	1000	
238 U	165	1	67.55	13.51	ppb	1.91	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	329739	0.51	376079	87.7	30 - 120	
45 Sc	1	1074128	1.38	1186897	90.5	30 - 120	
72 Ge	1	466433	0.80	539567	86.4	30 - 120	
115 In	1	1385476	1.23	1576174	87.9	30 - 120	
165 Ho	1	2494439	1.00	2717767	91.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110709.B\267\_CCV.D\267\_CCV.D#  
 Date Acquired: Nov 8 2009 03:21 am  
 Operator: TEL  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	51.22	ppb	2.08	50	102.4	90 - 110
51	V	72	1	49.65	ppb	0.54	50	99.3	90 - 110
52	Cr	72	1	50.22	ppb	0.76	50	100.4	90 - 110
55	Mn	72	1	49.57	ppb	0.78	50	99.1	90 - 110
59	Co	72	1	48.62	ppb	0.28	50	97.2	90 - 110
60	Ni	72	1	50.60	ppb	1.48	50	101.2	90 - 110
63	Cu	72	1	50.08	ppb	0.86	50	100.2	90 - 110
66	Zn	72	1	52.09	ppb	0.68	50	104.2	90 - 110
75	As	72	1	50.33	ppb	0.35	50	100.7	90 - 110
78	Se	72	1	50.70	ppb	1.91	50	101.4	90 - 110
95	Mo	72	1	50.34	ppb	1.97	50	100.7	90 - 110
107	Ag	115	1	50.13	ppb	2.37	50	100.3	90 - 110
111	Cd	115	1	50.15	ppb	1.77	50	100.3	90 - 110
118	Sn	115	1	49.99	ppb	1.62	50	100.0	90 - 110
121	Sb	115	1	50.52	ppb	2.60	50	101.0	90 - 110
137	Ba	115	1	50.62	ppb	1.41	50	101.2	90 - 110
205	Tl	165	1	51.11	ppb	0.42	50	102.2	90 - 110
208	Pb	165	1	51.54	ppb	1.74	50	103.1	90 - 110
232	Th	165	1	51.26	ppb	1.28	50	102.5	90 - 110
238	U	165	1	51.53	ppb	0.94	50	103.1	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	360685	1.10	376079	95.9	30 - 120
45	Sc	1	1157595	0.85	1186897	97.5	30 - 120
72	Ge	1	507944	1.20	539567	94.1	30 - 120
115	In	1	1559749	0.93	1576174	99.0	30 - 120
165	Ho	1	2711611	1.14	2717767	99.8	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\268\_CCB.D\268\_CCB.D#  
 Date Acquired: Nov 8 2009 03:23 am  
 Operator: TEL  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1305  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.008 ppb	0.00	1.00	
51 V	72	1	-0.025 ppb	19.15	1.00	
52 Cr	72	1	-0.002 ppb	789.67	1.00	
55 Mn	72	1	-0.001 ppb	1184.70	1.00	
59 Co	72	1	0.000 ppb	707.73	1.00	
60 Ni	72	1	-0.014 ppb	130.22	1.00	
63 Cu	72	1	-0.051 ppb	28.29	1.00	
66 Zn	72	1	-0.413 ppb	3.98	1.00	
75 As	72	1	0.005 ppb	390.64	1.00	
78 Se	72	1	0.068 ppb	260.94	1.00	
95 Mo	72	1	-0.051 ppb	12.59	1.00	
107 Ag	115	1	0.003 ppb	126.88	1.00	
111 Cd	115	1	0.000 ppb	7618.50	1.00	
118 Sn	115	1	0.047 ppb	150.30	1.00	
121 Sb	115	1	0.138 ppb	23.66	1.00	
137 Ba	115	1	-0.038 ppb	11.83	1.00	
205 Tl	165	1	0.021 ppb	17.52	1.00	
208 Pb	165	1	0.003 ppb	111.74	1.00	
232 Th	165	1	0.051 ppb	16.07	1.00	
238 U	165	1	0.016 ppb	14.92	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	365082	0.17	376079	97.1	30 - 120	
45 Sc	1	1142137	0.98	1186897	96.2	30 - 120	
72 Ge	1	516032	0.47	539567	95.6	30 - 120	
115 In	1	1530746	0.77	1576174	97.1	30 - 120	
165 Ho	1	2669057	1.87	2717767	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110709.B\269WASH.D\269WASH.D#  
 Date Acquired: Nov 8 2009 03:26 am  
 Operator: TEL  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 08 2009 02:28 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.901 ppb	17.96	1.30	
51 V	72	1	4.935 ppb	2.34	6.50	
52 Cr	72	1	2.001 ppb	2.44	2.60	
55 Mn	72	1	1.030 ppb	4.04	1.30	
59 Co	72	1	0.990 ppb	2.41	1.30	
60 Ni	72	1	2.129 ppb	7.48	2.60	
63 Cu	72	1	1.903 ppb	4.00	2.60	
66 Zn	72	1	9.748 ppb	0.16	13.00	
75 As	72	1	4.893 ppb	4.12	6.50	
78 Se	72	1	5.130 ppb	8.01	6.50	
95 Mo	72	1	1.974 ppb	8.49	2.60	
107 Ag	115	1	5.301 ppb	1.96	6.50	
111 Cd	115	1	1.056 ppb	7.93	1.30	
118 Sn	115	1	10.460 ppb	2.46	13.00	
121 Sb	115	1	2.083 ppb	0.79	2.60	
137 Ba	115	1	1.029 ppb	5.53	1.30	
205 Tl	165	1	1.089 ppb	0.37	1.30	
208 Pb	165	1	1.075 ppb	0.39	1.30	
232 Th	165	1	2.216 ppb	0.39	2.60	
238 U	165	1	1.111 ppb	0.42	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	359039	1.01	376079	95.5	30 - 120	
45 Sc	1	1142332	0.80	1186897	96.2	30 - 120	
72 Ge	1	512301	0.61	539567	94.9	30 - 120	
115 In	1	1537362	0.42	1576174	97.5	30 - 120	
165 Ho	1	2658916	0.29	2717767	97.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110709.B\247CALB.D\247CALB.D#

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

# Metals

## Supporting Documentation

Sample Sequence, Instrument Printouts



Lot ID: D9J300353

Client: Northgate Envir.

Batch(es) #: 9306276, 9306272

Associated Samples: 1-2

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date: LRD 11/10/2009

## *Metals Raw Data RoadMap*

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J300353	1	SE	LNLN91AC	20091109	6020TOTA	9306276	AG110909A	024
D9J300353	1	AS	LNLN91AA	20091109	6020TOTA	9306276	AG110909A	024
D9J300353	2 D	SE	LNLPF1AH	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2 S	SE	LNLPF1AG	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2 D	AS	LNLPF1AF	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2 S	AS	LNLPF1AE	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2	SE	LNLPF1AC	20091110	6020DSVD	9306272	AG110909A	024
D9J300353	2	AS	LNLPF1AA	20091110	6020DSVD	9306272	AG110909A	024

**METALS  
PREPARATION LOGS  
ICP-MS**

**TestAmerica**

**THE LEADER IN ENVIRONMENTAL TESTING**



Batch Number: 9306276

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/3/09</sup>~~11/02/09~~ *srw*  
Due Date: 11/11/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9K020000 Water	LNNP6 B	Due Date: SDG:	<u>50 mL</u>
D9K020000 Water	LNNP6 C	Due Date: SDG:	<u>50 mL</u>
D9J300353 Water	LNLN9 Total	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J300356 Water	LNLR4 Total	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 S Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 D Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*CPD  
11/10/09*

**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

**BATCH #** 9306276  
**PREP DATE:** 11/3/2009

**ALLIQUOTTED BY:** KS  
**DIGESTED BY:** JRW

**CONSUMABLES USED**

**Digestion Cups: Manufacturer:** Environmental Express **Lot #:** A901LS268  
**One or more samples were filtered prior to analysis at the instrument.**  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
**Analyst(s) Initials:**                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4110 Block & Cup #: 3/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1400	95	1815	96
HNO3	1830	96	1900	96
HNO3				

**Samples and QC revolved to:** 50 mL **Analyst's Initials** JRW

**COMMENTS:**

*I certify that all information above is correct and complete.*

**Signature:** *JRW*

**Date:** 11/3/09

*LRP  
11/10/09*

Batch Number: 9306272

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: ~~11/02/09~~ <sup>11/19/09</sup> <sub>06/11/09</sub>  
Due Date: 11/11/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9K020000 Water	LNNPL B	Due Date: SDG:	<u>50 mL</u>
D9K020000 Water	LNNPL C	Due Date: SDG:	<u>50 mL</u>
D9J300353 Water	LNLPF Dissolved	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J300353 Water	LNLPF S Dissolved	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J300353 Water	LNLPF D Dissolved	Due Date: 11/11/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*Checked  
11/6/09*

*UPD  
11/10/09*

DISSOLVED WATER DIGESTION FOR ICPMS (Prep code MD)

BATCH # 9306272  
PREP DATE: 11/9/2009

ALLIQUOTTED BY: KS  
DIGESTED BY: JRW

**CONSUMABLES USED**

Digestion Cups: Manufacturer: Environmental Express Lot #: A901LS268

Were samples filtered in the lab?

Yes  No

If "yes", then the method blank and the LCS were filtered prior to digestion.

Analyst(s) Initials:                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6473-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	2

**TEMPERATURE CYCLES**

Thermometer ID: 3718 Block & Cup #: 10/10

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3/HCl	1400	96	1400	96

Samples and QC revolved to: 50 mL Analyst's Initials JRW

COMMENTS:

I certify that all information above is correct and complete.

Signature: JRW

Date: 11/10/09

*Handwritten:* JRP  
11/10/09

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**

**THE LEADER IN ENVIRONMENTAL TESTING**

### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/09/09 20:32	<input type="checkbox"/>
4	100 ppb				1.0	11/09/09 20:35	<input type="checkbox"/>
5	ICV				1.0	11/09/09 20:37	<input type="checkbox"/>
6	RLIV				1.0	11/09/09 20:40	<input type="checkbox"/>
7	ICB				1.0	11/09/09 20:43	<input type="checkbox"/>
8	RL STD				1.0	11/09/09 20:46	<input type="checkbox"/>
9	AFCEE RL				1.0	11/09/09 20:48	<input type="checkbox"/>
10	ALTSe				1.0	11/09/09 20:51	<input type="checkbox"/>
11	ICSA				1.0	11/09/09 20:54	<input type="checkbox"/>
12	ICSAB				1.0	11/09/09 20:57	<input type="checkbox"/>
13	RINSE				1.0	11/09/09 20:59	<input type="checkbox"/>
14	LR1				1.0	11/09/09 21:02	<input type="checkbox"/>
15	RINSE				1.0	11/09/09 21:05	<input type="checkbox"/>
16	CCV				1.0	11/09/09 21:08	<input type="checkbox"/>
17	CCB				1.0	11/09/09 21:10	<input type="checkbox"/>
18	RLCV				1.0	11/09/09 21:13	<input type="checkbox"/>
19	LNNP6B	D9K020000	9306276	MS	1.0	11/09/09 21:16	<input type="checkbox"/>
20	LNNP6C	D9K020000	9306276	MS	1.0	11/09/09 21:19	<input type="checkbox"/>
21	LNLN9 2X	D9J300353-1	9306276	MS	2.0	11/09/09 21:21	<input type="checkbox"/>
22	LNLR4 2X	D9J300356-1	9306276	MS	2.0	11/09/09 21:24	<input type="checkbox"/>
23	LNME4	D9J310138-1	9306276	MS	1.0	11/09/09 21:27	<input type="checkbox"/>
24	LNME4P5	D9J310138	9306276		5.0	11/09/09 21:30	<input type="checkbox"/>
25	LNME4Z	D9J310138-1	9306276		1.0	11/09/09 21:32	<input type="checkbox"/>
26	LNME4S	D9J310138-1	9306276	MS	1.0	11/09/09 21:35	<input type="checkbox"/>
27	LNME4D	D9J310138-1	9306276	MS	1.0	11/09/09 21:38	<input type="checkbox"/>
28	CCV				1.0	11/09/09 21:41	<input type="checkbox"/>
29	CCB				1.0	11/09/09 21:43	<input type="checkbox"/>
30	RLCV				1.0	11/09/09 21:50	<input type="checkbox"/>
31	LM900B	D9J260000	9299244	MS	1.0	11/09/09 21:52	<input type="checkbox"/>
32	LM900C	D9J260000	9299244	MS	1.0	11/09/09 21:55	<input type="checkbox"/>
33	LM900L	D9J260000	9299244	MS	1.0	11/09/09 21:58	<input type="checkbox"/>
34	LM9J9	D9J240206-1	9299244	MS	1.0	11/09/09 22:01	<input type="checkbox"/>
35	<del>LM9KA 2X</del>	<del>D9J240206-2</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:03</del>	<input type="checkbox"/>
36	<del>LM9KC 2X</del>	<del>D9J240206-3</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:06</del>	<input type="checkbox"/>
37	LM9KD	D9J240206-4	9299244	MS	1.0	11/09/09 22:09	<input type="checkbox"/>
38	<del>LM9KE 2X</del>	<del>D9J240206-5</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:12</del>	<input type="checkbox"/>
39	<del>LM9KF 2X</del>	<del>D9J240206-6</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:14</del>	<input type="checkbox"/>
40	LM9KG	D9J240206-7	9299244	MS	1.0	11/09/09 22:17	<input type="checkbox"/>
41	CCV				1.0	11/09/09 22:20	<input type="checkbox"/>
42	CCB				1.0	11/09/09 22:23	<input type="checkbox"/>
43	RLCV				1.0	11/09/09 22:26	<input type="checkbox"/>
44	LM9KH	D9J240206-8	9299244	MS	1.0	11/09/09 22:28	<input type="checkbox"/>
45	LM9KJ	D9J240206-9	9299244	MS	1.0	11/09/09 22:31	<input type="checkbox"/>
46	LM9KK	D9J240206-10	9299244	MS	1.0	11/09/09 22:34	<input type="checkbox"/>
47	LM9KL	D9J240206-11	9299244	MS	1.0	11/09/09 22:37	<input type="checkbox"/>
48	LM9KP	D9J240206-13	9299244	MS	1.0	11/09/09 22:39	<input type="checkbox"/>

DNU  
LRD  
11-10-09

Denver

**RUN SUMMARY**

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/10/09 12:39:51
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**File ID: AG110909A**

**Analyst: LRD**

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
49	LM9KPP5	D9J240206	9299244		5.0	11/09/09 22:42	<input type="checkbox"/>
50	LM9KPZ	D9J240206-13	9299244		1.0	11/09/09 22:45	<input type="checkbox"/>
51	LM9KPS	D9J240206-13	9299244	MS	1.0	11/09/09 22:48	<input type="checkbox"/>
52	LM9KPD	D9J240206-13	9299244	MS	1.0	11/09/09 22:50	<input type="checkbox"/>
53	CCV				1.0	11/09/09 22:53	<input type="checkbox"/>
54	CCB				1.0	11/09/09 22:56	<input type="checkbox"/>
55	RLCV				1.0	11/09/09 22:59	<input type="checkbox"/>
56	LM9KA	D9J240206-2	9299244	MS	1.0	11/09/09 23:01	<input type="checkbox"/>
57	LM9KC	D9J240206-3	9299244	MS	1.0	11/09/09 23:04	<input type="checkbox"/>
58	LM9KE	D9J240206-5	9299244	MS	1.0	11/09/09 23:07	<input type="checkbox"/>
59	LM9KF	D9J240206-6	9299244	MS	1.0	11/09/09 23:10	<input type="checkbox"/>
60	CCV				1.0	11/09/09 23:12	<input type="checkbox"/>
61	CCB				1.0	11/09/09 23:15	<input type="checkbox"/>
62	RLCV				1.0	11/09/09 23:18	<input type="checkbox"/>
64	Cal Blank				1.0	11/09/09 23:23	<input type="checkbox"/>
65	100 ppb				1.0	11/09/09 23:26	<input type="checkbox"/>
66	CCV				1.0	11/09/09 23:29	<input type="checkbox"/>
67	CCB				1.0	11/09/09 23:32	<input type="checkbox"/>
68	RLCV				1.0	11/09/09 23:34	<input type="checkbox"/>
69	ICSA				1.0	11/09/09 23:37	<input type="checkbox"/>
70	ICSAB				1.0	11/09/09 23:40	<input type="checkbox"/>
71	WASH				1.0	11/09/09 23:43	<input type="checkbox"/>
72	CCV				1.0	11/09/09 23:45	<input type="checkbox"/>
73	CCB				1.0	11/09/09 23:48	<input type="checkbox"/>
74	RLCV				1.0	11/09/09 23:51	<input type="checkbox"/>
75	LN04NB	D9K060000	9310238	04	1.0	11/09/09 23:54	<input type="checkbox"/>
76	LN04NC	D9K060000	9310238	04	1.0	11/09/09 23:57	<input type="checkbox"/>
77	LNEA7	D9J280172-1	9310238	04	1.0	11/10/09 00:00	<input type="checkbox"/>
78	LNEA7P5	D9J280172	9310238		5.0	11/10/09 00:02	<input type="checkbox"/>
79	LNEA7Z	D9J280172-1	9310238		1.0	11/10/09 00:05	<input type="checkbox"/>
80	LNEA7S	D9J280172-1	9310238	04	1.0	11/10/09 00:08	<input type="checkbox"/>
81	LNEA7D	D9J280172-1	9310238	04	1.0	11/10/09 00:11	<input type="checkbox"/>
82	LNECN	D9J280172-2	9310238	04	1.0	11/10/09 00:13	<input type="checkbox"/>
83	CCV				1.0	11/10/09 00:16	<input type="checkbox"/>
84	CCB				1.0	11/10/09 00:20	<input type="checkbox"/>
85	RLCV				1.0	11/10/09 00:22	<input type="checkbox"/>
86	LNECV	D9J280172-3	9310238	04	1.0	11/10/09 00:25	<input type="checkbox"/>
87	LNECX	D9J280172-4	9310238	04	1.0	11/10/09 00:28	<input type="checkbox"/>
88	LNEC0	D9J280172-5	9310238	04	1.0	11/10/09 00:31	<input type="checkbox"/>
89	LNEC1	D9J280172-6	9310238	04	1.0	11/10/09 00:34	<input type="checkbox"/>
90	LNEC3	D9J280172-7	9310238	04	1.0	11/10/09 00:36	<input type="checkbox"/>
91	LNEC5	D9J280172-8	9310238	04	1.0	11/10/09 00:39	<input type="checkbox"/>
92	CCV				1.0	11/10/09 00:42	<input type="checkbox"/>
93	CCB				1.0	11/10/09 00:45	<input type="checkbox"/>
94	RLCV				1.0	11/10/09 00:48	<input type="checkbox"/>
95	LNKFHB	D9J300000	9303368	04	1.0	11/10/09 00:51	<input type="checkbox"/>



Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
96	LNKFHC	D9J300000	9303368	04	1.0	11/10/09 00:53	<input type="checkbox"/>
97	LNC5C	D9J270250-1	9303368	04	1.0	11/10/09 00:56	<input type="checkbox"/>
98	LNC5E	D9J270250-2	9303368	04	1.0	11/10/09 00:59	<input type="checkbox"/>
99	LNC5F	D9J270250-3	9303368	04	1.0	11/10/09 01:02	<input type="checkbox"/>
100	LNEHJ	D9J280192-1	9303368	04	1.0	11/10/09 01:05	<input type="checkbox"/>
101	LNEHJP5	D9J280192	9303368		5.0	11/10/09 01:07	<input type="checkbox"/>
102	LNEHJZ	D9J280192-1	9303368		1.0	11/10/09 01:10	<input type="checkbox"/>
103	LNEHJS	D9J280192-1	9303368	04	1.0	11/10/09 01:13	<input type="checkbox"/>
104	CCV				1.0	11/10/09 01:16	<input type="checkbox"/>
105	CCB				1.0	11/10/09 01:18	<input type="checkbox"/>
106	RLCV				1.0	11/10/09 01:21	<input type="checkbox"/>
107	LNEHJD	D9J280192-1	9303368	04	1.0	11/10/09 01:24	<input type="checkbox"/>
108	LNGXD 5X	D9J290182-1	9303368	04	5.0	11/10/09 01:27	<input type="checkbox"/>
109	LNGXG 5X	D9J290182-2	9303368	04	5.0	11/10/09 01:29	<input type="checkbox"/>
110	LNG17	D9J290192-1	9303368	04	1.0	11/10/09 01:32	<input type="checkbox"/>
111	LNG2D	D9J290192-2	9303368	04	1.0	11/10/09 01:35	<input type="checkbox"/>
112	<del>LNH27 2X</del>	<del>D9J290314-1</del>	<del>9303368</del>	<del>04</del>	<del>2.0</del>	<del>11/10/09 01:38</del> - DNU	<input type="checkbox"/>
113	<del>LNH28 2X</del>	<del>D9J290314-2</del>	<del>9303368</del>	<del>04</del>	<del>2.0</del>	<del>11/10/09 01:40</del> - LRD 11/10/09	<input type="checkbox"/>
114	LNH3A	D9J290314-3	9303368	04	1.0	11/10/09 01:43	<input type="checkbox"/>
115	CCV				1.0	11/10/09 01:46	<input type="checkbox"/>
116	CCB				1.0	11/10/09 01:49	<input type="checkbox"/>
117	RLCV				1.0	11/10/09 01:52	<input type="checkbox"/>
118	RINSE				1.0	11/10/09 01:54	<input type="checkbox"/>
119	RINSE				1.0	11/10/09 01:57	<input type="checkbox"/>
121	Cal Blank				1.0	11/10/09 02:03	<input type="checkbox"/>
122	100 ppb				1.0	11/10/09 02:05	<input type="checkbox"/>
123	CCV				1.0	11/10/09 02:08	<input type="checkbox"/>
124	CCB				1.0	11/10/09 02:11	<input type="checkbox"/>
125	RLCV				1.0	11/10/09 02:14	<input type="checkbox"/>
126	LNNPLBF	D9K020000	9306272	MD	1.0	11/10/09 02:16	<input type="checkbox"/>
127	LNNPLCF	D9K020000	9306272	MD	1.0	11/10/09 02:19	<input type="checkbox"/>
128	LNLFFF	D9J300353-2	9306272	MD	1.0	11/10/09 02:22	<input type="checkbox"/>
129	LNLFFP5F	D9J300353	9306272		5.0	11/10/09 02:25	<input type="checkbox"/>
130	LNLFFZF	D9J300353-2	9306272		1.0	11/10/09 02:27	<input type="checkbox"/>
131	LNLFFSF	D9J300353-2	9306272	MD	1.0	11/10/09 02:30	<input type="checkbox"/>
132	LNLFFDF	D9J300353-2	9306272	MD	1.0	11/10/09 02:33	<input type="checkbox"/>
133	CCV				1.0	11/10/09 02:36	<input type="checkbox"/>
134	CCB				1.0	11/10/09 02:38	<input type="checkbox"/>
135	RLCV				1.0	11/10/09 02:41	<input type="checkbox"/>
136	LNNQ5BF	D9K020000	9306285	MD	1.0	11/10/09 02:44	<input type="checkbox"/>
137	LNNQ5CF	D9K020000	9306285	MD	1.0	11/10/09 02:47	<input type="checkbox"/>
138	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/10/09 02:50	<input type="checkbox"/>
139	LNLG3F	D9J300326-2	9306285	MD	1.0	11/10/09 02:52	<input type="checkbox"/>
140	LNLG4F	D9J300326-3	9306285	MD	1.0	11/10/09 02:55	<input type="checkbox"/>
141	LNLHHF	D9J300329-1	9306285	MD	1.0	11/10/09 02:58	<input type="checkbox"/>
142	LNLHMF	D9J300329-2	9306285	MD	1.0	11/10/09 03:01	<input type="checkbox"/>

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/10/09 12:39:51
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File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
143	CCV				1.0	11/10/09 03:03	<input type="checkbox"/>
144	CCB				1.0	11/10/09 03:06	<input type="checkbox"/>
145	RLCV				1.0	11/10/09 03:09	<input type="checkbox"/>
146	LNLHPF	D9J300329-3	9306285	MD	1.0	11/10/09 03:12	<input type="checkbox"/>
147	LNLJJF	D9J300340-1	9306285	MD	1.0	11/10/09 03:15	<input type="checkbox"/>
148	LNLJJP5F	D9J300340	9306285		5.0	11/10/09 03:17	<input type="checkbox"/>
149	LNLJJZF	D9J300340-1	9306285		1.0	11/10/09 03:20	<input type="checkbox"/>
150	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/10/09 03:23	<input type="checkbox"/>
151	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/10/09 03:25	<input type="checkbox"/>
152	LNLJMF	D9J300340-2	9306285	MD	1.0	11/10/09 03:28	<input type="checkbox"/>
153	CCV				1.0	11/10/09 03:31	<input type="checkbox"/>
154	CCB				1.0	11/10/09 03:34	<input type="checkbox"/>
155	RLCV				1.0	11/10/09 03:37	<input type="checkbox"/>
156	LN0Q4BF	D9K060000	9310095	MD	1.0	11/10/09 03:39	<input type="checkbox"/>
157	LN0Q4CF	D9K060000	9310095	MD	1.0	11/10/09 03:42	<input type="checkbox"/>
158	LN0Q4LF	D9K060000	9310095	MD	1.0	11/10/09 03:45	<input type="checkbox"/>
159	LNR5CF	D9K040450-3	9310095	MD	1.0	11/10/09 03:48	<input type="checkbox"/>
160	LNR5CP5F	D9K040450	9310095		5.0	11/10/09 03:50	<input type="checkbox"/>
161	LNR5CZF	D9K040450-3	9310095		1.0	11/10/09 03:53	<input type="checkbox"/>
162	CCV				1.0	11/10/09 03:56	<input type="checkbox"/>
163	CCB				1.0	11/10/09 03:59	<input type="checkbox"/>
164	RLCV				1.0	11/10/09 04:01	<input type="checkbox"/>
165	RINSE				1.0	11/10/09 04:04	<input type="checkbox"/>
166	RINSE				1.0	11/10/09 04:07	<input type="checkbox"/>
168	Cal Blank				1.0	11/10/09 04:12	<input type="checkbox"/>
169	100 ppb				1.0	11/10/09 04:15	<input type="checkbox"/>
170	CCV				1.0	11/10/09 04:18	<input type="checkbox"/>
171	CCB				1.0	11/10/09 04:21	<input type="checkbox"/>
172	RLCV				1.0	11/10/09 04:23	<input type="checkbox"/>
173	LN16EB	D9K060000	9310417	04	2.5	11/10/09 04:26	<input type="checkbox"/>
174	LN16EC	D9K060000	9310417	04	2.5	11/10/09 04:29	<input type="checkbox"/>
175	LN1FW	D9K060478-7	9310417	04	2.5	11/10/09 04:32	<input type="checkbox"/>
176	LN1LX	D9K060478-17	9310417	04	2.5	11/10/09 04:35	<input type="checkbox"/>
177	LN1MD	D9K060478-19	9310417	04	2.5	11/10/09 04:37	<input type="checkbox"/>
178	LN1MH	D9K060478-21	9310417	04	2.5	11/10/09 04:40	<input type="checkbox"/>
179	LN1MHS	D9K060478-21	9310417	04	2.5	11/10/09 04:43	<input type="checkbox"/>
180	LN1MHD	D9K060478-21	9310417	04	2.5	11/10/09 04:46	<input type="checkbox"/>
181	CCV				1.0	11/10/09 04:48	<input type="checkbox"/>
182	CCB				1.0	11/10/09 04:51	<input type="checkbox"/>
183	RLCV				1.0	11/10/09 04:54	<input type="checkbox"/>
184	LN1T6BF	D9K060000	9310368	87	2.5	11/10/09 04:57	<input type="checkbox"/>
185	LN1T6CF	D9K060000	9310368	87	2.5	11/10/09 05:00	<input type="checkbox"/>
186	LNVQWF	D9K040610-1	9310368	87	2.5	11/10/09 05:02	<input type="checkbox"/>
187	LNVRHF	D9K040610-3	9310368	87	2.5	11/10/09 05:05	<input type="checkbox"/>
188	LNVRLF	D9K040610-5	9310368	87	2.5	11/10/09 05:08	<input type="checkbox"/>
189	LNVRLSF	D9K040610-5	9310368	87	2.5	11/10/09 05:11	<input type="checkbox"/>

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
190	LNVRDF	D9K040610-5	9310368	87	2.5	11/10/09 05:14	<input type="checkbox"/>
191	LN48F	D9K050627-2	9310368	87	2.5	11/10/09 05:16	<input type="checkbox"/>
192	LN45JF	D9K050627-6	9310368	87	2.5	11/10/09 05:19	<input type="checkbox"/>
193	CCV				1.0	11/10/09 05:22	<input type="checkbox"/>
194	CCB				1.0	11/10/09 05:25	<input type="checkbox"/>
195	RLCV				1.0	11/10/09 05:27	<input type="checkbox"/>
196	LN4QNB	D9K090000	9313106	04	2.5	11/10/09 05:30	<input type="checkbox"/>
197	LN4QNC	D9K090000	9313106	04	2.5	11/10/09 05:33	<input type="checkbox"/>
198	LN314	D9K070460-2	9313106	04	2.5	11/10/09 05:36	<input type="checkbox"/>
199	LN3L7 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:39	<input type="checkbox"/>
200	LN3L7S 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:41	<input type="checkbox"/>
201	LN3L7D 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:44	<input type="checkbox"/>
202	CCV				1.0	11/10/09 05:47	<input type="checkbox"/>
203	CCB				1.0	11/10/09 05:50	<input type="checkbox"/>
204	RLCV				1.0	11/10/09 05:52	<input type="checkbox"/>
205	<del>LN0PDBF</del>	<del>D9K060000</del>	<del>9310068</del>	<del>PD</del>	<del>2.5</del>	<del>11/10/09 05:55</del>	<input type="checkbox"/>
206	LN0PDCF	D9K060000	9310068	PD	2.5	11/10/09 05:58	<input type="checkbox"/>
207	LNT1RF	D9K040539-2	9310068	PD	2.5	11/10/09 06:01	<input type="checkbox"/>
208	LNT15F	D9K040539-3	9310068	PD	2.5	11/10/09 06:04	<input type="checkbox"/>
209	LNT15SF	D9K040539-3	9310068	PD	2.5	11/10/09 06:06	<input type="checkbox"/>
210	LNT15DF	D9K040539-3	9310068	PD	2.5	11/10/09 06:09	<input type="checkbox"/>
211	LNT2CF	D9K040539-4	9310068	PD	2.5	11/10/09 06:12	<input type="checkbox"/>
212	LNPC2F	D9K020476-1	9310068	PD	2.5	11/10/09 06:15	<input type="checkbox"/>
213	LNPC4F	D9K020476-2	9310068	PD	2.5	11/10/09 06:18	<input type="checkbox"/>
214	CCV				1.0	11/10/09 06:20	<input type="checkbox"/>
215	CCB				1.0	11/10/09 06:23	<input type="checkbox"/>
216	RLCV				1.0	11/10/09 06:26	<input type="checkbox"/>
217	RINSE				1.0	11/10/09 06:29	<input type="checkbox"/>
218	<del>RINSE</del>				<del>1.0</del>	<del>11/10/09 06:31</del>	<input type="checkbox"/>
220	Cal Blank				1.0	11/10/09 06:37	<input type="checkbox"/>
221	100 ppb				1.0	11/10/09 06:40	<input type="checkbox"/>
222	CCV				1.0	11/10/09 06:42	<input type="checkbox"/>
223	CCB				1.0	11/10/09 06:45	<input type="checkbox"/>
224	RLCV				1.0	11/10/09 06:48	<input type="checkbox"/>
225	LNW1QB	D9K050000	9309222	MS	1.0	11/10/09 06:51	<input type="checkbox"/>
226	LNW1QC	D9K050000	9309222	MS	1.0	11/10/09 06:53	<input type="checkbox"/>
227	LNR42	D9K040449-1	9309222	MS	1.0	11/10/09 06:56	<input type="checkbox"/>
228	LNR42P5	D9K040449	9309222		5.0	11/10/09 06:59	<input type="checkbox"/>
229	LNR42Z	D9K040449-1	9309222		1.0	11/10/09 07:02	<input type="checkbox"/>
230	LNR42S	D9K040449-1	9309222	MS	1.0	11/10/09 07:04	<input type="checkbox"/>
231	LNR42D	D9K040449-1	9309222	MS	1.0	11/10/09 07:07	<input type="checkbox"/>
232	CCV				1.0	11/10/09 07:10	<input type="checkbox"/>
233	CCB				1.0	11/10/09 07:13	<input type="checkbox"/>
234	RLCV				1.0	11/10/09 07:16	<input type="checkbox"/>
235	LNR48	D9K040449-2	9309222	MS	1.0	11/10/09 07:18	<input type="checkbox"/>
236	LNR5E	D9K040449-3	9309222	MS	1.0	11/10/09 07:21	<input type="checkbox"/>

DNU  
LRD  
11-10-2009

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
237	LNR5G	D9K040449-4	9309222	MS	1.0	11/10/09 07:24	<input type="checkbox"/>
238	LNP8M	D9K030460-1	9309222	MS	1.0	11/10/09 07:27	<input type="checkbox"/>
239	LNP8X	D9K030460-2	9309222	MS	1.0	11/10/09 07:30	<input type="checkbox"/>
240	LNP81	D9K030460-3	9309222	MS	1.0	11/10/09 07:32	<input type="checkbox"/>
241	CCV				1.0	11/10/09 07:35	<input type="checkbox"/>
242	CCB				1.0	11/10/09 07:38	<input type="checkbox"/>
243	RLCV				1.0	11/10/09 07:41	<input type="checkbox"/>
244	LNN6NB	D9K020000	9306426	MS	1.0	11/10/09 07:44	<input type="checkbox"/>
245	LNN6NC	D9K020000	9306426	MS	1.0	11/10/09 07:46	<input type="checkbox"/>
246	LNN6NL	D9K020000	9306426	MS	1.0	11/10/09 07:49	<input type="checkbox"/>
247	LNM4D	D9J310189-1	9306426	MS	1.0	11/10/09 07:52	<input type="checkbox"/>
248	LNM4DP5	D9J310189	9306426		5.0	11/10/09 07:55	<input type="checkbox"/>
249	LNM4DZ	D9J310189-1	9306426		1.0	11/10/09 07:58	<input type="checkbox"/>
250	LNM4E	D9J310189-2	9306426	MS	1.0	11/10/09 08:00	<input type="checkbox"/>
251	LNM5E	D9J310191-14	9306426	MS	1.0	11/10/09 08:03	<input type="checkbox"/>
252	CCV				1.0	11/10/09 08:06	<input type="checkbox"/>
253	CCB				1.0	11/10/09 08:09	<input type="checkbox"/>
254	RLCV				1.0	11/10/09 08:11	<input type="checkbox"/>
255	LNRQVB	D9K040000	9308149	MS	1.0	11/10/09 08:14	<input type="checkbox"/>
256	LNRQVC	D9K040000	9308149	MS	1.0	11/10/09 08:17	<input type="checkbox"/>
257	LNQ0L	D9K030552-1	9308149	MS	1.0	11/10/09 08:20	<input type="checkbox"/>
258	LNQ0LP5	D9K030552	9308149		5.0	11/10/09 08:22	<input type="checkbox"/>
259	LNQ0LZ	D9K030552-1	9308149		1.0	11/10/09 08:25	<input type="checkbox"/>
260	LNQ0LS	D9K030552-1	9308149	MS	1.0	11/10/09 08:28	<input type="checkbox"/>
261	LNQ0LD	D9K030552-1	9308149	MS	1.0	11/10/09 08:30	<input type="checkbox"/>
262	LNQ0R	D9K030554-1	9308149	MS	1.0	11/10/09 08:33	<input type="checkbox"/>
263	LNQ0T	D9K030554-2	9308149	MS	1.0	11/10/09 08:36	<input type="checkbox"/>
264	CCV				1.0	11/10/09 08:39	<input type="checkbox"/>
265	CCB				1.0	11/10/09 08:41	<input type="checkbox"/>
266	RLCV				1.0	11/10/09 08:44	<input type="checkbox"/>
267	LNWG5BF	D9K050000	9309184	87	2.5	11/10/09 08:47	<input type="checkbox"/>
268	LNWG5CF	D9K050000	9309184	87	2.5	11/10/09 08:50	<input type="checkbox"/>
269	LNT4AF	D9K040553-1	9309184	87	2.5	11/10/09 08:52	<input type="checkbox"/>
270	LNT42F	D9K040553-2	9309184	87	2.5	11/10/09 08:55	<input type="checkbox"/>
271	LNT42SF	D9K040553-2	9309184	87	2.5	11/10/09 08:58	<input type="checkbox"/>
272	LNT42DF	D9K040553-2	9309184	87	2.5	11/10/09 09:01	<input type="checkbox"/>
273	LNT5HF	D9K040553-3	9309184	87	2.5	11/10/09 09:03	<input type="checkbox"/>
274	CCV				1.0	11/10/09 09:06	<input type="checkbox"/>
275	CCB				1.0	11/10/09 09:09	<input type="checkbox"/>
276	RLCV				1.0	11/10/09 09:12	<input type="checkbox"/>
277	LNT5LF	D9K040553-4	9309184	87	2.5	11/10/09 09:14	<input type="checkbox"/>
278	LNT5VF	D9K040553-5	9309184	87	2.5	11/10/09 09:17	<input type="checkbox"/>
279	LNT51F	D9K040553-6	9309184	87	2.5	11/10/09 09:20	<input type="checkbox"/>
280	LNT55F	D9K040553-7	9309184	87	2.5	11/10/09 09:23	<input type="checkbox"/>
281	LNT57F	D9K040553-8	9309184	87	2.5	11/10/09 09:26	<input type="checkbox"/>
282	LNT58F	D9K040553-9	9309184	87	2.5	11/10/09 09:28	<input type="checkbox"/>

Denver

**RUN SUMMARY**

Method: 6020 (ICP/MS)                      ICPMS\_024 (024)                      Reported: 11/10/09 12:39:51

**File ID: AG110909A**

**Analyst: LRD**

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
283	LNT59F	D9K040553-10	9309184	87	2.5	11/10/09 09:31	<input type="checkbox"/>
284	CCV				1.0	11/10/09 09:34	<input type="checkbox"/>
285	CCB				1.0	11/10/09 09:37	<input type="checkbox"/>
286	RLCV				1.0	11/10/09 09:39	<input type="checkbox"/>
287	D9J270274-0				1.0	11/10/09 09:42	<input type="checkbox"/>
288	CCV				1.0	11/10/09 09:45	<input type="checkbox"/>
289	CCB				1.0	11/10/09 09:48	<input type="checkbox"/>
290	RLCV				1.0	11/10/09 09:50	<input type="checkbox"/>

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-10-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SE02003      Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008      Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SN02016      Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009      Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HNO3      Lot No.: H02026      Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se      Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009      Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000

STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 10-31-2009  
 Date Expires(1): 03-01-2010 (1 Year)  
 Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-05-2009  
 Date Expires(1): 12-05-2009 (1 Month)  
 Date Expires(2): 11-01-2010 (None)  
 pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
 Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20,000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20,000	2,000.0

STD6858-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 05-09-2010 (6 Months)  
 Date Expires(2): 05-09-2010 (6 Months)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0



Parent Std No.: STD6857-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6859-09, ICP-MS CAL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-09-2009  
Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

STD6860-09, ICP-MS CCV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-09-2009  
Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500

Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

STD6861-09, ICP-MS RL STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn

Aliquot Amount (ml): 0.0900

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6859-09, ICP-MS CAL STD

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010

Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010

STD6862-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6861-09, ICP-MS RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002

STD6863-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000

As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD4542-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD6864-09, ICP-MS LR STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000

Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000

STD6865-09, ICP-MS ICV STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA ICV A

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

STD6866-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6867-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 20

Parent Std No.: STD6469-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000

Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

Parent Std No.: STD6470-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010    Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

File AG110909A

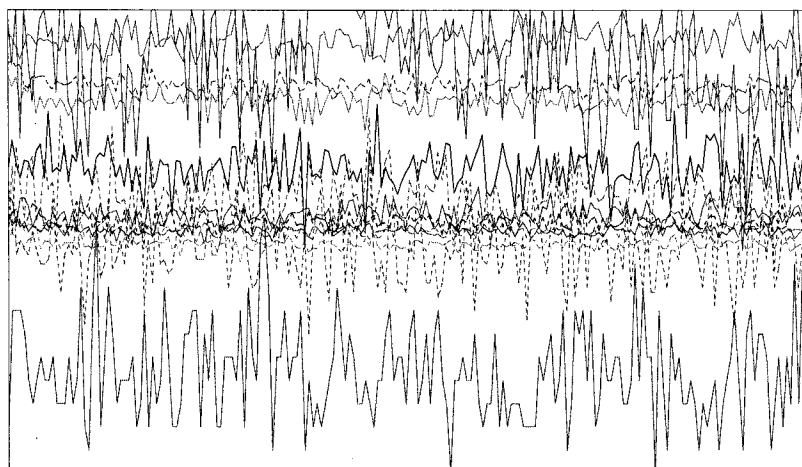
Reviewed By: \_\_\_\_\_

LRD

11/10/2009

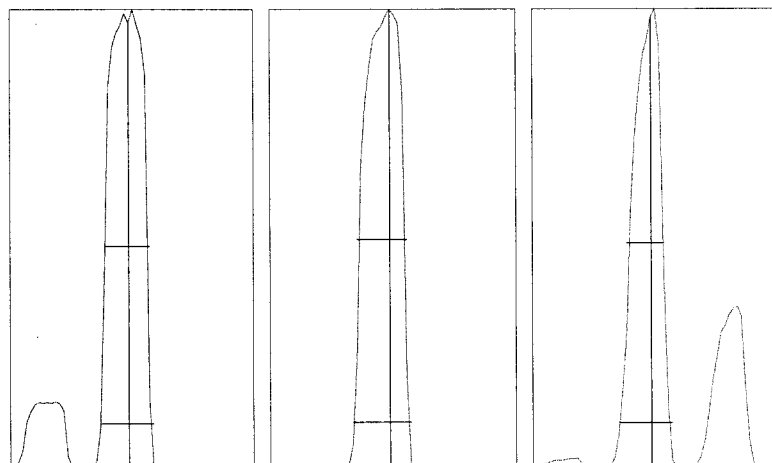
Tune Report

Tune File : NORM.U  
 Comment : AG110909



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.475%  
 Doubly Charged: 70/140 1.275%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2614.0	2789.3	3.67	0.80
7	20,000	18632.0	18633.8	3.00	0.50
59	20,000	15677.0	16033.1	2.87	1.00
63	50	35.0	45.6	15.88	0.70
70	500	313.0	327.1	7.08	0.40
75	20	4.0	4.4	46.88	0.60
78	200	109.0	120.3	9.42	0.60
89	50,000	26589.0	26185.6	2.22	1.00
115	50,000	24518.0	24639.8	1.99	1.10
118	100	33.0	48.4	15.31	0.80
137	5,000	2637.0	2712.3	2.91	1.20
205	20,000	16431.0	16723.1	2.17	1.70
238	50,000	25920.0	26106.3	1.87	2.50
156/140	2	1.499%	1.485%	7.38	
70/140	2	1.311%	1.332%	7.11	



m/z:	7	89	205
Height:	18,699	26,853	17,221
Axis:	7.00	89.00	205.00
W-50%:	0.55	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear



# Tune Report

Tune File : NORM.U  
Comment : AG110909

## Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	:	1600 W	Extract 1	:	0 V	AMU Gain	:	134
RF Matching	:	1.7 V	Extract 2	:	-170 V	AMU Offset	:	125
Smpl Depth	:	8 mm	Omega Bias-ce	:	-30 V	Axis Gain	:	1.0007
Torch-H	:	-0.8 mm	Omega Lens-ce	:	1.4 V	Axis Offset	:	-0.03
Torch-V	:	-0.3 mm	Cell Entrance	:	-30 V	QP Bias	:	-3 V
Carrier Gas	:	0.81 L/min	QP Focus	:	7 V	===Detector Parameters===		
Makeup Gas	:	0.23 L/min	Cell Exit	:	-30 V	Discriminator	:	8 mV
Optional Gas	:	--- %	===Octopole Parameters===			Analog HV	:	1770 V
Nebulizer Pump	:	0.1 rps	OctP RF	:	180 V	Pulse HV	:	1480 V
Sample Pump	:	--- rps	OctP Bias	:	-18 V			
S/C Temp	:	2 degC						

## ===Reaction Cell===

Reaction Mode	:	OFF						
H2 Gas	:	0 mL/min	He Gas	:	0 mL/min	Optional Gas	:	--- %

P/A Factor Tuning Report

Acquired: Nov 9 2009 08:15 pm

Mass[amu]	Element	P/A Factor
6	Li	Sensitivity too high
7	(Li)	0.055201
9	Be	0.058738
23	Na	0.063579
24	Mg	0.064637
27	Al	0.065724
39	K	0.065936
43	Ca	Sensitivity too low
45	Sc	0.065581
51	V	0.066938
52	Cr	0.068029
53	(Cr)	Sensitivity too low
55	Mn	0.069052
57	Fe	Sensitivity too low
59	Co	0.070056
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	Sensitivity too low
72	Ge	0.069902
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	Sensitivity too low
98	(Mo)	0.071630
99	(Mo)	Sensitivity too low
105	Pd	Sensitivity too low
106	(Cd)	0.071534
107	Ag	Sensitivity too low
108	(Cd)	0.071984
111	Cd	Sensitivity too low
115	In	0.068812
118	Sn	0.070115
121	Sb	0.070721
137	Ba	Sensitivity too low
165	Ho	0.069269
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071349
206	(Pb)	0.070737
207	(Pb)	0.071002
208	Pb	0.070189
232	Th	0.070155
238	U	0.070301

====Detector Parameters====

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

P/A Factor Tuning Report

Acquired: Nov 9 2009 08:21 pm

Mass[amu]	Element	P/A Factor
6	Li	Sensitivity too high
7	(Li)	0.055259
9	Be	0.058421
23	Na	0.062917
24	Mg	0.063700
27	Al	0.064930
39	K	0.065662
43	Ca	Sensitivity too low
45	Sc	0.065581
51	V	0.066016
52	Cr	0.066969
53	(Cr)	Sensitivity too low
55	Mn	0.067116
57	Fe	Sensitivity too low
59	Co	0.068255
60	Ni	0.068756
63	Cu	0.069073
66	Zn	0.068997
72	Ge	0.068697
75	As	0.069000
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.071094
98	(Mo)	0.069583
99	(Mo)	0.069992
105	Pd	0.069782
106	(Cd)	0.069206
107	Ag	Sensitivity too low
108	(Cd)	0.069821
111	Cd	0.069450
115	In	0.068812
118	Sn	0.068484
121	Sb	0.068561
137	Ba	0.070024
165	Ho	0.068599
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.068219
206	(Pb)	0.067897
207	(Pb)	0.068227
208	Pb	0.070189
232	Th	0.070155
238	U	0.070301

===Detector Parameters===

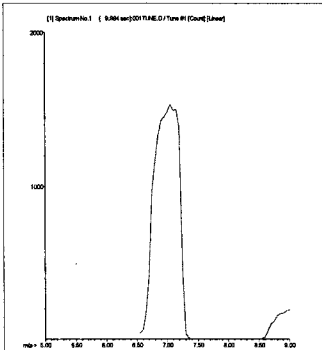
Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

### 200.8 QC Tune Report

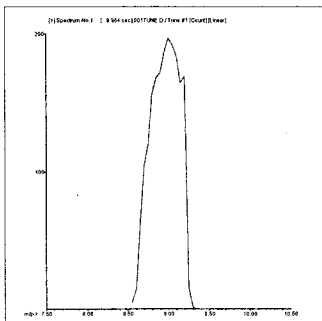
Data File: C:\ICPCHEM\1\DATA\AG110909A.B\001TUNE.D  
 Date Acquired: Nov 9 2009 08:26 pm  
 Acq. Method: tun\_isis.M  
 Operator: LRD  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	14906	14929	14975	14838	14916	14868	0.36	5.00	
9 Be	1915	1908	1914	1983	1809	1957	3.47	5.00	RSD fail
24 Mg	8679	8669	8688	8662	8744	8633	0.48	5.00	
59 Co	35756	36567	35777	35985	34517	35933	2.11	5.00	
115 In	692825	688204	694293	692146	693236	696245	0.43	5.00	
208 Pb	51450	52572	50561	51250	51590	51275	1.42	5.00	
238 U	109376	111991	110522	109499	107788	107079	1.83	5.00	

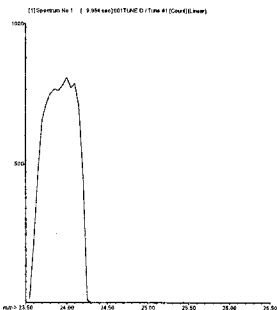
*LRD 11/09/09*  
 Pass



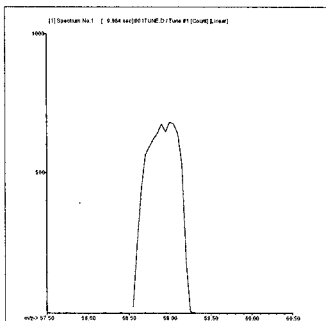
**7 Li**  
**Mass Calib.**  
 Actual: 7.05  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



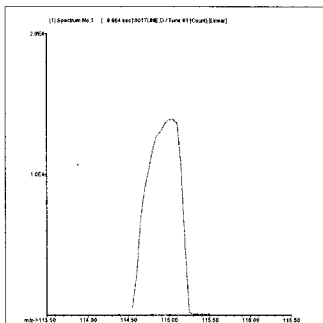
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



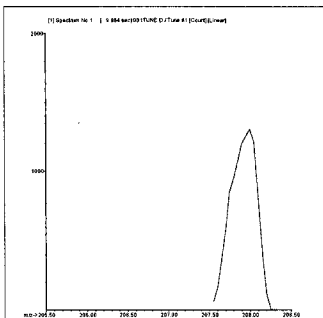
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



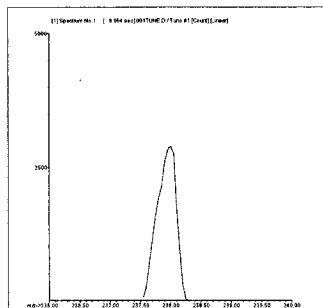
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.50  
 Required: 0.90  
 Flag:

Tune Result:

*Fail Pass*

*LED 11/09/09*

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 9 2009 08:29 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:30 pm  
 Sample Type: CalBlk

*06/11/10/09*

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	577	3.61
52	Cr	72	1	1697	4.80
55	Mn	72	1	263	10.96
59	Co	72	1	17	34.64
60	Ni	72	1	63	32.87
63	Cu	72	1	100	43.59
66	Zn	72	1	131	19.98
75	As	72	1	31	32.13
78	Se	72	1	153	20.97
95	Mo	72	1	23	24.74
107	Ag	115	1	7	86.60
111	Cd	115	1	-4	15.03
118	Sn	115	1	123	26.06
121	Sb	115	1	43	42.83
137	Ba	115	1	10	33.33
205	Tl	165	1	341	20.90
208	Pb	165	1	206	7.66
232	Th	165	1	130	26.65
238	U	165	1	97	23.89

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	307725	0.62
45	Sc	1	863740	1.75
72	Ge	1	419764	0.40
115	In	1	1321877	2.10
165	Ho	1	2596118	0.41

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 9 2009 08:32 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:30 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	513	5.95
52	Cr	72	1	1570	2.30
55	Mn	72	1	337	11.25
59	Co	72	1	20	50.00
60	Ni	72	1	63	48.24
63	Cu	72	1	120	44.10
66	Zn	72	1	137	9.29
75	As	72	1	35	18.20
78	Se	72	1	97	23.89
95	Mo	72	1	20	50.00
107	Ag	115	1	3	173.21
111	Cd	115	1	-4	393.57
118	Sn	115	1	297	22.95
121	Sb	115	1	39	26.19
137	Ba	115	1	12	41.66
205	Tl	165	1	221	20.47
208	Pb	165	1	199	12.35
232	Th	165	1	113	22.21
238	U	165	1	77	26.09

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	316659	2.14
45	Sc	1	888972	0.50
72	Ge	1	425816	0.47
115	In	1	1335258	0.87
165	Ho	1	2617754	0.65

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 9 2009 08:35 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:33 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	38609	1.25
51	V	72	1	510366	0.88
52	Cr	72	1	524956	1.26
55	Mn	72	1	613525	1.41
59	Co	72	1	633231	0.83
60	Ni	72	1	140397	0.74
63	Cu	72	1	332088	1.69
66	Zn	72	1	83275	0.84
75	As	72	1	64491	1.06
78	Se	72	1	13670	3.37
95	Mo	72	1	194872	1.16
107	Ag	115	1	568219	1.98
111	Cd	115	1	121298	1.44
118	Sn	115	1	331811	1.14
121	Sb	115	1	398020	0.91
137	Ba	115	1	158724	1.91
205	Tl	165	1	1472389	1.01
208	Pb	165	1	2154560	0.36
232	Th	165	1	2284596	1.76
238	U	165	1	2432923	0.19

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	317523	0.04	316659	100.3	30 - 120
45	Sc	1	902480	1.79	888972	101.5	30 - 120
72	Ge	1	417361	1.39	425816	98.0	30 - 120
115	In	1	1332995	0.81	1335258	99.8	30 - 120
165	Ho	1	2606293	0.43	2617754	99.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0



**Initial Calibration Verification (ICV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\005\_ICV.D\005\_ICV.D#  
 Date Acquired: Nov 9 2009 08:37 pm  
 Operator: LRD  
 Sample Name: ICV  
 Misc Info:  
 Vial Number: 2103  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: ICV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	39.82 ppb	0.59	40	99.6	90 - 110
51	V	72	1	40.01 ppb	0.57	40	100.0	90 - 110
52	Cr	72	1	40.10 ppb	1.04	40	100.3	90 - 110
55	Mn	72	1	40.83 ppb	1.35	40	102.1	90 - 110
59	Co	72	1	39.98 ppb	2.35	40	100.0	90 - 110
60	Ni	72	1	39.48 ppb	1.75	40	98.7	90 - 110
63	Cu	72	1	39.44 ppb	0.71	40	98.6	90 - 110
66	Zn	72	1	40.87 ppb	1.27	40	102.2	90 - 110
75	As	72	1	40.05 ppb	0.47	40	100.1	90 - 110
78	Se	72	1	40.20 ppb	7.43	40	100.5	90 - 110
95	Mo	72	1	39.50 ppb	1.39	40	98.8	90 - 110
107	Ag	115	1	40.28 ppb	1.09	40	100.7	90 - 110
111	Cd	115	1	40.39 ppb	2.54	40	101.0	90 - 110
118	Sn	115	1	39.95 ppb	2.27	40	99.9	90 - 110
121	Sb	115	1	40.57 ppb	2.67	40	101.4	90 - 110
137	Ba	115	1	40.04 ppb	2.19	40	100.1	90 - 110
205	Tl	165	1	40.86 ppb	1.20	40	102.2	90 - 110
208	Pb	165	1	40.91 ppb	0.95	40	102.3	90 - 110
232	Th	165	1	41.04 ppb	0.97	40	102.6	90 - 110
238	U	165	1	40.74 ppb	0.82	40	101.9	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	320321	1.05	316659	101.2	30 - 120
45	Sc	1	893394	1.16	888972	100.5	30 - 120
72	Ge	1	421619	1.04	425816	99.0	30 - 120
115	In	1	1339730	1.68	1335258	100.3	30 - 120
165	Ho	1	2633489	0.36	2617754	100.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 9 2009 08:40 pm  
 Operator: LRD  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.977 ppb	23.08	1.30	
51 V	72	1	5.088 ppb	3.63	6.50	
52 Cr	72	1	2.010 ppb	2.80	2.60	
55 Mn	72	1	1.052 ppb	2.54	1.30	
59 Co	72	1	1.026 ppb	2.82	1.30	
60 Ni	72	1	2.053 ppb	3.73	2.60	
63 Cu	72	1	1.949 ppb	1.86	2.60	
66 Zn	72	1	10.200 ppb	0.76	13.00	
75 As	72	1	4.975 ppb	1.56	6.50	
78 Se	72	1	5.397 ppb	12.87	6.50	
95 Mo	72	1	2.077 ppb	3.08	2.60	
107 Ag	115	1	5.417 ppb	1.62	6.50	
111 Cd	115	1	0.994 ppb	8.21	1.30	
118 Sn	115	1	10.400 ppb	2.50	13.00	
121 Sb	115	1	2.182 ppb	1.55	2.60	
137 Ba	115	1	1.043 ppb	2.05	1.30	
205 Tl	165	1	1.340 ppb	3.63	1.30	
208 Pb	165	1	1.058 ppb	2.34	1.30	
232 Th	165	1	2.228 ppb	2.96	2.60	
238 U	165	1	1.119 ppb	1.48	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	327943	1.12	316659	103.6	30 - 120	
45 Sc	1	927967	1.66	888972	104.4	30 - 120	
72 Ge	1	437192	0.23	425816	102.7	30 - 120	
115 In	1	1360935	0.96	1335258	101.9	30 - 120	
165 Ho	1	2638135	1.11	2617754	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Initial Calibration Blank (ICB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\007\_ICB.D\007\_ICB.D#  
 Date Acquired: Nov 9 2009 08:43 pm  
 Operator: LRD  
 Sample Name: ICB  
 Misc Info:  
 Vial Number: 2104  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: ICB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.00 ppb	0.00	1.00	
51 V	72	1	-0.03 ppb	24.58	1.00	
52 Cr	72	1	0.01 ppb	375.24	1.00	
55 Mn	72	1	0.01 ppb	99.37	1.00	
59 Co	72	1	0.00 ppb	102.49	1.00	
60 Ni	72	1	0.06 ppb	11.55	1.00	
63 Cu	72	1	0.03 ppb	95.69	1.00	
66 Zn	72	1	0.75 ppb	6.06	1.00	
75 As	72	1	-0.01 ppb	401.95	1.00	
78 Se	72	1	0.14 ppb	223.63	1.00	
95 Mo	72	1	0.01 ppb	53.61	1.00	
107 Ag	115	1	0.01 ppb	41.41	1.00	
111 Cd	115	1	0.01 ppb	115.64	1.00	
118 Sn	115	1	0.25 ppb	23.38	1.00	
121 Sb	115	1	0.07 ppb	21.20	1.00	
137 Ba	115	1	0.06 ppb	14.45	1.00	
205 Tl	165	1	0.04 ppb	19.24	1.00	
208 Pb	165	1	0.01 ppb	22.30	1.00	
232 Th	165	1	0.02 ppb	1.72	1.00	
238 U	165	1	0.00 ppb	21.71	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331180	1.57	316659	104.6	30 - 120	
45 Sc	1	905311	1.15	888972	101.8	30 - 120	
72 Ge	1	441723	1.46	425816	103.7	30 - 120	
115 In	1	1364402	1.70	1335258	102.2	30 - 120	
165 Ho	1	2652248	1.61	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**RL STD QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#  
 Date Acquired: Nov 9 2009 08:46 pm  
 Operator: LRD  
 Sample Name: RL STD  
 Misc Info:  
 Vial Number: 2105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: RLSTD  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.99 ppb	9.34	1	99.0	50 - 150
51	V	72	1	0.92 ppb	9.25	1	91.9	50 - 150
52	Cr	72	1	1.00 ppb	9.84	1	99.9	50 - 150
55	Mn	72	1	1.01 ppb	0.70	1	100.8	50 - 150
59	Co	72	1	0.98 ppb	2.45	1	97.7	50 - 150
60	Ni	72	1	1.03 ppb	5.51	1	103.0	50 - 150
63	Cu	72	1	1.05 ppb	5.54	1	104.6	50 - 150
66	Zn	72	1	10.39 ppb	0.48	10	103.9	50 - 150
75	As	72	1	1.05 ppb	4.38	1	105.1	50 - 150
78	Se	72	1	1.23 ppb	32.18	1	123.2	50 - 150
95	Mo	72	1	1.01 ppb	7.94	1	101.0	50 - 150
107	Ag	115	1	1.01 ppb	4.94	1	101.1	50 - 150
111	Cd	115	1	1.05 ppb	5.12	1	104.5	50 - 150
118	Sn	115	1	10.46 ppb	2.14	10	104.6	50 - 150
121	Sb	115	1	1.03 ppb	4.27	1	103.4	50 - 150
137	Ba	115	1	1.04 ppb	2.63	1	104.3	50 - 150
205	Tl	165	1	1.11 ppb	1.97	1	110.8	50 - 150
208	Pb	165	1	1.05 ppb	1.92	1	105.4	50 - 150
232	Th	165	1	1.04 ppb	1.88	1	103.6	50 - 150
238	U	165	1	1.07 ppb	2.22	1	107.2	50 - 150

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	332529	1.31	316659	105.0	30 - 120
45	Sc	1	924723	1.34	888972	104.0	30 - 120
72	Ge	1	440304	0.81	425816	103.4	30 - 120
115	In	1	1361149	0.37	1335258	101.9	30 - 120
165	Ho	1	2647952	0.34	2617754	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\009AFCE.D\009AFCE.D#  
 Date Acquired: Nov 9 2009 08:48 pm  
 Operator: LRD  
 Sample Name: AFCEE RL  
 Misc Info:  
 Vial Number: 2106  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: AFCEEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	0.16 ppb	9.52	0	82.7	80 - 120	
51	V	72	0.15 ppb	12.92	0	84.2	80 - 120	
52	Cr	72	0.17 ppb	11.54	0	87.5	80 - 120	
55	Mn	72	0.19 ppb	4.01	0	92.3	80 - 120	
59	Co	72	0.20 ppb	10.00	0	101.6	80 - 120	
60	Ni	72	0.17 ppb	39.79	0	82.5	80 - 120	
63	Cu	72	0.21 ppb	8.40	0	98.5	80 - 120	
66	Zn	72	1.88 ppb	3.20	2	90.5	80 - 120	
75	As	72	0.18 ppb	4.43	0	84.9	80 - 120	
78	Se	72	0.34 ppb	52.18	0	137.7	80 - 120	
95	Mo	72	0.20 ppb	20.48	0	97.8	80 - 120	
107	Ag	115	0.19 ppb	11.02	0	95.4	80 - 120	
111	Cd	115	0.18 ppb	8.60	0	87.8	80 - 120	
118	Sn	115	2.07 ppb	1.60	2	98.7	80 - 120	
121	Sb	115	0.24 ppb	8.81	0	117.2	80 - 120	
137	Ba	115	0.17 ppb	15.49	0	82.0	80 - 120	
205	Tl	165	0.21 ppb	3.14	0	95.1	80 - 120	
208	Pb	165	0.21 ppb	4.91	0	97.5	80 - 120	
232	Th	165	0.21 ppb	2.80	0	102.7	80 - 120	
238	U	165	0.21 ppb	1.79	0	97.4	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	334891	0.91	316659	105.8	30 - 120
45	Sc	1	926450	1.15	888972	104.2	30 - 120
72	Ge	1	444347	1.22	425816	104.4	30 - 120
115	In	1	1347595	1.10	1335258	100.9	30 - 120
165	Ho	1	2645674	1.06	2617754	101.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\010SMPL.D\010SMPL.D#  
 Date Acquired: Nov 9 2009 08:51 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ALTSe  
 Misc Info: 2 ppb  
 Vial Number: 2107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.18	3600	
51 V	72	1	-0.05	-0.05	ppb	4.45	3600	
52 Cr	72	1	0.03	0.03	ppb	21.71	3600	
55 Mn	72	1	-0.01	-0.01	ppb	107.83	3600	
59 Co	72	1	0.00	0.00	ppb	91.53	3600	
60 Ni	72	1	-0.01	-0.01	ppb	120.90	3600	
63 Cu	72	1	0.00	0.00	ppb	249.88	3600	
66 Zn	72	1	0.21	0.21	ppb	4.91	3600	
75 As	72	1	-0.01	-0.01	ppb	276.53	3600	
78 Se	72	1	2.30	2.30	ppb	3.47	3600	
95 Mo	72	1	0.00	0.00	ppb	270.91	3600	
107 Ag	115	1	0.01	0.01	ppb	12.59	3600	
111 Cd	115	1	0.01	0.01	ppb	40.90	3600	
118 Sn	115	1	0.03	0.03	ppb	42.36	3600	
121 Sb	115	1	0.02	0.02	ppb	52.41	3600	
137 Ba	115	1	0.00	0.00	ppb	159.45	3600	
205 Tl	165	1	0.00	0.00	ppb	223.71	3600	
208 Pb	165	1	0.00	0.00	ppb	93.52	3600	
232 Th	165	1	0.01	0.01	ppb	41.10	1000	
238 U	165	1	0.00	0.00	ppb	39.39	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	336598	0.66	316659	106.3	30 - 120	
45 Sc	1	916084	0.54	888972	103.0	30 - 120	
72 Ge	1	444955	0.00	425816	104.5	30 - 120	
115 In	1	1367875	0.83	1335258	102.4	30 - 120	
165 Ho	1	2646991	0.40	2617754	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\011ICSA.D\011ICSA.D#  
 Date Acquired: Nov 9 2009 08:54 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.09 ppb	3.15	1.00
52	Cr	72	1	1.97 ppb	9.78	1.00
55	Mn	72	1	2.81 ppb	1.66	1.00
59	Co	72	1	0.10 ppb	6.63	1.00
60	Ni	72	1	1.02 ppb	13.74	1.00
63	Cu	72	1	0.53 ppb	7.97	1.00
66	Zn	72	1	3.94 ppb	2.38	10.00
75	As	72	1	0.28 ppb	11.27	1.00
78	Se	72	1	0.38 ppb	63.23	1.00
95	Mo	72	1	1936.00 ppb	0.91	2000.00
107	Ag	115	1	0.03 ppb	12.20	1.00
111	Cd	115	1	0.30 ppb	66.71	1.00
118	Sn	115	1	0.12 ppb	33.50	10.00
121	Sb	115	1	0.92 ppb	2.59	1.00
137	Ba	115	1	0.03 ppb	33.26	1.00
205	Tl	165	1	0.03 ppb	11.11	1.00
208	Pb	165	1	1.00 ppb	2.07	1.00
232	Th	165	1	0.02 ppb	12.13	1.00
238	U	165	1	0.00 ppb	5.79	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	239339	0.28	316659	75.6	30 - 120
45	Sc	1	700629	1.42	888972	78.8	30 - 120
72	Ge	1	343237	0.37	425816	80.6	30 - 120
115	In	1	1048448	1.55	1335258	78.5	30 - 120
165	Ho	1	2104424	0.97	2617754	80.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\012ICSB.D\012ICSB.D#  
 Date Acquired: Nov 9 2009 08:57 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	109.40	3.64	100	109.4	80 - 120	
51 V	72	1	99.64	0.20	100	99.6	80 - 120	
52 Cr	72	1	97.24	0.93	100	97.2	80 - 120	
55 Mn	72	1	98.22	0.64	100	98.2	80 - 120	
59 Co	72	1	92.77	2.10	100	92.8	80 - 120	
60 Ni	72	1	89.04	1.65	100	89.0	80 - 120	
63 Cu	72	1	86.53	0.30	100	86.5	80 - 120	
66 Zn	72	1	96.58	0.54	100	96.6	80 - 120	
75 As	72	1	101.00	1.32	100	101.0	80 - 120	
78 Se	72	1	100.00	0.62	100	100.0	80 - 120	
95 Mo	72	1	2093.00	0.96	2100	99.7	80 - 120	
107 Ag	115	1	89.66	3.28	100	89.7	80 - 120	
111 Cd	115	1	95.05	1.99	100	95.1	80 - 120	
118 Sn	115	1	100.40	1.69	100	100.4	80 - 120	
121 Sb	115	1	103.00	1.30	100	103.0	80 - 120	
137 Ba	115	1	101.30	1.03	100	101.3	80 - 120	
205 Tl	165	1	94.31	0.93	100	94.3	80 - 120	
208 Pb	165	1	93.76	0.89	100	93.8	80 - 120	
232 Th	165	1	101.30	1.54	100	101.3	80 - 120	
238 U	165	1	99.94	0.63	100	99.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	233202	3.01	316659	73.6	30 - 120	
45 Sc	1	711798	0.20	888972	80.1	30 - 120	
72 Ge	1	338298	0.97	425816	79.4	30 - 120	
115 In	1	1075320	0.68	1335258	80.5	30 - 120	
165 Ho	1	2161438	0.51	2617754	82.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 9 2009 08:59 pm  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.01 ppb	173.15	0	4.2	80 - 120
51	V	72	1	0.02 ppb	35.98	0	10.9	80 - 120
52	Cr	72	1	0.03 ppb	89.50	0	13.7	80 - 120
55	Mn	72	1	-0.01 ppb	113.19	0	-3.4	80 - 120
59	Co	72	1	0.00 ppb	1352.30	0	-0.1	80 - 120
60	Ni	72	1	-0.02 ppb	102.45	0	-9.9	80 - 120
63	Cu	72	1	0.00 ppb	649.06	0	0.6	80 - 120
66	Zn	72	1	0.04 ppb	63.69	2	1.7	80 - 120
75	As	72	1	-0.01 ppb	61.99	0	-3.9	80 - 120
78	Se	72	1	0.39 ppb	99.84	0	156.3	80 - 120
95	Mo	72	1	0.80 ppb	31.54	0	396.5	80 - 120
107	Ag	115	1	0.01 ppb	53.68	0	3.6	80 - 120
111	Cd	115	1	0.00 ppb	41.35	0	1.7	80 - 120
118	Sn	115	1	0.00 ppb	#####	2	0.0	80 - 120
121	Sb	115	1	0.11 ppb	20.17	0	52.7	80 - 120
137	Ba	115	1	0.00 ppb	105.76	0	-0.5	80 - 120
205	Tl	165	1	-0.01 ppb	3.09	0	-2.6	80 - 120
208	Pb	165	1	0.00 ppb	49.94	0	0.7	80 - 120
232	Th	165	1	0.03 ppb	6.82	0	13.2	80 - 120
238	U	165	1	0.01 ppb	15.94	0	6.9	80 - 120

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	331840	0.43	316659	104.8	30 - 120
45	Sc	1	927075	1.00	888972	104.3	30 - 120
72	Ge	1	454961	0.83	425816	106.8	30 - 120
115	In	1	1407675	0.48	1335258	105.4	30 - 120
165	Ho	1	2715373	0.43	2617754	103.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Linear Dynamic Range Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 9 2009 09:02 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	989.70 ppb	1.24	1000	99.0	90 - 110	
51 V	72	1	962.50 ppb	1.62	1000	96.3	90 - 110	
52 Cr	72	1	955.40 ppb	1.40	1000	95.5	90 - 110	
55 Mn	72	1	950.30 ppb	1.50	1000	95.0	90 - 110	
59 Co	72	1	955.50 ppb	1.19	1000	95.6	90 - 110	
60 Ni	72	1	979.40 ppb	1.79	1000	97.9	90 - 110	
63 Cu	72	1	966.20 ppb	0.98	1000	96.6	90 - 110	
66 Zn	72	1	974.60 ppb	0.75	1000	97.5	90 - 110	
75 As	72	1	1009.00 ppb	0.73	1000	100.9	90 - 110	
78 Se	72	1	988.90 ppb	0.77	1000	98.9	90 - 110	
95 Mo	72	1	987.40 ppb	1.52	1000	98.7	90 - 110	
107 Ag	115	1	932.40 ppb	1.41	1000	93.2	90 - 110	
111 Cd	115	1	967.10 ppb	0.44	1000	96.7	90 - 110	
118 Sn	115	1	933.80 ppb	0.50	1000	93.4	90 - 110	
121 Sb	115	1	927.90 ppb	0.18	1000	92.8	90 - 110	
137 Ba	115	1	972.50 ppb	0.87	1000	97.3	90 - 110	
205 Tl	165	1	947.60 ppb	0.99	1000	94.8	90 - 110	
208 Pb	165	1	915.00 ppb	0.94	1000	91.5	90 - 110	
232 Th	165	1	966.60 ppb	0.64	1000	96.7	90 - 110	
238 U	165	1	963.20 ppb	1.88	1000	96.3	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	328068	1.06	316659	103.6	30 - 120	
45 Sc	1	922726	2.01	888972	103.8	30 - 120	
72 Ge	1	430093	1.37	425816	101.0	30 - 120	
115 In	1	1364755	0.41	1335258	102.2	30 - 120	
165 Ho	1	2644039	0.70	2617754	101.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Nov 9 2009 09:05 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.02	ppb	173.25	3600	
51 V	72	1	-0.02	-0.02	ppb	88.49	3600	
52 Cr	72	1	0.05	0.05	ppb	36.35	3600	
55 Mn	72	1	-0.01	-0.01	ppb	183.98	3600	
59 Co	72	1	0.01	0.01	ppb	88.77	3600	
60 Ni	72	1	0.02	0.02	ppb	167.72	3600	
63 Cu	72	1	0.03	0.03	ppb	35.08	3600	
66 Zn	72	1	0.05	0.05	ppb	19.57	3600	
75 As	72	1	0.02	0.02	ppb	85.94	3600	
78 Se	72	1	0.69	0.69	ppb	46.45	3600	
95 Mo	72	1	0.53	0.53	ppb	26.09	3600	
107 Ag	115	1	0.03	0.03	ppb	35.34	3600	
111 Cd	115	1	0.02	0.02	ppb	21.52	3600	
118 Sn	115	1	1.11	1.11	ppb	27.74	3600	
121 Sb	115	1	1.31	1.31	ppb	17.77	3600	
137 Ba	115	1	0.02	0.02	ppb	70.23	3600	
205 Tl	165	1	0.06	0.06	ppb	21.10	3600	
208 Pb	165	1	0.02	0.02	ppb	25.81	3600	
232 Th	165	1	0.13	0.13	ppb	10.54	1000	
238 U	165	1	0.13	0.13	ppb	15.65	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341210	2.06	316659	107.8	30 - 120	
45 Sc	1	953002	0.82	888972	107.2	30 - 120	
72 Ge	1	451794	0.58	425816	106.1	30 - 120	
115 In	1	1384812	1.01	1335258	103.7	30 - 120	
165 Ho	1	2634408	0.76	2617754	100.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\016\_CCV.D\016\_CCV.D#  
 Date Acquired: Nov 9 2009 09:08 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.36 ppb	2.54	50	98.7	90 - 110
51	V	72	1	50.77 ppb	1.34	50	101.5	90 - 110
52	Cr	72	1	50.82 ppb	0.60	50	101.6	90 - 110
55	Mn	72	1	50.95 ppb	1.41	50	101.9	90 - 110
59	Co	72	1	50.68 ppb	1.40	50	101.4	90 - 110
60	Ni	72	1	49.56 ppb	1.57	50	99.1	90 - 110
63	Cu	72	1	49.68 ppb	0.10	50	99.4	90 - 110
66	Zn	72	1	49.76 ppb	0.33	50	99.5	90 - 110
75	As	72	1	50.93 ppb	0.82	50	101.9	90 - 110
78	Se	72	1	51.94 ppb	5.89	50	103.9	90 - 110
95	Mo	72	1	48.88 ppb	1.24	50	97.8	90 - 110
107	Ag	115	1	50.11 ppb	0.43	50	100.2	90 - 110
111	Cd	115	1	50.35 ppb	0.26	50	100.7	90 - 110
118	Sn	115	1	50.40 ppb	1.11	50	100.8	90 - 110
121	Sb	115	1	50.58 ppb	0.97	50	101.2	90 - 110
137	Ba	115	1	50.03 ppb	0.58	50	100.1	90 - 110
205	Tl	165	1	50.31 ppb	0.12	50	100.6	90 - 110
208	Pb	165	1	50.77 ppb	1.01	50	101.5	90 - 110
232	Th	165	1	50.58 ppb	2.06	50	101.2	90 - 110
238	U	165	1	50.76 ppb	2.06	50	101.5	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	339265	1.56	316659	107.1	30 - 120
45	Sc	1	947544	0.15	888972	106.6	30 - 120
72	Ge	1	441263	0.72	425816	103.6	30 - 120
115	In	1	1386188	0.72	1335258	103.8	30 - 120
165	Ho	1	2649982	0.75	2617754	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 9 2009 09:10 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.008 ppb	173.22	1.00	
51 V	72	1	-0.046 ppb	29.01	1.00	
52 Cr	72	1	0.000 ppb	12322.00	1.00	
55 Mn	72	1	-0.007 ppb	43.73	1.00	
59 Co	72	1	0.001 ppb	393.70	1.00	
60 Ni	72	1	-0.005 ppb	329.15	1.00	
63 Cu	72	1	0.007 ppb	98.78	1.00	
66 Zn	72	1	0.040 ppb	14.37	1.00	
75 As	72	1	-0.008 ppb	123.42	1.00	
78 Se	72	1	0.405 ppb	68.29	1.00	
95 Mo	72	1	0.105 ppb	49.03	1.00	
107 Ag	115	1	0.009 ppb	76.77	1.00	
111 Cd	115	1	0.002 ppb	275.78	1.00	
118 Sn	115	1	0.252 ppb	28.94	1.00	
121 Sb	115	1	0.323 ppb	22.12	1.00	
137 Ba	115	1	0.000 ppb	357.00	1.00	
205 Tl	165	1	0.012 ppb	22.43	1.00	
208 Pb	165	1	0.003 ppb	36.91	1.00	
232 Th	165	1	0.060 ppb	22.01	1.00	
238 U	165	1	0.020 ppb	26.01	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	347509	1.01	316659	109.7	30 - 120	
45 Sc	1	955495	2.12	888972	107.5	30 - 120	
72 Ge	1	455532	0.79	425816	107.0	30 - 120	
115 In	1	1386791	1.63	1335258	103.9	30 - 120	
165 Ho	1	2651802	0.80	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 9 2009 09:13 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.024 ppb	7.78	1.30	
51 V	72	1	5.126 ppb	1.88	6.50	
52 Cr	72	1	2.083 ppb	6.13	2.60	
55 Mn	72	1	1.010 ppb	2.87	1.30	
59 Co	72	1	1.062 ppb	1.70	1.30	
60 Ni	72	1	2.095 ppb	2.27	2.60	
63 Cu	72	1	2.060 ppb	2.82	2.60	
66 Zn	72	1	10.130 ppb	1.17	13.00	
75 As	72	1	5.125 ppb	4.68	6.50	
78 Se	72	1	5.045 ppb	5.92	6.50	
95 Mo	72	1	1.951 ppb	3.60	2.60	
107 Ag	115	1	5.311 ppb	0.48	6.50	
111 Cd	115	1	1.030 ppb	11.33	1.30	
118 Sn	115	1	10.360 ppb	1.60	13.00	
121 Sb	115	1	2.190 ppb	4.18	2.60	
137 Ba	115	1	1.055 ppb	3.38	1.30	
205 Tl	165	1	1.095 ppb	1.41	1.30	
208 Pb	165	1	1.069 ppb	0.47	1.30	
232 Th	165	1	2.172 ppb	3.24	2.60	
238 U	165	1	1.103 ppb	1.52	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350643	0.28	316659	110.7	30 - 120	
45 Sc	1	970129	1.19	888972	109.1	30 - 120	
72 Ge	1	456907	0.32	425816	107.3	30 - 120	
115 In	1	1395760	1.56	1335258	104.5	30 - 120	
165 Ho	1	2660739	0.79	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\019\_BLK.D\019\_BLK.D#  
 Date Acquired: Nov 9 2009 09:16 pm  
 Operator: LRD  
 Sample Name: LNNP6B  
 Misc Info: BLANK 9306276 6020  
 Vial Number: 2201  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.018 ppb	41.70	2.00	
52 Cr	72	1	0.292 ppb	16.50	2.00	
55 Mn	72	1	0.185 ppb	7.72	2.00	
59 Co	72	1	0.011 ppb	24.75	2.00	
60 Ni	72	1	0.036 ppb	53.39	2.00	
63 Cu	72	1	0.169 ppb	20.87	2.00	
66 Zn	72	1	0.849 ppb	7.65	2.00	
75 As	72	1	0.010 ppb	67.79	2.00	
78 Se	72	1	0.510 ppb	48.19	2.00	
95 Mo	72	1	0.057 ppb	19.51	2.00	
107 Ag	115	1	0.010 ppb	26.04	2.00	
111 Cd	115	1	0.003 ppb	113.49	2.00	
118 Sn	115	1	0.208 ppb	18.28	2.00	
121 Sb	115	1	0.174 ppb	15.89	2.00	
137 Ba	115	1	0.038 ppb	22.70	2.00	
205 Tl	165	1	0.040 ppb	22.91	2.00	
208 Pb	165	1	0.011 ppb	12.89	2.00	
232 Th	165	1	0.031 ppb	18.41	2.00	
238 U	165	1	0.007 ppb	24.76	2.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355955	0.99	316659	112.4	30 - 120	
45 Sc	1	972462	1.01	888972	109.4	30 - 120	
72 Ge	1	458206	0.62	425816	107.6	30 - 120	
115 In	1	1400110	0.71	1335258	104.9	30 - 120	
165 Ho	1	2668336	0.83	2617754	101.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Laboratory Control Spike (LCS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\020\_LCS.D\020\_LCS.D#  
 Date Acquired: Nov 9 2009 09:19 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNNP6C  
 Misc Info: LCS  
 Vial Number: 2202  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	40.76	2.19	40	101.9	80 - 120	
51 V	72	1	43.16	0.76	40	107.9	80 - 120	
52 Cr	72	1	43.22	1.05	40	108.1	80 - 120	
55 Mn	72	1	43.24	0.21	40	108.1	80 - 120	
59 Co	72	1	42.64	0.71	40	106.6	80 - 120	
60 Ni	72	1	42.34	0.56	40	105.9	80 - 120	
63 Cu	72	1	42.72	0.89	40	106.8	80 - 120	
66 Zn	72	1	45.64	0.61	40	114.1	80 - 120	
75 As	72	1	40.76	0.70	40	101.9	80 - 120	
78 Se	72	1	38.19	2.28	40	95.5	80 - 120	
95 Mo	72	1	35.78	2.03	40	89.5	80 - 120	
107 Ag	115	1	41.49	2.15	40	103.7	80 - 120	
111 Cd	115	1	40.17	0.57	40	100.4	80 - 120	
118 Sn	115	1	0.12	28.26	40	0.3	80 - 120	
121 Sb	115	1	35.81	0.84	40	89.5	80 - 120	
137 Ba	115	1	41.49	1.53	40	103.7	80 - 120	
205 Tl	165	1	43.86	2.13	40	109.7	80 - 120	
208 Pb	165	1	41.85	1.84	40	104.6	80 - 120	
232 Th	165	1	41.91	2.25	40	104.8	80 - 120	
238 U	165	1	41.55	2.69	40	103.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350822	0.51	316659	110.8	30 - 120	
45 Sc	1	980963	1.16	888972	110.3	30 - 120	
72 Ge	1	444654	1.31	425816	104.4	30 - 120	
115 In	1	1399733	0.66	1335258	104.8	30 - 120	
165 Ho	1	2665542	1.69	2617754	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\021SMPL.D\021SMPL.D#  
 Date Acquired: Nov 9 2009 09:21 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLN9 2X  
 Misc Info: D9J300353  
 Vial Number: 2203  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.05	ppb	92.24	3600	
51 V	72	1	37.96	18.98	ppb	1.34	3600	
52 Cr	72	1	114.94	57.47	ppb	0.72	3600	
55 Mn	72	1	36.50	18.25	ppb	2.00	3600	
59 Co	72	1	0.69	0.34	ppb	2.76	3600	
60 Ni	72	1	3.14	1.57	ppb	8.45	3600	
63 Cu	72	1	1.64	0.82	ppb	6.02	3600	
66 Zn	72	1	11.13	5.57	ppb	1.82	3600	
75 As	72	1	202.00	101.00	ppb	0.43	3600	
78 Se	72	1	3.22	1.61	ppb	48.25	3600	
95 Mo	72	1	18.83	9.42	ppb	0.68	3600	
107 Ag	115	1	0.17	0.08	ppb	17.24	3600	
111 Cd	115	1	0.10	0.05	ppb	51.39	3600	
118 Sn	115	1	0.28	0.14	ppb	42.81	3600	
121 Sb	115	1	0.34	0.17	ppb	20.62	3600	
137 Ba	115	1	37.72	18.86	ppb	0.70	3600	
205 Tl	165	1	0.13	0.06	ppb	19.45	3600	
208 Pb	165	1	0.71	0.35	ppb	3.38	3600	
232 Th	165	1	0.72	0.36	ppb	1.63	1000	
238 U	165	1	53.74	26.87	ppb	1.72	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298847	1.22	316659	94.4	30 - 120	
45 Sc	1	845797	1.37	888972	95.1	30 - 120	
72 Ge	1	386800	0.60	425816	90.8	30 - 120	
115 In	1	1191341	0.83	1335258	89.2	30 - 120	
165 Ho	1	2413317	1.23	2617754	92.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\022SMPL.D\022SMPL.D#  
 Date Acquired: Nov 9 2009 09:24 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLR4 2X  
 Misc Info: D9J300356  
 Vial Number: 2204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.01	ppb	173.27	3600	
51 V	72	1	78.42	39.21	ppb	1.83	3600	
52 Cr	72	1	24.86	12.43	ppb	1.31	3600	
55 Mn	72	1	2,930.00	1465.00	ppb	2.13	3600	
59 Co	72	1	42.42	21.21	ppb	0.61	3600	
60 Ni	72	1	20.92	10.46	ppb	3.31	3600	
63 Cu	72	1	0.75	0.37	ppb	5.97	3600	
66 Zn	72	1	18.97	9.49	ppb	2.01	3600	
75 As	72	1	114.66	57.33	ppb	0.89	3600	
78 Se	72	1	6.57	3.28	ppb	20.64	3600	
95 Mo	72	1	26.74	13.37	ppb	0.88	3600	
107 Ag	115	1	0.11	0.05	ppb	25.16	3600	
111 Cd	115	1	0.42	0.21	ppb	16.72	3600	
118 Sn	115	1	0.13	0.06	ppb	44.87	3600	
121 Sb	115	1	0.27	0.13	ppb	7.83	3600	
137 Ba	115	1	27.28	13.64	ppb	2.04	3600	
205 Tl	165	1	0.19	0.10	ppb	3.70	3600	
208 Pb	165	1	0.11	0.06	ppb	1.85	3600	
232 Th	165	1	0.08	0.04	ppb	8.56	1000	
238 U	165	1	69.92	34.96	ppb	2.03	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	274893	1.24	316659	86.8	30 - 120	
45 Sc	1	779549	2.32	888972	87.7	30 - 120	
72 Ge	1	352268	1.67	425816	82.7	30 - 120	
115 In	1	1127758	1.03	1335258	84.5	30 - 120	
165 Ho	1	2240638	0.13	2617754	85.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#  
 Date Acquired: Nov 9 2009 09:27 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4  
 Misc Info: D9J310138  
 Vial Number: 2205  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: AllRef  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.27	3600	
51 V	72	1	0.05	0.05	ppb	6.94	3600	
52 Cr	72	1	0.48	0.48	ppb	5.57	3600	
55 Mn	72	1	1.67	1.67	ppb	3.29	3600	
59 Co	72	1	0.03	0.03	ppb	17.85	3600	
60 Ni	72	1	0.16	0.16	ppb	28.53	3600	
63 Cu	72	1	0.43	0.43	ppb	6.97	3600	
66 Zn	72	1	8.86	8.86	ppb	0.90	3600	
75 As	72	1	0.01	0.01	ppb	328.51	3600	
78 Se	72	1	0.28	0.28	ppb	90.12	3600	
95 Mo	72	1	0.17	0.17	ppb	26.75	3600	
107 Ag	115	1	0.01	0.01	ppb	26.64	3600	
111 Cd	115	1	0.00	0.00	ppb	536.64	3600	
118 Sn	115	1	0.20	0.20	ppb	7.53	3600	
121 Sb	115	1	0.09	0.09	ppb	15.50	3600	
137 Ba	115	1	0.66	0.66	ppb	1.78	3600	
205 Tl	165	1	-0.01	-0.01	ppb	11.38	3600	
208 Pb	165	1	0.12	0.12	ppb	1.87	3600	
232 Th	165	1	0.01	0.01	ppb	21.46	1000	
238 U	165	1	0.01	0.01	ppb	24.76	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373380	0.19	316659	117.9	30 - 120	
45 Sc	1	1006941	1.04	888972	113.3	30 - 120	
72 Ge	1	462649	0.57	425816	108.6	30 - 120	
115 In	1	1397361	0.27	1335258	104.7	30 - 120	
165 Ho	1	2660327	0.25	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\024SDIL.D\024SDIL.D#  
 Date Acquired: Nov 9 2009 09:30 pm **QC Summary:**  
 Acq. Method: NormISIS.M **Analytes: Pass**  
 Operator: LRD **ISTD: Pass**  
 Sample Name: LNME4P5  
 Misc Info: SERIAL DILUTION  
 Vial Number: 2206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SDIL  
 Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

**QC elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0.00	90 - 110	
51	V	72	1	-0.03 ppb	5.81	0.01	-342.2	90 - 110
52	Cr	72	1	0.20 ppb	10.88	0.10	213.8	90 - 110
55	Mn	72	1	0.34 ppb	10.16	0.33	103.1	90 - 110
59	Co	72	1	0.01 ppb	47.19	0.01	96.0	90 - 110
60	Ni	72	1	0.04 ppb	33.75	0.03	122.1	90 - 110
63	Cu	72	1	0.10 ppb	5.61	0.09	114.0	90 - 110
66	Zn	72	1	1.80 ppb	5.52	1.77	101.3	90 - 110
75	As	72	1	-0.02 ppb	9.36	0.00	-1343.0	90 - 110
78	Se	72	1	0.23 ppb	2.28	0.06	422.9	90 - 110
95	Mo	72	1	0.04 ppb	19.93	0.03	118.9	90 - 110
107	Ag	115	1	0.00 ppb	24.25	0.00	272.6	90 - 110
111	Cd	115	1	0.02 ppb	89.75	0.00	2944.9	90 - 110
118	Sn	115	1	0.12 ppb	5.20	0.04	296.9	90 - 110
121	Sb	115	1	0.03 ppb	17.47	0.02	168.6	90 - 110
137	Ba	115	1	0.14 ppb	19.11	0.13	109.3	90 - 110
205	Tl	165	1	-0.01 ppb	30.49	0.00	501.4	90 - 110
208	Pb	165	1	0.02 ppb	8.37	0.02	88.0	90 - 110
232	Th	165	1	0.00 ppb	50.10	0.00	202.3	90 - 110
238	U	165	1	0.00 ppb	87.66	0.00	61.5	90 - 110

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	368778	0.88	316659	116.5	30 - 120
45	Sc	1	979811	0.26	888972	110.2	30 - 120
72	Ge	1	461996	0.57	425816	108.5	30 - 120
115	In	1	1378236	0.67	1335258	103.2	30 - 120
165	Ho	1	2636939	1.04	2617754	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:10:12

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4P5

Serial Dilution: 5.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 24 Method 6020\_
Acquired: 11/09/2009 21:30:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/09/2009 20:32:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL
NC : Serial dilution concentration < 100 X MDL
E : Difference greater than Limit (10%)

Reviewed by: LRD Date: 11/10/09

**Post Digestion Spiked Sample (PDS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\025PDS.D\025PDS.D#  
 Date Acquired: Nov 9 2009 09:32 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4Z  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 2207  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

**QC Elements**

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	185.00	0.01	ppb	1.86	200	92.5	75 - 125	
51 V	72	1	202.50	0.05	ppb	2.78	200	101.2	75 - 125	
52 Cr	72	1	203.90	0.48	ppb	2.06	200	101.7	75 - 125	
55 Mn	72	1	201.00	1.67	ppb	3.35	200	99.7	75 - 125	
59 Co	72	1	196.80	0.03	ppb	1.85	200	98.4	75 - 125	
60 Ni	72	1	194.90	0.16	ppb	1.47	200	97.4	75 - 125	
63 Cu	72	1	196.10	0.43	ppb	0.50	200	97.8	75 - 125	
66 Zn	72	1	196.80	8.86	ppb	0.36	200	94.2	75 - 125	
75 As	72	1	190.30	0.01	ppb	0.61	200	95.1	75 - 125	
78 Se	72	1	185.70	0.28	ppb	2.73	200	92.7	75 - 125	
95 Mo	72	1	192.00	0.17	ppb	0.97	200	95.9	75 - 125	
107 Ag	115	1	48.92	0.01	ppb	2.06	50	97.8	75 - 125	
111 Cd	115	1	188.70	0.00	ppb	1.65	200	94.3	75 - 125	
118 Sn	115	1	176.90	0.20	ppb	1.43	200	88.4	75 - 125	
121 Sb	115	1	184.30	0.09	ppb	1.52	200	92.1	75 - 125	
137 Ba	115	1	195.10	0.66	ppb	1.67	200	97.2	75 - 125	
205 Tl	165	1	191.80	-0.01	ppb	0.94	200	95.9	75 - 125	
208 Pb	165	1	186.80	0.12	ppb	0.48	200	93.3	75 - 125	
232 Th	165	1	0.03	0.01	ppb	13.35	200	0.0	75 - 125	
238 U	165	1	190.70	0.01	ppb	1.54	200	95.3	75 - 125	

**ISTD Elements**

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	354551	1.15	316659	112.0	30 - 120	
45 Sc	1	950915	0.92	888972	107.0	30 - 120	
72 Ge	1	426378	1.56	425816	100.1	30 - 120	
115 In	1	1327967	0.75	1335258	99.5	30 - 120	
165 Ho	1	2548646	0.61	2617754	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:10:22

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4Z

Spike Dilution: 1.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 25 Method 6020\_
Acquired: 11/09/2009 21:32:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/09/2009 20:32:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Amount, Sample, %Rec., Spike, Flag, Q. Lists various elements like Beryllium, Vanadium, Chromium, etc.

Reviewed by: [Signature] Date: 11/10/09

## Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\026\_MS.D\026\_MS.D#  
 Date Acquired: Nov 9 2009 09:35 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4S  
 Misc Info: MATRIX SPIKE  
 Vial Number: 2208  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: MS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	38.95	0.01	ppb	4.02	40	97.3	50 - 150	
51 V	72	1	42.14	0.05	ppb	0.45	40	105.2	50 - 150	
52 Cr	72	1	41.88	0.48	ppb	0.82	40	103.5	50 - 150	
55 Mn	72	1	44.00	1.67	ppb	0.81	40	105.6	50 - 150	
59 Co	72	1	41.74	0.03	ppb	0.31	40	104.3	50 - 150	
60 Ni	72	1	41.29	0.16	ppb	1.68	40	102.8	50 - 150	
63 Cu	72	1	41.14	0.43	ppb	0.55	40	101.8	50 - 150	
66 Zn	72	1	40.89	8.86	ppb	1.02	40	83.7	50 - 150	
75 As	72	1	39.70	0.01	ppb	1.91	40	99.2	50 - 150	
78 Se	72	1	37.66	0.28	ppb	2.21	40	93.5	50 - 150	
95 Mo	72	1	35.56	0.17	ppb	1.29	40	88.5	50 - 150	
107 Ag	115	1	40.57	0.01	ppb	0.75	40	101.4	50 - 150	
111 Cd	115	1	38.88	0.00	ppb	0.89	40	97.2	50 - 150	
118 Sn	115	1	0.26	0.20	ppb	7.26	40	0.7	50 - 150	
121 Sb	115	1	35.78	0.09	ppb	0.84	40	89.3	50 - 150	
137 Ba	115	1	40.55	0.66	ppb	1.52	40	99.7	50 - 150	
205 Tl	165	1	42.66	-0.01	ppb	1.13	40	106.7	50 - 150	
208 Pb	165	1	40.84	0.12	ppb	0.87	40	101.8	50 - 150	
232 Th	165	1	40.88	0.01	ppb	1.61	40	102.2	50 - 150	
238 U	165	1	40.76	0.01	ppb	1.03	40	101.9	50 - 150	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	358353	0.80	316659	113.2	30 - 120	
45 Sc	1	939200	0.60	888972	105.7	30 - 120	
72 Ge	1	422553	0.76	425816	99.2	30 - 120	
115 In	1	1328078	0.75	1335258	99.5	30 - 120	
165 Ho	1	2539000	0.43	2617754	97.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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



**Duplicate Spike (MSD) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\027 MSD.D\027 MSD.D#  
 Date Acquired: Nov 9 2009 09:38 pm **QC Summary:**  
 Acq. Method: NormISIS.M **Analytes: Pass**  
 Operator: LRD **ISTD: Pass**  
 Sample Name: LNME4D  
 Misc Info: MATRIX SPIKE DUPLICATE  
 Vial Number: 2209  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: MSD  
 Dilution Factor: 1.00

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	38.17 ppb	2.44	38.95	2.02	20	
51	V	72	42.54 ppb	0.57	42.14	0.94	20	
52	Cr	72	42.55 ppb	0.81	41.88	1.59	20	
55	Mn	72	43.44 ppb	1.18	44.00	1.28	20	
59	Co	72	41.86 ppb	0.99	41.74	0.29	20	
60	Ni	72	41.95 ppb	1.55	41.29	1.59	20	
63	Cu	72	41.52 ppb	0.70	41.14	0.92	20	
66	Zn	72	40.14 ppb	0.44	40.89	1.85	20	
75	As	72	39.63 ppb	0.29	39.70	0.18	20	
78	Se	72	37.06 ppb	3.10	37.66	1.61	20	
95	Mo	72	35.66 ppb	0.62	35.56	0.28	20	
107	Ag	115	40.93 ppb	2.04	40.57	0.88	20	
111	Cd	115	39.64 ppb	0.46	38.88	1.94	20	
118	Sn	115	0.12 ppb	27.87	0.26	76.84	20	
121	Sb	115	35.83 ppb	0.62	35.78	0.14	20	
137	Ba	115	41.37 ppb	0.68	40.55	2.00	20	
205	Tl	165	42.77 ppb	1.75	42.66	0.26	20	
208	Pb	165	40.90 ppb	1.73	40.84	0.15	20	
232	Th	165	41.06 ppb	0.63	40.88	0.44	20	
238	U	165	40.94 ppb	0.83	40.76	0.44	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355186	0.16	316659	112.2	30 - 120
45	Sc	1	936988	0.78	888972	105.4	30 - 120
72	Ge	1	422235	0.79	425816	99.2	30 - 120
115	In	1	1312991	0.53	1335258	98.3	30 - 120
165	Ho	1	2541733	0.77	2617754	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\028\_CCV.D\028\_CCV.D#  
 Date Acquired: Nov 9 2009 09:41 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	48.28 ppb	1.89	50	96.6	90 - 110
51	V	72	1	51.66 ppb	1.31	50	103.3	90 - 110
52	Cr	72	1	51.41 ppb	0.42	50	102.8	90 - 110
55	Mn	72	1	50.80 ppb	0.70	50	101.6	90 - 110
59	Co	72	1	50.98 ppb	1.52	50	102.0	90 - 110
60	Ni	72	1	50.44 ppb	1.14	50	100.9	90 - 110
63	Cu	72	1	50.68 ppb	0.38	50	101.4	90 - 110
66	Zn	72	1	49.73 ppb	0.43	50	99.5	90 - 110
75	As	72	1	51.43 ppb	1.43	50	102.9	90 - 110
78	Se	72	1	50.58 ppb	4.06	50	101.2	90 - 110
95	Mo	72	1	49.14 ppb	0.63	50	98.3	90 - 110
107	Ag	115	1	49.88 ppb	1.55	50	99.8	90 - 110
111	Cd	115	1	49.46 ppb	0.97	50	98.9	90 - 110
118	Sn	115	1	49.89 ppb	2.37	50	99.8	90 - 110
121	Sb	115	1	49.59 ppb	1.76	50	99.2	90 - 110
137	Ba	115	1	50.39 ppb	1.52	50	100.8	90 - 110
205	Tl	165	1	49.99 ppb	0.81	50	100.0	90 - 110
208	Pb	165	1	50.66 ppb	1.69	50	101.3	90 - 110
232	Th	165	1	50.62 ppb	1.15	50	101.2	90 - 110
238	U	165	1	50.54 ppb	0.29	50	101.1	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	351524	0.93	316659	111.0	30 - 120
45	Sc	1	927694	1.28	888972	104.4	30 - 120
72	Ge	1	421606	1.09	425816	99.0	30 - 120
115	In	1	1310979	0.71	1335258	98.2	30 - 120
165	Ho	1	2522093	0.90	2617754	96.3	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\029\_CCB.D\029\_CCB.D#  
 Date Acquired: Nov 9 2009 09:43 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9	Be	6	1	0.000 ppb	0.00	1.00
51	V	72	1	-0.036 ppb	44.55	1.00
52	Cr	72	1	0.019 ppb	63.89	1.00
55	Mn	72	1	0.000 ppb	2382.10	1.00
59	Co	72	1	0.002 ppb	93.07	1.00
60	Ni	72	1	-0.010 ppb	1.82	1.00
63	Cu	72	1	-0.002 ppb	211.49	1.00
66	Zn	72	1	0.038 ppb	50.08	1.00
75	As	72	1	-0.017 ppb	26.71	1.00
78	Se	72	1	0.225 ppb	111.94	1.00
95	Mo	72	1	0.046 ppb	45.40	1.00
107	Ag	115	1	0.012 ppb	29.52	1.00
111	Cd	115	1	0.002 ppb	311.75	1.00
118	Sn	115	1	0.080 ppb	40.12	1.00
121	Sb	115	1	0.165 ppb	24.61	1.00
137	Ba	115	1	0.004 ppb	88.07	1.00
205	Tl	165	1	0.004 ppb	78.72	1.00
208	Pb	165	1	0.002 ppb	56.03	1.00
232	Th	165	1	0.061 ppb	14.74	1.00
238	U	165	1	0.013 ppb	31.22	1.00

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	354787	1.32	316659	112.0	30 - 120
45	Sc	1	923814	1.00	888972	103.9	30 - 120
72	Ge	1	432478	0.52	425816	101.6	30 - 120
115	In	1	1308981	0.63	1335258	98.0	30 - 120
165	Ho	1	2520572	0.23	2617754	96.3	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\030WASH.D\030WASH.D#  
 Date Acquired: Nov 9 2009 09:50 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.009 ppb	18.75	1.30	
51 V	72	1	5.177 ppb	1.19	6.50	
52 Cr	72	1	2.111 ppb	3.52	2.60	
55 Mn	72	1	1.107 ppb	2.74	1.30	
59 Co	72	1	1.028 ppb	3.93	1.30	
60 Ni	72	1	2.108 ppb	1.73	2.60	
63 Cu	72	1	2.068 ppb	1.44	2.60	
66 Zn	72	1	9.967 ppb	0.46	13.00	
75 As	72	1	5.161 ppb	1.92	6.50	
78 Se	72	1	5.825 ppb	10.45	6.50	
95 Mo	72	1	1.986 ppb	5.92	2.60	
107 Ag	115	1	5.462 ppb	1.89	6.50	
111 Cd	115	1	1.025 ppb	1.41	1.30	
118 Sn	115	1	10.590 ppb	0.75	13.00	
121 Sb	115	1	2.089 ppb	2.01	2.60	
137 Ba	115	1	1.011 ppb	0.65	1.30	
205 Tl	165	1	1.109 ppb	3.60	1.30	
208 Pb	165	1	1.060 ppb	1.36	1.30	
232 Th	165	1	2.209 ppb	0.66	2.60	
238 U	165	1	1.106 ppb	2.50	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358611	0.21	316659	113.2	30 - 120	
45 Sc	1	931630	1.00	888972	104.8	30 - 120	
72 Ge	1	428811	1.09	425816	100.7	30 - 120	
115 In	1	1287825	1.17	1335258	96.4	30 - 120	
165 Ho	1	2504436	0.55	2617754	95.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\060\_CCV.D\060\_CCV.D#  
 Date Acquired: Nov 9 2009 11:12 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	47.76 ppb	2.01	50	95.5	90 - 110
51	V	72	1	53.33 ppb	0.36	50	106.7	90 - 110
52	Cr	72	1	52.02 ppb	0.91	50	104.0	90 - 110
55	Mn	72	1	50.55 ppb	1.03	50	101.1	90 - 110
59	Co	72	1	51.60 ppb	1.26	50	103.2	90 - 110
60	Ni	72	1	51.77 ppb	1.81	50	103.5	90 - 110
63	Cu	72	1	51.63 ppb	0.61	50	103.3	90 - 110
66	Zn	72	1	48.55 ppb	1.53	50	97.1	90 - 110
75	As	72	1	52.15 ppb	0.82	50	104.3	90 - 110
78	Se	72	1	49.57 ppb	2.57	50	99.1	90 - 110
95	Mo	72	1	47.79 ppb	1.06	50	95.6	90 - 110
107	Ag	115	1	50.33 ppb	2.15	50	100.7	90 - 110
111	Cd	115	1	48.29 ppb	2.01	50	96.6	90 - 110
118	Sn	115	1	48.91 ppb	3.81	50	97.8	90 - 110
121	Sb	115	1	48.67 ppb	1.99	50	97.3	90 - 110
137	Ba	115	1	50.76 ppb	0.77	50	101.5	90 - 110
205	Tl	165	1	51.23 ppb	4.59	50	102.5	90 - 110
208	Pb	165	1	49.88 ppb	2.00	50	99.8	90 - 110
232	Th	165	1	49.71 ppb	2.61	50	99.4	90 - 110
238	U	165	1	49.08 ppb	0.86	50	98.2	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	371239	0.44	316659	117.2	30 - 120
45	Sc	1	996118	0.60	888972	112.1	30 - 120
72	Ge	1	449415	1.43	425816	105.5	30 - 120
115	In	1	1358249	0.76	1335258	101.7	30 - 120
165	Ho	1	2424776	0.66	2617754	92.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\061\_CCB.D\061\_CCB.D#  
 Date Acquired: Nov 9 2009 11:15 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.007 ppb	173.25	1.00	
51 V	72	1	-0.033 ppb	15.18	1.00	
52 Cr	72	1	0.027 ppb	19.92	1.00	
55 Mn	72	1	0.057 ppb	24.29	1.00	
59 Co	72	1	0.002 ppb	40.00	1.00	
60 Ni	72	1	-0.008 ppb	174.20	1.00	
63 Cu	72	1	0.033 ppb	81.15	1.00	
66 Zn	72	1	0.057 ppb	34.92	1.00	
75 As	72	1	-0.012 ppb	116.84	1.00	
78 Se	72	1	0.544 ppb	106.14	1.00	
95 Mo	72	1	0.025 ppb	55.86	1.00	
107 Ag	115	1	0.006 ppb	0.78	1.00	
111 Cd	115	1	0.011 ppb	84.87	1.00	
118 Sn	115	1	0.063 ppb	27.95	1.00	
121 Sb	115	1	0.170 ppb	15.64	1.00	
137 Ba	115	1	0.021 ppb	35.77	1.00	
205 Tl	165	1	0.004 ppb	85.40	1.00	
208 Pb	165	1	0.006 ppb	13.99	1.00	
232 Th	165	1	0.047 ppb	18.57	1.00	
238 U	165	1	0.010 ppb	26.90	1.00	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	375737	0.86	316659	118.7	30 - 120	
45 Sc	1	1005396	1.10	888972	113.1	30 - 120	
72 Ge	1	462662	0.61	425816	108.7	30 - 120	
115 In	1	1347936	0.72	1335258	100.9	30 - 120	
165 Ho	1	2437556	0.89	2617754	93.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\062WASH.D\062WASH.D#  
 Date Acquired: Nov 9 2009 11:18 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.988 ppb	13.49	1.30	
51 V	72	1	5.317 ppb	1.85	6.50	
52 Cr	72	1	2.215 ppb	1.75	2.60	
55 Mn	72	1	1.081 ppb	2.43	1.30	
59 Co	72	1	1.073 ppb	4.20	1.30	
60 Ni	72	1	2.102 ppb	1.66	2.60	
63 Cu	72	1	2.102 ppb	1.56	2.60	
66 Zn	72	1	10.000 ppb	2.32	13.00	
75 As	72	1	5.122 ppb	1.19	6.50	
78 Se	72	1	5.883 ppb	5.54	6.50	
95 Mo	72	1	1.969 ppb	1.32	2.60	
107 Ag	115	1	5.324 ppb	0.46	6.50	
111 Cd	115	1	0.960 ppb	12.77	1.30	
118 Sn	115	1	10.230 ppb	2.10	13.00	
121 Sb	115	1	2.053 ppb	1.15	2.60	
137 Ba	115	1	1.068 ppb	9.25	1.30	
205 Tl	165	1	1.085 ppb	2.24	1.30	
208 Pb	165	1	1.017 ppb	0.46	1.30	
232 Th	165	1	2.117 ppb	2.07	2.60	
238 U	165	1	1.040 ppb	1.77	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	377304	1.01	316659	119.2	30 - 120	
45 Sc	1	1005985	1.51	888972	113.2	30 - 120	
72 Ge	1	461018	0.47	425816	108.3	30 - 120	
115 In	1	1347706	0.37	1335258	100.9	30 - 120	
165 Ho	1	2446876	0.21	2617754	93.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\063CALB.D\063CALB.D#  
 Date Acquired: Nov 9 2009 11:21 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: CalBlk

*DND  
LRD  
11/09/2009*

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.23
51	V	72	1	377	2.88
52	Cr	72	1	1847	11.91
55	Mn	72	1	490	7.02
59	Co	72	1	27	43.08
60	Ni	72	1	90	38.28
63	Cu	72	1	207	26.41
66	Zn	72	1	224	7.60
75	As	72	1	37	2.96
78	Se	72	1	180	14.95
95	Mo	72	1	70	0.37
107	Ag	115	1	37	102.75
111	Cd	115	1	1	1018.80
118	Sn	115	1	230	7.23
121	Sb	115	1	168	17.49
137	Ba	115	1	30	19.55
205	Tl	165	1	118	2.17
208	Pb	165	1	187	13.74
232	Th	165	1	340	3.31
238	U	165	1	107	28.05

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	381407	0.74
45	Sc	1	1012136	1.26
72	Ge	1	467118	0.37
115	In	1	1351742	0.80
165	Ho	1	2415684	0.57

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\



## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/09/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#  
 Date Acquired: Nov 9 2009 11:23 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 11:21 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	3	173.21
51	V	72	1	330	13.77
52	Cr	72	1	2014	3.51
55	Mn	72	1	663	10.90
59	Co	72	1	33	75.74
60	Ni	72	1	80	50.41
63	Cu	72	1	197	11.45
66	Zn	72	1	343	6.91
75	As	72	1	34	14.74
78	Se	72	1	173	12.49
95	Mo	72	1	40	49.31
107	Ag	115	1	10	99.72
111	Cd	115	1	5	690.53
118	Sn	115	1	340	20.42
121	Sb	115	1	100	28.11
137	Ba	115	1	23	24.93
205	Tl	165	1	98	12.19
208	Pb	165	1	236	9.19
232	Th	165	1	170	15.62
238	U	165	1	78	28.11

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	380157	0.54
45	Sc	1	1002329	1.13
72	Ge	1	466393	0.79
115	In	1	1358080	0.44
165	Ho	1	2422153	0.33

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

## Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\065ICAL.D\065ICAL.D#  
 Date Acquired: Nov 9 2009 11:26 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 11:24 pm  
 Sample Type: ICAL

## QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	43479	0.71
51	V	72	576998	0.10
52	Cr	72	580585	0.35
55	Mn	72	647521	2.20
59	Co	72	696629	1.39
60	Ni	72	153810	1.14
63	Cu	72	367490	0.55
66	Zn	72	85809	0.55
75	As	72	71337	0.80
78	Se	72	14168	2.89
95	Mo	72	198709	1.88
107	Ag	115	570960	1.47
111	Cd	115	117474	1.83
118	Sn	115	325069	1.28
121	Sb	115	387694	1.11
137	Ba	115	161998	1.24
205	Tl	165	1342275	1.10
208	Pb	165	1942480	0.67
232	Th	165	2057394	0.68
238	U	165	2166904	0.49

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	365465	0.26	380157	96.1	30 - 120
45	Sc	1	986653	1.27	1002329	98.4	30 - 120
72	Ge	1	442828	1.10	466393	94.9	30 - 120
115	In	1	1328586	0.28	1358080	97.8	30 - 120
165	Ho	1	2432710	0.17	2422153	100.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\066\_CCV.D\066\_CCV.D#  
 Date Acquired: Nov 9 2009 11:29 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	46.93 ppb	3.91	50	93.9	90 - 110
51	V	72	1	49.96 ppb	0.87	50	99.9	90 - 110
52	Cr	72	1	49.84 ppb	0.96	50	99.7	90 - 110
55	Mn	72	1	51.01 ppb	0.50	50	102.0	90 - 110
59	Co	72	1	50.30 ppb	0.45	50	100.6	90 - 110
60	Ni	72	1	50.29 ppb	1.97	50	100.6	90 - 110
63	Cu	72	1	49.99 ppb	0.18	50	100.0	90 - 110
66	Zn	72	1	50.01 ppb	0.68	50	100.0	90 - 110
75	As	72	1	50.48 ppb	0.16	50	101.0	90 - 110
78	Se	72	1	49.48 ppb	2.05	50	99.0	90 - 110
95	Mo	72	1	49.81 ppb	0.18	50	99.6	90 - 110
107	Ag	115	1	49.81 ppb	2.30	50	99.6	90 - 110
111	Cd	115	1	50.05 ppb	1.51	50	100.1	90 - 110
118	Sn	115	1	50.31 ppb	2.81	50	100.6	90 - 110
121	Sb	115	1	50.29 ppb	2.80	50	100.6	90 - 110
137	Ba	115	1	49.63 ppb	3.25	50	99.3	90 - 110
205	Tl	165	1	52.26 ppb	4.30	50	104.5	90 - 110
208	Pb	165	1	51.13 ppb	1.50	50	102.3	90 - 110
232	Th	165	1	51.46 ppb	0.54	50	102.9	90 - 110
238	U	165	1	51.98 ppb	0.56	50	104.0	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	367332	1.49	380157	96.6	30 - 120
45	Sc	1	986000	0.43	1002329	98.4	30 - 120
72	Ge	1	439576	1.54	466393	94.3	30 - 120
115	In	1	1323940	1.40	1358080	97.5	30 - 120
165	Ho	1	2412483	0.54	2422153	99.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\067\_CCB.D\067\_CCB.D#  
 Date Acquired: Nov 9 2009 11:32 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Be	6	1	0.000	ppb	7714.50	1.00
51	V	72	1	0.007	ppb	88.19	1.00
52	Cr	72	1	-0.013	ppb	132.92	1.00
55	Mn	72	1	0.016	ppb	41.75	1.00
59	Co	72	1	-0.002	ppb	220.37	1.00
60	Ni	72	1	-0.013	ppb	101.75	1.00
63	Cu	72	1	0.005	ppb	237.12	1.00
66	Zn	72	1	-0.125	ppb	6.55	1.00
75	As	72	1	-0.003	ppb	254.46	1.00
78	Se	72	1	0.068	ppb	820.68	1.00
95	Mo	72	1	0.036	ppb	12.78	1.00
107	Ag	115	1	0.013	ppb	34.78	1.00
111	Cd	115	1	-0.004	ppb	335.65	1.00
118	Sn	115	1	0.114	ppb	40.09	1.00
121	Sb	115	1	0.218	ppb	17.21	1.00
137	Ba	115	1	0.020	ppb	38.49	1.00
205	Tl	165	1	0.017	ppb	13.22	1.00
208	Pb	165	1	0.004	ppb	41.00	1.00
232	Th	165	1	0.058	ppb	8.27	1.00
238	U	165	1	0.015	ppb	19.36	1.00

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	370403	0.21	380157	97.4	30 - 120
45	Sc	1	986390	1.51	1002329	98.4	30 - 120
72	Ge	1	448979	0.79	466393	96.3	30 - 120
115	In	1	1330065	0.95	1358080	97.9	30 - 120
165	Ho	1	2397227	1.01	2422153	99.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Wash QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\068WASH.D\068WASH.D#  
 Date Acquired: Nov 9 2009 11:34 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.846 ppb	15.54	1.30	
51 V	72	1	5.105 ppb	1.52	6.50	
52 Cr	72	1	1.946 ppb	5.53	2.60	
55 Mn	72	1	1.034 ppb	8.27	1.30	
59 Co	72	1	1.006 ppb	1.60	1.30	
60 Ni	72	1	2.032 ppb	5.86	2.60	
63 Cu	72	1	2.022 ppb	3.80	2.60	
66 Zn	72	1	10.060 ppb	2.89	13.00	
75 As	72	1	5.074 ppb	1.10	6.50	
78 Se	72	1	5.789 ppb	19.52	6.50	
95 Mo	72	1	2.059 ppb	3.74	2.60	
107 Ag	115	1	5.439 ppb	1.68	6.50	
111 Cd	115	1	1.029 ppb	3.65	1.30	
118 Sn	115	1	10.700 ppb	3.27	13.00	
121 Sb	115	1	2.106 ppb	1.70	2.60	
137 Ba	115	1	1.052 ppb	6.93	1.30	
205 Tl	165	1	1.129 ppb	1.04	1.30	
208 Pb	165	1	1.059 ppb	0.98	1.30	
232 Th	165	1	2.213 ppb	1.62	2.60	
238 U	165	1	1.097 ppb	1.65	1.30	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	371066	0.42	380157	97.6	30 - 120	
45 Sc	1	964688	0.29	1002329	96.2	30 - 120	
72 Ge	1	445105	0.41	466393	95.4	30 - 120	
115 In	1	1302898	1.20	1358080	95.9	30 - 120	
165 Ho	1	2377516	0.60	2422153	98.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\069ICSA.D\069ICSA.D#  
 Date Acquired: Nov 9 2009 11:37 pm  
 Acq. Method: NormISIS.M QC Summary:  
 Operator: LRD Analytes: Pass  
 Sample Name: ICSA ISTD: Pass  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 11:27 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	-0.01 ppb	0.00	1.00
51	V	72	1	3.14 ppb	3.11	1.00
52	Cr	72	1	1.87 ppb	2.39	1.00
55	Mn	72	1	3.00 ppb	3.46	1.00
59	Co	72	1	0.12 ppb	14.06	1.00
60	Ni	72	1	1.18 ppb	6.20	1.00
63	Cu	72	1	0.57 ppb	5.88	1.00
66	Zn	72	1	4.08 ppb	4.97	10.00
75	As	72	1	0.40 ppb	5.91	1.00
78	Se	72	1	0.25 ppb	58.42	1.00
95	Mo	72	1	1968.00 ppb	1.40	2000.00
107	Ag	115	1	0.05 ppb	11.35	1.00
111	Cd	115	1	0.47 ppb	58.03	1.00
118	Sn	115	1	0.17 ppb	23.23	10.00
121	Sb	115	1	0.97 ppb	1.38	1.00
137	Ba	115	1	0.04 ppb	20.16	1.00
205	Tl	165	1	0.04 ppb	30.89	1.00
208	Pb	165	1	1.00 ppb	1.65	1.00
232	Th	165	1	0.03 ppb	24.22	1.00
238	U	165	1	0.01 ppb	11.29	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	291637	0.61	380157	76.7	30 - 120
45	Sc	1	784216	1.43	1002329	78.2	30 - 120
72	Ge	1	362840	1.19	466393	77.8	30 - 120
115	In	1	1050065	1.20	1358080	77.3	30 - 120
165	Ho	1	2003482	0.67	2422153	82.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed  
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

## Interference Check Solution AB (ICS-AB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\070ICSB.D\070ICSB.D#  
 Date Acquired: Nov 9 2009 11:40 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 11:27 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	98.69	0.29	100	98.7	80 - 120	
51 V	72	1	100.10	0.51	100	100.1	80 - 120	
52 Cr	72	1	96.39	1.13	100	96.4	80 - 120	
55 Mn	72	1	100.10	0.37	100	100.1	80 - 120	
59 Co	72	1	92.34	0.82	100	92.3	80 - 120	
60 Ni	72	1	90.79	1.30	100	90.8	80 - 120	
63 Cu	72	1	86.68	0.74	100	86.7	80 - 120	
66 Zn	72	1	97.33	0.89	100	97.3	80 - 120	
75 As	72	1	98.23	0.81	100	98.2	80 - 120	
78 Se	72	1	104.70	2.41	100	104.7	80 - 120	
95 Mo	72	1	2087.00	0.34	2100	99.4	80 - 120	
107 Ag	115	1	85.94	0.48	100	85.9	80 - 120	
111 Cd	115	1	94.98	1.32	100	95.0	80 - 120	
118 Sn	115	1	99.84	0.78	100	99.8	80 - 120	
121 Sb	115	1	102.50	0.96	100	102.5	80 - 120	
137 Ba	115	1	99.50	0.68	100	99.5	80 - 120	
205 Tl	165	1	94.70	0.86	100	94.7	80 - 120	
208 Pb	165	1	94.59	1.37	100	94.6	80 - 120	
232 Th	165	1	101.60	1.79	100	101.6	80 - 120	
238 U	165	1	101.00	1.69	100	101.0	80 - 120	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	284581	0.95	380157	74.9	30 - 120	
45 Sc	1	773360	0.68	1002329	77.2	30 - 120	
72 Ge	1	354105	0.59	466393	75.9	30 - 120	
115 In	1	1057991	0.87	1358080	77.9	30 - 120	
165 Ho	1	2026193	0.86	2422153	83.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\071WASH.D\071WASH.D#  
 Date Acquired: Nov 9 2009 11:43 pm  
 Operator: LRD  
 Sample Name: WASH  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	-0.007 ppb	0.00	1.30	
51 V	72	1	0.175 ppb	10.68	6.50	
52 Cr	72	1	-0.015 ppb	224.26	2.60	
55 Mn	72	1	-0.011 ppb	101.02	1.30	
59 Co	72	1	0.002 ppb	273.67	1.30	
60 Ni	72	1	-0.002 ppb	1290.40	2.60	
63 Cu	72	1	0.012 ppb	163.09	2.60	
66 Zn	72	1	-0.119 ppb	10.41	13.00	
75 As	72	1	0.016 ppb	84.22	6.50	
78 Se	72	1	0.333 ppb	141.71	6.50	
95 Mo	72	1	0.839 ppb	19.14	2.60	
107 Ag	115	1	0.007 ppb	41.41	6.50	
111 Cd	115	1	0.003 ppb	77.60	1.30	
118 Sn	115	1	0.020 ppb	132.11	13.00	
121 Sb	115	1	0.104 ppb	5.43	2.60	
137 Ba	115	1	0.013 ppb	14.03	1.30	
205 Tl	165	1	0.006 ppb	22.65	1.30	
208 Pb	165	1	0.002 ppb	44.35	1.30	
232 Th	165	1	0.032 ppb	26.02	2.60	
238 U	165	1	0.022 ppb	3.15	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	346070	0.78	380157	91.0	30 - 120	
45 Sc	1	934865	1.04	1002329	93.3	30 - 120	
72 Ge	1	440586	0.16	466393	94.5	30 - 120	
115 In	1	1292185	0.88	1358080	95.1	30 - 120	
165 Ho	1	2424319	0.81	2422153	100.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\072\_CCV.D\072\_CCV.D#  
 Date Acquired: Nov 9 2009 11:45 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.64 ppb	0.29	50	99.3	90 - 110
51	V	72	1	49.05 ppb	0.51	50	98.1	90 - 110
52	Cr	72	1	49.17 ppb	1.20	50	98.3	90 - 110
55	Mn	72	1	50.37 ppb	0.69	50	100.7	90 - 110
59	Co	72	1	49.63 ppb	1.02	50	99.3	90 - 110
60	Ni	72	1	50.09 ppb	0.34	50	100.2	90 - 110
63	Cu	72	1	49.59 ppb	0.85	50	99.2	90 - 110
66	Zn	72	1	49.99 ppb	1.41	50	100.0	90 - 110
75	As	72	1	49.85 ppb	0.63	50	99.7	90 - 110
78	Se	72	1	50.96 ppb	3.57	50	101.9	90 - 110
95	Mo	72	1	50.33 ppb	1.11	50	100.7	90 - 110
107	Ag	115	1	49.87 ppb	2.11	50	99.7	90 - 110
111	Cd	115	1	49.47 ppb	1.27	50	98.9	90 - 110
118	Sn	115	1	49.40 ppb	0.99	50	98.8	90 - 110
121	Sb	115	1	49.90 ppb	1.97	50	99.8	90 - 110
137	Ba	115	1	49.24 ppb	1.59	50	98.5	90 - 110
205	Tl	165	1	52.17 ppb	4.22	50	104.3	90 - 110
208	Pb	165	1	51.29 ppb	1.50	50	102.6	90 - 110
232	Th	165	1	51.54 ppb	0.75	50	103.1	90 - 110
238	U	165	1	51.49 ppb	1.24	50	103.0	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	344840	0.36	380157	90.7	30 - 120
45	Sc	1	960040	0.97	1002329	95.8	30 - 120
72	Ge	1	435616	0.46	466393	93.4	30 - 120
115	In	1	1327656	0.92	1358080	97.8	30 - 120
165	Ho	1	2430200	0.49	2422153	100.3	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\073\_CCB.D\073\_CCB.D#  
 Date Acquired: Nov 9 2009 11:48 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Be	6	1	0.001	ppb	2466.00	1.00
51	V	72	1	0.058	ppb	15.57	1.00
52	Cr	72	1	-0.012	ppb	231.32	1.00
55	Mn	72	1	0.017	ppb	109.77	1.00
59	Co	72	1	0.003	ppb	86.96	1.00
60	Ni	72	1	-0.007	ppb	180.98	1.00
63	Cu	72	1	-0.002	ppb	619.28	1.00
66	Zn	72	1	-0.062	ppb	46.64	1.00
75	As	72	1	0.009	ppb	16.14	1.00
78	Se	72	1	0.083	ppb	474.84	1.00
95	Mo	72	1	0.119	ppb	13.01	1.00
107	Ag	115	1	0.012	ppb	51.78	1.00
111	Cd	115	1	0.015	ppb	63.58	1.00
118	Sn	115	1	0.055	ppb	78.86	1.00
121	Sb	115	1	0.163	ppb	17.84	1.00
137	Ba	115	1	0.017	ppb	13.64	1.00
205	Tl	165	1	0.018	ppb	11.16	1.00
208	Pb	165	1	0.005	ppb	21.07	1.00
232	Th	165	1	0.054	ppb	24.52	1.00
238	U	165	1	0.015	ppb	17.65	1.00

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	354004	0.85	380157	93.1	30 - 120
45	Sc	1	982510	1.03	1002329	98.0	30 - 120
72	Ge	1	452984	0.53	466393	97.1	30 - 120
115	In	1	1333424	0.83	1358080	98.2	30 - 120
165	Ho	1	2422993	0.32	2422153	100.0	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\074WASH.D\074WASH.D#  
 Date Acquired: Nov 9 2009 11:51 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.952 ppb	11.71	1.30	
51 V	72	1	4.966 ppb	1.97	6.50	
52 Cr	72	1	1.993 ppb	3.95	2.60	
55 Mn	72	1	1.097 ppb	4.84	1.30	
59 Co	72	1	1.021 ppb	2.48	1.30	
60 Ni	72	1	2.009 ppb	4.37	2.60	
63 Cu	72	1	2.060 ppb	6.37	2.60	
66 Zn	72	1	11.960 ppb	1.85	13.00	
75 As	72	1	4.930 ppb	2.64	6.50	
78 Se	72	1	5.436 ppb	4.49	6.50	
95 Mo	72	1	2.193 ppb	2.61	2.60	
107 Ag	115	1	5.282 ppb	1.22	6.50	
111 Cd	115	1	0.986 ppb	2.05	1.30	
118 Sn	115	1	10.340 ppb	1.29	13.00	
121 Sb	115	1	2.115 ppb	3.91	2.60	
137 Ba	115	1	1.056 ppb	4.52	1.30	
205 Tl	165	1	1.119 ppb	1.07	1.30	
208 Pb	165	1	1.065 ppb	1.09	1.30	
232 Th	165	1	2.185 ppb	3.45	2.60	
238 U	165	1	1.104 ppb	0.87	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	356450	1.14	380157	93.8	30 - 120	
45 Sc	1	964047	0.67	1002329	96.2	30 - 120	
72 Ge	1	452729	0.90	466393	97.1	30 - 120	
115 In	1	1319982	1.15	1358080	97.2	30 - 120	
165 Ho	1	2426292	0.34	2422153	100.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\115\_CCV.D\115\_CCV.D#  
 Date Acquired: Nov 10 2009 01:46 am  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	49.47 ppb	2.23	50	98.9	90 - 110	
51	V	72	50.56 ppb	0.37	50	101.1	90 - 110	
52	Cr	72	50.65 ppb	0.47	50	101.3	90 - 110	
55	Mn	72	50.77 ppb	1.14	50	101.5	90 - 110	
59	Co	72	50.40 ppb	0.87	50	100.8	90 - 110	
60	Ni	72	49.84 ppb	0.41	50	99.7	90 - 110	
63	Cu	72	50.51 ppb	0.76	50	101.0	90 - 110	
66	Zn	72	49.77 ppb	0.09	50	99.5	90 - 110	
75	As	72	50.26 ppb	0.16	50	100.5	90 - 110	
78	Se	72	49.87 ppb	2.78	50	99.7	90 - 110	
95	Mo	72	49.39 ppb	0.94	50	98.8	90 - 110	
107	Ag	115	50.12 ppb	2.41	50	100.2	90 - 110	
111	Cd	115	49.40 ppb	2.86	50	98.8	90 - 110	
118	Sn	115	49.66 ppb	2.32	50	99.3	90 - 110	
121	Sb	115	49.95 ppb	2.09	50	99.9	90 - 110	
137	Ba	115	49.37 ppb	3.54	50	98.7	90 - 110	
205	Tl	165	52.74 ppb	1.97	50	105.5	90 - 110	
208	Pb	165	51.04 ppb	1.99	50	102.1	90 - 110	
232	Th	165	50.20 ppb	0.81	50	100.4	90 - 110	
238	U	165	50.45 ppb	0.19	50	100.9	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	369807	1.50	380157	97.3	30 - 120
45	Sc	1	1018477	0.34	1002329	101.6	30 - 120
72	Ge	1	453154	1.41	466393	97.2	30 - 120
115	In	1	1349823	1.36	1358080	99.4	30 - 120
165	Ho	1	2413896	0.92	2422153	99.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\116\_CCB.D\116\_CCB.D#  
 Date Acquired: Nov 10 2009 01:49 am  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.		RSD(%)	High Limit	Flag
9	Be	6	1	0.008	ppb	169.87	1.00
51	V	72	1	0.084	ppb	16.99	1.00
52	Cr	72	1	-0.004	ppb	232.14	1.00
55	Mn	72	1	-0.012	ppb	86.50	1.00
59	Co	72	1	0.002	ppb	114.75	1.00
60	Ni	72	1	0.010	ppb	269.98	1.00
63	Cu	72	1	0.021	ppb	60.58	1.00
66	Zn	72	1	0.020	ppb	111.79	1.00
75	As	72	1	0.011	ppb	110.07	1.00
78	Se	72	1	-0.018	ppb	805.68	1.00
95	Mo	72	1	0.019	ppb	66.39	1.00
107	Ag	115	1	0.013	ppb	61.58	1.00
111	Cd	115	1	-0.003	ppb	256.84	1.00
118	Sn	115	1	0.069	ppb	66.41	1.00
121	Sb	115	1	0.152	ppb	15.07	1.00
137	Ba	115	1	0.009	ppb	26.07	1.00
205	Tl	165	1	0.013	ppb	9.99	1.00
208	Pb	165	1	0.002	ppb	100.06	1.00
232	Th	165	1	0.053	ppb	19.40	1.00
238	U	165	1	0.012	ppb	14.27	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	372110	0.64	380157	97.9	30 - 120
45	Sc	1	1022224	0.42	1002329	102.0	30 - 120
72	Ge	1	464891	0.56	466393	99.7	30 - 120
115	In	1	1352890	0.37	1358080	99.6	30 - 120
165	Ho	1	2419064	1.22	2422153	99.9	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\117WASH.D\117WASH.D#  
 Date Acquired: Nov 10 2009 01:52 am  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 11:27 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.035 ppb	2.74	1.30	
51 V	72	1	5.187 ppb	0.57	6.50	
52 Cr	72	1	2.031 ppb	0.75	2.60	
55 Mn	72	1	1.067 ppb	2.38	1.30	
59 Co	72	1	0.970 ppb	1.63	1.30	
60 Ni	72	1	2.058 ppb	2.00	2.60	
63 Cu	72	1	2.068 ppb	3.91	2.60	
66 Zn	72	1	11.900 ppb	1.49	13.00	
75 As	72	1	5.068 ppb	3.34	6.50	
78 Se	72	1	5.362 ppb	14.08	6.50	
95 Mo	72	1	2.047 ppb	1.20	2.60	
107 Ag	115	1	5.331 ppb	2.52	6.50	
111 Cd	115	1	1.046 ppb	1.94	1.30	
118 Sn	115	1	10.310 ppb	1.17	13.00	
121 Sb	115	1	2.073 ppb	0.88	2.60	
137 Ba	115	1	1.049 ppb	2.40	1.30	
205 Tl	165	1	1.100 ppb	1.48	1.30	
208 Pb	165	1	1.054 ppb	0.90	1.30	
232 Th	165	1	2.156 ppb	2.05	2.60	
238 U	165	1	1.079 ppb	1.97	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	368170	0.68	380157	96.8	30 - 120	
45 Sc	1	1000230	0.23	1002329	99.8	30 - 120	
72 Ge	1	456074	0.97	466393	97.8	30 - 120	
115 In	1	1327112	0.29	1358080	97.7	30 - 120	
165 Ho	1	2402449	0.69	2422153	99.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\118SMPL.D\118SMPL.D#  
 Date Acquired: Nov 10 2009 01:54 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1301  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 11:27 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

*DNU*  
*LRD*  
*11/10/09*

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	18.76	18.76	ppb	0.54	3600	
51 V	72	1	23.38	23.38	ppb	1.45	3600	
52 Cr	72	1	20.11	20.11	ppb	1.09	3600	
55 Mn	72	1	22.39	22.39	ppb	1.28	3600	
59 Co	72	1	18.57	18.57	ppb	0.84	3600	
60 Ni	72	1	18.78	18.78	ppb	3.80	3600	
63 Cu	72	1	17.78	17.78	ppb	1.66	3600	
66 Zn	72	1	22.05	22.05	ppb	1.64	3600	
75 As	72	1	19.60	19.60	ppb	1.50	3600	
78 Se	72	1	20.84	20.84	ppb	12.31	3600	
95 Mo	72	1	2,115.00	2115.00	ppb	0.39	3600	
107 Ag	115	1	16.62	16.62	ppb	3.07	3600	
111 Cd	115	1	16.24	16.24	ppb	1.06	3600	
118 Sn	115	1	40.85	40.85	ppb	1.86	3600	
121 Sb	115	1	42.03	42.03	ppb	1.54	3600	
137 Ba	115	1	19.75	19.75	ppb	1.56	3600	
205 Tl	165	1	19.50	19.50	ppb	2.07	3600	
208 Pb	165	1	19.31	19.31	ppb	2.03	3600	
232 Th	165	1	20.35	20.35	ppb	1.43	1000	
238 U	165	1	20.19	20.19	ppb	1.38	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	285150	0.98	380157	75.0	30 - 120	
45 Sc	1	779494	1.35	1002329	77.8	30 - 120	
72 Ge	1	350892	0.50	466393	75.2	30 - 120	
115 In	1	1024662	0.55	1358080	75.4	30 - 120	
165 Ho	1	1912062	0.40	2422153	78.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

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



**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\119SMPL.D\119SMPL.D#  
 Date Acquired: Nov 10 2009 01:57 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 11:27 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

*AND*  
*LRD*  
*11/10/09*

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	313.89	3600	
51 V	72	1	0.16	0.16	ppb	20.44	3600	
52 Cr	72	1	0.00	0.00	ppb	701.08	3600	
55 Mn	72	1	-0.03	-0.03	ppb	34.36	3600	
59 Co	72	1	0.00	0.00	ppb	2064.30	3600	
60 Ni	72	1	-0.02	-0.02	ppb	39.77	3600	
63 Cu	72	1	-0.01	-0.01	ppb	79.63	3600	
66 Zn	72	1	0.10	0.10	ppb	21.02	3600	
75 As	72	1	-0.01	-0.01	ppb	155.04	3600	
78 Se	72	1	0.58	0.58	ppb	54.66	3600	
95 Mo	72	1	0.71	0.71	ppb	20.97	3600	
107 Ag	115	1	0.01	0.01	ppb	34.30	3600	
111 Cd	115	1	0.00	0.00	ppb	292.93	3600	
118 Sn	115	1	-0.03	-0.03	ppb	81.68	3600	
121 Sb	115	1	0.01	0.01	ppb	74.05	3600	
137 Ba	115	1	0.00	0.00	ppb	64.23	3600	
205 Tl	165	1	0.00	0.00	ppb	52.33	3600	
208 Pb	165	1	0.00	0.00	ppb	34.79	3600	
232 Th	165	1	0.01	0.01	ppb	12.23	1000	
238 U	165	1	0.00	0.00	ppb	63.73	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	339194	1.35	380157	89.2	30 - 120	
45 Sc	1	935735	0.87	1002329	93.4	30 - 120	
72 Ge	1	437417	0.42	466393	93.8	30 - 120	
115 In	1	1299039	0.24	1358080	95.7	30 - 120	
165 Ho	1	2306804	0.65	2422153	95.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\064CALB.D\064CALB.D#

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

### Calibration Blank QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\120CALB.D\120CALB.D#  
 Date Acquired: Nov 10 2009 02:00 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 11:27 pm  
 Sample Type: CalBlk

*DNU  
LRD  
11-10-09*

#### QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	897	5.64
52	Cr	72	1	1794	15.11
55	Mn	72	1	377	11.82
59	Co	72	1	27	78.54
60	Ni	72	1	60	33.98
63	Cu	72	1	160	5.50
66	Zn	72	1	389	5.28
75	As	72	1	38	9.69
78	Se	72	1	183	14.07
95	Mo	72	1	390	15.00
107	Ag	115	1	23	89.28
111	Cd	115	1	9	30.03
118	Sn	115	1	200	52.50
121	Sb	115	1	96	28.66
137	Ba	115	1	22	52.67
205	Tl	165	1	41	13.17
208	Pb	165	1	174	3.68
232	Th	165	1	167	27.85
238	U	165	1	68	20.50

#### Internal Standard Elements

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	346465	1.01
45	Sc	1	965226	0.47
72	Ge	1	449173	0.78
115	In	1	1321554	0.64
165	Ho	1	2347213	0.78

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

## Reslope Before Continuing Analytical Run

Corrective action was taken as stated in method 6020 section 7.8

...”During the course of an analytical run, the instrument may be “resloped” or recalibrated to correct for instrument drift. A recalibration must then be followed immediately by a new analysis of a CCV and CCB before any further samples are analyzed.”

Analyst: LRD

Date: 11/10/2009

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#  
 Date Acquired: Nov 10 2009 02:03 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 10 2009 02:01 am  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	730	18.51
52	Cr	72	1	1797	5.23
55	Mn	72	1	380	20.15
59	Co	72	1	23	65.65
60	Ni	72	1	80	12.92
63	Cu	72	1	177	12.30
66	Zn	72	1	295	3.34
75	As	72	1	29	28.60
78	Se	72	1	180	31.25
95	Mo	72	1	177	34.62
107	Ag	115	1	10	100.23
111	Cd	115	1	2	77.88
118	Sn	115	1	250	7.37
121	Sb	115	1	63	13.14
137	Ba	115	1	26	26.02
205	Tl	165	1	46	23.48
208	Pb	165	1	193	5.70
232	Th	165	1	160	44.04
238	U	165	1	51	14.32

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	350699	0.51
45	Sc	1	975170	1.39
72	Ge	1	456352	0.62
115	In	1	1314315	1.31
165	Ho	1	2357107	0.71

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

## Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\122ICAL.D\122ICAL.D#  
 Date Acquired: Nov 10 2009 02:05 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 10 2009 02:03 am  
 Sample Type: ICAL

### QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)
9	Be	6	40216	1.15
51	V	72	565936	0.42
52	Cr	72	564690	0.33
55	Mn	72	641392	0.30
59	Co	72	668817	1.09
60	Ni	72	151107	0.73
63	Cu	72	358263	0.61
66	Zn	72	82902	0.25
75	As	72	70507	0.36
78	Se	72	14505	2.61
95	Mo	72	194487	0.27
107	Ag	115	559008	2.42
111	Cd	115	115153	2.20
118	Sn	115	321843	1.50
121	Sb	115	379416	1.53
137	Ba	115	159256	1.48
205	Tl	165	1303983	2.38
208	Pb	165	1889337	1.40
232	Th	165	2003367	1.08
238	U	165	2096675	0.62

### ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	338335	1.13	350699	96.5	30 - 120
45	Sc	1	958735	1.30	975170	98.3	30 - 120
72	Ge	1	428707	1.21	456352	93.9	30 - 120
115	In	1	1296877	0.96	1314315	98.7	30 - 120
165	Ho	1	2326407	0.76	2357107	98.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\123 CC.V.D\123 CC.V.D#  
 Date Acquired: Nov 10 2009 02:08 am  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 10 2009 02:06 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	49.91 ppb	2.75	50	99.8	90 - 110	
51	V	72	49.24 ppb	0.23	50	98.5	90 - 110	
52	Cr	72	49.45 ppb	0.29	50	98.9	90 - 110	
55	Mn	72	49.86 ppb	0.27	50	99.7	90 - 110	
59	Co	72	50.04 ppb	0.73	50	100.1	90 - 110	
60	Ni	72	49.40 ppb	1.02	50	98.8	90 - 110	
63	Cu	72	49.26 ppb	0.55	50	98.5	90 - 110	
66	Zn	72	49.37 ppb	0.57	50	98.7	90 - 110	
75	As	72	49.47 ppb	0.63	50	98.9	90 - 110	
78	Se	72	47.86 ppb	3.12	50	95.7	90 - 110	
95	Mo	72	49.27 ppb	1.81	50	98.5	90 - 110	
107	Ag	115	49.54 ppb	2.30	50	99.1	90 - 110	
111	Cd	115	49.21 ppb	1.38	50	98.4	90 - 110	
118	Sn	115	48.98 ppb	1.17	50	98.0	90 - 110	
121	Sb	115	49.67 ppb	0.57	50	99.3	90 - 110	
137	Ba	115	49.45 ppb	0.45	50	98.9	90 - 110	
205	Tl	165	52.26 ppb	1.95	50	104.5	90 - 110	
208	Pb	165	50.46 ppb	2.07	50	100.9	90 - 110	
232	Th	165	51.10 ppb	1.01	50	102.2	90 - 110	
238	U	165	50.56 ppb	2.70	50	101.1	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	339355	0.90	350699	96.8	30 - 120
45	Sc	1	953700	0.62	975170	97.8	30 - 120
72	Ge	1	425622	0.78	456352	93.3	30 - 120
115	In	1	1290326	0.89	1314315	98.2	30 - 120
165	Ho	1	2316506	0.95	2357107	98.3	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\124\_CCB.D\124\_CCB.D#  
 Date Acquired: Nov 10 2009 02:11 am  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 10 2009 02:06 am  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	-0.043 ppb	3.53	1.00	
52 Cr	72	1	0.018 ppb	155.75	1.00	
55 Mn	72	1	0.020 ppb	32.27	1.00	
59 Co	72	1	0.006 ppb	60.80	1.00	
60 Ni	72	1	-0.011 ppb	58.90	1.00	
63 Cu	72	1	-0.008 ppb	59.29	1.00	
66 Zn	72	1	0.060 ppb	53.66	1.00	
75 As	72	1	0.016 ppb	150.06	1.00	
78 Se	72	1	-0.177 ppb	77.78	1.00	
95 Mo	72	1	-0.001 ppb	3159.70	1.00	
107 Ag	115	1	0.011 ppb	29.33	1.00	
111 Cd	115	1	0.017 ppb	45.14	1.00	
118 Sn	115	1	0.139 ppb	49.06	1.00	
121 Sb	115	1	0.222 ppb	11.27	1.00	
137 Ba	115	1	0.004 ppb	98.08	1.00	
205 Tl	165	1	0.025 ppb	20.85	1.00	
208 Pb	165	1	0.005 ppb	19.31	1.00	
232 Th	165	1	0.066 ppb	20.41	1.00	
238 U	165	1	0.016 ppb	18.15	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	344141	0.34	350699	98.1	30 - 120	
45 Sc	1	943043	0.60	975170	96.7	30 - 120	
72 Ge	1	437268	0.59	456352	95.8	30 - 120	
115 In	1	1299591	0.93	1314315	98.9	30 - 120	
165 Ho	1	2322442	0.24	2357107	98.5	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\125WASH.D\125WASH.D#  
 Date Acquired: Nov 10 2009 02:14 am  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 10 2009 02:06 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS	Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9	Be	6	1	0.915 ppb	26.94	1.30	
51	V	72	1	4.853 ppb	1.04	6.50	
52	Cr	72	1	2.109 ppb	4.44	2.60	
55	Mn	72	1	0.986 ppb	3.94	1.30	
59	Co	72	1	1.067 ppb	3.16	1.30	
60	Ni	72	1	2.030 ppb	2.53	2.60	
63	Cu	72	1	2.033 ppb	2.52	2.60	
66	Zn	72	1	11.810 ppb	0.98	13.00	
75	As	72	1	5.019 ppb	1.79	6.50	
78	Se	72	1	5.516 ppb	15.59	6.50	
95	Mo	72	1	1.978 ppb	4.60	2.60	
107	Ag	115	1	5.258 ppb	1.36	6.50	
111	Cd	115	1	1.018 ppb	4.53	1.30	
118	Sn	115	1	10.530 ppb	2.41	13.00	
121	Sb	115	1	2.096 ppb	2.55	2.60	
137	Ba	115	1	1.042 ppb	4.12	1.30	
205	Tl	165	1	1.095 ppb	0.66	1.30	
208	Pb	165	1	1.059 ppb	2.54	1.30	
232	Th	165	1	2.173 ppb	2.30	2.60	
238	U	165	1	1.093 ppb	2.96	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	343734	1.06	350699	98.0	30 - 120
45	Sc	1	947887	0.88	975170	97.2	30 - 120
72	Ge	1	434228	1.12	456352	95.2	30 - 120
115	In	1	1279175	0.95	1314315	97.3	30 - 120
165	Ho	1	2318596	0.84	2357107	98.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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



**Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\126\_BLK.D\126\_BLK.D#  
 Date Acquired: Nov 10 2009 02:16 am  
 Operator: LRD  
 Sample Name: LNNPLBF  
 Misc Info: BLANK 9306272 6020  
 Vial Number: 3209  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 10 2009 02:06 am  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.044 ppb	10.66	2.00	
52 Cr	72	1	0.015 ppb	322.40	2.00	
55 Mn	72	1	0.014 ppb	64.37	2.00	
59 Co	72	1	-0.001 ppb	62.65	2.00	
60 Ni	72	1	0.006 ppb	175.60	2.00	
63 Cu	72	1	0.026 ppb	7.95	2.00	
66 Zn	72	1	0.611 ppb	14.90	2.00	
75 As	72	1	0.005 ppb	203.55	2.00	
78 Se	72	1	0.348 ppb	61.24	2.00	
95 Mo	72	1	-0.049 ppb	32.97	2.00	
107 Ag	115	1	0.008 ppb	53.28	2.00	
111 Cd	115	1	0.003 ppb	121.88	2.00	
118 Sn	115	1	0.058 ppb	43.50	2.00	
121 Sb	115	1	0.038 ppb	17.73	2.00	
137 Ba	115	1	0.006 ppb	106.39	2.00	
205 Tl	165	1	0.011 ppb	13.90	2.00	
208 Pb	165	1	0.004 ppb	43.46	2.00	
232 Th	165	1	0.006 ppb	36.94	2.00	
238 U	165	1	0.001 ppb	143.60	2.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	346963	0.13	350699	98.9	30 - 120	
45 Sc	1	951585	1.34	975170	97.6	30 - 120	
72 Ge	1	443386	0.68	456352	97.2	30 - 120	
115 In	1	1307444	0.59	1314315	99.5	30 - 120	
165 Ho	1	2346896	0.83	2357107	99.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Laboratory Control Spike (LCS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\127\_LCS.D\127\_LCS.D#  
 Date Acquired: Nov 10 2009 02:19 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNNPLCF  
 Misc Info: LCS  
 Vial Number: 3210  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 10 2009 02:06 am  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	41.81	3.42	40	104.5	80 - 120	
51 V	72	1	39.88	0.32	40	99.7	80 - 120	
52 Cr	72	1	40.14	0.83	40	100.4	80 - 120	
55 Mn	72	1	40.18	0.90	40	100.5	80 - 120	
59 Co	72	1	41.13	0.04	40	102.8	80 - 120	
60 Ni	72	1	39.91	1.84	40	99.8	80 - 120	
63 Cu	72	1	40.25	1.79	40	100.6	80 - 120	
66 Zn	72	1	41.36	0.99	40	103.4	80 - 120	
75 As	72	1	40.90	0.30	40	102.3	80 - 120	
78 Se	72	1	37.94	1.38	40	94.9	80 - 120	
95 Mo	72	1	40.38	0.63	40	101.0	80 - 120	
107 Ag	115	1	40.53	1.12	40	101.3	80 - 120	
111 Cd	115	1	39.89	2.28	40	99.7	80 - 120	
118 Sn	115	1	0.05	32.95	40	0.1	80 - 120	
121 Sb	115	1	40.96	2.24	40	102.4	80 - 120	
137 Ba	115	1	40.53	1.17	40	101.3	80 - 120	
205 Tl	165	1	42.97	2.90	40	107.4	80 - 120	
208 Pb	165	1	41.26	2.67	40	103.2	80 - 120	
232 Th	165	1	40.71	2.12	40	101.8	80 - 120	
238 U	165	1	40.95	2.09	40	102.4	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	340888	0.87	350699	97.2	30 - 120	
45 Sc	1	951495	0.57	975170	97.6	30 - 120	
72 Ge	1	426874	0.91	456352	93.5	30 - 120	
115 In	1	1295292	0.62	1314315	98.6	30 - 120	
165 Ho	1	2330700	1.20	2357107	98.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 ISTD Ref File :

C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\128AREF.D\128AREF.D#  
 Date Acquired: Nov 10 2009 02:22 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLPPF  
 Misc Info: D9J300353  
 Vial Number: 3211  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 10 2009 02:06 am  
 Sample Type: AllRef  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.03	0.03	ppb	99.86	3600	
51 V	72	1	34.25	34.25	ppb	1.07	3600	
52 Cr	72	1	110.00	110.00	ppb	0.22	3600	
55 Mn	72	1	11.49	11.49	ppb	1.50	3600	
59 Co	72	1	0.46	0.46	ppb	2.80	3600	
60 Ni	72	1	1.55	1.55	ppb	7.05	3600	
63 Cu	72	1	0.30	0.30	ppb	12.66	3600	
66 Zn	72	1	5.27	5.27	ppb	0.46	3600	
75 As	72	1	193.00	193.00	ppb	0.37	3600	
78 Se	72	1	2.23	2.23	ppb	31.94	3600	
95 Mo	72	1	20.17	20.17	ppb	3.64	3600	
107 Ag	115	1	0.05	0.05	ppb	21.37	3600	
111 Cd	115	1	-0.02	-0.02	ppb	40.78	3600	
118 Sn	115	1	0.06	0.06	ppb	26.67	3600	
121 Sb	115	1	0.19	0.19	ppb	12.22	3600	
137 Ba	115	1	29.52	29.52	ppb	2.85	3600	
205 Tl	165	1	0.08	0.08	ppb	9.28	3600	
208 Pb	165	1	0.04	0.04	ppb	36.93	3600	
232 Th	165	1	0.07	0.07	ppb	19.57	1000	
238 U	165	1	48.03	48.03	ppb	1.11	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	289357	0.40	350699	82.5	30 - 120	
45 Sc	1	836531	0.72	975170	85.8	30 - 120	
72 Ge	1	353830	0.41	456352	77.5	30 - 120	
115 In	1	1052250	2.02	1314315	80.1	30 - 120	
165 Ho	1	1999926	0.66	2357107	84.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\129SDIL.D\129SDIL.D#  
 Date Acquired: Nov 10 2009 02:25 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLFPF5F  
 Misc Info: SERIAL DILUTION  
 Vial Number: 3212  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 10 2009 02:06 am  
 Sample Type: SDIL  
 Dilution Factor: 1.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\128AREF.D\128AREF.D#

**QC elements**

Element	IS Ref	Tune	Conc.ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9 Be	6	1	0.01 ppb	173.25	0.01	148.9	90 - 110	
51 V	72	1	6.90 ppb	1.30	6.85	100.8	90 - 110	
52 Cr	72	1	22.03 ppb	0.64	22.00	100.1	90 - 110	
55 Mn	72	1	2.28 ppb	2.22	2.30	99.0	90 - 110	
59 Co	72	1	0.09 ppb	17.97	0.09	99.6	90 - 110	
60 Ni	72	1	0.30 ppb	15.94	0.31	95.8	90 - 110	
63 Cu	72	1	0.06 ppb	12.54	0.06	99.8	90 - 110	
66 Zn	72	1	1.06 ppb	10.16	1.05	100.9	90 - 110	
75 As	72	1	37.81 ppb	0.56	38.60	98.0	90 - 110	
78 Se	72	1	0.76 ppb	71.63	0.45	171.2	90 - 110	
95 Mo	72	1	3.99 ppb	2.84	4.03	98.9	90 - 110	
107 Ag	115	1	0.01 ppb	42.77	0.01	110.6	90 - 110	
111 Cd	115	1	0.01 ppb	99.86	0.00	-154.7	90 - 110	
118 Sn	115	1	0.05 ppb	41.04	0.01	391.8	90 - 110	
121 Sb	115	1	0.04 ppb	14.05	0.04	109.6	90 - 110	
137 Ba	115	1	5.99 ppb	0.43	5.90	101.5	90 - 110	
205 Tl	165	1	0.02 ppb	20.14	0.02	98.3	90 - 110	
208 Pb	165	1	0.00 ppb	22.52	0.01	70.4	90 - 110	
232 Th	165	1	0.01 ppb	30.40	0.01	99.3	90 - 110	
238 U	165	1	10.60 ppb	1.65	9.61	110.3	90 - 110	

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	323515	0.30	350699	92.2	30 - 120	
45 Sc	1	897309	1.04	975170	92.0	30 - 120	
72 Ge	1	404701	0.58	456352	88.7	30 - 120	
115 In	1	1198504	0.76	1314315	91.2	30 - 120	
165 Ho	1	2239209	0.44	2357107	95.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:11:35

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNLPPF5F

Serial Dilution: 5.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 129 Method 6020\_
Acquired: 11/10/2009 02:25:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/10/2009 02:03:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL
NC : Serial dilution concentration < 100 X MDL
E : Difference greater than Limit (10%)

Reviewed by: LRD Date: 11/10/09



Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:11:44

Department: 090 (Metals) Source: Spreadsheet

Sample: LNLPFZF Spike Dilution: 1.00 Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 130 Method 6020\_
Acquired: 11/10/2009 02:27:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/10/2009 02:03:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Amount, Sample, %Rec., Spike, Flag, Q. Rows include elements like Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

Reviewed by: LRD Date: 11/10/09





**Duplicate Spike (MSD) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\132 MSD.D\132 MSD.D#  
 Date Acquired: Nov 10 2009 02:33 am  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLPFDF  
 Misc Info: MATRIX SPIKE DUPLICATE  
 Vial Number: 3303  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 10 2009 02:06 am  
 Sample Type: MSD  
 Dilution Factor: 1.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\131 MS.D\131 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9 Be	6	1	40.90 ppb	3.48	40.51	0.96	20	
51 V	72	1	75.26 ppb	0.56	75.39	0.17	20	
52 Cr	72	1	147.40 ppb	0.61	149.40	1.35	20	
55 Mn	72	1	51.41 ppb	0.38	51.52	0.21	20	
59 Co	72	1	39.21 ppb	0.62	39.33	0.31	20	
60 Ni	72	1	38.33 ppb	1.67	38.37	0.10	20	
63 Cu	72	1	35.92 ppb	0.80	36.03	0.31	20	
66 Zn	72	1	43.45 ppb	1.30	44.88	3.24	20	
75 As	72	1	235.10 ppb	0.28	235.40	0.13	20	
78 Se	72	1	45.50 ppb	1.13	47.11	3.48	20	
95 Mo	72	1	62.23 ppb	1.00	62.80	0.91	20	
107 Ag	115	1	35.73 ppb	0.68	36.00	0.75	20	
111 Cd	115	1	38.65 ppb	0.32	38.34	0.81	20	
118 Sn	115	1	0.12 ppb	52.37	0.35	96.83	20	
121 Sb	115	1	42.23 ppb	1.10	42.07	0.38	20	
137 Ba	115	1	70.22 ppb	0.76	69.60	0.89	20	
205 Tl	165	1	38.89 ppb	0.66	39.18	0.74	20	
208 Pb	165	1	37.01 ppb	1.13	37.37	0.97	20	
232 Th	165	1	40.22 ppb	0.34	40.11	0.27	20	
238 U	165	1	86.99 ppb	0.51	86.79	0.23	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	272006	1.70	350699	77.6	30 - 120	
45 Sc	1	827095	0.29	975170	84.8	30 - 120	
72 Ge	1	348133	0.48	456352	76.3	30 - 120	
115 In	1	1071353	1.22	1314315	81.5	30 - 120	
165 Ho	1	2053912	0.58	2357107	87.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\133 CCV.D\133 CCV.D#  
 Date Acquired: Nov 10 2009 02:36 am  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 10 2009 02:06 am  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	50.28 ppb	2.38	50	100.6	90 - 110	
51	V	72	48.96 ppb	0.30	50	97.9	90 - 110	
52	Cr	72	49.12 ppb	0.17	50	98.2	90 - 110	
55	Mn	72	49.62 ppb	0.45	50	99.2	90 - 110	
59	Co	72	50.08 ppb	0.94	50	100.2	90 - 110	
60	Ni	72	49.56 ppb	1.80	50	99.1	90 - 110	
63	Cu	72	48.84 ppb	0.28	50	97.7	90 - 110	
66	Zn	72	49.37 ppb	0.25	50	98.7	90 - 110	
75	As	72	49.28 ppb	0.71	50	98.6	90 - 110	
78	Se	72	48.24 ppb	4.46	50	96.5	90 - 110	
95	Mo	72	49.87 ppb	0.48	50	99.7	90 - 110	
107	Ag	115	50.07 ppb	3.00	50	100.1	90 - 110	
111	Cd	115	49.67 ppb	1.99	50	99.3	90 - 110	
118	Sn	115	49.62 ppb	2.42	50	99.2	90 - 110	
121	Sb	115	49.81 ppb	1.98	50	99.6	90 - 110	
137	Ba	115	49.23 ppb	2.16	50	98.5	90 - 110	
205	Tl	165	50.35 ppb	2.32	50	100.7	90 - 110	
208	Pb	165	49.83 ppb	1.40	50	99.7	90 - 110	
232	Th	165	50.00 ppb	0.93	50	100.0	90 - 110	
238	U	165	50.10 ppb	1.03	50	100.2	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	347177	1.04	350699	99.0	30 - 120
45	Sc	1	979990	1.26	975170	100.5	30 - 120
72	Ge	1	443155	0.97	456352	97.1	30 - 120
115	In	1	1346824	0.94	1314315	102.5	30 - 120
165	Ho	1	2437526	0.34	2357107	103.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\135WASH.D\135WASH.D#  
 Date Acquired: Nov 10 2009 02:41 am  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 10 2009 02:06 am  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.092 ppb	8.59	1.30	
51 V	72	1	4.885 ppb	2.42	6.50	
52 Cr	72	1	2.003 ppb	4.27	2.60	
55 Mn	72	1	0.968 ppb	3.96	1.30	
59 Co	72	1	1.004 ppb	4.24	1.30	
60 Ni	72	1	2.034 ppb	7.09	2.60	
63 Cu	72	1	2.052 ppb	0.86	2.60	
66 Zn	72	1	11.880 ppb	1.17	13.00	
75 As	72	1	5.004 ppb	0.86	6.50	
78 Se	72	1	4.648 ppb	15.88	6.50	
95 Mo	72	1	2.011 ppb	3.95	2.60	
107 Ag	115	1	5.236 ppb	3.11	6.50	
111 Cd	115	1	0.996 ppb	7.24	1.30	
118 Sn	115	1	10.400 ppb	2.63	13.00	
121 Sb	115	1	2.094 ppb	1.25	2.60	
137 Ba	115	1	1.064 ppb	5.87	1.30	
205 Tl	165	1	1.106 ppb	2.01	1.30	
208 Pb	165	1	1.059 ppb	0.95	1.30	
232 Th	165	1	2.142 ppb	2.42	2.60	
238 U	165	1	1.089 ppb	1.55	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341628	0.56	350699	97.4	30 - 120	
45 Sc	1	959675	0.78	975170	98.4	30 - 120	
72 Ge	1	440992	0.96	456352	96.6	30 - 120	
115 In	1	1309315	1.56	1314315	99.6	30 - 120	
165 Ho	1	2382062	0.58	2357107	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\121CALB.D\121CALB.D#

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

# Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D95300356

Client: Northgate Env.

Batch(es) #: 9306276

Associated Samples: 1

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date: URD 11/10/2009

# *Metals Raw Data RoadMap*

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J300356	1	SE	LNLR41AC	20091109	6020TOTA	9306276	AG110909A	024
D9J300356	1	AS	LNLR41AA	20091109	6020TOTA	9306276	AG110909A	024

**METALS  
PREPARATION LOGS  
ICP-MS**

**TestAmerica**

**THE LEADER IN ENVIRONMENTAL TESTING**

Batch Number: 9306276

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/3/09</sup>~~11/02/09~~ saw  
Due Date: 11/11/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9K020000 Water	LNNP6 B	Due Date: SDG:	<u>50 mL</u>
D9K020000 Water	LNNP6 C	Due Date: SDG:	<u>50 mL</u>
D9J300353 Water	LNLN9 Total	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J300356 Water	LNLR4 Total	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 S Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 D Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

CPD  
11/10/09



**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

**BATCH #** 9306276  
**PREP DATE:** 11/3/2009

**ALLIQUOTTED BY:** KS  
**DIGESTED BY:** JRW

**CONSUMABLES USED**

**Digestion Cups: Manufacturer:** Environmental Express **Lot #:** A901LS268  
**One or more samples were filtered prior to analysis at the instrument.**  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
**Analyst(s) Initials:**                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4110 Block & Cup #: 3/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1400	95	1815	96
HNO3	1830	96	1900	96
HNO3				

**Samples and QC revolved to:** 50 mL **Analyst's Initials** JRW

**COMMENTS:**

*I certify that all information above is correct and complete.*

**Signature:** *JRW*

**Date:** 11/3/09

*LRP  
11/10/09*

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**

**THE LEADER IN ENVIRONMENTAL TESTING**

### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/09/09 20:32	<input type="checkbox"/>
4	100 ppb				1.0	11/09/09 20:35	<input type="checkbox"/>
5	ICV				1.0	11/09/09 20:37	<input type="checkbox"/>
6	RLIV				1.0	11/09/09 20:40	<input type="checkbox"/>
7	ICB				1.0	11/09/09 20:43	<input type="checkbox"/>
8	RL STD				1.0	11/09/09 20:46	<input type="checkbox"/>
9	AFCEE RL				1.0	11/09/09 20:48	<input type="checkbox"/>
10	ALTSe				1.0	11/09/09 20:51	<input type="checkbox"/>
11	ICSA				1.0	11/09/09 20:54	<input type="checkbox"/>
12	ICSAB				1.0	11/09/09 20:57	<input type="checkbox"/>
13	RINSE				1.0	11/09/09 20:59	<input type="checkbox"/>
14	LR1				1.0	11/09/09 21:02	<input type="checkbox"/>
15	RINSE				1.0	11/09/09 21:05	<input type="checkbox"/>
16	CCV				1.0	11/09/09 21:08	<input type="checkbox"/>
17	CCB				1.0	11/09/09 21:10	<input type="checkbox"/>
18	RLCV				1.0	11/09/09 21:13	<input type="checkbox"/>
19	LNNP6B	D9K020000	9306276	MS	1.0	11/09/09 21:16	<input type="checkbox"/>
20	LNNP6C	D9K020000	9306276	MS	1.0	11/09/09 21:19	<input type="checkbox"/>
21	LNLN9 2X	D9J300353-1	9306276	MS	2.0	11/09/09 21:21	<input type="checkbox"/>
22	LNLR4 2X	D9J300356-1	9306276	MS	2.0	11/09/09 21:24	<input type="checkbox"/>
23	LNME4	D9J310138-1	9306276	MS	1.0	11/09/09 21:27	<input type="checkbox"/>
24	LNME4P5	D9J310138	9306276		5.0	11/09/09 21:30	<input type="checkbox"/>
25	LNME4Z	D9J310138-1	9306276		1.0	11/09/09 21:32	<input type="checkbox"/>
26	LNME4S	D9J310138-1	9306276	MS	1.0	11/09/09 21:35	<input type="checkbox"/>
27	LNME4D	D9J310138-1	9306276	MS	1.0	11/09/09 21:38	<input type="checkbox"/>
28	CCV				1.0	11/09/09 21:41	<input type="checkbox"/>
29	CCB				1.0	11/09/09 21:43	<input type="checkbox"/>
30	RLCV				1.0	11/09/09 21:50	<input type="checkbox"/>
31	LM900B	D9J260000	9299244	MS	1.0	11/09/09 21:52	<input type="checkbox"/>
32	LM900C	D9J260000	9299244	MS	1.0	11/09/09 21:55	<input type="checkbox"/>
33	LM900L	D9J260000	9299244	MS	1.0	11/09/09 21:58	<input type="checkbox"/>
34	LM9J9	D9J240206-1	9299244	MS	1.0	11/09/09 22:01	<input type="checkbox"/>
35	<del>LM9KA 2X</del>	<del>D9J240206-2</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:03</del>	<input type="checkbox"/>
36	<del>LM9KC 2X</del>	<del>D9J240206-3</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:06</del>	<input type="checkbox"/>
37	LM9KD	D9J240206-4	9299244	MS	1.0	11/09/09 22:09	<input type="checkbox"/>
38	<del>LM9KE 2X</del>	<del>D9J240206-5</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:12</del>	<input type="checkbox"/>
39	<del>LM9KF 2X</del>	<del>D9J240206-6</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:14</del>	<input type="checkbox"/>
40	LM9KG	D9J240206-7	9299244	MS	1.0	11/09/09 22:17	<input type="checkbox"/>
41	CCV				1.0	11/09/09 22:20	<input type="checkbox"/>
42	CCB				1.0	11/09/09 22:23	<input type="checkbox"/>
43	RLCV				1.0	11/09/09 22:26	<input type="checkbox"/>
44	LM9KH	D9J240206-8	9299244	MS	1.0	11/09/09 22:28	<input type="checkbox"/>
45	LM9KJ	D9J240206-9	9299244	MS	1.0	11/09/09 22:31	<input type="checkbox"/>
46	LM9KK	D9J240206-10	9299244	MS	1.0	11/09/09 22:34	<input type="checkbox"/>
47	LM9KL	D9J240206-11	9299244	MS	1.0	11/09/09 22:37	<input type="checkbox"/>
48	LM9KP	D9J240206-13	9299244	MS	1.0	11/09/09 22:39	<input type="checkbox"/>

DNU  
LRD  
11-10-09

Denver

**RUN SUMMARY**

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/10/09 12:39:51
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**File ID: AG110909A**

**Analyst: LRD**

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
49	LM9KPP5	D9J240206	9299244		5.0	11/09/09 22:42	<input type="checkbox"/>
50	LM9KPZ	D9J240206-13	9299244		1.0	11/09/09 22:45	<input type="checkbox"/>
51	LM9KPS	D9J240206-13	9299244	MS	1.0	11/09/09 22:48	<input type="checkbox"/>
52	LM9KPD	D9J240206-13	9299244	MS	1.0	11/09/09 22:50	<input type="checkbox"/>
53	CCV				1.0	11/09/09 22:53	<input type="checkbox"/>
54	CCB				1.0	11/09/09 22:56	<input type="checkbox"/>
55	RLCV				1.0	11/09/09 22:59	<input type="checkbox"/>
56	LM9KA	D9J240206-2	9299244	MS	1.0	11/09/09 23:01	<input type="checkbox"/>
57	LM9KC	D9J240206-3	9299244	MS	1.0	11/09/09 23:04	<input type="checkbox"/>
58	LM9KE	D9J240206-5	9299244	MS	1.0	11/09/09 23:07	<input type="checkbox"/>
59	LM9KF	D9J240206-6	9299244	MS	1.0	11/09/09 23:10	<input type="checkbox"/>
60	CCV				1.0	11/09/09 23:12	<input type="checkbox"/>
61	CCB				1.0	11/09/09 23:15	<input type="checkbox"/>
62	RLCV				1.0	11/09/09 23:18	<input type="checkbox"/>
64	Cal Blank				1.0	11/09/09 23:23	<input type="checkbox"/>
65	100 ppb				1.0	11/09/09 23:26	<input type="checkbox"/>
66	CCV				1.0	11/09/09 23:29	<input type="checkbox"/>
67	CCB				1.0	11/09/09 23:32	<input type="checkbox"/>
68	RLCV				1.0	11/09/09 23:34	<input type="checkbox"/>
69	ICSA				1.0	11/09/09 23:37	<input type="checkbox"/>
70	ICSAB				1.0	11/09/09 23:40	<input type="checkbox"/>
71	WASH				1.0	11/09/09 23:43	<input type="checkbox"/>
72	CCV				1.0	11/09/09 23:45	<input type="checkbox"/>
73	CCB				1.0	11/09/09 23:48	<input type="checkbox"/>
74	RLCV				1.0	11/09/09 23:51	<input type="checkbox"/>
75	LN04NB	D9K060000	9310238	04	1.0	11/09/09 23:54	<input type="checkbox"/>
76	LN04NC	D9K060000	9310238	04	1.0	11/09/09 23:57	<input type="checkbox"/>
77	LNEA7	D9J280172-1	9310238	04	1.0	11/10/09 00:00	<input type="checkbox"/>
78	LNEA7P5	D9J280172	9310238		5.0	11/10/09 00:02	<input type="checkbox"/>
79	LNEA7Z	D9J280172-1	9310238		1.0	11/10/09 00:05	<input type="checkbox"/>
80	LNEA7S	D9J280172-1	9310238	04	1.0	11/10/09 00:08	<input type="checkbox"/>
81	LNEA7D	D9J280172-1	9310238	04	1.0	11/10/09 00:11	<input type="checkbox"/>
82	LNECN	D9J280172-2	9310238	04	1.0	11/10/09 00:13	<input type="checkbox"/>
83	CCV				1.0	11/10/09 00:16	<input type="checkbox"/>
84	CCB				1.0	11/10/09 00:20	<input type="checkbox"/>
85	RLCV				1.0	11/10/09 00:22	<input type="checkbox"/>
86	LNECV	D9J280172-3	9310238	04	1.0	11/10/09 00:25	<input type="checkbox"/>
87	LNECX	D9J280172-4	9310238	04	1.0	11/10/09 00:28	<input type="checkbox"/>
88	LNEC0	D9J280172-5	9310238	04	1.0	11/10/09 00:31	<input type="checkbox"/>
89	LNEC1	D9J280172-6	9310238	04	1.0	11/10/09 00:34	<input type="checkbox"/>
90	LNEC3	D9J280172-7	9310238	04	1.0	11/10/09 00:36	<input type="checkbox"/>
91	LNEC5	D9J280172-8	9310238	04	1.0	11/10/09 00:39	<input type="checkbox"/>
92	CCV				1.0	11/10/09 00:42	<input type="checkbox"/>
93	CCB				1.0	11/10/09 00:45	<input type="checkbox"/>
94	RLCV				1.0	11/10/09 00:48	<input type="checkbox"/>
95	LNKFHB	D9J300000	9303368	04	1.0	11/10/09 00:51	<input type="checkbox"/>

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
96	LNKFHC	D9J300000	9303368	04	1.0	11/10/09 00:53	<input type="checkbox"/>
97	LNC5C	D9J270250-1	9303368	04	1.0	11/10/09 00:56	<input type="checkbox"/>
98	LNC5E	D9J270250-2	9303368	04	1.0	11/10/09 00:59	<input type="checkbox"/>
99	LNC5F	D9J270250-3	9303368	04	1.0	11/10/09 01:02	<input type="checkbox"/>
100	LNEHJ	D9J280192-1	9303368	04	1.0	11/10/09 01:05	<input type="checkbox"/>
101	LNEHJP5	D9J280192	9303368		5.0	11/10/09 01:07	<input type="checkbox"/>
102	LNEHJZ	D9J280192-1	9303368		1.0	11/10/09 01:10	<input type="checkbox"/>
103	LNEHJS	D9J280192-1	9303368	04	1.0	11/10/09 01:13	<input type="checkbox"/>
104	CCV				1.0	11/10/09 01:16	<input type="checkbox"/>
105	CCB				1.0	11/10/09 01:18	<input type="checkbox"/>
106	RLCV				1.0	11/10/09 01:21	<input type="checkbox"/>
107	LNEHJD	D9J280192-1	9303368	04	1.0	11/10/09 01:24	<input type="checkbox"/>
108	LNGXD 5X	D9J290182-1	9303368	04	5.0	11/10/09 01:27	<input type="checkbox"/>
109	LNGXG 5X	D9J290182-2	9303368	04	5.0	11/10/09 01:29	<input type="checkbox"/>
110	LNG17	D9J290192-1	9303368	04	1.0	11/10/09 01:32	<input type="checkbox"/>
111	LNG2D	D9J290192-2	9303368	04	1.0	11/10/09 01:35	<input type="checkbox"/>
112	<del>LNH27 2X</del>	<del>D9J290314-1</del>	<del>9303368</del>	<del>04</del>	<del>2.0</del>	<del>11/10/09 01:38</del> - DNU	<input type="checkbox"/>
113	<del>LNH28 2X</del>	<del>D9J290314-2</del>	<del>9303368</del>	<del>04</del>	<del>2.0</del>	<del>11/10/09 01:40</del> - LRD 11/10/09	<input type="checkbox"/>
114	LNH3A	D9J290314-3	9303368	04	1.0	11/10/09 01:43	<input type="checkbox"/>
115	CCV				1.0	11/10/09 01:46	<input type="checkbox"/>
116	CCB				1.0	11/10/09 01:49	<input type="checkbox"/>
117	RLCV				1.0	11/10/09 01:52	<input type="checkbox"/>
118	RINSE				1.0	11/10/09 01:54	<input type="checkbox"/>
119	RINSE				1.0	11/10/09 01:57	<input type="checkbox"/>
121	Cal Blank				1.0	11/10/09 02:03	<input type="checkbox"/>
122	100 ppb				1.0	11/10/09 02:05	<input type="checkbox"/>
123	CCV				1.0	11/10/09 02:08	<input type="checkbox"/>
124	CCB				1.0	11/10/09 02:11	<input type="checkbox"/>
125	RLCV				1.0	11/10/09 02:14	<input type="checkbox"/>
126	LNNPLBF	D9K020000	9306272	MD	1.0	11/10/09 02:16	<input type="checkbox"/>
127	LNNPLCF	D9K020000	9306272	MD	1.0	11/10/09 02:19	<input type="checkbox"/>
128	LNLFFF	D9J300353-2	9306272	MD	1.0	11/10/09 02:22	<input type="checkbox"/>
129	LNLFFP5F	D9J300353	9306272		5.0	11/10/09 02:25	<input type="checkbox"/>
130	LNLFFZF	D9J300353-2	9306272		1.0	11/10/09 02:27	<input type="checkbox"/>
131	LNLFFSF	D9J300353-2	9306272	MD	1.0	11/10/09 02:30	<input type="checkbox"/>
132	LNLFFDF	D9J300353-2	9306272	MD	1.0	11/10/09 02:33	<input type="checkbox"/>
133	CCV				1.0	11/10/09 02:36	<input type="checkbox"/>
134	CCB				1.0	11/10/09 02:38	<input type="checkbox"/>
135	RLCV				1.0	11/10/09 02:41	<input type="checkbox"/>
136	LNNQ5BF	D9K020000	9306285	MD	1.0	11/10/09 02:44	<input type="checkbox"/>
137	LNNQ5CF	D9K020000	9306285	MD	1.0	11/10/09 02:47	<input type="checkbox"/>
138	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/10/09 02:50	<input type="checkbox"/>
139	LNLG3F	D9J300326-2	9306285	MD	1.0	11/10/09 02:52	<input type="checkbox"/>
140	LNLG4F	D9J300326-3	9306285	MD	1.0	11/10/09 02:55	<input type="checkbox"/>
141	LNLHHF	D9J300329-1	9306285	MD	1.0	11/10/09 02:58	<input type="checkbox"/>
142	LNLHMF	D9J300329-2	9306285	MD	1.0	11/10/09 03:01	<input type="checkbox"/>

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
143	CCV				1.0	11/10/09 03:03	<input type="checkbox"/>
144	CCB				1.0	11/10/09 03:06	<input type="checkbox"/>
145	RLCV				1.0	11/10/09 03:09	<input type="checkbox"/>
146	LNLHPF	D9J300329-3	9306285	MD	1.0	11/10/09 03:12	<input type="checkbox"/>
147	LNLJJF	D9J300340-1	9306285	MD	1.0	11/10/09 03:15	<input type="checkbox"/>
148	LNLJJP5F	D9J300340	9306285		5.0	11/10/09 03:17	<input type="checkbox"/>
149	LNLJJZF	D9J300340-1	9306285		1.0	11/10/09 03:20	<input type="checkbox"/>
150	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/10/09 03:23	<input type="checkbox"/>
151	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/10/09 03:25	<input type="checkbox"/>
152	LNLJMF	D9J300340-2	9306285	MD	1.0	11/10/09 03:28	<input type="checkbox"/>
153	CCV				1.0	11/10/09 03:31	<input type="checkbox"/>
154	CCB				1.0	11/10/09 03:34	<input type="checkbox"/>
155	RLCV				1.0	11/10/09 03:37	<input type="checkbox"/>
156	LN0Q4BF	D9K060000	9310095	MD	1.0	11/10/09 03:39	<input type="checkbox"/>
157	LN0Q4CF	D9K060000	9310095	MD	1.0	11/10/09 03:42	<input type="checkbox"/>
158	LN0Q4LF	D9K060000	9310095	MD	1.0	11/10/09 03:45	<input type="checkbox"/>
159	LNR5CF	D9K040450-3	9310095	MD	1.0	11/10/09 03:48	<input type="checkbox"/>
160	LNR5CP5F	D9K040450	9310095		5.0	11/10/09 03:50	<input type="checkbox"/>
161	LNR5CZF	D9K040450-3	9310095		1.0	11/10/09 03:53	<input type="checkbox"/>
162	CCV				1.0	11/10/09 03:56	<input type="checkbox"/>
163	CCB				1.0	11/10/09 03:59	<input type="checkbox"/>
164	RLCV				1.0	11/10/09 04:01	<input type="checkbox"/>
165	RINSE				1.0	11/10/09 04:04	<input type="checkbox"/>
166	RINSE				1.0	11/10/09 04:07	<input type="checkbox"/>
168	Cal Blank				1.0	11/10/09 04:12	<input type="checkbox"/>
169	100 ppb				1.0	11/10/09 04:15	<input type="checkbox"/>
170	CCV				1.0	11/10/09 04:18	<input type="checkbox"/>
171	CCB				1.0	11/10/09 04:21	<input type="checkbox"/>
172	RLCV				1.0	11/10/09 04:23	<input type="checkbox"/>
173	LN16EB	D9K060000	9310417	04	2.5	11/10/09 04:26	<input type="checkbox"/>
174	LN16EC	D9K060000	9310417	04	2.5	11/10/09 04:29	<input type="checkbox"/>
175	LN1FW	D9K060478-7	9310417	04	2.5	11/10/09 04:32	<input type="checkbox"/>
176	LN1LX	D9K060478-17	9310417	04	2.5	11/10/09 04:35	<input type="checkbox"/>
177	LN1MD	D9K060478-19	9310417	04	2.5	11/10/09 04:37	<input type="checkbox"/>
178	LN1MH	D9K060478-21	9310417	04	2.5	11/10/09 04:40	<input type="checkbox"/>
179	LN1MHS	D9K060478-21	9310417	04	2.5	11/10/09 04:43	<input type="checkbox"/>
180	LN1MHD	D9K060478-21	9310417	04	2.5	11/10/09 04:46	<input type="checkbox"/>
181	CCV				1.0	11/10/09 04:48	<input type="checkbox"/>
182	CCB				1.0	11/10/09 04:51	<input type="checkbox"/>
183	RLCV				1.0	11/10/09 04:54	<input type="checkbox"/>
184	LN1T6BF	D9K060000	9310368	87	2.5	11/10/09 04:57	<input type="checkbox"/>
185	LN1T6CF	D9K060000	9310368	87	2.5	11/10/09 05:00	<input type="checkbox"/>
186	LNVQWF	D9K040610-1	9310368	87	2.5	11/10/09 05:02	<input type="checkbox"/>
187	LNVRHF	D9K040610-3	9310368	87	2.5	11/10/09 05:05	<input type="checkbox"/>
188	LNVRLF	D9K040610-5	9310368	87	2.5	11/10/09 05:08	<input type="checkbox"/>
189	LNVRLSF	D9K040610-5	9310368	87	2.5	11/10/09 05:11	<input type="checkbox"/>

Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
190	LNVRDF	D9K040610-5	9310368	87	2.5	11/10/09 05:14	<input type="checkbox"/>
191	LN48F	D9K050627-2	9310368	87	2.5	11/10/09 05:16	<input type="checkbox"/>
192	LN45JF	D9K050627-6	9310368	87	2.5	11/10/09 05:19	<input type="checkbox"/>
193	CCV				1.0	11/10/09 05:22	<input type="checkbox"/>
194	CCB				1.0	11/10/09 05:25	<input type="checkbox"/>
195	RLCV				1.0	11/10/09 05:27	<input type="checkbox"/>
196	LN4QNB	D9K090000	9313106	04	2.5	11/10/09 05:30	<input type="checkbox"/>
197	LN4QNC	D9K090000	9313106	04	2.5	11/10/09 05:33	<input type="checkbox"/>
198	LN314	D9K070460-2	9313106	04	2.5	11/10/09 05:36	<input type="checkbox"/>
199	LN3L7 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:39	<input type="checkbox"/>
200	LN3L7S 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:41	<input type="checkbox"/>
201	LN3L7D 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:44	<input type="checkbox"/>
202	CCV				1.0	11/10/09 05:47	<input type="checkbox"/>
203	CCB				1.0	11/10/09 05:50	<input type="checkbox"/>
204	RLCV				1.0	11/10/09 05:52	<input type="checkbox"/>
205	LN0PDBF	<del>D9K060000</del>	<del>9310068</del>	<del>PD</del>	<del>2.5</del>	<del>11/10/09 05:55</del>	<input type="checkbox"/>
206	LN0PDCF	D9K060000	9310068	PD	2.5	11/10/09 05:58	<input type="checkbox"/>
207	LNT1RF	D9K040539-2	9310068	PD	2.5	11/10/09 06:01	<input type="checkbox"/>
208	LNT15F	D9K040539-3	9310068	PD	2.5	11/10/09 06:04	<input type="checkbox"/>
209	LNT15SF	D9K040539-3	9310068	PD	2.5	11/10/09 06:06	<input type="checkbox"/>
210	LNT15DF	D9K040539-3	9310068	PD	2.5	11/10/09 06:09	<input type="checkbox"/>
211	LNT2CF	D9K040539-4	9310068	PD	2.5	11/10/09 06:12	<input type="checkbox"/>
212	LNPC2F	D9K020476-1	9310068	PD	2.5	11/10/09 06:15	<input type="checkbox"/>
213	LNPC4F	D9K020476-2	9310068	PD	2.5	11/10/09 06:18	<input type="checkbox"/>
214	CCV				1.0	11/10/09 06:20	<input type="checkbox"/>
215	CCB				1.0	11/10/09 06:23	<input type="checkbox"/>
216	RLCV				1.0	11/10/09 06:26	<input type="checkbox"/>
217	RINSE				1.0	11/10/09 06:29	<input type="checkbox"/>
218	RINSE				1.0	11/10/09 06:31	<input type="checkbox"/>
220	Cal Blank				1.0	11/10/09 06:37	<input type="checkbox"/>
221	100 ppb				1.0	11/10/09 06:40	<input type="checkbox"/>
222	CCV				1.0	11/10/09 06:42	<input type="checkbox"/>
223	CCB				1.0	11/10/09 06:45	<input type="checkbox"/>
224	RLCV				1.0	11/10/09 06:48	<input type="checkbox"/>
225	LNW1QB	D9K050000	9309222	MS	1.0	11/10/09 06:51	<input type="checkbox"/>
226	LNW1QC	D9K050000	9309222	MS	1.0	11/10/09 06:53	<input type="checkbox"/>
227	LNR42	D9K040449-1	9309222	MS	1.0	11/10/09 06:56	<input type="checkbox"/>
228	LNR42P5	D9K040449	9309222		5.0	11/10/09 06:59	<input type="checkbox"/>
229	LNR42Z	D9K040449-1	9309222		1.0	11/10/09 07:02	<input type="checkbox"/>
230	LNR42S	D9K040449-1	9309222	MS	1.0	11/10/09 07:04	<input type="checkbox"/>
231	LNR42D	D9K040449-1	9309222	MS	1.0	11/10/09 07:07	<input type="checkbox"/>
232	CCV				1.0	11/10/09 07:10	<input type="checkbox"/>
233	CCB				1.0	11/10/09 07:13	<input type="checkbox"/>
234	RLCV				1.0	11/10/09 07:16	<input type="checkbox"/>
235	LNR48	D9K040449-2	9309222	MS	1.0	11/10/09 07:18	<input type="checkbox"/>
236	LNR5E	D9K040449-3	9309222	MS	1.0	11/10/09 07:21	<input type="checkbox"/>

DNU  
LRD  
11-10-2009



Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
237	LNR5G	D9K040449-4	9309222	MS	1.0	11/10/09 07:24	<input type="checkbox"/>
238	LNP8M	D9K030460-1	9309222	MS	1.0	11/10/09 07:27	<input type="checkbox"/>
239	LNP8X	D9K030460-2	9309222	MS	1.0	11/10/09 07:30	<input type="checkbox"/>
240	LNP81	D9K030460-3	9309222	MS	1.0	11/10/09 07:32	<input type="checkbox"/>
241	CCV				1.0	11/10/09 07:35	<input type="checkbox"/>
242	CCB				1.0	11/10/09 07:38	<input type="checkbox"/>
243	RLCV				1.0	11/10/09 07:41	<input type="checkbox"/>
244	LNN6NB	D9K020000	9306426	MS	1.0	11/10/09 07:44	<input type="checkbox"/>
245	LNN6NC	D9K020000	9306426	MS	1.0	11/10/09 07:46	<input type="checkbox"/>
246	LNN6NL	D9K020000	9306426	MS	1.0	11/10/09 07:49	<input type="checkbox"/>
247	LNM4D	D9J310189-1	9306426	MS	1.0	11/10/09 07:52	<input type="checkbox"/>
248	LNM4DP5	D9J310189	9306426		5.0	11/10/09 07:55	<input type="checkbox"/>
249	LNM4DZ	D9J310189-1	9306426		1.0	11/10/09 07:58	<input type="checkbox"/>
250	LNM4E	D9J310189-2	9306426	MS	1.0	11/10/09 08:00	<input type="checkbox"/>
251	LNM5E	D9J310191-14	9306426	MS	1.0	11/10/09 08:03	<input type="checkbox"/>
252	CCV				1.0	11/10/09 08:06	<input type="checkbox"/>
253	CCB				1.0	11/10/09 08:09	<input type="checkbox"/>
254	RLCV				1.0	11/10/09 08:11	<input type="checkbox"/>
255	LNRQVB	D9K040000	9308149	MS	1.0	11/10/09 08:14	<input type="checkbox"/>
256	LNRQVC	D9K040000	9308149	MS	1.0	11/10/09 08:17	<input type="checkbox"/>
257	LNQ0L	D9K030552-1	9308149	MS	1.0	11/10/09 08:20	<input type="checkbox"/>
258	LNQ0LP5	D9K030552	9308149		5.0	11/10/09 08:22	<input type="checkbox"/>
259	LNQ0LZ	D9K030552-1	9308149		1.0	11/10/09 08:25	<input type="checkbox"/>
260	LNQ0LS	D9K030552-1	9308149	MS	1.0	11/10/09 08:28	<input type="checkbox"/>
261	LNQ0LD	D9K030552-1	9308149	MS	1.0	11/10/09 08:30	<input type="checkbox"/>
262	LNQ0R	D9K030554-1	9308149	MS	1.0	11/10/09 08:33	<input type="checkbox"/>
263	LNQ0T	D9K030554-2	9308149	MS	1.0	11/10/09 08:36	<input type="checkbox"/>
264	CCV				1.0	11/10/09 08:39	<input type="checkbox"/>
265	CCB				1.0	11/10/09 08:41	<input type="checkbox"/>
266	RLCV				1.0	11/10/09 08:44	<input type="checkbox"/>
267	LNWG5BF	D9K050000	9309184	87	2.5	11/10/09 08:47	<input type="checkbox"/>
268	LNWG5CF	D9K050000	9309184	87	2.5	11/10/09 08:50	<input type="checkbox"/>
269	LNT4AF	D9K040553-1	9309184	87	2.5	11/10/09 08:52	<input type="checkbox"/>
270	LNT42F	D9K040553-2	9309184	87	2.5	11/10/09 08:55	<input type="checkbox"/>
271	LNT42SF	D9K040553-2	9309184	87	2.5	11/10/09 08:58	<input type="checkbox"/>
272	LNT42DF	D9K040553-2	9309184	87	2.5	11/10/09 09:01	<input type="checkbox"/>
273	LNT5HF	D9K040553-3	9309184	87	2.5	11/10/09 09:03	<input type="checkbox"/>
274	CCV				1.0	11/10/09 09:06	<input type="checkbox"/>
275	CCB				1.0	11/10/09 09:09	<input type="checkbox"/>
276	RLCV				1.0	11/10/09 09:12	<input type="checkbox"/>
277	LNT5LF	D9K040553-4	9309184	87	2.5	11/10/09 09:14	<input type="checkbox"/>
278	LNT5VF	D9K040553-5	9309184	87	2.5	11/10/09 09:17	<input type="checkbox"/>
279	LNT51F	D9K040553-6	9309184	87	2.5	11/10/09 09:20	<input type="checkbox"/>
280	LNT55F	D9K040553-7	9309184	87	2.5	11/10/09 09:23	<input type="checkbox"/>
281	LNT57F	D9K040553-8	9309184	87	2.5	11/10/09 09:26	<input type="checkbox"/>
282	LNT58F	D9K040553-9	9309184	87	2.5	11/10/09 09:28	<input type="checkbox"/>

Denver

**RUN SUMMARY**

Method: 6020 (ICP/MS)                      ICPMS\_024 (024)                      Reported: 11/10/09 12:39:51

**File ID: AG110909A**

**Analyst: LRD**

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
283	LNT59F	D9K040553-10	9309184	87	2.5	11/10/09 09:31	<input type="checkbox"/>
284	CCV				1.0	11/10/09 09:34	<input type="checkbox"/>
285	CCB				1.0	11/10/09 09:37	<input type="checkbox"/>
286	RLCV				1.0	11/10/09 09:39	<input type="checkbox"/>
287	D9J270274-0				1.0	11/10/09 09:42	<input type="checkbox"/>
288	CCV				1.0	11/10/09 09:45	<input type="checkbox"/>
289	CCB				1.0	11/10/09 09:48	<input type="checkbox"/>
290	RLCV				1.0	11/10/09 09:50	<input type="checkbox"/>

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-10-2009

Logbook: \\Densvr06\StdsLog\metals.std

### STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SE02003      Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008      Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

### STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SN02016      Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009      Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

### STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HNO3      Lot No.: H02026      Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se      Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009      Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000

STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 10-31-2009  
Date Expires(1): 03-01-2010 (1 Year)  
Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICSEA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-05-2009  
Date Expires(1): 12-05-2009 (1 Month)  
Date Expires(2): 11-01-2010 (None)  
pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20,000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20,000	2,000.0

STD6858-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water  
Date Prep./Opened: 11-09-2009  
Date Expires(1): 05-09-2010 (6 Months)  
Date Expires(2): 05-09-2010 (6 Months)  
Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0

Parent Std No.: STD6857-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6859-09, ICP-MS CAL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-09-2009  
Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

STD6860-09, ICP-MS CCV STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
Date Prep./Opened: 11-09-2009  
Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500

Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

STD6861-09, ICP-MS RL STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn

Aliquot Amount (ml): 0.0900

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6859-09, ICP-MS CAL STD

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010

Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010

STD6862-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6861-09, ICP-MS RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002

STD6863-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000



As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD4542-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

STD6864-09, ICP-MS LR STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000

Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000

STD6865-09, ICP-MS ICV STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA ICV A

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

STD6866-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6867-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 20

Parent Std No.: STD6469-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000

Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

Parent Std No.: STD6470-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010    Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

File AG110909A

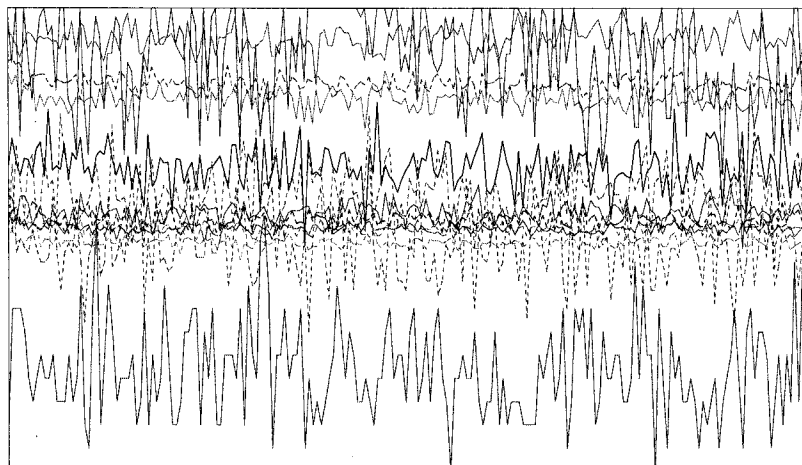
Reviewed By: \_\_\_\_\_

LRD

11/10/2009

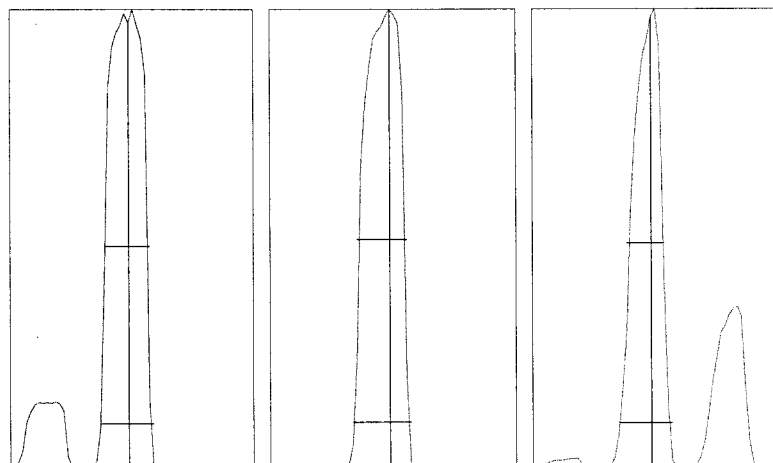
Tune Report

Tune File : NORM.U  
 Comment : AG110909



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.475%  
 Doubly Charged: 70/140 1.275%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2614.0	2789.3	3.67	0.80
7	20,000	18632.0	18633.8	3.00	0.50
59	20,000	15677.0	16033.1	2.87	1.00
63	50	35.0	45.6	15.88	0.70
70	500	313.0	327.1	7.08	0.40
75	20	4.0	4.4	46.88	0.60
78	200	109.0	120.3	9.42	0.60
89	50,000	26589.0	26185.6	2.22	1.00
115	50,000	24518.0	24639.8	1.99	1.10
118	100	33.0	48.4	15.31	0.80
137	5,000	2637.0	2712.3	2.91	1.20
205	20,000	16431.0	16723.1	2.17	1.70
238	50,000	25920.0	26106.3	1.87	2.50
156/140	2	1.499%	1.485%	7.38	
70/140	2	1.311%	1.332%	7.11	



m/z:	7	89	205
Height:	18,699	26,853	17,221
Axis:	7.00	89.00	205.00
W-50%:	0.55	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear

# Tune Report

Tune File : NORM.U  
Comment : AG110909

## Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	: 1600 W		Extract 1	: 0 V		AMU Gain	: 134	
RF Matching	: 1.7 V		Extract 2	: -170 V		AMU Offset	: 125	
Smpl Depth	: 8 mm		Omega Bias-ce	: -30 V		Axis Gain	: 1.0007	
Torch-H	: -0.8 mm		Omega Lens-ce	: 1.4 V		Axis Offset	: -0.03	
Torch-V	: -0.3 mm		Cell Entrance	: -30 V		QP Bias	: -3 V	
Carrier Gas	: 0.81 L/min		QP Focus	: 7 V		===Detector Parameters===		
Makeup Gas	: 0.23 L/min		Cell Exit	: -30 V		Discriminator	: 8 mV	
Optional Gas	: --- %		===Octopole Parameters===			Analog HV	: 1770 V	
Nebulizer Pump	: 0.1 rps		OctP RF	: 180 V		Pulse HV	: 1480 V	
Sample Pump	: --- rps		OctP Bias	: -18 V				
S/C Temp	: 2 degC							

## ===Reaction Cell===

Reaction Mode	: OFF							
H2 Gas	: 0 mL/min		He Gas	: 0 mL/min		Optional Gas	: --- %	

P/A Factor Tuning Report

Acquired: Nov 9 2009 08:15 pm

Mass[amu]	Element	P/A Factor
6	Li	Sensitivity too high
7	(Li)	0.055201
9	Be	0.058738
23	Na	0.063579
24	Mg	0.064637
27	Al	0.065724
39	K	0.065936
43	Ca	Sensitivity too low
45	Sc	0.065581
51	V	0.066938
52	Cr	0.068029
53	(Cr)	Sensitivity too low
55	Mn	0.069052
57	Fe	Sensitivity too low
59	Co	0.070056
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	Sensitivity too low
72	Ge	0.069902
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	Sensitivity too low
98	(Mo)	0.071630
99	(Mo)	Sensitivity too low
105	Pd	Sensitivity too low
106	(Cd)	0.071534
107	Ag	Sensitivity too low
108	(Cd)	0.071984
111	Cd	Sensitivity too low
115	In	0.068812
118	Sn	0.070115
121	Sb	0.070721
137	Ba	Sensitivity too low
165	Ho	0.069269
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071349
206	(Pb)	0.070737
207	(Pb)	0.071002
208	Pb	0.070189
232	Th	0.070155
238	U	0.070301

====Detector Parameters====

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

P/A Factor Tuning Report

Acquired: Nov 9 2009 08:21 pm

Mass[amu]	Element	P/A Factor
6	Li	Sensitivity too high
7	(Li)	0.055259
9	Be	0.058421
23	Na	0.062917
24	Mg	0.063700
27	Al	0.064930
39	K	0.065662
43	Ca	Sensitivity too low
45	Sc	0.065581
51	V	0.066016
52	Cr	0.066969
53	(Cr)	Sensitivity too low
55	Mn	0.067116
57	Fe	Sensitivity too low
59	Co	0.068255
60	Ni	0.068756
63	Cu	0.069073
66	Zn	0.068997
72	Ge	0.068697
75	As	0.069000
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.071094
98	(Mo)	0.069583
99	(Mo)	0.069992
105	Pd	0.069782
106	(Cd)	0.069206
107	Ag	Sensitivity too low
108	(Cd)	0.069821
111	Cd	0.069450
115	In	0.068812
118	Sn	0.068484
121	Sb	0.068561
137	Ba	0.070024
165	Ho	0.068599
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.068219
206	(Pb)	0.067897
207	(Pb)	0.068227
208	Pb	0.070189
232	Th	0.070155
238	U	0.070301

===Detector Parameters===

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

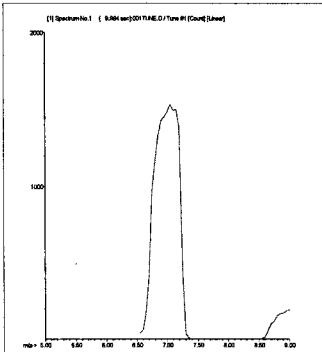


### 200.8 QC Tune Report

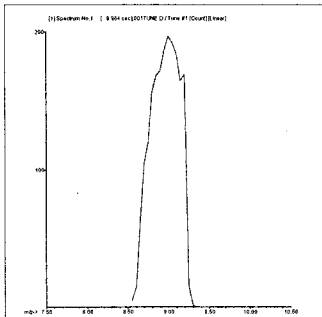
Data File: C:\ICPCHEM\1\DATA\AG110909A.B\001TUNE.D  
 Date Acquired: Nov 9 2009 08:26 pm  
 Acq. Method: tun\_isis.M  
 Operator: LRD  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	14906	14929	14975	14838	14916	14868	0.36	5.00	
9 Be	1915	1908	1914	1983	1809	1957	3.47	5.00	RSD fail Pass
24 Mg	8679	8669	8688	8662	8744	8633	0.48	5.00	
59 Co	35756	36567	35777	35985	34517	35933	2.11	5.00	
115 In	692825	688204	694293	692146	693236	696245	0.43	5.00	
208 Pb	51450	52572	50561	51250	51590	51275	1.42	5.00	
238 U	109376	111991	110522	109499	107788	107079	1.83	5.00	

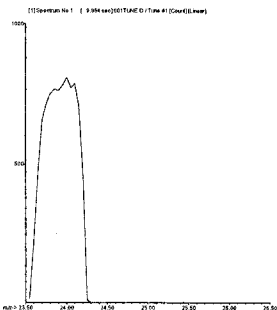
*LRD 11/09/09*



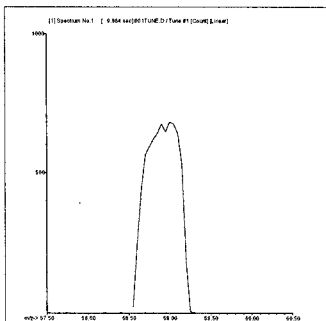
**7 Li**  
**Mass Calib.**  
 Actual: 7.05  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



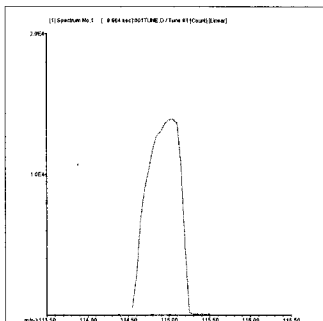
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



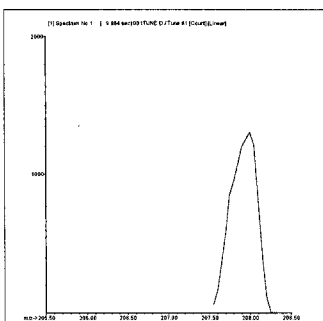
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



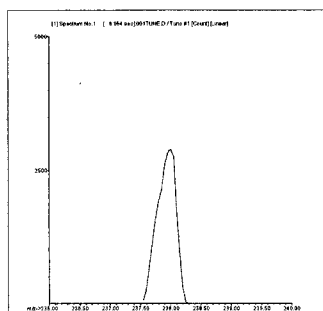
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.50  
 Required: 0.90  
 Flag:

Tune Result:

*Fail Pass*

*LED 11/09/09*

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 9 2009 08:29 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:30 pm  
 Sample Type: CalBlk

*06/11/10/09*

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	577	3.61
52	Cr	72	1	1697	4.80
55	Mn	72	1	263	10.96
59	Co	72	1	17	34.64
60	Ni	72	1	63	32.87
63	Cu	72	1	100	43.59
66	Zn	72	1	131	19.98
75	As	72	1	31	32.13
78	Se	72	1	153	20.97
95	Mo	72	1	23	24.74
107	Ag	115	1	7	86.60
111	Cd	115	1	-4	15.03
118	Sn	115	1	123	26.06
121	Sb	115	1	43	42.83
137	Ba	115	1	10	33.33
205	Tl	165	1	341	20.90
208	Pb	165	1	206	7.66
232	Th	165	1	130	26.65
238	U	165	1	97	23.89

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	307725	0.62
45	Sc	1	863740	1.75
72	Ge	1	419764	0.40
115	In	1	1321877	2.10
165	Ho	1	2596118	0.41

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 9 2009 08:32 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:30 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	513	5.95
52	Cr	72	1	1570	2.30
55	Mn	72	1	337	11.25
59	Co	72	1	20	50.00
60	Ni	72	1	63	48.24
63	Cu	72	1	120	44.10
66	Zn	72	1	137	9.29
75	As	72	1	35	18.20
78	Se	72	1	97	23.89
95	Mo	72	1	20	50.00
107	Ag	115	1	3	173.21
111	Cd	115	1	-4	393.57
118	Sn	115	1	297	22.95
121	Sb	115	1	39	26.19
137	Ba	115	1	12	41.66
205	Tl	165	1	221	20.47
208	Pb	165	1	199	12.35
232	Th	165	1	113	22.21
238	U	165	1	77	26.09

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	316659	2.14
45	Sc	1	888972	0.50
72	Ge	1	425816	0.47
115	In	1	1335258	0.87
165	Ho	1	2617754	0.65

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

### Calibration Standard QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 9 2009 08:35 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:33 pm  
 Sample Type: ICAL

#### QC Elements

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	38609	1.25
51	V	72	1	510366	0.88
52	Cr	72	1	524956	1.26
55	Mn	72	1	613525	1.41
59	Co	72	1	633231	0.83
60	Ni	72	1	140397	0.74
63	Cu	72	1	332088	1.69
66	Zn	72	1	83275	0.84
75	As	72	1	64491	1.06
78	Se	72	1	13670	3.37
95	Mo	72	1	194872	1.16
107	Ag	115	1	568219	1.98
111	Cd	115	1	121298	1.44
118	Sn	115	1	331811	1.14
121	Sb	115	1	398020	0.91
137	Ba	115	1	158724	1.91
205	Tl	165	1	1472389	1.01
208	Pb	165	1	2154560	0.36
232	Th	165	1	2284596	1.76
238	U	165	1	2432923	0.19

#### ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	317523	0.04	316659	100.3	30 - 120
45	Sc	1	902480	1.79	888972	101.5	30 - 120
72	Ge	1	417361	1.39	425816	98.0	30 - 120
115	In	1	1332995	0.81	1335258	99.8	30 - 120
165	Ho	1	2606293	0.43	2617754	99.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Initial Calibration Verification (ICV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\005\_ICV.D\005\_ICV.D#  
 Date Acquired: Nov 9 2009 08:37 pm  
 Operator: LRD  
 Sample Name: ICV  
 Misc Info:  
 Vial Number: 2103  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: ICV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	39.82 ppb	0.59	40	99.6	90 - 110
51	V	72	1	40.01 ppb	0.57	40	100.0	90 - 110
52	Cr	72	1	40.10 ppb	1.04	40	100.3	90 - 110
55	Mn	72	1	40.83 ppb	1.35	40	102.1	90 - 110
59	Co	72	1	39.98 ppb	2.35	40	100.0	90 - 110
60	Ni	72	1	39.48 ppb	1.75	40	98.7	90 - 110
63	Cu	72	1	39.44 ppb	0.71	40	98.6	90 - 110
66	Zn	72	1	40.87 ppb	1.27	40	102.2	90 - 110
75	As	72	1	40.05 ppb	0.47	40	100.1	90 - 110
78	Se	72	1	40.20 ppb	7.43	40	100.5	90 - 110
95	Mo	72	1	39.50 ppb	1.39	40	98.8	90 - 110
107	Ag	115	1	40.28 ppb	1.09	40	100.7	90 - 110
111	Cd	115	1	40.39 ppb	2.54	40	101.0	90 - 110
118	Sn	115	1	39.95 ppb	2.27	40	99.9	90 - 110
121	Sb	115	1	40.57 ppb	2.67	40	101.4	90 - 110
137	Ba	115	1	40.04 ppb	2.19	40	100.1	90 - 110
205	Tl	165	1	40.86 ppb	1.20	40	102.2	90 - 110
208	Pb	165	1	40.91 ppb	0.95	40	102.3	90 - 110
232	Th	165	1	41.04 ppb	0.97	40	102.6	90 - 110
238	U	165	1	40.74 ppb	0.82	40	101.9	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	320321	1.05	316659	101.2	30 - 120
45	Sc	1	893394	1.16	888972	100.5	30 - 120
72	Ge	1	421619	1.04	425816	99.0	30 - 120
115	In	1	1339730	1.68	1335258	100.3	30 - 120
165	Ho	1	2633489	0.36	2617754	100.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 9 2009 08:40 pm  
 Operator: LRD  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.977 ppb	23.08	1.30	
51 V	72	1	5.088 ppb	3.63	6.50	
52 Cr	72	1	2.010 ppb	2.80	2.60	
55 Mn	72	1	1.052 ppb	2.54	1.30	
59 Co	72	1	1.026 ppb	2.82	1.30	
60 Ni	72	1	2.053 ppb	3.73	2.60	
63 Cu	72	1	1.949 ppb	1.86	2.60	
66 Zn	72	1	10.200 ppb	0.76	13.00	
75 As	72	1	4.975 ppb	1.56	6.50	
78 Se	72	1	5.397 ppb	12.87	6.50	
95 Mo	72	1	2.077 ppb	3.08	2.60	
107 Ag	115	1	5.417 ppb	1.62	6.50	
111 Cd	115	1	0.994 ppb	8.21	1.30	
118 Sn	115	1	10.400 ppb	2.50	13.00	
121 Sb	115	1	2.182 ppb	1.55	2.60	
137 Ba	115	1	1.043 ppb	2.05	1.30	
205 Tl	165	1	1.340 ppb	3.63	1.30	
208 Pb	165	1	1.058 ppb	2.34	1.30	
232 Th	165	1	2.228 ppb	2.96	2.60	
238 U	165	1	1.119 ppb	1.48	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	327943	1.12	316659	103.6	30 - 120	
45 Sc	1	927967	1.66	888972	104.4	30 - 120	
72 Ge	1	437192	0.23	425816	102.7	30 - 120	
115 In	1	1360935	0.96	1335258	101.9	30 - 120	
165 Ho	1	2638135	1.11	2617754	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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





**RL STD QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#  
 Date Acquired: Nov 9 2009 08:46 pm  
 Operator: LRD  
 Sample Name: RL STD  
 Misc Info:  
 Vial Number: 2105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: RLSTD  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.99 ppb	9.34	1	99.0	50 - 150
51	V	72	1	0.92 ppb	9.25	1	91.9	50 - 150
52	Cr	72	1	1.00 ppb	9.84	1	99.9	50 - 150
55	Mn	72	1	1.01 ppb	0.70	1	100.8	50 - 150
59	Co	72	1	0.98 ppb	2.45	1	97.7	50 - 150
60	Ni	72	1	1.03 ppb	5.51	1	103.0	50 - 150
63	Cu	72	1	1.05 ppb	5.54	1	104.6	50 - 150
66	Zn	72	1	10.39 ppb	0.48	10	103.9	50 - 150
75	As	72	1	1.05 ppb	4.38	1	105.1	50 - 150
78	Se	72	1	1.23 ppb	32.18	1	123.2	50 - 150
95	Mo	72	1	1.01 ppb	7.94	1	101.0	50 - 150
107	Ag	115	1	1.01 ppb	4.94	1	101.1	50 - 150
111	Cd	115	1	1.05 ppb	5.12	1	104.5	50 - 150
118	Sn	115	1	10.46 ppb	2.14	10	104.6	50 - 150
121	Sb	115	1	1.03 ppb	4.27	1	103.4	50 - 150
137	Ba	115	1	1.04 ppb	2.63	1	104.3	50 - 150
205	Tl	165	1	1.11 ppb	1.97	1	110.8	50 - 150
208	Pb	165	1	1.05 ppb	1.92	1	105.4	50 - 150
232	Th	165	1	1.04 ppb	1.88	1	103.6	50 - 150
238	U	165	1	1.07 ppb	2.22	1	107.2	50 - 150

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	332529	1.31	316659	105.0	30 - 120
45	Sc	1	924723	1.34	888972	104.0	30 - 120
72	Ge	1	440304	0.81	425816	103.4	30 - 120
115	In	1	1361149	0.37	1335258	101.9	30 - 120
165	Ho	1	2647952	0.34	2617754	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\009AFCE.D\009AFCE.D#  
 Date Acquired: Nov 9 2009 08:48 pm  
 Operator: LRD  
 Sample Name: AFCEE RL  
 Misc Info:  
 Vial Number: 2106  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.16 ppb	9.52	0	82.7	80 - 120
51	V	72	1	0.15 ppb	12.92	0	84.2	80 - 120
52	Cr	72	1	0.17 ppb	11.54	0	87.5	80 - 120
55	Mn	72	1	0.19 ppb	4.01	0	92.3	80 - 120
59	Co	72	1	0.20 ppb	10.00	0	101.6	80 - 120
60	Ni	72	1	0.17 ppb	39.79	0	82.5	80 - 120
63	Cu	72	1	0.21 ppb	8.40	0	98.5	80 - 120
66	Zn	72	1	1.88 ppb	3.20	2	90.5	80 - 120
75	As	72	1	0.18 ppb	4.43	0	84.9	80 - 120
78	Se	72	1	0.34 ppb	52.18	0	137.7	80 - 120
95	Mo	72	1	0.20 ppb	20.48	0	97.8	80 - 120
107	Ag	115	1	0.19 ppb	11.02	0	95.4	80 - 120
111	Cd	115	1	0.18 ppb	8.60	0	87.8	80 - 120
118	Sn	115	1	2.07 ppb	1.60	2	98.7	80 - 120
121	Sb	115	1	0.24 ppb	8.81	0	117.2	80 - 120
137	Ba	115	1	0.17 ppb	15.49	0	82.0	80 - 120
205	Tl	165	1	0.21 ppb	3.14	0	95.1	80 - 120
208	Pb	165	1	0.21 ppb	4.91	0	97.5	80 - 120
232	Th	165	1	0.21 ppb	2.80	0	102.7	80 - 120
238	U	165	1	0.21 ppb	1.79	0	97.4	80 - 120

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	334891	0.91	316659	105.8	30 - 120
45	Sc	1	926450	1.15	888972	104.2	30 - 120
72	Ge	1	444347	1.22	425816	104.4	30 - 120
115	In	1	1347595	1.10	1335258	100.9	30 - 120
165	Ho	1	2645674	1.06	2617754	101.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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



**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\011ICSA.D\011ICSA.D#  
 Date Acquired: Nov 9 2009 08:54 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

QC Summary:  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.09 ppb	3.15	1.00
52	Cr	72	1	1.97 ppb	9.78	1.00
55	Mn	72	1	2.81 ppb	1.66	1.00
59	Co	72	1	0.10 ppb	6.63	1.00
60	Ni	72	1	1.02 ppb	13.74	1.00
63	Cu	72	1	0.53 ppb	7.97	1.00
66	Zn	72	1	3.94 ppb	2.38	10.00
75	As	72	1	0.28 ppb	11.27	1.00
78	Se	72	1	0.38 ppb	63.23	1.00
95	Mo	72	1	1936.00 ppb	0.91	2000.00
107	Ag	115	1	0.03 ppb	12.20	1.00
111	Cd	115	1	0.30 ppb	66.71	1.00
118	Sn	115	1	0.12 ppb	33.50	10.00
121	Sb	115	1	0.92 ppb	2.59	1.00
137	Ba	115	1	0.03 ppb	33.26	1.00
205	Tl	165	1	0.03 ppb	11.11	1.00
208	Pb	165	1	1.00 ppb	2.07	1.00
232	Th	165	1	0.02 ppb	12.13	1.00
238	U	165	1	0.00 ppb	5.79	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	239339	0.28	316659	75.6	30 - 120
45	Sc	1	700629	1.42	888972	78.8	30 - 120
72	Ge	1	343237	0.37	425816	80.6	30 - 120
115	In	1	1048448	1.55	1335258	78.5	30 - 120
165	Ho	1	2104424	0.97	2617754	80.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\012ICSB.D\012ICSB.D#  
 Date Acquired: Nov 9 2009 08:57 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	109.40	3.64	100	109.4	80 - 120	
51 V	72	1	99.64	0.20	100	99.6	80 - 120	
52 Cr	72	1	97.24	0.93	100	97.2	80 - 120	
55 Mn	72	1	98.22	0.64	100	98.2	80 - 120	
59 Co	72	1	92.77	2.10	100	92.8	80 - 120	
60 Ni	72	1	89.04	1.65	100	89.0	80 - 120	
63 Cu	72	1	86.53	0.30	100	86.5	80 - 120	
66 Zn	72	1	96.58	0.54	100	96.6	80 - 120	
75 As	72	1	101.00	1.32	100	101.0	80 - 120	
78 Se	72	1	100.00	0.62	100	100.0	80 - 120	
95 Mo	72	1	2093.00	0.96	2100	99.7	80 - 120	
107 Ag	115	1	89.66	3.28	100	89.7	80 - 120	
111 Cd	115	1	95.05	1.99	100	95.1	80 - 120	
118 Sn	115	1	100.40	1.69	100	100.4	80 - 120	
121 Sb	115	1	103.00	1.30	100	103.0	80 - 120	
137 Ba	115	1	101.30	1.03	100	101.3	80 - 120	
205 Tl	165	1	94.31	0.93	100	94.3	80 - 120	
208 Pb	165	1	93.76	0.89	100	93.8	80 - 120	
232 Th	165	1	101.30	1.54	100	101.3	80 - 120	
238 U	165	1	99.94	0.63	100	99.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	233202	3.01	316659	73.6	30 - 120	
45 Sc	1	711798	0.20	888972	80.1	30 - 120	
72 Ge	1	338298	0.97	425816	79.4	30 - 120	
115 In	1	1075320	0.68	1335258	80.5	30 - 120	
165 Ho	1	2161438	0.51	2617754	82.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 9 2009 08:59 pm  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.01 ppb	173.15	0	4.2	80 - 120	
51 V	72	1	0.02 ppb	35.98	0	10.9	80 - 120	
52 Cr	72	1	0.03 ppb	89.50	0	13.7	80 - 120	
55 Mn	72	1	-0.01 ppb	113.19	0	-3.4	80 - 120	
59 Co	72	1	0.00 ppb	1352.30	0	-0.1	80 - 120	
60 Ni	72	1	-0.02 ppb	102.45	0	-9.9	80 - 120	
63 Cu	72	1	0.00 ppb	649.06	0	0.6	80 - 120	
66 Zn	72	1	0.04 ppb	63.69	2	1.7	80 - 120	
75 As	72	1	-0.01 ppb	61.99	0	-3.9	80 - 120	
78 Se	72	1	0.39 ppb	99.84	0	156.3	80 - 120	
95 Mo	72	1	0.80 ppb	31.54	0	396.5	80 - 120	
107 Ag	115	1	0.01 ppb	53.68	0	3.6	80 - 120	
111 Cd	115	1	0.00 ppb	41.35	0	1.7	80 - 120	
118 Sn	115	1	0.00 ppb	#####	2	0.0	80 - 120	
121 Sb	115	1	0.11 ppb	20.17	0	52.7	80 - 120	
137 Ba	115	1	0.00 ppb	105.76	0	-0.5	80 - 120	
205 Tl	165	1	-0.01 ppb	3.09	0	-2.6	80 - 120	
208 Pb	165	1	0.00 ppb	49.94	0	0.7	80 - 120	
232 Th	165	1	0.03 ppb	6.82	0	13.2	80 - 120	
238 U	165	1	0.01 ppb	15.94	0	6.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331840	0.43	316659	104.8	30 - 120	
45 Sc	1	927075	1.00	888972	104.3	30 - 120	
72 Ge	1	454961	0.83	425816	106.8	30 - 120	
115 In	1	1407675	0.48	1335258	105.4	30 - 120	
165 Ho	1	2715373	0.43	2617754	103.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Linear Dynamic Range Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 9 2009 09:02 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	989.70 ppb	1.24	1000	99.0	90 - 110	
51 V	72	1	962.50 ppb	1.62	1000	96.3	90 - 110	
52 Cr	72	1	955.40 ppb	1.40	1000	95.5	90 - 110	
55 Mn	72	1	950.30 ppb	1.50	1000	95.0	90 - 110	
59 Co	72	1	955.50 ppb	1.19	1000	95.6	90 - 110	
60 Ni	72	1	979.40 ppb	1.79	1000	97.9	90 - 110	
63 Cu	72	1	966.20 ppb	0.98	1000	96.6	90 - 110	
66 Zn	72	1	974.60 ppb	0.75	1000	97.5	90 - 110	
75 As	72	1	1009.00 ppb	0.73	1000	100.9	90 - 110	
78 Se	72	1	988.90 ppb	0.77	1000	98.9	90 - 110	
95 Mo	72	1	987.40 ppb	1.52	1000	98.7	90 - 110	
107 Ag	115	1	932.40 ppb	1.41	1000	93.2	90 - 110	
111 Cd	115	1	967.10 ppb	0.44	1000	96.7	90 - 110	
118 Sn	115	1	933.80 ppb	0.50	1000	93.4	90 - 110	
121 Sb	115	1	927.90 ppb	0.18	1000	92.8	90 - 110	
137 Ba	115	1	972.50 ppb	0.87	1000	97.3	90 - 110	
205 Tl	165	1	947.60 ppb	0.99	1000	94.8	90 - 110	
208 Pb	165	1	915.00 ppb	0.94	1000	91.5	90 - 110	
232 Th	165	1	966.60 ppb	0.64	1000	96.7	90 - 110	
238 U	165	1	963.20 ppb	1.88	1000	96.3	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	328068	1.06	316659	103.6	30 - 120	
45 Sc	1	922726	2.01	888972	103.8	30 - 120	
72 Ge	1	430093	1.37	425816	101.0	30 - 120	
115 In	1	1364755	0.41	1335258	102.2	30 - 120	
165 Ho	1	2644039	0.70	2617754	101.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Nov 9 2009 09:05 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.02	ppb	173.25	3600	
51 V	72	1	-0.02	-0.02	ppb	88.49	3600	
52 Cr	72	1	0.05	0.05	ppb	36.35	3600	
55 Mn	72	1	-0.01	-0.01	ppb	183.98	3600	
59 Co	72	1	0.01	0.01	ppb	88.77	3600	
60 Ni	72	1	0.02	0.02	ppb	167.72	3600	
63 Cu	72	1	0.03	0.03	ppb	35.08	3600	
66 Zn	72	1	0.05	0.05	ppb	19.57	3600	
75 As	72	1	0.02	0.02	ppb	85.94	3600	
78 Se	72	1	0.69	0.69	ppb	46.45	3600	
95 Mo	72	1	0.53	0.53	ppb	26.09	3600	
107 Ag	115	1	0.03	0.03	ppb	35.34	3600	
111 Cd	115	1	0.02	0.02	ppb	21.52	3600	
118 Sn	115	1	1.11	1.11	ppb	27.74	3600	
121 Sb	115	1	1.31	1.31	ppb	17.77	3600	
137 Ba	115	1	0.02	0.02	ppb	70.23	3600	
205 Tl	165	1	0.06	0.06	ppb	21.10	3600	
208 Pb	165	1	0.02	0.02	ppb	25.81	3600	
232 Th	165	1	0.13	0.13	ppb	10.54	1000	
238 U	165	1	0.13	0.13	ppb	15.65	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341210	2.06	316659	107.8	30 - 120	
45 Sc	1	953002	0.82	888972	107.2	30 - 120	
72 Ge	1	451794	0.58	425816	106.1	30 - 120	
115 In	1	1384812	1.01	1335258	103.7	30 - 120	
165 Ho	1	2634408	0.76	2617754	100.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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



**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\016\_CCV.D\016\_CCV.D#  
 Date Acquired: Nov 9 2009 09:08 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.36 ppb	2.54	50	98.7	90 - 110
51	V	72	1	50.77 ppb	1.34	50	101.5	90 - 110
52	Cr	72	1	50.82 ppb	0.60	50	101.6	90 - 110
55	Mn	72	1	50.95 ppb	1.41	50	101.9	90 - 110
59	Co	72	1	50.68 ppb	1.40	50	101.4	90 - 110
60	Ni	72	1	49.56 ppb	1.57	50	99.1	90 - 110
63	Cu	72	1	49.68 ppb	0.10	50	99.4	90 - 110
66	Zn	72	1	49.76 ppb	0.33	50	99.5	90 - 110
75	As	72	1	50.93 ppb	0.82	50	101.9	90 - 110
78	Se	72	1	51.94 ppb	5.89	50	103.9	90 - 110
95	Mo	72	1	48.88 ppb	1.24	50	97.8	90 - 110
107	Ag	115	1	50.11 ppb	0.43	50	100.2	90 - 110
111	Cd	115	1	50.35 ppb	0.26	50	100.7	90 - 110
118	Sn	115	1	50.40 ppb	1.11	50	100.8	90 - 110
121	Sb	115	1	50.58 ppb	0.97	50	101.2	90 - 110
137	Ba	115	1	50.03 ppb	0.58	50	100.1	90 - 110
205	Tl	165	1	50.31 ppb	0.12	50	100.6	90 - 110
208	Pb	165	1	50.77 ppb	1.01	50	101.5	90 - 110
232	Th	165	1	50.58 ppb	2.06	50	101.2	90 - 110
238	U	165	1	50.76 ppb	2.06	50	101.5	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	339265	1.56	316659	107.1	30 - 120
45	Sc	1	947544	0.15	888972	106.6	30 - 120
72	Ge	1	441263	0.72	425816	103.6	30 - 120
115	In	1	1386188	0.72	1335258	103.8	30 - 120
165	Ho	1	2649982	0.75	2617754	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 9 2009 09:10 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.008 ppb	173.22	1.00	
51 V	72	1	-0.046 ppb	29.01	1.00	
52 Cr	72	1	0.000 ppb	12322.00	1.00	
55 Mn	72	1	-0.007 ppb	43.73	1.00	
59 Co	72	1	0.001 ppb	393.70	1.00	
60 Ni	72	1	-0.005 ppb	329.15	1.00	
63 Cu	72	1	0.007 ppb	98.78	1.00	
66 Zn	72	1	0.040 ppb	14.37	1.00	
75 As	72	1	-0.008 ppb	123.42	1.00	
78 Se	72	1	0.405 ppb	68.29	1.00	
95 Mo	72	1	0.105 ppb	49.03	1.00	
107 Ag	115	1	0.009 ppb	76.77	1.00	
111 Cd	115	1	0.002 ppb	275.78	1.00	
118 Sn	115	1	0.252 ppb	28.94	1.00	
121 Sb	115	1	0.323 ppb	22.12	1.00	
137 Ba	115	1	0.000 ppb	357.00	1.00	
205 Tl	165	1	0.012 ppb	22.43	1.00	
208 Pb	165	1	0.003 ppb	36.91	1.00	
232 Th	165	1	0.060 ppb	22.01	1.00	
238 U	165	1	0.020 ppb	26.01	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	347509	1.01	316659	109.7	30 - 120	
45 Sc	1	955495	2.12	888972	107.5	30 - 120	
72 Ge	1	455532	0.79	425816	107.0	30 - 120	
115 In	1	1386791	1.63	1335258	103.9	30 - 120	
165 Ho	1	2651802	0.80	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 9 2009 09:13 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.024 ppb	7.78	1.30	
51 V	72	1	5.126 ppb	1.88	6.50	
52 Cr	72	1	2.083 ppb	6.13	2.60	
55 Mn	72	1	1.010 ppb	2.87	1.30	
59 Co	72	1	1.062 ppb	1.70	1.30	
60 Ni	72	1	2.095 ppb	2.27	2.60	
63 Cu	72	1	2.060 ppb	2.82	2.60	
66 Zn	72	1	10.130 ppb	1.17	13.00	
75 As	72	1	5.125 ppb	4.68	6.50	
78 Se	72	1	5.045 ppb	5.92	6.50	
95 Mo	72	1	1.951 ppb	3.60	2.60	
107 Ag	115	1	5.311 ppb	0.48	6.50	
111 Cd	115	1	1.030 ppb	11.33	1.30	
118 Sn	115	1	10.360 ppb	1.60	13.00	
121 Sb	115	1	2.190 ppb	4.18	2.60	
137 Ba	115	1	1.055 ppb	3.38	1.30	
205 Tl	165	1	1.095 ppb	1.41	1.30	
208 Pb	165	1	1.069 ppb	0.47	1.30	
232 Th	165	1	2.172 ppb	3.24	2.60	
238 U	165	1	1.103 ppb	1.52	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350643	0.28	316659	110.7	30 - 120	
45 Sc	1	970129	1.19	888972	109.1	30 - 120	
72 Ge	1	456907	0.32	425816	107.3	30 - 120	
115 In	1	1395760	1.56	1335258	104.5	30 - 120	
165 Ho	1	2660739	0.79	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\019\_BLK.D\019\_BLK.D#  
 Date Acquired: Nov 9 2009 09:16 pm  
 Operator: LRD  
 Sample Name: LNNP6B  
 Misc Info: BLANK 9306276 6020  
 Vial Number: 2201  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.018 ppb	41.70	2.00	
52 Cr	72	1	0.292 ppb	16.50	2.00	
55 Mn	72	1	0.185 ppb	7.72	2.00	
59 Co	72	1	0.011 ppb	24.75	2.00	
60 Ni	72	1	0.036 ppb	53.39	2.00	
63 Cu	72	1	0.169 ppb	20.87	2.00	
66 Zn	72	1	0.849 ppb	7.65	2.00	
75 As	72	1	0.010 ppb	67.79	2.00	
78 Se	72	1	0.510 ppb	48.19	2.00	
95 Mo	72	1	0.057 ppb	19.51	2.00	
107 Ag	115	1	0.010 ppb	26.04	2.00	
111 Cd	115	1	0.003 ppb	113.49	2.00	
118 Sn	115	1	0.208 ppb	18.28	2.00	
121 Sb	115	1	0.174 ppb	15.89	2.00	
137 Ba	115	1	0.038 ppb	22.70	2.00	
205 Tl	165	1	0.040 ppb	22.91	2.00	
208 Pb	165	1	0.011 ppb	12.89	2.00	
232 Th	165	1	0.031 ppb	18.41	2.00	
238 U	165	1	0.007 ppb	24.76	2.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355955	0.99	316659	112.4	30 - 120	
45 Sc	1	972462	1.01	888972	109.4	30 - 120	
72 Ge	1	458206	0.62	425816	107.6	30 - 120	
115 In	1	1400110	0.71	1335258	104.9	30 - 120	
165 Ho	1	2668336	0.83	2617754	101.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Laboratory Control Spike (LCS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\020\_LCS.D\020\_LCS.D#  
 Date Acquired: Nov 9 2009 09:19 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNNP6C  
 Misc Info: LCS  
 Vial Number: 2202  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	40.76	2.19	40	101.9	80 - 120	
51 V	72	1	43.16	0.76	40	107.9	80 - 120	
52 Cr	72	1	43.22	1.05	40	108.1	80 - 120	
55 Mn	72	1	43.24	0.21	40	108.1	80 - 120	
59 Co	72	1	42.64	0.71	40	106.6	80 - 120	
60 Ni	72	1	42.34	0.56	40	105.9	80 - 120	
63 Cu	72	1	42.72	0.89	40	106.8	80 - 120	
66 Zn	72	1	45.64	0.61	40	114.1	80 - 120	
75 As	72	1	40.76	0.70	40	101.9	80 - 120	
78 Se	72	1	38.19	2.28	40	95.5	80 - 120	
95 Mo	72	1	35.78	2.03	40	89.5	80 - 120	
107 Ag	115	1	41.49	2.15	40	103.7	80 - 120	
111 Cd	115	1	40.17	0.57	40	100.4	80 - 120	
118 Sn	115	1	0.12	28.26	40	0.3	80 - 120	
121 Sb	115	1	35.81	0.84	40	89.5	80 - 120	
137 Ba	115	1	41.49	1.53	40	103.7	80 - 120	
205 Tl	165	1	43.86	2.13	40	109.7	80 - 120	
208 Pb	165	1	41.85	1.84	40	104.6	80 - 120	
232 Th	165	1	41.91	2.25	40	104.8	80 - 120	
238 U	165	1	41.55	2.69	40	103.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350822	0.51	316659	110.8	30 - 120	
45 Sc	1	980963	1.16	888972	110.3	30 - 120	
72 Ge	1	444654	1.31	425816	104.4	30 - 120	
115 In	1	1399733	0.66	1335258	104.8	30 - 120	
165 Ho	1	2665542	1.69	2617754	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\021SMPL.D\021SMPL.D#  
 Date Acquired: Nov 9 2009 09:21 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLN9 2X  
 Misc Info: D9J300353  
 Vial Number: 2203  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.05	ppb	92.24	3600	
51 V	72	1	37.96	18.98	ppb	1.34	3600	
52 Cr	72	1	114.94	57.47	ppb	0.72	3600	
55 Mn	72	1	36.50	18.25	ppb	2.00	3600	
59 Co	72	1	0.69	0.34	ppb	2.76	3600	
60 Ni	72	1	3.14	1.57	ppb	8.45	3600	
63 Cu	72	1	1.64	0.82	ppb	6.02	3600	
66 Zn	72	1	11.13	5.57	ppb	1.82	3600	
75 As	72	1	202.00	101.00	ppb	0.43	3600	
78 Se	72	1	3.22	1.61	ppb	48.25	3600	
95 Mo	72	1	18.83	9.42	ppb	0.68	3600	
107 Ag	115	1	0.17	0.08	ppb	17.24	3600	
111 Cd	115	1	0.10	0.05	ppb	51.39	3600	
118 Sn	115	1	0.28	0.14	ppb	42.81	3600	
121 Sb	115	1	0.34	0.17	ppb	20.62	3600	
137 Ba	115	1	37.72	18.86	ppb	0.70	3600	
205 Tl	165	1	0.13	0.06	ppb	19.45	3600	
208 Pb	165	1	0.71	0.35	ppb	3.38	3600	
232 Th	165	1	0.72	0.36	ppb	1.63	1000	
238 U	165	1	53.74	26.87	ppb	1.72	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298847	1.22	316659	94.4	30 - 120	
45 Sc	1	845797	1.37	888972	95.1	30 - 120	
72 Ge	1	386800	0.60	425816	90.8	30 - 120	
115 In	1	1191341	0.83	1335258	89.2	30 - 120	
165 Ho	1	2413317	1.23	2617754	92.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\022SMPL.D\022SMPL.D#  
 Date Acquired: Nov 9 2009 09:24 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLR4 2X  
 Misc Info: D9J300356  
 Vial Number: 2204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.01	ppb	173.27	3600	
51 V	72	1	78.42	39.21	ppb	1.83	3600	
52 Cr	72	1	24.86	12.43	ppb	1.31	3600	
55 Mn	72	1	2,930.00	1465.00	ppb	2.13	3600	
59 Co	72	1	42.42	21.21	ppb	0.61	3600	
60 Ni	72	1	20.92	10.46	ppb	3.31	3600	
63 Cu	72	1	0.75	0.37	ppb	5.97	3600	
66 Zn	72	1	18.97	9.49	ppb	2.01	3600	
75 As	72	1	114.66	57.33	ppb	0.89	3600	
78 Se	72	1	6.57	3.28	ppb	20.64	3600	
95 Mo	72	1	26.74	13.37	ppb	0.88	3600	
107 Ag	115	1	0.11	0.05	ppb	25.16	3600	
111 Cd	115	1	0.42	0.21	ppb	16.72	3600	
118 Sn	115	1	0.13	0.06	ppb	44.87	3600	
121 Sb	115	1	0.27	0.13	ppb	7.83	3600	
137 Ba	115	1	27.28	13.64	ppb	2.04	3600	
205 Tl	165	1	0.19	0.10	ppb	3.70	3600	
208 Pb	165	1	0.11	0.06	ppb	1.85	3600	
232 Th	165	1	0.08	0.04	ppb	8.56	1000	
238 U	165	1	69.92	34.96	ppb	2.03	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	274893	1.24	316659	86.8	30 - 120	
45 Sc	1	779549	2.32	888972	87.7	30 - 120	
72 Ge	1	352268	1.67	425816	82.7	30 - 120	
115 In	1	1127758	1.03	1335258	84.5	30 - 120	
165 Ho	1	2240638	0.13	2617754	85.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#  
 Date Acquired: Nov 9 2009 09:27 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4  
 Misc Info: D9J310138  
 Vial Number: 2205  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: AllRef  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.27	3600	
51 V	72	1	0.05	0.05	ppb	6.94	3600	
52 Cr	72	1	0.48	0.48	ppb	5.57	3600	
55 Mn	72	1	1.67	1.67	ppb	3.29	3600	
59 Co	72	1	0.03	0.03	ppb	17.85	3600	
60 Ni	72	1	0.16	0.16	ppb	28.53	3600	
63 Cu	72	1	0.43	0.43	ppb	6.97	3600	
66 Zn	72	1	8.86	8.86	ppb	0.90	3600	
75 As	72	1	0.01	0.01	ppb	328.51	3600	
78 Se	72	1	0.28	0.28	ppb	90.12	3600	
95 Mo	72	1	0.17	0.17	ppb	26.75	3600	
107 Ag	115	1	0.01	0.01	ppb	26.64	3600	
111 Cd	115	1	0.00	0.00	ppb	536.64	3600	
118 Sn	115	1	0.20	0.20	ppb	7.53	3600	
121 Sb	115	1	0.09	0.09	ppb	15.50	3600	
137 Ba	115	1	0.66	0.66	ppb	1.78	3600	
205 Tl	165	1	-0.01	-0.01	ppb	11.38	3600	
208 Pb	165	1	0.12	0.12	ppb	1.87	3600	
232 Th	165	1	0.01	0.01	ppb	21.46	1000	
238 U	165	1	0.01	0.01	ppb	24.76	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373380	0.19	316659	117.9	30 - 120	
45 Sc	1	1006941	1.04	888972	113.3	30 - 120	
72 Ge	1	462649	0.57	425816	108.6	30 - 120	
115 In	1	1397361	0.27	1335258	104.7	30 - 120	
165 Ho	1	2660327	0.25	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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



**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\024SDIL.D\024SDIL.D#  
 Date Acquired: Nov 9 2009 09:30 pm **QC Summary:**  
 Acq. Method: NormISIS.M **Analytes: Pass**  
 Operator: LRD **ISTD: Pass**  
 Sample Name: LNME4P5  
 Misc Info: SERIAL DILUTION  
 Vial Number: 2206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SDIL  
 Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

**QC elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0.00	90 - 110	
51	V	72	1	-0.03 ppb	5.81	0.01	-342.2	90 - 110
52	Cr	72	1	0.20 ppb	10.88	0.10	213.8	90 - 110
55	Mn	72	1	0.34 ppb	10.16	0.33	103.1	90 - 110
59	Co	72	1	0.01 ppb	47.19	0.01	96.0	90 - 110
60	Ni	72	1	0.04 ppb	33.75	0.03	122.1	90 - 110
63	Cu	72	1	0.10 ppb	5.61	0.09	114.0	90 - 110
66	Zn	72	1	1.80 ppb	5.52	1.77	101.3	90 - 110
75	As	72	1	-0.02 ppb	9.36	0.00	-1343.0	90 - 110
78	Se	72	1	0.23 ppb	2.28	0.06	422.9	90 - 110
95	Mo	72	1	0.04 ppb	19.93	0.03	118.9	90 - 110
107	Ag	115	1	0.00 ppb	24.25	0.00	272.6	90 - 110
111	Cd	115	1	0.02 ppb	89.75	0.00	2944.9	90 - 110
118	Sn	115	1	0.12 ppb	5.20	0.04	296.9	90 - 110
121	Sb	115	1	0.03 ppb	17.47	0.02	168.6	90 - 110
137	Ba	115	1	0.14 ppb	19.11	0.13	109.3	90 - 110
205	Tl	165	1	-0.01 ppb	30.49	0.00	501.4	90 - 110
208	Pb	165	1	0.02 ppb	8.37	0.02	88.0	90 - 110
232	Th	165	1	0.00 ppb	50.10	0.00	202.3	90 - 110
238	U	165	1	0.00 ppb	87.66	0.00	61.5	90 - 110

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	368778	0.88	316659	116.5	30 - 120
45	Sc	1	979811	0.26	888972	110.2	30 - 120
72	Ge	1	461996	0.57	425816	108.5	30 - 120
115	In	1	1378236	0.67	1335258	103.2	30 - 120
165	Ho	1	2636939	1.04	2617754	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:10:12

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4P5

Serial Dilution: 5.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 24 Method 6020\_
Acquired: 11/09/2009 21:30:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/09/2009 20:32:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL

NC : Serial dilution concentration < 100 X MDL

E : Difference greater than Limit (10%)

Reviewed by: LRD Date: 11/10/09

**Post Digestion Spiked Sample (PDS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\025PDS.D\025PDS.D#  
 Date Acquired: Nov 9 2009 09:32 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4Z  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 2207  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

**QC Elements**

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	185.00	0.01	ppb	1.86	200	92.5	75 - 125	
51 V	72	1	202.50	0.05	ppb	2.78	200	101.2	75 - 125	
52 Cr	72	1	203.90	0.48	ppb	2.06	200	101.7	75 - 125	
55 Mn	72	1	201.00	1.67	ppb	3.35	200	99.7	75 - 125	
59 Co	72	1	196.80	0.03	ppb	1.85	200	98.4	75 - 125	
60 Ni	72	1	194.90	0.16	ppb	1.47	200	97.4	75 - 125	
63 Cu	72	1	196.10	0.43	ppb	0.50	200	97.8	75 - 125	
66 Zn	72	1	196.80	8.86	ppb	0.36	200	94.2	75 - 125	
75 As	72	1	190.30	0.01	ppb	0.61	200	95.1	75 - 125	
78 Se	72	1	185.70	0.28	ppb	2.73	200	92.7	75 - 125	
95 Mo	72	1	192.00	0.17	ppb	0.97	200	95.9	75 - 125	
107 Ag	115	1	48.92	0.01	ppb	2.06	50	97.8	75 - 125	
111 Cd	115	1	188.70	0.00	ppb	1.65	200	94.3	75 - 125	
118 Sn	115	1	176.90	0.20	ppb	1.43	200	88.4	75 - 125	
121 Sb	115	1	184.30	0.09	ppb	1.52	200	92.1	75 - 125	
137 Ba	115	1	195.10	0.66	ppb	1.67	200	97.2	75 - 125	
205 Tl	165	1	191.80	-0.01	ppb	0.94	200	95.9	75 - 125	
208 Pb	165	1	186.80	0.12	ppb	0.48	200	93.3	75 - 125	
232 Th	165	1	0.03	0.01	ppb	13.35	200	0.0	75 - 125	
238 U	165	1	190.70	0.01	ppb	1.54	200	95.3	75 - 125	

**ISTD Elements**

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	354551	1.15	316659	112.0	30 - 120	
45 Sc	1	950915	0.92	888972	107.0	30 - 120	
72 Ge	1	426378	1.56	425816	100.1	30 - 120	
115 In	1	1327967	0.75	1335258	99.5	30 - 120	
165 Ho	1	2548646	0.61	2617754	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:10:22

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4Z

Spike Dilution: 1.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 25 Method 6020\_
Acquired: 11/09/2009 21:32:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/09/2009 20:32:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Amount, Sample, %Rec., Spike, Flag, Q. Rows include elements like Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

Reviewed by: [Signature] Date: 11/10/09

## Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\026\_MS.D\026\_MS.D#  
 Date Acquired: Nov 9 2009 09:35 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4S  
 Misc Info: MATRIX SPIKE  
 Vial Number: 2208  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: MS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	38.95	0.01	ppb	4.02	40	97.3	50 - 150	
51 V	72	1	42.14	0.05	ppb	0.45	40	105.2	50 - 150	
52 Cr	72	1	41.88	0.48	ppb	0.82	40	103.5	50 - 150	
55 Mn	72	1	44.00	1.67	ppb	0.81	40	105.6	50 - 150	
59 Co	72	1	41.74	0.03	ppb	0.31	40	104.3	50 - 150	
60 Ni	72	1	41.29	0.16	ppb	1.68	40	102.8	50 - 150	
63 Cu	72	1	41.14	0.43	ppb	0.55	40	101.8	50 - 150	
66 Zn	72	1	40.89	8.86	ppb	1.02	40	83.7	50 - 150	
75 As	72	1	39.70	0.01	ppb	1.91	40	99.2	50 - 150	
78 Se	72	1	37.66	0.28	ppb	2.21	40	93.5	50 - 150	
95 Mo	72	1	35.56	0.17	ppb	1.29	40	88.5	50 - 150	
107 Ag	115	1	40.57	0.01	ppb	0.75	40	101.4	50 - 150	
111 Cd	115	1	38.88	0.00	ppb	0.89	40	97.2	50 - 150	
118 Sn	115	1	0.26	0.20	ppb	7.26	40	0.7	50 - 150	
121 Sb	115	1	35.78	0.09	ppb	0.84	40	89.3	50 - 150	
137 Ba	115	1	40.55	0.66	ppb	1.52	40	99.7	50 - 150	
205 Tl	165	1	42.66	-0.01	ppb	1.13	40	106.7	50 - 150	
208 Pb	165	1	40.84	0.12	ppb	0.87	40	101.8	50 - 150	
232 Th	165	1	40.88	0.01	ppb	1.61	40	102.2	50 - 150	
238 U	165	1	40.76	0.01	ppb	1.03	40	101.9	50 - 150	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	358353	0.80	316659	113.2	30 - 120	
45 Sc	1	939200	0.60	888972	105.7	30 - 120	
72 Ge	1	422553	0.76	425816	99.2	30 - 120	
115 In	1	1328078	0.75	1335258	99.5	30 - 120	
165 Ho	1	2539000	0.43	2617754	97.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Duplicate Spike (MSD) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\027 MSD.D\027 MSD.D#  
 Date Acquired: Nov 9 2009 09:38 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4D  
 Misc Info: MATRIX SPIKE DUPLICATE  
 Vial Number: 2209  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: MSD  
 Dilution Factor: 1.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	38.17 ppb	2.44	38.95	2.02	20	
51	V	72	42.54 ppb	0.57	42.14	0.94	20	
52	Cr	72	42.55 ppb	0.81	41.88	1.59	20	
55	Mn	72	43.44 ppb	1.18	44.00	1.28	20	
59	Co	72	41.86 ppb	0.99	41.74	0.29	20	
60	Ni	72	41.95 ppb	1.55	41.29	1.59	20	
63	Cu	72	41.52 ppb	0.70	41.14	0.92	20	
66	Zn	72	40.14 ppb	0.44	40.89	1.85	20	
75	As	72	39.63 ppb	0.29	39.70	0.18	20	
78	Se	72	37.06 ppb	3.10	37.66	1.61	20	
95	Mo	72	35.66 ppb	0.62	35.56	0.28	20	
107	Ag	115	40.93 ppb	2.04	40.57	0.88	20	
111	Cd	115	39.64 ppb	0.46	38.88	1.94	20	
118	Sn	115	0.12 ppb	27.87	0.26	76.84	20	
121	Sb	115	35.83 ppb	0.62	35.78	0.14	20	
137	Ba	115	41.37 ppb	0.68	40.55	2.00	20	
205	Tl	165	42.77 ppb	1.75	42.66	0.26	20	
208	Pb	165	40.90 ppb	1.73	40.84	0.15	20	
232	Th	165	41.06 ppb	0.63	40.88	0.44	20	
238	U	165	40.94 ppb	0.83	40.76	0.44	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355186	0.16	316659	112.2	30 - 120
45	Sc	1	936988	0.78	888972	105.4	30 - 120
72	Ge	1	422235	0.79	425816	99.2	30 - 120
115	In	1	1312991	0.53	1335258	98.3	30 - 120
165	Ho	1	2541733	0.77	2617754	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\028\_CCV.D\028\_CCV.D#  
 Date Acquired: Nov 9 2009 09:41 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	48.28 ppb	1.89	50	96.6	90 - 110
51	V	72	1	51.66 ppb	1.31	50	103.3	90 - 110
52	Cr	72	1	51.41 ppb	0.42	50	102.8	90 - 110
55	Mn	72	1	50.80 ppb	0.70	50	101.6	90 - 110
59	Co	72	1	50.98 ppb	1.52	50	102.0	90 - 110
60	Ni	72	1	50.44 ppb	1.14	50	100.9	90 - 110
63	Cu	72	1	50.68 ppb	0.38	50	101.4	90 - 110
66	Zn	72	1	49.73 ppb	0.43	50	99.5	90 - 110
75	As	72	1	51.43 ppb	1.43	50	102.9	90 - 110
78	Se	72	1	50.58 ppb	4.06	50	101.2	90 - 110
95	Mo	72	1	49.14 ppb	0.63	50	98.3	90 - 110
107	Ag	115	1	49.88 ppb	1.55	50	99.8	90 - 110
111	Cd	115	1	49.46 ppb	0.97	50	98.9	90 - 110
118	Sn	115	1	49.89 ppb	2.37	50	99.8	90 - 110
121	Sb	115	1	49.59 ppb	1.76	50	99.2	90 - 110
137	Ba	115	1	50.39 ppb	1.52	50	100.8	90 - 110
205	Tl	165	1	49.99 ppb	0.81	50	100.0	90 - 110
208	Pb	165	1	50.66 ppb	1.69	50	101.3	90 - 110
232	Th	165	1	50.62 ppb	1.15	50	101.2	90 - 110
238	U	165	1	50.54 ppb	0.29	50	101.1	90 - 110

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	351524	0.93	316659	111.0	30 - 120
45	Sc	1	927694	1.28	888972	104.4	30 - 120
72	Ge	1	421606	1.09	425816	99.0	30 - 120
115	In	1	1310979	0.71	1335258	98.2	30 - 120
165	Ho	1	2522093	0.90	2617754	96.3	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

## Continuing Calibration Blank (CCB) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\029\_CCB.D\029\_CCB.D#  
 Date Acquired: Nov 9 2009 09:43 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9	Be	6	1	0.000 ppb	0.00	1.00
51	V	72	1	-0.036 ppb	44.55	1.00
52	Cr	72	1	0.019 ppb	63.89	1.00
55	Mn	72	1	0.000 ppb	2382.10	1.00
59	Co	72	1	0.002 ppb	93.07	1.00
60	Ni	72	1	-0.010 ppb	1.82	1.00
63	Cu	72	1	-0.002 ppb	211.49	1.00
66	Zn	72	1	0.038 ppb	50.08	1.00
75	As	72	1	-0.017 ppb	26.71	1.00
78	Se	72	1	0.225 ppb	111.94	1.00
95	Mo	72	1	0.046 ppb	45.40	1.00
107	Ag	115	1	0.012 ppb	29.52	1.00
111	Cd	115	1	0.002 ppb	311.75	1.00
118	Sn	115	1	0.080 ppb	40.12	1.00
121	Sb	115	1	0.165 ppb	24.61	1.00
137	Ba	115	1	0.004 ppb	88.07	1.00
205	Tl	165	1	0.004 ppb	78.72	1.00
208	Pb	165	1	0.002 ppb	56.03	1.00
232	Th	165	1	0.061 ppb	14.74	1.00
238	U	165	1	0.013 ppb	31.22	1.00

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	354787	1.32	316659	112.0	30 - 120
45	Sc	1	923814	1.00	888972	103.9	30 - 120
72	Ge	1	432478	0.52	425816	101.6	30 - 120
115	In	1	1308981	0.63	1335258	98.0	30 - 120
165	Ho	1	2520572	0.23	2617754	96.3	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\030WASH.D\030WASH.D#  
 Date Acquired: Nov 9 2009 09:50 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.009 ppb	18.75	1.30	
51 V	72	1	5.177 ppb	1.19	6.50	
52 Cr	72	1	2.111 ppb	3.52	2.60	
55 Mn	72	1	1.107 ppb	2.74	1.30	
59 Co	72	1	1.028 ppb	3.93	1.30	
60 Ni	72	1	2.108 ppb	1.73	2.60	
63 Cu	72	1	2.068 ppb	1.44	2.60	
66 Zn	72	1	9.967 ppb	0.46	13.00	
75 As	72	1	5.161 ppb	1.92	6.50	
78 Se	72	1	5.825 ppb	10.45	6.50	
95 Mo	72	1	1.986 ppb	5.92	2.60	
107 Ag	115	1	5.462 ppb	1.89	6.50	
111 Cd	115	1	1.025 ppb	1.41	1.30	
118 Sn	115	1	10.590 ppb	0.75	13.00	
121 Sb	115	1	2.089 ppb	2.01	2.60	
137 Ba	115	1	1.011 ppb	0.65	1.30	
205 Tl	165	1	1.109 ppb	3.60	1.30	
208 Pb	165	1	1.060 ppb	1.36	1.30	
232 Th	165	1	2.209 ppb	0.66	2.60	
238 U	165	1	1.106 ppb	2.50	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358611	0.21	316659	113.2	30 - 120	
45 Sc	1	931630	1.00	888972	104.8	30 - 120	
72 Ge	1	428811	1.09	425816	100.7	30 - 120	
115 In	1	1287825	1.17	1335258	96.4	30 - 120	
165 Ho	1	2504436	0.55	2617754	95.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

# Metals

Supporting Documentation

Sample Sequence, Instrument Printouts

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Lot ID: D95310138

Client: Northgate Env

Batch(es) #: 9306276

Associated Samples: 1

*I certify that, to the best of my knowledge, the attached package represents a complete and accurate copy of the original data.*

Signature/Date: URD 11/10/2009

## *Metals Raw Data RoadMap*

<i>LotID</i>		<i>Metal</i>	<i>WorkOrder</i>	<i>Anal Date</i>	<i>TestDesc</i>	<i>Batch</i>	<i>File Id</i>	<i>Instr</i>
D9J310138	1 D	SE	LNME41AH	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1 S	SE	LNME41AG	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1 D	AS	LNME41AF	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1 S	AS	LNME41AE	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1	SE	LNME41AC	20091109	6020TOTA	9306276	AG110909A	024
D9J310138	1	AS	LNME41AA	20091109	6020TOTA	9306276	AG110909A	024

**METALS  
PREPARATION LOGS  
ICP-MS**

**TestAmerica**

**THE LEADER IN ENVIRONMENTAL TESTING**

Batch Number: 9306276

# TestAmerica Laboratories, Inc. Metals Prep Log/ Batch Summary

Prepared By:

JRW

Prep Date: <sup>11/3/09</sup>~~11/02/09~~ *SRW*  
Due Date: 11/11/09

<u>Lot</u>	<u>Work Order</u>		<u>Initial Weight/Volume</u>
D9K020000 Water	LNNP6 B	Due Date: SDG:	<u>50 mL</u>
D9K020000 Water	LNNP6 C	Due Date: SDG:	<u>50 mL</u>
D9J300353 Water	LNLN9 Total	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J300356 Water	LNLR4 Total	Due Date: 11/11/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 S Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>
D9J310138 Water	LNME4 D Total	Due Date: 11/12/09 SDG:	<u>50 mL</u>

**Comments:**

B-BLANK; C-CHECK SAMPLE; L-CHECK SAMPLE DUPLICATE; P-SERIAL DILUTION; S-MATRIX SPIKE SAMPLE; D-MATRIX SPIKE DUPLICATE SAMPLE

ICPMS ELEMENTS WITHIN THE BATCH:

AS SE

*CPD  
11/10/09*

**METALS PREP SHEET**  
**SOP: DEN-IP-0014**



**TOTAL WATER DIGESTION FOR ICPMS (Prep code MS)**

**BATCH #** 9306276  
**PREP DATE:** 11/3/2009

**ALLIQUOTTED BY:** KS  
**DIGESTED BY:** JRW

**CONSUMABLES USED**

**Digestion Cups: Manufacturer:** Environmental Express **Lot #:** A901LS268  
 One or more samples were filtered prior to analysis at the instrument.  Yes  No  
 If "yes", then the method blank and the LCS were also filtered in the same manner using the same type of filter.  
 Analyst(s) Initials:                     

**STANDARDS USED**

Standard ID	Verification #	Exp. Date	Spike Amount	Pipette ID
2008Cal-1	STD-6471-09	11/1/10	100uL	15
2008Cal-2	STD-5356-09	1/10/10	100uL	15

**REAGENTS USED**

Reagent	Manufacturer	Lot #	Volume Used (mL)
HNO <sub>3</sub>	JT Baker	H14024	3

**TEMPERATURE CYCLES**

Thermometer ID: 4110 Block & Cup #: 3/2

Cycle	Start Time	Temperature (°C)	End Time	Temperature (°C)
HNO3	1400	95	1815	96
HNO3	1830	96	1900	96
HNO3				

**Samples and QC revolved to:** 50 mL **Analyst's Initials** JRW

**COMMENTS:**

*I certify that all information above is correct and complete.*

**Signature:** *JRW*

**Date:** 11/3/09

*LRP  
11/10/09*

**METALS  
SAMPLE DATA  
ICP-MS**

**TestAmerica**

**THE LEADER IN ENVIRONMENTAL TESTING**

### ICP-MS Standard and Spike True Values

Element	Cal. Std. 100 ppb	Initial Calibration Standard	Continuing Calibration Standard	Interference Check Sample A	Interference Check Sample AB	Laboratory Control Sample and Duplicate	Matrix Spike Sample and Duplicate	Post Digestion Spike
Aluminum	100	40	50	100,000 Aluminum	--	40	40	200
Antimony	100	40	50	100,000 Calcium	100	40	40	200
Arsenic	100	40	50	100,000 Iron	100	40	40	200
Barium	100	40	50	100,000 Magnesium	100	40	40	200
Beryllium	100	40	50	100,000 Sodium	100	40	40	200
Cadmium	100	40	50	100,000 Phosphorus	100	40	40	200
Chromium	100	40	50	100,000 Potassium	100	40	40	200
Cobalt	100	40	50	100,000 Sulfur	100	40	40	200
Copper	100	40	50	200,000 Carbon	100	40	40	200
Lead	100	40	50	1,000,000 Chloride	100	40	40	200
Manganese	100	40	50	2000 Molybdenum	--	40	40	200
Molybdenum	100	40	50	2000 Titanium	100	40	40	200
Nickel	100	40	50		100	40	40	200
Selenium	100	40	50		100	40	40	200
Silver	100	40	50		100	40	40	50
Thallium	100	40	50		100	40	40	200
Tin	100	40	50		100	40	40	200
Uranium	100	40	50		100	40	40	200
Vanadium	100	40	50		100	40	40	200
Zinc	100	40	50		100	40	40	200

All units are ug/L. Due to the presence of trace contaminants in the ICSA solution, the % recovery for the ICSAB solution is calculated by subtracting the levels in the ICSA from the ICSAB.

### Quality Control Standards

ICV = Initial Calibration Verification (Second Source)      ICB = Initial Calibration Blank  
 CCV = Continuing Calibration Verification                      CCB = Continuing Calibration Blank



Denver

RUN SUMMARY

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
3	Cal Blank				1.0	11/09/09 20:32	<input type="checkbox"/>
4	100 ppb				1.0	11/09/09 20:35	<input type="checkbox"/>
5	ICV				1.0	11/09/09 20:37	<input type="checkbox"/>
6	RLIV				1.0	11/09/09 20:40	<input type="checkbox"/>
7	ICB				1.0	11/09/09 20:43	<input type="checkbox"/>
8	RL STD				1.0	11/09/09 20:46	<input type="checkbox"/>
9	AFCEE RL				1.0	11/09/09 20:48	<input type="checkbox"/>
10	ALTSe				1.0	11/09/09 20:51	<input type="checkbox"/>
11	ICSA				1.0	11/09/09 20:54	<input type="checkbox"/>
12	ICSAB				1.0	11/09/09 20:57	<input type="checkbox"/>
13	RINSE				1.0	11/09/09 20:59	<input type="checkbox"/>
14	LR1				1.0	11/09/09 21:02	<input type="checkbox"/>
15	RINSE				1.0	11/09/09 21:05	<input type="checkbox"/>
16	CCV				1.0	11/09/09 21:08	<input type="checkbox"/>
17	CCB				1.0	11/09/09 21:10	<input type="checkbox"/>
18	RLCV				1.0	11/09/09 21:13	<input type="checkbox"/>
19	LNNP6B	D9K020000	9306276	MS	1.0	11/09/09 21:16	<input type="checkbox"/>
20	LNNP6C	D9K020000	9306276	MS	1.0	11/09/09 21:19	<input type="checkbox"/>
21	LNLN9 2X	D9J300353-1	9306276	MS	2.0	11/09/09 21:21	<input type="checkbox"/>
22	LNLR4 2X	D9J300356-1	9306276	MS	2.0	11/09/09 21:24	<input type="checkbox"/>
23	LNME4	D9J310138-1	9306276	MS	1.0	11/09/09 21:27	<input type="checkbox"/>
24	LNME4P5	D9J310138	9306276		5.0	11/09/09 21:30	<input type="checkbox"/>
25	LNME4Z	D9J310138-1	9306276		1.0	11/09/09 21:32	<input type="checkbox"/>
26	LNME4S	D9J310138-1	9306276	MS	1.0	11/09/09 21:35	<input type="checkbox"/>
27	LNME4D	D9J310138-1	9306276	MS	1.0	11/09/09 21:38	<input type="checkbox"/>
28	CCV				1.0	11/09/09 21:41	<input type="checkbox"/>
29	CCB				1.0	11/09/09 21:43	<input type="checkbox"/>
30	RLCV				1.0	11/09/09 21:50	<input type="checkbox"/>
31	LM900B	D9J260000	9299244	MS	1.0	11/09/09 21:52	<input type="checkbox"/>
32	LM900C	D9J260000	9299244	MS	1.0	11/09/09 21:55	<input type="checkbox"/>
33	LM900L	D9J260000	9299244	MS	1.0	11/09/09 21:58	<input type="checkbox"/>
34	LM9J9	D9J240206-1	9299244	MS	1.0	11/09/09 22:01	<input type="checkbox"/>
35	<del>LM9KA 2X</del>	<del>D9J240206-2</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:03</del>	<input type="checkbox"/>
36	<del>LM9KC 2X</del>	<del>D9J240206-3</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:06</del>	<input type="checkbox"/>
37	LM9KD	D9J240206-4	9299244	MS	1.0	11/09/09 22:09	<input type="checkbox"/>
38	<del>LM9KE 2X</del>	<del>D9J240206-5</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:12</del>	<input type="checkbox"/>
39	<del>LM9KF 2X</del>	<del>D9J240206-6</del>	<del>9299244</del>	<del>MS</del>	<del>2.0</del>	<del>11/09/09 22:14</del>	<input type="checkbox"/>
40	LM9KG	D9J240206-7	9299244	MS	1.0	11/09/09 22:17	<input type="checkbox"/>
41	CCV				1.0	11/09/09 22:20	<input type="checkbox"/>
42	CCB				1.0	11/09/09 22:23	<input type="checkbox"/>
43	RLCV				1.0	11/09/09 22:26	<input type="checkbox"/>
44	LM9KH	D9J240206-8	9299244	MS	1.0	11/09/09 22:28	<input type="checkbox"/>
45	LM9KJ	D9J240206-9	9299244	MS	1.0	11/09/09 22:31	<input type="checkbox"/>
46	LM9KK	D9J240206-10	9299244	MS	1.0	11/09/09 22:34	<input type="checkbox"/>
47	LM9KL	D9J240206-11	9299244	MS	1.0	11/09/09 22:37	<input type="checkbox"/>
48	LM9KP	D9J240206-13	9299244	MS	1.0	11/09/09 22:39	<input type="checkbox"/>

DNU  
LRD  
11-10-09

Denver

**RUN SUMMARY**

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/10/09 12:39:51
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File ID: **AG110909A**

Analyst: **LRD**

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
49	LM9KPP5	D9J240206	9299244		5.0	11/09/09 22:42	<input type="checkbox"/>
50	LM9KPZ	D9J240206-13	9299244		1.0	11/09/09 22:45	<input type="checkbox"/>
51	LM9KPS	D9J240206-13	9299244	MS	1.0	11/09/09 22:48	<input type="checkbox"/>
52	LM9KPD	D9J240206-13	9299244	MS	1.0	11/09/09 22:50	<input type="checkbox"/>
53	CCV				1.0	11/09/09 22:53	<input type="checkbox"/>
54	CCB				1.0	11/09/09 22:56	<input type="checkbox"/>
55	RLCV				1.0	11/09/09 22:59	<input type="checkbox"/>
56	LM9KA	D9J240206-2	9299244	MS	1.0	11/09/09 23:01	<input type="checkbox"/>
57	LM9KC	D9J240206-3	9299244	MS	1.0	11/09/09 23:04	<input type="checkbox"/>
58	LM9KE	D9J240206-5	9299244	MS	1.0	11/09/09 23:07	<input type="checkbox"/>
59	LM9KF	D9J240206-6	9299244	MS	1.0	11/09/09 23:10	<input type="checkbox"/>
60	CCV				1.0	11/09/09 23:12	<input type="checkbox"/>
61	CCB				1.0	11/09/09 23:15	<input type="checkbox"/>
62	RLCV				1.0	11/09/09 23:18	<input type="checkbox"/>
64	Cal Blank				1.0	11/09/09 23:23	<input type="checkbox"/>
65	100 ppb				1.0	11/09/09 23:26	<input type="checkbox"/>
66	CCV				1.0	11/09/09 23:29	<input type="checkbox"/>
67	CCB				1.0	11/09/09 23:32	<input type="checkbox"/>
68	RLCV				1.0	11/09/09 23:34	<input type="checkbox"/>
69	ICSA				1.0	11/09/09 23:37	<input type="checkbox"/>
70	ICSAB				1.0	11/09/09 23:40	<input type="checkbox"/>
71	WASH				1.0	11/09/09 23:43	<input type="checkbox"/>
72	CCV				1.0	11/09/09 23:45	<input type="checkbox"/>
73	CCB				1.0	11/09/09 23:48	<input type="checkbox"/>
74	RLCV				1.0	11/09/09 23:51	<input type="checkbox"/>
75	LN04NB	D9K060000	9310238	04	1.0	11/09/09 23:54	<input type="checkbox"/>
76	LN04NC	D9K060000	9310238	04	1.0	11/09/09 23:57	<input type="checkbox"/>
77	LNEA7	D9J280172-1	9310238	04	1.0	11/10/09 00:00	<input type="checkbox"/>
78	LNEA7P5	D9J280172	9310238		5.0	11/10/09 00:02	<input type="checkbox"/>
79	LNEA7Z	D9J280172-1	9310238		1.0	11/10/09 00:05	<input type="checkbox"/>
80	LNEA7S	D9J280172-1	9310238	04	1.0	11/10/09 00:08	<input type="checkbox"/>
81	LNEA7D	D9J280172-1	9310238	04	1.0	11/10/09 00:11	<input type="checkbox"/>
82	LNECN	D9J280172-2	9310238	04	1.0	11/10/09 00:13	<input type="checkbox"/>
83	CCV				1.0	11/10/09 00:16	<input type="checkbox"/>
84	CCB				1.0	11/10/09 00:20	<input type="checkbox"/>
85	RLCV				1.0	11/10/09 00:22	<input type="checkbox"/>
86	LNECV	D9J280172-3	9310238	04	1.0	11/10/09 00:25	<input type="checkbox"/>
87	LNECX	D9J280172-4	9310238	04	1.0	11/10/09 00:28	<input type="checkbox"/>
88	LNEC0	D9J280172-5	9310238	04	1.0	11/10/09 00:31	<input type="checkbox"/>
89	LNEC1	D9J280172-6	9310238	04	1.0	11/10/09 00:34	<input type="checkbox"/>
90	LNEC3	D9J280172-7	9310238	04	1.0	11/10/09 00:36	<input type="checkbox"/>
91	LNEC5	D9J280172-8	9310238	04	1.0	11/10/09 00:39	<input type="checkbox"/>
92	CCV				1.0	11/10/09 00:42	<input type="checkbox"/>
93	CCB				1.0	11/10/09 00:45	<input type="checkbox"/>
94	RLCV				1.0	11/10/09 00:48	<input type="checkbox"/>
95	LNKFHB	D9J300000	9303368	04	1.0	11/10/09 00:51	<input type="checkbox"/>

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
96	LNKFHC	D9J300000	9303368	04	1.0	11/10/09 00:53	<input type="checkbox"/>
97	LNC5C	D9J270250-1	9303368	04	1.0	11/10/09 00:56	<input type="checkbox"/>
98	LNC5E	D9J270250-2	9303368	04	1.0	11/10/09 00:59	<input type="checkbox"/>
99	LNC5F	D9J270250-3	9303368	04	1.0	11/10/09 01:02	<input type="checkbox"/>
100	LNEHJ	D9J280192-1	9303368	04	1.0	11/10/09 01:05	<input type="checkbox"/>
101	LNEHJP5	D9J280192	9303368		5.0	11/10/09 01:07	<input type="checkbox"/>
102	LNEHJZ	D9J280192-1	9303368		1.0	11/10/09 01:10	<input type="checkbox"/>
103	LNEHJS	D9J280192-1	9303368	04	1.0	11/10/09 01:13	<input type="checkbox"/>
104	CCV				1.0	11/10/09 01:16	<input type="checkbox"/>
105	CCB				1.0	11/10/09 01:18	<input type="checkbox"/>
106	RLCV				1.0	11/10/09 01:21	<input type="checkbox"/>
107	LNEHJD	D9J280192-1	9303368	04	1.0	11/10/09 01:24	<input type="checkbox"/>
108	LNGXD 5X	D9J290182-1	9303368	04	5.0	11/10/09 01:27	<input type="checkbox"/>
109	LNGXG 5X	D9J290182-2	9303368	04	5.0	11/10/09 01:29	<input type="checkbox"/>
110	LNG17	D9J290192-1	9303368	04	1.0	11/10/09 01:32	<input type="checkbox"/>
111	LNG2D	D9J290192-2	9303368	04	1.0	11/10/09 01:35	<input type="checkbox"/>
112	<del>LNH27 2X</del>	<del>D9J290314-1</del>	<del>9303368</del>	<del>04</del>	<del>2.0</del>	<del>11/10/09 01:38</del>	<input type="checkbox"/>
113	<del>LNH28 2X</del>	<del>D9J290314-2</del>	<del>9303368</del>	<del>04</del>	<del>2.0</del>	<del>11/10/09 01:40</del>	<input type="checkbox"/>
114	LNH3A	D9J290314-3	9303368	04	1.0	11/10/09 01:43	<input type="checkbox"/>
115	CCV				1.0	11/10/09 01:46	<input type="checkbox"/>
116	CCB				1.0	11/10/09 01:49	<input type="checkbox"/>
117	RLCV				1.0	11/10/09 01:52	<input type="checkbox"/>
118	RINSE				1.0	11/10/09 01:54	<input type="checkbox"/>
119	RINSE				1.0	11/10/09 01:57	<input type="checkbox"/>
121	Cal Blank				1.0	11/10/09 02:03	<input type="checkbox"/>
122	100 ppb				1.0	11/10/09 02:05	<input type="checkbox"/>
123	CCV				1.0	11/10/09 02:08	<input type="checkbox"/>
124	CCB				1.0	11/10/09 02:11	<input type="checkbox"/>
125	RLCV				1.0	11/10/09 02:14	<input type="checkbox"/>
126	LNNPLBF	D9K020000	9306272	MD	1.0	11/10/09 02:16	<input type="checkbox"/>
127	LNNPLCF	D9K020000	9306272	MD	1.0	11/10/09 02:19	<input type="checkbox"/>
128	LNLFFF	D9J300353-2	9306272	MD	1.0	11/10/09 02:22	<input type="checkbox"/>
129	LNLFFP5F	D9J300353	9306272		5.0	11/10/09 02:25	<input type="checkbox"/>
130	LNLFFZF	D9J300353-2	9306272		1.0	11/10/09 02:27	<input type="checkbox"/>
131	LNLFFSF	D9J300353-2	9306272	MD	1.0	11/10/09 02:30	<input type="checkbox"/>
132	LNLFFDF	D9J300353-2	9306272	MD	1.0	11/10/09 02:33	<input type="checkbox"/>
133	CCV				1.0	11/10/09 02:36	<input type="checkbox"/>
134	CCB				1.0	11/10/09 02:38	<input type="checkbox"/>
135	RLCV				1.0	11/10/09 02:41	<input type="checkbox"/>
136	LNNQ5BF	D9K020000	9306285	MD	1.0	11/10/09 02:44	<input type="checkbox"/>
137	LNNQ5CF	D9K020000	9306285	MD	1.0	11/10/09 02:47	<input type="checkbox"/>
138	LNLGXF 2X	D9J300326-1	9306285	MD	2.0	11/10/09 02:50	<input type="checkbox"/>
139	LNLG3F	D9J300326-2	9306285	MD	1.0	11/10/09 02:52	<input type="checkbox"/>
140	LNLG4F	D9J300326-3	9306285	MD	1.0	11/10/09 02:55	<input type="checkbox"/>
141	LNLHHF	D9J300329-1	9306285	MD	1.0	11/10/09 02:58	<input type="checkbox"/>
142	LNLHMF	D9J300329-2	9306285	MD	1.0	11/10/09 03:01	<input type="checkbox"/>

DNU  
LRD 11/10/09

Method: 6020 (ICP/MS)	ICPMS_024 (024)	Reported: 11/10/09 12:39:51
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File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
143	CCV				1.0	11/10/09 03:03	<input type="checkbox"/>
144	CCB				1.0	11/10/09 03:06	<input type="checkbox"/>
145	RLCV				1.0	11/10/09 03:09	<input type="checkbox"/>
146	LNLHPF	D9J300329-3	9306285	MD	1.0	11/10/09 03:12	<input type="checkbox"/>
147	LNLJJF	D9J300340-1	9306285	MD	1.0	11/10/09 03:15	<input type="checkbox"/>
148	LNLJJP5F	D9J300340	9306285		5.0	11/10/09 03:17	<input type="checkbox"/>
149	LNLJJZF	D9J300340-1	9306285		1.0	11/10/09 03:20	<input type="checkbox"/>
150	LNLJJSF	D9J300340-1	9306285	MD	1.0	11/10/09 03:23	<input type="checkbox"/>
151	LNLJJDF	D9J300340-1	9306285	MD	1.0	11/10/09 03:25	<input type="checkbox"/>
152	LNLJMF	D9J300340-2	9306285	MD	1.0	11/10/09 03:28	<input type="checkbox"/>
153	CCV				1.0	11/10/09 03:31	<input type="checkbox"/>
154	CCB				1.0	11/10/09 03:34	<input type="checkbox"/>
155	RLCV				1.0	11/10/09 03:37	<input type="checkbox"/>
156	LN0Q4BF	D9K060000	9310095	MD	1.0	11/10/09 03:39	<input type="checkbox"/>
157	LN0Q4CF	D9K060000	9310095	MD	1.0	11/10/09 03:42	<input type="checkbox"/>
158	LN0Q4LF	D9K060000	9310095	MD	1.0	11/10/09 03:45	<input type="checkbox"/>
159	LNR5CF	D9K040450-3	9310095	MD	1.0	11/10/09 03:48	<input type="checkbox"/>
160	LNR5CP5F	D9K040450	9310095		5.0	11/10/09 03:50	<input type="checkbox"/>
161	LNR5CZF	D9K040450-3	9310095		1.0	11/10/09 03:53	<input type="checkbox"/>
162	CCV				1.0	11/10/09 03:56	<input type="checkbox"/>
163	CCB				1.0	11/10/09 03:59	<input type="checkbox"/>
164	RLCV				1.0	11/10/09 04:01	<input type="checkbox"/>
165	RINSE				1.0	11/10/09 04:04	<input type="checkbox"/>
166	RINSE				1.0	11/10/09 04:07	<input type="checkbox"/>
168	Cal Blank				1.0	11/10/09 04:12	<input type="checkbox"/>
169	100 ppb				1.0	11/10/09 04:15	<input type="checkbox"/>
170	CCV				1.0	11/10/09 04:18	<input type="checkbox"/>
171	CCB				1.0	11/10/09 04:21	<input type="checkbox"/>
172	RLCV				1.0	11/10/09 04:23	<input type="checkbox"/>
173	LN16EB	D9K060000	9310417	04	2.5	11/10/09 04:26	<input type="checkbox"/>
174	LN16EC	D9K060000	9310417	04	2.5	11/10/09 04:29	<input type="checkbox"/>
175	LN1FW	D9K060478-7	9310417	04	2.5	11/10/09 04:32	<input type="checkbox"/>
176	LN1LX	D9K060478-17	9310417	04	2.5	11/10/09 04:35	<input type="checkbox"/>
177	LN1MD	D9K060478-19	9310417	04	2.5	11/10/09 04:37	<input type="checkbox"/>
178	LN1MH	D9K060478-21	9310417	04	2.5	11/10/09 04:40	<input type="checkbox"/>
179	LN1MHS	D9K060478-21	9310417	04	2.5	11/10/09 04:43	<input type="checkbox"/>
180	LN1MHD	D9K060478-21	9310417	04	2.5	11/10/09 04:46	<input type="checkbox"/>
181	CCV				1.0	11/10/09 04:48	<input type="checkbox"/>
182	CCB				1.0	11/10/09 04:51	<input type="checkbox"/>
183	RLCV				1.0	11/10/09 04:54	<input type="checkbox"/>
184	LN1T6BF	D9K060000	9310368	87	2.5	11/10/09 04:57	<input type="checkbox"/>
185	LN1T6CF	D9K060000	9310368	87	2.5	11/10/09 05:00	<input type="checkbox"/>
186	LN1VQWF	D9K040610-1	9310368	87	2.5	11/10/09 05:02	<input type="checkbox"/>
187	LN1VRHF	D9K040610-3	9310368	87	2.5	11/10/09 05:05	<input type="checkbox"/>
188	LN1VRLF	D9K040610-5	9310368	87	2.5	11/10/09 05:08	<input type="checkbox"/>
189	LN1VRLSF	D9K040610-5	9310368	87	2.5	11/10/09 05:11	<input type="checkbox"/>

Method: 6020 (ICP/MS) ICPMS\_024 (024) Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
190	LNVRDF	D9K040610-5	9310368	87	2.5	11/10/09 05:14	<input type="checkbox"/>
191	LN48F	D9K050627-2	9310368	87	2.5	11/10/09 05:16	<input type="checkbox"/>
192	LN45JF	D9K050627-6	9310368	87	2.5	11/10/09 05:19	<input type="checkbox"/>
193	CCV				1.0	11/10/09 05:22	<input type="checkbox"/>
194	CCB				1.0	11/10/09 05:25	<input type="checkbox"/>
195	RLCV				1.0	11/10/09 05:27	<input type="checkbox"/>
196	LN4QNB	D9K090000	9313106	04	2.5	11/10/09 05:30	<input type="checkbox"/>
197	LN4QNC	D9K090000	9313106	04	2.5	11/10/09 05:33	<input type="checkbox"/>
198	LN314	D9K070460-2	9313106	04	2.5	11/10/09 05:36	<input type="checkbox"/>
199	LN3L7 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:39	<input type="checkbox"/>
200	LN3L7S 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:41	<input type="checkbox"/>
201	LN3L7D 2X	D9K070423-1	9313106	04	5.0	11/10/09 05:44	<input type="checkbox"/>
202	CCV				1.0	11/10/09 05:47	<input type="checkbox"/>
203	CCB				1.0	11/10/09 05:50	<input type="checkbox"/>
204	RLCV				1.0	11/10/09 05:52	<input type="checkbox"/>
205	<del>LN0PDBF</del>	<del>D9K060000</del>	<del>9310068</del>	<del>PD</del>	<del>2.5</del>	<del>11/10/09 05:55</del>	<input type="checkbox"/>
206	LN0PDCF	D9K060000	9310068	PD	2.5	11/10/09 05:58	<input type="checkbox"/>
207	LNT1RF	D9K040539-2	9310068	PD	2.5	11/10/09 06:01	<input type="checkbox"/>
208	LNT15F	D9K040539-3	9310068	PD	2.5	11/10/09 06:04	<input type="checkbox"/>
209	LNT15SF	D9K040539-3	9310068	PD	2.5	11/10/09 06:06	<input type="checkbox"/>
210	LNT15DF	D9K040539-3	9310068	PD	2.5	11/10/09 06:09	<input type="checkbox"/>
211	LNT2CF	D9K040539-4	9310068	PD	2.5	11/10/09 06:12	<input type="checkbox"/>
212	LNPC2F	D9K020476-1	9310068	PD	2.5	11/10/09 06:15	<input type="checkbox"/>
213	LNPC4F	D9K020476-2	9310068	PD	2.5	11/10/09 06:18	<input type="checkbox"/>
214	CCV				1.0	11/10/09 06:20	<input type="checkbox"/>
215	CCB				1.0	11/10/09 06:23	<input type="checkbox"/>
216	RLCV				1.0	11/10/09 06:26	<input type="checkbox"/>
217	RINSE				1.0	11/10/09 06:29	<input type="checkbox"/>
218	<del>RINSE</del>				<del>1.0</del>	<del>11/10/09 06:31</del>	<input type="checkbox"/>
220	Cal Blank				1.0	11/10/09 06:37	<input type="checkbox"/>
221	100 ppb				1.0	11/10/09 06:40	<input type="checkbox"/>
222	CCV				1.0	11/10/09 06:42	<input type="checkbox"/>
223	CCB				1.0	11/10/09 06:45	<input type="checkbox"/>
224	RLCV				1.0	11/10/09 06:48	<input type="checkbox"/>
225	LNW1QB	D9K050000	9309222	MS	1.0	11/10/09 06:51	<input type="checkbox"/>
226	LNW1QC	D9K050000	9309222	MS	1.0	11/10/09 06:53	<input type="checkbox"/>
227	LNR42	D9K040449-1	9309222	MS	1.0	11/10/09 06:56	<input type="checkbox"/>
228	LNR42P5	D9K040449	9309222		5.0	11/10/09 06:59	<input type="checkbox"/>
229	LNR42Z	D9K040449-1	9309222		1.0	11/10/09 07:02	<input type="checkbox"/>
230	LNR42S	D9K040449-1	9309222	MS	1.0	11/10/09 07:04	<input type="checkbox"/>
231	LNR42D	D9K040449-1	9309222	MS	1.0	11/10/09 07:07	<input type="checkbox"/>
232	CCV				1.0	11/10/09 07:10	<input type="checkbox"/>
233	CCB				1.0	11/10/09 07:13	<input type="checkbox"/>
234	RLCV				1.0	11/10/09 07:16	<input type="checkbox"/>
235	LNR48	D9K040449-2	9309222	MS	1.0	11/10/09 07:18	<input type="checkbox"/>
236	LNR5E	D9K040449-3	9309222	MS	1.0	11/10/09 07:21	<input type="checkbox"/>

DNU  
LRD  
11-10-2009

Method: 6020 (ICP/MS)

ICPMS\_024 (024)

Reported: 11/10/09 12:39:51

File ID: AG110909A

Analyst: LRD

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
237	LNR5G	D9K040449-4	9309222	MS	1.0	11/10/09 07:24	<input type="checkbox"/>
238	LNP8M	D9K030460-1	9309222	MS	1.0	11/10/09 07:27	<input type="checkbox"/>
239	LNP8X	D9K030460-2	9309222	MS	1.0	11/10/09 07:30	<input type="checkbox"/>
240	LNP81	D9K030460-3	9309222	MS	1.0	11/10/09 07:32	<input type="checkbox"/>
241	CCV				1.0	11/10/09 07:35	<input type="checkbox"/>
242	CCB				1.0	11/10/09 07:38	<input type="checkbox"/>
243	RLCV				1.0	11/10/09 07:41	<input type="checkbox"/>
244	LNN6NB	D9K020000	9306426	MS	1.0	11/10/09 07:44	<input type="checkbox"/>
245	LNN6NC	D9K020000	9306426	MS	1.0	11/10/09 07:46	<input type="checkbox"/>
246	LNN6NL	D9K020000	9306426	MS	1.0	11/10/09 07:49	<input type="checkbox"/>
247	LNM4D	D9J310189-1	9306426	MS	1.0	11/10/09 07:52	<input type="checkbox"/>
248	LNM4DP5	D9J310189	9306426		5.0	11/10/09 07:55	<input type="checkbox"/>
249	LNM4DZ	D9J310189-1	9306426		1.0	11/10/09 07:58	<input type="checkbox"/>
250	LNM4E	D9J310189-2	9306426	MS	1.0	11/10/09 08:00	<input type="checkbox"/>
251	LNM5E	D9J310191-14	9306426	MS	1.0	11/10/09 08:03	<input type="checkbox"/>
252	CCV				1.0	11/10/09 08:06	<input type="checkbox"/>
253	CCB				1.0	11/10/09 08:09	<input type="checkbox"/>
254	RLCV				1.0	11/10/09 08:11	<input type="checkbox"/>
255	LNRQVB	D9K040000	9308149	MS	1.0	11/10/09 08:14	<input type="checkbox"/>
256	LNRQVC	D9K040000	9308149	MS	1.0	11/10/09 08:17	<input type="checkbox"/>
257	LNQ0L	D9K030552-1	9308149	MS	1.0	11/10/09 08:20	<input type="checkbox"/>
258	LNQ0LP5	D9K030552	9308149		5.0	11/10/09 08:22	<input type="checkbox"/>
259	LNQ0LZ	D9K030552-1	9308149		1.0	11/10/09 08:25	<input type="checkbox"/>
260	LNQ0LS	D9K030552-1	9308149	MS	1.0	11/10/09 08:28	<input type="checkbox"/>
261	LNQ0LD	D9K030552-1	9308149	MS	1.0	11/10/09 08:30	<input type="checkbox"/>
262	LNQ0R	D9K030554-1	9308149	MS	1.0	11/10/09 08:33	<input type="checkbox"/>
263	LNQ0T	D9K030554-2	9308149	MS	1.0	11/10/09 08:36	<input type="checkbox"/>
264	CCV				1.0	11/10/09 08:39	<input type="checkbox"/>
265	CCB				1.0	11/10/09 08:41	<input type="checkbox"/>
266	RLCV				1.0	11/10/09 08:44	<input type="checkbox"/>
267	LNWG5BF	D9K050000	9309184	87	2.5	11/10/09 08:47	<input type="checkbox"/>
268	LNWG5CF	D9K050000	9309184	87	2.5	11/10/09 08:50	<input type="checkbox"/>
269	LNT4AF	D9K040553-1	9309184	87	2.5	11/10/09 08:52	<input type="checkbox"/>
270	LNT42F	D9K040553-2	9309184	87	2.5	11/10/09 08:55	<input type="checkbox"/>
271	LNT42SF	D9K040553-2	9309184	87	2.5	11/10/09 08:58	<input type="checkbox"/>
272	LNT42DF	D9K040553-2	9309184	87	2.5	11/10/09 09:01	<input type="checkbox"/>
273	LNT5HF	D9K040553-3	9309184	87	2.5	11/10/09 09:03	<input type="checkbox"/>
274	CCV				1.0	11/10/09 09:06	<input type="checkbox"/>
275	CCB				1.0	11/10/09 09:09	<input type="checkbox"/>
276	RLCV				1.0	11/10/09 09:12	<input type="checkbox"/>
277	LNT5LF	D9K040553-4	9309184	87	2.5	11/10/09 09:14	<input type="checkbox"/>
278	LNT5VF	D9K040553-5	9309184	87	2.5	11/10/09 09:17	<input type="checkbox"/>
279	LNT51F	D9K040553-6	9309184	87	2.5	11/10/09 09:20	<input type="checkbox"/>
280	LNT55F	D9K040553-7	9309184	87	2.5	11/10/09 09:23	<input type="checkbox"/>
281	LNT57F	D9K040553-8	9309184	87	2.5	11/10/09 09:26	<input type="checkbox"/>
282	LNT58F	D9K040553-9	9309184	87	2.5	11/10/09 09:28	<input type="checkbox"/>

Denver

**RUN SUMMARY**

Method: 6020 (ICP/MS)                      ICPMS\_024 (024)                      Reported: 11/10/09 12:39:51

**File ID: AG110909A**

**Analyst: LRD**

#	Sample ID	Lot No.	Batch	DF	Analyzed Date	Comment	Q
283	LNT59F	D9K040553-10	9309184	87	2.5	11/10/09 09:31	<input type="checkbox"/>
284	CCV				1.0	11/10/09 09:34	<input type="checkbox"/>
285	CCB				1.0	11/10/09 09:37	<input type="checkbox"/>
286	RLCV				1.0	11/10/09 09:39	<input type="checkbox"/>
287	D9J270274-0				1.0	11/10/09 09:42	<input type="checkbox"/>
288	CCV				1.0	11/10/09 09:45	<input type="checkbox"/>
289	CCB				1.0	11/10/09 09:48	<input type="checkbox"/>
290	RLCV				1.0	11/10/09 09:50	<input type="checkbox"/>

# TestAmerica Denver

## Standards Preparation Logbook Record

Nov-10-2009

Logbook: \\Densvr06\StdsLog\metals.std

STD6653-08, 1000 Se

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SE02003      Vendor's Expiration Date: 12-01-2009  
Solvent: 2% HNO3  
Date Prep./Opened: 11-25-2008      Date Received: 11-25-2008  
Date Expires(1): 12-01-2009 (None)  
Date Expires(2): 12-01-2009 (None)  
(METALS)-Inventory ID: 803

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1,000.0

STD1198-09, 1000 mg/L Sn

Analyst: trudelll

Vendor: Inorganic Ventures      Lot No.: B2-SN02016      Vendor's Expiration Date: 03-01-2010  
Solvent: 1% HNO3  
Date Prep./Opened: 03-02-2009      Date Received: 03-02-2009  
Date Expires(1): 03-01-2010 (None)  
Date Expires(2): 03-01-2010 (None)  
(METALS)-Inventory ID: 833

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1,000.0	1,000.0

STD1853-09, 1 mg/l Se

Analyst: DIAZL

Solvent: 5% HNO3      Lot No.: H02026      Volume (ml): 100.00  
Date Prep./Opened: 04-01-2009  
Date Expires(1): 12-01-2009 (1 Year)  
pipette: Met 21

Parent Std No.: STD6653-08, 1000 Se      Aliquot Amount (ml): 0.1000  
Parent Date Expires(1): 12-01-2009      Parent Date Expires(2): 12-01-2009

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1,000.0	1.0000



STD2483-09, 1000 Zn (Inorganic Ventures)

Analyst: trudelll

Vendor: Inorganic Ventures Lot No.: C2-ZN02051 Vendor's Expiration Date: 05-01-2010  
 Solvent: 2% HNO3  
 Date Prep./Opened: 04-28-2009 Date Received: 04-28-2009  
 Date Expires(1): 05-01-2010 (None)  
 Date Expires(2): 05-01-2010 (None)  
 (METALS)-Inventory ID: 856

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
1000 Zn	1,000.0	1,000.0

STD6662-09, ICP-MS (024) INT STD BRC

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024 Volume (ml): 250.00  
 Date Prep./Opened: 10-30-2009  
 Date Expires(1): 03-16-2010 (1 Year)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)  
 pipettes: Met 20

Parent Std No.: STD1469-09, Germanium Stock Aliquot Amount (ml): 0.7500

Parent Date Expires(1): 03-16-2010 Parent Date Expires(2): 04-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ge	1,000.0	3,000.0

Parent Std No.: STD1972-09, Lithium 6 Stock Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Lithium6	1,000.0	4,000.0

Parent Std No.: STD1973-09, Indium Stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 04-07-2010 Parent Date Expires(2): 05-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
In	1,000.0	1,000.0

Parent Std No.: STD6531-09, Scandium stock Aliquot Amount (ml): 0.5000

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Sc	1,000.0	2,000.0

Parent Std No.: STD6532-09, Holmium stock Aliquot Amount (ml): 0.2500

Parent Date Expires(1): 10-26-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ho	1,000.0	1,000.0

STD6674-09, ICP-MS 1ppm Sn/Zn

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 10-31-2009  
 Date Expires(1): 03-01-2010 (1 Year)  
 Date Expires(2): 03-01-2010 (None)

Volume (ml): 50.000

Parent Std No.: STD1198-09, 1000 mg/L Sn Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
Sn	1,000.0	1.0000

Parent Std No.: STD2483-09, 1000 Zn (Inorganic Ventures) Aliquot Amount (ml): 0.0500  
 Parent Date Expires(1): 05-01-2010 Parent Date Expires(2): 05-01-2010

Component	Initial Conc (mg/L)	Final Conc (mg/L)
1000 Zn	1,000.0	1.0000

STD6795-09, ICP-MS ICSA

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-05-2009  
 Date Expires(1): 12-05-2009 (1 Month)  
 Date Expires(2): 11-01-2010 (None)  
 pipettes: Met 8

Volume (ml): 50.000

Parent Std No.: STD6475-09, ICPMS Interferent Check Standard Aliquot Amount (ml): 5.0000  
 Parent Date Expires(1): 10-23-2010 Parent Date Expires(2): 11-01-2010

Component	Initial Conc (ug/ml)	Final Conc (ug/L)
Al	1,000.0	100,000
C	2,000.0	200,000
Ca	1,000.0	100,000
Cl	10,000	1,000,000
Fe	1,000.0	100,000
K	1,000.0	100,000
Mg	1,000.0	100,000
Mo	20,000	2,000.0
Na	1,000.0	100,000
P	1,000.0	100,000
S	1,000.0	100,000
Ti	20,000	2,000.0

STD6858-09, ICP-MS BLANK

Analyst: DIAZL

Solvent: Water  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 05-09-2010 (6 Months)  
 Date Expires(2): 05-09-2010 (6 Months)  
 Date Verified: 12-31--4714 by - (Verification ID: 0)

Volume (ml): 1,000.0

Parent Std No.: STD6857-09, NITRIC ACID

Aliquot Amount (ml): 50.000

<u>Component</u>	<u>Initial Conc (%)</u>	<u>Final Conc (%)</u>
HNO3	100.00	5.0000

STD6859-09, ICP-MS CAL STD

Analyst: DIAZL

Solvent: 5% HNO3                      Lot No.: H14024  
Date Prep./Opened: 11-09-2009  
Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000
As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

STD6860-09, ICP-MS CCV STD

Analyst: DIAZL

Solvent: 5% HNO3                      Lot No.: H14024  
Date Prep./Opened: 11-09-2009  
Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 100.00

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0500
As	20.000	0.0500

Ba	20.000	0.0500
Be	20.000	0.0500
Cd	20.000	0.0500
Co	20.000	0.0500
Cr	20.000	0.0500
Cu	20.000	0.0500
Mn	20.000	0.0500
Ni	20.000	0.0500
Pb	20.000	0.0500
Se	20.000	0.0500
Th	20.000	0.0500
Tl	20.000	0.0500
U	20.000	0.0500
V	20.000	0.0500
Zn	20.000	0.0500

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.2500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.0500
Sb	20.000	0.0500
Sn	20.000	0.0500

STD6861-09, ICP-MS RL STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD6674-09, ICP-MS 1ppm Sn/Zn

Aliquot Amount (ml): 0.0900

Parent Date Expires(1): 03-01-2010 Parent Date Expires(2): 03-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	1.0000	0.0090
1000 Zn	1.0000	0.0090

Parent Std No.: STD6859-09, ICP-MS CAL STD

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	0.1000	0.0010
As	0.1000	0.0010
Ba	0.1000	0.0010
Be	0.1000	0.0010
Cd	0.1000	0.0010
Co	0.1000	0.0010
Cr	0.1000	0.0010
Cu	0.1000	0.0010
Mn	0.1000	0.0010
Ni	0.1000	0.0010
Pb	0.1000	0.0010
Se	0.1000	0.0010
Th	0.1000	0.0010

Tl	0.1000	0.0010
U	0.1000	0.0010
V	0.1000	0.0010
Zn	0.1000	0.0010
Mo	0.1000	0.0010
Sb	0.1000	0.0010
Sn	0.1000	0.0010

STD6862-09, ICP-MS AFCEE RL STD

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD6861-09, ICP-MS RL STD

Aliquot Amount (ml): 2.0000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Sn	0.0090	0.0018
1000 Zn	0.0090	0.0018
Ag	0.0010	0.0002
As	0.0010	0.0002
Ba	0.0010	0.0002
Be	0.0010	0.0002
Cd	0.0010	0.0002
Co	0.0010	0.0002
Cr	0.0010	0.0002
Cu	0.0010	0.0002
Mn	0.0010	0.0002
Ni	0.0010	0.0002
Pb	0.0010	0.0002
Se	0.0010	0.0002
Th	0.0010	0.0002
Tl	0.0010	0.0002
U	0.0010	0.0002
V	0.0010	0.0002
Zn	0.0010	0.0002
Mo	0.0010	0.0002
Sb	0.0010	0.0002
Sn	0.0010	0.0002

STD6863-09, ICP-MS ICSAB

Analyst: DIAZL

Solvent: 5% HNO3 Lot No.: H14024  
 Date Prep./Opened: 11-09-2009  
 Date Expires(1): 11-10-2009 (1 Day)

Volume (ml): 10.000

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.1000

As	20.000	0.1000
Ba	20.000	0.1000
Be	20.000	0.1000
Cd	20.000	0.1000
Co	20.000	0.1000
Cr	20.000	0.1000
Cu	20.000	0.1000
Mn	20.000	0.1000
Ni	20.000	0.1000
Pb	20.000	0.1000
Se	20.000	0.1000
Th	20.000	0.1000
Tl	20.000	0.1000
U	20.000	0.1000
V	20.000	0.1000
Zn	20.000	0.1000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.0500

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	0.1000
Sb	20.000	0.1000
Sn	20.000	0.1000

Parent Std No.: STD4542-09, ICPMS Interferent Check Standard

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 07-31-2010 Parent Date Expires(2): 08-01-2010

<u>Component</u>	<u>Initial Conc (ug/ml)</u>	<u>Final Conc (mg/L)</u>
Al	1,000.0	100.00
C	2,000.0	200.00
Ca	1,000.0	100.00
Cl	10,000	1,000.0
Fe	1,000.0	100.00
K	1,000.0	100.00
Mg	1,000.0	100.00
Mo	20.000	2.0000
Na	1,000.0	100.00
P	1,000.0	100.00
S	1,000.0	100.00
Ti	20.000	2.0000

**STD6864-09, ICP-MS LR STD**

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 10.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3109-09, ICP-MS CALSTD 1

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	1.0000
As	20.000	1.0000

Ba	20.000	1.0000
Be	20.000	1.0000
Cd	20.000	1.0000
Co	20.000	1.0000
Cr	20.000	1.0000
Cu	20.000	1.0000
Mn	20.000	1.0000
Ni	20.000	1.0000
Pb	20.000	1.0000
Se	20.000	1.0000
Th	20.000	1.0000
Tl	20.000	1.0000
U	20.000	1.0000
V	20.000	1.0000
Zn	20.000	1.0000

Parent Std No.: STD3110-09, ICP-MS CALSTD 2

Aliquot Amount (ml): 0.5000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Mo	20.000	1.0000
Sb	20.000	1.0000
Sn	20.000	1.0000

STD6865-09, ICP-MS ICV STD

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

Parent Std No.: STD3113-09, ICP-MS TA ICV A

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
As	20.000	0.0400
Ba	20.000	0.0400
Be	20.000	0.0400
Cd	20.000	0.0400
Co	20.000	0.0400
Cr	20.000	0.0400
Cu	20.000	0.0400
Mn	20.000	0.0400
Ni	20.000	0.0400
Pb	20.000	0.0400
Se	20.000	0.0400
Th	20.000	0.0400
Tl	20.000	0.0400
U	20.000	0.0400
V	20.000	0.0400
Zn	20.000	0.0400

Parent Std No.: STD3114-09, ICP-MS TA ICV B

Aliquot Amount (ml): 0.1000

Parent Date Expires(1): 04-21-2010 Parent Date Expires(2): 04-21-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Ag	20.000	0.0400
Mo	20.000	0.0400
Sb	20.000	0.0400
Sn	20.000	0.0400

STD6866-09, ALTSe

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 50.000

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 21 and Met 8

Parent Std No.: STD1853-09, 1 mg/l Se

Aliquot Amount (ml): 0.1000

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (mg/L)</u>
Se	1.0000	0.0020

STD6867-09, LLCCV/RLICV

Analyst: DIAZL

Solvent: 5% HNO3

Lot No.: H14024

Volume (ml): 100.00

Date Prep./Opened: 11-09-2009

Date Expires(1): 11-10-2009 (1 Day)

pipettes: Met 20

Parent Std No.: STD6469-09, ICP-MS LLCCV 1

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Ag	0.5000	5.0000
Al	3.0000	30.000
As	0.5000	5.0000
Ba	0.1000	1.0000
Be	0.1000	1.0000
Ca	5.0000	50.000
Cd	0.1000	1.0000
Co	0.1000	1.0000
Cr	0.2000	2.0000
Cu	0.2000	2.0000
Fe	5.0000	50.000
K	10.000	100.00
Mg	5.0000	50.000
Mn	0.1000	1.0000
Na	5.0000	50.000
Ni	0.2000	2.0000
Pb	0.1000	1.0000
Se	0.5000	5.0000
Th	0.2000	2.0000



Tl	0.1000	1.0000
U	0.1000	1.0000
V	0.5000	5.0000
Zn	1.0000	10.000

Parent Std No.: STD6470-09, ICP-MS LLCCV 2

Aliquot Amount (ml): 1.0000

Parent Date Expires(1): 10-20-2010 Parent Date Expires(2): 11-01-2010

<u>Component</u>	<u>Initial Conc (mg/L)</u>	<u>Final Conc (ug/L)</u>
Mo	0.2000	2.0000
Sb	0.2000	2.0000
Sn	1.0000	10.000

File AG110909A

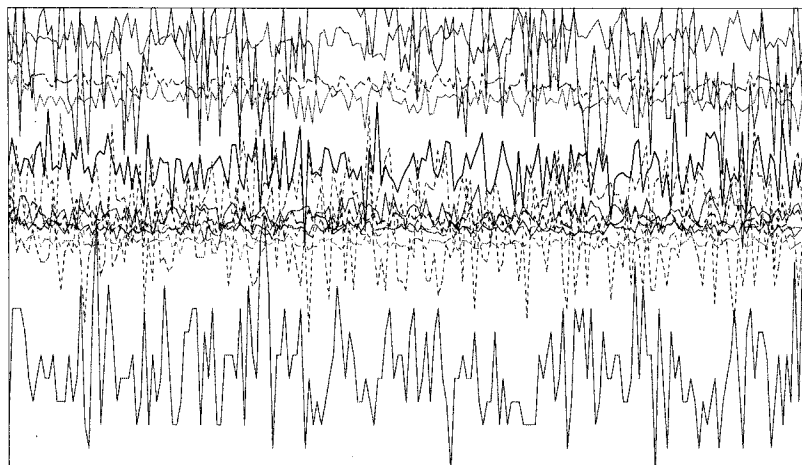
Reviewed By:

LRD

11/10/2009

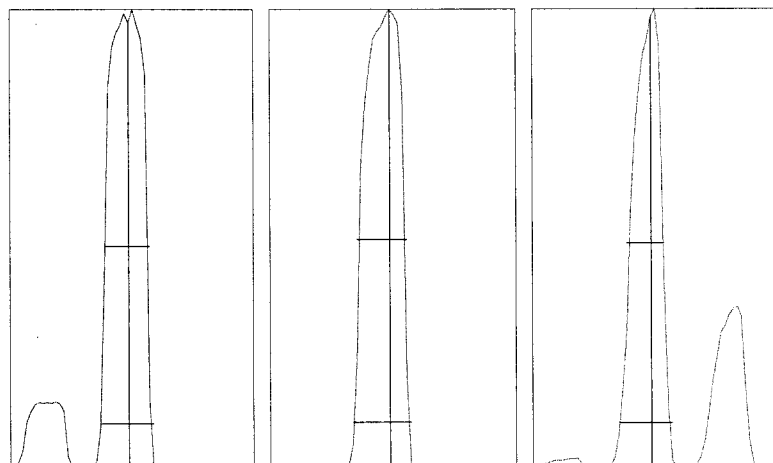
Tune Report

Tune File : NORM.U  
 Comment : AG110909



Integration Time: 0.1000 sec  
 Sampling Period: 1.5300 sec  
 n: 200  
 Oxide: 156/140 1.475%  
 Doubly Charged: 70/140 1.275%

m/z	Range	Count	Mean	RSD%	Background
6	5,000	2614.0	2789.3	3.67	0.80
7	20,000	18632.0	18633.8	3.00	0.50
59	20,000	15677.0	16033.1	2.87	1.00
63	50	35.0	45.6	15.88	0.70
70	500	313.0	327.1	7.08	0.40
75	20	4.0	4.4	46.88	0.60
78	200	109.0	120.3	9.42	0.60
89	50,000	26589.0	26185.6	2.22	1.00
115	50,000	24518.0	24639.8	1.99	1.10
118	100	33.0	48.4	15.31	0.80
137	5,000	2637.0	2712.3	2.91	1.20
205	20,000	16431.0	16723.1	2.17	1.70
238	50,000	25920.0	26106.3	1.87	2.50
156/140	2	1.499%	1.485%	7.38	
70/140	2	1.311%	1.332%	7.11	



m/z:	7	89	205
Height:	18,699	26,853	17,221
Axis:	7.00	89.00	205.00
W-50%:	0.55	0.60	0.45
W-10%:	0.6500	0.700	0.6500

Integration Time: 0.1000 sec  
 Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : NORM.U  
Comment : AG110909

Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	: 1600 W		Extract 1	: 0 V		AMU Gain	: 134	
RF Matching	: 1.7 V		Extract 2	: -170 V		AMU Offset	: 125	
Smpl Depth	: 8 mm		Omega Bias-ce	: -30 V		Axis Gain	: 1.0007	
Torch-H	: -0.8 mm		Omega Lens-ce	: 1.4 V		Axis Offset	: -0.03	
Torch-V	: -0.3 mm		Cell Entrance	: -30 V		QP Bias	: -3 V	
Carrier Gas	: 0.81 L/min		QP Focus	: 7 V		===Detector Parameters===		
Makeup Gas	: 0.23 L/min		Cell Exit	: -30 V		Discriminator	: 8 mV	
Optional Gas	: --- %		===Octopole Parameters===			Analog HV	: 1770 V	
Nebulizer Pump	: 0.1 rps		OctP RF	: 180 V		Pulse HV	: 1480 V	
Sample Pump	: --- rps		OctP Bias	: -18 V				
S/C Temp	: 2 degC							

===Reaction Cell===

Reaction Mode	: OFF							
H2 Gas	: 0 mL/min		He Gas	: 0 mL/min		Optional Gas	: --- %	

P/A Factor Tuning Report

Acquired: Nov 9 2009 08:15 pm

Mass[amu]	Element	P/A Factor
6	Li	Sensitivity too high
7	(Li)	0.055201
9	Be	0.058738
23	Na	0.063579
24	Mg	0.064637
27	Al	0.065724
39	K	0.065936
43	Ca	Sensitivity too low
45	Sc	0.065581
51	V	0.066938
52	Cr	0.068029
53	(Cr)	Sensitivity too low
55	Mn	0.069052
57	Fe	Sensitivity too low
59	Co	0.070056
60	Ni	Sensitivity too low
63	Cu	Sensitivity too low
66	Zn	Sensitivity too low
72	Ge	0.069902
75	As	Sensitivity too low
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	Sensitivity too low
98	(Mo)	0.071630
99	(Mo)	Sensitivity too low
105	Pd	Sensitivity too low
106	(Cd)	0.071534
107	Ag	Sensitivity too low
108	(Cd)	0.071984
111	Cd	Sensitivity too low
115	In	0.068812
118	Sn	0.070115
121	Sb	0.070721
137	Ba	Sensitivity too low
165	Ho	0.069269
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.071349
206	(Pb)	0.070737
207	(Pb)	0.071002
208	Pb	0.070189
232	Th	0.070155
238	U	0.070301

====Detector Parameters====

Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

P/A Factor Tuning Report

Acquired: Nov 9 2009 08:21 pm

Mass[amu]	Element	P/A Factor
6	Li	Sensitivity too high
7	(Li)	0.055259
9	Be	0.058421
23	Na	0.062917
24	Mg	0.063700
27	Al	0.064930
39	K	0.065662
43	Ca	Sensitivity too low
45	Sc	0.065581
51	V	0.066016
52	Cr	0.066969
53	(Cr)	Sensitivity too low
55	Mn	0.067116
57	Fe	Sensitivity too low
59	Co	0.068255
60	Ni	0.068756
63	Cu	0.069073
66	Zn	0.068997
72	Ge	0.068697
75	As	0.069000
77	(Se)	Sensitivity too low
78	Se	Sensitivity too low
82	(Se)	Sensitivity too low
83	(Se)	Sensitivity too low
93	Nb	Sensitivity too low
95	Mo	0.071094
98	(Mo)	0.069583
99	(Mo)	0.069992
105	Pd	0.069782
106	(Cd)	0.069206
107	Ag	Sensitivity too low
108	(Cd)	0.069821
111	Cd	0.069450
115	In	0.068812
118	Sn	0.068484
121	Sb	0.068561
137	Ba	0.070024
165	Ho	0.068599
182	W	Sensitivity too low
195	Pt	Sensitivity too low
205	Tl	0.068219
206	(Pb)	0.067897
207	(Pb)	0.068227
208	Pb	0.070189
232	Th	0.070155
238	U	0.070301

===Detector Parameters===

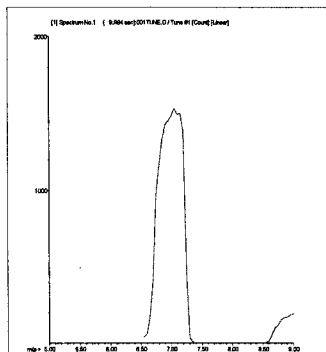
Discriminator: 8.0 mV  
Analog HV: 1770 V  
Pulse HV: 1480 V

## 200.8 QC Tune Report

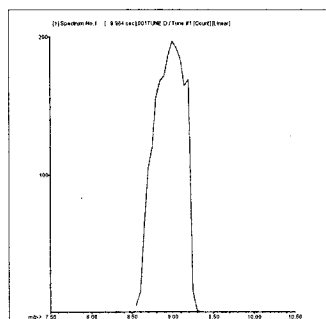
Data File: C:\ICPCHEM\1\DATA\AG110909A.B\001TUNE.D  
 Date Acquired: Nov 9 2009 08:26 pm  
 Acq. Method: tun\_isis.M  
 Operator: LRD  
 Sample Name: 200.8 TUNE  
 Misc Info:  
 Vial Number: 4  
 Current Method: C:\ICPCHEM\1\METHODS\tun\_isis.M

Element	CPS Mean	Rep1	Rep2	Rep3	Rep4	Rep5	%RSD	Required	Flag
7 Li	14906	14929	14975	14838	14916	14868	0.36	5.00	
9 Be	1915	1908	1914	1983	1809	1957	3.47	5.00	RSD fail
24 Mg	8679	8669	8688	8662	8744	8633	0.48	5.00	
59 Co	35756	36567	35777	35985	34517	35933	2.11	5.00	
115 In	692825	688204	694293	692146	693236	696245	0.43	5.00	
208 Pb	51450	52572	50561	51250	51590	51275	1.42	5.00	
238 U	109376	111991	110522	109499	107788	107079	1.83	5.00	

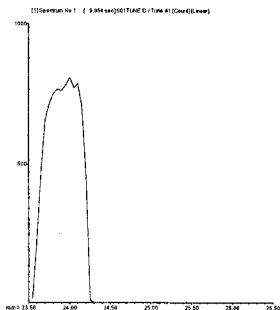
*LRD*  
*11/09/09*



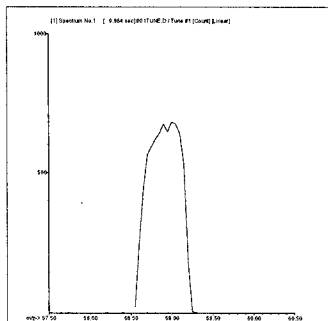
**7 Li**  
**Mass Calib.**  
 Actual: 7.05  
 Required: 6.90 - 7.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



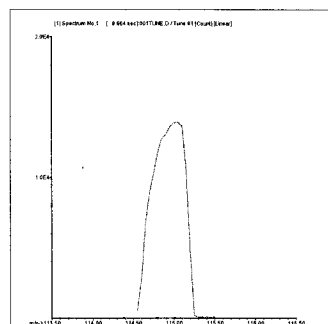
**9 Be**  
**Mass Calib.**  
 Actual: 9.00  
 Required: 8.90 - 9.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



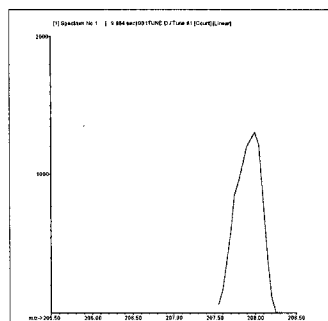
**24 Mg**  
**Mass Calib.**  
 Actual: 24.00  
 Required: 23.90 - 24.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



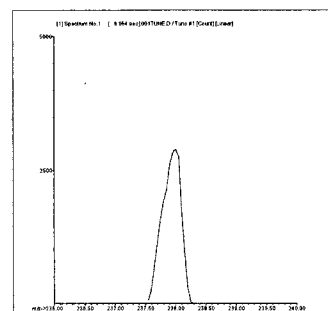
**59 Co**  
**Mass Calib.**  
 Actual: 59.00  
 Required: 58.90 - 59.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**115 In**  
**Mass Calib.**  
 Actual: 115.00  
 Required: 114.90 - 115.10  
 Flag:  
**Peak Width**  
 Actual: 0.60  
 Required: 0.90  
 Flag:



**208 Pb**  
**Mass Calib.**  
 Actual: 207.95  
 Required: 207.90 - 208.10  
 Flag:  
**Peak Width**  
 Actual: 0.55  
 Required: 0.90  
 Flag:



**238 U**  
**Mass Calib.**  
 Actual: 237.95  
 Required: 237.90 - 238.10  
 Flag:  
**Peak Width**  
 Actual: 0.50  
 Required: 0.90  
 Flag:

Tune Result:

*Fail Pass*

*LED 11/09/09*

**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\002CALB.D\002CALB.D#  
 Date Acquired: Nov 9 2009 08:29 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:30 pm  
 Sample Type: CalBlk

**QC Elements**

*06/11/10/09*

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	577	3.61
52	Cr	72	1	1697	4.80
55	Mn	72	1	263	10.96
59	Co	72	1	17	34.64
60	Ni	72	1	63	32.87
63	Cu	72	1	100	43.59
66	Zn	72	1	131	19.98
75	As	72	1	31	32.13
78	Se	72	1	153	20.97
95	Mo	72	1	23	24.74
107	Ag	115	1	7	86.60
111	Cd	115	1	-4	15.03
118	Sn	115	1	123	26.06
121	Sb	115	1	43	42.83
137	Ba	115	1	10	33.33
205	Tl	165	1	341	20.90
208	Pb	165	1	206	7.66
232	Th	165	1	130	26.65
238	U	165	1	97	23.89

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	307725	0.62
45	Sc	1	863740	1.75
72	Ge	1	419764	0.40
115	In	1	1321877	2.10
165	Ho	1	2596118	0.41

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\



**Calibration Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#  
 Date Acquired: Nov 9 2009 08:32 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: Cal Blank  
 Misc Info:  
 Vial Number: 2101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:30 pm  
 Sample Type: CalBlk

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	0	0.00
51	V	72	1	513	5.95
52	Cr	72	1	1570	2.30
55	Mn	72	1	337	11.25
59	Co	72	1	20	50.00
60	Ni	72	1	63	48.24
63	Cu	72	1	120	44.10
66	Zn	72	1	137	9.29
75	As	72	1	35	18.20
78	Se	72	1	97	23.89
95	Mo	72	1	20	50.00
107	Ag	115	1	3	173.21
111	Cd	115	1	-4	393.57
118	Sn	115	1	297	22.95
121	Sb	115	1	39	26.19
137	Ba	115	1	12	41.66
205	Tl	165	1	221	20.47
208	Pb	165	1	199	12.35
232	Th	165	1	113	22.21
238	U	165	1	77	26.09

**Internal Standard Elements**

Element	Tune	CPS Mean	RSD(%)	
6	Li	1	316659	2.14
45	Sc	1	888972	0.50
72	Ge	1	425816	0.47
115	In	1	1335258	0.87
165	Ho	1	2617754	0.65

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

**Calibration Standard QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\004ICAL.D\004ICAL.D#  
 Date Acquired: Nov 9 2009 08:35 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: 100 ppb  
 Misc Info:  
 Vial Number: 2102  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:33 pm  
 Sample Type: ICAL

**QC Elements**

Element	IS Ref	Tune	CPS Mean	RSD(%)	
9	Be	6	1	38609	1.25
51	V	72	1	510366	0.88
52	Cr	72	1	524956	1.26
55	Mn	72	1	613525	1.41
59	Co	72	1	633231	0.83
60	Ni	72	1	140397	0.74
63	Cu	72	1	332088	1.69
66	Zn	72	1	83275	0.84
75	As	72	1	64491	1.06
78	Se	72	1	13670	3.37
95	Mo	72	1	194872	1.16
107	Ag	115	1	568219	1.98
111	Cd	115	1	121298	1.44
118	Sn	115	1	331811	1.14
121	Sb	115	1	398020	0.91
137	Ba	115	1	158724	1.91
205	Tl	165	1	1472389	1.01
208	Pb	165	1	2154560	0.36
232	Th	165	1	2284596	1.76
238	U	165	1	2432923	0.19

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	317523	0.04	316659	100.3	30 - 120
45	Sc	1	902480	1.79	888972	101.5	30 - 120
72	Ge	1	417361	1.39	425816	98.0	30 - 120
115	In	1	1332995	0.81	1335258	99.8	30 - 120
165	Ho	1	2606293	0.43	2617754	99.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures 0  
 0 :ISTD Failures 0

**Initial Calibration Verification (ICV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\005\_ICV.D\005\_ICV.D#  
 Date Acquired: Nov 9 2009 08:37 pm  
 Operator: LRD  
 Sample Name: ICV  
 Misc Info:  
 Vial Number: 2103  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: ICV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	39.82 ppb	0.59	40	99.6	90 - 110
51	V	72	1	40.01 ppb	0.57	40	100.0	90 - 110
52	Cr	72	1	40.10 ppb	1.04	40	100.3	90 - 110
55	Mn	72	1	40.83 ppb	1.35	40	102.1	90 - 110
59	Co	72	1	39.98 ppb	2.35	40	100.0	90 - 110
60	Ni	72	1	39.48 ppb	1.75	40	98.7	90 - 110
63	Cu	72	1	39.44 ppb	0.71	40	98.6	90 - 110
66	Zn	72	1	40.87 ppb	1.27	40	102.2	90 - 110
75	As	72	1	40.05 ppb	0.47	40	100.1	90 - 110
78	Se	72	1	40.20 ppb	7.43	40	100.5	90 - 110
95	Mo	72	1	39.50 ppb	1.39	40	98.8	90 - 110
107	Ag	115	1	40.28 ppb	1.09	40	100.7	90 - 110
111	Cd	115	1	40.39 ppb	2.54	40	101.0	90 - 110
118	Sn	115	1	39.95 ppb	2.27	40	99.9	90 - 110
121	Sb	115	1	40.57 ppb	2.67	40	101.4	90 - 110
137	Ba	115	1	40.04 ppb	2.19	40	100.1	90 - 110
205	Tl	165	1	40.86 ppb	1.20	40	102.2	90 - 110
208	Pb	165	1	40.91 ppb	0.95	40	102.3	90 - 110
232	Th	165	1	41.04 ppb	0.97	40	102.6	90 - 110
238	U	165	1	40.74 ppb	0.82	40	101.9	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	320321	1.05	316659	101.2	30 - 120
45	Sc	1	893394	1.16	888972	100.5	30 - 120
72	Ge	1	421619	1.04	425816	99.0	30 - 120
115	In	1	1339730	1.68	1335258	100.3	30 - 120
165	Ho	1	2633489	0.36	2617754	100.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\006WASH.D\006WASH.D#  
 Date Acquired: Nov 9 2009 08:40 pm  
 Operator: LRD  
 Sample Name: RLIV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.977 ppb	23.08	1.30	
51 V	72	1	5.088 ppb	3.63	6.50	
52 Cr	72	1	2.010 ppb	2.80	2.60	
55 Mn	72	1	1.052 ppb	2.54	1.30	
59 Co	72	1	1.026 ppb	2.82	1.30	
60 Ni	72	1	2.053 ppb	3.73	2.60	
63 Cu	72	1	1.949 ppb	1.86	2.60	
66 Zn	72	1	10.200 ppb	0.76	13.00	
75 As	72	1	4.975 ppb	1.56	6.50	
78 Se	72	1	5.397 ppb	12.87	6.50	
95 Mo	72	1	2.077 ppb	3.08	2.60	
107 Ag	115	1	5.417 ppb	1.62	6.50	
111 Cd	115	1	0.994 ppb	8.21	1.30	
118 Sn	115	1	10.400 ppb	2.50	13.00	
121 Sb	115	1	2.182 ppb	1.55	2.60	
137 Ba	115	1	1.043 ppb	2.05	1.30	
205 Tl	165	1	1.340 ppb	3.63	1.30	
208 Pb	165	1	1.058 ppb	2.34	1.30	
232 Th	165	1	2.228 ppb	2.96	2.60	
238 U	165	1	1.119 ppb	1.48	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	327943	1.12	316659	103.6	30 - 120	
45 Sc	1	927967	1.66	888972	104.4	30 - 120	
72 Ge	1	437192	0.23	425816	102.7	30 - 120	
115 In	1	1360935	0.96	1335258	101.9	30 - 120	
165 Ho	1	2638135	1.11	2617754	100.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Initial Calibration Blank (ICB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\007\_ICB.D\007\_ICB.D#  
 Date Acquired: Nov 9 2009 08:43 pm  
 Operator: LRD  
 Sample Name: ICB  
 Misc Info:  
 Vial Number: 2104  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: ICB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.00 ppb	0.00	1.00	
51 V	72	1	-0.03 ppb	24.58	1.00	
52 Cr	72	1	0.01 ppb	375.24	1.00	
55 Mn	72	1	0.01 ppb	99.37	1.00	
59 Co	72	1	0.00 ppb	102.49	1.00	
60 Ni	72	1	0.06 ppb	11.55	1.00	
63 Cu	72	1	0.03 ppb	95.69	1.00	
66 Zn	72	1	0.75 ppb	6.06	1.00	
75 As	72	1	-0.01 ppb	401.95	1.00	
78 Se	72	1	0.14 ppb	223.63	1.00	
95 Mo	72	1	0.01 ppb	53.61	1.00	
107 Ag	115	1	0.01 ppb	41.41	1.00	
111 Cd	115	1	0.01 ppb	115.64	1.00	
118 Sn	115	1	0.25 ppb	23.38	1.00	
121 Sb	115	1	0.07 ppb	21.20	1.00	
137 Ba	115	1	0.06 ppb	14.45	1.00	
205 Tl	165	1	0.04 ppb	19.24	1.00	
208 Pb	165	1	0.01 ppb	22.30	1.00	
232 Th	165	1	0.02 ppb	1.72	1.00	
238 U	165	1	0.00 ppb	21.71	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331180	1.57	316659	104.6	30 - 120	
45 Sc	1	905311	1.15	888972	101.8	30 - 120	
72 Ge	1	441723	1.46	425816	103.7	30 - 120	
115 In	1	1364402	1.70	1335258	102.2	30 - 120	
165 Ho	1	2652248	1.61	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**RL STD QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\008RLST.D\008RLST.D#  
 Date Acquired: Nov 9 2009 08:46 pm  
 Operator: LRD  
 Sample Name: RL STD  
 Misc Info:  
 Vial Number: 2105  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: RLSTD  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	0.99 ppb	9.34	1	99.0	50 - 150
51	V	72	1	0.92 ppb	9.25	1	91.9	50 - 150
52	Cr	72	1	1.00 ppb	9.84	1	99.9	50 - 150
55	Mn	72	1	1.01 ppb	0.70	1	100.8	50 - 150
59	Co	72	1	0.98 ppb	2.45	1	97.7	50 - 150
60	Ni	72	1	1.03 ppb	5.51	1	103.0	50 - 150
63	Cu	72	1	1.05 ppb	5.54	1	104.6	50 - 150
66	Zn	72	1	10.39 ppb	0.48	10	103.9	50 - 150
75	As	72	1	1.05 ppb	4.38	1	105.1	50 - 150
78	Se	72	1	1.23 ppb	32.18	1	123.2	50 - 150
95	Mo	72	1	1.01 ppb	7.94	1	101.0	50 - 150
107	Ag	115	1	1.01 ppb	4.94	1	101.1	50 - 150
111	Cd	115	1	1.05 ppb	5.12	1	104.5	50 - 150
118	Sn	115	1	10.46 ppb	2.14	10	104.6	50 - 150
121	Sb	115	1	1.03 ppb	4.27	1	103.4	50 - 150
137	Ba	115	1	1.04 ppb	2.63	1	104.3	50 - 150
205	Tl	165	1	1.11 ppb	1.97	1	110.8	50 - 150
208	Pb	165	1	1.05 ppb	1.92	1	105.4	50 - 150
232	Th	165	1	1.04 ppb	1.88	1	103.6	50 - 150
238	U	165	1	1.07 ppb	2.22	1	107.2	50 - 150

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	332529	1.31	316659	105.0	30 - 120
45	Sc	1	924723	1.34	888972	104.0	30 - 120
72	Ge	1	440304	0.81	425816	103.4	30 - 120
115	In	1	1361149	0.37	1335258	101.9	30 - 120
165	Ho	1	2647952	0.34	2617754	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\009AFCE.D\009AFCE.D#  
 Date Acquired: Nov 9 2009 08:48 pm  
 Operator: LRD  
 Sample Name: AFCEE RL  
 Misc Info:  
 Vial Number: 2106  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	0.16 ppb	9.52	0	82.7	80 - 120	
51	V	72	0.15 ppb	12.92	0	84.2	80 - 120	
52	Cr	72	0.17 ppb	11.54	0	87.5	80 - 120	
55	Mn	72	0.19 ppb	4.01	0	92.3	80 - 120	
59	Co	72	0.20 ppb	10.00	0	101.6	80 - 120	
60	Ni	72	0.17 ppb	39.79	0	82.5	80 - 120	
63	Cu	72	0.21 ppb	8.40	0	98.5	80 - 120	
66	Zn	72	1.88 ppb	3.20	2	90.5	80 - 120	
75	As	72	0.18 ppb	4.43	0	84.9	80 - 120	
78	Se	72	0.34 ppb	52.18	0	137.7	80 - 120	
95	Mo	72	0.20 ppb	20.48	0	97.8	80 - 120	
107	Ag	115	0.19 ppb	11.02	0	95.4	80 - 120	
111	Cd	115	0.18 ppb	8.60	0	87.8	80 - 120	
118	Sn	115	2.07 ppb	1.60	2	98.7	80 - 120	
121	Sb	115	0.24 ppb	8.81	0	117.2	80 - 120	
137	Ba	115	0.17 ppb	15.49	0	82.0	80 - 120	
205	Tl	165	0.21 ppb	3.14	0	95.1	80 - 120	
208	Pb	165	0.21 ppb	4.91	0	97.5	80 - 120	
232	Th	165	0.21 ppb	2.80	0	102.7	80 - 120	
238	U	165	0.21 ppb	1.79	0	97.4	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	334891	0.91	316659	105.8	30 - 120
45	Sc	1	926450	1.15	888972	104.2	30 - 120
72	Ge	1	444347	1.22	425816	104.4	30 - 120
115	In	1	1347595	1.10	1335258	100.9	30 - 120
165	Ho	1	2645674	1.06	2617754	101.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\010SMPL.D\010SMPL.D#  
 Date Acquired: Nov 9 2009 08:51 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ALTSe  
 Misc Info: 2 ppb  
 Vial Number: 2107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.18	3600	
51 V	72	1	-0.05	-0.05	ppb	4.45	3600	
52 Cr	72	1	0.03	0.03	ppb	21.71	3600	
55 Mn	72	1	-0.01	-0.01	ppb	107.83	3600	
59 Co	72	1	0.00	0.00	ppb	91.53	3600	
60 Ni	72	1	-0.01	-0.01	ppb	120.90	3600	
63 Cu	72	1	0.00	0.00	ppb	249.88	3600	
66 Zn	72	1	0.21	0.21	ppb	4.91	3600	
75 As	72	1	-0.01	-0.01	ppb	276.53	3600	
78 Se	72	1	2.30	2.30	ppb	3.47	3600	
95 Mo	72	1	0.00	0.00	ppb	270.91	3600	
107 Ag	115	1	0.01	0.01	ppb	12.59	3600	
111 Cd	115	1	0.01	0.01	ppb	40.90	3600	
118 Sn	115	1	0.03	0.03	ppb	42.36	3600	
121 Sb	115	1	0.02	0.02	ppb	52.41	3600	
137 Ba	115	1	0.00	0.00	ppb	159.45	3600	
205 Tl	165	1	0.00	0.00	ppb	223.71	3600	
208 Pb	165	1	0.00	0.00	ppb	93.52	3600	
232 Th	165	1	0.01	0.01	ppb	41.10	1000	
238 U	165	1	0.00	0.00	ppb	39.39	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	336598	0.66	316659	106.3	30 - 120	
45 Sc	1	916084	0.54	888972	103.0	30 - 120	
72 Ge	1	444955	0.00	425816	104.5	30 - 120	
115 In	1	1367875	0.83	1335258	102.4	30 - 120	
165 Ho	1	2646991	0.40	2617754	101.1	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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



**Interference Check Solution A (ICS-A) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\011ICSA.D\011ICSA.D#  
 Date Acquired: Nov 9 2009 08:54 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ICSA  
 Misc Info:  
 Vial Number: 2108  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: ICSA  
 Dilution Factor: 1.00

**QC Summary:**  
 Analytes: Pass  
 ISTD: Pass

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit ppb	Flag
9	Be	6	1	0.00 ppb	0.00	1.00
51	V	72	1	2.09 ppb	3.15	1.00
52	Cr	72	1	1.97 ppb	9.78	1.00
55	Mn	72	1	2.81 ppb	1.66	1.00
59	Co	72	1	0.10 ppb	6.63	1.00
60	Ni	72	1	1.02 ppb	13.74	1.00
63	Cu	72	1	0.53 ppb	7.97	1.00
66	Zn	72	1	3.94 ppb	2.38	10.00
75	As	72	1	0.28 ppb	11.27	1.00
78	Se	72	1	0.38 ppb	63.23	1.00
95	Mo	72	1	1936.00 ppb	0.91	2000.00
107	Ag	115	1	0.03 ppb	12.20	1.00
111	Cd	115	1	0.30 ppb	66.71	1.00
118	Sn	115	1	0.12 ppb	33.50	10.00
121	Sb	115	1	0.92 ppb	2.59	1.00
137	Ba	115	1	0.03 ppb	33.26	1.00
205	Tl	165	1	0.03 ppb	11.11	1.00
208	Pb	165	1	1.00 ppb	2.07	1.00
232	Th	165	1	0.02 ppb	12.13	1.00
238	U	165	1	0.00 ppb	5.79	1.00

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	239339	0.28	316659	75.6	30 - 120
45	Sc	1	700629	1.42	888972	78.8	30 - 120
72	Ge	1	343237	0.37	425816	80.6	30 - 120
115	In	1	1048448	1.55	1335258	78.5	30 - 120
165	Ho	1	2104424	0.97	2617754	80.4	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Interference Check Solution AB (ICS-AB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\012ICSB.D\012ICSB.D#  
 Date Acquired: Nov 9 2009 08:57 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: ICSAB  
 Misc Info:  
 Vial Number: 2109  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: ICSAB  
 Dilution Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	%Recovery	QC Range(%)	Flag
9 Be	6	1	109.40	3.64	100	109.4	80 - 120	
51 V	72	1	99.64	0.20	100	99.6	80 - 120	
52 Cr	72	1	97.24	0.93	100	97.2	80 - 120	
55 Mn	72	1	98.22	0.64	100	98.2	80 - 120	
59 Co	72	1	92.77	2.10	100	92.8	80 - 120	
60 Ni	72	1	89.04	1.65	100	89.0	80 - 120	
63 Cu	72	1	86.53	0.30	100	86.5	80 - 120	
66 Zn	72	1	96.58	0.54	100	96.6	80 - 120	
75 As	72	1	101.00	1.32	100	101.0	80 - 120	
78 Se	72	1	100.00	0.62	100	100.0	80 - 120	
95 Mo	72	1	2093.00	0.96	2100	99.7	80 - 120	
107 Ag	115	1	89.66	3.28	100	89.7	80 - 120	
111 Cd	115	1	95.05	1.99	100	95.1	80 - 120	
118 Sn	115	1	100.40	1.69	100	100.4	80 - 120	
121 Sb	115	1	103.00	1.30	100	103.0	80 - 120	
137 Ba	115	1	101.30	1.03	100	101.3	80 - 120	
205 Tl	165	1	94.31	0.93	100	94.3	80 - 120	
208 Pb	165	1	93.76	0.89	100	93.8	80 - 120	
232 Th	165	1	101.30	1.54	100	101.3	80 - 120	
238 U	165	1	99.94	0.63	100	99.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	233202	3.01	316659	73.6	30 - 120	
45 Sc	1	711798	0.20	888972	80.1	30 - 120	
72 Ge	1	338298	0.97	425816	79.4	30 - 120	
115 In	1	1075320	0.68	1335258	80.5	30 - 120	
165 Ho	1	2161438	0.51	2617754	82.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**AFCEE RL QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\013AFCE.D\013AFCE.D#  
 Date Acquired: Nov 9 2009 08:59 pm  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: AFCEERL  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	0.01 ppb	173.15	0	4.2	80 - 120	
51 V	72	1	0.02 ppb	35.98	0	10.9	80 - 120	
52 Cr	72	1	0.03 ppb	89.50	0	13.7	80 - 120	
55 Mn	72	1	-0.01 ppb	113.19	0	-3.4	80 - 120	
59 Co	72	1	0.00 ppb	1352.30	0	-0.1	80 - 120	
60 Ni	72	1	-0.02 ppb	102.45	0	-9.9	80 - 120	
63 Cu	72	1	0.00 ppb	649.06	0	0.6	80 - 120	
66 Zn	72	1	0.04 ppb	63.69	2	1.7	80 - 120	
75 As	72	1	-0.01 ppb	61.99	0	-3.9	80 - 120	
78 Se	72	1	0.39 ppb	99.84	0	156.3	80 - 120	
95 Mo	72	1	0.80 ppb	31.54	0	396.5	80 - 120	
107 Ag	115	1	0.01 ppb	53.68	0	3.6	80 - 120	
111 Cd	115	1	0.00 ppb	41.35	0	1.7	80 - 120	
118 Sn	115	1	0.00 ppb	#####	2	0.0	80 - 120	
121 Sb	115	1	0.11 ppb	20.17	0	52.7	80 - 120	
137 Ba	115	1	0.00 ppb	105.76	0	-0.5	80 - 120	
205 Tl	165	1	-0.01 ppb	3.09	0	-2.6	80 - 120	
208 Pb	165	1	0.00 ppb	49.94	0	0.7	80 - 120	
232 Th	165	1	0.03 ppb	6.82	0	13.2	80 - 120	
238 U	165	1	0.01 ppb	15.94	0	6.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	331840	0.43	316659	104.8	30 - 120	
45 Sc	1	927075	1.00	888972	104.3	30 - 120	
72 Ge	1	454961	0.83	425816	106.8	30 - 120	
115 In	1	1407675	0.48	1335258	105.4	30 - 120	
165 Ho	1	2715373	0.43	2617754	103.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Linear Dynamic Range Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\014\_LR.D\014\_LR.D#  
 Date Acquired: Nov 9 2009 09:02 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LR1  
 Misc Info:  
 Vial Number: 2110  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: LR  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	989.70 ppb	1.24	1000	99.0	90 - 110	
51 V	72	1	962.50 ppb	1.62	1000	96.3	90 - 110	
52 Cr	72	1	955.40 ppb	1.40	1000	95.5	90 - 110	
55 Mn	72	1	950.30 ppb	1.50	1000	95.0	90 - 110	
59 Co	72	1	955.50 ppb	1.19	1000	95.6	90 - 110	
60 Ni	72	1	979.40 ppb	1.79	1000	97.9	90 - 110	
63 Cu	72	1	966.20 ppb	0.98	1000	96.6	90 - 110	
66 Zn	72	1	974.60 ppb	0.75	1000	97.5	90 - 110	
75 As	72	1	1009.00 ppb	0.73	1000	100.9	90 - 110	
78 Se	72	1	988.90 ppb	0.77	1000	98.9	90 - 110	
95 Mo	72	1	987.40 ppb	1.52	1000	98.7	90 - 110	
107 Ag	115	1	932.40 ppb	1.41	1000	93.2	90 - 110	
111 Cd	115	1	967.10 ppb	0.44	1000	96.7	90 - 110	
118 Sn	115	1	933.80 ppb	0.50	1000	93.4	90 - 110	
121 Sb	115	1	927.90 ppb	0.18	1000	92.8	90 - 110	
137 Ba	115	1	972.50 ppb	0.87	1000	97.3	90 - 110	
205 Tl	165	1	947.60 ppb	0.99	1000	94.8	90 - 110	
208 Pb	165	1	915.00 ppb	0.94	1000	91.5	90 - 110	
232 Th	165	1	966.60 ppb	0.64	1000	96.7	90 - 110	
238 U	165	1	963.20 ppb	1.88	1000	96.3	90 - 110	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	328068	1.06	316659	103.6	30 - 120	
45 Sc	1	922726	2.01	888972	103.8	30 - 120	
72 Ge	1	430093	1.37	425816	101.0	30 - 120	
115 In	1	1364755	0.41	1335258	102.2	30 - 120	
165 Ho	1	2644039	0.70	2617754	101.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\015SMPL.D\015SMPL.D#  
 Date Acquired: Nov 9 2009 09:05 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: RINSE  
 Misc Info:  
 Vial Number: 1101  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.02	0.02	ppb	173.25	3600	
51 V	72	1	-0.02	-0.02	ppb	88.49	3600	
52 Cr	72	1	0.05	0.05	ppb	36.35	3600	
55 Mn	72	1	-0.01	-0.01	ppb	183.98	3600	
59 Co	72	1	0.01	0.01	ppb	88.77	3600	
60 Ni	72	1	0.02	0.02	ppb	167.72	3600	
63 Cu	72	1	0.03	0.03	ppb	35.08	3600	
66 Zn	72	1	0.05	0.05	ppb	19.57	3600	
75 As	72	1	0.02	0.02	ppb	85.94	3600	
78 Se	72	1	0.69	0.69	ppb	46.45	3600	
95 Mo	72	1	0.53	0.53	ppb	26.09	3600	
107 Ag	115	1	0.03	0.03	ppb	35.34	3600	
111 Cd	115	1	0.02	0.02	ppb	21.52	3600	
118 Sn	115	1	1.11	1.11	ppb	27.74	3600	
121 Sb	115	1	1.31	1.31	ppb	17.77	3600	
137 Ba	115	1	0.02	0.02	ppb	70.23	3600	
205 Tl	165	1	0.06	0.06	ppb	21.10	3600	
208 Pb	165	1	0.02	0.02	ppb	25.81	3600	
232 Th	165	1	0.13	0.13	ppb	10.54	1000	
238 U	165	1	0.13	0.13	ppb	15.65	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	341210	2.06	316659	107.8	30 - 120	
45 Sc	1	953002	0.82	888972	107.2	30 - 120	
72 Ge	1	451794	0.58	425816	106.1	30 - 120	
115 In	1	1384812	1.01	1335258	103.7	30 - 120	
165 Ho	1	2634408	0.76	2617754	100.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Verification (CCV) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\016\_CCV.D\016\_CCV.D#  
 Date Acquired: Nov 9 2009 09:08 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	1	49.36 ppb	2.54	50	98.7	90 - 110
51	V	72	1	50.77 ppb	1.34	50	101.5	90 - 110
52	Cr	72	1	50.82 ppb	0.60	50	101.6	90 - 110
55	Mn	72	1	50.95 ppb	1.41	50	101.9	90 - 110
59	Co	72	1	50.68 ppb	1.40	50	101.4	90 - 110
60	Ni	72	1	49.56 ppb	1.57	50	99.1	90 - 110
63	Cu	72	1	49.68 ppb	0.10	50	99.4	90 - 110
66	Zn	72	1	49.76 ppb	0.33	50	99.5	90 - 110
75	As	72	1	50.93 ppb	0.82	50	101.9	90 - 110
78	Se	72	1	51.94 ppb	5.89	50	103.9	90 - 110
95	Mo	72	1	48.88 ppb	1.24	50	97.8	90 - 110
107	Ag	115	1	50.11 ppb	0.43	50	100.2	90 - 110
111	Cd	115	1	50.35 ppb	0.26	50	100.7	90 - 110
118	Sn	115	1	50.40 ppb	1.11	50	100.8	90 - 110
121	Sb	115	1	50.58 ppb	0.97	50	101.2	90 - 110
137	Ba	115	1	50.03 ppb	0.58	50	100.1	90 - 110
205	Tl	165	1	50.31 ppb	0.12	50	100.6	90 - 110
208	Pb	165	1	50.77 ppb	1.01	50	101.5	90 - 110
232	Th	165	1	50.58 ppb	2.06	50	101.2	90 - 110
238	U	165	1	50.76 ppb	2.06	50	101.5	90 - 110

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	339265	1.56	316659	107.1	30 - 120
45	Sc	1	947544	0.15	888972	106.6	30 - 120
72	Ge	1	441263	0.72	425816	103.6	30 - 120
115	In	1	1386188	0.72	1335258	103.8	30 - 120
165	Ho	1	2649982	0.75	2617754	101.2	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\017\_CCB.D\017\_CCB.D#  
 Date Acquired: Nov 9 2009 09:10 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.008 ppb	173.22	1.00	
51 V	72	1	-0.046 ppb	29.01	1.00	
52 Cr	72	1	0.000 ppb	12322.00	1.00	
55 Mn	72	1	-0.007 ppb	43.73	1.00	
59 Co	72	1	0.001 ppb	393.70	1.00	
60 Ni	72	1	-0.005 ppb	329.15	1.00	
63 Cu	72	1	0.007 ppb	98.78	1.00	
66 Zn	72	1	0.040 ppb	14.37	1.00	
75 As	72	1	-0.008 ppb	123.42	1.00	
78 Se	72	1	0.405 ppb	68.29	1.00	
95 Mo	72	1	0.105 ppb	49.03	1.00	
107 Ag	115	1	0.009 ppb	76.77	1.00	
111 Cd	115	1	0.002 ppb	275.78	1.00	
118 Sn	115	1	0.252 ppb	28.94	1.00	
121 Sb	115	1	0.323 ppb	22.12	1.00	
137 Ba	115	1	0.000 ppb	357.00	1.00	
205 Tl	165	1	0.012 ppb	22.43	1.00	
208 Pb	165	1	0.003 ppb	36.91	1.00	
232 Th	165	1	0.060 ppb	22.01	1.00	
238 U	165	1	0.020 ppb	26.01	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	347509	1.01	316659	109.7	30 - 120	
45 Sc	1	955495	2.12	888972	107.5	30 - 120	
72 Ge	1	455532	0.79	425816	107.0	30 - 120	
115 In	1	1386791	1.63	1335258	103.9	30 - 120	
165 Ho	1	2651802	0.80	2617754	101.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\018WASH.D\018WASH.D#  
 Date Acquired: Nov 9 2009 09:13 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.024 ppb	7.78	1.30	
51 V	72	1	5.126 ppb	1.88	6.50	
52 Cr	72	1	2.083 ppb	6.13	2.60	
55 Mn	72	1	1.010 ppb	2.87	1.30	
59 Co	72	1	1.062 ppb	1.70	1.30	
60 Ni	72	1	2.095 ppb	2.27	2.60	
63 Cu	72	1	2.060 ppb	2.82	2.60	
66 Zn	72	1	10.130 ppb	1.17	13.00	
75 As	72	1	5.125 ppb	4.68	6.50	
78 Se	72	1	5.045 ppb	5.92	6.50	
95 Mo	72	1	1.951 ppb	3.60	2.60	
107 Ag	115	1	5.311 ppb	0.48	6.50	
111 Cd	115	1	1.030 ppb	11.33	1.30	
118 Sn	115	1	10.360 ppb	1.60	13.00	
121 Sb	115	1	2.190 ppb	4.18	2.60	
137 Ba	115	1	1.055 ppb	3.38	1.30	
205 Tl	165	1	1.095 ppb	1.41	1.30	
208 Pb	165	1	1.069 ppb	0.47	1.30	
232 Th	165	1	2.172 ppb	3.24	2.60	
238 U	165	1	1.103 ppb	1.52	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350643	0.28	316659	110.7	30 - 120	
45 Sc	1	970129	1.19	888972	109.1	30 - 120	
72 Ge	1	456907	0.32	425816	107.3	30 - 120	
115 In	1	1395760	1.56	1335258	104.5	30 - 120	
165 Ho	1	2660739	0.79	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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



**Blank QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\019\_BLK.D\019\_BLK.D#  
 Date Acquired: Nov 9 2009 09:16 pm  
 Operator: LRD  
 Sample Name: LNNP6B  
 Misc Info: BLANK 9306276 6020  
 Vial Number: 2201  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: BLK  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	2.00	
51 V	72	1	-0.018 ppb	41.70	2.00	
52 Cr	72	1	0.292 ppb	16.50	2.00	
55 Mn	72	1	0.185 ppb	7.72	2.00	
59 Co	72	1	0.011 ppb	24.75	2.00	
60 Ni	72	1	0.036 ppb	53.39	2.00	
63 Cu	72	1	0.169 ppb	20.87	2.00	
66 Zn	72	1	0.849 ppb	7.65	2.00	
75 As	72	1	0.010 ppb	67.79	2.00	
78 Se	72	1	0.510 ppb	48.19	2.00	
95 Mo	72	1	0.057 ppb	19.51	2.00	
107 Ag	115	1	0.010 ppb	26.04	2.00	
111 Cd	115	1	0.003 ppb	113.49	2.00	
118 Sn	115	1	0.208 ppb	18.28	2.00	
121 Sb	115	1	0.174 ppb	15.89	2.00	
137 Ba	115	1	0.038 ppb	22.70	2.00	
205 Tl	165	1	0.040 ppb	22.91	2.00	
208 Pb	165	1	0.011 ppb	12.89	2.00	
232 Th	165	1	0.031 ppb	18.41	2.00	
238 U	165	1	0.007 ppb	24.76	2.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	355955	0.99	316659	112.4	30 - 120	
45 Sc	1	972462	1.01	888972	109.4	30 - 120	
72 Ge	1	458206	0.62	425816	107.6	30 - 120	
115 In	1	1400110	0.71	1335258	104.9	30 - 120	
165 Ho	1	2668336	0.83	2617754	101.9	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Laboratory Control Spike (LCS) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\020\_LCS.D\020\_LCS.D#  
 Date Acquired: Nov 9 2009 09:19 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNNP6C  
 Misc Info: LCS  
 Vial Number: 2202  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: LCS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**

**Analytes: Pass**  
**ISTD: Pass**

**Analyte Elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9 Be	6	1	40.76	2.19	40	101.9	80 - 120	
51 V	72	1	43.16	0.76	40	107.9	80 - 120	
52 Cr	72	1	43.22	1.05	40	108.1	80 - 120	
55 Mn	72	1	43.24	0.21	40	108.1	80 - 120	
59 Co	72	1	42.64	0.71	40	106.6	80 - 120	
60 Ni	72	1	42.34	0.56	40	105.9	80 - 120	
63 Cu	72	1	42.72	0.89	40	106.8	80 - 120	
66 Zn	72	1	45.64	0.61	40	114.1	80 - 120	
75 As	72	1	40.76	0.70	40	101.9	80 - 120	
78 Se	72	1	38.19	2.28	40	95.5	80 - 120	
95 Mo	72	1	35.78	2.03	40	89.5	80 - 120	
107 Ag	115	1	41.49	2.15	40	103.7	80 - 120	
111 Cd	115	1	40.17	0.57	40	100.4	80 - 120	
118 Sn	115	1	0.12	28.26	40	0.3	80 - 120	
121 Sb	115	1	35.81	0.84	40	89.5	80 - 120	
137 Ba	115	1	41.49	1.53	40	103.7	80 - 120	
205 Tl	165	1	43.86	2.13	40	109.7	80 - 120	
208 Pb	165	1	41.85	1.84	40	104.6	80 - 120	
232 Th	165	1	41.91	2.25	40	104.8	80 - 120	
238 U	165	1	41.55	2.69	40	103.9	80 - 120	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	350822	0.51	316659	110.8	30 - 120	
45 Sc	1	980963	1.16	888972	110.3	30 - 120	
72 Ge	1	444654	1.31	425816	104.4	30 - 120	
115 In	1	1399733	0.66	1335258	104.8	30 - 120	
165 Ho	1	2665542	1.69	2617754	101.8	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\021SMPL.D\021SMPL.D#  
 Date Acquired: Nov 9 2009 09:21 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLN9 2X  
 Misc Info: D9J300353  
 Vial Number: 2203  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.09	0.05	ppb	92.24	3600	
51 V	72	1	37.96	18.98	ppb	1.34	3600	
52 Cr	72	1	114.94	57.47	ppb	0.72	3600	
55 Mn	72	1	36.50	18.25	ppb	2.00	3600	
59 Co	72	1	0.69	0.34	ppb	2.76	3600	
60 Ni	72	1	3.14	1.57	ppb	8.45	3600	
63 Cu	72	1	1.64	0.82	ppb	6.02	3600	
66 Zn	72	1	11.13	5.57	ppb	1.82	3600	
75 As	72	1	202.00	101.00	ppb	0.43	3600	
78 Se	72	1	3.22	1.61	ppb	48.25	3600	
95 Mo	72	1	18.83	9.42	ppb	0.68	3600	
107 Ag	115	1	0.17	0.08	ppb	17.24	3600	
111 Cd	115	1	0.10	0.05	ppb	51.39	3600	
118 Sn	115	1	0.28	0.14	ppb	42.81	3600	
121 Sb	115	1	0.34	0.17	ppb	20.62	3600	
137 Ba	115	1	37.72	18.86	ppb	0.70	3600	
205 Tl	165	1	0.13	0.06	ppb	19.45	3600	
208 Pb	165	1	0.71	0.35	ppb	3.38	3600	
232 Th	165	1	0.72	0.36	ppb	1.63	1000	
238 U	165	1	53.74	26.87	ppb	1.72	3600	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	298847	1.22	316659	94.4	30 - 120	
45 Sc	1	845797	1.37	888972	95.1	30 - 120	
72 Ge	1	386800	0.60	425816	90.8	30 - 120	
115 In	1	1191341	0.83	1335258	89.2	30 - 120	
165 Ho	1	2413317	1.23	2617754	92.2	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\022SMPL.D\022SMPL.D#  
 Date Acquired: Nov 9 2009 09:24 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNLR4 2X  
 Misc Info: D9J300356  
 Vial Number: 2204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SA  
 Dilution Factor: 2.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 2.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9	Be	6	1	0.02	0.01	ppb	173.27	3600
51	V	72	1	78.42	39.21	ppb	1.83	3600
52	Cr	72	1	24.86	12.43	ppb	1.31	3600
55	Mn	72	1	2,930.00	1465.00	ppb	2.13	3600
59	Co	72	1	42.42	21.21	ppb	0.61	3600
60	Ni	72	1	20.92	10.46	ppb	3.31	3600
63	Cu	72	1	0.75	0.37	ppb	5.97	3600
66	Zn	72	1	18.97	9.49	ppb	2.01	3600
75	As	72	1	114.66	57.33	ppb	0.89	3600
78	Se	72	1	6.57	3.28	ppb	20.64	3600
95	Mo	72	1	26.74	13.37	ppb	0.88	3600
107	Ag	115	1	0.11	0.05	ppb	25.16	3600
111	Cd	115	1	0.42	0.21	ppb	16.72	3600
118	Sn	115	1	0.13	0.06	ppb	44.87	3600
121	Sb	115	1	0.27	0.13	ppb	7.83	3600
137	Ba	115	1	27.28	13.64	ppb	2.04	3600
205	Tl	165	1	0.19	0.10	ppb	3.70	3600
208	Pb	165	1	0.11	0.06	ppb	1.85	3600
232	Th	165	1	0.08	0.04	ppb	8.56	1000
238	U	165	1	69.92	34.96	ppb	2.03	3600

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	274893	1.24	316659	86.8	30 - 120
45	Sc	1	779549	2.32	888972	87.7	30 - 120
72	Ge	1	352268	1.67	425816	82.7	30 - 120
115	In	1	1127758	1.03	1335258	84.5	30 - 120
165	Ho	1	2240638	0.13	2617754	85.6	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Sample QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#  
 Date Acquired: Nov 9 2009 09:27 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4  
 Misc Info: D9J310138  
 Vial Number: 2205  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: AllRef  
 Dilution Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag
9 Be	6	1	0.01	0.01	ppb	173.27	3600	
51 V	72	1	0.05	0.05	ppb	6.94	3600	
52 Cr	72	1	0.48	0.48	ppb	5.57	3600	
55 Mn	72	1	1.67	1.67	ppb	3.29	3600	
59 Co	72	1	0.03	0.03	ppb	17.85	3600	
60 Ni	72	1	0.16	0.16	ppb	28.53	3600	
63 Cu	72	1	0.43	0.43	ppb	6.97	3600	
66 Zn	72	1	8.86	8.86	ppb	0.90	3600	
75 As	72	1	0.01	0.01	ppb	328.51	3600	
78 Se	72	1	0.28	0.28	ppb	90.12	3600	
95 Mo	72	1	0.17	0.17	ppb	26.75	3600	
107 Ag	115	1	0.01	0.01	ppb	26.64	3600	
111 Cd	115	1	0.00	0.00	ppb	536.64	3600	
118 Sn	115	1	0.20	0.20	ppb	7.53	3600	
121 Sb	115	1	0.09	0.09	ppb	15.50	3600	
137 Ba	115	1	0.66	0.66	ppb	1.78	3600	
205 Tl	165	1	-0.01	-0.01	ppb	11.38	3600	
208 Pb	165	1	0.12	0.12	ppb	1.87	3600	
232 Th	165	1	0.01	0.01	ppb	21.46	1000	
238 U	165	1	0.01	0.01	ppb	24.76	3600	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	373380	0.19	316659	117.9	30 - 120	
45 Sc	1	1006941	1.04	888972	113.3	30 - 120	
72 Ge	1	462649	0.57	425816	108.6	30 - 120	
115 In	1	1397361	0.27	1335258	104.7	30 - 120	
165 Ho	1	2660327	0.25	2617754	101.6	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Dilution Sample QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\024SDIL.D\024SDIL.D#  
 Date Acquired: Nov 9 2009 09:30 pm **QC Summary:**  
 Acq. Method: NormISIS.M **Analytes: Pass**  
 Operator: LRD **ISTD: Pass**  
 Sample Name: LNME4P5  
 Misc Info: SERIAL DILUTION  
 Vial Number: 2206  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: SDIL  
 Dilution Factor: 1.00

Dilution Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\023AREF.D\023AREF.D#

**QC elements**

Element	IS Ref	Tune	Conc. ppb	RSD(%)	Ref Conc.	Actual(%)	QC Range(%)	Flag
9	Be	6	1	0.00 ppb	0.00	0.00	90 - 110	
51	V	72	1	-0.03 ppb	5.81	0.01	-342.2	90 - 110
52	Cr	72	1	0.20 ppb	10.88	0.10	213.8	90 - 110
55	Mn	72	1	0.34 ppb	10.16	0.33	103.1	90 - 110
59	Co	72	1	0.01 ppb	47.19	0.01	96.0	90 - 110
60	Ni	72	1	0.04 ppb	33.75	0.03	122.1	90 - 110
63	Cu	72	1	0.10 ppb	5.61	0.09	114.0	90 - 110
66	Zn	72	1	1.80 ppb	5.52	1.77	101.3	90 - 110
75	As	72	1	-0.02 ppb	9.36	0.00	-1343.0	90 - 110
78	Se	72	1	0.23 ppb	2.28	0.06	422.9	90 - 110
95	Mo	72	1	0.04 ppb	19.93	0.03	118.9	90 - 110
107	Ag	115	1	0.00 ppb	24.25	0.00	272.6	90 - 110
111	Cd	115	1	0.02 ppb	89.75	0.00	2944.9	90 - 110
118	Sn	115	1	0.12 ppb	5.20	0.04	296.9	90 - 110
121	Sb	115	1	0.03 ppb	17.47	0.02	168.6	90 - 110
137	Ba	115	1	0.14 ppb	19.11	0.13	109.3	90 - 110
205	Tl	165	1	-0.01 ppb	30.49	0.00	501.4	90 - 110
208	Pb	165	1	0.02 ppb	8.37	0.02	88.0	90 - 110
232	Th	165	1	0.00 ppb	50.10	0.00	202.3	90 - 110
238	U	165	1	0.00 ppb	87.66	0.00	61.5	90 - 110

**ISTD elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	368778	0.88	316659	116.5	30 - 120
45	Sc	1	979811	0.26	888972	110.2	30 - 120
72	Ge	1	461996	0.57	425816	108.5	30 - 120
115	In	1	1378236	0.67	1335258	103.2	30 - 120
165	Ho	1	2636939	1.04	2617754	100.7	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

Denver

SERIAL DILUTION

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:10:12

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4P5

Serial Dilution: 5.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 24 Method 6020\_
Acquired: 11/09/2009 21:30:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/09/2009 20:32:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Dilution, Sample, %Diff., MDL, Flag, Q. Rows include Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

\* Analyte not requested for this batch, no MDL
NC : Serial dilution concentration < 100 X MDL
E : Difference greater than Limit (10%)

Reviewed by: LRD Date: 11/10/09

## Post Digestion Spiked Sample (PDS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\025PDS.D\025PDS.D#  
 Date Acquired: Nov 9 2009 09:32 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4Z  
 Misc Info: POST DIGESTION SPIKE  
 Vial Number: 2207  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: PDS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

## QC Summary:

Analytes: Pass  
 ISTD: Pass

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	185.00	0.01	ppb	1.86	200	92.5	75 - 125	
51 V	72	1	202.50	0.05	ppb	2.78	200	101.2	75 - 125	
52 Cr	72	1	203.90	0.48	ppb	2.06	200	101.7	75 - 125	
55 Mn	72	1	201.00	1.67	ppb	3.35	200	99.7	75 - 125	
59 Co	72	1	196.80	0.03	ppb	1.85	200	98.4	75 - 125	
60 Ni	72	1	194.90	0.16	ppb	1.47	200	97.4	75 - 125	
63 Cu	72	1	196.10	0.43	ppb	0.50	200	97.8	75 - 125	
66 Zn	72	1	196.80	8.86	ppb	0.36	200	94.2	75 - 125	
75 As	72	1	190.30	0.01	ppb	0.61	200	95.1	75 - 125	
78 Se	72	1	185.70	0.28	ppb	2.73	200	92.7	75 - 125	
95 Mo	72	1	192.00	0.17	ppb	0.97	200	95.9	75 - 125	
107 Ag	115	1	48.92	0.01	ppb	2.06	50	97.8	75 - 125	
111 Cd	115	1	188.70	0.00	ppb	1.65	200	94.3	75 - 125	
118 Sn	115	1	176.90	0.20	ppb	1.43	200	88.4	75 - 125	
121 Sb	115	1	184.30	0.09	ppb	1.52	200	92.1	75 - 125	
137 Ba	115	1	195.10	0.66	ppb	1.67	200	97.2	75 - 125	
205 Tl	165	1	191.80	-0.01	ppb	0.94	200	95.9	75 - 125	
208 Pb	165	1	186.80	0.12	ppb	0.48	200	93.3	75 - 125	
232 Th	165	1	0.03	0.01	ppb	13.35	200	0.0	75 - 125	
238 U	165	1	190.70	0.01	ppb	1.54	200	95.3	75 - 125	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	354551	1.15	316659	112.0	30 - 120	
45 Sc	1	950915	0.92	888972	107.0	30 - 120	
72 Ge	1	426378	1.56	425816	100.1	30 - 120	
115 In	1	1327967	0.75	1335258	99.5	30 - 120	
165 Ho	1	2548646	0.61	2617754	97.4	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\  
 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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



Denver

SAMPLE SPIKE

Method: 6020 (ICP/MS) ICPMS\_024 Reported: 11/10/09 21:10:22

Department: 090 (Metals)

Source: Spreadsheet

Sample: LNME4Z

Spike Dilution: 1.00

Sample Dilution: 1.00

Instrument: Agilent7500 Channel 272
File: AG110909A # 25 Method 6020\_
Acquired: 11/09/2009 21:32:00 ICPMS\_024 Matrix: AQUEOUS
Calibrated: 11/09/2009 20:32:00 Units: ug/L

Table with columns: CASN, Analyte Name, M/S, Area, Amount, Sample, %Rec., Spike, Flag, Q. Rows include elements like Beryllium, Vanadium, Chromium, Manganese, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Molybdenum, Silver, Cadmium, Tin, Antimony, Barium, Thallium, Lead, Uranium, Thorium, Lithium, Scandium, Indium, Germanium, Holmium.

Reviewed by: [Signature] Date: 11/10/09

## Spiked Sample (MS) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\026\_MS.D\026\_MS.D#  
 Date Acquired: Nov 9 2009 09:35 pm  
 Acq. Method: NormISIS.M  
 Operator: LRD  
 Sample Name: LNME4S  
 Misc Info: MATRIX SPIKE  
 Vial Number: 2208  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal. Update: Nov 09 2009 08:35 pm  
 Sample Type: MS  
 Prep Dil. Factor: 1.00  
 Autodil Factor: Undiluted  
 Final Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

Spike Ref. File: ---

## QC Elements

Element	IS Ref	Tune	Conc.	Ref Conc		RSD(%)	Spk Amt	Rec(%)	QC Range(%)	QC Flag
9 Be	6	1	38.95	0.01	ppb	4.02	40	97.3	50 - 150	
51 V	72	1	42.14	0.05	ppb	0.45	40	105.2	50 - 150	
52 Cr	72	1	41.88	0.48	ppb	0.82	40	103.5	50 - 150	
55 Mn	72	1	44.00	1.67	ppb	0.81	40	105.6	50 - 150	
59 Co	72	1	41.74	0.03	ppb	0.31	40	104.3	50 - 150	
60 Ni	72	1	41.29	0.16	ppb	1.68	40	102.8	50 - 150	
63 Cu	72	1	41.14	0.43	ppb	0.55	40	101.8	50 - 150	
66 Zn	72	1	40.89	8.86	ppb	1.02	40	83.7	50 - 150	
75 As	72	1	39.70	0.01	ppb	1.91	40	99.2	50 - 150	
78 Se	72	1	37.66	0.28	ppb	2.21	40	93.5	50 - 150	
95 Mo	72	1	35.56	0.17	ppb	1.29	40	88.5	50 - 150	
107 Ag	115	1	40.57	0.01	ppb	0.75	40	101.4	50 - 150	
111 Cd	115	1	38.88	0.00	ppb	0.89	40	97.2	50 - 150	
118 Sn	115	1	0.26	0.20	ppb	7.26	40	0.7	50 - 150	
121 Sb	115	1	35.78	0.09	ppb	0.84	40	89.3	50 - 150	
137 Ba	115	1	40.55	0.66	ppb	1.52	40	99.7	50 - 150	
205 Tl	165	1	42.66	-0.01	ppb	1.13	40	106.7	50 - 150	
208 Pb	165	1	40.84	0.12	ppb	0.87	40	101.8	50 - 150	
232 Th	165	1	40.88	0.01	ppb	1.61	40	102.2	50 - 150	
238 U	165	1	40.76	0.01	ppb	1.03	40	101.9	50 - 150	

## ISTD Elements

Element	Tune	Counts	RSD(%)	Ref. Counts	Rec(%)	QC Range(%)	QC Flag
6 Li	1	358353	0.80	316659	113.2	30 - 120	
45 Sc	1	939200	0.60	888972	105.7	30 - 120	
72 Ge	1	422553	0.76	425816	99.2	30 - 120	
115 In	1	1328078	0.75	1335258	99.5	30 - 120	
165 Ho	1	2539000	0.43	2617754	97.0	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Duplicate Spike (MSD) QC Report**

Data File:	C:\ICPCHEM\1\DATA\AG110909A.B\027 MSD.D\027 MSD.D#	<b>QC Summary:</b>
Date Acquired:	Nov 9 2009 09:38 pm	<b>Analytes: Pass</b>
Acq. Method:	NormISIS.M	<b>ISTD: Pass</b>
Operator:	LRD	
Sample Name:	LNME4D	
Misc Info:	MATRIX SPIKE DUPLICATE	
Vial Number:	2209	
Current Method:	C:\ICPCHEM\1\METHODS\NormISIS.M	
Calibration File:	C:\ICPCHEM\1\CALIB\NormISIS.C	
Last Cal. Update:	Nov 09 2009 08:35 pm	
Sample Type:	MSD	
Dilution Factor:	1.00	

Duplicate Ref File: C:\ICPCHEM\1\DATA\AG110909A.B\026 MS.D\026 MS.D#

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	Ref Conc	Differ(%)	High Limit	Flag
9	Be	6	38.17 ppb	2.44	38.95	2.02	20	
51	V	72	42.54 ppb	0.57	42.14	0.94	20	
52	Cr	72	42.55 ppb	0.81	41.88	1.59	20	
55	Mn	72	43.44 ppb	1.18	44.00	1.28	20	
59	Co	72	41.86 ppb	0.99	41.74	0.29	20	
60	Ni	72	41.95 ppb	1.55	41.29	1.59	20	
63	Cu	72	41.52 ppb	0.70	41.14	0.92	20	
66	Zn	72	40.14 ppb	0.44	40.89	1.85	20	
75	As	72	39.63 ppb	0.29	39.70	0.18	20	
78	Se	72	37.06 ppb	3.10	37.66	1.61	20	
95	Mo	72	35.66 ppb	0.62	35.56	0.28	20	
107	Ag	115	40.93 ppb	2.04	40.57	0.88	20	
111	Cd	115	39.64 ppb	0.46	38.88	1.94	20	
118	Sn	115	0.12 ppb	27.87	0.26	76.84	20	
121	Sb	115	35.83 ppb	0.62	35.78	0.14	20	
137	Ba	115	41.37 ppb	0.68	40.55	2.00	20	
205	Tl	165	42.77 ppb	1.75	42.66	0.26	20	
208	Pb	165	40.90 ppb	1.73	40.84	0.15	20	
232	Th	165	41.06 ppb	0.63	40.88	0.44	20	
238	U	165	40.94 ppb	0.83	40.76	0.44	20	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	355186	0.16	316659	112.2	30 - 120
45	Sc	1	936988	0.78	888972	105.4	30 - 120
72	Ge	1	422235	0.79	425816	99.2	30 - 120
115	In	1	1312991	0.53	1335258	98.3	30 - 120
165	Ho	1	2541733	0.77	2617754	97.1	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref. File :C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

## Continuing Calibration Verification (CCV) QC Report

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\028\_CCV.D\028\_CCV.D#  
 Date Acquired: Nov 9 2009 09:41 pm  
 Operator: LRD  
 Sample Name: CCV  
 Misc Info:  
 Vial Number: 1107  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCV  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

## QC Elements

Element	IS Ref	Tune	Conc.	RSD(%)	Expected	Rec(%)	QC Range(%)	Flag
9	Be	6	48.28 ppb	1.89	50	96.6	90 - 110	
51	V	72	51.66 ppb	1.31	50	103.3	90 - 110	
52	Cr	72	51.41 ppb	0.42	50	102.8	90 - 110	
55	Mn	72	50.80 ppb	0.70	50	101.6	90 - 110	
59	Co	72	50.98 ppb	1.52	50	102.0	90 - 110	
60	Ni	72	50.44 ppb	1.14	50	100.9	90 - 110	
63	Cu	72	50.68 ppb	0.38	50	101.4	90 - 110	
66	Zn	72	49.73 ppb	0.43	50	99.5	90 - 110	
75	As	72	51.43 ppb	1.43	50	102.9	90 - 110	
78	Se	72	50.58 ppb	4.06	50	101.2	90 - 110	
95	Mo	72	49.14 ppb	0.63	50	98.3	90 - 110	
107	Ag	115	49.88 ppb	1.55	50	99.8	90 - 110	
111	Cd	115	49.46 ppb	0.97	50	98.9	90 - 110	
118	Sn	115	49.89 ppb	2.37	50	99.8	90 - 110	
121	Sb	115	49.59 ppb	1.76	50	99.2	90 - 110	
137	Ba	115	50.39 ppb	1.52	50	100.8	90 - 110	
205	Tl	165	49.99 ppb	0.81	50	100.0	90 - 110	
208	Pb	165	50.66 ppb	1.69	50	101.3	90 - 110	
232	Th	165	50.62 ppb	1.15	50	101.2	90 - 110	
238	U	165	50.54 ppb	0.29	50	101.1	90 - 110	

## ISTD Elements

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6	Li	1	351524	0.93	316659	111.0	30 - 120
45	Sc	1	927694	1.28	888972	104.4	30 - 120
72	Ge	1	421606	1.09	425816	99.0	30 - 120
115	In	1	1310979	0.71	1335258	98.2	30 - 120
165	Ho	1	2522093	0.90	2617754	96.3	30 - 120

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

0 :Element Failures  
 0 :ISTD Failures

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

**Continuing Calibration Blank (CCB) QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\029\_CCB.D\029\_CCB.D#  
 Date Acquired: Nov 9 2009 09:43 pm  
 Operator: LRD  
 Sample Name: CCB  
 Misc Info:  
 Vial Number: 1307  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: CCB  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	0.000 ppb	0.00	1.00	
51 V	72	1	-0.036 ppb	44.55	1.00	
52 Cr	72	1	0.019 ppb	63.89	1.00	
55 Mn	72	1	0.000 ppb	2382.10	1.00	
59 Co	72	1	0.002 ppb	93.07	1.00	
60 Ni	72	1	-0.010 ppb	1.82	1.00	
63 Cu	72	1	-0.002 ppb	211.49	1.00	
66 Zn	72	1	0.038 ppb	50.08	1.00	
75 As	72	1	-0.017 ppb	26.71	1.00	
78 Se	72	1	0.225 ppb	111.94	1.00	
95 Mo	72	1	0.046 ppb	45.40	1.00	
107 Ag	115	1	0.012 ppb	29.52	1.00	
111 Cd	115	1	0.002 ppb	311.75	1.00	
118 Sn	115	1	0.080 ppb	40.12	1.00	
121 Sb	115	1	0.165 ppb	24.61	1.00	
137 Ba	115	1	0.004 ppb	88.07	1.00	
205 Tl	165	1	0.004 ppb	78.72	1.00	
208 Pb	165	1	0.002 ppb	56.03	1.00	
232 Th	165	1	0.061 ppb	14.74	1.00	
238 U	165	1	0.013 ppb	31.22	1.00	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	354787	1.32	316659	112.0	30 - 120	
45 Sc	1	923814	1.00	888972	103.9	30 - 120	
72 Ge	1	432478	0.52	425816	101.6	30 - 120	
115 In	1	1308981	0.63	1335258	98.0	30 - 120	
165 Ho	1	2520572	0.23	2617754	96.3	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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

**Wash QC Report**

Data File: C:\ICPCHEM\1\DATA\AG110909A.B\030WASH.D\030WASH.D#  
 Date Acquired: Nov 9 2009 09:50 pm  
 Operator: LRD  
 Sample Name: RLCV  
 Misc Info:  
 Vial Number: 1204  
 Current Method: C:\ICPCHEM\1\METHODS\NormISIS.M  
 Calibration File: C:\ICPCHEM\1\CALIB\NormISIS.C  
 Last Cal Update: Nov 09 2009 08:35 pm  
 Sample Type: WASH  
 Total Dil Factor: 1.00

**QC Summary:**  
**Analytes: Pass**  
**ISTD: Pass**

**QC Elements**

Element	IS Ref	Tune	Conc.	RSD(%)	High Limit	Flag
9 Be	6	1	1.009 ppb	18.75	1.30	
51 V	72	1	5.177 ppb	1.19	6.50	
52 Cr	72	1	2.111 ppb	3.52	2.60	
55 Mn	72	1	1.107 ppb	2.74	1.30	
59 Co	72	1	1.028 ppb	3.93	1.30	
60 Ni	72	1	2.108 ppb	1.73	2.60	
63 Cu	72	1	2.068 ppb	1.44	2.60	
66 Zn	72	1	9.967 ppb	0.46	13.00	
75 As	72	1	5.161 ppb	1.92	6.50	
78 Se	72	1	5.825 ppb	10.45	6.50	
95 Mo	72	1	1.986 ppb	5.92	2.60	
107 Ag	115	1	5.462 ppb	1.89	6.50	
111 Cd	115	1	1.025 ppb	1.41	1.30	
118 Sn	115	1	10.590 ppb	0.75	13.00	
121 Sb	115	1	2.089 ppb	2.01	2.60	
137 Ba	115	1	1.011 ppb	0.65	1.30	
205 Tl	165	1	1.109 ppb	3.60	1.30	
208 Pb	165	1	1.060 ppb	1.36	1.30	
232 Th	165	1	2.209 ppb	0.66	2.60	
238 U	165	1	1.106 ppb	2.50	1.30	

**ISTD Elements**

Element	Tune	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1	358611	0.21	316659	113.2	30 - 120	
45 Sc	1	931630	1.00	888972	104.8	30 - 120	
72 Ge	1	428811	1.09	425816	100.7	30 - 120	
115 In	1	1287825	1.17	1335258	96.4	30 - 120	
165 Ho	1	2504436	0.55	2617754	95.7	30 - 120	

Tune File# 1 c:\icpchem\1\7500\he.u  
 Tune File# 2 C:\ICPCHEM\1\7500\  
 Tune File# 3 C:\ICPCHEM\1\7500\

ISTD Ref File : C:\ICPCHEM\1\DATA\AG110909A.B\003CALB.D\003CALB.D#

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